THE
INDUSTRIAL ARTS INDEX

TWENTY-EIGHTH ANNUAL VOLUME

1940

SUBJECT INDEX TO A SELECTED LIST OF ENGINEERING, TRADE AND BUSINESS PERIODICALS, BOOKS AND PAMPHLETS

EDITED BY

MARION E. POTTER, LOUISE D. TEICH,
LEONE BAKER, ADELINE MACRUM

NEW YORK
THE H. W. WILSON COMPANY
1941

This volume has been supplied under a contract which provides that it is not to be sold or given away without the permission of the publishers.

PRINTED IN U. S. A.

PREFACE

This volume, the twenty-eighth annual, is a cumulation of the issues of the Industrial Arts Index published from December, 1939, thru November, 1940. The indexing of a few additional periodicals is included. American Association of Petroleum Geologists Bulletin, Comparative Law Series (discontinued in September), Instruments, Journal of Applied Physics, Product Engineering have all been indexed beginning with their January, 1940, numbers. Journal of the Aeronautical Sciences has been indexed beginning with volume 7, November, 1939; Paper Industry, with volume 22, April, 1940; RCA Review, with volume 5, July, 1940. Commerce Reports was discontinued last September and Foreign Commerce Weekly which took its place, October 5, is considerably larger in size and scope, replacing also Comparative Law Series and other services.

Because of the war the indexing of certain foreign periodicals is far from complete. The French and German magazines for some months, beginning with June, did not reach this country and were somewhat irregular even earlier in the year. Such of the German magazines as have since arrived were too late for indexing in this volume. It is hoped to complete the file of these periodicals and index them in the current 1941 issues of the Industrial Arts. One English periodical is also lacking; the last number of Light & Lighting to be received is March, 1940. Four periodicals will be dropped from the indexed list beginning with January, 1941. These are: Cornell Engineer; Nation's Business (indexed in Readers' Guide); Société des Ingénieurs Civils de France, Mémoires; Chemische Fabrik.

The following periodicals will be indexed beginning with 1941 or with the beginning of their next volume: Acoustical Society of America, Journal; Ceramic Industry; Diesel Power and Diesel Transportation; Industrial Marketing; Industrial Medicine; Journal of Chemical Physics; Journal of Retailing; Machine Design; Modern Packaging; Paint, Oil and Chemical Review; Petroleum Engineer; Photo Technique; Soap and Sanitary Chemicals; Society of Motion Picture Engineers, Journal; Technology Review; Welding Journal.

In addition to the indexing of the listed periodicals, this volume contains subject entries for numerous bulletins, reports, and pamphlets on topics which the indexed periodicals cover. It contains also subject entries for 2464 books which have been listed first in the monthly Index, in the section "Some Recent Book Titles" before becoming a part of the main alphabet.

Miss Ruth Berkowitz has recently joined the staff and has taken over the indexing of the insurance magazines.

M. E. P.

Ill U Eng Exp Sta Bul—Illinois University Engineering Experiment Station. Bulletin. irr Univ. of Ill, Urbana

Ill U Eng Exp Sta Circ—Illinois University Engineering Experiment Station. Circular. irr Univ. of Ill, Urbana

Illum Eng—Illuminating Engineering including Transactions of the Illuminating Engineering Society. $7.50; single numbers $1. m (except Ag and O) Illuminating Engineering Society, 51 Madison Av, New York (1v:Ja v86;i-s)

Illum Eng Soc Trans—Transactions of the Illuminating Engineering Society. $7.50; single numbers $1. m (except Ag and O) Illuminating Engineering Society, 51 Madison Av, New York (1v:Ja v34;i-1)
Name changed to Illuminating Engineering beginning January 1940

Illum Engr. See Light & Lighting

Ind & Eng Chem—Industrial and Engineering Chemistry Industrial Edition. single numbers 75c. m American Chemical Society, Charles L. Parsons, sec, Mills Bldg, 1709 G St, N.W, Washington, D.C. (1v:Ja v32;i-s)
With Analytical edition $4

Ind & Eng Chem Anal ed—Industrial and Engineering Chemistry Analytical Edition. single numbers 50c. m American Chemical Society, Charles L. Parsons, sec, Mills Bldg, 1709 G St, N.W, Washington, D.C. (1v:Ja v12;i-s)
Changed to monthly January 15, 1937

Ind & Eng Chem News ed—Industrial and Engineering Chemistry News Edition. $2; single numbers 15c. s-m American Chemical Society, Charles L. Parsons, sec, Mills Bldg, 1709 G St, N.W, Washington, D.C. (1v:Ja v18;i-s)

Ind Stand—Industrial Standardization and Commercial Standards Monthly. $4; single numbers 35c. m American Standards Association, 29 W 39th St, New York (1v:Ja v11;i-1)

Index—Index. q New York Trust Company, 100 Broadway, New York (1v:[Mr] v20;i-1)
Changed to a quarterly beginning February, 1938

India Rubber W—India Rubber World. $3; single numbers 35c. m Bill Brothers Publishing Corporation, 420 Lexington Av, New York (2v:Ap,O v102-103;i-1)

Inland Ptr—Inland Printer. $4; single numbers 40c. m Inland Printer Co, 309 W Jackson Blvd, Chicago (2v:Ap,O v105-106;i-none)

Ins Field (Fire ed)—Insurance Field (Fire and Casualty Edition). $3; single numbers 15c. w Insurance Field Co, Inc, 322 West Liberty St, (P. O. Box 1164) Louisville, Ky. (1v:Ja v69;i-none)

Ins Field (Life ed)—Insurance Field (Life Edition). $3; single numbers 15c. w Insurance Field Co, Inc, 322 West Liberty St, (P. O. Box 1164) Louisville, Ky. (1v:Ja v69;i-none)

Inst Chem Eng Trans—Transactions of the Institution of Chemical Engineers. annual Institution of Chemical Engineers, 56 Victoria St, Westminster, London, S.W. 1 (1v:v17 1939)
Indexing began with volume 9, 1931

Inst E E J—Journal of the Institution of Electrical Engineers. single numbers 10s 6d. m E. & F. N. Spon, Ltd, 57 Haymarket, London, S.W. 1; Chemical Pub. Co. of New York, 148 Lafayette St, New York (2v:Ja, Jl v86-87;i-l)

Inst Mech Eng J & Proc—Institution of Mechanical Engineers. Journal and Proceedings. Published 10 times a year Institution of Mechanical Engineers, Storey's Gate, St. James's Park, London, S.W. 1 (2v:Ap,N v143-144;i-s)

Inst Pet J—Journal of the Institute of Petroleum. single numbers 7s 6d. m Institute of Petroleum, % Univ. of Birmingham, Edgbaston, Birmingham, 15 (1v:Ja v26;i-s)
Formerly Journal of the Institution of Petroleum Technologists

Inst Radio Eng Proc—Proceedings of the Institute of Radio Engineers. $10; single numbers $1. m Institute of Radio Engineers, Inc, 330 W 42d St, New York (1v:Ja v28;i-s)

Instruments—Instruments, the Magazine of Measurement and Control. $2. m Instruments Pub. Co, 1117 Wolfendale St, Pittsburgh, Pa. (1v:Ja v13;i-s)

Int Labour R—International Labour Review. $6; single numbers 60c. m International Labour Office, 734 Jackson Pl, Washington, D.C. (2v:Ja,Jl v41-42;i-s)
August-September double number

Inv Banking—Investment Banking. irr Investment Bankers Association of America, 33 S Clark St, Chicago (1v:N v11;i-none)

Iron Age—Iron Age. $6; single numbers 25c. w Chilton Co, Chestnut & 56th Sts, Philadelphia; 100 E 42d St, New York (2v:Ja,Jl v145-146:i-r)

Iron & Steel Inst J—Journal of the Iron and Steel Institute. s-annual Iron and Steel Institute, 4, Grosvenor Gardens, London, S. W. 1 (2v:v139-140,1939,nos1-2)

J Account—Journal of Accountancy. $4; single numbers 35c. m American Institute Pub. Co, Inc, 13 E 41st St, New York (2v:Ja,Jl v69-70; i-s)

J Aeronautical Sci—Journal of the Aeronautical Sciences; with Aeronautical Review Section (beginning Nov. 1940). $10; single numbers $1; Review Section separately $2.50; single numbers 25c. m Institute of the Aeronautical Sciences, Inc, 30 Rockefeller Plaza, Rockefeller Center, New York (1v:N v7;i-1)

J Ap Phys—Journal of Applied Physics. $7; single numbers 70c. m American Institute of Physics, 175 Fifth Av, New York (1v:Ja v11;i-s)

J Business—Journal of Business of the University of Chicago. $4; single numbers $1.25. q University of Chicago Press, 5750 Ellis Av, Chicago (1v:Ja v13;i-s)

J Chem Educ—Journal of Chemical Education. $3; single numbers 50c. m Journal of Chemical Education, 20th and Northampton Sts, Easton, Pa. (1v:Ja v17;i-s)

J Eng Educ—Journal of Engineering Education. $3; single numbers 50c. m except (Jl and Ag) Society for the Promotion of Engineering Education, F. L. Bishop, Sec, University of Pittsburgh, Pittsburgh, Pa. (1v:S v31;i-s)

J Fr Inst—See Franklin Inst J

J Ind & Eng Chem—See Ind & Eng Chem

J Ind Hygiene—The Journal of Industrial Hygiene and Toxicology. $6; single numbers 75c. m (except Jl and Ag) Williams & Wilkins Co, Mt Royal & Guilford Avs, Baltimore, Md. (1v:Ja v22;i-s)

J Land & Pub Util Econ—Journal of Land and Public Utility Economics. $5; single numbers $1.50. q Northwestern University, 337 E. Chicago Av, Chicago (1v:F v16;i-s)

J Phys Chem—The Journal of Physical Chemistry. $10; single numbers $1.50. m (except Jl, Ag, S) Williams & Wilkins Co, Mt Royal & Guilford Avs, Baltimore, Md. (1v:Ja v44;i-s)

J Research Nat Bur Stand—Journal of Research of the National Bureau of Standards. $3.50; single numbers 30c. m Superintendent of Documents, Washington, D. C. (2v:Ja,Jl v24-25;i-1)

Light & Lighting—Light and Lighting. 10s 6d; single numbers 9d. m Light and Lighting, 32 Victoria St, London, S.W.1 (1v:Ja v33;i-l)
Formerly Illuminating Engineer. Name changed January, 1936
Not indexed after March 1940

Locomotive—Locomotive. 50c; single numbers gratis; recent bound volumes $1. q Hartford Steam Boiler Inspection & Insurance Co, 56 Prospect St, Hartford, Conn. (1v:Ja v43;i-r)

Mach—Machinery. $3; single numbers 35c. m Industrial Press, 148 Lafayette St, New York (1v:S v47;i-r)

Mag of Wall St—Magazine of Wall Street and Business Analyst. $7.50; single numbers 35c. bi-w Ticker Pub. Co, Inc, 90 Broad St, New York (2v:Ap,O v66-67;i-s)
Extra number, Manual of Magazine of Wall Street published annually in March

Management R—Management Review. $5; single numbers 50c. m American Management Association, 330 W 42d St, New York (1v:Ja v29;i-l)
Formerly American Management Review

Manuf Rec—Manufacturers Record. $2; single numbers 25c. m Manufacturers Record Publishing Co, Candler Building, Baltimore, Md. (1v:Ja v109;i-none)

Marine Eng—Marine Engineering and Shipping Review. $3; single numbers 35c. m Simmons-Boardman Pub. Co, 30 Church St, New York (1v:Ja v45;i-r)
Acquired Marine Review and name changed to Marine Engineering and Shipping Review, November 1935

Mass Transportation—Mass Transportation. $1.50; single numbers 25c. m Kenfield-Davis Pub. Co, 431 S. Dearborn St, Chicago (1v:Ja v36;i-s)
Formerly Electric Traction and Bus Journal

Mech Eng—Mechanical Engineering, the Journal of the American Society of Mechanical Engineers. $5; single numbers 60c. m American Society of Mechanical Engineers, 29 W 39th St, New York (1v:Ja v62;i-r)

Mech Handling—Mechanical Handling and Conveying. 12s; single numbers 1s. m Louis Cassier Co, Ltd, 22, Henrietta St, Covent Garden, London, W.C. (1v:Ja v27;i-l)

Metal Finishing—Metal Finishing. $2; single numbers 25c. m Metal Industry Pub. Co. Inc, 116 John St, New York (1v:Ja v38;i-s)
Formerly Metal Industry

Metal Ind—Metal Industry. $2; single numbers 20c. m Metal Industry Pub. Co, Inc, 116 John St, New York
Name changed to Metal Finishing, June, 1940

Metal Prog—Metal Progress. $5; single numbers $1. m American Society for Metals, 7301 Euclid Av, Cleveland, O. (2v:Ja,Jl v37-38;i-s)

Metals & Alloys—Metals and Alloys. $2; single numbers 25c. m Reinhold Pub. Corp, 330 W 42d St, New York (2v:Ja,Jl v11-12,i-s)

Min & Met—Mining and Metallurgy. $3; single numbers 50c. m American Institute of Mining and Metallurgical Engineers, Inc, 29 W 39th St, New York (1v:Ja v21;i-l)

Min Cong J—Mining Congress Journal. $2; single numbers 20c. m American Mining Congress, 309 Munsey Bldg, Washington, D.C. (1v:Ja v26;i-r)

Mo U Sch Mines & Met Bul tech ser—Bulletin of the University of Missouri, School of Mines and Metallurgy. Technical Series. irr Univ. of Mo, Rolla

Mod Packaging—Modern Packaging. $5; single numbers 50c. m Breskin Pub. Corp, 122 E 42d St, New York (1v:S v14;i-l)
September number indexed. Indexing will be continued in 1941

Mod Plastics—Modern Plastics. $5; single numbers 50c. m Breskin Pub. Corp, 122 E 42d St, New York (1v:S v18;i-l)
Formerly Plastic Products

Monthly Labor R—Monthly Labor Review. $3.50; single numbers 30c. m Superintendent of Documents, Washington, D.C. (2v:Ja,Jl v50-51;i-l)
Free to labor departments and bureaus and other offices connected with the administration of labor laws

N A C A Bul—N.A.C.A. Bulletin. s-m National Association of Cost Accountants, 385 Madison Av, New York (1v:S v22;i-r)
Distributed regularly only to members of the Association

N E Water Works Assn J—Journal of the New England Water Works Association. $4; single numbers $1.25. q New England Water Works Association, 613 Statler Bldg, Boston (1v:Mr v54;i-s)

Nat City Bank—National City Bank of New York. m 55 Wall St, New York

Nat Pet N—National Petroleum News. $3; single numbers 10c. w National Petroleum Pub. Co, 1213 W 3d St, Cleveland, O. (1v:Ja v32;i-none)

Nat Research Council Bul—National Research Council Bulletin. irr National Research Council, Publication office, Washington, D.C.
Individual numbers variously priced. Price-list sent on request

Nat Safety N—National Safety News. $4; single numbers 40c. m National Safety Council, Inc, 20 N Wacker Drive, Chicago (2v:Ja,Jl v41-42;i-r)

Nat Underw—National Underwriter. $4; single numbers 20c. w National Underwriter Co, 175 W Jackson Blvd, Chicago (1v:Ja v44;i-none)
Extra number (Auto ins no) published in April

Nat Underw (Life ed)—National Underwriter Life Insurance Edition. $3; single numbers 15c. w National Underwriter Co, 175 W Jackson Blvd, Chicago (1v:Ja v44;i-none)
Extra number, American Life convention issue, published October 12

Nation's Business—Nation's Business. $3; single numbers 25c. m Chamber of Commerce of the United States, 1615 H St, N.W, Washington, D.C. (1v:Ja v28;i-r)

N Y Pub Lib Bul—New York Public Library. Bulletin. $1; single numbers 10c. m New York Public Library, 476 Fifth Av, New York (1v:Ja v44;i-s)
Bibliographies of interest to special libraries are indexed

New England Water Works Assn. See N E Water Works Assn J

Oil & Gas J—Oil and Gas Journal. $6; single numbers 20c. w Petroleum Pub. Co, 211 South Cheyenne Av, Tulsa, Oklahoma (1v:My v39;i-s)

Oil Paint & Drug Rep—Oil, Paint and Drug Reporter. $5; single numbers 15c. w Oil, Paint and Drug Pub. Co, Inc, 59 John St, New York (2v:Ja,Jl v137-138;i-r)

Opt Soc Am J—Journal of the Optical Society of America. $6; single numbers 60c. m American Institute of Physics, Inc, 175 Fifth Av, New York (1v:Ja v30;i-s)

Paper Ind—Paper Industry and Paper World. $2. m Fritz Publications, Inc, 59 E. Van Buren St, Chicago (1v:Ap v22;i-l)

Paper Tr J—Paper Trade Journal. $4; single numbers 10c. w Lockwood Trade Journal Co, Inc, 15 W 47th St, New York (2v:Ja,Jl v110-111;i-s)

Personnel J—Personnel Journal. $5; single numbers 75c. m (except Jl and Ag) Personnel Research Federation, 60 E 42d St, New York (1v:My v19;i-s)

Phys R—The Physical Review. Second Series. $15; single numbers 75c. s-m American Institute of Physics, Inc, 175 Fifth Av, New York (2v:Ja,Jl v57-58;i-s)

Plastic Prod—Plastic Products. See Modern Plastics

Power—Power. $3; single numbers 35c. m McGraw-Hill Pub. Co, Inc, 330 W 42d St, New York (1v:Ja v84;i-r)
Extra number published in Mid-December

Power Pl Eng—Power Plant Engineering. $2; single numbers 25c. m Technical Pub. Co, 53 West Jackson Blvd, Chicago (1v:Ja v44;i-s)

Product Eng—Product Engineering. $3; single numbers 35c. m McGraw-Hill Pub. Co, Inc, 330 W 42d St, New York (1v:Ja v11;i-s)

Ptg Art—Printing Art. $10 for six issues; single numbers $2. bi-m Printing Art Publications, Inc, 340 W Huron St, Chicago (1v v68;i-none)
Formerly Printing Art Quarterly

Ptr Ink—Printers' Ink. $3; single numbers 10c. w Printers' Ink Pub. Co, Inc, 185 Madison Av, New York (4v:Ja,Ap,Jl,O v190-193;i-none)

Ptr Ink Mo—Printers' Ink Monthly. $2; single numbers 25c. m Printers' Ink Pub. Co, Inc, 185 Madison Av, New York (2v:Ja,Jl v40-41;i-none)

Pub Health Rep—Public Health Reports. $2.50; single numbers 5c. w Superintendent of Documents, Washington, D.C. (1v:Ja v55;i-l)
Distributed gratuitously to state and municipal health officers, etc., by the Surgeon general of the United States public health service, Washington, D.C.

Pub Roads—Public Roads. $1; single numbers 10c. m Superintendent of Documents, Washington, D.C. (1v:Mr v21;i-r)

Pub Util—Public Utilities Fortnightly. $15; single numbers 75c. bi-w Public Utilities Reports, Inc, Munsey Bldg, Washington, D.C. (2v:Ja,Jl v25-26;i-s)

Pub Works—Public Works. $3; single numbers 35c. m Public Works Journal Corp, 310 E 45th St, New York (1v:Ja v71;i-r)

Pulp & Pa of Can—Pulp and Paper Magazine of Canada. $5; single numbers 50c. m National Business Publications, ltd, Gardenvale, Que. (1v:Ja v41;i-s)
Extra convention number published in February

RCA R—RCA Review. $1.50; single numbers 50c. q RCA Institutes Technical Press, 75 Varick St, New York (1v:Jl v5;i-s)

R Econ Statis—Review of Economic Statistics. $5. q Harvard University Press, Cambridge, Mass. (1v:F v22;i-r)

R Sci Instr—Review of Scientific Instruments. $3.50; single numbers 50c. m American Institute of Physics, 175 Fifth Av, New York (1v:Ja v11;i-s)
$2 to members of the Founder Societies of the Institute

Radio N—Radio News. $2.50; single numbers 25c. m Ziff-Davis Pub. Co, 608 S. Dearborn St, Chicago (2v:Ja,Jl v23-24;i-none)

Rayon—Rayon Textile Monthly. $5; single numbers 50c. m Rayon Pub. Corp, 303 Fifth Av, New York (1v:Ja v21;i-s)
Formerly Rayon and Melliand Textile Monthly

Ref Shelf—The Reference Shelf. irr The H. W. Wilson Co, 958 University Av, New York

Refrig Eng—Refrigerating Engineering. $3; single numbers 35c. m American Society of Refrigerating Engineers, 37 W 39th St, New York (2v:Ja,Jl v39-40;i-s)

Roads & Sts—Roads and Streets. $3. m Gillette Pub. Co, 330 So. Wells St, Chicago (1v:Ja v83;i-r)

Rock Prod—Rock Products. $2; single numbers 25c. m Tradepress Pub. Corp, 309 W Jackson Blvd, Chicago (1v:Ja v43;i-none)

Roy Aeronautical Soc J—Journal of the Royal Aeronautical Society. £3 3s; single numbers 5s 3d. m Royal Aeronautical Society, 4 Hamilton Place, Piccadilly, London, W. 1 (1v: Ja v44;i-s)

Rs Mod Phys—Reviews of Modern Physics. $4; single numbers $1.20. q American Institute of Physics, Inc, 175 Fifth Av, New York (1v:Ja v12;i-none)

Rubber Age—Rubber Age. $2; single numbers 25c. m Palmerton Pub. Co, Inc, 250 W 57th St, New York (2v:Ap,O v47-48;i-s)

Ry Age—Railway Age. $6; single numbers 25c. w Simmons-Boardman Pub. Co, 30 Church St, New York (2v:Ja,Jl v108-109;i-r)

Ry Mech Eng—Railway Mechanical Engineer. $3; single numbers 35c. m Simmons-Boardman Pub. Co, 30 Church St, New York (1v:Ja v114;i-r)

S A E J—S.A.E. Journal. $10; single numbers $1. m Society of Automotive Engineers, Inc, 29 W 39th St, New York (2v:Ja,Jl v46-47;i-l)

Safety Eng—Safety Engineering. $3; single numbers 25c. m Safety Engineering, 75 Fulton St, New York (2v:Ja,Jl v79-80;i-s)

Sales Management—Sales Management. $4; single numbers 20c. s-m Sales Management, Inc, 420 Lexington Av, New York (2v:Ja,Jl v46-47;i-none)
Published semi-monthly beginning May 1, 1932 except in April and October when it is published three times a month

Sci Am—Scientific American. $4; single numbers 35c. m Munn & Co, Inc, 24 W 40th St, New York (2v:Ja,Jl v162-163;i-s)

Science—Science. $6; single numbers 15c. w Science Press, Grand Central Terminal, New York (2v:Ja,Jl v91-92;i-s)

Sheet Metal Worker—Sheet Metal Worker. $2; single numbers 25c. m Edwin A. Scott Pub. Co, Inc, 45 W 45th St, New York (1v:Ja v31;i-s)

Sibley J. See Cornell Eng

Soc Chem Ind J—Journal of the Society of Chemical Industry. £4 4s; single numbers 1s 10d. m Society of Chemical Industry, Royal School of Mines, Prince Consort Rd, South Kensington, London, S.W. 7 (1v:Ja v59;i-r)
In two separately paged sections; Transactions and British Chemical Abstracts
Price includes Chemistry & Industry formerly a section of the Journal

Soc Dyers & Col J—Journal of the Society of Dyers and Colourists. 60s; single numbers 5s. m Society of Dyers and Colourists, Ocean Chambers, 32-34 Piccadilly, Bradford, Yorkshire, England (1v:Ja v56;i-l)

Soc for Advan of Management J. See Advanced Management

Soc Ing Civils Mémoires—Mémoires de la Société des Ingénieurs Civils de France. 200 fr. bi-m Hotel de La Société, 19, Rue Blanche, Paris, France (9e) (1v:Ja v91)

Special Lib—Special Libraries. $5; single numbers 50c. m (S-Ap) bi-m (My-Ag) Special Libraries Association, 31 E 10th St, New York (1v:Ja v31;i-l)

Spectator (Life ed)—Spectator; American Review of Life Insurance. $2; with Property ed $3; single numbers 25c. bi-w Chilton Co, Chestnut & 56th Sts, Philadelphia (2v:Ja,Jl v144-145;i-s)
Changed from weekly to bi-weekly July 11, 1935, v 135, no 1

Spectator (Property ed)—Spectator; Property Insurance Review. $2; with Life ed $3; single numbers 25c. bi-w Chilton Co, Chestnut & 56th Sts, Philadelphia (1v:Jl v6;i-s)
Began publication July 4, 1935, v 1, no 1

Stahl & Eisen—Stahl und Eisen. RM 40; single numbers RM 1.50 w Verlag Stahleisen, m.b.H, Düsseldorf, Germany (1v:Ja v60;i-s)
Not indexed after May 16, 1940 number and several earlier numbers missing

Steel—Steel. $4; single numbers 25c. w Penton Pub. Co, Penton Bldg, Cleveland, O. (2v:Ja,Jl v106-107;i-r)

Survey of Cur Business—Survey of Current Business. U. S. Bureau of Foreign and Domestic Commerce, Division of Business Review. $2; single numbers 15c. m Superintendent of Documents, Washington, D.C. (1v: Ja v20;i-none)
Advance leaflets [5c] are distributed every week to subscribers in the United States. The leaflets are usually mailed on Thursdays and give such information as has been received during the preceding week

Survey of Cur Business 1940 Sup. U.S. Bureau of Foreign and Domestic Commerce, Division of Business Review; 40c. Superintendent of Documents, Washington, D.C.

System—System and Business Management. See American Business

Textile Col—Textile Colorist. $5. m Textile Colorist, Inc, 233 Broadway, New York (1v:Ja v62;i-s)

Textile Inst J—Journal of the Textile Institute. 48s; single numbers 4s. m Textile Institute, 16 St Mary's Parsonage, Manchester 3, England (1v:Ja v31;i-l)

Textile World—Textile World. $1.50; single numbers 25c. m McGraw-Hill Pub. Co, Inc, Bragdon, Lord & Nagle Division, 330 W 42d St, New York (1v:Ja v90)
Annual index appears in Textile World yearbook and catalog

Transit J—Transit Journal. $3; single numbers 35c. m McGraw-Hill Pub. Co, Inc, 330 W 42d St, New York (1v:Ja v84;i-s)
Formerly Electric Railway Journal

Trust Companies. See Trusts & Estates

Trusts & Estates—Trusts and Estates. $5; single numbers 60c. m Fiduciary Publishers, 50 E 42d St, New York (2v:Ja,Jl v70-71;i-s)
Formerly Trust Companies

U S Agric—Publications. U.S. Dept. of Agriculture, Division of Publications, Washington, D.C.
Selected contributions from the Bureau of Chemistry, Forest Service and Public Roads Bureau and other publications on technical subjects are indexed

U S Bur For & Dom Com Domestic Commerce * **Ser**—U.S. Bureau of Foreign and Domestic Commerce, Washington, D.C.

U S Bur For & Dom Com Trade Information * **Bul**—U.S. Bureau of Foreign and Domestic Commerce, Washington, D.C.

U S Bur For & Dom Com Trade Promotion * **Ser**—U.S. Bureau of Foreign and Domestic Commerce, Washington, D.C.

U S Bur Labor Statistics Bul—United States. Bureau of Labor Statistics. Bulletin. Distributed free of charge. U.S. Bureau of Labor Statistics, Washington, D.C.

U S Bur Mines Bul—United States. Bureau of † Mines. Bulletin. U.S. Bureau of Mines, Washington, D.C.

U S Bur Mines Information Circ—United States. † Bureau of Mines. Information Circular. U.S. Bureau of Mines, Washington, D.C.

U S Bur Mines Rep of Invest—United States. † Bureau of Mines. Reports of Investigations. U.S. Bureau of Mines, Washington, D.C.

U S Bur Mines Tech Pa—United States. Bu- † reau of mines. Technical Paper. U.S. Bureau of Mines, Washington, D.C.

U S Geol S Bul—United States Geological Survey. Bulletin. U.S. Geological Survey, Washington, D.C.

U S Geol S Professional Pa—United States Geological Survey. Professional Paper. U.S. Geological Survey, Washington, D.C.

U S Nat Advisory Com for Aeronautics—United States National Advisory Committee for Aeronautics, Washington, D.C. Annual reports.
(Twenty-fifth annual report, 1939, including Technical reports nos. 645-680)

U S Nat Bur Stand—United States National ‡ Bureau of Standards. Circular. U.S. National Bureau of Standards, Washington, D.C.

U S Women's Bur Bul—United States. Women's Bureau. Bulletin. U.S. Women's Bureau, Washington, D.C.

V D I—Zeitschrift des Vereines Deutscher Ingenieure. RM 36; single numbers RM 1.75 w VDI-Verlag G. m. b. H, Dorotheenstr. 40, Berlin NW 7, Germany (1v:Ja v84;i-none)
Not indexed after May 25, 1940 number and several earlier numbers missing

W Soc E J—Journal of the Western Society of Engineers. $3; single numbers 75c. bi-m Western Society of Engineers, 205 W Wacker Drive, Chicago (1v:F v45;i-s)

Water Works & Sewerage—Water Works & Sewerage. $2; single numbers 25c. m Gillette Pub. Co, 330 So. Wells St, Chicago (1v:Ja v87; i-s)

Weekly Underw—Weekly Underwriter. $5; single numbers 25c. w Underwriter Printing and Publishing Co, 80 Maiden Lane, New York (2v:Ja,Jl v142-143;i-l)

Western Soc of Eng J. See W Soc E J

Wireless Eng—Wireless Engineer. 32s; single numbers 2s 8d. m Iliffe & Sons, Ltd, Dorset House, Stamford St, London, S.E. 1 (1v:Ja v17;i-s)
Formerly Experimental Wireless and The Wireless Engineer

Wis U Eng Exp Sta Bul—Bulletin of the University of Wisconsin, Engineering Experiment Station Series. irr Univ. of Wis, Madison

Zeit Ver Deutsch Ing—See V D I

* The free distribution of publications of the Bureau of Foreign and Domestic Commerce is confined almost entirely to government officers, educational institutions, libraries, the press, and commercial organizations. Others may purchase them from the Superintendent of Documents, Government Printing Office, Washington, D.C.

† United States Bureau of Mines Publications for sale by Superintendent of Documents, Government Printing Office, Washington, D.C. Reports of Investigations and Information Circulars distributed by Bureau.

‡ The official (free) distribution of publications of the Bureau is limited to government offices, public libraries, educational institutions, scientific societies, and cooperating experts. Others may purchase them from the Superintendent of Documents, Government Printing Office, Washington, D.C.

Key to General Abbreviations

+	continued on later pages of the issue	Je	June
abr	abridged	Jl	July
Ag	August	Mr	March
Ap	April	My	May
arch	architect	n s	new series
bibliog	bibliography	N	November
comp	compiled or compiler	no	number
cond	condensed	O	October
cont	continued	p	page
D	December	pl	plate
diag	diagram	por	portrait
ed	edited or edition or editor	pseud	pseudonym
		pt	part
F	February	rev	revised
i	index	S	September
il	illustrations	sup	supplement
inc	incorporated	tr	translated or translation or translator
Ja	January	v	volume

Sample entry: Budgeting to cut unit costs; Talon, incorporated. P. K. Poulton and P. H. Goldsmith. Factory Management 97:48-52+ O '39

Explanation: An article with the title given above will be found in Factory Management, volume 97, pages 48 to 52 (continued on later pages of the same issue) the October 1939 number.

Abbreviations of Publishers' Names Used in Book Titles

A.I.M.E. American Institute of Mining and Metallurgical Engineers, 29 W 39th St, N.Y.
Am. Acad. of Pol. and Soc. Sci. American Academy of Political and Social Science, 3457 Walnut St, Philadelphia
Am. Book Co. American Book Company, 88 Lexington Av, N.Y.
Appleton-Century. D. Appleton-Century Co, Inc, 35 W32d St, N.Y.

Baird. H. C. Baird & Co, 2 W 45th St, N.Y.
Blakiston. The Blakiston Company, 1012 Walnut St, Philadelphia
Blue Ribbon Books, Inc, 14 W 49th St, N.Y.
Bobbs. Bobbs-Merrill Co, 724 N Meridian St, Indianapolis; 468 4th Av, N.Y.
Bruce Pub. Bruce Publishing Company, 524-544 N Milwaukee St, Milwaukee, Wis; 330 W 42d St, N.Y.

Callaghan. Callaghan & Co, 401 E Ohio St, Chicago
Carnegie Endowment. Carnegie Endowment for International Peace, 700 Jackson Pl, NW, Washington, D.C.
Carswell Co, Ltd, 145-149 Adelaide St, W, Toronto, 2
Century Co. See Appleton-Century
Chemical Catalog Co. See Reinhold Pub. Corp.
Chemical Pub. Co, 148 Lafayette St, N.Y.
Columbia Univ. Press, 2960 Broadway, N.Y. American Agents for the Publications of the League of Nations
Commerce Clearing House. Commerce Clearing House, Inc, Loose Leaf Service Division of The Corporation Trust Company, 205 W Monroe St, Chicago; 350 5th Av, N.Y.
Covici. Covici Friede, Inc, 435 E 24th St, N.Y.
Crofts. F. S. Crofts & Co, 41 Union Sq, W, N.Y.
Crowell. T. Y. Crowell Company, 432 4th Av, N.Y.

Davis. F. A. Davis Company, 1914-1916 Cherry St, Philadelphia
Day. John Day Co, Inc, 2 W 45th St, N.Y. Publications handled and sold by Reynal & Hitchcock, Inc, 386 4th Av, N.Y.
Dodd. Dodd, Mead & Co, 443-449 4th Av, N.Y.
Doubleday. Doubleday, Doran & Co, 14 W 49th St, N.Y.
Drake. Frederick J. Drake & Co, 600 W Van Buren St, Chicago
Dutton. E. P. Dutton & Co, 286-302 4th Av, N.Y.

Engineers Book Shop, 168 E 46th St, New York

Farrar. Farrar & Rinehart, Inc, 232 Madison Av, N.Y.

Ginn. Ginn & Co, (Educational text-bks.) 15 Ashburton Place, Boston; 2301-2311 Prairie Av, Chicago; 70 5th Av, N.Y.
Gregg. Gregg Publishing Company, 270 Madison Av, N.Y; 6 N Michigan Av, Chicago

Harcourt. Harcourt, Brace & Co, 383 Madison Av, N.Y.
Harper. Harper & Brothers, 49 E 33d St, N.Y.
Harvard Univ. Press, Pub. Dept, 38 Quincy St, Cambridge, Mass.
Heath. D. C. Heath & Co, 285 Columbus Av, Boston; 180 Varick St, N.Y; 1815 Prairie Av, Chicago
Henley. Norman W. Henley Pub. Co, Putnam Bldg, 2 W 45th St, N.Y.
Holt. Henry Holt & Co, 257 4th Av, N.Y; 2626 Prairie Av, Chicago
Houghton. Houghton, Mifflin Co, 2 Park St, Boston; 432 4th Av, N.Y; 2500 Prairie Av, Chicago; 500 Howard St, San Francisco

Int. Labor Office. International Labor Office, 734 Jackson Pl, NW, Washington, D.C.

Knopf. Alfred A. Knopf, 501 Madison Av, N.Y.

Lippincott. J. B. Lippincott Co, 227-231 S 6th St, Philadelphia
Little. Little, Brown & Co, 34 Beacon St, Boston
Liveright. Liveright Pub. Corp, 386 4th Av, N.Y.
Longmans. Longmans, Green & Co, 55 5th Av, N.Y.

McGraw-Hill. McGraw-Hill Bk. Co, Inc, 330 W 42d St, N.Y.
Macmillan. The Macmillan Co, 60 5th Av, N.Y.
Manual Arts Press, 237 N Monroe St, Peoria, Ill.
Morrow. William Morrow & Co, Inc, 386 4th Av, N.Y.

Nat. Bur. Econ. Research. National Bureau of Economic Research, Inc, 1819 Broadway, N.Y.
Nat. Ind. Conf. Bd. National Industrial Conference Board, Inc, 247 Park Av, N.Y.
National Research Council, 2101 Constitution Av, NW, Washington, D.C.
Nelson. Thomas Nelson & Sons, 385 Madison Av, N.Y.
Norton. W. W. Norton & Company, Inc, 70 5th Av, N.Y.

Oxford. Oxford University Press, 114 5th Av, N.Y.; 480-486 University Av, Toronto, 2; (Clarendon Press, and Humphrey Milford Imprints). Amen House, London, E.C. 4

Penton Pub. Co, 1213 W 3d St, Cleveland, O; 110 E. 42d St, N.Y.
Pitman. Pitman Pub. Corp, 2-6 W 45th St, N.Y.
Prentice-Hall, Inc, 70 5th Av, N.Y.
Princeton Univ. Press, Princeton, N.J.
Putnam. G. P. Putnam's Sons, Putnam Bldg, 2-6 W 45th St, N.Y.

Reinhold Pub. Corp, 330 W 42d St, N.Y.
Revell. Fleming H. Revell Co, 158 5th Av, N.Y.
Ronald Press. Ronald Press Co, 15 E 26th St, N.Y.
Routledge. George Routledge & Sons, Ltd, Broadway House, 68-74 Carter Lane, London, E.C. 4
Ryerson Press, 299 Queen St, W, Toronto, 2

Saunders. W. B. Saunders Co, 218 West Washington Sq, Philadelphia
Scientific Bk. Corp. 15 E 26th St, N.Y.
Scribner. Charles Scribner's Sons, 597 5th Av, N.Y; 320 E 21st St, Chicago
Simmons-Boardman. Simmons-Boardman Publishing Company, 30 Church St, N.Y.
South-Western Pub. Co. Inc, 201 W 4th St, Cincinnati; 354 4th Av, N.Y.
Special Lib. Assn. Special Libraries Association, 31 E 10th St, N.Y.
Spon. E. & F. N. Spon, Ltd, 57 Haymarket, London, S.W. 1
Stanford Univ. Press, Stanford University, Calif.
Stokes. F. A. Stokes Co, 443-449 4th Av, N.Y.
Supt. of Doc. Superintendent of Documents, Government Printing Office, Washington, D.C.

Teachers College, Columbia University, 525 W 120th St, N.Y.

Univ. of Chicago Press, 5750 Ellis Av, Chicago

Van Nostrand. D. Van Nostrand Co, 250 4th Av, N.Y.
Viking Press. Inc, 18 E 48th St, N.Y.

West. West Pub. Co, 50 W Kellogg Blvd, St Paul, Minn.; 268 Flatbush Extension av, Brooklyn, N.Y.
Wiley. John Wiley & Sons, Inc, 440 4th Av, N.Y.
Williams & Wilkins. The Williams & Wilkins Co, Mt Royal & Guilford Avs, Baltimore
Wilson, H.W. H. W. Wilson Co, 950-972 University Av, N.Y.
Wood. William Wood & Company (Division of the Williams & Wilkins Co) Mt Royal & Guilford Avs, Baltimore
Workers Educ. Bur. Workers Educational Bureau of America, 1440 Broadway, N.Y.
World Peace Foundation, 40 Mt Vernon St, Boston (9)

Yale Univ. Press, 143 Elm St, New Haven, Conn; 386 4th Av, N.Y.

Industrial Arts Index

A Cumulative Index to Engineering, Trade and Business Periodicals

1940

ABBE, Ernst, 1840-1905
Centenary. Engineering 149:66 Ja 19 '40

ABBOTT laboratories
Abbott laboratories, an ethical drug house. il Fortune 22:62-9+ Ag '40
Balanced portfolio of stocks. J. S. Williams. Mag of Wall St 66:490 Jl 27 '40

ABBREVIATIONS
See also
Mathematical symbols

ABIETIC acid
Identity of resin acids. T. Hasselstrom, J. D. McPherson and S. Hopkins, jr. bibliog Paper Tr J 110:41-3 Ja 25 '40
Reactions of maleic anhydride with abietic acid and rosin. A. G. Hovey and T. S. Hodgins. bibliog Ind & Eng Chem 32:272-9 F '40

ABILITY
See also
Genius
Success

ABILITY tests
Approach to more objective oral tests. S. H. Ordway, jr. and J. C. O'Brien. 31p pa 25c Society for personnel administration, Washington, D.C. '39
Aptitude test for salesmen; Steward test; abstract. H. J. Cummings. Management R 28: 398-9 N '39
Aptitude testing. C. A. Drake. bibliog Personnel J 18:340-5 Mr '40
Can aptitude tests guide us in picking men for promotion? R. N. McMurray. Sales Management 46:48, 50, 52-6 My 15; 58-61 Je 1 '40; Excerpts(pt 1). Management R 29: 298-300 Ag '40
Directing learning by teacher-made tests. R. T. Purnell and R. A. Davis. 92p bibliog (p81-92) $1 Extension division, Univ. of Colorado, Boulder '39
Executive and clerical aptitudes; fitness tests for education and job applicants; Human engineering laboratory, Stevens institute of technology. L. W. Yawger. Trusts & Estates 70:529-32 My '40
Hiring telephone men by tests. N. E. Rossett and P. Arakelian. Personnel J 18:184-92 N '39
How aptitude tests can uncover new assets in your business. J. O'Connor. Sales Management 47:14-17+ O 20 '40
Hurricane intelligence; ozone stimulant during test. H. N. Glick. Science 91:450 My 10 '40
Inspectors are born that way. C. A. Drake. il Factory Management 98:44-5+ Ap; 57+ My '40
Intelligence tests ignore temperament; abstract. D. Wechsler. East Underw 41:19 S 20 '40
Occupational counseling techniques. W. H. Stead and others. 273p bibliog(p261-4) $2.50 Am. book co. '40
Personnel selection in aviation industry; with aviation executive's comments. R. S. Schultz. Personnel J 19:99-107 S '40
Right job. R. H. Morris. il Power Pl Eng 44:72-3 F '40
Selection of men with creative ability. F. A. Magoun. Mech Eng 62:670-2 S '40
Some simple ABC's about aptitude-testing for salesmen. J. Klein. Sales Management 47:25-6+ S 1; 60, 62-3 S 15 '40
Testing office employees; abstract. E. C. Schroedel. Management R 29:240-1 Jl '40
Testing the abilities of textile workers. W. Harrell. (State eng. exp. sta. bul. 5) 14p bibliog(p14) pa 25c Georgia school of technology, Atlanta '40
Thirteen questions about aptitude testing. Sales Management 47:12-13 O 10 '40
Tools of the personnel trade. G. W. Wadsworth, jr. Mech Eng 62:14-16 Ja '40
Turning the X-ray in the hiring line; Lockheed system. R. R. Irwin. il Aviation 39: 32-3+ Ja '40
What traits distinguish the successful salesman from the dud? J. O'Connor. il Sales Management 47:29, 31-2+ N 1 '40

ABITIBI power and paper company
Committee urges deposit of bonds. Comm & Fin Chr 151:1268 Ag 31 '40
Earnings, 1937-39. Comm & Fin Chr 150:3649 Je 8 '40
Government inquiry starts. Paper Tr J 111: 10-11 N 7 '40
Judicial sale is still favored. Paper Tr J 111: 10-11 O 3 '40
Motion to defer Abitibi sale dismissed. Paper Tr J 111:10-11 O 17 '40
New reorganization plan proposed. Paper Tr J 111:7+ O 31 '40
Proposed judiciary sale of Abitibi fades; bid of bondholders' protective committee considered too low. Paper Tr J 111:11+ O 24 '40
Royal commission to investigate company's affairs; to recommend reorganization plan. Comm & Fin Chr 151:2482 O 26 '40
Supreme court authorizes sale of Abitibi. Paper Tr J 111:12-13 O 10 '40

ABNORMALITIES (animals)
Appearance of skeletal abnormalities in the offspring of rats reared on a deficient diet. J. Warkany and R. C. Nelson. Science 92: 383-4 O 25 '40

ABRAHAMCZIK tubes. See Absorption apparatus

ABRASION
Abrasion apparatus for textile wear testing. diag Textile Col 62:111-12 F '40
Effect of particle size on processing properties and abrasion resistance of carbon black in tread stocks. G. L. Roberts. il India Rubber W 101:39-42+ F '40
Fabric abrasion testing; evaluation of electric insulation. K. N. Mathes. il Gen Elec R 43:467-70 N '40
Machine for testing dentifrice abrasion. R. W. Smith. bibliog il diags Ind & Eng Chem Anal ed 12:419-23 Jl 15 '40

ABRASIVES
Abrasives for soaps and scouring powders; abstract. R. J. Roley. Can Chem & Process Ind 24:16 Ja '40
Abrasives, 1918-1938. F. J. Tone. il Chem Ind 45:133-9 Ag '39; Excerpts. Chem Age (Lond) 41:sup25-6 N 4 '39
Finishing the surface of steel mill rolls; American wheelabrator airless centrifugal blasting with metallic abrasives. D. C. Turnbull. il Blast F & Steel Pl 28:495-6+ My '40
Reducing the cost of polishing; abrasives, glue, proper drying. H. R. Power. il Mach 46:125-8 Mr '40; Same. Metal Finishing 38:489-91 S '40
What counts is the finish; superfinishing process has been further refined. A. M. Swigert. il Am Mach 84:8-11 Ja 10 '40
See also
Polishing

Testing

Gillette abrasive stone comparator. D. H. Harris. il diags Iron Age 146:32-8 Ag 22 '40
Grading abrasive sticks by the Rockwell test. L. H. Milligan. Iron Age 146:50-2+ S 19 '40; Same. S A E J 47:336-9 Ag '40
New method of testing and grading fine abrasives for superfinishing machines. E. L. Hemingway. S A E J 47:332-6; Discussion. il 336-41 Ag '40
Testing bond hardness of abrasives used on superfinishing machines. E. L. Hemingway. Iron Age 145:30-4 Ap 25 '40

ABSAROKA mountains
Structural and volcanic problems in the southern Absaroka mountains, Wyoming. J. T. Rouse. bibliog maps Geol Soc Bul 51:1413-27, pl 1 S '40

ABSENTEEISM (labor)
Sick absenteeism; how reported in the cement industry. A. J. R. Curtis. Concrete (mill sec) 48:221-2 Ag '40
Sick absenteeism in industry; abstract. J Ind Hygiene 22:sup173-4 N '40
Sickness absenteeism; abstract. C. D. Selby. Mech Eng 62:327 Ap '40
Sickness among workers big loss to industry; preliminary report, sick absenteeism in industry. Concrete (mill sec) 48:188 Je '40

ABSORPTIOMETERS
Thermoelectric absorptiometer for analytical work. H. H. Willard and G. H. Ayres. bibliog il diag Ind & Eng Chem Anal ed 12: 287-91 My 15 '40

ABSORPTION
Absorbent solutions. F. R. Bichowsky. Chem & Met Eng 47:302 My '40
Absorption of carbon dioxide in aqueous alkalies. H. J. Welge. bibliog Ind & Eng Chem 32:970-2 Jl '40
Absorption of substantive dyes. S. M. Neale and W. A. Stringfellow. bibliog Soc Dyers & Col J 56:17-23 Ja '40; Abstract. Am Dyestuff Rep 29:281-2, 283 My 27 '40
Absorption of sulphur dioxide in water; tower packed with one-inch Raschig rings. L. C. Jenness and J. G. L. Caulfield. bibliog diag Paper Tr J 109:37-41 D 28 '39
Absorption problems. Am Inst Chem Eng Trans 36:sup21-5 S '40
Application of the hydrogen-bridge theory to sorption from solution by silica gel. A. L. Elder and H. A. Springer. bibliog J Phys Chem 44:943-9 O '40
Performance of packed towers; experimental studies of absorption and desorption. T. K. Sherwood and F. A. L. Holloway. bibliog Am Inst Chem Eng Trans 36:21-36; Discussion. 36-7 F '40
Practical removal of sulfuric-acid fog by bubble-phase absorption. D. W. Bransky and F. F. Diwoky. diags Am Pet Inst Proc 21M(3):39-45 My '40; Excerpts. Nat Pet N 32:R200-1 My 29 '40; Abstract. Chem & Met Eng 47:541-2 Ag '40
Raising absorption efficiency by presaturating lean oil. A. J. L. Hutchinson and E. Moncrief. Oil & Gas J 39:53+ Ag 8 '40
Recovery of solvent vapors. A. B. Ray. Chem & Met Eng 47:330-1 My '40
Sorption of water vapor by vermiculite and its silica. L. A. Hansen, W. S. Samuel, jr. and P. A. Forni. bibliog diag Ind & Eng Chem 32:116-18 Ja '40
See also
Adsorption

Tables, calculations, etc.

Calculation of absorber performance and design; improved methods. G. Horton and W. B. Franklin. bibliog Ind & Eng Chem 32: 1384-8 O '40
Simplified calculation of diffusional processes; general consideration of two-film resistances. A. P. Colburn. bibliog Am Inst Chem Eng Trans 35:211-36 Ap '39; Discussion. 35:587-91; 36:679-82 O '39, O '40

ABSORPTION apparatus
Absorption refrigeration used for air conditioning. W. F. Friend. il Heating-Piping 12:551-2 S '40
Absorption systems in the oil industry. G. A. Beiter. flow diag il diags Refrig Eng 40: 293-6 N '40
Alkali slurry for CO_2 recovery from flue gases. G. T. Reich. diags Chem & Met Eng 47:152-5 Mr '40
Device for rapid rinsing of absorption towers used in gas analysis studies. N. F. Childers, D. C. Kiplinger and H. W. Brody. diags Science 90:447-8 N 10 '39
Large absorption unit now presaturates absorber gas. Oil & Gas J 38:34 Ap 18 '40
Microdetermination of carbon and hydrogen; use of Abrahamczik absorption tubes. R. O. Clark and G. H. Stillson. bibliog il diags Ind & Eng Chem Anal ed 12:494-8 Ag 15 '40
Microdetermination of sulfur in organic compounds; an absorption apparatus for use with the combustion method. L. T. Hallett and J. W. Kuipers. diags Ind & Eng Chem Anal ed 12:357-9 Je 15 '40
New plant recovers butanes and natural gasoline from Magnolia reserves. G. Weber. flow diag il Oil & Gas J 39:48-9 My 23 '40
Practical removal of sulfuric-acid fog by bubble-phase absorption. D. W. Bransky and F. F. Diwoky. diags Am Pet Inst Proc 21M(3):39-45 My '40; Excerpts. Nat Pet N 32:R200-1 My 29 '40; Abstract. Chem & Met Eng 47:541-2 Ag '40
Propane cooling of absorption oil used at new Jal gasoline plant. D. H. Stormont. flow diag il Oil & Gas J 39:30-1, 35+ Ag 29 '40
Removing excess carbon dioxide from a controlled atmosphere fruit storage. A. Van Doren. il diag Refrig Eng 40:303-4 N '40
Sealable absorption microtube. A. N. Prater. diags Ind & Eng Chem Anal ed 12:184 Mr 15 '40
Shell and Coltexo complete butane plant in Wasson-Bennett field. il plan Oil & Gas J 38:208-9, 213 Ja 25 '40
Sinclair's new plant in Nueces county is model of efficiency. H. F. Simons. il Oil & Gas J 38:178+ Ap 25 '40
Superior making isobutane at Kettleman absorption plant. L. P. Stockman. flow diag il Oil & Gas J 39:50-1, 53-4 Ag 15 '40

Design

Calculation of absorber performance and design; improved methods. G. Horton and W. B. Franklin. bibliog Ind & Eng Chem 32: 1384-8 O '40
Design of gas absorption equipment for the production of chlorine water. R. P. Whitney and J. E. Vivian. bibliog diag Paper Tr J 110:29-38 My 16 '40
Graphical construction of transfer units in packed towers; estimation of ratio of heights of liquid and gas transfer units. G. E. White. bibliog Am Inst Chem Eng Trans 36:359-69 Je '40
Performance of packed towers; experimental studies of absorption and desorption. T. K. Sherwood and F. A. L. Holloway. bibliog Am Inst Chem Eng Trans 36:21-36; Discussion. 36-7 F '40

ABSORPTION apparatus—Design—*Continued*
Performance of packed towers; liquid film data for several packings. T. K. Sherwood and F. A. L. Holloway. bibliog diag Am Inst Chem Eng Trans 36:39-69, 181-2 F-Ap '40; Discussion. 36:69-70 F '40

ABSORPTION coefficient
Origin of radio fade-outs and the absorption coefficient of gases for light of wave-length 1215.7A. W. M. Preston. bibliog Phys R 57: 887-94 My 15 '40

ABSORPTION of rays
Absorption law for total radiation measurements. W. P. Berggren. diag Phys R 57: 1183 Je 15 '40
Absorption of cosmic rays in lead at a depth of 1000 m water equivalent. J. Barnóthy and M. Forró. Phys R 58:844 N 1 '40
Effects of pressure, temperature and chemical composition on the absorption of light by mixtures of aromatic amines and nitro compounds. R. E. Gibson and O. H. Loeffler. bibliog Am Chem Soc J 62:1324-34 Je '40
Internal absorption of gamma rays in radium-beryllium neutron sources. L. F. Curtiss. diag J Research Nat Bur Stand 23:617-19 N '39
Investigation of the fundamental scattering and absorption coefficients of dyed handsheets. W. J. Foote. bibliog Paper Tr J 109:31-8 D 21 '39
Die kritische auswahl colorimetrischer spektralphotometrischer und spektrographischer methoden zur absorptionsmessung. G. Kortüm and M. Seiler. Angew Chemie 52:687-93 D 2 '39
Light scattering in normal human dentine; the calculation of absorption and scattering constants. R. S. Manly, J. F. Bonner and H. C. Hodge. bibliog J Phys Chem 44: 745-51 Je '40

See also
Spectrum—Absorption spectra

ABSORPTION spectra. See Spectrum—Absorption spectra

ABSTRACTS
Abstracting and indexing of scientific and technical literature. E. J. Crane. Special Lib 31:260-4 Jl-Ag '40
Authors abstracts as an aid to documentation. G. S. Fulcher. Assn of Sp Lib & Inf Bur Proc 1939:41-5
Authors' abstracts in scientific journals. G. S. Fulcher. Science 91:191 F 23 '40

Bibliography

Current abstract and index periodicals of interest to chemists; a selected list. T. E. R. Singer. Ind & Eng Chem News ed 18:541-2 Je 25 '40

ACCELERATION
Acceleration diagrams for mechanisms. E. Giffen. Engineering 150:213-16 S 13 '40
Correction table for the effect of Coriolis acceleration on bubble sextant altitudes. J. Q. Stewart. R Sci Instr 11:310-11 O '40

ACCELEROMETERS
Instrument for measuring low frequency accelerations in flight. C. S. Draper and W. Wrigley. bibliog il diags J Aeronautical Sci 7:388-401 Jl '40
Methods of measuring the torque of induction motors. A. C. W. V. Clarke. Inst E E J 86:597-600, pl 1-4 Je '40
Present status of instruments for measuring riding comfort. R. W. Brown. bibliog il diag Instruments 13:103-9 Ap '40

ACCEPTANCES
Bankers acceptances outstanding, 1936-1939. Survey of Cur Business 1940 Sup p47 [supplemented in monthly numbers]
Commercial paper and bankers' acceptances outstanding, Sept. 1938-Nov. 1939. Fed Res Bul 26:38 Ja '40 [cont monthly]
Outstanding bankers acceptances during December. Comm & Fin Chr 150:206 Ja 13 '40 [cont monthly]

ACCIDENT insurance. See Insurance, Accident

ACCIDENT law
See also
Damages
Workmen's compensation

ACCIDENTS
Accidents are uninvited guests at picnic. Nat Safety N 41:91 My '40
Home accidents; where, how and why. D. B. Armstrong and W. G. Cole. East Underw 41:6 O 11 '40
Minor injuries, so called; contusions, sprains and strains. J. J. Wittmer. Nat Safety N 42:34, 36+ N '40
Strength for critical days. J. Stilwell. Nat Safety N 42:10-11+ N '40

See also
Air lines—Accidents
Automobile accidents
Aviation—Accidents
Dust explosions
Electricity, Accidents from
Electricity, Injuries from
Explosions
Falls
Farm accidents
Fires
First aid in illness and injury
Insurance, Accident
Railroads—Accidents
Safety devices and measures
Safety movement
Street accidents

Statistics

Accident barometer. Published in monthly numbers of National safety news
Accident deaths decline in 1939. W. G. Johnson. map Nat Safety N 41:14-16+ Je '40
Accident figures for 1939. Nat Safety N 41: 176-7 Mr '40
Accidental deaths in 1938 and 1939. T. J. V. Cullen. Spectator (Life ed) 145:6-10 N 7 '40; Same. Spectator (Property ed) 6:10-14, 21 O 31 '40
Accidental deaths in 1939. Nat Underw 44:24 F 8 '40
Accidents in 1939. Ins Field (Fire ed) 69:13 F 8 '40
Can safety be handled statistically? E. F. Brayer. Am Statis Assn J 35:382-4 Je '40
Country-wide accident death toll in 1939 lower for third consecutive year. East Underw 41:28 Ag 16 '40
Making full use of accident statistics. D. G. Vaughan. East Underw 41:48 O 11 '40
National safety council reports on 1939 accidents. Ins Field (Life ed) 69:6-7 Mr 15 '40
Study of accidents, 1933-1939, in Philadelphia office building. T. I. Howe. Weekly Underw 142:1512 Je 22 '40

ACCIDENTS, Automobile. See Automobile accidents

ACCIDENTS, Industrial
Back up; causes of back injuries. W. E. Strong. il Safety Eng 79:19-20+ F '40
Can the small plant gain? N. A. Zeiger. Safety Eng 79:30-2 F '40
Danger on the window sill; risks of the window cleaner's job. E. R. Granniss. il Nat Safety N 41:18-19, 58+ Ap '40
Don't use compressed air to empty barrels or drums; dangerous practices. G. Edwards. il Power 84:171 Mr '40
Falling down on the job. E. N. Goldstine. il Nat Safety N 41:24-5+ F '40
How a coordinated attack can help control accidents resulting from slips and falls. C. Ainsworth. il Ind Stand 11:128-33 My '40
Industrial hernia and its control. L. H. Frechtling. Nat Safety N 41:34, 36+ Ja '40
Is management to blame? F. W. Braun. il Safety Eng 80:35-6 S '40
Lame backs and back injuries. J. B. MacLaren. Nat Safety N 40:34, 36+ D '39
Machine hazards vs. man failure. H. W. Heinrich. il Safety Eng 79:27-8 Ja '40
Minor injuries, so called; contusions, sprains and strains. J. J. Wittmer. Nat Safety N 42:34, 36+ N '40
Preventable accidents. E. R. Granniss. Safety Eng 78:25 N '39
Prevention first; Red cross first aid instruction. L. M. Thompson. il Safety Eng 79: 21, 24 Mr '40

ACCIDENTS, Industrial—*Continued*
Report on chemical plant safety and fire protection. il Chem & Met Eng 47:700-6 O '40
Someone to blame (cont). Safety Eng 78:22-3 D '39; 79:18-19 Ja; 22-3 F; 22-3 Mr; 28-9 Ap; 26-7 My; 26-7 Je; 80:22-3 Jl; 26-7 Ag; 22-3 S; 44-5 O; 30-1 N '40
Three steam engines involved in one accident. il Locomotive 43:34-5 Ap '40
Unsuspected physical defects; are they overemphasized as accident causes? N. E. Eckelberry. Nat Safety N 41:34, 36+ My '40
War-time casualties on the industrial front; the experience of Germany and Austria-Hungary, 1914-18. J. E. Wheeler. Nat Safety N 42:21+ Jl '40
Why and where accidents occur, and what they cost. Factory Management 98:80-1 F '40
Worker's stake in safety. F. Perkins. il Nat Safety N 40:10-11+ D '39

See also
Boiler explosions
Building accidents
Dust explosions
Employers' liability
Eye—Injuries
Factory inspection
Falls
Machinery—Safety devices
Mine accidents
Safety devices and measures
Workmen's compensation
also subdivision Accidents under special subjects, e.g.
Cement plants—Accidents
Quarries and quarrying—Accidents
also International association of industrial accident boards and commissions

Cost

Dollars and sense of safety. F. J. Van Antwerpen. bibliog il Ind & Eng Chem 32: 1437-43 N '40
Dollars and sense; safety's value to the employee; East Bay municipal utility district of California. H. B. Fisher. Safety Eng 78: 35 D '39
Eyes are expensive targets. K. R. Sutherland. il Steel 105:52-3+ N 20 '39
Figuring cost of accidents in dollars and cents. B. H. Goodenough. Concrete (mill sec) 47:274 D '39; Same. Safety Eng 79: 35-6 F '40

See also
Mine accidents—Cost

Records

Accident records. Nat Safety N 41:162+ Mr '40
Man failure, or was this an alibi? proposed American standard for compiling accident statistics will help give answer. Ind Stand 11:155-7 Je '40

Statistics

Accident frequency reduced 52%. F. G. Lippert. Safety Eng 79:13 Je '40
Causes and prevention of accidents in lumber manufacture, 1939. M. D. Kossoris and S. Kjaer. Monthly Labor R 51:663-79 S '40
Causes and prevention of accidents in the construction industry, 1938; building, railroad, and highway construction. M. D. Kossoris and S. Kjaer. Monthly Labor R 49: 658-73 S '39
Coke-oven accidents in the United States during the calendar year 1938. W. W. Adams and V. E. Wrenn. U S Bur Mines Tech Pa 614:1-16 '40
Dollars and sense of safety. F. J. Van Antwerpen. bibliog il Ind & Eng Chem 32: 1437-43 N '40
Excellent record chalked up in no-accident campaign. Concrete (mill sec) 48:220 Ag '40
Expressing the injury index by a single number. Pub Works 71:41 Je '40
Farm accidents in Alabama, 1932 to 1938. J. N. Baker. Monthly Labor R 51:109-11 Jl '40
Fatal industrial accidents in Canada, 1939. Monthly Labor R 51:111 Jl '40
Food plants lag in accident prevention. Food Ind 12:52-3 S '40
Industrial accidents in Illinois for the year 1939. 46p, 53 tables Illinois, Dept. of labor, 205 W. Wacker drive, Chicago '40
Industrial injuries in the United States during 1939. M. D. Kossoris and S. Kjaer. Monthly Labor R 51:86-108 Jl '40
Injury experience in the iron and steel industry, 1937 and 1938. R. F. Fleming. Monthly Labor R 49:1111-20 N '39
Injury experience in the iron and steel industry, 1938 and 1939. G. R. McCormack. Monthly Labor R 51:322-33 Ag '40
Manual on industrial-injury statistics. M. D. Kossoris. U S Bur Labor Statistics Bul 667:1-201 '40
Proposed standard helps reveal causes of accidents. Ind Stand 11:253-4 O '40

ACCORDIONS
Imports of accordions and concertinas during the first 8 months of 1940. For Comm W 1:135 O 19 '40

ACCOUNT turn over. See Accounts receivable

ACCOUNTANTS
Accountancy as a career. L. W. Scudder. 161p bibliog(p159-61) $1.50 Funk and Wagnalls co, New York '39
Accountants need a sense of humor. J. F. O'Hara. Edison Elec Inst Bul 7:515-16+ N '39
British accountancy profession and the war. M. E. Murphy. J Account 70:9-12 Jl '40
British accounting practices and the profession. T. H. Sanders. Harvard Business R 18 no 2:161-76 [Ja] '40
Do you want to become an accountant? T. W. Byrnes and K. L. Baker. 189p $1.50 Stokes '40
What's wrong with accounting. B. E. Goetz. Advanced Management 4 no5:151-7 '39; Reply. E. B. Wilcox. 5:43-6 Ja-Mr '40

See also
Accounting

ACCOUNTANTS, Public
Estate planning, a unique service. W. T. Sunley. J Account 70:444-9 N '40
Protection of professional titles. M. T. Nisot. Int Labour R 41:115-20 F '40

See also
Accounting
Auditing

Fees

Competitive bidding for audit engagements; statement by executive committee of American institute of accountants. J Account 68: 367-8 D '39

Law

Regulation of trustee and auditing companies in Italy. J. O. Janousek. Comm Rep p277 Mr 23 '40
Some reservations on the State Street trust company case; legal responsibility of public accountants. J. L. Dohr. J Account 70: 218-24 S '40

ACCOUNTANTS' liability insurance. See Insurance, Accountants' liability

ACCOUNTANTS' reports
Form of accountants' certificates. J Account 69:318-19 Ap '40
Gross revenue figures should not be exacted from all corporations; public accountant's responsibility to investors. J. M. Hancock. Comm & Fin Chr 150:2812-13 My 4 '40
Need for single-purpose statements. V. Z. Brink. J Account 69:284-92 Ap '40
Realistic accounts and statements for management, for labor. J. E. McCarthy. Edison Elec Inst Bul 7:535-6 N '39
Relation of accounting statements and reports to security issues. W. W. Werntz. Edison Elec Inst Bul 7:537-8+ N '39
Single-purpose statements; suggested by J. N. Frank; discussion. J Account 69:186-9 Mr '40

ACCOUNTING
Accountancy of tomorrow. C. B. Couchman. Edison Elec Inst Bul 7:552-4 N '39
Accountant on wheels founds new business; C. M. Harris of Los Angeles. M. Weinstock. il Nation's Business 28:106 Mr '40

ACCOUNTING—*Continued*

Accounting for the admissions and retirements of partners. E. Nolan. J Account 69: 91-111, 190-202 F-Mr '40

Accounting in evolution. H. A. Eppston. J Account 70:128-34 Ag '40

Accounting principles. J. O. McKinsey and H. S. Noble. 3d ed 885p $3.75 South-western pub. co '39

Accounting principles and practices; an introductory course. H. R. Hatfield. T. H. Sanders and N. L. Burton. 599p $3.75 Ginn '40

Beginning accounting. D. F. Cole. 789p, 64p $4 Crowell '40

C.P.A. tells of his views about audit methods; answering layman's questions. Credit & Fin Management 42:23, 25-7+ Jl '40

Changing from calendar year to natural business year. G. E. Klanderman. J Account 68: 386-92 D '39

Financial statement of the future. R. A. Foulke. il Dun's R 48:20-5+ N '40

Further comments on last-in, first-out. D. R. Anderson; G. A. Wilson. N A C A Bul 21: 459-68 sec 2 D 1 '39

Internal control; a panel discussion. N A C A Bul 21:1519-44 Ag 15 '40

Internal control from the viewpoint of the auditor. F. G. Short. J Account 70:225-31 S '40

Preparing for the auditor. C. W. Snider. J Account 69:41-5 Ja '40

Principles of accounting, introductory. H. A. Finney. rev ed 639p $5; to schools $4 Prentice-Hall '40

Proceedings of the fifteenth annual Michigan accounting conference, Ann Arbor, November 10, 1939. R. P. Briggs, ed. 56p pa $1 Univ. of Michigan, School of business administration, Bur. of business research, Ann Arbor '40

Proceedings of the second annual Institute on accounting held at the Ohio state university, May 19-20, 1939. 90p pa gratis College of commerce and administration, Ohio state univ, Columbus '39

Realism in accounting. C. B. Couchman. J Account 69:255-65 Ap '40

Recent and prospective developments in accounting theory. W. A. Paton. Harvard Univ Graduate School of Business Administration, Bur of Business Research, Business Research Studies 25:1-19 '40 (pa $1)

Secretarial accounting. J. F. Sherwood and C. Boling. 216p $1.70 South-western pub. co. '39

To what extent is the last-in, first-out plan being adopted? N A C A Bul 21:500-1 D 15 '39

Trends in accounting procedure. V. H. Stempf. J Account 69:451-60 Je '40

Unbalanced objectives in financial accounting. R. B. Kester. Edison Elec Inst Bul 7:531-4 N '39

What's wrong with accounting. B. E. Goetz. Advanced Management 4 no5:151-7 '39; Reply. E. B. Wilcox. 5:43-6 Ja-Mr '40

See also

Accountants, Public
Accountants' reports
Accounts receivable
Auditing
Balance sheets
Bank accounting
Billing
Bookkeeping
Budget, Business
Cash estimates
Consolidated statements
Controllers
Cost accounting
Depreciation
Dividends
Financial ratios
Financial statements
Foundry accounting
Government accounting
Interest
Inventories
Municipal accounting
Obsolescence
Overhead expense
Payrolls
Profit
Punched card system
Sales records
Stores systems
Surplus
Valuation

also subdivision Accounting under special subjects, e.g.

Brokers
Colleges and universities
Containers, Returnable
Contracts, Government
Corporations
Cotton mills
Electric utilities
Factories
Farmers' cooperative associations
Gas, Natural
Gas companies
Hospitals
Hotels
Importing
Income tax
Investments
Moving picture industry
Payrolls
Pensions, Industrial
Public utilities
Race tracks
Railroads
Retail trade
Rolling mills
Safe deposits
Trust companies
Trusts and trustees
Waterworks

Bibliography

Current literature. Published in monthly numbers of Journal of accountancy

Explorations in accounting; recent books. R. G. Walker. Harvard Business R 18 no 3: 384-96 [Ap] '40

Examinations

Examination questions prepared by the Board of examiners of the American institute of accountants, May, 1936, to November, 1938, inclusive. 158p $1.50 Am. inst. of accountants, New York '39

New York C.P.A. theory questions with answers. J. C. Myer. rev ed 640p $4.75 J. Sobelsohn, 250 W 57th st, N.Y. '38

Unofficial answers to the examination questions of the American institute of accountants, May, 1936, to November, 1938. H. P. Baumann and S. Gordon. 298p $2.50 Am. inst. pub. co, New York '39

History

History of accounting in the state of Illinois. E. Reckitt. J Account 69:376-80 My '40

Laws and regulations

Accounting by edict. C. B. Couchman. Am Gas Assn Proc 1939:191-6

Accounting provisions of investment trust bill. J Account 69:293-4 Ap '40

Accounting regulation S-X. J Account 69: 319-21 Ap '40

Amended requirements for financial statements prescribed by the Securities and exchange commission in regulation S-X. H. N. Sweet. J Account 69:167-74 Mr '40

Business law. S. D. Hirschl. 493p, 36p $3.50 LaSalle extension univ, Chicago '39

Findings and opinions; Securities and exchange commission. Published in monthly numbers of Journal of accountancy

Recent pronouncements of the Securities and exchange commission on accounting subjects. W. H. Bell. J Account 69:430-7 Je '40

Securities and exchange commission fifth annual report; activities of the Commission in the field of accounting and auditing. J Account 69:231-3 Mr '40

Uniform set of accounting requirements to apply to majority of SEC's registration and report forms adopted. Comm & Fin Chr 150: 1352 Mr 2 '40

See also

Accountants, Public—Law

Mechanical aids

Bank's modern tools. E. S. Woolley. Banking 32:19-20 N '39; 29-30 Ja; 38-9 Ap '40

Improving the operation of tabulating machine installations. G. A. Gardner. il N A C A Bul 21:481-90 D 15 '39

Mechanized accounting for woods operations. D. A. Ridout. Pulp & Pa of Can 41:29-30 Ja '40

Metropolitan Tobacco takes a whack at accounting costs; accounts receivable records written simultaneously by machine. il Am Business 10:20-2 Mr '40

New plan of rewriting meter reading sheets. L. A. Mayo. il Edison Elec Inst Bul 7:587-90 D '39

Over 700 machines in Milwaukee accounting. il Ry Age 109:139-49 Jl 27 '40

Rewriting meter reading sheets by alphabetic tabulating cards. J. O. Hill. il Edison Elec Inst Bul 7:591-3 D '39

ACCOUNTING—Mechanical aids—*Continued*
Shorter hours, greater economy; use of proving and transit machine. C. A. Tschopp. il Bankers Mo 57:558-9 O '40
Simplifying cost accounting with Burroughs typewriter accounting machine. il Manuf Rec 109:32-3+ My '40
This posting equipment combines operations. W. E. Kuipers. il Bankers Mo 57:267-9 My '40
Unit plan of trust accounting. N. S. Gray. il Bankers Mo 57:272-4+ My '40
We earn more and work less; use of available equipment and numbering system to identify endorsers made transit work and account analysis more economical. H. Meidell. il Bankers Mo 57:270-1 My '40

See also
Punched card system
Tabulating machines

Standards
Comments on An introduction to corporate accounting standards, by W. A. Paton and A. C. Littleton. A. W. Hanson; R. B. Kester. J Account 69:440-5 Je '40

Study and teaching
American institute of accountants examinations in accounting theory and practice, Nov. 16, 1939. J Account 69:146-53, 219-26, 307-12 F-Ap '40
American institute of accountants examination in accounting theory and practice, Nov. 17, 1939. J Account 69:396-408, 479-85 My-Je '40
American institute of accountants examinations in accounting theory and practice, May 16, 1940. J Account 70:172-87 Ag '40
American institute of accountants examinations in accounting theory and practice, May 17, 1940. J Account 70:275-81, 368-74, 465-9 S-N '40

Great Britain
British accountancy profession and the war. M. E. Murphy. J Account 70:9-12 Jl '40
British accounting practices and the profession. T. H. Sanders. Harvard Business R 18 no 2:161-76 [Ja] '40

Illinois
History of accounting in the state of Illinois. E. Reckitt. J Account 69:376-80 My '40

ACCOUNTING, Government. See Government accounting; Municipal accounting

ACCOUNTING departments
Proved economies in commercial accounting operations; modernization and management of accounting department. A. J. Bohl. Edison Elec Inst Bul 7:523-6 N '39
Station plan of bookkeeping. J. A. Williams. diag Am Gas Assn Proc 1939:171-4
Unit desk plan of customers accounting. O. Ullery. fold plan Am Gas Assn Proc 1939: 167-71
Unit group plan of customers accounting. A. W. Fyfe. Am Gas Assn Proc 1939:174-9

ACCOUNTING ethics
British accounting practices and the profession. T. H. Sanders. Harvard Business R 18 no 2:161-76 [Ja] '40
Practical aspects of professional ethics. V. H. Stempf. J Account 69:278-83 Ap '40
Statement to the S.E.C. on professional disciplinary procedures. J Account 70:58-63 Jl '40

ACCOUNTING research
Research work of the American institute of accountants. G. D. Bailey. bibliog J Account 70:50-7 Jl '40

ACCOUNTS receivable
Change open accounts into notes. M. Hirsch. Inland Ptr 105:48 My '40
How valuable are accounts receivable? P. N. Gery. Credit & Fin Management 42:48 O '40
Inventories and receivables of department stores, instalment houses, chain stores, and other retailers; a statement by the committee on auditing procedure of the American institute of accountants. J Account 69: 88-90 F '40
Measure for accounts receivable; study of receivables-to-sales ratios, 1923-37, which may be used as standards in statement analysis. R. Nugent. Credit & Fin Management 42:9-13+ Ja '40
Monthly account-aging report system. M. Hill. Credit & Fin Management 42:46-8 Ap '40
Reserve for ageing receivables; drug wholesalers' association offers suggestions. E. P. Ellis. Credit & Fin Management 42:12-15 F '40
Verification, how far is too far? opinion of retail store executives on problems of accounts receivable and inventory verifications; abstract. E. H. Scull. Management R 29:335-6 S '40

ACCULTURATION
War and the acculturation of the masses. M. Gamio. Ann Am Acad 210:28-34 Jl '40

ACENAPHTHENE
7-Cholanthroic acid. L. F. Fieser and G. W. Kilmer. bibliog Am Chem Soc J 62:1354-60 Je '40
Further observations on the use of hydrogen fluoride in acylations and cyclizations. L. F. Fieser and E. B. Hershberg. bibliog Am Chem Soc J 62:49-53 Ja '40
1-(β-styryl)-acenaphthene. E. B. Hershberg and L. M. Joshel. Am Chem Soc J 62:1305-6 My '40

ACETALDEHYDE
Aldehyde complexes of copper salts. T. L. Davis and W. P. Green, jr. Am Chem Soc J 62:1272-4 My '40
Aldehyde-nitroparaffin condensation. B. M. Vanderbilt and H. B. Hass. bibliog Ind & Eng Chem 32:34-8 Ja '40
Aldehyde-resorcinol condensations. J. B Niederl and H. J. Vogel. Am Chem Soc J 62:2512-14 S '40
Free radicals in the pyrolysis of acetaldehyde. M. Burton, J. E. Ricci and T. W. Davis. bibliog diag Am Chem Soc J 62:265-7 F '40
New acetic anhydride process; Shawinigan process. G. Benson. bibliog flow sheet il Chem & Met Eng 47:150-1 Mr '40
Oxidation of aldehydes; the combustion zones of butaldehyde; isobutaldehyde, propaldehyde, acetaldehyde, glyoxal, and acraldehyde. D. M. Newitt, L. M. Baxt and V. V. Kelkar. diag Chem Soc J p1703-10 N '39
Oxidation of aldehydes; the products of their combustion. D. M. Newitt and L. M. Baxt. pl Chem Soc J p1711-20 N '39
Photolysis of acetaldehyde and ethyl bromide mixtures at 310°. J. D. Roof and F. Daniels. bibliog diag Am Chem Soc J 62:2912-15 N '40

ACETALS
Ketene acetals; polymers of ketene diethylacetal. P. R. Johnson, H. M. Barnes and S. M. McElvain. bibliog diag Am Chem Soc J 62:964-72 Ap '40
Ketene acetals; the preparation of ketene acetals from α-bromo-orthoesters. P. M. Walters and S. M. McElvain. bibliog Am Chem Soc J 62:1482-4 Je '40
Ketene acetals; the reaction of ketene diethylacetal with various compounds containing an active hydrogen. H. M. Barnes, D. Kundiger and S. M. McElvain. Am Chem Soc J 62:1281-7 My '40

ACETAMIDE
Crystal structure of rhombohedral acetamide. F. Senti and D. Harker. bibliog il diags Am Chem Soc J 62:2008-19 Ag '40
Heats of solution, heats of formation, specific heats and equilibrium diagrams of certain molecular compounds. A. N. Campbell and A. J. R. Campbell. Am Chem Soc J 62:291-7 F '40
Industrial uses of chemicals and related materials. Oil Paint & Drug Rep 137:29 Je 24; 138:34 Jl 1 '40

ACETANILIDE
F.D.A. defines safe dosage of bromides and acetanilide. Oil Paint & Drug Rep 138:5 Jl 1 '40

ACETATES
See also
Cellulose acetate
Lead acetates

ACETIC acid
Acid catalyzed esterification of aliphatic acids. H. A. Smith. bibliog Am Chem Soc J 62:1136-40 My '40
Acidity scale in glacial acetic acid; buffer solutions $-1.6<H_0<3.8$. N. F. Hall and F. Meyer. bibliog Am Chem Soc J 62:2493-500 S '40
Acidity scale in glacial acetic acid; sulfuric acid solutions $-6<H_0<0$[1,2]. N. F. Hall and W. F. Spengeman. bibliog Am Chem Soc J 62:2487-92 S '40
Addition of oxy compounds to acetylenic alcohols. J. F. Froning and G. F. Hennion. Am Chem Soc J 62:653-5 Mr '40
Analysis of mixtures of aliphatic acids. S. T. Schicktanz, W. I. Steele and A. C. Blaisdell. bibliog Ind & Eng Chem Anal ed 12:320-4 Je 15 '40
Chlorinations with sulfuryl chloride; (a) the peroxide-catalyzed chlorination of aliphatic acids and acid chlorides; (b) the photochemical sulfonation of aliphatic acids. M. S. Kharasch and H. C. Brown. Am Chem Soc J 62:925-9 Ap '40
Electrostatic effects on ionization constants. V. K. LaMer and F. Brescia. Am Chem Soc J 62:617-20 Mr '40
Equilibrium constants for the systems alkyl formates and alkyl acetates with stearic acid. C. Barkenbus, C. A. Roswell and A. E. Mitts. bibliog Am Chem Soc J 62: 1251-3 My '40
Flow method for the determination of the effects of soluble chemicals on concrete. D. G. Miller, C. F. Rogers and P. W. Manson. il diag Am Soc T M Proc 39:900-7; Discussion. 908-12 '39
Influence of a solvent on the strength of the hydrogen bridge. E. A. Moelwyn-Hughes. Chem Soc J p850-5 Jl '40
Inhibiting effect of acetic acid upon microorganisms in the presence of sodium chloride and sucrose; abstract. A. S. Levine and C. R. Fellers. Food Ind 12:84 N '40
Lactic acid for pickles. F. W. Fabian and C. K. Wadsworth. Food Ind 12:96 Ap; 98 My '40
Qualitative identification and quantitative estimation of nylon in the presence of silk, wool and cotton. R. Gerber and K. Lathrop. bibliog Am Dyestuff Rep 29: 437-40+ S 2 '40
Quaternary system acetic acid—chloroform—acetone—water at 25°C. A. V. Brancker, T. G. Hunter and A. W. Nash. diags J Phys Chem 44:683-98 Je '40
Studies on silicic acid gels; the effect of a change of pH upon the time of set of some acid gels. C. B. Hurd and H. W. Paton. bibliog J Phys Chem 44:57-62 Ja '40
Study of the kinetics of the reactions in the zinc-hydrogen irreversible cell. J. I. Jolley and H. V. Tartar. diag Electrochem Soc Trans 78 (preprint 10):139-59 O '40
Temperature dependence of the dissociation constant of deuteroacetic acid. F. Brescia, V. K. LaMer and F. C. Nachod. bibliog Am Chem Soc J 62:614-17 Mr '40
Triple ions and transference numbers. M. Dole. Electrochem Soc Trans 77 (preprint 3):39-48 Ap '40

Manufacture
Acetic acid from wood distillation; Othmer process; pictured flow sheet. Chem & Met Eng 47:349-52 My '40
American institute of chemical engineers 1940 annual student contest problem; doubling production of acetic acid concentrating department, with consideration of economics of solvent extraction; with prize winning paper by H. Campbell. diags Am Inst Chem Eng Trans 36:593-655 Ag '40

Statistics
Synthetic organic chemicals. Chem & Met Eng 47:80-1 F '40

ACETIC acid bacteria. See Bacteria

ACETIC anhydride
Action of the reagent pyridine-acetic anhydride on *d*-α-glucoheptose, *d*-glucosamine and *l*-fucose oximes. E. Restelli de Labriola and V. Deulofeu. bibliog Am Chem Soc J 62:1611-13 Je '40
Hydroxy- and methoxyphenylanthrones. F. F. Blicke and R. J. Warzynski. bibliog Am Chem Soc J 62:3191-4 N '40
New acetic anhydride process; Shawinigan process. G. Benson. bibliog flow sheet il Chem & Met Eng 47:150-1 Mr '40; Abstract. Chem Age (Lond) 42:213 Ap 13 '40
Physical properties of the aliphatic acid anhydrides. D. T. Lewis. Chem Soc J p32-6 Ja '40
Rates of formation of sulfoaliphatic acids. T. F. Murray, jr. and W. O. Kenyon. bibliog Am Chem Soc J 62:1230-3 My '40
Reaction of some acylbenz*iso*thiazolones with acetic anhydride and potassium acetate. E. W. McClelland, M. J. Rose and R. G. Bartlett. Chem Soc J p323-7 Mr '40

ACETOACETAMIDE
Diketene, a new industrial chemical. A. B. Boese, jr. bibliog il Ind & Eng Chem 32: 16-22 Ja '40

ACETOACETIC esters
Diketene, a new industrial chemical. A. B. Boese, jr. bibliog il Ind & Eng Chem 32: 16-22 Ja '40

ACETOACETYL chloride
Acetoacetyl chloride. C. D. Hurd and C. D. Kelso. Am Chem Soc J 62:1548-9 Je '40

ACETOBACTER
Sorbose from sorbitol; semiplant-scale production by acetobacter suboxydans. P. A. Wells and others. Ind & Eng Chem 31:1518-21 D '39

ACETOL
Formation of acetol from αβ-propylene glycol. K. R. Butlin and W. H. D. Wince. Soc Chem Ind J 58:365-6 D '39

ACETOLYSIS
Acetolysis of methylated starch. S. Peat and J. Whetstone. Chem Soc J p276-80 Mr '40

ACETOMESITYLENE
Condensation of paraformaldehyde with acetomesitylene. R. C. Fuson and C. H. McKeever. Am Chem Soc J 62:999-1001 My '40

ACETONE
Acetone derivatives of the mercaptals of some monosaccharides; the 5,6-monoacetone derivative of *d*-galactosedibenzylmercaptal and the 6-methyl derivative of *d*-galactose. E. Pacsu and S. M. Trister. bibliog Am Chem Soc J 62:2301-4 S '40
Acetone situation. C. L. Gabriel. Chem Ind 47:383 O '40
Chemical preparation of colloidal suspensions in non-aqueous solvents; ether, dioxane, and acetone. A. A. Vernon and H. A. Nelson. J Phys Chem 44:21-5 Ja '40
Chlorination of the acetylenic alcohols derived from acetone. G. F. Hennion and G. M. Wolf. Am Chem Soc J 62:1368-71 Je '40
Continuous extraction of aqueous solutions by acetone-petroleum ether. M. Wayman and G. F. Wright. diag Ind & Eng Chem Anal ed 12:91 F 15 '40
Effect of mercuric bromide on the hydrolysis of alkyl bromides in acetone. D. R. Read and W. Taylor. Chem Soc J p1872-8 D '39
Freezing points and low temperature viscosities of diacetone alcohol-acetone mixtures. V. Lantz. Am Chem Soc J 62:3260 N '40
Influence of alkyl groups upon reaction velocities in solution; the alkaline and acid hydrolyses of the ethyl esters of the lower saturated aliphatic acids in aqueous acetone. G. Davies and D. P. Evans. Chem Soc J p339-45 Mr '40

ACETONE—*Continued*
Kinetics of exchange reactions; *n*-propyl, *iso*propyl, and *iso*butyl bromides. G. A. Elliott and S. Sugden. Chem Soc J p1836-8 D '39
Mechanism of substitution at a saturated carbon atom; a kinetic demonstration of the unimolecular solvolysis of alkyl halides; kinetics of, and salt effects in, the hydrolysis of benzhydryl halides in aqueous acetone. M. G. Church, E. D. Hughes and C. K. Ingold. Chem Soc J p966-70 Jl '40
Mechanism of substitution at a saturated carbon atom; a kinetic demonstration of the unimolecular solvolysis of alkyl halides; kinetics of, and salt effects in, the hydrolysis of *p*-monoalkylbenzhydryl halides in aqueous acetone. M. G. Church and others. Chem Soc J p971-4 Jl '40
Mechanism of substitution at a saturated carbon atom; a kinetic demonstration of the unimolecular solvolysis of alkyl halides; kinetics of, and salt effects in, the hydrolysis of *pp'*-dimethylbenzhydryl chloride in aqueous acetone. L. C. Bateman, E. D. Hughes and C. K. Ingold. Chem Soc J p974-8 Jl '40
Mechanism of substitution at a saturated carbon atom; a kinetic demonstration of the unimolecular solvolysis of alkyl halides; kinetics of, and salt effects in, the hydrolysis of *tert.*-butyl bromide in aqueous acetone. L. C. Bateman, E. D. Hughes and C. K. Ingold. Chem Soc J p960-6 Jl '40
Mechanism of substitution at a saturated carbon atom; hydrolysis of benzhydryl chloride in acidic moist acetone. M. G. Church and E. D. Hughes. Chem Soc J p920-5 Jl '40
Mechanism of substitution at a saturated carbon atom; hydrolysis of *tert.*-butyl bromide in acidic moist acetone. L. C. Bateman, K. A. Cooper and E. D. Hughes. Chem Soc J p913-20 Jl '40
Photochemical studies; a systematic study of the near ultraviolet photochemical decomposition of acetone. D. S. Herr and W. A. Noyes, jr. bibliog Am Chem Soc J 62:2052-9 Ag '40
Quaternary system acetic acid—chloroform—acetone—water at 25°C. A. V. Brancker, T. G. Hunter and A. W. Nash. diags J Phys Chem 44:683-98 Je '40
Reaction velocities at low temperatures; a convenient low-temperature thermostat; bromination of acetone between −40° and +10°. R. P. Bell and J. K. Thomas. diag Chem Soc J p1573-8 O '39
Solvents in industry. Metal Ind 38:127 F '40
Spirochromans. J. B. Niederl and R. H. Nagel. Am Chem Soc J 62:324-5 F '40
Steric course of the hydrolysis of α-phenylethyl chloride in acetone containing mercuric chloride. D. R. Read and W. Taylor. Chem Soc J p679-83 My '40
Thermal decomposition of acetone catalyzed by iodine. G. M. Gantz and W. D. Walters. Am Chem Soc J 62:996-7 Ap '40
Unesterified primary hydroxyls in acetone soluble cellulose acetate. F. B. Cramer and C. B. Purves. bibliog Am Chem Soc J 61: 3458-62 D '39
Unesterified secondary hydroxyls in acetone soluble cellulose acetate. F. B. Cramer, R. C. Hockett and C. B. Purves. bibliog Am Chem Soc J 61:3463-4 D '39
Volumbestimmung durch dielektrische messung. H. Ulich and H. van den Berge. diag Chemische Fabrik 12:512-13 D 27 '39

Manufacture

Is chemical industry ready? acetone. T. P. Walker. Ind & Eng Chem 32:1180 S '40

ACETONE peroxide
Experiments with doped fuels for high-speed Diesel engines. J. J. Broeze and J. O. Hinze. bibliog Inst Pet J 25:657-77; Discussion. 704-7 O '39

ACETOPHENONE
Condensations of carbonyl compounds; a kinetic study of the reaction of acetophenone with benzaldehyde. E. Coombs and D. P. Evans. Chem Soc J p1295-1300 S '40
Hydrogenation of acetophenone to cyclohexylmethylcarbinol in the presence of solvent. V. N. Ipatieff and B. B. Corson. Am Chem Soc J 61:3292 D '39
Reaction of *o*-hydroxybenzhydrylacetophenone and *o*-hydroxybenzaldiacetophenone with phenylmagnesium bromide. T. A. Geissman. bibliog Am Chem Soc J 62:1363-7 Je '40

ACETOPROPANOL
Derivatives of γ-acetopropyl alcohol. J. R. Stevens and G. A. Stein. bibliog Am Chem Soc J 62:1045-8 My '40

ACETOZINCATE
Acetometallates; acetozincate. A. Lehrman and P. Skell. Am Chem Soc J 61:3340-2 D '39

ACETYLACETONE
Reaction between quinones and metallic enolates; trimethylquinone and the enolates of β-diketones. L. I. Smith and E. W. Kaiser. Am Chem Soc J 62:133-8 Ja '40

ACETYL bromide
Acetolysis of methylated starch. S. Peat and J. Whetstone. Chem Soc J p276-80 Mr '40
Preparation of acetyl bromide. T. M. Burton and E. F. Degering. bibliog Am Chem Soc J 62:227 Ja '40

ACETYL chloride
Structure of aromatic compounds; the action of acetyl chloride on α- and β-naphthylmethylmagnesium halides. N. Campbell, W. Anderson and J. Gilmore. Chem Soc J p819-21 Je '40

ACETYL choline
Argument for chemical mediation of nerve impulses. W. B. Cannon. bibliog Science 90: 521-7 D 8 '39
Electricity elicited by an organic chemical process. D. Nachmansohn. bibliog Science 91:405-6 Ap 26 '40
Release of acetylcholine by sympathetic ganglia and synaptic transmission. bibliog R. Lorente de Nó. Science 91:501-3 My 24 '40

ACETYL glucosamine
Studies in the amino-sugars; the action of dilute alkali solution on *N*-acylglucosamines. T. White. Chem Soc J p428-37 Ap '40

ACETYL glucosylamine
Structure of N-acetyl-*d*-glucosylamine. C. Niemann and J. T. Hays. bibliog Am Chem Soc J 62:2960-1 N '40

ACETYL group
Dialkylacetyl biurets. A. J. Hill and W. M. Degnan. bibliog Am Chem Soc J 62:1595-6 Je '40

ACETYL iodide
Kinetic studies on iodine derivatives; the thermal decomposition of acetyl iodide. J. L. Jones. bibliog Am Chem Soc J 61:3284-8 D '39

ACETYL isobutyrylmethane
Reaction between quinones and metallic enolates; trimethylquinone and the enolates of β-diketones. L. I. Smith and E. W. Kaiser. Am Chem Soc J 62:133-8 Ja '40

ACETYL ketene
Chlorination and the structure of acetylketene. C. D. Hurd and J. L. Abernethy. Am Chem Soc J 62:1147-8 My '40

ACETYL number
Acetyl and hydroxyl values. Ind & Eng Chem Anal ed 12:382 Jl 15 '40

ACETYL retene
Acetylretene and 6-retenol. W. P. Campbell and D. Todd. bibliog Am Chem Soc J 62:1287-92 My '40

ACETYL salicylaldehyde
Reactions of ketene with salicylaldehyde and *p*-hydroxybenzaldehyde. J. W. Williams and A. Sadle. Am Chem Soc J 62:2801-3 O '40

ACETYLSALICYLIC acid
X-ray study of acetylsalicylic acid when incorporated in certain sugars. R. L. McFarlan and J. W. Reddie. J Ap Phys 11:80-2 Ja '40

ACETYLATION
Acetylation of alpha-bromo ketones and their derivatives. R. P. Barnes and V. J. Tulane. Am Chem Soc J 62:894-6 Ap '40
Acetylation of *d*-ψ-ephedrine and *l*-ephedrine. W. Mitchell. Chem Soc J p1153-5 Ag '40
Chemistry of vitamin B_6; reactions and derivatives. S. A. Harris. bibliog Am Chem Soc J 62:3203-5 N '40
Ketene in the Friedel-Crafts reaction; direct acetylation of aromatic hydrocarbons with ketene. J. W. Williams and J. M. Osborn. bibliog Am Chem Soc J 61:3438-9 D '39
Phenanthrene derivatives; acetylation of 4-methylphenanthrene. W. E. Bachmann and R. O. Edgerton. bibliog Am Chem Soc J 62:2219-23 Ag '40
Some fully acetylated sugar acids and their derivatives. G. B. Robbins and F. W. Upson. bibliog Am Chem Soc J 62:1074-6 My '40
Studies on lignin and related compounds; fractionation of acetylated cell wall constituents of red oak wood. Q. P. Peniston, J. L. McCarthy and H. Hibbert. bibliog Am Chem Soc J 62:2284-8 S '40

ACETYLENE
Air-acetylene flame in refrigeration. il Refrig Eng 38:386+ D '39
Catalytic hydration of acetylene and of some alkylacetylenes. R. E. Schaad and V. N. Ipatieff. bibliog Am Chem Soc J 62:178-80 Ja '40
Catalytic interaction of acetylene and hydrogen on platinum. A. Farkas and L. Farkas. Am Chem Soc J 61:3396-401 D '39
Induced pyrolysis of methane. W. J. Hessels, D. W. van Krevelen and H. I. Waterman. bibliog diag Soc Chem Ind J 58:323-7 N '39
Reducing the cost of metal spraying; new gun uses acetylene, propane, natural gas, or coal gas. E. T. Parkinson. il Steel 107: 46-9 S 9 '40
Volumbestimmung durch dielektrische messung. H. Ulich and H. van den Berge. diag Chemische Fabrik 12:512-13 D 27 '39

See also
Oxyacetylene cutting
Oxyacetylene welding

Analysis

Microanalysis of gases; acetylene, benzene, and some procedure modifications. F. E. Blacet, A. L. Sellers and W. J. Blaedel. diag Ind & Eng Chem Anal ed 12:356-7 Je 15 '40

ACETYLENE association, International. See International acetylene association

ACETYLENE compounds
Acetylenic ethers; phenoxyacetylenes. T. L. Jacobs, R. Cramer and F. T. Weiss. bibliog Am Chem Soc J 62:1849-54 Jl '40
Chlorination of the acetylenic alcohols derived from acetone. G. F. Hennion and G. M. Wolf. Am Chem Soc J 62:1368-71 Je '40
Cyclization of dienynes; ring closures with alpha and beta cyclohexenylacetylene derivatives of octalin. C. S. Marvel, D. E. Pearson and L. A. Patterson. bibliog Am Chem Soc J 62:2659-65 O '40
Partial reduction of acetylenes to olefins using an iron catalyst. A. F. Thompson, jr. and S. B. Wyatt. Am Chem Soc J 62:2555-6 S '40
Preparation of tertiary acetylenes. K. N. Campbell and L. T. Eby. bibliog Am Chem Soc J 62:1798-1800 Jl '40
Raman spectra of acetylenes; displacements and depolarization factors for phenylacetylene and derivatives of the type $C_6H_5C{\equiv}CR$. M. J. Murray and F. F. Cleveland. bibliog Am Chem Soc J 61:3546-9 D '39
Raman spectra of acetylenes; five monosubstituted and four disubstituted acetylenes. F. F. Cleveland and M. J. Murray. bibliog Am Chem Soc J 62:3185-8 N '40

ACETYLENIC alcohols. See Alcohols

ACID handling
Hydrofluoric acid (aqueous); hazards and precautions. Nat Safety N 42:38, 40+ N '40
Safe handling of feedwater chemicals. S. H. Coleman. diag Power 83:770 D '39
Water, water; safe handling of acids; abstract. E. G. Eberhardt. Safety Eng 79:44 Je '40

See also
Acid resisting materials
Acid tanks

ACID resisting materials
Chemical stoneware, porcelain, cements; physical properties, makers. Chem & Met Eng 47:605 S '40
New alloy fittings stand severe service; viscose mass tube parts made of Hastelloy. il Rayon 20:709 D '39
Tellurium lead; advantages in acid plant construction; abstract. J. P. Powell. Chem Age (Lond) 43:164 O 5 '40
Über die säurebeständigkeit von emails (eine neue methode zu deren bestimmung). G. Schmidt. diag Chemische Fabrik 13:49-54 F 10 '40

See also
Bakelite
Chemical plants—Equipment
Corrosion and anti-corrosives
Corrosion resisting materials
Glass lining
Rubber lining
Steel, Stainless
Stoneware

ACID tanks
Large tanks rubber lined. il Iron Age 145: 39 F 29 '40
Laying lead linings. E. Mantius. il Steel 106: 69-70+ Mr 4 '40

See also
Acid resisting materials

ACIDITY
Acid-base equilibria in ethyl alcohol. M. Kilpatrick and W. H. Mears. bibliog Am Chem Soc J 62:3051-4 N '40
Acid-base equilibria in methyl alcohol. M. Kilpatrick and W. H. Mears. bibliog Am Chem Soc J 62:3047-51 N '40
Acidity of aromatic nitro compounds toward amines; the effect of double chelation. G. N. Lewis and G. T. Seaborg. Am Chem Soc J 62:2122-4 Ag '40
Acidity scale in glacial acetic acid; buffer solutions $-1.6<H_0<3.5$. N. F. Hall and F. Meyer. bibliog Am Chem Soc J 62:2493-500 S '40
Acidity scale in glacial acetic acid; sulfuric acid solutions $-6<H_0<O^{1.2}$. N. F. Hall and W. F. Spengeman. bibliog Am Chem Soc J 62:2487-92 S '40
Action of nitrous acid on tertiary amines; the influence of acidity. G. P. Crowley and others. Chem Soc J p1286-9 S '40
Terephthalic acid method for determination of the acidity of paper. B. L. Browning and G. C. Kimble. bibliog Paper Tr J 110:24-7 Je 20 '40

See also
Hydrogen ion concentration

ACIDS
Effect of acids in the general meaning of the term on the activity of invertase. W. A. Wisansky. Am Chem Soc J 61:3330-4 D '39
Optical activation of acids, and a new resolution process depending on it. M. M. Jamison and E. E. Turner. Chem Soc J p264-76 Mr '40
Physicochemical studies of complex acids; the basic nature of vanadium pentoxide. H. T. S. Britton and G. Welford. Chem Soc J p895-9 Jl '40
Symposium on theories and teaching of acids and bases. N. F. Hall, H. T. Briscoe and others. bibliog J Chem Educ 17:124-36 Mr '40
When is cleaned equipment really clean? studies on milk-can washing show need for acid rinse. M. E. Parker. il diag Food Ind 12:39-42 O '40

See also names of acids, e.g.
Acetic acid
Hydrochloric acid
Nitric acid
Phosphoric acid
Sulfuric acid

ACIDS—*Continued*

Analysis

Analytical procedures employing Karl Fischer reagent; the determination of organic acids. J. Mitchell, jr, D. M. Smith and W. M. D. Bryant. Am Chem Soc J 62:4-6 Ja '40

ACIDS, Fatty

Acid catalyzed esterification of aliphatic acids. H. A. Smith. bibliog Am Chem Soc J 62:1136-40 My '40

Adsorption analysis; relation between adsorption isotherm and position on the adsorption column. H. G. Cassidy. Am Chem Soc J 62:3076-9 N '40

Adsorption analysis; the adsorption of higher fatty acids. H. G. Cassidy. bibliog Am Chem Soc J 62:3073-6 N '40

Chemical constitution of natural fats. T. P. Hilditch. 438p $6.50 Wiley '40

Component fatty acids and glycerides of some myristica fats. D. Atherton and M. L. Meara. bibliog Soc Chem Ind J 58:353-7 D '39

Component glycerides of a typical cow milk fat. T. P. Hilditch, S. Paul and others. Soc Chem Ind J 59:138-44 Jl '40

Composition of commercial palm oils; partial separation of palm oils by crystallisation as an aid to the determination of the component glycerides. T. P. Hilditch and L. Maddison. Soc Chem Ind J 59:67-71 Ap '40

Drying oils and resins; reactions involving the carbon-to-carbon unsaturation during the thermal treatment of some esters of unsaturated C_{18} fatty acids. T. F. Bradley and W. B. Johnston. bibliog il diag Ind & Eng Chem 32:802-9 Je '40

Fat of land crabs (Seychelles islands). T. P. Hilditch and K. S. Murti. bibliog Soc Chem Ind J 58:351-3 D '39

Fatty acids and glycerides of neem (margosa) oil. T. P. Hilditch and K. S. Murti. bibliog Soc Chem Ind J 58:310-12 O '39

Fatty acids and glycerides of solid seed fats; mimusops heckelli (baku) kernel fat. D. Atherton and M. L. Meara. Soc Chem Ind J 59:95-6 My '40

Fatty acids and glycerides of the seed fats of allanblackia floribunda and allanblackia parviflora. M. L. Meara and Y. A. H. Zaky. Soc Chem Ind J 59:25-6 Ja '40

Formation and deterioration of paint films; changes in films of glycol esters of several unsaturated fatty acids under exposure to ultraviolet light. J. L. Overholt and A. C. Elm. Ind & Eng Chem 32:1348-51 O '40

Formation and deterioration of paint films; changes in films of methyl esters of several unsaturated fatty acids under exposure to ultraviolet light. J. L. Overholt and A. C. Elm. bibliog Ind & Eng Chem 32:378-83 Mr '40

Fungistatic properties of the fatty acids and possible biochemical significance; abstract. C. Hoffman, R. T. Schweizer and G. Dalby. Food Ind 12:97 Ap '40

Lubricants from fatty acids; methods of extraction now in use for the production of synthetic oils. Chem & Ind 59:664 S 21 '40

Melting points of the *p*-bromoanilides of solid fatty acids. D. F. Houston. bibliog Am Chem Soc J 62:1203-4 My '40

Metal pyridine complex salts; cobaltous and nickelous dipyridine salts of fatty acids. T. L. Davis and A. V. Logan. Am Chem Soc J 62:1276-9 My '40

Method for the preparation of α,β-diglycerides of fatty acids. B. F. Daubert and C. G. King. bibliog Am Chem Soc J 61:3328-30 D '39

New method for the cleavage of unsaturated fatty acids. C. Hsing and K. Chang. Am Chem Soc J 61:3589 D '39

Δ^1-Nonene-1,9-dicarboxylic acid. F. Bergmann. Am Chem Soc J 62:3255 N '40

Phenacyl, *p*-phenylphenacyl and *p*-nitrobenzyl esters of certain uneven numbered fatty acids. D. Price and R. Griffith. Am Chem Soc J 62:2884 O '40

Preparation of drying oils; recent developments. D. V. Stingley. bibliog il Ind & Eng Chem 32:1217-20 S '40

Preparation of fatty acid beta-monoglycerides. B. F. Daubert. bibliog Am Chem Soc J 62:1713-14 Jl '40

Quaternary ammonium salts; α-pyridinium compounds of higher fatty acids and their amides. T. N. Mehta and D. M. Trivedi. bibliog Soc Dyers & Col J 56:343-51 Ag '40

Quinonyl derivatives of fatty acids. L. F. Fieser, M. D. Gates, jr. and G. W. Kilmer. bibliog Am Chem Soc J 62:2966-70 N '40

Reinheitsprüfung von fettsäuren und untersuchung von oleinen; adsorptionstrennungen auf dem fettgebiet. H. P. Kaufmann. Angew Chemie 53:98-9 Mr 2 '40

Saponification of ethyl esters of aliphatic acids. H. S. Levenson and H. A. Smith. Am Chem Soc J 62:1556-8 Je '40

Solidification point of fatty acids. diag Ind & Eng Chem Anal ed 12:383-4 Jl 15 '40

Studies on the chemistry of the fatty acids; the preparation of methyl ricinoleate and ricinoleic acid by fractional crystallization procedures. J. B. Brown and N. D. Green. bibliog Am Chem Soc J 62:738-40 Ap '40

La synthèse des acides gras par oxydation catalytique des hydrocarbures lourds; leur emploi à la fabrication du savon et de graisses alimentaires. E. Lemaire. il diag Génie Civil 115:413-17 D 9 '39

Versatility in fatty acid selection sharpens control in grease making. D. V. Stingley. bibliog il Nat Pet N 32:R360, R362 O 2 '40

See also
Acetic acid
Linoleic acid
Myristic acid
Stearic acid

Analysis

Analysis of cationic surface-active agents of trivalent nitrogen type. R. Hart. Ind & Eng Chem Anal ed 12:400-2 Jl 15 '40; Same. Am Dyestuff Rep 29:411-14 Ag 19 '40; Same. Textile Col 62:698-701 O '40; Same. Rayon 21:613-14+, 697-8 O-N '40

Analysis of mixtures of aliphatic acids; simultaneous qualitative and approximate quantitative determination; azeotropic distillation with benzene and toluene. S. T. Schicktanz, W. I. Steele and A. C. Blaisdell. bibliog Ind & Eng Chem Anal ed 12:320-4 Je 15 '40

ACIDS, Injuries from

Hydrofluoric acid (aqueous); hazards and precautions. Nat Safety N 42:38, 40+ N '40

ACIDS, Organic

Application of the hydrogen-bridge theory to sorption from solution by silica gel. A. L. Elder and R. A. Springer. bibliog J Phys Chem 44:943-9 O '40

Identification of organic acids by the use of *p*-chlorobenzyl pseudothiuronium chloride. B. T. Dewey and R. B. Sperry. Am Chem Soc J 61:3251-2 D '39

Mechanism of the esterification of strong organic acids; the esterification of neopentyl alcohol with the chloroacetic acids. O. R. Quayle and H. M. Norton. bibliog Am Chem Soc J 62:1170-1 My '40

Oxidative cleavage of α-keto acids and α-keto alcohols by means of lead tetraacetate. E. Baer. Am Chem Soc J 62:1597-1606 Je '40

Separation and characterization of petroleum acids; some Texas petroleum acids. H. G. Schutze, B. Shive and H. L. Lochte. bibliog Ind & Eng Chem Anal ed 12:262-6 My 15 '40

See also
Acids, Fatty
Amino acids
Hydroxamic acids

ACORN oil

Industrial uses of chemicals and related materials. Oil Paint & Drug Rep 138:42D O 21 '40

ACOUSTIC interferometer. See Interferometers, Sonic

ACOUSTICAL society of America, Journal

Cumulative index, volumes 1-10. 131p pa $3 Publications manager, Am. inst. of physics. 175 5th av, New York '39

ACOUSTICS, Architectural
Acoustics in studios. M. Rettinger. plans Inst Radio Eng Proc 28:296-9 Jl '40
Control of sound in buildings. bibliog il diags Arch Rec 87:66-73 Ja '40
New studios for C.B.S; controlled acoustics a feature. il plans Electronics 13:23-5 S '40
Synthetic reverberation; recording fugitive sound pattern of original program signal on rotating phosphor-coated disk by means of modulated light source and simple optical system. P. C. Goldmark and P. S. Hendricks. il diags Inst Radio Eng Proc 27:747-52 D '39
Treatise on acoustics in air conditioned enclosures. H. Kunen. 27p pa $1 Anemostat corp. of America, 10 E. 39th st, New York '39

See also
Soundproofing

ACRALDEHYDE. See Acrolein

ACRIDINE
Acridine oranges. A. E. Karr. Textile Col 62: 604-7+, 676-9, 763-7, 836-7, 852 bibliog (p837, 852) S-D '40

ACRIDONE
Quenching of fluorescence in solution. R. W. Stoughton and G. K. Rollefson. diag Am Chem Soc J 61:2634-8; 62:2264-8 O '39, S '40

ACRIFLAVINE
Inhibition of sulphate-reducing bacteria by dyestuffs. T. H. Rogers. Soc Chem Ind J 59:34-9 F '40

ACROLEIN
Change of the ultraviolet absorption spectrum of acrolein with time. A. M. Buswell and others. bibliog Am Chem Soc J 62:325-8 F '40
Oxidation of aldehydes; the combustion zones of butaldehyde, *iso*butaldehyde, propaldehyde, acetaldehyde, glyoxal, and acraldehyde. D. M. Newitt, L. M. Baxt and V. V. Kelkar. diag Chem Soc J p1703-10 N '39
Oxidation of aldehydes; the products of their combustion. D. M. Newitt and L. M. Baxt. pl Chem Soc J p1711-20 N '39

ACRYLONITRILE
Cyanamid's acrylonitrile, synthetic rubber intermediate. B. W. Henderson. il Chem Ind 47:50-1 Jl '40
From lab to industry. Business Week p57-9 S 14 '40

ACRYLYL chloride
Structure of vinyl polymers; polyacrylyl chloride. C. S. Marvel and C. L. Levesque. bibliog Am Chem Soc J 61:3244-6 D '39

ACTING
Face the footlights! a new and practical approach to acting. E. B. Colvan. 318p $3 McGraw-Hill '40
Primer of acting. C. L. Lees. 188p bibliog(p175-80) $1.50 Prentice-Hall '40

ACTIVATION
Activation of aromatic halogen by ortho ammonium salt groups. W. S. Emerson, F. B. Dorf and A. J. Deutschman, jr. bibliog Am Chem Soc J 62:2159-60 Ag '40
Energy and entropy of activation of the hydrolysis of ethyl orthoformate in deuterium oxide. F. Brescia and V. K. LaMer. bibliog Am Chem Soc J 62:612-14 Mr '40
Intramolecular substitution as a means of comparing activating and deactivating effects. J. D. C. Mole and E. E. Turner. Chem Soc J p1720-4 N '39
Kinetics of a diene association under constant volume conditions. D. M. Newitt and A. Wassermann. Chem Soc J p735-7 Je '40
Macropolymerization; the mechanism of activation. E. P. Irany. bibliog Am Chem Soc J 62:2690-8 O '40
Relations between electrostatic potentials and reaction velocities. H. O. Jenkins. Chem Soc J p1780-4 N '39
Relative efficiency of active wave lengths of ultraviolet in activation of 7-dehydrocholesterol. J. W. M. Bunker, R. S. Harris and L. M. Mosher. Am Chem Soc J 62:508-11 Mr '40
Studies in the activation in sterols. J. W. M. Bunker, R. S. Harris and L. M. Mosher. Am Chem Soc J 62:1760-2 Jl '40

See also
Carbon, Activated

ACTIVITY coefficients
Activity coefficient of calcium nitrate in aqueous solution at 25° from isopiestic vapor pressure measurements. R. A. Robinson. bibliog Am Chem Soc J 62:3130-1 N '40
Activity coefficient of thallous iodate in solutions of alkane-α,ω-disulfonates. G. C. H. Stone. bibliog Am Chem Soc J 62:572-5 Mr '40
Activity coefficients in concentrated aqueous solutions of strong electrolytes described by a formula containing the mean ionic diameter as single parameter; theory and application to the alkali chlorides, bromides and iodides. P. Van Rysselberghe and S. Eisenberg. bibliog Am Chem Soc J 61:3030-7 N '39; Correction. 62:451-2 F '40
Activity coefficients of sodium and potassium thiocyanate in aqueous solution at 25° from isopiestic vapor pressure measurements. R. A. Robinson. Am Chem Soc J 62:3131-2 N '40
Approximate rules for solute activities in dilute solutions of non-electrolytes, generalized form of Bury's rule. M. Randall, W. F. Libby and B. Longtin. J Phys Chem 44: 313-21 Mr '40
Calculation of equilibria in dilute water solutions. D. S. McKinney. bibliog Am Soc T M Proc 39:1191-1203; Discussion. 1218-20 '39
Calculation of solute activities from activities of the solvent; limiting behavior of the *h* and *j* functions in dilute solutions. M. Randall and B. Longtin. J Phys Chem 44: 306-13 Mr '40

ACTORS and actresses

See also
Moving picture actors

ACTUARIAL society of America
Actuaries have conferred for more than century; historical note. W. A. Hutcheson. East Underw 41:3 Mr 15 '40
Annual convention, New York. East Underw 41:3 My 17 '40; Ins Field (Life ed) 69:10-13 My 24 '40
Joint meeting with American institute of actuaries, White Sulphur Springs, Oct. 30-Nov. 1. East Underw 41:3+ N 1 '40; Nat Underw (Life ed) 44:3+ N 1 '40; Weekly Underw 143:1058 N 2 '40

ACTUARIES
Actuarial club of the Pacific states annual meeting, Del Monte, California, Nov. 15-17. East Underw 40:5 D 8 '39

ACYLATION
Condensations brought about by bases; the acylation of ethyl isobutyryl-isobutyrate and the cyclization of a 3,5-diketo-ester by means of sodium triphenylmethyl. B. E. Hudson, jr. and C. R. Hauser. bibliog Am Chem Soc J 61:3567-70 D '39
Further observations on the use of hydrogen fluoride in acylations and cyclizations. L. F. Fieser and E. B. Hershberg. bibliog Am Chem Soc J 62:49-53 Ja '40
Rates of formation of sulfoaliphatic acids. T. F. Murray, jr. and W. O. Kenyon. bibliog Am Chem Soc J 62:1230-3 My '40

ADAMS express company
Annual report. Comm & Fin Chr 150:267 Ja 13 '40

ADCRAFTER (periodical)
Large Adcrafter edition devoted to the printing arts. il Inland Ptr 105:30-1 Ap '40

ADDITION compounds
Action of liquid ammonia upon sulfur trioxide addition compounds. H. H. Sisler and L. F. Audrieth. Am Chem Soc J 61:3392-3 D '39
Addition compounds of iodine with alkali bromides and thiocyanates. H. W. Foote and M. Fleischer. bibliog J Phys Chem 44:640-6 My '40

ADDITION. compounds—*Continued*
Addition of hydrogen bromide to non-terminal double bonds; the *iso*propylidene group; crotonic acid. D. C. Grimshaw, J. B. Guy and J. C. Smith. Chem Soc J p68-71 Ja '40
Addition of magnesium iodide to camphor and terpene derivatives. S. T. Bowden and T. F. Watkins. Chem Soc J p1961 D '39
Addition of N-haloamides to olefins. M. S. Kharasch and H. M. Priestley. Am Chem Soc J 61:3425-32 D '39
Addition of oxy compounds to acetylenic alcohols. J. F. Froning and G. F. Hennion. Am Chem Soc J 62:653-5 Mr '40
Addition of βγ-unsaturated alcohols to the active methylene group; the action of ethyl acetoacetate on cinnamyl alcohol and phenylvinylcarbinol. M. F. Carroll. Chem Soc J p1266-8 S '40
Addition reactions of unsaturated *alpha*-ketonic acids. M. Reimer and E. Tobin. bibliog diags Am Chem Soc J 62:2515-20 S '40
Addition reactions of vinyl phenyl ketone; the diene synthesis. C. F. H. Allen and others. Am Chem Soc J 62:656-64 Mr '40
Addition reactions to conjugated systems; caryophyllene and maleic anhydride. N. F. Goodway and T. F. West. Chem Soc J p1853-5 D '39
Additive compounds formed in the desulfurization of thioureas by copper hydroxide. W. M. Dehn. Am Chem Soc J 62:3189-90 N '40
Bicyclic structures prohibiting the Walden inversion; some bicyclo [2,2,2] octane derivatives with substituents at the bridgehead. P. D. Bartlett and S. G. Cohen. bibliog Am Chem Soc J 62:1183-9 My '40
Catalysis in the formation of α-methoxymercurials from ethylenes. A. M. Birks and G. F. Wright. Am Chem Soc J 62:2412-21 S '40
Condensations brought about by bases; the Michael type of condensation with certain esters and α, β-unsaturated keto compounds. C. R. Hauser and B. Abramovitch. bibliog Am Chem Soc J 62:1763-6 Jl '40
Constitution of complex metallic salts; the structure of the tertiary phosphine and arsine derivatives of cadmium and mercuric halides. R. C. Evans and others. Chem Soc J p1209-30 S '40
Diene addition products to diaroylethylenes and their transformation products. R. Adams and R. B. Wearn. Am Chem Soc J 62:1233-7 My '40
Heats of solution, heats of formation, specific heats and equilibrium diagrams of certain molecular compounds. A. N. Campbell and A. J. R. Campbell. Am Chem Soc J 62:291-7 F '40
Peroxide effect in the addition of reagents to unsaturated compounds and in rearrangement reactions. F. R. Mayo and C. Walling. Chem R 27:351-412 bibliog(171 references, p408-12) O '40
Peroxide effect in the addition of reagents to unsaturated compounds; the addition of hydrogen iodide to propene, 1-bromopropene, allyl chloride, and allyl bromide. M. S. Kharasch, J. A. Norton and F. R. Mayo. bibliog Am Chem Soc J 62:81-6 Ja '40
Peroxide effect in the addition of reagents to unsaturated compounds; the effect of metals on the addition of hydrogen bromide to allyl bromide. M. S. Kharasch, W. R. Haefele and F. R. Mayo. Am Chem Soc J 62:2047-51 Ag '40
Some addition compounds of phthaleins and metallic salts. G. Sachs and L. Ryffel-Neumann. Am Chem Soc J 62:993-4 Ap '40
Substitution, addition und abspaltung. W. Hückel. Angew Chemie 53:49-54 F 3 '40

ADDRESSOGRAPH-multigraph corporation
Report, July 31, 1940. Comm & Fin Chr 151: 2792 N 9 '40
Thumbnail stock appraisal. Mag of Wall St 67:32 O 19 '40

ADEN, Arabia
Economic position of Aden. S. Goldberg. Comm Rep p745 Ag 31 '40

ADENINE
Ultra-violet absorption spectra of nitrogenous heterocyclic compounds; effect of p_H and irradiation on the spectrum of adenine. J. R. Loofbourow and M. M. Stimson. Chem Soc J p844-8 Jl '40

ADERMIN. See Vitamins—Vitamin B_6

ADHESION
Adhesion of nickel deposits; Ollard adhesion test to evaluate efficiency of etching methods prior to plating. E. J. Roehl. bibliog il diag Iron Age 146:17-20 S 26; 30-3 O 3 '40
Adhesion of white-metal linings in bearings. Engineering 150:250 S 27 '40
Adhesion of white metal to bronze. K. Ray. il diags Engineer 170:sup[Metallurgist] 131-3 O 25 '40
Better adherence; laboratory tests on improved adherence of finishes on zinc or zinc-alloys and on zinc-coated metals. H. E. Van Siclen. Steel 105:66, 68-9 N 20 '39
Evaluating the adhesive properties of asphalt. A. Holmes. il Am Soc T M Proc 39:1140-9; Discussion. 1150-2 '39
Measurement of coating adhesion. Oil Paint & Drug Rep 138:51-2 N 4 '40
Molybdenum in enamels; adherence produced with molybdenum compounds. K. Kautz. il Am Cer Soc J 23:283-7 O '40

ADHESIVES
Adhesives and cements for metals; abstract. Metals & Alloys 12:558 O '40
Dunlop adhesives and cements. Automobile Eng 30:62 F '40
Effect of the adhesive used in the fabrication of corrugated fibreboard on the strength and serviceability of corrugated fiber boxes. S. D. Wells. 103p Inst. of paper chemistry, Appleton, Wis. '40
Evaluation of calcium carbonate coating colors formulated with various adhesives. H. F. Roderick and A. E. Hughes. Paper Tr J 110:104-8 F 22 '40
Good packaging demands proper use of adhesives. J. P. Langwill. diags Food Ind 12: 55-7 Mr; 45-7 My '40
High-strength waterproof adhesive for joining metals; Strangl-hold. Mach 46:171 Ap '40
Industry needs tape; uses of adhesive tape in metal work. E. J. Tangerman. il Am Mach 84:582-3 Ag 7 '40
Influence of paperboard and adhesives on strength properties of corrugated fiberboards. D. W. McCready. Paper Tr J 110: 33-8 F 29 '40
Latex-casein adhesives. India Rubber W 101: 41 Mr '40
Performance of sodium silicate adhesives in the manufacture of corrugated fiberboard. E. R. Boller, J. G. Lander and R. Morehouse. il Paper Tr J 110:51-60 Mr 21 '40
Policies that put Kleen-Stik gummed tape in coast-to-coast markets in 5 years; pressure-sensitive adhesive with a thousand point-of-sale uses. G. J. Weigel. il Sales Management 47:20-2 Jl 1 '40
Use of Staybelite in adhesives. Rubber Age 46:300 F '40; Same abr. Chem Ind 46:459 Ap '40

See also
Cements
Gelatin
Glue
Mortar
Paste
Resinous products—Adhesives

ADIPATES
Dialkyl adipates. R. A. Feagan, jr. and J. E. Copenhaver. Am Chem Soc J 62:869-70 Ap '40

ADIPIC acid
Determination of the thermodynamic dissociation constants of dibasic acids. J. C. Speakman. Chem Soc J p855-9 Jl '40

ADIRONDACK mountains
See also
Geology—Adirondack mountains

ADLER, Harry Clay, 1866-1940
Sketch. por Ptr Ink 191:14 Ap 5 '40

ADMINISTRATION, Public

Administration of public tort liability in Los Angeles, 1934-1938. L. T. David and J. F. Feldmeier. 66p pa $1 Social science research council, New York '39

Administration of public welfare. R. C. White. 527p bibliog(p511-17) $3.25 Am. book co. '40

Administrative co-ordination. H. A. Hopf. Advanced Management 5:50-6+ Ap-Je '40

Administrative decentralization of federal functions. D. E. Lilienthal. Advanced Management 5:3-8 Ja-Mr '40

Business-and-government. Fortune 21:42-3 My '40; Excerpts. Bankers M 140:539-40 Je '40

Case reports in public administration, collected under the auspices of a special committee on research materials. pa $1.60 Public administrative service, 1313 E. 60th st, Chicago '40

Development of theory for administration. C. E. Merriam. Advanced Management 5:130-8 Jl-S '40

Federal-state personnel relations. G. C. S. Benson. bibliog Ann Am Acad 207:38-43 Ja '40

Federal use of administrative areas. J. W. Fesler. bibliog Ann Am Acad 207:111-15 Ja '40

Management planning in the federal government. B. L. Gladieux. Advanced Management 5:77-85 Ap-Je '40

Montgomery county survey; report on local governmental services in Dayton and Montgomery county, Ohio. 529p $3.50 Public administration service, 1313 E. 60th st, Chicago '40

Municipal government and special-purpose authorities. W. T. R. Fox and A. B. Fox. bibliog Ann Am Acad 207:176-84 Ja '40

Political regionalism and administrative regionalism. D. Davidson. Ann Am Acad 207:138-43 Ja '40

Politics and administration in intergovernmental relations. G. H. Durham. bibliog Ann Am Acad 207:1-6 Ja '40

Public management in the new democracy. F. M. Marx, E. Hobbing and L. I. Radway, eds. 266p bibliog(p253-7) $3 Harper '40

Public welfare administrator. E. Street. 422p $4 McGraw-Hill '40

Role of the lawyer in management. P. M. Glick. Advanced Management 5:68-71+ Ap-Je '40

Social responsibility of management five years hence; social science point of view. C. J. Friedrich. Advanced Management 5:127-8 Jl-S '40

State and local public welfare agencies; an organizational and functional analysis of state and local agencies administering public welfare functions. M. Stevenson and A. MacDonald. 109p pa 60c Am. public welfare assn. 1313 E. 60th st, Chicago '39

See also

Agricultural administration
Civil service
Highway administration
Municipal employees
Municipal government
Public health administration
Public officials
Public utilities commissions
Public works administration
Social security board
Social work
State employees
United States—Executive departments
Water departments

Bibliography

Sources for the study of federal administration. D. C. Culver. 25 l pa 25c Bur. of public administration, Univ. of Calif, Berkeley '40

ADMINISTRATIVE law

Administrative law, cases and comments. W. Gellhorn. 1007p bibliog(pli-lxxii) $6 Foundation press, 222 W. Adams st, Chicago '40

Federal regulatory action and control. F. F. Blachly and M. E. Oatman. (Studies in administration no. 37) 356p $3 Brookings institution, Washington, D.C. '40

Introduction to administrative law, with selected cases. J. Hart. 621p bibliog(p597-611) $5 Crofts '40

Justice dept. wants views on administration procedure. Oil Paint & Drug Rep 137:3+ Je 3 '40

Logan-Walter bill; standardizes administrative agency procedure. A. G. Davis. Inv Banking 10:14-15 Mr '40

Role of the lawyer in management. P. M. Glick. Advanced Management 5:68-71+ Ap-Je '40

Roscoe Pound on ideas in eclipse. Inv Banking 10:11-12 My '40

Judicial review

Letter to a senator; why Senate should pass Walter-Logan bill. G. Scholefield, pseud. Ptr Ink 191:33+ Ap 26 '40

Logan-Walter bill providing court review of decisions of government agencies passed by House. Comm & Fin Chr 150:2505-6 Ap 20 '40

Miss Perkins' word is the law; Walsh-Healey decision holds Congress gave final authority to fix terms for government business. Business Week p15 My 4 '40

Walter-Logan bill nips at SEC; aims to curb administrative powers of many new deal agencies. Business Week p55-6 Ap 27 '40

Germany

Art and technique of administration in German ministries. A. Brecht and C. Glaser. 191p $2 Harvard univ. press '40

ADMINISTRATORS. See Executors and administrators

ADMIRALTY

Admiralty jurisdiction in air law. C. Zollman. Aero Digest 37:167 Jl; 136 Ag '40

ADMIRALTY brass. See Brass

ADOBE

Earth as a building material; adobe houses as fire insurance risks. W. H. Rodda. il diag Weekly Underw 142:302-3 F 3 '40

House in Santa Fe, New Mexico; views, plans and construction outline. Arch Forum 72:340-1 My '40

House in Tucson, Arizona; views, plan and construction outline. Arch Forum 72:422-3 Je '40

ADOPTION

Accounting by guardians; with reference to revocation of adoption. W. M. Winans. Trusts & Estates 71:281-2 S '40

Decade of experience in adoption. O. Pendleton. bibliog Ann Am Acad 212:186-93 N '40

ADRENAL glands. See Suprarenal bodies

ADSORPTION

Activated alumina adsorption. G. L. Simpson. il Chem & Met Eng 47:310-11 My '40

Activated carbon adsorption. C. L. Mantell. diag Chem & Met Eng 47:305-7 My '40

Adsorption analysis; relation between adsorption isotherm and position on the adsorption column. H. G. Cassidy. Am Chem Soc J 62:3076-9 N '40

Adsorption analysis; the adsorption of higher fatty acids. H. G. Cassidy. bibliog Am Chem Soc J 62:3073-6 N '40

Adsorption as a means of separation. J. W. Hassler. il Ind & Eng Chem 32:640-4 bibliog(41 references, p644) My '40

Adsorption at the interface between two fluids; the adsorption of five dyes at a mercury-water interface. C. W. Gibby and C. Argument. diag Chem Soc J p596-600 My '40

Adsorption of hydrogen by copper dispersed in calcium oxide. J. R. Lewis, L. J. E. Hofer and H. Whitehead. Am Chem Soc J 61:3580-3 D '39

Adsorption of nitrous oxide on certain pseudomorphs. A. B. Lamb and C. D. West. bibliog Am Chem Soc J 62:3176-80 N '40

Adsorption of water vapor on silica surfaces, by direct weighing. H. M. Barrett, A. W. Birnie and M. Cohen. diag Am Chem Soc J 62:2839-44 O '40

Chemisorptions of gases on iron synthetic ammonia catalysts. S. Brunauer and P. H. Emmett. bibliog Am Chem Soc J 62:1732-46 Jl '40

ADSORPTION—*Continued*
Chromic oxide as an adsorbent. E. H. Harbard and A. King. diag Chem Soc J p19-29 Ja '40
Colloidal behavior of clays as related to their crystal structure. T. F. Ford, A. G. Loomis and J. F. Fidiam. bibliog J Phys Chem 44:1-12 Ja '40
Discontinuities in adsorption processes. H. H. Chambers and A. King. Chem Soc J p156-66 F '40
Electrolyte coagulation process; the influence of dilution of sol on the adsorption of precipitating ions. H. B. Weiser and W. O. Milligan. bibliog Am Chem Soc J 62:1924-30 Ag '40
Factors affecting adsorptive power of magnesia for carotene. G. S. Fraps, A. R. Kemmerer and S. M. Greenberg. bibliog Ind & Eng Chem Anal ed 12:16-18 Ja 15 '40
Gaging adsorption power of colloidal ferric oxide by dye adsorption; development of a standard test. F. H. Dotterweich and W. J. Huff. bibliog diags Ind & Eng Chem Anal ed 12:277-9 My 15 '40
Ion adsorption by pectin. G. H. Joseph. J Phys Chem 44:409-11 Ap '40
Linseed oil films permeability, adsorption, and solubility. H. F. Payne. bibliog il Ind & Eng Chem 32:737-43 My '40
Microtome measurements of the adsorption of hydrocinnamic acid in the surface of its aqueous solutions. J. W. McBain, T. F. Ford and G. F. Mills. bibliog il Am Chem Soc J 62:1319-24 Je '40
Monolayers on solids. I. Langmuir. Chem Soc J p511-43 Ap '40; Discussion. J. K. Roberts. 773-5 Je '40
New method of resolving a racemic compound. G. M. Henderson and H. G. Rule. Chem Soc J p1568-73 O '39
Recovery of solvent vapors. A. B. Ray. flow diag Chem & Met Eng 47:331-2 My '40
Reinheitsprüfung von fettsäuren und untersuchung von oleinen; adsorptionstrennungen auf dem fettgebiet. H. P. Kaufmann. Angew Chemie 53:98-9 Mr 2 '40
Relative effect of inhibitants on adsorption and on catalytic activity. E. B. Maxted and H. C. Evans. Chem Soc J p1750-4 N '39
Silica gel adsorption. F. C. Dehler. il diag Chem & Met Eng 47:307-10 My '40
Structure of gelatin sols and gels; the adsorption of water vapor and the electrical conductivity. S. E. Sheppard, R. C. Houck and C. Dittmar. bibliog il diag J Phys Chem 44:185-207 F '40
Studies on aging and coprecipitation; the adsorptive properties and the determination of the specific surface of lead chromate. I. M. Kolthoff and F. T. Eggertsen. Am Chem Soc J 62:2125-31 Ag '40
System activated sludge-oxygenated water; controlled adsorption. D. Dickinson. bibliog Soc Chem Ind J 59:78-80 Ap '40
Test for residual chlorine; use of adsorption reaction between iodine and alpha-naphthoflavone. F. J. Hallinan. Ind & Eng Chem Anal ed 12:452-3 Ag 15 '40
Theory of the van der Waals adsorption of gases. S. Brunauer and others. bibliog Am Chem Soc J 62:1723-32 Jl '40
Über den experimentellen nachweis adsorbierter seifenschichten. R. Brill and F. Rieder. il Angew Chemie 53:100-3 Mr 2 '40
Wetting characteristics of solid surfaces covered with adsorbed films. F. E. Bartell and K. E. Bristol. bibliog diags J Phys Chem 44:86-101 Ja '40

See also
Absorption
Carbon, Activated

ADSORPTION, Heat of
Heats of adsorption of gases on iron synthetic ammonia catalysts at low temperatures. R. A. Beebe and N. P. Stevens. Am Chem Soc J 62:2134-40 Ag '40

ADVERTISEMENTS
Check list for planning newspaper color advertising. Ptr Ink Mo 41:69-70 N '40
Must ads be messy? advertising copyman and president stage a debate. Adv & Sell 33: 100+ F 15 '40
Penalty of leadership; famous Cadillac advertisement; reproduction. Ptr Ink Mo 41:48 O '40
We went after more readers; lamp department, General electric co., Cleveland. L. P. Moyer. il Adv & Sell 33:34-5 Ap '40
What is a good advertisement. C. C. Younggreen. Ptg Art 68 no 4:B6 '40

See also
Advertising
Advertising—Dealer helps
Advertising, Mail
Advertising, Point-of-sale
Advertising awards
Advertising cards
Blotters
Calendars
Catalogs
Package inserts
Posters
Sales letters

Books and booklets
American home in review; Sherwin-Williams company's Paint and color style guide for paint dealers, builders and architects. il Ptr Ink Mo 40:38 Ap '40
Booklet circulates more than a million; Brief story about Sea Island cotton. il Ptr Ink Mo 41:40 Ag '40
Coca-Cola says it with flowers. C. J. Swan. il Ptr Ink 191:25-6 My 3 '40
Consumer booklets; a Printers' Ink Monthly special study of 101 advertisers' booklets. il Ptr Ink Mo 40:19-22+ Ap '40
Dealer follow-up; systematic mail plan gets retailers to build immediate sales out of consumer inquiries; Nurre mirrors. Ptr Ink 193:83-6 N 1 '40
Finds prospects for high-class specialty; Johnson Motors "Fishing digest." il Ptr Ink Mo 40:22 Mr '40
How to win friends for a corporation; Skelly oil company's book, Through twenty years with Skelly. J. M. Garth. Am Business 10: 30-2 Ap '40
Miniature books. il Ptr Ink Mo 41:10-11 Jl '40
Mr Adam Average; Hart Schaffner & Marx book, following up salesmen's calls, dramatizes national advertising. A. M. Howe. il Ptr Ink 192:15-17 Ag 30 '40
Printed sales talk, personalized; Bear manufacturing company, making equipment for automobile repair shops. il Ptr Ink Mo 39: 17-18 D '39
Sale facts in a booklet; Seng company. il Ptr Ink Mo 40:26 Ap '40
Spool cotton sells 3,500,000 books as part of effort to sell more thread. C. J. Swan. il Ptr Ink 189:15-18 D 29 '39

See also
Catalogs

Circulars
Color newsprint circulars. Adv & Sell 33: 60a+ Ag '40

Cook books and recipes
American housewives report likes and dislikes about food advertising. il Sales Management 46:18-20+ Ap 1 '40
Selling technique in instruction book; Spry recipes. il Ptr Ink Mo 41:14-15 N '40

Copy
See Advertising copy

Coupons
Nuisance inquiries. Ptr Ink 192:24 Ag 30 '40
When direct-result advertisers spend the most money; a percentage study by months. V. O. Schwab. Ptr Ink 191:26, 30+ Ap 5 '40

Design
Design analysis; six posters and advertisements described on the basis of composition and optical construction. H. Bayer. il diags Adv & Sell 33:32a-32d F '40
Design and decoration to make advertising more beautiful, by P. Carlyle and G. Oring; text by H. S. Richland. 64p $3.50 McGraw-Hill '39
Student influence on advertising design. W. G. Smythe. il Ptg Art 68 no 3:99-106 [Ja] '40

See also
Advertisements—Layout

ADVERTISEMENTS—*Continued*

Headlines

Headline study; Pinkham tests reveal how small newspaper space can be made more effective. C. H. Pinkham. Ptr Ink 192:59, 62 Ag 23 '40

Identification

Does the dealer know you advertise? independent grocers in metropolitan New York city area tested as to their knowledge of current magazine, newspaper and radio advertising. il Sales Management 45:18-20, 56 D 15 '39

Illustrations

See Advertisements, Pictorial

Layout

Awards for a series of advertisements most distinguished by its layout, art and typography. il Adv & Sell 33:61-3 F 15 '40
Can formula copy still have variety? C. G. Gaubert. il Adv & Sell 33:46+ Mr '40
Copy idea from Euclid; Bloomingdale executive says new telegraphic advertising style gets results. I. A. Hirschmann. il Ptr Ink 191:14-15 Ap 12 '40
How to add a third dimension: depth. W. E. Lickfield. il Inland Ptr 105:36-7 Je '40
Six primary ingredients in layout. B. Brooker. il Ptr Ink Mo 40:14-15+ Mr '40
Student influence on advertising design. W. G. Smythe. il Ptg Art 68 no 3:99-106 [Ja] '40
Telegraphic copy; Bloomingdale's new advertising could be strengthened by better layouts. G. I. Bushfield. il Ptr Ink 190:15-16 Mr 15 '40
What's happening to advertising copy? writing by formula. G. L. Summer. Adv & Sell 33:17-18 Ja '40

Maps

Maps in advertising; copyright trouble. J. M. Votava. Ptr Ink 190:33, 36, 40 F 9 '40

Position

New advertising shapes for sale; American magazine and American Home offers. S. H. Giellerup. il Adv & Sell 33:23-4 N '40
Right or left; which is the best? pictograph. Sales Management 46:37, 43 My 15 '40
Where is best position for our copy? This study shows relative values. E. T. Gundlach. Ptr Ink 191:79-83 My 3 '40

Printing

Technique of advertising production. T. B. Stanley. 214p $5; school ed $4 Prentice-Hall '40

See also
Advertising, Mail—Printing

Rating

But how does formula copy rate? a reply based on readership data. M. Wiseman. il Adv & Sell 33:24-6+ F '40
400 women rate personal-care ads for attention, interest, conviction. il Sales Management 46:28-30 Je 1 '40
Test your skill by rating layout and typography of sixteen advertisements. il Inland Ptr 106:46-8 O '40

Repetition

After hours. R. L. Dombrower. Ptr Ink 193:6 N 1 '40
How long can an advertisement live and deliver? basic points to consider. Ptr Ink 191:99-102 Ap 26 '40
Should you run the same ad twice? J. M. Dawson. il Adv & Sell 33:38+ F '40
Value of repetition. R. A. Stevens; C. H. Claudy, jr. Ptr Ink 193:75+ N 8 '40

Shape

New advertising shapes for sale; American magazine and American Home offers. S. H. Giellerup. il Adv & Sell 33:23-4 N '40

Size

See also
Advertisements, Small space
Advertising copy—Length

Specimens

English war-time advertising. il Ptr Ink Mo 39:10-11 D '39
FTC blue pencil: before and after; collection of copy claims and advertisements published before and after signing of FTC stipulations. il Adv & Sell 33:25-7 Ja '40
Year's review of travel copy appeals. il Ptr Ink Mo 40:10-11 Ja '40

See also
Advertising awards

Testing

Copy pre-testing; analysis of four most-used methods. H. Schwerin. Ptr Ink 193:67-8, 70-2 N 1 '40
Copy testing verdict by P.I. market jury; nine leading techniques, discussed by 96 leading advertisers. D. E. Robinson. Ptr Ink 193:13-14, 65-6+ N 8 '40
Eye-tracings of the Scanacord over advertising; mechanical recording of actual eye movements. il Adv & Sell 33:20-3 Mr '40
Headline study; Pinkham tests reveal how small newspaper space can be made more effective. C. H. Pinkham. Ptr Ink 192:59, 62 Ag 23 '40
How drug newspaper copy is tested and proved before schedules are released; effect of size, shape, etc. C. H. Pinkham. Ptr Ink 191:19-21 Je 28 '40
How to solve media problems in testing advertisements addressed to women. C. H. Pinkham. Ptr Ink 193:19-22 O 11 '40
Scientific advertising; agency sales tool. Ptr Ink Mo 40:38 My '40
Why inquiry tests can predict vital sales factor in advertising copy. F. S. Newbery, jr. Ptr Ink 193:23-4, 28-9 O 4 '40

Typography

Changed typographic styles shown by advertisements submitted by Howard N. King of Intertype corporation. il Inland Ptr 105:48-9 Je '40
Good professional typography in advertising pulls 100% more than other kind. E. T. Gundlach. Ptr Ink 191:35, 38+ My 31 '40
Headline study; Pinkham tests reveal how small newspaper space can be made more effective. C. H. Pinkham. Ptr Ink 192:59, 62 Ag 23 '40
Specimen review. J. L. Frazier. Published in monthly numbers of Inland printer
Type styles tell story. il Inland Ptr 106:52 O '40

ADVERTISEMENTS, Humorous

Mr Lapides' gross; a few dollars in direct mail, and delicatessen sales jumped 150 per cent against tough competition. R. Dickinson. Ptr Ink 193:33, 36 O 25 '40

See also
Advertisements, Pictorial—Cartoons
Advertisements, Pictorial—Comic strip

ADVERTISEMENTS, Pictorial

Design analysis; six posters and advertisements described on the basis of composition and optical construction. H. Bayer. il diags Adv & Sell 33:32a-32d F '40
Different world; illustrations in a newspaper campaign of Old colony trust company, Boston. Adv & Sell 33:32a-32d Ap '40
Illustration plays down product; visibility goes up; Hart Schaffner & Marx advertising. il Ptr Ink Mo 40:15+ Ja '40
Modern publicity: 1939-40. F. A. Mercer and W. Gaunt, eds. 144p $4.50; pa $3.50 Studio publications, 381 4th av, New York '39
Photogravure advertising in newspapers. G. F. Hartford. Ptg Art 68 no 4:C8 '40
Use of pictures in advertising. L. M. Flader Ptg Art 68 no 4:K1+ '40
Walter Frank Bomar; with specimens of hi art. Inland Ptr 104:25-7 D '39
What are readers' picture preferences? J M. Willem. il Adv & Sell 33:17-19+ M '40

ADVERTISEMENTS, Pictorial—*Continued*

What's wrong in this picture? typical criticisms of pictures used by Fisk tire company. H. Hurd. Nat Safety N 41:74-5 Je '40

See also

Advertising art
Advertising characters
Color in advertising
Posters
Show cards

Cartoons

Poor Pedro; peanut vendor and calliope put strong advertising punch behind Monroe calculating machines. C. J. Swan. il Ptr Ink 190:23-4 F 23 '40

Smiling animated character is super salesman; Frugal Flame; Texas public service company of Austin. M. Rasor. il Am Gas J 152:19-20 Ja '40

Comic strip

Color comic advertising in newspapers. W. M. McNamee, H. Printup and W. Newman. Ptg Art 68 no 4:C5 '40

The funnies? everybody reads 'em and not just to the children; a survey for Sales management in ten cities. il Sales Management 46:28, 30+ Mr 1 '40

Introducing Oscar McButch; Seattle transit system comic strip character. il Bus Transportation 19:387 Ag '40

Trend in comics. H. Turner. il Adv & Sell 33:19-20 Jl '40

Wabash uses comic strip advertising to advantage. il Ry Age 108:1195 Je 29 '40

Exhibitions

Advertising art 1940; Art directors club annual exhibition. il Adv & Sell 33:30-4 My '40

Photographs

How G-E collects installation pictures. il Ptr Ink Mo 41:41-2+ N '40

How industrial companies work out problem of obtaining installation pictures. Ptr Ink 192:129-30, 132-3 S 27 '40

Men only. il Ptr Ink Mo 41:12 N '40

Pictures with a purpose, how they are made. C. Kerlee. spiral binding pa $2.50 80p Camera craft pub. co, San Francisco '39

Printing Art exhibition advertising photography. il Ptg Art 68 no 3:29-98 [Ja] '40

Product photographs en masse; group of Caterpillar tractor co. photographs of its tractors at work. Ptr Ink Mo 40:13 Ap '40

Trade jolted to attention; Thermoid fan belts. il Ptr Ink Mo 41:52 S '40

ADVERTISEMENTS, Small space

Headline study; Pinkham tests reveal how small newspaper space can be made more effective. C. H. Pinkham. Ptr Ink 192:59, 62 Ag 23 '40

How drug and newspaper copy is tested and proved before schedules are released; effect of size, shape, etc. C. H. Pinkham. Ptr Ink 191:19-21 Je 28 '40

Roman Cleanser proves it doesn't take a million to advertise; small space, continuity and consistency in advertising. il Sales Management 46:28, 30 F 1 '40

Small-space copy pulls; New Haven, Conn. gas light company. il Gas Age 85:26-7 F 15 '40

ADVERTISERS

Advertiser who wants a free miracle with every insertion. B. E. Tacks. Sales Management 47:72+ S 1 '40

Advertisers warned against flouting or fighting consumer movement; P. I. jury of marketing opinion. D. E. Robinson. Ptr Ink 191:15-18 Je 21 '40

Changes in advertising accounts. Published in monthly numbers of Advertising and selling

Comeback! P.I. annual review of 300 advertisers' earnings; statistics, 1933-1939. J. Lewis. Ptr Ink 191:25-6, 30+ Ap 19 '40

Consumer groups gain as advertisers beat bushes for witches. C. B. Larrabee. Ptr Ink 189:11-12, 68, 71-3 N 24 '39

How size of the advertiser affects amount and kind of agency service. P. H. Erbes, jr. Ptr Ink 190:75-9 Ja 5 '40

How 200 advertisers respond (if at all) when consumer writes in an inquiry; P.I. third study. P. H. Erbes, jr. Ptr Ink 190:9-11+ Mr 1 '40

Nine advertisers in ten seek some degree of marketing service from agency. P. H. Erbes, jr. Ptr Ink 189:23-4+ D 8 '39

172 advertisers give 8 main reasons for consumer movement; misleading advertising copy; social discontent, educational influences. D. E. Robinson. Ptr Ink 191:11-13, 70+ Je 14 '40

ADVERTISING

Advertisers warned against flouting or fighting consumer movement; P. I. jury of marketing opinion. D. E. Robinson. Ptr Ink 191:15-18 Je 21 '40

Advertising faces double threat; Boren grading bill and FTC's distribution cost survey. Business Week p33 F 3 '40

Advertising quiz book; specimen questions from Adlandia. M. O'Dea. Adv & Sell 33: 78+ N '40

Advertising's place in business scheme; as Hill looks at it; letter to stockholders, American Tobacco. G. W. Hill. Ptr Ink 190:13-15 F 9 '40

A.F.A. hails advertising as aid to American way. A. M. Howe. Ptr Ink 192:23-4, 26-7 Jl 5 '40

Case for advertising; review of accomplishments. il Nation's Business 28:33-56 Jl '40

Consumer advertising must be factual, yes; but it needs drama and interest, too. R. Rubicam. Ptr Ink 191:13-15+ My 24 '40

Courage! this is what advertising really is; examples of heroic carrying on by London advertisers. R. Dickinson. Ptr Ink 193:9-12 N 1 '40

F.T.C. cites advertising firms; nineteen New York city distributors of ready-made advertising materials. Ptr Ink 192:57 S 13 '40

How New York world's fair can be salvaged despite second year jinx; paid advertising and a plan for raising a million-dollar budget. P. Boone. Ptr Ink 190:15-18+ Mr 8 '40

How will printing help us to get and keep patronage? S. F. Beatty. Ptg Art 68 no 4:J1-J2 '40

I believe in advertising; best when building customers rather than fighting for individual sales. R. E. Rindfusz. Ptr Ink 193:13-14 O 4 '40

If your executives personally like your advertising, watch out! all ideas, programs and plans, including media, methods and copy, should be tested by facts. D. D. Davis. Ptr Ink 189:21-4 N 24 '39

Is it possible to state a formula of creative advertising? J. H. Appel. Ptr Ink 191:6 Ap 5 '40

Let's look at advertising. W. C. Pryor and H. S. Pryor. 249p $2 Harcourt '40

Mr. Taft on advertising. Ptr Ink 191:81-2 My 10 '40

Modern publicity: 1939-40. F. A. Mercer and W. Gaunt, eds. 144p $4.50; pa $3.50 Studio publications, 381 4th av, New York '39

172 advertisers give 8 main reasons for consumer movement; misleading advertising copy; social discontent, educational influences. D. E. Robinson. Ptr Ink 191:11-13, 70+ Je 14 '40

Outline of advertising; its philosophy, science, art, and strategy. G. B. Hotchkiss. rev ed 631p $4 Macmillan '40

Present challenge to advertising. M. Britton. Adv & Sell 33:38 Jl '40

P.I. fundamentals series makes good on 22 points set down a year ago. Ptr Ink 189: 55-6, 58-9 D 29 '39

Printers need more self-advertising; appropriations, planning, copy, etc. J. M. Trytten. Inland Ptr 104:29-31 F '40

Stanleys and the Livingstones; advertising is a symbol of economic freedom. D. Francisco. Banking 32:84 D '39

ADVERTISING—*Continued*

Successful advertisements and how to write them. F. A. Burt. 194p bibliog(p171-89) $3 Harper '40

Teachers grab show at Stephens college consumer conference; P.I. observer sets down 24 significant trends important to business men. C. B. Larrabee. Ptr Ink 191:11-13+ Ap 12 '40

Teachers not anti-advertising; nor red, or even pink, business-baiters. C. B. Larrabee. Ptr Ink 191:15-16+ My 10 '40

Ten points for advertisers. K. Goode. 299p $3 Harper '40

33 helpful ideas, frequently overlooked, that can add force to advertising. E. Peterson. Ptr Ink 189:25-6, 30, 75-7 N 24 '39

This new advertising book talks sense to students and consumer groups; December issue of Building America. Ptr Ink 190:25-6 Ja 12 '40

12-point consumer verdict rendered by P.I. market jurors. D. E. Robinson. Ptr Ink 191: 15-17+ Je 28 '40

Unwanted consumers; abstract. D. E. Montgomery. Sales Management 46:53 Je 1 '40

Yes; little fellows, aided by advertising, can still grow big; case studies of spectacular successes in recent depression years; Pepsi-Cola, Philip Morris and others. C. B. Larrabee. Ptr Ink 192:11-14 S 27 '40

See also

Advertisements
Advertising agencies and other headings beginning Advertising
Audit bureau of circulations
Bank advertising
Business
Catalogs
Color in advertising
Community advertising
Containers
Electric signs
Follow-up systems
Government advertising
House organs
Merchandizing
Moving pictures in advertising
Odors in advertising
Posters
Premiums (merchandizing)
Printing trade—Advertising service
Publicity
Radio advertising
Sales letters
Show windows
Slogans
State advertising

also subdivision Advertising under special subjects, e.g.

Automobile industry and trade
Building trades
Cigarets
Department stores
Dog food
Electric utilities
Food industry and trade
Gas, Natural
Gas industry
Hotels
Insurance
Insurance agents
Motor bus lines
Printing trade
Public utilities
Railroads
Retail trade
Shells (projectiles)
Technical products

Advertising

Why advertising can't advertise advertising. A. Cobb, jr. Adv & Sell 33:31 O '40

Bibliography

Books for advertising novice: no ten best, but he can pick from this list. Ptr Ink 192: 73-9 S 13 '40

Selected list of recent references on advertising, including its economic and social effects. A. L. Baden, comp. 38p Library of Congress, Division of bibliography, Washington '40

Brides, Appeal to

All wedding bells don't ring in June. W. Sumner. il Adv & Sell 33:96+ F 15 '40

Children, Appeal to

Billy and Ruth; co-operative merchandising; Supplee-Biddle and other wholesalers to help independent dealers re-sell toys. E. Peterson. il Ptr Ink 189:21-4 D 1 '39

Captain Midnight flight patrol radio serial enrolls 800,000 kids for Skelly oil co. A. E. Taylor. il Sales Management 46:50, 52 Mr 1 '40

Premiums sell breakfast foods and gasoline, why not bus rides too? post cards for children collectors. A. H. Wood. il Bus Transportation 19:510-11 O '40

See also

Radio broadcasting—Children's programs

Continuity

Advertising, once stopped, gathers momentum slowly; pictograph. Sales Management 47:34 Jl 15 '40

Continuity in magazine advertising; a three-year study of the insertion policies of national advertisers. Ptr Ink Mo 41:20-1+ S '40

How regular insertions can buy new customers; case of a flour miller. F. E. Fehlman. il Adv & Sell 33:35, 56-8 O '40

Nine reasons why advertising should continue despite election and war. D. Taylor. Ptr Ink 190:25-6+ F 16 '40

Roman Cleanser proves it doesn't take a million to advertise; small space, continuity and consistency in advertising. il Sales Management 46:28, 30 F 1 '40

See also

Advertising appropriations

Copy

See Advertising copy

Cost

Milline rate is not measure of advertising cost; how to use it properly. R. Dunne. Ptr Ink 189:30+ D 15 '39

See also

Advertising—Rates

Coverage

Does your merchandising match the movements of buying power? L. Jones. map Adv & Sell 33:30-2, 42 O '40

Mr Tacks takes a lesson in the technique of advertising coverage. B. E. Tacks. Sales Management 46.34 Ap 1 '40

Dealer cooperation

Dealers like help like this; Gulf service stations mailing campaign. Ptr Ink Mo 40:22+ Je '40

Does the dealer know you advertised? independent grocers in metropolitan New York city area tested as to their knowledge of current magazine, newspaper and radio advertising. il Sales Management 45:18-20, 56 D 15 '39

50-50 advertising; cooperative effort grows because of retailer's prominent place in merchandising picture. R. Porter. Ptr Ink 191:103-5 Ap 26 '40

How La Choy draws contracts with dealers to insure good display; allows 5% of purchases, payable in cash, for advertising and merchandising cooperation. il Sales Management 47:39 S 1 '40

Old range roundup; American Stove gets dealer support for new models. Ptr Ink 192: 51-2, 54+ S 20 '40

Westinghouse merchandises its advertising. P. W. Endriss. Ptr Ink Mo 40:32 Je '40

Why thousands of dealers tie up with Del Monte theme campaigns; California packing corp. retail promotion program. il Sales Management 47:40, 44 S 1 '40

Dealer helps

Advertising display tie-in ups sales; General Electric current magazine advertisement added to dealer counter display. H. F. Barnes. il Adv & Sell 33:27 Jl '40

Arrow men get results with dealer advertising plan. il Sales Management 47:28+ O 10 '40

Bakery promotion for Dionne quintuplet bread offered to independent bakers by the Bakers research bureau. il Ptr Ink 189:19-20 D 29 '39

Billy and Ruth; co-operative merchandising; Supplee-Biddle and other wholesalers to help independent dealers re-sell toys. E. Peterson. il Ptr Ink 189:21-4 D 1 '39

ADVERTISING—Dealer helps—*Continued*
Check list for promotional material; abstract. Management R 29:257-8 Jl '40
Football broadcasts gain ground for Tide Water in off season. il Sales Management 47:37+ N 1 '40
Novelty direct mail brings customers to dealers; Shell oil company. H. L. Curtis. il Ptr Ink 190:19-21 Ja 5 '40
Point-of-sale displays through dealers' eyes; Printers' Ink Monthly special study. A. M. Howe. il Ptr Ink Mo 39:20-2+ D '39
Reliable rules for winning display space in fashion outlets; American lady corset co. il Sales Management 47:49-50 S 1 '40
Sales helps advertised to the trade. il Ptr Ink Mo 41:36 Ag '40
Success story; Harvey-Whipple oil burners. C. B. Larrabee. Ptr Ink 193:27, 30, 32-3 N 8 '40
Waste in display materials, and how to cure it. G. L. DeBeer. il Sales Management 47: 50, 54-5 S 1 '40

See also
Advertising, Point-of-sale

Dealers, Appeal to

Dealer follow-up; systematic mail plan gets retailers to build immediate sales out of consumer inquiries; Nurre mirrors. Ptr Ink 193:83-6 N 1 '40
How to win dealers to influence sales. G. Bijur. il Adv & Sell 33:22-3, 38+ Ag '40
Making merchandising publications part of the sales plan; Printers' Ink Monthly special study. il Ptr Ink Mo 41:19-22, 45+ N '40
Mr Adam Average; Hart Schaffner & Marx book, following up salesmen's calls, dramatizes national advertising. A. M. Howe. il Ptr Ink 192:15-17 Ag 30 '40
Sales helps advertised to the trade. il Ptr Ink Mo 41:36 Ag '40
Sales of Kansas salt grow as direct mail reaches 10,000 jobbers and dealers; Carey salt company. C. J. Swan. il Ptr Ink 189:17-20 N 24 '39
Year's sales jump 34%; Northmont Hosiery mill used mails to emphasize national advertising. C. J. Swan. Ptr Ink 190:29, 32 Mr 1 '40

Dealers' salesmen, Appeal to

We sound reveille for the store clerk who yawns at our product; Hart, Schaffner & Marx mailings to salesmen's homes. E. R. Richer. il Sales Management 46:36-7 Ap 20 '40

Economic aspects

Advertising and selling process. H. R. Tosdal. Ann Am Acad 209:62-70 My '40
Advertising held necessary to business at this time. D. M. Hobart. Comm & Fin Chr 151:2582 N 2 '40
Advertising, is it a monopoly? tobacco case. Ptr Ink Mo 41:28+ S '40
Cigarette high cost. M. O'Dea. Ptr Ink 190: 69 Ja 12 '40
Eyeful for advertising critics who think consumers are being gypped; United Wallpaper campaign inspired company to build product to standard of excellence. A. J. Browning. il Sales Management 45:24-6 D 1 '39
How U. S. business can be mainspring of defense program; full productive capacity is demanded. P. Hollister. Ptr Ink 191:11-14, 98, 100 Je 28 '40; Adv & Sell 33:17-18+ Jl '40
Place of advertising in the American scheme. R. S. Butler. Adv & Sell 33:88+ F 15 '40
Sharply challenging questions are here submitted to 20th century fund. L. D. H. Weld. Ptr Ink 190:64, 66-8 F 2 '40
War on advertising as monopoly breeder is more than talk. Ptr Ink 192:9-10, 57-60 Ag 30 '40
What the public thinks about advertising and loss-leaders. D. Hartwell. il Food Ind 12: 56-7 S '40
Why consumer gains profit from his part of advertising's cost. P. Hollister. Ptr Ink 190: 11-13+ F 23; 55-6, 58-64 Mr 1 '40

Engineers, Appeal to

Engineer talks to industrial advertisers. H. Madeheim. diags Ptr Ink Mo 41:12+ Jl '40

Examinations, questions, etc.

Adlandia; an advertising quiz. M. O'Dea. 70p pa $1 Mark O'Dea, 400 Madison av, New York '40

Family of products

How business papers are used and misused in advertising lines of products. D. Gridley. Ptr Ink 192:25-6, 30 Ag 23 '40

Farmers, Appeal to

Letter to 500,000 farmers pulls 14.2%; mailing is preceded by 12 tests; Southern states iron roofing company. il Ptr Ink 192:17-20 Jl 5 '40
Test mailings among farmers; Southern states iron roofing co. Ptr Ink Mo 40:39-40 Ja '40

See also
Advertising mediums —Farm papers

Golfers, Appeal to

Promoting the pro; Wilson sporting goods campaign, mentioning no merchandise, sells services of club professional to golfers. il Ptr Ink 190:19-20 Mr 8 '40

Industries, Appeal to

Builds quick acceptance for better product in industrial markets; American screw company. H. Mayoh. il Ptr Ink 193:75-8+ N 1 '40
Direct mail that draws bead, calls its shots, and records them; air conditioning equipment sold to bakeries by mail. A. H. Little. il Ptr Ink 189:23-6 D 15 '39
How G-E collects installation pictures. il Ptr Ink Mo 41:41-2+ N '40
How to be human in industrial advertising; Le Blond machine tool co. K. B. White. il Ptr Ink 192:15-17+ S 20 '40
Industrial copy ties into defense. il Adv & Sell 33:28-9 S '40
More you tell, the more you sell; industrial-advertising trend that consumer advertisers could follow. A. H. Little. Ptr Ink 190: 69-70, 72-3 F 2 '40
Technical publicity association seminars show advertising can cut industrial sales cost. Sales Management 46:73 Je 1 '40
Ticklish job of selling to industry; Cash company boosts sales of old valve through stress put on its more modern, more expensive competing line. il Ptr Ink Mo 40: 46+ F '40
What motivates business buyers. D. J. Duncan. Harvard Business R 18 no 4:448-54 [Jl] '40
Woman builds big industrial business from small start; Kellems products, inc. E. H. Pearson. Ptr Ink 193:9-12 O 4 '40

Inquiries

Follow-up value; inquiry survey brings 37% response and shows that 13.7% of prospects become purchasers, Hartmann trunk company, Racine, Wis. P. H. Erbes, jr. il Ptr Ink 192:17-20 Jl 12 '40
Hooks in name only; study in inquiry-getting as suggested by Associated business papers Tell-all campaign. L. S. White. il Ptr Ink 191:15-18 My 31 '40
How 200 advertisers respond (if at all) when consumer writes in an inquiry; P.I. third study. P. H. Erbes, jr. Ptr Ink 190:9-11+ Mr 1 '40
Letters to inquirers; analysis of subject matter, presentation and style used by 110 advertisers. Ptr Ink 192:30, 33, 36 S 6 '40
When retailer makes inquiry: follow-up letter plan that works via wholesaler. C. A. Emley. Ptr Ink 191:77-8 My 31 '40
Who handles it? dealer identification in connection with mailings to booklet or sample inquirers. il Ptr Ink 191:19-22 Ap 5 '40
Why inquiry tests can predict vital sales factor in advertising copy. F. S. Newbery, jr. Ptr Ink 193:23-4, 28-9 O 4 '40

ADVERTISING—*Continued*

Jobbers, Appeal to

Sales of Kansas salt grow as direct mail reaches 10,000 jobbers and dealers; Carey salt company. C. J. Swan. il Ptr Ink 189:17-20 N 24 '39

Laws and regulations

After two years of Wheeler-Lea. P. B. Morehouse. Adv & Sell 33:22-3+ My '40

Automobile manufacturer's and dealer's liability; false advertising of safety features; digest of recent cases. J. L. Roesch. Spectator (Property ed) 5:22-3 N 30 '39

Check list of FTC taboos; quotations from stipulations and cease and desist orders, under product headings. Adv & Sell 33:31-2, 56, 60 Mr; 48, 50+ Ap '40

Claims the FTC won't let you make; a checklist of Federal trade commission taboos in food advertising. N. R. Abelson. il Food Ind 12:61-2 Jl; 56-7 Ag '40

Court upholds G.M. 6% ruling. Ptr Ink 192: 58 Ag 23 '40

Cry babies! upholding proposed F.T.C. inquiry, accuses advertising men. J. P. McGranery. Ptr Ink 191:15-17 Ap 19 '40

Department of justice's position in respect to advertising. T. Arnold. Ptr Ink 193:28, 32 N 1 '40

F.T.C. advertising procedure criticized. Oil Paint & Drug Rep 138:3+ Jl 15 '40

FTC blue pencil: before and after; collection of copy claims and advertisements published before and after signing of FTC stipulations. il Adv & Sell 33:25-7 Ja '40

F.T.C. observes advertising for a year, and here is what it now thinks. Ptr Ink 192: 53-4, 56-7 Jl 19 '40

F.T.C. puzzles over warnings in drug ads. Oil Paint & Drug Rep 137:4+ F 5 '40

F.T.C. reports on 1939 work affecting advertising, trade practice, consumers. Ptr Ink 189:63-7 D 29 '39

Federal trade commission review of harmful advertising P. B. Morehouse. Ind & Eng Chem News ed 18:439-40 My 25 '40

F.T.C. reviews Patman act and ad control activities; annual report, year ended June 30, 1939. Oil Paint & Drug Rep 137:3+ Ja 1 '40

Federal trade commission's attitude toward advertising. R. E. Freer. Ptr Ink 190:77, 80-2 Mr 22 '40

Flags are barred to advertisers. A. W. Gray. Inland Ptr 104:25-6 F '40

Four questions on Wheeler-Lea. J. Benson. Adv & Sell 33.28-9 Ap '40

General motors corp. and Ford motor co. ordered to cease using 6% in instalment plan advertisements. Comm & Fin Chr 149: 3800 D 16 '39

Industrial property, prohibition of premiums and gifts as an advertising medium in Cuba. For Comm W 1:197-8 N 2 '40

Listerine beleaguered; FTC launches new action. Business Week p39-40 Ag 24 '40

Much advertising regulation in U.S.? well, see what is done elsewhere. S. Carter. il Ptr Ink 190:23-6+ Mr 15 '40

P.I. model statute. map Ptr Ink 191:21-4 My 31 '40

Protection of advertising in Mexico. J. L. Brown. Comm Rep p391 Ap 27 '40

Standards bureau tests confidential; may not be used for advertising purposes. Oil Paint & Drug Rep 138:3 Jl 29 '40

Town Hall consumer debate keeps things lively at Four-A convention; To what extent should advertising be controlled and by whom? H. L. Stephen. Ptr Ink 191:69-70+ My 24 '40

What is false advertising? FTC case against Good Housekeeping. Business Week p24-6 D 23 '39

Women, at F.T.C.-Good Housekeeping hearing, make strong case for advertising. D. E. Rowan. Ptr Ink 189:43-4+ D 8 '39

Market selection

Spotting of primary markets essential to profitable advertising emphasis. H. Schwerin. Ptr Ink 192:15-17+ S 27 '40

Negroes, Appeal to

Advice on the Negro; Los Angeles league guides advertisers. Business Week p47-8 Ap 13 '40

Objectives

How advertisers can help in consumer education movement; what buyers want to know. K. Dameron. Ptr Ink 190:13-15+ Mr 29 '40

Physicians, Appeal to

Abbott laboratories, an ethical drug house il Fortune 22:62-9+ Ag '40

Direct-mail advertising to doctors; Chicago survey. J. E. Jeuck. J Business 13:17-38 Ja '40

House organ in difficult field; Ciba pharmaceutical products, inc. Ptr Ink Mo 41:21-2 Jl '40

Planning

Vamp-till-ready sales program that gives competition the jump; sales and advertising plans frequently do not get under way until spring. H. Clark. Sales Management 46:68+ F 1 '40

Premiums

See also

Advertising copy—Premium offers

Radio advertising—Premium offers

Prize contests

After hours; contests and premiums. C. G. Gaubert. Ptr Ink 192:6 Ag 30 '40

And now, let's look at contests. M. Rollins. Adv & Sell 33:17-19, 74+ N '40

Consumer contest pulls 35,000 shoe designs for Brown shoe company. A. G. White. il Sales Management 45:46, 48+ D 15 '39

Consumer contests; Printers' Ink Monthly special study. A. M. Howe. il Ptr Ink Mo 41: 17-20, 50, 52-3+ Jl '40

Magic box tops. W. G. Myers. Adv & Sell 33:27 Ag '40

Package decorations provide contest theme; Shulton's Early American old spice products. il Ptr Ink Mo 40:25-6 Ap '40

Photo contests click; promotion stunts for national advertisers. il Business Week p32-4 Ja 6 '40

3,752 customers step through their electric bills; letter writing contest; Alabama power company's campaign to get customers to read the company's advertising. il Elec W 112:1447-8 N 18 '39

Value of a consumer contest shouldn't be measured by volume of entries; Air Step shoes; Pepsodent; Pard; Packard. il Ptr Ink 190:17-19, 81-4 Mr 15 '40

What states get most contest prizes? prize distribution on basis of 30 nation-wide contests held during the past two years. J. O. Bentley. map Adv & Sell 32:35, 48 D '39

Psychology

Adventures in business psychology; three case studies from an advertising agency's files. M. K. Powers. Nation's Business 27:34+ D '39

After hours; reader's attitude toward advertisement seldom neutral. D. A. Laird. Ptr Ink 193:6 O 4 '40

Care and feeding of copy; popularity review of themes and appeals over past three years. J. Thompson. Adv & Sell 33:25-7 Mr '40

Motives as a tool of market research. D. McGregor. Harvard Business R 19 no 1:42-51 [S] '40

Spotting of primary markets essential to profitable advertising emphasis. H. Schwerin. Ptr Ink 192:15-17+ S 27 '40

Wantage, the oomph factor in advertising appeals. B. Brooker. il Ptr Ink Mo 41:14-15+ Ag '40

See also

Advertising copy

Advertising research

Purchasing

Is hand-to-mouth advertising here to stay? L. Jonson. Adv & Sell 33:17-18, 44 Ap '40

ADVERTISING—*Continued*

Rates

Circulation and rates, principal magazines. Ptg Art 68 no 4:D10+ '40

For good typography; suggesting that business papers make a charge for ad setting. E. T. Gundlach. Ptr Ink 192:22 S 20 '40

Milline rate is not measure of advertising cost; how to use it properly. R. Dunne. Ptr Ink 189:30+ D 15 '39

Newspapers test three big ideas; Mid-western effort to standardize rate differentials. Business Week p34 Mr 9 '40

Rate differential rises. Ptr Ink 192:57 S 6 '40

Returns

Roman Cleanser proves it doesn't take a million to advertise; small space, continuity and consistency in advertising. il Sales Management 46:28, 30 F 1 '40

Sales of all apples boosted by this advertising, but advertiser gains most; survey of five Texas cities. Ptr Ink 190:17-19 Ja 12 '40

See also

Advertising—Inquiries

Advertising, Mail—Returns

Samples

See Samples (merchandizing)

Schedules

Can we justify the advertiser's grudge against Saturday editions. B. E. Tacks. Sales Management 45:60+ D 1 '39

Check list for summer advertising. G. Bijur. Adv & Sell 33:38-9 My '40

Continuity in magazine advertising; a three-year study of the insertion policies of national advertisers. Ptr Ink Mo 41:20-1+ S '40

Football broadcasts gain ground for Tide Water in off season. il Sales Management 47:37+ N 1 '40

How regular insertions can buy new customers; case of a flour miller. F. E. Fehlman. il Adv & Sell 33:35, 56-8 O '40

20-point checklist that will help in preparing winter advertising. G. Bijur. Ptr Ink 192: 21-3 Ag 23 '40

When direct-result advertisers spend the most money: a percentage study by months. V. O. Schwab. Ptr Ink 191:26, 30+ Ap 5 '40

Schools, Appeal to

Booklet circulates more than a million; Brief story about Sea Island cotton. il Ptr Ink Mo 41:40 Ag '40

Display your products, and why not? cement samples and advertising material for schools and colleges. E. Zetterberg. Concrete (mill sec) 48:205 Jl '40

Reaching the teacher. Business Week p40-1 O 5 '40

Special weeks

See Advertising campaigns—Special weeks

Statistics

Advertising and industrial production usually rise and fall together; study of 1915 and present war periods. L. D. H. Weld. Ptr Ink 189:25-6+ D 29 '39

Advertising dollar volume. Ptr Ink 192:102 Ag 2 '40

Advertising, 1936-1939. Survey of Cur Business 1940 Sup p24-6 [supplemented in monthly numbers]

Advertising prospects look good. Business Week p34+ My 4 '40

Advertising stages a comeback; national advertising media, 1939. Business Week p38-40 Ja 20 '40

Advertising started upgrade in 1939, and prospects for 1940 are favorable. L. D. H. Weld. Ptr Ink 190:19-22 F 16 '40

Advertising, up 2.7% in first half of 1940, is now due for better showing. L. D. H. Weld. Ptr Ink 192:13-16 Ag 23 '40

Advertising upturn indicated by banking operations; a P.I. index study. L. D. H. Weld. Ptr Ink 192:23-5 S 27 '40

Expenditure patterns in three media groups; pictograph. Sales Management 47:45 N 15 '40

Farm publications; advertising linage for January. Ptr Ink 190:73-4 Ja 19 '40 [cont monthly]

Growth of advertising since Civil war: 45 million then, a billion 600 million now. L. D. H. Weld. Ptr Ink 191:15-17 Ap 5 '40

How news print consumption hooks up with advertising; P.I. index comparison. L. D. H. Weld. Ptr Ink 191:17-20 My 24 '40

Increased advertising volume well into 1941 indicated by statistical study. L. D. H. Weld. Ptr Ink 192:13-16 Ag 9 '40

January magazine advertising, 1938-1940. Ptr Ink 190:92, 94, 96 Ja 12 '40 [cont monthly]

Magazine advertising; five semi-annual totals. Ptr Ink 192:103-6 Ag 2 '40

Magazine indexes; monthly indexes for general monthly, weekly, and women's service magazines. Ptr Ink 191:44 Ap 26 '40 [cont monthly]

New P.I. magazine indexes show advertising volume of three major groups: general monthlies, weeklies, and women's service group. L. D. H. Weld. Ptr Ink 191:21-4 My 10 '40

Newspaper advertising volume as influenced by sales of department stores. L. D. H. Weld. Ptr Ink 192:19-22 Jl 26 '40

1939 advertisers; 342 each invest more than $100,000 in three media; 41 more than a million; five-year analysis of magazine, radio and farm paper advertising. Ptr Ink 190:49-111 Ja 26 '40

1939 advertising up. L. D. H. Weld. Ptr Ink 190:13-16 Ja 12 '40

$1,600,000,000 spent for 1939 advertising. L. D. H. Weld. Ptr Ink 190:13-16 Mr 1 '40

Review of railroad advertising in '39. F. Snow. Adv & Sell 33:46, 48-9 Je '40

$7,000,000 in newspaper advertising; $400,000,000 in sales! story of State street and the part newspaper advertising has played in its development. G. A. Brandenburg. il Ptg Art 68 no 4:C16+ '40

Ten-year growth record of advertising revenues in Sales Management's annual surveys of buying power; pictograph. Sales Management 46:59 Ap 10 '40

What states get most contest prizes? prize distribution on basis of 30 nation-wide contests held during the past two years. J. O. Bentley. map Adv & Sell 32:35, 48 D '39

When direct-result advertisers spend the most money: a percentage study by months. V. O. Schwab. Ptr Ink 191:26, 30+ Ap 5 '40

See also

Advertising, Mail—Statistics

Radio advertising—Statistics

Advertising appropriations

Stockholders, Appeal to

Advertising's place in business scheme; as Hill looks at it; letter to stockholders, American Tobacco. G. W. Hill. Ptr Ink 190: 13-15 F 9 '40

In greeting new stockholders leading advertisers find public relations asset; methods of General Motors, General Foods, Borden's and others. D. Gridley. Ptr Ink 189: 71-2+ D 8; 19-22 D 15 '39

National Dairy salesmen talk to the stockholders. Sales Management 47:53 O 10 '40

Selling your firm to the stockholders. C. Gore. Adv & Sell 33:68+ Mr '40

This report to stockholders, reversing usual order, features advertising; United wall paper factories, inc., Chicago. H. M. Andrews. Ptr Ink 193:69-70 O 18 '40

Study and teaching

Advertising courses in college are of value. W. A. Lowen. Ptr Ink 191:6 Je 21 '40

After hours; can one learn advertising in school? L. Nejelski. Ptr Ink 191:6 My 31 '40; Reply. G. B. Hotchkiss. 191:66 Je 14 '40

ADVERTISING—*Continued*

Tables, calculations, etc.

See also
Milline

Testing

See Advertisements—Testing; Advertising, Mail—Testing; Advertising campaigns—Testing

Women, Appeal to

400 women rate personal-care ads for attention, interest, conviction. il Sales Management 46:28-30 Je 1 '40
How to solve media problems in testing advertisements addressed to women. C. H. Pinkham. Ptr Ink 193:19-22 O 11 '40
Women read service copy more eagerly than hot war news. C. B. Larrabee. il Ptr Ink 192:13-15, 100-2 Ag 2 '40

Young people, Appeal to

See also
Advertising—
Children, Appeal to

Australia

What is happening in Australia as a result of war conditions. F. Goldberg. Ptr Ink 190:6 Ja 12 '40

Canada

Canadian buying habits change because of war; thoughts for U.S. advertisers. M. Brown. il Ptr Ink 190:23-6, 30+ Ja 26 '40
Exchange restrictions affecting advertising services. Comm Rep p159 F 17 '40

Germany

London and Berlin, via radio, tell A.N.A. convention of Europe's advertising. H. L. Stephen. Ptr Ink 193:61-2 N 1 '40

Great Britain

Advertising within a fortress. C. W. Stokes. il Adv & Sell 33:24, 36 Ag '40
As England fights, volume of British advertising moves up and down. D. W. Walton. Ptr Ink 189:15-16, 61-4 D 1 '39
Blitzkrieg on British advertising. Ptr Ink Mo 39:15 D '39
Bombs give Britain's advertisers tough job, but they carry on. R. Dickinson. il Ptr Ink 193:11-13, 73-5 O 18 '40
British advertising weathers the war. F. M. Cook. il Adv & Sell 33:33+ Ap '40
Courage! this is what advertising really is; examples of heroic carrying on by London advertisers. R. Dickinson. Ptr Ink 193:9-12 N 1 '40
English war-time advertising. il Ptr Ink Mo 39:10-11 D '39
Great Britain meets the emergency. Ptr Ink Mo 40:32 Ap '40
London and Berlin, via radio, tell A.N.A. convention of Europe's advertising. H. L. Stephen. Ptr Ink 193:61-2 N 1 '40
No Quislingism! advertisers carried on in England. Ptr Ink 192:21-2 Jl 5 '40

Japan

Japan's new fad: stampu. W. West. Barron's 20:8 O 7 '40

Latin America

Hemispheric cartel? its meaning to U.S. advertising; German merchandizing, its lessons for the U.S. C. M. Wilson. il Adv & Sell 33:28-30, 60-60a Ag '40
South of the border; advertising to and by Latin America. J. B. Powers. Adv & Sell 33:40+ S '40

Mexico

Protection of advertising in Mexico. J. L. Brown. Comm Rep p391 Ap 27 '40

South America

Advertising in South America. il Sales Management 47:66 Ag 15 '40

United States

Sales machine, kept in highest gear, can lighten tax burden. G. F. Tilton. Ptr Ink 192:61, 64-6+ Jl 12 '40

ADVERTISING, Association

Advertising as a factor for good public relations. P. Truesdell. il Am Pet Inst Proc 21M(1):9-16 My '40; Same cond. Oil & Gas J 39:24+ Je 6 '40
Clever advertising campaign by Limerock association. il Rock Prod 43:46 Je '40
Cooperative activity to sell transit. F. Barnes. Transit J 84:386-7 O '40; Abstract. Mass Transportation 36:248-9 O '40
Dairy cooperative program. Ptr Ink 193:22 O 25 '40
Fifth year; new plans for Association's national advertising. T. J. Strickler. Am Gas Assn Mo 22:244-8 Jl-Ag '40
How Sunkist invests 5 cents a family in advertising. P. S. Armstrong. il Ptr Ink 189:17-20 D 22 '39
Milwaukee sheet metal contractors association advertising warm air heating. Sheet Metal Worker 30:38 N '39
Over-the-counter campaign. Ptr Ink 190:20 Ja 12 '40
Record of association advertising. J. Benson. il Adv & Sell 33:29-30, 60, 62+ Je '40
Sales of all apples boosted by this advertising, but advertiser gains most; survey of five Texas cities. Ptr Ink 190:17-19 Ja 12 '40
Trade groups key advertising to Christmas. il Business Week p44 D 16 '39
Why Mrs America is growing more and more spice-conscious; American spice trade and Durkee advertising. il Sales Management 45: 46, 48, 51 D 1 '39

See also
Advertising campaigns—Special weeks

ADVERTISING, Community. See Community advertising

ADVERTISING, Cooperative

Apple men rejoice; Washington growers aided by national advertising. Business Week p44-5 Jl 20 '40
Billy and Ruth; co-operative merchandising; Supplee-Biddle and other wholesalers to help independent dealers re-sell toys. E. Peterson. il Ptr Ink 189:21-4 D 1 '39
Co-operative advertising. Trusts & Estates 69:668-9 D '39
Cooperative advertising, why not? outdoor displays for bus companies. A. Hogg. il map Bus Transportation 19:68-9 F '40
Four-purpose contact; gas range promotion via meat cookery; butchers' cooperation. A. Berry. Am Gas Assn Mo 22:217-18 Je '40
How Pittsburgh coordinates dealer sales work thru Gas appliance promotion division of Ketchum, MacLeod & Grove advertising agency. il Gas Age 86:27+ Jl 4 '40
Story of 22 coal men who refused to take the count. A. R. Stock. il Sales Management 47:20-2+ Jl 15 '40

See also
Advertising, Association

Manufacturers and dealers

50-50 advertising; cooperative effort grows because of retailer's prominent place in merchandising picture. R. Porter. Ptr Ink 191:103-5 Ap 26 '40
How to keep out of hot water on 50-50 advertising with dealers; splitting cost of consumer advertising with department stores. J. C. Cumming. Sales Management 46:52-4+ Ja 15 '40

ADVERTISING, Direct

See also
Package inserts

ADVERTISING, Direct mail. See Advertising, Mail

ADVERTISING, Educational
Awards for campaigns which contribute most to the advancement of advertising as a social force. il Adv & Sell 33:41-3 F 15 '40
Borden's sell advertising as symbol of American democracy. Sales Management 47:59+ Ag 1 '40
Copy clinic; advertisements of National physicians committee for the extension of medical service. E. B. Smith. il Adv & Sell 33:54, 60d, 62 Ag '40
Job for advertisers; selling America to Americans. H. T. Kay. Ptr Ink 192:36 Ag 9 '40
One company speaks for its industry in unselfish war-time series; International harvester co. Ptr Ink 192:23-4 Ag 30 '40
Research uncovers facts for trucking advertising. Ptr Ink Mo 41:13 O '40
Stop Hitler now! Robert Sherwood's ad. Ptr Ink 191:65-6 Je 14 '40
Wanted: security; a challenge to advertisers. Ptr Ink 190:83-4 F 23 '40
Why advertising can't advertise advertising. A. Cobb, jr. Adv & Sell 33:31 O '40

See also
Advertising, Association
Political advertising

ADVERTISING, Foreign
Shipment of samples and advertising matter abroad; revising supplement to Trade promotion series no. 72 (1932 edition). R. P. Wakefield. 100p pa 10c U. S. Bur. of foreign and domestic commerce '40

See also
Radio advertising, Foreign

ADVERTISING, Fraudulent
F.T.C. reports on 1939 work affecting advertising, trade practice, consumers. Ptr Ink 189:63-7 D 29 '39

See also
Advertising—Laws and regulations
Advertising ethics

ADVERTISING, Indirect
How hidden product advertising can be made to produce consumer acceptance. Ptr Ink 192:49-50, 52-3 Ag 30 '40
Packaged themes; American Bemberg instruction bulletins for retail sales people and information on new products for dealers. A. H. Little. il Ptr Ink 189:17-20 D 1 '39
Promoting the pro; Wilson sporting goods campaign, mentioning no merchandise, sells services of club professional to golfers. il Ptr Ink 190:19-20 Mr 8 '40
Sausage imagination; Visking, maker of casings, extends its consumer advertising program. il Ptr Ink 190:23-4 F 16 '40

See also
Advertising, Educational

ADVERTISING, Industrial. See Advertising—Industries, Appeal to

ADVERTISING, Institutional
Electric service is supplied by people working; Louisiana power & light company public relations advertising pictures employees at work. R. C. Paslay. il Elec W 113:1524-6 My 18 '40
Highbrow radio program does double job for California utility; Pacific gas & electric co. Sales Management 46:40+ Je 15 '40
Industrial copy ties into defense. il Adv & Sell 33:28-9 S '40
Penalty of leadership; famous Cadillac advertisement; reproduction. Ptr Ink Mo 41:48 O '40
Public relations house organ; State farm insurance companies, Bloomington, Ill. issues special edition of agents' magazine for policyholders. il Ptr Ink Mo 40:48 Je '40
Wright tells the home town, Paterson, N.J. about airplane engines. R. S. Gall. il Ptr Ink Mo 41:33+ S '40

ADVERTISING, Mail
Agency letters; technique of soliciting accounts by mail. Ptr Ink 192:51-2 Jl 19 '40
Analysis of direct-mail used by 8 agencies in soliciting one account. Ptr Ink 192:23-4, 28, 32-3 Jl 12 '40
Building business for buses. W. M. Anderson. Ptr Ink Mo 41:62-3 S '40
Dealer follow-up; systematic mail plan gets retailers to build immediate sales out of consumer inquiries; Nurre mirrors. Ptr Ink 193:83-6 N 1 '40
Dealers like help like this; Gulf service stations mailing campaign. Ptr Ink Mo 40:22+ Je '40
Direct-mail advertising and selling. F. Egner and L. R. Walter. 215p $3 Harper '40
Direct mail advertising; its function, development and growth. H. J. Buckley. Ptg Art 68 no 4:F1-F4 '40
Direct-mail advertising to doctors; Chicago survey. J. E. Jeuck. J Business 13:17-38 Ja '40
Direct mail pointers; tests by Direct mail laboratory of McGraw-Hill. Management R 29:144 Ap '40
Direct mail that draws bead, calls it shots, and records them; air conditioning equipment sold to bakeries by mail. A. H. Little. il Ptr Ink 189:23-6 D 15 '39
Envelope tactics; study of 206 mailings received by consumer. P. H. Erbes, jr. il Ptr Ink 192:17-20 Jl 19 '40
How agencies use letters and printed matter in going after new accounts; analysis of direct-mail pieces. Ptr Ink 192:49-53 Jl 5 '40
How may we avoid errors in mailing printed advertising? S. F. Beatty. Ptg Art 68 no 4: J 17+ '40
Mr Adam Average; Hart Schaffner & Marx book, following up salesmen's calls, dramatizes national advertising. A. M. Howe. il Ptr Ink 192:15-17 Ag 30 '40
Mr Lapides' gross; a few dollars in direct mail, and delicatessen sales jumped 150 per cent against tough competition. R. Dickinson. Ptr Ink 193:33, 36 O 25 '40
1939 exhibition of advertising photography; photographs for printed advertising. Ptg Art 68 no 3:77-94 [Ja] '40
Novel mailing pieces aid Simmons dealers Am Business 10:54 O '40
Other fellow's grass; it looks greener; maybe, because he cultivates it better. A. H. Little. Ptr Ink 190:97-8+ Mr 29 '40
Packaged themes; American Bemberg instruction bulletins for retail sales people and information on new products for dealers. A. H. Little. il Ptr Ink 189:17-20 D 1 '39
Reducing copy agony; practical directions for direct-mail selling material. F. Egner. Ptr Ink 190:23-4 Ja 12 '40
Salami copy for Mr Lapides. il Adv & Sell 33:22 N '40
Sales of Kansas salt grow as direct mail reaches 10,000 jobbers and dealers; Carey salt company. C. J. Swan. il Ptr Ink 189:17-20 N 24 '39
Some points on how best to use envelope enclosures as advertising aids; enclosures with bills, dividend checks, etc. Ptr Ink 191:95-7 Je 28 '40
Streamlined bazaar; Farmers public market, Los Angeles, almost doubles sales by mail campaign directed at present customers. il Ptr Ink Mo 41:18 S '40
320% increase; cost, $292.94; flies die because of this program, but sales jump; pyrethrum fly spray campaign. il Ptr Ink 190:19-22 Ja 26 '40
Tickets please! shape, colors, and copy of tickets adapted to advertising purposes. Inland Ptr 104:38 N '39
World's series letters; timely mailings from Snuggle products, inc. Ptr Ink 193:36 O 18 '40
Year's sales jump 34%; Northmont Hosiery mill used mails to emphasize national advertising. C. J. Swan. Ptr Ink 190:29, 32 Mr 1 '40

See also
Advertisements—Books and booklets
Calendars
Catalogs
Follow-up systems
House organs
Letterheads
Mail order business
Sales letters

ADVERTISING, Mail—*Continued*

Dealer identification

Who handles it? dealer identification in connection with mailings to booklet or sample inquirers. il Ptr Ink 191:19-22 Ap 5 '40

Folders

Die-cut key folder. il Inland Ptr 106:56 O '40
Three-in-one folder; letterhead, a return-order blank, and a mailing folder. Inland Ptr 106:58 O '40
Ticklish job of selling to industry; Cash company boosts sales of old valve through stress put on its more modern, more expensive competing line. il Ptr Ink Mo 40:46+ F '40
Two ideas combined; chart of felt samples shaped like a manila letter-file folder. il Inland Ptr 104:37 N '39

Postal cards

Novelty direct mail brings customers to dealers; Shell oil company. H. L. Curtis. il Ptr Ink 190:19-21 Ja 5 '40

Printing

Efficiency of advertising printing production; waste of paper and press capacity. L. R. Walter. Ptr Ink Mo 39:13, 31 D '39
Survey by Direct mail advertising association shows waste in commercial work. Inland Ptr 104:50 D '39

Returns

Letter to 500,000 farmers pulls 14.2%; mailing is preceded by 12 tests; Southern states iron roofing company. il Ptr Ink 192:17-20 Jl 5 '40

Statistics

Monthly direct-mail volume. Ptr Ink 190:48 Ja 26 '40 [cont monthly]

Testing

Industrial mailing series and a show me kit; American nickeloid co. il Ptr Ink Mo 41:52 N '40
Letter to 500,000 farmers pulls 14.2%; mailing is preceded by 12 tests; Southern states iron roofing company. il Ptr Ink 192:17-20 Jl 5 '40

ADVERTISING, National

Continuity in magazine advertising; a three-year study of the insertion policies of national advertisers. Ptr Ink Mo 41:20-1+ S '40
Eyeful for advertising critics who think consumers are being gypped; United Wallpaper campaign inspired company to build product to standard of excellence. A. J. Browning. il Sales Management 45:24-6 D 1 '39
How hidden product advertising can be made to produce consumer acceptance. Ptr Ink 192:49-50, 52-3 Ag 30 '40
Is the pot and pan parade a confession of weakness? L. Weinberg, jr. il Adv & Sell 33:33-4 Je '40
Merchandising advertising. P. N. Swaffield. Am Gas Assn Proc 1939:300-4
Nationally advertised brands, at cut prices, form bulk of this co-op's stock; Consumers mail order co-operative. S. Carter. il Ptr Ink 190:25-6+ Mr 22 '40
N.Y. grocers (again) tell brands they like to sell most, and least. il Sales Management 47:40, 44-5+ O 1 '40
1939 exhibition of advertising photography; photographs for national advertising. Ptg Art 68 no 3:45-68 [Ja] '40
Quick sales devices; current methods of getting immediate volume from national magazine and newspaper copy; trade-ins, free offers, one-cent sales, etc. Ptr Ink 192:30+ Ag 16 '40
Two years of preparation, and then new product quickly wins market; how General Mills experimented with KIX, a corn cereal. D. D. Davis. il Ptr Ink 190:11-13+ F 16 '40
Well, it's here! F.T.C. gets appropriation for national advertising inquiry. Ptr Ink 190: 113-14 Ja 26 '40
Why Nevins drug company quit ramming private brands down consumers' throats. il Sales Management 45:22-3+ D 1 '39

See also
Advertising appropriations
Advertising campaigns

Local tie-in

How Wrigley tailors its advertising to fit local markets. P. K. Wrigley. Ptr Ink 193:15-18 O 25 '40
Why Washington ties-in to national advertising. W. R. Squier. il Gas Age 86:51-4 O 10 '40

Statistics

See Advertising—Statistics

ADVERTISING, Outdoor

Burma Shave; roadside jingles help bring a shave cream yearly sales increases since their debut. il Adv & Sell 33:33 Ja '40
Cooperative advertising, why not? outdoor displays for bus companies. A. Hogg. il map Bus Transportation 19:68-9 F '40
100% poster audit; outdoor advertisers will now be able to get check on all 270,000 boards. Business Week p25-6 Mr 2 '40
What outdoor copy tests show. il Adv & Sell 33:28-9 O '40

See also
Electric signs
Posters

ADVERTISING, Point-of-sale

Advertising display tie-in ups sales; General Electric current magazine advertisement added to dealer counter display. H. F. Barnes. il Adv & Sell 33:27 Jl '40
Check list for promotional material; abstract. Management R 29:257-8 Jl '40
Co-operative store displays. il Ptr Ink Mo 40: 13-15 Je '40
Counter cards in the 5 and 10. A. L. Karp. il Ptr Ink Mo 39:9 D '39
Counter-top selling; ten types of open display fixtures used by manufacturers. Ptr Ink 192:19-22 Ag 9 '40
Double duty piece for Ruberoid; after selling the dealer, it helps to sell product to retail customer. il Inland Ptr 104:32 Ja '40
Flagging store and street traffic with a premium offer. F. H. Waggoner. il Sales Management 46:62-3 Ja 1 '40
Missionary jacks-of-all-jobs win point-of-sale push for Barbey's beer. Sales Management 47:18 O 20 '40
Mounting and finishing of cardboard advertising displays. T. C. Lind. il Ptg Art 68 no 4:H7-H8 '40
131 agencies report on displays. F. Kammann. Ptr Ink Mo 40:28 Mr '40
Pacific mills inaugurates informative Factag plan. Rayon 21:270-1 My '40
Point-of-purchase advertising as a major medium. L. L. Grisamore. il Ptg Art 68 no 4:H1-H4 '40
Point-of-sale display ideas. il Ptr Ink Mo 41:13 Jl '40
Point-of-sale displays through dealers' eyes; Printers' Ink Monthly special study. A. M. Howe. il Ptr Ink Mo 39:20-2+ D '39
Policies that put Kleen-Stik gummed tape in coast-to-coast markets in 5 years; pressure-sensitive adhesive with a thousand point-of-sale uses. G. J. Weigel. il Sales Management 47:20-2 Jl 1 '40
Portfolio of ideas on point-of-sale promotion. il Sales Management 47:35, 56-7 S 1 '40
Product a part of display. il Ptr Ink Mo 40:38 F '40
Tags answer consumers' cry for more information, please! Sales Management 46:60-2 My 1 '40
Why thousands of dealers tie up with Del Monte theme campaigns; California packing corp. retail promotion program. il Sales Management 47:40, 44 S 1 '40

See also
Labels
Show cards
Signs, Dealers'

ADVERTISING, Political. See Political advertising

ADVERTISING, Radio. See Radio advertising

ADVERTISING, Soliciting of

After hours; an advertising counselor. Ptr Ink 190:6 Ja 5 '40

Agencies owe it to themselves thoroughly to overhaul solicitation methods. Ptr Ink 193:59-60, 62-3 N 8 '40

Agency letters; technique of soliciting accounts by mail. Ptr Ink 192:51-2 Jl 19 '40

Agency presentations; screwball and studious. J. T. Huntington. Adv & Sell 32:33-4+ D '39

Agency solicitation methods as illustrated by nine letters to a prospect. Ptr Ink 192: 65+ Jl 26 '40

Agency solicitation methods as they are viewed by critical advertisers. Ptr Ink 191: 25-6, 30 Je 14 '40

Agency solicitation methods draw fire of many advertisers; P.I. survey among more than 300 organizations. Ptr Ink 191:11-13, 76-8 My 3 '40

Agent's idea on how to pick an agency—also, how not to. L. E. McGivena. Ptr Ink 192: 11-12+ S 6 '40; Reply. A. E. Marshall. 193:139-43 O 25 '40

Business-paper solicitations made easy by this agency media department. L. D. Farnath. Ptr Ink 191:21-3 Ap 12 '40

Eighty-nine pet peeves in solicitation methods of advertising agencies. Ptr Ink 191: 25-6, 30+ My 10 '40

How advertisers can help bring needed reforms to agency solicitation methods. Ptr Ink 193:21-4 N 1 '40

How agencies use letters and printed matter in going after new accounts; analysis of direct-mail pieces. Ptr Ink 192:49-53 Jl 5 '40

How Rumford picked an advertising agency. A. E. Marshall. Ptr Ink 191:11-13, 63, 66 Je 21 '40

Is advertising suffering from birth control? H. K. Dugdale. Adv & Sell 33:33 Jl '40

Small fry agent asks place in sun; unfair competition; suggested remedies. J. B. Fairbairn. Ptr Ink 192:11-13+ Ag 30 '40

Space buyers are human; why insist on feeding them facts and figures? R. Gates. Ptr Ink 191:21-3 Ap 26 '40

Strong elements in agency selling as told by advertisers. Ptr Ink 191:11-12, 70-1 My 17 '40

Training of media cubs; Newark News training course. J. K. Fenway. Adv & Sell 33: 42+, 46 My '40

Users of space give newspaper executives valuable pointers on how best to sell. Ptr Ink 193:144 O 25 '40

When 1,250 agencies compete for billings less than total volume of 20 leaders. Ptr Ink 192: 61, 64, 66-7+ Ag 16 '40

Why much criticism of agencies' selling methods is unfair. Ptr Ink 192:17-18, 58, 60-1 Ag 9 '40

See also

Audit bureau of circulations

ADVERTISING, State. See State advertising

ADVERTISING, Trade union

Unusual union advertisement; Building and construction trades council of Hudson county, N.J. Ptr Ink 189:64-5 N 24 '39

ADVERTISING affiliation

Affiliation officers. Ptr Ink 191:24 My 10 '40

ADVERTISING agencies

After hours; would avoid designation agency wherever possible. M. L. Clark. Ptr Ink 192: 6 Ag 16 '40

Agencies owe it to themselves thoroughly to overhaul solicitation methods. Ptr Ink 193: 59-60, 62-3 N 8 '40

Agency letters; technique of soliciting accounts by mail. Ptr Ink 192:51-2 Jl 19 '40

Agency presentations: screwball and studious J. T. Huntington. Adv & Sell 32:33-4+ D '39

Agency solicitation methods as they are viewed by critical advertisers. Ptr Ink 191: 25-6, 30 Je 14 '40

Agency solicitation methods draw fire of many advertisers; P.I. survey among more than 300 organizations. Ptr Ink 191:11-13, 76-8 My 3 '40

American advertising agencies; an inquiry into their origin, growth, functions and future. F. A. Burt. 282p bibliog(p272-80) $3 Harper '40

Bates starts new agency. Ptr Ink 193:20 N 15 '40

Durstine's case for the smaller agency. Sales Management 47:74 S 1 '40

Eighty-nine pet peeves in solicitation methods of advertising agencies. Ptr Ink 191: 25-6, 30+ My 10 '40

First advertising agency group. Sales Management 46:64 Mr 15 '40

Ford account shifts from N. W. Ayer & son to McCann-Erickson. Business Week p16 O 19 '40

How advertisers can help bring needed reforms to agency solicitation methods. Ptr Ink 193:21-4 N 1 '40

How the advertising agency serves the advertiser. C. C. Younggreen. Ptg Art 68 no 4: B1-B10 '40

Joe Copywriter wants his own shop. L. M. Cottin. Ptr Ink 190:6 F 16 '40

Small agency can grow, says this agent, but growth must be in big man fashion. H. T. Kay. Ptr Ink 192:17-18 S 13 '40

Small fry agent asks place in sun; unfair competition; suggested remedies. J. B. Fairbairn. Ptr Ink 192:11-13+ Ag 30 '40

Strong elements in agency selling as told by advertisers. Ptr Ink 191:11-12, 70-1 My 17 '40

Vest pocket agencies. W. Cline. Ptr Ink 192: 32 Ag 2 '40

War job for agencies. H. T. Kay. Ptr Ink 192:14 Jl 19 '40

Where do advertising agencies come from? R. S. Humphrey. Adv & Sell 33:40 Je '40

Why much criticism of agencies' selling methods is unfair. Ptr Ink 192:17-18, 58, 60-1 Ag 9 '40

See also

Advertising, Soliciting of

Advertising

Agency solicitation methods as illustrated by nine letters to a prospect. Ptr Ink 192: 65+ Jl 26 '40

Analysis of direct-mail used by 8 agencies in soliciting one account. Ptr Ink 192:23-4, 28, 32-3 Jl 12 '40

How agencies use letters and printed matter in going after new accounts; analysis of direct-mail pieces. Ptr Ink 192:49-53 Jl 5 '40

Shop talk. Sales Management 46:86 Je 15 '40

Commissions

That 15% agency commission; Cowan & Dengler revives compensation issue. Business Week p28-30 Ja 27 '40

Contracts

Agency-client contracts come in all sizes, shapes and ingredients. Ptr Ink 190:15-16, 56+ Ja 19 '40

See also

Radio advertising—Contracts

Employees

After hours; a woman in advertising. P. M. Lowe. Ptr Ink 192:6 Ag 23 '40

Changes in personnel. Published in monthly numbers of Advertising and selling

Gripes I've heard from agency workers. W. A. Lowen. Adv & Sell 33:35, 38+ Je '40

Memo to staff of a new advertising agency. D. Dunne. Ptr Ink Mo 41:19 O '40

Now, advertising employers' gripes. W. A. Lowen. Adv & Sell 33:31-2+ Jl '40

Personnel specialization, today's agency trend. E. A. Stuart. il Adv & Sell 33:22-4 Ja '40

Presentations for advertising jobs. il Adv & Sell 33:27, 40 O '40

She loves her job; agency secretary. Ptr Ink 189:13-14 D 8 '38

Fee system

Commission vs. fee system; Cowan & Dengler True fee system. J. F. Barnes. Adv & Sell 33:33-4+ F '40

ADVERTISING agencies—*Continued*

Fiction

15% murder case; review of What night will bring, by Hilea Bailey. P. H. Erbes, jr. Ptr Ink 190:21-2 Ja 12 '40

Finance

0.59% profits tighten agency budgets. W. A. Burke. Adv & Sell 32:49+ D '39

Location

Country cousins; Tuthill advertising agency moves to the country. L. W. C. Tuthill. il Sales Management 46:68-9 Je 1 '40

Management

It's billing—no matter how thin you slice it; alliance of small agencies. H. C. Sieck. Ptr Ink 189:21-2 D 22 '39

This advertiser is looking for an ad-factory, with an assembly line! Ptr Ink 191:63-5 Je 14 '40

Moving picture plays

Hollywood again; advertising agents presented via the living screen; Turnabout. Ptr Ink 192:34 Jl 5 '40

Selection

Agent's idea on how to pick an agency—also, how not to. L. E. McGivena. Ptr Ink 192: 11-12+ S 6 '40; Reply. A. E. Marshall. 193: 139-43 O 25 '40

Buying agency service is here likened to buying clothes or anything else. P. de Guzman. Ptr Ink 193:59-60, 63-4 O 18 '40

How Rumford picked an advertising agency. A. E. Marshall. Ptr Ink 191:11-13, 63, 66 Je 21 '40

How we made our first agency connection; statistics from 28 advertisers. Ptr Ink 191: 23-4 Je 7 '40

It was a tough task, but he at last picked an advertising agency. A. N. S. Strode-Jackson. Ptr Ink 189:11-13+ D 1 '39

Turnover in agency accounts could be cut by accurate yardstick analysis. A. L. Clark. Ptr Ink 190:65-6+ Mr 8 '40

Why 74 advertisers changed agencies; statistical report based on P.I. inquiry. Ptr Ink 191:21-3 My 24 '40

Service

Here is a cross-section of advertisers' views as to agency's basic role. P. H. Erbes, jr. Ptr Ink 190:36, 40+ Ja 26 '40

How advertisers evaluate agency aid in handling creative services. P. H. Erbes, jr. Ptr Ink 189:33+ N 24 '39

How size of the advertiser affects amount and kind of agency service. P. H. Erbes, jr. Ptr Ink 190:75-9 Ja 5 '40

Nine advertisers in ten seek some degree of marketing service from agency. P. H. Erbes, jr. Ptr Ink 189:23-4+ D 8 '39

Space buyers

Agency media director must be real business man these days, and here is why. N. H. Pumpian. Ptr Ink 190:19-21 Mr 29 '40

Business-paper solicitations made easy by this agency media department. L. D. Farnath. Ptr Ink 191:21-3 Ap 12 '40

Quantitative and qualitative analysis in relation to the space buyer. H. H. Kynett. Ptr Ink 191:17-20 Je 14 '40

Space buyers are human; why insist on feeding them facts and figures? R. Gates. Ptr Ink 191:21-3 Ap 26 '40

Statistics

When 1,250 agencies compete for billings less than total volume of 20 leaders. Ptr Ink 192:61, 64, 66-7+ Ag 16 '40

Taxation

Agency taxes; agency as personal service corporation. Ptr Ink 193:14 O 18 '40

ADVERTISING allowances

Are advertising allowances finally on the way out? J. F. Barnes. Adv & Sell 33:17-19 Mr '40

Dealer plan gets results; British Columbia electric railway company advertising allowance. Gas Age 85:72 My 9 '40

How to keep out of hot water on 50-50 advertising with dealers; splitting cost of consumer advertising with department stores. J. C. Cumming. Sales Management 46:52-4+ Ja 15 '40

Why advertising allowances should be avoided by most advertisers. Ptr Ink 192: 25-6, 30 Jl 19 '40

ADVERTISING and bankers

See also
Bank advertising

ADVERTISING and employees

Sells employees on advertising. Ptr Ink 192: 30+ Jl 26 '40

ADVERTISING and sales

N.I.A.A. holds advertising clinic on coordination with selling. Sales Management 47: 38 O 1 '40

Relationship between sales and advertising of department stores. G. H. Brown and F. A. Mancina. J Business 13:1-16 Ja '40; Correction. 13:205 Ap '40

Technical publicity association seminars show advertising can cut industrial sales cost. Sales Management 46:73 Je 1 '40

ADVERTISING and salesmen

A. M. Byers salesmen roll their own ads. Sales Management 47:30 O 10 '40

Ads in his war bag put more punch into salesman's work. il Sales Management 47: 16+ O 10 '40

After hours; copy writers should consider salesmen. R. S. Trowbridge. Ptr Ink 190:6 Mr 8 '40

Arrow men get results with dealer advertising plan. il Sales Management 47:28+ O 10 '40

18 things to tell salesman about his firm's advertising. Ptr Ink 190:9-10, 61-4, 66-8 Ja 5 '40

Johnnie advertising is pushed hard by Philip Morris men. Sales Management 47:20 O 10 '40

Knapp-Monarch men use ads long before they are printed. il Sales Management 47: 26-7 O 10 '40

Look homeward theme gives Certain-teed men ads they use. il Sales Management 47: 18+ O 10 '40

Low-pressure selling; advantages over high-pressure type in numerous instances. W. H. Conant. Barron's 20:9 Je 17 '40

Mr Adam Average; Hart Schaffner & Marx book, following up salesmen's calls, dramatizes national advertising. A. M. Howe. il Ptr Ink 192:15-17 Ag 30 '40

More power for the power salesman; continuous, planned, organized advertising campaigns of Pennsylvania utilities. H. S. Metcalfe. il Elec W 114:1000-1+ O 5 '40

Policy changes that put new life into a depression-shot business; M.J.B. co. P. H. Beuter. il Sales Management 47:56-8 S 15 '40

Putting the power in manpower; direct mail advertising to help salesman. G. A. Harper. East Underw 41:16 O 18 '40

Roman Cleanser proves it doesn't take a million to advertise; small space, continuity and consistency in advertising. il Sales Management 46:28, 30 F 1 '40

Use letters to plug the gap between your salesmen's calls; De Long hook & eye co. C. A. Emley. il Sales Management 47:56-7 N 15 '40

ADVERTISING and war

Ads mirror the war. Business Week p32 Je 29 '40

Advertising within a fortress. C. W. Stokes. il Adv & Sell 33:24, 36 Ag '40

As England fights, volume of British advertising moves up and down. D. W. Walton. Ptr Ink 189:15-16, 61-4 D 1 '39

Blitzkrieg on British advertising. Ptr Ink Mo 39:15 D '39

British advertising weathers the war. F. M. Cook. il Adv & Sell 33:33+ Ap '40

Canadian buying habits change because of war; thoughts for U.S. advertisers. M. Brown. il Ptr Ink 190:23-6, 30+ Ja 26 '40

ADVERTISING and war—*Continued*
Great Britain meets the emergency. Ptr Ink Mo 40:32 Ap '40
No Quislingism! advertisers carried on in England. Ptr Ink 192:21-2 Jl 5 '40
Preparing for peace in our time; Northern aluminium company. il Adv & Sell 33:20-1 Je '40
War and newspaper reading. Ptr Ink 192: 32 Jl 5 '40

ADVERTISING appropriations
Advertising and the new tax law; with tables showing amount of taxes for specified profit totals. J. K. Lasser. Adv & Sell 33:28, 52, 54, 56 N '40
Advertising budgets for 1940 aviation. A. R. Hager. il Adv & Sell 33:35-7+ My '40
Advertising budgets survey. Management R 29:22-3 Ja '40
Business looks good! cheerful picture in P.I. jury report. D. E. Robinson. Ptr Ink 192: 11-13, 58+ Jl 26 '40
CBS and NBC 1939 billings. Ptr Ink 190:32-3 Ja 19 '40
Flexibility is vital part of advertising policy in war time. Ptr Ink 192:13-16 S 6 '40
How far can you throw a dollar? G. Bijur. Adv & Sell 33:21 Ja '40
How industrial advertisers fix budgets; ratios for complete programs. Ptr Ink 189: 69-70+ D 22 '39
How Sunkist invests 5 cents a family in advertising. P. S. Armstrong. il Ptr Ink 189:17-20 D 22 '39
How to buy advertising at 50c on the dollar; investing part of excess profits tax in additional advertising. Ptr Ink 47:16 N 1 '40
Little men, big dollars. Ptr Ink Mo 40:30 Je '40
Looking at local advertising; what companies operating city and suburban services spend for advertising and sales promotion. il Bus Transportation 19:506-7 O '40
1939 advertisers; 342 each invest more than $100,000 in three media; 41 more than a million; five-year analysis of magazine, radio and farm paper advertising. Ptr Ink 190:49-111 Ja 26 '40
Railroads increase advertising. Ptr Ink 192: 71 Jl 12 '40
Relationship between sales and advertising of department stores. G. H. Brown and F. A. Mancina. J Business 13:1-16 Ja '40; Correction. 13:205 Ap '40
So they took the $1,000,000 and this is how they spent it! analysis of advertising expenditures of 38 bus companies. B. Welbourne. Bus Transportation 19:208-9 My '40
Sunkist extends its domestic advertising to offset lost foreign markets. R. Z. Eller. Ptr Ink 193:15-18 O 11 '40
$20,800,000 for advertising beer in 1939; $130,000,000 spent since prohibition. Ptr Ink 192:31-2 Jl 5 '40
War and war rumors not reducing volume of U.S. advertising. C. B. Larrabee. Ptr Ink 192:9-11 Jl 12 '40

ADVERTISING art
Advertising art 1940; Art directors club annual exhibition. il Adv & Sell 33:30-4 My '40
Art and photography. il Ptg Art 68 no 4:I 1-I 16 '40
Art directors awards. Ptr Ink 191:24 Ap 12 '40
Printing Art exhibition of advertising photography. il Ptg Art 68 no 3:29-98 [Ja] '40
Technique and practice of advertising art. R. P. Hymers and L. Sharpe. 314p $12 Pitman '40
Walter Frank Bomar; with specimens of his art. Inland Ptr 104:25-7 D '39

See also
Advertisements, Pictorial
Posters

Study and teaching
Student influence on advertising design. W. G. Smythe. il Ptg Art 68 no 3:99-106 [Ja] '40

ADVERTISING as a profession
Advertising as a career; a vocational guide for youth. M. O'Dea. 2d ed 128p bibliog(p57-9) pa 30c Mark O'Dea, 400 Madison av, New York '39
How can a young man break into advertising? some ideas based on experience. R. Dickinson. Ptr Ink 192:61-2, 64, 66-8 S 6 '40

See also
Advertising agencies
Advertising copy writers
Advertising ethics
Advertising managers

ADVERTISING associations
Conventions. Published in weekly numbers of Printers' ink
Meat makes its move. Ptr Ink 192:58+ S 13 '40

ADVERTISING awards
Annual advertising awards, 1939. il Adv & Sell 33:34-84+ F 15 '40
Annual advertising awards, 1940; forty-five will be presented. M. O'Dea. il Adv & Sell 33:33-4, 50 O '40
Art directors awards. Ptr Ink 191:24 Ap 12 '40
Canadian advertisers offer medals. Ptr Ink 193:22 N 8 '40
Chicago advertising awards. Ptr Ink 190:32 Mr 29 '40
Gold medal for Benson; 4-A president, Butler and Britton among those honored at annual Advertising and Selling dinner. Ptr Ink 190: 72, 74 F 16 '40
Outdoor winners. il Ptr Ink 193:62-3 N 15 '40
Printing Art exhibition of advertising photography. il Ptg Art 68 no 3:29-98 [Ja] '40
Public utilities awards. Ptr Ink 192:12 Jl 5 '40
Roll of honor; annual advertising awards to individuals and agencies. il Business Week p34-6 F 17 '40

See also
Radio advertising—Awards

ADVERTISING booklets. See Advertisements—Books and booklets

ADVERTISING campaigns
Advertising campaigns. Published in semi-monthly numbers of Sales management
Advertising plan can lick an industry's sales problem; Spring-air company R. K. Mason. Ptr Ink Mo 41:13 Ag '40
Bulova spends $2,000,000 in 1940 to build customers for dealers. il Sales Management 46: 24-6 F 15 '40
FHA helps building industry in planning big August advertising drive. il Ptr Ink 192:21-2 Jl 12 '40
Formfit lifts product above price dog-fight: sales jump 50%; new product, a new price policy, and some smart advertising. W. H. Lowy. il Sales Management 46:25-6 Je 1 '40
Look homeward theme gives Certain-teed men ads they use. il Sales Management 47:18+ O 10 '40
Why Mrs America is growing more and more spice-conscious; American spice trade and Durkee advertising. il Sales Management 45:46, 48, 51 D 1 '39

See also
Advertising, Association

Special weeks
Fast work on a week; national potato week. il Ptr Ink Mo 40:22 My '40
Hardware's open house. il Ptr Ink Mo 40: 14-15 Ap '40
Ohio votes for plumbing & heating weeks. Dom Eng 155:43-4+ Mr '40
Yes, 1940 will have special days, weeks; with list. Ptr Ink 190:30+ Ja 12 '40; Excerpt. Bankers M 140:274-5 Mr '40

Summer campaigns
Checklist for summer advertising. G. Bijur. Adv & Sell 33:38-9 My '40

ADVERTISING campaigns—*Continued*

Testing

Advertising agency executives pick best test markets of the country in 3 population groups; test cities and best media for a hypothetical 25-cent mass item to be distributed through drug, variety, and department stores. Sales Management 47:29+ Ag 1 '40

Copy pre-testing; analysis of four most-used methods. H. Schwerin. Ptr Ink 193:67-8, 70-2 N 1 '40

Strathmore finds six practical advantages in a test territory; trying out new products, new advertising, new sales policies and tools. J. D. Zink. Sales Management 47:48, 50-1 Ag 1 '40

ADVERTISING cards

New subway advertising setup. Ptr Ink 193: 18 O 25 '40

Teacher of lettering, show cards, sign painting. D. M. Campana. 134p $1; pa 65c D. M. Campana, Chicago '40

Tear-off cards; new feature introduced in car advertising. Mass Transportation 35: 367 D '39

Transitads' agency policy. Ptr Ink 192:14 Ag 30 '40

See also
Show cards

ADVERTISING characters

Activated Al; does great work for aluminum. R. T. Griebling. il Ptr Ink 191:17-19 My 10 '40

Bearcat takes a wife; Powerine company announces addition of ethyl fluid. il Nat Pet N 32:28 F 21 '40

Billy and Ruth; co-operative merchandising; Supplee-Biddle and other wholesalers to help independent dealers re-sell toys. E. Peterson. il Ptr Ink 189:21-4 D 1 '39

Old Rocky speaks up; Great northern railway's Rocky Mountain goat. il Ptr Ink 191: 19-20 Ap 26 '40

Smiling animated character is super salesman; Frugal Flame; Texas public service company of Austin. M. Rasor. il Am Gas J 152:19-20 Ja '40

ADVERTISING contests. See Advertising—Prize contests

ADVERTISING contracts

Is hand-to-mouth advertising here to stay? L. Jonson. Adv & Sell 33:17-18, 44 Ap '40

See also
Advertising agencies —Contracts

ADVERTISING copy

After hours. T. F. MacManus. Ptr Ink 192:6 Jl 12 '40

After hours; contests and premiums. C. G. Gaubert. Ptr Ink 192:6 Ag 30 '40

After hours; hastily written copy and the consumer movement. Ptr Ink 190:6 Ja 19 '40

After hours; mere lubricity of speech no longer oils the cash register. T. H. Thompson. Ptr Ink 190:6 Mr 15 '40

All is Confucius; testimonial copy assumes a new twist. P. H. Erbes, jr. il Ptr Ink 190:15-17, 92-3 Mr 22 '40

Awards for a series of advertisements most distinguished by excellence of copy. il Adv & Sell 33:64-7 F 15 '40

Back to kindergarten. V. O. Schwab. Adv & Sell 33:27 S '40

But how does formula copy rate? a reply based on readership data. M. Wiseman. il Adv & Sell 33:24-6+ F '40

Can formula copy still have variety? C. G. Gaubert. il Adv & Sell 33:46+ Mr '40

Care and feeding of copy; popularity review of themes and appeals over past three years. J. Thompson. Adv & Sell 33:25-7 Mr '40

Consumer advertising must be factual, yes; but it needs drama and interest, too. R. Rubicam. Ptr Ink 191:13-15+ My 24 '40

Copy clinic. E. B. Smith. il Published in monthly numbers of Advertising and selling

Copy idea from Euclid; Bloomingdale executive says new telegraphic advertising style gets results. I. A. Hirschmann. il Ptr Ink 191:14-15 Ap 12 '40

Copy testing; a study prepared by the Advertising research foundation. 131p $3 Ronald press '39

Hooks in name only; study in inquiry-getting as suggested by Associated business papers Tell-all campaign. L. S. White. il Ptr Ink 191:15-18 My 31 '40

How to write advertising that sells. C. Bedell. 524p $4 McGraw-Hill '40

Ideas are weapons; copy writing as successfully used by famous advertisers. R. Tinsman. Ptr Ink 193:13-14 O 11 '40

Industrial copy ties into defense. il Adv & Sell 33:28-9 S '40

Lawyer lingo in copy; legalistic censorship weakens selling force of advertising. B. Williams. Ptr Ink 190:17-18 Mr 29 '40

Melons and rhetoric. C. Bedell. Ptr Ink 192: 65-6 Jl 19 '40

Messrs Seagrove and Morehouse blue-pencil Mr Longfellow. Adv & Sell 33:32-3 N '40

Names, sex, and sentiment; what the show business can teach advertisers. B. Rose. il Adv & Sell 33:31+ Ag '40

New responsibilities come to copy writer because of consumer movement. H. W. Dickinson. Ptr Ink 190:25-6, 30+ F 23 '40

Policies of 100 corporations in considering ideas from outsiders. Sales Management 46: 18-20+ Ja 15 '40

Quick sales devices; current methods of getting immediate volume from national magazine and newspaper copy; trade-ins, free offers, one-cent sales, etc. Ptr Ink 192:30+ Ag 16 '40

"Sell" in celebration advertising; special event copy may tell manufacturer's own sales story after tie-in has been made. E. S. Green. il Ptr Ink Mo 39:12 D '39

Still looking for a slide rule? O. B. Winters. Adv & Sell 33:25+ Je '40

Telegraphic copy; Bloomingdale's new advertising could be strengthened by better layouts. G. I. Bushfield. il Ptr Ink 190:15-16 Mr 15 '40

These copy ideas can draw travel dollars; successful appeals used by states, provinces and communities. C. B. Larrabee and J. Lewis. il Ptr Ink 189:11-14+ D 15; 23-6+ D 22 '39

Twin arts; talking and writing can work together. Aesop Glim, pseud. Ptr Ink 191: 19-21 Ap 19 '40

Wantage, the oomph factor in advertising appeals. B. Brooker. il Ptr Ink Mo 41:14-15+ Ag '40

What are Ovingtons? copy that sells products and also sells their sources. A. H. Little. Ptr Ink 190:85-6+ Mr 22 '40

What's happening to advertising copy? writing by formula. G. L. Sumner. Adv & Sell 33:17-18 Ja '40

Why inquiry tests can predict vital sales factor in advertising copy. F. S. Newbery, jr. Ptr Ink 193:23-4, 28-9 O 4 '40

Why simple copy sells. E. Wolff. Ptr Ink Mo 40:40 Je '40

See also

Advertisements—Testing	Advertising ethics
	Sales letters

Check lists

Check-list technique; valuable advertising device. Ptr Ink 192:19-21 S 6 '40

Demonstrations and tests

How laboratory tests spark copy ideas. J. Thompson. il Adv & Sell 33:19-21+ Ap '40

Trial by jury; Ford dealer service managers endorse triple action piston rings. Ptr Ink 191:25-6 Ap 26 '40

Health appeal

Vitamins invade the butcher shop; hunt for sales-giving health tips continues, financed by farmers and packers. Business Week p27-8 Mr 16 '40

ADVERTISING copy—*Continued*

Human interest appeal

How to be human in industrial advertising; Le Blond machine tool co. K. B. White. il Ptr Ink 192:15-17+ S 20 '40

Language, style, etc.

Reckless copy writing; an argument for simplicity, a more sensible tempo, less abuse of English. H. H. Stalker. Ptr Ink 190:85-7 Mr 15 '40

Your high-brow copy vocabulary. S. E. Gill. il Adv & Sell 33:25-6 Jl '40

See also

Advertising copy writers

Length

Glance and run union seeks recognition by advertisers. B. E. Tacks. Sales Management 46:68 Ja 1 '40

More you tell, the more you sell; industrial-advertising trend that consumer advertisers could follow. A. H. Little. Ptr Ink 190:69-70, 72-3 F 2 '40

Tell all indeed, but, let's be sure that we don't drown ourselves and our readers in a tide of words. A. H. Little. Ptr Ink 191: 13-15 My 17 '40

Moving picture tie-in

Cashing in on Gone with the wind; manufacturers and merchants hitch their products and advertising to movie. il Business Week p14+ D 30 '39

Gas, oil and Hollywood. Ptr Ink 189:16 N 24 '39

Ideal team; the latest movies and modern gas appliances. J. L. Johnson. il Am Gas Assn Mo 22:60-1 F '40

National defense theme

Advertising tunes up for defense. il Ptr Ink Mo 41:10-11 N '40

Copy on defense theme should not neglect reasons why. il Ptr Ink 193:23-6+ O 25 '40

News interest

Advertising scoop; Cunard liner, Queen Elizabeth and Socony-Vacuum. Ptr Ink 190:22 Mr 15 '40

Patriotic appeal

Mental 5th column in upper brackets irks Main street. H. Clark. Ptr Ink 192:11-12 Ag 2 '40

Star spangled selling. P. H. Erbes, jr. Ptr Ink 192:15-17+ Ag 16 '40; Excerpts. Management R 29:408-9 N '40

Premium offers

Car demonstrations spurred by premium offer; Willys-Overland motors. il Ptr Ink Mo 41:40 S '40

Guest towels and dog food. il Ptr Ink 192:60 S 6 '40

Price appeal

Mr Lapides' gross; a few dollars in direct mail, and delicatessen sales jumped 150 per cent against tough competition. R. Dickinson. Ptr Ink 193:33, 36 O 25 '40

Quality appeal

Handicraft's anomaly; McCrossen hand-woven textiles. G. McCrossen. il Ptr Ink Mo 39:48 D '39

Willys doubles sales volume by dramatizing dependability. il Sales Management 46:22-4 Je 1 '40

Reason appeal

Copy on defense theme should not neglect reasons why. il Ptr Ink 193:23-6+ O 25 '40

Rimes

Trend to verse in copy. J. Thompson. il Adv & Sell 33:36, 38+ N '40

Science appeal

How laboratory tests spark copy ideas. J. Thompson. il Adv & Sell 33:19-21+ Ap '40

Tax appeal

Tax appeal; advertising messages based wholly or partially on matters of taxation. P. H. Erbes, jr. Ptr Ink 193:33, 36+ O 11 '40

Testimonials

Diamond stars, paste testimonials. Ptr Ink Mo 40:28 Je '40

I saw your picture in the paper; Twin City rapid transit company's testimonial advertising campaign. il Transit J 84:264-5 Ag '40

Testing

See Advertisements—Testing; Advertising campaigns—Testing

Tests

See Advertising copy—Demonstrations and tests

Themes

Care and feeding of copy; popularity review of themes and appeals over past three years. J. Thompson. Adv & Sell 33:25-7 Mr '40

ADVERTISING copy writers

Copy's giants; MacManus, Pelletier, Buck. L. R. Alwood. Ptr Ink 193:19-21 N 8 '40

Gripes I've heard from agency workers. W. A. Lowen. Adv & Sell 33:35, 38+ Je '40

Presentations for advertising jobs. il Adv & Sell 33:27, 40 O '40

Reducing copy agony; practical directions for direct-mail selling material. F. Egner. Ptr Ink 190:23-4 Ja 12 '40

Revolt of the copywriters. W. J. Weir. Adv & Sell 33:29 My '40

Ten commandments of copy writing. G. L. Sumner. Adv & Sell 33:27 N '40

Twin arts; talking and writing can work together. Aesop Glim, pseud. Ptr Ink 191: 19-21 Ap 19 '40

Where good agency copy men come from and how they grow with opportunity. R. Tinsman. il Ptr Ink 190:11-14 Ja 19 '40

ADVERTISING departments

Yes, sales promotion and advertising divisions can operate peacefully. Ptr Ink 190: 149-52 Ja 26 '40

See also

Advertising managers

ADVERTISING displays

Bell-ringer displays of 1940 in drug, food and hardware stores; inventory study of 1,250 windows in 11 large cities. Sales Management 47:18-20, 80-2 S 1 '40

Clever use of dog appeal gets Sergeant's into many windows. il Sales Management 47:53 S 1 '40

Fight ex post facto tax; occupancy tax ordinance, city of New York. Ptr Ink 193: 36 O 4 '40

Mounting and finishing of cardboard advertising displays. T. C. Lind. il Ptg Art 68 no 4:H7-H8 '40

131 agencies report on displays. F. Kammann. Ptr Ink Mo 40:28 Mr '40

Reliable rules for winning display space in fashion outlets; American lady corset co. il Sales Management 47:49-50 S 1 '40

Slush molding. E. S. Horsman. il Mod Plastics 17:35 D '39

Statuettes tell an all year story; Sheaffer pen co. il Mod Packaging 14:82+ S '40

ADVERTISING ethics

Advertising has failed; abstract. C. E. Warne. Sales Management 46:53 Je 1 '40

Check list of FTC taboos; quotations from stipulations and cease and desist orders, under product headings. Adv & Sell 33:31-2, 56, 60 Mr; 48, 50+ Ap '40

Code of business practice for stoker industry. Sheet Metal Worker 31:62 S '40

Cry babies! upholding proposed F.T.C. inquiry, accuses advertising men. J. P. McGranery. Ptr Ink 191:15-17 Ap 19 '40

FTC blue pencil; before and after; collection of copy claims and advertisements published before and after signing of FTC stipulations. il Adv & Sell 33:25-7 Ja '40

ADVERTISING ethics—*Continued*
Filmdom's boomerang. Ptr Ink 193:87-8 O 18 '40; Discussion (Offensive movie advertising). A. Michel. 193:63 N 8 '40
Fortune survey; honesty in advertising; which industries most honest, which least? Fortune 21:102 Mr '40
Heavy artillery; Good Housekeeping introduces expert witnesses. R. W. Lawrence, jr. Ptr Ink 191:67, 70-1 Ap 19 '40
If your executives personally like your advertising, watch out! all ideas, programs and plans, including media, methods and copy, should be tested by facts. D. D. Davis. Ptr Ink 189:21-4 N 24 '39
Merchant looks at advertising. R. A. Roos. Ptr Ink 190:33+ F 23 '40; Discussion. A. Kleinwald. 191:33+ Ap 5 '40
172 advertisers give 8 main reasons for consumer movement; misleading advertising copy; social discontent, educational influences. D. E. Robinson. Ptr Ink 191:11-13, 70+ Je 14 '40
Small fry agent asks place in sun; unfair competition; suggested remedies. J. B. Fairbairn. Ptr Ink 192:11-13+ Ag 30 '40
They'll have the law on us. N. Krichbaum. il Adv & Sell 33:102+ F 15 '40
Truth in advertising. C. C. Younggreen. Ptg Art 68 no 4:B10 '40

See also
Advertising—Laws and regulations

ADVERTISING federation of America
Annual convention, Chicago. Ptr Ink 192:23-4, 26-7 Jl 5 '40; Comm & Fin Chr 151:46 Jl 6 '40

ADVERTISING literature
Display your products, and why not? cement samples and advertising material for schools and colleges. E. Zetterberg. Concrete (mill sec) 48:205 Jl '40

See also
Advertisements—Books and booklets

Bibliography
Booklets, catalogs, bulletins; 475 items covering equipment and supplies used by power engineers. Power 83:837-8, 840-3, 846-8 Mid-D '39
Business tips; literature of interest to executives. Published in monthly numbers of American business
Free for the asking. Published in monthly numbers of Textile world
Industrial literature. Published in semi-monthly numbers of Industrial and engineering chemistry news edition
Manufacturers' latest publications. Published in monthly numbers of Chemical & metallurgical engineering
Manufacturers' literature. Published in monthly numbers of Metals and alloys

ADVERTISING literature, Shipment of
Canada's customs regulations on printed advertising matter. N. Sharkey. Ptr Ink 193: 84-5 O 4 '40
Shipment of samples and advertising matter abroad; revising supplement to Trade promotion series no. 72 (1932 edition). R. P. Wakefield. 100p pa 10c U.S. Bur. of foreign and domestic commerce '40
Two money-saving ideas for the mailing department; Servel, inc. I. A. Herrmann. il Am Business 10:26-7 Ja '40

ADVERTISING managers
Advertising manager pinch hits as sales manager 5 weeks, and learns many things. J. Ungar. Ptr Ink 192:29+ S 13 '40
After hours; how agency should handle new advertising managers. Ptr Ink 190:6 Mr 22 '40
No arguments; to avoid derailment and breakdown, an advertising budget presentation demands forethought; industrial advertising manager uses phonographic presentation. A. H. Little. Ptr Ink 191:62, 64+ Ap 5 '40
Typical advertising manager; abstract. S. R. Bernstein. Management R 29:332 S '40

ADVERTISING mediums
Advertising agency executives pick best test markets of the country in 3 population groups; test cities and best media for a hypothetical 25-cent mass item to be distributed through drug, variety, and department stores. Sales Management 47:29+ Ag 1 '40
Advertising stages a comeback; national advertising media, 1939. Business Week p38-40 Ja 20 '40
Expenditure patterns in three media groups; pictograph. Sales Management 47:45 N 15 '40
Four-page fold-out. Ptr Ink 190:14 F 16 '40
Looking at local advertising; media used by companies operating city and suburban services. Bus Transportation 19:507 O '40
Media. Published in semi-monthly numbers of Sales management
Quantitative and qualitative analysis in relation to the space buyer. H. H. Kynett. Ptr Ink 191:17-20 Je 14 '40

See also
Advertising—Rates
Advertising, Soliciting of
Audit bureau of circulations
Moving pictures in advertising
Radio advertising
Show windows
Slide films
Television advertising

Envelopes
Envelope tactics; study of 206 mailings received by consumer. P. H. Erbes, jr. il Ptr Ink 192:17-20 Jl 19 '40

Farm papers
Century on the Prairie. Sales Management 47: 66 O 1 '40
Farm paper motor advertising; first six months of 1940. Ptr Ink 192:18 Ag 16 '40
Farm publications; advertising linage for January. Ptr Ink 190:73-4 Ja 19 '40 [cont monthly]
Farm publications; commercial advertising linage; five semi-annual totals. Ptr Ink 192:107-8 Ag 2 '40
1939 advertisers; 342 each invest more than $100,000 in three media; 41 more than a million; five-year analysis of magazine, radio and farm paper advertising. Ptr Ink 190:49-111 Ja 26 '40
Not for city slickers; *The Farmer*, St Paul. il Sales Management 47:50 Jl 1 '40

Freight cars
Stenciled advertising on freight equipment; Atchison, Topeka & Santa Fe. il Ry Mech Eng 114:363-4 S '40

Irregular mediums
ANA opposes special edition and irregular advertising. Sales Management 46:56-7 Je 1 '40

Motor trucks
Attractive trucks build business; George E. Drake baking company, Pittsburgh. il diags Food Ind 11:682-3 D '39
Good on all counts, these food delivery trucks; C. D. Kenny co. wholesale grocery. il Food Ind 12:70-1 Je '40
Panorama-painted trucks increase food sales; Stokely brothers & co., Indianapolis. il Food Ind 12:70-1 Ap '40
Salesmen's cars and delivery trucks dressed up to increase sales; C. D. Kenny co., Baltimore. il Food Ind 12:60-1 S '40
Truck bodies dressed up to aid food sales; spaghetti, dairy, mayonnaise and dog food industries. il Food Ind 12:68-9 Jl '40

See also
Exhibits, Traveling

Newspapers
Advertiser who wants a free miracle with every insertion. B. E. Tacks. Sales Management 47:72+ S 1 '40
ANA opposes special edition and irregular advertising. Sales Management 46:56-7 Je 1 '40
As compact as a fried egg, but the advertisers snub it. B. E. Tacks. Sales Management 47:52 O 20 '40

ADVERTISING mediums—Newspapers—*Cont.*
Can we justify the advertiser's grudge against Saturday editions. B. E. Tacks. Sales Management 45:60+ D 1 '39
Check list for planning newspaper color advertising. Ptr Ink Mo 41:69-70 N '40
Circulation lingo that distorts values in an advertising medium; city zone and trading area. B. E. Tacks. Sales Management 46:28 F 15 '40
Civic-minded Omaha World-herald. Sales Management 47:90 N 15 '40
Country comeback. Sales Management 47:64 O 20 '40
Early days of media problems. R. Webster. Adv & Sell 33:104+ F 15 '40
Elsie's Moos-paper club; is it mailed fist in velvet glove or service to media? Borden asks newspapers cooperation and checks them on performance. il Sales Management 46:25+ Mr 15 '40
Figure-using journal; Providence Journal's statistical department. Sales Management 47:68-9 S 15 '40
The funnies? everybody reads 'em and not just to the children; a survey for Sales management in ten cities. il Sales Management 46:28, 30+ Mr 1 '40
Glance and run union seeks recognition by advertisers. B. E. Tacks. Sales Management 46:68 Ja 1 '40
How news print consumption hooks up with advertising; P.I. index comparison. L. D. H. Weld. Ptr Ink 191:17-20 My 24 '40
How to solve media problems in testing advertisements addressed to women. C. H. Pinkham. Ptr Ink 193:19-22 O 11 '40
Lesson two in the Gracie Allen technique of space buying. B. E. Tacks. Sales Management 47:42 N 1 '40
Medal award to the Advertising research foundation for the Continuing study of newspaper reading. il Adv & Sell 33:71 F 15 '40
Monthly index of newspaper advertising. Ptr Ink 190:72 Ja 19 '40 [cont monthly]
Newspaper advertising. F. Dickinson and others. il Ptg Art 68 no 4:C1-C18 '40
Newspaper advertising, linage, 1936-1939. Survey of Cur Business 1940 Sup p26 [supplemented in monthly numbers]
Newspaper advertising volume as influenced by sales of department stores. L. D. H. Weld. Ptr Ink 192:19-22 Jl 26 '40
Newspaper-agency program; Inland daily press association. Ptr Ink 190:20 Mr 1 '40
Newspaper as an advertising medium. 170p bibliog(p161-3) 75c Bur. of advertising, Am. newspaper publishers assn, 370 Lexington av, New York '40
Newspaper color. Ptr Ink 193:64 O 4 '40
1939 exhibition of advertising photography; photographs for newspaper advertising. Ptg Art 68 no 3:69-76 [Ja] '40
Please don't write Mr Tacks any more fan letters, see what happens? evening newspapers as mediums. B. E. Tacks. Sales Management 47:62+ Ag 1 '40
Policy changes that put new life into a depression-shot business; M.J.B. co. P. H. Beuter. il Sales Management 47:56-8 S 15 '40
Re-sell newspaper to the small retailer, advertising agent advises A.N.P.A. W. Reydel. Ptr Ink 191:15-16 Ap 26 '40
"Sell" in celebration advertising; special event copy may tell manufacturer's own sales story after tie-in has been made. E. S. Green. il Ptr Ink Mo 39:12 D '39
25 years of newspaper history; pictograph. Sales Management 47:50 N 15 '40
Users of space give newspaper executives valuable pointers on how best to sell. Ptr Ink 193:144 O 25 '40
Weekly paper scents perfume publicity. Inland Ptr 105:28 Ap '40
Women read service copy more eagerly than hot war news. C. B. Larrabee. il Ptr Ink 192:13-15, 100-2 Ag 2 '40

See also
Advertising—Rates
Audit bureau of circulations

Periodicals
Advertising stages a comeback; national advertising media, 1939. Business Week p38-40 Ja 20 '40
Continuity in magazine advertising; a three-year study of the insertion policies of national advertisers. Ptr Ink Mo 41:20-1+ S '40
High cost of lagniappe. Ptr Ink Mo 40:36+ My '40
January magazine advertising, 1938-1940. Ptr Ink 190:92, 94, 96 Ja 12 '40 [cont monthly]
Magazine advertising. W. B. Carr. il Ptg Art 68 no 4:D1-D8 '40
Magazine advertising cost and linage, 1936-1939. Survey of Cur Business 1940 Sup p25 [supplemented in monthly numbers]
Magazine advertising; five semi-annual totals. Ptr Ink 192:103-6 Ag 2 '40
Magazine indexes; monthly indexes for general monthly, weekly, and women's service magazines. Ptr Ink 191:44 Ap 26 '40 [cont monthly]
Magazine marketing service. Ptr Ink 191:14 Ap 5 '40
Medal award for a research project used in the promotion of a publication which has contributed to the knowledge and advancement of advertising, to the McCall corporation for a Qualitative study of magazines. il Adv & Sell 33:74 F 15 '40
Monthly index of magazine advertising; graph. Ptr Ink 190:70 Ja 12 '40 [cont monthly]
New P.I. magazine indexes show advertising volume of three major groups; general monthlies, weeklies, and women's service group. L. D. H. Weld. Ptr Ink 191:21-4 My 10 '40
1939 advertisers; 342 each invest more than $100,000 in three media; 41 more than a million; five-year analysis of magazine, radio and farm paper advertising. Ptr Ink 190:49-111 Ja 26 '40
Relative standing of leading magazines, 1939; pictograph. Sales Management 46:27 Ap 10 '40
Weekly magazine market; tables reprinted from Report no. 4 of Life's continuing study of magazine audiences. il Sales Management 47:18a-18t O 20 '40

Service
High cost of lagniappe. Ptr Ink Mo 40:36+ My '40

Trade journals
ABP urges advertisers to put power into business paper copy. Sales Management 46: 85 F 15 '40
Business-paper solicitations made easy by this agency media department. L. D. Farnath. Ptr Ink 191:21-3 Ap 12 '40
Hooks in name only; study in inquiry-getting as suggested by Associated business papers Tell-all campaign. L. S. White. il Ptr Ink 191:15-18 My 31 '40
How business papers are used and misused in advertising lines of products. D. Gridley. Ptr Ink 192:25-6, 30 Ag 23 '40
How to win dealers to influence sales. G. Bijur. il Adv & Sell 33:22-3, 38+ Ag '40
Making merchandising publications part of the sales plan; Printers' Ink Monthly special study. il Ptr Ink Mo 41:19-22, 45+ N '40
Rate and circulation study of 384 class, trade and technical publications. Ptr Ink 191:98 My 31 '40
Space buyers are human; why insist on feeding them facts and figures? R. Gates. Ptr Ink 191:21-3 Ap 26 '40
Tell all; a practical guide to successful business paper advertising. 54p Associated business papers, 369 Lexington av, New York

See also
Advertising—Industries. Appeal to

Women's magazines
Copy clinic. E. B. Smith. il Adv & Sell 33:56, 58+ Je '40
Smart young Mlle. Sales Management 47:50 Jl 15 '40

ADVERTISING men

See also
Advertising agencies — Advertising managers
Advertising copy writers

ADVERTISING novelties

Advertising specialties foster good will. M. G. Hermetet. il Bankers Mo 57:218-21 Ap '40

Experiences with advertising specialties; Printers' Ink Monthly special study. il Ptr Ink Mo 41:17-20+ Ag '40

Japan's new fad: stampu. W. West. Barron's 20:8 O 7 '40

Sand in your shoes; Orange state oil company distributes bags of Florida sand as souvenirs. il Ptr Ink Mo 40:13 Mr '40

Specialty distribution technique; Tydol Flying A stamps. il Ptr Ink Mo 41:26 O '40

Surprise package; Ladies' home journal Christmas piece. il Inland Ptr 104:34 F '40

Toy models of machines sell next generation of buyers. il Sales Management 47:28+ N 1 '40

ADVERTISING policies

Flexibility is vital part of advertising policy in war time. Ptr Ink 192:13-16 S 6 '40

How Wrigley tailors its advertising to fit local markets. P. K. Wrigley. Ptr Ink 193:15-18 O 25 '40

If your executives personally like your advertising, watch out! all ideas, programs and plans, including media, methods and copy, should be tested by facts. D. D. Davis. Ptr Ink 189:21-4 N 24 '39

Learning as it grows, Universal Camera builds volume by good advertising. F. G. Klock. Ptr Ink 193:17-20 N 1 '40

Policy changes that put new life into a depression-shot business; M.J.B. co. P. H. Beuter. il Sales Management 47:56-8 S 15 '40

Public relations in advertising. H. K. Boice. Am Pet Inst Proc 20(1):91-6 '39

Screwy sales figures that make screwy advertising schedules. B. E. Tacks. Sales Management 47:68 Ag 15 '40

Two years of preparation, and then new product quickly wins market; how General Mills experimented with KIX, a corn cereal. D. D. Davis. il Ptr Ink 190:11-13+ F 16 '40

Westinghouse merchandises its advertising. P. W. Endriss. Ptr Ink Mo 40:32 Je '40

See also
Advertisements—Repetition — Advertising—Market selection
Advertising—Continuity — Advertising appropriations
Advertising mediums

ADVERTISING portfolios

Color and youth in ad books help Munsingwear men sell. il Sales Management 47:24 O 10 '40

ADVERTISING research

American housewives report likes and dislikes about food advertising. il Sales Management 46:18-20+ Ap 1 '40

Attention value of color in advertising; rate of pull shown in percentages. E. T. Gundlach. Ptr Ink 191:59-62 My 17 '40

Behind readership surveys may be more than is seen on gleaming surface. D. A. Laird. Ptr Ink 192:19-21 S 20 '40

But how does formula copy rate? a reply based on readership data. M. Wiseman. il Adv & Sell 33:24-6+ F '40

Can formula copy still have variety? C. G. Gaubert. il Adv & Sell 33:46+ Mr '40

Consumer booklets; a Printers' Ink Monthly special study of 101 advertisers' booklets. il Ptr Ink Mo 40:19-22+ Ap '40

Consumer contests; Printers' Ink Monthly special study. A. M. Howe. il Ptr Ink Mo 41: 17-20, 50, 52-3+ Jl '40

Crystal gazing in readership surveys; seriocomic study of a development in survey technique. Ptr Ink 192:64, 66-9 S 13 '40

Eye-tracings of the Scanacord over advertising; mechanical recording of actual eye movements. il Adv & Sell 33:20-3 Mr '40

The funnies? everybody reads 'em and not just to the children; a survey for Sales management in ten cities. il Sales Management 46:28, 30+ Mr 1 '40

Getchell's Dr Dichter. Sales Management 46: 42 Ap 1 '40

Radio's system of checking buying habits may suggest idea to other media. C. E. Hooper. Ptr Ink 190:11-14+ Mr 22 '40

Use research intelligently. F. H. Ward. Ptr Ink 191:6 My 3 '40

Weekly magazine market; tables reprinted from Report no. 4 of Life's continuing study of magazine audiences. il Sales Management 47:18a-18t O 20 '40

What are readers' picture preferences? J. M. Willem. il Adv & Sell 33:17-19+ My '40

See also
Advertisements—Position
Market research

ADVERTISING specialties. See Advertising novelties

ADVISORY council on scientific research and technical development. See Great Britain—Advisory council on scientific research and technical development

ADVOCACY. See Argumentation

AERATION

Effect of aeration on fermentations; acetic acid bacteria and yeasts. K. R. Butlin and W. H. D. Wince. Chem & Ind 59:41-2 Ja 20 '40; Discussion. 59:96 F 10 '40

AERIAL bombs. See Bombs, Aerial

AERIAL mapping. See Mapping, Aerial

AERIAL photography. See Photography, Aerial

AERIAL ropeways. See Cableways

AERO digest (periodical)

Ceiling unlimited. Sales Management 46:60 Mr 15 '40

AERODYNAMIC laboratories. See Aeronautic laboratories; Wind tunnels

AERODYNAMICS

Aerodynamic characteristics of six full-scale propellers having different airfoil sections. D. Biermann and E. P. Hartman. bibliog il diags U S Nat Advisory Com for Aeronautics 1939:145-78 '40

Air flow in the boundary layer of an elliptic cylinder. G. B. Schubauer. bibliog il diag U S Nat Advisory Com for Aeronautics 1939:207-26 '40

Air forces on radial air-cooled engine cowling (as determined from pressure distribution tests). R. R. Higginbotham. il diags S A E J 47:370-96 S '40

Analysis of the aerodynamic characteristics of split flaps. A. P. West. bibliog Roy Aeronautical Soc J 44:338-49 Ap '40

Calculation of the aerodynamic characteristics of tapered wings with partial-span flaps. H. A. Pearson and R. F. Anderson. bibliog diags U S Nat Advisory Com for Aeronautics 1939:455-72 '40

Compressibility burble and the effect of compressibility on pressures and forces acting on an airfoil. J. Stack, W. F. Lindsey and R. E. Littell. bibliog il diags U S Nat Advisory Com for Aeronautics 1939:73-96 '40

Design charts for predicting downwash angles and wake characteristics behind plain and flapped wings. A. Silverstein and S. Katzoff. bibliog diags U S Nat Advisory Com for Aeronautics 1939:107-31 '40

Determination of the profile drag of an airplane wing in flight at high Reynolds numbers. J. Bicknell. bibliog il diag U S Nat Advisory Com for Aeronautics 1939: 483-91 '40

Downwash and wake behind plain and flapped airfoils. A. Silverstein, S. Katzoff and W. K. Bullivant. bibliog il diags U S Nat Advisory Com for Aeronautics 1939:179-206 '40

AERODYNAMICS—*Continued*

Effect of nacelle-propeller diameter ratio on body interference and on propeller and cooling characteristics. J. G. McHugh and E. H. Derring. bibliog il diags U S Nat Advisory Com for Aeronautics 1939:727-45 '40

Effects of elevator nose shape, gap, balance, and tabs on the aerodynamic characteristics of a horizontal tail surface. H. J. Goett and J. P. Reeder. bibliog il diags U S Nat Advisory Com for Aeronautics 1939: 639-49 '40

Experimental aerodynamics. H. C. Pavian. 168p bibliog(p141) $2.50 Pitman '40

Experimental verification of the theory of oscillating airfoils. A. Silverstein and U. T. Joyner. bibliog il diag U S Nat Advisory Com for Aeronautics 1939:619-23 '40

Experiments on the breakdown of laminar flow. A. Fage. bibliog il diag J Aeronautical Sci 7:513-17 O '40

Forces on an aerofoil at very low speeds. A. Thom and P. Swart. diags Roy Aeronautical Soc J 44:761-70 O '40

Modern developments in fluid dynamics; an account of theory and experiment relating to boundary layers, turbulent motion and wakes. S. Goldstein, ed. 2v $16 Oxford '38

Operational methods in the theory of airfoils in non-uniform motion. W. R. Sears. diags Franklin Inst J 230:95-111 Jl '40

Recent progress in aeronautics. C. Tilgner, jr. Mech Eng 62:111 F '40

Report of N.A.C.A. committee on aerodynamics. U S Nat Advisory Com for Aeronautics 1939:5-22 '40

Simple aerodynamics and the airplane. C. C. Carter. 5th ed 510p $4.50 Ronald press '40

Simplified method for determining wing profile drag in flight. A. Silverstein and S. Katzoff. bibliog diags J Aeronautical Sci 7:295-301 My '40

Study of airscrews for high speed aeroplanes. L. Lazzarino. Roy Aeronautical Soc J 44: 322-37 Ap '40; Correction. 44:546-8 Je '40

Tests of a gust-alleviating flap in the gust tunnel. P. Donely and C. C. Shufflebarger. il diag Roy Aeronautical Soc J 44:283-94 Mr '40

Tests of N.A.C.A. 0009, 0012, and 0018 airfoils in the full-scale tunnel. H. J. Goett and W. K. Bullivant. bibliog il diags U S Nat Advisory Com for Aeronautics 1939: 97-106 '40

Theoretical study of the moment on a body in a compressible fluid. C. Kaplan. diags U S Nat Advisory Com for Aeronautics 1939:581-98 '40

Theory of screw fans. W. R. Crawford. Engineer 170:150-2, 166-8 S 6-13 '40

Wind pressure on structures. G. E. Howe. bibliog Civil Eng 10:149-52 Mr '40

Wind-tunnel investigation of an N.A.C.A. 23012 airfoil with a slotted flap and three types of auxiliary flap. C. J. Wenzinger and W. E. Gauvain. diags U S Nat Advisory Com for Aeronautics 1939:699-725 '40

Wind-tunnel investigation of an N.A.C.A. 23021 airfoil with various arrangements of slotted flaps. C. J. Wenzinger and T. A. Harris. bibliog diags U S Nat Advisory Com for Aeronautics 1939:665-88 '40

Wind-tunnel investigation of N.A.C.A. 23012, 23021, and 23030 airfoils with various sizes of split flap. C. J. Wenzinger and T. A. Harris. bibliog diags U S Nat Advisory Com for Aeronautics 1939:493-505 '40

See also

Aeronautics
Air flow
Airplane stability and stabilizers
Boundary layer, Theory of
Wind tunnels

AEROGELS. See Colloids

AERONAUTIC charts. See Aviation—Charts

AERONAUTIC engineering

Aeronautical engineering drawing practice. W. L. Lewis. il Aero Digest 36:95-6, 180 My '40

Airplanes and elementary engineering. D. J. Brimm, jr. 68p, 70p, 38p $1.80 International textbook co, Scranton, Pa. '39

Camera aids new lofting technique. il Aero Digest 37:64, 67 Jl '40; Sheet Metal Worker 31:35-6 Jl '40

Control of vibration in aircraft. H. H. Bruderlin. Aviation 39:40-1 Ja; 38-9+ Mr '40

Counter-rotating propellers. H. M. McCoy. bibliog il Roy Aeronautical Soc J 44:481-98 Je '40

Drafting by camera; engineering drawings directly reproduced photographically by Glenn L. Martin co. il Steel 107:44-6 Jl 1 '40

Engineering Fairchild's PT-19. A. Thieblot. il diags Aero Digest 37:130-2, 134+ O '40

Engineering for the higher altitudes. W. E. Beall. il diags Aero Digest 37:52-6 O '40

Engineering laboratory of the Bell aircraft corp. R. C. Woods. il plan Aero Digest 37:124-6+ N '40

Engineering planning. H. F. McCann. il Aero Digest 37:66, 67 Ag '40

Fixture for obtaining pin-end conditions in column testing. H. W. Barlow. diag J Aeronautical Sci 7:72-4 D '39

Institute of the aeronautical sciences annual meeting. Aviation 39:43+ Mr '40

Institute of the aeronautical sciences 2d summer meeting, Pasadena, June 24-26. Aviation 39:101-2 Ag '40

Photoelastic analysis of three-dimensional stress systems using scattered light. R. Weller and J. K. Bussey. bibliog il diags Roy Aeronautical Soc J 44:74-88 Ja '40

Society of automotive engineers National aeronautic meeting, Washington, March 14-15. S A E J 46:sup13-16, 23-6 Ap '40; Automotive Ind 82:320-7 Ap 1 '40

See also

Aerodynamics
Aeronautic research
Aeronautics
Air lines
Aircraft
Airplane engines
Airplanes
Airports
Airships
Airways
Aviation
Flying boats
Seaplanes

Bibliography

Abstracts from the scientific and technical press (cont). Roy Aeronautical Soc J 43: 992-1014; 44:89-109, 195-217, 295-312, 355-78, 451-72, 521-43 D '39-Je; sup1-19 Jl; sup21-38 Ag; sup41-62 S; sup65-82 O; sup85-104 N '40

Aeronautical reviews; recent articles on aviation subjects are published by the Army air corps for the information of its officers. Published in monthly numbers of Journal of the aeronautical sciences

Study and teaching

Closed-return type 42-inch wind tunnel at the Polytechnic institute of Brooklyn. R. P. Harrington. il diags Aero Digest 35:46-8+ D '39

Extension courses in aeronautical engineering of Cornell university. Science 92:395-6 N 1 '40

New obligations in aeronautics. W. F. Durand. J Eng Educ 31:110-17 O '40

Tables, calculations, etc.

Analysis of the aerodynamic characteristics of split flaps. A. P. West. bibliog Roy Aeronautical Soc J 44:338-49 Ap '40

Family of aerofoils with rounded trailing edge. J. C. Cooke. diags Roy Aeronautical Soc J 44:771-4 O '40

General airplane performance. W. C. Rockefeller. bibliog U S Nat Advisory Com for Aeronautics 1939:241-65 '40

General solution of the skewed axis landing gear. O. F. Oldendorph. diags Aero Digest 36:101-2+ F '40

Graphical solution of the bending-aileron case of flutter. W. B. Bergen and L. Arnold. bibliog diags J Aeronautical Sci 7:495-508 O '40

Let's use decimals in aeronautic engineering and design. C. L. Bates. il Aviation 39:58 Ap '40

Nomogram for beam-columns. H. P. Liepmann. Aviation 39:62+ N '40

AERONAUTIC engineering—Tables, calculations, etc—*Continued*
Prediction of take-off run. W. N. Hammond. Aero Digest 36:64 My '40
Rigorous performance prediction without drudgery; graphical method. E. G. Reid. bibliog Roy Aeronautical Soc J 44:176-94 F '40
Shear center of a leading-edge wing beam. H. W. Sibert. J Aeronautical Sci 7:520-3 O '40
Stressing of rotating-blade aerofoils. J. B. B. Owen. Engineering 148:511-13 N 3 '39
Study of airscrews for high speed aeroplanes. L. Lazzarino. Roy Aeronautical Soc J 44: 322-37 Ap '40; Correction. 44:546-8 Je '40
Theoretical investigation of plastic torsion in an I-beam. D. G. Christopherson. bibliog diags Roy Aeronautical Soc J 44:425-32 My '40
Theoretical study of the moment on a body in a compressible fluid. C. Kaplan. diags U S Nat Advisory Com for Aeronautics 1939:581-98 '40
Vibration characteristics of aircraft engine-propeller systems. C. M. Kearns. il diags S A E J 45:540-8 D '39; Abstract. Automotive Ind 80:714-15 Je 15 '39

See also
Airplane engines—Design
Airplanes—Design

AERONAUTIC engineers
Dealing with the problem of personnel; engineering departments of aircraft organizations. C. S. Mattoon. il Aero Digest 35:36-7 D '39
Value received from an engineering department; Lockheed aircraft corporation. H. L. Hibbard. il Aviation 39:44-5, 122+ Je; 46-7, 104, 106 Jl '40

AERONAUTIC instruments
Aircraft accessories; brief review of some made available during the past year. il Aero Digest 36:214-18 Mr '40
Aircraft rate-of-climb indicators. D. P. Johnson. bibliog diags U S Nat Advisory Com for Aeronautics 1939:473-82 '40
Cathode-ray tube used as aircraft instrument indicator; flight-ray indicator. il diag Electronics 13:36+ Mr '40
Earth's rotational effect on the bubble sextant. P. V. H. Weems and T. L. Thurlow. diags Aero Digest 37:54+ N '40
Einkreiselfluggeräte und ihr verhalten im flug. S. Wintergerst. diags V D I 84:35-8 Ja 13 '40
Electrical developments of 1939. G. Bartlett. il Gen Elec R 43:37 Ja '40
Flight co-ordinator for determining relation between speed, fuel consumption, engine and propeller settings, etc. diags Aero Digest 36:84+ Je '40
Flight level indicator developed. il Civil Aero J 1:231+ Je 1 '40
Flightray, a multiple instrument indicator. P. R. Bassett and J. Lyman. il diags J Aeronautical Sci 7:199-204 Mr '40; Abstract. Aero Digest 36:254+ Mr '40
Flightray; cathode ray tube shows indications of four instruments. D. Fink. il diag Aviation 39:100-1 F '40
Mechanized navigation for photographic pilots. il Aero Digest 37:179 Jl '40
Optical device for rapid placement of an aircraft on a line between two distant points; abstract. B. O'Brien. Opt Soc Am J 30:269 Je '40
Plane tests recorded. il Business Week p46 N 16 '40
Telegon unit for aircraft instrument use. A. G. Binnie. il diag J Aeronautical Sci 7:211-12 Mr '40
Turn and bank installation. R. Snyder. diag Aviation 39:75 Mr '40
Uniform pressure altitude measurement; flight level indicator. il Aero Digest 37: 167-8 S '40

See also
Altimeters
Aviation—Instrument flying
Direction finding apparatus
Radio apparatus on aircraft
Radio beacons
Radio compass

Testing
Kollsman instrument co.; air conditioning prevents frost and moisture on instruments under test. il diag Heat & Ven 37:36-7 N '40

AERONAUTIC laboratories
Airplane laboratory and national defense; Bell aircraft corp. R. C. Woods. il Metals & Alloys 12:451-4 O '40
Le Centre d'études d'aéronautique de Guidonia (Italie). il diag Génie Civil 115:370-2 N 18 '39
Engineering laboratory of the Bell aircraft corp. R. C. Woods. il plan Aero Digest 37:124-6+ N '40
Get altitude conditions in strato-chamber; laboratory, Boeing aircraft company. il Refrig Eng 40:161-2 S '40
Les laboratoires d'aérodynamique de la Société Hispano-Suiza. J. Valensi. il diags Soc Ing Civils Mémoires 91:935-46 N '38
New X-ray machine installed in Triplett & Barton laboratories. il Aero Digest 37:163-4 S '40
Ranger engine test & research building. il diag Aero Digest 36:71 Je '40
Test chamber simulates stratosphere air conditions. il Heat & Ven 37:52 N '40

See also
Aeronautic research
Wind tunnels

AERONAUTIC libraries
Aeronautical archives of the Institute of the aeronautical sciences. J Aeronautical Sci 7:167 F '40
Paul Kollsman library endowment to provide lending collection; Institute of the aeronautical sciences. J Aeronautical Sci 7: 405-6 Jl '40

AERONAUTIC meteorology. See Meteorology, Aeronautic

AERONAUTIC research
Aeronautic research in 1939; digest of annual report of National advisory committee for aeronautics. Mech Eng 62:150-1 F '40
Aeronautical research in Canada. Engineer 168:625 D 22 '39
Aeronautics and ship design. J. L. Taylor. Engineering 148:651-2 D 8 '39
Airline research; United airlines. J. P. AuWerter. il Aviation 39:30-1+ S '40
Airplane dopes; relation of tautening and weathering qualities to composition. F. W. Reinhart and G. M. Kline. bibliog il Ind & Eng Chem 32:184-93 F '40
Altitude and the aircraft engine. E. F. Pierce. S A E J 47:421-31 O '40
Brittle lacquers as an aid to stress analysis. A. V. de Forest and G. Ellis. il J Aeronautical Sci 7:205-8 Mr '40
Film-forming plastics; effect of solvents, diluents, and plasticizers on properties of films formed from airplane dopes. F. W. Reinhart and G. M. Kline. Ind & Eng Chem 31:1522-9 D '39
Influence of running propellers on airplane characteristics. C. B. Millikan. bibliog il diag J Aeronautical Sci 7:85-103; Discussion. 103-6 Ja '40
Looking forward; prolegomena for a detailed study of the future of British civil aviation. H. R. Cox. il Roy Aeronautical Soc J 44: 725-31 S '40; Same cond. Engineering 150: 199-200 S 6 '40
National airplane engine research laboratory proposed. Science 91:sup9 Ja 12 '40
Research girds for war. S. P. Johnston. il Aviation 39:38-9+ S; 40-1, 118 O '40
Research, the foundation of knowledge and progress. W. B. Stout. il Aero Digest 37:161 N '40

AERONAUTIC research—*Continued*
Single cylinder engine research for aviation; abstract. A. W. Pope, jr. diag Automotive Ind 82:548 Je 15 '40
Streamline visualization; variation of schlieren method. C. Witoszynski. diag J Aeronautical Sci 7:402 Jl '40
Wright field, heart of the Army air corps. il Aviation 39:34-9 Ap '40

See also
Aeronautic laboratories
Wind tunnels

AERONAUTIC schools
Chanute field get up steam; Army technical aviation school; steam generating plant. il plans Power Pl Eng 44:48-53+ O '40
In America; how civilian schools train military mechanics; Curtiss-Wright technical institute. C. C. Moseley. il Aviation 39:36+ S '40
Keeping them aloft; maintenance under the CAA flight training program. L. E. Neville. il Aviation 39:42-3+ Ap '40
Okies of aviation; high-pressure schools in California. Business Week p55-6 O 5 '40
Summary of certificates and ratings. Civil Aero J 1:392+ Ag 1 '40
Training center at Hemet for Army air corps cadets; Ryan school of aeronautics. L. P. Hopwood. il Aero Digest 37:42-4+ N '40
Training flying cadets at civilian schools; Ryan school of aeronautics. T. C. Ryan. il Aviation 39:53, 124+ O '40
Training military personnel at Curtiss-Wright Tech. il Aero Digest 37:96, 98 Jl '40

AERONAUTIC workers
Careers in aviation. B. B. Follett. 254p $2 Waverly house, 156 Boylston st, Boston '40
Handbook of aeronautical vocations. W. Van Haitsma. 48p bibliog(p45-7) pa 25c for sale by Zeeland record co, Zeeland, Mich. '39
How to get into aviation; on the ground and in the air. J. B. Walker. 126p bibliog (p126) pa $1 Random house, New York '40

See also
Air lines—Employees
Airplane factories—Employees
Airplane mechanics
Aviators

Bibliography

Aeronautic training for national defense. P. Howard, comp. Booklist 37:101-9 pt2 N 1 '40

AERONAUTICAL sciences, Institute of the. See Institute of the aeronautical sciences

AERONAUTICS
Aviation from the ground up; a practical instruction and reference work on aviation and allied subjects. G. B. Manly. 369p $3 Drake '40
Baughman's Aviation dictionary and reference guide; aero-thesaurus. H. E. Baughman. 596p bibliog(p376-80) $5 Aero publishers, 315 Security bank bldg, Glendale, Calif. '40
General aeronautics. H. F. Lusk. rev ed 524p $3.75 Ronald press '40
Radius of action of aircraft. M. Tornich. 168p $3 Weems system of navigation, Annapolis, Md. '40
Recent progress in aeronautics. C. Tilgner, jr. and others. Mech Eng 62:111-16 F '40
Sky roads. E. K. Gann. 123p $2 Crowell '40
Sky roads of the world. A. Johnson. 314p 6s W. & R. Chambers, London '39
Win your wings; book one; a practical and comprehensive primary aviation training manual for the student, pilot, and instructor. R. Turner and J. H. Dubuque. 649p $3.50 Drake '40

See also
Aerodynamics
Air lines
Air travel
Aircraft
Airplane engines
Airplane propellers
Airplane stability and stabilizers
Airplanes
Airports
Airships
Airways
Aviation
Balloons
Flying boats
Gliders
Helicopters
Mapping, Aerial
Meteorology, Aeronautic
Photography, Aerial
Radio aids to aviation
Seaplanes

Bibliography

Abstracts from the scientific and technical press (cont). Roy Aeronautical Soc J 43: 992-1014; 44:89-109, 195-217, 295-312, 355-78, 451-72, 521-43 D '39-Je; sup1-19 Jl; sup21-38 Ag; sup41-62 S; sup65-82 O; sup85-104 N '40
Aeronautic training for national defense. P. Howard, comp. Booklist 37:101-9 pt2 N 1 '40
Aeronautical reader's guide; a catalogue of selected aeronautical books. Published quarterly by Institute of aeronautical sciences, 1505 RCA bldg, W, 30 Rockefeller plaza, New York ($1 a year)
Aeronautical reviews; recent articles on aviation subjects are published by the Army air corps for the information of its officers. Published in monthly numbers of Journal of the aeronautical sciences
Articles in foreign technical magazines. Published in monthly numbers of Aero digest
Journal of the Royal aeronautical society; index to vol. 43. Roy Aeronautical Soc J 43:sup1-27 D '39
List of publications issued by the Civil aeronautics authority. Civil Aero J 1:18 Ja 15 '40
List of selected translations. Published in monthly numbers of Royal aeronautical society journal
Reviews. Published in monthly numbers of Royal aeronautical society journal
Royal aeronautical society; additions to library, 1939. Roy Aeronautical Soc J 43: 1017-41 D '39
Technical publications of the National advisory committee for aeronautics. U S Nat Advisory Com for Aeronautics 1939:43-6 '40

Dictionaries

Aeronautical dictionary and reference library. R. Hartley, jr. 1940 ed 524p $4 DeVorss & co, 628 W. 8th st, Los Angeles '39
Un diccionario de aeronáutica; español-inglés, inglés-español. C. T. Reid. 207p pa $3 Aviation press, San Francisco '39

Directories

Blue book of American aviation; who's who in the industry. 1940 ed 150p $3 Aviation statistics inst. of America, box 451, Asheville, N.C. '39

Exhibitions

See also New York (city)—World's fair, 1940—Aeronautic exhibits

History

Lawrence Hargrave; myth and fact in aeronautical history. C. W. Sallet. Engineering 150:5 Jl 5 '40
Story of flying. A. Black. 267p $2.75 McGraw-Hill '40
What is engineering research? M. G. Spangler. Civil Eng 10:403-4 Jl '40
Wings for transportation; recent developments in air transportation equipment. T. P. Wright. il diags plan Franklin Inst J 229:413-54 Ap '40

Laws and regulations

Admiralty jurisdiction in air law. C. Zollmann. Aero Digest 37:167 Jl; 136 Ag '40
Aeronautical and radio law; notes and papers. H. S. LeRoy. 141p $3 Howard S. LeRoy, 413 Colorado bldg, Washington, D.C. '39
Board rescinds regulation prohibiting simultaneous plane departures. Civil Aero J 1: 402 Ag 15 '40
Civil air regulations revised; changes in parts 20, 24, 51, 52, and new part 53. Civil Aero J 1:65-6+ Mr 1 '40
Civil and commercial aviation; a guide to federal legislation and administrative agencies. D. C. Culver. 78p bibliog(p73-4) pa 75c Bur. of public administration, Univ. of California, Berkeley '40

AERONAUTICS—Laws and regulations—*Cont.*
Damage liability of aircraft to passengers and air express. H. Osterhout. Aero Digest 37:136-7 Ag; 152, 155 S '40
Damage liability of aircraft to persons and property on the surface. W. M. Wherry. Aero Digest 36:146, 149 My '40
Opinions and abstracts of actions of the Civil aeronautics authority. Published in Civil aeronautics journal
Proposed uniform aviation liability act. W. J. Davis. Aero Digest 36:134, 137 Je '40
Reorganization plans 3 and 4; new division of certain functions between the CAB, the Administrator of civil aeronautics and the Secretary of commerce. Aero Digest 37: 95-6+ Ag '40
Take-off weight and fuel-dumping regulations. Civil Aero J 1:41-3 F 1 '40

See also
Civil aeronautics authority

Patents

Trend of invention. Published in monthly numbers of Aero digest

Statistics

Private flying accident and operations statistics for 1939. Civil Aero J 1:259-61 Jl 1 '40

Study and teaching

Looking forward; prolegomena for a detailed study of the future of British civil aviation. H. R. Cox. Roy Aeronautical Soc J 44:731-3 S '40; Same cond. Engineering 150:207 S 13 '40
Primary ground study manual. 100p U.S. Civil aeronautics authority, Washington; pa 10c Supt. of doc. '39

See also
Aeronautic schools
Aviators—Training

Tables, calculations, etc.

Correction table for the effect of Coriolis acceleration on bubble sextant altitudes. J. Q. Stewart. R Sci Instr 11:310-11 O '40

Yearbooks

Aerosphere 1939. G. D. Angle, ed. 1420p $15 Aircraft publications, New York '40
Young America's aviation annual, 1940-1941. F. P. Graham and R. M. Cleveland, eds. 270p $2 Robert M. McBride & co, New York '40

Alaska

Progress of aviation in Alaska. Civil Aero J 1:77-8+ Mr 15 '40

Canada

Aeronautical research in Canada. Engineer 168:625 D 22 '39
Canadian government issues regulations regarding flying of civil aircraft in Canada during war. Civil Aero J 1:67, 72-3 Mr 1 '40
Present status of aerodrome construction in Canada. J. A. Wilson. Can Eng R & B 78:62+ O '40

See also
Aeronautics, Commercial—Canada
Aeronautics, Military—Canada

Great Britain

Looking forward; prolegomena for a detailed study of the future of British civil aviation. H. R. Cox. il diags maps Roy Aeronautical Soc J 44:682-752 bibliog (p751-2) S '40; Same cond. Engineering 150:97-9, 105-7, 139-40, 199-200, 207, 225-7 Ag 2-16, S 6-20 '40; Discussion. Roy Aeronautical Soc J 44:752-4 S '40
World of wings and things. A. Verdon-Roe. 270p $2.75 Ryerson press '39

See also
Aeronautics, Military—Great Britain

Siam

Aviation makes progress in Siam. L. Zacharoff. il Aviation 39:59+ S '40

United States

Aviation people; portraits. Aviation 39:93 N '40
Next 35 years. D. Beecroft. S A E J 47:sup33-5 Jl '40
Reorganization plans 3 and 4; new division of certain functions between the CAB, the Administrator of civil aeronautics and the Secretary of commerce. Aero Digest 37: 95-6+ Ag '40

See also
Aeronautics, Commercial—United States
Aeronautics, Military—United States

AERONAUTICS, Bureau of (navy). See United States—Aeronautics, Bureau of (navy)

AERONAUTICS, Commercial
Foreign news in brief. Published in monthly numbers of Aero digest
Our airliners [for older boys]. I. Crump and N. Maul. 251p $2 Dodd '40

See also
Air express service
Air lines
Air mail service
Air travel
Airplane industry and trade
Airplanes in mining
Airways
Photography, Aerial

Directories

Alphabetical directory of personnel and classified directory of aircraft and engine accessories, materials and parts, airport and shop equipment, and jobbers. il Aviation 39:80-98 F '40

International aspects

Conference discusses new international airlines, United States-Canada service. Civil Aero J 1:453+ O 15 '40

Statistics

Civil aviation in 1939. Civil Aero J 1:17-19 Ja 15 '40
Here's where we're going; civil aircraft production and pilots, 1935-1940; pictographs. Aviation 39:34-5 F '40
Progress of civil aeronautics in the United States, 1929-June 1940; tabulation. Civil Aero J 1:454-7 O 15 '40

Canada

Civil aviation in Canada, 1939. 10p pa 25c Canada. Dominion bur. of statistics, Ottawa '40
Wings over the muskeg. L. Roberts. il Can Min J 60:763-8 N '39

Peru

Airplane transport to remote Peruvian mines. C. W. Wright. il Min & Met 21:241 My '40

United States

Airlines or manufacturers. F. K. Dodge. Mag of Wall St 66:95 My 4 '40
Airports, the new monopoly. T. N. Sandifer. Pub Util 26:564-9 O 24 '40
Aviation; review and prospects. Iron Age 145:141-2 Ja 4 '40
Aviation's broadening markets. S. Altschul. Aviation 39:47, 110 N '40
Civilian flying and the national defense. R. H. Hinckley. Civil Aero J 1:450-1+ O 15 '40
Progress of civil aeronautics in the United States, 1929-June 1940; tabulation. Civil Aero J 1:454-7 O 15 '40
Trend of air transportation. E. T. Allen. Inst Mech Eng J & Proc 142:Proc 127-40 D '39
Trends in air transportation. T. P. Wright. Aviation 39:36-7+ Mr '40

See also
Air lines—United States
Airplane industry and trade—United States
Airports
Civil aeronautics authority

AERONAUTICS, Military
Ahriman: a study in air bombardment. O. L. Spaulding. 143p bibliog(p134-7) $1; pa 50c World peace foundation '39
Air forces of the world. E. C. Talbot-Booth, ed. 569p $2.50 Ryerson press '39
Air power and sea power. C. Caldwell. il Aero Digest 36:36-9, 158 Je '40
Airpower. A. Williams. 433p bibliog(p417-18) $3.50 Coward-McCann, 2 W. 45th st, New York '40
Armies with wings. J. L. H. Peck. 274p bibliog(p273-4) $2.50 Dodd '40
Bombers plus battleships; both are needed for co-ordinated effort. A. B. Vosseller. il Sci Am 163:183-5 O '40
Bombing from aircraft. il Engineer 170:172-3 S 13 '40
Effect of air power. T. P. Wright. il Aero Digest 35:57-8+ D '39
Mathematics of the balloon barrage. diags Engineer 169:549-51 Je 21 '40
New obligations in aeronautics. W. F. Durand. J Eng Educ 31:110-17 O '40
Parachute troops in modern warfare. F. Smith. il Aero Digest 37:63+ Jl '40
Waffentechnische ausrüstung von jagdeinsitzern. P. Madlener. il diags V D I 83: 1115-18 O 14 '39; Abstract (Armament of the Heinkel He. 112 fighter monoplane). Engineer 169:489-91 My 31 '40

See also
Air raids
Airplanes, Military
Aviators, Military
Balloons, Military
Bombardment
Bombs, Aerial
Guns, Anti-aircraft
Naval air stations

Canada
British aces in the making; training the R.A.F. is one of Canada's war jobs. J. Montagnes. il Aviation 39:28-9+ Mr '40

Europe
Winged victory for the allies becomes more likely; air forces of warring nations compared. T. P. Wright. il Aviation 39:32-3, 102+ Ap '40

Germany
Arado AR-96B; Germany's standard military trainer. il Aero Digest 37:111-12 S '40
Distinguishing features of German troop-carrying aircraft; diagrams. Engineering 149:pl 35 Je 21 '40
Warplane factories in Germany. P. H. Wilkinson. il Aviation 39:44-5+ S; 44-5+ N '40 (to be cont)

Great Britain
Air is the future career. E. L. Howard-Williams. 264p bibliog(p257-8) $2 Ryerson press '39
R.A.F. maintenance. R. E. Hautier. il Aviation 39:42-3+ Jl '40

United States
Airlines and national defense. C. Caldwell. il map Aero Digest 36:46-8+ Mr '40
America's winged weapons. J. L. H. Peck. il Sci Am 163:5-7 Jl '40
Army air corps, Navy bureau of aeronautics, and Marine corps; statistical charts. Aviation 39:34-5 Ag '40
Aviation's part in national defense. F. Knox; G. J. Mead. Aviation 39:33 Ag '40
Chronological digest of naval aviation history. J. B. Hancock. il Aero Digest 36:89-90, 93, 117 F '40
Defense of America; present war shows need for large air force. C. Caldwell. il Aero Digest 37:38-40+ S; 38-42 O '40
50,000 airplanes for America. Mech Eng 62:682-3 S '40
Marine corps aviation. R. J. Mitchell. il Aero Digest 36:81-2+ F '40
Millions for airbases; army and navy programs. Eng N 124:825 Je 13 '40
Mobilizing transportation for defense. T. N. Sandifer. Pub Util 26:657-62 N 7 '40
Planning to assure national production. A. Klemin. il Aero Digest 36:42-6+ My '40
Strategical and tactical employment of naval aircraft. M. B. Gardner. il maps Aero Digest 36:49-51+ F '40

See also
United States—Air service

AEROPLANES. See Airplanes

AEROSOL wetting agents. See Wetting agents

AEROSOLS. See Colloids

AESTHETICS. See Esthetics

AETNA casualty and surety company
Analysis. Spectator (Property ed) 6:30-1 Jl 25 '40
Organization in greater New York. East Underw 41:6-7+, 16 pt 2 Jl 12 '40

AETNA (fire) insurance company
Annual statements of the group, 1939. East Underw 41:30 F 23 '40

AETNA life insurance company
President Brainard's annual addresses. Nat Underw 44:1+ Jl 18 '40; Same. Nat Underw (Life ed) 44:6 Jl 19 '40

AFFORESTATION. See Forest planting

AFRICA
Commerce
Exporters' Eldorado. W. D. Hubbard. Barron's 19:9 N 20 '39

AFRICA, North
See also
Textile industry—Africa, North

AFRICA, South. See South Africa

AFTER images
Experiment on retinal after-image and judgment of size. R. M. Sutton. Science 90:616-17 D 29 '39

AGAR
Method of substituting pine sapwood for malt agar in culturing test fungi; testing the toxicity of preservatives in wood. E. E. Hubert. diag Science 91:247-8 Mr 8 '40
Production of agar; Japan has world monopoly. F. Thone. Science 91:sup6-7 F 9 '40
Studies on agar-agar; the isolation of derivatives of 3 : 6-anhydro-*l*-galactose from agar and the synthesis of their enantiomorphs. I. A. Forbes and E. G. V. Percival. Chem Soc J p1844-9 D '39

AGARIC acid
Agaric acid and the Donnan theory of membrane equilibrium. R. J. Hartman, E. W. Kanning and J. E. Weber. Am Chem Soc J 62:1302-3 My '40

AGASSIZ, Louis Jean Rodolphe, 1807-1873
Episodes and personalities in the development of biology at Brown. A. D. Mead. Science 91:301-5 Mr 29 '40

AGASSIZ medal
Presentation of the Agassiz medal to Frank Rattray Lillie; with response. Science 91: 413-16 My 3 '40

AGASSIZOCRINUS
Anartiocrinus, a new crinoid genus from the Mississippian. E. Kirk. Am J Sci 238: 47-55, pl 1 Ja '40

AGE
Age and occupation of unemployed men in Great Britain. Monthly Labor R 51:311-12 Ag '40
Age and the lead content of certain human bones; a compilation and statistical analysis of recently published data. H. P. Morris. bibliog J Ind Hygiene 22:100-3 Mr '40
Age distribution of job applicants in New York city. Monthly Labor R 50:861-2 Ap '40
Age distribution of the Canadian people (a study based on the Census of 1931 and supplementary data). M. C. MacLean. 100p pa 35c Canada. Dominion bur. of statistics, Ottawa '40
Aging of populations. R. Pearl. diag Am Statis Assn J 35:277-97 pt 2 Mr '40
Are salesmen through at forty? pictograph. Sales Management 47:27 Jl 15 '40

AGE—*Continued*
Comparison of the gainfully occupied population by sex and age in the various countries of the world. Int Labour R 41:541-50 My '40
Conclusions of New York legislative committee on older workers. Monthly Labor R 51:74-9 Jl '40
Constructive proposals regarding older workers; job re-allocation department. G. Lawton. Personnel J 18:300-8 F '40
Forty-plus men finding jobs; club to promote placement of older executives. Nation's Business 28:91 Ap '40
Hiring of older workers by war and navy departments. Monthly Labor R 51:622-3 S '40
New techniques for getting jobs. M. T. Waggaman. Monthly Labor R 50:804-6 Ap '40
Over 40 in majority at Studebaker; pictograph. Sales Management 47:35 Ag 15 '40
Salesmen are not through at 40! C. C. Vaughan; C. A. Reynolds; B. R. Welsh. Sales Management 46:18-20 Je 1 '40

See also
Child labor
Longevity
Old age
Old age pensions
Pensions, Industrial

Bibliography
Age and employment. Russell Sage Foundation Library Bul 157:1-4 O '39

AGE (biology)
Changes in the connective tissue of the uterus and vagina of the rat associated with advancing age. J. M. Wolfe and others. Science 91:577-8 Je 14 '40

AGENCIES, Advertising. See Advertising agencies

AGENCIES, Employment. See Employment agencies

AGENCY (law)
Digest of the law of agency. W. Bowstead. 9th ed 400p 30s Sweet & Maxwell, London '38
Gordon's employment and agency agreements. S. Gordon. 548p $6 Prentice-Hall '40
Scope of employment; whether newspaper route carrier was employee or independent contractor. J. L. Roesch. Spectator (Property ed) 5:32-3 D 14 '39
Servicemen's legal advice; discussion of agency. Radio N 24:24+ N '40

See also
Insurance agents—Law
Master and servant

AGENTS, Insurance. See Insurance agents

AGFA Ansco corporation
Eastman and Agfa Ansco form new ASA photographic group. Ind Stand 11:26 Ja '40

AGGLOMERATION
Beitrag zur kenntnis der stückigmachung unter besonderer berücksichtigung der agglomeration von substanzen ohne bindemittel durch anwendung von druck. H. Maul. diag Chemische Fabrik 12:483-6 N 8 '39

AGGLUTINATION
Sperm agglutination in the keyhole limpet and the sea-urchin. A. Tyler and S. W. Fox. Science 90:516-17 D 1 '39

AGGREGATES
Blending ten aggregate sizes on long tunnel conveyor. F. M. Welch. il diag map Rock Prod 43:24-7 O '40
Crushing, sizing, testing and specifying of aggregates (cont). E. T. Nettleton. il Rock Prod 43:25-6 Ja; 29-30+ F; 43-4 Mr; 39-40 Ap; 44-5 My; 31-2 Je; 39-40 Jl; 31-2 Ag; 43-4 O; 44+ N '40 (to be cont)
Forum on operating problems, National sand and gravel association. Rock Prod 43:39-41 F '40
Grading tolerances for premix materials for patching. Roads & Sts 83:47 S '40
Iron blast-furnace slag becomes important constructional material. W. H. Caruthers. Min & Met 21:337-40 Jl '40
Mineral aggregates for asphalt highway surfaces. D. J. Steele. Can Eng 77:12-14+ D 26 '39
Study of sieves for coarse aggregates. A. H. D. Markwick. diags Soc Chem Ind J 59: 89-92 My '40
Tough requirements and too many specifications for aggregates. B. Nordberg. Rock Prod 43:67+ Ja '40

See also
Concrete—Aggregate
Gravel
Sand

Specifications
Coarse aggregate classification; tabulation. Power Pl Eng 44:77 Ap '40
Impracticable gravel specifications; discussion of practicability of simplified practice recommendation for coarse aggregates, U.S. Bureau of standards, R163-39. I. Warner. Rock Prod 43:40-2 Mr '40; Discussion. 43:33 Ap '40
Problem of elongated pieces; New England experience shows specifications on flat particles contain excessive requirements. E. T. Nettleton. Rock Prod 43:39-40 Ap '40
Reducing shipping losses; comparing plant averages with four state specifications. E. T. Nettleton. Rock Prod 43:24-6 Ja '40
Specification essentials. E. T. Nettleton. Rock Prod 43:44+ N '40

Testing
Crushing resistance of surface-treatment aggregates. T. E. Shelburne. il diags Purdue Univ Eng Exp Sta, Research Ser 76:1-67 bibliog(p54-5) '40 (pa 35c)
Degradation of aggregates under road rollers. T. E. Shelburne. bibliog il Am Soc T M Proc 39:950-68 '39; Abstract. Can Eng R & B 78:15+ Jl '40; Discussion. Am Soc T M Proc 39:969-70 '39
Detecting unsound chert in aggregates. C. E. Wuerpel. il Eng N 124:652-4 My 9 '40
Modified procedure for testing concrete aggregate soundness by use of magnesium sulfate. C. E. Wuerpel. Am Soc T M Proc 39:882-9; Discussion. 890-1 '39
Moisture-determination flask. il Can Eng R & B 78:44 Mr '40
New laboratory method for determining the organic matter in washed fine aggregates. I. Paul. il Am Soc T M Proc 39:892-8; Discussion. 899 '39
Obtaining fineness modulus of concrete aggregates. Concrete 48:8 N '40
Plant testing pays dividends; with cost data. E. T. Nettleton. il Rock Prod 43:31-2 Je '40
Thermal volume change and elasticity of aggregates and their effect on concrete. T. F. Willis and M. E. De Reus. il diags Am Soc T M Proc 39:919-28; Discussion. 929 '39

AGING of metals. See Metals—Aging

AGING of rubber. See Rubber—Aging

AGITATORS
Experiences with the Palmer filter agitator at Olean. J. E. Rehler. Am Water Works Assn J 32:1381-4 Ag '40
Method for measuring agitator performance. P. B. Yates and H. E. Watson. diag Soc Chem Ind J 59:63-6 Ap '40

AGLYCONES
Syntheses of model unsaturated lactones related to the cardiac aglycones. J. Fried and others. Science 91:435-6 My 3 '40

AGRICULTURAL administration
American farmer looks abroad. L. A. Wheeler. Ann Am Acad 211:27-34 S '40
Fortune round table; agricultural policy and national welfare. Fortune 22:68-9+ Jl '40
Government and agriculture; the growth of federal farm aid. D. C. Blaisdell. 217p bibliog(p203-7) $1.50 Farrar '40
Planning for a permanent agriculture; including a summary of the programs administered by the Department of agriculture that influence the use of the land; prepared for community and county land use program planning committees. U S Agric Misc Pub 351:1-71 '39

AGRICULTURAL administration—*Continued*
Secretary Wallace announces changes in land programs. Comm & Fin Chr 149:4104-5 D 30 '39
Wallace at Topeka and Wichita and Willkie at Omaha discuss programs. Comm & Fin Chr 151:1828-9 S 28 '40
Wartime control of agriculture in the United Kingdom. Monthly Labor R 50:1110-11 My '40

See also
Federal surplus commodities corporation
Land settlement
Soil conservation

AGRICULTURAL associations

See also
Farmers' cooperative associations

AGRICULTURAL chemistry
Analysis of the fibrous and carbohydrate constituents of feeding stuffs. E. G. Hallsworth. bibliog Soc Chem Ind J 58:357-63; 59:9-17 D '39-Ja '40
Determination of cellulose in fibrous agricultural wastes; a rapid method using monoethanolamine. J. D. Reid, G. H. Nelson and S. I. Aronovsky. bibliog diag Ind & Eng Chem Anal ed 12:255-9 My 15 '40
Official and tentative methods of analysis. 5th ed 757p $5 Assn. of official agricultural chemists, box 540, Benjamin Franklin station, Washington, D.C. '40

See also
Botanical chemistry
Feeding and feeding stuffs
Fertilizers
Soil analysis
Soils

AGRICULTURAL clubs

See also
4-H clubs

AGRICULTURAL colonization

See also
Land settlement
Land utilization

Manchuria

Displacement of native farmers by Japanese in Manchuria. G. R. Merrell. Monthly Labor R 50:1385-7 Je '40

AGRICULTURAL credit
Agricultural chattel loans; abstract. C. C. Jacobsen. Bankers M 141:359-60 O '40
Agricultural finance in the United States. H. W. Torgerson. bibliog map J Land & Pub Util Econ 16:196-206, 318-24 My-Ag '40
Agricultural loans outstanding of agencies supervised by the Farm credit administration, 1936-1939. Survey of Cur Business 1940 Sup p47-8 [supplemented in monthly numbers]
Banks and agricultural loans. W. S. Cothran. Bankers M 140:157-8 F '40
Cooperative purchasing by Indiana farmers through federated county farm bureau associations. G. M. Francis. (Bul. no. 38) 84p Farm credit administration, Cooperative research and service division, Washington, D.C. '40
Evolution of farm credit. il Banking 32:22-4 My '40
Farm credit administration; loans and discounts outstanding, by institutions, Nov. 1938-Nov. 1939. Fed Res Bul 26:44 Ja '40 [cont monthly]
Farm-credit policy as a factor in soil conservation. E. C. Johnson. J Land & Pub Util Econ 15:377-82 N '39
Feeder financing vs. factory financing. J. V. Tuttle. Bankers Mo 57:207+ Ap '40
Feeding helps the bank and the land; good profit in livestock feeding loans. C. W. Wright. Bankers Mo 57:170-1 Mr '40
Film tells how bank loans to farmers rebuilt a community; Southern agriculturist sponsoring dramatization, in color. Sales Management 46:38 Je 15 '40
Future of farm credit; loss of independent status of the land banks and the Farm credit administration. E. M. Ehrhardt. Banking 32:32-3 Ap '40
Government invasion of banking; report by committee on agencies in competition with banks, Nebraska bankers' association; Production credit associations. Bankers M 140: 202-5 Mr '40
Hints to dealers on farm credits by district collection manager, International harvester company. E. H. Bertschi. il Credit & Fin Management 42:13-17 Mr '40
How we compete with non-bank lending agencies; Kanabec state bank, Mora, Minn. F. P. Powers. il Bankers Mo 57:300-1 My '40
Jones-Wheeler-Bankhead-La Follette bill. H. D. Ralph. Burroughs Clearing House 24: 17-18 My '40
Land bank bill threatens credit structure. A. L. M. Wiggins. Bankers M 140:445 My '40
Liquidity of loans to farmers. C. C. Neumann. Comm & Fin Chr 151:69-70 sec 3 O 12 '40
Local dealers send borrowers to this southern bank; feed and farm equipment. H. M. Arthur. Bankers Mo 57:480-1 Ag '40
Money loaned for cattle and feed; Scottsbluff national bank of Scottsbluff, Neb. Bankers Mo 57:111 F '40
More cows, more loans; we encourage both. H. G. Vincent. il Bankers Mo 57:404-5+ Jl '40
Real issue in the Jones-Wheeler bill. R. M. Hanes. Banking 32:93 Je '40
Secretary Wallace assails bankers associations as enemies of low farm credits. Comm & Fin Chr 150:2812 My 4 '40
Straight lane to socialism; Jones-Wheeler farm credit bill. H. Corey. il Nation's Business 28:15-17+ Je '40
Threat of socialized credit; implications of the Jones bill and the FCA controversy. A. W. Atwood. Banking 32:19-22 My '40
Tomorrow's farmers; Bank of America loans to rural youth. Banking 32:61-2 F '40
Volume of short-term credit used by farmers in 1939-40 expected to be 5 or 10% higher than 1938-39. Comm & Fin Chr 149:3178 N 18 '39

See also
Farm credit administration
Land banks
Mortgages, Farm

Great Britain

Agricultural credit. Economist 139:431-2 O 5 '40

AGRICULTURAL education
Agrarian revival; a study of agricultural extension. R. Lord. 236p bibliog(p224-6) $1.50 Am. assn. for adult education, New York '39

AGRICULTURAL engineering
Agriculture has engineering problems in heating and ventilating. F. B. Lanham. bibliog diags plans Heating-Piping 11:769-74 D '39
Basic engineering factors in agricultural technology. L. M. K. Boelter. bibliog il diag Mech Eng 62:226-30 Mr '40
Engineering and the farmer; abstract. K. J. T. Ekblaw. Mech Eng 62:554 Jl '40
Farm mechanics text and handbook. G. C. Cook, L. L. Scranton and H. F. McColly. $2.50 554p The Interstate, Danville, Ill. '39

See also
Agricultural machinery
Drainage
Electricity on the farm
Irrigation
Reclamation of land

AGRICULTURAL experimentation
Practical difficulties met in the use of experimental designs. A. E. Brandt. Am Statis Assn J 35:101-6 Mr '40

AGRICULTURAL insurance. See Insurance, Agricultural

AGRICULTURAL insurance company, Watertown, N.Y.
Company analysis. Spectator (Property ed) 5: 24-5+ F 22; 28-9 My 16 '40

AGRICULTURAL laboratories
Letter from the secretary of agriculture transmitting a report of a survey made by the Department of agriculture relative to four regional research laboratories, one in each major farm producing area. 429p pa 50c Supt. of doc. '39
Refrigeration has many uses in the laboratory; research in the Department of agriculture. J. T. Bowen and W. V. Hukill. il diags plan Refrig Eng 40:287-91+ N '40

AGRICULTURAL laws and legislation

United States

See also
Federal surplus commodities corporation — Mortgages, Farm

AGRICULTURAL machinery
Contributions of power farming to national security; abstract. D. Cox. Automotive Ind 83:455 O 15 '40
Guide to farm equipment tire sizes. Rubber Age 47:177-8 Je '40; Same. India Rubber W 102:46-7 S '40
Job for old tires; Sears catalog points way to rubber-mounted farm implements. Business Week p34 F 3 '40
Lightweight tractors using gasoline grow in favor with farmers. il Nat Pet N 32:25-6, 28, 30+ Jl 31 '40
Manual of farm shop practice. M. M. Jones. 92p pa 75c McGraw-Hill '40
Old-tire use widened; I.H.C. equipping farm implements with standard wheels. il Business Week p42-3 My 4 '40
Rear-action swath turner and windrower. il diags Engineer 170:208 S 27 '40
Rubber promotes efficiency on California farms. il India Rubber W 101:54-5 F '40
Sears gives old tires a new push; program of mounting farm equipment on used rubber. Business Week p40+ Mr 23 '40
Value and cost of pneumatic tires. J. B. Davidson and E. G. McKibben. il India Rubber W 103:49-51 O '40

See also
Cultivators — Threshing machines
Harvesting machinery — Tractors

Repair

Importance of a welding shop in an agricultural community; abstract. D. K. Struthers. Steel 106:72-3 Ap 22 '40
Repairing farm machinery. I. G. Morrison. 181p leatte $1.80 The Interstate, 19 N. Jackson st, Danville, Ill. '40

AGRICULTURAL machinery industry
Agriculture; review and prospects. R. G. Bingham. Iron Age 145:134-6 Ja 4 '40
Farm mechanization has lowered production costs, and contributed to more attractive farm life. F. McCormick. Iron Age 145:64, 66 My 2 '40
Hints to dealers on farm credits by district collection manager, International harvester company. E. H. Bertschi. il Credit & Fin Management 42:13-17 Mr '40
New Ward farm line; will handle Avery implements. Business Week p38 D 2 '39
Ward signs Cletrac. Business Week p36 D 9 '39
What's ahead in 1940? agriculture. il Steel 106:166-8 Ja 1 '40

See also
Tractor industry and trade

Advertising

59,367,000 see International Harvester films since 1911. L. A. Hawkins. Sales Management 47:58+ N 15 '40

Exhibitions

100,000 farmers at Wichita's big tractor and equipment show see bright 1940. A. M. Howe. il Ptr Ink 190:17-19 Mr 1 '40

Finance

Are farm equipment oversold? F. R. Walters. il Mag of Wall St 65:664-7+ Mr 9 '40
Farm equipment earnings 4.96%, 1939. Iron Age 146:98 N 7 '40
International Harvester position. F. R. Walters. il Mag of Wall St 65:224-6+ D 2 '39
SEC issues 1939 supplement for nine manufacturers of agricultural machinery and tractors. Comm & Fin Chr 151:2436-7 O 26 '40

Securities

Position of leading equipment stocks; agricultural. Mag of Wall St 65:468; 66:467 Ja 27, Jl 27 '40

Statistics

Manufacture and sale of tractors, combines and grain threshers, 1939 and 1938; tabulation. Automotive Ind 82:203 Mr 1 '40

Brazil

Brazil farm equipment. For Comm W 1:130 O 19 '40

Canada

Farm implement output in Canada rose in 1938. Iron Age 145:71 F 15 '40

Great Britain

Engineering outlook; agricultural machinery. Engineering 149:322-5 Mr 29 '40

Nebraska

Twenty years of tractor tests at Nebraska state university. P. M. Heldt. il Automotive Ind 82:414-15+ My 1 '40

United States

See also
Caterpillar tractor company — International harvester company

AGRICULTURAL marketing service. See United States—Agricultural marketing service

AGRICULTURAL pests

See also
Fungi
Insecticides
Insects, Injurious and beneficial
Weeds

AGRICULTURAL products

See also
Crops
Dairy products
Farm produce

AGRICULTURAL research
Design of experiments. R. A. Fisher. Oliver & Boyd, Edinburgh, Scotland; Review, by H. A. Freeman. Mech Eng 62:231 Mr '40
Herman Frasch foundation awards. Ind & Eng Chem News ed 17:700 N 20 '39
News: TVA aids private business; vast experimental empire, dedicated to economic reconstruction of the South. il Business Week p26+ My 25 '40
Refrigeration has many uses in the laboratory; research in the Department of agriculture. J. T. Bowen and W. V. Hukill. il diags plan Refrig Eng 40:287-91+ N '40
Scientific research at the New Jersey experiment station. Science 92:sup7 Ag 23 '40

See also
Agricultural laboratories

AGRICULTURAL workers' health and medical association, California
Medical care for migratory workers. R. G. Leland. Monthly Labor R 51:333-7 Ag '40

AGRICULTURE
Agriculture in the twentieth century; essays on research, practice, and organization to be presented to Sir Daniel Hall. 440p $5 Oxford '39
American husbandry. H. J. Carman, ed. 582p $5 Columbia univ. press '39
Crop and soil studies. A. D. Foster. 2d ed 234p $2 Union ptg. co, 1421 Cornwall av, Bellingham, Wash. '39
Internationaler landwirtschaftskongress, Dresden, 6-12 juni 1939. Angew Chemie 52:681-5 N 25 '39

AGRICULTURE—*Continued*

Modern agricultural mathematics. M. Nadler. 315p $2 Orange Judd pub. co, New York '40

Your career in agriculture. H. P. Andersen. 285p bibliog(p265-82) $2 Dutton '40

See also

Agricultural machinery
Cotton
Crops
Dairy products
Dairying
Diversified farming
Drainage
Electricity on the farm
Farm labor
Farm market
Farm produce
Farmers
Feeding and feeding stuffs
Fertilizers
Flax
Forests and forestry
Irrigation
Live stock
Reclamation of land
Rubber plants and planting
Soils
Sugar
Wheat

Consult Agricultural Index for additional references

Bibliography

Agricultural index, January 1937-September 1939. 1832p Wilson, H.W. '39

Revue internationale des industries agricoles; publication mensuelle de la Commission internationale des industries agricoles, 18, avenue de Villars, Paris '40

Economic aspects

Agricultural outlook unusually obscure, following better year in corn belt. J. R. Howard. Annalist 55:114-15 Ja 25 '40

Agricultural situation, March, 1940; developments since the last war. J. D. Black and N. Boddy. R Econ Statis 22:53-73 My '40

Agriculture in modern life. O. E. Baker, R. Borsodi and M. L. Wilson. 303p $3.50 Harper '39

American agriculture, 1933-1940; an appraisal. Index 20 no 1:1-9, 12-15 [Mr] '40; Excerpts. Comm & Fin Chr 150:1686 Mr 16 '40

American farmer looks abroad. L. A. Wheeler. Ann Am Acad 211:27-34 S '40

Commodities demand close watch. Business Week p24+ S 7 '40

Economics with applications to agriculture. E. F. Dummeier and R. B. Heflebower. 2d ed 752p $3.75 McGraw-Hill '40

Europe's famine and the American farmer. F. K. Walters. il Mag of Wall St 66:514-15+ Ag '40

Farmer and the highways. F. Johnson. Am Pet Inst Proc 20(AT):34-7 '39

Farmer in the groupistic regime. H. C. Taylor. J Land & Pub Util Econ 16:253-61 Ag '40

Farmers' dismay over drop in prices offset by calm assurance over subsidies. C. M. Harger. Annalist 55:717 My 23 '40

Farmers of tomorrow. U. Baer. 205p $2 Monroe pub. co, Sparta, Wis. '39

Fortune round table; agricultural policy and national welfare. Fortune 22:68-9+ Jl '40

How drought affects business. R. P. Stewart. map Barron's 19:13 D 11 '39

President Roosevelt tells farmers they need a government which looks out for their interests. Comm & Fin Chr 150:1688-9 Mr 16 '40

Social insurance and agriculture. W. S. Hopkins. 93p bibliog(p38-93) pa 50c Social science research council, 726 Jackson place, NW, Washington, D.C. '40

What plight the farmer? a study of agricultural economics, 1933-1940. M. G. Lewis. 32p pa 25c Farm furrows, Cornelia, Ga. '40

Why farmers are poor; the agricultural crisis in the United States. A. Rochester. 317p bibliog(p295-305) $2.75 International publishers, 381 4th av, New York '40

See also

Agricultural credit
Agriculture—United States—Farm relief
Farm income
Farm labor
Farm market
Farm population
Farm produce
Farms for industrial workers
Land tenure
Land utilization
Mortgages, Farm

History

History of agriculture in Europe and America. N. S. B. Gras. 2d ed 496p $3.50 Crofts '40

Soilless agriculture

See Plants—Soilless culture

Africa

Causes et dangers de l'érosion du sol dans les régions arides ou semi-arides; modes de culture qui y remédient. Génie Civil 116:229-31 Ap 6 '40

Australia

Land utilization in Australia. S. M. Wadham and G. L. Wood. 360p $5.25 G. E. Stechert & co, New York '39

California

British-American trade agreement; effect on California agriculture. J. W. Tapp. Special Lib 30:344-7 D '39

China

Agrarian China; selected source materials from Chinese authors. 258p $2.50 Univ. of Chicago press '40

See also

Irrigation—China

Great Britain

Agriculture; an art or an industry? C. S. Orwin. Assn of Sp Lib & Inf Bur Proc 1939: 36-40

Farmers and food; crop and marketing control measures. Economist 138:367-8 Mr 2 '40

New farming policy. Economist 138:1000 Je 8 '40

Wartime control of agriculture in the United Kingdom. Monthly Labor R 50:1110-11 My '40

Kansas

Empire of dust. L. Svobida. 203p $3 Caxton printers, Caldwell, Idaho '40

Latin America

See also United States—Agriculture, Department of—Division of Latin-American agriculture

Latvia

Shortage of agricultural labour in Latvia. P. Starcs. Int Labour R 40:768-78 D '39

Morocco

L'équipement électrique et hydraulique du Maroc; l'hydraulique agricole et l'électrification rurale. J. Thomas. il Génie Civil 116: 97-100 F 10 '40

North America

American husbandry. H. J. Carman, ed. 582p $5 Columbia univ. press '39

Russia

Economic development of the Soviet Union under the second and third five-year plans. A. Abramson. Int Labour R 41:183-7 F '40

Economics of Soviet agriculture. L. E. Hubbard. 315p bibliog(p311-12) $4 Macmillan '39

Soviet agriculture. Economist 138:673-5 Ap 13 '40

U.S.S.R.; labor discipline in machine-tractor stations. For Comm W 1:115-16 O 19 '40

Southern states

Flax may be cotton kingdom's ally. il Business Week p54-5 O 12 '40

South plans own reconstruction. Business Week p24+ F 3 '40

Southern crops. P. W. Chapman and R. H. Thomas. 558p $2 T. E. Smith and co, Atlanta '39

Successful farming in the South. P. W. Chapman. 348p $1.04 T. E. Smith & co, Atlanta '39

Switzerland

Strain on the Swiss economy; Swiss farming today. Economist 138:58 Ja 13 '40

AGRICULTURE—*Continued*

United States

Agricultural situation, March, 1940; developments since the last war. J. D. Black and N. Boddy. R Econ Statis 22:53-73 My '40
Agriculture and the defense program. C. C. Davis. Fed Res Bul 26:1168-70 N '40
American farmer looks abroad. L. A. Wheeler. Ann Am Acad 211:27-34 S '40
Fortune round table; agricultural policy and national welfare. Fortune 22:68-9+ Jl '40
32,000,000 farmers; only 2 per cent of the world's farm population, they have made of the U.S. the world's greatest agricultural producer. il Fortune 21:68-71+ F '40

See also
Farm labor

Bibliography

Agricultural relief measures relating to the raising of farm prices. M. E. Wheeler, comp. 75p U.S. Bur. of agricultural economics, Washington '40
Guide for courses in the history of American agriculture. E. E. Edwards. 192p U.S. Dept. of agriculture, library, Washington '39

Farm relief

American agriculture, 1933-1940; an appraisal. Index 20 no 1:1-9, 12-15 [Mr] '40; Excerpts. Comm & Fin Chr 150:1686 Mr 16 '40
Annual report of Secretary of agriculture Wallace. Comm & Fin Chr 150:212 Ja 13 '40
Congressional group hears Union Central Life experts. Nat Underw (Life ed) 44:28 O 4 '40
Department of agriculture announces farm parity rates on four crops. Comm & Fin Chr 150:1212-13 F 24 '40
Drought strikes the Plains again; repercussions on farm program. map Business Week p16+ N 18 '39
Farm budget rebuilt; Senate's action. Business Week p16-17 Mr 30 '40
Farm program must be made self-supporting to assure its permanency. H. A. Wallace. Comm & Fin Chr 149:3646 D 9 '39
Farm technology report offers recommendations. Comm & Fin Chr 151:2125 O 12 '40
Fortune survey; spending for agriculture. Fortune 21:118 Ap '40
Gains to American farmers under reciprocal trade program pictured by Secretary Wallace; comments on producers' certificate plan. Comm & Fin Chr 149:3952-3 D 23 '39
House appropriations committee cuts agriculture bill by $154,530,263. Comm & Fin Chr 150:771-2 F 3 '40
House passes Agriculture department appropriation bill carrying $722,001,084. Comm & Fin Chr 150:919 F 10 '40
House passes buck on farm cuts. Business Week p15 F 10 '40
National Grange outlines 14-point platform for agriculture. Comm & Fin Chr 149:3486 D 2 '39
New York state grange, 67th annual convention, Syracuse. Comm & Fin Chr 149:3958 D 23 '39
Our farm program in wartime; views of Secretary Wallace. Barron's 20:6 Ja 8 '40
President Roosevelt tells farmers they need a government which looks out for their interests. Comm & Fin Chr 150:1688-9 Mr 16 '40
Processing-tax headache again? Secretary Wallace's certificate plan. B. Stubblefield. Textile World 90:53 Ja '40
Red cross now big farm customer; Department of agriculture sees opportunity to use crop surpluses. Business Week p33-4 Je 15 '40
Secretary of Treasury Morgenthau believes consumer taxes are high enough; opposed to plan of Secretary Wallace for a processing levy to pay farm parity benefits. Comm & Fin Chr 149:3951 D 23 '39
Secretary Wallace advises House committee on marketing certificates. Comm & Fin Chr 150:1214-15 F 24 '40
Secretary Wallace defends certificate program for farm parity payments; denies it is regressive tax on consumers. Comm & Fin Chr 149:4105 D 30 '39
Senate passes $923,000,000 farm appropriation bill. Comm & Fin Chr 150:2015-16 Mr 30 '40
Subsidies to agriculture; excerpts from article in South African journal of economics. J. M. Tinley. Bankers M 140:376 My '40
War strains U.S. farm program. Barron's 20:6 My 27 '40

See also
Agricultural laws and legislation—United States
Agriculture—Economic aspects
Farm security administration
Federal surplus commodities corporation

AGRICULTURE, Cooperative

See also
Farmers' cooperative associations

Belgium

Belgian rural cooperation; a study in social adjustment. E. J. Ross. 194p bibliog(p175-87) $4.50 Bruce pub. '40

AIKINITE

Aikinite and silver enrichment at the St Louis mine, Butte county, Idaho. A. L. Anderson. il Econ Geol 35:520-33 Je '40

AILERONS

Fixed leading edge slot and aileron control. A. Klemin. il diags Aero Digest 37:108, 111-12 N '40 (to be cont)
Graphical solution of the bending-aileron case of flutter. W. B. Bergen and L. Arnold. bibliog diags J Aeronautical Sci 7:495-508 O '40

AIR

Atmosphere as a raw material; abstract. R. Grimwade. J Chem Educ 16:596 D '39
Economics of catalytic oxidation in the vapor phase. C. Conover. Ind & Eng Chem 32:1298-1300 O '40
Estimate of the absorption of air in the extreme ultraviolet. E. G. Schneider. il Opt Soc Am J 30:128-32 Mr '40
Öl und ölartige bestandteile in der luft. H. Cauer. Angew Chemie 53:171-2 Ap 13 '40
Precision determination of the viscosity of air; rotating cylinder method. J. A. Bearden. bibliog diags Phys R 56:1023-40 N 15 '39
Radio-frequency spark-over in air. P. A. Ekstrand. diags Inst Radio Eng Proc 28:262-6 Je '40

See also
Aerodynamics
Aeronautics
Air conditioning
Air flow
Air pollution
Atmosphere, Upper
Atmospheric pressure
Atmospheric temperature
Compressed air
Deaeration
Dust
Heating
Humidity
Krypton
Meteorology
Nitrogen
Oxygen
Ozone
Ventilation

Analysis

Detection of aniline vapour. Chem & Ind 58:1070-1 D 9 '39; Same. Engineering 148:718 D 29 '39
Detection of aromatics in air. G. R. Gilbert and R. E. Tannich. diag Ind & Eng Chem Anal ed 12:433-6 Jl 15 '40
Determination and recording of carbon disulfide and hydrogen sulfide in the viscose-rayon industry. G. M. Reece, B. White and P. Drinker. bibliog flow diag il diags J Ind Hygiene 22:416-24 N '40
Determination of carbon disulfide in air by means of copper and diethylamine in 2-methoxyethanol. F. F. Morehead. bibliog il Ind & Eng Chem Anal ed 12:373-4 Je 15 '40
Determination of the thoron content of air and its bearing on lung cancer hazards in industry. R. D. Evans and C. Goodman. il diag J Ind Hygiene 22:89-99 bibliog(p98-9) Mr '40

AIR—Analysis—*Continued*
p-Dichlorobenzene as a vapor fumigant; effect of crystal size on rate of evaporation, estimation of *p*-dichlorobenzene in atmosphere. F. R. Darkis, H. E. Vermillion and P. M. Gross. bibliog il Ind & Eng Chem 32:496-9 Jl '40
Explosion hazards in storage-battery rooms. G. W. Jones and others. il plan U S Bur Mines Tech Pa 612:1-16 '40
Field determinations of carbon disulfide in air. F. J. Viles. bibliog diags J Ind Hygiene 22:188-96 My '40
Lichtelektrisches verfahren zur bestimmung der kornverteilung in staubluft. K. Gösele. diag V D I 84:138-9 F 24 '40
Quantitative analysis of X-ray diffraction; the determination of quartz. J. W. Ballard, H. I. Oshry and H. H. Schrenk. pls U S Bur Mines Rep of Invest 3520:1-10 '40
Über die bestimmung von luftbeimengungen und die bedeutung chemischer untersuchungsmethoden für meteorologie und klimatologie. E. Quitmann. bibliog diags Angew Chemie 53:80-2 F 17 '40

See also
Dust

Bacteriology

Advantages of bactericidal ultraviolet radiation in air conditioning systems. H. C. Rentschler and R. Nagy. il diags plan Heating-Piping 12:127-30 F '40
Air-borne bacteria; studies, 1939. Heat & Ven 37:92-3 Ja '40
Air sterilization; abstract. E. C. Robertson and others. Heat & Ven 37:60 N '40
Bactericidal irradiation of air; physical factors. W. F. Wells. il Franklin Inst J 229:347-72 Mr '40; Discussion. I. Opatowski. 230:643-5 N '40
Study of the role of ventilating systems in the transmission of bacteria. J. M. Dalla-Valle and A. Hollaender. Pub Health Rep 55:1268-72, pl 1 Jl 12 '40

AIR, Compressed. See Compressed air

AIR brakes
Advancements in the braking of high-speed trains; with description of Decelostat for decreasing wheel slip. C. D. Stewart. Ry Age 108:861-4 My 18 '40
Air brake questions and answers (cont). Ry Mech Eng 113:557; 114:33-4+, 73, 121, 156, 198, 322-3, 366-7, 406 D '39-My, Ag-O '40
Freight car specialities for speed. il Ry Age 108:925, 926 My 25 '40
Future locomotive air-brake maintenance. J. P. Stewart. Ry Mech Eng 114:440-3 N '40
New York air brake company. Franklin Inst J 230:642 N '40
No. 8-ET locomotive brake equipment; Railway fuel and traveling engineers association committee report. Ry Mech Eng 114:494-6 N '40; Same cond. Ry Age 109:623-4 N 2 '40
Present influence of the AB freight brake; Railway fuel and traveling engineers' association committee report. Ry Mech Eng 113:477-9 N '39
Report of A.A.R. committee on brakes and brake equipment. Ry Age 109:13-14 Jl 6 '40; Same. Ry Mech Eng 114:254-5 Jl '40

AIR brakes, Motor bus
Balanced brakes. il diags Bus Transportation 19:264-5 Je '40
Stop braking troubles; study of temperature and pressure requirements. D. H. Robinson. il Bus Transportation 19:427-9, 498-500 S-O '40

AIR brush
Air brush art. G. W. Kadel. 191p $3 Signs of the times pub. co, Cincinnati '39
Painting pictures with an air brush. il Comp Air M 45:6158 My '40

AIR cleaners
Air cleaners for clean spraying of organic finishing materials. L. F. Johnston. il diags Metal Ind 38:297-9 My '40
Characteristics of air cleaners used on Diesel and gas engines; abstract. W. K. Gregory. diags Automotive Ind 83:64-5 Jl 15 '40
Gas-cleaning equipment. diags Chem & Met Eng 47:321-2 My '40
Industrial application of electrically cleaned air; use of the Precipitron has reduced rejections in making carbide tools; Firth-Sterling steel co. W. J. Loach. il Mach 46:89-90 Ag '40

See also
Air filters
Dust collectors

AIR cleaners, Automobile
Factors affecting engine wear; oil filters and oil bath air cleaners. M. M. Roensch. Nat Pet N 32:44, 46 Ap 3 '40
Proposed air cleaner test code. W. H. Worthington. diags S A E J 47:294-9 Jl '40

AIR cleaning
Air conditioning the Disney studios. il Power 84:290-1 My '40
Cleaning of air and gas by thermal repulsion. S. C. Blacktin. diags Soc Chem Ind J 58:334-8; 59:153-4 N '39, Jl '40
Electrostatic air cleaning as applied to air conditioning. J. R. McConnell. Heat & Ven 37:51-2 Ag '40
Plymouth; ventilating and air cleaning system for paint spraying booths. C. Strock. il diag Heat & Ven 37:136-40 Ja '40

AIR compressors
Broom and Wade single-stage double-acting air compressor. il diags Engineering 148: 526-7 N 10 '39
Compressor plant modernization pays for itself out of savings; maintenance shops at Hagerstown, Md.; Western Maryland railway. W. J. Crabbs, jr. il diag Power 84:495-7 Ag '40
Electric drive for ordinary construction jobs; motors and control for pumps and compressors. G. H. Hall. il diags Eng N 124: 442-4 Mr 28 '40
Improve repressuring plant in Titusville, Pa. field. J. P. O'Donnell. il Oil & Gas J 38: 36+ Ja 18 '40
Inexpensive small air compressor for aeration of plant culture solutions. G. J. Raleigh. Science 90:597-8 D 22 '39
Lindley two-stage unicylinder monobloc air compressor. il diags Engineering 148:577, 584 N 24 '39
Load tests of a 4,000-kW. combustion-turbine set. A. Stodola. diags Engineering 149:3-4 Ja 5 '40
National gas and oil engine company's two-stage horizontal compressor sets. il diags Engineering 149:277-9 Mr 15 '40
Pioneer compressor for liquefying air. il Comp Air M 45:6067 Ja '40
Les possibilités actuelles de la turbine à gaz à pression constante. M. Gautier. Génie Civil 116:133-4 F 24 '40
Problems of compressors and compressed gases in industry. R. L. Quertier. il diags Inst Chem Eng Trans 17:80-105; Discussion. 105-8 '39 [for abstracts see 1939 annual]
Quincy pressure lubricated air compressors. il Rock Prod 43:51 Jl '40
Stationary compressors supply air for braking ore trains; open-pit iron mine on the Mesabi range. C. E. McManus. il Comp Air M 45:6109 Mr '40
Steam-driven air compressor takes small space, has high efficiency; American smelting & refining co, Garfield, Utah. P. K. Richardson. il Power 84:632-3 O '40
Les turbosoufflantes dans les cokeries et usines à gaz. C. Berthelot. diags Génie Civil 116:86-7 F 3 '40
Vertical double-acting two-stage air compressors. il diags Engineering 150:27-8, 30 Jl 12 '40
Where watchfulness pays. Comp Air M 45: 6135 Ap '40
Why combustion gas turbines? J. T. Rettaliata. il Power 83:732-4 D '39

See also
Compressed air

Repair

Air compressor repair. diag Eng & Min J 141:54 Mr '40

AIR compressors—*Continued*

Safety devices and measures

Cleaning air compressors and air receivers; hazards and precautions. Nat Safety N 42: 86, 88 O '40

AIR compressors, Portable

Broom and Wade lorry-mounted air compressor. il Engineer 169:383 Ap 19 '40; Engineering 149:421 Ap 19 '40

Compressors shipped to tropics in air-tight cases. il diag Comp Air M 45:6222 Ag '40

Road roller fitted with air compressor. il Engineering 149:97 Ja 26 '40

AIR conditioning

Advantages of bactericidal ultraviolet radiation in air conditioning systems. H. C. Rentschler and R. Nagy. il diags plan Heating-Piping 12:127-30 F '40

Air conditioned insects save pest infested crops; Dominion of Canada entomological building, Belleville. Heat & Ven 37:140 Ja '40

Air conditioning as production tool; abstracts of papers at production conference of the American management association. il Heating-Piping 11:727-31+ D '39

Air conditioning Buffalo's new Kleinhans music hall. M. C. Beman. il Heat & Ven 37: 24-6 N '40

Air conditioning; chief factors and how they are determined. il Chem & Met Eng 47:325-8 My '40

Air conditioning of air raid precaution shelters. J. W. Harvey. plan Refrig Eng 39:19-20 Ja '40

Air conditioning; operation and maintenance. diags Power Pl Eng 44:89 Ja '40

Air-conditioning primer; the A-B-C of air conditioning. W. H. Stangle. 236p $2.50 McGraw-Hill '40

Air conditioning the Air lines terminal. D. T. Ryan. il Refrig Eng 40:279-80+ N '40

Air conditioning with ice in 1939. E. Brandt. Heat & Ven 37:77 Ja '40

Air conditioning's many uses are discussed at eastern conference at Lehigh university. il Heating-Piping 11:739-43+ D '39

Air hazards in industry, bacterial purification, new standards and codes, highlighted in 1939. Heat & Ven 37:89-93 Ja '40

American society of heating and ventilating engineers; abstracts of papers. Heat & Ven 37:52-8 F '40

American society of refrigerating engineers and American society of heating and ventilating engineers meeting; abstracts of papers. diags Power 84:162-3 Mr '40

American society of refrigerating engineers and Refrigeration service engineers' society; abstracts of papers. Heat & Ven 37:45-8 F '40

Balancing winter air conditioning systems. J. B. Wallis. Sheet Metal Worker 31:37-8, 40+ Ap; 43-4+ My '40

Check list for air conditioning surveys; reference data. J. D. Constance. Heat & Ven 37:60A-60B S '40

Complete air conditioning in an educational building. S. R. Lewis. diags Refrig Eng 39: 95-8 F '40

Electric elements well adapted to the air conditioning heating cycle; office building of Appalachian electric power co., Beckley, W.Va. L. P. Hynes. il Heating-Piping 12: 29-30 Ja '40

Electrostatic air cleaning as applied to air conditioning. J. R. McConnell. Heat & Ven 37:51-2 Ag '40

Engineer air conditions his home; gas fired equipment uses Freon 113 for heating and cooling. C. F. Boester. il diag plan Heat & Ven 37:15-18 F '40

Fluorescent lighting and air conditioning; abstract. P. N. Clerke. Heat & Ven 37:56 Ag '40

Food industry requires both air conditioning and refrigeration; Genetti food center, containing food market, dining room, restaurant, grill, and a ball room. il Refrig Eng 39:226 Ap '40

Fundamentals of winter air conditioning (cont). B. F. McLouth. diags Sheet Metal Worker 30:56-8 D '39; 31:100, 102 Ja; 40, 42+ F; 44, 46+ Mr; 52, 54+ Je '40

Hanes hosiery mills company; heating and air conditioning. il diag plan Heat & Ven 37:22-4 O '40

Heat gain through glass blocks by solar radiation and transmittance. F. C. Houghten and others. il diags Heating-Piping 12:264-70 Ap '40

Humidity damage to buildings and means for its prevention. C. R. Downs and J. W. Spiselman. il diag Chem & Met Eng 47: 620-1+ S '40

Inexpensive solution of a tricky air-conditioning problem; mortuary. D. R. Nordwall. plans Heat & Ven 37:48-9 Mr '40

Largest modern air conditioned super-market built in Miami. il Refrig Eng 40:44-5 Jl '40

Lighting and air conditioning; abstract. H. M. Sharp. Heating-Piping 12:140-2 Mr '40

Manly's air conditioning handbook. H. P. Manly. 108p $1.50 Harold Phillips Manly, Wilmette, Ill. '39

Modern air conditioning. C. H. Loughridge. il Cornell Eng 5:12-16 F '40

Need for direct dehumidification by means of solid adsorbents and liquid absorbents as distinguished from use of refrigeration alone; abstract. J. C. Patterson. Chem & Met Eng 47:228-9 Ap '40

New England air conditioning institute at Massachusetts institute of technology, June 11-12. Heat & Ven 37:60-1+ Jl '40

Railway air conditioning problems; abstract. A. R. Walker. Heating-Piping 12:142 Mr '40

Research develops better air conditioning. W. B. Henderson. il Sheet Metal Worker 31: 40, 42+ Jl '40

Sizing registers for air conditioning. J. H. Van Alsburg. diags Sheet Metal Worker 31:52, 54 F '40

Steam consumption for humidifying. Heating-Piping 11:752 D '39

Texas climate vs human comfort. H. E. Degler. Heating-Piping 12:675-7 N '40

Theory needs common sense for reasonable engineering. L. T. Avery. Heating-Piping 11:744-5 D '39

There's moisture in the air. M. Landau. Sheet Metal Worker 30:44, 46+ N; 36, 38+ D '39

Tourist courts turn to central heating and air conditioning. il Heat & Ven 37:27 Je '40

Treatise on acoustics in air conditioned enclosures. H. Kunen. 27p pa $1 Anemostat corp. of America, 10 E. 39th st, New York '39

Wanted—more air; reconstruction of system. il Dom Eng 155:52-3+ My '40

Winter air conditioning for camp buildings. Sheet Metal Worker 31:38+ O '40

See also

Air conditioning equipment
Air conditioning industries
Air filters
Anemostats
Animal buildings—Air conditioning
Art galleries and museums—Air conditioning
Automobiles—Air conditioning
Car cooling
Cooling
Department stores—Air conditioning
Electricity in air conditioning
Exhaust systems
Gas in air conditioning
Heating
Hospitals—Air conditioning
Hotels—Air conditioning
Humidity
Moving picture studios—Air conditioning
Office buildings—Air conditioning
Ozone
Radio broadcasting studios—Air conditioning
Restaurants—Air conditioning
Smoke prevention
Store buildings—Air conditioning
Ventilation

Cost

Cost of operating air conditioning system. J. A. Gazelle. Heating-Piping 12:230 Ap '40

AIR conditioning—Cost—*Continued*
Gas engine cuts air conditioning power costs 71%; Heidelberg hotel at Jackson, Miss. il Heat & Ven 37:28 Mr '40

Estimates

Air conditioning contractor; value of using cost estimating sheets; how selling price is found. J. H. Carter. il Heating-Piping 12:481-3 Ag '40
Fallacy of the square foot as a unit for factory costs. C. A. Haynes. Heat & Ven 37: 23 F '40
How to determine size and cost of freon lines. W. Parkerson. Heat & Ven 37:17-21 O; 48-52 N '40 (to be cont)

Hygienic aspects

Air conditioning combats common cold; abstract. A. G. Young. Heating-Piping 12:101 F '40
Air conditioning for the relief of cedar-pollen hayfever. A. H. Willis and H. E. Degler. il diags maps Texas U Bul 3932:1-48 bibliog(p47-8) '39
Air conditioning in the tropics. C. P. Mom. il Heating-Piping 12:633-6 O '40
Efficiency increased 20% in Johnson firm. Refrig Eng 39:32 Ja '40
Fever therapy locally induced by conditioned air. M. B. Ferderber, F. C. Houghten and C. Gutberlet. bibliog il diags Heating-Piping 12:323-5 My '40
Hospital air conditioning, a realistic approach. C. F. Neergaard. il Refrig Eng 40:300-2+ N '40; Abstract. Heating-Piping 11:742 D '39
Osteopaths assail air conditioning. G. W. Riley. Refrig Eng 40:190+ S '40
Study of changes in the temperature and water vapor content of respired air in the nasal cavity. L. E. Seeley. il diags Heating-Piping 12:377-88 Je '40; Abstract. Mech Eng 62:825 N '40
Uses of air conditioning in hospitals; abstract. M. B. Ferderber. Heating-Piping 11:742-3 D '39

See also
Hospitals—Air conditioning

Study and teaching

Heating, ventilating and air conditioning courses; survey of courses offered in over 100 universities and colleges, giving name, address, instructors, session, and subjects. Heating-Piping 12:573-5 S '40
Poll of opinion on air conditioning schools. Refrig Eng 40:82-6+ Ag '40
Requirements for vocational training in air conditioning and refrigeration. R. D. Wood. Refrig Eng 40:226-8 O '40

Tables, calculations, etc.

How much power is used for air conditioning? averages for Washington, D.C. S. L. Gregg. Heating-Piping 12:19-21 Ja '40
Permissible relative humidities in humidified buildings. P. D. Close. diag Heating-Piping 11:766-8 D '39
Prediction of performance of air conditioning systems. A. B. Newton. Refrig Eng 40:25-6 Jl '40
Properties of mixtures of air and saturated water vapor for barometric pressures from 22 in. to 32 in. of mercury; tables. W. Goodman. Heating-Piping 11:445-6, 505-6, 567-8, 627-8, 689-90, 755-6; 12:185-6, 253-4, 311-12, 373-4, 435-6 Jl-D '39, Mr-Jl '40
Psychrometric chart; its application and theory. W. Goodman. diag Heating-Piping 11:357-60, 421-4, 485-7, 549-51, 613-15+, 671-4, 749-52; 12:6-9, 107-10, 171-3, 239-42, 303-5, 367-9, 431-3, 486-8 Je '39-Ag '40
Some factors in air conditioning design for a federal office building; cooling equipment of Social security building, Washington. W. A. Brown. diags plans Heating-Piping 12:682-91 N '40
Total heat-enthalpy chart for air conditioning work. Yin Cho-lan. Power Pl Eng 44:100 Ja '40
Unit volume capacities and dimensions of standard pipe and tubing; reference data. Heat & Ven 37:58a-58b Ap '40

See also
Cooling—Tables, calculations, etc.

AIR conditioning, Industrial

Air blast method preferred in meat plant. J. A. Newton. il Refrig Eng 40:151-2 S '40
Air conditioned apples; control of temperature and humidity with blower coils. F. W. Swan. il diags Refrig Eng 40:78-80+ Ag '40
Air-conditioning advantageous in woolen and worsted mills. A. C. McKittrick. il Textile World 89:46-8 D '39
Air conditioning as applied to foods and industry. H. B. Matzen. il Refrig Eng 40: 297-9+ N '40
Air conditioning controls paper behavior; Hopper paper company. V. L. Shaw. il Paper Ind 22:563-4 S '40
Air conditioning for chocolate storage. il diag Elec W 113:466+ F 10 '40
Air conditioning for nylon hosiery. H. L. Kempaner. il Textile World 90:101-2 S '40
Air conditioning from a practical angle. J. L. Mullin. Paper Ind 22:738+ O '40
Air conditioning in rayon plants and textile mills. il Rayon 21:242-4, 639-40 Ap, O '40
Air conditioning in the South. M. Ingels. il Manuf Rec 108:32+ D '39
Air conditioning saves knives. Iron Age 146:57 N 14 '40
Air conditioning serves mankind; pharmaceutical manufacture; Parke, Davis laboratories. E. P. Heckel. il diag Heating-Piping 12:593-4 O '40
Air conditioning vital to precision in manufacture of aircraft engines; Allison div. of General motors corp. il Heating-Piping 12: 151-4 Mr '40
Air control job; industry sees demand in new munitions plants. Business Week p32-3 Jl 20 '40
Better product by air conditioning; smoke houses. O. F. Gilliam. il diags Heating-Piping 12:370-2 Je '40
Boost output by air conditioning; abstract. W. B. Henderson. Heating-Piping 11:729 D '39
Candy engineer; keeping chocolates at the right temper. P. H. Keeney. diag Power Pl Eng 44:86 S '40
Changes air conditioning, saves $4,000 a year; Seamless rubber company. E. F. Sibley. Factory Management 98:100 My '40
Conditioning brings economies to rotogravure plant; Chicago Tribune. Refrig Eng 39:200 Mr '40
Conditioning essential in nylon manufacture. il Refrig Eng 40:21 Jl '40
Conditioning reduces paper complaints; Mead corporation. Paper Tr J 110:46 Ap 18 '40
Dehumidifying and heating needed on an industrial conditioning job; air conditioning system for rotogravure room. M. A. Ramsey. plan Heating-Piping 12:522-3 S '40
Desirable temperatures and humidities for industrial processing; tabulation. Factory Management 98:100, 102 Mr '40
Development of air conditioning; abstract. A. E. Stacey, jr. il Heating-Piping 11:727-9 D '39
Drying and curing bright leaf tobacco with conditioned air. A. H. Cooper, C. D. Delamar and H. B. Smith. bibliog il Ind & Eng Chem 32:194-8 F '40
Dust and rust are out; SKF industries air conditioned its Philadelphia plant. il Am Mach 83:1036 D 13 '39
Edgar P. Lewis & sons; manufacturer of candy; use of ten Bryant silica-gel type air dehumidifiers. D. R. McNally. il Heat & Ven 37:37-40 Ag '40
Equipment for conditioning materials at constant humidities and at elevated temperatures. J. G. Wiegerink. diag J Research Nat Bur Stand 24:639-44, pl 1-3 Je '40
Handle with air; heating and air conditioning Rock Island fruit and produce terminal. il Dom Eng 155:51-3 Ap '40

AIR conditioning, Industrial—*Continued*
Heald machine company air conditions a portable gauge and inspection room. il Heat & Ven 37:38 N '40
Humidity standards for paper testing. M. S. Kantrowitz and E. W. Spencer. Paper Ind 22:39-42 Ap '40; Same cond. Ind Stand 11: 261-5 O '40
Improved unit heater sections; control of heated and cooled air. il diags Rayon 21:53 Ja '40
Industrial application of electrically cleaned air; use of the Precipitron has reduced rejections in making carbide tools; Firth-Sterling steel co. W. J. Loach. il Mach 46: 89-90 Ag '40
Industrial rayon corporation; air conditioned Painesville plant. il diags Heat & Ven 37: 34-8 Ap '40
Kollsman instrument co.; air conditioning prevents frost and moisture on instruments under test. il diag Heat & Ven 37: 36-7 N '40
Modified atmospheres for fruits and vegetables in storage and in transit. C. Brooks. Refrig Eng 40:233-7 bibliog(48 titles, p237) O '40
Moisture control of cupola air; Muskegon piston ring co. J. L. Brooks. flow diag diag Foundry 68:38-9+ S '40
Moisture removal from blast furnace air. L. L. Lewis. il diags Refrig Eng 39:89-92, 157-60 F-Mr '40; Same cond. Steel 105:54+ N 20; 42+ N 27 '39; Abstract. Iron Age 144:46 N 23 '39; Same. Blast F & Steel Pl 27:1269+ D '39; Same. Heating-Piping 11:739-40 D '39
Novocol chemical mfg. co. uses silica gel unit to dry air. R. Sanford. il diag plan Heat & Ven 37:43-5 Ap '40
Production for the emergency and after; why air conditioning is essential. J. I. Lyle. il Heating-Piping 12:662-4 N '40
Profits in air; how industrial plants promote processes and profits by scientific control of atmospheric conditions. il diags plans Heat & Ven 36:28-40 N; 17-29 D '39; 37:135-40 Ja '40
Protecting motors in the steel mill. G. A. Caldwell. il Steel 106:60-2 Ap 8 '40
Refrigeration in ordnance manufacture. H. B. Matzen. Refrig Eng 39:21-3 Ja '40; Same. il Heating-Piping 12:1-3 Ja '40
Reminiscences of the first application of dry blast. L. E. Riddle. diags Blast F & Steel Pl 28:464-70 My '40
Report on conditioning of gases and air. il diags Chem & Met Eng 47:286-332 My '40
Scott paper company. E. L. Blair. il Heat & Ven 37:51-3 Jl '40
Sixteen things that can go wrong with air conditioning. C. I. Elliott. il diags Food Ind 12:39-41 Ap; 40-1 My '40
Ventilation and dehumidification of paint spray rooms for airplane manufacturers. il Dom Eng 156:34-5+ Jl '40
W. B. Coon shoe company dehumidifies shoe drying shed. il diag Heat & Ven 37:25-6 O '40
Web breaks on newspaper presses. Pulp & Pa of Can 41:448 Je '40
Woodward iron co. gets second air conditioning system. Refrig Eng 39:32 Ja '40
Woodward iron co. operating first air conditioned blast furnace. il Heat & Ven 36:27-9 D '39
York installs largest centrifugal machine in plant of the Industrial rayon corporation. Refrig Eng 40:33 Jl '40

See also
Dehumidifiers
Humidifiers

AIR conditioning and refrigerating machinery association
R.M.A. and A.C.M.A. combine organizations. Refrig Eng 40:103 Ag '40

AIR conditioning equipment
Air conditioning compressors. il diags Refrig Eng 38:346-7 D '39
Air conditioning equipment upstairs; J. J. Newbury co. store at Texarkana, Tex. il Elec W 114:566+ Ag 24 '40
Air conditioning in restaurants. R. E. Borden. diags plan Refrig Eng 39:1-4 sec 2 Je '40
Air conditioning machinery for display; National broadcasting company's Hollywood, Calif. studio. il Refrig Eng 39:367-8+ Je '40
Air conditioning the Disney studios. il Power 84:290-1 My '40
Air conditioning under glass; National broadcasting company's Hollywood studio. il Dom Eng 155:47-9+ My '40
Air-O-Matic equipment for year-'round air conditioning. W. W. Williams. il Am Gas Assn Proc 1939:444-8
Badoni small air-conditioning plant. il Engineer 168:577 D 8 '39
Bahnson air-conditioning equipment. il Textile World 90:77-8 Ja '40
Combination of central plant and unit air conditioning serves varying needs; Charity hospital of Louisiana. F. H. Chisholm. il plan Heating-Piping 12:539-41 S '40
Donald and his ducts; air conditioning installation in Walt Disney studios. il Dom Eng 155:38-41+ Mr '40
Electrical developments of 1939. G. Bartlett. il Gen Elec R 43:46-7 Ja '40
Facing the corrosion problem. L. L. Lewis. Refrig Eng 40:292 N '40
Features of a mammoth air conditioning installation; Bankers life co. home office building. il Sheet Metal Worker 31:42, 44, 46+ Ag '40
Fin coil; evolution and development. il diags Refrig Eng 38:349-51 D '39
Fleetwood acres, Bronxville, N.Y. C. F. Holske. il diags plans Heat & Ven 37:26-9 Jl '40
Ford foundation, Dearborn, Mich.; heating and air conditioning equipment. C. Strock. il diags plans Heat & Ven 37:22-5 Jl '40
Heat transfer surfaces. C. M. Ashley. il Chem & Met Eng 47:319-21 My '40; Same. Chem Age (Lond) 43:4-5 Jl 6 '40
Heated by reverse cycle refrigeration. K. M. Fisher. il Dom Eng 155:50-1 Je '40
New equipment. Published in monthly numbers of Heating and ventilating
Piping does double duty; same circuits serve twelve zones of department store air conditioning system; Meyer bros. D. E. Alton. plan Heating-Piping 12:535-6 S '40
Progress in 1939 year-round equipment. il diag Heat & Ven 37:95-6+ Ja '40
Review of power and mechanical equipment; heating, ventilating, refrigeration and air conditioning. il diags Power 83:801-3 Mid-D '39
Steam jet conditioning. il Dom Eng 156: 43-5+ O '40
Streamlined air conditioning; Westinghouse air conditioning unit. il Power Pl Eng 43: 813 D '39; 44:64 Mr '40
13 don'ts for ducts. J. M. High. il Dom Eng 154:36-7 D '39
Up, down and sideways; use of cork, felt, and springs for isolation of vibratory air conditioning machinery. il diags Dom Eng 155: 44-5+ Je '40
Up-to-the-minute air conditioning for the Southeast's oldest bank; Freon-11 turbo-compressor unit; First national bank of Atlanta. il diag plan Power 84:575-7 S '40
Venturi ejector for handling air. F. F. Kravath. diags Heat & Ven 37:17-21 Je; 46-9 Ag '40
Walt Disney air conditions. S. Martin, jr. il Heating-Piping 12:231-3 Ap '40
Walt Disney's gang in new home. il Comp Air M 45:6147-8 My '40
Year 'round conditioning system for a store has three-in-one coil. J. M. Aikman. plans Heating-Piping 12:117-18 F '40

See also
Air filters
Dehumidifiers
Humidifiers

Control
Air conditioning controls. H. E. Shugars. diags Refrig Eng 40:221-5 O '40
Analysis of zoning. W. A. Grant. diags Refrig Eng 39:370-3+ Je '40

AIR conditioning equipment—Control—*Cont.*
Automatic control of central fan systems for winter operation. R. F. Erickson. bibliog diags W Soc E J 45:59-78 Ap '40
Control innovations, test kits feature 1939. il Heat & Ven 37:113-16+ Ja '40
Minneapolis-Honeywell Modutron. il Refrig Eng 38:365 D '39
Zoning in air conditioning; Meyer brothers department store, Paterson, N.J. D. E. Alton. il diag Refrig Eng 39:151-3 Mr '40

Exhibitions
Heat as you wish it; International heating and ventilating exposition. Business Week p39-40 F 3 '40
List of exposition exhibitors and their exhibits at 6th International heating and ventilating exposition. Heating-Piping 12:38-48 Ja '40

Fires and fire protection
Air conditioning hazards. E. W. Fowler. il diags Safety Eng 79:18-22 Je '40
Electric eye guards against fires in ducts; Ernst Kern company. J. J. Woolfenden. il diag Heat & Ven 37:24-6 Je '40
Fire-safe air conditioning. C. W. Wheelock. diags Nat Safety N 40:20-1+ D '39
National fire protection association revises air conditioning standards and warm air installation rules. Heat & Ven 37:64 S '40

Maintenance and repair
Maintenance and care of air conditioning equipment. F. D. Mosher. il Heat & Ven 37:14-16 O '40
Maintenance of plant air conditioning. W. E. Lowell. il Heating-Piping 12:92-3 F '40
Trouble shooting the air conditioning system. F. O. Jordan. il diags Bus Transportation 19:210-12, 269-71, 504-5 My-Je, O '40

Manufacture
Saving with brazing; air conditioning and refrigerator parts; Westinghouse electric & mfg. co. A. K. Phillippi. il Am Mach 84: 903-6 N 13 '40

Noise
Attenuation of sound in ducts of commercial size. R. B. Steffens and W. T. Young. il plan Heating-Piping 12:567-72 S '40
How to use sound-absorbing materials in air conditioning equipment. P. H. Geiger. diags Heat & Ven 37:20-2 Ap '40
How to use sound-deadening materials in air conditioning equipment. P. H. Geiger. il Heat & Ven 37:42-5 My '40
Insulating air ducts against heat loss and noise. il diags Sheet Metal Worker 31:36-8 Je '40
Methods of rating the noise from air conditioning equipment. J. S. Parkinson. Heating-Piping 12:447-50 Jl '40
Noise control in ventilating systems; Q-T ductliner, a sound absorbing material. diags Sheet Metal Worker 31:48, 50+ O '40
Noise control on blower-filter units. G. L. Schwarz. Sheet Metal Worker 31:44+ F '40
Radio studio air conditioning plant approaches ultimate in sound control; NBC studio in Hollywood. C. Strock. il diags plans Heat & Ven 37:15-19 Ap '40
Vibration control in compressor equipment; Rex Vibra-Sorber. Refrig Eng 38:356 D '39

Portable conditioners
Load potentialities through packaged air conditioning. H. B. Brown. Edison Elec Inst Bul 8:151-2 Ap '40
Portable airplane air conditioners developed by Wisconsin firm. il Refrig Eng 39:396+ Je '40
Research develops better air conditioning. W. B. Henderson. il Sheet Metal Worker 31:40, 42+ Jl '40

Power
Gas engine cuts air conditioning power costs 71%; Heidelberg hotel at Jackson, Miss. il Heat & Ven 37:28 Mr '40
Horsepower for air conditioning. Power Pl Eng 44:64 N '40
Squirrel cage motors for air conditioning and commercial refrigeration. C. C. Leader. bibliog diags Refrig Eng 39:162-5+ Mr '40

Renting
Conditioning system available for rent; ice system in Detroit auditorium. Refrig Eng 40:102 Ag '40

Safety devices and measures
Eliminating refrigeration hazards, government office buildings. C. A. Peters. il Power 84: 140-1 Mr '40

Testing
Air conditioning service engineer outlines method for leak testing. F. M. Mayse. il diag Heating-Piping 12:114-16 F '40
Trouble shooting the air-conditioning system. F. O. Jordan. il diags Bus Transportation 19:321-3, 372-4 Jl-Ag '40

Water requirements
Effect of air conditioning on water and sewerage facilities; abstract. W. M. Wallace. Water Works & Sewerage 87:17 Ja '40
Large or small temperature rise through water type cooling coils? F. F. Stevenson. il Heating-Piping 12:600-2 O '40
New York air conditioning systems must have water saving equipment. Heating-Piping 12:294 My '40
Ordinance creating demand for cooling towers. il diags Sheet Metal Worker 31:54, 56+ S '40
Tests of corrosion inhibitors for water treatment in air-conditioning equipment. J. H. Wilson and E. C. Groesbeck. pl diags J Research Nat Bur Stand 24:665-76 Je '40; Same cond. Heat & Ven 37:55-7 N '40
Water consumption in hotels. G. C. St Laurent. Heating-Piping 12:667 N '40
Water economy in air conditioning. T. H. Bieze. plan Power Pl Eng 44:89 Ja '40

AIR conditioning industries
Air conditioning contractor; potential volume, overhead, diversification and employees' functions. J. H. Carter. diag Heating-Piping 12:180-1, 289-90 Mr, My '40
Air conditioning contractor; value of using cost estimating sheets; how selling price is found. J. H. Carter. il Heating-Piping 12:481-3 Ag '40
Air conditioning for beauty salons; better selling methods and better financed business would increase market. il plan Refrig Eng 39:287-9 My '40
Air conditioning manufacturers confident great expansion is near. il Steel 106:30-1 Ja 29 '40
Air hazards in industry, bacterial purification, new standards and codes, highlighted in 1939. Heat & Ven 37:89-93 Ja '40
Are we selling our industry short? established price policies needed. J. deB. Shepard. Refrig Eng 40:7-10+ Jl '40
Banking's survey; air conditioning; factor of growing importance in home-building activity and real estate market. Banking 32: 30-1+ Mr '40
Cooling manufacturers look to furnace dealers. il Sheet Metal Worker 30:40, 42 N '39
General Electric will sell equipment direct to contractors. Refrig Eng 39:194 Mr '40
Heating, piping and air conditioning important factors in national defense; comments by authorities. Heating-Piping 12:sup31-2 Ag '40
Manufacturers versus distributors; how Federal anti-trust laws now in effect apply to the refrigeration industry. R. B. Thomas. Refrig Eng 40:75-7+ Ag '40
Market trends toward smaller capacity jobs in commercial buildings; sales up slightly. diag Heat & Ven 37:69-80 Ja '40
One way to sell air conditioning; Basye plumbing co. il diag Dom Eng 156:48-9+ S '40
Opportunity for the young man in engineering. A. G. Solomon. Power Pl Eng 44:74-5 N '40

AIR conditioning industries—*Continued*
Reaching the air-conditioning market through the 1938-1939 developments in gas equipment. C. R. Bellamy. Am Gas Assn Proc 1939:435-44
Role of the equipment man in the refrigeration industry. K. M. Newcum. Refrig Eng 38:337-9 D '39

Advertising

Creating a demand for air conditioning. J. L. Rosenmiller. il Refrig Eng 39:154-6 Mr '40
Direct mail that draws bead, calls its shots, and records them; air conditioning equipment sold to bakeries by mail. A. H. Little. il Ptr Ink 189:23-6 D 15 '39

Directories

Buyers' guide, 1940-1941; directory of manufacturers of heating, ventilating and air conditioning equipment. Heat & Ven 37: 77-147 S '40
Directory of exhibitors, International heating and ventilating exposition, Cleveland, Jan. 22-26. plan Sheet Metal Worker 31:152-6, 178 Ja '40
Directory section; containing names and addresses of manufacturers of equipment and products used in warm air heating, air conditioning, ventilation and sheet metal work. Sheet Metal Worker 31:157-75 Ja '40
Heating, piping and air conditioning equipment for industry and large buildings; classified by products, trade names and manufacturers addresses. Heating-Piping 12: 209-78 Ja '40

Finance

Air conditioning industry's earnings small despite sharp increase in sales. L. Applegate. Annalist 55:323+ F 29 '40
Carrier makes the weather; spotty earnings record. W. Gates. il Mag of Wall St 65:692-3+ Mr 9 '40

Statistics

Air-conditioning systems and equipment, 1936-1939. Survey of Cur Business 1940 Sup p138 [supplemented in monthly numbers]
Annual air conditioning review. Heating-Piping 12:27-8 Ja '40
Here's where air conditioning is used. Heating-Piping 12:547 S '40
Indexes indicate steady movement in most lines; heating and air conditioning industries. Heat & Ven 37:22-6 Ja '40
Summer equipment sales statistics; tabulation. Heat & Ven 37:70, 75 Ja '40
Survey shows 42,604 air conditioning jobs. C. E. Greenwood. Heat & Ven 37:30 Ag '40
Warm air heating equipment makes strong showing in first quarter. Sheet Metal Worker 31:65 Jl '40
Year-round equipment; tabulation. Heat & Ven 37:94 Ja '40

Los Angeles

Indict air conditioning firms in Los Angeles. Refrig Eng 39:332 My '40

New Orleans

Air conditioning attracts tourists; helps New Orleans to be summer resort. P. J. Rinderle. il Heating-Piping 12:412 Jl '40

New York (city)

New York air conditioning systems must have water saving equipment. Heating-Piping 12:294 My '40

Texas

Texas climate vs human comfort. H. E. Degler. Heating-Piping 12:675-7 N '40

AIR conditioning manufacturers' association
R.M.A. and A.C.M.A. combine organizations; as Air conditioning and refrigerating machinery association. Refrig Eng 40:103 Ag '40

AIR conditioning training corporation
Federal trade commission complaint vs. Air conditioning training corporation; latter charged with misleading representations. Refrig Eng 40:174 S '40

AIR conditions
Atmospheric conditions and engine performance; abstract. Automotive Ind 83:65 Jl 15 '40
Dirt patterns on walls. R. A. Nielsen. bibliog il Heating-Piping 12:389-94 Je '40
Effect of atmospheric conditions on Diesel-engine performance. J. S. Doolittle. diag Oil & Gas J 39:42, 44+ Ag 1 '40
How animals react to air conditions. S. Brody. Heating-Piping 12:584+ O '40
Seasonal changes in the body's response to ventilative conditions. D. L. MacLean and R. C. Partridge. bibliog J Ind Hygiene 22: 244-50 Je '40
Thermometry in hygrometric measurements. A. W. Ewell. bibliog Refrig Eng 40:27-9 Jl '40

See also
Air—Analysis
Air conditioning
Air pollution
Air purification
Atmospheric pressure
Atmospheric temperature
Dust
Humidity

AIR defenses
Hemisphere defense map; showing location of army and navy bases and indicating extent of border air defenses. Aviation 39: 74-5 Ag '40

See also
Air raids—Protective measures
Guns, Anti-aircraft

AIR ejectors
Venturi ejector for handling air. F. F. Kravath. diags Heat & Ven 37:17-21 Je; 46-9 Ag '40

AIR engines
Sullivan pistonair reversible single-drum hoist. il diags Engineering 149:265 Mr 8 '40

AIR express service
Air pickup operations. J. G. Ray. il Mech Eng 62:283-6 Ap '40
All American pick-up and delivery service approved. Civil Aero J 1:393+ Ag 1 '40
More accurate data on air express shipments now available; how all traffic is handled. L. Applegate. Annalist 55:388 Mr 14 '40

AIR filters
Air filters for organic finishing. il Metal Finishing 38:467-8 Ag '40
Air filters; types. Power Pl Eng 44:89 Ja '40
Betz Filterpure unit gives uniform air movement. il Refrig Eng 39:266 Ap '40
Dust collection; standard round filter. diags Mech Handling 27:113-15 My '40
Dust control in industry. F. F. Kravath. Heat & Ven 37:42 Ap '40
Dust control in the granite industry. W. C. L. Hemeon. Heat & Ven 37:41-5 Ag '40
Factors affecting the performance and rating of air filters. F. B. Rowley and R. C. Jordan. il diags Univ of Minnesota Eng Exp Sta Bul 16:1-54 '39 (40c)
Noise control on blower-filter units. G. L. Schwarz. Sheet Metal Worker 31:44+ F '40
Ventilation and anti-gas filtration plants for use of the A.R.P. shelters. il diag Engineer 169:120-1 F 2 '40

Testing

Determination of cloth area for industrial air filters. C. E. Williams, T. Hatch and L. Greenburg. il diag Heating-Piping 12: 259-63 Ap '40
Effect of lint on air filter performance. F. B. Rowley and R. C. Jordan. il Heating-Piping 12:61-7 Ja '40

AIR flow
Air flow at discharge of fan-pipe lines in mines; 10-inch line in development end. G. E. McElroy. pl U S Bur Mines Rep of Invest 3531:1-14 '40
Air flow in the boundary layer of an elliptic cylinder. G. B. Schubauer. bibliog il diag U S Nat Advisory Com for Aeronautics 1939:207-26 '40
Air flow measurements at intake and discharge openings and grilles. G. L. Tuve and D. K. Wright, jr. il diags Heating-Piping 12:501-7 Ag '40

AIR flow—*Continued*
Analysis of the factors affecting duct friction. J. B. Schmieler, F. C. Houghten and H. T. Olson. il Heating-Piping 12:202-6 Mr '40
Carrying capacity of circular and rectangular ducts; reference data. Heat & Ven 36:58a-58b N; 50a-50b D '39; 37:144a-144b Ja '40
Carrying capacity of ducts for forced air; reference data. Heat & Ven 37:66a-66b F '40
Control of gases in the wake of smokestacks. R. H. Sherlock and E. A. Stalker. il diag Mech Eng 62:455-8 Je '40
Development of instruments for the study of air distribution in rooms. A. P. Kratz, A. E. Hershey and R. B. Engdahl. diags plans Heating-Piping 12:559-66 S '40
Dirt patterns on walls. R. A. Nielsen. bibliog il Heating-Piping 12:389-94 Je '40
Druckverlust von kugelschüttungen. G. Kling. bibliog V D I 84:85-6 F 3 '40
Duct pressures; their correct interpretation. F. F. Kravath. diags Heat & Ven 37:19-22 F '40
Experiments on the breakdown of laminar flow. A. Fage. bibliog il diag J Aeronautical Sci 7:513-17 O '40
Flow pattern and pressure drop in cyclone dust collectors; cyclone without inlet vane. C. B. Shepherd and C. E. Lapple. diags Ind & Eng Chem 32:1246-8 S '40
Influence of directed air flow on combustion in a spark-ignition engine. A. M. Rothrock and R. C. Spencer. bibliog il diags U S Nat Advisory Com for Aeronautics 1939: 313-26 '40
Performance of stack heads. D. W. Nelson, D. H. Krans and A. F. Tuthill. il diags Heating-Piping 12:131-8 F '40; Tables and conclusions. Sheet Metal Worker 31:48+ Mr '40
Pressure drop and liquid holdup in a packed tower. E. L. Piret, C. A. Mann and T. Wall, jr. bibliog il Ind & Eng Chem 32:861-3 Je '40
Study of air flow in an engine cylinder. D. W. Lee. il diags U S Nat Advisory Com for Aeronautics 1939:227-39 '40
Study of the flow of air in tubes in the pressure range 1 to 300 atmospheres. R. W. Moulton and W. L. Beuschlein. bibliog diag plan Am Inst Chem Eng Trans 36:113-33 F '40
Wärmeübergang und druckverlust bei querströmung durch rohrbündel. E. Hofmann. bibliog V D I 84:97-101 F 10 '40

See also
Aerodynamics
Compressed air
Gas flow

AIR hygiene foundation of America
Activities. Ind & Eng Chem News ed 18: 296-8 Ap 10 '40
Employee health pays dividends; dusts, fumes, chemicals. J. F. McMahon. il Sci Am 162:278-81 My '40
Fall meeting, Pittsburgh, Nov. 14-15. Iron Age 144:85 N 23 '39; Weekly Underw 141: 1222 D 9 '39

AIR lines
Airline research; United airlines. J. P. AuWerter. il Aviation 39:30-1+ S '40
Institutional design; Pennsylvania central airlines. H. S. Pack, jr. il Bus Transportation 19:440-2 S '40; Same cond. Aero Digest 36:112, 115 My '40
Pan American's Strato-Clipper cruises to South America; with fares. il map Aero Digest 37:58, 61 N '40
Pennsylvania-central airlines, thirteen years of growth. C. B. Monro and others. il map Aero Digest 36:103-4+ My '40
Wings for sale. il Ptr Ink Mo 40:5-8+ Ja '40
Wings for transportation; recent developments in air transportation equipment. T. P. Wright. il diags plan Franklin Inst J 229:413-54 Ap '40
World's airways. R. J. Finch. 224p $1.50 Oxford (Toronto) '38

See also
Aeronautics, Commercial
Air express service
Air mail service
Air travel
Airports
Airways
Motor bus lines—Air line connections
Pan American airways corporation
Railroads—Air line competition
Railroads—Air line subsidiaries

Accidents
Air carrier operation and accident statistics for 1939 and for the period July-December 1939. Civil Aero J 1:222-4 My 15 '40
Air carrier operation and accident statistics for the first half of 1939. Air Commerce Bul 11:131-5 N 15 '39
Airlines fly entire year without accident. Civil Aero J 1:157-8 Ap 15 '40
Lightning discharge probable cause of Virginia airline crash. Nat Underw 44:15 N 7 '40

Advertising
Advertising budgets for 1940 aviation. A. R. Hager. il Adv & Sell 33:35-7+ My '40

Automobile rental service
Airlines plan auto rental service and travel credit plan. Business Week p22-3 Ag 17 '40

Communication systems
Civil air transport communication. A. D. Hodgson. diags plans maps Inst E E J 87: 317-43, pl 1-2; Discussion. 344-50 S '40

Costs
Some economic aspects of transport aeroplane performance. W. C. Mentzer and H. E. Nourse. Roy Aeronautical Soc J 44:499-520 Je '40; Same. J Aeronautical Sci 7:227-34, 302-8 Ap-My '40

Employees
Activities of National mediation board, 1938-39. Monthly Labor R 50:613-14 Mr '40
Airline mechanic; Charlie Corey, one of 11,000 licensed by the CAA. il Fortune 22: 45-7+ Ag '40
American airlines trains its rookies. il Aviation 39:44-5+ O '40
Workmen's compensation act not applicable to pilots or other employees of air-transport company engaged in actual flying. Monthly Labor R 49:1140 N '39

Fares
Coach fares for slower planes; experiment on Los Angeles-San Francisco route. Barron's 20:5 My 6 '40

Finance
Air transportation rates. W. B. Harding. Harvard Business R 18 no 3:337-43 [Ap] '40
Air transports continue growth; still heavily dependent for profit on airmail revenues. S. Altschul. Barron's 20:13 O 28 '40
Aviation earnings regulated; financial statistics; recent decisions of the Civil aeronautics board. S. Altschul. Aviation 39: 59+ Ag '40
Aviation financial trends. S. Altschul. Aviation 39:51+ My '40
Aviation's potential profitless prosperity. S. Altschul. Aviation 39:57+ S '40
First profitable year for air lines. S. Altschul. Barron's 20:25-6 Ja 15 '40
New records in air travel, mail and express traffic; air line operations, 1932-39; earnings, 1938 and 1939. L. Applegate. Annalist 55:227-8 F 8 '40
Profit prospects for the airlines. W. Gates. il Mag of Wall St 65:352-4+ D 30 '39
Stocks behave like war babies; rates and finances, first quarter of 1940. S. Altschul. Aviation 39:70, 130 Je '40

History
Twenty years of airline progress. C. Norcross. il Aviation 39:28-9, 102, 104 S '40

AIR lines—*Continued*

Maintenance and repair

Mainliner maintenance; United air lines. il Aviation 39:32-3+ S '40
Maintenance at a profit; features of Curtiss-Wright transport plane; interchangeable parts. C. W. France. il diag Aviation 39:54-5, 57+ Mr '40
Pennsylvania-central airlines; maintenance procedure. L. Harris. il Aero Digest 36: 108, 111-12 My '40

Management

Airline navigation was different in Europe. L. M. Gravis. il Aviation 39:40-1+ N '40
Chicago & Southern, the valley level route. R. S. Gall. il Aero Digest 36:42-5+ Je '40
Operations of Inter-island airways. il map Aero Digest 36:63+ My '40
Pennsylvania-central airlines; operations management. J. H. Carmichael. Aero Digest 36:104, 107 My '40

Maps

Domestic airlines of the United States. H. D. Steinmetz. Mag of Wall St 66:84 My 4 '40

Radio communication

Finch radiofacsimile intended primarily for aeronautical service. il Aero Digest 36:163 Ja '40
Multiple-channels; more Siebenthaler transmitters for T.W.A. Aviation 38:75 D '39
New radio procedures for transatlantic air traffic. H. W. Roberts. il map Aero Digest 36:69-70 Ap '40
New trends in airline radio. H. W. Roberts. il Aero Digest 37:50, 53+ N '40 (to be cont)

Records

Weight manifest form developed for airlines; for use with Librascope balance computors. diag Aero Digest 37:57 N '40

Regulation

Air transportation rates. W. B. Harding. Harvard Business R 18 no 3:337-43 [Ap] '40
How far should our air lines be protected from competition? T. N. Sandifer. Pub Util 25:459-68 Ap 11 '40
Opinion and order granting applications of American airlines, inc, Eastern air lines, inc, Transcontinental and western air, inc, and United air lines transport corp. permit to use North Beach airport as a co-terminal with Newark (N.J.) airport. Air Commerce Bul 11:166-73 D '39
United Air Lines-Western Air Express merger denied; interchange of sleeper plane equipment approved; with text of opinions. Civil Aero J 1:300-25 Jl 15 '40

Safety devices and measures

Air lines turn red ink to black. F. Barker. il Nation's Business 28:17-19+ F '40
Airline safety through teamwork C. Norcross. il Aviation 39:40-1, 119+ Ap '40
Happy landing; domestic airlines complete year without fatal accident. Business Week p15-16 Mr 30 '40
Safety in the operation of air transportation. J. Lederer. 69p pa 50c Norwich univ, Northfield, Vt. '39

Securities

Aviation financial outlook improves. S. Altschul. Aviation 39:51, 116 O '40
Position of leading aircraft and aviation stocks. Mag of Wall St 65:471; 66:470-1+ Ja 27, Jl 27 '40

Service

Little details of service that build sales for a big air line. H. Crary. il Sales Management 46:18-20+ Mr 15 '40

Shops

American Airlines maintenance at La Guardia field; illustrations. Aviation 39:56-7 Je '40

Statistics

Air carrier operation and accident statistics for 1939 and for the period July-December 1939. Civil Aero J 1:219-24 My 15 '40
Air carrier operation and accident statistics for the first half of 1939. Air Commerce Bul 11:125-35 N 15 '39
Air carrier operations statistics for 1939; tabulation. Civil Aero J 1:414-16 S 1 '40
Domestic air carrier operations statistics for 1937, 1938, and first 10 months of 1939; charts, table. Civil Aero J 1:7 Ja 1 '40
Five years of domestic air carrier progress; charts. Aero Digest 36:137 My '40
Operations on scheduled airlines, 1936-1939. Survey of Cur Business 1940 Sup p86 [supplemented in monthly numbers]

Terminals

Air conditioning the Air lines terminal. D. T. Ryan. il Refrig Eng 40:279-80+ N '40
First central air terminal, New York. il Sci Am 163:25-6 Jl '40
Home-clean airports; ground facilities must improve. P. E. Richter. Aviation 39:30-1 Mr '40
Industry expands; plumbing, heating and air conditioning installations in United air lines office building, Chicago. il Dom Eng 156:36-7 Jl '40
N.Y.-Newark co-terminals. Aero Digest 35: 75-6 D '39
Opinion and order granting applications of American airlines, inc, Eastern air lines, inc, Transcontinental and western air, inc, and United air lines transport corp. permit to use North Beach airport as a co-terminal with Newark (N.J.) airport. Air Commerce Bul 11:166-73 D '39
Terminal traffic. F. Smith. il Aero Digest 37: 48+ O '40
Welding cuts cost of Air lines terminal in New York. L. Grover. il diags plans Eng N 125:94-7 Jl 18 '40

See also
Airport buildings
Airports

Transoceanic lines

American export airlines to establish new non-stop transatlantic air service. Comm & Fin Chr 151:403 Jl 20 '40
Board authorizes American Export European operations. Civil Aero J 1:393 Ag 1 '40
Looking forward; prolegomena for a detailed study of the future of British civil aviation. H. R. Cox. il diags Roy Aeronautical Soc J 44:695-702, 717-24 S '40; Same cond. Engineering 150:105-7, 199 Ag 9, S 6 '40
More planes for the Atlantic? examiner recommends CAA approve American Export service to Rome. Business Week p44-5 Ap 27 '40
New Atlantic airline; government approves American export airlines. Business Week p24-5 Jl 27 '40
New radio procedures for transatlantic air traffic. H. W. Roberts. il map Aero Digest 36:69-70 Ap '40
Trans-Atlantic air services. R. H. Mayo. Roy Aeronautical Soc J 43:884-908 N '39; Same cond. Engineering 148:541-2, 565-7, 594 N 10-24 '39
Transatlantic air transport with particular reference to flying boats. A. Gouge. bibliog diags map Inst Mech Eng J & Proc 142:Proc69-79 N '39; Excerpts. Mech Eng 61:876-8 D '39; Discussion. Inst Mech Eng J & Proc 142:Proc83-5 D '39
Who shall fly the oceans? American Export, seeking an air route to Rome, locks horns with Pan American. il Business Week p23-5 Ja 20 '40

Alaska

U.S.-Alaska service inaugurated June 20. map Aero Digest 37:152 Jl '40

Canada

Canadian airways limited. il Can Min J 60: sup292 N '39
Conference discusses new international airlines, United States-Canada service. Civil Aero J 1:453+ O 15 '40

AIR lines—*Continued*

Central America

Central American aviation deal; American export airlines will take over TACA. maps Business Week p62-3 O 12 '40
Growth of TACA airlines in Central America. il map Aero Digest 36:33-5+ Ap '40
TACA (Transportes aereos Centro Americanos) jungle air freighter. R. Hancock. il Aviation 39:30-1+ Ja '40

Europe

Airline navigation was different in Europe. L. M. Gravis. il Aviation 39:40-1+ N '40
European air transport on the eve of war—1939. J. P. Van Zandt. 71p pa 25c Norwich univ, Northfield, Vt. '40; Abstract. Aviation 39:96 Jl '40

France

L'exploitation de la Compagnie Air France en 1938. Génie Civil 115:440-2 D 16 '39

Great Britain

British overseas airways; private placing of stock. Economist 138:629 Ap 6 '40

Hawaiian Islands

Operations of Inter-island airways. il map Aero Digest 36:63+ My '40

Latin America

Roaring down to Rio. il Banking 32:38-40 D '39

Mexico

Air link to Mexico; American airlines gets concession; application now before CAB. Business Week p20+ N 16 '40
Companies operating air lines in Mexico; with maps of air routes. Ann Am Acad 208:90-1 Mr '40

Russia

Civil air fleet's progress and problems. For Comm W 1:212-13 N 2 '40
New Red-Nazi ties. Business Week p31 D 30 '39

United States

Air arbitration. Business Week p16 N 11 '39
Air merger spiked; CAA overrules Pound, forbids purchase of Western air express by United air lines. Business Week p17, 20 Je 29 '40
Air revenues climb. Business Week p27-8 N 18 '39
Air transport industry in 1940. J. Frye; W. A. Patterson. Comm & Fin Chr 150:508+, 525 Ja 27 '40
Air transport makes rapid gains. S. Altschul. Barron's 20:7 My 27 '40
Airlines and national defense. C. Caldwell. il map Aero Digest 36:46-8+ Mr '40
America's fastest growing industry. H. D. Steinmetz. il map Mag of Wall St 66:81-5+ My 4 '40
Aviation; war production possibilities. Index 19 no 4:75-83 [D] '39
Coming boom in transportation; air lines. H. D. Steinmetz. il Mag of Wall St 67: 85-9 N 2 '40
Conference discusses new international airlines, United States-Canada service. Civil Aero J 1:453+ O 15 '40
New records in air travel, mail and express traffic; air line operations, 1932-39; earnings, 1938 and 1939. L. Applegate. Annalist 55:227-8 F 8 '40
Profit prospects for the airlines. W. Gates. il Mag of Wall St 65:352-4+ D 30 '39
Report on airline traffic survey issued. maps Civil Aero J 1:213-16 My 15 '40
Trend of air transportation. E. T. Allen. Inst Mech Eng J & Proc 142:Proc 127-40 D '39
U.S.-Alaska service inaugurated June 20. map Aero Digest 37:152 Jl '40

AIR mail service

Air transportation rates. W. B. Harding. Harvard Business R 18 no 3:337-43 [Ap] '40
Authority decides important United mail-rate case; with text of opinions. Civil Aero J 1:300, 311, 325-47 Jl 15 '40
Eastern air lines denied permanent certificate for autogiro operations at Philadelphia. Civil Aero J 1:401+ Ag 15 '40
Postmaster General cites growth of air mail. Civil Aero J 1:40 F 1 '40
Report on airline traffic survey issued. maps Civil Aero J 1:213-16 My 15 '40
Speeding up collections by air. J. Farnham. Bankers M 141:10-12 Jl '40
What it costs to use international air service; checklist based on rates over Pan American airways. Business Week p45 Jl 13 '40

History

20th anniversary of the coast-to-coast airway. il Aero Digest 37:64, 67+ S '40
Twenty years of airline progress. C. Norcross. il Aviation 39:28-9, 102, 104 S '40

Pick-up and delivery service

Air mail pick-up. il map Aviation 39:46+ N '40
Air mail put on a local circuit; All American aviation begins regular non-stop pickup service. il map Business Week p22-3 Ag 31 '40
Air pickup operations. J. G. Ray. il Mech Eng 62:283-6 Ap '40
All American improves pick-up equipment. il Aero Digest 37:150 O '40
All American pick-up and delivery service approved. Civil Aero J 1:393+ Ag 1 '40

AIR mass analysis. See Meteorology

AIR motors. See Air engines

AIR navigation. See Aviation

AIR pilots. See Aviators

AIR pipes

Air-conditioning new 28-story office building; Metropolitan life insurance co. il diag Sheet Metal Worker 31:44, 46+ O '40
Air flow at discharge of fan-pipe lines in mines; 10-inch line in development end. G. E. McElroy. pl U S Bur Mines Rep of Invest 3531:1-14 '40
Attenuation of sound in ducts of commercial size. R. B. Steffens and W. T. Young. il plan Heating-Piping 12:567-72 S '40
Circular duct system for Perisphere air conditioning. il diags plans Sheet Metal Worker 31:77+ Ja '40
Discoloration at air outlet grilles caused by static charges, study shows. H. C. Murphy. il Heating-Piping 12:22-3 Ja '40
Duct pressures; their correct interpretation. F. F. Kravath. diags Heat & Ven 37:19-22 F '40
Economical dust control with low resistance exhaust systems; hood and branch connections and importance of efficient elbows. F. F. Kravath. diags Heat & Ven 37:27-9 N '40
How a duct is designed. Heating-Piping 12: 252 Ap '40
How to insulate a duct. il Sheet Metal Worker 31:40 Ag '40
Insulating air ducts against heat loss and noise. il diags Sheet Metal Worker 31:36-8 Je '40
Laying out rectangualr ducts and fittings (cont). O. W. Kothe. diags Sheet Metal Worker 30:25-7+ D '39; 31:110+ Ja; 30-2 F; 33-5 Mr; 25-6 Ap; 30-2 Je; 33-4+ Jl; 37-8 Ag; 41-2 S; 31+ O; 26-7 N '40 (to be cont)
Lessons taught by mistakes in blow pipe work (cont). E. W. Favalora. diags Sheet Metal Worker 31:62-4 Ja '40
Lock forming machines and duct work. G. C. Burr. il diags Sheet Metal Worker 30: 50+ N '39
Old cooling and ventilating system converted to up-to-date air conditioning; Busse & Borgmann funeral home. H. W. Moore. plan Heating-Piping 12:306-7 My '40
Performance of stack heads. D. W. Nelson, D. H. Krans and A. F. Tuthill. il diags Heating-Piping 12:131-8 F '40; Tables and conclusions. Sheet Metal Worker 31:48+ Mr '40
13 don'ts for air conditioning ducts. J. M. High. il Dom Eng 154:36-7 D '39

AIR pipes—*Continued*
Unusual jobs that taxed contractor's ingenuity. il diags plans Sheet Metal Worker 31:64, 66, 68 S '40

Tables, calculations, etc.

Analysis of the factors affecting duct friction. J. B. Schmieler, F. C. Houghten and H. T. Olson. il Heating-Piping 12:202-6 Mr '40
Carrying capacity of circular and rectangular ducts; reference data. Heat & Ven 36:58a-58b N; 50a-50b D '39; 37:144a-144b Ja '40
Carrying capacity of ducts for forced air; reference data. Heat & Ven 37:66a-66b F '40
Estimating weight of sheetmetal ductwork. H. M. Hendrickson. diags Refrig Eng 39: 230-1+ Ap '40
Heat carrying capacity of ducts for forced air; reference data. Heat & Ven 37:54a-54b Mr '40

AIR pollution
Air sanitation; general survey. E. B. Phelps. Am Soc C E Proc 65:1476-83 N '39; Discussion. 66:365-9, 1097-1100 F, Je '40
Atmospheric pollution; types of contaminants with methods for estimating and controlling them. P. Drinker. bibliog il Ind & Eng Chem 31:1316-20 N '39
Control of gases in the wake of smokestacks. R. H. Sherlock and E. A. Stalker. il diag Mech Eng 62:455-8 Je '40
Effects of sulfur dioxide on plants and animals. C. Setterstrom. bibliog il diag Ind & Eng Chem 32:473-9 Ap '40
Effects of sulphur dioxide on vegetation; investigation of smelter at Trail, B.C. G. S. Whitby. Chem & Ind 58:991-7; Discussion. 997-9 N 11 '39
How the courts look upon the air pollution nuisance. L. R. Bloomenthal. il Heating-Piping 12:111-13 F '40
Identification of the source of deposited matter. J. S. Owens. Inst Mech Eng J & Proc 141:Proc 187-91 Ap '39; Same. Engineering 148:115, 151-2 Jl 28-Ag 4 '39; Discussion. diag Inst Mech Eng J & Proc 142:Proc 185-91 D '39
Low-cost flue-dust sampler. plan chart Power 84:216-18 Ap '40
Manual of industrial health hazards. J. B. Ficklen. 176p $4 Service to industry, West Hartford, Conn. '40
Les méfaits de la fumée, des poussières et gaz toxiques. R. Humery. Soc Ing Civils Mémoires 92:364-71 My '39
Öl und ölartige bestandteile in der luft. H. Cauer. Angew Chemie 53:171-2 Ap 13 '40
Typical problem in industrial sanitation; preparation of hatters' fur. J. J. Bloomfield. il Am Soc C E Proc 65:1484-99 N '39; Discussion. 66:363-5, 369-70, 1097-1100, 1317-18 F, Je, S '40

See also
Air—Analysis
Air—Bacteriology
Benzene poisoning
Dust
Flue dust
Flue gas
Fumes
Gases, Asphyxiating and poisonous
Respiratory apparatus
Smoke
Smoke prevention
Ventilation
also Air hygiene foundation of America

AIR preheaters
Air heater and economizer selection. A. Johnson. Power Pl Eng 43:301-3+, 475-6, 773-5+ My, Jl, D '39
Air preheaters for heat balance. diags Power 84:366-8+ Je '40
Development in design of boiler house auxiliaries. A. Pollitt. Engineer 169:383 Ap 19 '40

AIR purification
Air dilution in industrial ventilation. W. C. L. Hemeon. il Heat & Ven 37:39-43 N '40 (to be cont)
Atmospheric pollution; types of contaminants with methods for estimating and controlling them. P. Drinker. bibliog il Ind & Eng Chem 31:1316-20 N '39
Bactericidal irradiation of air; physical factors. W. F. Wells. il Franklin Inst J 229: 347-72 Mr '40
Killing of bacteria with ultra-violet light. J. F. Downie Smith. Franklin Inst J 229: 775-8 Je '40
Ozone in the chemical industry; sterilisation, oxidation, and air purification. A. E. Williams. diags Chem Age (Lond) 43:131-3 S 21 '40
Utilizing ultra-violet radiation in bactericidal work; abstract. W. F. Wells. Heat & Ven 37:56 My '40

See also
Air conditioning
Air filters
Dust removal
Ventilation

AIR raids
Aerial warfare in the Polish-German campaign. S. Rogalski. Engineer 169:396 Ap 26 '40
Europe's unanswered question, bombardment. C. Caldwell. il Aero Digest 35:32-5 D '39
Gas lamps adapted to indicate Coventry's A.R.P. services. il Gas J (Lond) 228:285 N 8 '39
Law on bombardment. R. W. Fixel. Aero Digest 36:100, 103 Ap '40
Lloyd's scores success with air raid coupons; British offices want to administer war damage insurance plan. East Underw 41: 23 O 11 '40
Overhead lines and bombs; lessons from recent experiences. Elec R (Lond) 127: 255-6 S 27 '40; Same abr. Elec W News ed 114:1236 O 26 '40

See also
Bombs, Aerial
European war, 1939—
Aerial operations

Protective measures

Aerial bombardment protection studied by several government agencies. il map Eng N 125:443 O 3 '40
Air conditioning of air raid precaution shelters. J. W. Harvey. plan Refrig Eng 39:19-20 Ja '40
Air raid precautions. Economist 137:370 D 9 '39
Air-raid precautions. il diags Mech Eng 62: 151-4 F '40
A.R.P. equipment. il Elec R (Lond) 125:652, 710 N 17, D 1 '39
ARP for America. il Business Week p24+ O 26 '40
A.R.P. lighting; exhibition at the Lighting service bureau. il Elec R (Lond) 125:585 N 3 '39
Air-raid shelter wiring. J. J. Lesser. Elec R (Lond) 127:198-9 S 6 '40
Alarm systems and fire menace; combating incendiary bombs; audible and visual signalling with telephone communication. plan Electrician 125:163 S 27 '40
Beating the bombs; fabrics for masking and shatterproofing windows, for sandbags, etc. il Textile World 90:62 Ja '40
Brighton utilities pool their A.R.P. emergency services; gas, electricity, and water. Gas J (Lond) 228:229-30 N 1 '39
Carrying conviction for gas; water heaters in the service of A.R.P. il Gas J (Lond) 230: 478 Je 5 '40
Civil defenders; British air-raid precautions system. Economist 138:285-6 F 17 '40
Clay products are ideal for defense construction. il Brick & Clay Rec 97:38+ Ag '40
Color and the black-out. Textile Col 62:106+ F '40
Cutting and welding equipment trailer for rescue and demolition squads of A.R.P. services. il Engineering 150:197 S 6 '40
Emergency law. W. Summerfield. Engineering 148:602-3 D 1 '39
L'équipement mécanique des abris collectifs de défense passive. il diag Génie Civil 115: 372-4 N 18 '39
Factories and the black-out. Chem & Ind 58:1084 D 16 '39
Factory A.R.P. scheme; John Ismay & sons. il Elec R (Lond) 126:658 Je 21 '40
Factory A.R.P. scheme; Veritys works. il Elec R (Lond) 127:49 Jl 19 '40

AIR raids—Protective measures—*Continued*
Fire alarm systems. il plan Elec R (Lond) 127:307-8 O 11 '40
Flood prevention in the tube railways. Engineering 148:420-1 O 18 '39; il Engineer 168: 542 D 1 '39
Fluorescent paints for A.R.P; revision of British standard specification A.R.P./18. Electrician 125:165 S 27 '40
Groupes Diesel-électriques de secours, notamment pour abris collectifs de défense passive. diag Génie Civil 115:394 N 25 '39
Ideal raid shelter; abstract. C. P. Munn. Pub Works 71:12 O '40
Improving air-raid shelters; how electricity can make them inhabitable. il Elec R (Lond) 127:305 O 11 '40
Industrial protection from air attack. A. P. Portchmouth. Inst Chem Eng Trans 17:194-5 '39
Infra-red plane detector. Science 92:sup6 Ag 30 '40
Inventions win wars; suggested developments to detect, defeat warplanes, submarines. W. H. Wenstrom. il diags Sci Am 162:324-7 Je '40
Mathematics of the balloon barrage. diags Engineer 169:549-51 Je 21 '40
L'obturation des soupiraux des caves-abris de défense passive. Génie Civil 115:455-6 D 23 '39
100-mile-an-hour anti-aircraft combat car. il Sci Am 161:347 D '39
Portable lamps for A.R.P. purposes. il Engineering 148:541 N 10 '39
La protection des populations contre les gaz de combat; les postes de secours sous abri. H. Doven. il diags Génie Civil 116:244-7, 264-6 Ap 13-20 '40
Protection in factories. Elec R (Lond) 127:282 O 4 '40
Rays in aircraft defense; infrared rays utilized to detect enemy aircraft; abstract. D. W. F. Mayer. Mech Eng 62:403 My '40
Rectifying plant in war-time; some observations on whether glass or steel is most suitable material. Electrician 125:17 Jl 12 '40
Standard A.R.P. signs. il Light & Lighting 32: 247 D '39
Status of children evacuated from cities in Great Britain. Monthly Labor R 49:1090-1 N '39
To a manufacturer seeking a safe spot for a war materials plant. J. Collins. map Annalist 56:235-6 Ag 22 '40
Ventilation and anti-gas filtration plants for use with A.R.P. shelters. il diag Engineer 169:120-1 F 2 '40
Ventilation of air raid shelters. T. C. Angus. il Heating-Piping 12:356+ Je '40
War and blackout curtains. R. Hamilton. Textile Col 62:745-9 N '40 (to be cont)
War and sewers. Eng N 124:810 Je 6 '40
War comes to the British radio servicemen. E. J. G. Lewis. il diags Radio N 23:48-50 My '40
War measures in protecting Britain's water and sewerage services. J. S. Trevor. il Water Works & Sewerage 87:256-9 Je '40

See also
Air raids and building — Lighting—War measures

AIR raids and building
Air-raid precautions in factories. Engineering 150:272 O 4 '40
Bird's-eye planning: new factor in industrial building design? il diags plans Arch Rec 88:74-9+ S '40
Brick is in every way desirable for safety in air raid bombing. il Brick & Clay Rec 97:35-6 S '40
Chemical factory, Bucks, England. il plans Arch Rec 87:100-3 F '40
Dynamic effect of incendiary bombs on roofs. J. D. W. Ball. diags Engineer 169:459-60 My 17 '40
Glass for A.R.P. Engineer 168:601 D 15 '39
Glass for A.R.P. purposes. Engineering 148: 618 D 1 '39
Protection of windows against air-raid damage. Engineering 150:275-7 O 4 '40
Rectifier plant in war-time; glass bulb rectifiers inside a brick or concrete substation. G. M. C. Peacock. Electrician 125:87 Ag 16 '40
Should new airplane plants be protected? concrete structures for air raid protection. diags Concrete 48:5-6+ Jl '40
To a manufacturer seeking a safe spot for a war materials plant. J. Collins. map Annalist 56:235-6 Ag 22 '40
Tough nut to crack; air raid protection for Swiss power plants. il plan Power 84:307 My '40
War construction bringing boom to British brick makers. il Brick & Clay Rec 97:30 O '40
War decoration of window fronts; with adhesive paper. il Glass Ind 21:67 F '40

See also Electric plants (central stations)—Underground stations

AIR receivers
Cleaning air compressors and air receivers; hazards and precautions. Nat Safety N 42: 86, 88 O '40
Explosion of a solid-drawn air-vessel. il diag Engineering 149:555-6, pl 30 Je 7 '40
Slotting of seams reveals cracks. il diags Locomotive 43:41-2 Ap '40

AIR reduction company
Annual report and income account for calendar years 1936-39. Comm & Fin Chr 150: 1923 Mr 23 '40
Another look. Mag of Wall St 66:679 S 21 '40
Leaders in the chemical industry; thumbnail appraisal. Mag of Wall St 65:411 Ja 13 '40

AIR reserve association of the United States
Place and purpose of the Air reserve association. B. H. Merchant. Aero Digest 36: 76+ My '40

AIR rifles
How air guns work. il diag Comp Air M 44:6043 D '39

AIR safety board. See Civil aeronautics authority—Air safety board

AIR sampling
Novel device for collecting air samples in inaccessible places. W. J. Fene. U S Bur Mines Information Circ 7122:1-2, pl 1-2 '40; Same. Can Min J 61:582-3 S '40

AIR separators
Grinding, for high surface; Nazareth cement co. B. Nordberg. il plan Rock Prod 43:22-4 Je '40

AIR transportation. See Aeronautics, Commercial; Air lines; Air travel; Airplanes, Freight

AIR travel
Report on airline traffic survey issued. maps Civil Aero J 1:213-16 My 15 '40
Trends in air transportation. T. P. Wright. Aviation 39:36-7+ Mr '40
20th anniversary of the coast-to-coast airway. il Aero Digest 37:64, 67+ S '40

See also
Air lines — Motor bus lines—Air line connections
Airways
Aviation

Public health aspects
Effective quarantine surveillance of aircraft passengers from foreign ports. J. J. Sippy. Pub Health Rep 55:751-2 My 3 '40

See also
Airplanes—Sanitation

AIR turbines
Hot air turbines
Hot air power plant; cycle employed by Escher Wyss. J. Ackeret and C. Keller. il diags Engineer 169:373-4 Ap 19 '40

AIR washers
Design and construction of spray booths. R. L. Grayford. il diags Sheet Metal Worker 31:28-30 O '40
Spray humidifiers and dehumidifiers; abstract. E. D. Johnson. Heat & Ven 37:60 Jl '40

AIRCRAFT
Future of flying. H. E. Wimperis. Sci Am 161: 348 D '39

See also
Airplanes
Airships
Autogiros
Balloons
Flying boats
Gliders
Gyroplanes
Helicopters
Radio apparatus on aircraft
Seaplanes

Patents
Trend of invention. Published in monthly numbers of Aero digest

AIRCRAFT accessories corporation
Stock offered. Comm & Fin Chr 151:2482 O 26 '40

AIRCRAFT engines
See also
Airplane engines

AIRFOILS
Aerodynamic characteristics of six full-scale propellers having different airfoil sections. D. Biermann and E. P. Hartman. bibliog il diags U S Nat Advisory Com for Aeronautics 1939:145-78 '40
Airfoil section data obtained in the N.A.C.A. variable-density tunnel as affected by support interference and other corrections. E. N. Jacobs and I. H. Abbott. bibliog U S Nat Advisory Com for Aeronautics 1939: 507-38 '40
Compressibility burble and the effect of compressibility on pressures and forces acting on an airfoil. J. Stack, W. F. Lindsey and R. E. Littell. bibliog il diags U S Nat Advisory Com for Aeronautics 1939:73-96 '40
Experimental verification of the theory of oscillating airfoils. A. Silverstein and U. T. Joyner. bibliog il diag U S Nat Advisory Com for Aeronautics 1939:619-23 '40
Family of aerofoils with rounded trailing edge. J. C. Cooke. diags Roy Aeronautical Soc J 44:771-4 O '40
Forces on an aerofoil at very low speeds. A. Thom and P. Swart. diags Roy Aeronautical Soc J 44:761-70 O '40
New developments in the theory of airfoils of infinite span. R. von Mises. J Aeronautical Sci 7:290-4 My '40
Operational methods in the theory of airfoils in non-uniform motion. W. R. Sears. diags Franklin Inst J 230:95-111 Jl '40
Stressing of rotating-blade aerofoils. J. B. B. Owen. Engineering 148:511-13 N 3 '39
Tests in the variable-density wind tunnel of the N.A.C.A. 23012 airfoil with plain and split flaps. I. H. Abbott and H. Greenberg. bibliog U S Nat Advisory Com for Aeronautics 1939:373-81 '40
Theoretical study of the moment on a body in a compressible fluid. C. Kaplan. diags U S Nat Advisory Com for Aeronautics 1939:581-98 '40
Theory of screw fans. W. R. Crawford. Engineer 170:150-2, 166-8 S 6-13 '40

See also
Airplane propellers
Airplane wings

AIRPLANE accessories industry
Auto parts makers share aircraft boom; report of four leading companies. R. L. Hoadley. Barron's 20:7 Ap 1 '40
Flying fortress, a job for the whole nation; state-by-state breakdown of sources of raw materials and semi-manufactures; partial list of suppliers. il maps Business Week p28-9 S 28 '40
Pacific airmotive extends its facilities from coast to coast. il Aero Digest 37:93 N '40

See also
Bendix aviation corporation

Directories
Alphabetical directory of personnel and classified directory of aircraft and engine accessories, materials and parts, airport and shop equipment, and jobbers. il Aviation 39:80-98 F '40
Manufacturers of accessories. Aero Digest 36: 228-46 Mr '40

California
Plane suppliers unite; Aircraft parts manufacturers' association in Los Angeles. Business Week p18+ O 26 '40

AIRPLANE carriers
Aircraft carrier operations. A. E. Montgomery. il Aero Digest 36:52, 54, 57 F '40
Flugzeugträger Ark Royal. il plans V D I 83:1173-4 N 4 '39
Shipboard catapults. C. A. Nicholson. il Aero Digest 36:58, 61-2 F '40

AIRPLANE dope
Airplane dopes; relation of tautening and weathering qualities to composition. F. W. Reinhart and G. M. Kline. bibliog il Ind & Eng Chem 32:184-93 F '40
Cellulose finishes for aircraft fabric. Can Chem & Process Ind 24:398 Ag '40
Film-forming plastics; effect of solvents, diluents, and plasticizers on properties of films formed from airplane dopes. F. W. Reinhart and G. M. Kline. Ind & Eng Chem 31:1522-9 D '39

AIRPLANE engines
Aircraft Diesels. P. H. Wilkinson. 275p $6 Pitman '40
Aircraft-engine sessions; SAE summer meeting; abstracts and discussions. S A E J 47:sup28, 52-3 Jl '40
Aircraft engines. A. W. Judge. v 1 380p bibliog(p367-71) $5.50 Van Nostrand '40
Aircraft engines; abstracts of papers at SAE production meeting. Aero Digest 37: 141-2 N '40
Aircraft engines; with and without approved type certificates; technical digests. il Aero Digest 36:176-212 Mr '40
Aviation fuels and engines. F. R. Banks. il diags S A E J 45:389-406 S '39; Abstract. Automotive Ind 82:268-71 Mr 15 '40; Discussion. S A E J 45:406 S '39
Buda-Guiberson Diesel engine. il Aero Digest 36:53 Je '40
Directory of engine manufacturers. Aviation 39:76 F '40
Engines for 1940; illustrations. Aviation 39: 64-5 F '40
50 to 100 hp five-cylinder Angle engine. il Aero Digest 35:61 D '39
Fillets for piston-ring grooves. diags Automotive Ind 82:382 Ap 15 '40
Ford has air motor. Business Week p 16 Ag 10 '40
Instructions for the operation and maintenance of the Wright whirlwind aviation engine; series R-760E, R-975E, and R-975F. 9th ed pa $3 Wright aeronautical corp, Paterson, N.J. '39
Lenape Brave; 95-hp. engine for light planes. E. Rudloff. il diag Aviation 39:61, 104 My '40
Lenape 5-cylinder Brave. E. H. White. il diag Aero Digest 37:165-6+ N '40
Lycoming geared 75 h.p. engine. il Aviation 39:50 Ja '40
Mercedes-Benz model DB 601. P. H. Wilkinson. il Aviation 39:61+ O '40
One hundred horsepower, 100 lbs, $100? W. B. Stout. il Aero Digest 35:38-9 D '39
1,090 hp. and up, 100 a week; General Motors V-type liquid-cooled Allison. il diags Fortune 22:50-1+ Jl '40
Plane motors allotted. Business Week p16 S 7 '40
Pratt & Whitney engines released for domestic and export trade. Aero Digest 37:79+ Jl '40
Problem of ancillary power services on aircraft; engine viewpoint. F. Nixon. il Roy Aeronautical Soc J 43:952-61; Discussion. 974-91 D '39
Proposed method of test for neutralization number of used aviation oils. Am Soc T M Proc 39:411-13 '39
Recent progress in aeronautics. C. F. Taylor. Mech Eng 62:113-14 F '40
Report of N.A.C.A. committee on power plants for aircraft. U S Nat Advisory Com for Aeronautics 1939:22-9 '40

AIRPLANE engines—*Continued*
S.A.E. annual meeting; abstracts of papers. Oil & Gas J 38:205-6+ Ja 25 '40
SAE annual meeting; aircraft-engine sessions. S A E J 46:sup39-41 F '40
Single cylinder engine research for aviation; abstract. A. W. Pope, jr. diag Automotive Ind 82:548 Je 15 '40
Some details of the Rolls-Royce Merlin X engine. Automotive Ind 83:206 S 1 '40

Bearings

Aluminum alloys for bearings. W. C. Devereux. Metal Prog 37:552 My '40
High-output aircraft engines; liquid cooling. E. W. Hives and F. L. Smith. il S A E J 46:110-12 Mr '40
Machine for testing bearings. E. A. Ryder. il Metals & Alloys 11:69-74 Mr '40

Carbon deposits

Problem of the valve-stem and valve-head deposits. A. T. Colwell. bibliog il diags S A E J 47:358-66 S '40; Same cond. Automobile Eng 30:307-12 O '40

Cleaning

Dawson washing machines for engines and parts. il Engineering 150:98, 99-100 Ag 2 '40; Engineer 170:95 Ag 9 '40

Cooling

Cooling on the front of an air-cooled engine cylinder in a conventional engine cowling. M. J. Brevoort and U. T. Joyner. bibliog il diags U S Nat Advisory Com for Aeronautics 1939:625-37 '40
Correction of temperatures of air-cooled engine cylinders for variation in engine and cooling conditions. O. W. Schey, B. Pinkel and H. H. Ellerbrock, jr. bibliog il diag U S Nat Advisory Com for Aeronautics 1939:49-72 '40
Design of N.A.C.A. cowlings for radial air-cooled engines. G. W. Stickle. bibliog il diags U S Nat Advisory Com for Aeronautics 1939:383-93 '40
Development of sodium cooling of exhaust valves. Automotive Ind 82:417-18 My 1 '40
Effect of nacelle-propeller diameter ratio on body interference and on propeller and cooling characteristics. J. G. McHugh and E. H. Derring. bibliog il diags U S Nat Advisory Com for Aeronautics 1939:727-45 '40
Exposé de la Société Amiot. Soc Ing Civils Mémoires 91:947-8 N '38
High-output aircraft engines; liquid cooling. E. W. Hives and F. L. Smith. il diags S A E J 46:106-17 Mr '40; Abstract. Automotive Ind 81:22-4 Jl 1 '39; Discussion. S A E J 46:118 Mr '40
Italian air-cooled engines. P. H. Wilkinson. il Aviation 39:72-3 N '40
Les laboratoires d'aérodynamique de la Société Hispano-Suiza. J. Valensi. il diags Soc Ing Civils Mémoires 91:935-46 N '38
Modern aircraft valves; development of the sodium-cooled valve. A. T. Colwell. bibliog il diags S A E J 46:147-65 Ap '40
Predetermination of aircraft engine cooling requirements for specific flight conditions. K. Campbell. bibliog J Aeronautical Sci 7: 141-7 F '40
Le refroidissement des moteurs (à refroidissement par air) et la résistance aérodynamique; carénage et technique du refroidissement. P. E. Mercier. il diags Soc Ing Civils Mémoires 91:906-34 N '38
Sichtbarmachen von temperaturfeldern durch temperaturabhängige farbanstriche. F. Penzig. il diags V D I 83:69-74, pl 1-2 Ja 21 '39; Same (Sensitive paints). Automobile Eng 30:47-9 F '40
Surface heat-transfer coefficients of finned cylinders. H. H. Ellerbrock, jr. and A. E. Biermann. bibliog diags U S Nat Advisory Com for Aeronautics 1939:651-64 '40

Cowlings

Air forces on radial air-cooled engine cowling (as determined from pressure distribution tests). R. R. Higginbotham. il diags S A E J 47:370-96 S '40
Cooling on the front of an air-cooled engine cylinder in a conventional engine cowling. M. J. Brevoort and U. T. Joyner. bibliog il diags U S Nat Advisory Com for Aeronautics 1939:625-37 '40
Design of N.A.C.A. cowlings for radial air-cooled engines. G. W. Stickle. bibliog il diags U S Nat Advisory Com for Aeronautics 1939:383-93 '40
Engineer's close-up of the Curtiss-Wright transport. G. A. Page and J. P. AuWerter. il Aviation 39:50+ Mr '40
Operating temperatures of cylinder barrel on aircraft engines. J. Becq. Automotive Ind 81:572 D 1 '39
United-Carr develops new cowl fastener. diags Aero Digest 37:168 N '40

Design

Advantages of the two-cycle engine. E. W. Roberts. il Aero Digest 37:145-6 N '40
Aero engines and their laboratory testing under flight conditions. L. Massuger. diag J Aeronautical Sci 7:481-2 S '40
Aircraft engine design. J. Liston. 631p $4 Purdue univ, Lafayette, Ind. '40
Aircraft engines and their lubrication. A. Nutt. bibliog il S A E J 45:501-12 D '39
Alfaro barrel-type engine is tested. K. S. Cullom. diag Automotive Ind 81:590 D 1 '39
Application of the two-stroke heavy-oil engine to aircraft propulsion. W. S. Burn. diags Automobile Eng 30:153-5 My '40
Approximate formulas for piston travel in radial engines. H. W. Sibert. J Aeronautical Sci 7:434-7 Ag '40
Barrel-type engines; abstracts. E. S. Hall. Automotive Ind 82:323-4 Ap 1 '40; S A E J 46:sup15-16 Ap '40
Charging process of two-stroke engine; abstract. C. F. Taylor. Automotive Ind 82:564 Je 15 '40
Design of high speed, two-stroke engines. S. Treves. diags Automotive Ind 83:19-24, 75-9, 119-22, 163-7, 203-6, 251-8, 483-5 Jl 1-S 15, N 1 '40
Design problems in the quantity production of aircraft engines. H. C. Hill. il diag S A E J 46:18-24 Ja '40
Economic aspects of light airplane engines. C. T. Doman. il S A E J 47:284-90 Jl '40; Abstract. Automotive Ind 82:326 Ap 1 '40
Engine; submerged design increases flying efficiency. il Sci Am 163:138-9 S '40
Flugmotorenentwicklung vor 30 jahren. H. U. Todt. il diags V D I 84:111-18 F 17 '40
Geared engines for light airplanes. C. H. Wiegman. il diags S A E J 47:301-4 Jl '40; Abstract. Automotive Ind 82:326-7 Ap 1 '40
Geared-type light engine; abstract. C. H. Wiegman. diags Automotive Ind 82:326-7 Ap 1 '40
Guiberson Diesel. P. H. Wilkinson. diags Aviation 39:59, 112 Jl '40
High-output aircraft engines; liquid cooling. E. W. Hives and F. L. Smith. il diags S A E J 46:106-17 Mr '40; Abstract. Automotive Ind 81:22-4 Jl 1 '39; Discussion. S A E J 46:118 Mr '40
Italian air-cooled engines. P. H. Wilkinson. il Aviation 39:72-3 N '40
Italian and French light plane engines. L. Zacharoff. il Aviation 39:68+ N '40
Junkers Jumo 211 being used in the Stuka dive-bombers. P. H. Wilkinson. il diags Aviation 39:52-3+ S '40
Light aero engines of Europe, present and future. D. R. Pobjoy. J Aeronautical Sci 7: 441-3 Ag '40
Modern aircraft valves. A. T. Colwell. bibliog il diags S A E J 46:147-65 Ap '40
New Ranger navy engine. J. P. AuWerter. il diag Aviation 39:48-9, 116 Je '40
Performance of aircraft spark-ignition engines with fuel injection. O. W. Schey. diags S A E J 46:166-76; Discussion. sup 14-15 Ap '40
Progress in light aircraft engines. C. F. Bachle. il diags S A E J 46:243-9 Je '40; Abstracts. Automotive Ind 82:324-6 Ap 1 '40; Nat Pet N 32:21 Mr 20 '40
Ranger 12-cylinder 450 hp inverted engine. il Aero Digest 36:72-3+ Je '40

AIRPLANE engines—Design—*Continued*
Rationalization in light-engine production; abstract. C. T. Doman. Automotive Ind 82: 326 Ap 1 '40
Rolls-Royce Merlin. P. H. Wilkinson. il Aviation 39:67-8+ Ag '40
What's ahead in light plane engines? C. T. Doman. il Aero Digest 36:49-51+ Mr '40

Detonation

Knocking characteristics of fuels in relation to maximum permissible performance of aircraft engines. A. M. Rothrock and A. E. Biermann. bibliog U S Nat Advisory Com for Aeronautics 1939:267-88 '40

Efficiency

Altitude and the aircraft engine. E. F. Pierce. S A E J 47:421-31 O '40; Abstract. Automotive Ind 82:544-5 Je 15 '40
Design of high speed, two-stroke engines. S. Treves. diags Automotive Ind 83:163-7 Ag 15 '40
Fuel consumption; investigation of the possibilities of improvement with four-stroke engines. F. A. F. Schmidt. Automobile Eng 30:20-2 Ja '40
Knocking characteristics of fuels in relation to maximum permissible performance of aircraft engines. A. M. Rothrock and A. E. Biermann. bibliog U S Nat Advisory Com for Aeronautics 1939:267-88 '40
Oxygen boosting of airplane Diesel engines. P. H. Schweitzer. bibliog il diags Mech Eng 62:719-22 O '40
Performance of modern aircraft Diesels. P. H. Wilkinson. il S A E J 47:474-9 N '40; Abstracts. Nat Pet N 32:R31-2 Ja 24 '40; Oil & Gas J 38:206+ Ja 25 '40; Discussion. S A E J 47:479-81 N '40

Exhaust

Design of high speed, two-stroke engines. S. Treves. diags Automotive Ind 83:75-9, 119-22 Jl 15-Ag 1 '40
High-output aircraft engines; liquid cooling. E. W. Hives and F. L. Smith. diags S A E J 46:116-17 Mr '40

Fuel

Alkylation and its influence on the utilization of natural gasoline. E. W. Gard, A. L. Blount and K. Korpi. bibliog il diags Oil & Gas J 38:42-3, 51+ D 14; 46-8 D 21 '39
Alkylation as a source of safety fuels; abstracts. R. Haskell. Oil & Gas J 38:215 Ja 25 '40; Nat Pet N 32:R20 Ja 24 '40
Anti-knock and carburetor de-icing fluid; Anilol. diags Automotive Ind 83:18 Jl 1 '40
Army releases specifications on aviation gasoline. Nat Pet N 32:13+ O 30 '40
Availability and characteristics of aviation safety fuels; abstracts. R. E. Ellis and W. J. Sweeney. Oil & Gas J 38:205-6 Ja 25 '40; Automotive Ind 82:109-10 F 1 '40; Nat Pet N 32:R18-19 Ja 24 '40; Science 91: supl1 Ja 19 '40; Mech Eng 62:321-2 Ap '40
Aviation fuel by catalytic cracking promises quick volume at low cost. D. P. Barnard and R. B. Cragin. Nat Pet N 32:R210-11 Je 12 '40; Abstracts. Automotive Ind 82: 568-9 Je 15 '40; Oil & Gas J 39:36 Je 13 '40
Aviation fuel on moral embargo list. H. D. Ralph. Oil & Gas J 38:65 D 28 '39
Aviation fuels and engines. F. R. Banks. il diags S A E J 45:389-406 S '39; Abstract. Automotive Ind 82:268-71 Mr 15 '40; Discussion. S A E J 45:406 S '39
Aviation gasoline assuming increasing importance. H. S. Norman. il Oil & Gas J 38: 21-2 Mr 14 '40
Catalytic cracker specializes in 100-octane fuel base. M. G. Van Voorhis. flow chart il plan Nat Pet N 32:R386-8+ O 30 '40
Catalytic cracking is large source for safety fuels. W. M. Holaday. Nat Pet N 32:R19-20 Ja 24 '40
Catalytic desulfurization to improve aviation blending naphthas. W. A. Schulze and R. C. Alden. Am Pet Inst Proc 20(3):72-7 '39; Same. Oil & Gas J 38:199-200+ N 17 '39
Catalytic reforming for the production of aviation gasoline. A. G. Peterkin, J. R. Bates and H. P. Broom. flow diag il Am Pet Inst Proc 20(3):101-8 '39; Abstract. Nat Pet N 31:R517-19 N 29 '39; Discussion. Am Pet Inst Proc 20(3):108-9 '39
Destructive alkylation produces high-octane aviation gasoline. D. L. Gol'dshtein and B. A. Englin. bibliog Nat Pet N 32:R262-4, R266, R268 Jl 24 '40
Export licensing confusing despite interpretations. Oil & Gas J 39:33 Ag 15 '40
Fuel for planes. Business Week p28-30 N 9 '40
Have safety fuels a future in spark ignition aircraft? abstract. F. C. Mock. Automotive Ind 82:17 Ja 1 '40
High-octane aviation fuel by the sulfuric-acid alkylation process. bibliog flow diags il Am Pet Inst Proc 20(3):89-100 '39; Same. Oil & Gas J 38:104-8 N 17 '39; Same cond. Nat Pet N 31:R512-14, R516 N 29 '39; Same cond. Can Chem & Process Ind 24:58-63 F '40
High volatility aviation fuel; abstracts. W. D. Parker and R. C. Alden. Automotive Ind 82:569 Je 15 '40; Oil & Gas J 39:36+ Je 13 '40
Hydrogenation in cracking aviation gas, described; abstracts. E. V. Murphree. Nat Pet N 32:16 Je 19 '40; Oil & Gas J 39:19 Je 20 '40
Hydrogenation of petroleum. E. V. Murphree, C. L. Brown and E. J. Gohr. flow sheets bibliog il Ind & Eng Chem 32:1203-12 S '40
Ignition characteristics of Diesel fuels. R. F. Selden. Power Pl Eng 44:63 Ag '40
Ketones and the production of aviation spirit; fermentation processes for acetone. Chem Age (Lond) 42:85 F 10 '40
Knocking characteristics of fuels in relation to maximum permissible performance of aircraft engines. A. M. Rothrock and A. E. Biermann. bibliog U S Nat Advisory Com for Aeronautics 1939:267-88 '40
Manufacture of aviation fuels. Can Chem & Process Ind 23:591-2 D '39
Motor cars, trucks, and aircraft to have better fuels in 1950; abstract. D. P. Barnard and A. H. Fox. Nat Pet N 32:R82-4+ Mr 20 '40
Motor fuels of the present and future. G. Egloff. W Soc E J 45:79-92 Ap '40
Neohexane for 100-octane plus; new synthetic hydrocarbon made by thermal alkylation surpasses iso-octane. M. E. Clark. flow diag il Chem & Met Eng 47:225-7 Ap '40
Neohexane plant operating at record high pressures. R. C. Alden. flow diag il Nat Pet N 32:R234, R236-8+ Je 26 '40
New aviation fuels; Standard Oil unit wins award. Business Week p21 N 25 '39
Octane rating of fuels is difficult; S.A.E. annual meeting; abstracts of papers. Nat Pet N 32:21-2 Ja 24 '40
Octane ratings of a number of pure hydrocarbons and of some of their binary mixtures; C.F.R.-A.S.T.M.-motor method. J. Smittenberg and others. Inst Pet J 26: 294-303 Je '40
Output of aviation gasoline keeps pace with needs. H. S. Norman. il Oil & Gas J 38: 11-12 N 30 '39
Performance of modern aircraft Diesels. P. H. Wilkinson. il S A E J 47:474-9 N '40; Abstract. Nat Pet N 32:R31-2 Ja 24 '40; Discussion. S A E J 47:479-81 N '40
Physical properties of purified 2,2,3-trimethylpentane. D. B. Brooks, F. L. Howard and H. C. Crafton, jr. J Research Nat Bur Stand 23:637-41 D '39
Physical properties of some purified aliphatic hydrocarbons. D. B. Brooks, F. L. Howard and H. C. Crafton, jr. bibliog J Research Nat Bur Stand 24:33-45 Ja '40
Processes for conversion of light hydrocarbons to high antiknock aviation fuels; abstract. S. H. McAllister. Oil & Gas J 39:46 N 7 '40
Production et utilisation des cétones comme carburants à fort indice d'octane. C. Berthelot. Chimie & Ind 42:779-86 N '39

AIRPLANE engines—Fuel—*Continued*
Prospects of fuels of higher octane number in the transport field. W. H. Hubner. bibliog J Aeronautical Sci 7:319-31; Discussion. 331-3 Je '40
Refiners alert to potential need for aviation fuel. H. S. Norman. il Oil & Gas J 39:28-9 Je 13 '40
Report of the chairman of the committee on motor fuel research. T. B. Rendel. Am Pet Inst Proc 20(3):124-6 '39
Reserve supply of aviation gas will be stored underground. H. D. Ralph. Oil & Gas J 39: 17 Ag 29 '40
Seek vapor lock reduction in aviation fuel systems; abstract. O. C. Bridgeman. Nat Pet N 32:R417 N 13 '40
SAE annual meeting; aircraft-engine sessions. S A E J 46:sup39-40 F '40
Status of fuel performance tests in aviation engines. R. F. Gagg. S A E J 46:271-2 Je '40
Stock piles of fuel for warplanes urged. R. E. Wilson. Nat Pet N 32:13+ Jl 10 '40
Les supercarburants et les superlubrifiants synthétiques au Congrès de l'Association française pour l'avancement des sciences (Liége, 17-22 juillet 1939). C. Berthelot. Chimie & Ind 43:539-48 Ap 5 '40
Synthetic fuels for aviation. J. P. Eames. plan Aero Digest 37:75 S '40
Thermal alkylation and neohexane. G. G. Oberfell and F. E. Frey. bibliog il diag Am Pet Inst Proc 20(3):78-88 '39; Same. Oil & Gas J 38:50-1 N 23; 70, 73-4+ N 30 '39; Same cond. Nat Pet N 31:R502-3+ N 29 '39
To offer better gas from octane stock built for aviation. il Nat Pet N 32:25-6+ Ja 10 '40
U.S. army builds stock pile of fuels for war emergency. Nat Pet N 32:22 Ap 24 '40
War speeds the development of aviation fuel processes; abstracts of papers at American petroleum institute meeting. il Nat Pet N 31:27-8, 32+ N 22 '39
Which will it be? high octane gasoline or safety fuel. J. R. MacGregor. Aviation 39: 57, 98+ Ap '40

Fuel feeding

Accuracy features aircraft fuel pumps. Iron Age 146:42 Ag 15 '40
Bendix-Stromberg injection carburetor. diags Aero Digest 36:72+ Ap '40
Continental mechanical fuel injection. il Automotive Ind 82:327 Ap 1 '40
Fuel injection system used on German planes removes danger of carbureter icing. diags Automotive Ind 82:380-1 Ap 15 '40
Fuel pump developments to meet commercial airline service. J. M. Roth. il Aero Digest 36:91+ Je '40
Influence of directed air flow on combustion in a spark-ignition engine. A. M. Rothrock and R. C. Spencer. bibliog il diags U S Nat Advisory Com for Aeronautics 1939:313-26 '40
Methods of preventing carburetor air intake icing. Aero Digest 37:116, 121 N '40
Non-pulsating aircraft fuel pumps; illustration and diagram. Product Eng 11:9 Ja '40
Performance of aircraft spark-ignition engines with fuel injection. O. W. Schey. diags S A E J 46:166-76 Ap '40; Abstract. Nat Pet N 32:R106-8 Ap 3 '40; Discussion. S A E J 46:sup14-15 Ap '40
Progress in light aircraft engines. C. F. Bachle. il diags S A E J 46:243-9 Je '40; Abstract. Automotive Ind 82:324-6 Ap 1 '40
Review of the relative merits of petrol injection and carburettors for aero engines. J. E. Ellor and F. M. Owner. bibliog il diags Roy Aeronautical Soc J 43:838-62; Discussion. 862-74 N '39
Study of air flow in an engine cylinder. D. W. Lee. il diags U S Nat Advisory Com for Aeronautics 1939:227-39 '40

Gearing

Aircraft engine reduction gears and torque meters; abstract. R. Chilton. il Aero Digest 37:142 N '40
Design of high speed gears. K. Knibbe. diags J Aeronautical Sci 7:68-71 D '39

Ignition

Fuel consumption; investigation of the possibilities of improvement with four-stroke engines. F. A. F. Schmidt. Automobile Eng 30:20-1 Ja '40
High-speed photography of combustion phenomena; abstract. A. M. Rothrock. Automotive Ind 82:324 Ap 1 '40
Influence of directed air flow on combustion in a spark-ignition engine. A. M. Rothrock and R. C. Spencer. bibliog il diags U S Nat Advisory Com for Aeronautics 1939:313-26 '40

Ignition devices

Ceramic spark plugs for aircraft engines; abstract. A. L. Beall. diag Automotive Ind 82:107-8 F 1 '40
Shortcomings of mica insulation for aviation spark plugs. V. Cronstedt. il diags S A E J 46:233-5+ Je '40; Abstract. Automotive Ind 82:108 F 1 '40
Some factors controlling the development of electrical ignition of aero engines. G. E. Bairsto. bibliog il diags Roy Aeronautical Soc J 44:119-62; Discussion. 162-75 F '40
Supercharged aircraft ignition harness; abstract. C. E. Swanson. Aero Digest 37:141-2 N '40

Lubrication

Aircraft engines and their lubrication. A. Nutt. bibliog il S A E J 45:501-12 D '39
Importance of additives in lubricants; symposium at semiannual meeting of National petroleum association. Oil & Gas J 38:58+ Ap 25 '40
L'infériorité de l'huile de ricin pour le graissage des moteurs d'avions. Génie Civil 116: 170-1 Mr 9 '40
Use of chemical additives in lubricating oils. J. P. Stewart, R. C. Moran and C. M. Reiff. Nat Pet N 32:R88-9 Mr 20 '40

Manifolds

Custom-built manifolds on a production basis; Solar aircraft co. il Aero Digest 36:50, 55 Ap '40

Manufacture

Air conditioning for aircraft engines; tooling set-up, fluorescent lighting; Allison division of General motors corp, Indianapolis. il Iron Age 145:26-7 F 15 '40
Air conditioning vital to precision in manufacture of aircraft engines; Allison div. of General motors corp. il Heating-Piping 12: 151-4 Mr '40
Air motor for Canada. Business Week p64-5 O 12 '40
Aircraft boom in the auto industry? S. Devlin. il Mag of Wall St 66:406-7+ Jl 13 '40
Aircraft engine forgings. H. J. Fischbeck. Metal Prog 38:513+ O '40
Allison celebrates. Business Week p16 O 12 '40
Allison division, General motors corporation, Speedway, Ind.; plant manufacturing airplane engines. il plans Arch Rec 87:91-5 F '40
Allison engines built in a shop as modern as flight itself. C. O. Herb. il Mach 46:164-9 Jl '40
Auto men eye planes; engine production threatens to outstrip aircraft building. il Business Week p18 O 26 '40
Autos in aviation; Ford and Packard break ground for engine plants. Business Week p25 S 28 '40
Casting aluminum cylinder heads for aircraft; Wright aeronautical corp. il Foundry 68:46-9+ N '40
Completely controlled conditions feature new aircraft engine plant; Allison division of General motors corp, Indianapolis. il Steel 106:42-4+ F 12 '40
Contour milling of aircraft connecting rods now automatic. il Steel 107:68 Jl 22 '40
Design problems in the quantity production of aircraft engines. H. C. Hill. il diag S A E J 46:18-24 Ja '40

AIRPLANE engines—Manufacture—*Continued*
Economic aspects of light airplane engines. C. T. Doman. il S A E J 47:284-90 Jl '40; Abstract. Automotive Ind 82:326 Ap 1 '40
Enamels for aircraft engine cylinders. M. A. Coler. il Aero Digest 36:46-8+ Ap '40
Engines from the ground up; Wright aeronautical corporation. P. W. Brown and H. E. Linsley. il Am Mach 84:371-4 My 29 '40
Fixtures step up output; Kinner motors, inc. W. Milka. il Am Mach 84:653-5 S 4 '40
Ford contracts to build airplane engines. il Am Mach 84:476c Je 26 '40
Ford tooling for airplane engines for U.S. continues. Iron Age 146:88 Jl 4 '40
General motors corporation, Allison division plant, Indianapolis, for manufacture of airplane motors. il Factory Management 98: B52-B55 Ap '40
Government cancels plans to have Henry Ford produce airplane engines. Comm & Fin Chr 150:4057 Je 29 '40
Lycoming engine production for the light airplane market. il Aero Digest 36:38-40+ Ja '40
Making ring-weights for balancing radial aircraft engine crankshafts. W. I. Senger. il diags Mach 47:130-4 O '40
Moulding and casting aluminum alloy cylinder heads; Wright aeronautical corp. il Aero Digest 37:114-15 N '40
Pratt & Whitney expands. J. P. AuWerter. il Aviation 39:38-41, 116+ Jl '40
Pratt & Whitney's advanced methods of engine building. il Mach 46:174-7 Jl '40
Precision thread grinding; Wright aeronautical corp. H. E. Linsley. il Am Mach 84: 908-9 N 13 '40
Quantity production of small radial engines; Kinner motors. G. Edenquist. il Aviation 39:48-9+ Ap '40
Rapid expansion of engine plant leaves time for improvements; United aircraft corp.'s plant at East Hartford, Conn. il diags Eng N 125:564-5 O 24 '40
Wright Aero plans for unprecedented production. P. W. Brown. il Mach 46:134-9 Jl; 47: 124-7 S '40
Wright aeronautical corp. plant 2. il Aero Digest 37:92, 95 Jl '40
Wright engine plant. il Aviation 39:50-1 Jl '40

Models
Junior Motors demand precise manufacture. C. C. Hermann. il Iron Age 145:48-50 Je 20 '40

Mounting
Built-in airplane engines. diag Mech Eng 62:614-15 Ag '40
Engine mount analysis by means of descriptive geometry. C. R. Kramer. Aero Digest 37:52, 55-6 Ag '40
Mounting of aero engines with special reference to rubber and buna material. B. Steinborn. diags Roy Aeronautical Soc J 44:447-50 My '40
Problems of submerged engine installations. W. E. Beall and G. E. Emery, jr. S A E J 46:68 F '40
Propeller requirements for submerged engine installations. G. W. Brady. il diags S A E J 46:191-7 My '40

Radiators
La technique des radiateurs d'aviation et de leur carénage. L. Breguet and R. Devillers. Soc Ing Civils Mémoires 91:949-1000 N '38

Specifications
American aircraft engine specifications; tabulation. Aviation 39:67-8 F '40
American aircraft engines; tabulation. Automotive Ind 82:216-17 Mr 1 '40
Specifications for aircraft finishes. M. A. Coler. Aero Digest 37:44+ Jl '40

Starting
Solenoid-operated oil dilution valve. il Automotive Ind 82:468 My 15 '40
Starters-feathering pump for aircraft engines. il Automotive Ind 83:110 Ag 1 '40

Superchargers
Abgasturbinen mit gekühlten laufschaufeln. K. Leist. il V D I 83:1206-7 N 11 '39
Altitude and the aircraft engine. E. F. Pierce. S A E J 47:421-31 O '40; Abstract. Automotive Ind 82:544-5 Je 15 '40
Centrifugal superchargers; abstract. K. Kollmann. Automobile Eng 30:276 S '40
Design of high speed, two-stroke engines; calculation of the supercharger and of the supercharging ratio. S. Treves. Automotive Ind 83:203-6 S 1 '40
Fuel consumption; investigation of the possibilities of improvement with four-stroke engines. F. A. F. Schmidt. Automobile Eng 30:21-2 Ja '40
Limiting factors in single stage centrifugal superchargers for aero engines. K. Kollman. il diag Roy Aeronautical Soc J 44:775-90 O '40
Mechanically driven superchargers. R. S. Buck. diag J Aeronautical Sci 7:334-9 Je '40; Excerpts. Aviation 39:122 Mr '40
Operating the turbo supercharger; abstract. D. J. Keirn. Sci Am 162:97 F '40

Temperature
Correction of temperatures of air-cooled engine cylinders for variation in engine and cooling conditions. O. W. Schey, B. Pinkel and H. H. Ellerbrock, jr. bibliog il diag U S Nat Advisory Com for Aeronautics 1939:49-72 '40
New piston temperature device checks oil and fuel qualities. A. F. Underwood and A. A. Catlin. diags Nat Pet N 32:R250, R252 Jl 10 '40
Operating temperatures of cylinder barrel on aircraft engines. J. Becq. Automotive Ind 81:572 D 1 '39

Testing
Aero engines and their laboratory testing under flight conditions. L. Massuger. diag J Aeronautical Sci 7:481-2 S '40
Aircraft industries modernize testing facilities; a pictorial progress report. M. F. Behar. Instruments 13:50-1 F '40
Correction of temperatures of air-cooled engine cylinders for variation in engine and cooling conditions. O. W. Schey, B. Pinkel and H. H. Ellerbrock, jr. bibliog il diag U S Nat Advisory Com for Aeronautics 1939:49-72 '40
Doppelprüfstand für flugmotoren. C. Weltin. diag V D I 83:1237-8 N 25 '39
Performance of aircraft spark-ignition engines with fuel injection. O. W. Schey. diags S A E J 46:166-76; Discussion. sup 14-15 Ap '40
Ranger engine test & research building. il diag Aero Digest 36:71 Je '40
Valuation and tests of electrical engine-indicators. F. Lichtenberger. il diags Automotive Ind 82:368-75; Discussion. Fried and Schroder. 375 Ap 15 '40

Valves
Austempering improves valve springs. A. Oreffice. Metal Prog 38:71 Jl '40
Aviation fuels and engines. F. R. Banks. diags S A E J 45:395-7 S '39; Abstract. Automotive Ind 82:269-70 Mr 15 '40
Bristol sleeve-valve-actuating mechanism. diags Automotive Ind 83:17 Jl 1 '40
Development of sodium cooling of exhaust valves. Automotive Ind 82:417-18 My 1 '40
Exhaust valve materials for internal combustion engines; abstracts. S. D. Heron, O. E. Harder and M. R. Nestor. Metal Prog 37:418+. 541 Ap-My '40; Metals & Alloys 11:MA216+ Ap '40
High-output aircraft engines; liquid cooling. E. W. Hives and F. L. Smith. diags S A E J 46:112-17 Mr '40
Modern aircraft valves. A. T. Colwell. bibliog il diags S A E J 46:147-65 Ap '40; Abstract. Automobile Eng 30:221-2 Jl '40
Performance of aircraft spark-ignition engines with fuel injection. O. W. Schey. diags S A E J 46:172-4 Ap '40

AIRPLANE engines—Valves—*Continued*
Problem of valve-stem and valve-head deposits. A. T. Colwell. bibliog il diags S A E J 47:358-66 S '40; Same cond. Automobile Eng 30:307-12 O '40; Abstracts. Automotive Ind 82:546-7 Je 15 '40; Nat Pet N 32:R226 Je 12 '40
Valve port design for maximum flow capacity; abstract. C. D. Waldron. diag Automotive Ind 82:418 My 1 '40

Vibration

Coupled oscillations of aircraft engine-propeller systems. M. A. Biot. bibliog diags J Aeronautical Sci 7:376-82 Jl '40
Graphical treatment of vibration and aircraft engine dampers. C. H. Powell. 290p bibliog(p288) $7.50 Bookcraft, Brooklyn, N.Y. '40
Vibration characteristics of aircraft engine-propeller systems. C. M. Kearns. il diags S A E J 45:540-8 D '39

AIRPLANE engines, Steam
Steam-powered airplane still a possibility. Product Eng 11:455-6 O '40

AIRPLANE fabrics
Heat-resistant process for making cotton tire cords adapted to textiles for aeronautical use; parachute harness, etc. il Textile World 90:123 O '40

See also
Airplane dope

Testing

Airplane dopes; relation of tautening and weathering qualities to composition. F. W. Reinhart and G. M. Kline. bibliog il Ind & Eng Chem 32:184-93 F '40
Analysis of frequency charts to determine quality and performance of textile fabrics. J. E. Gill, jr. Rayon 21:111-13, 153-4 F-Mr '40
Fabric-porosity testing apparatus. il Engineering 148:634 D 8 '39

AIRPLANE factories
Aeronca's new factory at Middletown, Ohio. il Aero Digest 37:116, 118, 120 Jl '40
Air Associates' new plant at Bendix, N.J. il plan Aero Digest 37:116-17, 120+ O '40
Aircraft boom; is product of the war but may survive the peace; nineteen companies, their planes, their plans. il Fortune 21:68-71+ Mr '40
Aircraft divisions formed by Briggs mfg. and Murray corp. Automotive Ind 83:125 Ag 1 '40
Aircraft factories called good fire risks; abstracts. J. H. Rea. Nat Underw 44:4 F 8 '40; Weekly Underw 142:354+ F 10 '40
Automatics in a French airplane factory. il diags Mach 46:182-7 Jl '40
Better plants build airplanes faster. il diags plan Eng N 125:560-70 O 24 '40
Curtiss propeller production. il plan Aviation 39:40-3 S; 42-3, 110, 112 O '40
Expansion of Piper's production facilities. il Aero Digest 37:86-8 O '40
Expansion plans for airplane and engine factories. il Aero Digest 37:37-41 N '40
Factories expanding; preparations speeded to meet anticipated orders. il Aero Digest 37: 139-40+ Jl '40
General motors corporation, Allison division plant, Indianapolis, for manufacture of airplane motors. il Factory Management 98: B52-B55 Ap '40
Glenn L. Martin co.; America's oldest builder of bombing planes. il Fortune 20:73-7+ D '39
Homes keep pace; growth of the Lockheed aircraft corp, Burbank, Calif. il Dom Eng 156:37+ Jl '40
How many planes when? Lockheed aircraft corporations. B. Gross. il Fortune 22:48-53, 89-90 Ag '40
Nashville's airplane plant undergoes large expansion; Vultee aircraft, inc. to produce fighting planes. F. W. Ziegler. il Manuf Rec 109:31+ N '40
Naval aircraft factory. S. M. Kraus. il Aero Digest 36:46-7+ F '40
New Allison plant is no Topsy. L. E. Neville. il layout Aviation 38:30-3, 100+ D '39
New plant of Northrop aircraft, inc. F. E. Samuels. il plan Aero Digest 36:88, 91+ My '40
New Wright engine plant. il Aviation 39:50-1 Jl '40
Plant 2 of the Wright aeronautical corp. il Aero Digest 37:92, 95 Jl '40
Pratt & Whitney celebrates its 15th anniversary. il Aviation 39:82+ S '40
Pratt & Whitney expands. J. P. AuWerter. il Aviation 39:38-41, 116+ Jl '40
$7,000,000 airplane plant for Texas. il Manuf Rec 109:35 N '40
Should new airplane plants be protected? concrete structures for air raid protection. diags Concrete 48:5-6+ Jl '40
Stinson's new factory at Nashville, Tenn. il Aero Digest 37:84, 87+ Jl '40; Same cond. Manuf Rec 109:33+ Jl '40
Warplane factories in Germany. P. H. Wilkinson. il Aviation 39:44-5+ S; 44-5+ N '40 (to be cont)
Where should your new plant be built? Aviation 39:55, 120+ Ag '40

See also
Airplanes—
Manufacture

Accounting

Accounting problems on government contracts; Vinson act and aircraft contracts. R. M. Woodham. N A C A Bul 21:1361-70 Jl 1 '40; Same. Credit & Fin Management 42:17-19 Ag '40

Air conditioning

Air conditioning vital to precision in manufacture of aircraft engines; Allison div. of General motors corp. il Heating-Piping 12: 151-4 Mr '40
Allison division; air conditioned windowless factory. il diag plan Heat & Ven 37:44-8 S '40

Employees

Factory training in the East. C. Norcross. il Aviation 39:34-5, 100+ O '40
First aid for the unskilled; Wright aeronautical corporation. P. W. Brown and H. E. Linsley. il Am Mach 84:416-17 Je 12 '40
Flare-up at Boeing over pay rates for newly hired labor. Business Week p43 Ag 10 '40
How aircraft factories find their men. C. F. McReynolds. il Aviation 39:32-3+ N '40
Jobs which are required in constructing aircraft. il Aero Digest 37:49-51+ O '40
Management's part in personnel relations; Lockheed aircraft corporation. R. R. Irwin. il Aviation 39:32-3+ Mr '40; Excerpt. Factory Management 98:56-7+ Mr '40
Men trained in four weeks; training school of Curtiss-Wright corporation. il Am Mach 84:85-6 F 21 '40
More men, more planes; Pratt & Whitney training program. il Am Mach 84:451-3 Je 26 '40
Okies of aviation; high-pressure schools in California. Business Week p55-6 O 5 '40
Personnel selection in aviation industry; with aviation executive's comments. R. S. Schultz. Personnel J 19:99-107 S '40
Turning the X-ray on the hiring line; Lockheed system. R. R. Irwin. il Aviation 39:32-3+ Ja '40
Union agreements in aircraft manufacture. Monthly Labor R 51:290-302 Ag '40
Unions grapple for aircraft prize; A.F.L.-C.I.O. battle now rages in Los Angeles area. Business Week p52 O 12 '40
Wanted: skilled men in aircraft manufacture. R. R. Irwin. il Am Mach 84:695-6 S 18 '40
We find a way to select better employees; Lockheed aircraft corporation. R. C. Storment. il Am Business 10:14-17+ Jl '40
Wright aeronautical plan. C. S. Slocombe. Personnel J 19:180-1 N '40

Equipment

Air conditioning for aircraft engines; tooling set-up, fluorescent lighting; Allison division of General motors corp, Indianapolis. il Iron Age 145:26-7 F 15 '40

AIRPLANE factories—Equipment—*Continued*
Aircraft machine tools at the Northrop plant. R. R. Nolan. il Aero Digest 37:84, 87+ S '40
Aircraft number. il diags Mach 46:134-92 Jl 40
American machines in England's busy shops. il Mach 46:120-5 Ja; 116-22 Mr '40
Automatic sorting; possibilities in salvaging materials; Glenn L. Martin co. il Steel 106:50+ Je 17 '40
Bakewell precision tapper for aircraft work. il diag Product Eng 11:344-5 Ag '40
Bending press dies for airplane manufacture. C. J. Bath. il diags Mach 47:152-5 N '40
Completely controlled conditions feature new aircraft engine plant; Allison division of General motors corp, Indianapolis. il Steel 106:42-4+ F 12 '40
Consolidated of San Diego. C. F. McReynolds. il layout Aviation 38:44-6+ D '39
Die manufacture and stretching press for aircraft sheathing; Glenn L. Martin co. R. B. Gray. il Metal Prog 37:559-61 My '40
Engines from the ground up; Wright aeronautical corporation. P. W. Brown and H. E. Linsley. il Am Mach 84:371-4 My 29 '40
Farrel-Birmingham hydraulic press forms duralumin aircraft parts. il Am Mach 84: 550 Jl 24 '40; Mach 46:217 Jl '40
Index to the manufacturers of aircraft and engine machinery. Aero Digest 36:128+ Ja '40
Jigs for airplane assembly. H. Lasker. il Am Mach 84:570-3, 606-9 Ag 7-21 '40
Looking around the Douglas plant; illustrations. Aviation 38:42-3 D '39
Machine tools aid planemakers achieve mass production. Steel 106:35 My 13 '40
Machines for sorting rivets. il Aero Digest 36:100 Je '40
Manufacturers of production tools; directory. il Aviation 38:48-50+ D '39
Manufacturing operations in the Curtiss-Wright plant at Buffalo, N.Y.; illustrations. Aviation 38:40-1 D '39
Mass production of standardized aircraft; Piper aircraft corp. A. S. Peirce. il plans Steel 107:74, 76-7+ S 23 '40
Metal stretching press; Glenn L. Martin company. il Sci Am 162:290 My '40; Automotive Ind 82:328 Ap 1 '40
Modern machinery for the production of aircraft and engines. il Aero Digest 36:67-8+ Ja '40
Modern machines for improving production; North American Aviation aircraft machine shop. H. F. Schwedes. il Aero Digest 37:56, 59+ S '40
Modernized French factories use American machine tools. il Mach 46:126-31 Ja '40
Monorails for aircraft; plant 2 of Boeing aircraft co. il Steel 106:56, 58+ Mr 11 '40
More Clippers for the Atlantic; new problems in machining, forming and assembly solved by Boeing. il Am Mach 84:155-9 Mr 20 '40
Production line private planes; Piper aircraft corp. A. Heflin. il Aero Digest 36:54-5 Je '40
Progressive methods in Japanese shops. il Mach 46:144-8 Ja '40
Rivets; salvaging methods cut costs in airplane assembly; Glenn L. Martin aircraft company. il Sci Am 163:139 S '40
Russian methods developed around American machines. il Mach 46:138-43 Ja '40
Shapes for sky ships; press brakes. il diags Steel 107:64-5 O 28 '40
Sheet-metal operations in an airplane plant. il Mach 46:240-2 D '39
Sheet shapes for aircraft; multiple profiling; Lockheed aircraft corp. L. H. Biehler. il Am Mach 84:926-9 N 13 '40
Steel-faced cast iron dies for drop hammer work. J. H. Engel. il Iron Age 145:46-8 Mr 21 '40
Streamlined aircraft production; Vultee aircraft, inc. D. I. Carroll. il plan Aviation 39:38-41, 98 My '40
Wickman-Holroyd spar-boom milling machine. il diags Engineer 170:168-9 S 13 '40
Zinc-alloy dies for drop hammer work. W. W. Broughton. il Iron Age 145:29-32 F 8 '40

Heating and ventilation
Air conditioning for air defense. il diags plans Heat & Ven 37:32-58 S '40
Ventilation and dehumidification of paint spray rooms for airplane manufacturers. il Dom Eng 156:34-5+ Jl '40
Warm air for plant, hot water for offices; Aviation mfg. corp. il Heating-Piping 12: 480 Ag '40

Insurance requirements
Aviation companies will require huge amount of insurance. E. H. Rupp. East Underw 41:1+ O 25 '40; Same. Nat Underw 44:3+ O 24 '40

Layout
Mass production of standardized aircraft; Piper aircraft corp. A. S. Peirce. Steel 107: 74 S 23 '40
Streamlined aircraft production; Vultee aircraft, inc. D. I. Carroll. il plan Aviation 39:38-41 My '40

Management
Bombers in quantity; Glenn L. Martin co. J. P. AuWerter. il Aviation 39:34-7+ N '40
Engineering planning. H. F. McCann. il Aero Digest 37:65, 67 Ag '40
Johnson of Boeing. Fortune 22:92+ Ag '40
Keep a jump ahead of your men. J. H. Sreenan. Aero Digest 36:62+ Ap '40
Production plus; North American's spectacular production record of the past three years. J. S. Smithson. il layouts Aviation 38:34-9 D '39
Simpler work, so more for defense; Glenn L. Martin company plant, Baltimore. L. K. Urquhart. il Factory Management 98:54-6+ N '40
Sub-contracting, what and when. P. N. Jansen. il Aviation 39:48-9+ Ag '40
These management methods helped Brewster aeronautical corporation turn the corner. E. Clifford. il Am Business 10:20-2 F '40
Value received from an engineering department; Lockheed aircraft corporation. H. L. Hibbard. il Aviation 39:44-5, 122+ Je; 46-7, 104, 106 Jl '40
Work simplification increases output; Glenn L. Martin plant. il Aero Digest 37:55+ S '40

AIRPLANE industry and trade
Aviation business; from Kitty Hawk to Wall Street. E. E. Freudenthal. 342p bibliog (p313-25) $3 Vanguard press, New York '40
Decade of Grumman progress. il Aero Digest 36:48-9, 52+ Ja '40
Lockheed, swamped with war orders, builds for peace-time days to come. C. B. Squier. il Sales Management 46:18-20+ F 15 '40
Mobilizing sub-contracting facilities; experience of the Connecticut aeronautical development commission. H. L. Williams. Aviation 39:50-1+ Ag '40
Winged victory for the allies becomes more likely; air forces of warring nations compared. T. P. Wright. il Aviation 39:32-3, 102+ Ap '40
Wings for sale. il Ptr Ink Mo 40:5-8+ Ja '40

Advertising
Flivver airplane market; Piper leads the competition, two to one. il Ptr Ink Mo 40: 44, 47 Je '40
Wright tells the home town, Paterson, N.J. about airplane engines. R. S. Gall. il Ptr Ink Mo 41:33+ S '40

Directories
Directory of aircraft and engine manufacturers. Aviation 39:75-6 F '40
Manufacturers of airplanes and engines. Aero Digest 36:58, 60 Mr '40

Finance
Aircraft boom; is product of the war but may survive the peace; nineteen companies, their planes, their plans. il Fortune 21:68-71+ Mr '40

AIRPLANE Industry and trade—Finance—*Cont.*
Another look at the aircrafts. G. Merton. il Mag of Wall St 66:724-7+ O 5 '40
Aviation financial trends. S. Altschul. Aviation 39:51+ My '40
Aviation's potential profitless prosperity. S. Altschul. Aviation 39:57+ S '40
Can aircraft manufacturers earn 12 per cent under the Vinson-Trammell act? T. L. North. Annalist 54:662 N 23 '39
Curtiss-Wright's ship comes in. S. Devlin. il Mag of Wall St 65:747-9+ Mr 23 '40
FTC issues financial statistics for nine aircraft manufacturing corporations. Comm & Fin Chr 151:2425 O 26 '40
Financial reports; Curtiss-Wright corporation; Wright aeronautical corporation, Bendix aviation corporation. Annalist 56:278 Ag 29 '40
Financial reports, Curtiss-Wright, United Aircraft, Wright aeronautical corporation. Annalist 55:725 My 23 '40
Financial reports, Douglas aircraft co., Glenn L. Martin co. and Aviation corporation. Annalist 55:493 Ap 4 '40
How to finance your plant expansion for completion of government aircraft contracts. R. Colborn. il Aviation 39:46-7 Ag '40
Review of financial picture for 1939. R. Hoadley. Aviation 39:81-2 Ja '40
Where are those profits? financial study of two companies making military aircraft. maps Aviation 39:32-3+ O '40

See also
Lockheed aircraft corporation

Securities

Aircraft round-up. G. L. Merton. il Mag of Wall St 65:668-75+ Mr 9 '40
Aviation companies, 1937-39. Mag of Wall St Manual p41 Mr 2 '40
Aviation financial outlook improves. S. Altschul. Aviation 39:51, 116 O '40
Brass tacks for the investor; brief analysis. Barron's 20:13 Je 17; 13 Je 24 '40
Douglas Aircraft; record orders, with more to come, point to record profits. H. L. Travis. il Mag of Wall St 65:418-21+ Ja 13 '40
Investors watch aviation trends. S. Altschul. Aviation 39:52+ Jl '40
Lockheed aircraft; recent business and earnings growth. E. A. Barnes. il Mag of Wall St 65:488-9+ Ja 27 '40
Position of leading aircraft and aviation stocks. Mag of Wall St 65:471; 66:470-1+ Ja 27, Jl 27 '40
Stocks behave like war babies. S. Altschul. Aviation 39:70 Je '40

Service

Periodic check supervision for private owners; Spartan aircraft corp. J. B. Thomson. il Aero Digest 36:57+ Ap '40

Statistics

Aircraft production, revision; monthly, 1932-June, 1940. Fed Res Bul 26:829 Ag '40
Airplanes, production, exports, 1936-1939. Survey of Cur Business 1940 Sup p158 [supplemented in monthly numbers]
Civil aircraft production doubles; January through September, 1939. Civil Aero J 1:5 Ja 1 '40
Civil aircraft production in 1939. Civil Aero J 1:70 Mr 1 '40
Domestic civil aircraft production up 41% in first half. Civil Aero J 1:409, 413 S 1 '40
Expansion in light aircraft production continues; first quarter 1939-1940 compared. Civil Aero J 1:217 My 15 '40
Huge sales of aircraft firms in 1939 reported. Automotive Ind 83:510 N 1 '40
Pay rolls in manufacturing industries; aircraft, monthly, Jan. 1923-Aug. 1940. Survey of Cur Business 20:16 O '40
Quarter's aviation exports $66,529,000. Annalist 55:588 Ap 25 '40

Canada

Bombers, en masse; coordination of Canadian companies for plane orders. Business Week p64+ Mr 16 '40
Canada to use only American materials, designs in aircraft. Steel 107:29 Ag 5 '40
Canada's warplane industry. J. Montagnes. il Aviation 39:30-1, 98+ O '40

Germany

Air force targets in Germany; Junkers aircraft works at Dessau. il Engineer 170:134-5 Ag 30 '40
La construction aéronautique en Allemagne et aux États-Unis au début de la guerre. Génie Civil 116:298-9 My 4 '40

Great Britain

Aeronautics in 1939. il(supp 6-7) Engineer 169: 5-6 Ja 5 '40
Aircraft results; company profits, 1937-39. Economist 139:222-3 Ag 17 '40
Blackburn aircraft expansion. Economist 139: 255 Ag 24 '40
Bristol aeroplane company 30th ordinary general meeting; change-over to war conditions. Economist 139:261 Ag 24 '40
Engineering outlook; aircraft. Engineering 149:162-3 F 16 '40
Hawker Siddeley aircraft company expansion and 4th ordinary general meeting, London. Economist 138:111, 180 Ja 20-27 '40
Plastics in British planes. il Aviation 39:44-5+ Jl '40
Recent aircraft companies' results. Economist 138:71-2 Ja 13 '40

Poland

Some aspects of the aerial warfare in the German-Polish campaign. J. J. Dziewonski and S. Rogalski. il plans Roy Aeronautical Soc J 44:629-37 Ag '40

Russia

Soviet's USSR L-760. L. Zacharoff. il Aviation 39:62 Jl '40

United States

Aircraft boom; is product of the war but may survive the peace; nineteen companies, their planes, their plans. il Fortune 21:68-71+ Mr '40
Aircraft contracts call for 25,000 planes by July, 1942. Automotive Ind 83:134-5 Ag 1 '40
Aircraft makers ready for job. il Business Week p48+ Je 22 '40
Aircraft manufacturers express confidence in ability to meet national defense needs. J. H. Jouett. Comm & Fin Chr 150:3445 Je 1 '40
Airlines buy for a big year. Business Week p18+ Ja 13 '40
Airplane manufacturers confer with government officials on policy regarding sales to Great Britain and France. Comm & Fin Chr 150:2021-2 Mr 30 '40
Airplane manufacturers in United States have capacity to build 15,000 machines a year. J. H. Jouett. Comm & Fin Chr 149:3201 N 18 '39
Allies' billion plagues aviation; American plane-makers unwilling to be stampeded into expansion. Business Week p15-16 Mr 9 '40
Allies placing big plane contracts. Business Week p60-1 Ap 27 '40
Aviation faces biggest production problem. L. Peat. il Automotive Ind 83:321-2+ O 1 '40
Aviation industry breaks log jam. Business Week p28-30 Ag 31 '40
Aviation looks toward peace. T. N. Sandifer. il Nation's Business 28:17-19+ My '40
Aviation; war production possibilities. Index 19 no 4:75-83 [D] '39
Aviation's broadening markets. S. Altschul. Aviation 39:47, 110 N '40
Billions for air defense. L. E. Neville. Aviation 39:30-2+ Ag '40
Call for doubling plane program. Business Week p30 N 9 '40
Eventual lead of United States in aviation power. G. L. Martin. Comm & Fin Chr 150:1533 Mr 9 '40
Expansion plans for airplane and engine factories. il Aero Digest 37:37-41 N '40
50,000 planes a year; how much? how long? with cost data. T. P. Wright. il Aviation 39:34-7, 98, 100+ Jl '40

AIRPLANE industry and trade—United States —*Continued*
50,000 planes; their production may require aid from automakers. Steel 106:33 My 27 '40
Flivver airplane market; Piper leads the competition, two to one. il Ptr Ink Mo 40:44, 47 Je '40
How many planes when? Lockheed aircraft corporations. B. Gross. il Fortune 22:48-53, 89-90 Ag '40
Industry's leaders active as defense program crystallizes. L. W. Moffett. Automotive Ind 82:577, 580-1 Je 15 '40
Investors watch aviation trends. S. Altschul. Aviation 39:52+ Jl '40
Light-plane industry thrives. il Business Week p17-18+ N 16 '40
Light plane roundup; reports of companies. il Aviation 39:30-3 F '40
Machine tool deliveries to favor U.S. aircraft makers. Iron Age 145:84A F 8 '40
More planes, fewer kinds. Business Week p24 Je 1 '40
Order for fighting planes placed in United States by Anglo-French purchasing commission. Comm & Fin Chr 150:2499 Ap 20 '40
Plane impasse ended. Business Week p57 Ap 20 '40
Planes ordered, next step up to industry, defense advisor says. Iron Age 146:79-81 Jl 18 '40
Planning to assure national production. A. Klemin. il Aero Digest 36:42-6+ My '40
Procurement for defense. G. Brett. il Aviation 39:42-3+ Ag '40
Record year for United Aircraft and more to come. R. Carleson. il Mag of Wall St 66: 348-50+ Je 29 '40
Representatives of plane makers discuss President Roosevelt's defense program with Secretary Morgenthau and army and navy officers. Comm & Fin Chr 150:3286 My 25 '40
Speeding aircraft production. D. W. Douglas. il Aviation 39:44-5, 125, 128 Ag '40
U.S. air policy is allies first. Business Week p56-8 Ap 6 '40
U.S. to adopt standardized plane designs. R. Colborn. Am Mach 84:390c My 29 '40
Value of unfilled orders for aircraft estimated at $1,130,000,000; Curtis-Wright leads. L. Applegate. Annalist 55:718+ My 23 '40
War department informs 175 aircraft manufacturers they may defer delivery of planes to United States and speed contracts with allies. Comm & Fin Chr 150:2192 Ap 6 '40
We are ready; leaders of the aviation industry tell their plans for national defense. Aviation 39:52-4 Ag '40
What's ahead in 1940? aviation. il Steel 106: 169-70+ Ja 1 '40
Wings for Scandinavia; orders for more than 413 planes placed in U.S. Business Week p61-2 Ap 27 '40
See also
Martin, Glenn L., company

AIRPLANE manufacturing and supply corporation
Stock offered. Comm & Fin Chr 151:2338 O 19 '40

AIRPLANE mechanics
Airline mechanic: Charlie Corey, one of 11,000 licensed by the CAA. il Fortune 22: 45-7+ Ag '40
In America; how civilian schools train military mechanics; Curtiss-Wright technical institute. C. C. Moseley. il Aviation 39:36+ S '40

AIRPLANE parts
Aluminum aircraft forgings. L. W. Davis. Metal Prog 38:515-16 O '40
Cutting production costs by die casting. H. Chase. il Aviation 39:56-7+ N '40
Engineering design for die casting. H. L. Harvill. il Aero Digest 37:39-40, 43+ Jl '40
Fatigue strength of castings improved by new screw thread system. H. Caminez. diags Aero Digest 37:102, 105-6, 109 O '40
Getting the most out of machines; use of machine loading charts in manufacture of airplane parts by sub-contractors. C. W. S. Parsons. il Aviation 39:54-5+ N '40
Maintenance at a profit; features of Curtiss-Wright transport plane; interchangeable parts. C. W. France. il diag Aviation 39:54-5, 57+ Mr '40
Metallizing process for corrosion and wear resistance, etc. R. A. Axline. il diags Aero Digest 37:44-6+ Ag '40
Mobilizing sub-contracting facilities; experience of the Connecticut aeronautical development commission. H. L. Williams. Aviation 39:50-1+ Ag '40
Plane suppliers unite; Aircraft parts manufacturers' association in Los Angeles. Business Week p18+ O 26 '40
Plating of aircraft parts. G. E. Stoll. Metal Prog 38:431 O '40
Problem of aircraft parts; manufacture shock absorbers for landing gear; Bendix aircraft. R. J. Wenger. il Am Mach 84:876-8 O 30 '40
Production of magnesium-alloy aircraft parts. L. B. Grant. il S A E J 47:325-31 Ag '40; Same cond. Iron Age 144:36-9 N 2 '39; Excerpts. Aviation 38:36-7+ N '39
Reducing the cost of metal spraying; new gun uses acetylene, propane, natural gas, or coal gas. E. T. Parkinson. il Steel 107:47-8 S 9 '40
Standardization of airplane parts; abstract. J. T. Thompson. Science 92:sup10 N 8 '40
Sub-contracting, what and when. P. N. Jansen. il Aviation 39:48-9+ Ag '40

AIRPLANE propellers
Air forces on radial air-cooled engine cowling (as determined from pressure distribution tests); propeller effects. R. R. Higginbotham. diag S A E J 47:378-81 S '40
Aircraft accessories; brief review of some made available during the past year. il Aero Digest 36:214 Mr '40
Counter-rotating propellers. H. M. McCoy. bibliog il Roy Aeronautical Soc J 44:481-98 Je '40; Excerpts. Aviation 39:43+ Mr '40
Coupled oscillations of aircraft engine-propeller systems. M. A. Biot. bibliog diags J Aeronautical Sci 7:376-82 Jl '40
Effect of a variable gear reduction on propeller performance in modern airplanes. F. W. Caldwell. J Aeronautical Sci 7:244-7 Ap '40
Effects of propeller slipstream and tail position on the vibration characteristics of the Lockheed Lodestar. R. L. Thoren and C. L. Johnson. il diags J Aeronautical Sci 7:419-24 Ag '40
Historical facts with regard to tandem and co-axial counter-rotating aircrews. A. R. Weyl. bibliog Roy Aeronautical Soc J 44: 677-8 Ag '40
Holzverbundbauweisen im luftschraubenbau. K. Riechers. il diag V D I 84:339-42 My 18 '40
Influence of running propellers on airplane characteristics. C. B. Millikan. bibliog il diag J Aeronautical Sci 7:85-103; Discussion. 103-6 Ja '40
McCauley steel propeller blade. il Aero Digest 37:111 Jl '40
Propeller requirements for submerged engine installations. G. W. Brady. il diags S A E J 46:191-7 My '40
Recent developments in propeller blade design. L. H. Enos. il Aero Digest 37:48-51 Ag '40
Reversible pitch propellers as applied to water handling of multi-engine flying boats. C. W. Chillson. diags J Aeronautical Sci 7:269-75 My '40
Stressing of rotating-blade aerofoils. J. B. B. Owen. Engineering 148:511-13 N 3 '39
Study of airscrews for high speed aeroplanes. L. Lazzarino. Roy Aeronautical Soc J 44: 322-37 Ap '40; Correction. 44:546-8 Je '40
Vibration characteristics of aircraft engine-propeller systems. C. M. Kearns. il diags S A E J 45:540-8 D '39; Abstract. Automotive Ind 80:714-15 Je 15 '39

AIRPLANE propellers—*Continued*
Vibration of crankshaft-propeller systems; new method of calculation. M. A. Biot. diags J Aeronautical Sci 7:107-12 Ja '40

Manufacture

Automatics in a French airplane factory. il diags Mach 46:182-7 Jl '40
Curtiss propeller production. il plan Aviation 39:40-3 S; 42-3, 110, 112 O '40
Fabricating presteel aluminum alloy propeller hub domes; Worcester pressed steel co. H. T. Burke and C. C. Higgins. il Aero Digest 36:87+ My '40
Oilgear propeller twisting machine. il Automotive Ind 83:29-30 Jl 1 '40; Aero Digest 37:179 Jl '40; Am Mach 84:516 Jl 10 '40; Mach 46:213-14 Jl '40
Outstanding methods produce Hamilton Standard propellers. A. Nelson. il Mach 46: 152-7 Jl '40

Testing

Aerodynamic characteristics of six full-scale propellers having different airfoil sections. D. Biermann and E. P. Hartman. bibliog il diags U S Nat Advisory Com for Aeronautics 1939:145-78 '40
Effect of nacelle-propeller diameter ratio on body interference and on propeller and cooling characteristics. J. G. McHugh and E. H. Derring. bibliog il diags U S Nat Advisory Com for Aeronautics 1939:727-45 '40
Effect of service stresses on impact resistance, X-ray diffraction patterns, and microstructure of 25S aluminum alloy. J. A. Kies and G. W. Quick. bibliog il diags U S Nat Advisory Com for Aeronautics 1939:343-64 '40
Hamilton Standard's facilities for testing propellers. il Aero Digest 36:50+ Je '40
Tests of two full-scale propellers with different pitch distributions, at blade angles up to 60°. D. Biermann and E. P. Hartman. bibliog il diag U S Nat Advisory Com for Aeronautics 1939:327-41 '40

AIRPLANE races
Rankin wins Miami feature; 12th annual All-American air maneuvers. il Aero Digest 36: 118-19 F '40

AIRPLANE stability and stabilizers
Airplane stability and control from a designer's point of view. O. C. Koppen. J Aeronautical Sci 7:135-40 F '40
Autogiros have more inherent longitudinal stability than do normal airplanes. A. Klemin, V. Haugen and S. B. Sherwin. Science 90:sup10-11 D 8 '39
Fixed leading edge slot and aileron control. A. Klemin. il diags Aero Digest 37:108, 111-12 N '40 (to be cont)
Floating-lift airplane. diags Mech Eng 61:921 D '39

AIRPLANE struts
Stabilisation of a thin sheet by a continuous supporting medium. G. S. Gough, C. F. Elam and N. A. de Bruyne. il diags Roy Aeronautical Soc J 44:12-43 Ja '40

AIRPLANE supplies industry. See Airplane accessories industry

AIRPLANE wings
Analysis of the aerodynamic characteristics of split flaps. A. P. West. bibliog Roy Aeronautical Soc J 44:338-49 Ap '40
Application of high-lift devices to airplanes designed primarily for high cruising speeds. F. M. Rogallo. J Aeronautical Sci 7:185-8 Mr '40
Calculation of the aerodynamic characteristics of tapered wings with partial-span flaps. H. A. Pearson and R. F. Anderson. bibliog diags U S Nat Advisory Com for Aeronautics 1939:455-72 '40
Corrugated panels under combined compression and shear load. P. A. Sanderson and J. R. Fischel. bibliog il diag J Aeronautical Sci 7:148-53 F '40
Design charts for predicting downwash angles and wake characteristics behind plain and flapped wings. A. Silverstein and S. Katzoff. bibliog diags U S Nat Advisory Com for Aeronautics 1939:107-31 '40
Diagonally ribbed wing. il Aviation 39:61 N '40
Engineer's close-up of the Curtiss-Wright transport. G. A. Page and J. P. AuWerter. il Aviation 39:49-50 Mr '40
Fixed leading edge slot and aileron control. A. Klemin. il diags Aero Digest 37:108, 111-12 N '40 (to be cont)
Free-spinning wind-tunnel tests of a low-wing monoplane with systematic changes in wings and tails; effect of center-of-gravity location. O. Seidman and A. I. Neihouse. bibliog il diags U S Nat Advisory Com for Aeronautics 1939:599-618 '40
Means for suppression of interference burble. P. E. Hovgard. il J Aeronautical Sci 7: 22-5 N '39
New developments in the theory of airfoils of infinite span. R. von Mises. J Aeronautical Sci 7:290-4 My '40
Protection of aircraft plywood. R. B. Anderson. il Aero Digest 37:137-8 O '40
Shear center of a leading-edge wing beam. H. W. Sibert. J Aeronautical Sci 7:520-3 O '40
Simplified method for determining wing profile drag in flight. A. Silverstein and S. Katzoff. bibliog diags J Aeronautical Sci 7:295-301 My '40
Stainless steel in aircraft fabrication. H. W. Perry. il diags Steel 107:72, 75 Ag 5 '40
Stalling on tapered wings. P. Nazir. diags Aero Digest 36:36-8 Ap '40
Wing frequencies of multi-engine monoplanes. R. H. Miller. diag J Aeronautical Sci 7:256-8 Ap '40
Wing of minimum total resistance. H. Reissner. diag J Aeronautical Sci 7:114-18 Ja '40
Wing section layout. il Aviation 39:60 N '40
Wings of metal. J. La Rue. il Am Mach 83: 1028-9 D 13 '39

See also
Airfoils

Flutter

Experimental verification of the theory of oscillating airfoils. A. Silverstein and U. T. Joyner. bibliog il diag U S Nat Com for Aeronautics 1939:619-23 '40
Graphical solution of the bending-aileron case of flutter. W. B. Bergen and L. Arnold. bibliog diags J Aeronautical Sci 7:495-508 O '40

Testing

Airfoil section data obtained in the N.A.C.A. variable-density tunnel as affected by support interference and other corrections. E. N. Jacobs and I. H. Abbott. bibliog U S Nat Advisory Com for Aeronautics 1939: 507-38 '40
Boundary layer and wake survey measurements in flight and in the wind tunnel. L. B. Rumph, jr. and R. Schairer. bibliog il diags J Aeronautical Sci 7:425-33 Ag '40
Compressibility burble and the effect of compressibility on pressures and forces acting on an airfoil. J. Stack, W. F. Lindsey and R. E. Litteil. bibliog il diags U S Nat Advisory Com for Aeronautics 1939:73-96 '40
Determination of the profile drag of an airplane wing in flight at high Reynolds numbers. J. Bicknell. bibliog il diag U S Nat Advisory Com for Aeronautics 1939: 483-91 '40
Downwash and wake behind plain and flapped airfoils. A. Silverstein, S. Katzoff and W. K. Bullivant. bibliog il diags U S Nat Advisory Com for Aeronautics 1939:179-206 '40
Experimental investigation of the momentum method for determining profile drag. H. J. Goett. bibliog il diags U S Nat Advisory Com for Aeronautics 1939:365-71 '40
Experimental verification of the theory of oscillating airfoils. A. Silverstein and U. T. Joyner. bibliog il diag U S Nat Advisory Com for Aeronautics 1939:619-23 '40
Hydraulic static testing of airplane structures. C. Tilgner, jr. il diags Aero Digest 36:54-6 Ja '40

AIRPLANE wings—Testing—*Continued*
Interference of tail surfaces and wing and fuselage from tests of 17 combinations in the N.A.C.A. variable-density tunnel. A. Sherman. bibliog il diags U S Nat Advisory Com for Aeronautics 1939:689-98 '40
Photoelastic study of the stresses in wing ribs. T. J. Dolan and D. G. Richards. bibliog il diags J Aeronautical Sci 7:340-6 Je '40
Tests in the variable-density wind tunnel of the N.A.C.A. 23012 airfoil with plain and split flaps. I. T. Abbott and H. Greenberg. bibliog U S Nat Advisory Com for Aeronautics 1939:373-81 '40
Tests of a gust-alleviating flap in the gust tunnel. P. Donely and C. C. Shufflebarger. il diag Roy Aeronautical Soc J 44:283-94 Mr '40
Tests of N.A.C.A. 0009, 0012, and 0018 airfoils in the full-scale tunnel. H. J. Goett and W. K. Bullivant. bibliog il diags U S Nat Advisory Com for Aeronautics 1939: 97-106 '40
Wind-tunnel investigation of an N.A.C.A. 23012 airfoil with a slotted flap and three types of auxiliary flap. C. J. Wenzinger and W. E. Gauvain. diags U S Nat Advisory Com for Aeronautics 1939:699-725 '40
Wind-tunnel investigation of an N.A.C.A. 23012 airfoil with various arrangements of slotted flaps. C. J. Wenzinger and T. A. Harris. bibliog diags U S Nat Advisory Com for Aeronautics 1939:423-53 '40
Wind-tunnel investigation of an N.A.C.A. 23021 airfoil with various arrangements of slotted flaps. C. J. Wenzinger and T. A. Harris. bibliog diags U S Nat Advisory Com for Aeronautics 1939:665-88 '40
Wind-tunnel investigation of N.A.C.A. 23012, 23021, and 23030 airfoils with various sizes of split flap. C. J. Wenzinger and T. A. Harris. bibliog diags U S Nat Advisory Com for Aeronautics 1939:493-505 '40

AIRPLANES
Airplane metal work; v. 1, Airplane blueprint reading. A. M. Robson. 59p pa $1.15 Van Nostrand '40
Airplanes and elementary engineering. D. J. Brimm, jr. 68p, 70p, 38p $1.80 International textbook co, Scranton, Pa. '39
Building for service; Lockheed asks its customers what they want, builds it, helps in its maintenance. J. R. Hargrove. Aero Digest 37:72, 75-6+ Jl '40
Cessna model T-50, twin-engined. il diags Aero Digest 36:64+ Ja '40; Aviation 39: 46-7 Ja '40
Cunlifle-Owen-flugzeug. K. Anders. diag V D I 83:1282 D 16 '39
Curtiss-Wright largest twin-engine airliner. il Sci Am 162:352 Je '40
Design decade. il Arch Forum 73:308-11 O '40
Lockheed Lodestar. il Aero Digest 35:49 D '39
New airliner in field; Curtiss-Wright transport. il(cover) Business Week p24+ F 17 '40
Next 35 years. D. Beecroft. S A E J 47:sup33-5 Jl '40
Private and commercial aircraft; with and without approved type certificates; descriptive technical digest and outline scale drawings. il Aero Digest 36:62-124 Mr '40
Private flying accident and operations statistics for 1939. Civil Aero J 1:259-61 Jl 1 '40
Progress report on Curtiss-Wright transport. il Aviation 38:72-3 D '39
Simple aerodynamics and the airplane. C. C. Carter. 5th ed 510p $4.50 Ronald press '40
SAE annual meeting; aircraft sessions. S A E J 46:sup42-4 F '40
Soviet's USSR L-760. L. Zacharoff. il Aviation 39:62 Jl '40
Trend of air transportation. E. T. Allen. Inst Mech Eng J & Proc 142:Proc 127-40 D '39
United States requisitions 110 airplanes ordered by Swedish government; action incident to national defense taken after negotiations failed. Comm & Fin Chr 151:2426 O 26 '40
Waco model E biplane. il Aero Digest 36: 63 Ja '40
Waco model E for 1940. il diags Aviation 39:44-5 Ja '40
Wings for transportation; recent developments in air transportation equipment. T. P. Wright. il diags plan Franklin Inst J 229:413-54 Ap '40

See also
Aeronautics
Aeronautics, Commercial
Aircraft
Airfoils
Airplane engines
Airplane propellers
Airplane wings
Airships
Autogiros
Aviation
Flying boats
Gyroplanes
Helicopters
Photography, Aerial
Seaplanes

Air conditioning
Altitude conditioning; fifth air conditioning function. il Heat & Ven 37:16-18 Ag '40
Portable airplane air conditioners developed by Wisconsin firm. il Refrig Eng 39:396+ Je '40

Airworthiness
Flight load factors for large airplanes. bibliog Civil Aero J 1:438-42+ O 1 '40
Gust load factor principles. Civil Aero J 1: 410-11+ S 1 '40

Auxiliary power
Auxiliary power equipment; abstract. C. C. Shangraw. Aero Digest 37:138 N '40
Electric power for airplanes. W. J. Clardy. il Elec Eng 59:Trans 385-8 Jl '40; Excerpts. Aero Digest 36:105+ F '40; Discussion. Elec Eng 59:Trans 388-9 Jl '40
Electric power of passenger airplanes. Science 92:sup8 N 8 '40
Problem of ancillary power services on aircraft. R. H. Chaplin; F. Nixon. il diags Roy Aeronautical Soc J 43:942-74; Discussion. 974-91 D '39

Bearings
Anti-friction bearings of high capacity. E. K. Brown. diags Aero Digest 7:88, 91-2, 95+ S '40
Application of tapered roller bearings. S. M. Weckstein. diags Aero Digest 37:87-8 Ag '40
Today's ball-bearing metallurgy. C. T. Hewitt. il Steel 107:38-9+ Jl 22 '40

Cabins
Passenger comfort in commercial aviation. W. W. Davies. bibliog il S A E J 47:342-8 Ag '40
Pennsylvania-central airlines; industrial design; cabin equipment, decoration, etc. H. S. Pack, jr. Aero Digest 36:112, 115 My '40

See also
Airplanes—High altitude

Control
Aircraft accessories; brief review of some made available during the past year. il Aero Digest 36:220-4 Mr '40
Airplane stability and control from a designer's point of view. O. C. Koppen. J Aeronautical Sci 7:135-40 F '40
Engineer's close-up of the Curtiss-Wright transport. G. A. Page and J. P. AuWerter. Aviation 39:53 Mr '40
Fixed leading edge slot and aileron control. A. Klemin. il diags Aero Digest 37:108, 111-12 N '40 (to be cont)
Maneuverability and control surface strength criteria for large airplanes. H. B. Dickinson. bibliog J Aeronautical Sci 7:469-77 S '40
Rudder control problems on four-engined airplanes. C. L. Johnson. il S A E J 46: 262-70 Je '40
Surface control booster for large aircraft. E. W. McDonough. diags Aero Digest 37: 76+ Ag '40

See also
Airplane stability and stabilizers
Airplanes—Landing

Cost of operation
Some economic aspects of transport aeroplane performance. W. C. Mentzer and H. E. Nourse. Roy Aeronautical Soc J 44:499-520 Je '40; Same. J Aeronautical Sci 7:227-34, 302-8 Ap-My '40

AIRPLANES—*Continued*

Decoration

Institutional design; Pennsylvania central airlines. H. S. Pack, jr. il Bus Transportation 19:440-2 S '40; Same cond. Aero Digest 36: 112, 115 My '40

Design

Air forces on radial air-cooled engine cowling (as determined from pressure distribution tests). R. R. Higginbotham. il diags S A E J 47:370-96 S '40

Aircraft blueprint reading. H. V. Almen and R. K. Mead. 124p $1 Pitman '40

Aircraft design. C. H. Latimer-Needham. 2v 227p, 321p v 1 $6; v2 $6.50 Chemical pub. co. '39

Aircraft drafting room manual. J. G. Thompson. 314p $3.50 Aviation press, San Francisco '39

Airfoil section data obtained in the N.A.C.A. variable-density tunnel as affected by support interference and other corrections. E. N. Jacobs and I. H. Abbott. bibliog U S Nat Advisory Com for Aeronautics 1939:507-38 '40

Airplane design. K. D. Wood. 4th ed 523p loose-leaf $4 Cornell co-op soc, Ithaca, N.Y. '39

Airplane stability and control from a designer's point of view. O. C. Koppen. J Aeronautical Sci 7:135-40 F '40

Analysis of the aerodynamic characteristics of split flaps. A. P. West. bibliog Roy Aeronautical Soc J 44:338-49 Ap '40

Application of high-lift devices to airplanes designed primarily for high cruising speeds. F. M. Rogallo. J Aeronautical Sci 7:185-8 Mr '40

Brittle lacquers as an aid to stress analysis. A. V. de Forest and G. Ellis. il J Aeronautical Sci 7:205-8 Mr '40

Buckling of spherical shells by external pressure. T. von Kármán and H. Tsien. bibliog J Aeronautical Sci 7:43-50 D '39

Built-in airplane engines. diag Mech Eng 62:614-15 Ag '40

Calculation of the aerodynamic characteristics of tapered wings with partial-span flaps. H. A. Pearson and R. F. Anderson. bibliog diags U S Nat Advisory Com for Aeronautics 1939:455-72 '40

Calculation of the loads and bending moments in rigid jointed frames with special regard to variation in section of members. J. Morris. Roy Aeronautical Soc J 44:604-21 Jl '40

Continental design competition. diags Aero Digest 36:58 Ap '40

Control of vibration in aircraft. H. H. Bruderlin. Aviation 39:40-1 Ja; 38-9+ Mr '40

Corrugated panels under combined compression and shear load. P. A. Sanderson and J. R. Fischel. bibliog il diag J Aeronautical Sci 7:148-53 F '40

Counter-rotating propellers. H. M. McCoy. bibliog il Roy Aeronautical Soc J 44:481-98 Je '40

Design charts for predicting downwash angles and wake characteristics behind plain and flapped wings. A. Silverstein and S. Katzoff. bibliog diags U S Nat Advisory Com for Aeronautics 1939:107-31 '40

Designing for serviceability. J. E. Thompson. il diags Aero Digest 37:68, 71-2+ S '40

Dimensionless coefficients applied to the solution of column problems. K. G. Merriam. J Aeronautical Sci 7:478-80 S '40

Downwash and wake behind plain and flapped airfoils. A. Silverstein, S. Katzoff and W. K. Bullivant. bibliog il diags U S Nat Advisory Com for Aeronautics 1939:179-206 '40

Effect of nacelle-propeller diameter ratio on body interference and on propeller and cooling characteristics. J. G. McHugh and E. H. Derring. bibliog il diags U S Nat Advisory Com for Aeronautics 1939:727-45 '40

Effective widths in stiffened panels under compression. J. R. Fischel. J Aeronautical Sci 7:213-16 Mr '40

Effects of elevator nose shape, gap, balance, and tabs on the aerodynamic characteristics of a horizontal tail surface. H. J. Goett and J. P. Reeder. bibliog il diags U S Nat Advisory Com for Aeronautics 1939:639-49 '40

Effects of propeller slipstream and tail position on the vibration characteristics of the Lockheed Lodestar. R. L. Thoren and C. L. Johnson. il diags J Aeronautical Sci 7:419-24 Ag '40

Engine mount analysis by means of descriptive geometry. C. R. Kramer. Aero Digest 37:52, 55-6 Ag '40

Engineering Fairchild's PT-19. A. Thieblot. il diags Aero Digest 37:130-2, 134+ O '40

Engineer's close-up of the Curtiss-Wright transport. G. A. Page and J. P. AuWerter. il Aviation 39:46-50, 53 Mr '40

Experimental investigation of the momentum method for determining profile drag. H. J. Goett. bibliog il diags U S Nat Advisory Com for Aeronautics 1939:365-71 '40

Finding an axis of rotation for a retractable landing gear. H. E. Spaeth. diag Aero Digest 37:68+ Ag '40

Fixed leading edge slot and aileron control. A. Klemin. il diags Aero Digest 37:108, 111-12 N '40 (to be cont)

Flight load factors for large airplanes. bibliog Civil Aero J 1:438-42+ O 1 '40

Floating-lift airplane. diags Mech Eng 61: 921 D '39

Free-spinning wind-tunnel tests of a low-wing monoplane with systematic changes in wings and tails; effect of center-of-gravity location. O. Seidman and A. I. Neihouse. bibliog il diags U S Nat Advisory Com for Aeronautics 1939:599-618 '40

General solution of the skewed axis landing gear. O. F. Oldendorph. diags Aero Digest 36:101-2+ F '40

General stress analysis for rings with one axis of symmetry. H. P. Liepmann. bibliog J Aeronautical Sci 7:509-12 O '40

Gust load factor principles. Civil Aero J 1: 410-11+ S 1 '40

History and progress of refuelling in flight. A. Cobham and M. Langley. bibliog il diags Roy Aeronautical Soc J 44:557-96; Discussion. 596-603 Jl '40

How to read aircraft blueprints. A. A. Owens and B. F. Slingluff. 257p $4 John C. Winston co, Philadelphia '40

Influence of curvature on the buckling characteristics of structures. T. von Kármán, L. G. Dunn and H. Tsien. bibliog il J Aeronautical Sci 7:276-89 My '40

Influence of taper on the efficiency of wide flanged box-beams. E. Reissner. J Aeronautical Sci 7:353-7 Je '40

Interference of tail surfaces and wing and fuselage from tests of 17 combinations in the N.A.C.A. variable-density tunnel. A. Sherman. bibliog il diags U S Nat Advisory Com for Aeronautics 1939:689-98 '40

Into the sub-stratosphere; description of the Boeing model 307. R. J. Minshall. il diags Aviation 39:46-9, 116, 119-20 My '40

It isn't in the book; engineering shortcuts. il Aviation 39:60-1 N '40

Looking forward; prolegomena for a detailed study of the future of British civil aviation. H. R. Cox. il diags maps Roy Aeronautical Soc J 44:682-752 bibliog(p751-2) S '40; Same cond. Engineering 150:97-9, 105-7, 139-40, 199-200, 207, 225-7 Ag 2-16, S 6-20 '40; Excerpts. Aero Digest 37:149-50, 153-4, 157-8 N '40; Discussion. Roy Aeronautical Soc J 44:752-4 S '40

Maintenance at a profit; features of Curtiss-Wright transport plane; interchangeable parts. C. W. France. il diag Aviation 39:54-5, 57+ Mr '40

Maneuverability and control surface strength criteria for large airplanes. H. B. Dickinson. bibliog J Aeronautical Sci 7:469-77 S '40

New developments in the theory of airfoils of infinite span. R. von Mises. J Aeronautical Sci 7:290-4 My '40

Performance dictates design. R. H. Upson. bibliog J Aeronautical Sci 7:369-75 Jl '40

AIRPLANES—Design—*Continued*

Practical aircraft stress analysis. D. R. Adams. 2d ed 162p $2.50 Pitman '38

Problems of submerged engine installations. W. E. Beall and G. E. Emery, jr. S A E J 46:68 F '40

Propeller requirements for submerged engine installations. G. W. Brady. il diags S A E J 46:191-7 My '40

Recent progress in aeronautics. R. M. Mock. Mech Eng 62:111-13 F '40

Report of N.A.C.A. committee on aircraft structures. U S Nat Advisory Com for Aeronautics 1939:32-6 '40

Rudder control problems on four-engined airplanes. C. L. Johnson. il S A E J 46: 262-70 Je '40

Shear field aircraft spars. J. E. Lipp. J Aeronautical Sci 7:1-5 N '39

Short-column formulas. H. W. Sibert. J Aeronautical Sci 7:119 Ja '40

Sketch book of design detail. il Aviation 39: 56-63 F; 52-3 Ap; 53, 60-1 Je; 54-5 Jl; 70-1 Ag; 62-3 S; 56-7 O; 58-9 N '40

Stabilisation of a thin sheet by a continuous supporting medium. G. S. Gough, C. F. Elam and N. A. de Bruyne. il diags Roy Aeronautical Soc J 44:12-43 Ja '40

Stainless steel and aircraft trends. M. Watter. il Aero Digest 36:67-8, 71-2, 75+ My '40

Stalling on tapered wings. P. Nazir. diags Aero Digest 36:36-8 Ap '40

Steel tube fuselages. J. E. Thompson and T. A. Lowe. il diags Product Eng 11:436-42, 513-17 O-N '40 (to be cont)

Stout's new plane, radical in design, emphasizes use of steel. W. F. Sherman. Iron Age 145:88A-88B Je 20 '40

Strength-weight ratio is improved by steel tubing; abstract. J. W. Greve. Metals & Alloys 11:MA150 Mr '40

Stress analysis of thin metal construction. H. L. Cox. diags Roy Aeronautical Soc J 44:231-72 bibliog(85 titles, p269-72); Discussion. 272-82 Mr '40

Studies of high speed airplanes. F. Flader and E. R. Child. bibliog diags J Aeronautical Sci 7:235-43 Ap '40

Tapered tubing; design possibilities for more efficient construction. diags Product Eng 11:400-3 S '40

Tests in the variable-density wind tunnel of the N.A.C.A. 23012 airfoil with plain and split flaps. I. H. Abbott and H. Greenberg. bibliog U S Nat Advisory Com for Aeronautics 1939:373-81 '40

Tests of a gust-alleviating flap in the gust tunnel. P. Donely and C. C. Shufflebarger. il diag Roy Aeronautical Soc J 44:283-94 Mr '40

Tomorrow's light plane. W. B. Stout. il Aviation 39:36-7, 102 Je '40

Trans-Atlantic air services. R. H. Mayo. Roy Aeronautical Soc J 43:884-908 N '39; Same cond. Engineering 148:541-2, 565-7, 594 N 10-24 '39

Unveiling the Airacobra. R. J. Woods. il Aviation 39:40-1+ Mr '40

Wind-tunnel investigation of an N.A.C.A. 23012 airfoil with a slotted flap and three types of auxiliary flap. C. J. Wenzinger and W. E. Gauvain. diags U S Nat Advisory Com for Aeronautics 1939:699-725 '40

Wind-tunnel investigation of an N.A.C.A. 23012 airfoil with various arrangements of slotted flaps. C. J. Wenzinger and T. A. Harris. bibliog diags U S Nat Advisory Com for Aeronautics 1939:423-53 '40

Wind-tunnel investigation of an N.A.C.A. 23021 airfoil with various arrangements of slotted flaps. C. J. Wenzinger and T. A. Harris. bibliog diags U S Nat Advisory Com for Aeronautics 1939:665-88 '40

Wing of minimum total resistance. H. Reissner. diag J Aeronautical Sci 7:114-18 Ja '40

See also

Airplane propellers
Airplane wings
Airplanes, Amphibian
Airplanes, Light
Helicopters

Electric equipment

Aircraft electricity as the airline operator sees it; abstract. P. C. Sandretto. Aero Digest 37:137-8 N '40

Aircraft radio and electrical equipment. H. K. Morgan. 374p bibliog(p369) $4.50 Pitman '39

Bonding and shielding of aircraft. N. J. Clark. il diags Aero Digest 36:42-3+ Ap '40

Electric power for airplanes. W. J. Clardy. il Elec Eng 59:Trans 385-8 Jl '40; Excerpts. Aero Digest 36:105+ F '40; Discussion. Elec Eng 59:Trans 388-9 Jl '40

Electric power of passenger airplanes. Science 92:sup8 N 8 '40

Electrical developments of 1939. G. Bartlett. il Gen Elec R 43:37 Ja '40

Electrical switching for aircraft. A. L. Riche. il diags Aviation 39:70+ Jl '40

Elektrotechnik im flugzeug-bordbetrieb. il V D I 83:909-11 Ag 5 '39; Abstract. Génie Civil 116:54-5 Ja 20 '40

Problem of ancillary power services on aircraft. R. H. Chaplin; F. Nixon. il diags Roy Aeronautical Soc J 43:942-74; Discussion. 974-91 D '39

Equipment

Air pickup operations. J. G. Ray. il Mech Eng 62:283-6 Ap '40

Aircraft accessories; brief review of some made available during the past year. il Aero Digest 36:214-26 Mr '40

Airplane instruments; maintenance. D. J. Brimm, jr. 67p, 62p, 71p $2.45 International textbook co, Scranton, Pa. '40

All American improves pick-up equipment. il Aero Digest 37:150 O '40

Alphabetical directory of personnel and classified directory of aircraft and engine accessories, materials and parts, airport and shop equipment, and jobbers. il Aviation 39:80-98 F '40

Manufacturers of accessories. Aero Digest 36: 228-46 Mr '40

Quick-detachable control coupling. il Aero Digest 37:182+ O '40

Recent progress in aeronautics. R. P. Lansing. Mech Eng 62:114 F '40

Starters-feathering pump for aircraft engines. il Automotive Ind 83:110 Ag 1 '40

See also

Radio apparatus on aircraft

Exhibitions

See also New York (city)—World's fair, 1940—Aeronautic exhibits

Fires and fire protection

Availability and characteristics of aviation safety fuels. R. E. Ellis and W. J. Sweeney. Nat Pet N 32:R18-19 Ja 24 '40

Bonding and shielding of aircraft. N. J. Clark. il diags Aero Digest 36:42-3+ Ap '40

Crop-dusting airplane precautions; maintenance bulletin lists fire-prevention precautions. Civil Aero J 1:200 My 1 '40

Équipement extincteur d'incendie, système Graviner, installé sur les avions de la Royal air force. diags Génie Civil 116:71-2 Ja 27 '40

Fire and what is being done about it; test rig set up at the Bureau of standards. C. Froesch. il Aviation 39:38-9+ Ja '40

Fire protection for private planes; carbon dioxide systems. C. L. Griffin. il diag Aero Digest 36:65-6 Ap '40

Fire protection of petrol tanks. A. R. Weyl. il diags Roy Aeronautical Soc J 44:657-74 Ag '40

Which will it be? high octane gasoline or safety fuel. J. R. MacGregor. Aviation 39: 57, 98+ Ap '40

Fuel tanks

Aluminum aircraft fuel tanks. E. H. Dix, jr. and R. B. Mears. bibliog S A E J 46: 215-30 My '40

Experience in integral aircraft fuel-tank construction; use of neoprene for sealing. F. C. Albright. il diags S A E J 47:291-3 Jl '40

AIRPLANES—Fuel tanks—*Continued*
Fire protection of petrol tanks. A. R. Weyl. il diags Roy Aeronautical Soc J 44:657-74 Ag '40
Fuel bags for airplanes; abstract. F. J. Pepersack and C. E. Roberts. Mech Eng 62:404 My '40
Fuel tanks; symposium. Automotive Ind 82: 321-2 Ap 1 '40; S A E J 46:sup23-4 Ap '40

Fuselage

Engineer's close-up of the Curtiss-Wright transport. G. A. Page and J. P. AuWerter. il Aviation 39:47-9 Mr '40
General stress analysis for rings with one axis of symmetry. H. P. Liepmann. bibliog J Aeronautical Sci 7:509-12 O '40
Interference of tail surfaces and wing and fuselage from tests of 17 combinations in the N.A.C.A. variable-density tunnel. A. Sherman. bibliog il diags U S Nat Advisory Com for Aeronautics 1939:689-98 '40
Steel tube fuselages. J. E. Thompson and T. A. Lowe. il diags Product Eng 11:436-42, 513-17 O-N '40 (to be cont)

Gearing

Effect of a variable gear reduction on propeller performance in modern airplanes. F. W. Caldwell. J Aeronautical Sci 7:244-7 Ap '40

Heating and ventilation

Passenger comfort in commercial aviation. W. W. Davies. S A E J 47:345-6 Ag '40; Excerpt. Mech Eng 62:403-4 My '40

High altitude

Altitude conditioning; fifth air conditioning function. il Heat & Ven 37:16-18 Ag '40
Boeing stratoliners for TWA. il Aero Digest 36:46-7+ Je '40
Cabin superchargers; sub-stratosphere flying. D. Gregg. il Aviation 39:46-7, 126 Ap '40
Engineering for the higher altitudes. W. E. Beall. il diags Aero Digest 37:52-6 O '40
Get altitude conditions in strato-chamber; laboratory, Boeing aircraft company. il Refrig Eng 40:161-2 S '40
Into the sub-stratosphere; description of the Boeing model 307. R. J. Minshall. il diags Aviation 39:46-9, 116, 119-20 My '40
Pan American airways' Boeing stratoliner; with supercharger for cabin. il Aero Digest 36:29-30 Ap '40
Test chamber simulates stratosphere air conditions. il Heat & Ven 37:52 N '40

Hydraulic equipment

Design and shop problems in high-pressure hydraulic systems. H. W. Adams. S A E J 47:367-9 S '40
Hydraulic system testing. H. J. Marx. plan Aero Digest 36:61+ Ap '40
Operation and maintenance of hydraulic equipment. J. E. Thompson. il diags Aero Digest 36:50, 53-4, 57-8 My '40
Problem of ancillary power services on aircraft. R. H. Chaplin; F. Nixon. il diags Roy Aeronautical Soc J 43:942-74; Discussion. 974-91 D '39
Recent developments in the use of hydraulic power. H. C. Town. diags Inst Mech Eng J & Proc 143:Proc 131-4 My '40
Surface control booster for large aircraft. E. W. McDonough. diags Aero Digest 37: 76+ Ag '40

Ice protection

Analysis of best rate of climb and ceiling as affected by ice accretions. A. Gail. bibliog J Aeronautical Sci 7:6-11 N '39
Anti-knock and carburetor de-icing fluid; Anilol. diags Automotive Ind 83:18 Jl 1 '40
Carburetor air intake icing prevention. Civil Aero J 1:428-9 S 15 '40
Fuel injection system used on German planes; removes danger of carbureter icing. diags Automotive Ind 82:380-1 Ap 15 '40
Ice off the wings. Business Week p21 Mr 16 '40
Ice prevention on windshields; abstract. L. A. Rodert. Mech Eng 62:403 My '40
Methods of preventing carburetor air intake icing. Aero Digest 37:116, 121 N '40
Prevention of carburetor icing, and other suggestions for flying light airplanes in cold weather. R. D. Hicks. diag Aero Digest 35:44+ D '39

Inspection

Aircraft inspection methods. N. C. Bartholomew. 131p $1.25 Pitman '40
C.A.A. leases St Petersburg airport for standardization center for inspectors. Civil Aero J 1:434+ O 1 '40

Instrument boards

Instrument panel lighting installation. diag Aero Digest 36:138 Je '40

Landing

Amber lights for runways. W. C. Norvell. il Aviation 39:54, 116 Ap '40
Blind landing; International telephone development company system installed at six airports. A. Klemin. il diags Sci Am 163: 260-1 N '40
Civil Aeronautics Authority instrument landing system installed at Indianapolis. H. I. Metz. il diags J Aeronautical Sci 7:383-7 Jl '40; Excerpts. Aviation 39:43 Mr '40
Dragonfly Ryan YO-51, short-range liaison observation plane; facilitates landing and take-off. il diag Aviation 39:64-5 Ap '40
Electrons dance the rhumba; klystron, generator of powerful ultra high-frequency radio waves; useful in blind landing system for planes. A. R. Boone. il Sci Am 162:20-1 Ja '40
Indianapolis landing aids demonstrated. diags plan Civil Aero J 1:109-11+ Ap 1 '40
Instrument landing problems in 1940. H. W. Roberts. il diag chart Aero Digest 36:80, 83 My '40
Plans cleared for ten landing beams. Civil Aero J 1:37-8+ F 1 '40
Simple method of measuring landing and take-off speed. C. L. Johnson. il J Aeronautical Sci 7:75-6 D '39
Size of an aircraft landing field. K. N. E. Bradfield. Engineer 170:230-1 O 11 '40
Toward safer flight; Civil aeronautics authority's technical development program; instrument landing system. diag Air Commerce Bul 11:155-7 D '39

See also
Aviation landing stations

Landing gear

Application of tapered roller bearings. S. M Weckstein. diags Aero Digest 37:87-8 Ag '40
Drop test of shock absorber; Bendix Aviation's photographic apparatus. W. C. Trautman. il Aviation 39:55+ O '40
Dynamic problems of the tricycle alighting gear. J. Wylie. diags J Aeronautical Sci 7:56-67 D '39
Finding an axis of rotation for a retractable landing gear. H. E. Spaeth. diag Aero Digest 37:68+ Ag '40
General solution of the skewed axis landing gear. O. F. Oldendorph. diags Aero Digest 36:101-2+ F '40
Problem of aircraft parts; manufacture shock absorbers for landing gear; Bendix aircraft. R. J. Wenger. il Am Mach 84:876-8 O 30 '40
Sketch book of design detail. il Aviation 39: 54-5 Jl '40

Launching

Trans-Atlantic air services. R. H. Mayo. Roy Aeronautical Soc J 43:897-8 N '39; Same. Engineering 148:566 N 17 '39

See also
Seaplanes—Launching

Lightning effects

Meteorological conditions associated with aircraft lightning discharges and atmospherics. E. J. Minser. diags J Aeronautical Sci 7:51-5 D '39

AIRPLANES—*Continued*

Maintenance and repair

Aircraft maintenance. D. J. Brimm, jr. and H. E. Boggess. 492p $2.50 Pitman '40
Keeping them aloft; maintenance under the CAA flight training program L. E. Neville. il Aviation 39:42-3+ Ap '40
Maintenance, overhaul and repair of naval aircraft. F. B. Stump. il Aero Digest 36: 70, 73+ F '40
Periodic check supervision for private owners; Spartan aircraft corp. J. B. Thomson. il Aero Digest 36:57+ Ap '40
Portable work bench and tool box. il Am Mach 84:864 O 30 '40
R.A.F. maintenance. R. E. Hautier. il Aviation 39:42-3+ Jl '40

Manufacture

Aircraft makers ready for job. il Business Week p48+ Je 22 '40
Aircraft number. il diags Mach 46:134-92 Jl '40
Aircraft turns to high production; Douglas aircraft company. il Am Mach 83:988-90 N 29 '39
Airplanes and mass production; abstract. P. G. Zimmermann. Science 92:sup8+ N 8 '40
Aviation faces biggest production problem. L. Peat. il Automotive Ind 83:321-2+ O 1 '40
Aviation's rubber stamp; use of rubber pad in press operations; Guerin process. H. E. Guerin. il Am Mach 84:206-8, 246-8 Ap 3-17 '40
Bending press dies for airplane manufacture. C. J. Bath. il diags Mach 47:152-5 N '40
Bombers in quantity; Glenn L. Martin co. J. P. AuWerter. il Aviation 39:34-7+ N '40
Can Ford produce 1,000 planes a day? some problems likely to be encountered. L. Applegate. Annalist 55:854+ Je 20 '40
Can we produce airplanes by stamping? E. V. Crane. il Aero Digest 37:36-8 Jl '40
Count the Cubs; in 1931 Piper made 24 planes; in 1939, 1806. il diags Fortune 21: 77-81+ Je '40
Cutting production costs by die casting. H. Chase. il Aviation 39:56-7+ N '40
Developing maximum physicals in aircraft parts. A. G. Cordy. il plan Steel 106:44-6, 72-3 Je 24 '40
Engineering design for die casting. H. L. Harvill. il Aero Digest 37:39-40, 43+ Jl '40
Fabricating the Flying Fortress. il Am Mach 84:498-9 Jl 10 '40
Faust aircraft sheet metal training school. il Sheet Metal Worker 31:33+ Ag '40
50,000 airplanes for America. Mech Eng 62: 682-3 S '40
50,000 airplanes; how we can build planes at a rate of 20,000 a year. Sci Am 163:80-1 Ag '40
50,000 planes a year; how much? how long? with cost data. T. P. Wright. il Aviation 39:34-7, 98, 100+ Jl '40
Flying fortress, a job for the whole nation; state-by-state breakdown of sources of raw materials and semi-manufactures; partial list of suppliers. il maps Business Week p28-9 S 28 '40
Ford ready for mass production of equipment for U.S. defense. F. J. Oliver. Iron Age 145:86-8 Je 20 '40
Ford speeds plane job. Business Week p18 Je 22 '40
Ford's emphasis on planes for defense only, a factor in program's early stages. W. F. Sherman. Iron Age 145:52-3 Je 27 '40
Forgings for aircraft. J. Allison. il Steel 107: 49-50 Jl 8 '40
Forgings for aircraft structures. S. K. Oliver. Metal Prog 38:515 O '40
Forming aircraft sheet; a composite of abstracts. Metals & Alloys 12:542+ O '40
How Luscombe builds metal planes. C. E. Burgess. il plan Aviation 39:44-5, 102 My '40
How to bend tubes and sections; use of Cerrobend (bismuth, lead, tin, cadmium alloy). il Iron Age 146:52-3 N 7 '40
Jigs at Republic aviation corp. il Aviation 39:36-9 O '40
Jigs for airplane assembly. H. Lasker. il Am Mach 84:570-3, 606-9 Ag 7-21 '40
Lockheed builds planes for commerce and defense. J. H. Sreenan. il Mach 46:140-5 Jl; 117-19 O '40
Lofting speeds production for Consolidated aircraft corporation; adopts old shipyard technique. T. J. Coughlin. il Aviation 39: 34-5+ Ja '40
Looking around the Douglas plant; illustrations. Aviation 38:42-3 D '39
Manufacturing operations in the Curtiss-Wright plant at Buffalo, N.Y.; illustrations. Aviation 38:40-1 D '39
Mass production methods needed in aircraft plants for 50,000 plane goal. H. N. Gilbert. Annalist 56:204 Ag 15 '40
Molded airplanes for defense. il Mod Plastics 17:25-31, 78+ Jl '40
More Clippers for the Atlantic; new problems in machining, forming and assembly solved by Boeing. il Am Mach 84:155-9 Mr 20 '40
Multiple duplication of assembly fixtures by the Taber-Van Dusen method; reflection printing process. P. Taber and L. W. Van Dusen. il Aviation 39:53+ N '40
Plane parts from strip stock; Consolidated aircraft corporation. L. Boeing. il Am Mach 84:462-4 Je 26 '40
Plane production tough for autos. Business Week p30+ Je 15 '40
Planes, auto's job; Detroit will make parts and sub-assemblies for planes. Business Week p15-16 N 16 '40
Planning to assure national production. A. Klemin. il Aero Digest 36:42-6+ My '40
Process control of spot welding. C. L. Hibert. il Iron Age 145:43-7 Mr 7; 31-4 Mr 14 '40
Producing aircraft stampings in the Douglas plant. H. Chase. il Metals & Alloys 12: 436-41 O '40
Production line private planes; Piper aircraft corp. A. Heflin. il Aero Digest 36: 54-5 Je '40
Production of magnesium-alloy aircraft parts. L. B. Grant. il S A E J 47:325-31 Ag '40; Same cond. Iron Age 144:36-9 N 2 '39; Excerpts. Aviation 38:36-7+ N '39
Production plus; North American's spectacular production record of the past three years. J. S. Smithson. il layouts Aviation 38:34-9 D '39
Real aviation program. Business Week p 17 Ag 10 '40
Role of bending presses in the manufacture of all-metal aircraft. C. L. Peterson. il Iron Age 146:37-9 Jl 25 '40
Rubber slabs speed aircraft production; Guerin process. il India Rubber W 103:40+ O '40
Sheet-metal operations in an airplane plant. il Mach 46:240-2 D '39
Sheet shapes for aircraft; multiple profiling; Lockheed aircraft corp. L. H. Biehler. il Am Mach 84:926-9 N 13 '40
S.A.E. National aircraft production meeting; abstracts of papers. Aero Digest 37:137-8, 141-2+ N '40
SAE national production meeting, Hartford, Conn. May 7-8. S A E J 46:sup14-16+ Je '40
Speeding light plane production; Interstate aircraft & engineering. W. E. Hirtensteiner. il Aviation 39:64-5+ N '40
Spot welded aluminum aircraft structures. C. W. Dodge. il diags Product Eng 11:388-92 S '40
Spot welding of aluminum for aircraft. L. P. Wood. Metal Prog 38:274+ S '40
Stainless steel and aircraft trends. M. Watter. il Aero Digest 36:67-8, 71-2, 75+ My '40
Stainless steel in aircraft; wings, control surfaces, fuel tanks and complete planes fabricated by spotwelding. C. De Ganahl. il diags Am Mach 84:527-9 Jl 24 '40
Streamlined aircraft production; Vultee aircraft, inc. D. I. Carroll. il plan Aviation 39:38-41, 98 My '40

AIRPLANES—Manufacture—*Continued*
Structural and other uses of stainless steel in airplanes. il Aero Digest 35:50-2+ D '39
Tapered tubing; design possibilities for more efficient construction. diags Product Eng 11: 400-3 S '40
They stand on their own feet; jigs used in making Harlow all-metal plane. F. A. Hoffman. il Aviation 39:36-7, 90 Ja '40
Use of rubber for producing sheet metal parts. C. J. Frey and S. S. Kogut. il diags Aero Digest 37:129-30, 133-4 N '40 (to be cont)
Use of the hydraulic press. H. O. Thweatt. il Aero Digest 36:36-7+ Ja '40
Welding aluminum aircraft alloys. M. Sciaky. il diag Iron Age 145:33-5 Mr 21 '40
Welding of stainless steel and its alloys. G. H. Tweney. il Aero Digest 35:45+ D '39
Wings of metal. J. La Rue. il Am Mach 83: 1028-9 D 13 '39
Work of the loft in an aircraft plant. F. M. Gibian. il Aero Digest 37:76, 79 O '40

See also
Airplane factories

Materials

Aeromold trainer. il Aviation 39:56-7 Jl '40
Airplanes of stainless steel. Barron's 20:5 N 4 '40
Aluminum aircraft forgings. L. W. Davis. Metal Prog 38:515-16 O '40
Aluminum aircraft fuel tanks. E. H. Dix, jr. and R. B. Mears. bibliog S A E J 46: 215-20 My '40
Column strength of two extruded aluminum-alloy H-sections. W. R. Osgood and M. Holt. bibliog il diags U S Nat Advisory Com for Aeronautics 1939:289-312 '40
Corrosion of metals used in aircraft. W. Mutchler. bibliog J Research Nat Bur Stand 25:75-82, pl 1-12 Jl '40
Developing maximum physicals in aircraft parts. A. G. Cordy. il plan Steel 106:44-6, 72-3 Je 24 '40
Effect of continuous weathering on light metal alloys used in aircraft. W. Mutchler. bibliog il diags U S Nat Advisory Com for Aeronautics 1939:395-421 '40; Excerpt (Conclusions). Engineer 169:sup[Metallurgist] 90-1 F 23 '40
Effect of service stresses on impact resistance, X-ray diffraction patterns, and microstructure of 25S aluminum alloy. J. A. Kies and G. W. Quick. bibliog il diags U S Nat Advisory Com for Aeronautics 1939:343-64 '40
Einfluss der pressbedingungen und des aufbaues auf die eigenschaften geschichteter kunstharz-pressstoffe; kunstharz-pressholz, zellstoff- und gewebebahnen-pressstoff. W. Küch. il V D I 83:1309-16 D 30 '39
Der einfluss von betriebspausen auf die zeit- und dauerfestigkeit metallischer werkstoffe. F. Bollenrath and H. Cornelius. il diags V D I 84:295-9 My 4 '40
Fatigue in aircraft; composite of abstracts. Metals & Alloys 11:MA150+ Mr '40
Flying fortress, a job for the whole nation; state-by-state breakdown of sources of raw materials and semi-manufactures; partial list of suppliers. il maps Business Week p28-9 S 28 '40
Forgings for aircraft structures. S. K. Oliver. Metal Prog 38:515 O '40
Holzverbundbauweisen im luftschraubenbau. K. Riechers. il diag V D I 84:339-42 My 18 '40
Low-density structural material; Duramold. V. E. Clark. il Aero Digest 35:101-2, 105 Jl '39; Same. Roy Aeronautical Soc J 44: 483-8 My '40; Same. Engineer 169:483-4 My 24 '40
Magnesium for aircraft construction. E. W. Conlon. bibliog il diags J Aeronautical Sci 7:252-5 Ap '40
Magnesium in aircraft. N. E. Woldman. bibliog il Metals & Alloys 12:430-5 O '40
Modern aircraft materials and their testing. K. R. Jackman. il S A E J 47:461-73+ N '40
Molded airplanes; Duramold process. Sci Am 163:122-3 S '40
Molded airplanes for defense. il Mod Plastics 17:25-31, 78+ Jl '40; Abstract. Science 92: sup6 Ag 23 '40
Mounting of aero engines with special reference to rubber and buna material. B. Steinborn. diags Roy Aeronautical Soc J 44:447-50 My '40
New research on the use of hardening plastics for aircraft construction. W. Kuech. il diags Roy Aeronautical Soc J 44:44-73 bibliog(46 titles, p72-3) Ja '40
Pack method for compressive tests of thin specimens of materials used in thin-wall structures. C. S. Aitchison and L. B. Tuckerman. bibliog il U S Nat Advisory Com for Aeronautics 1939:133-43 '40
Plastics and their uses in the automotive industry; development, properties, trade names, molding methods, etc. G. M. Kline. il S A E J 46:198-214 My '40; Same. Mod Plastics 17:49-53+ Jl; 58-61+ Ag; 18:64-7, 90, 92+ S '40; Discussion. S A E J 46:214+ My '40
Plastics award for aircraft construction. Aviation 39:95 N '40; il Automotive Ind 83: 434-5 O 15 '40; Mod Plastics 18:84, 100 O '40
Plastics for aircraft; abstract. J. Taylor. Can Chem & Process Ind 23:604 D '39
Plastics in British planes. il Aviation 39:44-5+ Jl '40
Plastics in the airplane. Mech Eng 62:235-6 Mr '40
Possibilities for plastic airplanes; abstract. W. Hite. S A E J 47:sup68-9 Jl '40
Production of magnesium-alloy aircraft parts. L. B. Grant. il S A E J 47:325-31 Ag '40; Same cond. Iron Age 144:36-9 N 2 '39; Excerpts. Aviation 38:36-7+ N '39
Protection of aircraft plywood. R. B. Anderson. il Aero Digest 37:137-8 O '40
Rational definition of yield strength. W. R. Osgood. Roy Aeronautical Soc J 44:653-6 Ag '40
Recent developments in propeller blade design. L. H. Enos. il Aero Digest 37:48-51 Ag '40
Report of N.A.C.A. committee on aircraft materials. U S Nat Advisory Com for Aeronautics 1939:29-32 '40
Rolling corrugated sheet. il diags Aero Digest 37:88, 91 Jl '40
Some stress-strain studies of metals. R. L. Templin and R. G. Sturm. il J Aeronautical Sci 7:189-98 Mr '40
Stabilisation of a thin sheet by a continuous supporting medium. G. S. Gough, C. F. Elam and N. A. de Bruyne. il diags Roy Aeronautical Soc J 44:12-43 Ja '40
Stainless steel in aircraft. C. De Ganahl. il diags Am Mach 84:527-9 Jl 24 '40
Synthetic rubber. E. W. Emery. il Aero Digest 37:51-2+ Jl '40
Synthetic rubber takes to the air. H. M. Koelliker. il Aviation 39:62+ Ap '40
Timm 2-place trainer; made of laminated spruce plywood heavily impregnated with phenol formaldehyde. il Aviation 39:53 Ja '40
Titanium and some properties of Cr-Mo steel for airplane tubing. G. F. Comstock. il Metals & Alloys 12:21-6 Jl '40
Toughness testing machine developed; determining quality of spruce used in aircraft. Civil Aero J 1:428 S 15 '40
Transparent plastics; designs for mounting sheets. G. P. Young. il diags Product Eng 11:127-9 Mr '40
Welding aluminum aircraft alloys. M. Sciaky. il diag Iron Age 145:33-5 Mr 21 '40

See also
Airplane fabrics
Steel, Aircraft

Model testing

Air forces on radial air-cooled engine cowling (as determined from pressure distribution tests). R. R. Higginbotham. diags S A E J 47:383-7 S '40

AIRPLANES—Model testing—*Continued*
Free-spinning wind-tunnel tests of a low-wing monoplane with systematic changes in wings and tails; effect of center-of-gravity location. O. Seidman and A. I. Neihouse. bibliog il diags U S Nat Advisory Com for Aeronautics 1939:599-618 '40
Influence of running propellers on airplane characteristics. C. B. Millikan. bibliog il diag J Aeronautical Sci 7:85-103; Discussion. 103-6 Ja '40
Northrop wind tunnel. E. Wilson. il Aviation 39:46-7 O '40

Models

A B C of model aircraft construction. C. S. Rushbrooke. 104p pa 2s 6d for sale by Horace Marshall and son, Temple house, Tallis st, London, EC 4 '40
Design and construction of flying model aircraft. D. A. Russell. 2d ed enl 249p 6s 6d Harborough pub. co, Allen House, Newarke st, Leicester, Eng. '40
Model airplane contests; an Air Youth guide with official rules. 106p $1.25 Appleton-Century '40
Scale model aircraft that fly. H. J. Towner and H. Boys. 107p pa 3s for sale by Horace Marshall and son, Temple house, Tallis st, London, EC 4 '40

Noise

Passenger comfort in commercial aviation. W. W. Davies. S A E J 47:344-5 Ag '40
Soundproofing research; Boeing development of acoustical laboratory in cooperation with University of Washington physics department. K. Martinez. il plan Aero Digest 36: 26-8+ Ap '40

Painting

Specifications for aircraft finishes. M. A. Coler. Aero Digest 37:44+ Jl '40

Passenger service

Passenger comfort in commercial aviation. W. W. Davies. bibliog il S A E J 47:342-8 Ag '40

Patents

Trend of invention. Published in monthly numbers of Aero digest

Performance

Analysis of best rate of climb and ceiling as affected by ice accretions. A. Gail. bibliog J Aeronautical Sci 7:6-11 N '39
General airplane performance. W. C. Rockefeller. bibliog U S Nat Advisory Com for Aeronautics 1939:241-65 '40
Performance dictates design. R. H. Upson. bibliog J Aeronautical Sci 7:369-75 Jl '40
Rigorous performance prediction without drudgery; graphical method. E. G. Reid. bibliog Roy Aeronautical Soc J 44:176-94 F '40
Some economic aspects of transport aeroplane performance. W. C. Mentzer and H. E. Nourse. Roy Aeronautical Soc J 44:499-520 Je '40; Same. J Aeronautical Sci 7:227-34, 302-8 Ap-My '40

Private ownership

Fire protection for private planes; carbon dioxide systems. C. L. Griffin. il diag Aero Digest 36:65-6 Ap '40
More fun at the airport; making them more like country clubs to attract private fliers. W. D. Strohmeier. il plans Aviation 39:38-9+ N '40
New safety records established in private flying for first six months of 1939. Civil Aero J 1:55-7 F 15 '40
One hundred horsepower, 100 lbs, $100? W. B. Stout. il Aero Digest 35:38-9 D '39
Periodic check supervision for private owners; Spartan aircraft corp. J. B. Thomson. il Aero Digest 36:57+ Ap '40
Private flying accident and operations statistics for 1939. Civil Aero J 1:259-61 Jl 1 '40
Private flying and aircraft radio. H. W. Roberts. il Aero Digest 37:80, 83+ Jl '40
Radio for private aircraft; communications, maintenance. H. T. Sagert. il Aero Digest 35:42-3 D '39
Safety planes for private flying? il Sci Am 162:352-3 Je '40

See also
Airplanes, Light

Radio equipment

See Radio apparatus on aircraft

Refueling

Avions-réservoirs Harrow pour faire en vol le plein d'essence des avions. il diags Génie Civil 115:421-3 D 9 '39
History and progress of refuelling in flight. A. Cobham and M. Langley. bibliog il diags Roy Aeronautical Soc J 44:557-96; Discussion. 596-603 Jl '40
Refuelling in flight; increase in range, earning capacity and safety in take-off. M. Langley. diags Engineer 169:358-9 Ap 12 '40
Trans-Atlantic air services. R. H. Mayo. Roy Aeronautical Soc J 43:902-5 N '39; Same cond. Engineering 148:594 N 24 '39

Safety devices and measures

Control devices for boundary layers; abstract. E. A. Stalker. Aviation 39:122 Mr '40
Safety planes for private flying? il Sci Am 162:352-3 Je '40

Sanitation

Disinsectization of aircraft. C. L. Williams. diags Pub Health Rep 55:1005-10, pl 1-2 Je 7 '40

See also
Airplanes as carriers of insects

Seats

Design of airplane seating. W. McArthur. il diags Aero Digest 36:79-80+ Je '40

Size

See also
Airplanes, Light

Specifications

American planes and engines for 1940; abridged specifications and miniature blueprints. il Aviation 39:37-54 F '40
Civil and military aircraft specifications; tabulations. Aviation 39:69-74 F '40

Speed

Photoelectric eye measures plane speeds. Aero Digest 37:185-6 O '40
Simple method of measuring landing and take-off speed. C. L. Johnson. il J Aeronautical Sci 7:75-6 D '39
Studies of high speed airplanes. F. Flader and E. R. Child. bibliog diags J Aeronautical Sci 7:235-43 Ap '40

Spinning

Free-spinning wind-tunnel tests of a low-wing monoplane with systematic changes in wings and tails; effect of center-of-gravity location. O. Seidman and A. I. Neihouse. bibliog il diags U S Nat Advisory Com for Aeronautics 1939:599-618 '40
Unconventional combined features make spin-proof airplane; Ercoupe. il Sci Am 163:139 S '40

Stalling

Stalling on tapered wings. P. Nazir. diags Aero Digest 36:36-8 Ap '40

Standards

Aircraft projects accelerate 1940 standards expansion; Society of automotive engineers. diag S A E J 46:sup13-14 Mr '40

Strato-liners

See Airplanes—High altitude

Tail surface

Effects of elevator nose shape, gap, balance, and tabs on the aerodynamic characteristics of a horizontal tail surface. H. J. Goett and J. P. Reeder. bibliog il diags U S Nat Advisory Com for Aeronautics 1939:639-49 '40

AIRPLANES—Tail surface—*Continued*
Free-spinning wind-tunnel tests of a low-wing monoplane with systematic changes in wings and tails; effect of center-of-gravity location. O. Seidman and A. I. Neihouse. bibliog il diags U S Nat Advisory Com for Aeronautics 1939:599-618 '40
Interference of tail surfaces and wing and fuselage from tests of 17 combinations in the N.A.C.A. variable-density tunnel. A. Sherman. bibliog il diags U S Nat Advisory Com for Aeronautics 1939:689-98 '40
Maneuverability and control surface strength criteria for large airplanes. H. B. Dickinson. bibliog J Aeronautical Sci 7:469-77 S '40

Take-off

Dragonfly Ryan YO-51, short-range liaison observation plane; facilitates landing and take-off. il diag Aviation 39:64-5 Ap '40
History and progress of refuelling in flight. A. Cobham and M. Langley. bibliog il diags Roy Aeronautical Soc J 44:557-96; Discussion. 596-603 Jl '40
Photographic method of measuring take-off. il plan Sci Am 162:29 Ja '40
Prediction of take-off run. W. N. Hammond. Aero Digest 36:64 My '40
Refuelling in flight; increase in range, earning capacity and safety in take-off. M. Langley. diags Engineer 169:358-9 Ap 12 '40
Simple method of measuring landing and take-off speed. C. L. Johnson. il J Aeronautical Sci 7:75-6 D '39
Size of an aircraft landing field. K. N. E. Bradfield. Engineer 170:230-1 O 11 '40
Two formulas for take-off distance. E. Lesher. J Aeronautical Sci 7:209-11 Mr '40

Testing

Air forces on radial air-cooled engine cowling (as determined from pressure distribution tests). R. R. Higginbotham. il diags S A E J 47:381-3 S '40
Flight test data mechanically recorded; pilots oral report during test is recorded on steel tape; Planetest magnograph. J. B. Darragh, jr. il Aero Digest 37:96, 99, 180 S '40
Flight test inspection procedure. N. J. Clark. il diag Aero Digest 37:60, 63+ S '40
Flight test of the Curtiss-Wright transport. il Aviation 39:58 My '40
Reduction of flight test climb data to standard air conditions. R. J. White. diags J Aeronautical Sci 7:12-17 N '39

See also
Wind tunnels

Transportation

Airplanes, bound for Britain. il Business Week p24 Ag 24 '40
Boxing for export. H. J. Emerson. il Aviation 39:40-1, 120+ Je '40

Vibration

Control of vibration in aircraft. H. H. Bruderlin. Aviation 39:40-1 Ja; 38-9+ Mr '40
Coupled oscillations of aircraft engine-propeller systems. M. A. Biot. bibliog diags J Aeronautical Sci 7:376-82 Jl '40
Effects of propeller slipstream and tail position on the vibration characteristics of the Lockheed Lodestar. R. L. Thoren and C. L. Johnson. il diags J Aeronautical Sci 7:419-24 Ag '40
Frequency and vibration problems of rotors (rotating wing aircraft). R. H. Prewitt and R. A. Wagner. diags J Aeronautical Sci 7: 444-50 Ag '40
Instrument for measuring low frequency accelerations in flight. C. S. Draper and W. Wrigley. bibliog il diags J Aeronautical Sci 7:388-401 Jl '40
Propeller requirements for submerged engine installations. G. W. Brady. S A E J 46: 195-6 My '40
Vibration characteristics of aircraft engine-propeller systems. C. M. Kearns. il diags S A E J 45:540-8 D '39; Abstract. Automotive Ind 80:714-15 Je 15 '39
Vibration of crankshaft-propeller systems; new method of calculation. M. A. Biot. diags J Aeronautical Sci 7:107-12 Ja '40
Wing frequencies of multi-engine monoplanes. R. H. Miller. diag J Aeronautical Sci 7:256-8 Ap '40

See also
Airplane wings—
Flutter

Weight

War on weight. J. L. Walsh. Mech Eng 62: 122 F '40
Weight manifest form developed for airlines; for use with Librascope balance computors. diag Aero Digest 37:57 N '40

Windshields

Ice prevention on windshields; abstract. L. A. Rodert. Mech Eng 62:403 My '40

AIRPLANES, Amphibian

Consolidated amphibian. il Aviation 39:49 Ja '40
Decade of Grumman progress. il Aero Digest 36:48-9, 52+ Ja '40
Grumman Widgeon. il Aviation 39:49 S '40
Grumman Widgeon 4 to 5 place amphibion. il diags Aero Digest 37:107-8 S '40

See also
Seaplanes

AIRPLANES, Freight

TACA (Transportes aereos Centro Americanos) jungle air freighter. R. Hancock. il Aviation 39:30-1+ Ja '40

See also
Airplanes in mining

AIRPLANES, Light

Aeronca Super-Chief for 1941. il diags Aero Digest 37:122, 124 Jl '40
American planes and engines for 1940; abridged specifications and miniature blueprints. il Aviation 39:37-43 F '40
Count the Cubs; in 1931 Piper made 24 planes; in 1939, 1806. il diags Fortune 21: 77-81+ Je '40
Cubs for 1940. il diags Aero Digest 36:59-60+ Ja '40
Culver Cadet. il diags Aero Digest 37:71 Jl '40; Aviation 39:55+ S '40
Economic aspects of light airplane engines. C. T. Doman. il S A E J 47:284-90 Jl '40; Abstract. Automotive Ind 82:326 Ap 1 '40
Ercoupe. il diags Aero Digest 36:99 Je '40
Expansion in light aircraft production continues; first quarter 1939-1940 compared. Civil Aero J 1:217 My 15 '40
Geared engines for light airplanes. C. H. Wiegman. il diags S A E J 47:301-4 Jl '40; Abstract. Automotive Ind 82:326-7 Ap 1 '40
Interstate Cadet. il diags Aviation 39:77+ Ag '40
Italian and French light plane engines. L. Zacharoff. il Aviation 39:68+ N '40
Johansen JA-2. il Aviation 39:69 Ap '40
Lenape Brave; 95-hp. engine for light planes. E. Rudloff. il diag Aviation 39:61, 104 My '40
Light plane development and utilization; abstract and discussion. C. G. Taylor. S A E J 46:sup25-6 Ap '40
Light plane manufacture trends to production methods. Steel 106:33 My 20 '40
Light plane production expanding. il Iron Age 146:62+ Jl 4 '40
Light plane roundup; reports of companies. il Aviation 39:30-3 F '40
Lycoming engine production for the light airplane market. il Aero Digest 36:38-40+ Ja '40
Lycoming-powered Funk model L. il Aero Digest 37:162 N '40
Monocoupe Zephyr. il diags Aero Digest 37: 75+ O '40
New light plane improvements. il Barron's 20:5 Jl 29 '40
One hundred horsepower, 100 lbs, $100? W. B. Stout. il Aero Digest 35:38-9 D '39
Piper Cub; 3-place cruiser. il Aviation 39:54 Ja '40
Prevention of carburetor icing, and other suggestions for flying light airplanes in cold weather. R. D. Hicks. diag Aero Digest 35: 44+ D '39

AIRPLANES, Light—*Continued*
Private and commercial aircraft; with and without approved type certificates; descriptive technical digest and outline scale drawings. il Aero Digest 36:62-124 Mr '40
Progress in light aircraft engines. C. F. Bachle. il diags S A E J 46:243-9 Je '40
Rearwin side-by-side Ranger. il diags Aero Digest 37:83-4 Ag '40
Speeding light plane production; Interstate aircraft & engineering. W. E. Hirtensteiner. il Aviation 39:64-5+ N '40
Stinson model 105 for 1940. il Aero Digest 36: 114 F '40
Stout engineering laboratories designs stainless steel plane to be built on quantity basis. il Steel 107:24 Jl 1 '40
Tomorrow's light plane. W. B. Stout. il Aviation 39:36-7, 102 Je '40
What's ahead in light plane engines? C. T. Doman. il Aero Digest 36:49-51+ Mr '40

AIRPLANES, Military
Aeronautics in 1939. il(supp 6-7) Engineer 169:5-6 Ja 5 '40
Aircraft procurement. L. B. Richardson. il Aero Digest 36:48, 85-6, 163 F '40
Airplane laboratory and national defense; Bell aircraft corp. R. C. Woods. il Metals & Alloys 12:451-4 O '40
Airplane manufacturers confer with government officials on policy regarding sales to Great Britain and France. Comm & Fin Chr 150:2021-2 Mr 30 '40
American aircraft types. Engineer 170:13 Jl 5 '40
American planes and engines for 1940. il Aviation 39:51-4 F '40
America's winged weapons. J. L. H. Peck. il Sci Am 163:5-7 Jl '40
Arado AR-96B; Germany's standard military trainer. il Aero Digest 37:111-12 S '40
Armor plate for airplane pilots. il Iron Age 145:50 My 23 '40
Army photographic ship. il diags Aviation 39:64-5+ Ag '40
Big boats in navy service. A. M. Pride. il Aero Digest 36:41-3+ F '40
Billions for air defense. L. E. Neville. Aviation 39:30-2+ Ag '40
Bombers, en masse; coordination of Canadian companies for plane orders. Business Week p64+ Mr 16 '40
Bombers in quantity; Glenn L. Martin co. J. P. AuWerter. il Aviation 39:34-7+ N '40
Bombers spread over industry. il Business Week p17 N 2 '40
Building the Douglas B-19; illustrations. Aviation 39:58-9 O '40
Can Ford produce 1,000 planes a day? some problems likely to be encountered. L. Applegate. Annalist 55:854+ Je 20 '40
Canada's warplane industry. J. Montagnes. il Aviation 39:30-1, 98+ O '40
Curtiss-Wright's new basic combat fighter. il diag Aviation 39:52-3+ My '40
Decade of Grumman progress. il Aero Digest 36:48-9, 52+ Ja '40
Designing for serviceability. J. E. Thompson. il diags Aero Digest 37:68, 71-2+ S '40
Distinguishing features of German troop-carrying aircraft; diagrams. Engineering 149:pl 35 Je 21 '40
Douglas builds the world's largest airplane. G. A. Strompl. il Mach 46:146-51 Jl '40
Dragonfly Ryan YO-51, short-range liaison observation plane; facilitates landing and take-off. il diag Aviation 39:64-5 Ap '40
Effect of air power. T. P. Wright. il Aero Digest 35:57-8+ D '39
Emphasis on tanks, planes revises M-day plans for Detroit industry. il Iron Age 145: 80-2 Je 6 '40
Engineering for defense; army and navy engineers with help of industries, technical societies and educational institutions have standardized designs and specifications. G. F. Nordenholt. il Product Eng 11:504-9 N '40
Fabricating the Flying Fortress. il Am Mach 84:408-9 Jl 10 '40
Fifteen-acre plant for bombers built in 90 days; Boeing aircraft plant no. 2. il diags plan Eng N 125:566-70 O 24 '40
Fifteen years of Fairchild progress. il Aero Digest 37:141-2+ O '40
Fighting planes of the world. B. A. Law. 66p $1 Random house, 20 E. 57th st, New York '40
Fire protection of petrol tanks. A. R. Weyl. il diags Roy Aeronautical Soc J 44:657-74 Ag '40
First tests of the Grumman Sky Rocket. il Sci Am 163:25 Jl '40
German troop-carrying aircraft. Engineer 169:423 My 3 '40
Glenn L. Martin co.; America's oldest builder of bombing planes. il Fortune 20:73-7+ D '39
Hail of lead fire over England; drawing of British Hurricane. Sci Am 163:116 S '40
Helldivers; technique of dive-bombing, conceived for United States naval use. J. L. H. Peck. il Sci Am 163:186-8 O '40
Junkers Jumo 211 being used in the Stuka dive-bombers. P. H. Wilkinson. il diags Aviation 39:52-3+ S '40
Lockheed builds planes for commerce and defense. J. H. Sreenan. il Mach 46:140-5 Jl; 117-19 O '40
Martin model 167W general purpose bomber. il Aero Digest 35:71+ D '39
Mercedes-Benz model DB 601. P. H. Wilkinson. il Aviation 39:61+ O '40
Messerschmitt Me-110 airplane. diag Mech Eng 62:240-1 Mr '40
Military aircraft; descriptive technical digest and outline scale drawings. il Aero Digest 36:128-62 Mr '40
Military aircraft specifications; tabulation. Aviation 39:73-4 F '40
Military planes by real production methods. il Mach 46:178-81 Jl '40
More deadly bomb and bomber. Barron's 20:5 Ap 1 '40
More planes, fewer kinds. Business Week p24 Je 1 '40
New Curtiss P-40. il diag Aviation 39:60-1 Ag '40
New obligations in aeronautics. W. F. Durand. J Eng Educ 31:110-17 O '40
New Ranger navy engine. J. P. AuWerter. il diag Aviation 39:48-9, 116 Je '40
New U.S. navy airplane; abstract. il Mech Eng 62:614 Ag '40
Now we are in it; first hand view of British air forces. C. G. Grey. il Aviation 39:56-7, 150 Ag '40
Our aircraft armaments. H. G. Chapman, jr. diags Aero Digest 36:82+ Je '40
Plastics in British planes. il Aviation 39:44-5+ Jl '40
Possibilities of large flying boats for national defense. H. Alfaro. diags map Aero Digest 37:43-5 O '40
Ranger 12-cylinder 450 hp inverted engine. il Aero Digest 36:72-3+ Je '40
Republic EP-1 pursuit. il diag Aviation 39: 52-3 Je 10 '40
Research girds for war. S. P. Johnston. il Aviation 39:38-9+ S; 40-1, 118 O '40
Role of the army air corps in national defense. H. H. Arnold. il Mach 46:130-3 Jl '40
Rotating-wing aircraft exhibit desirable characteristics for national defense. A. Klemin. Sci Am 163:138 S '40
Sketch book of design detail. il Aviation 39: 59-61 F; 52-3 Ap '40
Some aspects of the aerial warfare in the German-Polish campaign. J. J. Dziewonski and S. Rogalski. il plans Roy Aeronautical Soc J 44:627-47; Discussion. 647-52 Ag '40
Some details of the Rolls-Royce Merlin X engine. Automotive Ind 83:206 S 1 '40
Stout's new plane, radical in design, emphasizes use of steel. W. F. Sherman. Iron Age 145:88A-88B Je 20 '40
Unveiling the Airacobra. R. J. Woods. il Aviation 39:40-1+ Mr '40
Vought-Sikorsky fighter. il Aero Digest 37:128 Jl '40

AIRPLANES, Military—*Continued*
Vultee methods speed production of fighting planes. H. M. Harrison. il Mach 46:170-3 Jl '40
Waffentechnische ausrüstung von jagdeinsitzern. P. Madlener. il diags V D I 83:1115-18 O 14 '39; Abstract (Armament of the Heinkel He. 112 fighter monoplane). Engineer 169:489-91 My 31 '40; Abstract. Génie Civil 116:185-6 Mr 16 '40
War wings; abstract. A. T. Colwell. S A E J 46:sup27 My '40
Warplane factories in Germany. P. H. Wilkinson. il Aviation 39:44-5+ S; 44-5+ N '40 (to be cont)
Where are those profits? financial study of two companies making military aircraft. maps Aviation 39:32-3+ O '40
Wright field, heart of the Army air corps. il Aviation 39:34-9 Ap '40

Maintenance and repair
Maintenance, overhaul and repair of naval aircraft. F. B. Stump. il Aero Digest 36: 70, 73+ F '40
R.A.F. maintenance. R. E. Hautier. il Aviation 39:42-3+ Jl '40

AIRPLANES, Training
Aeromold trainer. il Aviation 39:56-7 Jl '40
Aeronca Tandem trainer. il diags Aero Digest 36:99-100 My '40
Arado AR-96B; Germany's standard military trainer. il Aero Digest 37:111-12 S '40
Call model A trainer. il diag Aero Digest 37:192 N '40
Engineering Fairchild's PT-19. A. Thieblot. il diags Aero Digest 37:130-2, 134+ O '40
Fairchild trainer for 1940. il diags Aviation 39:54+ My '40
Fleet model 60 advanced trainer. il diags Aero Digest 36:65-6+ Je '40
Interstate Cadet trainer. il diags Aero Digest 37:60+ Ag '40
Luscombe, 1941. il diags Aviation 39:60 O '40
North American primary trainer. il Aero Digest 36:113-14 F '40
Porterfield trainer for 1940. F. B. Johnson. il diags Aviation 39:66 Ap '40
Spartan primary trainer. il diags Aero Digest 36:95 Je '40
Speeding light plane production; Interstate aircraft & engineering. W. E. Hirtensteiner. il Aviation 39:64-5+ N '40
Swallow low-wing trainer. il diags Aero Digest 37:113 O '40
Timm 2-place trainer; made of laminated spruce plywood heavily impregnated with phenol formaldehyde. il Aviation 39:53 Ja '40
Waco YPT-14 primary trainer. il diags Aero Digest 37:91-2 Ag '40

AIRPLANES as carriers of insects
Insect quarantine; Midway and Canton islands have pest control stations. il Sci Am 163:13 Jl '40

AIRPLANES in agriculture
Crop-dusting airplane precautions; maintenance bulletin lists fire-prevention precautions. Civil Aero J 1:200 My 1 '40

AIRPLANES in forestry
Photogrammetric equipment employed in interpretation of aerial photographs. H. E. Seely. Pulp & Pa of Can 41:731-2 O '40
Wings guard the forests; specialized branch of aviation changing life and customs in wild mountains of the West. O. A. Fitzgerald. il Nation's Business 28:32, 85-7 Ap '40
See also
Forest fire patrol,
Aerial

AIRPLANES in freight service
Freight plane possibilities. Barron's 20:5 Jl 8 '40
Plane looms as freight car's rival; G.A.T.X. urges rails and airlines to enter field together. Business Week p22+ O 19 '40
Plane more economical than truck for winter delivery on Canadian border; Peters meat products co., St Paul, coordinated truck plane distribution. il Food Ind 12:68-9 Mr '40

AIRPLANES in mining
Airplane transport to remote Peruvian mines. C. W. Wright. il Min & Met 21:241 My '40
Aviation in mining; V-type motors, use of plastics, seen in latest airplane construction. W. E. D. Stokes, jr. il Min & Met 21:7 Ja '40
Grinding balls take to the airways; copper molybdenum forged alloy steel balls help solve high-cost air transportation problem of La Luz mines, ltd. F. A. McCoy. il Min Cong J 26:34-5 Ag '40
Progress in transportation. H. G. Cochrane. il Can Min J 60:756-7, 760-1 N '39
Wings over the muskeg. L. Roberts. il Can Min J 60:763-8 N '39

AIRPLANES in the petroleum industry
Aerial photographic surveys valuable on Gulf coast. W. V. Howard. il Oil & Gas J 38: 194-5 Ap 25 '40
Aerial photographs furnish valuable aid to geologists. W. V. Howard. il Oil & Gas J 38:52-3 Ap 18 '40

AIRPORT buildings
Building bases for our air forces; buildings at the airbases. il Eng N 125:550-3 O 24 '40
Light-gage stainless steel used in ornamental eagle for top of Landplane administration building, North Beach airport. il Steel 105: 52 D 18 '39
More fun at the airport; making them more like country clubs to attract private fliers. W. D. Strohmeier. il plans Aviation 39:38-9+ N '40
New York city's new municipal airport. S. E. Stott. il plan Mech Eng 62:103-10 F '40
New York municipal airport. il plan Engineer 169:174-6, 184, 198-9, 208 F 23-Mr 1 '40
New York municipal airport. B. B. Somervell. il Civil Eng 10:203-4, 295-8 Ap-My '40
Planning North Beach airport. B. Somervell. il diags plans Eng N 124:459-64 Mr 28 '40
President Roosevelt lays cornerstone at Washington national airport. il Civil Aero J 1:445-7+ O 15 '40
Stainless steel at LaGuardia field. il plan Steel 106:48-9 Mr 25 '40
Washington national airport. plans Civil Aero J 1:8-9 Ja 1 '40
See also
Hangars

Heating and ventilation
Hangars at New York airport heated with warm air system. il plan Heating-Piping 12: 183-4 Mr '40
Heating and cooling the world's largest airport; New York's new LaGuardia field. M. C. Hamje. il diags plan Heat & Ven 37:17-22 Mr '40
Servicing a modern airport; LaGuardia field. B. B. Somervell. Civil Eng 10:295-6 My '40
U.S. army Air corps, McChord field; central heating plant. W. S. Leland. il Heat & Ven 37:25-7 S '40
U.S. army Air corps, McChord field; steam distribution and heating. J. W. A. Drummond. il Heat & Ven 37:28-31 S '40

AIRPORTS
Airport liability policy. Spectator (Property ed) 5:25 Ja 25 '40
Airports for peace or war. S. S. Hanks. il Can Eng R & B 78:18-19+ F '40
Airports, the new monopoly. T. N. Sandifer. Pub Util 26:564-9 O 24 '40
Aviation gets down to earth; the growing need for public landing fields. S. S. Hanks. 121p $2 Aviation information service, 80 Boylston st, Boston '40
C.A.A. leases St Petersburg airport for standardization center for inspectors. Civil Aero J 1:434+ O 1 '40
Expansion and improvements to military and commercial airports. il Aero Digest 37:57-60, 62, 65-6 O '40
First phase of airport plan completed; $80,000,000 asked. Civil Aero J 1:452+ O 15 '40
Home-clean airports; ground facilities must improve. P. E. Richter. Aviation 39:30-1 Mr '40

AIRPORTS—*Continued*
Millions for airbases; army and navy programs. Eng N 124:825 Je 13 '40
National airport ahead of schedule. Civil Aero J 1:1-2 Ja 1 '40
New airport facilities planned. Barron's 20:5 O 7 '40
Present status of aerodrome construction in Canada. J. A. Wilson. Can Eng R & B 78:62+ O '40
President Roosevelt lays cornerstone at Washington national airport. il Civil Aero J 1:445-7+ O 15 '40
Status of landing facilities by states, Jan. 1, 1940; tabulation. Civil Aero J 1:22 Ja 15 '40
U.S. airport program; opening of CAA drive for action at next session of Congress. Business Week p23 D 23 '39
Uses of concrete in transportation. M. D. Catton. il Can Eng R & B 78:23-4 Ag '40
Washington national airport. plans Civil Aero J 1:8-9 Ja 1 '40
WPA report to nation lists extension of airports and airways. Civil Aero J 1:160 Ap 15 '40

See also
Airport buildings
Airways
Hangars
Seaplane bases

Design

Airports; basic problems of present-day design. il diags plans map Arch Forum 73: 73-88 Ag '40
Basic requirements for airport design. il plans Eng N 125:12-16 Jl 4 '40
Planning North Beach airport. B. Somervell. il map diags plans Eng N 124:454-64 Mr 28 '40

Drainage

Grading, draining and paving Canada's airports. P. Johnson. il Can Eng R & B 78: 16+ Ja '40

Electric equipment

Transatlantic airport, North Beach, N.Y. il Elec R (Lond) 126:243-4 Mr 1 '40

Equipment

American Airlines maintenance at La Guardia field; illustrations. Aviation 39:56-7 Je '40
Blind landing; International telephone development company system installed at six airports. A. Klemin. il diags Sci Am 163:260-1 N '40
Building bases for our air forces; utilities to serve the airbases. il Eng N 125:553-5 O 24 '40
Elaborate public address system for La-Guardia airport. Electronics 13:40+ Je '40
Fiorello's windflower; North Beach, world's busiest airport. il Fortune 22:38-44+ Ag '40
Instrument landing problems in 1940. H. W. Roberts. il diag chart Aero Digest 36: 80, 38 My '40
New York city's new municipal airport. S. E. Stott. il plan Mech Eng 62:103-10 F '40
New York municipal airport. B. B. Somervell. il plan Civil Eng 10:201-4, 295-8 Ap-My '40

Fires and fire protection

Airport fire fighting. C. L. Griffin. il Aviation 39:42-3+ Je '40
Carbon dioxide becomes mobile; fire extinguishing equipment for airports. D. Mapes. il Aero Digest 36:58+ Je '40
Carbon dioxide on wheels; mobile units carrying fire-killing gas. il Sci Am 163:197-8 O '40

Laws and regulations

To sue or not to sue; airport owners' legal rights. S. Rothfeld. il Aviation 39:42-3, 134 N '40 (to be cont)

Lighting

Accurate floodlight mirrors. J. G. Holmes. il Light & Lighting 32:253-4 D '39
Amber lights for runways. W. C. Norvell. il Aviation 39:54, 116 Ap '40
Indianapolis landing aids demonstrated. diags plan Civil Aero J 1:111+ Ap 1 '40
Servicing a modern airport; LaGuardia field. B. B. Somervell. il Civil Eng 10:297-8 My '40
Transatlantic airport, North Beach, N.Y. il Elec R (Lond) 126:243-4 Mr 1 '40

Management

Fixed base operator's job of selling the public. C. A. Parker. il Aero Digest 36:40-1+ Je '40
Law may get you; legal points for airport managers. S. Rothfeld. il Aviation 39:38-9, 108+ Je '40
More fun at the airport; making them more like country clubs to attract private fliers. W. D. Strohmeier. il plans Aviation 39:38-9+ N '40

Snow protection and removal

Snow handling methods on Canadian airports. il Can Eng R & B 78:30-2 O '40

Surfaces

Basic requirements for airport design. il plans Eng N 125:12-16 Jl 4 '40
Building bases for our air forces; airbase runway paving. diags Eng N 125:548-50 O 24 '40
Grading, draining and paving Canada's airports. P. Johnson. il Can Eng R & B 78:16+ Ja '40
Important considerations in airport construction. W. S. Housel. il Can Eng R & B 78: 22-3+ My '40
Improvements to the Glenn L. Martin co. airport. il plan Aero Digest 37:59+ Ag '40
New York municipal airport. B. B. Somervell. Civil Eng 10:203 Ap '40
Omaha airport runways. W. H. Campen. Roads & Sts 83:62+ My '40
Planning North Beach airport. B. Somervell. il plan Eng N 124:456-8 Mr 28 '40
60 miles paving for Washington airport. il Roads & Sts 83:70 Mr '40
Soil-cement runway found economical for army air base. il Concrete 48:3-4 N '40
Vancouver's Sea Island airport. W. Hill, jr. il plan Can Eng R & B 78:19-21+ Ap '40
Washington national airport. diag plan Pub Works 71:23 Je '40

Traffic control

Airport traffic control defined for field personnel. Civil Aero J 1:427 S 15 '40
Airway traffic control and airport traffic control; differences outlined. Civil Aero J 1: 80+ Mr 15 '40
Terminal traffic. F. Smith. il Aero Digest 37:48+ O '40
UHF airport control. il Aero Digest 37:183 Jl '40

AIRPORTS, Military

Army builds an Arctic airbase, Fairbanks, Alaska. il Eng N 125:558-9 O 24 '40
Building Alaska bases for naval aircraft. il Eng N 125:556-7 O 24 '40
Building bases for our air forces. il Eng N 125:544-55 O 24 '40
Building eighty airports in one year for the British commonwealth air training plan. il Can Eng R & B 78:16-17, 50+ Jl '40
Modernization of Mitchel field. il Aero Digest 37:43 Ag '40
U.S. army Air corps, McChord field. E. P. Antonovich and others. il Heat & Ven 37: 24-31 S '40

See also
Naval air stations

AIRPORTS, Municipal

Charleston's airport facilities. il Aero Digest 37:103 S '40
Fiorello's windflower; North Beach, world's busiest airport. il Fortune 22:38-44+ Ag '40
Heating and cooling the world's largest airport; New York's new LaGuardia field. M. C. Hamje. il diags plan Heat & Ven 37:17-22 Mr '40
Law may get you; legal points for airport managers. S. Rothfeld. il Aviation 39:38-9, 108+ Je '40

AIRPORTS, Municipal—*Continued*
Move begun for federal aid to cities for airport enlargement work. Eng N 125:386 S 26 '40
New York city's new municipal airport. S. E. Stott. il plan Mech Eng 62:103-10 F '40
New York municipal airport. il plan Engineer 169:174-6, 184, 198-9, 208 F 23-Mr 1 '40
New York municipal airport. B. B. Somervell. il plan Civil Eng 10:201-4, 295-8 Ap-My '40
N.Y.-Newark co-terminals. Aero Digest 35: 75-6 D '39
Le nouvel aéroport municipal de North Beach à New-York. il plans Génie Civil 116:209-13 Mr 30 '40
Planning North Beach airport. B. Somervell. il map diags plans Eng N 124:453-64 Mr 28 '40
Roanoke municipal airport. R. J. Dunahoe, jr. il Aero Digest 37:103-4, 188 Jl '40
Topeka, Kan. airport is completed. Pub Works 71:44-5 S '40
Transatlantic airport, North Beach, N.Y. il Elec R (Lond) 126:243-4 Mr 1 '40
Transatlantic seaplane base, Baltimore, Maryland. W. W. Pagon. il diags plans maps Am Soc C E Proc 66:1469-89 O '40
Vancouver's Sea Island airport. W. Hill, jr. il plan Can Eng R & B 78:19-21+ Ap '40

AIRSHIP fabrics
Gas-proof fabric; application of mixtures of rubber latex and viscose. J. Warwicke. Textile Col 62:454+ Jl '40

AIRSHIPS
Blimps and modern warfare. B. Livingston. il Sci Am 162:261-3 My '40
Goodyear blimps. R. G. Picinich, jr. il Aviation 39:48-9, 120 O '40

See also
Aeronautics
Aviation

Mooring
Anchoring small airships at sea. il Sci Am 162:161 Mr '40

AIRSHIPS, Rigid
Airships still hold possibilities for military purposes. Sci Am 163:138 S '40

AIRWAYS
Pan American shortcut; flying time from Miami to Buenos Aires now 3½ days. Business Week p39 S 7 '40

See also
Air lines
Airports
Aviation

Maps
Civil airways of the United States; map. Aero Digest 37:46-7 O '40
Transoceanic air routes, present and prospective; map. Business Week p23 Ja 20 '40

Traffic control
Airway traffic control and airport traffic control; differences outlined. Civil Aero J 1: 80+ Mr 15 '40

United States
Administrator adds seven new air lanes to civil airways list. Civil Aero J 1:427 S 15 '40
Airways facilities in the United States; fiscal years, 1932-1941; expenditures, communication, radio aids; chart. Civil Aero J 1:399 Ag 15 '40
Civil aeronautics board grants Mid-Continent certificate for new Y-shaped route. Civil Aero J 1:402 Ag 15 '40
1940 airway construction program completed. Civil Aero J 1:397-8 Ag 15 '40
1940 airways program. Air Commerce Bul 11:121-4 N 15 '39
20th anniversary of the coast-to-coast airway. il Aero Digest 37:64, 67+ S '40

AKRON, Ohio
Club over Akron? labor difficulties, revive talk about decentralizing rubber industry. Business Week p38 My 18 '40

Bridges
Concrete repair and restoration work on Akron's big viaduct; with cost data. il Concrete 48:5 Ja '40
Methods employed in the rehabilitation of a high concrete viaduct. R. Van Brimmer. il Pub Works 71:16-18 S '40

Water supply
Rehabilitation of force mains. W. R. LaDue. il diags map Water Works & Sewerage 87:469-74 O '40
Water supply at Akron. W. R. LaDue and others. maps Am Water Works Assn J 32: 1775-99 O '40

AKRON, Canton and Youngstown railway
Payment of interest. Comm & Fin Chr 150: 3035 My 11 '40

AKROYD engine. See Stuart, Herbert Akroyd

AK-SAR-BEN, Knights of
Producing good will on a quantity basis. C. R. Smith. il Nation's Business 28:98-105 Mr '40

ALABAMA

See also
Geology—Alabama
Transportation—Alabama

Commerce
Alabama's balance of rail and water traffic, 1932-1937. L. T. Hawley. 130p Univ. of Alabama, Bur. of business research, University, Ala. '39

Industries and resources
Alabama, heart of a new industrial empire. il map Manuf Rec Extra no 109:78-87 S '40
Industrial opportunity in the Tennessee valley of northwestern Alabama. H. F. Otte. 177p bibliog(p163-9) $2.25 Columbia univ. press '40

ALABAMA academy of science
Annual meeting, Birmingham, March 29-30. Science 92:240-1 S 13 '40

ALABAMA great southern railroad
Traffic statistics and income statement 1936-39. Comm & Fin Chr 150:2561 Ap 20 '40

ALABAMA power company
Earnings, 1937-39. Comm & Fin Chr 150:2709 Ap 27 '40
Raises budget to $6,065,273. il Elec W News ed 113:513 F 17 '40

ALABASTER
Experimental flow of rocks under conditions favoring recrystallization. D. Griggs. bibliog diags Geol Soc Bul 51:1001-22, pl 1-2 Jl '40

ALANINE
Effects of certain salt mixtures on the dissociation of glycine and alanine. A. C. Batchelder and C. L. A. Schmidt. bibliog J Phys Chem 43:1121-32 D '39
Effects of certain salts on the dissociation of alanine; experiments on cells without liquid-junction potentials. A. C. Batchelder and C. L. A. Schmidt. bibliog J Phys Chem 44: 880-92 O '40
Interaction of ions and dipolar ions; solubility of barium and calcium iodates in glycine and in alanine solutions. R. M. Keefer, H. G. Reiber and C. S. Bisson. bibliog Am Chem Soc J 62:2951-5 N '40
Preparation of β-alanine methyl ester. H. H. Weinstock, jr. and E. L. May. Am Chem Soc J 62:3266 N '40

ALARMS
Tank level indicators and flow alarm; problem. Power Pl Eng 44:85 Mr '40; Solutions. diags 44:78-80 My '40

See also
Electric alarms
Fire alarms

ALASKA
Alaska: a profile with pictures. M. Colby. $1 Duell, Sloan and Pearce, 270 Madison av, New York '40
Building Alaska bases for naval aircraft. il Eng N 125:556-7 O 24 '40

ALASKA—*Continued*
How the Geological survey serves Alaska. P. S. Smith. map Eng & Min J 141:54-6 Ap '40

See also
Fisheries—Alaska
Mines and mineral resources—Alaska
Petroleum—Alaska
Petroleum industry and trade—Alaska

ALBANY, Georgia
Family income and expenditure in the southeastern region, 1935-36; v. 1, Family income. A. D. H. Kaplan, F. M. Williams and J. S. Bernard. U S Bur Labor Statistics Bul 647: 1-520 '39

ALBERT canal. See Canals—Belgium

ALBERTA

See also
Gas, Natural—Alberta
Petroleum—Alberta
Petroleum industry and trade—Alberta

ALBITE
Albite and gold. D. Gallagher. bibliog (166 references) Econ Geol 35:698-736 S '40

ALBUMIN
Behavior of ovomucin in the liquefaction of egg white. A. K. Balls and S. R. Hoover. bibliog Ind & Eng Chem 32:594-6 Ap '40
Conjugation of horse serum albumin with 1,2-benzanthryl isocyanates. H. J. Creech and R. N. Jones. bibliog Am Chem Soc J 62:1970-5 Ag '40
Electrophoretic study of the proteins of egg white. L. G. Longsworth, R. K. Cannan and D. A. MacInnes. bibliog diags Am Chem Soc J 62:2580-90 O '40
Interpretation of simple electrophoretic patterns. L. G. Longsworth and D. A. MacInnes. bibliog diags Am Chem Soc J 62:705-11 Ap '40

ALBUQUERQUE, New Mexico

Sewerage
Power from sludge gas at Albuquerque. W. W. Wheeler. flow diag il Eng N 123:842-3 D 21 '39

ALCHEMY
Alchemy ancient and modern. R. T. Hancock. Can Min J 60:810 D '39

ALCOHOL
Acid-base equilibria in ethyl alcohol. M. Kilpatrick and W. H. Mears. bibliog Am Chem Soc J 62:3051-4 N '40
Azeotropic system alcohol-water-benzene. W. D. Bonner and M. B. Williams. J Phys Chem 44:404-8 Ap '40
Composition of mixed vapors in the cloud chamber. T. N. Gautier and A. E. Ruark. Phys R 57:1040-1 Je 1 '40
Electrokinetics; electrokinetic potentials of barium sulfate in solutions of electrolytes and in fifty per cent ethanol. R. G. Ruyssen. bibliog J Phys Chem 44:265-75 Mr '40
Hydrogen exchange reactions of esters in relation to reactivity in condensation reactions with deuteroalcohol. W. G. Brown and K. Eberly. Am Chem Soc J 62:113-15 Ja '40
Ionization constants of acid-base indicators in ethanol. L. S. Guss and I. M. Kolthoff. Am Chem Soc J 62:249-51 F '40
Magnetic studies of ferrihemoglobin reactions; equilibria and compounds with azide ion, ammonia, and ethanol. C. D. Coryell and F. Stitt. bibliog Am Chem Soc J 62:2942-51 N '40
Mutarotation of alpha-*d*-glucose in ethanol-water mixtures at 25°. H. H. Rowley. bibliog Am Chem Soc J 62:2563-5 S '40
Production and utilization of alcohol by plant tissues. C. A. Ludwig and others. Science 91:170-1 F 16 '40
Products of ionization by electron impact in methyl and ethyl alcohol. C. S. Cummings, 2d and W. Bleakney. bibliog Phys R 58: 787-92 N 1 '40
Studies of ionisation in non-aqueous solvents; the formation of certain sulphides in methyl and in ethyl alcohol. W. L. German and T. W. Brandon. Chem Soc J p1329-33 S '40
Surface tension of ethyl alcohol-water mixtures. W. S. Bonnell, L. Byman and D. B. Keyes. bibliog diag Ind & Eng Chem 32: 532-4 Ap '40
System ethyl alcohol-glycerol-benzene at 25°. H. J. McDonald. Am Chem Soc J 62:3183-4 N '40
Ternary systems involving cyclohexene, water, and methyl, ethyl, and isopropyl alcohols. E. R. Washburn and others. Am Chem Soc J 62:1454-7 Je '40
Vapor-phase esterification of benzoic acid with ethyl alcohol; effect of oxides on catalytic activity of silica gel. A. A. Vernon and B. M. Brown. bibliog diag Ind & Eng Chem 32:534-6 Ap '40

See also
Alcohols
Fermentation
Gasoline—Alcohol mixtures
Liquor traffic
Quarterly journal of studies on alcohol

Laws and regulations

See also
Liquor laws

Manufacture
Alcohol yields in the sulphite process. Paper Ind 22:196 My '40
Distillation in packed columns. C. C. Furnas and M. L. Taylor. bibliog il diags plan Am Inst Chem Eng Trans 36:135-69; Discussion. 169-71 F '40
Potato products industry; potato alcohol production. flow sheet Chem Age (Lond) 42: 301-2 Je 1 '40
Power alcohol from molasses; government action in India. Chem Age (Lond) 42:185 Mr 30 '40
Saccharification of starchy grain mashes for the alcoholic fermentation industry; comparison of several saccharifying agents; malt, moldy bran, and soybean meal. L. Schoene, E. I. Fulmer and L. A. Underkofler. bibliog Ind & Eng Chem 32:544-7 Ap '40
Surplus molasses to be used for power alcohol in India. A. P. Som. Ind & Eng Chem News ed 18:500 Je 10 '40
Then and now in plant operation. G. T. Reich. Chem & Met Eng 46:721 N '39
Wood as a chemical raw product; latest developments in sugar and alcohol production. D. Brownlie. Chem & Ind 59:671-5 S 28 '40

Physiological effect
Alcohol and human life. C. C. Weeks. 2d ed rev & enl 454p bibliog(p421-38) 6s H. K. Lewis & co, London '38
Alcohol in moderation and excess. J. A. Waddell and H. B. Haag. 3d ed rev 221p bibliog(p207-14) $1.50 William Byrd press, Richmond, Va. '40
Alcohol taste thresholds and concentrations of solution preferred by rats. C. P. Richter and K. H. Campbell. Science 91:507-8 My 24 '40
Liquor, the servant of man. W. H. Smith and F. C. Helwig. 273p bibliog(p225-73) $2 Little '39

See also
Alcoholism

ALCOHOL, Denatured
C. D. alcohol formulas again are born in laboratories. M. H. Haertel. il Chem Ind 47:21-3 Jl '40
Rubbing alcohol sales as beverage attacked. Oil Paint & Drug Rep 137:5+ Ja 15 '40
Rubbing alcohol sales restricted. Oil Paint & Drug Rep 137:5+ Ja 29 '40

Statistics
Alcohol, fiscal year 1939; denatured alcohol; production, withdrawals, etc. Chem Ind 45: 770 pt 2 D '39

ALCOHOL as fuel
Carburants nationaux, combustibles et énergies de remplacement. L. Bacqueyrisse. Soc Ing Civils Mémoires 92:266-78 Mr '39
Fuel dopes and alcohol mixtures. C. S. Moore and H. H. Foster. Power Pl Eng 44:72 Ag '40

ALCOHOL as fuel—*Continued*
Fuel from corn, again; Iowa co-ops are raising money for another alky-gas plant. Business Week p22-3 Mr 16 '40
Surplus molasses to be used for power alcohol in India. A. P. Som. Ind & Eng Chem News ed 18:500 Je 10 '40
See also
Gasoline—Alcohol mixtures

ALCOHOL industry

Statistics
Alcohol and solvents. Chem & Met Eng 47:84-6 F '40
Alcohol, 1936-1939. Survey of Cur Business 1940 Sup p88 [supplemented in monthly numbers]
Alcohol; summary of operations of plants and bonded warehouses and materials used, fiscal years '38 and '39; production, by kinds of materials used, fiscal year '39. Chem Ind 45:769 pt 2 D '39
Ethyl alcohol output in fiscal years ended June 30, 1940, and 1939. Oil Paint & Drug Rep 138:42 Jl 29 '40

Ireland
Eire developing alcohol industry. Can Chem & Process Ind 24:118 Mr '40

ALCOHOLISM
Benzedrine in alcoholism. Sci Am 162:286-7 My '40
Twelve against alcohol. H. L. Nossen. 246p $2.50 Harrison-Hilton books, New York '40

ALCOHOLS
Addition of oxy compounds to acetylenic alcohols. J. F. Froning and G. F. Hennion. Am Chem Soc J 62:653-5 Mr '40
Addition of $\beta\gamma$-unsaturated alcohols to the active methylene group; the action of ethyl acetoacetate on cinnamyl alcohol and phenylvinylcarbinol. M. F. Carroll. Chem Soc J p1266-8 S '40
Addition of $\alpha\beta$-unsaturated alcohols to the active methylene group; the action of ethyl acetoacetate on linalool and geraniol. M. F. Carroll. Chem Soc J p704-6 Je '40
Aldehyde-nitroparaffin condensation. B. M. Vanderbilt and H. B. Hass. bibliog Ind & Eng Chem 32:34-8 Ja '40
Alkanolamines; reducing and hydrolyzing action of the ethanolamines on the dichloronitrobenzenes. C. B. Kremer and A. Bendich. Am Chem Soc J 62:1279-81 My '40
Alkylation of benzene with alcohols, boron fluoride and assistants. N. F. Toussaint and G. F. Hennion. bibliog Am Chem Soc J 62: 1145-7 My '40
Alpha, omega-amino alcohols; morpholino alcohols; derivatives of morpholine. G. W. Anderson and C. B. Pollard. Am Chem Soc J 61:3440-1 D '39
Alpha, omega-amino alcohols; N-phenyl-N'-(α-hydroxyalkyl)-piperazines from α, ω-chlorohydrins; derivatives of piperazine. G. W. Anderson and C. B. Pollard. Am Chem Soc J 61:3439-40 D '39
Catalytic dehydrogenation of alcohols in the liquid phase using ethylene as a hydrogen acceptor. W. Reeve and H. Adkins. Am Chem Soc J 62:2874-6 O '40
Decomposition of *p*-hydroxybenzenediazonium salts by alcohols. H. H. Hodgson and C. K. Foster. Chem Soc J p1150-3 Ag '40
Dehydration of some tertiary alcohols containing the cyclohexane ring. W. A. Mosher. bibliog Am Chem Soc J 62:552-4 Mr '40
Distribution of protons between water and other solvents. L. S. Guss and I. M. Kolthoff. bibliog Am Chem Soc J 62:1494-6 Je '40
Effect of carbonyl derivatives as impurities in alcohols. B. J. Fontana and T. D. Stewart. Am Chem Soc J 62:2878-9 O '40
Epimeric alcohols of the *cyclo*hexane series; glucoside formation. D. T. C. Gillespie, A. K. Macbeth and J. A. Mills. Chem Soc J p243-5 F '40
Epimeric alcohols of the *cyclo*hexane series; the parachor as a criterion for *cis-trans*-isomerism. D. T. C. Gillespie, A. K. Macbeth and J. A. Mills. Chem Soc J p280-2 Mr '40
Evaluation of nitrocellulose lacquer solvents; ester activation by alcohols and the use of alcohols as lacquer diluents. V. W. Ware and W. M. Bruner. bibliog Ind & Eng Chem 32:519-24 Ap '40
Free radicals and radical stability; the influence of short-lived and long-lived radicals on the reactivity of alcohols. S. T. Bowden. Chem Soc J p880-2 Jl '40
Hydrogen fluoride as a condensing agent; the reaction of alcohols and ethers with benzene. J. H. Simons and S. Archer. Am Chem Soc J 62:1623-4 Je '40
Increases in the acid strength of hydrogen chloride in dioxane brought about by phenols and alcohols. P. D. Bartlett and H. J. Dauben, jr. bibliog Am Chem Soc J 62: 1339-44 Je '40
Investigation of the complex structure of the O-H harmonic bands of substituted alcohols, and of the effect of temperature on the relative intensities of the multiplet components. L. R. Zumwalt and R. M. Badger. bibliog Am Chem Soc J 62:305-11 F '40
Kinetics of the degradation of polyesters by alcohols. P. J. Flory. Am Chem Soc J 62: 2255-61 S '40
Magnitude of the solvent effect in dipole-moment measurements; polarisation and association of alcohols in the liquid phase. F. R. Goss. Chem Soc J p888-94 Jl '40
Metalation of alcohols and amines; butyl lithium. H. Gilman and others. bibliog Am Chem Soc J 62:977-9 Ap '40
Oxidative cleavage of α-keto acids and α-keto alcohols by means of lead tetraacetate. E. Baer. Am Chem Soc J 62:1597-1606 Je '40
Preparation of aminobenzoic acid esters of substituted monoalkylamino alcohols. S. D. Goldberg, W. F. Ringk and P. E. Spoerri. bibliog Am Chem Soc J 61:3562-4 D '39
Preparation of certain amines. E. J. Schwoegler and H. Adkins. bibliog Am Chem Soc J 61:3499-502 D '39
Reduction of α-bromo-ketones by aluminum isopropylate; with a note on the isomeric amino-alcohols of the ephedrine series. P. G. Stevens, O. C. W. Allenby and A. S. DuBois. bibliog Am Chem Soc J 62:1424-8 Je '40
Reduction over a Raney catalyst of the esters of α-amino acids to corresponding alkamines. G. Ovakimian, M. Kuna and P. A. Levene. Am Chem Soc J 62:676-7 Mr '40
Studies in the phenanthrene series; phenolic amino alcohols and naphthisoquinolines derived from 9,10-dihydrophenanthrene. A. H. Stuart and E. Mosettig. bibliog Am Chem Soc J 62:1110-16 My '40
Sugar alcohols; a study of the effect of the anhydrides of sorbitol on the dissociation constant of boric acid. F. K. Bell, C. J. Carr and J. C. Krantz, jr. bibliog J Phys Chem 44:862-5 O '40
Viscosity of monolayers: a test of the canal viscosimeter. G. C. Nutting and W. D. Harkins. bibliog diags Am Chem Soc J 62:3155-61 N '40
See also
Alcohol
Amyl alcohol
Butyl alcohol
Cetyl alcohol
Dodecyl alcohol
Esters
Isopropyl alcohol
Linoleyl alcohol
Methanol
Octyl alcohol
Vinyl alcohol

Analysis
Identification of alcohols by means of the optical properties of the esters of carbanilic acid. B. T. Dewey and N. F. Witt. Ind & Eng Chem Anal ed 12:459-60 Ag 15 '40
Microscopic identification of certain sugars and polyhydric alcohols. J. A. Quense and W. M. Dehn. bibliog il Ind & Eng Chem Anal ed 12:556-60 S 15 '40
Quantitative determination of certain polyalcohols in the presence of each other. N. Allen, H. Y. Charbonnier and R. M. Coleman. bibliog Ind & Eng Chem Anal ed 12:384-7 Jl 15 '40

ALCOHOLS—Analysis—*Continued*
Rapid qualitative test for alcoholic hydroxyl group; use of nitrato and perchlorato cerate anions as test reagents. F. R. Duke and G. F. Smith. Ind & Eng Chem Anal ed 12: 201-3 Ap 15 '40

ALCOHOLYSIS
Comparison of esterification and ester interchange kinetics. P. J. Flory. bibliog Am Chem Soc J 62:2261-4 S '40

ALDEHYDES
Alkaline hydrolysis of condensation products of hydantoin with aldehydes. H. R. Henze, W. B. Whitney and M. A. Eppright. bibliog Am Chem Soc J 62:565-8 Mr '40
Catalytic vapor-phase oxidation of aliphatic kerosene fraction. W. G. Parks and E. F. Story. bibliog diag Oil & Gas J 39:54, 56+ S 5 '40
Hydrogenation of aldehydes in the presence of ammonia. C. F. Winans. Am Chem Soc J 61:3566-7 D '39
Interaction of arylhydrazines with halogenated aldehydes. H. Irving. Chem Soc J p813-17 Je '40
Oxidation of aldehydes; the combustion zones of butaldehyde, *iso*butaldehyde, propaldehyde, acetaldehyde, glyoxal, and acraldehyde. D. M. Newitt, L. M. Baxt and V. V. Kelkar. diag Chem Soc J p1703-10 N '39
Oxidation of aldehydes; the products of their combustion. D. M. Newitt and L. M. Baxt. pl Chem Soc J p1711-20 N '39
Preparation of alkylidene fluorenes from fluorene with aliphatic aldehydes. R. F. Schultz and C. F. Smullin. Am Chem Soc J 62:2904-5 N '40
Reactions of aldehydes with amines; with o-aminophenol. F. G. Singleton and C. B. Pollard. Am Chem Soc J 62:2288-9 S '40
Reactions of αβ-unsaturated cyclic aldehydes and ketones; *dl*-cryptone and *cis*- and *trans-dl*-cryptol. D. T. C. Gillespie and A. K. Macbeth. Chem Soc J p1531-4 O '39
Relative reducing potential of starch. R. W. Kerr. bibliog Am Chem Soc J 62:2735-8 O '40
Studies on pyrimidines related to vitamin B_1; a new synthesis of 2-methyl-6-aminopyrimidine-5-aldehyde. D. Price, E. L. May and F. D. Pickel. bibliog Am Chem Soc J 62:2818-20 O '40
Summary of the reactions of aldehydes with amines. M. M. Sprung. Chem R 26:297-338 bibliog(p335-8) Je '40

See also
Acetaldehyde
Benzaldehyde
Butyraldehyde
Crotonaldehyde
Formaldehyde
Furfural
Glycolaldehyde

ALDEHYDO-galactose pentaacetate
Action of phosphorus pentachloride upon *aldehydo*-galactose pentaacetate; the 1,1-dichloride of *aldehydo*-galactose pentaacetate. M. L. Wolfrom and D. I. Weisblat. bibliog Am Chem Soc J 62:1149-51 My '40
d-Glucose S-ethyl O-methyl monothioacetal. M. L. Wolfrom, D. I. Weisblat and A. R. Hanze. bibliog Am Chem Soc J 62:3246-50 N '40

ALDEHYDO-galacturonic acid
Mutarotation and rotatory dispersion of derivatives of aldehydo-*d*-galacturonic acid. R. J. Dimler and K. P. Link. bibliog Am Chem Soc J 62:1216-19 My '40

ALDEHYDO-maltose octaacetate
aldehydo-Maltose octaacetate. M. L. Wolfrom and M. Konigsberg. bibliog Am Chem Soc J 62:1153-4 My '40

ALDEHYDO sugars. See Sugars

ALDONIC acids
Some fully acetylated sugar acids and their derivatives. G. B. Robbins and F. W. Upson. bibliog Am Chem Soc J 62:1074-6 My '40

ALDOSES
Reduction of aldoses at the dropping mercury cathode; estimation of the aldehydo structure in aqueous solutions. S. M. Cantor and Q. P. Peniston. Am Chem Soc J 62:2113-21 Ag '40

ALDOXIMES. See Oximes

ALDRICH, Jessie M.
Court librarian and history. Special Lib 31: 141 Ap '40

ALEMITE corporation
Film trains Alemite dealers in "how" of modern merchandising. F. R. Cross. il Sales Management 46:48+ Je 1 '40

ALETRIS farinosa
Sterols; steroidal sapogenins of aletris, asparagus and lilium. R. E. Marker and others. Am Chem Soc J 62:2620-1 O '40

ALEXANDERS discount company
Ordinary general meeting, 72d, London. Economist 138:119 Ja 20 '40

ALEXANDRIA, Egypt

Water supply
Design of clarifiers for waterworks. R. Walton and T. D. Key. diags Engineering 150:157-60 Ag 23 '40

ALFALFA
Effects of sulfur dioxide on plants and animals. C. Setterstrom. diag Ind & Eng Chem 32:476-7 Ap '40
Somatoplastic sterility in medicago sativa. R. A. Brink and D. C. Cooper. Science 90:545-6 D 8 '39

ALFALFA meal
Isolation of carotene from green plant tissue; use of barium hydroxide octahydrate. H. G. Petering, P. W. Morgal and E. J. Miller. flow sheet bibliog Ind & Eng Chem 32:1407-12 O '40

Analysis
Analysis of the fibrous and carbohydrate constituents of feeding stuffs; the determination of cellulose. E. G. Hallsworth. bibliog Soc Chem Ind J 59:9-17 Ja '40

ALGAE
Algae black-out with activated carbon. W. T. Bailey. il Water Works & Sewerage 87:380-2 Ag '40
Algae control. J. B. Baty. il Can Eng W & S 78:20+ Je '40
Chemical treatment for the control of algae and weeds. Pub Works 71:41 S '40
Control of algae at Appleton, Wisconsin. W. U. Gallaher. map Am Water Works Assn J 32:1165-75 Jl '40
Culture technic for quantitative growth studies with myxophyceae. L. Walp. Science 90:597 D 22 '39
Oxyhydrogen reaction in green algae and the reduction of carbon dioxide in the dark. H. Gaffron. Science 91:529-30 My 31 '40
Photosynthesis with radio-carbon. S. Ruben and others. bibliog Science 90:570-1 D 15 '39
Protection of watershed for Syracuse supply; copper sulfate for algae control. A. F. Gregory. il Am Water Works Assn J 32:566-8 Ap '40
Successful taste and odor control in El Dorado, Kan. A. E. French. il diag Pub Works 71:23-4 Ja '40
Sun ray counts save sulphate; effect of ultraviolet rays on algae growth. R. F. Goudey. il Eng N 124:525-7 Ap 11 '40

See also
Chlorella
Diatoms

ALGAE, Fossil
Lime-secreting algae and algal limestones from the Pennsylvanian of central Colorado. J. H. Johnson. diags Geol Soc Bul 51:571-95 bibliog(p593-5) pl 1-10 Ap '40
Tertiary siphoneous algae in the W. K. Parker collection with descriptions of some Eocene siphoneae from England. L. Morellet and J. Morellet. 55p bibliog(p50-2) 5s British museum (Natural history) Dept. of geology, London '39

ALGEBRA
Advanced algebra. S. Barnard and J. M. Child. 280p $4 Macmillan '39
Algebra, the language of mathematics. J. R. Overman and H. Hays. 540p $1.28 Lyons & Carnahan, 2500 Prairie av, Chicago '40

ALGEBRA—*Continued*
College algebra. N. J. Lennes. rev ed 432p $2.25 Harper '40
College algebra. L. M. Reagan, E. R. Ott and D. T. Sigley. 445p $2.50 Farrar '40
College algebra. P. R. Rider. 372p $2 Macmillan '40
College algebra. C. H. Sisam. 395p $1.90 Holt '40
Elementary algebra. A. Freilich, H. H. Shanholt and J. S. Georges. 544p, 25p $1.36 Silver Burdett co, New York '40
First course in algebra. F. Engelhardt and L. D. Haertter. rev ed 448p $1.36 John C. Winston co, Philadelphia '40
Introduction to abstract algebra. C. C. MacDuffee. 303p $4 Wiley '40
Practical algebra with geometrical applications. J. H. Wolfe, W. F. Mueller and S. D. Mullikin. 314p $2.20 McGraw-Hill '40

See also
Matrices

Terminology

Vocabulary of high school algebra. P. V. Kunkel. 167p bibliog(p165-7) pa $1.75 Paul V. Kunkel, Trexlertown, Pa. '39

ALGINIC acid
Esters of alginic acid. H. J. Lucas and W. T. Stewart. bibliog Am Chem Soc J 62: 1070-4 My '40
Oxidation of alginic acid by periodic acid. H. J. Lucas and W. T. Stewart. Am Chem Soc J 62:1792-6 Jl '40
Structure of alginic acid. E. L. Hirst, J. K. N. Jones and W. O. Jones. Chem Soc J p1880-5 D '39

ALIENS
Alien registration. Safety Eng 80:22 Ag '40
Alien registration program. Monthly Labor R 51:569-71 S '40
Aliens and the law. W. M. Gibson. 200p bibliog(p195-8) $3 Univ. of North Carolina press, Chapel Hill '40
Aliens face roundup. Business Week p37 Je 1 '40
Aliens must register. Business Week p20+ Ag 3 '40
Authority of the President to regulate transactions in property in which foreigners have an interest; amendment to the Trading with the enemy act. Fed Res Bul 26:509 Je '40
Defense draws new mark for aliens to toe. H. Corey. il Nation's Business 28:21-2+ O '40
Employment of aliens and plant protection. H. F. Browne. 15p Nat. ind. conf. bd. '40; Summary. Management R 29:326-7 S '40
La Follette oppressive labor practices act approved by Senate; bars employment to Communists and Nazis, limits jobs for aliens. Comm & Fin Chr 150:3440 Je 1 '40
Legislation regarding aliens in the United States. bibliog Monthly Labor R 51:245-9 Ag '40
Pennsylvania alien-registration law held void. Monthly Labor R 50:669 Mr '40
Pennsylvania law requiring registration of aliens. Monthly Labor R 49:1135-6 N '39
President Roosevelt says Alien registration act is for protection of country and loyal aliens residing here. Comm & Fin Chr 151:182 Jl 13 '40
President Roosevelt signs Alien registration act. Comm & Fin Chr 151:40 Jl 6 '40
President Roosevelt vetoes bill requiring deportation of alien spies, saboteurs, and violators of narcotics laws. Comm & Fin Chr 150:2344 Ap 13 '40
Registration and fingerprinting of estimated 3,500,000 aliens. Comm & Fin Chr 151:928 Ag 17 '40
State department at Washington revises passport rules for travel within Americas; also curbs alien entry as defense move. Comm & Fin Chr 150:3590-1 Je 8 '40
Transfer of alien control to Justice department asked by President Roosevelt; Immigration and naturalization service shifted in reorganization plan no. 5. Comm & Fin Chr 150:3283-4 My 25 '40
Treasury instructs withholding agents to retain increased amounts of federal tax from non-resident aliens. Comm & Fin Chr 150:4055 Je 29 '40

ALINEMENT of machinery
Adjustable collar aligns straddle mills quickly. S. M. Elonka. diag Am Mach 84:870 O 30 '40
Fixing hosiery machines; full-fashioned machines. W. A. Simond. il Textile World 90: 59-60 Je; 62-3 Jl '40
How to line-up duplex machines. H. B. Dieter. diags Power 84:108-9 F '40
Methods of measurement; dial indicators for shop use. C. C. Street. il diags Am Mach 84:656-7 S 4 '40
Testing alignment of tailstock spindles. H. Moore. diags Am Mach 84:508 Jl 10 '40

ALIPHATIC acids. See Acids, Fatty

ALIPHATIC compounds
Catalytic vapor-phase oxidation of aliphatic kerosene fraction. W. G. Parks and E. F. Story. bibliog diag Oil & Gas J 39:54, 56+ S 5 '40

ALIZARIN
Structure of the aluminium lakes of some azo-dyes and of alizarin. W. F. Beech and H. D. K. Drew. Chem Soc J p603-7 My '40

ALKALI bromides
Addition compounds of iodine with alkali bromides and thiocyanates. H. W. Foote and M. Fleischer. bibliog J Phys Chem 44: 640-6 My '40

ALKALI metal chlorides
Deposition potentials of metals from fused alkali chloride-aluminum chloride baths. W. H. Wade, G. O. Twellmeyer and L. F. Yntema. Electrochem Soc Trans 78 (preprint 17):229-42 O '40

ALKALI metal compounds
Benzylalkali compounds. H. Gilman, H. A. Pacevitz and O. Baine. bibliog Am Chem Soc J 62:1514-20 Je '40
Carbonation of organoalkali compounds. H. Gilman and H. A. Pacevitz. Am Chem Soc J 62:1301-2 My '40

ALKALI metal halides
Electric breakdown of alkali halides. R. J. Seeger and E. Teller. Phys R 58:279-80 Ag 1 '40
Examination of colored alkali halides for photoelectric Hall effect. J. Evans. bibliog diags Phys R 57:47-53 Ja 1 '40
Heats of solution of alkali halides and of hydrogen chloride in water-methyl alcohol solutions at 25°. C. M. Slansky. bibliog diags Am Chem Soc J 62:2430-4 S '40
Study of some reactions between dry inorganic salts; reactions below the fusion point. H. L. Link and L. J. Wood. Am Chem Soc J 62:766-9 Ap '40
System of large-screen television reception based on certain electron phenomena in crystals; possibility of color television by use of alkali halide crystals. A. H. Rosenthal. bibliog il diags Inst Radio Eng Proc 28:203-12 My '40

ALKALI metal hydroxides. See Alkalies

ALKALI metal nitrates
Steel corrosion by molten nitrates; abstract. P. Lloyd and E. A. C. Chamberlain. Iron Age 146:45 N 7 '40

ALKALI metal oleates
Soaps in the rubber industry; evaluation of lubricants; zinc salts in compounding. T. L. Garner. Chem Age (Lond) 42:111 F 24 '40

ALKALI metal stearates
Soaps in the rubber industry; evaluation of lubricants; zinc salts in compounding. T. L. Garner. Chem Age (Lond) 42:111 F 24 '40

ALKALI metals

See also
Cesium
Lithium
Potassium
Rubidium
Sodium

ALKALI thiocyanates
Addition compounds of iodine with alkali bromides and thiocyanates. H. W. Foote and M. Fleischer. bibliog J Phys Chem 44: 640-6 My '40

ALKALIES
Absorption of carbon dioxide in aqueous alkalies. H. J. Welge. bibliog Ind & Eng Chem 32:970-2 Jl '40
Alkalis for metal cleaning. T. K. Cleveland. Metal Finishing 38:479-82 S '40
Damage done by alkalies. T. F. Heyes. Textile Col 62:174-5 Mr '40
Extraction of alkalies in rocks; modification of the J. Lawrence Smith extraction, using barium chloride as a flux. R. E. Stevens. bibliog Ind & Eng Chem Anal ed 12:413-15 Jl 15 '40
Influence of cement and aggregate on concrete expansion; destructive action between alkali, chert and shale. T. E. Stanton, jr. il Eng N 124:171-3 F 1 '40
Weighing flask for precision standardization of strong alkalies in the absence of carbon dioxide. P. Nahinsky and H. A. Laitinen. diag Ind & Eng Chem Anal ed 12:417 Jl 15 '40

See also
Ammonia
Potash
Potassium hydroxide
Sodium hydroxide

ALKALINE earth chlorides
Case hardening in liquid baths. F. D. Waterfall. Iron Age 146:35 Jl 4 '40

ALKALINE earth metals

See also
Barium
Calcium
Magnesium
Strontium

ALKALINE earth silicates
Orthosilicates of the alkaline earths; abstract. G. E. Seil. Brick & Clay Rec 96:34-5 My '40

Bibliography
Bibliography on orthosilicates of the alkaline earths with special reference to their use in the refractory field. G. E. Seil and others, comps. Am Cer Soc J 23 (Cer A 19):273-84 N '40

ALKALINE earth sulfides
Self-luminous materials and their utilisation; zinc sulphide and alkaline earth phosphors. L. Levy and D. W. West. Chem Age (Lond) 42:169-72 Mr 23 '40
X-ray emission spectra and electronic energy bands of compounds. J. Valasek. bibliog Phys R 58:213-18 Ag 1 '40

ALKALINITY
How to test water for alkalinity. C. A. Noll. il Power 84:253-4 Ap '40

ALKALOIDS
Alkaloids of fritillaria roylei; isolation of peiminine. Y. Chi, Y. Kao and K. Chang. Am Chem Soc J 62:2896-7 N '40
Alkaloids of fumariaceous plants; the constitution of cryptocavine. R. H. F. Manske and L. Marion. Am Chem Soc J 62:2042-4 Ag '40
Curare alkaloids; alkaloids of some chondrodendron species and the origin of radix pareirae and bravae. H. King. Chem Soc J p737-46 Je '40
Erythrina alkaloids; isolation and characterization of erysodine, erysopine, erysocine and erysovine. K. Folkers and F. Koniuszy. Am Chem Soc J 62:1677-83 Jl '40
Erythrina alkaloids; isolation and characterization of the new alkaloids, erythraline and erythratine. K. Folkers and F. Koniuszy. bibliog Am Chem Soc J 62:436-41 F '40
Erythrina alkaloids; studies on the constitution of erythramine and erythraline. K. Folkers and F. Koniuszy. Am Chem Soc J 62:1673-7 Jl '40
Erythrophleum alkaloids; erythrophleine. B. K. Blount, H. T. Openshaw and A. R. Todd. Chem Soc J p286-90 Mr '40
Lupine studies; the alkaloids of lupinus sericeus Pursh. J. F. Couch. bibliog Am Chem Soc J 62:554-6 Mr '40
Lupine studies; the isolation of nonalupine from lupinus andersonii Wats. J. F. Couch. Am Chem Soc J 62:986-7 Ap '40
Minor alkaloids of duboisia myoporoides; valeroidine. W. F. Martin and W. Mitchell. Chem Soc J p1155-7 Ag '40
Nornicotine as the predominating alkaloid in certain tobaccos. L. N. Markwood. Science 92:204-5 Ag 30 '40
Plant alkaloids. T. A. Henry. 3d ed 689p $12 Blakiston '39
Rates of the thermal reduction of dichromic acid by quinine, hydroquinine, and cinchonine in dilute sulfuric acid at 0 to 60°. L. J. Heidt. diags Am Chem Soc J 61:3455-8 D '39
Studies on Argentine plants; aspidospermine from vallesia glabra and vallesia dichotoma. V. Deulofeu and others. Chem Soc J p1051-2 Ag '40

See also
Colchicine
Pyridine

ALKANES. See Paraffins

ALKANOLAMINES. See Alcohols

ALKENES. See Olefins

ALKENYL group
Substituted vinyl barbituric acids; derivatives containing a primary 1-alkenyl group. A. C. Cope and others. bibliog Am Chem Soc J 62:1199-1201 My '40

ALKYD resins. See Resinous products

ALKYL acetates
Equilibrium constants for the systems alkyl formates and alkyl acetates with stearic acid. C. Barkenbus, C. A. Roswell and A. E. Mitts. bibliog Am Chem Soc J 62:1251-3 My '40

ALKYLAMINO acids
Preparation of some alkylamino-acids and their electrometric titration. W. Cocker and J. O. Harris. Chem Soc J p1290-5 S '40

ALKYL bromides
Effect of mercuric bromide on the hydrolysis of alkyl bromides in acetone. D. R. Read and W. Taylor. Chem Soc J p1872-8 D '39

ALKYL fluorides
Physical properties of the alkyl fluorides and a comparison of the alkyl fluorides with the other alkyl halides and with the alkyls of the elements of period II. A. V. Grosse, R. C. Wackher and C. B. Linn. diag J Phys Chem 44:275-96 bibliog(67 titles, p294-6) Mr '40

ALKYL formates
Equilibrium constants for the systems alkyl formates and alkyl acetates with stearic acid. C. Barkenbus, C. A. Roswell and A. E. Mitts. bibliog Am Chem Soc J 62:1251-3 My '40

ALKYL group
Influence of alkyl groups upon reaction velocities in solution; the alkaline and acid hydrolyses of the ethyl esters of the lower saturated aliphatic acids in aqueous acetone. G. Davies and D. P. Evans. Chem Soc J p339-45 Mr '40
Redistribution reaction; alkyl compounds of mercury, tin, silicon and zinc. G. Calingaert, H. Soroos and H. Hnizda. bibliog Am Chem Soc J 62:1107-10 My '40
Redistribution reaction; R_4Pb compounds. G. Calingaert, H. A. Beatty and H. Soroos. bibliog Am Chem Soc J 62:1099-1104 My '40

ALKYL halides
Condensations; the alkylation of ethyl isobutyrate and of certain other esters by means of sodium triphenylmethyl and alkyl halides. B. E. Hudson, jr. and C. R. Hauser. bibliog Am Chem Soc J 62:2457-9 S '40
Mechanism of substitution at a saturated carbon atom; pts. 11-25. L. C. Bateman, E. D. Hughes, C. K. Ingold and others. Chem Soc J p913-1029 Jl '40
Physical properties of the alkyl fluorides and a comparison of the alkyl fluorides with the other alkyl halides and with the alkyls of the elements of period II. A. V. Grosse, R. C. Wackher and C. B. Linn. diag J Phys Chem 44:275-96 bibliog(67 titles, p294-6) Mr '40

ALKYL halides—*Continued*
Redistribution reaction; alkyl lead halides. G. Calingaert, H. Soroos and H. Shapiro. bibliog Am Chem Soc J 62:1104-7 My '40

See also
Alkyl bromides
Methyl chloride

ALKYL sulfides
Sulfur studies; the synthesis of certain higher alkyl sulfonium salts and related compounds. R. W. Bost and J. E. Everett. bibliog Am Chem Soc J 62:1752-4 Jl '40

ALKYLTHIO group
Some alkamine esters of alkylthio-substituted phenylcarbamic acids. J. J. Donleavy and J. English, jr. bibliog Am Chem Soc J 62:2965-6 N '40

ALKYLATION
Activation of aromatic halogen by ortho ammonium salt groups. W. S. Emerson, F. B. Dorf and A. J. Deutschman, jr. bibliog Am Chem Soc J 62:2159-60 Ag '40
Alkylation and its influence on the utilization of natural gasoline. E. W. Gard, A. L. Blount and K. Korpi. bibliog il diags Oil & Gas J 38:42-3, 51+ D 14; 46-8 D 21 '39
Alkylation and the action of aluminum halides on alkylbenzenes. D. V. Nightingale. Chem R 25:329-76 bibliog(105 titles, p374-6) D '39
Alkylation as a source of safety fuels; abstracts. R. Haskell. Oil & Gas J 38:215 Ja 25 '40; Nat Pet N 32:R20 Ja 24 '40
Alkylation of benzene with alcohols, boron fluoride and assistants. N. F. Toussaint and G. F. Hennion. bibliog Am Chem Soc J 62:1145-7 My '40
Alkylation of benzene with *d-s*-butyl alcohol. C. C. Price and M. Lund. bibliog Am Chem Soc J 62:3105-7 N '40
Alkylation of cyanophenylpyruvic ester. G. S. Skinner and A. J. Green. Am Chem Soc J 62:2882 O '40
Alkylation plant takes olefins left by selective polymerization. A. H. Garrison. flow diag il Nat Pet N 32:R212-13, R216+ Je 12 '40
Catalytic alkylation of isobutane with gaseous olefins. F. H. Blunck and D. R. Carmody. bibliog Ind & Eng Chem 32:328-30 Mr '40
Condensations; a general theory for certain carbon-carbon condensations effected by acidic and basic reagents. C. R. Hauser and D. S. Breslow. Am Chem Soc J 62: 2389-92 S '40
Condensations of certain active hydrogen compounds effected by boron trifluoride and aluminum chloride. D. S. Breslow and C. R. Hauser. bibliog Am Chem Soc J 62: 2385-8 S '40
Condensations; the alkylation of ethyl acetoacetate with isopropyl acetate in the presence of boron trifluoride. D. S. Breslow and C. R. Hauser. bibliog Am Chem Soc J 62:2611-12 O '40
Condensations; the alkylation of ethyl isobutyrate and of certain other esters by means of sodium triphenylmethyl and alkyl halides. B. E. Hudson, jr. and C. R. Hauser. bibliog Am Chem Soc J 62:2457-9 S '40
Cycli-alkylation of aromatic compounds by the Friedel and Crafts reaction. H. A. Bruson and J. W. Kroeger. Am Chem Soc J 62:36-44 Ja '40
Destructive alkylation produces high-octane aviation gasoline. D. L. Gol'dshtein and B. A. Englin. bibliog Nat Pet N 32:R262-4, R266, R268 Jl 24 '40
Evaluation of certain normal alkylated benzenes as Diesel fuels. G. Shen, C. E. Wood and F. H. Garner. Inst Pet J 25:695-703 O '39
High-octane aviation fuel by the sulfuric-acid alkylation process. bibliog flow diags il Am Pet Inst Proc 20(3):89-100 '39; Same. Oil & Gas J 38:104-8 N 17 '39; Same cond. Nat Pet N 31:R512-14, R516 N 29 '39; Same cond. Can Chem & Process Ind 24:58-63 F '40
Hydrogen fluoride as a condensing agent; the reaction of alcohols and ethers with benzene. J. H. Simons and S. Archer. Am Chem Soc J 62:1623-4 Je '40
Isomerization accompanying alkylation; the alkylation of benzene with neopentyl chloride and neopentyl alcohol. H. Pines, L. Schmerling and V. N. Ipatieff. bibliog Am Chem Soc J 62:2901-2 N '40
Long-chain alkyl derivatives of 2-aminopyridine. T. M. Sharp. Chem Soc J p1855-7 D '39
Neohexane for 100-octane plus; new synthetic hydrocarbon made by thermal alkylation surpasses iso-octane. M. E. Clark. il diag Chem & Met Eng 47:225-7 Ap '40
Neohexane plant operating at record high pressures. R. C. Alden. flow diag il Nat Pet N 32:R234, R236-8+ Je 26 '40
Nouvelles synthèses catalytiques des hydrocarbures. V. N. Ipatieff. Chimie & Ind 42:215-22 Ag '39; Same (New catalytic synthesis of hydrocarbons). Chem Age (Lond) 41:343-4, 371-3 N 18, D 2 '39
Nuclear alkylation of aromatic bases; the action of *n*-dodecyl alcohol on the hydrochlorides of α- and β-naphthylamine. E. C. Butterworth and D. H. Hey. Chem Soc J p388-90 Mr '40
Thermal alkylation and neohexane. G. G. Oberfell and F. E. Frey. bibliog il diag Am Pet Inst Proc 20(3):78-88 '39; Same. Oil & Gas J 38:50-1 N 23; 70, 73-4+ N 30 '39; Same cond. Nat Pet N 31:R502-3+ N 29 '39
Tide Water Associated completes alkylation plant in California. C. K. Viland and J. Seth. Oil & Gas J 39:32+ S 12 '40
War speeds the development of aviation fuel processes; abstracts of papers at American petroleum institute meeting. il Nat Pet N 31:27-8, 32+ N 22 '39

ALL-AMERICAN canal. See Irrigation canals

ALLANBLACKIA floribunda
Fatty acids and glycerides of the seed fats of allanblackia floribunda and allanblackia parviflora. M. L. Meara and Y. A. H. Zaky. Soc Chem Ind J 59:25-6 Ja '40

ALLANBLACKIA parviflora
Fatty acids and glycerides of the seed fats of allanblackia floribunda and allanblackia parviflora. M. L. Meara and Y. A. H. Zaky. Soc Chem Ind J 59:25-6 Ja '40

ALLEGANY school of natural history
Botanical conference and foray. R. B. Gordon. Science 92:150-1 Ag 16 '40

ALLEGHANY corporation
Annual report. Comm & Fin Chr 150:2406-7 Ap 13 '40
Asset values behind Alleghany bonds reflect rise in C. & O. and proposed change in indentures. Barron's 20:27-8 S 16 '40; Correction. 20:19 S 23 '40
Regains C. & O. control. Business Week p20-1 Ag 17 '40
Report of the Securities and exchange commission in the matter of Alleghany corporation. J Account 69:332-6 Ap '40
Suits settled; Missouri Pacific railroad to buy units of terminal shares. Comm & Fin Chr 150:1749 Mr 16 '40
To get collateral funds. Comm & Fin Chr 151:538-9 Jl 27 '40

ALLEGHENY Ludlum steel corporation
Earnings, 1938 and 1939. Comm & Fin Chr 150:2561 Ap 20 '40
Thumbnail stock appraisal. Mag of Wall St 66:167 My 18 '40

ALLEGHENY metal
Plural compositions from a new melting process; pluramelt. V. Browne and H. S. Blumberg. il diags Metal Prog 37:163-8 F '40

ALLEGHENY national forest. See Forest reserves

ALLEN, Calvin Francis, 1851-
Engineer's reminiscences of the Southwest. Civil Eng 10:355-8 Je '40

ALLEN, Edmund Turney, 1896-
Presentation of the Octave Chanute award. por J Aeronautical Sci 7:156-7 F '40

ALLEN Industries, incorporated
Dynamic specialties; thumbnail appraisal. Mag of Wall St 66:235 Je 1 '40

ALLENE
Behavior of certain substituted allenes toward the Meinel color test. F. B. LaForge and F. Acree, jr. Am Chem Soc J 62:1621-2 Je '40
Gas imperfection; experimental determination of second virial coefficients for seven unsaturated aliphatic hydrocarbons. E. E. Roper. bibliog diag J Phys Chem 44:835-47 O '40

ALLERGENS
Chemistry of allergens; isolation and properties of an active protein component of cottonseed. J. R. Spies and others. Am Chem Soc J 62:1420-3 Je '40
Chemistry of allergens; the solubility behavior of an active protein picrate from cottonseed. J. R. Spies, H. S. Bernton and H. Stevens. Am Chem Soc J 62:2793-9 O '40

ALLERGIA
Chemistry of natural immunity. W. F. Koch. rev ed 201p bibliog(p199-201) $2 Christopher pub. house, Boston '39
Dermatologic allergy. M. B. Sulzberger. 540p $8.50 C. C. Thomas, Springfield, Ill. '40
Preparation of purified house-dust extracts. C. H. Boatner, B. G. Efron and R. I. Dorfman. Science 91:389-90 Ap 19 '40
Primer of allergy. W. T. Vaughan. 140p bibliog(p102) $1.50 C. V. Mosby co, St Louis '39
Use of histamine in allergy. Science 91:sup10 My 10 '40
Your allergy and what to do about it. M. B. Cohen and J. B. Cohen. 177p $1.50 Lippincott '40

ALLIANCE, Ohio
Foundry town. Fortune 22:126, 129 N '40

ALLIED chemical and dye corporation
Income account for calendar years 1936-39. Comm & Fin Chr 150:1750 Mr 16 '40
Leaders in the chemical industry; thumbnail appraisal. Mag of Wall St 65:411 Ja 13 '40
Three giant defense contributors. J. M. Weiss. Barron's 20:21-2 S 16 '40

ALLIED laboratories, inc.
Stock sold. Comm & Fin Chr 150:2562 Ap 20 '40

ALLIED stores corporation
Allied Stores 4½s, 1951, yield 4.61%. Barron's 20:19 My 6 '40; Correction. 20:19 My 13 '40
Fast moving low price stocks; thumbnail appraisal. Mag of Wall St 65:230 D 2 '39

ALLIS-CHALMERS manufacturing company
Annual report. Comm & Fin Chr 150:1923-4 Mr 23 '40
What war orders mean to Allis-Chalmers; net profits will be higher despite increased taxes. H. F. Travis. il Mag of Wall St 66:580-1+ Ag 24 '40

ALLISON engine
Allison engines built in a shop as modern as flight itself. C. O. Herb. il Mach 46:164-9 Jl '40
1,090 hp. and up, 100 a week; General Motors V-type liquid-cooled Allison. il diags Fortune 22:50-1+ Jl '40

ALLOHYODESOXYCHOLIC acid
Sterols; oxidation of the diacetate of cholestanediol-3,6. R. E. Marker and others. Am Chem Soc J 62:645-6 Mr '40

ALLOPREGNANE
Sterols; persulfate oxidation of *allo*-pregnane derivatives. R. E. Marker and others. Am Chem Soc J 62:650-1 Mr '40

ALLOPREGNANEDIOLS
Sterols; *allo*-pregnanediols from tigogenin. R. E. Marker and E. Rohrmann. Am Chem Soc J 62:898-900 Ap '40

ALLOYS
Alloy castings, developments in ferrous and non-ferrous types. C. H. Lorig. Product Eng 11:317 Jl '40
Atmospheric corrosion of non-ferrous metals and alloys. C. W. Borgmann. bibliog Am Soc T M Proc 39:674-84; Discussion. diag 685-90 '39
Chemical heterogeneity in alloys. A. Portevin. diag Metal Prog 37:69-70 Ja '40
Condensed review of some recently developed materials, arranged alphabetically by trade names. Mach 47:148-55 O '40
Copper and nickel X-ray $K\beta_2$- and $K\beta_5$-emission lines and K-absorption limits in Cu-Ni alloys. H. Friedman and W. W. Beeman. Phys R 58:400-6 S 1 '40
Corrosion cracking; also data on residual stresses and various types of stress relief; correlated abstract. G. Sachs. il Iron Age 146:21-9 bibliog(p28-9) O 3 '40
Corrosion-resisting alloy industry. F. L. La Que. Ind & Eng Chem 32:1164-5 S '40
Electrodeposition of alloys, 1930 to 1940. C. L. Faust. Electrochem Soc Trans 78 (preprint 7):73-106 bibliog(235 references, p100-5) O '40; Excerpts. Iron Age 146:38 O 24 '40
Fatigue failure; effects of stress raisers on the fatigue strength of metals and alloys; correlated abstract. G. Sachs. bibliog il diag Iron Age 146:31-4 S 5; 36-40 S 12 '40
Fatigue problems in structural designs. A. V. Karpov. Metals & Alloys 10:346-52, 381-8 N-D '39
Heat treatment of non-ferrous alloys; as it was in 1915 and as it is in 1940. D. K. Crampton. Metal Prog 37:310 Mr '40
How to plate alloys. C. B. F. Young. bibliog diags Iron Age 146:36-40 O 17 '40
K-absorption edges and $K\beta_{2,5}$-emission lines of two Zn-Ni alloys. J. A. Bearden and W. W. Beeman. Phys R 58:396-9 S 1 '40
Metals and alloys in an air-conditioned automobile. H. Chase. il diag Metals & Alloys 12:141-4 Ag '40
Metals in 1940. Steel 107:160-4+ O 14 '40
Modulus of elasticity of metallic alloys; abstracts. L. Guillet, jr. Engineer 170: sup[Metallurgist] 129-30 O 25 '40; Metals & Alloys 11:MA344 Je '40
Physical metallurgy; what it is and how it progresses. O. E. Harder. il Min & Met 21:373-5 Ag '40
Preparation of high melting alloys with the aid of electron bombardment. R. Hultgren and M. H. Pakkala. il diags J Ap Phys 11:643-6 O '40
Researches into the structure of alloys. A. J. Bradley, W. L. Bragg and C. Sykes. diags Iron & Steel Inst J 141:63-142, pl 1-4 bibliog(p114-15, 121, 142) no 1 '40; Summary. Engineering 149:488 My 10 '40; Discussion. Iron & Steel Inst J 141:143-56 no 1 '40
Selection of die-casting alloys. W. T. Savage, jr. Am Mach 84:389 My 29 '40
Separation of alloys and isotopes by the centrifuge. H. C. Pollock. diags Phys R 57: 935-6 My 15 '40
Spectral emissivity (at 0.65μ) of some alloys for electrical heating elements. W. F. Roeser. Am Soc T M Proc 39:780-7 '39
Steam condensers; relative merits of different alloys. V. Walker. Elec R (Lond) 125:812-13 D 29 '39
Stress raisers; their effects on the mechanical properties of metals and alloys. G. Sachs. bibliog diags Iron Age 146:31-4 Ag 1; 34-7 Ag 8 '40
X-ray $K\beta_{2,5}$-emission lines and K-absorption limits of Cu-Zn alloys. J. A. Bearden and H. Friedman. bibliog Phys R 58:387-95 S 1 '40
Zur thermochemie der legierungen. F. Weibke. bibliog diags Angew Chemie 53: 74-80 F 17 '40

See also
Aluminum alloys
Amalgams
Babbitt metal
Bearing metals
Beryllium alloys
Bismuth alloys
Brass
Bronze
Chromium alloys
Cobalt alloys
Copper alloys
Illium
Invar
Iron alloys
Lead alloys
Magnesium alloys
Nichrome
Nickel alloys
Permalloy
Silicon alloys
Silver alloys
Solutions, Solid
Steel alloys
Stellite
Tin alloys
Tungsten alloys
Zinc alloys

ALLOYS, Hard facing
Hard facing, a process for the mechanical engineer. E. E. LeVan. il Mech Eng 62:459-60 Je '40
Metals in drilling; hard-facing materials. W. L. Nelson. il Oil & Gas J 38:50+ F 8 '40
See also
Tungsten carbide
ALLOYS, Heat resisting
Heat and corrosion resistant castings; variety of chrome-nickel-iron alloys. D. W. Talbott. il Steel 107:40-4 Jl 22 '40
Irons and steels at high temperatures; a composite of abstracts. Metals & Alloys 12:344 S '40
Materials of construction for chemical engineering equipment; ferrous and non-ferrous alloys; physical and mechanical properties; corrosion, heat and abrasion resistance; makers. Chem & Met Eng 47:supp S '40
Metals for high temperature service. J. J. Kanter. Metal Prog 38:463 O '40
Properties of the principal Cr-Fe alloys and Cr-Ni-Fe alloys; data sheets. Metal Prog 38:464-5 O '40
Valves and valve seat material; data sheet. S. D. Heron, O. E. Harder and M. R. Nestor. Metal Prog 38:470 O '40
Testing
Alloy casting research institute test block for heat-resisting alloys; its history, selection and utilization. O. E. Harder. il diags Am Soc T M Proc 39:626-36 '39
ALLOYS, Low melting
Low melting point alloy used in work-holding devices; Cerromatrix alloy. Mach 46:92 Mr '40
ALLYL bromide
Factors influencing polysulfone formation. M. S. Kharasch and E. Sternfeld. Am Chem Soc J 62:2559-60 S '40
Peroxide effect in the addition of reagents to unsaturated compounds; the addition of hydrogen iodide to propene, 1-bromopropene, allyl chloride, and allyl bromide. M. S. Kharasch, J. A. Norton and F. R. Mayo. bibliog Am Chem Soc J 62:81-6 Ja '40
Peroxide effect in the addition of reagents to unsaturated compounds; the effect of metals on the addition of hydrogen bromide to allyl bromide. M. S. Kharasch, W. R. Haefele and F. R. Mayo. Am Chem Soc J 62:2047-51 Ag '40
ALLYL chloride
Acute vapor toxicity of allyl chloride. E. M. Adams, H. C. Spencer and D. D. Irish. il J Ind Hygiene 22:79-86 F '40
Factors influencing polysulfone formation. M. S. Kharasch and E. Sternfeld. Am Chem Soc J 62:2559-60 S '40
Peroxide effect in the addition of reagents to unsaturated compounds; the addition of hydrogen iodide to propene, 1-bromopropene, allyl chloride, and allyl bromide. M. S. Kharasch, J. A. Norton and F. R. Mayo. bibliog Am Chem Soc J 62:81-6 Ja '40
ALLYL compounds
Allyl alcohol; its derivatives and their uses. Chem Age (Lond) 43:45 Jl 27 '40
Introduction of substituted vinyl groups; a rearrangement involving the migration of an allyl group in a three-carbon system. A. C. Cope and E. M. Hardy. Am Chem Soc J 62:441-4 F '40
ALMOND emulsin. See Emulsin
ALMOND oil
Mixed unsaturated glycerides of liquid seed fats; some non-drying oils. B. G. Gunde and T. P. Hilditch. Soc Chem Ind J 59:47-53 Mr '40
ALMONDS
New almond products. Business Week p65 O 19 '40
ALNICO
Magnet developed in laboratory lifts 4450 times its own weight. Blast F & Steel Pl 28:178 F '40
Sintering of Alnico. G. H. Howe. il Iron Age 145:27-31 Ja 11 '40; Abstract. Metals & Alloys 11:MA204 Ap '40
ALPHA rays
Alpha-particle groups from the disintegration of beryllium by deuterons. S. K. Allison, E. R. Graves and L. S. Skaggs. Phys R 57:158-9 Ja 15 '40
Angular distribution in the reaction F^{19} (p, α). E. Gerjuoy. Phys R 58:503-5 S 15 '40
Collisions of alpha-particles with carbon nuclei. G. A. Wrenshall. bibliog Phys R 57:1095-1100 Je 15 '40
Collisions of alpha-particles with chlorine nuclei. W. Hansen and G. A. Wrenshall. Phys R 57:750 Ap 15 '40
Distribution in angle of alpha-particles from lithium bombarded with protons. V. J. Young, A. Ellett and G. J. Plain. diag Phys R 58:498-500 S 15 '40
Distribution in angle of the long range alpha-particles from fluorine bombarded with protons. W. B. McLean, A. Ellett and J. A. Jacobs. diag Phys R 58:500-2 S 15 '40
Energy release from Be^9 $(d,\alpha)Li^7$ and the production of Li^7. E. R. Graves. bibliog Phys R 57:855-62 My 15 '40
Excited states of the O^{16} nucleus. D. M. Dennison. Phys R 57:454-6 Mr 1 '40
Ionization measurements of the radiations from radioactive substances. C. G. Montgomery and D. D. Montgomery. Franklin Inst J 229:597-600 My '40
K-electron capture and internal conversion in Cr^{51}. H. Walke, F. C. Thompson and J. Holt. il Phys R 57:171-6 F 1 '40
Multiple scattering of fast electrons and alpha-particles, and curvature of cloud tracks due to scattering. E. J. Williams. Phys R 58:292-306 Ag 15 '40
Radioactivity of sedimentary rocks and associated petroleum. K. G. Bell, C. Goodman and W. L. Whitehead. bibliog Am Assn Pet Geologists Bul 24:1529-47 S '40
Relative probability for the loss of neutrons and alpha-particles from an excited nucleus. J. M. Cork and J. Halpern. Phys R 57:667-8 Ap 15 '40
Resonance scattering of alpha-particles. M. E. Rose. bibliog Phys R 57:958-65 Je 1 '40
Response of photographic materials to atomic particles. T. R. Wilkins. bibliog il J Ap Phys 11:35-45 Ja '40
Scattering and stopping of fission fragments. N. Bohr. Phys R 58:654-5 O 1 '40
Scattering of alpha-particles by carbon and oxygen. A. J. Ferguson and L. R. Walker. bibliog diags Phys R 58:666-71 O 15 '40
Scattering of alpha-particles by nitrogen. G. Brubaker. Phys R 56:1181-3 D 15 '39
Theoretical maxima and minima in the anomalous scattering of alpha-particles. P. Seligmann. bibliog Phys R 58:492-8 S 15 '40
See also
Counters (electrons, ions, etc.)
Helium
Physiological effect
Toxicity of alpha and fast neutron radiation; abstract. R. D. Evans. Science 91:418-19 My 3 '40
ALPHA shares, Incorporated
Promoters guilty of fraud. Comm & Fin Chr 149:3543 D 2 '39
ALPHABET machine
Cathode-ray alphabet machine. A. W. Friend. il diag Electronics 13:40 Je '40
ALPHABETING
Making an index is a tough task. E. N. Teall. Inland Ptr 106:54-5 O '40
ALSIFILM
Electrical uses for synthetic mica. Elec W 112:1893 D 30 '39
Mica substitutes. Comp Air M 44:Adv 14 N '39
New sheet insulating material. H. A. Harrison. Elec R (Lond) 126:41 Ja 12 '40
Production of alsifilm. Ind & Eng Chem News ed 18:300 Ap 10 '40
Synthetic mica made from clay. Business Week p33-4 N 11 '39

ALTERNATING electric currents. See Electric currents, Alternating

ALTERNATORS. See Electric generators, Alternating current

ALTIMETERS
Aviation altitude via micro-waves. H. W. Roberts. il Radio N 23:12-14+ F '40
Electro-sonic altimeter for aircraft. J. H. Jupe. Electronics 13:54 Ap '40
Western Electric absolute altimeter. il Aviation 38:75 D '39

ALTITUDE, Influence of
Selection of military pilots. il Fortune 22:77-81+ S '40

ALTITUDE meters. See Altimeters

ALTITUDES
See also
Leveling

Measurement
Correction table for the effect of Coriolis acceleration on bubble sextant altitudes. J. Q. Stewart. R Sci Instr 11:310-11 O '40

ALTROSAN
Ring structure of D-altrosan. N. K. Richtmyer and C. S. Hudson. bibliog Am Chem Soc J 62:961-4 Ap '40

ALTROSE
Walden inversion in the altrose series. G. J. Robertson and W. Whitehead. Chem Soc J p319-23 Mr '40

ALUM
Aurora sewage plant problems; abstract. W. A. Sperry. Eng N 125:350 S 12 '40
Fractionated coagulation; a new procedure. R. A. Trelles, D. J. Bengolea and A. G. Poccard. Am Water Works Assn J 32:742-50 My '40
Retention of aluminum ion and hydrogen ion in papers. H. F. Launer. J Research Nat Bur Stand 23:663-74 D '39
Retention of fillers. S. W. Martin and W. R. Willets. Paper Tr J 110:111-17 bibliog(41 titles, p117) F 22 '40
Use of alum in sludge drying at Aurora. W. Sperry. Pub Works 71:28+ S '40
See also
Aluminum sulfate
Alums

ALUMEL
Stability of base-metal thermocouples in air from 800° to 2,200° F; chromel-alumel and iron-constantan. A. I. Dahl. J Research Nat Bur Stand 24:205-24 F '40

ALUMINA
Activated alumina adsorption. G. L. Simpson. il Chem & Met Eng 47:310-11 My '40
Activated alumina holds quality in insulating oil. J. E. Housley. il diags Elec W 113:1521-3+ My 18 '40
Adsorption analysis; the adsorption of higher fatty acids. H. G. Cassidy. bibliog Am Chem Soc J 62:3073-6 N '40
Alumina and silica refractories. H. M. Kraner. flow sheet il Iron Age 145:25-30 Ja 18; 34-9 Ja 25 '40
Alumina floc; X-ray diffraction study. H. B. Weiser, W. O. Milligan and W. R. Purcell. il Ind & Eng Chem 32:1487-90 N '40
Applications of activated alumina for the drying of air and other gases; abstract. G. L. Simpson. il Chem & Met Eng 47:229 Ap '40
Catalytic cracking of aliphatic hydrocarbons. G. Egloff and others. bibliog Am Chem Soc J 61:3571-80 D '39
Coprecipitation of barium ion with hydrous aluminum, chromic and ferric oxides in the presence of ammonium ion. L. Lehrman, J. Been and M. Manes. bibliog Am Chem Soc J 62:1014-18 My '40
Determination of organic sulfur in gases by the catalytic hydrolysis method. L. T. Jilk. il diags Am Soc T M Proc 39:1159-68; Discussion. 1169-70 '39
Effect of alumina on devitrification of sodium oxide-dolomite lime-silica glasses. W. B. Silverman. Am Cer Soc J 23:274-81 S '40
Effect of magnesia and low alumina in blast furnace slags on furnace operation and desulphurization. L. F. Sattele. Blast F & Steel Pl 28:659-64 Jl '40
Der einfluss von kieselsäure, titansäure, und tonerde auf die zähigkeit einer sauren synthetischen schlacke und berechnung der zähigkeit saurer und basischer hochofenschlacken aus der chemischen zusammensetzung. K. Endell and G. Brinkmann. Stahl & Eisen 59:1319-21 D 7 '39
Equilibria in the systems Na_2O-SiO_2-H_2O and Na_2O-Al_2O_3-H_2O at 25°C. J. W. Sprauer and D. W. Pearce. bibliog il J Phys Chem 44:909-16 O '40
Extraction of alumina from kaolin and other silicates. K. Kammermeyer and A. H. White. bibliog Am Inst Chem Eng Trans 36:683-700 O '40
Glass melts in the systems zirconia-alumina-silica and titania-alumina-silica. A. E. Badger and L. M. Doney. bibliog diag Glass Ind 21:309-11+ Jl '40
Identification of aluminum hydrate films of importance in silicosis prevention. L. H. Germer and K. H. Storks. bibliog il Ind & Eng Chem Anal ed 11:583-92 N 15 '39; Abstract. Bell System Tech J 19:152-5 Ja '40
Impact strength of transparent and translucent fused silica and of recrystallised alumina. B. Moore. Soc Chem Ind J 59: 119-20 Je '40
Iron oxide vs. alumina as a fluxing agent. A. J. Blank. Rock Prod 43:47-50 N '40
Making alumina at Mobile; straightline flow of materials. J. A. Lee. il Chem & Met Eng 47:674-7 O '40
Mat glazes and the lime-alumina-silica system. H. Wilson. diags Am Cer Soc Bul 18: 447-54 D '39
New emulsifier; gelatinous form of hydrated aluminium oxide; Unemul. R. K. Thomas. Chem Age (Lond) 42:215 Ap 13 '40
100% alumina or 100% silica refractories. F. A. Harvey. Brick & Clay Rec 97:44-5 O '40
Preparation of pure alumina from Manchurian clays; abstract. T. Arimori. Am Cer Soc J 23 (Cer A 19):15 Ja '40
Reducing the cost of polishing; abrasives, glue, proper drying. H. R. Power. il Mach 46:125-8 Mr '40; Same. Metal Finishing 38: 489-91 S '40
Retention of fillers. S. W. Martin and W. R. Willets. Paper Tr J 110:111-17 bibliog(41 titles, p117) F 22 '40
Translucent films of aluminum oxide. R. E. Vollrath. diags J Phys Chem 44:401-4 Ap '40
Über die zwischenzustände bei modifikations umwandlungen und die katalytische beeinflussung dieser vorgänge durch fremdgase. G. F. Hüttig. Angew Chemie 53:35-9 Ja 20 '40
Water softening; sign of the charge on colloidal particles of hydrous alumina, hydrous magnesium, and calcium carbonate. T. E. Larson and A. M. Buswell. bibliog il Ind & Eng Chem 32:132-3 Ja '40

ALUMINA brick
Use of cast alumina refractories in the glass industry. H. N. Baumann, jr. and A. A. Turner. il Am Cer Soc J 23:334-8 N '40; Abstracts. Glass Ind 21:226-7 My '40; Brick & Clay Rec 96:34 My '40

ALUMINA cement. See Cement—Alumina cement

ALUMINIUM, limited
Earnings, 1936-39. Comm & Fin Chr 151:236 Jl 13 '40

ALUMINUM
Absorption of high energy electrons. M. M. Slawsky and H. R. Crane. Phys R 56:1203-10 D 15 '39
Aluminum and its alloys. T. W. Bossert. Metal Prog 38:535 O '40
Aluminum and magnesium products with corresponding federal, army, navy, S.A.E. and A.S.T.M. specifications; reference book sheet. Product Eng 11:535-6 N '40
Aluminum and the defense program; national needs and national resources. W. W. Hay. map Annalist 56:536+ O 24 '40

ALUMINUM—*Continued*
Aluminum at new low. Business Week p44-5 Mr 30 '40
Aluminum chemical equipment. F. C. Frary. il Am Inst Chem Eng Trans 36:403-15 Je '40; Same. Chem Ind 46:714-17 Je '40
Aluminum labels and foils weaken bottle washing solutions. C. A. Shillinglaw and M. Levine. Food Ind 12:41 Ja '40
Aluminum price cut; new company enters field. Business Week p22 Ag 10 '40
Anomalous scattering of fast neutrons. M. R. MacPhail. bibliog Phys R 57:669-76 Ap 15 '40
L'approvisionnement en bauxite et en leucite de l'industrie de l'aluminium et de ses alliages. G. Kimpflin. Génie Civil 116:344-5 My 25 '40
As it was in 1915 and as it is in 1940. Metal Prog 37:292 Mr '40
Colaweld Metaljoiner for aluminum and all other metals. il Refrig Eng 40:54 Jl '40
Complicated factors accompany use of aluminum in galvanizing. W. G. Imhoff. Steel 106:54-5 Ap 29 '40
Effect of molten aluminum on various refractory brick. H. O. Burrows. il Am Cer Soc J 23:125-33 My '40
Electroplating on aluminum; with description of Travers process. A. Bregman. il Iron Age 145:40-2 F 8 '40
Flame shaping brass and aluminum; use of paste which acts as a refractory to protect metal alongside line of cut. H. H. Moss. il diags Steel 107:58-9+ S 2 '40
Fundamental relation between lattice constants and density. F. Foote and E. R. Jette. bibliog Phys R 58:81-6 Jl 1 '40
Future aluminum supply; John H. Walthall method of providing metallic aluminum from common clay. Comp Air M 45:6268 O '40
Gamma-rays from aluminum due to proton bombardment. G. P. Plain and others. diags Phys R 57:187-93 F 1 '40
Hungarian bauxite mines. S. S. de Finály. Ind & Eng Chem News ed 18:853 O 10 '40
Internal friction of aluminum. R. H. Randall and C. Zener. Phys R 58:472-3 S 1 '40
Iodofluoride method for the determination of copper; effects of antimony, aluminum, and calcium. W. R. Crowell and A. T. Spiher. Ind & Eng Chem Anal ed 12:147 Mr 15 '40
Law of magnus in single-crystal aluminum wires. W. Y. Ma and W. Band. Phys R 58:479-80 S 1 '40
Physical constants of pure aluminum. Am Mach 84:618 Ag 21 '40
Le premier Congrès italien de l'aluminium et du magnésium, Milan, 20-22 octobre 1939. R. Dupont. Chimie & Ind 43:449-52 Mr 20 '40
Principal *M*-series emission lines of tungsten and the *K* absorption of magnesium and aluminum. J. H. Munier, J. A. Bearden and C. H. Shaw. bibliog diag Phys R 58:537-43 S 15 '40
Reaction of zinc and iron in hot-dip galvanizing; additions of aluminum and tin. H. Bablik. il Metal Finishing 38:585-6 N '40
Refractories containing metallic aluminum, clay and silica. J. F. McMahon. Brick & Clay Rec 95:58 N '39
Sam Carbis had an idea; prospered in making aluminum ladders. il Iron Age 146:58-9 N 14 '40
Scattering of 50-kilovolt electrons by aluminum. C. T. Chase and R. T. Cox. diags Phys R 58:243-51 Ag 1 '40
Secondary emission from films of platinum on aluminum. P. L. Copeland. Phys R 58: 604-7 O 1 '40
Selection of safe metals for chemical equipment. P. V. Faragher. il Chem Ind 45:682-4 D '39; Same cond. Chem Age (Lond) 42: 35-6 Ja 20 '40
Separation of cadmium from zinc by the use of granular aluminum. F. E. Townsend and G. N. Cade, jr. Ind & Eng Chem Anal ed 12:163-4 Mr 15 '40
Tests for the validity of the X-ray crystal method for determining *N* and *e* with aluminum, silver and quartz. P. H. Miller, jr, and J. W. M. DuMond. bibliog Phys R 57:198-206 F 1 '40
Titanium and some properties of Cr-Mo steel for airplane tubing. G. F. Comstock. il Metals & Alloys 12:21-6 Jl '40
Townsend ionization coefficients for Ni and Al cathodes in an atmosphere of hydrogen. D. H. Hale. bibliog diag Phys R 56:1199-1202 D 15 '39

See also
Alumina

Analysis

Determination of aluminum by photometric fluorescence measurement. C. E. White and C. S. Lowe. bibliog Ind & Eng Chem Anal ed 12:229-31 Ap 15 '40
Identification of constituents in commercial aluminum alloys; data sheet. F. Keller and G. W. Wilcox. Metal Prog 38:530 O '40

Corrosion

Corrosion of different grades of aluminium sheet by weak acid-salt solutions and by an alkaline citrate-phosphate buffer solution in the presence and absence of oxygen. J. M. Bryan and T. N. Morris. bibliog Soc Chem Ind J 59:159-62 Ag '40

See also
Aluminum alloys—Corrosion

Electrotechnical uses

Aluminium. Electrician 123:455 N 24 '39
Aluminum replaces copper conductors in Italy and Germany. F. Giolitti. Metal Prog 37: 658-9 Je '40
Vibration of overhead line conductors. E. W. W. Double and W. D. Tuck. il diags Inst E E J 86:129-50 bibliog(44 titles, p149-50) F '40; Excerpts. Electrician 122:468-9 Ap 14 '39; Discussion. Inst E E J 86:150-60 F '40

Finishing

Finishes for aluminum. Am Mach 84:631-2 Ag 21 '40
Surface treatment of aluminium castings. Engineering 150:110 Ag 9 '40

Metallography

Effect of service stresses on impact resistance, X-ray diffraction patterns, and microstructure of 25S aluminum alloy. J. A. Kies and G. W. Quick. il diags U S Nat Advisory Com for Aeronautics 1939:353-63 '40

Paint

Aluminium paint as a fire hazard. Gas J (Lond) 230:387 My 22 '40; Same abr. Oil Paint & Drug Rep 138:5+ Jl 15 '40
Fire hazards with aluminium paint. Gas J (Lond) 231:171 Jl 24 '40; Same abr. Engineer 170:62 Jl 26 '40

Prices

Aluminum (no. 1 virgin, 99 per cent plus) at New York, cents a pound, less-than-ton lots, 1922-1939; tabulation. Iron Age 145:175 Ja 4 '40

Protection

Anodic coatings; abstracts of ASTM papers. Iron Age 146:44-5 Jl 4 '40
Anodizing aluminum; composite of abstracts. Metals & Alloys 12:205-6 Ag '40
Finishes for aluminum. Am Mach 84:631-2 Ag 21 '40
Paint-receptive aluminum; Pylumin process. Sci Am 163:24-5 Jl '40
Protective coating sprayed on aluminum castings; evaporator unit in a domestic refrigerator. R. M. Major. Metal Prog 38:295-6 S '40

Testing

Corrosion of different grades of aluminium sheet by weak acid-salt solutions and by an alkaline citrate-phosphate buffer solution in the presence and absence of oxygen. J. M. Bryan and T. N. Morris. bibliog Soc Chem Ind J 59:159-62 Ag '40

ALUMINUM—Testing—*Continued*
Mammoth testing machine installed; laboratory of the Aluminum corporation of America. il Automotive Ind 82:363 Ap 15 '40
Most powerful testing machine goes into research service; Aluminum corp. of America. il Eng N 124:360 Mr 14 '40

See also
Aluminum, Structural—Testing

Uses

Aluminum in high speed engines; abstract. F. Jardine. diag Automotive Ind 82:565-6 Je 15 '40
Light-weight transportation units. F. Jardine, A. H. Woollen and D. S. Mussey. il diags S A E J 45:526-34 D '39; Abstracts. Automotive Ind 80:660-2 Je 1 '39; Automobile Eng 29:267-8 Jl '39
Metal film for motion pictures. W. M. Mitchell. il Metals & Alloys 10:369-70 D '39
Uses of aluminum in the food industries; abstract. A. Montefredine. Food Ind 12:92-3 Ap '40

Welding

Atomic welding; high strength joints produced between aluminum and aluminum alloys or between ferrous metals; Colaweld process. J. Steel. Steel 106:66+ Ja 15 '40
Automatic carbon arc welds plate for aluminum tank cars. il Steel 106:69 My 20 '40; Refrig Eng 39:402 Je '40
Better, faster welding is done automatically in aluminum. G. O. Hoglund. Steel 107:184 O 14 '40
Process control of spot welding. C. L. Hibert. il Iron Age 145:43-7 Mr 7; 31-4 Mr 14 '40
Punkt- und nahtschweissung von leichtmetallen. C. Haase. il V D I 84:89-96 F 10 '40
Spot welded aluminum aircraft structures. C. W. Dodge. il diags Product Eng 11: 388-92 S '40
Spot welding aluminum by Hi-wave welder. il diags Iron Age 145:42-5 Ap 18 '40
Spot-welding machines with ignitron control for dealing with aluminium. il Engineering 148:509 N 3 '39
Spot welding of aluminum for aircraft. L. P. Wood. Metal Prog 38:274+ S '40
Spot welding of light alloys. diags Engineer 169:189-90 F 23 '40
Welding aluminum aircraft alloys. M. Sciaky. il diag Iron Age 145:33-5 Mr 21 '40
Welding of aluminum. G. O. Hoglund. Metal Prog 38:483 O '40

ALUMINUM, Clad
Pre-finished clad aluminum; Krome alume process. il Iron Age 145:28 F 22 '40

ALUMINUM, Powdered
Aluminum powder improves the strength of silicon carbide and graphite products. J. F. McMahon. Brick & Clay Rec 95:58 N '39
Use of aluminum metal in the ceramic industry; properties of refractories produced with mixtures of aluminum, fire clay, and grog. H. G. Schurecht and H. I. Sephton. Am Cer Soc J 23:259-64 S '40

ALUMINUM, Structural
L'étude des changements d'échelle rendus possibles par l'emploi de métaux légers, dans les charpentes. R. de Fleury. Génie Civil 116:73 Ja 27 '40

See also
Cars, Aluminum

Testing

Fatigue machines for testing structural units. R. L. Templin. bibliog il diags Am Soc T M Proc 39:711-21; Discussion. 722 '39
Power for testing; Templin machine. il Steel 106:62-3 Mr 4 '40; Iron Age 145:63 Mr 7 '40; Marine Eng 45:110 Ap '40; Ry Mech Eng 114:124 Mr '40; Mach 46:162-3 Ap '40
Tests of 28ft. span aluminium alloy trusses. R. L. Templin, E. C. Hartmann and H. N. Hill. Engineer 170:61-2 Jl 26 '40

See also
Aluminum alloys—Testing

ALUMINUM alloys
Ageing of high-purity 4 per cent. copper-aluminium alloy; abstract. M. L. V. Gayler and R. Parkhouse. Engineering 149:548 My 31 '40
Aluminum aircraft forgings. L. W. Davis. Metal Prog 38:515-16 O '40
Aluminum aircraft fuel tanks. E. H. Dix, jr. and R. B. Mears. bibliog S A E J 46: 215-20 My '40
Aluminum alloy bearings offer high resistance to fatigue. E. H. Dix, jr. Steel 107:164+ O 14 '40
Aluminum alloy castings. il Product Eng 11:28-31 Ja '40
Aluminum alloy heat-treatment; Ajax-Hultgren furnaces. Aero Digest 37:172 Jl '40
Aluminum alloy practice in Europe; with trade name list, analyses, properties, etc. E. V. Pannell. il Iron Age 145:25-9 Je 13: 146:35-9 Ag 1 '40
Aluminum alloy with tensile strength up to 33,000 lb; T-1 alloy. Automotive Ind 82:466 My 15 '40
Aluminium alloys and the modern steam engine. E. D. Iliff. Engineer 168:597-8 D 15 '39
Aluminum alloys for bearings. W. C. Devereux. Metal Prog 37:552 My '40
Aluminum and its alloys. T. W. Bossert. Metal Prog 38:535 O '40
Aluminum chemical equipment. F. C. Frary. il Am Inst Chem Eng Trans 36:403-15 Je '40; Same. Chem Ind 46:714-17 Je '40
Aluminium-silicon alloy pigments. Can Chem & Process Ind 23:599 D '39
Atomic distribution in aluminum-silver alloys during aging. C. S. Barrett and A. H. Geisler. bibliog il diags J Ap Phys 11: 733-9 N '40
Bearing metals; suitability in relation to modern requirements. M. Melhuish. Automobile Eng 30:305 O '40
Beryllium and some of its aluminum alloys. C. B. Sawyer and B. Kjellgren. bibliog il Metals & Alloys 11:163-7 Je '40
Brazing aluminum alloy parts. G. O. Hoglund. il Iron Age 145:34-6+ Ja 11 '40
Brazing aluminum alloys. il Steel 106:60, 62+ Ap 15 '40
Brazing aluminum alloys. A. H. McGraw. il diags Product Eng 11:176-9 Ap '40
Corrosion of metals used in aircraft. W. Mutchler. bibliog J Research Nat Bur Stand 25:75-82, pl 1-12 Jl '40
Definition of creep resistance of aluminum alloys; abstract. F. von Göler and W. Jung-König. Metals & Alloys 11:MA154 Mr '40
Deformation phenomena in deep drawing and suitability of aluminum alloys for deep drawing work; abstract. H. Guth and G. Schmidtke. Metals & Alloys 12:94 Jl '40
Developing maximum physicals in aircraft parts. A. G. Cordy. il plan Steel 106:44-6, 72-3 Je 24 '40
Die castings; new repairing alloy; Alumend. il Automobile Eng 30:280 S '40
Effect of various additions on the crystallization of eutectic aluminum-silicon alloys; abstract. G. Gürtler and E. Schulz. Metals & Alloys 11:MA258+ My '40
Electroplating colalloy, aluminum and its alloys. Automotive Ind 83:435 O 15 '40; Metal Finishing 38:600-1 N '40
Fatigue of light metals; a composite of abstracts. Metals & Alloys 12:572 O '40
Festigkeit und korrosionsbeständigkeit geschweisster aluminiumlegierungen; abstract. E. von Rajakovics. Chemische Fabrik 13: 74-5 F 24 '40
Festigkeitseigenschaften von leichtmetallschrauben. F. Bollenrath, H. Cornelius and W. Siedenburg. il diags V D I 83:1169-73 N 4 '39
Grinding, polishing and buffing light alloys; abstract. Metals & Alloys 11:MA341+ Je '40
Heat treating aluminum alloys; a composite of abstracts. Metals & Alloys 12:93-4 Jl '40
Identification of constituents in commercial aluminum alloys; data sheet. F. Keller and G. W. Wilcox. Metal Prog 38:530 O '40

ALUMINUM alloys—*Continued*
Lead bearing aluminum-magnesium alloys; abstract. H. Bauer. Metals & Alloys 11: MA288 My '40
Light-weight Alligator of aluminum alloy; new swamp or jungle amphibian conveyance. il Metals & Alloys 10:371 D '39
Machining of aluminum alloys cast or wrought. W. A. Dean. il Metal Prog 37:169-73 F '40
Materials in the design of mechanical shovels. J. Cooper. Mech Handling 27:60-1 Mr '40
Metal film for motion pictures. W. M. Mitchell. il Metals & Alloys 10:369-70 D '39
Metal shapes for glass block construction. diag Steel 106:75 Mr 4 '40
Metals and alloys in home washing machines. H. Chase. il diags Metals & Alloys 11:65-8 Mr '40
Modern aircraft materials and their testing. K. R. Jackman. il S A E J 47:461-73+ N '40
Non-ferrous foundry practice. J. Laing and R. T. Rolfe. 336p $6 Van Nostrand '40
Punkt- und nahtschweissung von leichtmetallen. C. Haase. il V D I 84:89-96 F 10 '40
Recent developments in propeller blade design. L. H. Enos. il Aero Digest 37:48-51 Ag '40
Relation between solid solubility characteristics and tensile properties of common aluminum alloying elements; abstract. L. W. Kempf. Steel 105:49-50 D 11 '39
Repair welding, brazing and soldering of light metal castings. E. R. Thews. diags Metal Ind 38:84-6, 149-53 F-Mr '40
Resistance of aluminum-magnesium alloys to attack by sodium carbonate solutions. R. B. Mears and L. J. Benson. bibliog Ind & Eng Chem 32:1343-7 O '40
Rolling and drawing of wire from alloys of the 24S type; abstract. A. T. Bundin. Metals & Alloys 12:536 O '40
Some stress-strain studies of metals. R. L. Templin and R. G. Sturm. il J Aeronautical Sci 7:189-98 Mr '40
Spot welding of light alloys. diags Engineer 169:189-90 F 23 '40
Stress corrosion of wrought aluminum-magnesium alloys; abstract. A. Mühlenbruch and H. J. Seemann. Metals & Alloys 11: MA99 F '40
Tools and speeds for machining aluminum alloys. W. A. Dean. il diags Metal Prog 37: 553-8 My '40
L'usinage des alliages légers. Poulain. Génie Civil 116:56 Ja 20 '40
Weight saving; the application of aluminium alloys to commercial chassis. il diags Automobile Eng 30:61-2 F '40
Welding aluminum aircraft alloys. M. Sciaky. il diag Iron Age 145:33-5 Mr 21 '40
Working of aluminum alloys; data on cast and wrought alloys, hot and cold forming, applications, heat treatment, machining, characteristics, joining and finishing. il diags Am Mach 84:617-32 Ag 21 '40
Yttrium-aluminum alloys. W. Kroll. bibliog il Metals & Alloys 10:332-3 N '39

See also
Alnico
Aluminum bronze
Duralumin

Corrosion

Electrode potential measurements as a means of studying the corrosion characteristics of wrought aluminum alloys of the duralumin type. H. L. Logan. pls diags J Research Nat Bur Stand 25:315-25 S '40

Testing

Column strength of two extruded aluminum-alloy H-sections. W. R. Osgood and M. Holt. bibliog il diags U S Nat Advisory Com for Aeronautics 1939:289-312 '40
Correlation of some mechanical tests of aluminum alloys with X-ray tests. T. A. Triplett and W. L. Howland. il Am Soc T M Proc 39:749-63; Discussion. 764-8 '39
Effect of continuous weathering on light metal alloys used in aircraft. W. Mutchler. bibliog il diags U S Nat Advisory Com for Aeronautics 1939:395-421 '40; Excerpt (Conclusions). Engineer 169:sup[Metallurgist] 90-1 F 23 '40
Effect of service stresses on impact resistance, X-ray diffraction patterns, and microstructure of 25S aluminum alloy. J. A. Kies and G. W. Quick. bibliog il diags U S Nat Advisory Com for Aeronautics 1939: 343-64 '40
Der einfluss von betriebspausen auf die zeit- und dauerfestigkeit metallischer werkstoffe. F. Bollenrath and H. Cornelius. il diags V D I 84:295-9 My 4 '40
Non-uniform yielding in metals during a tensile test. C. F. Elam. diags Engineering 149:325-7, pl 17 Mr 29 '40
Pack method for compressive tests of thin specimens of materials used in thin-wall structures. C. S. Aitchison and L. B. Tuckerman. bibliog il U S Nat Advisory Com for Aeronautics 1939:133-43 '40
Some mechanical tests on aluminum alloys 14S-T and 24S-T. W. B. Mechling and S. S. Jack. il diags Am Soc T M Proc 39: 769-78; Discussion. F. M. Howell. 779 '39
Tests of 28ft. span aluminium alloy trusses. R. L. Templin, E. C. Hartmann and H. N. Hill. Engineer 170:61-2 Jl 26 '40

ALUMINUM bromide

Certain trialkylated benzenes and their compounds with aluminum chloride and with aluminum bromide. J. F. Norris and J. N. Ingraham. Am Chem Soc J 62:1298-1301 My '40
Intermediate complexes in the Friedel and Crafts reaction. J. F. Norris and J. E. Wood, 3d. Am Chem Soc J 62:1428-32 Je '40
Preparation of anhydrous aluminum bromide. P. K. Winter and P. L. Cramer. bibliog diag Ind & Eng Chem 32:856-7 Je '40; Abstract. Chem Age (Lond) 42:347 Je 29 '40
Reaction of boron fluoride with aluminum chloride or bromide. E. L. Gamble, P. Gilmont and J. F. Stiff. bibliog Am Chem Soc J 62:1257-8 My '40

ALUMINUM bronze

Aluminum bronze. 151p bibliog(p135-43) gratis Copper development assn, London '38
Aluminum bronze; effect of composition on design use. W. W. Edens. il Product Eng 11:112-15 Mr '40
Aluminum-bronze gravity die casting. A. Street. il Engineering 149:159-61, 190-1 F 16-23 '40; Abstract. Metals & Alloys 12: 76+ Jl '40
Aluminum-bronze welds. W. B. Scott. il Steel 107:56, 58, 60 N 11 '40

ALUMINUM cars. See Cars, Aluminum

ALUMINUM chloride

Action of aluminum chloride on aromatic hydrocarbons; the 1,3-dimethyl-4-propylbenzenes. D. Nightingale and B. Carton, jr. bibliog Am Chem Soc J 62:280-3 F '40
Alkylation and the action of aluminum halides on alkylbenzenes. D. V. Nightingale. Chem R 25:329-76 bibliog(105 titles, p374-6) D '39
Catalytic alkylation of isobutane with gaseous olefins. F. H. Blunck and D. R. Carmody. bibliog Ind & Eng Chem 32:328-30 Mr '40
Certain trialkylated benzenes and their compounds with aluminum chloride and with aluminum bromide. J. F. Norris and J. N. Ingraham. Am Chem Soc J 62:1298-1301 My '40
Condensation of esters with aromatic hydrocarbons by means of aluminum chloride. J. F. Norris and P. Arthur, jr. Am Chem Soc J 62:874-7 Ap '40
Condensations of certain active hydrogen compounds effected by boron trifluoride and aluminum chloride. D. S. Breslow and C. R. Hauser. bibliog Am Chem Soc J 62:2385-8 S '40
Deposition potentials of metals from fused alkali chloride-aluminum chloride baths. W. H. Wade, G. O. Twellmeyer and L. F. Yntema. Electrochem Soc Trans 78 (preprint 17):229-42 O '40

ALUMINUM chloride—*Continued*
Fries reaction. A. H. Blatt. Chem R 27: 413-36 bibliog(60 references, p435-6) O '40
Preparation of nitriles and amides; reactions of esters with acids and with aluminum chloride; the use of the salt $NaCl \cdot AlCl_3$ in the Friedel and Crafts reaction. J. F. Norris and A. J. Klemka. Am Chem Soc J 62:1432-5 Je '40
Reaction of boron fluoride with aluminum chloride or bromide. E. L. Gamble, P. Gilmont and J. F. Stiff. bibliog Am Chem Soc J 62:1257-8 My '40
Studies on hydrogen cyanide; the constitution of the double compound of hydrogen cyanide and aluminium chloride. L. E. Hinkel and T. I. Watkins. Chem Soc J p407-9 Ap '40

See also
Friedel-Crafts reaction

ALUMINUM company of America
Alcoa has new plant; Vancouver unit will add 60,000,000 lb. annually. Business Week p25+ Ag 24 '40
Alcoa settlement. Business Week p12 Jl 20 '40
Alcoa to build dam as part of own Tennessee project. Business Week p20 Ag 3 '40
Aluminum and the defense program; national needs and national resources. W. W. Hay. map Annalist 56:536+ O 24 '40
Buys more U.S. power. Comm & Fin Chr 151:2483 O 26 '40
Expanding use of aluminum. G. R. Gibbons. Blast F & Steel Pl 28:86 Ja '40
Expansion program. Ind & Eng Chem News ed 18:94 F 10 '40
Expected to set another new record in volume and earnings. J. C. Clifford. il Mag of Wall St 66:155-7+ My 18 '40
Power demands largest in aluminum production. Elec W 114:1173 O 19 '40; Same abr. Business Week p35-6 O 19 '40
Progress in aluminum. G. H. Gibbons. Steel 106:325 Ja 1 '40

ALUMINUM compounds
Aluminum salts output, 1938 and 1939. Oil Paint & Drug Rep 137:58 Ap 29 '40
Removal of silica from water. A. S. Behrman and H. Gustafson. bibliog il diag Ind & Eng Chem 32:468-72 Ap '40
Structure of the aluminium lakes of some azo-dyes and of alizarin. W. F. Beech and H. D. K. Drew. Chem Soc J p603-7 My '40

See also
Alum

ALUMINUM dust
Aluminum dust combats silicosis. Eng N 125: 17 Jl 4 '40
Explosibility of aluminum powder-silica dust clouds. R. B. Mason and C. S. Taylor. Ind & Eng Chem 32:67-8 Ja '40
New treatment for silicosis; aluminum powder; abstract. D. Irwin. Science 92:sup10 O 18 '40
Prevention of silicosis; experimental investigations on the action of certain non-siliceous dusts and silica in the origin and development of silicosis. C. Naeslund. J Ind Hygiene 22:1-30 bibliog(p28-30) Ja '40

ALUMINUM fluosilicate. See Topaz

ALUMINUM foil
Aluminum labels and foils weaken bottle washing solutions. C. A. Shillinglaw and M. Levine. Food Ind 12:41 Ja '40
Multiple scattering of fast electrons; lead foils, carbon laminae and aluminum foil. C. W. Sheppard and W. A. Fowler. bibliog diags Phys R 57:273-80 F 15 '40
Thermal test coefficients of aluminum insulation for buildings. G. B. Wilkes, F. G. Hechler and E. R. Queer. diags Heating-Piping 12:68-72 Ja '40
Translucent films of aluminum oxide. R. E. Vollrath. diags J Phys Chem 44:401-4 Ap '40

ALUMINUM founding
Aluminum alloy castings. il Product Eng 11:28-31 Ja '40
Aluminum alloy practice in Europe; with trade name list, analyses, properties, etc. E. V. Pannell. il Iron Age 145:25-9 Je 13 '40
Casting aluminum cylinder heads for aircraft; Wright aeronautical corp. il Foundry 68:46-9+ N '40
Casts aluminum lining for giant tire mold. P. Dwyer. il Foundry 68:50-1+ O '40
Effect of molten aluminum on various refractory brick. H. O. Burrows. il Am Cer Soc J 23:125-33 My '40
Moulding and casting aluminum alloy cylinder heads; Wright aeronautical corp. il Aero Digest 37:114-15 N '40
Nonferrous castings made in modern foundry; Hobart mfg. co.; electric food-preparing machinery. il Foundry 68:40-2+ S '40
Problems of porosity in aluminum-alloy castings. Engineering 150:296 O 11 '40

ALUMINUM gangplanks. See Gangplanks, Aluminum

ALUMINUM halides. See Aluminum bromide; Aluminum chloride

ALUMINUM hydrate
Identification of aluminum hydrate films of importance in silicosis prevention. L. H. Germer and K. H. Storks. bibliog il Ind & Eng Chem Anal ed 11:583-92 N 15 '39; Abstract. Bell System Tech J 19:152-5 Ja '40

ALUMINUM hydroxide
Removal of silica from water by cold process. L. D. Betz, C. A. Noll and J. J. Maguire. bibliog il Ind & Eng Chem 32:1320-3 O '40

ALUMINUM industry and trade
Aluminum and nickel. Min & Met 21:428-9 S '40
Aluminum at new low. Business Week p44-5 Mr 30 '40
Aluminum price cut; new company enters field. Business Week p22 Ag 10 '40
State department asks manufacturers of aluminum and molybdenum to bar sales to nations which bomb indiscriminately. Comm & Fin Chr 149:3951 D 23 '39

See also
Aluminum company of America

Advertising

Activated Al: does great work for aluminum. R. T. Griebling. il Ptr Ink 191:17-19 My 10 '40
Preparing for peace in our time; Northern aluminium company. il Adv & Sell 33:20-1 Je '40

Finance

See also
Aluminum company of America

Statistics

Aluminum corp. of America sales in the period ending last December, as compared with the last five years of the twenties; pictograph. Sales Management 46:42-3 My 15 '40
Aluminum, 1936-1939. Survey of Cur Business 1940 Sup p135 [supplemented in monthly numbers]

Canada

Aluminum is news; Aluminum company of Canada contract with Britain. Business Week p46 Mr 9 '40
Conserving aluminum. Business Week p68-9 S 14 '40

Germany

Germany's aluminum economy. R. J. Anderson. il Iron Age 145:40-4 Je 20 '40

Great Britain

Aluminium under control. Economist 138:219 F 3 '40
British aluminium company report and ordinary general meeting. Economist 138:580, 659 Mr 30-Ap 6 '40

ALUMINUM isopropoxide
Studies in the polyene series; oxidation of vitamin-A with aluminium isopropoxide. I. M. Heilbron, A. W. Johnson and W. E. Jones. Chem Soc J p1560-3 O '39

ALUMINUM isopropylate
Reduction of α-bromo ketones by aluminum isopropylate. P. G. Stevens and O. C. W. Allenby. Am Chem Soc J 62:3264-5 N '40
Reduction of α-bromo-ketones by aluminum isopropylate; with a note on the isomeric amino-alcohols of the ephedrine series. P. G. Stevens, O. C. W. Allenby and A. S. DuBois. bibliog Am Chem Soc J 62:1424-8 Je '40

ALUMINUM metallurgy
Air force targets in Germany; Bitterfeld aluminum works. il Engineer 170:263-5 O 25 '40
Alumina from phonolite; new German process. Chem Age (Lond) 42:supl6 Ap 6 '40
Electrometallurgy, 1939. A. A. Center. Eng & Min J 141:85-6 F '40
Making alumina at Mobile; straight-line flow of materials. J. A. Lee. il Chem & Met Eng 47:674-7 O '40
Rush job for increased aluminum needs; first plant to utilize hydro-electric power for producing aluminum in Northwest, Vancouver, Wash. il Eng N 125:630-1 N 7 '40

ALUMINUM oxide. See Alumina

ALUMINUM pipes. See Pipes, Aluminum

ALUMINUM silicates
Development and preliminary studies of pinite; a rock composed of hydrous aluminum silicates. G. A. Page, F. F. Raine and V. R. Sullivan. bibliog il Am Cer Soc J 23: 71-7 Mr '40
Extraction of alumina from kaolin and other silicates. K. Kammermeyer and A. H. White. bibliog Am Inst Chem Eng Trans 36:683-700 O '40

See also
Albite
Analcite
Cyanite
Feldspar
Fuller's earth
Kaolin
Montmorillonite
Pyrophyllite
Topaz

ALUMINUM sulfate
Alumina floc; X-ray diffraction study. H. B. Weiser, W. O. Milligan and W. R. Purcell. il Ind & Eng Chem 32:1487-90 N '40
Equipment for storage and distribution of liquid alum in the paper mill. E. V. White. Paper Ind 22:394+ Jl '40
Retention of aluminum ion and hydrogen ion in papers. H. F. Launer. bibliog Paper Tr J 110:29-34 Mr 7 '40
Sedimentation of suspensions. L. T. Work and A. S. Kohler. bibliog diag Ind & Eng Chem 32:1329-34 O '40; Same. Am Inst Chem Eng Trans 36:701-19 O '40
System silver sulfate—aluminum sulfate—water. J. A. Addlestone, L. R. Marsh and G. C. Hall. J Phys Chem 44:256-9 F '40
What is filter alum? Eng N 124:329 F 29 '40

See also
Alums

Analysis
Determination of free acid in aluminum sulphate and alum cake; abstract. J. R. Simmons. Paper Ind 22:628 S '40

ALUMINUM sulfites
Sulfites of aluminum and iron at 30°. W. F. Bartz. Am Chem Soc J 62:2240-1 Ag '40

ALUMINUM tanks. See Tanks, Aluminum

ALUMINUM ware
Not poison. Sci Am 161:333 D '39

ALUMINUM work
Accuracy in aluminum; fabrication of drying reels, part of rayon-yarn processing machines. L. A. Corey. il diags Am Mach 83: 1039-40 D 13 '39
Aluminum alloy practice in Europe; with trade name list, analyses, properties, etc. E. V. Pannell. il Iron Age 145:25-9 Je 13; 146:35-9 Ag 1 '40
Aluminum job shop; oldest plant of the Aluminum co. of America. il Iron Age 146: 46-9 S 19 '40
Brazing aluminum alloy parts. G. O. Hoglund. il Iron Age 145:34-6+ Ja 11 '40
Developments in aluminum finishes. R. E. Pettit. il Metal Ind 38:4 Ja '40
Drawing of aluminum. L. J. Weber and J. T. Weinzierl. il diags Am Soc for Metals Trans 27:1052-71 D '39
Fabricating Presteel aluminum alloy propeller hub domes; Worcester pressed steel co. H. T. Burke and C. C. Higgins. il Aero Digest 36:87+ My '40
Machining of aluminum alloys cast or wrought. W. A. Dean. il Metal Prog 37:169-73 F '40
Radius turning tool for machining recess in aluminum casting. diag Mach 46:273 D '39
Tools and speeds for machining aluminum alloys. W. A. Dean. il diags Metal Prog 37:553-8 My '40
Working of aluminum alloys; data on cast and wrought alloys, hot and cold forming, applications, heat treatment, machining, characteristics, joining and finishing. il diags Am Mach 84:617-32 Ag 21 '40

See also
Aluminum—Welding

ALUMINUM workers
Alcoa settlement. Business Week p42 Jl 20 '40

ALUMS
Crystal-chemical studies of the alums; further solid solution studies. H. P. Klug and L. Alexander. bibliog Am Chem Soc J 62: 2993-5 N '40
Crystal-chemical studies of the alums; solid solutions of potassium aluminum alum and ammonium aluminum alum. H. P. Klug and L. Alexander. bibliog Am Chem Soc J 62: 1492-3 Je '40
Crystal-chemical studies of the alums; the purple chrome alums. H. P. Klug. bibliog Am Chem Soc J 62:2992-3 N '40
Distribution of isomorphous salts in solubility equilibrium between liquid and solid phases. A. E. Hill, G. S. Durham and J. E. Ricci. bibliog Am Chem Soc J 62:2723-32 O '40
Paramagnetic relaxation times for titanium and chrome alum. J. H. Van Vleck. bibliog Phys R 57:426-47 Mr 1 '40; Correction. 57: 1052 Je 1 '40
Ternary systems; some further solid solutions of alums, at 25°. A. E. Hill, N. O. Smith and J. E. Ricci. bibliog diags Am Chem Soc J 62:858-66 Ap '40

AMALGAMATED clothing workers of America
America's labor dictators. L. Kirshbaum. 158p $1 Industrial forum publications, 26 Clinton place, New York '40
Bathrobe war ends; New York jurisdictional row. Business Week p30 Mr 23 '40
Big bathrobe battle; Dubinsky's union declares war on Hillman's Amalgamated. Business Week p16 N 25 '39
Study in management prerogatives; Hart Schaffner & Marx and the C.I.O. M. Kestnbaum. Harvard Business R 19 no 1:88-98 [S] '40
Union insurance. Business Week p32 Ap 13 '40

AMALGAMATION
Amalgamation; de Phily patent. Can Min J 61:160-1 Mr '40

AMALGAMS
Preparation of Grignard reagents from magnesium amalgams. E. G. Rochow. Am Chem Soc J 61:3591 D '39
Reduction by amalgamated zinc; significant factors in efficiency. H. W. Stone and D. N. Hume. bibliog diag Ind & Eng Chem Anal ed 11:598-602 N 15 '39

AMBLYGONITE
Rare metals in industry; some North Australian sources. Chem Age (Lond) 43:163 O 5 '40

AMBULANCE trains. See Hospital trains

AMERICA

Antiquities
What is a pre-Amerindian? W. D. Strong. bibliog Science 91:594-6 Je 21 '40

AMERICA fore companies
Annual statements, 1939. East Underw 41:1+ Ja 26 '40

AMERICAN academy of arts and sciences
Francis Amory septennial prize. Science 90: 610 D 29 '39
Officers for the year 1940-41. Science 91: 471-2 My 17 '40
Permanent science fund. Science 91:12-13 Ja 5 '40
Permanent science fund. Science 92:423-4 N 8 '40

AMERICAN academy of ophthalmology and otolaryngology
Annual meeting, Chicago, Oct. 11. Science 90: 437 N 10 '39

AMERICAN airlines, inc.
Air link to Mexico; American airlines gets concession; application now before CAB. Business Week p20+ N 16 '40
Earnings, 1936-39. Comm & Fin Chr 150:1924 Mr 23 '40
Listing; sale of stock. Comm & Fin Chr 150:121 Ja 6 '40
1939 banner year for company. Comm & Fin Chr 149:4163 D 30 '39
Registers with SEC. Comm & Fin Chr 151: 2338-9 O 19 '40
Stock offered. Comm & Fin Chr 151:2632-3 N 2 '40

AMERICAN and foreign power company, inc.
Annual report, 1939. Comm & Fin Chr 150: 3036 My 11 '40
SEC grants company wide exemptions from Holding company act. Comm & Fin Chr 149: 4164-5 D 30 '39

AMERICAN arbitration association
Arbitration circles the globe; International panel to handle war contracts. Business Week p18 D 30 '39
First aid treatment for labor ills. W. Waldron. il Nation's Business 28:24+ Je '40

AMERICAN association for the advancement of science
Academy conference, 13th annual session, Columbus, Dec. 27. Science 92:82-5 Jl 26 '40
Annual honorary junior membership awards. O. W. Caldwell and K. F. Oerlein. Science 91:596 Je 21 '40
Columbus meeting. Science 91:101-24, sup40-6 F 2; sup7 F 9 '40
Finances. F. R. Moulton. Science 91:195-6 F 23 '40
Meeting, 106th, of the association and the 24th meeting of the Pacific division, Seattle. Science 92:45-50 Jl 19 '40
Membership. F. R. Moulton. Science 91:219-20 Mr 1 '40
Non-technical books on science. F. R. Moulton. Science 90:590-1 D 22 '39
Officers. Science 97:39-40 Ja 12 '40
Preliminary announcement of the Columbus, Ohio, meeting. Science 90:499-507 D 1 '39
Preliminary announcement of the Seattle meeting. F. R. Moulton, ed. Science 91: 461-8 My 17 '40
Summarized proceedings from 1934 to 1940; announcement; with the preface. Science 92:221-2 S 6 '40

Southwestern division
Tucson meeting. Science 92:403-5 N 1 '40

AMERICAN association of advertising agencies
Annual meeting; officers. Ptr Ink 191:72-3 My 24 '40

AMERICAN association of industrial editors
Annual convention, 1st, Cincinnati, Ohio. Personnel J 19:76-7 Je '40

AMERICAN association of insurance general agents
Annual meeting, Dallas. East Underw 41:20-2 Ap 19; 20-1 Ap 26 '40; Ins Field (Fire ed) 69:23 Ap 18; 23-4 Ap 25 '40; Nat Underw 44:2+ Ap 18; 5+ Ap 25 '40
Fifteen years of steady progress. H. C. Stebbins. Ins Field (Fire ed) 69:14-15 Ap 11 '40
List of members. Ins Field (Fire ed) 69: 18-19 O 31 '40

AMERICAN association of museums
Nominations to the council. Science 91:234 Mr 8 '40

AMERICAN association of passenger traffic officers
Annual meeting, 82d. Ry Age 109:410-12 S 21 '40

AMERICAN association of petroleum geologists
Annual meeting, Chicago, April 9-12; abstracts of papers. Oil & Gas J 38:49-50, 52-8 Ap 11; 32-3+ Ap 18 '40
Current officers and past presidents, portraits; list of other officers. Oil & Gas J 38:37-9 Ap 11 '40
Growth parallels expansion of petroleum geology. J. E. Thomas. Oil & Gas J 38:30-4+ Ap 11 '40
Membership list. Am Assn Pet Geologists Bul 24:523-97 Mr '40
Pacific section, 16th annual meeting, Los Angeles. Oil & Gas J 38:99 N 17 '39

AMERICAN association of physical anthropologists
Meeting, 1940, New York; abstracts of papers. Science 91:sup10-11 My 17 '40

AMERICAN association of railroad superintendents
Annual meeting, 46th, Chicago, June 4-6. Ry Age 108:1047-50 Je 15 '40

AMERICAN association of scientific workers
Consumers' Union takes an ally. I. C. Miller. Food Ind 12:33+ Ag '40
Meeting, Columbus, Dec. 30. Science 91:241 Mr 8 '40
Peace resolution. R. S. Mulliken. Science 91: 432 My 3 '40; Counter-statement. A. H. Sturtevant. 91:504-5 My 24 '40; Discussion. Science 91:596-7 Je 21 '40

AMERICAN association of state highway officials
Annual meeting, 26th, Seattle. Eng N 125: 385+ S 26 '40
National road building through the cooperation of the states and the federal government. T. H. MacDonald. Roads & Sts 82: 50, 52, 54+ D '39

AMERICAN association of textile chemists and colorists
Annual meeting, 20th, New York, Oct. 18-19, Oil Paint & Drug Rep 138:5+ O 28 '40
Research activities for 1939-1940. B. A. Ryberg. Am Dyestuff Rep 29:552-3 O 14 '40

AMERICAN association of university teachers of insurance
Annual meeting, Philadelphia. Ins Field (Fire ed) 69:8 Ja 4 '40; Ins Field (Life ed) 69:10 Ja 5 '40; Weekly Underw 141: 1372+ D 30 '39

AMERICAN astronomical society
Wellesley college meeting. Science 92:sup10 S 20 '40

AMERICAN automobile association
Station refuses discount, motor club sues and wins; court rules Robinson-Patman act not applicable to case. Nat Pet N 31:9 D 6 '39

AMERICAN automobile insurance company
Company analysis. Spectator (Property ed) 6:30-1 O 31 '40

AMERICAN bankers association
Annual meeting, 66th, Atlantic City, Sept. 22-26. Comm & Fin Chr 151:1830-1 S 28; 12-72 sec 3 O 12 '40
Association officers, 1939-1940; portraits; chronological survey of events. Banking 33:114-17 S '40
Conventions and presidents elected, 1875-1939; list. Banking 33:119 S '40
Details of program of annual convention at Atlantic City, Sept. 22-26. Comm & Fin Chr 151:1221-2 Ag 31 '40
Facts for banks; enlarged program of association. R. M. Hanes. Banking 32:19+ F '40
Leaders for 1941. pors Bankers Mo 57:617-18 N '40
New program. H. J. Boone. Burroughs Clearing House 24:9-11+ Mr '40
Officers and policies. Bankers M 141:406-8 N '40

AMERICAN bankers association—*Continued*
Regional conference, Denver. Comm & Fin Chr 150:1867-8, 2025-6 Mr 23-30 '40
Regional conference on savings and commercial banking, New York, March 6-8. Comm & Fin Chr 150:1534-5, 1699-1700 Mr 9-16 '40; Banking 32:89-96 Ap '40
Southern regional conference, Richmond, Va. Comm & Fin Chr 149:3654 D 9 '39; Trusts & Estates 69:662-4 D '39
Support of defense program by bankers; warning against deficit spending. R. M. Hanes. Comm & Fin Chr 151:21-3 sec 3 O 12 '40

Consumer credit council
Consumer credit council and objectives. W. B. French. Comm & Fin Chr 151:70 sec 3 O 12 '40
Organization. pors Banking 33:94 Jl '40

National bank division
Annual meeting, 18th, Atlantic City, Sept. 23. Comm & Fin Chr 151:28-34 sec 3 O 12 '40

Round table conference
Meeting, Atlantic City, Sept. 23-26. Comm & Fin Chr 151:60-72 sec 3 O 12 '40

Savings division
Annual meeting, 29th, Atlantic City, Sept. 23. Comm & Fin Chr 151:39-42 sec 3 O 12 '40

State bank division
Annual meeting, 24th, Atlantic City, Sept. 23. Comm & Fin Chr 151:35-8 sec 3 O 12 '40

State secretaries section
Annual meeting, Atlantic City, Sept. 23. Comm & Fin Chr 151:49-59 sec 3 O 12 '40

Trust division
Annual meeting, 44th, Atlantic City, Sept. 23. Comm & Fin Chr 151:43-8 sec 3 O 12 '40
Mid-continent trust conference, 10th, Chicago. Trusts & Estates 69:477-95, 497-513 N '39
Mid-winter trust conference, 21st, New York. Comm & Fin Chr 150:1076-7 F 17 '40; Trusts & Estates 70:125-6 F '40; Banking 32:92-3 Mr '40

AMERICAN bar association
Annual meeting, Philadelphia. Comm & Fin Chr 151:1512-13 S 14 '40

Insurance section
Activities. T. Watters, jr. East Underw 41:31 O 11 '40
American bar group at Philadelphia Sept. 9; program. Weekly Underw 143:374+ Ag 24 '40
Annual convention, Philadelphia. East Underw 41:38 S 13 '40; Ins Field (Fire ed) 69:12+ S 12 '40; Nat Underw 44:3+ S 12 '40; Nat Underw (Life ed) 44:3+ S 13 '40; Weekly Underw 143:559-60+ S 14 '40
Round table program. Weekly Underw 143: 675 S 21 '40

Real property, probate, and trust law section
Meeting, Philadelphia, Sept. 9-11. Trusts & Estates 71:265-8 S '40

AMERICAN Bemberg corporation
Stock offered. Comm & Fin Chr 150:3191-2 My 18 '40

AMERICAN boiler manufacturer's association and affiliated industries
These men stand for safe steam; with list of members. Power 84:446a-446d Jl '40

AMERICAN bottlers of carbonated beverages
Convention, San Francisco, Oct. 30-Nov. 3. Food Ind 11:716 D '39

AMERICAN brake shoe and foundry company
Statistics of income, capital, stock earnings, etc. 1929-39. Annalist 55:268 F 15 '40
Financial report. Annalist 56:406 S 26 '40

AMERICAN cable and radio corporation
Listing. Comm & Fin Chr 150:3961-2 Je 22 '40

AMERICAN can company
Earnings, 1936-39. Comm & Fin Chr 150:1269 F 24 '40
New factors in American Can. G. L. Merton. il Mag of Wall St 65:227+ D 2 '39
Will a tin shortage blackout can companies? H. D. Steinmetz. il Mag of Wall St 66: 356-8+ Je 29 '40

AMERICAN car and foundry company
Annual report, 41st, year ended April 30. Comm & Fin Chr 150:4115-16, 4146-7 Je 29 '40
Thumbnail stock appraisal. Mag of Wall St 66:167 My 18 '40

AMERICAN ceramic society
Annual meeting, 42d, Toronto, April 6-11. Can Chem & Process Ind 24:158-60 Ap '40; Brick & Clay Rec 96:28-35 My '40
Membership roster. Am Cer Soc Bul 19: 383-407 O '40
President's address. A. I. Andrews. Am Cer Soc Bul 19:173-4 My '40
Rules for presentation and preparation of papers at technical sessions of the American ceramic society. Am Cer Soc Bul 19: 118-20 Mr '40
Schedule of meetings in Royal York hotel, Toronto, April 7-13; abstracts of papers, with author index. Am Cer Soc Bul 19: 121-52 Ap '40
Trustees and officers for 1940-1941. Am Cer Soc Bul 19:243 Je '40

Enamel division
Proposed rules. Am Cer Soc Bul 19:306-8 Ag '40

Glass division
Annual summer meeting, Hershey, Pa., Sept. 6-7. Glass Ind 21:429-34+ O '40
Meeting at Toronto; with abstracts of papers. il Glass Ind 21:217-27 My '40

AMERICAN ceramic society journal
Indexes to the Journal, v 22, 1939; comp. by the American ceramic society. Am Cer Soc J 22:393-404 D '39

AMERICAN chain and cable company
Makers of industrial sinews; earnings higher. J. C. Clifford. il Mag of Wall St 66:685+ S 21 '40

AMERICAN chemical society
Abstracts of papers read before the Detroit meeting. Science 92:sup10, 12-13 S 13; sup11-12 S 20 '40
Budget for 1940. Ind & Eng Chem News ed 17:783 D 20 '39; Same. Science 91:12 Ja 5 '40
Data from A.C.S. meeting, Detroit; abstracts of papers. Oil Paint & Drug Rep 138:5+ S 9; 30 S 16; 37 S 23 '40
Election of officers. Science 92:374-6 O 25 '40; Oil Paint & Drug Rep 138:3+ O 28 '40
Honor roll of twenty-five year memberships. Ind & Eng Chem News ed 18:925-31 N 10 '40
Meeting at Detroit. Ind & Eng Chem News ed 18:793-813 S 25 '40
Meeting, Cincinnati, April 8-12. Ind & Eng Chem News ed 18:329-43 Ap 25 '40
Meeting, 1940; program. Science 92:29 Jl 12 '40
National defense program. Science 92:253-4 S 20 '40
Nation's chemists report at Cincinnati. W. J. Murphy. il Chem Ind 46:594-6 My '40
Officers. Science 90:611-12 D 29 '39
Official reports for the year 1939. Ind & Eng Chem News ed 18:143-9 F 25 '40
Program of the Cincinnati meeting, April 8-12. Ind & Eng Chem News ed 18:225-39 Mr 25 '40
Program of the Detroit meeting, Sept. 9-13. Ind & Eng Chem News ed 18:685-717 Ag 25 '40
Sketches and portraits of officers-elect. Ind & Eng Chem News ed 17:773-5 D 20 '39
Synthetic textiles and synthetic rubbers hold spotlight at A.C.S. meeting; abstracts of papers. Chem & Met Eng 47:650-3 S '40

AMERICAN chemical society—*Continued*

Division of water, sewage, and sanitation chemistry

Division of water, sewage, and sanitation chemistry. E. Bartow. Ind & Eng Chem News ed 17:776 D 20 '39

Petroleum division

Annual meeting, Detroit, Sept. 9-13. Oil & Gas J 39:57+ S 19 '40

Rubber division

Annual meeting, Detroit, Sept. 12-13. India Rubber W 103:53-4+ O '40; Rubber Age 48:36-8 O '40

Meeting, Cincinnati, April 11-12; abstracts of papers. India Rubber W 102:61-2 Ap '40; Rubber Age 46:374-6 Mr '40

Meeting, Detroit, Sept. 12-13; abstracts of papers. Rubber Age 47:317-20 Ag '40; India Rubber W 102:51-3+ S '40

Report of the crude rubber committee, Division of rubber chemistry. India Rubber W 102:53-7 Je '40; Same. Rubber Age 47:102-6 My '40

AMERICAN chicle company

Annual report. Comm & Fin Chr 150:1127 F 17 '40

AMERICAN cities power and light corporation

Earnings, 1936-39. Comm & Fin Chr 150:679 Ja 27 '40

AMERICAN college of dentists

Research grants. Science 91:443 My 10 '40

AMERICAN college of life underwriters

Tribute. L. A. Lincoln. Nat Underw (Life ed) Daily ed 44:10+ S 26 '40; Excerpts. East Underw 41:31 S 27 '40

AMERICAN concrete contractors' association

1939 a year of progress. C. V. Carlson. Concrete 48:42 F '40

AMERICAN concrete institute

A.C.I. directory 1940. Am Concrete Inst J 12:sup4-119 sec 2 S '40

Annual meeting, 36th, Chicago. Eng N 124: 346-7, 385-8 Mr 7-14 '40; Am Concrete Inst J 11:sup[news letter] 1-17 Ap '40

President's address. F. E. Richart. Am Concrete Inst J 11:425-30 Ap '40

AMERICAN concrete pipe association

Annual meeting, Chicago, Feb. 15-17. Rock Prod 43:67 Ap '40

AMERICAN coordinating committee on corrosion

Annual meeting, 2d, Atlantic City, June 27. Ind & Eng Chem News ed 18:621 Jl 25 '40; Science 92:100 Ag 2 '40

AMERICAN cotton manufacturers association

Annual meeting, White Sulphur Springs, April 26-27. Textile World 90:76-7+ My '40

AMERICAN council of education

Youth commission's work program. Monthly Labor R 50:71-5 Ja '40

AMERICAN cyanamid company

Adds units. Paper Tr J 111:24 S 26 '40

American Cyanamid; fourth-largest U.S. chemical company. il Fortune 22:66-71+ S '40

Earning record profits and still growing. H. D. Steinmetz. il Mag of Wall St 65:809-11+ Ap 6 '40

Earnings, 1936-39. Comm & Fin Chr 150:2076 Mr 30 '40

Executive and the technologist; a proper understanding between them. W. B. Bell. Ind & Eng Chem News ed 18:185-90 Mr 10 '40; Same. Chem Ind 46:296+ Mr '40; Abstract. Chem & Met Eng 47:156-7 Mr '40

Leaders in the chemical industry; thumbnail appraisal. Mag of Wall St 65:412 Ja 13 '40

Research laboratories. il Paper Tr J 110:18, 20-1 Ja 11 '40

AMERICAN drug manufacturers association

Annual meeting, 29th, White Sulphur Springs, W.Va. May 6-9. Oil Paint & Drug Rep 137:35+ My 13 '40

AMERICAN electroplaters' society

Annual meeting, 28th, Dayton, June 10-13. Iron Age 145:43-5 Je 27; 146:41-3 Jl 4 '40; Steel 106:29 Je 17 '40; Metal Finishing 38: 369-76 Jl '40

Annual meeting, 28th, Dayton, June 10-13; program; portraits of officers and committee members. Metal Finishing 38:10, 12+ Je '40

AMERICAN engineering council

Annual meeting, 20th, Washington, Jan. 12-13. Eng N 124:73-4 Ja 18 '40; Mech Eng 62:176-7 F '40

Joint committee reports on aims and objectives. Mech Eng 62:769-70 O '40

Personnel selected for committee. Civil Eng 10:316-17 My '40

AMERICAN export airlines

Air port of entry. map Business Week p22 N 16 '40

More planes for the Atlantic? examiner recommends CAA approve American Export service to Rome. Business Week p44-5 Ap 27 '40

To establish new non-stop transatlantic air service. Comm & Fin Chr 151:403 Jl 20 '40

AMERICAN federation of arts

Parker named director. Arch Rec 88:12 S '40

AMERICAN federation of labor

Annual conventions of A.F. of L. and C.I.O. Monthly Labor R 49:1130-4 N '39

Asks President Roosevelt to make public answers to plea for resuming peace negotiations with C.I.O. Comm & Fin Chr 150: 928 F 10 '40

Can the unions achieve unity? Business Week p14-15 N 16 '40

Executive council meeting, Miami. Comm & Fin Chr 150:780-1, 927-8 F 3-10 '40

Labor fight between A.F.L. and C.I.O. may benefit builders. Business Week p32-3 Mr 30 '40

Opens drive. Business Week p46 N 11 '39

Rival unionism in the United States. W. Galenson. 317p bibliog(p305-7) $3.25; pa $2.50 Am. council on public affairs, 1721 Eye st, Washington, D.C. '40

TVA signs with A.F.L. Business Week p37+ Ag 17 '40

See also
Trade unions—
United States

AMERICAN federation of radio artists

Radio artist dispute settled. Ptr Ink 193:83 O 18 '40

AMERICAN fire and casualty company

Analysis. Spectator (Property ed) 5:25, 28-9 My 30 '40

AMERICAN foreign insurance association

European executive personnel. East Underw 40:61-2 D 15 '39

AMERICAN foundrymen's association

Annual meeting, 44th, Chicago, May 4-10. Foundry 68:34-7, 92+ Je; 35, 64+ Jl '40; Iron Age 145:47-51, 88-9 My 16 '40; Steel 106:24-7, 52, 54+ My 13; 56, 58-60+ My 20 '40

British editor pays tribute to A.F.A. accomplishments. F. G. Steinebach. Foundry 68:23 Ap '40

Convention plans, exhibitors, program, committees, medal awards. Foundry 68:66-87+ My '40

Elects five new directors. pors Foundry 68: 117-18 Je '40

AMERICAN gas and electric company

American gas & electric co. integration hearings open. Elec W News ed 113:351-2 F 3 '40

Annual report. Comm & Fin Chr 150:2407-8 Ap 13 '40

Bonds offered. Comm & Fin Chr 150:267-9 Ja 13 '40

Debentures and preferred stock registered. Comm & Fin Chr 149:4018 D 23 '39

Earnings, 1938 and 1939. Comm & Fin Chr 150:1128 F 17 '40

Industrial utility system. H. W. Witt. map Barron's 20:8 Ja 22 '40

SEC to speed integration plan. Comm & Fin Chr 149:3707-8 D 9 '39

AMERICAN gas association
Additions to the family; new members; manufacturer companies and individual members. Am Gas Assn Mo 21:433-4 D '39
A.G.A. names King Technical section secretary. Gas Age 86:46 Ag 15 '40
Annual meeting, 22d, Atlantic City, Oct. 7-10. Gas Age 86:27-41 O 24 '40; Am Gas Assn Mo 22:371-414 N '40; Am Gas J 153:13-17+, 21-35 N '40
Committee on national defense. Am Gas J 153:36 Jl '40
Federal housing; the gas industry's opportunity in the USHA program. G. W. Bean. il Am Gas Assn Mo 22:254-6 Jl-Ag '40
1939-1940 officers and section chairmen; portraits. Gas Age 86:57 O 10 '40
Plans of accounting, commercial, industrial and technical sections. Gas Age 85:32-8 Ja 18 '40
Production and chemical committee conference, New York, May 20-22. Am Gas J 152: 34-5 Je '40; Gas Age 85:18-21+ Je 6 '40
Your association. C. N. Lauer. Am Gas Assn Proc 1939:14-17; Same. Am Gas J 151:14-15 N '39; Same. Am Gas Assn Mo 21:381-2+ N '39

Appliance testing laboratory
American gas association's laboratories as a training school. F. E. Vandaveer. Am Gas Assn Mo 22:325-6 S '40
Laboratories serve industry on utilization problems. M. Zare. Am Gas Assn Mo 21: 453-5 D '39
1939 banner year for testing laboratories. A. F. Bridge. Am Gas Assn Proc 1939:77-8
Pioneering move; safe-guarding the consumers' interests; Pacific Coast branch. Am Gas Assn Mo 22:83-5 Mr '40
Research and the Association's laboratories. R. M. Conner. il Gas Age 85:41-4 Ja 18 '40
Testing and research at the laboratories of the American gas association. F. E. Vandaveer. il W Soc E J 45:139-44 Je '40
Testing facilities; laboratories' expansion marks industry milestone. W. H. Vogan. il Am Gas Assn Mo 22:54-6 F '40

Industrial gas section
Forms general sales committee to evaluate non-residential load data for management. Gas Age 85:7-8 Ja 4 '40
Industrial gas section's responsibility to the industry. Am Gas Assn Proc 1939:394-7
Sales conference, Toledo, March 28-29. Gas Age 85:22-5+ Ap 25 '40; Am Gas J 152: 48-50 My '40; Am Gas Assn Mo 22:192-4+ My '40
Who'll do what for industrial gas in 1940. E. D. Milener. Am Gas Assn Mo 22:72-4 F '40

Natural gas section
Meeting, Houston, Tex., May 6-10. Oil & Gas J 38:16-17 My 9; 39:153, 160 My 16 '40; Gas Age 85:16-24+ My 23 '40; Am Gas Assn Mo 22:203-8+ Je '40; Am Gas J 152: 9-11 Je '40
Meeting, Atlantic City. Oil & Gas J 39:22 O 10 '40

Sales council
A.G.A. Sales council to coordinate promotional activities. W. C. Beckjord. Am Gas Assn Mo 22:259-60 Jl-Ag '40

AMERICAN gear manufacturers' association
Annual meeting, 24th, Asheville, N.C. May 20-22. Iron Age 145:62-4 My 30 '40; Steel 106:27-8 My 27 '40
Semi-annual meeting, 23d, Skytop, Pa. Oct. 14-16. Iron Age 146:39-40+ O 24 '40; Steel 107:30 O 21 '40; Am Mach 84:892L O 30 '40

AMERICAN geophysical union
Report. J. A. Fleming. Science 91:442 My 10 '40

AMERICAN hardware manufacturers' association
Semi-annual meeting, 81st, Atlantic City, Oct. 14-17. Steel 107:17 O 21 '40

AMERICAN home products corporation
Annual report. Comm & Fin Chr 150:1750 Mr 16 '40

AMERICAN hot dip galvanizers' association
Annual meeting, Pittsburgh. Iron Age 145:90-1 Mr 7 '40

AMERICAN industrial hygiene association
Officers elected. Safety Eng 80:31 Jl '40
Organization. Ind & Eng Chem News ed 18: 75 Ja 25 '40

AMERICAN institute of accountants
Report of the president at annual meeting, Memphis. J. K. Mathieson. J Account 70: 391-5 N '40
Research work of the American institute of accountants. G. D. Bailey. bibliog J Account 70:50-7 Jl '40
Statement to the S.E.C. on professional disciplinary procedures. J Account 70:58-63 Jl '40

AMERICAN institute of actuaries
Annual convention, Chicago. Nat Underw (Life ed) 44:2+ My 31 '40
Joint meeting with Actuarial society of America, White Sulphur Springs, Oct. 30-Nov. 1. East Underw 41:3+ N 1 '40; Nat Underw (Life ed) 44:3+ N 1 '40; Weekly Underw 143:1058 N 2 '40
Presidential address; abstracts. R. A. Hohaus. Nat Underw (Life ed) 44:1+ My 24 '40; Weekly Underw 142:1286 My 25 '40

AMERICAN institute of architects
Annual convention, 72d, Louisville, Ky. Arch Rec 87:17-18+ Je '40
Case for the Institute. R. H. Shreve. Arch Forum 72:97-8 F '40
Pittsburgh chapter's fiftieth anniversary. Arch Forum 72:sup10 Mr '40

AMERICAN institute of banking
Annual convention, Boston. Comm & Fin Chr 150:3762 Je 15 '40
Institute training; banking's laboratory for study of theory, practice and application. H. R. Smith. Trusts & Estates 70:535-9 My '40
Irwin named as new educational director; Larson succeeds Hill as secretary. Bankers Mo 57:443 Jl '40
Public relations asset. G. A. Prosser. Banking 32:94-5 F '40
Trust business conference at convention, Boston. Trusts & Estates 70:617-34 Je '40

AMERICAN institute of chemical engineers
Abstracts of technical papers presented at the thirty-second annual meeting. Chem & Met Eng 46:764-5 D '39
Annual meeting, 32d, Providence, R.I. Nov. 15-17. Ind & Eng Chem News ed 17:742-3 D 10 '39
Proceedings of the 32d annual meeting, Providence, Nov. 15-17. Am Inst Chem Eng Trans 35:B79-120 D '39
Semi-annual meeting, 32d, Buffalo, May 13-15. Chem & Met Eng 47:342-3+ My '40; Ind & Eng Chem News ed 18:462-3 My 25 '40; Oil Paint & Drug Rep 137:3+ My 20 '40

AMERICAN institute of electrical engineers
Annual winter meeting, New York, Jan. 22-26. Elec W 113:418-25+ F 10 '40; Elec Eng 59:126-9 Mr '40; Power Pl Eng 44:61-3+ Mr '40
Institute budget for the year 1939-40. Elec Eng 58:524 D '39
Members among those honored as modern pioneers. Elec Eng 59:171 Ap '40
Middle eastern district meeting, Cincinnati. Elec W 114:1176-7 O 19 '40
Officers. Science 92:7 Jl 5 '40
Officers and committees for 1940-41; student branches, local sections. Elec Eng 59:377-81 S '40
Pacific Coast meeting, Los Angeles, Aug. 27-30. Elec Eng 59:424-5 O '40; Elec West 85:48-9 S '40
Report of the board of directors. Elec Eng 59:290-303 Jl '40
Science and superstition. R. W. Sorensen. Elec Eng 59:421-4 O '40
Section and branch activities annual report for 1939-40. Elec Eng 59:250-3 Je '40
Sections committee presents 1940 survey of local activities. Elec Eng 59:425-8 O '40

AMERICAN institute of electrical engineers— *Continued*
Standardization and the Institute. F. M. Farmer. Elec Eng 59:395-7 O '40
Summer meeting, Swampscott, June 24-28. Elec Eng 59:333-40 Ag '40; Elec W 113: 2058-9; 114:86-9+ Je 29, Jl 13 '40

AMERICAN institute of mining and metallurgical engineers
Annual meeting, New York, Feb. 12-15. Min & Met 21:143-55+ Mr '40; Steel 106:21-2, 66, 68 F 19; 56, 58+ F 26 '40; Iron Age 145:36-43 F 22 '40; Science 91:185-6 F 23 '40; Eng & Min J 141:70-1 Mr '40
Local sections of open hearth committee do much to improve practice. Blast F & Steel Pl 28:381+ Ap '40
Research results reviewed; symposium on strategic minerals at annual meeting, New York. Oil Paint & Drug Rep 137:5+ F 19 '40

Coal division
Annual meeting, New York, Feb. 12-15. Coal Age 45:68+ Mr '40

Industrial minerals division
Fall meeting, Tuscaloosa and Birmingham, Nov. 2-4. Min & Met 20:562-3 D '39; Rock Prod 42:56 D '39

Institute of metals division
Annual meeting, New York, Feb. 12-15. Steel 106:60-1 F 26 '40
Fall meeting, Cleveland, Oct. 21-23. Iron Age 146:52-3, 83 O 31 '40; Steel 107:26-7 O 28 '40

Iron and steel division
Fall meeting, Cleveland, Oct. 21-23. Iron Age 146:52-3, 83 O 31 '40; Steel 107:26-7 O 28 '40

Petroleum division
Annual meeting, New York. Oil & Gas J 38: 47-9, 52, 78, 80 F 22 '40
Fall meeting, Los Angeles, Oct. 19-20. Min & Met 20:558-60 D '39
Meeting, Tulsa, Oct. 24-26. Oil & Gas J 39:28, 61-4, 66 O 31 '40
Southern California section, fall meeting, Los Angeles, Oct. 17-18. Oil & Gas J 39:23-4, 37 O 24 '40

AMERICAN institute of steel construction
Annual meeting, White Sulphur Springs. Iron Age 146:74-5 O 24 '40; Steel 107:18-19 O 21 '40

AMERICAN institute science and engineering clubs
Twelfth annual science fair. Science 91:333 Ap 5 '40

AMERICAN international underwriters corporation
Two decades in the foreign field. G. A. Moszkovski. Weekly Underw 142:23+ Ja 6 '40

AMERICAN iron and steel institute
Annual meeting, 49th, New York, May 23. Steel 106:21-2+ My 27 '40; Iron Age 145: 58-61 My 30 '40; Blast F & Steel Pl 28:569-71+ Je '40

AMERICAN leather chemists association
Annual meeting, 37th. Oil Paint & Drug Rep 137:5+ Je 3 '40

AMERICAN legion
Annual convention, 22d, Boston. Comm & Fin Chr 151:1829 S 28 '40

AMERICAN library association
Professional cooperation in library progress. E. Cavanaugh. Special Lib 31:197-8 Jl-Ag '40

AMERICAN life convention
Annual meeting, 35th, Chicago, Oct 7-10. Ins Field (Life ed) 69:7-26 O 11 '40; Nat Underw (Life ed) 44:1-2+ O 11 '40; Nat Underw (Life ed) Conv no 44:1-24 O 12 '40; Spectator (Life ed) 145:8-9+ O 10; 10-11+ O 24 '40; Weekly Underw 143:851-63 O 12 '40
Medical section annual meeting, 13th, Colorado Springs. East Underw 41:12 Je 7 '40; Ins Field (Life ed) 69:9+ Je 7 '40; Nat Underw (Life ed) 44:3+ Je 7 '40
Sectional meetings, Chicago. Ins Field (Life ed) 69:10-15 O 11 '40

AMERICAN locomotive company
American Locomotive gets busy. S. Devlin. il Mag of Wall St 67:36-7+ O 19 '40
Dickerman is Alco chairman; succeeded in presidency by D. W. Fraser. Ry Age 108: 445+ Mr 9 '40
Selected war beneficiaries. Mag of Wall St 66:304+ Je 15 '40
Volatile low-price stock; thumbnail appraisal. Mag of Wall St 65:816 Ap 6 '40

(AMERICAN) lumbermens mutual casualty company of Illinois. See Lumbermens mutual casualty company

AMERICAN machine and foundry company
Income account, years ended Dec. 31 1938 and 1939. Comm & Fin Chr 150:1924 Mr 23 '40

AMERICAN management association
Annual conference, New York, Jan. 25. Comm & Fin Chr 150:776-7 F 3 '40
Annual personnel conference, Chicago. Iron Age 145:55+ F 22 '40
Annual production conference, Chicago, Nov. 15-16. Steel 105:70+ N 27 '39
Insurance division meeting, New York. East Underw 40:95+ D 15 '39; Spectator (Property ed) 5:10-14+ D 14 '39
Insurance division meeting, Atlantic City. East Underw 41:1+ My 10 '40; Ins Field (Fire ed) 69:15 My 9 '40; Nat Underw 44: 3+ My 9 '40; Spectator (Property ed) 5: 12-13 My 16 '40; Weekly Underw 142:1144-5 My 11 '40

AMERICAN mathematical society
Meeting, Dartmouth college, Hanover, N.H. Sept. 9-12; resolutions, subcommittees and consultants in research. Science 92:282 S 27 '40

AMERICAN medical association
Ninety-first annual session, New York, announced. Science 91:526 My 31 '40
Ordered to trial by United States Court of appeals; medicine is a trade and subject to anti-trust laws. Comm & Fin Chr 150:1527-8 Mr 9 '40; Oil Paint & Drug Rep 137:3+ Mr 11 '40
Platform. Science 90:507-8 D 1 '39
Practice of medicine and the Sherman anti-trust law. Science 91:257-8 Mr 15 '40
Work. Science 91:585-8 Je 21 '40

AMERICAN merchant marine library association
Libraries that go to sea. H. L. Howe. il Special Lib 31:9-14 Ja '40

AMERICAN metal company
Another look. Mag of Wall St 66:678 S 21 '40

AMERICAN mining congress
Annual meeting, 42d, New York, Jan. 18. Min Cong J 26:58-64+ F '40
Coal division, 5th annual conference of committees, Pittsburgh, Nov. 17. Min Cong J 25:39-41+ D '39
Coal division, 17th annual meeting, Cincinnati, April 29-May 3. Coal Age 45:55-62 Je '40; Min Cong J 26:22-42 My '40
Coal division, 17th annual meeting; program, committee members, exhibits. Min Cong J 26:44-58 Ap '40

Western division
Annual meeting, 7th, Colorado Springs, Sept. 16-19. Min Cong J 26:25-48 O '40; Eng & Min J 141:74 O '40
Annual meeting, 7th, committee members, program, exposition. Min Cong J 26:33-48 S '40

AMERICAN museum of natural history
Annual report, 71st; summary. Science 91: 539-40 Je 7 '40
Expeditions. Science 92:142-3 Ag 16 '40
Exploration on the West African coast. Science 92:348 O 18 '40

AMERICAN newspaper guild
Collective bargaining by the American newspaper guild. A. Weiss. Monthly Labor R 50:825-42 Ap '40
Guild strike ends. Business Week p31 My 4 '40
Guild wins twice; U.P. and A. P. end fight. Business Week p30-1 Mr 23 '40

AMERICAN newspaper publishers association
Annual convention. Business Week p38+ My 4 '40
Annual convention, 54th, New York. Comm & Fin Chr 150:2659-60 Ap 27 '40
Toastmaster Tripp introduces a couple of 2-fisted birds at newspaper dinner. F. E. Tripp. Ptr Ink 191:15-17, 71-3 My 3 '40

AMERICAN oil chemists' society
Annual meeting, 31st. Oil Paint & Drug Rep 137:3+ My 20 '40
Fall meeting, 14th, Chicago, Oct. 2-4. Oil Paint & Drug Rep 138:3+ O 7 '40

AMERICAN ornithological union
Annual meeting, 58th, Boston, Sept. 9-15. Science 92:281 S 27 '40

AMERICAN paper and pulp association
Annual meeting, 63d, New York, Feb. 19-23. Paper Tr J 110:71-2+ F 22 '40
E. W. Tinker becomes A.P.&P.A. secretary. Paper Tr J 109:11 D 21 '39

AMERICAN petroleum industries committee
Road traveled, and the road ahead. B. H. Markham. Am Pet Inst Proc 20(AT):6-9 '39; Same. Oil & Gas J 38:172+ N 17 '39

AMERICAN petroleum institute
Annual meeting, 20th, Chicago, Nov. 13-17. Nat Pet N 31:13-15 N 15; 9-15 N 22 '39; Oil & Gas J 38:78-80 N 17; 15+ N 23 '39; Oil Paint & Drug Rep 136:5+ N 20 '39
Annual meeting. 21st, Chicago. Nat Pet N 32:13-16, 29-30+ N 13 '40
Eastern district of Production division, annual meeting, Columbus, April 11-12. Oil & Gas J 38:23+, 48+ Ap 18 '40
Lends support to defense program. Oil & Gas J 39:18 Je 6 '40
Marketing division, central regional committee, meeting, Chicago. Nat Pet N 32:9+ Ap 24 '40
Mid-continent district of Production division, spring meeting, Wichita, March 14-15. Oil & Gas J 38:26, 34, 65 Mr 21 '40
Mid-year meeting, 10th, Fort Worth, May 27-31. Nat Pet N 32:21 My 29 '40; Oil & Gas J 39:8-9+, 54+ My 30 '40; Oil Paint & Drug Rep 137:5+ Je 3 '40
Officers, directors and committee members, 1940. Am Pet Inst Proc 20(1):124-9 '39
Pacific coast district of Production division, spring meeting, Los Angeles, March 19. Oil & Gas J 38:29, 71 Mr 21 '40
Southwestern district of Production division, spring meeting, Houston. Oil & Gas J 38: 16+, 56-7 Ap 4 '40

See also Petroleum industry and trade—United States—Antitrust suit

AMERICAN pharmaceutical association
Annual meeting, 88th. Oil Paint & Drug Rep 137:3+ My 20 '40

AMERICAN pharmaceutical manufacturers association
Annual meeting, 33d, Colorado Springs, June 9-13. Oil Paint & Drug Rep 137:49-51 Je 24 '40
Midyear meeting, Dec. 4-5. Oil Paint & Drug Rep 136:5+ D 11 '39

AMERICAN philosophical society
Annual meeting, Philadelphia, April 18-20. Science 91:472-3 My 17 '40
Grants in the natural and exact sciences. Science 90:568-70 D 15 '39

AMERICAN physical society
Abstracts of papers read before the Washington meeting. Science 91:sup8+ My 3 '40
Proceedings of the joint meeting of the Optical society of America with the American physical society and the Inter-society color council, New York, Feb. 21-24; abstracts of papers. Opt Soc Am J 30:265-74 Je '40
Proceedings; with abstracts of papers published in Physical review

AMERICAN potash and chemical corporation
Thumbnail stock appraisal. Mag of Wall St 66:168 My 18 '40

AMERICAN potash institute
Fifth anniversary. il Ind & Eng Chem News ed 18:654-6 Ag 10 '40

AMERICAN power and light company
Nationwide utility system. map Barron's 20:8 F 19 '40
Studies of the principal holding companies. Pub Util 25:355-7 Mr 14 '40

AMERICAN profit sharing institute
Profit-sharing group; institute opened in Chicago enrolls 70 member firms. Business Week p27-8 D 30 '39

AMERICAN public health association
Annual meeting, Pittsburgh, Oct. 17-20. Eng N 123:761 D 7 '39

AMERICAN public works association
Annual meeting, Detroit, Sept. 30-Oct. 2. Eng N 125:447-8, 626-9 O 10, N 7 '40

AMERICAN pulp and paper mill superintendents association
Annual meeting, 21st, Cincinnati, June 18-20. Paper Tr J 110:45-60, 70-2 Je 27 '40; Pulp & Pa of Can 41:496-9 Jl '40

AMERICAN pulpwood association
Pulpwood association and others indicted under Fair labor standards act. Paper Tr J 111:7 Jl 11 '40

AMERICAN radiator and standard sanitary corporation
Annual report. Comm & Fin Chr 150:1751-2 Mr 16 '40
President Henry Reed I, out to lick inefficiency. il plan Fortune 21:56-61+ Mr '40

AMERICAN railway bridge and building association
Annual meeting, 47th, Chicago, Oct. 15-17. Ry Age 109:579-84, 637-41 O 26-N 2 '40

AMERICAN railway engineering association
Annual meeting, 41st, Chicago, March 12-14. Ry Age 108:498-521 Mr 16 '40; Eng N 124: 409, 414 Mr 21 '40

AMERICAN Red cross. See Red cross

AMERICAN refractories institute
Annual meeting, St Louis, June 4-6. Brick & Clay Rec 96:48-9 Je '40

AMERICAN road builders' association
Annual meeting, 37th, Chicago, Jan. 29-Feb. 2. Eng N 124:204-5, 316-17 F 8, 29 '40; Steel 106:25-6 F 5 '40

AMERICAN rolling mill company
Annual report. Comm & Fin Chr 150:1752 Mr 16 '40
Continues recovery. J. C. Clifford. il Mag of Wall St 67:90-1+ N 2 '40

AMERICAN scientific congress. See Pan American scientific congress

AMERICAN social hygiene association
American social hygiene association, 1939. Pub Health Rep 55:604-5 Ap 5 '40

AMERICAN society for metals
Annual meeting, 21st, Chicago, Oct. 23-27; technical program, officers' reports, etc. Am Soc for Metals Trans 27:1118-59 D '39
Short history. il Metal Prog 37:271-83 Mr '40

AMERICAN society for testing materials
Annual meeting approves 77 new tentative standards. Ind Stand 11:214-19 Ag '40
Annual meeting, 43d, Atlantic City, June 24-28. Iron Age 146:44-6 Jl 4 '40; Eng N 125:1, 4-5 Jl 4 '40; Ry Age 109:40-3 Jl 6 '40; Steel 107:25-6+ Jl 1 '40; Foundry 68:32+ Ag '40; Metal Finishing 38:438-41 Ag '40; Can Chem & Process Ind 24:534, 536 O '40
Annual report of the executive committee. Am Soc T M Proc 39:39-64 '39
Committee D-13 meets in Charlotte. Textile World 90:59 Ap '40
Committee meetings, Detroit, March 4-8. Steel 106:53, 56, 61 Mr 25 '40
Committees give reports. Foundry 68:127 My '40
New standards and specifications for metals; committee reports. Steel 107:64+ Jl 15 '40
Tentative technical program, 43d annual meeting. Metals & Alloys 11:A12+ Je '40

AMERICAN society of civil engineers
Annual meeting, 87th, New York, Jan. 17-20. Civil Eng 10:118-20 F '40; Eng N 124:129+, 174-6 Ja 25-F 1 '40
Awards. Science 91:89 Ja 26 '40

AMERICAN society of civil engineers—*Cont.*
Engineering trends in California; a study of employment classifications of society membership, 1924-1939. R. O. Thomas. Civil Eng 10:466-7 Jl '40
Factual survey of members. map Civil Eng 10:122-4, 252 F, Ap '40
Fall meeting, Cincinnati, Oct. 16-18. Eng N 125:517, 523 O 24 '40
Federal engineer and the American society of civil engineers. H. Stabler. Civil Eng 10:181-3 Mr '40
Five new honorary members; sketches and portraits. Civil Eng 10:57-62 Ja '40
Myddleton cup replica; presentation by British Ambassador to American society of civil engineers; a biographical note on Hugh Myddelton. il Civil Eng 10:120-1 F '40
1939 prize winners and medalists; portraits and sketches. Civil Eng 10:55-7 Ja '40
Professional objectives outlined. L. L. Hidinger. Civil Eng 10:468-9 Jl '40
Spring meeting, Kansas City. Civil Eng 10: 312-13 My '40; Eng N 124:561, 566-7 Ap 25 '40
Summer meeting, Denver, July 24-26. Eng N 125:133, 138 Ag 1 '40; Civil Eng 10:598-601 S '40

AMERICAN society of civil engineers. Proceedings
Freedom to talk back; open discussion in A.S.C.E. Proceedings to be tempered with logical principles. T. R. Agg. Civil Eng 10:549-50 S '40

AMERICAN society of composers, authors and publishers
ASCAP answers. Ptr Ink 192:59-61 Jl 19 '40
ASCAP anti-trust case revived. Ptr Ink 192: 34 Ag 9 '40
ASCAP defied; B.M.I. becomes largest of world's music publishers. Business Week p50-2 N 16 '40
ASCAP offers new rates. Ptr Ink 190:18 Mr 29 '40
ASCAP v. N.A.B.; last inning score. N. Miller; E. C. Mills. Adv & Sell 33:29+ N '40
Broadcasters solid against ASCAP. Business Week p30-1 Ag 17 '40
Debate: will radio advertising be better off under the present ASCAP licensing system? E. C. Mills; N. Miller. Adv & Sell 32: 24-5, 56 D '39; 40+ Ja '40
Radio eyes double deadline; frequency modulation and the showdown with ASCAP. Business Week p24-6 Ag 3 '40
Radio music argument; Mr Miller replies to P.I. letter of Mr Mills, of ASCAP. Ptr Ink 192:45-6+ Ag 30 '40
Radio music battle near showdown; Broadcast music, inc. vs. ASCAP. Business Week p45-6 Jl 6 '40
Radio out to bust music trust; organize Broadcast music, inc. to break A.S.C.A.P's monopoly. Business Week p30+ Mr 9 '40
Radio quarrel with composers, now approaching climax, is acute advertising problem. E. Peterson. Ptr Ink 191:23-6, 30+ Je 28 '40
Radio solidarity; music battle dominates broadcasters' convention. E. Peterson. Ptr Ink 192:19-21, 71-2 Ag 16 '40

AMERICAN society of heating and ventilating engineers
Annual meeting, 46th, Cleveland, Jan. 22-26. Heat & Ven 37:50-8 F '40; Dom Eng 155: 38-43 F '40; Heating-Piping 12:207-15 Mr '40
Fall meeting, 1st, Atlanta, Oct. 30-31. Heat & Ven 36:45 D '39; Heating-Piping 11:782-4 D '39
Fall meeting, Houston, Oct. 14-15. Heating-Piping 12:693-5 N '40
Semi-annual meeting, Washington, June 16-19. Heat & Ven 37:63 Jl '40; Heating-Piping 12:508-11 Ag '40

AMERICAN society of mammalogists
Meeting, 1940, Denver; abstracts of papers. Science 91:sup7-8 Je 28 '40

AMERICAN society of mechanical engineers
A.S.M.E. today. pors Mech Eng 61:745-7, 825-8; 62:138-42 O-N '39, F '40
Annual meeting, 60th, Philadelphia, Dec. 4-8. Mech Eng 62:41-66, 80-2 Ja '40; Steel 105: 27, 78-80 D 11; 72-4 D 18 '39
Annual meeting, 60th, Philadelphia; abstracts of power plant papers. Power 83:829-86 Mid-D '39; Power Pl Eng 44:101-4 Ja '40
Awards. Science 90:485-6 N 24 '39
Committee on admissions clarifies fellow grade. Mech Eng 62:694+ S '40
Council reports for 1939. Mech Eng 62:31-5 Ja '40
Data compiled from 1940 annual reports of student chapters. Civil Eng 10:736-8 N '40
Finance committee report, 1938-1939. Mech Eng 62:36-40 Ja '40
Historical outline; development. Science 92: 108-10 Ag 2 '40
Management division broadens its scope and activities in all fields. Mech Eng 62:421 My '40
Meeting, 1940; new officers. Science 92:328 O 11 '40
Milestones in A.S.M.E. history. Mech Eng 62:sup32 Ap; sup24 My '40
Modern pioneers; awards; list of names in the 1940 A.S.M.E. membership list. Mech Eng 62:317-18 Ap '40
Officers nominated for 1940-1941. Mech Eng 62:637-40 Ag '40
Outstanding engineers honored. Mach 46:176 Ja '40
Semi-annual meeting, Milwaukee. Iron Age 145:84-5 Je 27 '40; Power Pl Eng 44:116+ Jl '40; Elec W 113:2057 Je 29 '40; Mech Eng 62:630-6 Ag '40
60th anniversary meetings. Mech Eng 62: 503-8 Je '40
Spring meeting, Worcester, May 1-3. Mech Eng 62:497-502 Je '40
Spring meeting, Worcester, May 1-3; abstracts of power plant papers. Power 84:397-8+ Je '40

Oil and gas power division
Annual meeting, Asbury Park, N.J. June 19-22. Automotive Ind 83:60-7 Jl 15 '40; Mech Eng 62:641-2 Ag '40; Power 84:537-8 Ag '40

AMERICAN society of refrigerating engineers
Annual meeting, 35th, Chicago, Jan. 17-19. Refrig Eng 39:114-17 F '40; Heat & Ven 37:44-8 F '40
Early annual meetings. H. H. Peffer. Refrig Eng 39:11-14 Ja '40
Officers, sections, committees, activities. Refrig Eng 38:374-5 D '39
Spring meeting, 27th, Skytop, Pa., June 9-11. Power 84:478c+ Jl '40
Standards committee reviews activities; report of technical committees. Refrig Eng 39:169-72 Mr '40

AMERICAN society of tool engineers
Annual meeting, New York, March 7-9. Iron Age 145:44-8+ Mr 14 '40; Steel 106:50+ Mr 18 '40; Mach 46:167-8 Ap '40
Semi-annual meeting, Cincinnati, Oct. 17-19. Iron Age 146:41-3 O 24 '40; Steel 107:15-16 O 21 '40
Tool engineers join ASA as new member-body. Ind Stand 11:118 My '40

AMERICAN standards association
American standards association and the U.S. Treasury department. Science 91:470 My 17 '40; Same. Ind Stand 11:133 My '40
Annual meeting, New York, Dec. 13. Mech Eng 62:91-2 Ja '40; Ind Stand 11:1-15 Ja '40
Completes its twenty-first year; progress, projects, etc. Science 91:38-9 Ja 12 '40
Federal works agency becomes ASA member-body. Ind Stand 11:49 F '40
Tool engineers join ASA as new member-body. Ind Stand 11:118 My '40

AMERICAN states insurance company
Analysis. Spectator (Property ed) 5:26-8 Ap 4 '40

AMERICAN statistical association
Centenary membership directory. Am Statis Assn J 35:1-83 pt 2 Je '40
Proceedings of the centenary celebration, 1839-1939. pls Am Statis Assn J 35:213-308 pt 2 Mr '40

AMERICAN steel and wire company
Changes in personnel. Blast F & Steel Pl 28: 798 Ag '40

AMERICAN steel foundries
Consolidated income account for calendar years, 1936-39. Comm & Fin Chr 150:1418 Mr 2 '40
Faces new competition; freight cars being equipped with wrought steel wheels. S. Altschul. Barron's 20:7 Ag 12 '40
Maker of railroad equipment, has added tank parts. il Fortune 22:58-64+ N '40
Statistics of income, capital, stock earnings, etc. 1929-39. Annalist 55:205 F 1 '40

AMERICAN steel warehouse association
Annual meeting, 31st, New York, May 21-22. Steel 106:25-6 My 27 '40; Iron Age 145: 68-9 My 30 '40

AMERICAN surety company of New York
Annual report. East Underw 41:51 Mr 15 '40

AMERICAN telephone and telegraph company
Annual report for 1939. Comm & Fin Chr 150: 1587-8 Mr 9 '40
Contract with A.T. & T.; Telephone independent obtains voice in layoffs; Labor department undertakes wage survey. Business Week p54 O 26 '40
Investing in industrial leadership; tax and dividend status. O. J. Gingold. Barron's 20:9 N 4 '40
Statistics of income, capital, stock earnings, etc., 1928-38. Annalist 54:797 D 21 '39

AMERICAN textile woolen company
50 years for Sweetwater, Tennessee mill. Textile World 90:136 S '40

AMERICAN tobacco company
American Tobacco for dividends; earnings again edging up. J. C. Clifford. il Mag of Wall St 65:562-3+ F 10 '40
Bonus case before Supreme court. Comm & Fin Chr 151:2339 O 19 '40
Denies federal charges of price fixing. G. W. Hill. Comm & Fin Chr 151:927 Ag 17 '40
Earnings, 1936-39. Comm & Fin Chr 150:1588 Mr 9 '40

AMERICAN transit association
Annual meeting, 59th, White Sulphur Springs, Sept. 23-26. Mass Transportation 36:246-60 O '40; Bus Transportation 19:490-7 O '40; Transit J 84:373-85 O '40

AMERICAN transit purchases and stores association
Separate group for purchases and stores proves successful. V. E. Thelin. Mass Transportation 36:203-4 S '40

AMERICAN trucking associations, Inc.
Decision of United States Supreme court places non-operating employees of bus and trucking companies under Wage-hour act. Comm & Fin Chr 150:3443 Je 1 '40

AMERICAN utilities service corporation
Annual report. Comm & Fin Chr 150:2409 Ap 13 '40

AMERICAN water works and electric company
Income account, 1936-39. Comm & Fin Chr 150:2246-7 Ap 6 '40
Integrated utility system. J. F. Childs. map Barron's 20:9 Mr 4 '40

AMERICAN water works association
Annual meeting, 60th, Kansas City, April 21-25. Eng N 124:611, 615+, 664-7 My 2-9 '40; Water Works & Sewerage 87:205-13, 266-75, 327-35 My-Jl '40; Can Eng W & S 78:17-19+ My '40
Board of directors' meeting, Jan. 16-17. Water Works & Sewerage 87:86-7 F '40
Membership list, committees, constitution and by-laws. map Am Water Works Assn J 32:sup 1-204, 1-17 Jl '40
Report of the audit of Association funds for year ending December 31, 1939. Am Water Works Assn J 32:516-20 Mr '40

Canadian section
Annual meeting, 20th, London, Ontario, March 27-29. Can Eng W & S 78:13-20, 47-8+ Ap '40

AMERICAN welding society
Annual meeting, 21st, Cleveland, Oct. 21-25. Steel 107:24-6 O 28 '40; Eng N 125:582-3 O 31 '40; Iron Age 146:54, 84-5 O 31 '40

AMERICAN wood preservers' association
Annual meeting, 36th, St Louis, Jan. 23-25. Ry Age 108:241-2 F 3 '40

AMERICAN woolen company
Earnings, 6 months ending June 30, 1940, 1939, 1938, 1937. Comm & Fin Chr 151:979 Ag 17 '40
Stocks in the low-price range; thumbnail appraisal. Mag of Wall St 65:355 D 30 '39
Thumbnail stock appraisal. Mag of Wall St 67:102 N 2 '40

AMERICAN youth congress
Meeting, Washington. Comm & Fin Chr 150: 1078-9 F 17 '40
President Roosevelt's address of February 10. Comm & Fin Chr 150:1067-9 F 17 '40
Youth; 4,000,000 lack jobs, prospects, hopes. il Fortune 21:88-92+ My '40

AMERICAN zinc institute
Annual meeting, 22d, St Louis, April 28-30. Steel 106:25-6 My 6 '40; Eng & Min J 141: 80-1 My '40

AMERICANS
Fortune survey; the people of the U.S.A.; a self-portrait. Fortune 21:14+ F '40

AMERIPOL. See Rubber, Artificial

AMHERST county, Virginia
Origin of the nelsonite dikes. C. H. Moore, jr. bibliog il diag Econ Geol 35:629-45 Ag '40

AMIDES
Optical constants of benzamide, its homologs, and some aliphatic amides. M. L. Willard and C. Maresh. bibliog Am Chem Soc J 62: 1253-7 My '40
Preparation of nitriles and amides; reactions of esters with acids and with aluminum chloride; the use of the salt $NaCl \cdot AlCl_3$ in the Friedel and Crafts reaction. J. F. Norris and A. J. Klemka. Am Chem Soc J 62:1432-5 Je '40
Quaternary ammonium salts; α-pyridinium compounds of higher fatty acids and their amides. T. N. Mehta and D. M. Trivedi. bibliog Soc Dyers & Col J 56:343-51 Ag '40
Some fully acetylated sugar acids and their derivatives. G. B. Robbins and F. W. Upson. bibliog Am Chem Soc J 62:1074-6 My '40

See also
Acetamide
Sulfonyl amides

AMIDINES
Some N-alkyl N'-aryl furamidines. W. M. Degnan and F. B. Pope. bibliog Am Chem Soc J 62:1960-2 Ag '40

AMIESITE
Pebble top-soil base for surface treatment with 1 ½-inch amiesite wearing surfaces. C. E. Layton. il Pub Works 71:12 Je '40

AMINATION
Amination in the heterocyclic series by sodium amide. R. N. Shreve and others. bibliog flow sheet il diags Ind & Eng Chem 32: 173-8 F '40

AMINE oxides
Dipole moments of amine oxides. E. P. Linton. bibliog Am Chem Soc J 62:1945-8 Ag '40

AMINES
Acidity of aromatic nitro compounds toward amines; the effect of double chelation. G. N. Lewis and G. T. Seaborg. Am Chem Soc J 62:2122-4 Ag '40
Action of aromatic amines on 3-nitro-6-iodonitrostyrene. D. E. Worrall and F. Benington. Am Chem Soc J 62:493-4 Mr '40
Action of nitrous acid on tertiary amines; the influence of acidity. G. P. Crowley and others. Chem Soc J p1286-9 S '40
Activation of aromatic halogen by ortho ammonium salt groups. W. S. Emerson, F. B. Dorf and A. J. Deutschman, jr. bibliog Am Chem Soc J 62:2159-60 Ag '40

AMINES—*Continued*

Addition agents in the electrodeposition of zinc. J. L. Bray and F. R. Morral. bibliog Electrochem Soc Trans 78 (preprint 15):203-10 O '40

Amines related to 2,5-dimethoxyphenethylamine. R. Baltzly and J. S. Buck. bibliog Am Chem Soc J 62:161-7 Ja '40

Antiplasmodial action and chemical constitution; carbinolamines derived from naphthalene and quinoline. H. King and T. S. Work. Chem Soc J p1307-15 S '40

Antiplasmodial action and chemical constitution; the synthesis of some complex carbinolamines and polyamines. T. S. Work. Chem Soc J p1315-20 S '40

Aromatic amines and 3-nitro-6-fluoronitrostyrene. D. E. Worrall and H. T. Wolosinski. Am Chem Soc J 62:2449 S '40

Boiling points of *n*-alkyl primary amines. A. W. Ralston and others. bibliog diag Ind & Eng Chem 32:1093-4 Ag '40

Color reactions between clays and amines. E. A. Hauser and M. B. Leggett. Am Chem Soc J 62:1811-14 Jl '40

Cyclic methyleneimines; hydrolysis of quaternary compounds and preparation of aliphatic secondary amines. R. Blundell and J. Graymore. Chem Soc J p1787-9 N '39

Detergents from kerosene; alkyl amine hydrochlorides. A. R. Padgett and E. F. Degering. bibliog Ind & Eng Chem 32:486-8 Ap '40

Disubstituted aminoacetones containing two unlike substituents. J. W. Magee and H. R. Henze. Am Chem Soc J 62:910-12 Ap '40

Effects of pressure, temperature and chemical composition on the absorption of light by mixtures of aromatic amines and nitro compounds. R. E. Gibson and O. H. Loeffler. bibliog Am Chem Soc J 62:1324-34 Je '40

Ethers and amines from β-4-morpholinoethyl chloride. J. P. Mason and S. Malkiel. bibliog Am Chem Soc J 62:1448-50 Je '40

Mechanism of the reaction between arylamines and benzoins. R. M. Cowper and T. S. Stevens. Chem Soc J p347-9 Mr '40

Metalation of alcohols and amines; butyl lithium. H. Gilman and others. bibliog Am Chem Soc J 62:977-9 Ap '40

Modified Bart reaction. G. O. Doak. Am Chem Soc J 62:167-8 Ja '40

Nitrosoacylarylamines; a new method of preparation. H. France, I. M. Heilbron and D. H. Hey. Chem Soc J p369-71 Mr '40

Nitrosoacylarylamines; the action of nitrous fumes on acylarylamines. J. W. Haworth and D. H. Hey. Chem Soc J p361-9 Mr '40

Nitrosoacylarylamines; the action of some nitrosoacylarylamines on pyridine. J. W. Haworth, I. M. Heilbron and D. H. Hey. Chem Soc J p372-4 Mr '40

Physiologically active amines; secondary and tertiary β-phenylpropylamines and β-phenylisopropylamines. E. H. Woodruff, J. P. Lambooy and W. E. Burt. bibliog Am Chem Soc J 62:922-4 Ap '40

Preparation of certain amines. E. J. Schwoegler and H. Adkins. bibliog Am Chem Soc J 61:3499-502 D '39

Preparation of primary amines. A. Galat and G. Elion. Am Chem Soc J 61:3585-6 D '39

Reaction between hydrogen selenide, formaldehyde, and secondary amines. A. H. Binz, F. E. Reinhart and H. C. Winter. Am Chem Soc J 62:7-8 Ja '40

Reactions of aldehydes with amines; with *o*-aminophenol. F. G. Singleton and C. B. Pollard. Am Chem Soc J 62:2288-9 S '40

Reactions of nitriles and related compounds with sulfur in the presence of amines; synthesis of quaternary ammonium thiocyanates. C. R. McCrosky, F. W. Bergstrom and G. Waitkins. bibliog Am Chem Soc J 62:2031-4 Ag '40

Replacement of the diazo-group by hydrogen. H. H. Hodgson and E. Marsden. Chem Soc J p207-8 F '40

Secondary amines from nitro compounds. W. S. Emerson and H. W. Mohrman. Am Chem Soc J 62:69-70 Ja '40

Some alkamine esters of disubstituted methylcarbamic acids. J. J. Donleavy and J. English, jr. bibliog Am Chem Soc J 62:218-19 Ja '40

Spectroscopic evidence for hydrogen bonds: SH, NH and NH_2 compounds. W. Gordy and S. C. Stanford. bibliog Am Chem Soc J 62:497-505 Mr '40

Studies in the diphenyl series; the preparation of asymmetrical diaryl derivatives. H. H. Hodgson and E. Marsden. Chem Soc J p208-11 F '40

Sulfanilyl derivatives of pyridine and quinoline amines. R. Winterbottom. bibliog Am Chem Soc J 62:160-1 Ja '40

Summary of the reactions of aldehydes with amines. M. M. Sprung. Chem R 26:297-338 bibliog(p335-8) Je '40

Union of aryl nuclei; a modification of the Gomberg reaction. J. Elks, J. W. Haworth and D. H. Hey. Chem Soc J p1284-6 S '40

See also
Ethanolamine
Triethylamine

Analysis

Analysis of cationic surface-active agents of trivalent nitrogen type. R. Hart. Ind & Eng Chem Anal ed 12:400-2 Jl 15 '40; Same. Am Dyestuff Rep 29:411-14 Ag 19 '40; Same. Textile Col 62:698-701 O '40; Same. Rayon 21:613-14+, 697-8 O-N '40

AMINOACETIC acids

Preparation of some alkylamino-acids and their electrometric titration. W. Cocker and J. O. Harris. Chem Soc J p1290-5 S '40

AMINOACETONES

Disubstituted aminoacetones containing two unlike substituents. J. W. Magee and H. R. Henze. Am Chem Soc J 62:910-12 Ap '40

AMINO acids

Amino-acid and peptide esters of choline as possible analogues of the oxytocic hormone of the posterior lobe of the pituitary gland. J. M. Gulland, M. W. Partridge and S. S. Randall. Chem Soc J p419-25 Ap '40

Anomalous dispersion and absorption of electric waves in solutions of amino-acids and dipeptides. J. B. Bateman and G. Potapenko. bibliog Phys R 57:1185 Je 15 '40

Attempted characterization of malignant tissue protein with d-amino acid oxidase. L. E. Arnow and J. C. Opsahl. Science 91: 431-2 My 3 '40

Conjugation of amino acids with isocyanates of the anthracene and 1,2-benzanthracene series. L. F. Fieser and H. J. Creech. bibliog Am Chem Soc J 61:3502-6 D '39

Defect in the metabolism of aromatic amino acids in premature infants; the role of vitamin C. S. Z. Levine, E. Marples and H. H. Gordon. bibliog Science 90:620-1 D 29 '39

Determination of the total *d*-amino acid content of human tumors and normal tissues by means of *d*-amino acid oxidase. F. Lipmann and others. bibliog Science 91: 21-3 Ja 5 '40

Effects of certain salt mixtures on the dissociation of glycine and alanine. A. C. Batchelder and C. L. A. Schmidt. bibliog J Phys Chem 43:1121-32 D '39

Food by vein. B. M. Newman. il Sci Am 162:220-1 Ap '40

Nährstoffe und wuchsstoffe der milchsäurebakterien. E. F. Möller. bibliog Angew Chemie 53:208 My 11 '40

New syntheses of basic amino-acids and glycine. D. W. Adamson. Chem Soc J p1564-8 O '39

Non-specificity of amino acid configuration in malignant tissue hydrolysates. O. K. Behrens and others. bibliog Science 92:32-4 Jl 12 '40

Preparation of some alkylamino-acids and their electrometric titration. W. Cocker and J. O. Harris. Chem Soc J p1290-5 S '40

Reaction of formaldehyde with amino acids: X-ray diffraction patterns. A. K. Smith, P. Handler and J. N. Mrgudich. bibliog il J Phys Chem 44:874-80 O '40

AMINO acids—*Continued*
Reduction over a Raney catalyst of the esters of α-amino acids to corresponding alkamines. G. Ovakimian, M. Kuna and P. A. Levene. Am Chem Soc J 62:676-7 Mr '40
Splitting the CONH linkage by names of ultraviolet light. D. C. Carpenter. bibliog diags Am Chem Soc J 62:289-91 F '40
Synthesis of amino acids from benzoylaminomalonic ester. E. P. Painter. Am Chem Soc J 62:232-3 Ja '40
Theory of protein metabolism: the transformation of proteins. C. L. A. Schmidt, F. W. Allen and H. Tarver. bibliog Science 91:18-19 Ja 5 '40
Zum biologischen ab- und aufbau der aminosäuren. W. Franke. bibliog Angew Chemie 52:695-8, 703-8 D 9-16 '39

See also
Aspartic acid
Tyrosine

AMINO alcohols. See Alcohols

AMINOAZOBENZENE arsonic acid
Synthesis of lipophilic chemotherapeuticals; 4-alkylaminoazobenzene-4'-arsonic acids. S. Adler, L. Haskelberg and F. Bergmann. Chem Soc J p576-8 My '40

AMINOBENZENESULFONAMIDOTHIAZOLE. See Sulfathiazole

AMINOBENZOIC acid
Esters of brominated aminobenzoic acids. M. B. Moore and E. H. Volwiler. bibliog Am Chem Soc J 62:2799-801 O '40
Preparation of aminobenzoic acid esters of substituted monoalkylamino alcohols. S. D. Goldberg, W. F. Ringk and P. E. Spoerri. bibliog Am Chem Soc J 61:3562-4 D '39

AMINOBENZOQUINOLINE
Nitro and aminobenzo [*f*] quinolines and derivatives. W. J. Clem and C. S. Hamilton. Am Chem Soc J 62:2349-52 S '40

AMINOBENZOYLGLUTAMIC acid
p-Nitrobenzoyl-*d*(—)- and *p*-aminobenzoyl-*d*(—)-glutamic acid. H. C. Winter. Am Chem Soc J 62:3266-7 N '40

AMINOCINCHONINIC acid
Preparation of some py-amino quinolines and derivatives. R. R. Renshaw and H. L. Friedman. bibliog Am Chem Soc J 61:3320-2 D '39

AMINO compounds
α- and β-N-dialkylamino-α,β-unsaturated ketones. N. H. Cromwell. Am Chem Soc J 62:1672-3 Jl '40
Local anesthetics derived from tetrahydronaphthalene. E. S. Cook and A. J. Hill. bibliog Am Chem Soc J 62:1995-9 Ag '40
Mechanism of the reaction between phthalic anhydride and an aminodiol; reactions of 2-amino-2-methyl-1,3-propanediol. M. M. Sprung. bibliog Am Chem Soc J 61:3381-5 D '39
Preparation of phenylarsenoxides; derivatives of amino- and hydroxy-phenylarsenoxides. G. O. Doak, H. Eagle and H. G. Steinman. bibliog Am Chem Soc J 62:3010-11 N '40
Preparation of some amino sulfonamides. E. Miller and others. bibliog Am Chem Soc J 62:2099-103 Ag '40
Some dialkylaminoalkyl furoates and benzoates as topical anesthetics. E. S. Cook and C. W. Kreke. bibliog Am Chem Soc J 62:1951-3 Ag '40
Studies in the amino-sugars; the action of dilute alkali solution on *N*-acylglucosamines. T. White. Chem Soc J p428-37 Ap '40
α,β-unsaturated aminoketones; α- and β-morpholinobenzalacetophenones. N. H. Cromwell. Am Chem J 62:2897-900 N '40

See also
Amino acids
Ethanolamine

AMINOCYMENE
p-Cymene studies; mononitration of 2-amino-*p*-cymene; preparation of 3-amino-*p*-cymene and *o*- and *p*-cymylenediamine. T. F. Doumani and K. A. Kobe. Am Chem Soc J 62:562-5 Mr '40

AMINODIMETHYLHYDANTOINS
5,5-Dimethylhydantoins containing a -NRR' substituent. H. R. Henze and J. W. Magee. bibliog Am Chem Soc J 62:912-13 Ap '40

AMINOETHANOL. See Ethanolamine

AMINOHYDROXY compounds
Nitroparaffins and their derivatives. C. L. Gabriel. il Chem Ind 45:664-8 D '39

AMINOISOQUINOLINE
Preparation and properties of some 4-substituted isoquinolines. F. W. Bergstrom and J. H. Rodda. bibliog Am Chem Soc J 62:3030-2 N '40

AMINOPHENOLS
Reactions of aldehydes with amines; with *o*-aminophenol. F. G. Singleton and C. B. Pollard. Am Chem Soc J 62:2288-9 S '40

Analysis
Estimation of *o*-nitrophenol in *p*-nitrophenol and *o*-aminophenol in *p*-aminophenol by fluorescence analysis. W. Seaman, A. R. Norton and O. E. Sundberg. bibliog Ind & Eng Chem Anal ed 12:403-5 Jl 15 '40

AMINOPHENYLANTHRAQUINONE
2-Aminophenylanthraquinone and 1,2-phthaloylcarbazole. P. H. Groggins. Ind & Eng Chem 32:98 Ja '40

AMINOPHENYL benzenesulfonamide
p-(*p*-Aminophenyl)-benzenesulfonamide and derivatives. C. T. Van Meter, J. A. Bianculli and A. Lowy. Am Chem Soc J 62:3146-8 N '40

AMINOPROPIONIC acid
Preparation of some alkylamino-acids and their electrometric titration. W. Cocker and J. O. Harris. Chem Soc J p1290-5 S '40

AMINO purine. See Adenine

AMINOPYRAZINE
Syntheses in the pyrazine series; preparation and properties of aminopyrazine. S. A. Hall and P. E. Spoerri. Am Chem Soc J 62:664-5 Mr '40

AMINOPYRIDINE
Amination in the heterocyclic series by sodium amide. R. N. Shreve and others. bibliog flow sheet il diags Ind & Eng Chem 32:173-8 F '40
Long-chain alkyl derivatives of 2-aminopyridine. T. M. Sharp. Chem Soc J p1855-7 D '39

AMINOQUINOLINE
Amination in the heterocyclic series by sodium amide. R. N. Shreve and others. bibliog flow sheet il diags Ind & Eng Chem 32:173-8 F '40
Coupling reactions of aminoquinolines with benzenediazonium chloride; a study of orientation in the quinoline ring. R. R. Renshaw, H. L. Friedman and F. J. Gajewski. bibliog Am Chem Soc J 61:3322-6 D '39
Preparation of some py-amino quinolines and derivatives. R. R. Renshaw and H. L. Friedman. bibliog Am Chem Soc J 61:3320-2 D '39
Sulfanilyl derivatives of pyridine and quinoline amines. R. Winterbottom. bibliog Am Chem Soc J 62:160-1 Ja '40

AMINOTHIAZOLE
Synthesis of ω,ω'-*bis*-2'-amino-4'-thiazolylalkanes and N⁴-2'-thiazolylsulphanilamides. J. Walker. Chem Soc J p1304-7 S '40

AMINOTHYMOL
Some Schiff bases with *p*-aminothymol. W. T. Sumerford, W. H. Hartung and G. L. Jenkins. Am Chem Soc J 62:2082-3 Ag '40

AMMETERS
Ammeter cuts costs for Tulsa feed mill. C. A. Bradford. Elec W 114:1354 N 2 '40
Ammeter shunt connection. E. A. Prather. il Transit J 84:61-2 F '40
Boost motor loading, better power factor; ammeters on induction motors; middle western soy bean mill. il Elec W 113:602 F 24 '40

AMMETERS—*Continued*
Electrical troubles; using the voltmeter and ammeter. W. A. Roberts. diags Bus Transportation 19:237-40 My '40
New ammeter speeds distribution studies. Elec W 113:460 F 10 '40

AMMINO compounds
Stereochemistry of complex inorganic compounds; a study of the stereoisomers of the dichloro-diammino-ethylenediamine cobaltic ion. J. C. Bailar, jr. and D. F. Peppard. Am Chem Soc J 62:105-9 Ja '40

AMMONIA
Action of liquid ammonia upon sulfur trioxide addition compounds. H. H. Sisler and L. F. Audrieth. Am Chem Soc J 61: 3392-3 D '39
Ammonia as an aid to purification. L. T. Calhoun. Am Gas Assn Mo 22:362-3 O '40
Ammonia clears mine air of nitrous fumes. Comp Air M 45:6136 Ap '40
Ammonolysis in liquid ammonia. W. C. Fernelius and G. B. Bowman. Chem R 26:3-48 bibliog(300 references, p38-48) F '40
Aqua ammonia for chloramination proves advantageous at Washington, D.C. C. J. Lauter. il diag Water Works & Sewerage 87:306-7 Jl '40
Catalytic formation of potassium nitrite from potassium nitrate in liquid ammonia. F. W. Bergstrom. bibliog diag Am Chem Soc J 62:2381-4 S '40
Dealing with tar and ammoniacal liquor. C. H. E. Collins. Gas J (Lond) 229:632 Mr 20 '40
Determination of mobilities and dissociation constants by means of conductivity titrations. J. P. Philpot, E. C. Rhodes and C. W. Davies. Chem Soc J p84-7 Ja '40
Dielectric constants of ammonia, nitrogen, and carbon dioxide at ultra-high frequency. G. W. Fox and A. H. Ryan. bibliog Phys R 56:1132-6 D 1 '39
General equation of state; equations for ammonia and steam. J. L. Finck. Franklin Inst J 229:201-21 F '40
Hydrogen from dissociated ammonia for atomic hydrogen welding. J. H. Gettig. il diags Steel 106:58-9 Ap 22 '40
Hydrogenation of aldehydes in the presence of ammonia. C. F. Winans. Am Chem Soc J 61:3566-7 D '39
I-log P diagram for ammonia solutions. M. Blackstrom. chart Refrig Eng 39:306 My '40
Infra-red spectra of polyatomic molecules. D. M. Dennison. Rs Mod Phys 12:175-214 bibliog(p213-14) Jl '40
Inhibiting action of minute amounts of sodium hexametaphosphate on the precipitation of calcium carbonate from ammoniacal solutions. R. F. Reitemeier and T. F. Buehrer. bibliog il J Phys Chem 44:535-74 My '40
Ionization and dissociation of water vapor and ammonia by electron impact. M. M. Mann, A. Hustrulid and J. T. Tate. bibliog diags Phys R 58:340-7 Ag 15 '40
Liquid ammonia research in 1939; a review. G. W. Watt and N. O. Cappel. J Chem Educ 17:274-82 bibliog(111 references, p281-2) Je '40
Magnetic studies of ferrihemoglobin reactions; equilibria and compounds with azide ion, ammonia, and ethanol. C. D. Coryell and F. Stitt. bibliog Am Chem Soc J 62:2942-51 N '40
Nomographic chart for temperature correction of aqua ammonia densities, with additional scales for interconversion of physical data. E. Berl. Chem & Met Eng 46:788 D '39
Nomographic plotting proves convenient for vapor pressure and composition data. D. F. Othmer. Chem & Met Eng 47:631-2 S '40
Partial vapor pressures of water and ammonia from the system water-phosphoric acid-ammonia. C. S. Huey and H. V. Tartar. bibliog diag Am Chem Soc J 62:26-32 Ja '40
Performance of packed towers; experimental studies of absorption and desorption; absorption of ammonia by water. T. K. Sherwood and F. A. L. Holloway. Am Inst Chem Eng Trans 36:23-8 F '40
Reaction between ammonia and $SeO_2.2HCl$ and $SeO_2.2HBr$. J. Jackson and G. B. L. Smith. bibliog Am Chem Soc J 62:543-4 Mr '40
Reactions and reagents in liquid ammonia. C. A. Kraus. Chem R 26:95-104 F '40
Simple plot for partial pressure and vapor composition data for aqueous ammonia. D. F. Othmer. Chem & Met Eng 47:551-2 Ag '40
Studies on proteins in liquid ammonia; reaction of sodium in liquid ammonia with peptones and related substances. C. O. Miller and R. G. Roberts. bibliog Am Chem Soc J 61:3554-6 D '39
Sulfamic acid, sulfamide, and related aquoammonosulfuric acids. L. F. Audrieth and others. Chem R 26:49-94 bibliog(145 references, p91-4) F '40
Symposium on the chemistry of liquid ammonia solutions. W. C. Johnson. Chem R 26:1-2 F '40
Synthesis of polyenes; reactions of β-methylallyl chloride with sodamide in liquid ammonia. M. S. Kharasch, W. Nudenberg and E. Sternfeld. Am Chem Soc J 62: 2034-6 Ag '40
Vapor pressures, heats of vaporization and melting points of N^{14} and N^{15} ammonias. H. G. Thode. diag Am Chem Soc J 62:581-3 Mr '40
Viscosity of liquid ammonia. C. J. Plank and H. Hunt. diag Am Chem Soc J 61: 3590-1 D '39

See also
Ammonium sulfate
Kjeldahl apparatus

Analysis
Free ammonia in the presence of chloramine. E. E. Wolfe. bibliog Water Works & Sewerage 86:509-11 D '39
Review of the Kjeldahl determination of organic nitrogen. R. B. Bradstreet. Chem R 27:331-50 bibliog(148 references, p346-50) O '40

Manufacture
La fabrication de l'acide nitrique par le procédé Fauser, avec emploi de turbocompresseurs en acier inoxydable. C. Berthelot. il diags Génie Civil 115:381-3 N 25 '39
Gewinnung von pyridinbasen aus den abschwaden der ammoniaksättiger. W. Klempt and R. Röber. il diags Chemische Fabrik 13: 65-8 F 24 '40
Observations on the economics of by-products recovery in gas-works; with cost data. D. M. Henshaw and C. Cooper. bibliog Gas J (Lond) 230:564-5, 569-72 Je 12 '40; Discussion. 230:662, 665-6 Je 26 '40
Physical chemistry of gas liquor distillation. F. H. Peakin. Soc Chem Ind J 59:81-7 My '40; Same. Gas J (Lond) 230:629-30, 672-4 Je 19-26 '40; Discussion. 231:30 Jl 3 '40
Synthetic ammonia production; Great Britain and Greater Germany. P. Parrish. Chem Age (Lond) 41:430-1, 450+ D 30 '39
Les turbocompresseurs à gaz légers pour les usines d'hydrogénation et les fabriques d'ammoniaque synthétique. diags Génie Civil 116:32-3 Ja 13 '40

Prices
Anhydrous ammonia price schedule issued by National ammonia division, E. I. du Pont de Nemours & co. Oil Paint & Drug Rep 138:31, 46 O 21 '40

AMMONIA compressors
Ammonia float valve troubles. G. L. Radamaker. diag Power Pl Eng 44:94 O '40
Modern refrigerating equipment boosts Ruppert brewery efficiency. il diag Power 84: 83-5 F '40
New design incorporated in compressor operation; recycling plant of the Tide water associated oil co. and Seaboard oil co. B. C. Thiel. il Oil & Gas J 38:55-6 My 9 '40

AMMONIA compressors—*Continued*
Operation of ammonia machines. C. T. Baker. diags Refrig Eng 40:1-8 sec2 N '40

Testing

Refrigerator performance; an investigation into volumetric efficiency. E. Giffen and E. F. Newley. bibliog il diags Inst Mech Eng J & Proc 143:Proc 227-36 S '40

AMMONIA condensers
Cleaning double pipe ammonia condensers. A. G. Solomon. Power Pl Eng 44:74-5 My '40
Cleaning double pipe ammonia condensers. A. G. Solomon. Power Pl Eng 44:93-4 O '40

AMMONIUM acetate
Coagulation of rubber latex and its control. D. F. Twiss and P. H. Amphlett. Soc Chem Ind J 59:202-6 S '40
Dissociation of ammonium salts in contact with wool. F. L. Goodall and C. Hobday. bibliog Soc Dyers & Col J 56:384-97 S '40
Potentiometric determination of exchangeable hydrogen in unsaturated soils. K. A. Maehl. diag Ind & Eng Chem Anal ed 12: 24-7 Ja 15 '40
Solubility of lead iodate in ammonium acetate solution. S. M. Edmonds and N. Birnbaum. Am Chem Soc J 62:2367-9 S '40
Triple ions and transference numbers. M. Dole. Electrochem Soc Trans 77 (preprint 3):39-48 Ap '40

AMMONIUM aluminum sulfate
Crystal-chemical studies of the alums; solid solutions of potassium aluminum alum and ammonium aluminum alum. H. P. Klug and L. Alexander. bibliog Am Chem Soc J 62: 1492-3 Je '40

AMMONIUM borates
Solubility of lead iodate in ammonium acetate solution. S. M. Edmonds and N. Birnbaum. Am Chem Soc J 62:2367-9 S '40

AMMONIUM carbonates
Ammonium bicarbonate 1941 prices are issued. Oil Paint & Drug Rep 138:68 N 4 '40
Reaction of calcined phosphate rock with alkali carbonate solutions. K. A. Kobe, W. S. Hamm and A. Leipper. bibliog Ind & Eng Chem 32:981-3 Jl '40

AMMONIUM chloride
Conductance of solutions of organosubstituted ammonium chlorides in liquid hydrogen sulfide. E. E. Lineken and J. A. Wilkinson. bibliog diags Am Chem Soc J 62:251-6 F '40
Dissociation of ammonium salts in contact with wool. F. L. Goodall and C. Hobday. bibliog Soc Dyers & Col J 56:384-97 S '40
Precipitation of barium sulfate in the presence of ammonium chloride. J. T. McHenry, C. A. Ampt and E. Heymann. bibliog Am Chem Soc J 62:448-9 F '40
Solubility of calcium oxalate in various salt solutions. H. Shehyn and D. B. Pall. diag J Phys Chem 44:166-71 F '40
Variation of the adiabatic and isothermal elastic moduli and coefficient of thermal expansion with temperature through the λ-point transition in ammonium chloride. A. W. Lawson. bibliog diags Phys R 57: 417-26 Mr 1 '40

AMMONIUM chromate
Systems magnesium chromate-water and ammonium chromate-water from 0 to 75°. A. E. Hill, G. C. Soth and J. E. Ricci. Am Chem Soc J 62:2131-4 Ag '40

AMMONIUM chromium sulfate
Crystal-chemical studies of the alums; the purple chrome alums. H. P. Klug. bibliog Am Chem Soc J 62:2992-3 N '40

AMMONIUM compounds
Activation of aromatic halogen by ortho ammonium salt groups. W. S. Emerson, F. B. Dorf and A. J. Deutschman, jr. bibliog Am Chem Soc J 62:2159-60 Ag '40
Conductance of salts in monoethanolamine. H. T. Briscoe and T. P. Dirkse. bibliog J Phys Chem 44:388-97 Mr '40
Dissociation of ammonium salts in contact with wool. H. Briggs, F. L. Goodall and others. bibliog Soc Dyers & Col J 55:354-60; 56:218-21, 384-97 Jl '39, My, S '40
Properties of electrolytic solutions; conductance of ethylene dichloride solutions of some quaternary ammonium salts having large negative ions. D. L. Fowler and C. A. Kraus. bibliog Am Chem Soc J 62: 2237-40 Ag '40
Properties of electrolytic solutions; the conductance of tributylammonium picrate in ethylene chloride at 25°. D. J. Mead, R. M. Fuoss and C. A. Kraus. bibliog Am Chem Soc J 61:3257-9 D '39
Quaternary ammonium salts; α-pyridinium compounds of higher fatty acids and their amides. T. N. Mehta and D. M. Trivedi. bibliog Soc Dyers & Col J 56:343-51 Ag '40
Quaternary ammonium salts with anions containing triphenylboron. D. L. Fowler and C. A. Kraus. bibliog Am Chem Soc J 62: 1143-4 My '40
Some unusual hydrates of quaternary ammonium salts. D. L. Fowler and others. Am Chem Soc J 62:1140-2 My '40
Surface tension of aqueous solutions of some paraffin chain colloidal electrolytes, including a comparison of the capillary rise and sessile bubble methods of measurement; monoethanolammonium soaps. H. V. Tartar, V. Sivertz and R. E. Reitmeier. bibliog diag Am Chem Soc J 62:2375-80 S '40

AMMONIUM cyanate
Critical increment of ionic reactions; the influence of dielectric constant and ionic strength. L. Rampino and W. J. Svirbely. Am Chem Soc J 61:3534-7 D '39
Critical increment of ionic reactions; the influence of dielectric constant and ionic strength. W. J. Svirbely and J. Lander. Am Chem Soc J 61:3538-42 D '39

AMMONIUM fluorides
Redetermination of the parameters in ammonium bifluoride. M. T. Rogers and L. Helmholz. Am Chem Soc J 62:1533-6 Je '40

AMMONIUM hexanitrato cerate
Determination of magnesium in biological materials; an oxidation method. J. P. Nielsen. Ind & Eng Chem Anal ed 11:649-51 D 15 '39

AMMONIUM hydroxide
Determination of organic phosphorus in soils. R. W. Pearson. bibliog diag Ind & Eng Chem Anal ed 12:198-200 Ap 15 '40
Ionization constant of monoethanol-ammonium hydroxide at 25° from electrical conductance measurements. V. Sivertz, R. E. Reitmeier and H. V. Tartar. bibliog Am Chem Soc J 62:1379-82 Je '40

AMMONIUM iodide
Polyiodides of ammonium; ammonium iodide and iodine. T. R. Briggs and K. H. Ballard. J Phys Chem 44:322-4 Mr '40
Polyiodides of ammonium; the ternary system ammonium iodide, iodine, and water. T. R. Briggs and others. bibliog J Phys Chem 44:325-50 Mr '40

AMMONIUM nitrate
Solubility of calcium oxalate in various salt solutions. H. Shehyn and D. B. Pall. diag J Phys Chem 44:166-71 F '40

Manufacture

Ammonium nitrate manufacture; improvements on the Fauser process. Chem Age (Lond) 41:331 N 11 '39
La concentration de l'acide nitrique à 96% et la fabrication du nitrate d'ammoniaque. C. Berthelot. il diags Génie Civil 116:259-62 Ap 20 '40
Explosives by TVA; ammonium nitrate deal closed. Business Week p30-1 O 26 '40
Gewinnung von ammoniumnitrat aus kokereiammoniak. W. Klempt. diags V D I 84:331-2 My 11 '40
Progress of production in Italy; abstract. Maveri. Chem Age (Lond) 42:50 Ja 27 '40
Refrigeration in ordnance manufacture. H. B. Matzen. Refrig Eng 39:21-3 Ja '40; Same. il Heating-Piping 12:1-3 Ja '40

AMMONIUM nitrate—Manufacture—*Continued*
Supply of explosives during the war and the early history of Billingham; abstracts. H. A. Humphrey. Chem Age (Lond) 41: 288-9 O 21 '39; Gas J (Lond) 228:452-4+ N 29 '39

TVA to make explosives for army's defense plan; ammonium nitrate works at Muscle Shoals. Elec W News ed 114:1239 O 26 '40

AMMONIUM oleate
Figures in thin layers of grease and viscous liquids. W. D. Kumler. il J Phys Chem 44: 612-18 My '40

AMMONIUM persulfate
Manganese and chromium in steel; modified persulfate-arsenite method. R. P. Forsyth and W. F. Barfoot. Ind & Eng Chem Anal ed 11:625 N 15 '39

AMMONIUM phosphates
Decreasing the combustibility of sawdust; relative effectiveness of certain chemicals. J. L. McCarthy. bibliog Ind & Eng Chem 32:1494-6 N '40

Partial vapor pressures of water and ammonia from the system water-phosphoric acid-ammonia. C. S. Huey and H. V. Tartar. bibliog diag Am Chem Soc J 62:26-32 Ja '40

AMMONIUM picrate
Conductance of salts in monoethanolamine. H. T. Briscoe and T. P. Dirkse. bibliog J Phys Chem 44:388-97 Mr '40

AMMONIUM selenite
Reaction between ammonia and $SeO_2.2HCl$ and $SeO_2.2HBr$. J. Jackson and G. B. L. Smith. bibliog Am Chem Soc J 62:543-4 Mr '40

AMMONIUM sulfate
Diffuse reflection meter (whiteness estimator) primarily designed for determining the purity of ammonium sulphate as a function of its whiteness. Chem & Ind 59:123-4 F 24 '40

Heat drying of coal and ammonium sulphate; Roto-Louvre dryer. N. L. Davis. flow sheet il diags Blast F & Steel Pl 28:253-7+ Mr '40

Solubility of calcium oxalate in various salt solutions. H. Shehyn and D. B. Pall. diag J Phys Chem 44:166-71 F '40

Sulphates of pyridine. F. H. Peakin. Soc Chem Ind J 59:56-7 Mr '40

Manufacture

Physical chemistry of gas liquor distillation. F. H. Peakin. Soc Chem Ind J 59:81-7 My '40; Same. Gas J (Lond) 230:629-30, 672-4 Je 19-26 '40; Discussion. 231:30 Jl 3 '40

Wastes problems of the iron and steel industries; treatment of waste pickle liquor. W. W. Hodge. il Ind & Eng Chem 31:1374-5 N '39

AMMONIUM sulfide
Coprecipitation of barium ion with hydrous aluminum, chromic and ferric oxides in the presence of ammonium ion. L. Lehrman, J. Been and M. Manes. bibliog Am Chem Soc J 62:1014-18 My '40

AMMONIUM sulfites
Pulping of Douglas fir with ammonium bisulphite. H. K. Benson and J. E. Lucas. Paper Tr J 111:32-4 Ag 15 '40

AMMONIUM tartrate
Physicochemical aspects of bacterial growth; conditions determining stationary populations and growth rates of bact. lactis aerogenes in synthetic media. R. M. Lodge and C. N. Hinshelwood. Chem Soc J p1683-92 N '39

AMMONIUM thiocyanate
First commercial ammonium thiocyanate plant begun. Gas Age 86:52 Jl 4 '40

Reactions of nitriles and related compounds with sulfur in the presence of amines; synthesis of quaternary ammonium thiocyanates. C. R. McCrosky, F. W. Bergstrom and G. Waitkins. bibliog Am Chem Soc J 62:2031-4 Ag '40

AMMONOIDEA
Paleoecological factors controlling distribution and mode of life of cretaceous ammonoids in Texas area. G. Scott. il map Am Assn Pet Geologists Bul 24:1164-1203 bibliog(p1202-3) Jl '40; Abstract. Oil & Gas J 38:63 Ap 11 '40

Permian ammonoids of the Guadalupe Mountain region and adjacent areas. A. K. Miller and W. M. Furnish. diags Geol Soc Special Pa no 26:1-242 bibliog(p181-92), pl 1-44 '40

AMMONOLYSIS
Ammonolysis in liquid ammonia. W. C. Fernelius and G. B. Bowman. Chem R 26: 3-48 bibliog(300 references, p38-48) F '40

AMMUNITION
Manufacturing small-arms ammunition and instruments at Frankford arsenal. E. D. Bricker. il Mach 46:154-8 Ja '40

See also
Projectiles

AMOSKEAG manufacturing company
Labor and the shut-down of the Amoskeag textile mills. D. Creamer and C. W. Coulter. 342p Work projects administration, Washington, D.C. '39; Review. Monthly Labor R 50:1380-4 Je '40

AMPERE meters. See Ammeters

AMPEROMETRIC titration (term)
Amperometric (polarometric) titrations; the amperometric titration of lead with dichromate or chromate. I. M. Kolthoff and Y. Pan. bibliog diag Am Chem Soc J 61: 3402-9 D '39

AMPHOTERIC substances
Electrometric studies of the precipitation of hydroxides; the amphoteric nature of vanadium tetroxide. H. T. S. Britton and G. Welford. Chem Soc J p758-61 Je '40

AMPLIDYNE generator
Amplidyne. diags Power Pl Eng 44:58-61 Ap '40

Amplidyne generator. diags Mech Eng 62:320-1 Ap '40; Electronics 13:54+ Ap '40

Amplidyne generator, a dynamoelectric amplifier for power control. E. F. W. Alexanderson, M. A. Edwards and K. K. Bowman. il diag Gen Elec R 43:104-6 Mr '40

Amplidyne generator, a G-E device for controlling large amounts of power. Pulp & Pa of Can 41:378 Ap '40

Design characteristics of amplidyne generators. A. Fisher. il diags Gen Elec R 43:107-13 Mr '40

Industrial applications of amplidyne generators. D. R. Shoults, M. A. Edwards and F. E. Crever. il diags Gen Elec R 43:114-19 Mr '40

New industrial control device. diag Electrician 124:363 My 17 '40

AMPLIFIERS
Amplidyne. diags Power Pl Eng 44:58-61 Ap '40

Amplidyne generator. diags Mech Eng 62:320-1 Ap '40; Electronics 13:54+ Ap '40

Amplidyne generator, a dynamoelectric amplifier for power control. E. F. W. Alexanderson, M. A. Edwards and K. K. Bowman. il diag Gen Elec R 43:104-6 Mr '40

Design characteristics of amplidyne generators. A. Fisher. il diags Gen Elec R 43:107-13 Mr '40

Einthoven string galvanometer-amplifier system for the investigation of photovoltaic effects. W. Vanselow and others. diag R Sci Instr 11:202-3 Je '40

Industrial applications of amplidyne generators. D. R. Shoults, M. A. Edwards and F. E. Crever. il diags Gen Elec R 43:114-19 Mr '40

AMPLIFIERS, Vacuum tube
Amplifier characteristics at low frequencies, with particular reference to a new method of frequency compensation of single stages. G. W. Edwards and E. C. Cherry. bibliog diags Inst E E J 87:178-88 Ag '40

Amplifier for direct-current galvanometers. A. W. Sear. il diag Electronics 13:28-9 Ja '40

AMPLIFIERS, Vacuum tube—*Continued*
Amplifier voltage supply. E. G. Witting. diags R Sci Instr 11:182 My '40
Application of feedback to wide-band output amplifiers. F. A. Everest and H. R. Johnston. diags Inst Radio Eng Proc 28:71-6 F '40
Balanced direct-current amplifier for alternating-current operation. R. Stair and I. F. Hand. diag R Sci Instr 11:257-9 Ag '40
Calculation of the low frequency cut-off of resistance-coupled amplifiers; abstract. H. Pitsch. diags Electronics 13:57-9 F '40
Compression with feedback. H. H. Stewart and H. S. Pollock. diag Electronics 13:19-21 F '40
Cossor-Dodds amplifier. diag Engineer 169:472 My 24 '40
Current division in plane-electrode triodes. K. Spangenberg. bibliog Inst Radio Eng Proc 28:226-36 My '40
Differential amplifier with oscillograph as detector of discharges in insulation. il diag Engineer 169:320-1 Ap 5 '40
Direct-current and audio-frequency amplifier. L. J. Black and H. J. Scott. il diags Inst Radio Eng Proc 28:269-71 Je '40
Distortion-free amplifier. P. O. Pedersen. diags Inst Radio Eng Proc 28:59-66 F '40
Distortion in compensated amplifiers. J. D. Trimmer and Y. J. Liu. diags Electronics 13:22-4+ Jl '40
Experimenter's small amplifier. W. D. Hayes. il diag Radio N 23:8+ Je '40
Feedback. E. K. Sandeman. diags Wireless Eng 17:342-53 Ag '40
Flat-response battery remote amplifier. E. D. Hilburn. il diag Radio N 24:12-14+ Ag '40
Handy utility amplifier. F. U. Dillon. il diag Radio N 24:10+ N '40
High fidelity recording amplifier. I. J. Abend. diags Electronics 13:44+ O '40
High-gain amplifier for 150 megacycles. G. Rodwin and L. M. Klenk. il diags Inst Radio Eng Proc 28:257-61 Je '40
High-gain d-c amplifier for bio-electric recording. H. Goldberg. diags Elec Eng 59: Trans 60-4 Ja '40
High gain linear amplifier employing degeneration. A. A. Petrauskas and L. C. Van Atta. diag R Sci Instr 11:103-4 Mr '40
Input-resistance of feedback amplifiers; abstract. H. Bartels. diag Electronics 13:74 Ja '40
Inverted amplifier; applying input excitation in series with cathode of a power amplifier, with grid grounded. C. E. Strong. il diags Electronics 13:14-16+ Jl '40
Limiting sensitivity of the alternating-current method of photo-cell-current amplification. E. A. Johnson, W. H. Mock and R. E. Hopkins. bibliog diag Opt Soc Am J 29: 506-11 D '39
1940 full-range amplifier. O. Read and K. A. Kopetzky. il diags Radio N 22:6-9+ D '39; 23:12-15+ Ja; 24+ F '40
Phase inverter circuits. C. G. McProud and R. T. Wildermuth. diags Electronics 13: 50+ O '40
Portable apparatus for recording bursts of cosmic-ray ionization. C. G. Montgomery and D. D. Montgomery. bibliog il diags R Sci Instr 10:350-2 N '39
Radio frequency amplifier for frequency monitor for North Carolina state highway patrol. C. M. Smith, jr. diag Electronics 12:32 D '39
Radio frequency power amplifier chart. E. H. Schulz. Electronics 12:33-4 D '39
Relations between attenuation and phase in feedback amplifier design. H. W. Bode. diags Bell System Tech J 19:421-54 Jl '40
Shunt-peaking compensation; graphical method of determining shunt inductance in plate circuit of wide-band video amplifier; reference sheet. W. H. Freeman. diag Electronics 13:35-6 Ja '40
Stabilized bridge circuit. H. P. Kalmus. diag Electronics 12:30-1+ D '39
Vacuum-tube alternating-voltage compensator. I. L. Cooter, F. Wenner and C. Peterson. diags J Research Nat Bur Stand 25:41-5 Jl '40
Wide-band inductive-output amplifier. A. V. Haeff and L. S. Nergaard. il diags Inst Radio Eng Proc 28:126-30 Mr '40
See also
Electron multipliers

Testing
Automatic curve tracer. il diag Electronics 13: 65 F '40
Input conductance; measurement in high-slope high frequency amplifier valves. F. Preisach and I. Zakarias. diags Wireless Eng 17:147-57 Ap '40
Simple methods for checking radio frequency distortion or cross-modulation of pentode amplifier tubes. E. W. Herold. Electronics 13:82+ Ap '40

AMSINCKIA intermedia. See Yellow burweed

AMSLER, Alfred J. 1857-1940
Sketch. por Engineering 149:489 My 10 '40; Engineer 169:438 My 10 '40

AMUSEMENT industries
See also
Moving picture industry

AMUSEMENT parks
Amusement parks hit the chutes. H. S. Kahm. Barron's 19:8 N 27 '39

AMUSEMENTS
Fun encyclopedia. E. O. Harbin. 1008p bibliog (p935-62) $2.75 Cokesbury press, Nashville '40

AMYL acetate
Synthetic amyl alcohol and acetate; pictures and flow sheet, Sharples solvents corp. Chem & Met Eng 47:493-6 Jl '40

AMYL alcohol

Manufacture
Synthetic amyl alcohol and acetate; pictures and flow sheet, Sharples solvents corp. Chem & Met Eng 47:493-6 Jl '40

AMYL borate
Industrial uses of chemicals and related materials. Oil Paint & Drug Rep 138:65 S 16 '40

AMYL sodium. See Sodium amyl

AMYLASES
Effect of fluorides on salivary amylase. F. J. McClure. bibliog Pub Health Rep 54:2165-71 D 8 '39
Saccharification of starchy grain mashes for the alcoholic fermentation industry; comparison of several saccharifying agents; malt, moldy bran, and soybean meal. L. Schoene, E. I. Fulmer and L. A. Underkofler. bibliog Ind & Eng Chem 32:544-7 Ap '40
Some observations on the effect of certain substances on the action of malt amylase on starch. R. S. Potter. Soc Chem Ind J 59:45-7 Mr '40
Sur la fabrication industrielle des enzymes microbiennes. I. A. Effront. bibliog Chimie & Ind 43:3-12 Ja 5 '40

AMYLIDENEDISODIUM. See Disodium amylidene

AMYRADIENOL
Triterpene resinols and related acids; β-amyradienol. C. W. Picard and F. S. Spring. Chem Soc J p1198-1202 Ag '40

AMYRADIENYL acetate
Triterpene resinols and related acids; the oxidation of α-amyradienyl acetate. E. S. Ewen and F. S. Spring. Chem Soc J p1196-8 Ag '40

AMYRIN
Triterpene group; the oxidation of β-amyrin benzoate; a new route to the thio-compound, $C_{30}H_{44}OS$. J. C. E. Simpson. Chem Soc J p230-7 F '40

ANACONDA copper mining company
Another look at Anaconda. Mag of Wall St 66:174 My 18 '40
Diversification helps Anaconda. J. C. Clifford. il Mag of Wall St 67:26-7+ O 19 '40

ANACONDA copper mining company—*Cont.*
Report for 1939. Comm & Fin Chr 150:2078-9 Mr 30 '40
Statistics of income, capital, stock earnings, etc. 1929-38. Annalist 54:701 N 30 '39
Statistics of revenues, capital, stock earnings, etc. 1929-1939. Annalist 56:437 O 3 '40

ANAGYRINE
Lupine studies; the isolation of anagyrine from lupinus laxiflorus var. silvicola C. P. Smith. J. F. Couch. bibliog Am Chem Soc J 61:3327-8 D '39

ANALCITE
Igneous rocks of the Terlingua-Solitario region, Texas. J. T. Lonsdale. Geol Soc Bul 51:1597-1618, pl 6-7 O '40

ANALGESICS
Studies in the phenanthrene series; phenolic amino alcohols and naphthisoquinolines derived from 9,10-dihydrophenanthrene. A. H. Stuart and E. Mosettig. bibliog Am Chem Soc J 62:1110-16 My '40

ANALYSIS, Colorimetric. See Colorimetric analysis

ANALYSIS, Metallurgical. See Metallurgical analysis

ANALYSIS, Mineralogical. See Mineralogical analysis

ANALYSIS, Volumetric. See Volumetric analysis

ANALYTIC chemistry. See Chemistry, Analytic; Microanalysis

ANAPHYLAXIS
Histamine release from blood cells in anaphylaxis in vitro. G. Katz. Science 91: 221 Mr 1 '40
Relationship of histamine to anaphylaxis in the rabbit. C. A. Dragstedt, M. Ramirez de Arellano and A. H. Lawton. bibliog Science 91:617-18 Je 28 '40

ANAPLASMOSIS
Anaplasmosis among deer in the natural state. W. H. Boynton and G. M. Woods. Science 91:168 F 16 '40

ANATOMICAL drawing
Accuracy in anatomical drawing. L. J. Milne. Science 92:43-4 Jl 12 '40

ANATOMICAL models
Human body just a heating, piping and air conditioning system; display of human factory in Buffalo museum of science. il Heating-Piping 12:242 Ap '40
Latex improves biological models and injected specimens. J. Rubinger. il India Rubber W 102:50-2 Je '40
See also
Eye—Models

ANATOMY
Laboratory methods
Latex emulsions in human vascular preparations. O. V. Batson. Science 90:518-20 D 1 '39
Liquid latex as an injection mass for blood-vessels. D. L. Gamble. Science 90:520 D 1 '39

ANCHOR Hocking glass corporation
Exchange offer made to preferred stockholders; bank loan arranged. Comm & Fin Chr 150:1418-19 Mr 2 '40

ANCHORAGE
Moorings for Lake Washington bridge. il diags Eng N 125:82-5 Jl 18 '40

AND/OR (term)
Witch of andor. E. H. McClelland. Science 92:311 O 4 '40

ANDERSON, John, 1857-1940
Sketch. por Oil Paint & Drug Rep 138:45 O 14 '40

ANDERSON, W. T.
Journal veteran retires from service. C. O. Willson. por Oil & Gas J 39:13 Jl 4 '40

ANDERSON, Indiana
Water supply
Break-point chlorination at Anderson. P. C. Laux. diag Am Water Works Assn J 32: 1027-37 Je '40

ANDESITE
Propylitization and related types of alteration on the Comstock lode. R. Coats. Econ Geol 35:1-16 Ja '40

ANDREASEN, Albert H. M. 1896-
Elected honorary member of American ceramic society. bibliog Am Cer Soc Bul 19:226-7 Je '40

ANDREWS, Elmer Frank, 1890-
Portrait. Dun's R 48:7 F '40

ANDROSCOGGIN & Kennebec railway
Foreclosure. Comm & Fin Chr 151:2340 O 19 '40

ANDROSTENEDIOL
Preparation of Δ^5-pregnenediol-3,17-one-20 from Δ^5-17-ethynyl-androstenediol-3,17. H. E. Stavely. Am Chem Soc J 62:489-91 Mr '40

ANEMIA
Further evidence of sex variation in the utilization of iron by anemic rats. L. Otis and M. C. Smith. bibliog Science 91:146-7 F 9 '40
New B vitamin and pernicious anemia. J. Stafford. Science 91:sup12 Ap 12 '40

ANEMOMETERS
Air flow measurements at intake and discharge openings and grilles. G. L. Tuve and D. K. Wright, jr. il diags Heating-Piping 12:501-7 Ag '40
Development of instruments for the study of air distribution in rooms. A. P. Kratz, A. E. Hershey and R. B. Engdahl. diags plans Heating-Piping 12:559-66 S '40

ANEMOSTATS
Anemostat in commercial refrigeration. F. J. Kurth. Refrig Eng 38:355 D '39
Side-wall anemostat. il Arch Rec 87:60 Mr '40

ANEROID barometers. See Barometers

ANESTHETICS
Anesthesia for traumatic and industrial surgery; abstract. B. B. Sankey and K. S. Russell. J Ind Hygiene 22:sup175 N '40
Anesthesia; narcosis, local, regional, spinal. A. M. Dogliotti. 680p 236il $7.50 S. B. Debour, 25 E. Washington st, Chicago '39
Anesthetic for Atkins; Abbott's London plant. Business Week p47 Mr 9 '40
Annual report of the Explosives division, fiscal year 1939. W. J. Huff. U S Bur Mines Rep of Invest 3490:4-10 '40
Cyclopropane anesthesia. B. H. Robbins. 175p bibliog(p155-65) $3 Wood '40
Experience of general anesthesia. W. E. Ritter. Science 92:172-3 Ag 23 '40
Over-running medical lamps; possibility of causing explosion of anesthetics; temperature measurement. C. T. A. Harper. il Elec R (Lond) 126:519 My 10 '40
Preparation of aminobenzoic acid esters of substituted monoalkylamino alcohols. S. D. Goldberg, W. F. Ringk and P. E. Spoerri. bibliog Am Chem Soc J 61:3562-4 D '39
Textbook of exodontia; exodontia, oral surgery and anesthesia. L. Winter. 4th rev ed 520p bibliog(p509-10) $10 C. V. Mosby co, St Louis '40
Value of the fundamental sciences in the establishment of anesthesiology. J. S. Lundy. bibliog Science 92:388-92 N 1 '40
See also
Cyclopropane

ANESTHETICS, Local
Esters of brominated aminobenzoic acids. M. B. Moore and E. H. Volwiler. bibliog Am Chem Soc J 62:2799-801 O '40
Heterocyclic local anesthetics; carbazole, dibenzofuran and dibenzothiophene derivatives. R. R. Burtner and G. Lehmann. bibliog Am Chem Soc J 62:527-32 Mr '40
Local anesthetics derived from tetrahydronaphthalene. E. S. Cook and A. J. Hill. bibliog Am Chem Soc J 62:1995-9 Ag '40
Novocol chemical mfg. co. uses silica gel unit to dry air. R. Sanford. il diag plan Heat & Ven 37:43-5 Ap '40
Some alkamine esters of alkylthio-substituted phenylcarbamic acids. J. J. Donleavy and J. English, jr. bibliog Am Chem Soc J 62: 2965-6 N '40

ANESTHETICS, Local—*Continued*
Some alkamine esters of disubstituted methylcarbamic acids. J. J. Donleavy and J. English, jr. bibliog Am Chem Soc J 62:218-19 Ja '40

Some dialkylaminoalkyl furoates and benzoates as topical anesthetics. E. S. Cook and C. W. Kreke. bibliog Am Chem Soc J 62:1951-3 Ag '40

Some N-alkyl N'-aryl furamidines. W. M. Degnan and F. B. Pope. bibliog Am Chem Soc J 62:1960-2 Ag '40

Synthesis of some alkamine esters of alkylthiobenzoic acids. J. J. Donleavy and J. English, jr. bibliog Am Chem Soc J 62:220-1 Ja '40

ANETHOLE
Mechanism of the acid-catalyzed dimerization of anethole. W. G. Brown and A. H. Widiger. Am Chem Soc J 62:115-16 Ja '40

Structure of metanethole. W. Baker and J. Enderby. Chem Soc J p1094-8 Ag '40

ANEUPLOIDY. See Chromosomes

ANEURIN. See Vitamins—Vitamin B_1

ANGLE irons
Angle iron in welded machine construction. J. E. Hyler. diags Power Pl Eng 44:87 S '40

ANGLE of contact. See Contact angle

ANGLES
Effect of connections and rivet holes on ductility and strength of steel angles. J. A. Van den Broek. Civil Eng 10:83-6 F '40

ANGLO-CHILIAN nitrate corporation
Consolidated profit and loss account for years ended June 30, 1936-39. Comm & Fin Chr 149:3865 D 16 '39

ANGLO-DUTCH plantations of Java, limited
Ordinary general meeting, 30th, London. Economist 139:137 Jl 27 '40

ANGLO-FRENCH purchasing board
Allies oil up buying machinery; French and British buying missions complete headquarters organization. il Business Week p15-17 Ja 27 '40

Anglo-French purchasing board established in New York. Comm & Fin Chr 150:614 Ja 27 '40

Best bargain we can jolly well make. pors Fortune 21:68-71+ Ap '40

ANGLO-IRANIAN oil company, ltd.
Profits, 1937-39, and ordinary general meeting. Economist 139:223-4, 261 Ag 17-24 '40

ANHYDRIDES
Physical properties of the aliphatic acid anhydrides. D. T. Lewis. Chem Soc J p32-6 Ja '40

Sugar alcohols; a study of the effect of the anhydrides of sorbitol on the dissociation constant of boric acid. F. K. Bell, C. J. Carr and J. C. Krantz, jr. bibliog J Phys Chem 44:862-5 O '40

Analysis

Analytical procedures employing Karl Fischer reagent; the determination of acid anhydrides. D. M. Smith, W. M. D. Bryant and J. Mitchell, jr. Am Chem Soc J 62:608-9 Mr '40

ANHYDRITE
Deposition of calcium sulfate from sea water. E. Posnjak. bibliog Am J Sci 238:559-68 Ag '40

ANHYDROGALACTOSE
Properties of 3 : 6-anhydrogalactose. W. N. Haworth, J. Jackson and F. Smith. Chem Soc J p620-32 My '40

Studies on agar-agar; the isolation of derivatives of 3 : 6-anhydro-*l*-galactose from agar and the synthesis of their enantiomorphs. I. A. Forbes and E. G. V. Percival. Chem Soc J p1844-9 D '39

ANHYDROHEXITOLS
Chemistry of naturally occurring monoanhydrohexitols; synthetic tetramethylstyracitol. W. Freudenberg and J. T. Sheehan. bibliog Am Chem Soc J 62:558-60 Mr '40

ANILIDES
Melting points of the *p*-bromoanilides of solid fatty acids. D. F. Houston. bibliog Am Chem Soc J 62:1303-4 My '40

ANILINE
Aniline-bagasse plastics. T. R. McElhinney and S. I. Aronovsky. il Mod Plastics 17: 59-61, 88+ Je '40

Condensation of butyraldehyde and aniline. M. S. Kharasch, I. Richlin and F. R. Mayo. bibliog Am Chem Soc J 62:494-7 Mr '40

Effects of pressure, temperature and chemical composition on the absorption of light by mixtures of aromatic amines and nitro compounds. R. E. Gibson and O. H. Loeffler. bibliog Am Chem Soc J 62:1324-34 Je '40

Hydrogenation of aniline. C. F. Winans. bibliog Ind & Eng Chem 32:1215-16 S '40

Liquid-vapor equilibrium of aniline-water. J. Griswold and others. bibliog il diag Ind & Eng Chem 32:878-80 Je '40

Mechanism of the reaction between arylamines and benzoins. R. M. Cowper and T. S. Stevens. Chem Soc J p347-9 Mr '40

Molecular rearrangement of tertiary aryl alkyl anilines. P. J. Drumm, W. F. O'Connor and J. Reilly. Am Chem Soc J 62:1241-3 My '40

Probable solvation of aniline hydrochloride, aniline hydriodide, and α-naphthylamine hydriodide in aniline solution; a simple mathematical treatment. H. H. Hodgson and E. Marsden. Soc Chem Ind J 59:23-4 Ja '40

Progress in intermediates; coal tar products used in many industries. J. M. Weiss. il Chem Ind 46:686-92 Je '40

Analysis

Analysis of aniline-water solutions. J. Griswold. Ind & Eng Chem Anal ed 12:89-90 F 15 '40

Detection of aniline vapour. Chem & Ind 58: 1070-1 D 9 '39; Same. Engineering 148:718 D 29 '39

ANILINE black
Aniline black padding liquor for rayon. Textile Col 62:40 Ja '40

ANILINE hydriodide
Probable solvation of aniline hydrochloride, aniline hydriodide, and α-naphthylamine hydriodide in aniline solution; a simple mathematical treatment. H. H. Hodgson and E. Marsden. Soc Chem Ind J 59:23-4 Ja '40

ANILINE hydrochloride
Probable solvation of aniline hydrochloride, aniline hydriodide, and α-naphthylamine hydriodide in aniline solution; a simple mathematical treatment. H. H. Hodgson and E. Marsden. Soc Chem Ind J 59:23-4 Ja '40

ANILINE point
Critical solution temperatures and aniline points of some butane hydrocarbons. C. G. Ludeman. bibliog diag Ind & Eng Chem Anal ed 12:446-8 Ag 15 '40

Swelling of synthetic rubbers in mineral oils; effect of variation in aniline point of oils. F. H. Carman, P. O. Powers and H. A. Robinson. bibliog Ind & Eng Chem 32: 1069-72 Ag '40

ANILINE poisoning
Tests for aniline vapor. Am Dyestuff Rep 29:416+ Ag 19 '40

ANILS
Reactions of anils; a new type of Diels-Alder reaction. H. R. Snyder, R. B. Hasbrouck and J. F. Richardson. Am Chem Soc J 61:3558-60 D '39

Reactions of anils; addition of methyl ketones to benzalaniline in the presence of boron fluoride. H. R. Snyder, H. A. Kornberg and J. R. Romig. Am Chem Soc J 61:3556-8 D '39

Reactions of anils; the reactions of benzalaniline and cinnamalaniline with methyl acetylenedicarboxylate. H. R. Snyder, H. Cohen and W. J. Tapp. Am Chem Soc J 61:3560-1 D '39

ANIMAL buildings

Air conditioning

Air conditioning serves new industry; raising of chinchillas. A. T. Spangler and F. Pederson. il Heating-Piping 12:298 My '40

ANIMAL hospitals. See Hospitals, Veterinary

ANIMALS

How animals react to air conditions. S. Brody. Heating-Piping 12:584+ O '40

See also
Chimpanzees
Horses
Insects
Live stock

Diseases

Periodic die-off in certain herbivorous mammals and birds. F. W. Braestrüp. bibliog Science 92:354-5 O 18 '40

Food

Endogone as animal food. W. W. Diehl. Science 90:442 N 10 '39

ANIMALS, Fossil. See Paleontology

ANIMALS, Treatment of

Hazard on the hoof; preventing injuries to both man and beast; problems of handling live stock. H. R. Smith. il Nat Safety N 42:26-7+ N '40

ANIMATED cartoons. See Moving pictures, Talking—Animated cartoons

ANIONS

Catalytic toxicity and chemical structure; simple anions containing toxic elements. E. B. Maxted and R. W. D. Morrish. Chem Soc J p252-6 Mr '40

ANISEIKONIA. See Eye—Accommodation and refraction

ANISOTROPY

Plastic yielding and fatigue of ductile metals; a criterion and its application. R. W. Bailey. bibliog Inst Mech Eng J & Proc 143:Proc 101-7 My '40

ANISOTROPY, Magnetic. See Magnetic properties

ANISYLPYRIDINE

Arylpyridines; anisyl- and nitroanisylpyridines. J. W. Haworth, I. M. Heilbron and D. H. Hey. Chem Soc J p358-61 Mr '40

ANNAPOLIS, Maryland

Sewerage

Improving the operation of a small sewage treatment plant. C. G. Weber. il diags plan Water Works & Sewerage 87:309-13 Jl '40

ANNAPOLIS naval academy. See United States naval academy, Annapolis

ANN ARBOR, Michigan

Water supply

Development of Ann Arbor water supply. H. H. Caswell. map Am Water Works Assn J 32:1577-86 S '40

Operation of the Ann Arbor softening plant. H. E. McEntee. flow diag il Am Water Works Assn J 32:1600-18 S '40; Same. Water Works & Sewerage 87:391-400 S '40

Water softening at Ann Arbor. L. E. Ayres. il Am Water Works Assn J 32:1587-99 S '40; Same cond. diag plans Water Works & Sewerage 87:387-91 S '40

Water softening at Ann Arbor. H. H. Caswell. il Water Works & Sewerage 87:383-6 S '40

ANNEALING

Annealing of low carbon rimmed, aluminum-killed and silicon-killed steels. W. P. Wallace and R. L. Rickett. il Am Soc for Metals Trans 28:333-50; Discussion. 350-3 Je '40

Annealing of sheet; as it was in 1915 and as it is in 1940. E. G. deCoriolis. Metal Prog 37:306 Mr '40

How to anneal for superior drawing qualities. J. N. Crombie. il diag Steel 106:44-7 Mr 18 '40

Practical annealing. E. G. de Coriolis. il diags Iron Age 145:40-4 Ja 18; 30-3 Ja 25 '40; Same cond. Blast F & Steel Pl 28: 258-61, 351-3+ Mr-Ap '40

Radically new method of annealing wire reduces costs and increases output; Syncro machine co. cooperates with Surface combustion corporation. il Mach 46:272-3 D '39

Recovery and recrystallization; abstract. R. F. Mehl. il Metal Prog 37:158+ F '40

Short cycle annealing of malleable iron; continuous roller hearth and pusher tray furnaces. R. M. Cherry. il diags Iron Age 146: 34-7 S 26 '40

Some oxygen-free coppers; annealing and drawing characteristics. S. Rolle and H. M. Schleicher. bibliog Metals & Alloys 11:82-7 Mr '40

Strain annealing; combination of cold working and low temperature annealing. F. J. Robbins. Iron Age 144:33-8 D 14; 37-9 D 21 '39

Strand heat treating cold strip. N. P. Goss and C. H. Vaughan. il Steel 107:52, 54, 56-7+ S 9 '40

Strengthening anneal developed for nickel-chromium irons. Steel 107:52 N 11 '40; Engineer 170:273 O 25 '40

Structural changes in copper effected by cold rolling and annealing; abstract and discussion. M. Cook and T. L. Richards. Engineering 149:548 My 31 '40

ANNEALING furnaces. See Electric furnaces, Annealing; Furnaces, Annealing

ANNEALING of glass. See Glass manufacture

ANNIVERSARIES

Anniversaries; opportunities for printers. Inland Ptr 104:32-3 Ja '40

Next month in business; a calendar of coming events. Published in monthly numbers of American business

Printing's fifth centennial. il Ptr Ink Mo 40: 10-11 Mr '40

ANNIVERSARIES, Company

Cleans flags free to celebrate anniversary; C. G. Howes company, Boston. Am Business 10:38-9 O '40

Many happy returns; ways of celebrating bank birthdays. I. M. Bennett. Banking 32: 90 F '40

Open house made educational; Racine First national bank anniversary celebration. B. J. Bleakley. il Bankers Mo 57:264-6 My '40

250,000 cakes given away in celebration of seventieth anniversary of Standard oil company of Ohio. Ptr Ink 190:48 F 23 '40

Advertising

Anniversary outline; a successful 8-point program; plus 9 other workable ideas and 18 suggestions. Ptr Ink 190:41, 44+ F 23 '40

ANNUITIES

Annuity exhibit of life companies operating in Illinois as of Dec. 31, 1939. Nat Underw (Life ed) 44:25 Ap 26 '40

Comments on Wagner's annuity plan. H. J. Johnson. East Underw 40:5 D 1 '39; Same. Ins Field (Life ed) 68:9 N 24 '39; Same. Weekly Underw 141:1135 N 25 '39

Connecticut general life insurance company single premium insurance. Spectator (Life ed) 145:24 Jl 4 '40

Contract cannot be rescinded solely on ground that annuitant was suffering with fatal disease at time of issuance. Weekly Underw 141:1353 D 23 '39

Difficult to save on annuity costs; Wagner's assertions exposed. L. M. Buckley. East Underw 40:15 D 1 '39

Disability and annuity results of New York insurers. R. B. Mitchell. table Nat Underw (Life ed) 44:2+ Mr 8 '40

Equitable of N.Y. increases annuity rates. East Underw 41:14 O 25 '40; Nat Underw (Life ed) 44:18 O 25 '40

Federal plan for sale of annuities. Trusts & Estates 70:150 F '40

Government annuities plan arouse life men; Ohio association of life underwriters resolution. Weekly Underw 141:1303 D 16 '39

Government annuities would prove costly to taxpayers; abstracts. R. D. Murphy. East Underw 40:13 D 22 '39; Weekly Underw 141:1288+ D 16 '39; Nat Underw (Life ed) 43:6 D 22 '39

ANNUITIES—*Continued*
Government plan for annuities has many fallacies; criticisms of C. J. Zimmerman and others. Nat Underw (Life ed) 43:1, 28 N 24 '39
Illusions for sale; proposed government annuities; reprinted from Newsweek, Dec. 11, 1939. R. Moley. Weekly Underw 141: 1305 D 16 '39
Independence at 65; Americans have to be sold on income advantages over lump sum capital. H. P. Bickley. Spectator (Life ed) 145:6-7 Ag 15 '40
Lehman veto of bill providing exemption from levy by creditors. A. Hirst. East Underw 41:12 O 25 '40
Optional policy settlements and annuities. B. Jones. Weekly Underw 143:873-4+ O 12 '40
Payments under annuity contracts as of 1939; tabulation. Spectator (Life ed) 145:7 Ag 15 '40
Pension plans and social security; shift to group-annuity plan; abstract. F. B. Brower. Management R 29:24-5 Ja '40
Postoffice annuity plan's weaknesses. C. J. Zimmerman. East Underw 40:18 N 24 '39
Senator Wagner says annuity bill will be introduced at present session of Congress. Ins Field (Life ed) 69:10 Ja 19 '40
Status of Canadian annuities. H. J. Daniels. Comm Rep p204 Mr 2 '40
Three points of difference; proposed sale of government annuities. H. J. Johnson. Spectator (Life ed) 144:11+ F 1 '40
Two cent stamp and an annuity, please; symposium on government annuities with excerpts from Ray Murray's recent address. F. Ellington. Spectator (Life ed) 144:6-10+ F 1 '40
Two efforts by policyholders to rescind annuities are defeated. Nat Underw (Life ed) 44: 33 Ap 5 '40
Wagner annuity proposal being opposed. Weekly Underw 141:1109+ N 25 '39
Wagner proposal for government annuities has unsuccessful Canadian prototype. Nat Underw (Life ed) 43:10 D 1 '39

See also
Old age pension
Pensions, Industrial

Rates

Provident Mutual Life increases rates for single premium life annuities and single premium installment refund annuities. Nat Underw (Life ed) 44:23 S 6 '40
Provident mutual life insurance company new rates. Spectator (Life ed) 145:20 S 12 '40
Prudential issues new installment refund annuity rates. Nat Underw (Life ed) 44:26 Mr 1 '40

Taxation

Cutting taxes on endowment policies; Treasury ruling permits saving where proceeds are paid as annuities. L. J. Freeman. Barron's 20:7+ S 16 '40

ANODE effect
Anode effect as a function of temperature. P. L. Copeland. diags Phys R 57:625-34 Ap 1 '40

ANODES. See Electrodes

ANOPHELES punctipennis. See Mosquitoes

ANTARCTIC exploration
First exploring expedition to antarctic continent. Science 91:sup12 Mr 1 '40

Byrd expedition, 1939

President Roosevelt urges Congress to vote more funds for antarctic expedition. Comm & Fin Chr 150:2343-4 Ap 13 '40
South polar Diesel performance; U.S.S. Bear in the Antarctic. O. A. Sibley. il Marine Eng 45:63-5 O '40
U.S.S. Bear, flagship of South polar expedition. il Marine Eng 45:56-8 Ja '40

ANTARCTIC regions
Antarctic snow cruiser. il plans Engineer 169: 413-15 My 3 '40
Antarctic snow cruiser. P. J. FitzPatrick. il W Soc E J 45:121-30 Je '40
Centenary celebration; the Wilkes exploring expedition of the United States navy, 1838-1842; and symposium on American polar exploration, February 23-24, 1940. il diags maps Am Philosophical Soc Proc 82:519-950, pl 1-4 '40 (pa $2.50)
Report of cosmic ray observations made on the U.S. Antarctic expedition in coöperation with the Bartol research foundation. S. A. Korff and E. T. Clarke. bibliog il diags Franklin Inst J 230:567-81 N '40
Snow cruiser, a mobile base for Antarctica. il plan Sci Am 162:25 Ja '40
Two men in the Antarctic; an expedition to Graham Land, 1920-1922. T. W. Bagshawe. 292p $3.75 Macmillan '39

ANTHOCYANINS
Anthocyanin pigment of the Hunt muscadine grape. W. L. Brown. bibliog Am Chem Soc J 62:2808-10 O '40

ANTHRACENE
Conjugation of amino acids with isocyanates of the anthracene and 1,2-benzanthracene series. L. F. Fieser and H. J. Creech. bibliog Am Chem Soc J 61:3502-6 D '39
meso-Alkyl anthracenes. L. F. Fieser and T. G. Webber. bibliog Am Chem Soc J 62: 1360-2 Je '40
New route to 9-alkyl- and 9-arylanthracenes. C. K. Bradsher. bibliog Am Chem Soc J 62:486-8 Mr '40
Reaction of bromine with anthracene in dioxane. C. C. Price and C. Weaver. Am Chem Soc J 61:3360-1 D '39
Thermal data on organic compounds; modern combustion data for some non-volatile compounds containing carbon, hydrogen and oxygen. J. W. Richardson and G. S. Parks. bibliog Am Chem Soc J 61:3543-6 D '39

ANTHRACITE conference of Lehigh university
Transactions of the third annual Anthracite conference of Lehigh university, May 9-10, 1940, Bethlehem, Pa. 238p Anthracite industries, Chrysler bldg, New York '40

ANTHRAQUINONE
Action of phenylmagnesium bromide on anthraquinones. C. F. H. Allen and A. Bell. bibliog Am Chem Soc J 62:2408-12 S '40
Oxidation of aromatic hydrocarbons. C. R. Downs. bibliog il Ind & Eng Chem 32:1294-8 O '40

ANTHROPOLOGY
American association of physical anthropologists meeting, 1940, New York; abstracts of papers. Science 91:sup10-11 My 17 '40
Human science. C. T. Weller. Elec Eng 58: 515-16 D '39
Introduction to cultural anthropology. R. H. Lowie. new & enl ed 584p bibliog(p550-68) $3.50 Farrar '40
Race, language and culture. F. Boas. 647p $5 Macmillan '40
Science in 1939. Science 90:sup16 D 22 '39
Why men behave like apes and vice versa or, Body and behavior. E. A. Hooton. 234p $3 Princeton univ. press '40

See also
Archeology
Man, Prehistoric

History

Discovery of man; the story of the inquiry into human origins. S. Casson. 339p $3 Harper '39

ANTI-AIRCRAFT guns. See Guns, Anti-aircraft

ANTIBODIES. See Antigens and antibodies

ANTICOINCIDENCE counters. See Coincidence counting

ANTI-FREEZE solutions
Antifreeze lines expand. Business Week p40-1 S 28 '40
Glycerine, an antifreeze aid. Bus Transportation 19:82-3 F '40

ANTI-FRICTION bearings. See Bearings, Anti-friction

ANTIGENS and antibodies
Action of type-specific antibody upon the pulmonary lesion of experimental pneumococcal pneumonia. W. B. Wood, jr. bibliog Science 92:15-16 Jl 5 '40
Association of the heterogenetic antigen with a material in normal and tumor tissues sedimentable at high speed. J. Furth and E. A. Kabat. Science 91:483-5 My 17 '40
Immunity to experimental pneumococcal infection with an artificial antigen containing a saccharide of synthetic origin. W. F. Goebel. Science 91:20-1 Ja 5 '40
Serological specificity of heavy particles derived from normal organs. W. Henle and L. A. Chambers. bibliog Science 92:313-15 O 4 '40
Simple method for preparing antigenic substances from the typhoid bacillus. J. W. Palmer and T. D. Gerlough. Science 92: 155-6 Ag 16 '40
Studies on the toxins and antitoxins of clostridium perfringens. S. E. Stewart. Pub Health Rep 55:753-75 bibliog(53 titles, p773-5) My 3 '40
Studies on trichinosis; the antigenic phase of trichinosis. J. Bozicevich and L. Detre. bibliog Pub Health Rep 55:683-92 Ap 19 '40
Synthetic immunochemistry. C. R. Harington. Chem Soc J p119-28 F '40
Theory of the structure and process of formation of antibodies. L. Pauling. bibliog il Am Chem Soc J 62:2643-57 O '40
See also
Immunity

ANTIHEMORRHAGIC compounds. See Vitamins—Vitamin K

ANTILEAFLET ordinances. See Handbills

ANTIMALARIALS. See Malaria

ANTIMONY
Antimony in mild steel. B. Jones and J. D. D. Morgan. bibliog Iron & Steel Inst J 140:115-36, pl 18-20 no 2 '39; Excerpts. Iron Age 144:47 O 12 '39
Application of electromotive force measurements to binary metal systems; cadmium-antimony, zinc-antimony systems. H. Seltz. diag Electrochem Soc Trans 77 (preprint 17):230-40 Ap '40
Bolivia for strategic minerals. P. H. Reagan. il Eng & Min J 141:54-8 O '40
Iodofluoride method for the determination of copper; effects of antimony, aluminum, and calcium. W. R. Crowell and A. T. Spiher. Ind & Eng Chem Anal ed 12:147 Mr 15 '40
Progress reports. Metallurgical division; electrometallurgical investigations; recovery of antimony from gold ores. J. Koster and M. B. Royer. il diags U S Bur Mines Rep of Invest 3491:1-23 '40
Review of the strategic metals. G. A. Roush. Metals & Alloys 12:420-1 O '40
South America as a source of strategic minerals. C. W. Wright. Min & Met 21:285-6 Je '40
Study of the nuclear radiations from antimony and arsensic. A. C. G. Mitchell, L. M. Langer and P. W. McDaniel. bibliog diags Phys R 57:1107-17 Je 15 '40

Isotopes
Evidence for a nuclear electric quadrupole moment for Sb^{123}. D. H. Tomboulian and R. F. Bacher. Phys R 58:52-4 Jl 1 '40

ANTIMONY chlorides
Band spectrum of antimony chloride. W. F. C. Ferguson and I. Hudes. bibliog il Phys R 57:705-7 Ap 15 '40
Kinetics of the catalysed polymerisation of styrene; on the mechanism of metal chloride catalysis. G. Williams. Chem Soc J p775-84 Je '40

ANTIMONY compounds
Studies in the biphenyl series; some *o*-biphenyl derivatives of phosphorus, arsenic and antimony. D. E. Worrall. Am Chem Soc J 62:2514-15 S '40
See also
Trimethylstibine

ANTIMONY nitride
Emission spectrum of antimony nitride. N. H. Coy and H. Sponer. bibliog il Phys R 58: 709-13 O 15 '40

ANTIMONY oxides
Development of opacity in superopaque enamels. B. W. King, jr. and A. I. Andrews. il diag Am Cer Soc J 23:228-32 Ag '40
Reactions taking place during smelting of superopaque antimony enamel. B. W. King, jr. and A. I. Andrews. Am Cer Soc J 23: 225-8 Ag '40

ANTIOXIDANTS
Antioxidants and the autoxidation of fats; autoxidation of oleic acid, methyl oleate, oleyl alcohol, and *cis*-9-octadecene. F. E. Deatherage and H. A. Mattill. bibliog diag Ind & Eng Chem 31:1425-31 N '39
See also
Oat flour

ANTIOXIDANTS for rubber. See Rubber—Aging

ANTI-PICKETING ordinances. See Picketing

ANTIPLASMODIAL action. See Plasmodium

ANTIQUES
Antique collector's guide and reference handbook. G. W. Harper, ed. 87p bibliog (p15-21) $1 George W. Harper, 95 Madison av, New York '39
Antiquer's picture book. M. N. Rawson. 96p $2.50 Dutton '40
Collecting antiques in America. T. H. Ormsbee. 319p $3.50 Robert M. McBride & co, New York '40

ANTIRACHITIC vitamins. See Vitamins—Vitamin D

ANTISEPTICS
Bactericidal properties of commercial antiseptics; further study of the effect of pH. W. A. Bittenbender and others. bibliog Ind & Eng Chem 32:996-8 Jl '40
α,ω-Di-*p*-hydroxyphenyl alkanes. E. M. Richardson and E. E. Reid. bibliog Am Chem Soc J 62:413-15 F '40
Effect of ortho substituents on the bacteriostatic properties of phenylacetic acid; abstract. Degering and others. Food Ind 12: 99-100 O '40
Modern antiseptics for the rubber industry. R. A. Engel. il Rubber Age 46:163-4+ D '39
Production tips on disinfectants, antiseptics, germicides. B. Levitt. il Chem Ind 46:334-5 Mr '40
La protection des sacs de jute. G. Batta and L. Fabry. Chimie & Ind 43:535-8 Ap 5 '40
See also
Disinfection and disinfectants
Merthiolate

ANTI-SLIP surfaces. See Floors—Anti-slip surfaces

ANTI-TARNISH paper. See Paper, Anti-tarnish

ANTWERP, Belgium
Antwerp and German trade. Economist 137: 375 D 9 '39

ANVILS
Anvils of rolled steel plate. il Iron Age 146:34 Ag 29 '40

APARTMENT hotels

Equipment
Gas for all four; Shangri-La apartment hotel at Santa Monica. F. A. Herr. il Am Gas J 153:7-9+ Jl '40

Heating and ventilation
Gas for all four; Shangri-La apartment hotel at Santa Monica. F. A. Herr. il Am Gas J 153:7-9+ Jl '40
Separate bathroom heating system for Santa Monica apartment; Shangri-La apartment hotel. il Heat & Ven 37:30-1 N '40

APARTMENT houses
Introducing the cavity brick wall; Montclair, N.J. apartment house. il diags Eng N 125: 332-3 S 12 '40

APARTMENT houses—*Continued*
Lively debate over fire risk in single exit plan of FHA. Nat Underw 44:2 My 16 '40
Multiple dwellings in New York city. Monthly Labor R 51:644-6 S '40
Three jinx in new apartments are high rents, low working capital and out-of-season completion. il Arch Forum 73:210-12+ S '40
USHA housing; Willert Park, Buffalo, N.Y. il plans Arch Forum 72:20-2 Ja '40

Air conditioning
Cooled apartments, St Louis, Mo. il Heat & Ven 37:46 Jl '40
Fleetwood acres, Bronxville, N.Y. C. F. Holske. il diags plans Heat & Ven 37:26-9 Jl '40
4801 Connecticut ave. Washington, D.C.; illustrations. Heat & Ven 37:37 Jl '40

Designs and plans
Building Parkchester; world's largest residential community for Metropolitan Life. il plan Am Bld 62:38-42+ Ag '40
Castle Village apartments, New York. il plans Am Bld 62:70-1 Jl '40
Garden apartments come of age. il plans Arch Forum 72:309-22 My '40
Hillside apartment group serviced by a funicular-elevator. il diags plans Arch Rec 86:41-3 D '39
Metropolitan's Parkchester, The Bronx, New York. il diags plans map Arch Forum 71: 412-26 D '39
More integration, less prefabrication spells success for American houses, inc; $2,750 houses, $20-per-room apartments. Arch Forum 73:69-72+ Jl '40
New apartment buildings; planning the Normandy apartments, New York. E. Roth. il plan Arch Rec 88:86-7 Ag '40
New apartments in Chicago stress flexible planning. il plans Arch Rec 87:41-4 My '40
New features in Evanston, Ill. apartment. il plans Am Bld 62:96-8 Ap '40
New ideas are essential to urban apartments built for investment. J. R. Von Sternberg. il diags plans Arch Rec 88:80-5 Ag '40
Redmont Gardens in Birmingham follow latest type planning. il plans Am Bld 62: 54-5 N '40
Two large-scale multifamily projects; FHA Parklane apartments, Houston, Tex. and USHA Holly Courts housing project, San Francisco. il diags plans Arch Rec 88:39-49 O '40
USHA housing; Queensbridge, New York. Arch Forum 72:13-15 Ja '40
Urban apartments; building types with case studies and time-saver standards. il diags plans Arch Rec 88:79-100 Ag '40

See also
Apartment houses, Remodeled

Electric equipment
Demand totalized for housing project; impulse wiring for both residential and commercial rates, terminating in single demand meter; Parkchester housing development of the Metropolitan life insurance company. C. V. Morey. il diags plan Elec W 114:838-40 S 21 '40

Finance
New apartment buildings; planning the Normandy apartments, New York. E. Roth. il plan Arch Rec 88:86-7 Ag '40

Garden apartments
Garden apartments come of age. il plans Arch Forum 72:309-22 My '40
Heating a garden apartment project. H. Raisler. Heating-Piping 12:553 S '40

Heating and ventilation
Apartment house issue. il diags plans Heat & Ven 37:22-48+ Jl '40
Design and installation of a central hot water heating plant; Chatham Park Village, Chicago apartment project. C. G. Wohlfarth. il Heating-Piping 12:413-16 Jl '40
Getting boilers into a tight spot; installation in Beaux Arts apartments, New York. E. A. Kingsley and R. S. Bruns, jr. il diag Heating-Piping 12:291-3 My '40
Heating a garden apartment project. H. Raisler. Heating-Piping 12:553 S '40

Rating
Mortgagees probe and improve New York construction, cease lending in the dark; Mortgage conference. il Arch Forum 72: 371-2+ My '40

Submetering problem
Meeting the submetering problem; decisions in leading cases. R. M. Barton. Pub Util 25: 109-13 Ja 18 '40

APARTMENT houses, Remodeled
Remodeled apartment house, New York city. il diags plans Arch Forum 73:94-8 Ag '40
Two-flats are easily brought up-to-date at moderate cost; with specification outline. il plan Am Bld 62:102+ Ap '40

APARTMENTS
Apartment planning provisions; plans. Arch Rec 88:88-90 Ag '40
Dental office and apartment combined, Clayton, Mo. il diag plans Arch Rec 88:54-5 O '40
Design decade; pint house; one-room apartment. diags plan Arch Forum 73:274 O '40
Making maximum use of minimum space; interior design of minimum apartments and multipurpose rooms. V. Conner. il diags plans Arch Rec 88:61-6 S '40
Unused fruit cellar made into rentable small apartment. W. H. Samuelson. il plan Am Bld 62:100-1 O '40

APATITE
Basic calcium phosphates and related systems; some theoretical and practical aspects. S. Eisenberger, A. Lehrman and W. D. Turner. Chem R 26:257-96 bibliog (230 references, p290-6) Ap '40
Russian apatite for Germany. Chem Age (Lond) 42:259 My 4 '40

APES
See also
Chimpanzees

APHORISMS
Meditations in Wall Street. 148p $1.50 Morrow '40

APLITE
Aplite, a new ceramic material. P. S. Dear and J. W. Whittemore. Am Cer Soc J 23: 77-80 Mr '40
Contribution of differential pressures to magmatic differentiation. R. C. Emmons. bibliog diags Am J Sci 238:1-21, pl 1-2 Ja '40

APOCAMPHANEACETIC acid
Studies in the omega-camphor series; on the synthesis of 2-keto-apocamphane-1-acetic acid. T. Hasselstrom and B. L. Hampton. Am Chem Soc J 61:3445-8 D '39

APOPHYLLITE
Use of zeolitic membrane electrodes. C. E. Marshall. bibliog J Phys Chem 43:1155-64 D '39

APPALACHIAN electric power company
Earnings, 1937-39. Comm & Fin Chr 150:3962-3 Je 22 '40

APPALACHIAN mountains
Crustal shortening and axial divergence in the Appalachians of southeastern Pennsylvania and Maryland. E. Cloos. diags maps fold table Geol Soc Bul 51:845-71 bibliog(p869-71) Je '40

See also
Geology—Appalachian region

APPENDICITIS
Appendicitis causes far too many deaths. Pub Health Rep 55:1691-2 S 13 '40

APPLE jelly
Utilizing wastes from apple butter manufacture; abstract. S. M. Yastreboy. Food Ind 12:94 My '40

APPLE juice
Canning of apple juice; abstract. H. L. Sipple, G. H. McDonnell and R. H. Lueck. Food Ind 12:96 Je '40
New apple juice industry. Can Chem & Process Ind 24:293 Je '40

APPLES
Apple-milk confection for partial utilization of surplus and cull apples; with cost estimate. F. C. Vilbrandt and R. D. Sieg. bibliog Ind & Eng Chem News ed 18:897-8 O 25 '40
Latex-wrapped apples. Rubber Age 46:167 D '39
Removing excess carbon dioxide from a controlled atmosphere fruit storage. A. Van Doren. il diag Refrig Eng 40:303-4 N '40
Some experiments on the concentration and drying of fruit products; abstract. V. L. S. Charley. Chem & Ind 59:728-9 O 26 '40
Spray residue tolerances for apples and pears. Ind Stand 11:229 S '40
Studies on the detoxication mechanism; the ability of the apple or its constituents to counteract the toxic effects of lead and arsenic. I. A. Manville and others. bibliog J Ind Hygiene 22:36-47 Ja '40

Advertising

Apple men rejoice; Washington growers aided by national advertising. Business Week p44-5 Jl 20 '40
Sales of all apples boosted by this advertising, but advertiser gains most; survey of five Texas cities. Ptr Ink 190:17-19 Ja 12 '40

Grading

Machine grades sizes by weight. H. W. Young. il Food Ind 12:53 Je '40

Statistics

American apples; U.S. apple exports, 1937-38 to 1939-40. Economist 138:1123 Je 29 '40
Apples, 1936-1939. Survey of Cur Business 1940 Sup p104 [supplemented in monthly numbers]

Storage

Air conditioned apples; control of temperature and humidity with blower coils. F. W. Swan. il diags Refrig Eng 40:78-80+ Ag '40
Cold storage and freezing research; researches with fruit and vegetables at the University of Maryland. A. L. Schrader. bibliog Refrig Eng 40:163 S '40
Effect of oxygen and carbon dioxide tension in the atmosphere on chemical change in stored apples; abstract. F. Kidd and C. West. Food Ind 12:91 S '40
Gas storage; use of atmospheres modified by carbon dioxide for fruits and vegetables in storage and transit. C. Brooks. bibliog Can Chem & Process Ind 24:111-12 Mr '40
Modified atmospheres for fruits and vegetables in storage and in transit. C. Brooks. Refrig Eng 40:233-5 O '40

APPLETON, Wisconsin

Water supply

Control of algae at Appleton. W. U. Gallaher. map Am Water Works Assn J 32:1165-75 Jl '40

APPLICATIONS for positions
Career clinic: the answer to your job problem. E. E. Brooke. 290p $1.90 Farrar '40
Help for the hirer; Trane company, La Crosse, Wis. R. W. Gillette. Factory Management 98:60-2 Mr '40
How to apply for a position by letter and interview. M. H. Weseen. 2d ed 104p $1.50; pa 65c Nebraska book co, Lincoln '39
Jobs for graduates in chemistry. G. R. Robertson. J Chem Educ 17:259-62 Je '40
Personal salesmanship. B. F. Williams. 3d ed 197p $1.50 Williams co, 1006 Grand av, Des Moines, Iowa '40
Presentations for advertising jobs. il Adv & Sell 33:27, 40 O '40
Sizing up job applicants. E. N. Hay. Personnel J 18:258-61 Ja '40

APPRAISAL. See Valuation

APPRENTICES
Apprentice training; abstract. A. L. Armantrout. Steel 106:54 My '40
Apprentice training; abstracts of American foundrymen's association papers. Foundry 68:67-8 Jl '40
Apprentice training on the Canadian National. A. H. Williams. Ry Mech Eng 113: 498-502 N '39
Apprenticeship; a necessary investment for the future. W. F. Patterson. il Dun's R 48:5-8 Je '40
Apprenticeship in the machine-tool industry. E. H. Neff. Mech Eng 62:471-2 Je '40
Apprenticeship, 1940; plant training program of Fairbanks, Morse & co. cited by Federal committee on apprenticeship. Business Week p56 S 14 '40
Apprenticeship pool proposed in New York. Eng N 123:808 D 21 '39
Bill Smith, jr. learns his trade; Kearney & Trecker apprentice system. R. R. Wiese. il Am Mach 83:1025-7 D 13 '39
Breaking the labor bottlenecks; programs to up-grade or refresh existing skills and apprentice training. Business Week p30+ S 28 '40
Coordinated training program that has produced results; Warner & Swasey co. il Mach 46:93-7 Ag '40
Functions of the Federal committee on apprenticeship. M. M. Hanson. Ry Mech Eng 113:439-40 N '39
How G. E. trains apprentices. il Business Week p46 N 2 '40
No apprentices? W. F. Simon. il Am Mach 84:537-9 Jl 24 '40
Pontiac apprentice school. H. E. Blank, jr. il Automotive Ind 83:504 N 1 '40
Selection and training of apprentice gasfitters. M. S. Viteles. Am Gas Assn Proc 1939:559-65
Skilled workers for defense industries; apprentice training costs. C. S. Slocombe. Personnel J 19:178-9 N '40
Training boilermaker apprentices to become better mechanics; Master boiler makers' association committee report. Ry Mech Eng 113:443-5 N '39
Training in the small shop. E. G. Marshall. il Am Mach 84:745-6 O 2 '40
Training systems pay dividends; training foundrymen and castings salesmen. E. Bremer. il Foundry 68:92-4+ My '40
Wanted: apprentices for auto parts and tool shops. Business Week p35-6 Je 8 '40
We need apprentices! problem power men must face. P. Swain. Power 83:765-6 D '39
Who will be the building craftsmen of tomorrow? J. D. Wilson. Am Bld 62:46-7+ Jl '40
Young men in industry; teach your boy a trade. H. V. Smith. Oil Paint & Drug Rep 137:30B Ap 8 '40

See also
Employees, Training of

Bibliography

Industrial training for the present crisis, with special reference to the metal trades. Cleveland Pub Lib Business Information Bur v 11, no 4:1-4 Jl '40

APTITUDE tests. See Ability tests

AQUARIUMS
Field guide to lower aquarium animals. E. T. Boardman. 186p bibliog(p167-73) $1.50; pa $1 Cranbrook inst. of science, Bloomfield Hills, Mich. '39
Oil fired boilers heat Florida aquarium. Heat & Ven 37:23 Je '40

AQUATIC plants
Manual of aquatic plants. N. C. Fassett. 382p bibliog(p353-6, 358) $4 McGraw-Hill '40

See also
Water hyacinth

AQUEDUCTS
Baltimore's new aqueduct; dynamite's part in the construction of the new Gunpowder falls-Montebello filters water tunnel; with photographs by G. W. Schudel. diags plan Explosives Eng 17:356-68 D '39

AQUEDUCTS—*Continued*
Billion gallons not enough; Delaware aqueduct project. C. M. Clark. il map Eng N 124:513-15 Ap 11 '40
Delaware aqueduct. il diags plans map Eng N 124:584-8, 656-8, 797-800; 125:109-13, 288-93, 418-21 Ap 25, My 9, Je 6, Jl 18, Ag 29, S 26 '40
Delaware aqueduct, New York. il diags map Engineer 170:100-2, 116-17 Ag 16-23 '40
Disinfecting tunnel muck. il plan Comp Air M 45:6110 Mr '40
Driving a tunnel beneath the Hudson river; Delaware aqueduct. R. G. Skerrett. il Comp Air M 45:6226-32 S '40
85 miles of hazard; supervising protection of workers on the Delaware aqueduct. il Nat Safety N 41:20-1 Je '40
Making every minute count in tunnel driving; Delaware aqueduct. R. S. Byers. il diag map Comp Air M 45:6116-22 Ap '40
Mono Basin project. il diags plan map Engineer 169:548-9, 566-7, 572 Je 21-28 '40
Mono Craters tunnel construction problems. H. L. Jacques. diags Am Water Works Assn J 32:43-56 Ja '40; Abstract. Eng N 124:325 F 29 '40
New York city's Delaware water supply system. il diags plan Explosives Eng 18:73-88+, 114-18, 138-42 Mr-My '40
Plugs for aqueduct testing formed from steel plates; new Boston pressure aqueduct. S. M. Dore. il Eng N 124:330-1 F 29 '40
Quarter century of aqueduct maintenance; Los Angeles aqueduct; interview with J. E. Phillips. il diag Eng N 124:784-7 Je 6 '40
Steel, welding equipment from U.S. used in Brazil's new water line. il Iron Age 146:82 S 19 '40
$21,000,000 contract on the Delaware aqueduct. E. H. Hatch. il diag Comp Air M 45: 6285-90 N '40

Cost

Aqueduct tunnel, Newark, N.J.; unit prices. Eng N 124:834 Je 13 '40

AQUIFERS. See Water, Underground

AQUILEGIA vulgaris
Blue and purple dyes from aquilegia vulgaris. C. D. Mell. Textile Col 62:633 S '40

AQUO-AMMONOSULFURIC acids
Sulfamic acid, sulfamide, and related aquo-ammonosulfuric acids. L. F. Audrieth and others. Chem R 26:49-94 bibliog(145 references, p91-4) F '40

ARABAN
Pectic substances; citrus araban. G. H. Beaven, E. L. Hirst and J. K. N. Jones. Chem Soc J p1865-8 D '39

ARABIA
See also
Gold mines and mining—Arabia

Antiquities

See also
Ezion-geber

ARABIC acid
Constitution of arabic acid; degraded arabic acid. F. Smith. Chem Soc J p1724-38 N '39
Constitution of arabic acid; methylated arabic acid. F. Smith. Chem Soc J p1035-51 Ag '40
Constitution of arabic acid; the formation of 3-galactosidogalactose by hydrolysis of degraded arabic acid. J. Jackson and F. Smith. Chem Soc J p79-82 Ja '40
Constitution of arabic acid; the isolation of methyl heptamethyl aldobionate from methylated degraded arabic acid. J. Jackson and F. Smith. Chem Soc J p74-8 Ja '40

ARABINOSE
Analysis of the fibrous and carbohydrate constituents of feeding stuffs; the furfuraldehyde-yielding constituents. E. G. Hallsworth. Soc Chem Ind J 58:357-63 D '39
Isolation of keturonic acids; isolation of crystalline brucine salts of keturonic acids prepared by oxidation of *l*-xylose, *l*-arabinose and *d*-glucosamine. L. T. Crews, J. P. Hart and M. R. Everett. Am Chem Soc J 62:491-3 Mr '40

ARABOGALACTAN
Chemistry of wood; the esters and ethers of the water soluble polysaccharides of larch wood. F. C. Peterson and others. Am Chem Soc J 62:2361-5 S '40
Viscosities of arabogalactan solutions. H. S. Owens. bibliog Am Chem Soc J 62: 930-2 Ap '40

ARAGONITE
X-ray study of aragonite in natural and cultured pearls. A. E. Alexander. bibliog Am J Sci 238:366-71, pl 1-3 My '40

ARBITRAGE
Add war casualties: arbitrage. Business Week p60 O 5 '40
Arbitraging medium, lower grade bonds. P. B. B. Andrews. Annalist 56:431+ O 3 '40

ARBITRATION
Air arbitration. Business Week p16 N 11 '39
Arbitration circles the globe; American arbitration association sets up International panel to handle war contracts. Business Week p18 D 30 '39
Arbitration; commercial and industrial. C. Caldwell. Aero Digest 36:31-2+ Ap '40
Improving public relations through arbitration. L. H. Pink. Weekly Underw 142:1517 Je 22 '40
India arbitration act, 1940. J. O. Janousek. Comm Rep p547 Je 22 '40
India arbitration act of 1940; text. Compar Law Ser 3:419-30 Ag '40
Inter-American commercial arbitration commission. T. J. Watson. 16p Inter-American commercial arbitration commission, 8 W. 40th st, New York '40
Key to commercial peace. P. M. Haight. il Credit & Fin Management 42:11-13 Ap '40
Movies arbitrate; disputes will be handled by American arbitration association. Business Week p15 N 2 '40
Pan-Americanism and arbitration; progress of commercial arbitration. J. B. Ross. Compar Law Ser 3:181-2 Ap '40
Procedure in Argentina. H. P. Crawford. Comm Rep p321+ Ap 6 '40
Procedure in Mexico. H. P. Crawford. Comm Rep p323-4 Jl 20 '40
Report of the Inter-American commercial arbitration commission; submitted to the eighth International conference of American states. 38 l Pan American union, Washington, D.C. '38

ARBITRATION, Industrial
Activities of United States conciliation service. Published in Monthly labor review
Activities of U.S. conciliation service, July 1939 and year 1938-39. Monthly Labor R 49: 704-7 S '39
Adjustment of labor disputes. F. Peterson. Monthly Labor R 49:1023-44 N '39
Alcoa settlement. Business Week p12 Jl 20 '40
Arbitration and technological changes. S. Barkin. Management R 29:291-2 Ag '40
Call for Dr Millis; public relations work for labor unions. Business Week p36-8 S 28 '40
Enforcement of New Zealand conciliation and arbitration act. Monthly Labor R 50:620-1 Mr '40
Engineers as arbitrators. O. S. Beyer. Elec Eng 59:102-3 Mr '40
First aid treatment for labor ills; American arbitration association. W. Waldron. il Nation's Business 28:24+ Je '40
Industrial-relations machinery in democratic foreign countries. M. H. Schoenfeld. Monthly Labor R 49:1050-74 N '39
Labor under German democracy, arbitration 1918-1933. F. Wunderlich. 101p bibliog(p95-6) Graduate faculty of political and social science, New school for social research, New York '40
Municipal labor boards of Toledo and Newark. W. L. Nunn. Monthly Labor R 49:1045-9 N '39

ARBITRATION, Industrial—*Continued*
Survey of the methods for the promotion of industrial peace. G. T. Starnes, J. R. McCutcheon and J. M. Stepp. diags 146p bibliog(p143-6) pa $1 Division of publications of Bur. of public administration, Charlottesville, Va. '39

See also
National mediation board
National railroad adjustment board
Strikes
also United States—Labor, Department of—Conciliation service

ARBITRATION, International
Good-neighbor policy praised as agency for peace. S. Braden. Comm & Fin Chr 150: 2354 Ap 13 '40

ARBORS and mandrels
Centering arbor for facing flanges of cast-iron fittings. M. H. Ball. diag Mach 46:117 Ag '40
Hall cutter arbor embodies Collet principle. diag Steel 106:364 Ja 1 '40
Mandrel thrust collar designed for lengthwise adjustment. E. Waterman. diag Mach 46: 112 Ag '40
Slotted sleeve on mandrel holds two pieces. H. Moore. diags Am Mach 84:584 Ag 7 '40
Split arbor for trimming flanges. E. O. Schray. diags Am Mach 84:664-5 S 4 '40
Turret lathe tooling. J. R. Longstreet and W. K. Bailey. diags Am Mach 84:132 Mr 6 '40

ARC lamps. See Electric lamps, Arc

ARC welding. See Electric welding, Arc

ARCH supports
Plastics competition; award to National foot appliance laboratory. il Mod Plastics 18: 76, 98 O '40
Stylized foot comfort; lightweight plastic arch supports. il Mod Plastics 17:32-3 Ag '40

ARCHAEOLOGY. See Archeology

ARCHED bridges. See Bridges, Arched

ARCHEOLOGY
Basic needs of American archeology. C. E. Guthe. Science 90:528-30 D 8 '39
Buried empires; the earliest civilizations of the Middle East. P. Carleton. 290p $3 Dutton '39
Discovery of man; the story of the inquiry into human origins. S. Casson. 339p $3 Harper '39
Lawson prehistoric village site, Middlesex county, Ontario. W. J. Wintemberg. 104p, 18pl bibliog(p60-4) pa 25c Canada. Dept. of mines and resources, Ottawa '39
Science in 1939. Science 90:sup16 D 22 '39

See also
Excavations (archeology)
Man, Prehistoric
also subdivision Antiquities under names of countries, e.g. United States—Antiquities

ARCHES
Buckling of a thin circular arch. J. Ratzersdorfer. Engineering 150:284-5 O 11 '40
Rigid arch frame spans 250-ft. arena; Indianapolis Coliseum designed for quick conversion from ice rink to livestock pavilion to convention hall. il Arch Rec 88:47 Jl '40
Stabilising effect of passive resistance on underground arches. J. D. W. Ball. diags Engineer 170:119-20 Ag 23 '40

See also
Bridges, Arched

ARCHES, Concrete
Design of arch dams; with tables to facilitate the computation of forces, moments, and radial deflections. R. S. Lieurance. diags Am Soc C E Proc 66:829-51 My '40
Plain and reinforced concrete arches; report of committee 312. Am Concrete Inst J 12: 1-26 bibliog(p25-6) S '40
Traveler speeds arch viaduct forms; link in the approach system of the George Washington bridge. K. A. Sheppard. il diags Eng N 125:334-6 S 12 '40

Centering
Movable centring for reinforced-concrete arches. V. Cherre. il diags Engineering 149:321-2 Mr 29 '40

ARCHES, Wood
Glued laminated wooden arch. T. R. C. Wilson. il diags U S Agric Tech Bul 691:1-123 bibliog(p121-2) '39
Timber arches for buildings; five highway equipment buildings; reinforced concrete buttresses support glued laminated timber arches. A. S. Friedman. il Eng N 124:847 Je 20 '40
W.P.A. job-fabricates laminated wood arches; glued-up units span 48 foot University of Washington theater at low cost. il diag Arch Forum 73:197-8 S '40

ARCHITECTS
Architect in war time; excerpts from editorial in The builder, London, March 22, 1940. Arch Forum 73:25 Jl '40
Census of engineers in construction field; mobilization of the engineering and architectural professions for national defense. Heating-Piping 12:450 Jl '40
Design for industry suggests a broader horizon for the architect; two exhibits now current in New York city. D. Haskell. Arch Rec 87:87+ Je '40
Exhibit of the Washington chapter, AIA; with abstract of the paper which accompanied it. il Arch Rec 86:56-62 D '39
Housing and architects; a criticism and a reply. A. C. Shire; F. L. Ackerman. Arch Forum 71:464-6 D '39
How representative architects answered five questions on profession's future. A. B. Holmes. map Arch Rec 87:75-9, 114+ My '40
Protection of professional titles. M. T. Nisot. Int Labour R 41:42-6 Ja '40
Raymond Hood honored posthumously by N.Y. chapter, AIA. Arch Rec 87:20+ Mr '40
Survey of the status of recent architectural graduates. il map Arch Rec 87:82-7 Mr '40
20th century architect; Miles Lanier Colean. por Arch Forum 72:sup2+ Ap '40
Where are architectural pastures greenest in 37 eastern states? with map and table showing geographical distribution of architects and architects' offices and dollar volume of building. Arch Rec 87:84 Ap '40

See also
Architectural clinics
Architectural ethics
Architecture
also names of architects, e.g.
Voysey, C. F. A.

Home clinic plan
Labeling quality homes in $5000 class; certificate of excellence. Barron's 20:5 Mr 4 '40

See also
Federal home building service plan

Licenses and registration
New York court awards architecture to architects. J. R. Von Sternberg. Arch Rec 88: 110-11 O '40

ARCHITECTURAL acoustics. See Acoustics, Architectural

ARCHITECTURAL clinics
Pratt architectural clinic gives experience to students, business to architects. il Arch Rec 87:8+ Ap '40

ARCHITECTURAL drawing
Architect Harold Sterner revolts against conventional measured drawing and free rendering. il Arch Forum 72:sup8 Mr '40

ARCHITECTURAL education
Pratt architectural clinic gives experience to students, business to architects. il Arch Rec 87:8+ Ap '40
Survey of the status of recent architectural graduates. il map Arch Rec 87:82-7 Mr '40

ARCHITECTURAL ethics
Injunctions against undesirable practices. Arch Rec 87:14+ Mr '40

ARCHITECTURAL lighting. See Lighting, Architectural

ARCHITECTURAL metal work. See Sheet metal work, Architectural

ARCHITECTURAL schools

New college of architecture and fine arts combined with a new art gallery in Los Angeles; University of Southern California. il diags plans Arch Rec 87:39-43 Ap '40

ARCHITECTURAL sculpture. See Sculpture, Architectural

ARCHITECTURAL societies

Architectural society. H. S. Goodhart-Rendel. Arch Forum 72:349-50 My '40

See also
American institute of architects
Telesis (group)

ARCHITECTURE

Architecture and the modern mind. J. Hudnut. Arch Forum 73:99 Ag '40

Architecture for the man in the street. J. MacQuedy. Arch Forum 73:173-4 S '40

Architecture through the ages. T. Hamlin xlvii,680p $6 Putnam '40

Is there a need for art forms in today's architecture? E. McCausland. il Arch Rec 87:80-1 My '40

Key to modern architecture. F. R. S. Yorke and C. Penn. 180p bibliog(p139-40) 5s Blackie and son, London '39

Lighting in architecture. S. McCandless. Arch Forum 73:25-7 Jl '40

Purpose and form in architecture. H. S. Goodhart-Rendel. Arch Forum 73:28 Jl '40

See also
Acoustics, Architectural
Airport buildings
Architects
Auditoriums
Bank buildings
Building
Building materials
Buildings
Chimneys
Church architecture
Concrete buildings
Concrete construction
Courthouses
Factories
Farm buildings
Fireproof construction
Floors
Foundations
Glass construction
Greenhouses
Hangars
Heating
High buildings
Hillside architecture
Hospitals
Hotels
Housing
Insurance company buildings
Interior decoration
Landscape gardening
Library architecture
Motor bus lines—Terminals
Moving picture studios
Moving picture theaters
Mural painting and decoration
Naval architecture
Office buildings
Plumbing
Post offices
Prisons
Public buildings
Radio broadcasting studios
Railroads—Stations
Roofs
School buildings
Sculpture, Architectural
Sheet metal work, Architectural
Shopping centers
Steel construction
Store buildings
Strains and stresses
Strength of materials
Swimming pools
Terra cotta
Theaters
Trusses
Ventilation
Walls
Warehouses
Windowless construction
Windows

also subdivision Architecture under names of cities, e.g. Indianapolis—Architecture

Consult Art Index for additional references

Competitions

Insulux glass block competition; a newspaper plant. Arch Forum 71:sup17-20 D '39

Pan American congress awards to U.S. exhibitors. Arch Forum 72:sup80+ Je '40; Arch Rec 87:10, 12 Je '40

Phillips wins Tacoma federal building competition. Arch Rec 88:10+ Jl '40

Prize winning designs in Insulux competition 4; newspaper plant. il diags plans Arch Forum 72:sup32-7 My '40

Prize-winning designs in the Insulux glass block competition no. 3; dairy with milk bar. il diags plans Arch Forum 72:sup 15-21 Ja '40

USHA competitions; Qualifying competition, a method for the use of local housing authorities in selecting architects. Arch Forum 72:sup56 Ja '40

U.S. regional competition, Jamestown, N.Y. post office and court house. il plans Arch Forum 72:sup16, 18 My '40

Winners in Montpelier, Vt. and Burlingame, Calif. post office design competitions. diags plans Arch Rec 87:10, 12 F '40

Designs and plans

Book of low cost houses, by the editors of Architectural forum. 128p pa $1 Simon and Schuster, New York '40

Portfolio of recent work by Victorine & Samuel Homsey of Wilmington, Delaware. Arch Forum 73:159-72 S '40

See also
Architecture, Domestic—Designs and plans

Details

See also
Chimneys
Doorways
Fireplaces
Roofs
Stairways
Windows

Exhibitions

Architectural league of New York exhibition: versus, a competing display of traditional and modern architecture; with addresses. il Arch Forum 72:sup15-20+ Ap '40

Architecture on parade; in New York, Architectural league exhibit and in Salt Lake City, the Utah chapter, AIA exhibit. The modern house. il Arch Rec 87:81-3 Ap '40

Telesis, environmental research group of young San Franciscans, make first exhibit. il Arch Rec. 88:69-72 O '40

Functionalism

House-building; excerpts from article in Scribner's magazine, in 1876. J. Burroughs. Arch Forum 72:189 Mr '40

History

Architecture through the ages. T. Hamlin. 680p $6 Putnam '40

Buffalo reviews her architecture; six photographs, 1863-1939. Arch Forum 72:sup14 F '40

Modernism

After the international style, what? H. Morrison. Arch Forum 72:345-7 My '40

Architecture is an art. W. A. Delano. Arch Forum 72:sup16-17+ Ap '40

Dead past and the dead present. E. B. Morris. Arch Forum 72:433-4 Je '40

Dead past and the dead present. Y. Mumford. Arch Forum 72:433 Je '40

Early modern in the Middle West; with eight photographs. Arch Forum 71:sup12-13 D '39

Traditionalist architecture and integrated building. G. Howe. Arch Forum 72:sup 22+ Ap '40

Study and teaching

Coordination in design; excerpts from conference at University of Michigan, Feb. 2-3. Arch Forum 72:187-8 Mr '40

To teach housing is also to teach architecture. C. Feiss. Arch Forum 72:49-50; Reply. E. I. Williams. 50-1 Ja '40

Finland

Finland; portfolio of Finnish architecture with a preliminary note. A. Aalto. il plans Arch Forum 72:399-412 Je '40

Florida

See also
Architecture, Domestic—Florida

Japan

Nipponese impressions. R. Walker. Arch Forum 72:95-6 F '40

ARCHITECTURE—*Continued*

Middle western states

Early modern in the Middle West; with eight photographs. Arch Forum 71:sup12-13 D '39

New Mexico

Religious architecture of New Mexico in the colonial period and since the American occupation. G. Kubler. 232p bibliog(p149-59) Taylor museum, Colorado Springs fine arts center, Colorado Springs '40

United States

To civilize is to build; new frontiers of architecture. T. S. Holden. Arch Rec 87:88-9 Mr '40

To-morrow and the World's fair; its possible contribution to our architecture. D. Haskell. il plans Arch Rec 88:65-72 Ag '40

Vermont

Old Vermont houses; the architecture of a resourceful people. H. W. Congdon. 190p 124il $3 Stephen Daye press, Brattleboro, Vt. '40

ARCHITECTURE, American

Design decade. il diags plans Arch Forum 73:217-320 O '40

ARCHITECTURE, Domestic

Arts & decoration book of successful houses. E. D. Wangner, ed. 112p $3.50 Robert M. McBride & co, 116 E. 16th st, New York '40

Building types; standards for houses with illustrated case studies. Arch Rec 87:93-108 Mr '40

Choosing a modern house. R. Myerscough-Walker. 14p, 80p $2.50 The Studio publications, 381 4th av, New York '39

Design decade. il diags plans Arch Forum 73:250-74 O '40

Designing for greater fire safety. bibliog il Arch Rec 88:81-3 O '40

House-building; excerpts from article in Scribner's magazine, in 1876. J. Burroughs. Arch Forum 72:189 Mr '40

House planning. W. B. Field. 271p $3 McGraw-Hill '40

Timber buildings for the country. E. H. B. Boulton, ed. 96p 10s 6d Country life, London '38

We draw economies into our plans for the large scale speculative home builder. A. E. Allen. Am Bld 62:60+ Ap '40

See also

Apartment houses
Bathrooms
Beach houses
Brick houses
Concrete houses
Cottages
Country houses
Doorways
Farmhouses
Guest houses
Heating
Hillside architecture
Historic houses, etc.
Houses
Houses, Prefabricated
Houses, Remodeled
Housing
Housing projects
Interior decoration
Kitchens
Landscape gardening
Plumbing
Steel houses
Tourist camps, hostels, etc.
Week-end houses

Designs and plans

Apartment planning provisions; plans. Arch Rec 88:88-90 Ag '40

Belle Meade, Tenn. one-story house. il diag **plan Arch Rec** 87:115-17 Mr '40

Double-coursed home at Sheffield, Mass. **brings repeat orders; has** basement game room **and** bar; with TruCost figures. il plans **Am Bld 62:46-8+**, 116 My '40

Economy houses planned for narrow city lots. il plans Am Bld 62:54-5 Ag '40

Evolve new technique for Chicago homes; garden court houses to be built in Blue Island, Ill. R. E. Sangster. il plans Am Bld 62:50-2+ Je '40

Good 100 years; weathered white cedar shingled home. il plans Am Bld 62:50-1 S '40

Good planning plus good construction mean security; five-room Cape Cod design. il plans Am Bld 62:52-3 S '40

Hillside houses. il diags plans Arch Rec 88: 57-68 O '40

Home designs. il plans Am Bld 61:30-41 D '39; 62:41-2 Ja; 68-98 F; 56-71, 126-31 Mr; 65-95 Ap; 44-7+ My; 45-7+ Je; 43-5, 56-63 Jl '40

House divided; parallel examples of traditional and modern architecture; views and plans. Arch Forum 72:295-303 Ap '40

House in Auburn, Ala. for college professor and wife, with many hobbies and many guests; views, plans and construction outline. Arch Forum 72:291 Ap '40

House in Connecticut uses plywood both inside and out. il diags plan Arch Rec 86: 44-7 D '39

House in Hockessin, Del.; with construction outline. il diags plan Arch Forum 73:160-3 S '40

House in Lincoln, Mass., designed by Walter Gropius and Marcel Breuer, for the latter's occupancy; views, plans and construction outline. Arch Forum 71:455-9 D '39

House portfolio; fifty studies of new houses under $10,000; views, plans and construction outlines. Arch Forum 72:226-94 Ap '40

Houses by Harwell Hamilton Harris; with views, plans, construction outlines. Arch Forum 72:171-86 Mr '40

Houses for occasional occupancy. il plans Arch Rec 87:61-80 Mr '40

Houses in the small house series; views, plans, cost data, construction outlines. Arch Forum 72:38-48, 107-21, 331-44, 419-30; 73:107-22, 179-94 Ja-F, My-Je, Ag-S '40

Houses with four or more bedrooms. il diags plans Arch Rec 87:69-80 Je '40

Houses with from two to four bedrooms. il plans Arch Rec 87:53-66 F '40

Houses with three bedrooms. il plans Arch Rec 88:49-60 Jl '40

Houses with two bedrooms; problem includes site, local custom, climate, etc. il plans Arch Rec 87:57-66 My '40

Housewife writes on house planning. B. A. Chesney. plan Arch Rec 88:110+ Jl '40

Life houses; second series, from $4750 to $20,672. il Arch Forum 73:1-20 Jl '40

Lincoln, Mass. house for Professor and Mrs James Ford. il diags plans Arch Rec 87: 108-11 Mr '40

Low cost house; stock designs with and without architectural service. il diags plans Arch Forum 72:211-25 Ap '40

Model living home in Wells Quarter Village, Conn. il plans Am Bld 62:48-9+ Ag '40

New houses. il diags plans Arch Rec 88:49-60 Ag; 51-60 S '40

New houses and new house units; houses with three bedrooms. il diags plans Arch Rec 87:57-72 Ap '40

New houses and new house units; Oregon, Florida, Washington, Massachusetts. il Arch Rec 87:49-64 Ja '40

New ideas for building your home. J. Normile, ed. new and improved ed 178p bibliog(p177) pa 50c Meredith pub. co, 9223 Meredith bldg, Des Moines, Iowa '40

New trend toward half-acre homesites. D. G. Bareuther. il plans Am Bld 61:28-9+ D '39

New York fair "home of wood" demonstrates plank floors and roof spanning 7 feet between trusses. il diags plans Am Bld 62:56-7 Ja '40

Oregon lumberman builds his own home; W. W. McCready, Forest Grove, Oregon; with TruCost figures. il plans Am Bld 62:58-9, 93 N '40

Seattle house for use of architect. il plans Arch Rec 87:112-14 Mr '40

Shangri-La, house, Long Beach, Indiana; views, plans, construction outline. Arch Forum 72:33-7 Ja '40

Summer house for Mrs Clara Fargo Thomas, overlooking Somes sound, Maine. il diags plans Arch Forum 71:446-54 D '39

Time and money savers attract Rochester buyers. il diags plans Am Bld 62:47-9 N '40

Town house for M. M. Hare, New York city; with construction outline. il plans Arch Forum 72:77-81 F '40

Two garden houses, Chicago; with construction outline. il plans Arch Forum 72:82-3 F '40

ARCHITECTURE, Domestic—Designs and plans —*Continued*
Wellington town houses, Chicago; ten row houses around a court; with construction outline. il plan Arch Forum 72:84-5 F '40

See also
Apartment houses—Designs and plans
Cottages
Houses, Model

Four-family houses

Ardmore housing development, under protest. il Business Week p34 Jl 13 '40
Four-unit colonial cottage-type apartment in Asheville, N.C. il plans Am Bld 62:94+ F '40
Housing rarity solves a Missoula, Montana, problem; with views, plans, construction outline. Arch Forum 72:306+ Mr '40
Quadruplet houses sold with tenants yield investors a fancy 14 per cent return; with income analysis and construction outline. il plans Arch Forum 72:440-1, sup56 Je '40
Smartly styled in western pines; California two-story four-apartment building. il plan Am Bld 62:60 My '40

Two-family houses

Attractive duplex in concrete brick; with outline specifications. il plans Am Bld 61: 40-1 D '39
Chicago duplex homes ideal for narrow lot. il plans Am Bld 62:78-80 Mr '40
Five two-family bungalows; one of FHA's smallest, lowest rent projects, gives Indianapolis builder 14 per cent income; with cost data. il plans Arch Forum 73:140-1 Ag '40
Income duplex with architect's office. il plans Am Bld 62:66-7 Jl '40
16 houses on 535 feet x 138 feet plot; 4 single-family houses and 12 semi-detached units grouped around courts. il plans Am Bld 62: 68-9 Je '40
Two-family houses; views and plans. Am Bld 62:90, 92 F '40

California

All main rooms open on private gardens; residence for Mr. & Mrs. A. O. Beckman, Los Angeles. il plans Arch Rec 88:56-8 Jl '40
Attractive setting helps tourist court set income record; Rancheria Motel near Santa Barbara. il plans Arch Rec 88:100-2 Jl '40
House for Herbert Stothart, Santa Monica; views, plans, construction outline. Arch Forum 72:44-5 Ja '40
House for 300 clients; Sunset magazine sponsors model house planned by club women. il plans Arch Forum 72:442-4 Je '40
House in San Francisco of modest materials, design for outdoor living; views, plans and construction outline. Arch Forum 72:288-9 Ap '40
House planned for one occupant, compact Los Angeles home. il diag plan Arch Rec 87:62-4 F '40
House planned for western climate at Bel Air. il plans Arch Rec 87:60-1 Ap '40
House with view of the Coast range mountains. il plans Arch Rec 87:118-20 Mr '40
Houses by Harwell Hamilton Harris; with views, plans, construction outlines. Arch Forum 72:171-86 Mr '40
Houses for R. A. Sprouse, Piedmont, and for Dr Hans Schiff, Hollywood; with construction outlines. il diags plans Arch Forum 72:118-21 F '40
Model house in North Hollywood, Calif. blends indoor and outdoor living. il plan Arch Rec 87:57-9 My '40
Plan gives privacy to house and gardens; Piedmont. il plans Arch Rec 88:50-2 Ag '40
Plan without halls for narrow lot; bachelor apartments, Beverly Hills, Calif. il plans Arch Rec 88:98-100 Ag '40
Plywood model home attracts thousands. il diag plan Am Bld 62:58-9+ Je '40
Step-back planning gives privacy; Dunsmuir flat building, erected on a 49-ft. Los Angeles inside lot; complete homes for four small families, each with private patio, cross ventilation and sunlight. il diags plans Arch Rec 87:45-7 My '40
Triangular plot sets design problem; house in Burlingame. il plans Arch Rec 88:58-60 S '40

Florida

Designed for economy of maintenance; residence in Ft. Lauderdale. il diags plan Arch Rec 88:53-5 Ag '40
House in Miami Beach, illustrating modern regional trend; views, plan and construction outline. Arch Forum 72:274 Ap '40
House in Winter Park; views, plan and construction outline. Arch Forum 72:428-9 Je '40
House on a 60-ft. lot in Miami Beach. il plan Arch Rec 87:52-3 Ja '40
House on Hobe sound, Florida; views, plans, construction outline. Arch Forum 73:192-3 S '40
Miami's wonder house. il plans Am Bld 62: 43-5 Jl '40
Package houses attract Miami buyers il plans Am Bld 62:53-5 Je '40
Tropotype scheme for Florida; second-floor location of the living spaces. il plans Arch Rec 87:74 Mr '40

Long Island

Long Island homes; special Long Island issue. il plans map Am Bld 62:59-95 Ap '40

Texas

L-shape plan adapted to corner plot. il plans Arch Rec 88:54-5 S '40
Planned to meet climatic conditions; residence in San Antonio. il plans Arch Rec 88:59 Jl '40

United States

Modern house in America. J. Ford and K. M. Ford. 134p $5 Architectural book pub. co, 112 W. 46th st, New York '40

Washington (state)

Houses on Puget Sound, Seattle; new regional type known as Puget Sound architecture; views, plans and construction outline. Arch Forum 72:264-73 Ap '40

ARCHIVES
Archives and libraries A. F. Kuhlman, ed. 108p pa $1.75 American library assn, Chicago '39
Manual for the arrangement and description of archives, drawn up by direction of the Netherlands association of archivists. S. Muller, J. A. Feith and R. Fruin. 2d ed tr. by A. H. Leavitt. 225p $3.50 Wilson, H.W. '40

United States

Guide to the material in the National archives. 303p 70c; pa 40c Supt. of doc. '40
What's in the archives building? T. J. Young. Arch Forum 73:102-3 Ag '40

ARCRONOGRAPH
Measurement of arc welding technique. H. S. Card. il diag Power Pl Eng 44:66-8 Je '40

ARCTIC regions
Centenary celebration; the Wilkes exploring expedition of the United States navy, 1838-1842; and symposium on American polar exploration, February 23-24, 1940. il diags maps Am Philosophical Soc Proc 82:519-950, pl 1-4 '40 (pa $2.50)
Conquest of the Arctic. L. Segal. 284p $3.25 Oxford (Toronto) '39
Modern Arctic exploration. G. Seidenfaden. 189p $2.50 Hale, Cushman & Flint, New York '40
One man against the North. D. Irwin and F. M Reck. 244p $2 Crowell '40
Operations in the Soviet Arctic in 1940. For Comm W 1:116-17 O 19 '40
Six came back; the Arctic adventure of David L. Brainard. D. L. Brainard. 305p $3 Bobbs '40
To use carbon black in Arctic pictures; powder dropped on snow will permit faster and more accurate overlapping of aerial photographs. il Rubber Age 46:183 D '39

AREA measurement
Area determiner. diag Sci Am 163:123 S '40
Area of cylindrical objects; chart. W. F. Schaphorst. Water Works & Sewerage 87: 77 F '40
Polar integrator for plane surfaces. il Elec W 112:1630 D 2 '39; Electronics 13:36+ F '40

See also
Particles

ARENAS. See Stadiums

ARGENTINA

See also
Banks and banking—Argentina
Finance—Argentina
Geology—Argentina
Petroleum industry and trade—Argentina
Railroads—Argentina
Textile industry—Argentina

Commerce

Argentina's lost exports. Economist 139:281-2 Ag 31 '40
Argentina's market for British goods. Economist 138:334-5 F 24 '40
Argentine foreign trade in 1939; comparisons with 1937 and 1938. H. S. Giusta. Comm Rep p186-7 F 24 '40
Argentine gesture; bid for better trade deals with both United States and England. Business Week p42 D 2 '39
Reciprocal pacts in crucial test; Argentine blowup shows public reluctance to pay price for Pan-Americanism. il Business Week p15-16 Ja 13 '40
River Plate markets. Engineering 150:33-5 Jl 12 '40
Tabular guide to economic conditions; exports, imports, yearly 1926-39; other economic statistics. Comm Rep p200 F 24 '40

Commercial policy

Argentina eases exchange rules on United States merchandise. Comm & Fin Chr 149: 3185 N 18 '39
Argentina explains stand on failure of negotiations with United States for reciprocal trade pact. Comm & Fin Chr 150:362 Ja 20 '40
Argentine impasse. Business Week p61 S 28 '40
Argentine peso under control; regulations as of July 1940. E. C. Stiefel. Annalist 56:207+ Ag 15 '40
Exchange control modifications. A. E. Taylor. Comm Rep p460-1 My 18 '40
Exchange to be granted for agricultural machinery from United States and certain other products. Comm Rep p256 Mr 16 '40

Economic conditions

Argentina; editorial on economic position. Comm & Fin Chr 150:3717-20 Je 15 '40
Argentine republic; extracts from the message to Congress by President Ortiz, May 15th, 1940. Economist 138:946-8 My 25 '40
Business situation, 1939. Comm Rep p2-4 Ja 6 '40
Business situation. Comm Rep p201, 335-6, 507, 577-8, 657-8, 736-7 Mr 2, Ap 13, Je 8, Jl 6, Ag 3, 31 '40
Economic anomalies. Economist 138:811 My 4 '40
Economic conditions; exchange and finance; tariffs and trade controls. Published in Foreign commerce weekly
Tabular guide to economic conditions; exports, imports, yearly 1926-39; other economic statistics. Comm Rep p200 F 24 '40

Economic policy

Argentine wartime legislation on prices and wages. Monthly Labor R 50:324-5 F '40

ARGININE
Effects of certain salts on the dissociation of aspartic acid, arginine, and ornithine. A. C. Batchelder and C. L. A. Schmidt. bibliog J Phys Chem 44:893-909 O '40
Reaction of formaldehyde with amino acids: X-ray diffraction patterns. A. K. Smith, P. Handler and J. N. Mrgudich. bibliog il J Phys Chem 44:874-80 O '40

ARGON
Energy levels, mass and radioactivity of A^{41}. W. L. Davidson, jr. Phys R 57:244-5 F 1 '40
Isotopic weights of chlorine, argon and iron by the doublet method. T. Okuda and others. Phys R 58:578-9 S 15 '40
Optical dispersion and molar refraction at zero frequency for compressed nitrogen, argon, and carbon dioxide measured as functions of density. C. E. Bennett. Phys R 58:263-6 Ag 1 '40
Positive point-to-plane corona in pure A, H_2 and N_2. G. L. Weissler. Phys R 57:340-1 F 15 '40
Relative secondary electron emission due to He, Ne, and A ions bombarding a hot nickel target. M. Healea and C. Houtermans. bibliog Phys R 58:608-10 O 1 '40
Spectra of highly ionized argon. W. L. Parker and L. W. Phillips. Phys R 58:93-4 Jl 1 '40
Time-lag analysis of the Townsend discharge in argon with activated caesium electrodes. R. W. Engstrom and W. S. Huxford. bibliog diags Phys R 58:67-77 Jl 1 '40

ARGON, Liquid
Diffraction of X-rays by liquid argon. A. Eisenstein and N. S. Gingrich. bibliog diag Phys R 58:307-9 Ag 15 '40

ARGUMENTATION
Industry and advocacy. A. Crawford. Textile Inst J 30:P447-9 D '39

See also
Discussion

ARGYRIA
Argyria; the pharmacology of silver. W. R. Hill and D. M. Pillsbury. 172p bibliog(p134-48) $2.50 Williams & Wilkins '39

ARIBOFLAVINOSIS. See Riboflavin

ARIDYE process. See Textile printing

ARITHMETIC
Practical mathematics. pt. 1, Arithmetic with applications. C. I. Palmer and S. F. Bibb. 4th ed 186p $1.25 McGraw-Hill '40
Vocational mathematics (shop arithmetic). H. G. Schumacher. 132p $1.50 Goodheart-Willcox co, Chicago '40

See also
Multiplication

ARITHMETIC, Commercial
Applied business arithmetic. P. E. Curry and R. R. Rice. 4th ed 576p $1.48 Southwestern pub. co. '40
Economic mathematics. C. W. Sutton and N. J. Lennes. 584p $1.40 Allyn and Bacon, Boston '40
Practical mathematics. G. M. Hobbs and J. McKinney, rev. by J. R. Dalzell. 600p $2.40 Am. technical soc, Chicago '40
Van Tuyl's Mathematics of business. G. H. Van Tuyl. 502p $1.52 Am. book co. '40

ARIZONA

See also
Geology—Arizona
Water supply—Arizona

Antiquities

Archeological remains in the Whitewater district, eastern Arizona; artifacts and burials, by F. H. H. Roberts, jr.; with appendix Skeletal remains from the Whitewater district, by T. D. Stewart. (Bur. of Am. ethnology bul. 126) 170p bibliog(p141-3, 166) pl 1-57 Smithsonian inst.; pa 50c Supt. of doc. '40

ARIZONA small mine operators association
Small operator organizes. A. L. Flagg. Eng & Min J 141:84-5 Ag '40

ARIZONA university
Douglas memorial building for mines and metallurgy. il Min Cong J 26:35 Je '40

ARKANSAS

See also
Mines and mineral resources—Arkansas
Petroleum—Arkansas

ARKANSAS—*Continued*

Economic conditions

Conservation in Arkansas. C. A. Harper and L. A. Henry. 362p $1.04 Democrat ptg. and lithographing co, Little Rock, Ark. '39

Industries and resources

Arkansas' industrial future. il map Manuf Rec Extra no 109:89-98 S '40

ARKANSAS-MISSOURI power corporation
Bonds offered. Comm & Fin Chr 151:404 Jl 20 '40

ARKANSAS river
The Arkansas. C. B. Davis. 340p bibliog(p328-30) $2.50 Farrar '40

ARLINGTON mills
Arlington's diamond jubilee. il Textile World 90:55 Ap '40

ARMAMENTS
Armaments profits in Britain, 1938 and 1939. Economist 138:574-6 Mr 30 '40

Dynamics of defense. R. Ginsburgh. il Am Mach 84:756-9 O 2 '40

Sensitized metal; new method of laying out designs speeds armament manufacture. R. W. Carter. il Iron Age 146:61-4 O 10 '40

See also
Munitions
Ordnance

ARMATURES
Improvised puller for motor armatures. J. I. Karash. diags Am Mach 84:141-2 Mr 6 '40

Prolonging insulation life; dipping and baking motor fields and armatures; infra-red lamps for heaters. G. L. Moses. il Transit J 84: 280-1 Ag '40

Repair

Fan-type armature stand. J. L. Nolan. diag Transit J 84:97 Mr '40

Renewed field coils prolong armature rewind life. A. C. Roe. Min Cong J 26:33 Ag '40

ARMIES

Food supply

Railroading at army maneuvers; supply operations at Plattsburg, S. Lancaster. il map Ry Age 108:292-4 F 10 '40

Refrigeration aids the Quartermaster corps. J. S. Chambers. Refrig Eng 39:23 Ja '40

Refrigeration in the World war. H. L. Consley. il Refrig Eng 39:15-18 Ja '40

ARMOR plate
Armor. W. I. McInerney. Metal Prog 38:511 O '40

Armor plate for airplane pilots. il Iron Age 145:50 My 23 '40

Electric furnaces and national defense. W. M. Farnsworth and M. J. R. Morris. il Metals & Alloys 12:446-50 O '40

Navy's armor plant at South Charleston, W.Va., rehabilitated. Blast F & Steel Pl 28:822-3 Ag '40

ARMORIES
Enlarging a National Guard armory in Chicago. S. E. Berkenblit. il diags Eng N 125: 294-6 Ag 29 '40

See also
Arsenals

ARMOUR, Norman, 1887-
Portrait. Fortune 20:50 D '39

ARMOUR and company of Illinois
Annual financial report. Comm & Fin Chr 150:269-70 Ja 13 '40

ARMOUR institute of technology. See Illinois institute of technology

ARMOUR research foundation
Industrial research progress, 1939-40. il Ind & Eng Chem News ed 18:933-40 N 10 '40

ARMSTRONG, Edwin Howard
Portrait. Iron Age 145:78 F 29 '40; Steel 106: 23 Mr 4 '40

ARMSTRONG frequency modulation. See Radio frequency modulation

ARMY camps. See Military training camps

ARMY fabrics
American association of textile technologists holds textile preparedness for national defense symposium. H. R. Mauersberger. Rayon 21:600 O '40

Army clothing. A. Besse. Textile World 90: 62 O '40

Army textile orders half placed. B. Stubblefield. il Textile World 90:60-1 O '40

Army uniform fabrics containing cellulose acetate; abstract. F. Deshayes. Am Dyestuff Rep 29:430-1 Ag 19 '40

Back-stage in army purchasing. B. Stubblefield. il Textile World 90:42-6 Ag '40

Clothing the army. A. Dennis. Am Dyestuff Rep 29:566+ O 14 '40; Same. Textile Col 62:775-6 N '40; Abstract. Textile World 90:62-3 O '40

Defense purchases accelerated; army textiles and clothing. B. Stubblefield. il Textile World 90:66-7 S '40

Fabrics for national defense; data on specifications, construction of cloths, and manufacturing methods. il Textile World 90:47 Ag '40

Fabrics for national defense; two cotton fabrics for work clothing and field use by army. J. Hoye. il Textile World 90:68 S '40

Fabrics for national defense; woolen blankets and lining cloth. il Textile World 90:64 O '40

Finishing army overcoatings; speed-up of fulling operation. D. Welsh. diags Textile World 90:69-70 S '40

Synthetic fibers enlisted; will assure adequate supply of textiles for both military and civilian purposes. il Textile World 90:86-8 S '40

ARNOLD, Henry H.
Portrait. Aviation 38:29 D '39

ARNOLD, Thurman
Defense on the antitrust line; feud between Arnold and Henderson; transatlantic patent agreements. por Business Week p15-16 S 14 '40

Law over labor. C. B. Coates. por Factory Management 98:48-53+ Mr '40

AROMATIC compounds
Coal by-products; pseudopolymer and synthetic aromatic oils. W. H. Carmody and H. E. Kelly. Ind & Eng Chem 32:954-7 Jl '40; Same. Gas J (Lond) 231:158, 163 Jl 24 '40

Cycli-alkylation of aromatic compounds by the Friedel and Crafts reaction. H. A. Bruson and J. W. Kroeger. Am Chem Soc J 62: 36-44 Ja '40

Structure of aromatic compounds; the action of acetyl chloride on α- and β- naphthylmethylmagnesium halides. N. Campbell, W. Anderson and J. Gilmore. Chem Soc J p819-21 Je '40

See also
Hydrocarbons, Aromatic

AROMATIC hydrocarbons. See Hydrocarbons, Aromatic

ARPS, George Frederick, 1874-1939
Tribute. Science 91:37 Ja 12 '40

ARRHENIUS equation
Racemisation of optically active co-ordination compounds; application of the Arrhenius equation. E. Bushra and C. H. Johnson. diags Chem Soc J p1937-45 D '39

ARSANILIC acid
Oxidation of sulfanilic and arsanilic compounds by nascent hydrogen peroxide. G. Barkan. Science 92:107 Ag 2 '40

ARSENALS
Modern shop equipment builds our mechanized ordnance. N. F. Ramsey. il Mach 46:235-9 D '39

Equipment

Every shell needs a case; procedure at Frankford arsenal. il Am Mach 84:136-9 Mr 6 '40

Manufacturing small-arms ammunition and instruments at Frankford arsenal. E. D. Bricker. il Mach 46:154-8 Ja '40

ARSENALS—Equipment—*Continued*
Modern shrapnel shell production methods; Frankford arsenal. G. W. Birdsall. il Steel 106:38-41+ Mr 11 '40
New power to old guns; French 75's mounted on redesigned carriages; made at Rock Island arsenal. il Am Mach 84:1-4 Ja 10 '40
X-ray in an arsenal; Rock Island arsenal X-ray laboratory. il plan Am Mach 84:930-1 N 13 '40

ARSENIC
Lead-tin-arsenic wiping solder. E. E. Schumacher and G. S. Phipps. il Metals & Alloys 11:75-6 Mr '40; Same. Bell System Tech J 19:262-6 Ap '40; Discussion. C. L. Barber. il Metals & Alloys 12:301-2 S '40
Reactions of high energy atoms produced by slow neutron capture. W. F. Libby. Am Chem Soc J 62:1937-8 Ag '40
Solubility of arsenious oxide in dilute solutions of hydrochloric acid and sodium hydroxide; the character of the ions of trivalent arsenic; evidence for polymerization of arsenious acid. A. B. Garrett, O. Holmes and A. Laube. bibliog Am Chem Soc J 62:2024-8 Ag '40
Stereochemistry of 3-covalent arsenic; isomeric forms of 5 : 10-di-*p*-tolyl-5 : 10-dihydroarsanthren. J. Chatt and F. G. Mann. Chem Soc J p1184-92 Ag '40
Study of the nuclear radiations from antimony and arsenic. A. C. G. Mitchell, L. M. Langer and P. W. McDaniel. bibliog diags Phys R 57:1107-17 Je 15 '40
Wastes problems in the nonferrous smelting industry. R. E. Swain. Ind & Eng Chem 31:1359-60 N '39
White arsenic production set high record in 1939. Oil Paint & Drug Rep 137:55 Je 17 '40

Analysis
Cerimetric determination of small amounts of arsenic after reduction with hypophosphite reagent. I. M. Kolthoff and E. Amdur. diags Ind & Eng Chem Anal ed 12: 177-9 Mr 15 '40
Colorimetric determination of arsenic in ferrous and nonferrous alloys. C. J. Rodden. bibliog diag J Research Nat Bur Stand 24: 7-11 Ja '40
Estimation of small amounts of arsenic in copper. B. Park. bibliog Ind & Eng Chem Anal ed 12:97-8 F 15 '40

ARSENIC compounds
Arsenic salts for preserving wood. Chem Age (Lond) 42:347 Je 29 '40; Sci Am 163:210-11 O '40
2-Hydroxy-4-aminophenylarsine oxide and related oxides. C. K. Banks and C. S. Hamilton. Am Chem Soc J 62:3142-4 N '40
Stereochemistry of 3-covalent arsenic; isomeric forms of 5 : 10-di-*p*-tolyl-5 : 10-dihydroarsanthren. J. Chatt and F. G. Mann. Chem Soc J p1184-92 Ag '40
Studies in the biphenyl series; some *o*-biphenyl derivatives of phosphorus, arsenic and antimony. D. E. Worrall. Am Chem Soc J 62:2514-15 S '40

See also
Arsines
Neoarsphenamine
Trimethylarsine

ARSENIC oxides
Solubility of arsenious oxide in dilute solutions of hydrochloric acid and sodium hydroxide. A. B. Garrett, O. Holmes and A. Laube. bibliog Am Chem Soc J 62:2024-8 Ag '40

ARSENIC sulfides
Electrolyte coagulation process; the influence of dilution of sol on the adsorption of precipitating ions. H. B. Weiser and W. O. Milligan. bibliog Am Chem Soc J 62:1924-30 Ag '40
Influence of sol concentration on flocculation values. E. D. Fisher and C. H. Sorum. bibliog J Phys Chem 44:62-70 Ja '40

ARSENIOUS acid
Hydrolysis of bromine; the hydration of the halogens; the mechanism of certain halogen reactions. H. A. Liebhafsky. Am Chem Soc J 61:3513-19 D '39
Solubility of arsenious oxide in dilute solutions of hydrochloric acid and sodium hydroxide; evidence for polymerization of arsenious acid. A. B. Garrett, O. Holmes and A. Laube. bibliog Am Chem Soc J 62:2024-8 Ag '40

ARSENIURETTED hydrogen. See Arsine

ARSENOXIDES
Preparation of phenylarsenoxides; derivatives of amino- and hydroxy-phenylarsenoxides. G. O. Doak, H. Eagle and H. G. Steinman. bibliog Am Chem Soc J 62:3010-11 N '40
Preparation of phenylarsenoxides; derivatives of carboxy- and sulfo-phenylarsenoxides. G. O. Doak, H. G. Steinman and H. Eagle. Am Chem Soc J 62:3012-13 N '40
Preparation of phenylarsenoxides in relation to a projected study of their chemotherapeutic activity; monosubstituted derivatives. G. O. Doak, H. Eagle and H. G. Steinman. bibliog Am Chem Soc J 62:168-70 Ja '40

ARSINE
Chronic arsine poisoning among workers employed in the cyanide extraction of gold; a report of fourteen cases. F. M. R. Bulmer and others. bibliog J Ind Hygiene 22:111-24 Ap '40

ARSINES
Constitution of complex metallic salts; bridged compounds containing two different metallic atoms. F. G. Mann and D. Purdie. Chem Soc J p1230-5 S '40
Constitution of complex metallic salts; the structure of the tertiary phosphine and arsine derivatives of cadmium and mercuric halides. R. C. Evans and others. Chem Soc J p1209-30 S '40
La synthèse industrielle des arsines; synthèse de l'acide phénylarsinique. L. Blas. Génie Civil 115:448-9 D 23 '39

ARSON
Crime of arson during 1939, with figures for 1930-39. East Underw 41:17 My 24 '40
Large decline in arson losses. A. B. Bielaski. East Underw 41:24 O 25 '40
Long prison terms for hoboes starting fires in 20 states; estimated $4,000,000 loss. East Underw 41:1+ F 9 '40
Sun-Democrat cites bad Kentucky car cremation record. Nat Underw 44:29 N 7 '40

ARSONIC acids
Modified Bart reaction. G. O. Doak. Am Chem Soc J 62:167-8 Ja '40
Preparation of phenylarsenoxides; derivatives of amino- and hydroxy-phenylarsenoxides. G. O. Doak, H. Eagle and H. G. Steinman. bibliog Am Chem Soc J 62:3010-11 N '40
Preparation of phenylarsenoxides; derivatives of carboxy- and sulfo-phenylarsenoxides. G. O. Doak, H. G. Steinman and H. Eagle. Am Chem Soc J 62:3012-13 N '40
Sulfophenylarsonic acids and certain of their derivatives; *p*-sulfo- and *p*-sulfonamidodiphenylarsonic acids. J. F. Oneto and E. L. Way. Am Chem Soc J 62:2157-8 Ag '40

ARSONIUM compounds
Tetra-aryl phosphonium, arsonium, and stibonium salts; a new method of preparation. J. Chatt and F. G. Mann. Chem Soc J p1192-6 Ag '40
X-ray determination of the crystal structure of tetraphenylarsonium iodide, $(C_6H_5)_4AsI$. R. C. L. Mooney. Am Chem Soc J 62:2955-9 N '40

ART
See also
Architects
Architecture
Ceramic art
Composition (art)
Design
Design, Decorative
Enamel and enameling
Interior decoration
Paintings
Photography
Pottery

Consult Art Index for additional references

Bibliography
Art index, October 1939-September 1940. 445p Wilson, H.W. '40
Books of 1939; art books. M. Comings, comp. Special Lib 31:337-43 S '40

ART—*Continued*

Study and teaching

Art in the preparatory schools. T. M. Folds. Arch Forum 73:175-6 S '40

Cincinnati

Cincinnati pottery club. C. C. Newton. il Am Cer Soc Bul 19:345-51 S '40

ART, American

Art and America. A. MacLeish. Arch Forum 73:27-8 Jl '40

Design decade. il diags plans Arch Forum 73:217-320 O '40

ART, Christian. See Christian art and symbolism

ART, Commercial

So, you're going to be an artist! M. Price. 168p $2.50 Watson-Guptill publications, 330 W. 42d st, New York '39

See also
Advertising art

ART, Decorative

Decorative art, 1940; the Studio year book. C. G. Holme, ed. 128p $4.50; pa $3.50 Studio publications, 381 4th av, New York '40

See also
Design, Decorative
Glass, Ornamental
Pottery—Decoration

ART, Modernist

Let us get back to art. E. Jonson. Arch Forum 73:103-4 Ag '40

ART center, Chicago

Chicago, a center for advertising, publishing, and art; membership roster. il Ptg Art 68 no 4:I 2-I 5 '40

ART centers

Delaware art center; views, plans and construction outline. Arch Forum 73:170-2 S '40

ART directors club of Chicago

Activities and membership list. Ptg Art 68 no 4:I 16 '40

ART galleries and museums

See also
Baltimore, Maryland—Museum of art
New York (city)—Metropolitan museum of art

Air conditioning

Chicago art institute installs humidifiers to preserve famed paintings. il Dom Eng 155: 64 Ja '40

Museum wing, Portland, Oregon, features control of light and atmosphere. il diags plans Arch Rec 87:30-4 Ja '40

Uniform temperature and humidity protect valuable Italian exhibit; Art institute of Chicago. il Heating-Piping 12:5+ Ja '40

Lighting

Museum wing, Portland, Oregon, features control of light and atmosphere. il diags plans Arch Rec 87:30-4 Ja '40

Whitney museum of American art, New York. il Illum Eng Soc Trans 34:1132-3 D '39

ART libraries

Art school library; Cleveland school of art. G. R. Haskin. Special Lib 31:129-30 Ap '40

Clipping file in an art library. O. B. Le Boutillier. Special Lib 31:131-2 Ap '40

ARTERIES

Diagnosis and treatment of diseases of the peripheral arteries. S. S. Samuels. 2d ed 372p $6.50 Oxford '40

ARTESIAN wells

Artesian-well hydraulics by unit-head-loss method. M. A. Churchill. Civil Eng 10:307-9 My '40

Water levels and artesian pressure in observation wells in the United States in 1938. O. E. Meinzer and L. K. Wenzel. maps U S Geol S Water-supply Pa 845: 1-724 '39

ARTIFICIAL daylight. See Daylight, Artificial

ARTIFICIAL flowers

Homework in the artificial flower and feather industry in New York state. New York (state) Dept of Labor Special Bul 199:1-109 '38

ARTIFICIAL respiration. See Respiration, Artificial

ARTIFICIAL rubber. See Rubber, Artificial

ARTIFICIAL silk. See Rayon

ARTIFICIAL wool. See Wool, Artificial

ARTISTS

Protection of professional titles. M. T. Nisot. Int Labour R 41:126-8, 132-3 F '40

So, you're going to be an artist! M. Price. 168p $2.50 Watson-Guptill publications, 330 W. 42d st, New York '39

ARTISTS, American

Who's who in American art; a biographical directory of contemporary American artists. C. Ball, V. Botsford and P. Ehrlich, eds. v 3, for the years 1940-1941 790p $8; to members $6 Am. federation of arts, Barr bldg, Washington, D.C. '40

ARTISTS' materials

Artist's handbook of materials and techniques. R. Mayer. 561p bibliog(p529-43) $3.95 Viking press '40

Artist's oil paints standards proposed. Oil Paint & Drug Rep 137:3+ Ja 29 '40

Scientific aspects of artists' and decorators' materials. R. S. Morrell. 141p $2 Oxford '39

ARTS and crafts

Arts and crafts in Georgian England. M. N. Bond. 36p pa 50c Univ. of North Carolina, Chapel Hill '40

See also
Weaving (handicraft)

ARUBA naphthenic acid. See Naphthenic acids

ARYLATION

Union of aryl nuclei; a modification of the Gomberg reaction. J. Elks, J. W. Haworth and D. H. Hey. Chem Soc J p1284-6 S '40

ARYLOXYMALONIC acid

Disproportionation of aryloxymalonic acid syntheses. J. B. Niederl and R. T. Roth. bibliog Am Chem Soc J 62:1154-6 My '40

ARYLUREA sulfonamides

Sulfonamide derivatives of arylureas. E. H. Cox. bibliog Am Chem Soc J 62:743-4 Ap '40

ASBESTOS

Asbestos corporation limited. il Can Min J 60:sup290-1 N '39

Fitting composition products to oil-field requirements. F. R. Cozzens. il Oil & Gas J 39:164 My 16 '40

Neoprene and asbestos used in the production of gaskets. Mach 47:169 N '40

Preparing asbestos for filtering mats. B. L. Kaspin. diag Ind & Eng Chem Anal ed 12: 517 S 15 '40

Victor gasket combines asbestos and neoprene. il Automotive Ind 82:552-4 Je 15 '40; Aero Digest 37:176+ Jl '40

World production of asbestos, 1936-38. Economist 138:535 Mr 23 '40

See also
Turner and Newall, limited

ASBESTOS cement

Asbestos cement materials in building construction. diags Engineer 170:23 Jl 12 '40

Design and erection features mark this bridge job, Jersey City; asbestos cement for concrete forms. il diags Ry Age 109:475-8 O 5 '40

See also
Shingles, Asbestos
Turner and Newall, limited

ASBESTOS cement pipes. See Pipes, Asbestos cement

ASBESTOS corporation limited

Mining methods. il Can Min J 60:sup290-1 N '39

ASBESTOS roofing. See Roofing, Asbestos

ASBESTOS shingles. See Shingles, Asbestos

ASBESTOS workers
Clinical studies in asbestosis; abstract. M. J. Stone. J Ind Hygiene 22:sup57-8 Mr '40

Pulmonary asbestosis; a report of bronchial carcinoma and epithelial metaplasia; abstract. K. M. Lynch and W. A. Smith. J Ind Hygiene 22:sup 18 Ja '40

ASBURY fluid impact mill
Asbury fluid impact mill applicable to disintegrative treatment of all types of fluid mixtures. il Paper Tr J 110:15 F 15 '40

ASCH, David, 1876-1940
Sketch. por Am Cer Soc Bul 19:413-14 O '40

ASCORBIC acid
Ascorbic acid oxidase from summer crookneck squash (C. pepo condensa). P. L. Lovett-Janison and J. M. Nelson. bibliog Am Chem Soc J 62:1409-12 Je '40

Ascorbic acid vs. bromates as flour improver; abstract. K. Burian. Food Ind 11:711 D '39

Control of experimental alcaptonuria by means of vitamin C. R. R. Sealock and H. E. Silberstein. Science 90:517 D 1 '39

Growth response of plants to riboflavin and ascorbic acid. R. Dennison. Science 92:17 Jl 5 '40

Oxidation of ascorbic acid by oxygen with cupric ion as catalyst. A. O. Dekker and R. G. Dickinson. bibliog Am Chem Soc J 62:2165-71 Ag '40

See also
Vitamins—Vitamin C

ASCUTNEY mountain
Cauldron subsidence at Ascutney mountain, Vermont. R. W. Chapman and C. A. Chapman. bibliog diags Geol Soc Bul 51:191-211, pl 1 F '40

ASH content. See Coke—Ash content; Textile fibers—Ash content

ASHING
Ash in organic compounds; determination by microtechnique with automatic combustion. A. R. Norton, G. L. Royer and R. Koegel. il Ind & Eng Chem Anal ed 12:121-3 F 15 '40

ASHLAND, Kentucky

Water supply

Water storage at Ashland aids treatment of river supply. J. P. Brownstead. il Eng N 124:861 Je 20 '40

ASHTON, James, 1864-1939
Sketch. E. Clayton. por Soc Dyers & Col J 56:121-2 Mr '40

ASPARAGUS
Fluorescents speed asparagus grading by color. A. N. Nilsson. il Elec W 113:610+ F 24 '40

Sterols; steroidal sapogenins of aletris, asparagus and lilium. R. E. Marker and others. Am Chem Soc J 62:2620-1 O '40

ASPARAGUS, Frozen
Enzyme activity in frozen vegetables; asparagus. M. A. Joslyn and C. L. Bedford. bibliog Ind & Eng Chem 32:702-6 My '40

ASPARTIC acid
Effects of certain salts on the dissociation of aspartic acid, arginine, and ornithine. A. C. Batchelder and C. L. A. Schmidt. bibliog J Phys Chem 44:893-909 O '40

Molecular refraction of ions of *l*-aspartic acid. V. A. Pertzoff. Am Chem Soc J 62:3150-1 N '40

ASPEN
Chemistry of lignin; the existence of a chemical bond between lignin and cellulose. A. J. Bailey. bibliog il Paper Tr J 110:29-34 Ja 4; 29-32 Ja 11 '40

Pulp and paper mill utilization of hardwoods and other little used species. K. D. Running. Pulp & Pa of Can (Convention no) 41:183 [F] '40

ASPERGILLUS flavus
Bactericidal filtrates from a mold culture; aspergillus flavus. E. C. White. Science 92: 127 Ag 9 '40

ASPERGILLUS niger
Gluconic acid production; repeated use of submerged aspergillus niger for semicontinuous production. N. Porges, T. F. Clark and E. A. Gastrock. bibliog Ind & Eng Chem 32:107-11 Ja '40

ASPERGILLUS oryzae
Saccharification of starchy grain mashes for the alcoholic fermentation industry; comparison of several saccharifying agents; malt, moldy bran, and soybean meal. L. Schoene, E. I. Fulmer and L. A. Underkofler. bibliog Ind & Eng Chem 32:544-7 Ap '40

ASPERULA
Red dye from the species of asperula. C. D. Mell. Textile Col 62:413-14 Je '40

ASPHALT
Asphalt gloss- and stain meter. A. P. Anderson and T. E. Reamer. il diag Ind & Eng Chem Anal ed 12:423-4 Jl 15 '40
Asphalt, 1936-1939. Survey of Cur Business 1940 Sup p121 [supplemented in monthly numbers]
Electric heat maintains free flow of asphalt. J. Schneider. il Heating-Piping 12:436 Jl '40
Electrically heated asphalt plant. R. Johnson. il Eng N 125:149 Ag 1 '40
Limmer and Trinidad Lake asphalt co.; new method of applying asphalt by gunning. Chem & Ind 59:647 S 14 '40
Properties and composition of asphalts of the slow curing type. A. J. Hoiberg, O. A. Hougen and J. Zapata. il diags Univ of Wisconsin Eng Exp Sta Bul 86:1-116 bibliog(p115-16) '39
Recent developments in the use of asphalt for transportation purposes. B. E. Gray. Nat Pet N 32:R91 Mr 20 '40
Research in soil stabilization with emulsified asphalt. C. L. McKesson. il diags Am Soc T M Proc 39:1123-33; Discussion, 1134-9 '39
Researches on asphaltenes. F. J. Nellensteyn and J. P. Kuipers. Inst Pet J 26:401-6 Ag '40

See also
Pavements, Asphalt
Roads, Asphalt
Roads, Bituminous
Swimming pools, Asphalt

Bibliography

Quarterly digest of current asphalt literature. Published by Asphalt Institute, 801 Second av, New York

Testing

Effect of consistency and type of asphalt on the Hubbard-Field stability of sheet asphalt mixtures. W. O'B. Hillman. Pub Roads 21: 75-8+ Je '40
Evaluating the adhesive properties of asphalt. A. Holmes. il Am Soc T M Proc 39:1140-9; Discussion. 1150-2 '39
Physical and chemical properties of petroleum asphalts of the 50-60 and 85-100 penetration grades. R. H. Lewis and J. Y. Welborn. Pub Roads 21:1-26 Mr '40

ASPHALT heaters
Utilization data sheet; heating asphalt and gilsonite for insulating board. A. L. Apperson. plan Elec West 84:43 Mr '40

ASPHALT pavements. See Pavements, Asphalt

ASPHALT plants
Modern asphalt plant in southern California. J. M. Lackey. il diags Roads & Sts 83:76+ S '40

ASPHALT roads. See Roads, Asphalt

ASPHALTENES
Researches on asphaltenes. F. J. Nellensteyn and J. P. Kuipers. Inst Pet J 26:401-6 Ag '40

ASPHYXIA

See also
Gases, Asphyxiating and poisonous

ASPIDOSPERMINE
Studies on Argentine plants; aspidospermine from vallesia glabra and vallesia dichotoma. V. Deulofeu and others. Chem Soc J p1051-2 Ag '40

ASPIRATORS
Comparative study of water aspirators. E. P. Little and S. E. Pond. R Sci Instr 11:285-6 S '40

ASPIRIN. See Acetylsalicylic acid

ASSAYING
Assay for platinum metals in ore concentrates. J. Seath and F. E. Beamish. bibliog Ind & Eng Chem Anal ed 12:169-71 Mr 15 '40
Dangers of careless sampling and assaying. B. W. Hill. Eng & Min J 141:38 O '40
Fire assaying. O. C. Shepard and W. F. Dietrich. 277p $3 McGraw-Hill '40
Textbook of fire assaying. E. E. Bugbee. 3d ed 314p $3 Wiley '40

ASSEMBLING methods
Assembling machine tools; National acme co. F. B. Jacobs. il Steel 107:68-9+ Jl 8 '40
Assembling trucks; efficient order and production control system; Yale & Towne mfg. co. E. R. Nordin. il Steel 106:58+ Ap 29 '40
Assembly lines made up of portable table units. il Factory Management 98:60-1 My '40
Broaching machines assemble press-fit parts. diags Steel 106:71 Je 10 '40
Buick swages wishbone bearing; substitution of fabric bushings. il diags Am Mach 84: 55-7 F 7 '40
Can change layout in an hour; making automobile seat covers; National automotive fibers, inc. H. M. Ratley. il Factory Management 98:48-9 S '40
Economical handling methods in wartime production; some problems of conveyor assembly. Mech Handling 26:317-18 N '39
Electric furnace brazing by Kelvinator. E. W. Cunningham. il Metals & Alloys 11:125-30 My '40
High speed assembly welding; radiator grilles. il Steel 107:60, 63+ N 4 '40
How Luscombe builds metal planes. C. E. Burgess. il plan Aviation 39:44-5, 102 My '40
Jigs at Republic aviation corp. il Aviation 39: 36-9 O '40
Jigs for airplane assembly. H. Lasker. il Am Mach 84:570-3, 606-9 Ag 7-21 '40
Mass production; importance of handling methods; motors. D. D. Rayner. Elec R (Lond) 126:499 My 3 '40
Mechanical handling in army truck production. il Mech Handling 27:3-6 Ja '40
Meter assembly; shadow projector checks gear alignment and mesh, stethoscope tests bearing assemblies, color system assures proper selection of parts; Sangamo electric mfg. co. G. Ralph. il Steel 107:46-7+ Jl 29 '40
Milling machine manufacture; Kearney & Trecker institutes a production line. R. Bingham. flow chart il Iron Age 146:21-7 S 26 '40
Modern radio plant practice; Stromberg-Carlson telephone manufacturing company. H. Chase. il plans Electronics 12:9-11 D '39
Multiple duplication of assembly fixtures by the Taber-Van Dusen method; reflection printing process. P. Taber and L. W. Van Dusen. il Aviation 39:53+ N '40
Power-operated magazine socket wrench for rapid assembling. M. Haas. diags Mach 46: 116 My '40
Producing 1,750,000 speedometers a year; manufacturing eighteen basic types of automotive equipment; Stewart-Warner corp. J. Geschelin. il Automotive Ind 82:94-102 F 1 '40
Progressive assembly; body of harvesting combine; John Deere harvester co. il plan Steel 107:58, 60, 62+ S 9 '40
Proper sub-assemblies for welding. E. W. P. Smith. diags Iron Age 146:42 Ag 29 '40
Routing raises output; Monarch machine tool co. P. A. Abe. il Steel 106:50, 52+ Mr 25 '40
Shaw conveyor for assembly of small units. diag Electrician 124:29 Ja 12 '40
Shaw factory conveyor. diags Engineer 168: 529 N 24 '39
Simple welding fixture for a complex fabrication. J. I. Karash. diags Mach 47:137 O '40
Steel stitching; a new high-speed assembly process. il diags Product Eng 11:148-51 Ap '40
Transformer steel takes a new turn; silicon steel as core material; new assembly method utilizes directional effect produced by rolling. W. E. Ruder. il diags Steel 106: 58-60 Je 3 '40
Truck-storage units for handling and assembling lathe parts; Monarch machine tool co. il Steel 105:41+ D 25 '39
Trucks serve as storage cabinets too. il Factory Management 98:58 Ja '40
Unit a second at King-Seeley; manufacture of automotive equipment and panel instruments. J. Geschelin. il Automotive Ind 82: 510-15+ Je 1 '40
Welding on a conveyor; Servel Electrolux plant. R. G. Rodgers and W. R. Campbell. il Steel 106:54+ My 6 '40

ASSESSMENT
Administrative review agencies; fourth progress report of the committee on assessment organization and personnel. 69p National assn. of assessing officers, Chicago '39
Proceedings of the National conference on assessment administration, 6th, 1939. $1 National assn. of assessing officers, 1313 E. 60th st, Chicago '40

ASSESSMENTS, Special. See Special assessments

ASSETS, Fixed
Get more exact credit information; fixed circulating capital in the financial statement. R. M. Swisher. Bankers Mo 57:280-1 My '40

ASSIGNMENT of book accounts
Status of assigned accounts; how they rate under section 60 of the Chandler act. P. E. Hamilton. bibliog Credit & Fin Management 42:14-17, 40-2 Je '40

ASSINIBOINE, Mount
Lower and middle Cambrian stratigraphy of southwestern Alberta and southeastern British Columbia. C. Deiss. diags maps Geol Soc Bul 51:731-93 bibliog(p792-3) pl 1-5 My '40

ASSOCIATED aviation underwriters
Aviation Underwriters buy new Stinson 105. il Weekly Underw 143:329+ Ag 17 '40

ASSOCIATED business papers
Annual spring meeting, Hot Springs, Va. Ptr Ink 191:33+ My 10 '40
"Tell all" program continued. Ptr Ink 192: 16 Jl 19 '40

ASSOCIATED dry goods corporation
Consolidated balance-sheet. J Account 68: 275-6 O '39; Reply. 69:215-16 Mr '40
Low price, active leverage stocks; thumbnail appraisal. Mag of Wall St 65:619 F 24 '40

ASSOCIATED electric company
Depressed utility bond; several factors adversely affect Associated Electric issue. Barron's 20:19 N 4 '40
Earnings, 1938, 1939. Comm & Fin Chr 150: 3963 Je 22 '40

ASSOCIATED farmers of the Pacific coast
A.F. launches anti-red crusade; all-out war against unions. Business Week p34-5 Je 8 '40
Coast farmers map war on unions; Senate hearings start. Business Week p29-30 D 2 '39
Policies split Associated Farmers. Business Week p32+ My 18 '40
Trampling Grapes of wrath; California farmers assail Steinbeck, concentrate on drive for restrictive labor laws. Business Week p38+ D 16 '39

ASSOCIATED gas and electric company
Bankruptcy. Pub Util 25:158-60 F 1 '40
F.P.C. finishes inquiry. Comm & Fin Chr 150: 2867-8 My 4 '40
Files as bankrupt. Comm & Fin Chr 150:271-3 Ja 13 '40
Files bankruptcy petition. Elec W 113:134 Ja 13 '40

ASSOCIATED gas and electric company—*Cont.*
General protective committee for security holders in reports assail treatment of investors. Comm & Fin Chr 151:2484-5 O 26 '40
New reorganization plan. Comm & Fin Chr 150:427-8 Ja 20 '40
SEC charged with restricting action of trustees; testimony criticized by SEC. Comm & Fin Chr 151:1713 S 21 '40
SEC vs. A.G.&E. Business Week p56-8 S 28 '40
Security holders warned of attempts to get them to sell or switch. Comm & Fin Chr 151:688 Ag 3 '40
Trustees report. Comm & Fin Chr 150:2564 Ap 20 '40
Utilities expect new SEC squeezes. Business Week p18+ Ja 20 '40

ASSOCIATED gas and electric corporation
New protective committee formed for holders of cumulative income debentures due 1978. Comm & Fin Chr 150:2710 Ap 27 '40
Securities and exchange commission; findings and opinion in matter of Associated gas and electric corporation. J Account 69:233-45 Mr '40
Trustees' third report. Comm & Fin Chr 151: 1133-4 Ag 24 '40

ASSOCIATED general contractors of America
Annual meeting, 21st, Memphis. Eng N 124: 214-15 F 15 '40
New Orleans chapter indicted on bid fees. Eng N 123:737 D 7 '39
Spring meeting, Milwaukee, May 6-9. Eng N 124:681+ My 16 '40

ASSOCIATED machine tool dealers of America
Annual meeting, Dayton, Ohio, Oct. 21-22. Iron Age 146:76-7 O 31 '40; Am Mach 84: 892j O 30 '40; Steel 107:35+ O 28 '40

ASSOCIATED portland cement manufacturers
Ordinary general meeting, 41st, London. Economist 138:655 Ap 6 '40

ASSOCIATED press
Annual meeting, 40th, New York. Comm & Fin Chr 150:2659 Ap 27 '40
Associated press loosens up on radio. Ptr Ink 191:26+ Ap 26 '40
AP, the story of news. O. Gramling. 506p $3.50 Farrar '40
McLean heads associated press; other officers. Ptr Ink 191:14 My 3 '40

ASSOCIATED telephone company, ltd.
Preferred stock offered. Comm & Fin Chr 150:122 Ja 6 '40

ASSOCIATED traffic clubs of America
Annual meeting, 19th, Philadelphia, Oct. 21-23. Ry Age 109:590-1+ O 26 '40

ASSOCIATES investment company
Brass tacks for the investor; brief analysis. Barron's 20:9 Mr 25 '40
40,000 shares of preferred stock sold. Comm & Fin Chr 150:2710-11 Ap 27 '40

ASSOCIATION advertising. See Advertising, Association

ASSOCIATION and associations
Law relating to unincorporated associations, being the Yorke prize essay for the year 1937. D. Lloyd. 248p 21s Sweet & Maxwell, London '39

See also
Advertising, Association
Benefit societies
Cooperation
Corporations
Employers' associations
Engineering societies
International conferences
Scientific societies
Trade associations
Trade unions

ASSOCIATION for color research, Chicago
Membership list. Ptg Art 68 no 4:1 12 '40

ASSOCIATION of American railroads
Anti-trust suit against A.A.R. Ry Age 109: 650 N 2 '40
Fall meeting, Chicago, Nov. 10. Ry Age 107: 798-9 N 18 '39

Accounting division
Annual meeting, 50th, White Sulphur Springs, June 18-20. Ry Age 108:1167-71+ Je 29 '40

Engineering division
Electrical section
Annual meeting, Chicago, Oct. 29. Ry Age 109:677-9 N 9 '40

Freight claim division
Annual meeting, 49th, Chicago, May 21-23. Ry Age 108:972-4 Je 1 '40

Freight station section
Annual meeting, New York, June 11-13. Ry Age 108:1103-5 Je 22 '40

Mechanical division
Annual meeting, 18th, Chicago, June 27-28. Ry Age 109:5-39+ Jl 6 '40; Ry Mech Eng 114:245-85 Jl '40

Electrical section
Annual meeting, Chicago, Oct. 30. Ry Age 109:679-82 N 9 '40

Protective section
Annual meeting, 20th, Montreal, June 26-28. Ry Age 109:43-4 Jl 6 '40

Purchases and stores division
Annual meeting, New York, June 25-26. Ry Age 108:1151-65 Je 29 '40

Safety section
Annual meeting, 20th, St Paul, June 4-6. Ry Age 108:1053-6 Je 15 '40

Signal section
Annual meeting, 46th, Washington, Oct. 8-10. Ry Age 109:548-50+ O 19 '40

Telegraph and telephone section
Annual meeting, 21st, Ottawa, Sept. 10-12. Ry Age 109:394-6 S 21 '40

ASSOCIATION of bank women
Officers. Comm & Fin Chr 151:1833 S 28 '40

ASSOCIATION of British chemical manufacturers
Extracts from the annual report for the year ended May 31, 1940. Chem & Ind 59: 722-6 O 26 '40; Chem Age (Lond) 43:195-6 O 26 '40
Message from the chairman. R. Duncalfe. Chem Age (Lond) 41:427 D 30 '39

ASSOCIATION of casualty and surety executives
Annual meeting, New York, May 7. East Underw 41:29+ My 10 '40; Ins Field (Fire ed) 69:12 My 9 '40; Nat Underw 44:19+ My 9 '40; Weekly Underw 142:1158+ My 11 '40
Committee appointments for 1940-41. East Underw 41:31 Je 21 '40
Efforts to help producers. H. K. Philips. Weekly Underw 143:971+ O 26 '40

ASSOCIATION of customers' brokers
Officers for coming year. Comm & Fin Chr 150:3599 Je 8 '40

ASSOCIATION of gas appliance and equipment manufacturers
Annual meeting, Atlantic City, Oct. 7. Am Gas J 153:36, 39 N '40; Am Gas Assn Mo 22:382 N '40; Gas Age 86:41-2+ O 24 '40
Meeting, French Lick Springs, May 20-22. Gas Age 85:34-5 Je 6 '40; Am Gas J 152: 43-4 Je '40

ASSOCIATION of highway officials of the North Atlantic states
Annual meeting, Atlantic City. Eng N 124: 283+ F 22 '40

ASSOCIATION of iron and steel engineers
Annual meeting, 36th, Chicago, Sept. 24-27. Iron Age 146:35-41, 80 O 3 '40; Steel 107: 22-3 S 30 '40
Spring meeting, Cincinnati, April 1-2. Steel 106:77-9 Ap 8 '40

ASSOCIATION of life agency officers
Joint meeting with Life insurance sales research bureau, 19th, Chicago, Oct. 28-30. East Underw 41:1+, 6+ N 1 '40; Nat Underw (Life ed) 44:1+ N 1 '40; Spectator (Life ed) 145:12-13+ N 7 '40; Weekly Underw 143:1053+ N 2 '40

ASSOCIATION of life insurance counsel
Annual meeting, New York. Ins Field (Life ed) 68:15-16 D 15 '39; Weekly Underw 141: 1297+ D 16 '39; Nat Underw (Life ed) 43:4+ D 15 '39
Meeting, Hot Springs, Va. Nat Underw (Life ed) 44:3+ My 31 '40

ASSOCIATION of life insurance medical directors of America
Annual meeting, 51st, Boston. East Underw 41:12 O 25 '40; Nat Underw (Life ed) 44: 1+ O 25 '40

ASSOCIATION of life insurance presidents
Annual convention, 33d, New York. Comm & Fin Chr 149:3810-11, 3958-60 D 16-23 '39; Ins Field (Life ed) 68:7-8, 32-3 D 15 '39; Weekly Underw 141:1284 D 16 '39; Nat Underw (Life ed) 43:1+ D 15; 1, 12-15 D 22 '39
Chairman's report; abstracts. M. A. Linton. East Underw 40:19-20 D 15 '39; Weekly Underw 141:1253+ D 16 '39; Nat Underw (Life ed) 43:1+ D 15 '39
Proceedings of the thirty-third annual convention, New York, Dec. 14-15, 1939. 282p The assn, 165 Broadway, New York '39

ASSOCIATION of national advertisers
Annual convention, White Sulphur Springs. Ptr Ink 193:61-4 N 1 '40

ASSOCIATION of official agricultural chemists
Annual meeting, 56th. Oil Paint & Drug Rep 138:5+ N 4 '40

ASSOCIATION of public lighting engineers
Annual meeting, Westminster, Nov. 28. Gas J (Lond) 228:502-3 D 6 '39

ASSOCIATION of railway claim agents
Annual meeting, 51st, Providence, May 15-17. Ry Age 108:977 Je 1 '40

ASSOCIATION of textile chemists and colorists
Annual meeting, 19th, Sept. 16, Boston; banquet session. Am Dyestuff Rep 28:658-69 N 13 '39

ASTBURY, William Thomas
Sketch. por Soc Dyers & Col J 56:270 Je '40

ASTHMA
Asthma; its symptoms, causes and cures. A. Vander. 95p $1.50 Chemical pub. co. '39
Hay fever and asthma. Pub Health Rep 55: 1742-4 S 20 '40

ASTRACHAN fabric
Processing of astrakhan fabric. S. Wouble. Textile Col 62:441-4, 525-7+ Jl-Ag '40

ASTRAKHAN fabric. See Astrachan fabric

ASTRONOMICAL measurements
Astronomy is improving its yardstick; abstract. H. Shapley. Science 91:sup8 My 24 '40

ASTRONOMICAL models
See also
Orreries

ASTRONOMICAL observatories
Colorado Rocky Mountain observatory of Harvard university; coronagraph studies. Science 91:425 My 3 '40
Cook observatory at Wynnewood, Pa. Science 92:6 Jl 5 '40
Dedication of the McGregor building and telescope of the McMath-Hulbert observatory of the University of Michigan. Science 91: 519 My 31 '40
Goethe Link observatory; built, with its 36-inch telescope, by amateur astronomers of Indianapolis. V. E. Maier. il Sci Am 162: 347, 376-8 Je '40
Observatory of the Case school of applied science. Science 91:64-5 Ja 19 '40

ASTRONOMICAL photography
Coronaviser, an instrument for observing the solar corona in full sunlight; based on television technique. A. M. Skellett. il diags Bell System Tech J 19:249-61 Ap '40
Rotation of the Milky way; research program at Lick observatory. Science 92:sup8-9 Ag 9 '40
Television technique adopted in photographing sun's corona. il diags Electronics 13:34+ F '40

ASTRONOMICAL photometry. See Photometry, Astronomical

ASTRONOMY
Astronomy. C. Fisher and M. Lockwood. 205p bibliog(p187-9) $2.25 Wiley '40
Introduction to astronomy. R. H. Baker. 2d ed 315p $3 Van Nostrand '40
Physical sciences. E. J. Cable, R. W. Getchell and W. H. Kadesch. 754p bibliog(p647-71) $5; school ed $3.75 Prentice-Hall '40
Science in 1939. Science 90:sup14+ D 22 '39
Telescoptics. A. G. Ingalls. il Published in monthly numbers of Scientific American
See also
Astrophysics
Earth
Eclipses, Solar
Nebulae
Perturbation
Planets, Theory of
Satellites
Stars
Sun
Zodiacal light

ASTROPHYSICAL research
Construction of very sensitive vacuum thermoelectric cells. F. T. Rogers, jr. diag R Sci Instr 11:281-2 S '40

ASTROPHYSICS
Algol's eclipses. H. N. Russell. Sci Am 162: 86-7 F '40
Cross section of the reaction $N^{15}(p,\alpha)C^{12}$. M. G. Holloway and H. A. Bethe. Phys R 57: 747 Ap 15 '40
Origin of the earth; astrophysicists still unable to solve problem. H. N. Russell. Sci Am 163:266-7 N '40
Time-scale of the universe. H. N. Russell. Science 92:19-27 Jl 12 '40
Transformations of matter-radiation gas mixtures. R. M. Whitmer. Phys R 57:516-21 Mr 15 '40
See also
Planets, Theory of
Stars

ASYMMETRIC induction
Question of intramolecular asymmetric induction. A. McKenzie and A. D. Wood. Chem Soc J p1536-44 O '39

ATABRIN
Quinine substitute intermediate developed; abstract. H. B. Hass and H. C. Huffman. Oil Paint & Drug Rep 138:3+ S 16 '40

ATCHISON, Topeka and Santa Fé railway
Drought's threat to Atchison bonds. A. Jansen. Barron's 19:15 D 25 '39
Traffic statistics and income account for calendar years 1936-39. Comm & Fin Chr 150:2247 Ap 6 '40

ATHENS college
Liberal arts via hosiery mill. Textile World 90:58 Ja '40

ATHLETE'S foot (disease)
Athlete's foot; prevention. Safety Eng 80:42 S '40

ATHLETIC fields
See also
Running tracks

Lighting
Aiming floodlights for sports areas. C. J. Vacher. diag Illum Eng 35:659-60 S '40
Baltimore stadium job boasts 325 kw. J. C. Fisher. il Elec W 113:1396 My 4 '40
Chicago White Sox play night baseball under 175 foot-candles. Illum Eng Soc Trans 34: 985-6 N '39
Lighting for night sports. R. J. Swackhamer and G. G. Bobst. il diags Illum Eng 35:447-57 My '40
Pittsburgh purchases baseball lighting system. Illum Eng 35:189 Mr '40
Tenth anniversary of night baseball. Illum Eng 35:402 My '40

ATHLONE, Alexander Augustus Frederick Cambridge, 1st earl of, 1874-
Sketch. por Pulp & Pa of Can 41:484 Jl '40

ATLANTA, Georgia

Economic conditions
Family income and expenditure in the southeastern region, 1935-36; v.1, Family income. A. D. H. Kaplan, F. M. Williams and J. S. Bernard. U S Bur Labor Statistics Bul 647:1-520 '39

ATLANTA, Georgia—*Continued*

Lighting

Atlanta gas lamp memorial shares spotlight with Gone with the wind premiere. J. H. Reed. il Am Gas Assn Mo 22:7-8 Ja '40

Old gas lamp post in Atlanta becomes a memorial. il Am Gas J 152:31-2 Ja '40

ATLANTIC coast

See also

Geology—Atlantic coast

ATLANTIC coast line railroad

Statistics and income account for years 1936-39. Comm & Fin Chr 150:2564-5 Ap 20 '40

ATLANTIC ocean

Myth? part truth? Atlantic Ridge plateau and lost Atlantis tradition. Sci Am 163:179 O '40

Submarine valleys and related geologic problems of the north Atlantic. W. H. Bucher. Geol Soc Bul 51:489-511 bibliog(p509-11) Ap '40

See also

Aviation—Trans-atlantic flights

ATLANTIS

Myth? part truth? Atlantic Ridge plateau and lost Atlantis tradition. Sci Am 163:179 O '40

ATLAS corporation

Atlas—Curtiss-Wright merger. Mag of Wall St 65:813 Ap 6 '40

Merger with Curtiss-Wright corporation. Comm & Fin Chr 150:1931, 2248 Mr 23, Ap 6 '40

Move to clip Atlas' wings; opposition to Floyd Odlum's plan for merger with Curtiss-Wright. Business Week p17-18 Ap 27 '40

Proposed merger with Curtiss-Wright corp. terminated. Comm & Fin Chr 150:3193-4 My 18 '40

Report for 1939. Comm & Fin Chr 150:1753 Mr 16 '40

ATLAS powder company

Atlas vs. Hercules Powder; demand for explosives aided by both war and industrial pickup. W. Kraemer. il Mag of Wall St 66: 100-2+ My 4 '40

Earnings, 1936-39. Comm & Fin Chr 150:987 F 10 '40

Glance at the week's reports. H. Lawrence. Barron's 20:13 F 5 '40

ATLASES

Atlas of world review. C. H. MacFadden. 67p of text and 67p of maps $1.95 Crowell '40

ATLASES, Historical. See Historical atlases

ATMOSPHERE

Scattering of radio waves in the lower and middle atmosphere. J. H. Piddington. bibliog il diag Inst Radio Eng Proc 27:753-7 D '39

See also

Air

Meteorology

ATMOSPHERE, Upper

Analysis of the effect of scattering in radio transmission. T. L. Eckersley. bibliog diags Inst E E J 86:548-63, pl 1-4 Je '40; Excerpt. Electrician 124:106 F 9 '40; Discussion. Inst E E J 86:563-7 Je '40

Analysis of the ionosphere. K. K. Darrow. il diags Bell System Tech J 19:455-88 Jl '40; Same abr. Elec Eng 59:272-83 Jl '40

Auroral occurrences and ionospheric disturbances from field-strength measurements, 1930-1940; abstract. H. T. Stetson. Inst Radio Eng Proc 28:141 Mr '40

Characteristics of the ionosphere at Washington, D. C. November, 1939, with predictions for February, 1940. T. R. Gilliland, S. S. Kirby and N. Smith. Inst Radio Eng Proc 28:40-1 Ja '40 [cont monthly]

Cosmic-ray observations in the stratosphere with high-speed counters. L. F. Curtiss and others. pls diags J Research Nat Bur Stand 23:585-95 N '39

Flickering searchlight beam for the study of the atmosphere; abstract. E. A. Johnson. Science 90:sup8 N 17 '39

Improved electric hygrometer for measurement of upper-air humidities. F. W. Dunmore. 2pls diags J Research Nat Bur Stand 23:701-14 D '39

Improved electric hygrometer for measuring upper-air humidities. F. W. Dunmore. Gas Age 85:25 Ap 25 '40; Same abr. Heat & Ven 37:45 My '40

Intensity and rate of production of mesotrons in the stratosphere. M. Schein, W. P. Jesse and E. O. Wollan. bibliog il diags Phys R 57:847-54 My 15 '40

Measurement of light scattered by the upper atmosphere from a search-light beam. E. A. Johnson and others. Opt Soc Am J 29: 512-17 D '39

Origin of radio fade-outs and the absorption coefficient of gases for light of wavelength 1215.7A. W. M. Preston. bibliog Phys R 57:887-94 My 15 '40

Predictions of normal radio critical frequencies related to solar eclipses in 1940. N. Smith. bibliog J Research Nat Bur Stand 24:225-8 F '40

Recent experiments on cosmic rays at high altitudes; abstract. W. P. Jesse. Science 91:148 My 3 '40

Reception of radio echoes from distant ionospheric irregularities. J. A. Pierce and H. R. Mimno. il diag Phys R 57:95-105 Ja 15 '40

Relation between actual and virtual ionospheric height. H. G. Booker and S. L. Seaton. bibliog il Phys R 57:87-94 Ja 15 '40

Sensitive aneroid diaphragm capsule with no deflection above a selected pressure. W. G. Brombacher, V. H. Goerke and F. Cordero. pl diag J Research Nat Bur Stand 24:31-2 Ja '40

Transmission of radio waves. Electrician 123: 557-8; 124:8-9, 24-5 D 29 '39-Ja 12 '40

Upper-air weather soundings by radio. H. Diamond and others. il diag Elec Eng 59: Trans 321-8 Je '40

ATMOSPHERIC electricity

Present state of solar activity and associated phenomena. H. T. Stetson. Science 90:482-4 N 24 '39

See also

Auroras

Lightning

ATMOSPHERIC pressure

Differential gas pressures in wells. T. E. Larson. Am Water Works Assn J 31:2118-20 D '39

Use of respiratory protective devices under abnormal air pressure. F. E. Griffith and H. H. Schrenk. U S Bur Mines Rep of Invest 3488:1-9 '40; Excerpts. Can Min J 61: 303 My '40

Variations of cosmic-ray intensity with variation of barometric pressure and temperature at sea level. J. Clay and E. M. Bruins. Rs Mod Phys 11:158-9 Jl-O '39

See also

Barometers

ATMOSPHERIC temperature

Basis for selecting design temperatures for winter heating; based on analysis of weather data for 120 cities. C. M. Humphreys. map Heat & Ven 36:30-2 D '39

How temperatures vary throughout the day. J. C. Albright. Refrig Eng 40:97-9 Ag '40

Seasonal and the atmospheric temperature effect in cosmic radiation. V. F. Hess. bibliog Phys R 57:781-5 My 1 '40

Variations of cosmic-ray intensity with variation of barometric pressure and temperature at sea level. J. Clay and E. M. Bruins. Rs Mod Phys 11:158-9 Jl-O '39

See also

Air conditioning
Cooling
Hot weather
Thermometers and thermometry

ATMOSPHERICS. See Radio communication—Interference

ATOMIC distances. See Molecules

ATOMIC hydrogen. See Hydrogen—Atomic hydrogen

ATOMIC power

Atomic energy starts new radio station; WBZ. il diags Power Pl Eng 44:103 O '40

Facts about atomic power; still a matter for the future. il Electronics 13:12-13+ Jl '40

Uranium; the fuel of Utopia. Pub Util 26: 690-1 N 7 '40

ATOMIC theory

Atomic hypothesis of William Higgins. E. R. Atkinson. bibliog il J Chem Educ 17:3-11 Ja '40

ATOMIC volume

Modified atomic volume plots. T. Moeller. J Chem Educ 17:441-2 S '40

ATOMIC weights

Atomic weight determination for high-school students. E. L. Gunn. J Chem Educ 17: 122-3 Mr '40

Discussion of the isotopic weight of C^{13}. J. Mattauch. bibliog Phys R 57:1155-9 Je 15 '40

Isotopic weights of chlorine, argon and iron by the doublet method. T. Okuda and others. Phys R 58:578-9 S 15 '40

Masses of stable nuclei from Ne^{20} to Fe^{57}. E. Pollard. Phys R 57:1186-7 Je 15 '40

Revision of the atomic weight of cesium. G. P. Baxter and C. D. Harrington. Am Chem Soc J 62:1834-6 Jl '40

Revision of the atomic weight of iodine; the ratio of silver iodide to silver chloride. G. P. Baxter and A. C. Titus. diag Am Chem Soc J 62:1826-8 Jl '40

Revision of the atomic weight of iodine; the ratio of silver to silver iodide; the ratio of silver iodide to silver chloride. G. P. Baxter and O. W. Lundstedt. bibliog Am Chem Soc J 62:1829-34 Jl '40

Revision of the atomic weight of potassium. G. P. Baxter and C. D. Harrington. Am Chem Soc J 62:1836-7 Jl '40

Specific gravity of iodine pentoxide and the atomic weight of iodine. G. P. Baxter and W. M. Kelley. Am Chem Soc J 62:1824-5 Jl '40

Tenth report of the committee on atomic weights of the International union of chemistry. G. P. Baxter and others. Am Chem Soc J 62:669-72 Mr '40; Same. Chem Soc J p475-8 Ap '40

ATOMIZERS

Use of pitch as a fuel. A. Bargeboer. il diags Gas J (Lond) 231:365-6+ Ag 28 '40

ATOMS

Application of the method of coincidence counting to experiments in nuclear physics. J. V. Dunworth. bibliog R Sci Instr 11: 167-80 My '40

Calculation of force fields from scattering. F. C. Hoyt and W. E. Frye. Phys R 58:784-6 N 1 '40

Chemistry within the atom. S. C. Lind. Science 92:227-31 S 13 '40

Computation of quadrupole and magnetic-dipole transition probabilities. G. H. Shortley. Phys R 57:225-34 F 1 '40

Concentration of uranium. Science 91:sup10 My 17 '40

Continuum theory of the compound nucleus. H. A. Bethe. Phys R 57:1125-44 Je 15 '40

Directional correlation of successive quanta. D. R. Hamilton. Phys R 58:122-31 Jl 15 '40

Effect of valence electrons and electron cloud distortion upon intensities in electron and X-ray scattering, applied to zinc oxide. V. A. Johnson. bibliog Phys R 57:613-21 Ap 1 '40

Essential assumptions of a theory of atomic structure. L. A. Goldblatt and A. H. Croup. J Chem Educ 17:378-9 Ag '40

Evidence for a new type of nuclear reaction. R. Sherr. Phys R 57:937 My 15 '40

Excited states of the O^{16} nucleus. D. M. Dennison. Phys R 57:454-6 Mr 1 '40

Field theory of nuclear forces. C. L. Critchfield and W. E. Lamb, jr. Phys R 58:46-9 Jl 1 '40

Fundamentals of science relating to electroplating. Metal Finishing 38:495-6 S '40

Heavy electron pair theory of nuclear forces. R. E. Marshak. bibliog Phys R 57:1101-6 Je 15 '40

Intensity distribution in X-ray and electron diffraction patterns; X-ray atom factors of zinc in zinc oxide and chemical binding. C. H. Ehrhardt and K. Lark-Horovitz. bibliog Phys R 57:603-13 Ap 1 '40

Interpretation of atomic distribution curves for liquids. C. A. Coulson and G. S. Rushbrooke. bibliog Phys R 56:1216-23 D 15 '39

Interpretation of resonances in nuclear reactions. G. Breit. bibliog diags Phys R 58: 506-37 S 15 '40

Meson theory of nuclear forces. H. A. Bethe. bibliog Phys R 57:260-72, 390-413 F 15-Mr 1 '40

Metallurgical diversion; computing number of atoms in one cubic centimeter of copper. C. H. Bierbaum. Min & Met 21:464 O '40

Missing heavy nuclei. L. A. Turner. Phys R 57:950-7 Je 1 '40

Nature of the atom. G. K. T. Conn. 115p bibliog(p111) $1.50 Distributed by Chemical pub. co. '39

New energy levels in the silver atom. E. Rasmussen. Phys R 57:243 F 1 '40

Note on *p*-wave anomalies in proton-proton scattering. G. Breit, C. Kittel and H. M. Thaxton. Phys R 57:255-9 F 15 '40

Nuclear energy levels in magnesium. T. R. Wilkins and G. Wrenshall. Phys R 58:758 O 15 '40

Quantum physics of solids; the energies of electrons in crystals. W. Shockley. il diags Bell System Tech J 18:645-723 O '39

Radioactivity and the periodic table; an introduction to the study of atomic structure and isotopes in elementary chemistry. J. F. King and P. H. Full. il J Chem Educ 17: 481-2 O '40

Radiofrequency spectra of atoms; hyperfine structure and Zeeman effect in the ground state of Li^6, Li^7, K^{39} and K^{41}. P. Kusch, S. Millman and I. I. Rabi. bibliog Phys R 57:765-80 My 1 '40

Reactions of high energy atoms produced by slow neutron capture. W. F. Libby. bibliog Am Chem Soc J 62:1930-43 Ag '40

Regularities among the heavy nuclei. L. A. Turner. bibliog Phys R 58:181-2 Jl 15 '40

Relativistic self-consistent field for Cu^+. A. O. Williams, jr. bibliog Phys R 58:723-6 O 15 '40

Spin-orbit coupling in He^5. S. M. Dancoff. Phys R 58:326-31 Ag 15 '40

Spin-orbit coupling in the alpha-model of light nuclei. D. R. Inglis. bibliog Phys R 56:1175-80 D 15 '39

Yield of nuclear reactions with heavy elements; calculated as functions of energy of bombarding particles by means of statistical methods. V. F. Weisskopf and D. H. Ewing. bibliog Phys R 57:472-85 Mr 15 '40

See also

Atomic volume
Atomic weights
Binding energy
Cyclotron
Deuterons
Electrons
Molecules
Neutrino
Neutrons
Nuclear spin
Protons
Radiation
Spectrum
Stereochemistry

Beams

Electric quadrupole moments of Ga^{69} and Ga^{71}; an atomic beam study of the hyperfine structures of the $^2P_{1/2}$ and $^2P_{3/2}$ states. N. A. Renzetti. bibliog diags Phys R 57: 753-65 My 1 '40

Collisions

Collisions of alpha-particles with carbon nuclei. G. A. Wrenshall. bibliog Phys R 57:1095-1100 Je 15 '40

Disintegration

Accurate measurement of the energy released in the disintegration of Li^6 by protons. G. J Perlow. bibliog diag Phys R 58:218-25 Ag 1 '40

Another step toward atomic power. K. H. Kingdon. Gen Elec R 43:229 Je '40

ATOMS—Disintegration—*Continued*
Atom-smashing by Westinghouse. il Barron's 20:13 Ap 8 '40
Atomic energy; chain reaction in uranium fission. R. D. Potter. Science 91:sup5 F 9 '40
Atomic power. R. D. Potter. Science 91:sup8+ My 17 '40
Big gun of science; Brasch and Lange apparatus, old-timer in splitting atomic nucleus, faces revival in generating artificial lightning. C. W. Sheppard. il Sci Am 162: 342-3 Je '40
Bombardment of uranium with fast and slow neutrons. L. S. Foster. J Chem Educ 17:448-9 S '40
Cloud-chamber studies of fission fragment tracks. K. J. Brostrøm, J. K. Bøggild and T. Lauritsen. il Phys R 58:651-3 O 1 '40
Correction to measurements with the electrostatic analyzer. J. Mattauch. Phys R 57: 549-50; Reply. S. K. Allison, L. S. Skaggs and N. M. Smith, jr. 550-1 Mr 15 '40
Don't worry, it can't happen; no danger in uranium fission. J. Harrington. diag Sci Am 162:268 My '40
Dynamics of complex fission. R. D. Present and J. K. Knipp. Phys R 57:751, 1188-9 Ap 15, Je 15 '40
Energy from split uranium atom. Science 92:sup8 Ag 2 '40
Fission products of uranium by fast neutrons. Y. Nishina and others. Phys R 58:660-1 O 1 '40
Further experiments on fission of separated uranium isotopes. A. O. Nier and others. Phys R 57:748 Ap 15 '40
Heat of fission of uranium. M. C. Henderson. bibliog diag Phys R 58:774-80 N 1 '40
Helium of mass three as an agent in nuclear reactions. W. H. Barkas. Phys R 56:1242-3 D 15 '39
Internal conversion of gamma-radiation in the *L* shell. M. H. Hebb and E. Nelson. Phys R 58:486-91 S 15 '40
Is atomic energy nearer? R. H. Copperud. Sci Am 163:16 Jl '40
Maestro of the atom, Lawrence. L. A. Schuler. il Sci Am 163:68-71 Ag '40
Nuclear disintegrations. E. Fermi. Mech Eng 62:101-2 F '40; Same. Elec Eng 59:57-8 F '40
Nuclear fission. K. K. Darrow. bibliog il Bell System Tech J 19:267-89 Ap '40
Nuclear fission. K. K. Darrow. Science 91: 514-16 My 31 '40
Nuclear fission. L. A. Turner. Rs Mod Phys 12:1-29 references(p28-9) Ja '40
Nuclear fission of separated uranium isotopes. A. O. Nier and others. Phys R 57:546 Mr 15 '40
Oil industry not threatened by vast atomic energy. Nat Pet N 32:54 Ag 14 '40
Passage of uranium fission fragments through matter. W. E. Lamb, jr. bibliog Phys R 58: 696-702 O 15 '40
Products of the uranium fission; radioactive isotopes of iodine and xenon. R. W. Dodson and R. D. Fowler. bibliog Phys R 57:966-71 Je 1 '40
Les progrès récents de nos connaissances sur la structure et la désintégration des atomes. A. Boutaric. Génie Civil 115:383-6, 401-4 N 25-D 2 '39
Protons from the transmutation of boron by deuterons. E. Pollard, W. L. Davidson, jr, and H. L. Schultz. Phys R 57:1117-20 Je 15 '40
Reactions produced by neutrons in heavy elements. E. Fermi. Science 92:269-71 S 27 '40
Relative probability for the loss of neutrons and alpha-particles from an excited nucleus. J. M. Cork and J. Halpern. Phys R 57:667-8 Ap 15 '40
Scattering and stopping of fission fragments. N. Bohr. Phys R 58:654-5 O 1 '40
Search for resonance scattered protons from B^{11} and F^{19}. W. R. Kanne, R. F. Taschek and G. L. Ragan. bibliog diags Phys R 58: 693-5 O 15 '40
U-235 in reviews and previews. Min & Met 21:298-9 Je '40
Uranium fission; abstract. L. Meitner. Science 91:sup8+ Ap 26 '40
Uranium 235, power fuel of the future? P. W. Swain. diags Power 84:412-15 Jl '40
Utilization of uranium energy to turn on the new 50,000-watt transmitter of radio station WBZ. diags Mech Eng 62:741-2 O '40
Velocity-range relation for fission fragments. N. Bohr and others. Phys R 58:839-40 N 1 '40
Why smash atoms? A. K. Solomon. 174p bibliog(p166-8) $2.50 Harvard univ. press '40

See also
Radioactivity

Recombination
Photoexpansion of chlorine; the recombination of chlorine atoms. M. Ritchie and R. L. Smith. Chem Soc J p394-401 Ap '40

AUBURN automobile company
Court approves amended reorganization plan. Automotive Ind 82:122 F 1 '40
Court approves reorganization plan. Comm & Fin Chr 150:680-1 Ja 27 '40

AUDIT bureau of circulations
A.B.C. and Tower case; Bureau functioned to limit of authority. P. L. Thomson. Ptr Ink 190:75-8 Ja 19 '40; Discussion. 190:18 Ja 26 '40
Concession by A.B.C.; county visualization plan of advertisers adopted. Business Week p51-2 O 26 '40
New Audit Bureau rules. Ptr Ink 192:12 Jl 12 '40
Visualization plan; sharp demands on newspapers bring satisfactory compromise at convention; officers elected. Ptr Ink 193:19-22 O 25 '40

AUDITING
Are auditors hard of hearing? auditor's report does not guarantee that all is well with a company. J. Heywood. il Nation's Business 28:30, 32+ Ja '40
Auditing procedure affecting credits. A. Siegel. Credit & Fin Management 42:30-1+ F '40
Auditor's opinion on the basis of a restricted examination; statement by American institute of accountants special committee. J Account 68:365-6 D '39
Audits, earnings and protection; elaborate checks and balances and possibilities of codification. F. A. Zara. Trusts & Estates 71:429-33 O '40
Audits of agricultural coöperatives. W. L. Bradley. J Account 70:25-32 Jl '40
C.P.A. tells of his views about audit methods; answering layman's questions. Credit & Fin Management 42:23, 25-7+ Jl '40
Cutting time and cost on stock brokerage audits. J. S. Seidman. J Account 70:238-40 S '40
Experiences with extensions of auditing procedure for inventories. C. O. Wellington. J Account 70:13-24 Jl '40
Extensions of auditing procedure. J Account 68:377-85 D '39
Extensions of auditing procedure. V. H. Stempf. J Account 69:7-13 Ja '40
Extensions of auditing procedure affecting credit analysis. A. Siegel. Credit & Fin Management 41:41 D '39
Financial statements for investors. W. W. Werntz. J Account 69:22-9 Ja '40
Get more exact credit information; balance sheet or financial statement. R. M. Swisher. Bankers Mo 57:3-5 Ja '40
Internal control from the viewpoint of the auditor. F. G. Short. J Account 70:225-31 S '40
Inventories and receivables of department stores, instalment houses, chain stores, and other retailers; a statement by the committee on auditing procedure of the American institute of accountants. J Account 69: 88-90 F '40
Investment trust bill and accountancy; statement presented by the American institute of accountants before a subcommittee, Senate committee on banking and currency, on April 22, 1940. J Account 69:348-53 My '40

AUDITING—*Continued*
New York stock exchange ruling for audits of member firms praised. A. Stewart. Comm & Fin Chr 150:624 Ja 27 '40
Preparing for the auditor. C. W. Snider. J Account 69:41-5 Ja '40
Punched card accounting from the audit viewpoint. L. E. Vannais. J Account 70:200-17, 339-56 S-O '40
Putting life into your audits; use of progress-and-performance records; interview with Wallace Clark. B. Brougham. Barron's 20:3 Ja 22 '40
Recent gains in accounting and auditing methods of companies listed on stock exchange should be consolidated. J. Haskell. Comm & Fin Chr 150:3288-9 My 25 '40
Verification, how far is too far? opinion of retail store executives on problems of accounts receivable and inventory verifications. E. H. Scull. Management R 29:335-6 S '40

See also
Accounting
Bank auditing
Bank examination

Study and teaching

American institute of accountants' examinations in auditing, May 11, 1939. J Account 69:57-62 Ja '40
American institute of accountants' examinations in auditing, November 16, 1939. J Account 70:79-85 Jl '40
American institute of accountants examination in auditing, May 16, 1940. J Account 69:491-2, 539-45 Je, D '40

AUDITORIUMS
Auditorium at an angle makes efficient use of rectangular site; Hollywood theater, Sioux Falls, S.D. il plans Arch Rec 87: 39-41 Ja '40
Connecticut college auditorium, New London; with views, plans, construction outline. Arch Forum 72:157-60 Mr '40
Point-supported dome of thin shell type; auditorium at Tulane university. A. Tedesko. il diags Eng N 123:767-8 D 7 '39
Rigid arch frame spans 250-ft. arena; Indianapolis Coliseum designed for quick conversion from ice rink to livestock pavilion to convention hall. il Arch Rec 88:47 Jl '40

See also
Church architecture
Theaters

Heating and ventilation

Double feature for school plays; Santa Rosa junior college auditorium has remote control lighting system combining light and ventilation. il diag Elec West 85:50-1 N '40

Lighting

Double feature for school plays; Santa Rosa junior college auditorium has remote control lighting system combining light and ventilation. il diag Elec West 85:50-1 N '40

AUDITORIUMS, Municipal
Kansas City's municipal auditorium. S. J. Callahan. il diags plan Civil Eng 10:418-21 Jl '40

AUDITORS
Selection of auditors. J Account 70:64 Jl '40

AUDITORS' reports
Interpreting financial statements; banker's views on credit. T. F. Regan. Credit & Fin Management 42:9-11+ My '40
Reports of independent certified public accountants. V. H. Stempf. J Account 70:117-27 Ag '40

AUGER effect
Double ionization by the Auger effect: the cause of a satellite intensity anomaly for the X-ray diagram line M_{α_1}. F. R. Hirsh, jr. il Phys R 57:662-3 Ap 1 '40

AUGER machines
How to get the most out of your auger. F. S. Windoph. Brick & Clay Rec 96:26-8 Je '40
Speed of your auger affects the quality of your ware. J. G. Seanor. Brick & Clay Rec 97:20-1+ Jl '40

AUGUSTIN-NORMAND, Augustin, 1881-
Portrait. Engineer 169:supp F 16 '40

AUGUSTINE, Lee
Top-flight craftsmen. por Inland Ptr 104:64 F '40

AURAMINE
Absorption spectra of *N*-substituted auramine dyes. G. Breuer and J. Schnitzer. Chem Soc J p461-3 Ap '40

AURIN tricarboxylic acid
Preparation of aurin tricarboxylic acid. D. A. Holaday. Am Chem Soc J 62:989 Ap '40

AURORA, Illinois

Sewerage

Aurora sewage plant problems; abstract. W. A. Sperry. Eng N 125:350 S 12 '40
Use of alum in sludge drying. W. Sperry. Pub Works 71:28+ S '40

AURORAS
Auroral occurrences and ionospheric disturbances from field-strength measurements, 1930-1940; abstract. H. T. Stetson. Inst Radio Eng Proc 28:141 Mr '40
Marvels of the night. W. Crowder. il Sci Am 162:338-40 Je '40
Noteworthy aurora. S. S. Berry. Science 90: 490-1 N 24 '39
Present state of solar activity and associated phenomena. H. T. Stetson. Science 90:483-4 N 24 '39

AUSTENITE
Cinétique de la décomposition fractionnée des austénites. H. Jolivet and A. Portevin. Génie Civil 115:464-5 D 30 '39
Fundamental action; transformation of austenite. T. G. Digges. Metal Prog 38:419 O '40
Grain size of steel. J. R. Vilella. bibliog il Mech Eng 62:293-307 Ap '40
Heat etching as a means of revealing austenite grain size. M. J. Day and J. B. Austin. il diag Am Soc for Metals Trans 28:354-68; Discussion. 369-71 Je '40
How alloying elements affect high alloy steels. P. Payson. il Iron Age 145:31-5 Ap 18; 35-40 Ap 25 '40
Kinetics of the austenite to martensite transformation in steel. A. B. Greninger and A. R. Troiano. bibliog il Am Soc for Metals Trans 28:537-63; Discussion. 563-74 S '40
Mechanical properties of the isothermal decomposition products of austenite. M. Gensamer, E. B. Pearsall and G. V. Smith. bibliog il Am Soc for Metals Trans 28:380-95; Discussion. 396-8 Je '40
Transformation of austenite in 4140 alloy steel at constant sub-critical temperature; chart. Metal Prog 38:171 Ag '40
Transformation of austenite in 0.78% carbon steel and in 4140 alloy steel; charts. Metal Prog 38:432-3 O '40
Transformation of austenite on cooling; morphology and genesis of the aggregates formed. H. Jolivet. Iron & Steel Inst J 140:95-114, pl 10-17 no 2 '39
Transformation of austenite on quenching high-purity iron-carbon alloys. T. G. Digges. pls diags J Research Nat Bur Stand 23:151-62 Jl '39; Same. bibliog Am Soc for Metals Trans 28:575-600; Discussion. 600-7 S '40

AUSTIN, Minnesota
How one industrial plant is helping America; George A. Hormel and company. il Factory Management 98:G1-G8 Ag '40

AUSTRALIA
In the wake of a traveling engineer. J. C. Cosgrove. il map Explosives Eng 18:217-22 Jl '40

See also
Banks and banking—Australia
Coal miners—Australia
Commercial law—Australia
Electric apparatus industry—Australia
European war, 1939-Australia
Gold mines and mining—Australia

AUSTRALIA—*Continued*

Commercial policy

Australian customs import licensing regulations issued for all goods imported from non-sterling countries. Comm & Fin Chr 149:3637 D 9 '39
Australian exchange regulations. Comm & Fin Chr 149:3186 N 18 '39
Government opposes accumulation of blocked funds in Australia; policy governing import restrictions. Comm Rep p184 F 24 '40
Import restrictions applied to wide range of products from nonsterling countries. Comm Rep p1150, 1176 D 9-16 '39; p27 Ja 13 '40
Payment in foreign exchange required for exports. Comm Rep p256 Mr 16 '40
United States trade under Australian import regulations. Comm Rep p368 Ap 20 '40

Council for scientific and industrial research

Scientific and industrial research in Australia. Engineer 170:6-7 Jl 5 '40

Economic conditions

Australia financial year ended June 30, 1939. Economist 138:sup21 F 17 '40
Australian banking and finance. Economist 138:147 Ja 27 '40
Economic conditions in 1939. Comm Rep p245-6 Mr 16 '40

Economic policy

Australia organises for war. Economist 137: 289 N 25 '39

Foreign relations

United States

United States and Australia establish diplomatic relations. Comm & Fin Chr 150:211 Ja 13 '40

Industries and resources

Australia; a study of warm environments and their effect on British settlement. G. Taylor. 455p $5 Dutton '40
Australian industries; important new outlets for electrical equipment. il Electrician 123: 419 N 10 '39
Trend of Australian industrialization, 1913 to 1937-38. H. T. Goldstein. Comm Rep p1209-10+ D 23 '39

AUSTRIA

Industries and resources

Austrian and Czech industry in the war. Economist 138:375-6 Mr 2 '40

AUTHORITY

Nature and functions of authority. Y. Simon. 78p bibliog(p49-78) $1.50 Marquette univ. press, 1131 W. Wisconsin av, Milwaukee '40

AUTHORSHIP

Art of useful writing. W. B. Pitkin. 261p $2 McGraw-Hill '40
Fighting words. D. O. Stewart, ed. 168p $1.50 Harcourt '40
Poems editors buy; a textbook of verse marketing. E. Cherrington, 260p $3.50 Edith Cherrington, 2130 Verde st, Pasadena '39
Teach yourself to write. E. Blackiston. 198p $2 The writer, 8 Arlington st, Boston '40
Trial and error; a key to the secret of writing & selling. J. P. Woolfolk. 330p $1 Garden City pub. co, New York '40
Writing as a hobby. D. MacCampbell. 179p $2 Harper '40

See also
Chemical writing
Copyright
Technical writing

AUTO finance company, Charlotte, North Carolina

Stock offered. Comm & Fin Chr 151:2486 O 26 '40

AUTOCLAVES

Expansions in the autoclave caused by magnesia. H. H. Vaughan. Rock Prod 43:48-50 Ap '40

AUTOGIROS

Autogiros have more inherent longitudinal stability than do normal airplanes. A. Klemin, V. Haugen and S. B. Sherwin. Science 90:sup10-11 D 8 '39
Built without wings. W. V. Trelease. il diags Am Mach 84:42-4 F 7 '40
Eastern air lines denied permanent certificate for autogiro operations at Philadelphia. Civil Aero J 1:401+ Ag 15 '40
Frequency and vibration problems of rotors (rotating wing aircraft). R. H. Prewitt and R. A. Wagner. diags J Aeronautical Sci 7: 444-50 Ag '40
Pitcairn direct-take-off autogiro. A. Klemin. il Sci Am 163:261 N '40
Pitcairn model PA-36 direct control autogiro. D. Rose. il Aero Digest 37:104+ S '40
Pitcairn Whirl Wing. A. E. Larsen. il diags Aviation 39:46-7+ S '40
Ships can carry autogiros to spot submarines. il Sci Am 161:339 D '39

See also
Gyroplanes

AUTOGRAPHIC registers. See Registers, Autographic

AUTOMATIC control. See Control equipment

AUTOMOBILE accessories industry

Accessories and parts, shipments, 1936-1939. Survey of Cur Business 1940 Sup p159 [supplemented in monthly numbers]
Automotive service industries show draws 25,000; merger action of National standard parts association, Motor and equipment wholesalers association, and Motor and equipment manufacturers association. Automotive Ind 82:33+ Ja 1 '40
Inventory control for 45,000 items stocked in 22 branches; United Motors service. R. G. French. il Am Business 10:22-4+ Ap '40
Parts men hail boom. Business Week p26 D 23 '39
Statistical study of the drawing power of cities for retail trade. J. A. Pfanner, jr. J Business 13:1-79 pt 2 Ap '40

See also
Gasoline service stations—Automobile accessories
Tire industry and trade
Tires, Automobile

Accounting

Further thoughts on the management aspect of accounting control. S. A. Peck. N A C A Bul 21:549-68 Ja 1 '40

Exhibitions

SAE annual meeting; engineering display. il S A E J 46:sup25-8 F '40

Finance

Financial reports, Briggs manufacturing company, Bohn aluminum and brass corporation, Stewart-Warner corporation. Annalist 55:896 Je 27 '40
Financial reports, Briggs manufacturing company, Electric auto-lite company, Stewart-Warner corp. Annalist 56:341 S 12 '40
Financial reports, Timken roller bearing co., Electric auto-lite co. and Briggs manufacturing co. Annalist 54:668 N 23 '39
Leaders and laggards in auto accessories. H. D. Steinmetz. il Mag of Wall St 66:150-4+ My 18 '40
Noblitt-Sparks admitted to the list; with table of financial statistics, 1928-38. L. Applegate. Annalist 54:832 D 28 '39
Parts makers' prospects favorable. G. H. Cummings. Barron's 20:26-7 O 14 '40

See also
Timken-Detroit axle company

Securities

Accessories companies, 1937-39. Mag of Wall St Manual p23-4 Mr 2 '40
Large earnings for auto parts companies. H. Lawrence. Barron's 20:20 My 13 '40
Position of accessory and tire stocks. Mag of Wall St 65:546; 66:527 F 10, Ag 10 '40

AUTOMOBILE accidents

Base safety lighting on accurate accident data; Southern California Edison procedure. A. L. Pryor. il Elec W 114:999+ O 5 '40

AUTOMOBILE accidents—*Continued*
Blackouts on highways. C. E. Mealey. il Safety Eng 78:27-8 D '39
Daylight saving cuts auto deaths; abstracts. J. A. Mills. Nat Underw 44:21+ My 23 '40; Ins Field (Fire ed) 69:32 My 23 '40
Disobedience costly. M. A. Connor. Weekly Underw 142:145 Ja 13 '40
Effective safety work by "Not over 50" club. L. H. Lippincott. Weekly Underw 142:149 Ja 13 '40
Gasoline stations enroll for highway first aid. il Nat Pet N 32:40-1 Ap 10 '40
Highway design and construction as a factor in accidents. S. S. Williams. Can Eng R & B 78:81-3 F '40; Same cond. Pub Works 71:40-1 F '40
Highway design trends in the western states; with special reference to Colorado. C. D. Vail. diags Civil Eng 10:567-70 S '40
How adequate highway lighting reduces traffic accidents. Pub Works 71:36 Mr '40
Lesson from industry; how highway safety parallels industrial safety. E. R. Granniss. Safety Eng 79:18-20 Ap '40
Light for accident reduction. M. J. Bankhead. diags Illum Eng 35:514-22 Je '40
Lighting vital to new tempo. D. M. Diggs. Safety Eng 80:58 O '40
Man and the motor car. A. W. Whitney, ed. 256p bibliog(p230-9) $1 National conservation bur, 60 John st, New York '39
No royal road to safety. E. N. Goldstine. Safety Eng 79:25-6 Mr '40
Non-driving pedestrian. Can Eng R & B 78:68 Jl '40
Oh say can you see? New Jersey highway safety lighting; abstract. E. R. Sherbaum. Illum Eng 35:574 Jl '40
Physics in court; computations by which police can work out driving speeds from skid marks after accidents. C. W. Sheppard. il Sci Am 163:144 S '40
Present challenge of traffic accidents. S. Williams. Nat Underw 44:27 O 10 '40
Rate of traffic fatalities reduced. P. G. Hoffman. Weekly Underw 143:893+ O 19 '40
Recent court cases; emergency street lighting; claims for damages in respect of traffic accidents. W. Summerfield. Engineering 150:84-5 Ag 2 '40
Safeguards to protect the public on highways. H. H. Harrison. W Soc E J 45:15-18 F '40
Safety work is stabilizing factor. J. D. Hall. Nat Underw 44:25 O 31 '40
Saving lives with light. R. T. Dorsey. Illum Eng 35:218-22 Mr '40
Smash hits of the year; safety booklet issued by Travelers insurance company. il Safety Eng 79:20 Mr '40
Spotting the facts; presenting data in automobile tort cases in Peoples court of Baltimore; PAM system. A. B. Metzger. il Safety Eng 80:24+ Ag '40
Survey of company traffic accidents; electric utilities. E. D. Searing. Elec West 84:113-14; Discussion. 114-15 Je '40
Trends in modern highway practice. M. D. Van Wagoner. il Civil Eng 10:292-4 My '40
What causes pedestrian accidents? Can Eng R & B 78:95 F '40

See also
Automobile drivers
Automobile driving
Automobiles—Skidding
Insurance, Automobile

Statistics
Auto death record of 1939; with comparative tabulation. T. J. V. Cullen. Spectator (Property ed) 5:30-2+ Je 27 '40
Automobile deaths show upward curve during the first quarter. Nat Underw 44:17 My 2 '40
Automobile fatalities, 1939, in 32 states; Aetna Casualty and Surety survey. Weekly Underw 142:860 Ap 6 '40
Pedestrian accidents in Virginia. M. S. Battle. Weekly Underw 143:283 Ag 10 '40
Pedestrian problem in New York state. Spectator (Property ed) 5:40+ Je 27 '40
Traffic fatality analysis, city of Los Angeles, 1938. Street traffic engineering bur, Los Angeles police dept, box 471, Los Angeles
War jitters reflected in increased accidents in first half of 1940. Weekly Underw 143: 240 Ag 3 '40

AUTOMOBILE air cleaners. See Air cleaners, Automobile

AUTOMOBILE brakes. See Brakes, Automobile

AUTOMOBILE drivers
Excessive drinking among drivers develops after age 25, according to Aetna survey. East Underw 41:44 Mr 15 '40; Nat Underw 44:25 Mr 7 '40
Hit-and-run driver problem; abstract. L. S. Selling. Science 91:sup13 Je 7 '40
Man and the motor car. A. W. Whitney, ed. 256p bibliog(p230-9) $1 National conservation bur, 60 John st, New York '39
Study of motor-vehicle drivers and speed in Connecticut. H. R. DeSilva. Pub Roads 21:89-101 Jl '40

Safety contests and awards
Oil man wins safety award, Waller R. Young. Nat Pet N 32:24 Jl 10 '40

AUTOMOBILE driving
Automobile safety. P. R. Marble and I. D. Wilson. 162p 80c Am. book co. '40
How far you go! card showing driver's reaction time and automobile braking distances. Safety Eng 80:30 Jl '40
Progress in study of motor-vehicle passing practices. O. K. Normann. diags Pub Roads 20:221-7+ F '40
Reflecting curbs assist the motorist to read the road he travels. W. Van Breemen. il diags Roads & Sts 83:48-50, 52, 54 My '40
Safety council gives some winter driving tips. Weekly Underw 141:1170 D 2 '39
Sample of data obtained in study of motor-vehicle passing practices in Illinois. F. N. Barker. il Pub Roads 20:228-30 F '40
Shell's mileage marathon develops interesting data. R. J. Greenshields and L. E. Hebl. il Oil & Gas J 39:33-4 Ag 1 '40
Stop the slaughter; a manual of commonsense driving and pedestrian rules. D. H. Jackson. 130p $2; to schools $1.25 Dennis productions, Los Angeles '40

See also
Automobile drivers
Automobiles—Skidding
Automobiles—Speed

AUTOMOBILE engineering
Front-steered cars; consideration of rear steering effects. M. Platt. diags Automobile Eng 30:35-7 F '40
Research aim is customer-manufacturer harmony; abstract. H. G. Weaver. S A E J 46:sup25 My '40
Some engineering aspects of headlighting. H. H. Magdsick. il Illum Eng 35:533-43 Je '40
Transcribing method for drawings. Iron Age 145:45 Ja 11 '40

See also
Automobile engines
Automobiles
Brakes, Automobile

Tables, calculations, etc.
Mathematical consideration of the fluid coupling. P. M. Heldt. diags Automotive Ind 82:360-2+ Ap 15 '40; Discussion. H. A. Huebotter. 82:470-1 My 15 '40

AUTOMOBILE engines
Abstracts of papers at S.A.E. annual meeting. Oil & Gas J 38:205-6+ Ja 25 '40
Automobiles of 1941. il diags Product Eng 11: 470-3 O '40
Factors affecting engine wear; oil filters and oil bath air cleaners. M. M. Roensch. Nat Pet N 32:44, 46 Ap 3 '40
Fillets for piston-ring grooves. diags Automotive Ind 82:382 Ap 15 '40
Gasoline and oil economy stressed in 1941 cars. Oil & Gas J 39:34 O 17 '40
1940 trends; passenger car chassis and engines; based on units sold, 1930-1939, on registration of 1939 models by retail price class groups and on number of models offered, 1927-1940; tabulations. Automotive Ind 82:194 Mr 1 '40

AUTOMOBILE engines—*Continued*
Overhead cams and valves will make Ford six an outstanding automobile engine. Iron Age 145:56 Ap 4 '40
Private cars; a detailed summary and critical review of current models. il diags Automobile Eng Extra no 29:406-22 N 16 '39
Thirty years ago; Maudslay engine. diags Automobile Eng 30:275 S '40
Timing drives; some notes on American and English practice. il Automobile Eng 30:11-13 Ja '40

See also
Automobiles
Carbureters
Motor bus engines
Motor cycle engines
Motor truck engines

Bearings
Aluminum alloys for bearings. W. C. Devereux. Metal Prog 37:552 My '40
Anti-friction bearings; directions in which problems are being approached. diags Automobile Eng 30:271-2 S '40
Babbitt gets second wind after 100 years in bearings. K. K. Karpinski. Nat Pet N 32: R296 Ag 7 '40
Bearing failures accelerated by metallic soap detergents; abstract. H. R. Wolf. Nat Pet N 32:R418 N 13 '40
Bearing metals; suitability in relation to modern requirements. M. Melhuish. Automobile Eng 30:303-6 O '40; Excerpt. Engineer 170: 240-1 O 11 '40
Bermax babbitt for rod bearings. Automotive Ind 82:74 Ja 15 '40
Connecting rod and crankshaft bearings, 1941 cars; specifications tabulated. Automotive Ind 83:440 O 15 '40
Corrosion of bearing materials; abstract. A. F. Underwood. S A E J 46:99 Mr '40
Engine bearings, from design to maintenance. A. B. Willi. il diags S A E J 45:513-25 D '39; Excerpts. Power Pl Eng 44:68-70 F '40; Abstract. Automotive Ind 81:114-17 Ag 1 '39
Frequent lubrication needed, say bearing manufacturers. J. N. Westsmith. il diags Nat Pet N 32:25-6+ Jl 10 '40
Load capacities of bearing surfaces; abstract. M. O. Teetor. Automotive Ind 82: 566-7 Je 15 '40
Powdered metal compact bonds babbitt to steel back. R. P. Koehring. il Metal Prog 38:173-6+ Ag '40
Powdered metals in composite bearings. il diag Steel 107:46-7+ Ag 5 '40
Split ball and roller bearings. il diag Automobile Eng 30:72 Mr '40
Steel back babbitt bearing for Buick engines. il diag Automotive Ind 83:160-2+ Ag 15 '40
Wear of crankshafts with lead-bronze bearings. C. G. Williams and H. Ludicke. il diags S A E J 46:93-9 Mr '40; Abstracts. Automotive Ind 81:24-6 Jl 1 '39; Iron Age 144:54 Ag 3 '39

Carbon deposits
Carbon residue test not closely related to performance. W. T. Nelson. bibliog Oil & Gas J 38:48+ Ja 11 '40
Engine deposits, and the effect of some fuel additives. J. A. Moller and H. L. Moir. bibliog il diags S A E J 46:250-61 Je '40
Laboratory method for evaluating the influence of lubricating oils on carbon deposition in internal-combustion engines. H. A. Everett and G. H. Keller. il diags Pennsylvania State College Eng Exp Sta Bul 48:1-36 bibliog(p33-5) '39 (pa 50c); Abstract. Engineering 148:676-8 D 15 '39
Piston deposits, ring sticking, varnishing and ring clogging. W. A. Gruse and C. J. Livingstone. bibliog Inst Pet J 26:413-29, pl 1-4 S '40
Problem of valve-stem and valve-head deposits. A. T. Colwell. bibliog il diags S A E J 47:358-66 S '40; Same cond. Automobile Eng 30:307-12 O '40; Abstract. Automotive Ind 82:546-7 Je '40

Cooling
Fuel and cooling systems, 1941 cars; specifications tabulated. Automotive Ind 83:443 O 15 '40
Fuel injection; air and liquid nozzle-cooling systems for high-speed engines. diags Automobile Eng 30:295-7 O '40
Servicing the cooling system is part of spring change-over. il Nat Pet N 32:58-9 Ap 3 '40

Design
Behind the checkered flag; Indianapolis 500-mile race. R. T. Jackson. il diags Automotive Ind 82:493-505 Je 1 '40
Charging process of two-stroke engine; abstract. C. F. Taylor. Automotive Ind 82: 564 Je 15 '40
Combustion; a critical survey of certain current concepts. L. Mantell. diags Automobile Eng 30:41-3 F '40
Design of high speed, two-stroke engines. S. Treves. diags Automotive Ind 83:19-24, 75-9, 119-22, 163-7, 203-6, 251-8, 483-5 Jl 1-S 15, N 1 '40
Engine comparisons and formulae for the dimensions of parts analyzed. E. G. Ingram. Automotive Ind 83:111-14 Ag 1 '40
Higher compression ratio on '41 models will help premium gasoline sales. Nat Pet N 32:60 O 23 '40
Induction manifolding; analysis of practice and theory, past and present. L. Mantell. diags Automobile Eng 30:203-8 Jl '40
M.G. 1½-liter engine; longitudinal and transverse sections. diags Automotive Ind 82:153-4 F 15 '40
Morris ten-four series M engine; longitudinal and transverse sections. diags Automotive Ind 81:629-30 D 15 '39
1941 car design trends. T. A. Bissell. il diags S A E J 47:446-52 N '40
Octane number problem from the automotive viewpoint. J. B. Macauley. Nat Pet N 32:30, 32-4 My 1 '40; Discussion. 32:19-20 Ap 24; 34-5 My 1 '40
Singer four-cylinder 12 hp. engine; longitudinal and transverse sections. diags Automotive Ind 82:29-30 Ja 1 '40
Thirty years ago; the 15 h.p. Daimler engine. diag Automobile Eng 30:224 Jl '40
Valve gear; inter-relation of cams, tappets, springs and valves. diags Automobile Eng 30:267-9 S '40
Valve timing; analytical review of some of the factors involved. L. Mantell. diags Automobile Eng 30:85-7 Mr '40
Vauxhall six-cylinder 14-hp. engine; longitudinal and transverse sections. diags Automotive Ind 83:173-4 Ag 15 '40
Vauxhall ten and twelve four-cylinder engines; longitudinal and transverse sections. diags Automotive Ind 83:217-18 S 1 '40

Detonation
Distribution; its effect on knocking and performance in multi-cylinder engines. H. J. Gibson and C. Walcutt. Automobile Eng 30:69-71 Mr '40
Effect of distribution characteristics on knock; abstract. W. E. Drinkard. Automotive Ind 82:116 F 1 '40
SAE annual meeting; fuels and lubricants sessions; detonation symposium. S A E J 46:sup50-1, 64 F '40

Efficiency
Design of high speed, two-stroke engines. S. Treves. diags Automotive Ind 83:163-7 Ag 15 '40
Engine performance as influenced by ignition-timing maintenance. R. J. Greenshields and L. E. Hebl. Nat Pet N 32:32, 34-7 N 13 '40
Knocking octanes; comparison of value of improved automobile performance with the incremental costs of producing gasolines of successively higher octane numbers. C. H. Van Hartesveldt and H. W. Field. Am Pet Inst Proc 21M(3):116-23; Discussion. 123-4 My '40
Mileage marathon; contest by engineers of the Shell oil company's research laboratory. Automotive Ind 83:sup 11 S 1 '40
Set your own gasoline mileage; relation between engine efficiency, car speed and gasoline consumption. il Oil & Gas J 39:26 Je 20 '40

AUTOMOBILE engines—*Continued*

Exhaust

Design of high speed, two-stroke engines. S. Treves. diags Automotive Ind 83:75-9, 119-22 Jl 15-Ag 1 '40

Öl und öiartige bestandteile in der luft. H. Cauer. Angew Chemie 53:171-2 Ap 13 '40

Fans

Testing equipment feeds progress of Hayes industries; laboratory for study of noise in fans and mufflers. il Automotive Ind 82: 272-3+ Mr 15 '40

Fuel

Better fuels for better engines. W. H. Hubner. S A E J 47:409-17 O '40; Abstract. Nat Pet N 32:R242-3 Je 26 '40; Discussion. S A E J 47:417-20 O '40

Coal gas; low-pressure system for petrol vehicles. il diags Automobile Eng 30:113-15 Ap '40

Comparative road testing of motor fuels; abstract. L. J. Grunder. Nat Pet N 31:19 D 20 '39

Conversion of petrol vehicles to town gas. E. A. C. Chamberlain. bibliog diags Gas J (Lond) 232:76-7, 79, 120-3 O 9-16 '40; Same cond. Engineer 170:239-40, 254-5 O 11-18 '40; Same cond. Engineering 150:337-9, 358-60 O 25-N 1 '40

Cooperative fuel research motor-gasoline survey, summer 1939. E. C. Lane, comp. U S Bur Mines Rep of Invest 3492:1-30 '40

Cooperative fuel research motor-gasoline survey, winter 1939-40. E. C. Lane. U S Bur Mines Rep of Invest 3524:1-29 '40

Demonstration of liquid coal in standard engine. il Mass Transportation 35:360-1 D '39

Differences in fuel volatility will account for differences in octane numbers; abstract. A. E. Becker and G. H. B. Dairs. Oil & Gas J 38:67 Ja 25 '40

End of motor fuel octane race not in sight. W. T. Ziegenhain. il Oil & Gas J 38:20-1+ D 14 '39

Engine deposits, and the effect of some fuel additives. J. A. Moller and H. L. Moir. bibliog il diags S A E J 46:250-61 Je '40

Engine fuel testing and proposal for its further development. A. v. Philippovich. Nat Pet N 31:R526-32; Discussion. R533-40 D 13 '39

Engine performance as influenced by ignition-timing maintenance. R. J. Greenshields and L. E. Hebl. Nat Pet N 32:32, 34-7 N 13 '40

Fuels and lubricants sessions; SAE summer meeting; abstracts and discussions. S A E J 47:sup60-3 Jl '40

Gas as a fuel for motor vehicles. J. S. Clarke. il diags Automobile Eng 30:8-10 Ja '40

Gas bags on the move; London area developments. Gas J (Lond) 230:307 My 8 '40

Gas for traction; filling connexion for fabric gas bags. il diag Gas J (Lond) 229:80 Ja 10 '40

Gas fuels private motor. Gas Age 85:44 Ap 11 '40

Gas generated from charcoal runs automobiles in Sweden. Mach 46:104 F '40

Gas generators capture European interest; Volvo design. il diags Automotive Ind 82:22-5 Ja 1 '40

Gas utilization for automobile fuel. il Gas Age 84:18+ D 7 '39

Gasoline grading laws. G. Egloff. flow diag flow chart il diag Am Pet Inst Proc 20(AT): 56-79 '39; Excerpts. Nat Pet N 31:21-33 D 6 '39

Gasoline improvements influence auto trends; abstract. T. A. Boyd and W. G. Lovell. Nat Pet N 32:37-8 N 13 '40

Knocking octanes; comparison of value of improved automobile performance with the incremental costs of producing gasolines of successively higher octane numbers. C. H. Van Hartesveldt and H. W. Field. Am Pet Inst Proc 21M(3):116-23; Discussion. 123-4 My '40

Liquid gas in Germany. Automobile Eng 30: 192 Je '40

Low-pressure gas; a supply system for the Greater London area. il Automobile Eng 30:190 Je '40

Motor cars, trucks, and aircraft to have better fuels in 1950; abstract. D. P. Barnard and A. H. Fox. Nat Pet N 32:R82-4+ Mr 20 '40

Motor fuels of the present and future. G. Egloff. W Soc E J 45:79-92 Ap '40

Motor maintenance, its influence on fuel-quality requirements. H. M. Trimble and K. C. Bottenberg. Nat Pet N 32:29-30+ N 13 '40

New development of the bag system; gas stored in fabric bags for motor transport. Gas J (Lond) 228:623-4 D 20 '39

New fuel data from tests show how maintenance improves mileage; abstracts. T. G. Delbridge. Nat Pet N 32:36+ My 22 '40; Automotive Ind 82:450-1+ My 15 '40

Octane number problem from the automotive viewpoint. J. B. Macauley. Nat Pet N 32: 30, 32-4 My 1 '40; Discussion. 32:19-20 Ap 24; 34-5 My 1 '40

Octane number, the refiner's will-o'-the wisp. W. W. Scheumann. il Oil & Gas J 38:14-15, 98-9 Ap 4 '40; Same. Nat Pet N 32:33-9 Ap 10 '40

Octane rating of fuels is difficult; S.A.E. annual meeting; abstracts of papers. Nat Pet N 32:21-2 Ja 24 '40

Performance vs. octane number. W. T. Ziegenhain. il Oil & Gas J 38:26 F 15 '40

Producer and town gas; abstracts of three papers. Automobile Eng 30:56 F '40

Producer gas utility car. il Engineer 170: 238-9 O 11 '40; Engineering 150:304 O 18 '40

Properties of motor fuels. T. A. Boyd and W. G. Lovell. Automotive Ind 82:156-7 F 15 '40

Raising the calorific value of gas for motor transport. J. I. Graham and D. G. Skinner. Gas J (Lond) 229:39-41; Discussion. 41 Ja 3 '40

Report of the chairman of the committee on motor fuel research. T. B. Rendel. Am Pet Inst Proc 20(3):124-6 '39

Running petrol engines on coal gas. il diag Engineer 169:168-9 F 16 '40

Set your own gasoline mileage; relation between engine efficiency, car speed and gasoline consumption. il Oil & Gas J 39:26 Je 20 '40

Shell's mileage marathon develops interesting data. R. J. Greenshields and L. E. Hebl. il Oil & Gas J 39:33-4 Ag 1 '40

Test laboratory has unique control; regulation of equipment effected from seat of car being tested; automotive laboratory of Atlantic refining company. il Automotive Ind 81: 574-6+ D 1 '39

Thermal reforming plus polymerization pulls octane ratings upward. R. P. Mase and N. C. Turner. flow diag Nat Pet N 32:R113-14 Ap 3 '40

Use of gas as a fuel for motor vehicles; with cost data; abstracts. J. S. Clarke. Gas J (Lond) 228:614, 617 D 20 '39; Engineer 168:638 D 29 '39; Discussion. Gas J (Lond) 228:617-18+ D 20 '39

Les véhicules à gaz des forêts, en Suisse; abstract. Delley. Génie Civil 116:301 My 4 '40

See also
Automotive fuel
Benzol (commercial benzene)
Gasoline
Motor bus engines—Fuel
Motor truck engines—Fuel

Fuel feeding

Carburation; factors affecting metering characteristics. Automobile Eng 30:306 O '40

Coal-gas carburettors for running-in and road service. diags Engineering 149:60-1 Ja 19 '40

Coal gas; low-pressure system for petrol vehicles; carburettor adjustments. il diags Automobile Eng 30:113 Ap '40

Distribution; its effect on knocking and performance in multi-cylinder engines. H. J. Gibson and C. Walcutt. Automobile Eng 30: 69-71 Mr '40

AUTOMOBILE engines—Fuel feeding—*Cont.*
Engine combustion and pressure development. G. W. Rassweiler, L. Withrow, and W. Cornelius. il S A E J 46:25-48 Ja '40
Fuel and cooling systems, 1941 cars; specifications tabulated. Automotive Ind 83:443 O 15 '40
Fuel injection; air and liquid nozzle-cooling systems for high-speed engines. diags Automobile Eng 30:295-7 O '40
Injection equipment; adjustments and maintenance that make for optimum fuel economy. diags Automobile Eng 30:196 Jl '40
Reduced air-fuel ratio variation no help in knock improvement; abstract. H. J. Gibson and C. Walcutt. Nat Pet N 32:R39 F 7 '40
Westad fuel economizer. il Automotive Ind 82: 465 My 15 '40

See also
Automobile engines—Manifolds
Automobile engines—Running in
Carbureters

Gearing

Cam gear design for restricted space. P. M. Heldt. diag Automotive Ind 82:476 My 15 '40
Timing gears, valve timing and lubrication, 1941 cars; specifications tabulated. Automotive Ind 83:442 O 15 '40

Ignition

Combustion; a critical survey of certain current concepts. L. Mantell. diags Automobile Eng 30:41-3 F '40
Engine combustion and pressure development. G. W. Rassweiler, L. Withrow, and W. Cornelius. il S A E J 46:25-48 Ja '40
Radio interference; the effect of suppressors on engine performance. N. Hendry. il diags Automobile Eng 30:167-73 Je '40

Ignition devices

Delco-Remy and Hyatt coil-ignition magneto replacement unit. il diag Automobile Eng 30:246 Ag '40
Engine performance as influenced by ignition-timing maintenance. R. J. Greenshields and L. E. Hebl. Nat Pet N 32:32, 34-7 N 13 '40
Field strength of motorcar ignition between 40 and 450 megacycles. R. W. George. Inst Radio Eng Proc 28:409-12 S '40

Industrial uses

Brightest spot in town, lighted by its own generating plant; with cost data. il plan Nat Pet N 32:25-6, 28, 30 My 15 '40
Multiengine power unit developed by students in the College of engineering, University of Kentucky consists of six automobile engines and a unique drive system; abstract. E. S. Foreman. il Mech Eng 62: 745-6 O '40

Lubrication

API lube experts urge 1,000 mile oil change. Nat Pet N 32:32+ Je 12 '40
Automobile oils, summer grades; rating. Consumers' Research Bul (Gen bul ser) 9:20-1 Je '40
Bearing failures accelerated by metallic soap detergents; abstract. H. R. Wolf. Nat Pet N 32:R418 N 13 '40
Behaviour of various engine and gear lubricants in seizure tests. D. Clayton. pls Inst Pet J 25:709-28 N '39
Better oils, frequent changes, cure for varnish. F. F. Kishline. Nat Pet N 32:34, 36-7 Ja 31 '40
Carbon residue test not closely related to performance. W. T. Nelson. bibliog Oil & Gas J 38:48+ Ja 11 '40
Chemistry and physics of lubrication as applied to modern transportation. M. R. Fenske, C. E. Stevenson and R. E. Hersh. Nat Pet N 31:R471, R474, R476-7 N 15 '39
Detergent and anti-oxidant lube armor for severe duty; abstract. C. M. Larson. Nat Pet N 32:R224+ Je 12 '40
Effect of lead in gasoline on crankcase oils. Oil & Gas J 38:54 D 7 '39
Engineering facts to help sell lubrication. J. N. Westsmith. il diag Nat Pet N 32:25-8, 30, 32 Je 26 '40
Flushing crankcase recommended with change-over servicing. Nat Pet N 32:26-8 F 28 '40
Frequent lubrication needed, say bearing manufacturers. J. N. Westsmith. il diags Nat Pet N 32:25-6+ Jl 10 '40
Fuels and lubricants sessions; SAE summer meeting; abstracts and discussions. S A E J 47:sup60-3 Jl '40
Importance of additives in lubricants; symposium at semiannual meeting of National petroleum association. Oil & Gas J 38:58+ Ap 25 '40
Les incidents de graissage du moteur à explosion. P. Marchand. Génie Civil 116:187-8 Mr 16 '40
Laboratory method for evaluating the influence of lubricating oils on carbon deposition in internal-combustion engines. H. A. Everett and G. H. Keller. il diags Pennsylvania State College Eng Exp Sta Bul 48:1-36 bibliog(p33-5) '39 (pa 50c); Abstract. Engineering 148:676-8 D 15 '39
More frequent motor oil changes urged. C. S. Ladd. il diag Nat Pet N 32:38-9, 42+ Ap 3 '40
95% lubricant satisfaction not enough; utilization of addition agents. G. A. Round. il Nat Pet N 32:R149-50 My 1 '40
Oil filtration; general survey and some specific considerations of basic principles. A. H. Stuart. Automobile Eng 30:213-16 Jl '40
Oil oxidation problems; abstract. J. R. Sabina. S A E J 46:sup28 My '40
Oildex and filtrex; oil dilution extractor and filter for installation on automobile. il Sci Am 162:102-3 F '40
Piston and piston-ring temperatures. P. V. Keyser, jr. and E. F. Miller. diags Inst Pet J 25:779-90 D '39
Piston deposits, ring sticking, varnishing and ring clogging. W. A. Gruse and C. J. Livingstone. bibliog Inst Pet J 26:413-29, pl 1-4 S '40
Piston-ring coatings and their effect on ring and bore wear. M. M. Roensch. il S A E J 46:221-8 My '40
Road tests demonstrate need for change every 1000 miles; abstract. T. G. Delbridge. Nat Pet N 32:32 Jl 10 '40
Service performance of eight lubricating oils in automobile engines. H. A. Everett and G. H. Keller. il diags Penn. State College, Eng Exp Sta Bul 50:1-39 bibliog(p37-8) '40
Show motor oil varnish tendencies with single-cylinder test engines. il diag Nat Pet N 32:R314-15, R317-18+ S 4 '40
Significance of viscosity in the use of petroleum oils. W. L. Nelson. Oil & Gas J 38: 46 N 23 '39
Some remarks regarding the testing of engine lubricants. C. A. Bouman. Inst Pet J 25:771-8 D '39
Synthesis of lubricating oils by condensation reactions; the engine testing of synthetic lubricating oils. W. R. Wiggins, T. G. Hunter and A. W. Nash. Inst Pet J 26: 225-34 My '40
Tentative laboratory test for the ring-sticking properties of lubricants. J. C. McNicol, C. G. Williams and P. V. Lamarque. pls diag Inst Pet J 25:751-9 N '39
Testing oils in small engines; abstract. A. O. Willey and C. F. Prutton. il Automotive Ind 82:571 Je 15 '40
Timing gears, valve timing and lubrication, 1941 cars; specifications tabulated. Automotive Ind 83:442 O 15 '40
Use of chemical additives in lubricating oils. J. P. Stewart, R. C. Moran and C. M. Reiff. Nat Pet N 32:R88-9 Mr 20 '40
Why change lubricants after winter driving! J. N. Westsmith. il Nat Pet N 32:34-6+ Ap 3 '40

AUTOMOBILE engines—Lubrication—*Cont.*
Why NPN recommends regular oil change every 1,000 miles, and, in zero weather every 500 miles. il Nat Pet N 32:27-8+ O 9 '40
Winter driving requires frequent oil change and lubrication to avoid damage to engines. il Nat Pet N 32:28-32 N 6 '40
Zero-Fahrenheit viscosity of winter lubricating oils. Automotive Ind 83:518+ N 1 '40

Manifolds
Induction manifolding; analysis of practice and theory, past and present. L. Mantell. diags Automobile Eng 30:203-8 Jl '40

Manufacture
Buick balances assembled engine. il Iron Age 144:35 N 30 '39
Chevrolet connecting-rods made by ultra-modern methods. C. O. Herb. il Mach 46: 122-7 Ap '40
Crankshaft hardening; oxyacetylene flames and water quenching jets. il Steel 106:50, 52+ Ap 29 '40
Cylinders and pistons; production at Morris motors, ltd; low temperature treatment. il Automobile Eng 30:44 F '40
Drilled tappets cost less; Buick practice. il diags Am Mach 84:16-17 Ja 10 '40
Dust-free cuts on cast iron; Buick oil-pump bodies. il diags Am Mach 84:128-9 Mr 6 '40
Fifteen thousand inspections per hour on Ford crankshafts. il diag Mach 46:128-32 Ap '40
How new Plymouth washers clean engine castings. il Mach 46:142-5 Ap '40
New production equipment for 1940 Pontiacs. il Mach 46:146-51 Ap '40
Operations in Studebaker's modernized plant. il Mach 46:116-21 Ap '40
Packard has new arrangement for 1940 production. J. Geschelin. il Automotive Ind 82: 4-15 Ja 1 '40
Piston production at Pontiac. il diags Automotive Ind 82:506-9 Je 1 '40
Radius-forming attachment for cutter grinder used in slotting aluminum pistons. J. W Gerdel. diags Mach 46:198-200 Jl '40
Unique tooling for Packard water-pump bodies. il diags Mach 46:133-5 Ap '40

Mounting
Magnesium alloy frame jig for mounting Buick engine. il Steel 106:38-9 F 26 '40
Stiffness of rubber engine mountings. C. E. Iliffe. Automotive Ind 82:27 Ja 1 '40

Mufflers
Testing equipment feeds progress of Hayes industries; laboratory for study of noise in fans and mufflers. il Automotive Ind 82: 272-3+ Mr 15 '40

Oil pans
Production of oil pans is geared for continuous conveyors; hydraulic press work, Ford plant. il Steel 106:62+ F 26 '40

Performance
Radio interference; the effect of suppressors on engine performance. N. Hendry. il diags Automobile Eng 30:167-73 Je '40

Radiators
Annealing copper for automobile radiators; Harrison radiator co, Division of General Motors. E. F. Cone. il Metals & Alloys 11: 141-4 My '40
Automatic bright nickel plating of automobile radiator grilles. A. G. Spencer. il diag Metal Ind 38:197-200 Ap '40
High speed assembly welding; radiator grilles. il Steel 107:60, 63+ N 4 '40
Knockout flash removal; problem in producing die cast automobile radiator grilles. H. Chase. il Am Mach 84:616 Ag 21 '40

Running in
Running-in of automobile engines, control of gas supply; patent. diag Gas J (Lond) 229: 679 Mr 27 '40

Specifications
1940 American passenger cars; specifications tabulated. Automotive Ind 82:192-8 Mr 1 '40
1941 motor car specifications; tabulations. Automotive Ind 83:437-44 O 15 '40

Superchargers
All for one and one for all; research in motor industry. J. J. Frey. il Sci Am 161:331-2 D '39
Behind the checkered flag; Indianapolis 500-mile race. R. T. Jackson. il Automotive Ind 82:495-7 Je 1 '40
Design of high speed, two-stroke engines; calculation of the supercharger and of the supercharging ratio. S. Treves. Automotive Ind 83:203-6 S 1 '40

Temperature
Piston and jacket temperature measurement; symposium by S.A.E. diags Power Pl Eng 44:90-2 My '40
Piston and piston-ring temperatures. P. V. Keyser, jr. and E. F. Miller. diags Inst Pet J 25:779-90 D '39
See also
Automobile engines —Cooling

Testing
Automotive engine testing; a manual of test procedure. F. M. Gruber. 441p bibliog(p413-31) $4.75 Pitman '40
New fuel data from tests show how maintenance improves mileage; abstracts. T. G. Delbridge. Nat Pet N 32:36+ My 22 '40; Automotive Ind 82:450-1+ My 15 '40
Piston-ring blow-by the high-speed petrol engines. C. G. Williams and H. A. Young. diags Engineering 147:693-4, 723-6 Je 9-16 '39; Same. Automotive Ind 81:614-22 D 15 '39
Precision assembly, 18 molded parts; Warner-Patterson portable motor analyzer. il Mod Plastics 17:43+ Jl '40

Valves
Cam gear design for restricted space. P. M. Heldt. diag Automotive Ind 82:476 My 15 '40
Chrysler machine for ball-burnishing and prelubricating valve stem guides. il Automotive Ind 82:452-3 My 15 '40
Exhaust valve materials for internal combustion engines; abstracts. S. D. Heron, O. E. Harder and M. R. Nestor. Metal Prog 37: 418+, 541 Ap-My '40; Metals & Alloys 11: MA216+ Ap '40
Hardened by induction; Chevrolet valve-mechanism parts. il Am Mach 84:82-3 F 21 '40
Hardening tappets for Chevrolet engines. il Steel 106:54+ Ja 22 '40
Machine both burnishes and prelubricates valve stem guides. il Steel 107:49 Jl 22 '40
Problem of valve-stem and valve-head deposits. A. T. Colwell. bibliog il diags S A E J 47:358-66 S '40; Same cond. Automobile Eng 30:307-12 O '40; Abstracts. Automotive Ind 82:546-7 Je 15 '40; Nat Pet N 32:R226 Je 12 '40
Timing gears, valve timing and lubrication, 1941 cars; specifications tabulated. Automotive Ind 83:442 O 15 '40
Valve forging; methods employed by Guest, Keen and Nettlefold; electrical upsetting process. il Automobile Eng 30:235-8 Ag '40
Valve gear; inter-relation of cams, tappets, springs and valves. diags Automobile Eng 30:267-9 S '40
Valve-spring design data; abstract. L. H. Dawtrey. Automotive Ind 83:266 S 15 '40
Valve timing; analytical review of some of the factors involved. L. Mantell. diags Automobile Eng 30:85-7 Mr '40
Valves, intake and exhaust, 1941 cars; specifications tabulated. Automotive Ind 83:441 O 15 '40
Victor gasket combines asbestos and neoprene. il Automotive Ind 82:552-4 Je 15 '40

AUTOMOBILE fabrics
Bodywork economies. Automobile Eng 30:93-4 Mr '40

AUTOMOBILE fabrics—*Continued*
Dyeing pile fabrics. J. C. Kopasz. il Textile World 90:68-9 Ja '40

See also
Automobiles—Upholstery

AUTOMOBILE factories
Blaze hasn't a chance; department brigades in Chrysler plants. M. R. Bowker. il Nat Safety N 41:18-19+ Ja '40
Flow chart of timed production typical of an automobile factory. Arch Rec 87:84 F '40
Wrote finis to lead poisoning; Briggs manufacturing company, Detroit. H. J. Roesch. il Factory Management 98:60-2+ N '40

See also
Automobile engines—Manufacture
Automobiles—Manufacture
Ford motor company

Electric equipment
Electrical distribution de luxe; new press shop at the Rouge plant of the Ford motor company. G. A. Van Brunt. il diags Factory Management 98:88, 90, 92 Mr '40

Employees
Annual auto wage? recent U.A.W. contract with welding company may be straw in wind for G.M. negotiations. Business Week p30-1 Ap 27 '40
Benefits of technological developments; abstracts. E. B. Ford. Iron Age 145:71-5 Ap 18 '40; Automotive Ind 82:430-1+ My 1 '40; Inv Banking 10:23-5 Jl '40
Chrysler continues efforts to restrain compensation payments. Automotive Ind 82: 534-5 Je 1 '40
Chrysler workers awarded $3,000,000 compensation. Automotive Ind 82:238+ Mr 1 '40
Citizenship trouble; automobile companies meet difficulties. Business Week p26 Jl 20 '40
Democracy in a trade union; differences between AFL and CIO unions. H. Martin. Iron Age 144:27-9+ D 21 '39
GM and CIO-UAW sign new contract. Automotive Ind 83:32+ Jl 1 '40
GM extends employe layoff benefit plans. Automotive Ind 82:82 Ja 15 '40
G.M. pact shaping up; give-and-take evident in C.I.O. negotiations. Business Week p42 My 25 '40
Labor relations in the automobile industry. W. H. McPherson. 173p $1.50 Brookings institution, Washington, D.C. '40
Labour training; methods adopted by the Austin motor co. il Automobile Eng 30: 281-3 S '40
NLRB orders Ford to bargain. Automotive Ind 82:482-3 My 15 '40
NLRB orders investigation to determine bargaining units. Automotive Ind 82:78+ Ja 15 '40
New subversive technique; Chrysler plant slow-down. R. L. Greenman. Nation's Business 27:25-7 D '39
No one nervous over G.M. parleys with United automobile workers. Business Week p42-3 F 3 '40
Pontiac apprentice school. H. E. Blank, jr. il Automotive Ind 83:504 N 1 '40
Studebaker's humanized public relations. G. Griswold. Ptr Ink Mo 41:12+ O '40
UAW-CIO fights dismissal of 20 Ford patternmakers. Automotive Ind 83:274 S 15 '40
UAW-CIO union glad to settle for GM's original pay proposals. Am Mach 84:476e Je 26 '40

See also
Automobile strikes
United automobile workers of America

Equipment
American machines in England's busy shops. il Mach 46:120-5 Ja; 116-22 Mr '40
Applying colors to metal; automobile hubcaps, bumpers, nameplates, louvers, radio grilles, instrument panels and other parts. il Steel 106:52+ Je 3 '40
Automatic chassis welding. C. E. Heitman. il diags Steel 105:57-8, 60, 62 D 4 '39
Clearing the floor of building services; piping and conduit in tool and die shop of the Ford motor co. is under floor and in tunnels. il Eng N 124:504-5 Ap 11 '40
Drilled tappets cost less; Buick practice. il diags Am Mach 84:16-17 Ja 10 '40
Equipment halves inspection cost; glass used in automobile door and window panels flows by inspector. L. G. Jacques. il Factory Management 98:68+ Je '40
From the ore dock through the press shop at Dearborn. J. Geschelin. il Automotive Ind 83:476-82 N 1 '40
Heat treatment in the Ford new tool and die shop. E. F. Cone. il Metals & Alloys 10:326-31 N '39
High-production cleaning, pickling and plating line; Chrysler-Plymouth plant. il Steel 107:50, 52+ S 23 '40
High speed zinc plating; Chrysler-Plymouth plant. il Iron Age 146:44 Ag 8 '40
Large assembly jig of magnesium alloy. il Iron Age 145:47 Mr 7 '40
Machine both burnishes and prelubricates valve stem guides. il Steel 107:49 Jl 22 '40
Machining automobile flywheels at the Chevrolet plant; battery of eight Mult-Au-Matics. C. O. Herb. il diags Mach 46:103-7 Je '40
Merry-go-round at work; turntable in the paint shop; Dodge division of Chrysler corporation. il Am Mach 83:1001 N 29 '39
Modernized French factories use American machine tools. il Mach 46:126-31 Ja '40
New processes adapted to mass production of Olds transmissions. J. Geschelin. il Automotive Ind 83:150-8 Ag 15 '40
No stoppage in this stock; feed mechanism controlled by photoelectric cell at Buick plant. il diag Am Mach 84:169 Mr 20 '40
Nothing but welding used by International Harvester in fabrication of truck cabs. W. A. Salzmann. il Am Mach 84:579-81 Ag 7 '40
Operations involved in shaping up some of the larger dies for automobile bodies. A. H. Allen. il Steel 106:37-8 My 13 '40
Overseas everywhere with General Motors; illustrations. Mach 46:134-7 Ja '40
Packard has new arrangement for 1940 production. J. Geschelin. il Automotive Ind 82: 4-15 Ja 1 '40
Production of oil pans is geared for continuous conveyors; hydraulic press work, Ford plant. il Steel 106:62+ F 26 '40
6000 welds per hour; new timing method; machine built by Progressive welder co. il Steel 107:72+ Ag 19 '40
Steering gear; production methods at the Adamant engineering co. il diags Automobile Eng 29:445-50 D '39
Tool engineering the basis of automotive progress. il diags Mach 46:109-56 Ap '40
Town gas in industry. H. R. Hems. il Automobile Eng 30:157-8, 209-12 My, Jl '40
Unique practices in producing Oldsmobile front fenders. C. O. Herb. il Mach 46:83-8 Ag '40

Heating and ventilation
Ford motor company; tool and die shop exhaust systems. C. Strock. il diags plans Heat & Ven 37:32-8 Je '40
Plymouth; ventilating and air cleaning system for paint spraying booths. C. Strock. il diag Heat & Ven 37:136-40 Ja '40

Laboratories
See Automobile laboratories

Layout
For tool grinding only; Packard motor car company's new centralized department. Am Mach 84:238-9 Ap 17 '40
Packard has new arrangement for 1940 production. J. Geschelin. il Automotive Ind 82: 4-10 Ja 1 '40

Lighting
Lighting on a conveyor system; Morris motors, ltd. il Mech Handling 27:177-8 Ag '40; Same abr. Electrician 125:69 Ag 2 '40

AUTOMOBILE factories—*Continued*

Management

Production pace set by quality control. J. Geschelin. il Automotive Ind 83:284-95, 366-7+ O 1 '40

Red tape gets maintenance done; Buick motor division, General motors corporation, Detroit. F. D. Elwell. il Factory Management 98:80-1 Je '40

See also
Automobile factories —Employees

Power

Ford installs 110,000-kilowatt hydrogen-cooled generator. D. S. Snell. il plans Power 84:29-31 Ja '40

AUTOMOBILE ferries

Fraser River transporter ferry pinch hits for highway bridge. il Eng N 124:715 My 23 '40

AUTOMOBILE industry and trade

Automotive outlook for 1940. W. F. Sherman. Iron Age 145:54, 61+ Ja 4 '40

Car manufacturers aid their dealers in fight for lubrication business. il Nat Pet N 32: 30+ Jl 24 '40

Colorado bills auto companies for chain tax on dealers. H. E. Agnew. Sales Management 46:62, 64 F 15 '40

Dealers share cost of Pontiac's most successful sales contest. Sales Management 47: 106-7 O 10 '40

Detroit sees record sales year. Business Week p20 Jl 27 '40

Midas of industry; automobile trade has enriched every business it has touched. J. V. Sherman. Barron's 20:13 Ag 19 '40

No Ford six yet; Pontiac shows new models. Business Week p16 S 14 '40

Prominent automobile men honored by Old timers group. Automotive Ind 83:490 N 1 '40

Research aim is customer-manufacturer harmony; abstract. H. G. Weaver. S A E J 46: sup25 My '40

What happens when Bill Holler puts on his seven league boots. W. E. Holler. il map Sales Management 47:30, 32+ N 15 '40

What's ahead for highways and transportation? public transportation is still the greatest public need. E. F. Downs. Pub Util 26:396-405 S 26 '40

Willys doubles sales volume by dramatizing dependability. il Sales Management 46:22-4 Je 1 '40

See also
Automobile accessories industry
Automobile factories
Automobile parts
Automotive industries
Motor bus industry
Motor cycle industry
Motor truck industry
Tractor industry
also Ford motor company; General motors corporation; Graham-Paige motors corporation

Advertising

Automobile manufacturer's and dealer's liability; false advertising of safety features; digest of recent cases. J. L. Roesch. Spectator (Property ed) 5:22-3 N 30 '39

Car demonstrations spurred by premium offer; Willys-Overland motors. il Ptr Ink Mo 41: 40 S '40

Court upholds G.M. 6% ruling. Ptr Ink 192: 58 Ag 23 '40

Farm paper motor advertising, first six months of 1940. Ptr Ink 192:18 Ag 16 '40

Ford pegs a sales campaign on an old hoss trading symbol; used to round up used car customers. il Sales Management 47:25 S 15 '40

GM again leads all in magazine advertising. Automotive Ind 82:125 F 1 '40

General motors corp. and Ford motor co. ordered to cease using 6% in instalment plan advertisements. Comm & Fin Chr 149:3800 D 16 '39

Mr Smith covers the auto show. Adv & Sell 33:50+ N '40

6% must be 6%; FTC orders G.M. and Ford not to use figure in advertising terms. Business Week p44 D 16 '39

Threats to automotive advertising. P. C. Hammann. il Adv & Sell 33:22-4 Ap '40

Finance

Auto and appliance sales financing. C. M. Flora. Bankers M 141:343-4 O '40

Auto credit safeguard; merger of two card-filing services raises barrier against financing same car twice. Business Week p24-5 Mr 2 '40

Automobile financing for the 12 months of 1939 and 1938. Comm & Fin Chr 150:1054 F 17 '40

Automobile financing in November, 1939. Comm & Fin Chr 150:346 Ja 20 '40 [cont monthly]

Automobile financing; revision, monthly, Nov. 1932-Dec. 1939. Survey of Cur Business 20: 13 Mr '40

Financial reports, Chrysler, General Motors, Packard. Annalist 56:213 Ag 15 '40

Financial reports, Studebaker, Chrysler, General Motors. Annalist 55:301 F 22 '40

Labor costs and profits in the motor industry. W. Beecher. Mag of Wall St 65:217+ D 2 '39

Lax automobile finance; 1939 trends as shown in figures of 24 leading companies. A. W. Newton. Banking 32:58-9 Ja '40

1939 new car retail sales, $2,260,000,00; tabulation by months, 1936-1939. Automotive Ind 82:186 Mr 1 '40

See also
Automobile industry and trade—Securities
Banks and banking—Automobile purchase financing
Finance companies
also Chrysler corporation; General motors corporation

New models

Auto prices going up. Business Week p26 Ag 31 '40

New cars previewed; Plymouth, Willys, and Nash meet press. Business Week p30-1 Ag 24 '40

New cars round out début season. il Business Week p22+ S 28 '40

1941 auto models on parade; operating economy, roominess, and coloring stressed. il Barron's 20:18-25 O 14 '40

Purchasing

Automotive buying procedures differ from those of other industries. W. F. Sherman. Iron Age 145:48+ F 15 '40

Regulation

Auto dealers dislike own medicine; FTC fair trade rules. Business Week p30 Mr 16 '40

Auto dealers vote on U.S. control. Business Week p15-16 Ja 20 '40

Dealers spurn federal aid; proposed Patman bill and F.T.C. code get cold shoulder by N.A.D.A. H. Hosking. Automotive Ind 82: 357-8 Ap 15 '40

National automobile dealers association wants action deferred on proposed fair trade rules. Automotive Ind 82:529 Je 1 '40

Threats to automotive advertising. P. C. Hammann. il Adv & Sell 33:22-4 Ap '40

Salesmen

Chevrolet adopts "Step out and sell" theme for new model drive. il Sales Management 46:47-8 Ja 1 '40

Crackerjack control setup for reaching the luxury market; Cadillac and LaSalle automobiles. R. W. Adams. il Sales Management 47:116-19 O 10 '40

Give 'em an excuse to buy. il Am Business 10:27 Je '40

It pays to blue-print salesmen's jobs; automobile salesmen selling to consumers. B. R. Canfield. Adv & Sell 33:72+ Ap '40

Policies that sell Chevrolets at the rate of one every 89 minutes. il Sales Management 46:78-81 Je 15 '40

AUTOMOBILE Industry and trade—*Continued*

Securities

Automobile companies, 1937-39. Mag of Wall St Manual p22-4 Mr 2 '40
Position of leading motor stocks. Mag of Wall St 65:547; 66:526 F 10, Ag 10 '40
What can we expect of the motor industry? W. Gates. il Mag of Wall St 67:22-5+ O 19 '40

Statistics

Automobile exports curtailed by war, but domestic sales meet expectations. L. Applegate. Annalist 55:684-5+ My 16 '40
Automobile industry's mortality table; 21 out of 812 passenger cars still being produced. Business Week p16 D 16 '39
Automobile production, revision; monthly, 1923-June, 1940. Fed Res Bul 26:830 Ag '40
Automobiles, 1936-1939. Survey of Cur Business 1940 Sup p158-9 [supplemented in monthly numbers]
Automotive sales outlets by states; tabulation. Automotive Ind 82:190 Mr 1 '40
Can production of automobiles be stabilized by making their prices flexible? W. I. King. Am Statis Assn J 34:641-51 D '39
Car dealer representatives by states, by makes and by population groups; tabulations. Automotive Ind 82:191 Mr 1 '40
Concept of demand and price elasticity; the dynamics of automobile demand. C. F. Roos and V. von Szeliski. Am Statis Assn J 34: 652-66 D '39
Estimated dealer stocks of new passenger cars; production, sales and inventory figures, 1937-April 1940. Automotive Ind 82:527 Je 1 '40
Family expenditures in selected cities, 1935-36; travel and transportation. L. A. Epstein; J. R. Wood, jr. map U S Bur Labor Statistics Bul 648:1-165 '40
56% of all automobiles sold in 1939 cost less than $750. R. B. Prescott. Sales Management 46:58 Mr 1 '40
General motors corporation sales, United States and Canadian plants, monthly, 1919-39. Survey of Cur Business 20:12 Mr '40
More laborers than financiers buy new Buicks; pictograph. Sales Management 47:37 Ag 15 '40
New and used car sales in metropolitan areas, 1938; Printers' Ink market explorations. map Ptr Ink Mo 40:34-5, 37-9 Ja '40
New vehicle registrations; tabulated by makes of car, by manufacturing groups, 1929-1939, by months, 1929-1939, and by states, 1937-1939. Automotive Ind 82:184-6 Mr 1 '40
Passenger car representations by makes, by years, 1930-1940; tabulation. Automotive Ind 82:190 Mr 1 '40
Preliminary statistics of the automobile industry for the calendar year 1939; tabulation. O. P. Pearson. Automotive Ind 82: 85 Ja 15 '40
Survey of buying power; estimates of 1939 effective buying income and retail sales for sections, states, trading areas, counties and cities, etc, automotive sales and registrations. maps Sales Management 46:7-225 Ap 10 '40
U.S. and world production; cars and trucks, by production value, by countries, by years, etc.; tabulations. Automotive Ind 82:180-3 Mr 1 '40
U.S. and world registrations, by continents and by countries; U.S. registration by states, 1938-1939, and by years, 1895-1939; tabulations. Automotive Ind 82:187-9 Mr 1 '40
Weekly indexes of automotive general business charted. Automotive Ind 82:3 Ja 1 '40 [cont semi-monthly]

Used cars

Auto horse-trading. Business Week p16 My 11 '40
Ford pegs a sales campaign on an old hoss trading symbol; used to round up used car customers. il Sales Management 47:25 S 15 '40
New and used car sales in metropolitan areas, 1938; Printers' Ink market explorations. map Ptr Ink Mo 40:34-5, 37-9 Ja '40

Australia

Australia pushes automotive plans. Automotive Ind 82:167+ F 15 '40

Canada

Automobile statistics for Canada, 1939. 29p pa 50c Canada. Dominion bur. of statistics, Ottawa '40

Europe

Modern European light cars. C. B. Brull. il diags S A E J 46:177-84 Ap '40

France

L'automobile. C. Petiet. Soc Ing Civils Mémoires 92:345-51 My '39

Great Britain

Austin motors' and Standard motor records. Economist 137:222 N 11 '39
Engineering outlook; the motor industry. Engineering 149:108-11 F 2 '40
England's motorists protest unnecessary gas rationing. Automotive Ind 81:647+ D 15 '39
Morris motors and Ford motor co. profits, 1937-39. Economist 138:867-8 My 11 '40
Motor industry in war. Economist 138:484 Mr 16 '40
Post-war production; importance of development work. il diag Automobile Eng 30: 127-9 Ap '40
Rolls Royce report for 1939; profits, 1937-39. Economist 139:317 S 7 '40

Greece

Automotive products. For Comm W 1:216 N 2 '40

India

Commodity news; automotive products. For Comm W 1:73-4 O 12 '40

Japan

Japan offers new car to compete with Germany's Opel and Britain's Austin. il Business Week p62 O 19 '40
Two new cars appear on Japanese scene. il Automotive Ind 83:508 N 1 '40
War in Europe no help to Japan's automotive hopes. Automotive Ind 82:172 F 15 '40

Russia

Finns safe from Soviet; rise in Russian automobile industry. Business Week p45-6 N 25 '39
Plans complete for Russia's new KIM-10; technical and design specifications. il Automotive Ind 82:391 Ap 15 '40
Reds hail new low price car; three Kim 10's are put on display. Business Week p51-2 My 4 '40

South Africa

South African automotive market. For Comm W 1:120 O 19 '40

Sweden

Automotive products. For Comm W 1:216-17 N 2 '40

United States

Aircraft boom in the auto industry? S. Devlin. il Mag of Wall St 66:406-7+ Jl 13 '40
American way. H. S. Firestone, jr. India Rubber W 103:31-2+ N '40
Auto men can take it, and make it; industry able to handle defense program without interfering with normal sales. H. V. Hadley. Barron's 20:15-16 O 14 '40
Auto men eye planes, engine production threatens to outstrip aircraft building. il Business Week p18 O 26 '40
Auto production takes a jump. Business Week p20+ D 9 '39
Auto sales up, Detroit eyes 1941. Business Week p16+ Mr 16 '40
Automobile exports curtailed by war, but domestic sales meet expectations. L. Applegate. Annalist 55:684-5+ My 16 '40

AUTOMOBILE industry and trade—United States—*Continued*
Automotive leaders' outlook is optimistic for 1940 business. Automotive Ind 82:62+ Ja 15 '40
Bombers spread over industry. il Business Week p17 N 2 '40
Car steel purchases on "as needed" basis. Automotive Ind 83:517 N 1 '40
Detroit shifts right into high. il Business Week p17-18 S 21 '40
Favorable trend will continue. P. G. Hoffman. Comm & Fin Chr 150:515 Ja 27 '40
FTC trade rules hearing. Automotive Ind 82: 337+ Ap 1 '40
Industry's leaders active as defense program crystallizes. L. W. Moffett. Automotive Ind 82:577, 580-1 Je 15 '40
Majority of automobile manufacturers expect higher sales in the coming year. B. Finney. Annalist 56:494, 496-7 O 17 '40
Marked increase in railroad and motor transportation. D. W. Ellsworth. Annalist 55:121 Ja 25 '40
Mirrors of motordom. A. H. Allen. Published in weekly numbers of Steel
Mirrors of motordom; review of 1939. A. H. Allen. il Steel 106:185+ Ja 1 '40
Motors hold the key; are the makers wrong in their optimism? W. Gates. il Mag of Wall St 66:20-1+ Ap 20 '40
New factors in the outlook for the 1941 model year in the motor industry. B. Finney. Annalist 56:299-300 S 5 '40
Official portrait of auto industry; FTC's findings. Business Week p22 Ja 6 '40
On the assembly line. W. F. Sherman. Published in weekly numbers of Iron age
Plane production tough for autos. Business Week p30+ Je 15 '40
Planes, auto's job; Detroit will make parts and sub-assemblies for planes. Business Week p15-16 N 16 '40
Projecting the motors into 1940. H. D. Steinmetz. il Mag of Wall St 65:552-4+ F 10 '40
Proposed trade practice rules for the automotive industry; text. Automotive Ind 82: 256-63 Mr 1 '40
Show time; all's well with autos. Business Week p17-18 O 12 '40
What can we expect of the motor industry? W. Gates. il Mag of Wall St 67:22-5+ O 19 '40
Your automobile and free enterprise. il Nation's Business 28:33-56 O '40

See also
Chrysler corporation
Ford motor company
General motors corporation
National automobile dealers association

AUTOMOBILE laboratories
Chrysler corp. opens two new laboratories; illustrations. Automotive Ind 82:576 Je 15 '40; Steel 107:58-9 Jl 1 '40
Chrysler's new labs for research and engineering. il Product Eng 11:314-16 Jl '40
Chrysler's rubber-plastics laboratory. J. C. Zeder. il Rubber Age 48:19-22 O '40
Fifteen years old, and still growing; Chrysler corp. dedication of two new engineering laboratories. il Business Week p40 Je 8 '40
New weather tunnel for testing automobiles; Ford motor company. C. F. Greeves-Carpenter. il Refrig Eng 39:24+ Ja '40
Testing equipment feeds progress of Hayes industries; laboratory for study of noise in fans and mufflers. il Automotive Ind 82: 272-3+ Mr 15 '40

AUTOMOBILE lamps

Testing
Specification of optical requirements of electric headlamps of the sealed beam type for motor vehicles. Illum Eng 35:444-6 My '40

AUTOMOBILE laws and regulations

See also
Automobile parking
Insurance, Automobile—Compulsory liability
Insurance, Automobile—Financial responsibility laws
Motor bus lines—Laws and regulations
Motor trucks—Laws and regulations
Motor vehicles—Law
Traffic regulations

Great Britain
Law relating to garages and car parks. D. Potter. lxiip, 384p 15s Butterworth & co, London '39

Illinois
Illinois motor vehicle law; Uniform motor vehicle anti-theft act, Uniform act regulating traffic on highways, Truck regulatory act. E. J. Hughes, comp. 142p Secretary of state, Springfield, Ill. '39
Safeguards to protect the public on highways. H. H. Harrison. W Soc E J 45:17-18 F '40

New York (state)
Provisions of safety responsibility bill as recommended by New York association of local agents; abstracts. T. A. Sharp. East Underw 41:38 O 25 '40; Nat Underw 44:24 O 24 '40

Ohio
Cincinnati bar group opposes compulsory insurance scheme. Nat Underw 44:34 O 10 '40; Weekly Underw 143:835 O 12 '40

Oregon
State agency looks into share-expense travel tours inaugurated by individuals and unlicensed concerns. Pub Util 26:364-6 S 12 '40

Quebec
Effective methods for enforcing traffic laws; Quebec campaign to educate motorists. E. C. Girouard. Can Eng 77:7-8+ N 28 '39

AUTOMOBILE manufacturers association
Annual meeting, Detroit, June 12. Automotive Ind 83:31 Jl 1 '40

AUTOMOBILE old timers
Group formally completed. Automotive Ind 82:477 My 15 '40
Organization. Automotive Ind 81:602 D 1 '39

AUTOMOBILE parking
Free parking for commuters is station's best salesman. il Nat Pet N 32:34+ My 8 '40
Law relating to garages and car parks. D. Potter. lxiip, 384p 15s Butterworth & co, London '39
Line up for safety! parking lot for employees' cars; Western electric company. il Safety Eng 78:21 N '39
Park-N-shop plan; downtown St Louis firms hope to win back customers. il Business Week p46-7 D 16 '39
Park-N-Shop; St Louis public garage operates private buses as a profitable adjunct to its parking business; retail trade cooperation. H. Barman. il Bus Transportation 19:378-9 Ag '40
Parking spaces and driveways for community shopping centers. plans Arch Rec 87:110 Je '40

AUTOMOBILE parts
Applying colors to metal; automobile hubcaps, bumpers, nameplates, louvers, radio grilles, instrument panels and other parts. il Steel 106:52+ Je 3 '40
Automatic plating of die castings; Alemite die casting & mfg. co. H. Chase. il Iron Age 145:40-2 Je 27 '40
Automotive die castings. il Steel 106:36-7 Ja 8 '40
Centrifugal casting in Germany. W. A. Geisler. Automobile Eng 30:80 Mr '40
Clark's twenty acres of automotive manufacturing. J. Geschelin. il Automotive Ind 83:98-107+ Ag 1 '40
Making over one hundred tons of die-castings a day; Ternstedt manufacturing division of the General motors corporation. H. Chase. il Mach 47:101-5 S '40

AUTOMOBILE parts—*Continued*
Manufacturing heaters for Chrysler corporation air-control systems. C. O. Herb. il Mach 46:152-6 Ap '40
Metal parts impregnated with graphite to reduce abrasion. Mach 46:139 Mr '40
Modern die castings for modern cars. R. L. Wilcox. il Metal Prog 37:150-5 F '40
Parts makers' prospects favorable. G. H. Cummings. Barron's 20:26-7 O 14 '40
Producing 1,750,000 speedometers a year; manufacturing eighteen basic types of automotive equipment; Stewart-Warner corp. J. Geschelin. il Automotive Ind 82:94-102 F 1 '40
Special tooling for machining die castings; Alemite die castings & mfg. division of the Electric auto-lite co. H. Chase. il Iron Age 145:46-9 Je 6 '40
Sub-contract production; Laystall engineering co. il Automobile Eng 30:116-18 Ap '40
Surface decarburization; cause of discrepancies between apparent strength and effective strength of steel automotive parts. L. A. Danse. il Steel 106:60-1 F 5 '40

AUTOMOBILE racing
Behind the checkered flag; Indianapolis 500-mile race. R. T. Jackson. il diags Automotive Ind 82:493-505, 549-51+ Je 1-15 '40
Motor racing. F. R. H. P. C. Howe and others, eds. 256p $6 Lippincott '39

AUTOMOBILE rental service. See Air lines—Automobile rental service; Railroads—Automobile rental service

AUTOMOBILE research
All for one and one for all; research in motor industry. J. J. Frey. il Sci Am 161: 330-2 D '39
Chrysler adds research capacity. il Factory Management 98:57 Jl '40
Midas of industry: automobile trade has enriched every business it has touched. J. V. Sherman. Barron's 20:13 Ag 19 '40
When you steer a motor-car; mechanism designed to indicate steering deviations. A. P. Peck. il Sci Am 163:196-7 O '40

Bibliography

German automotive research. Automotive Ind 82:38 Ja 1 '40

AUTOMOBILE roads. See Roads, Automobile

AUTOMOBILE service clubs
To hold hearing on license renewal of Automobile insurance agency of the Cincinnati automobile club. Nat Underw 44:15 Je 6 '40; Weekly Underw 142:1389 Je 8 '40

AUTOMOBILE service stations
See also
Gasoline service stations

Lubricating service

Car manufacturers aid their dealers in fight for lubrication business. il Nat Pet N 32: 30+ Jl 21 '40
Film trains Alemite dealers in "how" of modern merchandising. F. R. Cross. il Sales Management 46:48+ Je 1 '40
Merchandising and modernization hold service profit for car dealers. il Nat Pet N 32:25-6, 28+ Ag 21 '40

AUTOMOBILE shops

Equipment

Shop-fabricated wheel-puller. K. N. Banthin. il Mach 46:121 F '40

AUTOMOBILE signal lights
Direction signals for motor vehicles. H. C. Doane. diags Automotive Ind 82:146-9+ F 15 '40
Directional flashing for motor vehicle signals. P. H. Chase. il diags Illum Eng 35:417-30 My '40

AUTOMOBILE steel. See Steel, Automobile

AUTOMOBILE strikes
Chrysler corp. strike settled after 54-day tie-up. Comm & Fin Chr 149:3489 D 2 '39
New hope in Detroit; Chrysler-C.I.O. settlement seems likely. Business Week p46 N 11 '39.
New issues complicated Chrysler strike; C.I.O. groups certified; strike sets new record. Automotive Ind 81:600-1+ D 1 '39

AUTOMOBILE tires. See Tires, Automobile

AUTOMOBILE touring
Billions of miles, millions of dollars. il Nat Pet N 32:19-22 Je 19 '40
Fairs make more tourists who spend less en route. J. N. Thompson. map Nat Pet N 32: 30, 32-4 Ja 24 '40
Georgia; a guide to its towns and countryside. 559p bibliog(p530-8) $2.50 Univ. of Georgia press, Athens '40
Interregional highways; recreational value as related to the federal park system. A. D. Cammerer. il Roads & Sts 83:54-6 Ja '40
Maine arrow guide. v2 384p pa $1 Fred L. Tower companies, 165 Middle st, Portland, Me. '40
Maryland; a guide to the old line state. 561p bibliog(p535-43) $2.75 Oxford '40
Motor touring to the Berkeley convention. L. C. Uren. il J Eng Educ 30:754-60 My '40
New York; a guide to the Empire state. 782p bibliog(p729-39) $3 Oxford '40
Ohio guide. 634p bibliog(p611-13) $2.75 Oxford '40
See also
Tourist camps, hostels, etc.

Share-expense travel

Share-expense travel booming. E. Eckland. il Bus Transportation 19:324-5 Jl '40
State agency looks into share-expense travel tours inaugurated by individuals and unlicensed concerns. Pub Util 26:364-6 S 12 '40

AUTOMOBILE trailers
All steel trailer coaches. il Steel 106:69 Mr 18 '40

AUTOMOBILE trailers, Commercial. See Trailers

AUTOMOBILE travel bureaus
Share-expense travel booming. E. Eckland. il Bus Transportation 19:324-5 Jl '40

AUTOMOBILE wings. See Automobiles—Fenders

AUTOMOBILE workers of America, United. See United automobile workers of America

AUTOMOBILES
Automobiles of 1940. Consumers' Research Bul (Gen bul ser) 9:2-16 Ja '40
Automobiles of 1941. il diags Product Eng 11: 465-88, 498-500 O-N '40 (to be cont)
Automotive outlook for 1940. W. F. Sherman. Iron Age 145:54, 61+ Ja 4 '40
Buick aims at fuel economy with compound dual carburetor. il diags Automotive Ind 83:240-3 S 15 '40
Cadillac enters 1941. il Automotive Ind 83: 300-1, 419+ O 1 '40
Chevrolet offerings for 1941. il Automotive Ind 83:308-9+ O 1 '40
Chrysler cars, 1941. il Automotive Ind 83: 314+ O 1 '40
Decade of automotive development; innovations listed in order of their introduction; illustrations. Automotive Ind 82:50-4 Ja 15 '40
Design decade. il Arch Forum 73:308-11 O '40
De Soto has new line for 1941. il diags Automotive Ind 83:304-5+ O 1 '40
Dodge de luxe and custom series 1941. il Automotive Ind 83:456-7+ O 15 '40
Dyke's automobile and gasoline engine encyclopedia. A. L. Dyke. 19th ed 1244p, 78p $6; leatte $7.50 Goodheart-Willcox co, Chicago '40
Ford lines for 1941. il Automotive Ind 83:310-12+ O 1 '40
Hudsons, new body styling. il Automotive Ind 83:212-13+ S 1 '40
Nash Ambassador 600. il diags Product Eng 11:474-7 O '40
Nash brings out its new 600 line. il diags Automotive Ind 83:306, 402-3+ O 1 '40

AUTOMOBILES—*Continued*
Next 25 years. D. Beecroft. S A E J 47: sup30-1 Jl '40; Same. Automobile Eng 30: 247-8 Ag '40
1905-1940; comparing automobiles, equipment, list of makes, etc. S A E J 47:sup36-7 Jl '40
1941 auto models on parade; operating economy, roominess, and coloring stressed. il Barron's 20:18-25 O 14 '40
Oldsmobile offers three chassis for 1941. il Automotive Ind 83:302-3+ O 1 '40
Packard announces '41 models. il diags Automotive Ind 83:298-9+ O 1 '40
Plans complete for Russia's new KIM-10; technical and design specifications. il Automotive Ind 82:391 Ap 15 '40
Plymouth engine stepped up for 1941 buyers. il diag Automotive Ind 83:244-6+ S 15 '40
Pontiac enters new selling year with three lines having interchangeable six-and eight-cylinder engines. il diags Automotive Ind 83:248-50+ S 15 '40
Post-war production; importance of development work. il diag Automobile Eng 30: 127-9 Ap '40
Private cars; a detailed summary and critical review of current models. il diags Automobile Eng Extra no 29:406-22 N 16 '39
SAE annual meeting; passenger-car sessions. S A E J 46:sup 16-17, 35-6 F '40
Studebaker makes 1941 bow. il diags Automotive Ind 83:214-16+ S 1 '40
Willys offering for 1941. il Automotive Ind 83:307+ O 1 '40

See also
Automobile engineering
Automobile engines
Automobile industry and trade
Automobile trailers
Brakes, Automobile
Electric trucks
Electric vehicles
Garages
Motor buses
Motor caravans
Motor cars (railroad)
Motor cycles
Motor trucks
Motor vehicles
Street railroads—Automobile competition
Tires, Automobile
Tractors

Air conditioning
Airconditioning in Packard auto. Barron's 19:5 N 20 '39
Heating, ventilating, and cooling of passenger cars. H. Chase. il diags S A E J 46:137-46 Ap '40; Same cond. Automobile Eng 30:105-11 Ap '40; Abstract. Automotive Ind 82:111 F 1 '40
Manufacturing heaters for Chrysler corporation air-control systems. C. O. Herb. il Mach 46:152-6 Ap '40
Metals and alloys in an air-conditioned automobile. H. Chase. il diag Metals & Alloys 12:141-4 Ag '40
Year-round air conditioning available in 1940 automobile; Packard motor car. Heat & Ven 36:32 D '39

Axles
Axle and transmission lubrication. W. S. James. il diags S A E J 47:312-23; Discussion. 323-4 Ag '40
Costs cut 40 per cent; handling steel axle housings. il Steel 106:64+ F 19 '40
Rear axle details of the 1940 Buick; diagrams. Automotive Ind 82:386 Ap 15 '40
Rear axle, tires, wheels, 1941 cars; specifications tabulated. Automotive Ind 83:448 O 15 '40
Willys hypoid-gear-driven rear axle. diags Automotive Ind 83:461-2 O 15 '40

Bearings
Bearings, rear axle, king pin and wheel, electrical units, clutch, transmission, 1941 cars; specifications tabulated. Automotive Ind 83: 451-2 O 15 '40
Buick swages wishbone bearing; substitution of fabric bushings. il diags Am Mach 84: 55-7 F 7 '40
Buick thin-babbitt bearings. il diag Product Eng 11:484-5 O '40
Flexible bushing developed by the Harris products co.; Torflex bushing. Automotive Ind 82:151 F 15 '40
Load capacities of journal bearings; abstract. S. A. McKee. Automotive Ind 82:113 F 1 '40
Superfinish. D. A. Wallace. il diags S A E J 46:69-92 F '40

Bodies
Aspects of frameless car design. W. D. Appel. il S A E J 45:535-9 D '39
Bodywork economies. Automobile Eng 30:93-4 Mr '40
Bodywork; unitary construction and improved interiors. il diags Automobile Eng Extra no 29:423-7 N 16 '39
Plastic bodywork; new technique developed in Germany. F. C. Sheffield. diags Automobile Eng 30:229-34 Ag '40
Unit frame and body. D. W. Sherman. S A E J 47:305-11 Ag '40

See also
Automobiles—Cowls

Braking

See also
Brakes, Automobile

Care
Pre-winter check-up on automobiles urged by service manager. W. A. Hilman. Nat Pet N 32:35-6 O 9 '40

Chassis
Automatic chassis welding. C. E. Heitman. il diags Steel 105:57-8, 60, 62 D 4 '39
Automobiles of 1941. il diags Product Eng 11: 478-83 O '40
1940 trends; passenger car chassis and engines; based on units sold, 1930-1939, on registration of 1939 models by retail price class groups and on number of models offered, 1927-1940; tabulations. Automotive Ind 82:194 Mr 1 '40
Thirty years ago; the 8 h.p. Rover chassis. diag Automobile Eng 30:173 Je '40
Thirty years ago; the 14 h.p. Metallurgique chassis. diags Automobile Eng 30:298 O '40
Thirty years ago; the 20 h.p. Lanchester chassis. diags Automobile Eng 30:234 Ag '40

Cleaning
Automobile polishes. C. A. Tyler. Can Chem & Process Ind 24:399 Ag '40
Cleaning motors and chassis; utilization data sheet. N. J. Mahar. il diag Elec West 85:38 Jl '40
Industrial cleaning methods and materials as related to the automotive industry; abstract. V. Gephart. S A E J 47:290 Jl '40
Shower baths for motor cars; multiple-nozzle washer uses compressed air and water. A. S. Park. il Comp Air M 44:6036-9 D '39

Clutches
Clutches; 1941 cars; specifications tabulated. Automotive Ind 83:446 O 15 '40
Electromatic clutch is a Packard option. diag Automotive Ind 83:492-3 N 1 '40
Newton clutch disc. diags Automobile Eng 30:22 Ja '40
1941 car design trends. T. A. Bissell. diag S A E J 47:453-4 N '40
Power-operated magazine socket wrench for rapid assembling. M. Haas. diags Mach 46: 116 My '40
Rubber-tire clutch. diag Automobile Eng 29: 373 O '39; Same abr. Mech Eng 61:918 D '39
Twin Disc products held to rigid specifications; manufacture of clutches and gearing. J. Geschelin. il Automotive Ind 82:310-19+ Ap 1 '40

Color
Wide variations in color preference for cars shown thruout U.S. Metal Ind 38:244 Ap '40

See also
Automobiles—Painting and finishing

AUTOMOBILES—*Continued*

Cost of operation

Cost of operating rural-mail-carrier motor vehicles on pavement, gravel, and earth. R. A. Moyer and R. Winfrey. il Iowa Eng Exp Sta Bul 143:1-56 '39; Abstract. Eng N 125:224-5 Ag 15 '40; Summary. Pub Roads 20:217 Ja '40; Same. Pub Works 71:46 Mr '40

Delays and gas costs; abstract. A. J. Bone. Eng N 123:836 D 21 '39

Helping stranded motorists boosts tire, battery sales; use of service cars; analysis of operating costs and increased revenue. il Nat Pet N 32:33-4, 36-8 Ag 28 '40

How much per mile? scientific determination of salesmen's car allowances; mileage cost in 42 regions. map Business Week p51-2 O 5 '40

Own cars cost less; Kansas finds state fleets cheaper than private autos. Business Week p38-9 S 7 '40

Pavement reduces car costs; abstract. R. A. Moyer. Eng N 123:836 D 21 '39

See also
Automobiles, Salesmen's—Costs

Cowls

Scuttle; some notes on a method of establishing contours. Automobile Eng 30:223-4, 254-5, 313-15 Jl-Ag, O '40

Design

America's auto for 1941 (and '42?). il Business Week p17-18+ O 19 '40

Aspects of frameless car design. W. D. Appel. il S A E J 45:535-9 D '39

Behind the checkered flag; Indianapolis 500-mile race. R. T. Jackson. il diags Automotive Ind 82:493-505 Je 1 '40

Bodywork; unitary construction and improved interiors. il diags Automobile Eng Extra no 29:423-7 N 16 '39

Design suggestions resulting from road testing for safety; abstracts. D. A. Fales. S A E J 47:299-300 Jl '40; Automotive Ind 82:563 Je 15 '40; Discussion. S A E J 47: sup21-2 Jl '40

Front-steered cars; consideration of rear steering effects. M. Platt. diags Automobile Eng 30:35-7 F '40

Modern European light cars. C. B. Brull. il diags S A E J 46:177-84 Ap '40

1941 car design trends. T. A. Bissell. il diags S A E J 47:445-60, 460A-460D N '40

Rear wings; method of establishing contours. diags Automobile Eng 30:191-2 Je '40

Roof development; method for evolving border panel contours. diags Automobile Eng 30: 286-7 S '40

Roof development; method of obtaining proportional curves on roof corner. diag Automobile Eng 30:129-30 Ap '40

Roof domes; method of developing roof contours. diags Automobile Eng 30:159-62 My '40

Summary of design changes on 1941 automobiles. P. M. Heldt. il diags Automotive Ind 83:473-4, 486-9 N 1 '40

Les tendances de la construction automobile aux États-Unis en 1940. il diags Génie Civil 116:273-6 Ap 27 '40

Unit frame and body. D. W. Sherman. S A E J 47:305-11 Ag '40; Abstract. Iron Age 145:58+ My 16 '40

Weight reductions in automobiles being considered; suggested method. il Iron Age 145: 56, 58 Je 20 '40

When you steer a motor-car; mechanism designed to indicate steering deviations. A. P. Peck. il Sci Am 163:196-7 O '40

Wing design; a method of laying out and developing contours of automobile bodies. diags Automobile Eng 30:63-4, 95-6 F-Mr '40

See also
Automobile engines—Design
Automobiles—Bodies
Brakes, Automobile

Electric equipment

Automobile electrical maintenance. A. W. Judge. 248p $1.80 Pitman '38

Ignition systems and batteries, starting motors, lamps, horns and generators, 1941 cars; specifications tabulated. Automotive Ind 83:444-6 O 15 '40

See also
Automobiles—Lighting

Equipment

Equipment requirements for motor vehicles. 1940 ed 136p pa $1 National highway users conference, National press bldg, Washington, D.C. '40

Oildex and filtrex; oil dilution extractor and filter for installation on automobile. il Sci Am 162:102-3 F '40

Producing 1,750,000 speedometers a year; manufacturing eighteen basic types of automotive equipment; Stewart-Warner corp. J. Geschelin. il Automotive Ind 82:94-102 F 1 '40

Unit a second at King-Seeley; manufacture of automotive equipment and panel instruments. J. Geschelin. il Automotive Ind 82: 510-15+ Je 1 '40

See also
Automobile accessories industry
Automobile engines
Brakes, Automobile
Carbureters
Tires, Automobile

Exhibitions

Auto show moves in; mechanics of handling cars and other displays in ballrooms of hotel. H. T. Rutledge. il Sci Am 163:273-5 N '40

Cars of tomorrow attract interest at auto show. A. H. Allen. il Steel 107:27-8 O 21 '40

Shows are dead, long live the shows! H. Hosking. Automotive Ind 83:429-30 O 15 '40

What's new in 1941 cars? auto show reveals all. il Nat Pet N 32:15 O 16 '40

Fenders

Rear wings; method of establishing contours. diags Automobile Eng 30:191-2 Je '40

Unique practices in producing Oldsmobile front fenders. C. O. Herb. il Mach 46:83-8 Ag '40

Wing design; a method of laying out and developing contours of automobile bodies. diags Automobile Eng 30:63-4, 95-6 F-Mr '40

Gearing

Behaviour of various engine and gear lubricants in seizure tests. D. Clayton. pls Inst Pet J 25:709-28 N '39

Centrifugally cast gear blanks introduced by Ford. C. O. Herb. il diags Mach 46:85-8 My '40

Gear case machining modernized. il Iron Age 146:47 Ag 15 '40

Gearbroacher equipped to produce four hundred starter gears an hour. il Mach 46: 122-3 Ag '40

Gears of iron powder. il diag Automotive Ind 82:158-9 F 15 '40

Hypoid-lubricant requirements for passenger-car and truck rear axles. H. R. Wolf. bibliog il Am Pet Inst Proc 20(3):16-22 '39; Same. Oil & Gas J 38:162+ N 17 '39; Same cond. Nat Pet N 31:32-4, 36-7 N 15 '39; Discussion. Am Pet Inst Proc 20(3):22-4 '39

See also
Automobiles—Clutches
Automobiles—Steering gear
Automobiles—Transmission

Head lamps

See Automobiles—Lighting

Heating and ventilation

Heating, ventilating, and cooling of passenger cars. H. Chase. il diags S A E J 46:137-46 Ap '40; Same cond. Automobile Eng 30:105-11 Ap '40

AUTOMOBILES—Safety devices and measures —*Continued*
Design suggestions resulting from road testing for safety; abstracts. D. A. Fales. S A E J 47:299-300 Jl '40; Automotive Ind 82:563 Je 15 '40; Discussion. S A E J 47: sup21-2 Jl '40
1940 cars stress safety; annual safety review of automobile body styles. H. Armand. il Safety Eng 78:30-2+ N '39
Salute to safety; Plymouth Motors awarded trophy by Safety engineering for safety in automobile design. il Safety Eng 79:6-7 My '40
When winter comes; no missing links; need for tire chains. H. Armand. il Safety Eng 78:6-7 D '39

See also
Automobile accidents
Automobile drivers
Motor vehicles—Inspection

Scuttles

See Automobiles—Cowls

Seats

Leaf spring seat for automobiles. il Iron Age 145:88 F 1 '40
Riding comfort and cushions. W. E. Lay and L. C. Fisher. il diags S A E J 47:482-96 N '40; Abstract. Automotive Ind 82:567-8 Je 15 '40
Seat cushions and the ride problem. C. R. Paton, E. C. Pickard and V. H. Hoehn. il diags S A E J 47:273-83 Jl '40

See also
Automobiles—Upholstery

Skidding

Skid-resistant qualities of roadway surfaces. T. E. Stanton. Can Eng R & B 78:101, 104 O '40
When winter comes; no missing links; need for tire chains. H. Armand. il Safety Eng 78:6-7 D '39

Small size

Ford introduces a new 8-hp. model in England. Automotive Ind 82:246 Mr 1 '40
Modern European light cars. C. B. Brull. il diags S A E J 46:177-84 Ap '40

Specifications

1940 American passenger cars; specifications tabulated. Automotive Ind 82:192-3 Mr 1 '40
1941 motor car specifications; tabulations. Automotive Ind 83:437-52 O 15 '40

Speed

Physics in court; computations by which police can work out driving speeds from skid marks after accidents. C. W. Sheppard. il Sci Am 163:144 S '40
Set your own gasoline mileage; relation between engine efficiency, car speed and gasoline consumption. il Oil & Gas J 39:26 Je 20 '40
Study of motor-vehicle drivers and speed in Connecticut. H. R. DeSilva. Pub Roads 21:89-101 Jl '40

See also
Automobile racing

Springs and suspension

Anti-rolling rear suspension; patent. diag Automobile Eng 30:225 Jl '40
Buick rear suspension on coil springs and independent front suspension; diagrams. Automotive Ind 82:285-6 Mr 15 '40; Excerpt. Automobile Eng 30:174 Je '40
Coil springs for Buicks. il Steel 107:46-7 Jl 15 '40
Front and rear suspension on coil springs of Nash Ambassador 600; diagrams. Automotive Ind 83:402 O 1 '40
Front-steered cars; consideration of rear steering effects. M. Platt. diags Automobile Eng 30:35-7 F '40
Laminated springs; production methods, Jonas Woodhead and sons. il Automobile Eng 30:3-7 Ja '40
1941 car design trends. T. A. Bissell. il S A E J 47:459-60, 460A N '40
Resilient suspension. O. Steinitz. diags Automobile Eng 29:467-8 D '39
Springs and shock absorbers, 1941 cars; specifications tabulated. Automotive Ind 83: 449 O 15 '40
Weight reductions in automobiles being considered; suggested method. il Iron Age 145: 56, 58 Je 20 '40

Standards

Involute spline standard meets widespread demand. C. H. Stanard and C. K. Lenning. il diags Ind Stand 11:89-91 Ap '40
SAE standards mark progress of industry. J. A. C. Warner. il Ind Stand 10:285-7 N '39

Statistics

Transit vs. the automobile. il Transit J 84:4-5 Ja '40
Transportation and recreation expenditures of wage earners and clerical workers. Monthly Labor R 50:556-73 Mr '40

Steering gear

Cadillac steering column and transmission control. diags Automotive Ind 82:472-3 My 15 '40
Front-steered cars; consideration of rear steering effects. M. Platt. diags Automobile Eng 30:35-7 F '40
Steering and brakes, 1941 cars; specifications tabulated. Automotive Ind 83:450 O 15 '40
Steering gear; production methods at the Adamant engineering co. il diags Automobile Eng 29:445-50 D '39
Steering linkage; patent. diag Automobile Eng 30:225 Jl '40
When you steer a motor-car; mechanism designed to indicate steering deviations. A. P. Peck. il Sci Am 163:196-7 O '40

Testing

New weather tunnel for testing automobiles; Ford motor company. C. F. Greeves-Carpenter. il Refrig Eng 39:24+ Ja '40

Tops

Roof development; method for evolving border panel contours. diags Automobile Eng 30: 286-7 S '40
Roof development; method of obtaining proportional curves on roof corner. diag Automobile Eng 30:129-30 Ap '40
Roof domes; method of developing roof contours. diags Automobile Eng 30:159-62 My '40

Towing

New regulations for towing cars issued by New York police dept. East Underw 40:24 D 29 '39

Transmission

Another new era in motoring; fluid flywheel for autos. il Business Week p40-2 My 18 '40
Automatic transmission offered on several 1941 cars. W. F. Sherman. Iron Age 146:48, 50 O 3 '40
Automobiles of 1941 il diags Product Eng 11:470-3 O '40
Axle and transmission lubrication. W. S. James. il diags S A E J 47:312-23; Discussion. 323-4 Ag '40
Cadillac steering column and transmission control. diags Automotive Ind 82:472-3 My 15 '40
Chrysler automatic drive. diags Product Eng 11:466-8 O '40
Devising a smaller auto transmission. G. L. Rothrock. Metal Prog 37:144-5 F '40
Dodge de luxe and custom series 1941; new gear-shifting mechanism. il Automotive Ind 83:457+ O 15 '40
Electromatic clutch is a Packard option. diag Automotive Ind 83:492-3 N 1 '40
Engineers debate what car owners want in automatic transmissions. S A E J 46:sup 25-6 Je '40
Foden five-speed gear box. diag Automobile Eng 30:81 Mr '40
Hydra-matic gear box. diags Automobile Eng 30:50-1 F '40

AUTOMOBILES—Transmission—*Continued*
Hydra-matic transmission. diags Mech Eng 61:922-3 D '39
Hydra-matic transmission; abstract. H. T. Youngren. S A E J 46:sup16+ My '40
Hydraulic drive shifts into high; Transmission division, General Motors. R. W. Warnock. il diags Am Mach 84:280-2 My 1 '40
Hydraulic transmission; abstract. H. M. Rugg. Oil & Gas J 38:15 Ja 18 '40
Hydraulic transmission differential. C. A. Norman. diags Automotive Ind 83:247 S 15 '40
Hydrodynamic power transmission for motor cars. W. Spannhake. diags S A E J 45: 433-43 O '39; Excerpts. Automotive Ind 82: 288 Mr 15 '40
M.G. transmission; transverse section. diags Automotive Ind 82:154 F 15 '40
Mathematical consideration of the fluid coupling. P. M. Heldt. diags Automotive Ind 82: 360-2+ Ap 15 '40; Discussion. H. A. Huebotter. 82:470-1 My 15 '40
Morris ten-four series M transmission; diagrams. Automotive Ind 81:630 D 15 '39
New processes adapted to mass production of Olds transmissions. J. Geschelin. il Automotive Ind 83:150-8 Ag 15 '40
New type transmission requires special lube. il Nat Pet N 32:32, 34 O 23 '40
1941 car design trends. T. A. Bissell. il diags S A E J 47:454-7 N '40
Operation of new fluid drives. A. H. Allen. Steel 107:35-6 S 23 '40
Producing Oldsmobile's sensational drive. C. O. Herb. il Mach 46:110-15 Ap '40
Recent developments in the use of hydraulic power. H. C. Town. diags Inst Mech Eng J & Proc 143:Proc 130-2 My '40
Torkondif is a continuously variable transmission. P. M. Heldt. il diag Automotive Ind 81:202-4+ S 1 '39; Same abr. Automobile Eng 30:59 F '40
Transmission details of the 1940 Buick; diagrams. Automotive Ind 82:385 Ap 15 '40
Transmission shifter yokes are flame hardened automatically. il Steel 106:64 Je 10 '40
Transmissions and universal joints, 1941 cars; specifications tabulated. Automotive Ind 83: 447 O 15 '40
Vulcan-Sinclair new hydraulic coupling obviates need for friction clutch. diag Automotive Ind 83:122 Ag 1 '40
Warner overdrive gear; an automatic epicyclic system with solenoid-operated driver control. diag Automobile Eng 29:458 D '39
Weiss hydrodynamic transmission improved. diags Automotive Ind 82:469 My 15 '40

See also
Automobiles—Gearing

Transportation

Car ramp at Larne harbour. il diags Engineer 168:524-5 N 24 '39
Denver and Rio Grande Western automobile-box cars designed for dual service. il Ry Age 108:135-7 Ja 13 '40; Same. Ry Mech Eng 114:62-4 F '40
Fight curb on auto truckaways; manufacturers fear state laws outlawing big transports. Business Week p16+ Mr 9 '40
Pennsylvania trucking law upheld by Supreme court; act forbidding transport of cars on truck-trailer convoy racks over cabs. Automotive Ind 82:429 My 1 '40

Upholstery

Can change layout in an hour; making automobile seat covers; National automotive fibers, inc. H. M. Ratley. il Factory Management 98:48-9 S '40
Seat cushions and the ride problem. C. R. Paton, E. C. Pickard and V. H. Hoehn. il diags S A E J 47:273-83 Jl '40

See also
Automobile fabrics

Vibration

Vibration of rail and road vehicles. B. S. Cain. 258p bibliog(p255-6) $5 Pitman '40

See also
Automobiles—Springs and suspension

Wheels

Merrill laboratories design electronic wheel balancer. il Automotive Ind 82:416 My 1 '40
Rear axle, tires, wheels, 1941 cars; specifications tabulated. Automotive Ind 83:448 O 15 '40

See also
Tires, Automobile

Windows

Hydraulic electric automobile window lifting mechanism. Steel 107:36 Jl 1 '40
Packard window regulator system. diag Automotive Ind 83:493 N 1 '40

Windshield defrosters

Pontiac 1940 underseat heater and defroster installation. diags Automotive Ind 82:420-1 My 1 '40

Windshields

Design suggestions resulting from road testing for safety. D. A. Fales. S A E J 47: 299-300; Discussion. sup21-2 Jl '40

AUTOMOBILES, Electric. See Electric vehicles

AUTOMOBILES, Employees'
Line up for safety! parking lot for employees' cars; Western electric company. il Safety Eng 78:21 N '39
Own cars cost less; Kansas finds state fleets cheaper than private autos. Business Week p38-9 S 7 '40

See also
Automobiles, Salesmen's

AUTOMOBILES, Industrial
For best operation of motor vehicle fleets; cost charts. R. Whitfield. Elec W 113:1910 Je 15 '40
Some economic aspects of utility fleets; abstracts. R. Whitfield. S A E J 46:sup14 My '40; Power Pl Eng 44:59-60 S '40; Discussion. S A E J 46:sup14 My '40

AUTOMOBILES, Military
Mechanization in the U.S. army. H. H. D. Heiberg. il Mech Eng 62:599-604 Ag '40
Motorization policy of the army. R. P. Patterson. S A E J 47:sup 18-19 N '40
100-mile-an-hour anti-aircraft combat car. il Sci Am 161:347 D '39

AUTOMOBILES, Salesmen's
American Asphalt cuts salesmen's auto costs by use of leased cars. P. Weber. Sales Management 46:35-6 Ap 1 '40
How much per mile? scientific determination of salesmen's car allowances. map Business Week p51-2 O 5 '40
How to control cost and operation of automobiles driven by salesmen. Ptr Ink 191:57-61 Je 7 '40
Policies that head off trouble in a salesman-owned auto fleet; clear-cut rules covering all phases of operation of cars; operate at 4.3 cents per mile. il Sales Management 47:32, 34 O 10 '40
Salesmen's cars and delivery trucks dressed up to increase sales; C. D. Kenny co., Baltimore. il Food Ind 12:60-1 S '40

Costs

Cost of operating 202 salesmen's autos, 1939; tabulation. Sales Management 47:36 O 10 '40
How to pay salesmen's auto costs. T. N. Beckman and H. C. Nolen. Adv & Sell 33: 30-1+ F '40; Abstract. Management R 29:255-7 Jl '40
International Salt cuts fleet auto costs to $.0308 per mile. il Sales Management 47: 36-7 O 10 '40; Same cond. Management R 29:373-4 O '40

AUTOMOBILES, State
Own cars cost less; Kansas finds state fleets cheaper than private autos. Business Week p38-9 S 7 '40

AUTOMOBILES, Used
Safe way to buy a good used car; testing service for prospective used-car buyers at $10 per inspection. J. A. Haig. il Nation's Business 28:82, 85-7 Mr '40

See also
Automobile industry and trade—Used cars

AUTOMOBILES and roads
Cost of operating rural-mail-carrier motor vehicles on pavement, gravel, and earth. R. A. Moyer and R. Winfrey. il Iowa Eng Exp Sta Bul 143:1-56 '39; Abstract. Eng N 125:224-5 Ag 15 '40; Summary. Pub Roads 20:217 Ja '40; Same. Pub Works 71:46 Mr '40
Futurama: 1940 model. G. Herrick. il Automotive Ind 82:447-8+ My 15 '40
Pavement reduces car costs; abstract. R. A. Moyer. Eng N 123:836 D 21 '39
Stresses under a loaded circular area. L. A. Palmer. diags Pub Roads 20:231-7 F '40

See also
Automobiles—Skidding
Motor trucks and roads
Roads, Automobile

AUTOMOBILES in postal service

See also
Rural free delivery

AUTOMOBILES in repair service
Helping stranded motorists boosts tire, battery sales; use of service cars; analysis of operating costs and increased revenue. il Nat Pet N 32:33-4, 36-8 Ag 28 '40

AUTOMOBILES on rails
Woodlands automobile runs on rails. il Pulp & Pa of Can 41:293 Mr '40

AUTOMOTIVE fuel
Alternative fuel; butane as fuel for road vehicles. L. van Lottom. Automobile Eng 30:219-20 Jl '40
Alternative fuels. J. Walton. Automobile Eng 30:91-2 Mr '40
Alternative motor fuels; with cost data; abstracts. C. M. Walter. Gas J (Lond) 229: 516-19 Mr 6 '40; Automobile Eng 30:121-3 Ap '40; Discussion. Gas J (Lond) 229: 519 Mr 6 '40
Les caractéristiques du carburant pour automobiles institué par le décret du 11 septembre 1939. Génie Civil 115:359 N 11 '39
Les carburants de remplacement nationaux; bois, charbon de bois, carbonite, tourbe. Génie Civil 116:50-1 Ja 20 '40
Carburants nationaux, combustibles et énergies de remplacement. L. Bacqueyrisse. Soc Ing Civils Mémoires 92:241-86 Mr '39
Les combustibles liquides; but essentiel de l'industrie du pétrole. P. Dumanois. Soc Ing Civils Mémoires 92:111-23 Ja '39
Freak crude sold tax-free as motor fuel in Minnesota. Nat Pet N 32:25 O 30 '40
Future needs in fuel and oil for motor transport; abstract. T. A. Boyd. Nat Pet N 32: R349-50 S 18 '40
Liquefied petroleum gas in the national defense program; use as fuel and as raw material for chemical conversion. H. N. Wade. flow sheet il Chem Ind 47:160-4 Ag '40; Abstract. Nat Pet N 32:42+ Jl 24 '40
Motor fuels of the present and future. G. Egloff. W Soc E J 45:79-92 Ap '40
New light oil refining plant of the Wheeling steel corporation. E. Preston and B. J. C. Van Der Hoeven. flow diag il Blast F & Steel Pl 28:455-60 My '40
Next 35 years. D. Beecroft. S A E J 47:sup35-7 Jl '40
Nouvelles synthèses catalytiques des hydrocarbures. V. N. Ipatieff. Chimie & Ind 42: 215-22 Ag '39; Same (New catalytic synthesis of hydrocarbons). Chem Age (Lond) 41:343-4, 371-3 N 18, D 2 '39
Les supercarburants et les superlubrifiants au Congrès de l'Association française pour l'avancement des sciences (Liége, 17-22 juillet 1939). Génie Civil 116:183-5 Mr 16 '40
Les supercarburants et les superlubrifiants synthétiques au Congrès de l'Association française pour l'avancement des sciences (Liége, 17-22 juillet 1939). C. Berthelot. Chimie & Ind 43:539-48 Ap 5 '40

See also
Airplane engines—Fuel
Alcohol as fuel
Automobile engines—Fuel
Benzol (commercial benzene)
Gasoline
Liquid fuel
Motor bus engines—Fuel
Motor truck engines—Fuel
Tractors—Fuel

AUTOMOTIVE industries
News by commodities. Published in Foreign commerce weekly
Next 35 years. D. Beecroft. S A E J 47:sup29-40 Jl '40

See also
Airplane industry and trade
Automobile accessories industry
Automobile industry and trade
Motor bus industry
Motor cycle industry
Motor truck industry
Tractor industry and trade

Great Britain
Motors in 1939. Economist 138:sup43-4 F 17 '40

AUTOPLATE machines. See Stereotyping

AUTOTRANSFORMERS. See Electric transformers—Autotransformers

AUTOXIDATION. See Oxidation—Autoxidation

AUXINS
Enzymatic liberation of auxin from plant tissues. F. Skoog and K. V. Thimann. Science 92:64 Jl 19 '40
Some difficulties encountered in the extraction of growth hormones from plant tissues. F. G. Gustafson. Science 92:266-7 S 20 '40

AVENEX. See Oat flour

AVIATION
Airline navigation was different in Europe. L. M. Gravis. il Aviation 39:40-1+ N '40
American wings; modern aviation for everyone. B. W. Leyson. new rev ed 214p $2 Dutton '40
Computation of great circle azimuths and distances for air flights. D. L. Reaburn. Civil Eng 10:237-8 Ap '40
Graphic solution of great circle track. J. R. Griffith. Aero Digest 36:49+ My '40
Hints on seaplane operation. F. H. Smith. il Aero Digest 36:40-1+ My '40
How to fly a plane. H. P. Oldham. 221p $2.50 Waverly house, 156 Boylston st, Boston '40
I'll take the high road. W. E. Langewiesche-Brandt. 254p $2.50 Harcourt '39
Laying out a time sight. T. P. Conlon. Aero Digest 35:67-8 D '39
Let's fly; an A B C of flying. E. G. Vetter. 116p $1.50 Morrow '40
Practical air navigation and the use of aeronautical charts of the U.S. Coast and geodetic survey. T. C. Lyon. 199p bibliog(p195) U.S. Coast and geodetic survey, Washington '39
Practical flying in war and peace. A. H. Munday. 354p $3 Harper '40
Problems of time in navigation. T. P. Conlon. diags Aero Digest 36:48-9 Je '40
Simplified celestial navigation. P. V. H. Weems and E. A. Link, jr. 92p lea'tte $3 Weems system of navigation, Annapolis, Md. '40
Sky roads. E. K. Gann. 121p $2 Crowell '40
Timing the turn. J. R. Hoyt. il Aero Digest 37:46, 49 N '40
Win your wings; a practical and comprehensive advanced aviation training manual for the student, pilot, and instructor. R. Turner and J. H. Dubuque. bk 2 426p $3.50 Drake '40

See also
Aeronautics
Air lines
Aircraft
Airplanes

AVIATION—See also—*Continued*
Airports
Airships
Airways
Altitude, Influence of
Aviators
Flying boats
Gliders
Insurance, Aviation
Radio aids to aviation
Radio apparatus on aircraft
Seaplanes
Wind tunnels

Accidents

Air safety board accident analyses. Civil Aero J 1:78+, 159+ Mr 15, Ap 15 '40
Air safety board reports on 203 aircraft accidents. Civil Aero J 1:54+ F 15 '40
Air safety board reports show violations of civil air regulations major cause of fatal accidents. Civil Aero J 1:242+ Je 15 '40
Airplane fatalities decline. Spectator (Life ed) 145:22-3 O 10 '40
Bad weather flying accidents can be avoided. W. H. Beech. il Aero Digest 37:106, 108+ Jl '40
New safety records established in private flying for first six months of 1939. Civil Aero J 1:55-7 F 15 '40
Private flying accident and operations statistics for 1939. Civil Aero J 1:259-61 Jl 1 '40
Reckless disregard of common sense flying rules chief cause of fatal air accidents. Civil Aero J 1:402 Ag 15 '40
Safety board interprets its regulations on nondisturbance and preservation of wreckage. Air Commerce Bul 11:160 D '39
Safety bureau reports on individual accidents. Civil Aero J 1:435-6, 448-9 O 1-15 '40

See also
Air lines—Accidents
Civil aeronautics authority—Air safety board

Altitude flying

Altitude and the aircraft engine. E. F. Pierce. S A E J 47:421-31 O '40; Abstract. Automotive Ind 82:544-5 Je 15 '40
Boeing stratoliners for TWA. il Aero Digest 36:46-7+ Je '40
Cabin superchargers; sub-stratosphere flying. D. Gregg. il Aviation 39:46-7, 126 Ap '40
High altitude and its effect on the human body. W. M. Boothby, W. R. Lovelace, 2d and O. O. Benson. bibliog il diag J Aeronautical Sci 7:461-8, 524-30 S-O '40
Into the sub-stratosphere; description of the Boeing model 307. R. J. Minshall. il diags Aviation 39:46-9, 116, 119-20 My '40
Pan American airways' Boeing stratoliner; with supercharger for cabin. il Aero Digest 36:29-30 Ap '40
Toward safer flight; Civil aeronautics authority's technical development program; problems of substratosphere flight. Air Commerce Bul 11:157-8 D '39

Charts

Dealers in aeronautical charts of the Coast and geodetic survey; with list of charts. map Civil Aero J 1:44-7 F 1 '40

Bibliography

New aeronautical charts. Aero Digest 36:120 My '40

Clubs

Cub flying club plan. il Aero Digest 37:88, 90+ O '40

Flights

Great flights. E. C. Shepherd. 232p $2 Macmillan co. of Canada, 70 Bond st, Toronto, 2
Wings around the world. M. C. Driscoll. 50p 75c Pacific geographic soc, Los Angeles '39
Wings over the Americas. A. R. Hager. 162p $2.50 Macmillan '40

Instrument flying

Outwitting the wind; use of wind simulator in pilot training. J. D. Mountain. il diags Aviation 39:34-5+ Mr '40

Medical aspects

Airline research; United airlines. J. P. Au-Werter. il Aviation 39:110+ S '40
High altitude and its effect on the human body. W. M. Boothby, W. R. Lovelace, 2d and O. O. Benson. bibliog il diag J Aeronautical Sci 7:461-8, 524-30 S-O '40
Principles and practice of aviation medicine. H. G. Armstrong. 496p $6.50 Wood '39

Public health aspects

See also
Airplanes—Sanitation
Airplanes as carriers of insects

Safety devices and measures

Accessories and flying aids and their contribution to the safety of aviation; abstract. G. J. Hausamann. S A E J 46:sup61 F '40
Flight during lightning discharges; abstract. E. J. Minser. Sci Am 162:288 My '40
For a ripe old age, follow the flying rules. T. Hardin. il Aviation 39:42-3+ My '40
Looking forward; prolegomena for a detailed study of the future of British civil aviation. H. R. Cox. diags Roy Aeronautical Soc J 44:703-9 S '40; Same cond. Engineering 150:139 Ag 16 '40
Refuelling in flight; increase in range, earning capacity and safety in take-off. M. Langley. diags Engineer 169:358-9 Ap 12 '40
Safety in the operation of air transportation. J. Lederer. 69p 50c Cabot foundation, Norwich univ, Northfield, Vt. '39
Toward safer flight; Civil aeronautics authority's technical development program. diags Air Commerce Bul 11:155-9 D '39
Weather to fly or whether to wait. F. Smith. il map Aero Digest 37:51-2+ S '40

See also
Civil aeronautics board—Safety bureau

Transatlantic flights

Civil aviation; abstract. H. R. Cox. Science 92:sup10 Jl 5 '40
Problems in weather map analysis and forecasting in connection with trans-atlantic flying. H. C. Willett. J Aeronautical Sci 7:248-51 Ap '40
Trans-Atlantic air services. R. H. Mayo. Roy Aeronautical Soc J 43:884-908 N '39; Same cond. Engineering 148:541-2, 565-7, 594 N 10-24 '39
Transatlantic air transport with particular reference to flying boats. A. Gouge. bibliog diags map Inst Mech Eng J & Proc 142: Proc69-79 N '39; Excerpts. Mech Eng 61: 876-8 D '39; Discussion. Inst Mech Eng J & Proc 142:Proc83-5 D '39; Mech Eng 62: 477 Je '40
Trans-Atlantic weather station now in operation; radio station WSY. Civil Aero J 1:67 Mr 1 '40

See also
Air lines—Trans-oceanic lines

Winter flying

Prevention of carburetor icing, and other suggestions for flying light airplanes in cold weather. R. D. Hicks. diag Aero Digest 35:44+ D '39

AVIATION corporation
Annual report. Comm & Fin Chr 150:1926-7 Mr 23 '40
Listing; acquisition of Republic Aircraft. Comm & Fin Chr 151:1885-6 S 28 '40

AVIATION insurance. See Insurance, Aviation

AVIATION landing stations
Building bases for our air forces. il Eng N 125:544-55 O 24 '40
Size of an aircraft landing field. K. N. E. Bradfield. Engineer 170:230-1 O 11 '40
Status of landing facilities by states, Jan. 1, 1940; tabulation. Civil Aero J 1:22 Ja 15 '40
WPA report to nation lists extension of airports and airways. Civil Aero J 1:160 Ap 15 '40

See also
Airports

AVIATORS
For a ripe old age, follow the flying rules. T. Hardin. il Aviation 39:42-3+ My '40

AVIATORS—*Continued*
How to be an aviator. D. Merrill and G. Daws. 192p $2 Robert McBride & co, 116 E. 16th st, New York '39
Status of aircraft, gliders, pilots, and glider pilots, by states, as of Jan. 1, 1940; tabulation. Civil Aero J 1:21 Ja 15 '40
Status of aircraft, gliders, pilots, and glider pilots by states as of July 1, 1940; tabulation. Civil Aero J 1:391 Ag 1 '40
What makes an aviator? J. G. Levine. il Sci Am 163:79-80 Ag '40
Workmen's compensation act not applicable to pilots or other employees of air-transport company engaged in actual flying. Monthly Labor R 49:1140 N '39

Physical examination

Selection of military pilots. il diags Fortune 22:77-81+ S '40

Training

Air corps primary training at a civilian school. W. S. Beall. il diags Aero Digest 36:39-41 Ap '40
Army speeds up training in the Air corps. J. Fickel. il Aviation 39:40-1+ Ag '40
Authority offers refresher courses to civilian instructors. Civil Aero J 1:112-13 Ap 1 '40
British aces in the making; training the R.A.F. is one of Canada's war jobs. J. Montagnes. il Aviation 39:28-9+ Mr '40
CAA civilian pilot training program. Monthly Labor R 51:80-4 Jl '40
CAA's non-college training program. Aviation 39:62-3 Ja '40
Civilian pilot training program. Civil Aero J 1:3-4 Ja 1 '40
Civilian pilot training program. R. H. Hinckley. Civil Aero J 1:421-2 S 15 '40
Civilian pilot training program; statistical data. Civil Aero J 1:68 Mr 1 '40
Don't give up the ship! advice to Civilian pilot training students. il map Aviation 39: 36-7, 107+ My '40
Flight training at Pensacola. J. J. Ballentine. il Aero Digest 36:38-40 F '40
How to get CAA training. B. Stubblefield. il Aviation 39:58+ Ag '40
Keeping them aloft; maintenance under the CAA flight training program. L. E. Neville. il Aviation 39:42-3+ Ap '40
Opportunities for young men in the U.S. army Air corps. Aero Digest 37:47+ Ag '40
Outwitting the wind; use of wind simulator in pilot training. J. D. Mountain. il diags Aviation 39:34-5+ Mr '40
Pilot training research begun on unconventional craft. Civil Aero J 1:229-30 Je 1 '40
Plans announced for 45,000 new pilots; details for expanded Civilian pilot training program. R. H. Hinckley. Civil Aero J 1:241-2 Je 15 '40
Radio for solo instruction; Hobley-Maynard air service. il Aviation 38:74 D '39
Report on pilot training progress. R. H. Hinckley. Civil Aero J 1:389 Ag 1 '40
Training flying cadets at civilian schools; Ryan school of aeronautics. T. C. Ryan. il Aviation 39:53, 124+ O '40

Bibliography

Aeronautic training for national defense. P. Howard, comp. Booklist 37:101-9 pt2 N 1 '40

AVIATORS, Military
Naval aviators for naval aviation. G. D. Murray. il Aero Digest 36:44-5+ F '40
Selection of military pilots. il diags Fortune 22:77-81+ S '40
Training center at Hemet for Army air corps cadets; Ryan school of aeronautics. L. P. Hopwood. il Aero Digest 37:42-4+ N '40

AVOCADOS

Bibliography

Bibliography on the avocado (persea americana Miller). I. J. Condit. 293p Univ. of California, Citrus experiment station, Riverside '39

AVOGADRO number
Diffusion, Brownian movement, Loschmidt-Avogadro's number and light. F. Ehrenhaft. bibliog Phys R 57:1050 Je 1 '40
Tests for the validity of the X-ray crystal method for determining *N* and *e* with aluminum, silver and quartz. P. H. Miller, jr. and J. W. M. DuMond. bibliog Phys R 57:198-206 F 1 '40

AWNINGS
Management policies by industries; canvas goods manufacture. S. T. Jessop. il Bankers Mo 56:724-7+ D '39
Paints for awnings. M. H. Bouton. Oil Paint & Drug Rep 138:4+ N 11 '40
Shades and awnings cut cooling costs. il Sheet Metal Worker 31:94+ Ja '40

AXES
Pulpwood cutting. A. Koroleff. il Pulp & Pa of Can 41:453-6, 458+ Je '40

AXLES
Photoelasticity as applied to design problems. O. J. Horger and T. V. Buckwalter. bibliog il diags Iron Age 145:42-50 My 23 '40

See also
Automobiles—Axles
Bearings
Locomotives—Axles
Motor buses—Axles
also Timken-Detroit axle company

Manufacture

Clark's twenty acres of automotive manufacturing. J. Geschelin. il Automotive Ind 83:98-107+ Ag 1 '40
Production and inventory control; Timken-Detroit axle co. S. W. Warner. N A C A Bul 22:43-65 S 15 '40
Truck axle parts; heat-treating procedure. F. B. Jacobs. il Steel 107:114+ O 14 '40
Welded axle housings. J. W. Meadowcroft. il diag Steel 106:64, 66+ Ap 29 '40

AYDELOTTE, Frank
Honorary degrees conferred by New York university. Science 91:566 Je 14 '40

AYRES, William Augustus, 1867-
FTC in unofficial profile; sketch. S. Rippey. por Adv & Sell 33:22-3 F '40

AZEOTROPY
Analysis of mixtures of aliphatic acids; simultaneous qualitative and approximate quantitative determination; azeotropic distillation with benzene and toluene. S. T. Schicktanz, W. I. Steele and A. C. Blaisdell. bibliog Ind & Eng Chem Anal ed 12: 320-4 Je 15 '40
Azeotropic system alcohol-water-benzene. W. D. Bonner and M. B. Williams. J Phys Chem 44:404-8 Ap '40
Binary liquid systems; the azeotropic composition of carbon tetrachloride-ethyl acetate mixtures as a function of the pressure. P. W. Schutz and R. E. Mallonee. Am Chem Soc J 62:1491-2 Je '40

AZETIDINE
Azetidine derivatives; 2,4-diketo-3-hydroxy-3-arylazetidines. J. L. Riebsomer and others. bibliog Am Chem Soc J 61:3491-3 D '39

AZIDES
Magnetic studies of ferrihemoglobin reactions; equilibria and compounds with azide ion, ammonia, and ethanol. C. D. Coryell and F. Stitt. bibliog Am Chem Soc J 62: 2942-51 N '40

See also
Ethyl azide

AZIMUTH
Accurate azimuths from direct solar observations by special solar shield. C. H. Wall. il Civil Eng 10:363-4 Je '40
Azimuths of celestial bodies whose declinations range from 24 to 70 degrees for latitudes extending to 70 degrees from the equator. 7th ed 288p U.S. Hydrographic office, Washington; $1.50 Supt. of doc. '40
Computation of great circle azimuths and distances for air flights. D. L. Reaburn. Civil Eng 10:237-8 Ap '40

AZO compounds
Alkali colour reactions of azoic colours produced from members of the naphtol AS series. W. Bradley. bibliog Soc Dyers & Col J 56:296-302 Jl '40

AZO compounds—*Continued*
Alkanolamines; reducing and hydrolyzing action of the ethanolamines on the dichloronitrobenzenes. C. B. Kremer and A. Bendich. Am Chem Soc J 62:1279-81 My '40
Azo-group as a chelating group; the constitution of the arylazo-bis-oximes. M. Elkins and L. Hunter. Chem Soc J p653-5 My '40
Azoic dyes. J. A. Wallwork. bibliog Soc Dyers & Col J 55:477-80 O '39
Copper lakes of azo-dyes; some further types. W. F. Beech and H. D. K. Drew. Chem Soc J p608-12 My '40
Interesting use for abnormal coupling methods in producing fast shades on wool with azoic dyes. A. J. Hall. Am Dyestuff Rep 29:236-8 Ap 29 '40
Quadrivalent vanadium lakes of azo-dyes. H. D. K. Drew and F. G. Dunton. Chem Soc J p1064-70 Ag '40
Quantitative hydrogenation of substituted azo compounds with Raney nickel at normal temperature and pressure. W. F. Whitmore and A. J. Revukas. Am Chem Soc J 62: 1687-93 Jl '40
Reduction of 2-naphthol-azoxylene. W. Seaman, A. R. Norton and J. Hugonet. Ind & Eng Chem Anal ed 12:464-5 Ag 15 '40
Structure of the aluminium lakes of some azo-dyes and of alizarin. W. F. Beech and H. D. K. Drew. Chem Soc J p603-7 My '40
Studies on inner complexes; ortho-hydroxy azo dye inner complexes. H. M. Haendler and G. M. Smith. bibliog Am Chem Soc J 62:1669-72 Jl '40

AZODICARBONATES
Catalytic decomposition of azodicarbonate ion. C. V. King. bibliog Am Chem Soc J 62: 379-85 F '40

AZORES
Business situation, 1939. Comm Rep p203+ Mr 2 '40

B

BABBITT metal
Babbitt gets second wind after 100 years in bearings. K. K. Karpinski. Nat Pet N 32:R296 Ag 7 '40
Bermax, a high-lead babbitt with improved properties. Mach 47:150 S '40
Bermax babbitt for rod bearings. Automotive Ind 82:74 Ja 15 '40
Powdered metal compact bonds babbitt to steel back. R. P. Koehring. il Metal Prog 38:173-6+ Ag '40

BABBITTING
Babbitt ring poured in hub reclaims car wheels. il Coal Age 45:64+ Ag '40
See also
Bearings

BABCOCK and Wilcox company
Stocks favored in new market phase; thumbnail appraisal. Mag of Wall St 66:109 My 4 '40

BABOON boy. See Children, Wild

BABSON, Roger Ward, 1875-
Accepts presidential nomination of New prohibition party. Comm & Fin Chr 150:2986 My 11 '40

BACILLUS coli
Calculating most probable numbers in coli-aerogenes analyses. R. Pomeroy. bibliog Am Water Works Assn J 32:478-86 Mr '40
Induced slow lactose fermentation in escherichia coli. M. E. Caldwell. Am Water Works Assn J 32:659-60 Ap '40
Study of procedures for detection of coliform organisms in Minnesota drinking water. D. M. Taylor. Am Water Works Assn J 32: 98-104 Ja '40

BACK
Back up; causes of back injuries. W. E. Strong. il Safety Eng 79:19-20+ F '40
Lame backs and back injuries. J. B. MacLaren. Nat Safety N 40:34, 36+ D '39

BACON, Francis H. 1857-1940
Francis H. Bacon; an appreciation. C. Bragdon. Arch Forum 72:189-90 Mr '40

BACON, Roger
Roger Bacon was mistaken; statement that hot water would freeze more quickly than cold water. J. O. Thompson. Science 91: 315 Mr 29 '40; Discussion. 91:384-5, 503-4 Ap 19, My 24 '40

BACON
Canadian Wiltshire bacon; effect of heat treatment on nitrite content; abstract. W. H. White, W. H. Cook and C. A. Winkler. Food Ind 12:101 O '40
Function of nitrate, nitrite, and bacteria in the curing of bacon and hams. Chem & Ind 59:274 Ap 20 '40
War conditions as technical and economic factors in canning and bacon industry; function of canning laboratory of National research council. W. H. Cook and E. J. Reedman. Can Chem & Process Ind 24:288-9 Je '40

BACTERIA
Attempt to patent bacteria fails. A. I. Kegan. Ind & Eng Chem News ed 18:852 O 10 '40
Bacteria destroys new wool cloths. Textile Col 62:13 Ja '40
Bacteria in soaking bath found to affect tinting. A. J. Kellner. Textile Col 62:266 Ap '40
Earlier phases of the bacterial culture cycle; abstract. C. E. A. Winslow and H. H. Walker. Am Water Works Assn J 32:692-3 Ap '40
Effect of aeration on fermentations; acetic acid bacteria and yeasts. K. R. Butlin and W. H. D. Wince. Chem & Ind 59:41-2 Ja 20 '40
Effect of hydrogen-ion concentration on the growth of hydrogen and carbon monoxide bacteria. G. W. Jones and G. S. Scott. U S Bur Mines Information Circ 7133:1-5 '40
Formation of acetol from αβ-propylene glycol. K. R. Butlin and W. H. D. Wince. Soc Chem Ind J 58:365-6 D '39
Inhibition of sulphate-reducing bacteria by dyestuffs. T. H. Rogers. Soc Chem Ind J 59:34-9 F '40
Microbiological anaerobic corrosion. H. J. Bunker. Chem & Ind 59:412-14 Je 15 '40
Microbiology and corrosion; discussion of papers by H. J. Bunker and T. H. Rogers. Chem & Ind 59:257-8 Ap 13 '40
Physicochemical aspects of bacterial growth; conditions determining stationary populations and growth rates of bact. lactis aerogenes in synthetic media. R. M. Lodge and C. N. Hinshelwood. Chem Soc J p1683-92 N '39
Physicochemical aspects of bacterial growth; influence of magnesium on the lag phase in the growth of bact. lactis aerogenes in synthetic media containing phosphate. R. M. Lodge and C. N. Hinshelwood. Chem Soc J p1692-7 N '39
Pipe-line corrosion caused by anaerobic bacteria. P. Ganser. il Gas Age 86:25-8+ Jl 18 '40; Same. Gas J (Lond) 231:371-3 Ag 28 '40
Polysaccharides; the constitution of certain levans formed by bacterial action. R. R. Lyne, S. Peat and M. Stacey. Chem Soc J p237-41 F '40
Stability of bacteria in relation to pH. J. G. Baumgartner and G. G. Knock. Soc Chem Ind J 59:53-6 Mr '40
Utilization of l-glucose by mammalian tissues and bacteria. H. Rudney. Science 92: 112-13 Ag 2 '40
Zur isolierung von bakteriendehydrasen. W. Franke and B. Banerjee. bibliog Angew Chemie 53:162-3 Ap 13 '40
See also
Air—Bacteriology
Bacteriology
Fermentation
Paper making—Bacteria control
Water—Bacteriology

Counting
See Bacteriology—Technique

BACTERIA, Nitrifying
Die assimilation atmosphärischen stickstoffs durch bodenbakterien. R. Hüttel. bibliog Angew Chemie 53:141-4 Mr 30 '40

BACTERIA, Pathogenic
Agent, isolated from a soil bacillus, which inhibits encapsulation of Friedländer's bacterium and is highly bactericidal for gram-positive microörganisms. J. C. Hoogerheide. Franklin Inst J 229:677-80 My '40
Bacteriostatic action of sulfanilamide under anaerobic conditions. R. H. Broh-Kahn. bibliog Science 90:543-4 D 8 '39
Further studies on the bactericidal agents obtained from soil bacilli. E. McDonald. il Franklin Inst J 229:805-15 Je '40
Germ-killing crystals from soil bacilli. Science 91:sup10 Ja 5 '40
Present status and problems of bacterial chemotherapy. E. K. Marshall, jr. Science 91:345-50 Ap 12 '40
Studies on capsule formation; inhibition of capsule formation of Klebsiella pneumoniæ (Friedländer's bacterium) by an agent produced by a soil bacillus; abstract. J. C. Hoogerheide. Franklin Inst J 230:671-2 N '40
Studies on capsule formation; the conditions under which Klebsiella pneumoniae (Friedländer's bacterium) forms capsules. J. C. Hoogerheide. il Franklin Inst J 228:812-14 D '39
Studies on capsule formation; the influence of electrolytes on capsule formation by Klebsiella pneumoniæ; abstract. J. C. Hoogerheide. Franklin Inst J 230:269-70 Ag '40

See also
Bacillus coli
Clostridium histolyticum
Immunity
Infectious diseases
Pneumococci
Spirochetes
Streptococci

BACTERIOLOGY
Applied microbiology and immunology for nurses. C. F. Bolduan and N. W. Bolduan. 8th ed rev 280p $2.25 Saunders '40
Bacteriostatic action of sulfanilamide under anaerobic conditions. R. H. Broh-Kahn. bibliog Science 90:543-4 D 8 '39; Reply. C. L. Fox, jr. Science 91:477-8 My 17 '40
Clinical bacteriology. F. A. Knott. 426p $4.50 Blakiston '39
Elementary bacteriology. J. E. Greaves and E. O. Greaves. 4th ed rev 587p $3.50 Saunders '40
Fundamentals of bacteriology. M. Frobisher, jr. 2d ed rev 653p bibliog(p625-30) $4 Saunders '40
General bacteriology. D. B. Swingle. 313p $3 Van Nostrand '40
Germ-free surroundings for infants. Science 90:sup10+ N 24 '39
Microbiology and pathology. C. F. Carter. 2d ed 755p $3.25 C. V. Mosby co, St Louis '39
Microbiology applied to nursing; a combined text book and laboratory guide. J. Broadhurst and L. I. Given. 4th ed rev 653p bibliog(p611-13) $3 Lippincott '39
Textbook of microbiology; 2d ed. of A textbook of bacteriology. K. L. Burdon. 638p bibliog(p605-11) $2.75 Macmillan '39

See also
Air—Bacteriology
Antigens and antibodies
Bacteria
Disinfection and disinfectants
Fermentation
Milk—Bacteriology
Sewage—Bacteriology
Viruses
Water—Bacteriology

Culture mediums
Biotin (bios IIs, vitamin H), an essential growth factor for certain staphylococci. J. R. Porter and M. J. Pelczar, jr. Science 91: 576-7 Je 14 '40
Comparative studies of lactose-broth and brilliant-green-bile, at Cambridge, Mass. F. E. Smith. N E Water Works Assn J 54:16-24 Mr '40; Abstract. Water Works & Sewerage 87:25-6 Ja '40
Effect of nicotinamide on respiration of dysentery bacilli. A. Dorfman, S. A. Koser and F. Saunders. Science 90:544-5 D 8 '39
Manual of dehydrated culture media and reagents. 6th rev ed 215p pa gratis Difco laboratories, Detroit '39
Mass production of vaccine against typhus fever of the European type. H. Zinsser, H. Plotz and J. F. Enders. bibliog Science 91: 51-2 Ja 12 '40
Physicochemical aspects of bacterial growth; conditions determining stationary populations and growth rates of bact. lactis aerogenes in synthetic media. R. M. Lodge and C. N. Hinshelwood. Chem Soc J p1683-92 N '39
Physicochemical aspects of bacterial growth; influence of magnesium on the lag phase in the growth of bact. lactis aerogenes in synthetic media containing phosphate. R. M. Lodge and C. N. Hinshelwood. Chem Soc J p1692-7 N '39
Studies on the toxins and antitoxins of clostridium perfringens. S. E. Stewart. Pub Health Rep 55:753-75 bibliog(53 titles, p773-5) My 3 '40
Study of procedures for detection of coliform organisms in Minnesota drinking water. D. M. Taylor. Am Water Works Assn J 32:98-104 Ja '40
Use of chick embryo cultures of influenza virus in complement fixation tests. C. Nigg, J. H. Crowley and D. E. Wilson. bibliog Science 91:603-4 Je 21 '40
Use of sodium thioglycolate in culturing large volumes of anaerobic bacteria. L. S. McClung. Science 92:340 O 11 '40
Vitamin B_6 as an accessory growth factor for staphylococcus albus. S. P. Vilter and T. D. Spies. Science 91:200-1 F 23 '40

History
Bacteriology. W. W. Ford. 207p bibliog(p163-95) $2.50 P. B. Hoeber, New York '39
First forty years of the Society of American bacteriologists. C. E. A. Winslow. Science 91:125-9 F 9 '40

Laboratory methods
Concerning pure cultures of spirillum. I. M. Lewis. bibliog Science 92:106-7 Ag 2 '40
Convenient apparatus for the manipulation of eggs in the study of the chorio-allantoic membrane. R. E. Hoffstadt and D. Omundson. diag Science 91:459-60 My 10 '40
Induced slow lactose fermentation in escherichia coli. M. E. Caldwell. Am Water Works Assn J 32:659-60 Ap '40

Technique
Calculating most probable numbers in coli-aerogenes analyses. R. Pomeroy. bibliog Am Water Works Assn J 32:478-86 Mr '40
Evaluation of the errors involved in estimating bacterial numbers by the plating method; abstract. M. W. Jennison and G. P. Wadsworth. Food Ind 12:88 Ag '40
Simplified inoculation procedure. T. L. Black and A. Arnold. diag Ind & Eng Chem Anal ed 12:341 Je 15 '40
Technique for the intravenous inoculation of chick embryos. E. A. Eichhorn. diag Science 92:245-6 S 13 '40

BACTERIOPHAGE
Glycine, an essential factor for the growth of bacteriophage. E. L. Ellis and J. Spizizen. Science 92:91 Jl 26 '40

BACTERIUM lactis aerogenes
Physicochemical aspects of bacterial growth; conditions determining stationary populations and growth rates of bact. lactis aerogenes in synthetic media. R. M. Lodge and C. N. Hinshelwood. Chem Soc J p1683-92 N '39
Physicochemical aspects of bacterial growth; influence of magnesium on the lag phase in the growth of bact. lactis aerogenes in synthetic media containing phosphate. R. M. Lodge and C. N. Hinshelwood. Chem Soc J p1692-7 N '39

BAD debt deductions. See Income tax—Bad debt deductions

BAECKEOL
Structure and synthesis of bæckeol. G. R. Ramage and W. J. I. Stowe. Chem Soc J p425-6 Ap '40

BAECKEOL—*Continued*
Synthesis of baeckeol. B. A. Hems and A. R. Todd. Chem Soc J p1208 Ag '40

BAEKELAND, Leo Hendrik, 1863-
Career of a research chemist. Franklin Inst J 230:159-61 Ag '40
Portrait. Iron Age 145:78 F 29 '40; Steel 106: 22 Mr 4 '40
Presentation of the Franklin medal. Franklin Inst J 230:259-61 Ag '40

BAG closing machines
Bag closers aid trend to use of bags for packaging. il Chem Ind 46:184+ F '40
Bagpak's improved bag closing equipment. il Chem Ind 47:277 S '40

BAG filling machines
Simple equipment for filling valve bags. R. W. Lahey. il diag Chem Ind 46:460 Ap '40

BAGASSE
Aniline-bagasse plastics. T. R. McElhinney and S. I. Aronovsky. Mod Plastics 17:59-61, 88+ Je '40

See also
Celotex

BAGS
Bag closers aid trend to use of bags for packaging. il Chem Ind 46:184+ F '40
Heat sterilization in bags creates technologic problems. Food Ind 12:31-2 Ja '40

See also
Cement bags
Paper bags

BAHAMA islands

Commerce

Tomatoes, hides, fibers. For Comm W 1:240-1 N 9 '40

BAHIA BLANCA, Argentina
Port district of Bahia Blanca. il(cover) Comm Rep p537 Je 15 '40

BAIL
Antiquities of bail; origin and historical development in criminal cases to the year 1275. E. de Haas. 174p bibliog(p149-65) $2.25 Columbia univ. press '40

BAILEY, W. H., and company
Sir W. H. Bailey & co, ltd. Chem & Ind 59:557-8 Ag 3 '40

BAILMENTS
When a contractor loses customer's goods. C. R. Rosenberg, jr. Heat & Ven 37:24 F '40

BAIN, James, limited, booksellers, London
Bookseller looks back; the story of the Bains. J. S. Bain. 304p bibliog(p295) $5 Macmillan (Toronto) '40

BAIRD, Douglas Heriot, 1883-1940
Sketch. Chem Soc J p562-3 Ap '40
Sketch. M. W. Travers. Chem & Ind 59:47-8 Ja 20 '40

BAKELITE
Dermatitis and plastics; protective methods of the Bakelite corporation. A. H. Oak. Chem Age (Lond) 43:35 Jl 20 '40
Infra-red lamps replace heaters for warming bakelite preparatory to punching. il Elec W 113:1242 Ap 20 '40
Mixture of bakelite and metal powder for mounting micro specimens. N. J. Finsterwalder. il Metal Prog 38:294-5 S '40
Oven warms bakelite before stamping. E. Sandstrom. il Elec W 112:1762 D 16 '39
Powdered metal and bakelite bearings. M. Melhuish. Engineer 170:240-1 O 11 '40
Refrigeration efficiency; molded phenolic non-warping door frames and rails aid in insulating cold storage display cases. il Mod Plastics 18:44-5+ S '40

BAKER, Sir Benjamin, 1840-1907
Centenary. Engineering 149:338 Mr 29 '40

BAKERS and bakeries
Attractive trucks build business; George E. Drake baking company, Pittsburgh. il diags Food Ind 11:682-3 D '39
Cuts oven-to-table time with fast, light trucks; house-to-house baker also has effective preventive-maintenance system. il Food Ind 12:58-9 N '40
Eighty bakers gain strength through co-operation. H. W. Dickinson. il Ptr Ink Mo 40:44+ Mr '40
How to boost bakery sales; bakery advertising, merchandising, salesmanship, and the bakery customer. M. S. Ross. 191p $1 Bakers' helper co, 330 S. Wells st, Chicago '40
Puts 200 stores on wheels; Davis standard bread co., Los Angeles. il Food Ind 12:60-1 Ag '40
Retarded doughs and refrigeration. Refrig Eng 39:124 F '40
Salerno, the baker who laughed at depression. J. K. Westerfield. il Am Business 10:12-14+ O; 17-19+ N '40
Science fights history in the bakery. A. A. Maddy. Chem & Ind 59:572-5 Ag 10 '40

See also
Biscuits
Bread
Cake

Accounting

Some applications of duplicating methods in the preparation of payroll records. R. R. Haskell and R. H. Robnett. N A C A Bul 21:1409, 1411-16 Jl 15 '40

Advertising

Bakery promotion for Dionne quintuplet bread offered to independent bakers by the Bakers research bureau. il Ptr Ink 189:19-20 D 29 '39
Today's promotion of branded bread. A. T. Joyce. il Adv & Sell 33:30-2, 46 S '40

Electric equipment

Electricity in cake making. il Elec R (Lond) 126:637 Je 14 '40

Employees

Special truck for bakery star salesmen awarded to one salesman each week. il Am Business 10:47 Ag '40
Wages, hours, and working conditions in union bakeries, June 1, 1939. F. S. McElroy. Monthly Labor R 50:195-209 Ja '40; Same, with analytical tables. U S Bur Labor Statistics Bul 673:1-39 '40

Equipment

Cooling for high speed bread mixing. E. B. Derr. il diag Refrig Eng 39:375-6 Je '40

Finance

Baking companies face trying year. Barron's 19:1 D 25 '39
National biscuit company; sales and earnings. S. Devlin. il Mag of Wall St 66:630-1 S 7 '40
Where do the baking companies stand today? H. F. Travis. il Mag of Wall St 66:360-1+ Je 29 '40

Safety devices and measures

Specific accident hazards. Safety Eng 79:22 Ap '40

Great Britain

Aerated bread company 86th annual general meeting, London. Economist 137:484 D 23 '39

BAKING
Cake baking flow sheet. Food Ind 12:53 Ap '40
Science fights history in the bakery; abstract. A. A. Maddy. Chem & Ind 59:236 Ap 6 '40

See also
Bakers and bakeries
Biscuits
Bread
Cake
Cookies
Dough
Flour
Leavening agents
Yeasts

BAKU nut oil
Fatty acids and glycerides of solid seed fats; mimusops heckelli (baku) kernel fat. D. Atherton and M. L. Meara. Soc Chem Ind J 59:95-6 My '40

BALANCE of payments
America in world finance; American and British balances of payments compared. Economist 137:468-9 D 23 '39

BALANCE of payments—*Continued*
America's international accounts. A. E. Taylor. Ann Am Acad 211:9-17 S '40
Balance of international payments of the United States, 1938-1939; preliminary summary. Fed Res Bul 26:207 Mr '40
Balance of international payments of the United States in 1939. Comm & Fin Chr 150:1692 Mr 16 '40
Balances of payments, 1938. 148p pa $1.25 Columbia univ. press '39
Canada's ability to service U.S. debts; unfavorable balance of trade necessitates sharp curtailment of non-essential imports. L. Jack. Barron's 20:19 Ag 19 '40
Foreign resources of the belligerents; holdings in the United States. Fed Res Bul 25:1041-3 D '39; Same. Comm & Fin Chr 149:3948-9 D 23 '39
Freezing hot money. H. M. Tremaine. il Mag of Wall St 66:511-13+ Ag 10 '40
Germany's clearing debts. Economist 137:512-13 D 30 '39
International trade and finance, 1939. Survey of Cur Business 20:45-52 F '40
Latin America faces unfavorable trade balance of $125,000,000 in 1940. Iron Age 146:54 S 26 '40
Net capital movement continues towards United States in spite of large reduction in British balances. Comm & Fin Chr 151:629 Ag 3 '40

See also
Commerce

BALANCE of power
War, peace, and the balance of power. F. L. Schuman. Ann Am Acad 210:73-81 Jl '40

BALANCE sheets
Accountancy of tomorrow. C. B. Couchman. Edison Elec Inst Bul 7:552-3 N '39
Balance sheet accounts and the public interest. M. J. Miley. Edison Elec Inst Bul 7: 598-600 D '39
Delusions about balance sheet surplus. E. Caldwell. Am Business 10:15-17 O '40
Discount and reserves on balance-sheet of finance company. J Account 69:212-13 Mr '40
How to read a balance sheet. R. A. Bastian. Nat Underw 44:24 O 31 '40
Statistical survey of balance sheets; Talon, inc., makers of slide fasteners, makes study in men's clothing industry. Credit & Fin Management 42:10-11+ N '40
Surplus on balance-sheet of insurance company. J Account 70:460 N '40
Valuation or historical cost; some recent developments. G. O. May. J Account 69: 14-21 Ja '40; Same abr. Dun's R 48:17-20+ My '40
What is a balance-sheet? W. H. Whitney. J Account 70:293-308 O '40

See also
Consolidated statements — Financial statements

BALANCER sets
Distribution in factories; single-winding static apparatus on four-wire systems. A. L. Morris. diags Elec R (Lond) 127:129 Ag 16 '40

BALANCES
Apparatus for rapid weighing in grains. A. W. Bayes. diags Textile Inst J 31:P84-5 Ag '40
Determination of the center of gravity of the beam of a chemical balance. H. V. Moyer. J Chem Educ 17:540 N '40
Differential temperature error in weighing. E. Blade. il Ind & Eng Chem Anal ed 12: 330-1 Je 15 '40
Filament-bearing balance. J. De Ment. J Chem Educ 17:437 S '40
Griffin and Tatlock automatic lever balance. il Engineer 170:32 Jl 12 '40
New Sartorius-Ramberg micro-balance. J. Kuck and E. Loewenstein. bibliog il diag J Chem Educ 17:171-6 Ap '40
Oertling aperiodic prismatic-reflecting balance. il Chem Age (Lond) 42:334 Je 22 '40
Sensitive student balance. C. C. Kiplinger. il J Chem Educ 17:227-8 My '40
Some famous balances. R. E. Oesper. bibliog il J Chem Educ 17:312-23 Jl '40

BALANCING machines
Balance becomes electric; balancing machine for tractor crankshafts; International harvester co. il Am Mach 84:87 F 21 '40
Balancing high-speed rotating parts; Gisholt dynetric balancing machines. il Ry Mech Eng 114:158-60 Ap '40

BALANCING of machinery
Buick balances assembled engine. il Iron Age 144:35 N 30 '39
General Electric portable dynamic balancing equipment. il Mach 46:290 D '39; Marine Eng 44:568 D '39; Elec W 113:768 Mr 9 '40; Gen Elec R 43:142 Mr '40
Making ring-weights for balancing radial aircraft engine crankshafts. W. I. Senger. il diags Mach 47:130-4 O '40
Mechanics applied to vibrations and balancing. D. L. Thornton. 529p $7.50 Wiley '40
Merrill laboratories design electronic wheel balancer. il Automotive Ind 82:416 My 1 '40
Methods of balancing. K. R. Hopkirk. Engineer 170:38-9, 55-6, 72-3 Jl 19-Ag 2 '40
Southern Pacific's method for semi-cross-balancing. M. P. Taylor. diags Ry Mech Eng 114:389-90 O '40
Vector analysis and locomotive counterbalancing. L. H. Fry. diags Engineer 169: 518-19 Je 7 '40

BALDWIN locomotive works
Baldwin locomotive works. il Fortune 20: 52-7+ D '39
Baldwin locomotive's stake in rearmament. S. Altschul. Barron's 20:13 Jl 15 '40
Consolidated income account for calendar years 1936-39. Comm & Fin Chr 150:1129 F 17 '40
S. M. Vauclain passes at 83. Ry Age 108: 282-3 F 10 '40
Speculative stake in armaments, rail equipment and machinery. R. Carleson. il Mag of Wall St 65:476-8 Ja 27 '40

BALI
In the wake of a traveling engineer; Bali, East Indies paradise. J. C. Cosgrove. il map Explosives Eng 18:148-53+ My '40

BALING presses
H-P-M baling press operates hydraulically. il Am Mach 83:1012 N 29 '39

BALKAN states
Balkan union; a road to peace in southeastern Europe. T. I. Geshkoff. 345p bibliog(p313-25) $3 Columbia univ. press '40
Economic war in the Balkans; the political background. Economist 138:678-9 Ap 13 '40
Imperial conflicts in the Balkans; Germany and Russia. R. Strausz-Hupé. map Barron's 20:3 Jl 15 '40
What will Russia do in Balkans? economic importance of Ukraine. map Business Week p55-6+ D 16 '39
Who will control the Balkans? R. Strausz-Hupé. map Barron's 19:20 D 11 '39

Commerce
Germany and the Balkans. Economist 138: 507-9 Mr 23 '40; Correction. 138:681 Ap 13 '40

BALL, E. Bruce, 1873-
Sketch. Mech Eng 62:611 Ag '40

BALL, Eric G. 1904-
Eli Lilly and company award. por Ind & Eng Chem News ed 18:239 Mr 25 '40; Oil Paint & Drug Rep 137:5 Mr 25 '40

BALL bearings
Fafnir new bearing design features improved mechanical seal. il Steel 106:59 F 5 '40; Automotive Ind 82:74 Ja 15 '40
Fatigue cracks; reducing failure risks on ball bearing shafts. A. Thum and E. Bruder. diag Automobile Eng 30:64 F '40
For super-speed service; laminated phenolic provides accuracy, strength and better lubrication for heavy-duty ball bearing retainers. il Mod Plastics 17:36-7+ Jl '40
McGill ball bearing of maximum capacity. il Rv Age 108:1128 Je 22 '40
Mechanical construction safeguards ball bearings; Fafnir bearings. diags Rayon 21:120 F '40

BALL bearings—*Continued*
New Departure ball-bearing oil circulating system. diag Mach 46:164 Je '40
Reclaiming bearing balls; spark test for tungsten steel. Automobile Eng 30:14 Ja '40
Split ball and roller bearings. il diag Automobile Eng 30:72 Mr '40

Advertising
Continuous contact with 5,000 prospects; The Hoover sphere. F. A. Lennox. il Ptr Ink Mo 40:14-15 F '40

Manufacture
Today's ball-bearing metallurgy. C. T. Hewitt. il Steel 107:38-9+ Jl 22 '40

BALL mills
Deleterious coatings of the media in dry ball milling; abstract. F. C. Bond and F. T. Agthe. Rock Prod 43:47-8 Mr '40
Development of a centrifugal ball mill. W. F. Carey, E. W. Robey and H. Heywood. diags Engineering 149:378-9 Ap 12 '40
Getting the best production from a ball or pebble mill. O. F. Redd. Am Cer Soc Bul 19:253-5 Jl '40
Grinding balls take to the airways; copper molybdenum forged alloy steel balls help solve high-cost air transportation problem of La Luz mines, ltd. F. A. McCoy. il Min Cong J 26:34-5 Ag '40
How to improve grinding. C. D. Rugen, J. A. Kivert and R. E. Boehler. il Rock Prod 43:35-7 My '40
Micarta as a bearing material to carry heavy loads in ball mills. Mach 46:250 D '39
Stone dust grinding plant. plan Mech Handling 27:20-1 Ja '40
Wear and distribution of grinding balls; abstract. F. C. Bond. Rock Prod 43:47 Mr '40

See also
Pulverizers
Tube mills

BALLISTICS

See also
Bombs, Aerial

BALLOON fabrics
Gas-proof fabric; application of mixtures of rubber latex and viscose. J. Warwicke. Textile Col 62:454+ Jl '40

Testing
Fabric-porosity testing apparatus. il Engineering 148:634 D 8 '39

BALLOONS
Cosmic-ray observations in the stratosphere with high-speed counters. L. F. Curtiss and others. pls diags J Research Nat Bur Stand 23:585-95 N '39

BALLOONS, Dirigible. See Airships

BALLOONS, Meteorological
Improvement in radio-sounding balloons; a short cycle radiosonde. J. Piccard and H. Larsen. diags R Sci Instr 10:352-5 N '39
Upper-air weather soundings by radio. H. Diamond and others. il diag Elec Eng 59: Trans 321-8 Je '40

BALLOONS, Military
Crew of ten handles a London barrage balloon; illustrations. Sci Am 163:8 Jl '40
Mathematics of the balloon barrage. diags Engineer 169:549-51 Je 21 '40

BALLS, Steel
Grinding balls take to the airways; copper molybdenum forged alloy steel balls help solve high-cost air transportation problem of La Luz mines, ltd. F. A. McCoy. il Min Cong J 26:34-5 Ag '40
Some experiments on seizure between lubricated hard steel balls. D. Clayton. bibliog diags Inst Pet J 26:256-71 My '40

Manufacture
Inspectors on piece rates up quality, output, and earnings; Hoover ball & bearing co, Ann Arbor, Mich. D. W. Saxton. il Factory Management 98:50-1 F '40

BALSAM fir
Balsam fir butt rot in relation to some site factors. C. Heimburger and A. W. McCallum. Pulp & Pa of Can 41:301-3 Mr '40
Density and rate of growth in the spruces and balsam fir of eastern Canada. J. D. Hale and J. B. Prince. (Dominion forest service bul. 94) 43p Canada. Dept. of mines and resources, Ottawa '40
Heart bluestain of white spruce and balsam fir. I. H. Crowell. il Pulp & Pa of Can 41: 451-2 Je '40

BALTIC states
Executive order and regulations on transfers of property of Latvia, Estonia and Lithuania. Fed Res Bul 26:773-4 Ag '40
New Soviet republics; Estonia, Latvia and Lithuania. Economist 139:122-3 Jl 27 '40
Russia's Baltic policy. Economist 138:1074 Je 22 '40

See also
Labor and laboring classes—Baltic states

BALTIMORE, Maryland

Industries
Second industrial survey of Baltimore; a quarter century of progress in the city of industrial advantages, 1914-1939. 132p Consolidated gas electric light and power company of Baltimore, Baltimore '39

Museum of art
Baltimore museum of art. il Am Cer Soc Bul 19:416-17 O '40
Chinese ceramics at the Baltimore museum of art. E. S. King. il Am Cer Soc Bul 19: 265-7 Jl '40

Rapid transit
Baltimore transit still banks on the trolley. E. G. Maxwell. Pub Util 26:425-8 S 26 '40
Baltimore's new equipment. il Mass Transportation 35:363 D '39
Old city, new tempo; Baltimore transit company. il Transit J 84:194-7 Je '40

Sewerage
Results from high rate trickling filters; abstract and discussion. C. E. Keefer and H. Kratz, jr. Water Works & Sewerage 87: 277-8 Je '40

Water supply
Baltimore's new aqueduct; dynamite's part in the construction of the new Gunpowder falls-Montebello filters water tunnel; with photographs by G. W. Schudel. diags plan Explosives Eng 17:356-68 D '39
Baltimore's new water tunnel. L. Small. il diags Eng N 125:346-50 S 12 '40
Building Baltimore's big tunnel. J. J. Hunt and B. L. Werner. il diags plan Eng N 125:466-70 O 10 '40

BALTIMORE and Ohio railroad
Annual report. Comm & Fin Chr 150:2712 Ap 27 '40; Excerpts. Ry Age 108:764 Ap 27 '40
Contingent interest; secured payments mandatory next year if 1940 earnings match 1939. A. Jansen. Barron's 20:19 Mr 4 '40
Listing. Comm & Fin Chr 150:1927 Mr 23 '40

BALTIMORE stock exchange
Weekly record. Published in weekly numbers of Commercial & financial chronicle

BAMBOO
Simple beam antenna; use of bamboo. N. S. Lefors. il diag Radio N 24:27+ N '40

BANANAS
Air conditioning as applied to foods and industry. H. B. Matzen. il Refrig Eng 40:297-8 N '40
Constitution of banana starch. E. G. E. Hawkins, J. K. N. Jones and G. T. Young. Chem Soc J p390-4 Ap '40
Mobile's modern fruit house. il Manuf Rec 109:29 S '40
Story of the banana. 42p pa 5c Pan American union, Washington, D.C. '39
Unifruco: banana merchants. C. M. Wilson. il Adv & Sell 33:28-30, 50, 54 Ja '40

BANANAS—*Continued*

Diseases and pests

Green dragon of the tropics; banana fungus, cercospora musae zimm, called sigatoka. C. M. Wilson. il Sci Am 162:199-202 Ap '40

BAND instruments. See Wind instruments

BAND shells. See Orchestra shells

BAND spectra. See Spectrum—Band spectra

BANK accounting

Bank accounting practice. L. H. Langston. rev ed 538p $5 Ronald press '40

Bank operations and the wage-hour problem; elimination of overtime costs by revising operating methods. L. K. Curry. Bankers M 141:302-4 O '40

Bank's modern tools. E. S. Woolley. Banking 32:19-20 N '39; 29-30 Ja; 38-9 Ap '40

Bookkeeping; simplified forms save time and money. il Banking 32:49-53 Je '40

Buying that means economy; equipment outlay can insure long-run saving. E. S. Woolley. Banking 33:71-2 O '40

Determining interest rates. S. M. Foster. Bankers M 140:210-14 Mr '40

Fewer mistakes when ledger sheets are grouped. C. W. Fishbaugh. Bankers Mo 57: 57-8 Ja '40

Float; average methods cannot be successfully used when analyzing accounts on any basis. Banking 32:78+ My '40

General ledger forms. il Banking 32:49-51 F '40

Installment loan ledgers posted and filed quickly. W. D. Yealland. il Bankers Mo 57: 454-5+ Ag '40

Internal bank management controls; control of bonds and securities. H. N. Stronck. Bankers Mo 57:344-6 Je '40

Internal bank management controls; departmental income and expense. H. N. Stronck. Bankers Mo 57:458-60 Ag '40

Internal bank management controls; operating controller. H. N. Stronck. il Bankers Mo 57:560-2 O '40

Internal bank management controls; production controls. H. N. Stronck. il Bankers Mo 57:506-8 S '40

Is accrual accounting practical for a small bank with assets of $2,500,000 or less? Banking 32:76 Je '40

Loose-leaf book keeps directors informed. G. Cormack. il Bankers Mo 57:259-61 My '40

Modernization reduces hours; new machines and systems spread the work over 36 hours per week. R. R. Eldred. il Bankers Mo 57: 12-15 Ja '40

New routine and control simplifies proving. V. Emmons. il Bankers Mo 57:600-1+ N '40

Present day trends in account analysis. G. Balkam. Bankers Mo 56:712-13+ D '39

Proof and transit; simplified forms. Banking 32:49-52 My '40

Simplified forms; account analysis. il Banking 33:49-51 Jl '40

Split rate vs. flat rate on savings. I. Bussing. Bankers M 140:28-31 Ja '40

System for consumer credit. E. S. Woolley. il Banking 32:28-9 F '40

This posting equipment combines operations. W. E. Kuipers. il Bankers Mo 57:267-9 My '40

Uniform cost accounting of trust departments held accurate; abstract. W. J. Weig. Trusts & Estates 70:408 Ap '40

Wasted time and errors reduced by simplifying expense distribution. R. R. Lowe. il Bankers Mo 57:326-7+ Je '40

We earn more and work less; use of available equipment and numbering system to identify endorsers made transit work and account analysis more economical. H. Meidell. il Bankers Mo 57:270-1 My '40

See also

Bank auditing
Banks and banking—Statements of account
Safe deposits—Accounting
Trust companies—Accounting
Trusts and trustees—Accounting

BANK advertising

Advertising and public relations. Published in monthly numbers of Bankers magazine

Advertising specialties foster good will. M. G. Hermetet. il Bankers Mo 57:218-21 Ap '40

Art calendars needed in our program. C. W. Fishbaugh. il Bankers Mo 57:390-1+ Jl '40

Banker-farmer film; Four pillars of income; a story of diversified farming. il Banking 32:43 Mr '40

Banking works for business; pictures. Banking 32:42-3 D '39

Banks active in stimulating tourist trade in Canada. J. Montagnes. il Burroughs Clearing House 24:24+ Jl '40

Breakdown of bank advertising budgets; 1940 advertising up. Bankers M 140:272 Mr '40

Calendars popularize our bank. C. W. Fishbaugh. il Bankers Mo 57:72-3 F '40

Effective auto loan folder. il Bankers Mo 57:423 Jl '40

Houses wear out, too; promotion campaign for FHA loans; State-planters bank and trust company, Richmond. R. H. Wells. il Banking 33:36 Ag '40

Ideas for building small loan volume. F. R. Sage. il Burroughs Clearing House 24:18-20+ Ap '40

Job for bank movies. M. Wright. Banking 32:23 Ja '40

Make a wish said the Valley national bank, and customers wished for electric refrigerators. C. Bimson. il Bankers Mo 57:348-9+ Je '40

Massachusetts thrift; movie of part played by savings banks in building the state. il Banking 32:44-5 Ap '40

Motion pictures in the bank field. A. R. Gruenwald. il Burroughs Clearing House 24:14-16+ Je '40

New opportunities in FHA Title I loans. L. Hough. il Burroughs Clearing House 24:20-2+ S '40

Oldest radio script; started in 1927 by Providence Institution for savings. Ptr Ink 193:43 N 1 '40

Open house made educational; Racine First national bank anniversary celebration. B. J. Bleakley. il Bankers Mo 57:264-6 My '40

Picture of bank advertising; charts. Banking 32:46 Ap '40

Popularization of bank services; pictures. Banking 32:44-5 Mr '40

Primer of bank advertising. D. L. Parsons. Banking 32:88 Ap '40

Public-spirited policy benefits our bank; interview with Bion H. Barnett. L. M. Fifield. il Bankers Mo 57:20-1+ Ja '40

Salty sermons from a banker's desk. R. O. Foote. Nation's Business 28:120 Ap '40

Selling the "will" idea; sample advertisements. Banking 32:40-1 Ja '40

$6 billion tourist business; banking possibilities in travel promotion. M. F. Blouin. Banking 32:21 Mr; 58 Ap '40

Sizzle salesmanship in banking; California methods. J. Farnham. Barron's 19:18 D 11 '39

Spirit of thrift; school savings film. il Banking 33:39 Jl '40

Statement inserts develop good will. L. S. Flint. il Bankers Mo 57:46-7 Ja '40

Take your staff into your confidence. D. Campbell. Bankers M 140:496-8 Je '40

12-page bank ad sets record; Industrial Morris plan bank of Detroit. Ptr Ink Mo 40:54 Ap '40

See also

Trust companies—Advertising

BANK and brokerage employees union

C.I.O. in Wall Street. Business Week p40-1 Ag 31 '40

BANK auditing

Audit and control of trust income and trust assets. G. C. Riechmann. Trusts & Estates 70:65-7 Ja '40

Audit procedure in trust department; adequate controls and reviews made for safety and efficiency. H. J. Ludescher. Trusts & Estates 70:373-6 Ap '40

BANK auditing—*Continued*
Audits, earnings and protection; elaborate checks and balances and possibilities of codification. F. A. Zara. Trusts & Estates 71:429-33 O '40
Country bank auditing; combination of operating control and direct auditing. S. B. Cooper. il Burroughs Clearing House 24:9-11+ D '39; 18-20+ Ja '40
Duties and responsibilities of a bank auditor. O. A. Waldow. N A C A Bul 20:1105-20 My 1 '39; Excerpts. Trusts & Estates 69:620 D '39
Puzzle for auditors; detecting internal delinquencies. J. S. Seidman. Banking 32: 27 D '39
See also
Bank examination

BANK buildings
Campaign against noise! N. D. Stone. il Bankers Mo 57:461-2+ Ag '40
Customers appreciate the new trend in bank buildings. J. R. Cudney. il Bankers Mo 57: 566-7 O '40
Dignified privacy for borrowing customers; features of new loan quarters. R. J. Izant. il Bankers Mo 57:296 My '40
Examples of the latest trends in bank design. il Burroughs Clearing House 24:3-4+ Ap '40
Modernized quarters please customers. N. S. Calhoun. il Bankers Mo 57:410-11+ Jl '40
Photo murals for offices; example in First national bank of Portland, Ore. il Am Business 10:28-9 N '40
Savings and loan modernization of buildings and offices. H. V. Odle. il Burroughs Clearing House 24:20-4+ F '40
When to modernize. A. G. Alexander. Banking 33:58 N '40

Air conditioning
Bank modernizes old ventilating system into complete air conditioning plant; Camden trust company. C. W. Coward. il Heat & Ven 37:27-8 My '40
Case histories; gas summer air conditioning on the Delta; Canal Bank air conditioning. G. E. May, R. E. Judd and J. M. Guillory. il Am Gas Assn Mo 22:338-9 O '40
Up-to-the-minute air conditioning for the Southeast's oldest bank; Freon-11 turbo-compressor unit; First national bank of Atlanta. il diag plan Power 84:575-7 S '40

Layout
Problem in bank planning. A. G. Alexander. Banking 33:66+ S '40

Lighting
Uses fluorescent for load building; Security national bank of Greensboro, N.C. W. J. Burton. il Elec W 114:884+ S 21 '40

BANK clearings
Bank clearings. Published in monthly numbers of Dun's statistical review; summary in Dun's review
Bank clearings in Britain, 1939. Economist 138:23, 67 Ja 6-13 '40
Bank clearings in 1939 with detailed figures for past eight years. Comm & Fin Chr 150:544-57 Ja 27 '40
Course of bank clearings. Published in weekly numbers of Commercial & financial chronicle

BANK credit. See Credit, Bank

BANK debits
Annual report of, 1, bank debits to individual accounts; 2, notes on the equation of exchange in the period, 1919-1939. 17p pa 25c Canada. Dominion bur. of statistics, Ottawa '40
Bank debits. Published in monthly numbers of Federal reserve bulletin
Bank debits, 1936-1939. Survey of Cur Business 1940 Sup p48 [supplemented in monthly numbers]

BANK defalcations. See Embezzlement

BANK deposits
All banks in the United States; deposits, exclusive of interbank deposits. Published in monthly numbers of Federal reserve bulletin
Condition of all member banks; reserves, deposits, and borrowings, call dates, Dec. 31, 1929, to Oct. 2, 1939. Fed Res Bul 26:33 Ja '40 [cont monthly]
Deposits by classes of depositors, 1937. H. Wald. Fed Res Bul 26:401-3 My '40
Deposits of member banks in larger and smaller centers, Oct.-Nov. 1939. Fed Res Bul 26:28 Ja '40 [cont monthly]
Distribution of war-born deposits; cash position of average depositor in each of the 12 Reserve districts. L. M. Hostetler. Barron's 20:18 S 30 '40
Do our banks need more capital? cash reserves should be considered in figuring safety factor behind deposits. R. D. Skinner. Barron's 20:18 Ja 8 '40
New routine and control simplifies proving. V. Emmons. il Bankers Mo 57:600-1+ N '40
100 largest commercial banks in the United States listed in order of deposits, on December 30, 1939. Burroughs Clearing House 24: 22 Mr '40
See also
Banks and banking—Guaranty of deposits
Savings deposits

Interest
Determining interest rates. S. M. Foster. Bankers M 140:210-14 Mr '40
See also
Savings deposits—Interest

BANK directors
Across the directors' table; duties and opportunities of a bank's right hand men. M. Wright. Banking 33:28-9 N '40
Attorney member aids executive committee of bank board. E. B. Hand. Bankers Mo 57: 131-2+ Mr '40
Director benefits both himself and his bank. C. E. Albright. Bankers Mo 56:714-15+ D '39
Director-credit manager; a doubly beneficial combination. E. Kant. Bankers Mo 57:138-9 Mr '40
Dodos or directors. F. B. Kirkbride. Trusts & Estates 71:334-5 S '40
How can directors direct best. F. B. Kirkbride. Trusts & Estates 71:66-7 Jl '40
Loose-leaf book keeps directors informed. G. Cormack. il Bankers Mo 57:259-61 My '40
Trust operation analyzed for directors; monthly figures on charts. A. C. Hughes. il Bankers Mo 57:197-8 Ap '40
What are bank directors? Trusts & Estates 70:39-40 Ja '40
What's in a banker's name? study of surnames of bank officers and directors. T. D. MacGregor. Banking 33:92-4 S '40
See also
Federal reserve banks—Directors

Interlocking directorates
Amendments to Regulation L relating to interlocking bank directorates. Fed Res Bul 26:97-8 F '40
Board of governors of Federal reserve system amends rule on interlocking bank directorates. Comm & Fin Chr 150:205 Ja 13 '40
Board of governors of Federal reserve system extends time on interlocking bank directorate law to June 1. Comm & Fin Chr 150: 765 F 3 '40

BANK employees
Administering bank personnel; Farm credit administration of Houston, Texas. H. A. Cory. Bankers M 140:193-6 Mr '40
Amendments to wage-hour act proposed by American bankers association; status of executive, administrative, and professional employees. Comm & Fin Chr 151:333-4 Jl 20 '40

BANK employees—*Continued*
American bankers association explains its position with respect to wage-hour act. Comm & Fin Chr 151:638 Ag 3 '40
A.B.A. pensions committee decides against a nation-wide retirement plan. Banking 32: 102 Je '40
Applicability of Social security act to Federal reserve banks, national banks and state member banks. Fed Res Bul 26:290-2 Ap '40
Bank employees in United States total 268,000. Comm & Fin Chr 151:2295 O 19 '40
Bank of America seeks legal clarifications in refusing to comply with NLRB ruling. Burroughs Clearing House 24:7 D '39
Bank wages and hours. A. L. M. Wiggins. Banking 33:89-90 Ag '40
Banking and the Fair labor standards act; conclusions of Bank management commission, Kansas bankers association. Bankers M 140:448-9 My '40
Banks and the wage and hour law. L. A. Hill. Bankers M 140:347-8 Ap '40
Banks are subject to wages and hours law and should conform to its provisions. C. E. Johnson. Comm & Fin Chr 150:3293-4 My 25 '40
Care of bank's investment in personnel. L. W. Bishop. Bankers M 140:86-7 Ja '40
Conscription; bank officers discuss problems. A. Van Vlissingen. il Burroughs Clearing House 25:11-13+ N '40
Cultivate employe enthusiasm. W. Z. Hayes. Bankers M 140:457 My '40
Current policies in personnel relations in banks. H. Baker. 50p bibliog(p48-50) pa $1 Industrial relations section, Dept. of economics and social institutions, Princeton univ, Princeton, N.J. '40; Review. Monthly Labor R 51:315-19 Ag '40
Employe self-analysis chart. Bankers M 141: 453 N '40
Explanation of New York state bankers retirement system. S. B. Romaine. Comm & Fin Chr 151:52-3 sec 3 O 12 '40
Federal social security taxes and banks. T. S. Cady. Banking 32:52 F; 55 Mr '40
First annual conference of bank employees of the state of New Hampshire. Trusts & Estates 70:532 My '40
Hours problem; bank management aspects. A. T. Wilson. il Burroughs Clearing House 24:11-13+ F '40
How to judge job applicants. M. L. Sullivan and M. S. Davis. Banking 32:27 Mr '40
Internal bank management controls; control of personnel and salaries. H. N. Stronck. il Bankers Mo 56:719-21+ D '39
Junior advisory board. W. A. Koerber. il Trusts & Estates 70:523-5 My '40; Same abr. Banking 32:85 My '40
Keep your employes informed. R. A. Ilg. Bankers M 140:435-6 My '40
Keys to better public relations. R. A. Ilg. Bankers M 141:29-30 Jl '40
Meeting wage hour law requirements. C. E. Johnson. Bankers M 140:441-2 My '40
Missouri objects to the Fair labor standards act as applied to banks; resolution adopted by Missouri bankers association. Bankers Mo 57:172 Mr '40
Most New York state banks not further altering their banking hours to meet new 40-hour provision of wage-hour law. Comm & Fin Chr 151:2419 O 26 '40
New York Senate passes bill exempting bank employees from State labor relations act. Comm & Fin Chr 150:1861 Mr 23 '40
New York state bankers retirement system widened; bank employees in other states eligible for membership. Comm & Fin Chr 151:1511 S 14 '40
Personal factors in banking. E. S. Woosley. Bankers M 140:173-4 F '40; Same. Banking 32:99 F '40
Personnel policies, Wells Fargo bank & union trust co., San Francisco. A. W. Kohner. il Burroughs Clearing House 24:11-13+ My '40
Personnel stimulation. L. W. Bishop. Bankers M 141:437-8 N '40
Profit sharing more than dividing profits. A. W. Gray. Bankers Mo 57:352-3 Je '40
Puzzle of wages and hours. A. W. Zimmerman. Banking 32:78-9 Ja '40
Reduce salaries last. E. S. Woolley. Bankers M 141:250 S '40
Right pay for the job; bank salary and promotion plan. E. N. Hay. Banking 32:22-3 Mr '40
Selecting bank personnel; methods of Farm credit administration of Houston, Texas. H. A. Cory. Bankers M 140:118-22 F '40
Social security and retirement plans. F. W. Sutton, jr. Bankers M 140:73-4 Ja '40
Sources of bank personnel. E. N. Hay. Banking 32:24 D '39
To hire or not to hire; employment techniques. G. W. Wadsworth, jr. Banking 32:88 D '39
20 answers on wages and hours. D. J. Needham. Banking 32:31-2 Je '40
Unemployment compensation plans. M. Saxe. Banking 32:26-7, 82-3 Ja '40
Wage and hour law. A. L. M. Wiggins. Banking 32:92 Ja '40
Wages and hours. D. E. Warrick. Banking 32:50 D '39
We employ only those who choose banking as a career; personnel policy. H. C. Stone. Bankers Mo 56:716-17 D '39

See also
Bank and brokerage employees union

Training
Be a playwright, in one easy lesson! technique of putting on educational dramatic skits in a bank. H. C. Stine. il Bankers Mo 56:728-31+ D '39
Building banking business; staff conference methods. W. Powers. Banking 32:38 My; 56 Je; 33:56 Jl; 88 Ag '40
Customers like our bank better since we have improved service; programs for staff meetings. L. H. Dahlke. il Bankers Mo 57: 396-7+ Jl '40
Developing employe loyalty. R. A. Ilg. Bankers M 141:118-20+, 216-18 Ag-S '40
Employee sales plan that sells. Banking 32: 72-3 Je '40
Employees helped educate the public through the stimulus and training of an A.I.B. course. J. Mills. il Bankers Mo 57:288-9+ My '40
Employees tell us how to run the bank; sending employees to call on local businessmen. C. L. Stout. il Bankers Mo 57:208+ Ap '40
How to sell bank service; a slide film. Plumber forgets his tools. I. I. Sperling. il Banking 33:45-6 O '40
Manual for the individual bank. O. B. Lovell. il Burroughs Clearing House 24:12-14+ Ja '40
Messenger girls trained for bank careers. S. Ware. il Nation's Business 28:88-90 Ap '40
Operations manual, part of bank's customer relations program. Banking 32:67 My '40
Plan for a public relations program keyed to a small bank. M. S. Davis. Bankers Mo 57:22+ Ja '40
Public speaking isn't so hard. H. Graham. il Bankers Mo 57:88-90+ F '40
Speech study improved customer service; bank employee studied public speaking. I. L. Nelson. il Bankers Mo 57:292-4 My '40
Take your staff into your confidence. D. Campbell. Bankers M 140:496-8 Je '40
Whole staff—directors, officers, employees, can be trained in practical public relations. G. B. Jacobs. il Bankers Mo 57:74-5+ F '40

BANK equipment
Bank's modern tools. E. S. Woolley. Banking 32:19-20 N '39; 29-30 Ja; 38-9 Ap '40
Buying that means economy; equipment outlay can insure long-run saving. E. S. Woolley. Banking 33:71-2 O '40
Calculator cuts proving time in half. A. J. Vogel. Bankers Mo 57:42-3 Ja '40
Economies in dividend disbursement routine. J. T. Keckeisen. il Bankers Mo 57:392-4 Jl '40

BANK equipment—*Continued*
Functional design for trust operations; machines in trust recording and controls. R. A. Wilson. Trusts & Estates 71:27-32 Jl '40
How we keep equipment up to standard; method of determining depreciation. L. C. Phillips. il Bankers Mo 57:428-9 Jl '40
Machine dictation saves time for both the president and the secretary. J. V. Tuttle. il Bankers Mo 57:602, 604 N '40
Modernization reduces hours; new machines and systems spread the work over 36 hours per week. R. R. Eldred. il Bankers Mo 57: 12-15 Ja '40
Operations simplified by modern equipment. L. C. Phillips. Bankers Mo 57:483-6 Ag '40
Paisley interest calculator. il Bankers Mo 57:439 Jl '40
Service and equipment meeting; bank equipment and supply manufacturers, New York, March 4-5. G. F. Berger. Banking 32:84-5 Je '40
Shorter hours, greater economy; use of proving and transit machine. C. A. Tschopp. il Bankers Mo 57:558-9 O '40
There's a ribbon for every job. N. D. Stone. Bankers Mo 57:578-82+ O '40

See also
Bank supplies

BANK examination
Examiner's view of loans. C. L. Pitman. Banking 32:100 F '40
Province of bank supervision. L. T. Crowley. Bankers M 140:251-2 Mr '40
Three errors of omission; failure to operate on accrual basis, to maintain credit files and to maintain bond files. R. G. Rodkey. Banking 32:95 Mr '40
What a trust examiner looks for. Trusts & Estates 71:26 Jl '40

See also
Bank auditing

BANK failures
Bank suspensions; number of banks suspended and deposits of suspended banks (in thousands of dollars) 1934 to 1939, Jan.-Nov. 1939. Fed Res Bul 26:30 Ja '40 [cont monthly]
Capital-deposit ratio fallacy. H. Secrist. Bankers M 140:65 Ja '40
Dividend payments of 29 insolvent national banks authorized during November. Comm & Fin Chr 149:3795 D 16 '39
Liquidation of receiverships of national banks completed during December. Comm & Fin Chr 150:617 Ja 27 '40 [cont monthly]
State bank failures in Kentucky. C. C. Carpenter and G. J. Johnson. diags Kentucky Univ. College of Commerce, Bul of Bur of Business Research v 2, no 1:1-21 '39 (50c) [Free to Kentucky business]

BANK for international settlements
Annual report, 10th, year ending March 31, 1940. Fed Res Bul 26:1057-96 O '40
Assets and liabilities. Published in monthly numbers of Federal reserve bulletin
Votes usual 6% annual dividend. Comm & Fin Chr 150:3435 Je 1 '40

BANK guaranty of deposits. See Banks and banking—Guaranty of deposits

BANK holidays
Banking holidays by states; January-June, 1940; tabulation. Bankers Mo 56:744 D '39
Banking holidays by states, July-December, 1940; tabulation. Bankers Mo 57:403 Jl '40
Questionnaire shows New York state banks favor continued closing on Saturday during July and August and thruout the year. Comm & Fin Chr 149:3190 N 18 '39
Saturday closing in New York state bank's throughout year favored by customers but opposed by banks; Saturday closing in summer favored. Comm & Fin Chr 150:1353-4 Mr 2 '40
Shorter hours, Saturday service preferred by customers of Union and New Haven trust company, New Haven, Conn. Bankers M 140:540-1 Je '40; Bankers Mo 57:354 Je '40

BANK libraries
Place of a trust library. E. I. Chalfant. il Trusts & Estates 70:526-8 My '40

BANK loans. See Loans, Bank

BANK money orders
Advertise your town. il Banking 32:41 D '39
Bank money orders. I. I. Sperling. Banking 33:76 Ag 40
Money orders popular. J. M. Patton. Bankers Mo 57:73 F '40
Mutual savings banks inaugurate new service of offering uniform money orders. Comm & Fin Chr 150:2969 My 11 '40

BANK names
Most popular names for banks. T. D. MacGregor. Banking 33:85 N '40

BANK notes
Authority to issue Federal reserve notes. Fed Res Bul 26:306-7 Ap '40

BANK of America national trust and savings association
Giannini fights back. Business Week p44 Ja 20 '40
Giannini truce; Bank of America dispute with Comptroller's office adjusted. Business Week p48 Mr 23 '40
Proposes to increase capital funds by $30,000,000 through public offering of $2 dividend preferred stock. Comm & Fin Chr 150:2806 My 4 '40

BANK of Canada. See Banks and banking—Canada

BANK of England
End of year position; bank rate since 1856. Economist 138:sup10 My 18 '40
English theories of central banking control, 1819-1858, with some account of contemporary procedure. E. Wood. 250p bibliog (p221-38) $5 Harvard univ. press '39
Position from May 3, 1939, to April 24, 1940. Economist 138:sup11 My 18 '40
Weekly statement. Published in weekly numbers of Commercial & financial chronicle

BANK of England notes
Great Britain bars importation of Bank of England notes. Comm & Fin Chr 151:1068 Ag 24 '40

BANK of France
Annual report for year ending Dec. 21, 1939. Fed Res Bul 26:535-44 Je '40
French financial measures of Feb. 29, 1940. Fed Res Bul 26:406-7 My '40
Weekly statement. Published in weekly numbers of Commercial & financial chronicle

BANK of Germany
Quarter-month statement. Published in weekly numbers of Commercial & financial chronicle

BANK of London and South America
Ordinary meeting, 77th, London. Economist 137:482 D 23 '39

BANK of Manhattan company
Annual report to stockholders. Comm & Fin Chr 149:3640 D 9 '39

BANK of Montreal
Annual general meeting, 122d, Montreal. Economist 138:36 Ja 6 '40

BANK officials
Continuity for executives; management views the Graduate school and the Institute. R. N. Ball. il Trusts & Estates 70:515-16+ My '40
Internal bank management controls; the controller of loans. H. N. Stronck. Bankers Mo 57:275-7+ My '40
Letting the elephants go by; bank executives should delegate routine duties, concentrate on important matters. H. E. Zarker. Bankers Mo 57:330-1 Je '40
Machine dictation saves time for both the president and the secretary. J. V. Tuttle. il Bankers Mo 57:602, 604 N '40
Personnel changes in trust institutions. Published in monthly numbers of Trusts and estates

BANK protection for rivers. See Rivers—Bank protection

BANK reserves
Condition of all member banks; reserves, deposits, and borrowings, call dates, Dec. 31, 1929, to Oct. 2, 1939. Fed Res Bul 26: 33 Ja '40 [cont monthly]
Deficit financing and bank reserves. Fed Res Bul 26:9-10 Ja '40
Excess reserves. Fed Res Bul 26:1177 N '40
Gold reserves of central banks and governments, 1913-April, 1930. Fed Res Bul 26: 925-34 S '40
Gold reserves of central banks and governments, yearly, December 1913-1927; monthly, June, 1928-April, 1940; revision. Fed Res Bul 26:1000-7 S '40 [cont monthly]
High-grade bonds expected to remain stable despite the war. S. L. Miller. Annalist 55: 116-17+ Ja 25 '40
Member bank reserve balances by classes of banks, Oct. 1938-Nov. 1939. Fed Res Bul 26:28 Ja '40 [cont monthly]
Problem of our excessive banking reserves. L. H. Seltzer. Am Statis Assn J 35:24-36 Mr '40
Reserve position of member banks, Nov. 1939, by classes of banks and districts. Fed Res Bul 26:28 Ja '40 [cont monthly]
Trend of interest rates. O. P. Wheeler. Bankers M 140:297-302 Ap '40
See also
Banks and banking—Secondary reserves

BANK supplies
Bank letterheads. I. M. Bennett. Banking 32:65 D '39
How to avoid carbon paper complaints. N. D. Stone. Bankers Mo 57:222+ Ap '40
Questions to ask before ordering printed forms. L. W. Bishop. Bankers Mo 57:306 My '40
Quick reference file of equipment and supply information. J. R. Humphreys. Bankers Mo 57:307-9 My '40
This buying policy maintains quality, avoids expense. J. R. Humphreys. Bankers Mo 57: 370-3+ Je '40
See also
Bank equipment
Banks and banking—Forms, blanks, etc.

Directories
Bankers semi-annual buyers guide and supply source. Bankers Mo 57:238-56, 622-40 Ap, N '40

BANKERS
Call for leadership; key roles in present stress await bankers and trust men. L. S. Trimble. Trusts & Estates 71:51-4 Jl '40
What's in a banker's name? study of surnames of bank officers and directors. T. D. MacGregor. Banking 33:92-4 S '40

BANKERS association for consumer credit
Consumer credit milestone; to merge with American bankers association. Banking 32: 27, 54+ My '40
Financial advertisers' association and Bankers' association for consumer credit establish financial clearing house of ideas and procedures. Comm & Fin Chr 150:1220 F 24 '40; Same. Bankers Mo 57:177-8 Mr '40
Proposes to consolidate with A.B.A. Comm & Fin Chr 150:2195 Ap 6 '40

BANKERS' associations
Bank conventions. Published in monthly numbers of Bankers monthly, Bankers magazine, and Banking
Operating problems of state associations. J. C. Rogers. Comm & Fin Chr 151:49 sec 3 O 12 '40
See also names of associations, e.g. American bankers association

Agricultural activities
One association's farm activities; New York state bankers association. J. H. Payne. il Burroughs Clearing House 24:20-2+ My '40

Regional groups
Regional bank groups; Florida bankers have organized the state into five areas. J. N. Stonebraker. il map Burroughs Clearing House 25:9-11 O '40

BANKERS' blanket bond
A.B.A. committee calls for further reductions in blanket bond rates. Comm & Fin Chr 151:2127-8 O 12 '40
A.B.A. sees savings of $4,000,000 to banks through rate reductions. East Underw 41: 52+ S 27 '40
Bankers blanket bonds changes giving no. 2 retroactive reinstatement. Spectator (Property ed) 5:27 Mr 21 '40; Nat Underw 44:25+ Mr 14 '40
Bankers blanket bonds; standard forms nos. 3 and 4B. Spectator (Property ed) 6:18-19 O 3 '40
How to be dishonest; methods of bank employees. W. K. Mendenhall. Ins Field (Fire ed) 69:16-18 Ja 18 '40; Abstract. Nat Underw 44:20 Ja 18 '40
London Lloyds must pay Ottawa, Ill. bank loss. Nat Underw 43:3 N 23 '39
New coverage under blanket bond no. 8, revised, and form no. 2. W. J. Schiff. Weekly Underw 142:1047-9 Ap 27 '40; Same. Ins Field (Fire ed) 69:24-5+ My 9 '40; Excerpts. East Underw 41:58 Ap 26 '40; Abstract. Nat Underw 44:23+ Ap 18 '40
New York stock exchange asks members for comments on new type of surety bond covering partners; progress report on fidelity insurance made by special group. Comm & Fin Chr 151:922-3 Ag 17 '40
Packaged insurance for banks. H. G. Eberle and H. W. Ervin. Banking 32:28-9 My '40
Peerless casualty co. defends reinsurance in Lloyd's; bankers' blanket bond business in Michigan. Ins Field (Fire ed) 69: 12-13 Je 13 '40
Rate readjustments may cause rate war. V. Cullen. Weekly Underw 142:668 Mr 16 '40; Excerpts. Spectator (Property ed) 5:38 Mr 21 '40
Rate reductions for blanket bond coverage proving of real help to producers. W. S. Hering. Weekly Underw 143:187 Jl 27 '40
Report of committee on insurance and protection. A.B.A. State secretaries section. Comm & Fin Chr 151:55 sec 3 O 12 '40
Surety association of America revises forms 3 and 4B; eliminates 4C. Nat Underw 44: 25 S 26 '40

BANKERS Indemnity Insurance company, Newark, New Jersey
Analysis. Spectator (Property ed) 6:22-3 O 3 '40

BANKERS life company, Des Moines, Iowa
Convention examination completed. East Underw 41:5 Jl 12 '40
Once in a great while; Bankers life company new home office. il diags plans Arch Rec 87: 47-68 Je '40

BANKHEAD, William Brockman, 1874-1940
Sketch. Comm & Fin Chr 151:1665-6 S 21 '40

BANKING ethics
Where is the loyalty line? bank and trust company officers acting individually in fiduciary relationships. F. B. Kirkbride. Trusts & Estates 70:55-6 Ja '40
See also
Trust companies—Ethics

BANKING law
Legal answer page. Published in monthly numbers of Banking
See also
Banks and banking—Branch banking
Banks and banking—Guaranty of deposits
Banks and banking—Regulation
Banks and banking—Taxation
Checks—Law
Federal reserve banks
Savings banks—Investments
Trusts and trustees

Belgium
New law for the National bank of Belgium; decree of August 24, 1939. Fed Res Bul 26: 101-5 F '40

BANKING law—*Continued*

Michigan

Bank chain debated; Michigan law. Business Week p45 Je 1 '40

New York (state)

Banking law of the state of New York. T. W. Cantwell, ed. 415p $2.50 J. B. Lyon co, Albany, N.Y. '39

New York banking law, annotated. W. E. Baldwin, ed. 26th ed 276p $7.50 Banks law pub. co, New York '39

United States

Federal legislation pending. Bankers M 140: 219-22, 316-18, 409 Mr-My '40

Is there a need for a revision of capital requirements; with tabulation by states. Bankers Mo 57:134-5 Mr '40

See also
Federal reserve banks

BANKRUPTCY

Attorney General reports on 1939 bankruptcy cases; by type of case, liabilities, assets realized, payments made, by occupational group and by judicial districts. Credit & Fin Management 42:50-2 Ap '40

Bankruptcy, liquidation and receivership. N. E. Mustoe. 490p, 17p 15s Butterworth & co, London '39

Bill containing recommendations on bankruptcy and reorganization is filed with House judiciary committee by Representative Chandler. Comm & Fin Chr 149:4103 D 30 '39

Brokerage failure procedure redefined in claim growing out of bankruptcy of McMillan, Rapp & co. of Philadelphia, former dealers in investment securities. Comm & Fin Chr 151:633 Ag 3 '40

Credit men report on Chandler act; opinions expressed in recent questionnaires. C. F. Baldwin. Credit & Fin Management 42: 18-19 Mr '40

Federal bankruptcy act; full text of the Federal bankruptcy act, as amended, including Chandler act and Railroad adjustments act. 1939 ed 199p pa $1 Commerce clearing house '39

Fraud probe nets $26,500; Los Angeles case brings two convictions, in bankruptcy case. Credit & Fin Management 42:22+ F '40

Preference liabilities in Washington; state law on corporate liquidations has unusual angles. C. P. King and C. E. Croson. Credit & Fin Management 42:21-2 F '40

President Roosevelt signs bill extending time in which farmers may file under Bankruptcy act. Comm & Fin Chr 150:1857 Mr 23 '40

Principles of the law of bankruptcy and deeds of arrangement. H. Potter, T. Adams and A. W. Dickson. 2d ed 355p, 34p 12s 6d Butterworth & co, London '39

SEC studying Bankruptcy law as it affects stock brokers. Comm & Fin Chr 150:215-16 Ja 13 '40

Some difficulties in arrangements; a discussion of certain chapter XI features. W. R. Montgomery. Credit & Fin Management 42: 6-9 N '40

Status of assigned accounts; how they rate under section 60 of the Chandler act. P. E. Hamilton. bibliog Credit & Fin Management 42:15-17, 40-2 Je '40

Successful failures? three of them; history of one business family. J. J. McCarthy. Credit & Fin Management 42:26+ O '40

See also
Business failures
Corporations—Reorganization
Debtor and creditor
Electric railroads—Receiverships
Railroads—Receiverships

BANKS, Federal reserve. See Federal reserve banks

BANKS, Savings. See Postal savings banks; Savings banks

BANKS and banking

Annual report, 10th, of the Bank for international settlements, year ending March 31, 1940. Fed Res Bul 26:1057-96 O '40

Bank management; a case book. J. F. Ebersole. 3d ed 626p $5 McGraw-Hill '40

Bank merchandising keeps up-to-date; segregating fast-moving types of business from the slower moving. I. I. Sperling. Banking 32:80 Mr '40

Bank of the future. C. B. Upham. Bankers M 141:392-5 N '40

Banking and financial subject headings for bank libraries and financial information files. 98p $4; to members $3 Special lib. assn. '40

Banking by air; survey of bank use of air services. H. M. Bratter. Banking 32:86-7 My '40

Banking trends in a changing world. F. E. Lee. Bankers M 140:32-3 Ja '40

Banks must explore, not exploit. T. C. Boushall. Bankers M 140:394-6 My '40

Better expense control. J. W. Miller. Banking 32:91-2 F '40

Conservative banking. V. H. Rossetti. il Burroughs Clearing House 24:11-13+ Je '40

Contributions of Lord Overstone to the theory of currency and banking. L. A. Helms. 142p bibliog(p137-42) pa $1.50 Univ. of Illinois press, Urbana '39

Economics of money, credit and banking. F. C. James. 3d ed rev & enl 745p $4 Ronald press '40

Economist banking supplement. Economist 138:sup3-54 My 18 '40

Efficient business operation can offset decline in working hours. E. S. Woolley. Bankers Mo 57:228-9 Ap '40

850 tested ideas published in Bankers monthly in 1939. Bankers Mo 57:33-4, 36, 38-42 Ja '40

Financial statesmanship; the banks and industrial mobilization. A. W. Atwood. il Banking 33:25-7 Ag '40

510 tested ideas published since January 1, 1940. Bankers Mo 57:418-26 Jl '40

Illinois bankers association annual convention, Chicago. Comm & Fin Chr 150:3595-6 Je 8 '40

Improving bank filing methods; change to a centralized filing plan. L. E. Dishongh. il Burroughs Clearing House 25:14-16+ N '40

Internal bank management controls; control of personnel and salaries. H. N. Stronck. il Bankers Mo 56:719-21+ D '39

Internal bank management controls; departmental income and expense. H. N. Stronck. Bankers Mo 57:458-60 Ag '40

Internal bank management controls; fundamentals of loan controls. H. N. Stronck. Bankers Mo 57:86-7+, 147-8+, 204-5+, 275-7+ F-My '40

Internal bank management controls; fundamentals of operating controls. H. N. Stronck. il Bankers Mo 57:400-2 Jl '40

Internal bank management controls; operating controller. H. N. Stronck. il Bankers Mo 57:560-2 O '40

Internal bank management controls; production controls. H. N. Stronck. il Bankers Mo 57:506-8 S '40

Jokes editor reports. Banking 33:73-4 Ag '40

Know your bank. E. S. Woosley. Comm & Fin Chr 151:17-18 sec 3 O 12 '40

Letting the elephants go by; bank executives should delegate routine duties, concentrate on important matters. H. E. Zarker. Bankers Mo 57:330-1 Je '40

M-day and your bank. A. P. Woolfson. Bankers M 141:192-6 S '40

M day; banking and finance. A. P. Woolfson. 116p pa $2.50 Brady pub. corp, 465 Main st, Cambridge, Mass. '40

Meeting bank competition; nine specific suggestions. M. Anderson. Bankers M 140:362-3 Ap '40

Meeting the hours problem. A. W. Deibert. Bankers M 141:24-7 Jl '40

Money and banking. J. I. Bogen and others. rev ed 733p $5; school ed $4 Prentice-Hall '40

Money entitled to a living wage, too; comments on recent article by A. A. Berle, jr. W. Macferran, jr. Bankers M 139:496-8 D '39

BANKS and banking—*Continued*

Money in motion; the social function of banking. A. C. Holden. 242p bibliog(p218-38) $2.50 Harper '40

New York state bankers association annual convention, Syracuse. Comm & Fin Chr 150:3763 Je 15 '40

Planning operating department work. H. T. Hardie. Bankers M 141:66 Jl '40

Productive work planning. E. S. Woolley. Comm & Fin Chr 151:60-1 sec 3 O 12 '40; Excerpts. Bankers M 141:441-2 N '40

Reappointment of Marriner Eccles as chairman of the Federal reserve board; his banking philosophy. J. Farnham. Bankers M 140:410-12 My '40

Research, analysis and budgetary control as an aid to bank management. M. L. Breidenthal. Comm & Fin Chr 151:61-2; Discussion. 62-3 sec 3 O 12 '40

Research and analysis as banking aids. M. Breidenthal. Bankers M 140:454-5 My '40

Research attitude is essential. W. A. McDonnell. Bankers M 140:452-3 My '40

Solution to the 40-hour problem; improvements in operating methods. B. P. Olsen. il Burroughs Clearing House 24:18-20+ Jl '40

Some original bank jokes. T. D. MacGregor, comp. Banking 32:38 Je '40

Sources of a bank's lending power; does a bank create the money it lends? Fed Res Bul 26:99-100 F '40

Three errors of omission; failure to operate on accrual basis, to maintain credit files and to maintain bond files. R. G. Rodkey. Banking 32:95 Mr '40

To preserve our free banking system; separate savings deposit service; limit deposit, withdrawals; limit creation of bank money. R. W. Manuel. Bankers M 141:285-90 O '40

What the banker should do: non-banker's expectations. R. V. Hunkins. Bankers M 141:31-4 Jl '40

See also

Acceptances
Agricultural credit
Bank accounting
Bank advertising
Bank buildings
Bank deposits
Bank failures
Banking law
Checks
Credit
Federal reserve banks
Foreign exchange
Home loan banks
Interest
Investment banking
Investment trusts
Land banks
Loans, Bank
Morris plan banks
Postal savings banks
Safe deposits
Savings banks
Savings deposits
Securities
Trust companies

Airplane purchase financing

Financing your plane; Giannini bank has credit plan for private purchases. Business Week p30-1 S 14 '40

Automobile purchase financing

Automobile financing. K. R. Cravens. il Burroughs Clearing House 24:9-11+ N; 12-14+ D '39

Consumer credit in a small town. A. T. Spitzer, 2d. Banking 32:105 F '40

Dealer purchase auto loan service. W. F. Kelly. Bankers M 140:437-8 My '40

Dealers help forecast future auto loans. J. V. Tuttle. Bankers Mo 57:417+ Jl '40

How a bank can handle automobile loans at a profit. R. A. Bezoier. Bankers Mo 56:742-3 D '39

Local banks and agents desire to cooperate on auto finance business. East Underw 41:37 Ap 26 '40

More co-operation between banks and automobile dealers. C. D. Baker. Bankers Mo 57:206+ Ap '40

Opportunity for the insurance agent in bank financing of automobiles. L. R. Finn. Weekly Underw 141:1084-5+ N 18 '39

Support in agency circles for new proposal for auto finance insurance through local banks. East Underw 41:18 My 17 '40

Bankless towns

Limited branch bank service. G. T. Cartinhour. Bankers M 139:535-6 D '39

Bibliography

Banking. (Business literature v 13, no 1) 2p Business branch, Newark public library, Newark, N.J. S '40

Books for bankers. Published in monthly numbers of Bankers magazine

Current trust and probate literature. Published in monthly numbers of Trusts and estates

New books. Published in monthly numbers of Banking

New literature on the banker's problems; reviewed by M. Palyi. J Business 13:316-22 Jl '40

Selected bibliography of money, credit, banking and business finance. R. B. Westerfield. 136p pa $1.50 Bankers pub. co, 465 Main st, Cambridge, Mass. '40

Bill payment service

Special check for bill-payment service; one check to pay all current bills of a customer. J. K. Novins. il Bankers Mo 57: 328-9+ Je '40

Branch banking

Analysis of changes in number of banks and branches, January 1-March 31, 1940. Fed Res Bul 26:585 Je '40

Bank chain debated; Michigan law. Business Week p45 Je 1 '40

Banks and branches; number of banks in operation and number operating branches or additional offices, Dec. 31, 1938 and 1939. Fed Res Bul 26:458-9 My '40

Changes in number of banks and branches in United States, January-June, 1940. Fed Res Bul 26:993 S '40

Colloquy on branch banking; contemporary questions and answers. F. C. James. 28p Am. economists council for the study of branch banking, box 467, Grand Central annex, New York '39

Legal status of branch banking in the United States. F. A. Bradford. 32p American economists council for the study of branch banking, box 467, Grand Central annex, New York '40

Number of banks and branches in United States, 1933-1939. Fed Res Bul 26:156-7, 456 F, My '40

Number of banks and branches in United States, 1933-1940 (March 31). Fed Res Bul 26:584 Je '40

Opposition to nation-wide branch banking. W. R. White. Comm & Fin Chr 150:925 F 10 '40

Central banks

Annual report of the Central bank of the Argentine Republic, 1938. Fed Res Bul 25:1077-94 D '39

Annual report, 10th, of the Bank for international settlements, year ending March 31, 1940. Fed Res Bul 26:1092-6 O '40

Central banking. M. H. de Kock. 354p 15s P. S. King & son, London '39

Central banks. Published in monthly numbers of Federal reserve bulletin

Changes in central banking. G. Freund and S. Fink. Bankers M 139:486-8 D '39

Gold reserves of central banks and governments, 1913-April, 1940. Fed Res Bul 26: 925-34 S '40

New law for the National bank of Belgium; decree of August 24, 1939. Fed Res Bul 26: 101-5 F '40

See also

Bank of England
Banks and banking —New Zealand
Federal reserve banks

Checking accounts

Adequate service charges essential. W. C. Rempfer. Bankers M 139:533-4 D '39

Checking account forms; presented by Bank management commission, A.B.A. Banking 32:50-4 Ja '40

Public likes no-minimum accounts. R. H. Wells. Bankers Mo 57:133+ Mr '40

Service for small borrowers; convenient checking plan. J. E. Moore. Banking 33:97 S '40

BANKS and banking—Checking accounts—*Cont.*
We earn more and work less; use of available equipment and numbering system to identify endorsers made transit work and account analysis more economical. H. Meidell. il Bankers Mo 57:270-1 My '40

See also
Banks and banking—
Service charge
Overdrafts

Collection departments

Speeding up collections by air. J. Farnham. Bankers M 141:10-12 Jl '40

Correspondent banks

Correspondent services are not metered. J. Y. Beaty. il Bankers Mo 57:597-8 N '40
Correspondent trust service. A. K. Foster. Banking 33:30-1 O '40
Investment help from the city; based on questionnaire regarding use of correspondent bank advice. E. S. Adams. Banking 32: 28-9 Je '40
Our customers understand our correspondent connections. J. Y. Beaty. Bankers Mo 57: 262-3 My '40
Value of correspondent bank services. J. Y. Beaty. il Bankers Mo 57:69-70+ F '40
Variety is the spice of correspondent services. R. L. Thomas. Bankers Mo 57:451-2 Ag '40

Costs

Consumer credit operating costs. O. C. Lorenz. Banking 32:34-6 My '40; Same. Bankers M 140:387-9 My '40
Meeting the low earnings problem; service charges based on cost analysis. W. C. Rempfer. Bankers M 140:286-91 Ap '40
Mr Jones learns about account charges; explaining account analysis in detail to all new depositors. A. J. Mayer. il Bankers Mo 57: 16-17 Ja '40

See also
Bank accounting

Country banks

Banks and agricultural loans. W. S. Cothran. Bankers M 140:157-8 F '40
Business of village banking. W. W. Evans. il Burroughs Clearing House 24:22-3+ Ja '40
Consumer credit in a small town. A. T. Spitzer, 2d. Banking 32:105 F '40
Correspondent trust service. A. K. Foster. Banking 33:30-1 O '40
Correspondent trust service; Union bank & trust company, Los Angeles, extends trust facilities to smaller communities; local banks as agents. R. H. Bolman. Trusts & Estates 69:589-94 D '39
Country bank auditing; combination of operating control and direct auditing. S. B. Cooper. il Burroughs Clearing House 24:9-11+ D '39; 18-20+ Ja '40
Country banker's responsibility. K. J. McDonald. Bankers M 140:451-2 My '40
Dealers widen sales area by personal calls on farmers; bring business to banks. J. V. Tuttle. Bankers Mo 57:15+ Ja '40
Feeder financing vs. factory financing. J. V. Tuttle. Bankers Mo 57:207+ Ap '40
Feeding helps the bank and the land; good profit in livestock feeding loans. C. W. Wright. Bankers Mo 57:170-1 Mr '40
How to study industrials for a small bank's investment. R. R. Fairchild. Bankers Mo 57:278-9+ My '40
How we compete with non-bank lending agencies; Kanabec state bank, Mora, Minn. F. P. Powers. il Bankers Mo 57:300-1 My '40
Improving a bank's insurance coverage; how a city bank helped a country correspondent. P. A. Allen. il Burroughs Clearing House 24:14-16+ F '40
Instalment paper in a small town. F. P. Powers. Banking 32:94 Mr '40
Investment help from the city; based on questionnaire regarding use of correspondent bank advice. E. S. Adams. Banking 32:28-9 Je '40
Liquidity of loans to farmers. C. C. Neumann. Comm & Fin Chr 151:69-70 sec 3 O 12 '40
Loan opportunities. G. S. Eccles. il Burroughs Clearing House 24:9-11+ Ja '40
Local dealers send borrowers to this southern bank; feed and farm equipment. H. M. Arthur. Bankers Mo 57:480-1 Ag '40
More cows, more loans; we encourage both. H. G. Vincent. il Bankers Mo 57:404-5+ Jl '40
Over 29% of loans finance consumers; Kanabec state bank, Mora, Minn. F. P. Powers. Bankers Mo 57:549-50 O '40
Positive program. A. G. Brown. Banking 32: 96 Ap '40
Properly fed chicks attracted bank customers. H. E. Williams. Bankers Mo 57:613 N '40
Small borrower becomes a large borrower; encouraging a farmer to develop his business. J. V. Tuttle. Bankers Mo 57:347+ Je '40
Two-point service charge program. L. G. Tolhurst. il Burroughs Clearing House 24: 20-2+ Je '40
Unusual loans for country banks. T. A. Glenn, jr. Banking 32:102 F '40
What is a competent trust department? nonurban trusteeship and the bases of its qualification. D. S. Frolen. Trusts & Estates 70:29-34 Ja '40

Credit departments

One way to get a credit report. P. Gomery. Bankers Mo 56:752 D '39
Time loans quickly passed with adequate equipment and complete records. E. F. Longinotti. il Bankers Mo 57:407-9 Jl '40

See also
Credit, Bank

Customer relations

Approach is important. P. H. Sitges. Banking 32:91 Ja '40; Same cond. Bankers M 140:85-6 Ja '40
Bank letters; bank employs a correspondence reviewer. T. M. Day. Banking 32:85-6 Ap '40
Building banking business; staff conference methods. W. Powers. Banking 32:38 My; 56 Je; 33:56 Jl; 88 Ag '40
Customer relations training. Trusts & Estates 70:496 My '40
Customers appreciate the new trend in bank buildings. J. R. Cudney. il Bankers Mo 57:556-7 O '40
Customers are human too. W. Z. Hayes. Trusts & Estates 70:399-400 Ap '40
Employees tell us how to run the bank; sending employees to call on local businessmen. C. L. Stout. il Bankers Mo 57:208+ Ap '40
Once there was a bank; comic strip on holding customers after you get them. J. W. Irwin and B. Kirkpatrick. Banking 33: 32-3 Ag '40
Personal factors in banking. E. S. Woosley. Bankers M 140:173-4 F '40; Same. Banking 32:99 F '40
Speech study improved customer service; bank employee studied public speaking. I. L. Nelson. il Bankers Mo 57:292-4 My '40
Whole staff—directors, officers, employees, can be trained in practical public relations. G. B. Jacobs. il Bankers Mo 57:74-5+ F '40

See also
Banks and banking—Lobby libraries
Banks and banking—Public relations

Depositors

See also
Bank deposits
Banks and banking—Customer relations

Employees

See Bank employees

Examinations

Questions on money and banking. W. E. Dunkman. 97p $1 Columbia univ. press '40

BANKS and banking—*Continued*

Finance

Bank earnings mediocre in New York; first quarters, 1938-40. Barron's 20:13 Ap 8 '40
Bank earnings moderately higher; third quarter statements. Barron's 20:18 O 7 '40
Bank profits and their sources. W. Kraemer. Mag of Wall St 65:550-1+ F 10 '40
Banking as a business; salient developments from 1929 to 1939. Index 19 no4:63-71, 74 [D] '39
Case for bank stocks. F. L. Garcia. Barron's 20:9 Ap 15 '40
Do our banks need more capital? cash reserves should be considered in figuring safety factor behind deposits. R. D. Skinner. Barron's 20:18 Ja 8 '40
Earnings and expenses of all insured commercial banks, 1939. 32p pa 25c Am. bankers assn, Research council, 22 E. 40th st, New York '40
Earnings and expenses of all member banks of the Federal reserve system, 1927-1939. Comm & Fin Chr 150:3132 My 18 '40
Earnings and expenses of Federal reserve banks during 1939; tabulation. Fed Res Bul 26:114-15 F '40
Earnings and expenses of Federal reserve banks during the six-month period ended June 30, 1940. Fed Res Bul 26:819 Ag '40
Earnings and expenses of member banks by classes of banks, 1939 and 1938. Fed Res Bul 26:460-5 My '40
Earnings and expenses of member banks during 1939. Fed Res Bul 26:719-21 Jl '40
Greater lending and investment by banks is advocated. S. M. Foster. Comm & Fin Chr 150:3760-1 Je 15 '40
Illinois bankers association publishes report on ratio of capital structure to deposit liability. Comm & Fin Chr 150:1532 Mr 9 '40
Improvement in capital position of insured banks and in quality of bank assets reported by FDIC chairman. Comm & Fin Chr 150:1213 F 24 '40
Increasing commercial bank profits. A. P. Woolfson. Bankers M 139:471-4 D '39
Internal bank management controls; control of financial position. H. N. Stronck. Bankers Mo 57:23-5+ Ja '40
Investments and liquidity of member banks during 1939. V. M. Longstreet. Fed Res Bul 26:293-7 Ap '40
Is there a need for a revision of capital requirements; with tabulation by states. Bankers Mo 57:134-5 Mr '40
Low interest rates for housing loans. J. K. Barnes. Annalist 54:694 N 30 '39
Net earnings and net profits per $100 of deposits all national banks and all insured commercial state banks, for year ending Dec. 31, 1939; maps. Banking 33:50 S '40
Net sound capital. Banking 32:78 My '40
Outlook for bank stocks; comparative earnings and financial data of leading banks. Barron's 20:3 Mr 18 '40
Portfolio policies of commercial banks in the United States, 1920-1939. P. Hunt. 58p pa $1.50 Harvard univ, Graduate school of business administration '40
Profits of British banks for last completed financial year. Economist 138:sup10 My 18 '40
Question of a capital-deposit ratio. T. H. Golightly. Bankers M 140:307-10 Ap '40
Recent trend of member bank earnings and the outlook for 1940 and 1941. S. L. Miller. Annalist 56:395-6 S 26 '40
Reduce salaries last. E. S. Woolley. Bankers M 141:250 S '40
Small changes in New York bank earnings in second quarter of 1940. Barron's 20:18 Jl 8 '40
Sound management or capital ratio? M. C. Corns. Bankers M 141:6-9 Jl '40
Tracing bank trends; analysis of significant bank ratios, 1930-1939. W. H. Kniffin. Burroughs Clearing House 24:9-11+ Ap '40
Trend of member bank earnings and profits. R. I. Robinson. Fed Res Bul 26:395-400 My '40
Uniform minimum ratio of bank's capital funds to deposits discussed. J. T. Madden. Comm & Fin Chr 151:2288-9 O 19 '40
War and banking trends; 1939 review and analysis of New York, Philadelphia, Chicago, and Boston banks. F. L. Garcia. Bankers M 140:100-6 F '40

See also
Bank accounting
Bank reserves
Banks and banking—Investments
Banks and banking—Stock

Foreign banking departments

War and foreign department operations. W. Ward. Bankers M 141:261-4 S '40

Foreign branches

Financing South American trade; foreign branches of National city bank of New York. J. H. Durrell. il Burroughs Clearing House 24:12-14+ Ap '40

Forms, blanks, etc.

Attention to forms and methods profitable. L. W. Bishop. Bankers M 140:360-1 Ap '40
Better earnings and greater efficiency through simplification of bank operating forms. L. W. Bishop. Comm & Fin Chr 151:63-6 sec 3 O 12 '40
Bookkeeping; simplified forms save time and money. il Banking 32:49-53 Je '40
Checking account forms; presented by Bank management commission, A.B.A. Banking 32:50-4 Ja '40
General ledger forms. il Banking 32:49-51 F '40
Information required when Stephens national bank of Fremont, Neb. makes a loan on life insurance cash value. J. M. Sorensen. Banking 33:100 S '40
Mortgage application form. C. K. Withers. Banking 32:40 Je '40
Paying and receiving; simplified forms. Banking 32:49-53 Ap '40
Proof and transit; simplified forms. Banking 32:49-52 My '40
Questions to ask before ordering printed forms. L. W. Bishop. Bankers Mo 57:306 My '40
Report of committee on standard forms, A.B.A. State secretaries section. Comm & Fin Chr 151:55-7 sec 3 O 12 '40
Simplified forms; account analysis. il Banking 33:49-51 Jl '40
Simplified forms; instalment notes and pledge agreement. Banking 33:53-7 O '40
Simplified forms; safe deposit boxes. Banking 33:49-52 N '40
Simplified forms; the savings department. il Banking 33:49-52 Ag '40
Social security and wages and hours payroll records. Banking 32:49-54 Mr '40
We reduce costs by standardization and simplification. L. C. Phillips. Bankers Mo 57: 527-9+ S '40

See also
Banks and banking—Records

Group banking

Group banks; number and deposits of banks in 41 groups, and number of branches of group banks, Dec. 31, 1939. Fed Res Bul 26:457 My '40

Guaranty of deposits

Banking structure weakness. Bankers M 141: 44-5 Jl '40
Deposit insurance to date. Bankers M 140: 284 Ap '40
FDIC annual report, 1939. Comm & Fin Chr 150:3571-3 Je 8 '40
FDIC made material progress during 1939; report as of Dec. 31, 1939. Comm & Fin Chr 150:922 F 10 '40
FDIC report summary. L. T. Crowley. Bankers M 141:266 S '40
FDIC to consider reasonable reduction in rate of assessment paid by banks; report for first six months of 1940. Comm & Fin Chr 151: 626-7 Ag 3 '40

BANKS and banking—Guaranty of deposits— *Continued*
Future of deposit insurance. G. Emerson. Bankers M 141:14-17 Jl '40
Postal savings system no longer needed in view of establishment of FDIC. H. B. Steagall. Comm & Fin Chr 149:3348 N 25 '39
Reduction in federal deposit insurance rates advocated. G. Emerson. Comm & Fin Chr 150:3291 My 25 '40
Report of the Federal deposit insurance corporation as of December 31, 1939. Fed Res Bul 26:309-10 Ap '40

History

Key to money and banking. W. F. Spalding. 194p 5s Blackie & son, London '38
Pennsylvania co. presents records of first chartered U.S. bank to Historical society. il Bankers Mo 57:164-5 Mr '40
Time and money; chronological highlights. T. D. MacGregor. Banking 32:25 F '40

Hours of business

Hours problem; bank management aspects. A. T. Wilson. il Burroughs Clearing House 24:11-13+ F '40
Most New York state banks not further altering their banking hours to meet new 40-hour provision of wage-hour law. Comm & Fin Chr 151:2419 O 26 '40
Shorter hours, Saturday service preferred by customers of Union and New Haven trust company, New Haven, Conn. Bankers M 140:540-1 Je '40; Bankers Mo 57:354 Je '40
Survey of public banking hours. 39p pa 25c Am. bankers assn, 22 E. 40th st, New York '40

Insurance, Customers'

Bank and its customers' insurance. K. C. Bell. Weekly Underw 142:1224-8 My 18 '40; Excerpts. East Underw 41:29+ My 10 '40; Nat Underw 44:3 My 9 '40; Trusts & Estates 71:73 Jl '40; Bankers M 141:251-2 S '40
Insurance for borrowers. H. G. Eberle and H. W. Ervin. Banking 33:37-8 Ag '40

Insurance requirements

A.B.A. sees savings of $4,000,000 to banks through rate reductions. East Underw 41: 52+ S 27 '40
A.B.A. study of insurance coverage of banks with $5,000,000 deposits or more under blanket and forgery bonds. Comm & Fin Chr 150:370 Ja 20 '40
A.B.A. study of insurance coverage of large banks under blanket and forgery bonds. East Underw 41:33 Ja 12 '40; Weekly Underw 142:130 Ja 13 '40
Bankers' forgery bond (lenders form) protects lending institutions against loss through forgery of finance paper. East Underw 41:32+ Ja 5 '40; Ins Field (Fire ed) 69:22 Ja 4 '40; Spectator (Property ed) 5:24-5 Ja 11 '40; Weekly Underw 142:150-1 Ja 13 '40
Bank's insurance problems. E. W. Sawyer. Bankers M 141:35-7, 124-7 Jl-Ag '40; Excerpts. East Underw 41:41 Je 7 '40; Weekly Underw 142:1399 Je 8 '40
Centralized insurance control; a report on some case histories. A. W. Nelson. Banking 33:60 O '40
Finance paper forgery protection; Bankers forgery bond lenders form. Banking 32:82 F '40
Improving a bank's insurance coverage; how a city bank helped a country correspondent. P. A. Allen. il Burroughs Clearing House 24:14-16+ F '40
Legal liability insurance. H. G. Eberle and H. W. Ervin. Banking 32:30-1 F '40
Material damage insurance. H. G. Eberle and H. W. Ervin. Banking 32:28-9 D '39
Packaged insurance for banks. H. G. Eberle and H. W. Ervin. Banking 32:28-9 My '40
Report of committee on insurance and protection, A.B.A. State secretaries section. Comm & Fin Chr 151:55 sec 3 O 12 '40
Simplified insurance control; summary of topics discussed in Banking's insurance series. A. W. Nelson. Banking 33:64-5 S '40
Ten loopholes for forgery. H. G. Eberle and H. W. Ervin. Banking 32:33+ Je '40

See also
Bankers' blanket bond

Insurance selling

See also
Savings banks—Insurance selling

Investments

All banks in the United States; loans and investments. Published in monthly numbers of Federal reserve bulletin
Bank bond investment and secondary reserve management. P. M. Atkins. 406p bibliog (p337-9) $5 Bankers pub. co, 465 Main st, Cambridge, Mass. '40
Bank investments and reserves; proceedings of the second annual Michigan bankers association study conference, Ann Arbor, December 6-7, 1939. R. G. Rodkey, ed. 84p pa $1 Univ. of Michigan, School of business administration, Bur. of business research, Ann Arbor '40
Bank portfolio conferences in Cleveland and Cincinnati. Comm & Fin Chr 150:2508 Ap 20 '40
Banks and idle money; improving credit facilities for small business. W. Thomas. Fed Res Bul 26:192-200 Mr '40; Excerpts. Comm & Fin Chr 150:1698-9 Mr 16 '40
Bank's bond portfolio; symposium. R. L. Garner and others. Banking 32:100 Mr '40
Better bank investment management. P. B. Kelly. Bankers M 141:100-5 Ag '40
Billions for defense; practical aspect of government borrowing. A. W. Atwood. Banking 33:25-6 Jl '40
Bond notes. Bankers M 140:510-12 Je '40
Bond portfolios in transition. E. S. Adams. Banking 33:72-4 S '40
Condition of all member banks; loans and investments. Published in monthly numbers of Federal reserve bulletin
Credit files for securities. E. S. Adams. Banking 32:26-7 F '40
Defensive investing; abstracts. G. H. Rigler. Banking 32:90 Ja '40; Trusts & Estates 69: 651-3 D '39
Determining interest rates; quality of assets must eliminate risk. S. M. Foster. Bankers M 140:210-14 Mr '40
800 New York bankers attend conferences on bond investments, held simultaneously in 10 cities. Comm & Fin Chr 150:929 F 10 '40
Encourage purchase of local securities. B. H. Griswold, jr. Bankers M 140:404-5 My '40
Five talks on investments by Bond portfolio committee, New York state bankers association. E. S. Adams. Banking 32: 74-5 Mr '40
Government bond investment policy. D. H. Mills. Bankers M 140:390-2 My '40
Greater lending and investment by banks is advocated. S. M. Foster. Comm & Fin Chr 150:3760-1 Je 15 '40
How to study industrials for a small bank's investment. R. R. Fairchild. Bankers Mo 57:278-9+ My '40
How to use advisory investment service; various printed services. R. R. Fairchild. Bankers Mo 57:136-7+ Mr '40
Internal bank management controls; control of bonds and securities. H. N. Stronck. Bankers Mo 57:344-6 Je '40
Investment and finance; a monthly survey of current developments affecting the bank investment market. O. Lasdon, ed. Published in monthly numbers of the Bankers magazine
Investment help from the city; based on questionnaire regarding use of correspondent bank advice. E. S. Adams. Banking 32: 28-9 Je '40
Investment objectives. E. S. Adams. Banking 32:26-7 Ap '40

BANKS and banking—Investments—*Continued*
Investment preparedness; ten practical suggestions. E. S. Adams. Banking 33:28-9 Ag '40
Investment problems confronting banks. M. Nadler. Comm & Fin Chr 150:3447-8 Je 1 '40
Investment question box; typical questions asked at forums of Bond portfolio committee, New York state bankers association. E. S. Adams. Banking 32:30-1 My '40
Is your bond account ready? analyze current position for safety. E. S. Adams. Banking 33:38-9 N '40
Mortgage loans in the bank portfolio. E. M. Fisher. Comm & Fin Chr 151:66-8 sec 3 O 12 '40
Mortgage portfolio of the future. F. H. Allen. Trusts & Estates 70:293-4 Mr '40
Municipal bonds for bank investment. P. G. Morris. Bankers M 140:547-8 Je '40
New sources of bank revenue. E. H. Collins. Banking 33:80 S '40
Outlook for bond prices. L. P. Ayres. Bankers M 140:482-3 Je '40; Same. Banking 32: 94 Je '40
Outlook for long-term money rates. A. P. Woolfson. Bankers M 140:17-20 Ja '40
Portfolio policies of commercial banks in the United States, 1920-1939. P. Hunt. diags Harvard Univ Graduate School of Business Administration, Business Research Studies 24:1-58 '40 (pa $1.50)
Portfolio policy for government securities. G. Freund and F. Spodick. Bankers M 141: 206-8 S '40
Protecting bank bond investments. J. F. Ebersole. Harvard Business R 18 no 4:410-16 [Jl] '40
Public utility bonds for banks. R. R. Fairchild. Bankers Mo 57:496+ Jl '40
Railroad bonds for banks. R. R. Fairchild. Bankers Mo 57:342-3 Je '40
Ratings are bar to small issues; unofficial policy of using ratings in regulating bank investments. J. K. Stoakweather. Inv Banking 10:13-14 Mr '40
Revolving fund protects bond income. R. R. Fairchild. Bankers Mo 57:504+ S '40
Safety tests for municipal bonds. W. L. Goodwyn, jr. Trusts & Estates 70:301-4 Mr '40
Selecting real estate loans. W. A. Marcus. Banking 33:27 N '40
Some considerations on the management of commercial bank investments. N. L. Silverstein. bibliog J Business 13:136-45 Ap '40
Ten investment policies; survey shows wide diversity. E. S. Adams. Banking 33:33-4 Jl '40
20 investment resolutions. E. S. Adams. Banking 32:24-5 Ja '40
U.S. bonds worry the banks again. Business Week p47-9 My 11 '40
War and its effects on American banking. M. Nadler. Comm & Fin Chr 151:28-30 sec 3 O 12 '40; Excerpt. Bankers M 141:402-4 N '40
What modern investment counsel is; service to banks. R. R. Fairchild. Bankers Mo 56: 722-3+ D '39
Who manages your bond account? O. A. Rossman. il Burroughs Clearing House 24: 14-16+ My '40
Written investment program. C. S. Young. Banking 32:93 Ja '40; Excerpt. Trusts & Estates 69:666 D '39
Year-end investment report; hypothetical report of bank president to directors. E. S. Adams. Banking 32:30-1 D '39

See also
Banks and banking—Secondary reserves
Savings banks—Investments
Loans, Bank

Cooperative research and control
Co-operative securities research; solution of railroad portfolio problems; work of Security research bureau of Philadelphia. H. L. Umbarger. Trusts & Estates 70:121-2 F '40

Lobby libraries
Lobby libraries. il Banking 32:15 D '39

New business
Employee sales plan that sells. Banking 32: 72-3 Je '40
How to survey your trade area. C. W. Bailey. Comm & Fin Chr 151:68-9 sec 3 O 12 '40
Human nature. M. Wright. Banking 33:97 Ag '40
It's time to get business. il Banking 32: 19-22 Ap '40
Nine-point business builder. P. K. Barker. Banking 32:30 Je '40
We ask businessmen to send customers to us; how bank increased its loans. A. J. Jorgenson. Bankers Mo 57:178 Mr '40

Protection
Fingerprinting protection for banks. C. W. Fishbaugh. il Bankers M 141:202-5 S '40

Public relations
American citizenship; high school pupils participated in a state-wide public speaking contest sponsored by California bankers association. il Banking 32:44-6 Je '40
Banker and local tax problems. G. W. Brooks. map Bankers M 141:198-201 S '40
Christmas activities; survey of bank participation. J. Farnham. il Burroughs Clearing House 25:20-1+ N '40
Dear Mr Cook. . .; school children's comments after visiting bank. Banking 32:78 Je '40
Employees' checks adopted to impress local business interests with purchasing power of bank's payrolls. Banking 32:57 Je '40
Employees helped educate the public through the stimulus and training of an A.I.B. course. J. Mills. il Bankers Mo 57:288-9+ My '40
Find bank news that makes headlines; with checklist of newsworthy activities. G. D. Cates. il Bankers Mo 57:92-4 F '40
Good business manners. A. P. Firth. Banking 32:86-7 F '40
Greater emphasis on public relations; abstracts. M. E. Selecman. Comm & Fin Chr 149:3350 N 25 '39; Bankers M 140:21-2 Ja '40
Hints for hustlers by the Missouri bankers' association committee on education and public relations. Trusts & Estates 70:195 F '40
Keys to better public relations. R. A. Ilg. Bankers M 141:29-30 Jl '40
Know your bank. H. M. Bratter. Banking 32: 37 F '40
Know your community. T. H. Reed. Banking 33:33-4 S '40
Many happy returns; ways of celebrating bank birthdays. I. M. Bennett. Banking 32: 90 F '40
Merchandising banking service. S. H. Fifield. Bankers M 140:83 Ja '40
Motion pictures in the bank field. A. R. Gruenwald. il Burroughs Clearing House 24: 14-16+ Je '40
My individual responsibility. C. L. Stout. Comm & Fin Chr 151:51-2 sec 3 O 12 '40
Open house made educational; Racine First national bank anniversary celebration. B. J. Bleakley. il Bankers Mo 57:264-6 My '40
Our bank has prospered because we compliment our customers. B. J. Schwoeffermann. il Bankers Mo 57:499-501 S '40
People like to listen; so why not send a speaker? J. H. Collins. Pub Util 25:395-402 Mr 28 '40
Plan for a public relations program keyed to a small bank. M. S. Davis. Bankers Mo 57: 22+ Ja '40
Program to remold public opinion. J. J. Anton. Bankers M 139:500-2 D '39
Public relations asset; American institute of banking section of American bankers association. G. A. Prosser. Banking 32:94-5 F '40
Public-spirited policy benefits our bank; interview with Bion H. Barnett. L. M. Fifield. il Bankers Mo 57:20-1+ Ja '40

BANKS and banking—Public relations—*Cont.*
Radio quiz technique adopted for public relations meeting. M. J. Campbell. Burroughs Clearing House 24:3-4 Ja '40
Report of committee on banking education and public relations, A.B.A. State secretaries section. Comm & Fin Chr 151:54 sec 3 O 12 '40
Students ask questions after seeing film, Money at work. Banking 32:83 Ap '40
Telling the public; ABA questionnaires on loans. L. Gibson. Banking 33:98 Ag '40
Tomorrow's depositors; pictures of bank visits by student groups. Banking 33:30-1 Jl '40
We educate tomorrow's customers; list of 120 questions asked by high school students used in campaign of public relations through the schools. H. N. Bales. Bankers Mo 57: 18-19+ Ja '40

See also
Banks and banking—
Customer relations

Purchasing

Bankers semi-annual buyers guide and supply source. Bankers Mo 57:238-56, 622-40 Ap, N '40
Know your bank. G. F. Berger. il Banking 33: 62 S '40
Our records systematize purchasing. N. D. Stone. Bankers Mo 57:614-15 N '40
Quick reference file of equipment and supply information. J. R. Humphreys. Bankers Mo 57:307-9 My '40
This buying policy maintains quality, avoids expense. J. R. Humphreys. Bankers Mo 57: 370-3+ Je '40

Real estate operations

Banking's survey; improvement of bank-owned and controlled real estate. Banking 32:25-6 My '40
How to sell real estate. B. Griffin. il Banking 33:35-6 Jl '40
Marketing rural real estate. C. T. S. Keep. Trusts & Estates 69:625-6 D '39
Modernization for profit and protection. I. J. Harvey, jr. il Trusts & Estates 71:69-72 Jl '40
Plan that sells bank real estate. A. G. Hewitt. Banking 32:77 My '40
Sell real estate now, and here's how. W. J. Martin. il Bankers Mo 57:350-1 Je '40
Six vital real estate answers. Banking 32:21 D '39
Streamlining the foreclosure problem. W. J. Martin. Bankers M 140:343-4 Ap '40

Records

Bank operations and the wage-hour problem; elimination of overtime costs by revising operating methods. L. K. Curry. Bankers M 141:302-4 O '40
Credit files for securities. E. S. Adams. Banking 32:26-7 F '40
Customer addresses verified monthly. G. W. Snyder, jr. il Bankers Mo 57:44-5 Ja '40
Effective business contacts based on a comprehensive file. H. R. Pennell. il Bankers Mo 57:552-3 O '40
Installment loan ledgers posted and filed quickly. W. D. Yealland. il Bankers Mo 57:454-5+ Ag '40
Internal bank management controls; control of bonds and securities. H. N. Stronck. Bankers Mo 57:344-6 Je '40
Internal bank management controls; the controller of loans. H. N. Stronck. Bankers Mo 57:275-7+ My '40
More personal loans with visible control; visible filing system and a simplified plan of operation. A. T. Roth. il Bankers Mo 57: 214-15 Ap '40
New folder simplified our trust records. W. F. Howell. il Bankers Mo 57:216-17 Ap '40
Our records systematize purchasing. N. D. Stone. Bankers Mo 57:614-15 N '40
Our revised system serves more customers; East River savings bank. D. Campbell. il Bankers Mo 57:10-11+ Ja '40
Personal loans quickly handled with this visible ledger file. R. A. Prosswimmer. Bankers Mo 57:91+ F '40
Preferred risk card to be used by other bankers. il Bankers Mo 56:746-7 D '39
Recovery plan for charge-offs; centralized handling has cut collection costs and netted better results. D. F. Buechner. il Burroughs Clearing House 25:12-14+ O '40
Simple loan supervision avoids mistakes. E. L. Blaine, jr. Bankers Mo 56:709-11+ D '39
Teller's time saved by use of duplicate deposit tickets. Bankers Mo 57:520 S '40
Time loans quickly passed with adequate equipment and complete records. E. F. Longinotti. il Bankers Mo 57:407-9 Jl '40
Visible liability ledger is the basis for safe loans. A. Larschan. Bankers Mo 57:337+ Je '40
When we want records we have them; with time schedule for the retention of records. J. A. Hand. Bankers Mo 57:470-1 Ag '40
Witness to signature card. Banking 32:32 D '39

Regulation

Crazy-quilt pattern of bank supervision; Attorney General's committee on administrative procedure. Bankers M 140:351-3 Ap '40
Lifting supervision standards. R. M. Hanes. Bankers M 140:439-40 My '40; Same abr. Banking 32:89 Ap '40
Potentialities of bank supervision. H. Jones. Bankers M 140:255-7 Mr '40
Province of bank supervision. L. T. Crowley. Bankers M 140:251-2 Mr '40
State bank supervision progresses; A.B.A. 1939 survey. Banking 32:80-1 F '40
Suggested procedure in bank charter denials, by Attorney General's committee on administrative procedure. Bankers M 140:532-4 Je '40
War crisis and banking control dangers. T. M. Steele. Bankers M 141:67-8 Jl '40

See also
Bank examination
Banking law

Safe deposits

See Safe deposits

Savings departments

Know your savings accounts; A.B.A. plan of account analysis. J. R. Dunkerley. il Banking 32:86-7 Je '40
Simplified forms; the savings department. il Banking 33:49-52 Ag '40
To preserve our free banking system; separate savings bank service. R. W. Manuel. Bankers M 141:285-90 O '40

See also
Savings banks
Savings deposits

Secondary reserves

Bank bond investment and secondary reserve management. P. M. Atkins. 406p bibliog(p337-9) $5 Bankers pub. co, 465 Main st, Cambridge, Mass. '40
Secondary reserve policies and programs. P. M. Atkins. Bankers M 139:479-82; 140:6-10, 108-12 D '39-F '40
Secondary reserves in the form of bonds. Banking 32:76 F '40

Securities

British insurance and bank shares. Economist 139:189-90 Ag 10 '40

Service

Adventure in bank teamwork; New England commercial banks cooperate in interchange of instalment paper. J. J. Scanlon. Banking 33:30 Ag '40
Assistance to bankers in promoting better livestock; services of new Co-operative livestock exchange. P. V. Ewing. Bankers Mo 56:738+ D '39
Banking opportunities in Latin American trade; with bibliography of reference books. H. F. Koller. Bankers M 141:210-12 S '40
Bank's 4-H club. Banking 32:88 F '40
Business of village banking. W. W. Evans. il Burroughs Clearing House 24:22-3+ Ja '40

BANKS and banking—Service—*Continued*

Can a bank help place youth in business? vocational counseling. R. W. Lane. Bankers Mo 57:332-3+ Je '40

City banks eager to serve. R. L. Thomas. Bankers Mo 57:503 S '40

Customers' room creates good will, increases business. Bankers Mo 57:587 O '40

Home building encouragement by the bank; architect's service and term life insurance. W. P. Straw. Bankers M 140:545-6 Je '40

How to get along with your banker. W. Webb. il Am Business 10:16-18 Ap '40

Inventors challenged; bank's research service finds out what manufacturers would like to have developed. Business Week p37 O 26 '40

New bank unit; factoring provided for Los Angeles garment industry by Bank of America. Business Week p46 N 9 '40

One association's farm activities; New York state bankers association. J. H. Payne. il Burroughs Clearing House 24:20-2+ My '40

Our customers understand our correspondent connections. J. Y. Beaty. Bankers Mo 57: 262-3 My '40

Responsibilities in liquidation; abstract. C. C. Jacobsen. Bankers M 141:460 N '40

Sending dividend checks; by issuing company or outside agency. Management R 28:446-7 D '39

We help our borrowers to make a success. W. Frame. Bankers Mo 57:453+ Ag '40

See also

Banks and banking—Bill payment service

Banks and banking—Lobby libraries

Checks

Management aids

Research advisory service. Ind & Eng Chem News ed 18:669 Ag 10 '40

Science group meets to shape program of bank-sponsored research clearing house; Research advisory service. Comm & Fin Chr 150:782-3 F 3 '40

Service charge

Adequate service charges essential. W. C. Rempfer. Bankers M 139:533-4 D '39

Analysis of no-minimum accounts. Bankers Mo 57:526 S '40

Bank merchandising keeps up-to-date; simplifying charges. I. I. Sperling. Banking 32:80-1 Mr '40

Meeting the low earnings problem; service charges based on cost analysis. W. C. Rempfer. Bankers M 140:286-91 Ap '40

Mr Jones learns about account charges; explaining account analysis in detail to all new depositors. A. J. Mayer. il Bankers Mo 57: 16-17 Ja '40

New sources of bank revenue. E. H. Collins. Banking 33:80+ S '40

No bank makes service charges. E. S. Woolley. Bankers M 141:176-7 Ag '40

Present day trends in account analysis. G. Balkam. Bankers Mo 56:712-13+ D '39

Report of committee on state bankers association management and regional clearinghouses, A.B.A. State secretaries section. Comm & Fin Chr 151:57-8 sec 3 O 12 '40

Rochester (N.Y.) banks agree to defer service charge for redeeming food stamps. Comm & Fin Chr 149:3347 N 25 '39

Service charge; Cleveland and Syracuse clearinghouse associations. Banking 32:66 F '40

Service charges on bankruptcy funds. Banking 32:32 D '39

Two-point service charge program in a country bank. L. G. Tolhurst. il Burroughs Clearing House 24:20-2+ Je '40

We abandoned the monthly charge and recovered closed accounts; now charge three cents per check. A. J. Jorgenson. Bankers Mo 57:298-9+ My '40

We earn more and work less; use of available equipment and numbering system to identify endorsers made transit work and account analysis more economical. H. Meidell. il Bankers Mo 57:270-1 My '40

We treat all depositors alike under our service charge plan. E. Pacot. Bankers Mo 57: 555+ O '40

Show windows

Branch bank window displays. R. Maclean. il Banking 33:81 N '40

How to get materials for window displays. W. Distelhorst. il Bankers Mo 57:466+ Ag '40

Public-spirited policy benefits our bank; interview with Bion H. Barnett. L. M. Fifield. il Bankers Mo 57:20-1+ Ja '40

Window displays sell our bank's services. C. B. Stephenson. il Bankers Mo 57:338-40+ Je '40

Word for home town products; bank window displays pictured. Banking 32:46 Ja '40

Statements of account

Most economical method of handling commercial account statements. Banking 32:80 Ap '40

Staggered mailing of statements avoids a month-end peak load. W. H. Wallerich. il Bankers Mo 57:398-9+ Jl '40

We mail all statements, save time and cost. G. W. Snyder, jr. il Bankers Mo 57:71+ F '40

Statistics

Advertising upturn indicated by banking operations; a P.I. index study. L. D. H. Weld. Ptr Ink 192:23-5 S 27 '40

All banks in the United States, principal assets and liabilities, by districts and by states, Sept. 1938, and June and Oct. 1939. Fed Res Bul 26:158-62 F '40

All banks in the United States; principal assets and liabilities, by districts and by states, March 29 and Dec. 30, 1939, and March 26, 1940. Fed Res Bul 26:820-1 Ag '40

All member banks; classification of loans, investments, real estate, and capital on December 30, 1939 by classes of banks. Fed Res Bul 26:250 Mr '40

All member banks; classification of loans, investments, real estate, and capital on June 29, 1940, by classes of banks. Fed Res Bul 26:995 S '40

All member banks, condition on Oct. 2, 1939 by classes of banks. Fed Res Bul 26:58 Ja '40

All member banks; condition on December 30, 1939 by classes of banks. Fed Res Bul 26:249 Mr '40

All member banks, condition on March 26, 1940 by classes of banks. Fed Res Bul 26: 608 Je '40

All member banks; condition on June 29, 1940, by classes of banks. Fed Res Bul 26:994 S '40

All member banks, condition on selected call dates, Oct. 17, 1934, to Oct. 2, 1939. Fed Res Bul 26:57 Ja '40

All member banks, condition on selected call dates, March 4, 1935, to March 26, 1940. Fed Res Bul 26:607 Je '40

Analysis of changes in number of banks and branches, January 1-March 31, 1940. Fed Res Bul 26:585 Je '40

Assets and liabilities of all banks in United States on June 30, 1939. Comm & Fin Chr 149:3476-7 D 2 '39

Assets of all banks in United States on Dec. 30, 1939, above six months and year ago. Comm & Fin Chr 150:3747-8 Je 15 '40

Banks and branches; number of banks in operation and number operating branches or additional offices, Dec. 31, 1938 and 1939. Fed Res Bul 26:458-9 My '40

Changes in number of banks and branches in United States, January-June, 1940. Fed Res Bul 26:993 S '40

Commercial banks eligible and ineligible for Federal Reserve membership as of Dec. 31, 1939. Fed Res Bul 26:530, 602-6 Je '40

Commercial banks of over $25,000,000 in total resources as of December 30, 1939. Bankers Mo 57:200-1 Ap '40

Commercial banks; United Kingdom, France, Germany and Canada; assets and liabilities, Dec. 1930-1938 and monthly, Sept. 1938-Oct. 1939. Fed Res Bul 26:72-3 Ja '40 [cont monthly]

BANKS and banking—Statistics—*Continued*
Condition and operation of state banks; A.B.A. survey. Banking 33:92+ Jl '40
Condition of insured commercial banks in United States and possessions, Dec. 30, 1939 and June 30, 1939. Fed Res Bul 26:466 My '40
Condition of national banks in the United States on Sept. 28 and Dec. 31, 1938, and March 29, June 30 and Oct. 2, 1939. Comm & Fin Chr 150:940 F 10 '40
Condition of national banks in the United States on Dec. 31, 1938, March 29, June 30, Oct. 2, and Dec. 30, 1939; tabulation. Comm & Fin Chr 150:2363 Ap 13 '40
Condition of national banks in the United States on March 29, June 30, Oct. 2, and Dec. 30, 1939, and March 26, 1940. Comm & Fin Chr 151:56 Jl 6 '40
Deposit-loan comparison of the twenty largest commercial banks in Arizona, California, Idaho, Nevada, Oregon, Utah and Washington, 1935 and 1939; tabulation. J. Farnham. Bankers M 140:128 F '40
Dividend payments of 29 insolvent national banks authorized during November. Comm & Fin Chr 149:3795 D 16 '39
Domestic banking and finance, 1939. Survey of Cur Business 20:33-7 F '40
Earnings and expenses of Federal reserve banks during the six-month period ended June 30, 1940. Fed Res Bul 26:819 Ag '40
Earnings and expenses of member banks during 1939. Fed Res Bul 26:719-21 Jl '40
FDIC annual report, 1939. Comm & Fin Chr 150:3571-3 Je 8 '40
FDIC reports loans and discounts of insured commercial banks on Dec. 30, 1939, increased $842,000,000 above year ago; comparative statement of assets and liabilities. Comm & Fin Chr 150:2019-20 Mr 30 '40
Finance; bank returns and clearings. Published in weekly numbers of the Economist
International capital transactions of the United States; net capital movement to United States since Jan. 2, 1935; outstanding short term accounts, by countries. Fed Res Bul 26:63-6 Ja '40 [cont monthly]
Member bank earnings and expenses, first half of 1940, and comparisons with other half years, 1935-1939. Fed Res Bul 26:1181-2 N '40
Member bank operating ratios, 1939. Fed Res Bul 26:527-9, 588-601 Je '40
Number of banks. Published in monthly numbers of Federal reserve bulletin
Number of banks and branches in United States, 1933-1939. Fed Res Bul 26:156-7, 456 F, My '40
Number of banks and branches in United States, 1933-1940 (March 31). Fed Res Bul 26:584 Je '40
100 largest commercial banks in the United States listed in order of deposits, on December 30, 1939. Burroughs Clearing House 24:22 Mr '40
Recent trend of member bank earnings and the outlook for 1940 and 1941. S. L. Miller. Annalist 56:395-6 S 26 '40
Statistics for Federal reserve chart book, quarterly banking series. Fed Res Bul 26: 55, 248 Ja, Mr '40
Substantial increases in loans and deposits of insured commercial banks in year ended June 29, 1940. Comm & Fin Chr 151:1367 S 7 '40
Watch the banking figures; relationship to future changes in business. L. Stern. Mag of Wall St 65:212-13+ D 2 '39
Weekly reporting member banks, New York city and outside and by Federal reserve districts; loans and investments, reserves and liabilities. Published in monthly numbers of Federal reserve bulletin
World's largest banks. Banking 32:88-9 My '40

See also
Bank clearings
Bank deposits
Federal reserve banks —Statistics

Stock
Bank of America (San Francisco) proposes to increase capital funds by $30,000,000 through public offering of $2 dividend preferred stock. Comm & Fin Chr 150:2806 My 4 '40
Bank returns to stockholders; abstract. J. J. Driscoll, jr. Bankers M 141:170 Ag '40
Bank stocks; statistics for New York, Chicago, San Francisco. Published in weekly numbers of Barron's
Banks show mixed earnings in final quarter. Barron's 20:20 Ja 8 '40
Case for bank stocks. F. L. Garcia. Barron's 20:9 Ap 15 '40
Outlook for bank stocks; comparative earnings and financial data of leading banks. Barron's 20:3 Mr 18 '40

Stockholders
Stockholder must know his bank; abstract. E. L. Pearce. Bankers M 141:177-8 Ag '40

Study and teaching
Continuity for executives; management views the Graduate school and the Institute. R. N. Ball. il Trusts & Estates 70:515-16+ My '40
Institute training; banking's laboratory for study of theory, practice and application. H. R. Smith. Trusts & Estates 70:535-9 My '40

Taxation
Increase of bank taxation in Canada. J. Montagnes. Burroughs Clearing House 24:23 Mr '40
National bank's protection intact; immunity from state taxation. D. Horne. Banking 32: 54 Je '40
Uniformity in bank taxes. M. Saxe and D. Horne. Banking 33:59-60 S '40
U.S. Supreme court upholds Oklahoma law taxing income of national banks received from tax-exempt federal government securities. Comm & Fin Chr 150:2017 Mr 30 '40

Tellers
New routine and control simplifies proving. V. Emmons. il Bankers Mo 57:600-1+ N '40

Tellers' departments
Tellers' time saved by use of duplicate deposit tickets. Bankers Mo 57:520 S '40

Terminology
There's history in bank terms. E. Berger. Banking 33:56 N '40

Transit operations
Bank operations and the wage-hour problem; elimination of overtime costs by revising operating methods. L. K. Curry. Bankers M 141:302-4 O '40
More items handled in fewer hours. J. Y. Beaty. Bankers Mo 57:551+ O '40
Proof and transit; simplified forms. Banking 32:49-52 My '40
Shorter hours, greater economy; use of proving and transit machine. C. A. Tschopp. il Bankers Mo 57:558-9 O '40
We earn more and work less; use of available equipment and numbering system to identify endorsers made transit work and account analysis more economical. H. Meidell. il Bankers Mo 57:270-1 My '40

Trust departments
American bankers association, Trust division, annual meeting, 44th, Atlantic City, Sept. 23. Comm & Fin Chr 151:43-8 sec 3 O 12 '40
Audit procedure in trust department; adequate controls and reviews made for safety and efficiency. H. J. Ludescher. Trusts & Estates 70:373-6 Ap '40
Boston life insurance and trust council discusses what a trust department does to earn its fees. Trusts & Estates 70:63-4 Ja '40

BANKS and banking—Trust departments—*Cont.*
Common or associated trust. E. A. Boyce. il Burroughs Clearing House 25:18-20 O '40; Same cond. Trusts & Estates 71:515 N '40
Comparative statement of the volume of trust business and earning operations of trust departments of member banking institutions located in the tenth Federal reserve district, 1938; tabulation. Trusts & Estates 69:522-3 N '39
Duties of auditor with respect to trust department. O. A. Waldow. Trusts & Estates 69:620 D '39
Economies in dividend disbursement routine. J. T. Keckeisen. il Bankers Mo 57:392-4 Jl '40
Functional design for trust operations; economy in real estate, tax, and other units. R. A. Wilson. Trusts & Estates 71:405-10 O '40
Functional design for trust operations; machines in trust recording and controls. R. A. Wilson. Trusts & Estates 71:27-32 Jl '40
Job ahead for trust service. G. T. Stephenson and others. Trusts & Estates 71:423-6 O '40
Know your trust department. R. M. Hanes. Trusts & Estates 69:483-6 N '39
Long range plan of trust expansion. A. L. Lathrop. il Burroughs Clearing House 24: 20-2+ Ag '40
Manual for trust department operations: educational, efficiency and economy values of controls. M. F. Gstalder. Trusts & Estates 70:541-4 My '40
Merging trust company with bank; considerations influencing union. R. P. Boardman. Trusts & Estates 70:257-9 Mr '40
New business; recommended procedure for acceptance. L. H. Roseberry. Trusts & Estates 71:222-4 Ag '40
New folder simplified our trust records. W. F. Howell. il Bankers Mo 57:216-17 Ap '40
Operation of a small trust department; essential records and policies. P. Renn. Trusts & Estates 70:630-4 Je '40
Policies that make for trust profits. G. H. Arnold. Burroughs Clearing House 24:18-20+ Mr '40; Same cond. Trusts & Estates 70:325-8 Mr '40
Problems of banks as to trust departments; abstract. G. T. Stephenson. Trusts & Estates 70:401-2 Ap '40
Safe deposit service as a new business feeder. J. J. Reynolds. Bankers M 140:494-5 Je '40
Small trust departments. P. B. Korzilius. Banking 33:35 N '40
Solution for uneconomic trust departments; consolidation of fiduciary activities for small communities. A. C. Boeker. Trusts & Estates 69:525-6 N '39
Trust business and earnings; Federal reserve of Kansas City reports on member bank activities. Trusts & Estates 71:447-9 O '40
Trust business of national banks; activities for year ended June 30, 1939 compared with 1938. Trusts & Estates 71:218-19 Ag '40
Trust business of national banks for the year ended June 30, 1939, compared with 1933. Trusts & Estates 70:280+ Mr '40
Trust operation analyzed for directors; monthly figures on charts. A. C. Hughes. il Bankers Mo 57:197-8 Ap '40
Trust year in review; annual reports to bank stockholders. Trusts & Estates 70:43-50, 307-12 Ja, Mr '40
What a trust department does. 83p Continental Illinois national bank and trust company of Chicago '40
What a trust examiner looks for. Trusts & Estates 71:26 Jl '40
What is a competent trust department? nonurban trusteeship and the bases of its qualification. D. S. Frolen. Trusts & Estates 70:29-34 Ja '40

See also
American bankers association—Trust division
Trust companies
Trusts and trustees

Trust service
Correspondent trust service; Union bank & trust company, Los Angeles, extends trust facilities to smaller communities; local banks as agents. R. H. Bolman. Trusts & Estates 69:589-94 D '39

Women's departments
Better service for women customers. A. Kenny. Bankers Mo 56:736-8 D '39
Value of a woman's department. D. Crook. Bankers M 140:490-2 Je '40

Africa
Latest balance sheets of Dominion banks having London offices. Economist 138:sup36-7 My 18 '40

Alberta
Formation of Alberta provincial bank planned. J. Montagnes. Burroughs Clearing House 24:25 Ap '40

Argentina
Annual report of the Central bank of the Argentine Republic, 1938. Fed Res Bul 25: 1077-94 D '39
Annual report of the Central bank of the Argentine Republic, 1939. Fed Res Bul 26: 664-76 Jl '40

Australasia
Bank of Australasia 106th annual meeting, London. Economist 138:589-90 Mr 30 '40
Latest balance sheets of Dominion banks having London offices. Economist 138:sup37-8, 40-1 My 18 '40

Australia
Bank of New South Wales ordinary general meeting, Sydney. Economist 137:352 D 2 '39

Belgium
Annual report of the National bank of Belgium for the year ending Dec. 25, 1939. Fed Res Bul 26:413-16 My '40
Belgian banking difficulties. Economist 137: 380 D 9 '39
New law for the National bank of Belgium; decree of August 24, 1939. Fed Res Bul 26: 101-5 F '40

Boston
War and banking trends; 1939 review and analysis. F. L. Garcia. Bankers M 140: 100-6 F '40

California
Sizzle salesmanship in banking; California methods. J. Farnham. Barron's 19:18 D 11 '39

Canada
Annual report of, 1, bank debits to individual accounts; 2, notes on the equation of exchange in the period, 1919-1939. 17p pa 25c Canada. Dominion bur. of statistics, Ottawa '40
Annual report of the Bank of Canada for the calendar year 1939. Fed Res Bul 26:410-12 My '40
Bank of Canada; the development and present position of central banking in Canada. M. L. Stokes. 382p bibliog(371-5) $4 Macmillan (Toronto) '39
Canadian personal loan experience. A. E. Arscott. Bankers M 140:82 Ja '40
Commercial banks; assets and liabilities, Dec. 1930-1938 and monthly, Jan.-Oct. 1939. Fed Res Bul 26:73 Ja '40 [cont monthly]
Comparative figures of condition of Canadian banks, Oct. 31, 1939, Sept. 30, 1939 and Oct. 31, 1938. Comm & Fin Chr 150:42 Ja 6 '40 [cont monthly]
Consumer credit problem; effect of war and war preparations; Canada's action. W. B. French. Banking 33:57+ S '40
Foreign exchange control in Canada; how Canadian banks have adjusted their routines. J. Montagnes. il Burroughs Clearing House 24:22-4+ D '39
Increased loans, deposits reported in annual statements. J. Montagnes. Burroughs Clearing House 24:29+ F '40

BANKS and banking—Canada—*Continued*
Latest balance sheets of Dominion banks having London offices. Economist 138:sup41-2 My 18 '40
War problems of Canadian banks. J. Montagnes. il Burroughs Clearing House 24:24-5+ S '40

See also
Bank of Montreal

Chicago

New bank for Loop? Business Week p44 Ja 20 '40
War and banking trends; 1939 review and analysis. F. L. Garcia. Bankers M 140:100-6 F '40

China

See also Hongkong and Shanghai banking corporation

Egypt

National bank of Egypt 40th annual general meeting, Cairo. Economist 138:591-2 Mr 30 '40

France

Commercial banks; assets and liabilities, Dec. 1930-1938 and monthly, Nov. 1938-Aug. 1939. Fed Res Bul 26:73 Ja '40 [cont monthly]
French banks since the war. Economist 138: sup6-7 My 18 '40

See also
Bank of France

Germany

Annual report of the German Reichsbank, year ending Dec. 31, 1939. Fed Res Bul 26: 942-9 S '40
Commercial banks; assets and liabilities, Nov. 1930-1938 and monthly, Jan.-June, 1939. Fed Res Bul 26:73 Ja '40 [cont monthly]
Germany at war; first reports of banking institutions for 1939. Economist 138:294 F 17 '40
Germany at war; German banking institutions in 1939 compared with 1938. Economist 138:572 Mr 30 '40
Reichsbank annual report for 1939. Economist 138:814 My 4 '40

Great Britain

Bank and discount dividends. Economist 138: 28-9 Ja 6 '40
Bank dividends maintained. Economist 139: 51-2 Jl 13 '40
Bankers and the war; broad agreement about war economics. Economist 138:194-5 F 3 '40
Banks in 1939; comparison with 1938. Economist 138:151-2 Ja 27 '40
British arrange for American banks to hold funds in London in registered accounts; new system of sterling control. Comm & Fin Chr 151:327 Jl 20 '40
British banking since September; advances are reserved first and foremost for war aims. F. B. Makin. Banking 33:32 Jl '40
Chartered bank of India, Australia and China 86th ordinary general meeting, London. Economist 138:653-4 Ap 6 '40
Contingent liabilities of the English commercial banks. H. C. F. Holgate. 77p 5s Gee & co, London '39
Contributions of Lord Overstone to the theory of currency and banking. L. A. Helms. Ill U Studies in the Social Sciences v 24, no 4:1-142 bibliog(p137-42) '39
Control of capital markets. Trusts & Estates 71:188 Ag '40
Economist banking supplement. Economist 138:sup3-54 My 18; 139:sup3-43 N 16 '40
English theories of central banking control, 1819-1858, with some account of contemporary procedure. E. Wood. 250p bibliog (p221-38) $5 Harvard univ. press '39
Future of private banks. Economist 138:622-3, 690-1 Ap 6-13 '40
Professor Skinner alias Montagu Norman. J. Hargrave. 243p $3 Musson book co, 480-486 University av, Toronto, 2 '39
War-time bank life in Britain. F. B. Makin. Banking 32:49 D '39
War time banking in England. Bankers M 141:352-3 O '40

See also
Bank of England
Bank of London and South America
Barclays bank (Dominion, colonial and overseas)
Barclays bank, limited
District bank
Lloyds bank
Martins bank
Midland bank
National provincial bank
Westminster bank
Williams Deacon's bank

Hungary

First national savings bank corporation of Pest 100th anniversary. Economist 138:491-2 Mr 16 '40
Hungarian commercial bank of Pest. Economist 138:273 F 10 '40
Hungarian general creditbank balance sheet for the business year 1939. Economist 138: 540-1 Mr 23 '40

India

Latest balance sheets of Dominion banks having London offices. Economist 138: sup42-4 My 18 '40
Mercantile bank of India and National bank of India annual general meetings, London. Economist 138:649-50, 651-2 Ap 6 '40
State banks for India; being a study of state banks and land mortgage credit institutions in Australia, New Zealand, South Africa and the United States of America, with suggestions for establishing similar banks in India. A. I. Qureshi. 248p $4.25 Macmillan '39

Ireland

Joint stock banks of Ireland and of Northern Ireland. Economist 138:sup13, 34-5 My 18 '40
Latest balance sheets of Dominion banks having London offices. Economist 138:sup35-6 My 18 '40

Italy

Banco di Roma accounts for the year 1939. Economist 138:441 Mr 9 '40
Banco di Roma report, 1939. Economist 138: 594 Mr 30 '40

Japan

National finance council organized; special banks revise policy. For Comm W 1:255 N 9 '40

London

Foreign banks having London offices and British banks trading abroad. Economist 138:sup44-54 My 18; 139:sup38-43 N 16 '40

Minneapolis

First National, Minneapolis, celebrates diamond anniversary. Bankers Mo 57:59 Ja '40
Minneapolis banks on parade; Aquatennial. il Banking 33:48-50 O '40

Missouri

Banking developments in Missouri, 1920-1936. F. Helm. 112p $2 Missouri bankers assn, Sedalia '39

Netherlands

Annual report of the Netherlands bank, year ending March 31, 1939. Fed Res Bul 25: 1068-76 D '39

New York (city)

Better understanding of functions of banking and security exchanges urged. G. A. Sloan. Comm & Fin Chr 151:2743 N 9 '40
Federal reserve bank of New York observes 25th anniversary. Comm & Fin Chr 149:3204-5 N 18 '39
Small changes in bank earnings in second quarter of 1940. Barron's 20:18 Jl 8 '40

BANKS and banking—New York (city)—*Cont.*
War and banking trends; 1939 review and analysis. F. L. Garcia. Bankers M 140:100-6 F '40

See also
Bank of Manhattan company
Chase national bank of New York
Guaranty trust company of New York
Manufacturers trust company
National city bank of New York

New York (state)
Annual report of New York superintendent of banks. W. R. White. Comm & Fin Chr 150:357-8 Ja 20 '40
Operating ratios of member banks in New York reserve district in 1939. Comm & Fin Chr 150:1353 Mr 2 '40

New Zealand
National bank of New Zealand 68th ordinary general meeting, London. Economist 139:57 Jl 13 '40
New Zealand banking under state control. Economist 138:58-9 Ja 13 '40

Pacific coast
On the West coast. J. Farnham. Published in monthly numbers of Bankers magazine

Persia
Imperial bank of Iran 51st ordinary general meeting, London. Economist 138:1128 Je 29 '40

Philadelphia
War and banking trends; 1939 review and analysis. F. L. Garcia. Bankers M 140:100-6 F '40

Richmond, Virginia
Outstanding financial enterprise; history of First and merchants national bank of Richmond. Manuf Rec 109:40 My '40

Scotland
Bank of Scotland annual general meeting, Edinburgh. Economist 138:647-8 Ap 6 '40
Commercial bank of Scotland, and the National bank of Scotland, annual meetings. Economist 137:434-5, 437 D 16 '39
Joint stock banks of Scotland. Economist 138: sup13, 30-2 My 18 '40
Royal bank of Scotland annual general court of proprietors, Edinburgh. Economist 137: 351-2 D 2 '39
Union bank of Scotland annual meeting of shareholders. Economist 138:832 My 4 '40

South Africa
Standard bank of South Africa 127th ordinary meeting, London. Economist 139:131-5 Jl 27 '40

Southern states
Achievements and potentialities of the South; with banking figures by states as of June 30, 1939. R. Strickland. Manuf Rec Extra no 109:39-40 S '40

Switzerland
Annual report of the Swiss national bank. Fed Res Bul 26:658-64 Jl '40

United States
Bank management control. E. S. Woolley. 152p $5 George S. May co, 122 E. 42d st, New York '40
Banker-statesman-politician co-operation needed. J. G. Rogers. Bankers M 140:68 Ja '40
Banker's role; preserve American banking system; abstract. W. A. McDonnell. Bankers M 141:158 Ag '40
Banking and Treasury finance in 1939. Fed Res Bul 26:1-8 Ja '40
Banking as a business; salient developments from 1929 to 1939. Index 19 no4:63-71, 74 [D] '39
Banking developments in 1940. Fed Res Bul 26:905-11 S '40
Banking enters the forties. W. B. Munro. Banking 32:19-20 Ja '40
Banking in a grown-up country; population and age trends. I. I. Sperling. Banking 32: 76-7 My '40
Banking structure of the United States. Economist 138:sup7-8 My 18 '40
Banking systems adequately integrated. D. W. Bates. Bankers M 141:449-51 N '40
Condition of business. Published in monthly numbers of Banking
Credit administration. C. R. Davis. 446p $3.50 Am. inst. of banking, Am. bankers assn, New York '40
Dual system of banking; abstracts. R. M. Hanes. Banking 32:83 D '39; Comm & Fin Chr 149:3197 N 18 '39
Future of the dual banking system. W. R. White. Bankers M 141:64 Jl '40
Government invasion of banking; report by committee on agencies in competition with banks, Nebraska bankers' association. Bankers M 140:202-5 Mr '40
Improving our banking system. H. B. Steagall. Bankers M 140:12-14 Ja '40
Industrial banking, a phase of consumer credit. M. Grobben. 116p bibliog(p101-10) $1.50 Consumer credit inst. of America, New York '40
Money and banking. C. L. Prather. rev ed 903p $4 Richard D. Irwin, 332 S. Michigan av, Chicago '40
Our part in a changed world. W. A. McDonnell. Comm & Fin Chr 151:35-6 sec 3 O 12 '40
Private vs. government credit. W. L. Dean. Bankers M 140:546-7 Je '40
Problem of banking independence. C. R. Gossett. Bankers M 141:447-8 N '40
Problems far from solved. A. A. Ballantine. Banking 32:96+ Mr '40
Review of the month. Published in monthly numbers of Federal reserve bulletin
Revisions in the bank system; new and reopened institutions, banks and branches reported discontinued, changes in titles and/or locations. Published in monthly numbers of Bankers monthly
U.S. dollar; intricate, abused, distorted, U.S. monetary system becomes refuge for the world. il Fortune 21:88-9+ F '40
War and its effects on American banking. M. Nadler. Comm & Fin Chr 151:28-30 sec 3 O 12 '40
When does control become tyranny? P. F. Cadman. Bankers M 140:551 Je '40

See also
Banking law—United States
Banks and banking, National
Federal reserve banks
Home loan banks
Postal savings banks
Reconstruction finance corporation

Western states
Deposit-loan comparison of the twenty largest commercial banks in Arizona, California, Idaho, Nevada, Oregon, Utah and Washington, 1935 and 1939; tabulation. J. Farnham. Bankers M 140:128 F '40

BANKS and banking, Cooperative
Fifty-second annual convention of the Massachusetts co-operative bank league, Swampscott, Mass. Sept. 26-27. 120p Massachusetts co-operative bank league, 80 Federal st, Boston '40

See also
Credit unions

BANKS and banking, International
Creation of Inter-American bank virtually assured. Comm & Fin Chr 150:2021 Mr 30 '40
Establishment of Inter-American bank to promote trade approved by Inter-American advisory committee. Comm & Fin Chr 150:920 F 10 '40
Hemisphere bank; Inter-American bank. E. H. Collins; H. M. Bratter. Banking 32:37 My '40
Inter-American bank. Banking 32:5 Mr '40; Bankers M 140:187-8 Mr '40

BANKS and banking, International—*Continued*
Inter-American bank; statement by the Department of state and relevant documents. Fed Res Bul 26:517-25 Je '40
Proposed Inter-American bank. Bankers M 140:342 Ap '40
War spurs Inter-American bank. Business Week p60 My 18 '40
See also
Bank for international settlements

BANKS and banking, National
Annual report of Comptroller of currency. P. Delano. Comm & Fin Chr 150:1502-3 Mr 9 '40
Assets and deposits of national banks on Oct. 2, 1939. Comm & Fin Chr 149:3478-9 D 2 '39
Condition of national banks in the United States on Sept. 28 and Dec. 31, 1938, and March 29, June 30 and Oct. 2, 1939. Comm & Fin Chr 150:940 F 10 '40
Condition of national banks in the United States on Dec. 31, 1938, March 29, June 30, Oct. 2, and Dec. 30, 1939; tabulation. Comm & Fin Chr 150:2363 Ap 13 '40
Earnings, expenses, and dividends of national bank members during 1939, by size of bank. Fed Res Bul 26:720 Jl '40
Fewer national banks with trust powers in 1939. Trusts & Estates 71:32 Jl '40
Gross earnings of national banks in first half of 1940; is increase over first six months of 1939. P. Delano. Comm & Fin Chr 151:2295-6 O 19 '40
National bank assets and deposits on Dec. 30, 1939, were higher than on any previous call date. Comm & Fin Chr 150:1354 Mr 2 '40
National member banks, principal assets and liabilities, by states, Sept. 1938, and June and Oct. 1939. Fed Res Bul 26:160 F '40
National member banks; principal assets and liabilities, by states, March 29 and Dec. 30, 1939, and March 26, 1940. Fed Res Bul 26:822 Ag '40

BANKS and banking, Private
Private banks, principal assets and liabilities by states, Sept. 1938, and June and Oct. 1939. Fed Res Bul 26:162 F '40
Private banks; principal assets and liabilities by states, March 29 and Dec. 30, 1939, and March 26, 1940. Fed Res Bul 26:824 Ag '40

BANKS and banking, State
Condition and operation of state banks, 1939; survey of resources, liabilities, earnings and expenses. 72p pa 50c Am. bankers assn, New York '40; Review. Banking 33:92+ Jl '40
Earnings, expenses, and dividends of state bank members during 1939, by size of bank. Fed Res Bul 26:721 Jl '40
Regulation H as amended November 20, 1939; membership of state banking institutions in the Federal reserve system. Fed Res Bul 25:1051-64 D '39
State banks, principal assets and liabilities, by states, Sept. 1938 and June and Oct. 1939. Fed Res Bul 26:161 F '40
State banks; principal assets and liabilities, by states, March 29 and Dec. 30, 1939, and March 26, 1940. Fed Res Bul 26:823 Ag '40

BANKS and banking, Trade union
Status of labor banks, June 30, 1939. Monthly Labor R 49:654-5 S '39

BANTING research foundation
Report for the year 1938-1939. V. E. Henderson and A. W. Ham. Science 91:362-3 Ap 12 '40

BAR associations
Association of the bar of the city of New York; year book, 1940. 547p Assn. of the bar of the city of New York, 42 W. 44th st, New York '40
By-products of better public service. C. A. Beardsley. Trusts & Estates 70:5 Ja '40

BARBADOS
Barbados, British West Indies; a current survey. J. A. Croghan. Comm Rep p764-5 S 7 '40
Paleogene of Barbados and its bearing on history and structure of Antillean-Caribbean region. A. Senn. charts maps Am Assn Pet Geologists Bul 24:1548-1610 bibliog(85 titles, p1607-10) S '40

BARBERS
Manual on barber practice and science, in five parts. rev ed 258p $2.50 Milady pub. corp, 3721 White Plains av, New York '39
Standardized textbook of barbering. 3d ed 330p bibliog(p330) buck $5 Associated master barbers of America, 506 S. Wabash av, Chicago '39

BARBITURIC acid
Effect of variation in ionic strength and temperature on the apparent dissociation constants of thirty substituted barbituric acids. M. E. Krahl. bibliog J Phys Chem 44:449-63 Ap '40
Substituted vinyl barbituric acids; derivatives containing a primary 1-alkenyl group. A. C. Cope and others. bibliog Am Chem Soc J 62:1199-1201 My '40
Ultra-violet absorption spectra of nitrogenous heterocyclic compounds; effect of pH and irradiation on the spectrum of barbituric acid. J. R. Loefbourow and M. M. Stimson. Chem Soc J p1275-7 S '40

BARCLAYS bank (Dominion, colonial and overseas)
Ordinary general meeting, 14th, London. Economist 137:436 D 16 '39

BARCLAYS bank, limited
Ordinary general meeting, 45th, London. Economist 138:169-72 Ja 27 '40

BARGES
Articulated barge units for New York barge canal. Marine Eng 45:76 O '40
Barge production line 300 miles long; Dravo corporation. W. L. Humphreys. il Marine Eng 45:57 O '40
Dravo encourages employe participation in Lincoln Foundation program; docking float built in record breaking time. il Marine Eng 45:57-8 Je '40
Modern developments in towboats and barges for inland waterways. A. W. Dann. il Civil Eng 10:638-40 O '40
New departure in barges; lap-welded iron sheeting over decks. il Steel 106:62 Ja 15 '40
Water-hyacinth destructor, Kenny. il Engineering 149:520-1, 524, pl 27-28 My 24 '40
Welded drill barge has demountable legs. I. B. Yates. il Marine Eng 45:63-4 Je '40
See also
Cranes, Floating
Tank barges

BARGES, Concrete
Reinforced concrete barge in service twenty years. il Concrete 48:5-6 Ag '40

BARITE
Barium has many uses in industry. L. Sanderson. Can Min J 61:658-9 O '40
See also
Barium sulfate

BARIUM
Barium has many uses in industry. L. Sanderson. Can Min J 61:658-9 O '40
Barium in Appalachian salt brines. E. T. Heck. bibliog maps Am Assn Pet Geologists Bul 24:486-93 Mr '40
Contact difference of potential between barium and zinc; the external work function of zinc. P. A. Anderson. diags Phys R 57: 122-7 Ja 15 '40
Investigation into the gettering powers of various metals for the gases hydrogen, oxygen, nitrogen, carbon dioxide and air. L. F. Ehrke and C. M. Slack. diag J Ap Phys 11: 129-37 F '40
Lubrication in vacuum by vaporized thin metallic films. Z. J. Atlee, J. T. Wilson and J. C. Filmer. il diag J Ap Phys 11:611-15 S '40; Abstract. Sci Am 163:264 N '40
Metallic lubricant for X-ray tubes. Comp Air M 45:6269 O '40
Photoelectric and optical properties of sodium and barium. R. J. Maurer. bibliog diags Phys R 57:653-8 Ap 1 '40

BARIUM—*Continued*
Radioactive barium and strontium from photo-fission of uranium. A. Langer and W. E. Stephens. Phys R 58:759 O 15 '40

Radio-isotopes of Ba and Cs. D. C. Kalbfell and R. A. Cooley. bibliog Phys R 58: 91-2 Jl 1 '40

Analysis

Coprecipitation of barium ion with hydrous aluminum, chromic and ferric oxides in the presence of ammonium ion. L. Lehrman, J. Been and M. Manes. bibliog Am Chem Soc J 62:1014-18 My '40

Limits of identification of simple confirmatory tests. A. A. Benedetti-Pichler and J. R. Rachele. bibliog il diags Ind & Eng Chem Anal ed 12:233-41 Ap 15 '40

Modification of the iodate method for determining barium. F. C. Guthrie. Soc Chem Ind J 59:98 My '40

Volumetric determination of small quantities of barium and sulphate with barium rhodizonate as an indicator; the determination of sulphur in iron pyrites. C. C. Miller. Chem Soc J p401-6 Ap '40

BARIUM acetate
Industrial uses of chemicals and related materials. Oil Paint & Drug Rep 137:50 Ap 29 '40

BARIUM bromide
Reducing powers of various sugars with alkaline copper-citrate reagent. H. S. Isbell, W. W. Pigman and H. L. Frush. bibliog J Research Nat Bur Stand 24:241-6 Mr '40

BARIUM carbonate
Industrial uses of chemicals and related materials. Oil Paint & Drug Rep 137:53 Ja 29; 33 F 5; 43 F 12 '40

See also
Witherite

BARIUM chloride
Barium chloride from barite and calcium chloride; factors affecting production. R. N. Shreve and R. K. Toner. bibliog Ind & Eng Chem 32:568-73 Ap '40

Extraction of alkalies in rocks; modification of the J. Lawrence Smith extraction, using barium chloride as a flux. R. E. Stevens. bibliog Ind & Eng Chem Anal ed 12:413-15 Jl 15 '40

Industrial uses of chemicals and related materials. Oil Paint & Drug Rep 137:36 Ja 8; 57 Ja 15; 30D Ja 22 '40

Vapor pressures of salt solutions. M. F. Bechtold aand R. F. Newton. diag Am Chem Soc J 62:1390-3 Je '40

BARIUM chromate
Industrial uses of chemicals and related materials. Oil Paint & Drug Rep 137:46 Mr 25 '40

Reactions of chromates at high temperatures; decomposition of calcium, strontium, and barium chromates; abstract. V. T Athavale and S. K. K. Jatkar. Am Cer Soc J 23 (Cer A 19):30-2 Ja '40

BARIUM compounds
Extent of dissociation of salts in water; calcium and barium salts of dicarboxylic acids. N. E. Topp and C. W. Davies. Chem Soc J p87-93 Ja '40

Luminescence of pure radium and barium compounds. D. H. Kabakjian. il Phys R 57:700-5 Ap 15 '40

BARIUM copper stearate
Concave spherical crystals of barium-copper-stearate for use in long wave-length X-ray spectrometers. C. L. Andrews. il diag R Sci Instr 11:111-14 Ap '40

BARIUM fluogermanate
Structures of complex fluorides; barium fluosilicate and barium fluogermanate. J. L. Hoard and W. B. Vincent. bibliog Am Chem Soc J 62:3126-9 N '40

BARIUM fluoride
Industrial uses of chemicals and related materials. Oil Paint & Drug Rep 138:40 S 9 '40

BARIUM fluosilicate
Structures of complex fluorides; barium fluosilicate and barium fluogermanate. J. L. Hoard and W. B. Vincent. bibliog Am Chem Soc J 62:3126-9 N '40

BARIUM hydroxide
Effect of adsorbed electrolytes on properties of monodisperse clay-water systems. S. Speil. bibliog Am Cer Soc J 23:33-8 F '40

Industrial uses of chemicals and related materials. Oil Paint & Drug Rep 137:63 F 19; 24 F 26 '40

Isolation of carotene from green plant tissue; use of barium hydroxide octahydrate. H. G. Petering, P. W. Morgal and E. J. Miller. flow sheet bibliog Ind & Eng Chem 32:1407-12 O '40

Method for the determination of carbonate in small amounts of materials. F. E. Jones. diags Soc Chem Ind J 59:21-3 Ja '40

BARIUM iodate
Interaction of ions and dipolar ions; solubility of barium and calcium iodates in glycine and in alanine solutions. R. M. Keefer, H. G. Reiber and C. S. Bisson. bibliog Am Chem Soc J 62:2951-5 N '40

Solubilities of salts in dioxane-water solvents. T. W. Davis, J. E. Ricci and C. G. Sauter. bibliog Am Chem Soc J 61:3274-84 D '39

Solubility of barium iodate monohydrate in solutions of uni-univalent electrolytes at 25°, and the calculation of the dissociation constant of iodic acid from solubility data. S. Naidich and J. E. Ricci. bibliog Am Chem Soc J 61:3268-73 D '39

BARIUM nitrate
Industrial uses of chemicals and related materials. Oil Paint & Drug Rep 137:28 Ap 1 '40

BARIUM oxide
Industrial uses of chemicals and related materials. Oil Paint & Drug Rep 137:59 Ap 8; 61 Ap 15 '40

BARIUM peroxide
Industrial uses of chemicals and related materials. Oil Paint & Drug Rep 137:61 Mr 18 '40

BARIUM rhodizonate
Volumetric determination of small quantities of barium and sulphate with barium rhodizonate as an indicator; the determination of sulphur in iron pyrites. C. C. Miller. Chem Soc J p401-6 Ap '40

BARIUM silicates

Bibliography

Bibliography on orthosilicates of alkaline earths. G. E. Seil and others, comps. Am Cer Soc J 23 (Cer A 19):291-2 N '40

BARIUM stearate
X-ray and optical properties of built-up films. S. Bernstein. bibliog il Am Chem Soc J 62:374-8 F '40

BARIUM sulfate
Barium chloride from barite and calcium chloride; factors affecting production. R. N. Shreve and R. K. Toner. bibliog Ind & Eng Chem 32:568-73 Ap '40

Electrokinetics; electrokinetic potentials of barium sulfate in solutions of electrolytes and in fifty per cent ethanol. R. G. Ruyssen. bibliog J Phys Chem 44:265-75 Mr '40

Precipitation of barium sulfate in the presence of ammonium chloride. J. T. McHenry, G. A. Ampt and E. Heymann. bibliog Am Chem Soc J 62:448-9 F '40

Sedimentation of suspensions. L. T. Work and A. S. Kohler. bibliog diag Ind & Eng Chem 32:1329-34 O '40; Same. Am Inst Chem Eng Trans 36:701-19 O '40

Studies on aging and coprecipitation; the thermal aging of imperfect barium sulfate. I. M. Kolthoff and W. M. MacNevin. il J Phys Chem 44:921-35 O '40

See also
Lithopone

BARIUM sulfide
Industrial uses of chemicals and related materials. Oil Paint & Drug Rep 137:41 Je 3 '40

BARK
Bark burning furnaces for the pulp and paper industries. C. A. Hulsart. diags Paper Tr J 111:65-71 Ag 29 '40

BARK beetles
Decay in insect-killed spruce in Gaspé. C. G. Riley. Pulp & Pa of Can 41:611-12 Ag '40
Ghost forests; number one forest enemy; pine bark beetles. R. Ringle. il Sci Am 162:348-9 Je '40

BARK fabrics. See Bast fibers

BARK peeling
Allis-Chalmers develops slab and edging barker. diag Paper Tr J 111:31 Ag 15 '40
Barking pulpwood. R. L. Whitney and others. il Pulp & Pa of Can 41:670-4+ S '40

BARKHAUSEN effect
Mechanism of magnetisation. T. F. Wall. diags Engineer 169:318-20 Ap 5 '40

BARLEY
Use of hydrogen peroxide in steep water; abstract. C. Enders and others. Food Ind 12:87 N '40

Statistics
Barley, 1936-1939. Survey of Cur Business 1940 Sup p104 [supplemented in monthly numbers]

BARNARD, Harry Everett, 1874-
Fathers and sons in chemistry. por Ind & Eng Chem News ed 18:151 F 25 '40

BARNARD, Thomas Harvie, 1903-
Fathers and sons in chemistry. por Ind & Eng Chem News ed 18:151 F 25 '40

BARNES, Donald P.
New editor of Civil engineering. por Civil Eng 10:672 O '40

BARNS and stables
Care and stabling of horses. J. W. Sutherland. diags plan Pulp & Pa of Can (Convention no) 41:163-4, 166, 168 [F] '40
Illinois barn becomes house. il diags plans Arch Rec 87:98-101 My '40
Low-cost and fire-resistive dairy barns; abstract and discussion. S. A. Witzel. diags Concrete 48:22 N '40

Heating and ventilation
Agriculture has engineering problems in heating and ventilating. F. B. Lanham. bibliog diags plans Heating-Piping 11:771-4 D '39

BARNSDALL oil company
Annual report. Comm & Fin Chr 150:1754 Mr 16 '40

BARODYNAMICS
How barodynamics knocks guess out of roof control by using small-scale models of mine strata. P. B. Bucky. il Coal Age 45: 40-3 Jl '40; Same. Eng & Min J 141:40-3 Jl '40

BAROMETERS
Barometers and the measurement of atmospheric pressure. C. F. Marvin. 6th ed il U S Weather Bur, Instrument Division, Circ F:1-91 '39
Nomograph for correcting barometer readings for temperature. S. M. Troxel. J Chem Educ 17:431 S '40
Radio improves aneroid efficiency; determining elevation of proposed pool levels along reservoir rims. E. A. Bailey. Eng N 124:719 My 23 '40
Use of the millibar in Weather bureau reports. C. H. Sharp. Elec Eng 59:124 Mr '40

BARRACKS
Concrete masonry is well adapted to army-navy housing. il diags Concrete 48:10-11 N '40
Defense committee continues fight against lumber price cost of housing soldiers. il Eng N 125:433 O 3 '40
Erect company barracks building in three hours; reprinted from ENR Sept. 20, 1917. Eng N 125:434 O 3 '40
Gas service for the modern army. il Gas J (Lond) 230:487-8 Je 5 '40
Gas water heating for barracks. il Gas J (Lond) 229:26 Ja 3 '40
Housing the new army. il diags plans Eng N 125:537-41 O 24 '40
Navy goes into action on housing; barracks for embryo sailors at Newport training station. il Eng N 125:534-6 O 24 '40
Permanent quarters for defense forces. il Eng N 125:542-3 O 24 '40
Winter air conditioning for camp buildings. Sheet Metal Worker 31:38+ O '40

BARRAGES. See Dams

BARRANDE, Joachim, 1799-1883
Some trinucleidae described by Joachim Barrande. H. B. Whittington. Am J Sci 238: 241-59 Ap '40

BARRELS
Reinforcing slack wooden barrels for export service. Comm Rep p174 F 17 '40

BARRELS, Steel
Further improvements in drum construction. il Chem & Met Eng 47:406-9 Je '40

Statistics
Steel barrels and drums, heavy type, 1936-1939. Survey of Cur Business 1940 Sup p133 [supplemented in monthly numbers]

BARRIE, Ontario

Sewerage
Sewage-disposal works for Barrie. G. G. Reid. il diags plans Can Eng W & S 78: 13+ Ja; 7-11+ S '40

BARRIER-layer cells. See Photoelectric cells

BARRO Colorado island. See Canal Zone biological area

BARS and bar rooms
Bars for residential use, adaptable for offices, hotels, small restaurants, night clubs. il diags plans Arch Rec 87:67-74 My '40
Building types; restaurants and bars, with illustrated case studies and time-saver standards. plans Arch Rec 87:75-102 Ja '40
Cocktail room for a Texas club; Columbian country club in Dallas. il diag plan Arch Rec 87:48-9 My '40

BART reaction
Modified Bart reaction. G. O. Doak. Am Chem Soc J 62:167-8 Ja '40

BARTELS, J.
Bartels technique for time-series analysis, and its relation to the analysis of variance. L. R. Hafstad. bibliog Am Statis Assn J 35:347-61 Je '40

BARTER
See also
Due bills

BARTER, International
Dr Albert Degner declares Germany will drop barter system if victorious. Comm & Fin Chr 150:4058 Je 29 '40
Third Reich in Latin America: main forces in the coming trade battle. G. Reimann. Annalist 56:72-3+ Jl 18 '40

BARTER exchanges
Self-help organizations in the United States, 1938. bibliog Monthly Labor R 49:1335-47 D '39

BARTH, Carl George Lange, 1860-1939
Sketch. H. S. Person. Advanced Management 4 no5:114 '39
Tribute. M. L. Cooke. Mech Eng 62:54+ Ja '40

BARTLETT DAM, Arizona
Tribute to a construction town. M. Ellis. il Eng N 124:580-2 Ap 25 '40

BARTOL research foundation
Report on the work of the Bartol research foundation, 1938-39. W. F. G. Swann. il diags Franklin Inst J 229:281-335 bibliog (p333-5) Mr '40
Report on the work of the Bartol research foundation, 1939-40. W. F. G. Swann. il diags Franklin Inst J 230:281-354 bibliog(p350-4) S '40

Bibliography
Publications of the Bartol research foundation from April 19, 1939 to April 17, 1940. Franklin Inst J 230:350-4 S '40

BARTON, Donald Clinton, 1889-1939
Memorial. W. E. Pratt. por(pl 3) Geol Soc Proc 1939:153-66 bibliog(p157-66) Je '40

BARWOOD
Chemistry of the insoluble red woods; pterocarpin and homopterocarpin. A. McGookin, A. Robertson and W. B. Whalley. Chem Soc J p787-95 Je '40

BARYTES. See Barite

BASALT
Hat Creek lava flow. C. A. Anderson. diags maps Am J Sci 238:477-92, pl 1-2 Jl '40
Tempered basalt. Can Min J 61:676 O '40

BASE exchanging compounds
Die abhängigkeit des kationenaustausches und der quellung bei montmorillonit von der vorerhitzung. U. Hofmann and J. Endell. bibliog Angew Chemie 52:708-9 D 16 '39
Die anwendung von ionenaustauschern auf kunstharzbasis zur entsalzung von wässern. A. Richter. il diags Angew Chemie 52:679-81 N 25 '39
Base-exchange capacity determination of soils and other materials; using colorimetric manganese method. C. A. Bower and E. Truog. Ind & Eng Chem Anal ed 12:411-13 Jl 15 '40
Base exchange resins; patent. il Ind & Eng Chem News ed 18:399-400 My 10 '40; Same. Paper Tr J 110:21 My 16 '40
Effect of exchangeable bases on absorption and transverse strength of clay bodies. R. P. Graham and J. D. Sullivan. Am Cer Soc J 23:52-6 F '40
Effect of exchangeable bases on drying of clay bodies. J. D. Sullivan and R. P. Graham. bibliog Am Cer Soc J 23:57-61 F '40
Effect of exchangeable bases on torsion properties of clays. J. D. Sullivan and R. P. Graham. bibliog Am Cer Soc J 23:39-51 F '40
Methods of removing free carbon dioxide from natural waters; from viewpoint of deterioration of synthetic base-exchange materials used for softening the water. E. L. Streatfield. bibliog diags Soc Chem Ind J 58:313-17 O '39
Removal of salts from water. R. F. Goudey. bibliog Am Water Works Assn J 32:435-49; Discussion. 450-5 Mr '40

BASEBALL
Cashing in on the sporting spirit; baseball is big business. F. H. McConnell. Barron's 20:18 S 23 '40
Tenth anniversary of night baseball. Illum Eng 35:402 My '40

BASEBALLS
Baseball yarn made home run heroes; manufacture and standardization of baseballs. E. F. Wolfe. il Nation's Business 28:18-20+ Ap '40

BASEMENTS
Basement condensation and a remedy. Sheet Metal Worker 31:26 Mr '40
Basement full of fun. il diags Brick & Clay Rec 96:34-6 Je '40
Sales opportunities in basement modernizing. il Sheet Metal Worker 31:120+ Ja '40
Sales-tested kitchens and basements with gas appliances. il Am Bld 62:51-66 F '40

BASES (chemistry)
Bases of which methincyanines are the quaternary salts. F. M. Hamer. Chem Soc J p799-808 Je '40
Diliturates (5-nitrobarbiturates) of some physiologically important bases. C. E. Redemann and C. Niemann. bibliog Am Chem Soc J 62:590-3 Mr '40
Kinetics of neutralization. M. Kilpatrick. bibliog Am Chem Soc J 62:1094-6 My '40
Symposium on theories and teaching of acids and bases. N. F. Hall, H. T. Briscoe and others. bibliog J Chem Educ 17:124-36 Mr '40

See also
Alkalies
Alkaloids
Amines
Indicators and test papers
Nitrogen compounds
Volumetric analysis

BASIC English
Basic English as aid to printers. B. N. Fryer. Inland Ptr 104:40 Mr '40

BASKETS
Basket pioneering. O. P. Couch Gallinger. rev ed 163p $1.75 Orange Judd pub. co, New York '40

BASS
Co-operation to save striped bass. Sci Am 162:203 Ap '40

BASSIC acid
Sapogenins; the occurrence and constitution of bassic acid. B. J. Heywood and G. A. R. Kon. Chem Soc J p713-20 Je '40

BAST fibers
Bleaching of cellulose, with special reference to bast fibres. E. Butterworth. bibliog Soc Dyers & Col J 55:589-96 D '39
Geographical extent of the use of bark fabrics. A. Bühler. Textile Col 62:737-8 N '40
Textile fiber atlas. W. von Bergen and W. Krauss. bibliog il Rayon 21:469-72 Ag '40

See also
Flax
Hemp
Jute
Ramie

BATA shoe company
Bata makes restitution. il Business Week p38 Je 1 '40
Bata to continue Maryland plant. il Business Week p18+ Ja 6 '40
Immigration order limits number of alien show workers permitted to instruct in Maryland factory; ruling affects employes of Bata shoe co. Comm & Fin Chr 149: 4104 D 30 '39
Old board mill experiences reincarnation; Canadian paperboard property at Frankford converted to shoe production by Bata. G. W. Dickson. il Pulp & Pa of Can 41:325-7 Ap '40
West bids for Bata; several Nebraska towns offering free land to refugee Czech shoe industry. Business Week p23 F 10 '40

BATAVIA, New York
Water supply
High distribution tank of large capacity. A. Potter and M. H. Klegerman. il diags Eng N 123:700-2 N 23 '39

BATES, Theodore L.
Starts new agency. por Ptr Ink 193:20 N 15 '40

BATH, Maine
Water supply
Difficult underwater pipelaying under the Kennebec river at Bath; with cost data. E. B. Myott. il diags map Eng N 123: 746-9 D 7 '39

BATH and Hammondsport railroad
Financial condition unsound. Comm & Fin Chr 151:2634 N 2 '40

BATH iron works corporation
Dynamic specialties; thumbnail appraisal. Mag of Wall St 66:235 Je 1 '40
Earnings, 1936-1939. Comm & Fin Chr 151: 2341 O 19 '40
Stock priced at five to eight times earnings; thumbnail appraisal. Mag of Wall St 66: 740 O 5 '40

BATHHOUSES
Bath house designed by Knight Dexter Robinson. il Arch Rec 87:10 Mr '40

BATHING beaches
Standards and regulations for quality of water in bathing places. A. E. Berry and A. V. Delaporte. il diag Can Eng W & S 78:5-8+ Ag '40

BATHROOM fixtures
Design decade. il Arch Forum 73:271 O '40

BATHROOMS
Electric heat for the bathroom floor. il Heat & Ven 36:41 D '39
Separate bathroom heating system for Santa Monica apartment; Shangri-La apartment hotel. il Heat & Ven 37:30-1 N '40

BATHS
Story of the bath. il Dom Eng 156:45+ S '40

BATHS (chemical apparatus). See Chemical apparatus

BATHS, Public
Standards and regulations for quality of water in bathing places. A. E. Berry and A. V. Delaporte. il diag Can Eng W & S 78:5-8+ Ag '40

Electric equipment
Electrical equipment of the Derby baths, Blackpool. il Engineer 169:359-60 Ap 12 '40; Elec R (Lond) 126:636 Je 14 '40

BATON ROUGE, Louisiana

Bridges
Louisiana tries low heat cement for piers and roadway slab of the Baton Rouge bridge. H. L. Lehman and E. L. Erickson. il Eng N 125:353-4 S 12 '40
Unusual features of design and construction mark new bridge over the Mississippi at Baton Rouge, carrying a single track and two highways. il diag plan Ry Age 108: 1172-8 Je 29 '40

BATS
Ticks (ornithodoros spp.) in Arizona bat caves. C. B. Philip. Pub Health Rep 55: 680-2 Ap 19 '40

BATT, William Loren
Portrait. Oil Paint & Drug Rep 137:4 Ja 15 '40

BATTELLE memorial institute
Ceramic history. il Am Cer Soc Bul 19:263-4 Jl '40

Library
Among libraries. T. R. Reinberg. Special Lib 30:294-5 N '39

BATTLESHIPS. See Warships

BAUR, Charles S.
Portrait. Iron Age 145:179 Ja 4 '40

BAUSCH, Edward, 1854-
Sketch. por Glass Ind 21:105 Mr '40

BAUSCH and Lomb optical company
Bausch & Lomb and our defense. Paper Tr J 111:48 O 24 '40
Bausch & Lomb; its apron strings to Zeiss are cut; swamped with military orders. il diags Fortune 22:76-80+ O '40
B&L's military instrument business; statement on contractual relations with Carl Zeiss. Instruments 13:110-11 Ap '40
Indictment. Ind & Eng Chem News ed 18: 311 Ap 10 '40; Same abr. Comm & Fin Chr 150:2248 Ap 6 '40

BAUXITE
L'approvisionnement en bauxite et en leucite de l'industrie de l'aluminium et de ses alliages. G. Kimpflin. Génie Civil 116:344-5 My 25 '40
Emploi de la bauxite siliceuse en mélange dans le sable de fonderie. C. de Luca. Génie Civil 116:315 My 11 '40

BAY CITY, Michigan

Water supply
Use of granular activated carbon at Bay City. L. B. Harrison. diags Am Water Works Assn J 32:593-608 Ap '40

BAYONNE, New Jersey

Harbor
Port of New York; Bayonne terminal. M. Garsaud. il diags map Civil Eng 10:425-8 Jl '40

BEACH architecture
Winner of a competition held under A.I.A.; Dunes club on beach at Narragansett, R.I. il plans Arch Rec 87:49-52 Mr '40

BEACH houses
Hagerty house, Cohasset Beach, Mass; views and plans. Arch Forum 72:295+ Ap '40
House and beach house in Lake Bluff, Ill., with construction outline. il plans Arch Forum 72:420-1 Je '40
House on an ocean bluff in Marblehead Neck, Mass. il plans Arch Rec 87:56-8 Ja '40
Novel year-round home on the Pacific at Seaside, Ore. il plan Am Bld 62:81 F '40
Two houses, Long Beach, Wareham, Mass.; views, plans, construction outlines. Arch Forum 72:38-41 Ja '40

BEACHES
Beach erosion studies. E. I. Brown. il diags Am Soc C E Proc 65:69-91 Ja '39; Discussion. il diags 65:757-60, 901-6, 1091-7; 66: 303-11, 501-6 Ap-Je '39, F-Mr '40
Coast and river conservancy. E. Latham. il Engineering 148:571-3, pl 21 N 24 '39
Sand movements along the Scripps Institution pier. F. P. Shepard and E. C. LaFond. Am J Sci 238:272-85, pl 1 Ap '40
Underwater seawall widens Chicago beach; jetties on Lincoln Park lakefront connected by sheetpile wall to form pockets for sandfill. plan Eng N 123:762-3 D 7 '39

BEACON company
Chemical tourist visits at the hub of New England chemical trade. W. Haynes. il Chem Ind 46:160-2 F '40

BEAMS
Beam splicing by welding; abstract. A. N. Kugler. Steel 106:71 My 13 '40
Corridor beam floor; dormitories at the University of Wisconsin. C. A. Willson. diags Am Concrete Inst J 11:165-8 N '39; Discussion. H. M. Hadley. 11:sup168[1]-168[3] Ap '40
Effect of impact on reinforced concrete beams. T. D. Mylrea. il Am Concrete Inst J 11:581-94 Je '40; Discussion. 12:sup596[1]-596[2] S '40
Elastic equation for beams. I. F. Morrison. Can Eng R & B 78:48+ S '40
High yield-point steel as tension reinforcement in beams. B. Johnston and K. C. Cox. il diags Am Concrete Inst J 11:65-80 S '39; Discussion. 11:sup80[1]-80[12] Ap '40
How much will any I-beam hold? W. F. Schaphorst. diag Am Gas J 151:35 D '39
Influence of taper on the efficiency of wide flanged box-beams. E. Reissner. J Aeronautical Sci 7:353-7 Je '40
Load ranges for simple beams. C. O. Harris. W Soc E J 45:39-43 F '40
Maximum beam stress and deflection from falling bodies. R. Fleming. Can Eng 77: 10+ D 19 '39
Non-axial loads on structural steelwork beams. R. F. Davis. diags Engineering 150: 81-4 Ag 2 '40
Photoelastic analysis of a prestressed beam. F. O. Anderegg, R. Weller and B. Fried. il Am Soc T M Proc 39:979-82; Discussion. 983-6 '39
Safe loadings for I-beams; chart. W. F. Schaphorst. Water Works & Sewerage 87: 501 O '40
Shear reinforcing for concrete beams; diagonal bars welded to top and bottom steel. D. M. McCain. diags Steel 107:58-9+ Jl 15 '40
Shearing deflection of beams. R. Fleming. Can Eng 77:10-11 N 28 '39
Theoretical investigation of plastic torsion in an I-beam. D. G. Christopherson. bibliog diags Roy Aeronautical Soc J 44:425-32 My '40
Vereinfachte trägerrostberechnung. F. Leonhardt. il V D I 83:1241-3 N 25 '39

See also
Airplane wings
Girders

BEANS
Availability of the iron in dried peas and beans. L. Ascham, M. Speirs and D. Maddox. Science 90:596-7 D 22 '39

See also
Lima beans, Frozen
Soybeans

BEARE, Thomas Hudson, 1859-1940
Sketch. por Engineering 149:607 Je 21 '40

BEARING metals
Adhesion of white metal to bronze. K. Ray. il diags Engineer 170:sup[Metallurgist] 131-3 O 25 '40
Aluminum alloy bearings offer high resistance to fatigue. E. H. Dix, jr. Steel 107: 164+ O 14 '40
Aluminum alloys for bearings. W. C. Devereux. Metal Prog 37:552 My '40
Anti-friction bearings; directions in which problems are being approached. diags Automobile Eng 30:271-2 S '40

BEARING metals—*Continued*
Bearing alloys, tin-, lead- and aluminum-base; a composite of abstracts. Metals & Alloys 12:100+ Jl '40
Bearing metal (white-base antifriction), 1936-1939. Survey of Cur Business 1940 Sup p135 [supplemented in monthly numbers]
Bearing metals from the point of view of strategic materials. H. W. Gillett, H. W. Russell and R. W. Dayton. bibliog diags Metals & Alloys 12:274-83, 455-63, 629-39 S-N '40 (to be cont)
Bearing metals; suitability in relation to modern requirements. M. Melhuish. Automobile Eng 30:303-6 O '40
Bearing metals; tinning methods. Automobile Eng 30:250 Ag '40
Copper-nickel-lead bearings; abstract. A. L. Boegehold. il Metals & Alloys 12:472 O '40
Corrosion of bearing materials; abstract. A. F. Underwood. S A E J 46:99 Mr '40
Engine bearings, from design to maintenance. A. B. Willi. il diags S A E J 45:513-25 D '39; Excerpts. Power Pl Eng 44:68-70 F '40; Abstract. Automotive Ind 81:114-17 Ag 1 '39
High-duty copper-lead bearings. C. H. S. Tupholme. Ind & Eng Chem News ed 18: 963 N 10 '40
Influence of crystal size on the wear properties of a high lead bearing alloy; abstract. J. R. Connelly. il Metal Prog 37: 45 Ja '40
Physical plus chemical specifications for bearings. R. G. N. Evans. Metal Prog 36:641-2 N '39
Sintered powdered metals help make high grade bearings. C. M. Heath. Steel 107:162 O 14 '40
Today's ball-bearing metallurgy. C. T. Hewitt. il Steel 107:38-9+ Jl 22 '40

See also
Babbitt metal
Ball bearings
Bearings

Analysis

Colorimetric determination of arsenic in ferrous and nonferrous alloys. C. J. Rodden. bibliog diag J Research Nat Bur Stand 24: 7-11 Ja '40

Testing

Wear of crankshafts with lead-bronze bearings. C. G. Williams and H. Ludicke. il diags S A E J 46:93-9 Mr '40; Abstracts. Automotive Ind 81:24-6 Jl 1 '39; Iron Age 144:54 Ag 3 '39

BEARING surfaces
Friction and surface finish; conference at Massachusetts institute of technology, June 6-8. Automotive Ind 82:sup 11+ Je 15 '40
How should engineers describe a surface? various machine parts and their surface requirements. O. R. Schurig. il Mech Eng 62:703-11 O '40

BEARINGS
Alarm system for hot bearings. diags Power 84:601-2+ S '40
Bearings and lubrication; composite of abstracts. Metals & Alloys 11:MA278+ My '40
Fast's multiple oil film bearing now being manufactured by Bartlett Hayward. il Am Mach 84:264 Ap 17 '40; Mach 46:142-3 Je '40
Friction and temperature as criteria for safe operation of journal bearings. S. A. McKee. bibliog J Research Nat Bur Stand 24:491-508 My '40
High surface temperature given as cause of early failure in smooth bearings. M. O. Teetor. il Product Eng 11:327 Jl '40
How much power does a bearing absorb? chart. Can Min J 61:574 S '40
How to measure bearing clearance without a micrometer. W. F. Schaphorst. diag Paper Ind 22:562 S '40
Lining-up shafting; simple devices made in mill shop aid accurate alignment of bearings. C. L. Hubbard. diags Textile World 90:66-7 Mr '40
Load capacities of journal bearings; abstract. S. A. McKee. Automotive Ind 82:113 F 1 '40
Physical plus chemical specifications for bearings. R. G. N. Evans. Metal Prog 36:641-2 N '39
Porous bronze bearings mounted in neoprene sleeves. il diags Product Eng 11:201 My '40
Progress achieved in Germany. For Comm W 1:129 O 19 '40
Selecting bearing seals. W. T. Savage, jr. Product Eng 11:183 Ap '40
Sliding of metals, frictional fluctuations, and vibration of moving parts. F. P. Bowden, L. Leben and D. Tabor. bibliog il Engineer 168:214-17 Ag 25 '39; Abstract. Metal Prog 37:435+ Ap '40
Studies in lubrication; electrolytic models of full journal bearings. F. Morgan, M. Muskat and D. W. Reed. il diags J Ap Phys 11: 141-52 F '40
Studies in lubrication; lubrication of plane sliders. F. Morgan, M. Muskat and D. W. Reed. il diags J Ap Phys 11:541-8 Ag '40
Studies in lubrication; the lubrication of plane sliders of finite width. M. Muskat, F. Morgan and M. W. Meres. J Ap Phys 11:208-19 Mr '40

See also
Babbitt metal
Ball bearings
Bearing metals
also subdivision subjects, e.g.
Automobiles—Bearings
Electric motors, Railway—Bearings
Lubrication and lubricants
Roller bearings
Bearings under special
Rolling mills—Bearings

Advertising

Vitamins for anemic form letters; Bantam bearing corp. J. K. Crippen. il Sales Management 46:52, 55-7 F 1 '40

Manufacture

Adhesion of white-metal linings in bearings. Engineering 150:250 S 27 '40
Bearing metals; suitability in relation to modern requirements. M. Melhuish. Automobile Eng 30:303-6 O '40; Excerpt. Engineer 170:240-1 O 11 '40
Buick swages wishbone bearing; substitution of fabric bushings. il diags Am Mach 84: 55-7 F 7 '40
Buick thin-babbitt bearings. il diag Product Eng 11:484-5 O '40
Fluorescent lighting for accuracy; Cleveland graphite bronze co. W. H. Kahler. il Iron Age 146:53 S 19 '40
Improved bonding process for babbitt-lined bearings recently-patented French process. A. Portevin. Automotive Ind 83:71-2 Jl 15 '40
Improving the bond in composite bearings. Automotive Ind 83:264-5 S 15 '40
Metal sprayed bearings for high speed operation; abstract. H. Shaw. Metals & Alloys 12:346+ S '40
Method of bearing production that ensures a good bond between backing and lining. Automotive Ind 82:555+ Je 15 '40
Powdered metal compact bonds babbitt to steel back. R. P. Koehring. il Metal Prog 38:173-6+ Ag '40
Powdered metals in composite bearings. il diag Steel 107:46-7+ Ag 5 '40
Steel back babbitt bearing for Buick engines. il diag Automotive Ind 83:160-2+ Ag 15 '40

Testing

Babbitt gets second wind after 100 years in bearings. K. K. Karpinski. Nat Pet N 32: R296 Ag 7 '40
Distribution and sources of journal-box temperature. E. S. Pearce. diags Ry Mech Eng 114:68-9+ F '40
Lager-prüfmaschine für verschiedene belastungsarten. E. A. Cornelius and E. H. Barten. il diags V D I 83:1219-21 N 18 '39
Machine for testing bearings. E. A. Ryder. il Metals & Alloys 11:69-74 Mr '40

BEARINGS, Anti-friction
Anti-friction bearing protection. il Rayon 21: 245-8 Ap '40
Anti-friction bearings; directions in which problems are being approached. diags Automobile Eng 30:271-2 S '40
Benefits of anti-friction bearings. il diags Rayon 20:721-4 D '39
Practical methods of testing lubricants for anti-friction bearings. J. H. Evans. pls diags Inst Pet J 25:729-50 N '39
Standardization simplifies use of antifriction bearings. E. C. Reither. diags Min Cong J 26:21 Mr '40
Why anti-friction bearings. 112p pa gratis New departure division, General motors sales corp, Bristol, Conn. '40

See also
Ball bearings
Roller bearings

Manufacture

Dust and rust are out; SKF industries air conditioned its Philadelphia plant. il Am Mach 83:1036 D 13 '39

Testing

Heald machine company air conditions a portable gauge and inspection room. il Heat & Ven 37:38 N '40

BEARINGS, Jewel
Measure meter jewels before assembly; Ames dial-type thickness gauge. il Elec W 114:272-3 Jl 27 '40
Optical devices used by, or of interest to, the meter and measuring instrument engineer; microscope for inspection of jewel bearings and pivots. F. E. J. Ockenden. diags Inst E E J 86:457-9, pl 2 My '40

BEARINGS, Non-metallic
Austauschwerkstoffe in walzenlagern; neue erfahrungen, insbesondere mit pressstoffen. E. Rohde. bibliog diags V D I 83:1209-16 N 18 '39
Buick swages wishbone bearing; substitution of fabric bushings. il diags Am Mach 84: 55-7 F 7 '40
For super-speed service; laminated phenolic provides accuracy, strength and better lubrication for heavy-duty ball bearing retainers. il Mod Plastics 17:36-7+ Jl '40
Goodrich segmental type cutless rubber bearing. il diag Marine Eng 45:75-6 Mr '40
Micarta as a bearing material to carry heavy loads in ball mills. Mach 46:250 D '39
Properties and performance of plastic bearing materials. L. M. Tichvinsky. bibliog diags Mod Plastics 17:54-7, 70, 72 My '40
Synthetic materials as bearings for mills; abstracts. C. D. Philippe. il Engineering 149:99-100 Ja 26 '40; Engineer 169:119-20 F 2 '40
Versuche mit pressstofflagern an hydraulischen pumpen. W. Hensky. diag V D I 84:159-60 Mr 2 '40

BEATRICE creamery company
Holds uptrend. E. A. Barnes. il Mag of Wall St 66:232-3+ Je 1 '40

BEAU DE ROCHAS, Alphonse, 1815-1893
Beau de Rochas, Otto and the four-stroke cycle engine. A. K. Bruce. Engineer 170:5-6 Jl 5 '40

BEAUTY shops
Air conditioning for beauty salons; better selling methods and better financed business would increase market. il plan Refrig Eng 39:287-9 My '40
Cleopatra would have adored this; Tourneur make-up salon, New York; use of plastics and textural glass. J. Guncheon. il Mod Plastics 17:40-3 Je '40
Planning units for retail stores. plan Arch Rec 87:109 Je '40
Plastics competition; award to Tourneur beauty products, inc. il Mod Plastics 18:45, 90 O '40
Profitable beauty shop management. S. B. Jeffries. 276p $2.95 Prentice-Hall '40

Employees

Effect of minimum wage in New York beauty parlors. Monthly Labor R 50:948-9 Ap '40

Equipment

See also
Manicuring

BEAVER FALLS, Pennsylvania
Family income and expenditure in nine cities of the east central region, 1935-36; v. 1, Family income. A. D. H. Kaplan, F. M. Williams and R. Hellman. map U S Bur Labor Statistics Bul 644:1-538 '39

BEBEE, Alfred H. 1891-
Sketch. por Explosives Eng 18:164-5 Je '40

BEBEERINE
Curare alkaloids; alkaloids of some chondrodendron species and the origin of radix pareirae bravæ. H. King. Chem Soc J p737-46 Je '40

BECK, Dave
Dave Beck's power is challenged in Seattle; court grants temporary injunction against teamster union. por Business Week p26-8 Je 22 '40

BECKJORD, Walter Clarence, 1888-
Who's who—and why? F. W. Parsons. por Gas Age 84:17+ D 7 '39

BEDROOMS
Hotel guest room air conditioning requires good engineering design. W. D. Lewis. il Heating-Piping 12:417-20 Jl '40
Increasing use of built-in furniture. il diags plans Arch Rec 88:61-4 Jl '40
Planning provisions: bedrooms, baths, closets; plans. Arch Rec 88:90 Ag '40
Y.M.C.A. room revamped at low cost. il diag plans Arch Rec 87:55 My '40

See also
Hotels—Designs and plans

BEDSPREADS. See Coverlets

BEECH (wood)
Über die verhefung der pentosen. R. Lechner. bibliog Angew Chemie 53:163-7 Ap 13 '40

BEECH aircraft corporation
Stock offered. Comm & Fin Chr 150:1420 Mr 2 '40

BEEF
Beef production, revision; monthly, 1923-June, 1940. Fed Res Bul 26:854 Ag '40
Experiments on keeping quality of beef and pork fats in cold storage; abstract. F. Kiermeier and R. Heiss. Food Ind 12:95 F '40
Kroger taps new profits sources; meat tenderizing process. F. H. McConnell. Barron's 20:7 Je 3 '40
Modern beef chilling; tenderizing and chill room design, control and operation; Tenderay process. P. B. Christensen. il diags Refrig Eng 39:296-9+ My '40
Process operations in the food industry. W. L. Campbell. Chem & Ind 59:431-2 Je 22 '40
Tenderizing of beef. A. W. Ewell. bibliog diag Refrig Eng 39:237-40 Ap '40

BEEF, Frozen
Freezing makes beef tenderer; below zero temperatures most effective. O. G. Hankins and R. L. Hiner. il Food Ind 12:49-51 Ja '40
Freezing temperature as related to drip of frozen-defrosted beef; abstract. J. M. Eamsbottom and C. H. Koonz. Food Ind 12:100 Mr '40

BEEFWOOD
Cellulose from the Australian tree casuarina; abstract. D. D. Bodé. Science 90:sup6 D 29 '39
Pulp man's paradise; research on the Australian pine (casuarina) at University of Tampa. D. D. Bodé. il Manuf Rec 109:38+ Ja '40

BEER
Beer. il Ptr Ink Mo 39:5-8+ D '39
Big brewers boost share of U.S. beer business. Sales Management 46:54+ Je 1 '40
Uniform results from batch operations obtained by quality control; Anheuser-Busch. B. H. Nissen. flow sheets il Food Ind 12: 39-42 F '40

BEER—*Continued*

Advertising

Don'ts for beer. P. Cameron. Ptr Ink 192: 61-2+ S 20 '40
$20,800,000 for advertising beer in 1939; $130,000,000 spent since prohibition. Ptr Ink 192:31-2 Jl 5 '40

Transportation

Dual purpose truck simplifies distribution; brewery body carries cases and kegs. il Food Ind 12:68-9 O '40

BEER dispensers
Meeting engineering demands. il Mod Plastics 17:38+ Jl '40

BEESWAX
Identification of commonly used waxes in admixture. S. Zweig and A. Taub. bibliog Ind & Eng Chem Anal ed 12:9-14 Ja 15 '40

BEETLES

See also
Bark beetles
Flour beetles
Japanese beetles

BEETS and beet sugar
Beet sugar production; Bardney beet sugar factory of the British sugar corporation. il Elec R (Lond) 125:725-7 D 8 '39
Beet sugar shakeup; Great Western control. Business Week p30 F 24 '40
Cultivation of sugar beets urged strongly in Italy. R. Sansone. Ind & Eng Chem News ed 18:257 Mr 25 '40
Process economy emphasized in recent beet sugar developments. R. W. Shafor. il Chem & Met Eng 47:464-7 Jl '40
Welfare of families of sugar-beet laborers; a study of child labor and its relation to family work, income, and living conditions in 1935. E. S. Johnson. pls map U S Children's Bur Pub 247:1-100 '39

BEGGS, George Erle, 1883-1939
Sketch. por Eng N 123:723 N 30 '39

BEHREND, Ernst Richard, 1869-1940
Sketch. por Paper Tr J 111:18 S 26 '40

BEIRA, Portuguese East Africa

Harbor

Extensions to the port of Beira. il diags plan Engineer 169:411-13, 418 My 3 '40

BELAWAN-DELI, Sumatra
Port of Belawan-Deli. il(cover) Comm Rep p804 S 21 '40

BELGIUM
Executive order and regulations on transfers of property. Fed Res Bul 26:509-13 Je '40

See also
Canals—Belgium
European war, 1939—Belgium
Gas industry—Belgium
Labor laws and legislation—Belgium
Shipbuilding—Belgium
Strikes—Belgium

Economic conditions

Belgium in 1939. Economist 138:sup 16 F 17 '40
Belgium's armed neutrality; economic situation. Economist 138:571 Mr 30 '40
Difficult days. Economist 137:169-70 N 4 '39

BELIDOR, Bertrand Forest de, 1697-1761
Bidding practice two centuries ago; extracts from La science des ingénieurs, by B. F. de Belidor. R. S. Kirby. Eng N 123:712-13 N 23 '39

BELL, Alexander Graham, 1847-1922
Education of the deaf; American association to promote the teaching of speech to the deaf, will honor Dr Alexander Graham Bell. Science 91:sup8-9 Je 21 '40

BELL, William Brown, 1879-
American Cyanamid; fourth-largest U.S. chemical company. por Fortune 22:66-71+ S '40

Portrait. Chem & Met Eng 47:156 Mr '40

BELL aircraft corporation
Stocks favored in new market phase; thumbnail appraisal. Mag of Wall St 66:109 My 4 '40

BELL telephone company of Pennsylvania
Report of earnings, 1936-39. Comm & Fin Chr 150:1420-1 Mr 2 '40

BELLEFONTAINE, Ohio

Sewerage

Grease flotation features new sewage treatment plant. F. G. Browne. il plan Pub Works 70:9-11 D '39

BELLEVUE hospital, New York. See New York (city)—Hospitals

BELLS
Bells; concerning their tones. D. T. James. bibliog diags Mech Eng 62:117-21 F '40
English firm casts bells for 369 years; Mears & Stainbank. J. S. Trevor. il Foundry 67: 34-5, 98+ D '39

See also
Carillons

BELT conveyors. See Conveying machinery—Belt conveyors

BELTING
Arc of belt contact on any small pulley or sheave. Can Min J 61:149 Mr '40
Belting. W. F. Schaphorst. Power Pl Eng 44: 94 S '40
Changes for API specifications on V-belts and sheaves proposed at Fort Worth, May 1940. Am Pet Inst Proc 21M(4):154-63 My '40
Chart to determine the belt length needed for V-belt drive. Power Pl Eng 44:84 Je '40
Cutter for trimming old belting to narrower widths. J. E. Hyler. diags Factory Management 98:96 Jl '40
Fabco power belting. Mach 46:134 Ag '40
Handy formulas for mechanical power transmission; data sheet. Factory Management 98:96 Ja '40
How to select and maintain rubber belts. J. Adams, jr. il diags Power 84:150-2 Mr '40
Howe V-belt measuring machine. il Rubber Age 46:238 Ja '40
Lindsay safety belt-shifting gears. diags Engineering 149:212 F 23 '40
Modern belt transmissions; flat and V-section. il diag Rayon 21:173-6 Mr '40
Modernized belt drives cut costs, increase production. L. H. Skougor. il Power 84:535-6 Ag '40
Modernizing eliminates belt trouble. R. O. Spencer. il Power 84:43 Ja '40
New V-belt ratings make better drives possible. E. A. Gahl. il Steel 107:60+ Jl 1 '40
Selection of V-belts; reference book sheet. diag Am Mach 84:633, 635 Ag 21 '40
Short center drive performance. L. H. Skouger. diag Power Pl Eng 44:61-2 Je '40
Speed as you like it with V-belts. il diag Power 84:467-8+ Jl '40
Synthetic rubber belts. Mach 47:129 O '40
Take care of those V-belts. L. L. Smith. Am Mach 84:425 Je 12 '40
Theft-proofing V-belts. E. Sterrett. il Eng N 124:741-2 My 23 '40
Three belts run on one flywheel. W. F. O'Regan. il Power 84:76 F '40
Two belts OK? belt drive problem. diags Power 84:674-5 O '40
V-belt drives; horsepower ratings and service factors. R. F. Vogt. Product Eng 11:171-3 Ap '40
V-belts licked these drives; illustrations. Factory Management 98:76-7 Ja '40

See also
Power transmission
Pulleys

Advertising

Trade jolted to attention; Thermoid fan belts. il Ptr Ink Mo 41:52 S '40

Fasteners

Belt fasteners; patent specification. diag Mech Handling 27:25-6 Ja '40

BELTS
Plastics competition; award to S. Buchsbaum & co. for Elasti-glass. il Mod Plastics 18: 80, 99 O '40

BENBON, Burnie Lee
Sketch. por Metal Prog 38:272-3 S '40

BENCHMARKS
Tidal bench marks; Columbia river; states of Oregon and Washington. 49p U.S. Coast and geodetic survey, Washington '39

BEN DAY process
Additional aids in illustration. R. L. Ives. il Econ Geol 35:668-70 Ag '40
Chart of Ben Day screens and how to use them. il Ptg Art 68 no 4:K4 '40

BENDING
Analyzing non-homogeneous sections subjected to bending and direct stress. W. G. S. Saville. Civil Eng 10:170-2 Mr '40; Correction. 10:310 My '40
Bending aluminum aircraft tubing. B. Freakley. Metals & Alloys 12:227 Ag '40
Dies for bending brass channels to rectangular and hexagonal shapes. W. Richards. diags Mach 47:145-7 S '40
Forming cuts welding costs. E. W. P. Smith. diags Steel 107:62+ Ag 12 '40
How to bend tubes and sections; use of Cerrobend (bismuth, lead, tin, cadmium alloy). il Iron Age 146:52-3 N 7 '40
How to bend tubing without distortion. J. N. Peterson. diags Am Mach 84:386 My 29 '40
Simple fixture for making right-angle bend. D. A. Baker. diags Mach 47:132 S '40

BENDING machines
Automatic bender produces rifle part at rate of 2000 per day. il Steel 106:56 My 27 '40
Brake fabrication without reverse bending. il Iron Age 145:50 My 2 '40; Steel 106:66 Je 10 '40
Chicago series L steel press brakes. il Am Mach 83:1050 D 13 '39
Role of bending presses in the manufacture of all-metal aircraft. C. L. Peterson. il Iron Age 146:37-9 Jl 25 '40
Steelweld bending presses. il Mach 46:147 Mr '40
Steelweld bending presses with bed and ram extensions. il Mach 46:157-8 Je '40
Stehende blechbiegepresse zum zylindrisch- und kegeligbiegen. F. Puppe. il diags V D I 84:102 F 10 '40

BENDING moment
Calculation of the loads and bending moments in rigid jointed frames with special regard to variation in section of members. J. Morris. Roy Aeronautical Soc J 44:601-21 Jl '40
Stressing of rotating-blade aerofoils. J. B. B. Owen. Engineering 148:511-13 N 3 '39

BENDIX aviation corporation
Bendix enjoys two booms; automobile and aviation divisions. H. L. Travis. il Mag of Wall St 65:558-9+ F 10 '40
Earnings, 1937-39. Comm & Fin Chr 150:2080 Mr 30 '40
Selected war beneficiaries. il Mag of Wall St 66:303-4 Je 15 '40

BENEFIT societies
Attacks serve only to bring solidarity. F. D. Partridge. Nat Underw (Life ed) 44:9 F 23 '40
Commissioner Harrison of Georgia obtains opinion on rights of fraternals. Weekly Underw 143:820+ O 12 '40
Distinction made by courts in fraternal and old line company decisions. A. A. McKinley. Nat Underw (Life ed) 44:9-10 My 17 '40
Field representation must be of high order. O. E. Aleshire. Nat Underw (Life ed) 44: 21 My 3 '40
Figures of leading fraternal societies for 1939; tabulation. Nat Underw (Life ed) 44: 5 My 31 '40
Fraternal orders, assessment life and accident associations; business of 1939 and condition Dec. 31, 1939; tabulation. Weekly Underw 142:75 sec 2 My 11 '40
Fraternals lay plans for better public relations. Nat Underw (Life ed) 44:2+ Ag 30 '40
Fraternals need state control. C. J. Zimmerman. East Underw 41:11 S 6 '40
Illinois fraternal congress annual meeting. Nat Underw (Life ed) 44:7+ Mr 15 '40
Knights of Columbus votes to enter upon level premium program. Nat Underw (Life ed) 44:21 S 13 '40
Maryland scrutinizing some fraternal insurance methods. East Underw 41:19 O 11 '40
National fraternal congress mid-winter meeting, Chicago. Nat Underw (Life ed) 44:1+ Mr 1 '40
North American union life of Chicago commended by examiners. Nat Underw (Life ed) 44:21 Mr 29 '40
Persistency main theme of Fraternal field managers association meeting, Chicago. Nat Underw (Life ed) 44:3+ F 23 '40
Persistency study is being started by members of the National fraternal congress. Nat Underw (Life ed) 44:21 My 10 '40
Procedure to secure unemployment compensation tax exemption. Nat Underw (Life ed) 44:21 O 25 '40
Public relations program is taking concrete form. D. R. Schilling. Nat Underw (Life ed) 44:1+ F 23 '40
Safety of fraternal plan. B. C. Marks. Nat Underw (Life ed) 44:25 Mr 8 '40
Standard life of Lawrence, Kan. celebrates 50th anniversary. Nat Underw (Life ed) 44:21 O 25 '40
Wants modern code for fraternals; abstracts. F. N. Julian. East Underw 41:9 Je 28 '40; Nat Underw (Life ed) 44:3+ Je 28 '40; Weekly Underw 142:1548+ Je 29 '40

See also
National fraternal congress of America
Trade unions—Benefit funds

BENEŠ, Eduard, 1884-
I built a temple for peace; the life of Eduard Beneš. E. B. Hitchcock. 364p $3.50 Harper '40

BENN brothers, limited
Annual meeting, 44th, London. Chem Age (Lond) 43:70+ Ag 10 '40

BENNETT, Walter Henry
Agents show appreciation of Bennett's service to national association. East Underw 41:25 S 20 '40

BENSON, John
Gold medal award. H. Powel. por Adv & Sell 33:36-7 F 15 '40
Portrait. Ptr Ink 190:72 F 16 '40

BENSON boiler. See Boilers—Benson boiler

BENTON, William Burnett, 1900-
Mr Benton's plans. H. E. Shubart. Ptr Ink 190:76 Mr 22 '40

BENTONITE
Abundance and significance of cristobalite in bentonites and fuller's earths. J. W. Gruner. bibliog Econ Geol 35:867-75 N '40
Avoiding obvious residue from nicotine-bentonite sprays. C. G. Vinson and S. A. McCrory. Science 92:79 Jl 26 '40
Bentonite in southwestern South Dakota. R. C. Spivey. pls diags maps S D State Geol S [Vermillion] Rep of Invest 36:1-56 '40
Bentonite; its properties, mining, preparation, and utilization. C. W. Davis and H. C. Vacher. U S Bur Mines Tech Pa 609:1-83 bibliog(202 references, p 70-7) '40
Bentonite now commercially developed in Alabama. E. Bowles. Min & Met 21:341 Jl '40
Bentonite sales increase. Can Chem & Process Ind 24:235 My '40
Bentonite stops sewer leakage. E. C. Hallock. Eng N 124:39 Ja 4 '40
Bentonites of the Belle Fourche district. M. E. Wing. il diag map S D State Geol S [Vermillion] Rep of Invest 35:1-29 bibliog(p29) '40
Catalysis by metallized bentonites. G. Broughton. J Phys Chem 44:180-4 F '40
Clay investigations in the southern states, 1934-35. W. B. Lang and others. diags plans maps U S Geol S Bul 901:1-346, pl 1-8 '40
Color reactions between clays and amines. E. A. Hauser and M. B. Leggett. Am Chem Soc J 62:1811-14 Jl '40

BENTONITE—*Continued*
Effect of exchangeable bases on absorption and transverse strength of clay bodies. R. P. Graham and J. D. Sullivan. Am Cer Soc J 23:52-6 F '40
Effect of exchangeable bases on torsion properties of clays. J. D. Sullivan and R. P. Graham. bibliog Am Cer Soc J 23:39-51 F '40
Patent pool trust charge indicts bentonite group. Oil Paint & Drug Rep 138:3 S 2 '40
Staining of clay minerals as a rapid means of identification in natural and beneficiated products; with a general discussion on staining technique. G. T. Faust. bibliog U S Bur Mines Rep of Invest 3522:1-21 '40
Synthetic mica made from clay; Alsifilm. Business Week p33-4 N 11 '39
See also
Montmorillonite

Patents
United States patents relating to bentonite. C. W. Davis and H. C. Vacher. In U S Bur Mines Tech Pa 609:64-70 '40

BENZALANILINE
Reactions of anils; addition of methyl ketones to benzalaniline in the presence of boron fluoride. H. R. Snyder, H. A. Kornberg and J. R. Romig. Am Chem Soc J 61:3556-8 D '39
Reactions of anils; the reactions of benzalaniline and cinnamalaniline with methyl acetylenedicarboxylate. H. R. Snyder, H. Cohen and W. J. Tapp. Am Chem Soc J 61: 3560-1 D '39

BENZALDEHYDE
Condensations of carbonyl compounds; a kinetic study of the reaction of acetophenone with benzaldehyde. E. Coombs and D. P. Evans. Chem Soc J p1295-1300 S '40
Hydrogenation of aldehydes in the presence of ammonia. C. F. Winans. Am Chem Soc J 61:3566-7 D '39
Mechanism of aromatic side-chain reactions, with special reference to the polar effects of substituents; depolarisation potentials of *p*-substituted benzaldehydes in acid, neutral, and alkaline media at the dropping-mercury cathode. J. W. Baker, W. C. Davies and M. L. Hemming. Chem Soc J p692-702 My '40
Reaction of copper with benzaldehyde. T. L. Davis and W. P. Green, jr. bibliog Am Chem Soc J 62:3014-15 N '40

BENZALPYRUVIC acid
Addition reactions of unsaturated *alpha*-ketonic acids. M. Reimer and E. Tobin. bibliog diags Am Chem Soc J 62:2515-20 S '40

BENZAMIDE
Optical constants of benzamide, its homologs, and some aliphatic amides. M. L. Willard and C. Maresh. bibliog Am Chem Soc J 62: 1253-7 My '40

BENZANTHRACENE
Polycyclic aromatic hydrocarbons. J. W. Cook and Mrs A. M. Robinson. Chem Soc J p303-4 Mr '40
Sulfhydryl and cysteine derivatives, of 1,2-benzanthracene, 10-methyl-1,2-benzanthracene and 3,4-benzpyrene. J. L. Wood and L. F. Fieser. bibliog Am Chem Soc J 62: 2674-81 O '40
Synthesis of growth-inhibitory polycyclic compounds. G. M. Badger and J. W. Cook. Chem Soc J p409-12 Ap '40
Ultraviolet absorption spectra of some derivatives of 1,2-benzanthracene. R. N. Jones. bibliog Am Chem Soc J 62:148-52 Ja '40

BENZANTHRYL isocyanate
Conjugation of amino acids with isocyanates of the anthracene and 1,2-benzanthracene series. L. F. Fieser and H. J. Creech. bibliog Am Chem Soc J 61:3502-6 D '39
Conjugation of horse serum albumin with 1,2-benzanthryl isocyanates. H. J. Creech and R. N. Jones. bibliog Am Chem Soc J 62:1970-5 Ag '40

BENZEDRINE sulfate
Benzedrine in alcoholism. Sci Am 162:286-7 My '40
Effect of benzedrine sulfate on chicks. R. M. Selle. Science 91:95 Ja 26 '40

BENZEINS
Polar structure of some benzein indicators. M. A. Elliott and S. F. Acree. bibliog J Research Nat Bur Stand 23:675-81 D '39

BENZENE
Alkylation and the action of aluminum halides on alkylbenzenes. D. V. Nightingale. Chem R 25:329-76 bibliog(105 titles, p374-6) D '39
Alkylation of benzene with alcohols, boron fluoride and assistants. N. F. Toussaint and G. F. Hennion. bibliog Am Chem Soc J 62:1145-7 My '40
Alkylation of benzene with *d-s*-butyl alcohol. C. C. Price and M. Lund. bibliog Am Chem Soc J 62:3105-7 N '40
Analysis of mixtures of aliphatic acids; simultaneous qualitative and approximate quantitative determination; azeotropic distillation with benzene and toluene. S. T. Schicktanz, W. I. Steele and A. C. Blaisdell. bibliog Ind & Eng Chem Anal ed 12:320-4 Je 15 '40
Azeotropic system alcohol-water-benzene. W. D. Bonner and M. B. Williams. J Phys Chem 44:404-8 Ap '40
Benzene and toluene isopiestic liquid-vapor equilibrium data. F. Todd. bibliog Ind & Eng Chem 32:287-8 F '40
Benzene formula; resonance and mesomerism. A. G. Byard. diags Chem & Ind 59:593-4 Ag 17 '40
By-products of coal carbonization. J. M. Weiss. Ind & Eng Chem 32:1161-2 S '40
Certain trialkylated benzenes and their compounds with aluminum chloride and with aluminum bromide. J. F. Norris and J. N. Ingraham. Am Chem Soc J 62:1298-1301 My '40
Chemical preparation of colloidal suspensions in non-aqueous solvents; methyl alcohol and benzene. A. A. Vernon and H. A. Nelson. bibliog J Phys Chem 44:12-20 Ja '40
Condensation of vapors on a horizontal tube; heat transfer coefficient for condensation of vapors of water and nonmiscible organic liquids. E. M. Baker and U. Tsao. bibliog diags Ind & Eng Chem 32:1115-21 Ag '40; Same. Am Inst Chem Eng Trans 36:517-33 Ag '40
Correlating vapor pressure and latent heat data; vapor compositions of solutions of volatile liquids; benzene, toluene, ethanol. D. F. Othmer. bibliog Ind & Eng Chem 32:853-4 Je '40
Destructive alkylation produces high-octane aviation gasoline. D. L. Gol'dshtein and B. A. Englin. bibliog Nat Pet N 32:R262-4, R266, R268 Jl 24 '40
Effect of pressure on the enthalpy of benzene. E. R. Gilliland and R. V. Lukes. bibliog flow sheet il diags Ind & Eng Chem 32:957-62 Jl '40
Electrical conduction in dielectric liquids. R. W. Dornte. bibliog diags Ind & Eng Chem 32:1529-34 N '40
Ephedrine; di-(α-hydroxyl-β-methylaminopropyl)-benzenes. S. D. Wilson and C. Chang. Am Chem Soc J 62:287-8 F '40
Evaluation of certain normal alkylated benzenes as Diesel fuels. G. Shen, C. E. Wood and F. H. Garner. Inst Pet J 25:695-703 O '39
Fluorochloroethanes as solvents for the cryoscopic determination of molecular weights. J. Bernstein and W. T. Miller. bibliog Am Chem Soc J 62:948-9 Ap '40
Hydrogen fluoride as a condensing agent; reactions of methyl, ethyl and phenyl compounds with benzene and its derivatives. J. H. Simons and H. J. Passino. Am Chem Soc J 62:1624 Je '40
Hydrogen fluoride as a condensing agent; the reaction of alcohols and ethers with benzene. J. H. Simons and S. Archer. Am Chem Soc J 62:1623-4 Je '40

BENZENE—*Continued*
Induced pyrolysis of methane. W. J. Hesseels, D. W. van Krevelen and H. I. Waterman. bibliog diag Soc Chem Ind J 58:323-7 N '39
Influence of a solvent on the strength of the hydrogen bridge. E. A. Moelwyn-Hughes. Chem Soc J p850-5 Jl '40
Inorganic benzene obtained by interaction of ammonia and boron hydrides. Chem & Ind 59:592 Ag 17 '40
Iodides of some polyvalent metals. H. W. Foote and M. Fleischer. bibliog J Phys Chem 44:647-52 My '40
Isomerization accompanying alkylation; the alkylation of benzene with neopentyl chloride and neopentyl alcohol. H. Pines, L. Schmerling and V. N. Ipatieff. bibliog Am Chem Soc J 62:2901-2 N '40
Isothermal changes in enthalpy for some gases. R. York, jr. and H. C. Weber. bibliog Ind & Eng Chem 32:388-92 Mr '40
Magneto-optic rotation; carbon disulfide and benzene solutions. C. E. Waring, H. Hyman and S. Steingiser. diag Am Chem Soc J 62:2028-31 Ag '40
Measurement of the heat capacity of a small volume of liquid by the piezo-thermometric method; apparatus for measuring $(\delta T/\delta P)s$ and results for benzene and toluene. J. S. Burlew. bibliog diags Am Chem Soc J 62.681-9 Ap '40
Measurement of the heat capacity of a small volume of liquid by the piezo-thermometric method; coefficient of thermal expansion of benzene and of toluene measured with a new type of weight dilatometer. J. S. Burlew. bibliog diag Am Chem Soc J 62:690-5 Ap '40
Measurement of the heat capacity of a small volume of liquid by the piezo-thermometric method; heat capacity of benzene and of toluene from 8° C. to the boiling point. J. S. Burlew. bibliog Am Chem Soc J 62:696-700 Ap '40
Mixed catalysts promise optimum in hydrogenation of benzene. V. N. Ipatieff. il Nat Pet N 32:R280-2 Ag 7 '40
Mixed copper-chromium oxide hydrogenation catalysts. V. N. Ipatieff, B. B. Corson and J. D. Kurbatov. bibliog J Phys Chem 44:670-9 My '40
Partial pressure of hydrogen bromide from its solutions in some aprotic solvents at 25°; comparison with hydrogen chloride. S. J. O'Brien and E. G. Bobalek. bibliog Am Chem Soc J 62:3227-30 N '40
Rate of nitration of benzene. W. K. Lewis and T. J. Suen. bibliog Ind & Eng Chem 32:1095-1101 Ag '40
Reaction of benzene with methylcyclobutene and methylenecyclobutane in the presence of sulfuric acid. V. N. Ipatieff and H. Pines. Am Chem Soc J 61:3374-6 D '39
Solid polyiodides of rubidium. H. W. Foote and M. Fleischer. bibliog J Phys Chem 44:633-40 My '40
Solubility of carbon dioxide in benzene at elevated pressure. S. Wan and B. F. Dodge. flow sheet diags Ind & Eng Chem 32:95-8 Ja '40
Solubility of cracked residues in some solvents. J. Voskuil. diag Inst Pet J 26:57-71 F '40
Solubility of methane in benzene. E. P. Schoch and others. il diags Ind & Eng Chem 32:788-91 Je '40
Spiral screen packing for efficient laboratory fractionating columns. H. S. Lecky and R. H. Ewell. bibliog il diag Ind & Eng Chem Anal ed 12:544-7 S 15 '40
Spreading of binary mixtures of volatile organic liquids on water. C. P. Keim and E. R. Washburn. bibliog Am Chem Soc J 62:2318-20 S '40
System benzene-nitrogen; liquid-vapor phase equilibria at elevated pressures. P. Miller and B. F. Dodge. diags Ind & Eng Chem 32:434-8 Mr '40
System ethyl alcohol-glycerol-benzene at 25°. H. J. McDonald. Am Chem Soc J 62:3183-4 N '40
Union of aryl nuclei; a modification of the Gomberg reaction. J. Elks, J. W. Haworth and D. H. Hey. Chem Soc J p1284-6 S '40
Vapor-liquid equilibrium; carbon tetrachloride-benzene mixtures. G. Scatchard, S. E. Wood and J. M. Mochel. bibliog Am Chem Soc J 62:712-16 Ap '40
Vapor pressures of some organic compounds. J. M. Stuckey and J. H. Saylor. bibliog diag Am Chem Soc J 62:2922-5 N '40

See also
Benzol (commercial benzene)
Bromobenzene
Butylbenzene
Chlorobenzene
Nitrobenzene

Analysis
Microanalysis of gases; acetylene, benzene, and some procedure modifications. F. E. Blacet, A. L. Sellers and W. J. Blaedel. diag Ind & Eng Chem Anal ed 12:356-7 Je 15 '40
Eine neue physikalisch-chemische methode zur bestimmung von einzelbestandteilen in gemischen; unter besonderer berücksichtigung ihrer anwendung auf die untersuchung von mineralölen, synthetischen ölen und teerfraktionen. G. Ibing. diag Angew Chemie 53:60-5 F 3 '40

BENZENE derivatives
Dielectric evidence of molecular rotation in the crystals of certain benzene derivatives. A. H. White, B. S. Biggs and S. O. Morgan. bibliog Am Chem Soc J 62:16-25 Ja '40
Dipole moment, induction and resonance in tetra-, penta- and hexa-substituted benzenes. C. P. Smyth and G. L. Lewis. bibliog Am Chem Soc J 62:721-7 Ap '40
Polyalkylbenzenes. L. I. Smith, C. O. Guss and L. J. Spillane. bibliog Am Chem Soc J 62:2625-42 O '40
Solubility and molecular rotation of certain tetra-, penta- and hexa-substituted benzenes. C. P. Smyth and G. L. Lewis. bibliog Am Chem Soc J 62:949-52 Ap '40

BENZENE poisoning
Comparative physiological effects of pure, commercial and crude benzenes. H. H. Schrenk and others. J Ind Hygiene 22:52-63 F '40

BENZENEDIAZOACETATE
Decomposition reactions of the aromatic diazo-compounds; a note on oxidation mechanisms. W. A. Waters. Chem Soc J p1805-7 N '39

BENZENEDIAZONIUM chloride
Coupling reactions of aminoquinolines with benzenediazonium chloride; a study of orientation in the quinoline ring. R. R. Renshaw, H. L. Friedman and F. J. Gajewski. bibliog Am Chem Soc J 61:3322-6 D '39
Decomposition reactions of the aromatic diazo-compounds; a note on oxidation mechanisms. W. A. Waters. Chem Soc J p1805-7 N '39

BENZENESULFINIC acid
Chelation in the potassium compounds of carboxylic and sulphinic acids. W. G. Wright. Chem Soc J p859-62 Jl '40

BENZENESULFONAMIDE
p-(*p*-Aminophenyl)-benzenesulfonamide and derivatives. C. T. Van Meter, J. A. Bianculli and A. Lowy. Am Chem Soc J 62:3146-8 N '40

BENZENESULFONYL ethylenediamine
Certain arylsulfonyl derivatives of ethylenediamine. L. H. Amundsen and R. I. Longley, jr. bibliog Am Chem Soc J 62:2811-12 O '40

BENZIL
Evidence for a skew structure of benzil. C. C. Caldwell and R. J. W. Le Fèvre. diags Chem Soc J p1614-22 O '39

BENZOATES
Some dialkylaminoalkyl furoates and benzoates as topical anesthetics. E. S. Cook and C. W. Kreke. bibliog Am Chem Soc J 62:1951-3 Ag '40

BENZOCARBOLINE
Attempts to find new antimalarials; synthesis of some derivatives of 4-carboline and 5:6-benz-4-carboline. W. O. Kermack and W. Tebrich. Chem Soc J p314-18 Mr '40

BENZODIOXANE
Proof of structure of 6-chloro-8-chloromethyl-1,3-benzodioxane by oxidation. C. A. Buehler and others. Am Chem Soc J 62:890-4 Ap '40

BENZOFLAVONE
Chromones of the naphthalene series; synthesis of linear naphthaflavone(6 : 7-benzoflavone). V. V. Virkar and T. S. Wheeler. Chem Soc J p1681-3 N '39

Test for residual chlorine; use of adsorption reaction between iodine and alpha-naphthoflavone. F. J. Hallinan. Ind & Eng Chem Anal ed 12:452-3 Ag 15 '40

BENZOHYDRYLAMINE
Optical rotatory powers of some 4-substituted benzhydrylamines. G. R. Clemo, C. Gardner and R. Raper. Chem Soc J p1958-60 D '39

BENZOHYDRYL bromide
Mechanism of substitution at a saturated carbon atom; a kinetic demonstration of the unimolecular solvolysis of alkyl halides; kinetics of, and salt effects in, the hydrolysis of benzhydryl halides in aqueous acetone. M. G. Church, E. D. Hughes and C. K. Ingold. Chem Soc J p966-70 Jl '40

BENZOHYDRYL chloride
Mechanism of substitution at a saturated carbon atom; a kinetic demonstration of the unimolecular solvolysis of alkyl halides; kinetics of, and salt effects in, the hydrolysis of benzhydryl halides in aqueous acetone. M. G. Church, E. D. Hughes and C. K. Ingold. Chem Soc J p966-70 Jl '40

Mechanism of substitution at a saturated carbon atom; hydrolysis of benzhydryl chloride in acidic moist acetone. M. G. Church and E. D. Hughes. Chem Soc J p920-5 Jl '40

Mechanism of substitution at a saturated carbon atom; polar effects in alkyl groups as illustrated by solvolytic substitutions of *p*-alkylbenzhydryl chlorides. E. D. Hughes, C. K. Ingold and N. A. Taher. Chem Soc J p949-56 Jl '40

Mechanism of substitution at a saturated carbon atom; qualitative survey of nucleophilic substitutions of benzhydryl halides in sulphur dioxide solution. L. C. Bateman, E. D. Hughes and C. K. Ingold. Chem Soc J p1011-17 Jl '40

BENZOHYDRYLGLUTARIC acid
β-benzohydrylglutaric acid. M. S. Newman, L. M. Joshel and P. H. Wise. bibliog Am Chem Soc J 62:1861-3 Jl '40

BENZOIC acid
Acid-base equilibria in ethyl alcohol. M. Kilpatrick and W. H. Mears. bibliog Am Chem Soc J 62:3051-4 N '40

Acid-base equilibria in methyl alcohol. M. Kilpatrick and W. H. Mears. bibliog Am Chem Soc J 62:3047-51 N '40

Electric moments of some substituted benzoic acids. C. S. Brooks and M. E. Hobbs. bibliog Am Chem Soc J 62:2851-4 O '40

Kinetics of the esterification of substituted benzoic acids. R. J. Hartman and A. G. Gassmann. bibliog Am Chem Soc J 62:1559-60 Je '40

Oxidation of aromatic hydrocarbons. C. R. Downs. bibliog il Ind & Eng Chem 32: 1294-8 O '40

Reactivity of atoms and groups in organic compounds; the effect of substituents on the relative reactivities of the hydroxyl group in derivatives of benzoic acid. J. F. Norris and A. E. Bearse. bibliog diag Am Chem Soc J 62:953-6 Ap '40

Relations between electrostatic potentials and reaction velocities. H. O. Jenkins. Chem Soc J p1780-4 N '39

Vapor-phase esterification of benzoic acid with ethyl alcohol; effect of oxides on catalytic activity of silica gel. A. A. Vernon and B. M. Brown. bibliog diag Ind & Eng Chem 32:534-6 Ap '40

BENZOIN
Determination of molybdenum in cast iron and steel. C. Sterling and W. P. Spuhr. Ind & Eng Chem Anal ed 12:33-4 Ja 15 '40; Same cond. Chem Age (Lond) 42:155-6 Mr 16 '40

Enediols; 1,2-dimesitylacetylene glycol. R. C. Fuson, C. H. McKeever and J. Corse. Am Chem Soc J 62:600-2 Mr '40

Mechanism of the reaction between arylamines and benzoins. R. M. Cowper and T. S. Stevens. Chem Soc J p347-9 Mr '40

Preparation of certain optically active semicarbazides and a resolution of benzoin. A. J. Little, J. M'Lean and F. J. Wilson. Chem Soc J p336-8 Mr '40

Rapid determination of copper by α-benzoin oxime in ferromolybdenum, calcium molybdate, etc. L. Silverman. bibliog Ind & Eng Chem Anal ed 12:343-4 Je 15 '40

BENZOISOTHIAZOLONE
Reaction of some acylbenz*iso*thiazolones with acetic anhydride and potassium acetate. E. W. McClelland, M. J. Rose and R. G. Bartlett. Chem Soc J p323-7 Mr '40

BENZOL (commercial benzene)
Benzol production, monthly, 1923-Sept. 1939. Survey of Cur Business 19:18 N '39

Benzole recovery. L. R. Cowley. Gas J (Lond) 230:627-8 Je 19 '40

Benzole recovery; discussion. Gas J (Lond) 228:395+ N 22 '39

Downdraft ventilation; for solvents producing heavier-than-air vapors. W. C. L. Hemeon. il diag Safety Eng 79:12, 14 Ap '40

Light oil recovery from coke oven gas. W. Tiddy and M. J. Miller. plans Am Gas J 153:7-10+ S '40

New light oil refining plant of the Wheeling steel corporation. E. Preston and B. J. C. Van Der Hoeven. flow diag il Blast F & Steel Pl 28:455-60 My '40

Observations on the economics of by-products recovery in gas-works; with cost data. D. M. Henshaw and C. Cooper. Gas J (Lond) 230:570-1 Je 12 '40

Three years' progress at Perth; benzole recovery. A. C. Rea. Gas J (Lond) 228:138-9 O 18 '39; Discussion. 228:345-7, 398-9, 624 N 15-22, D 20 '39

BENZONAPHTHOL
Bromination of 2-naphthyl benzoate. S. E. Hazlet. Am Chem Soc J 62:2156-7 Ag '40

BENZOPHENANTHRENE
Polycyclic aromatic hydrocarbons. C. L. Hewett. Chem Soc J p293-303 Mr '40

Polycyclic aromatic hydrocarbons; 1- and 2-alkyl derivatives of 3:4-benzphenanthrene. J. L. Everett and C. L. Hewett. Chem Soc J p1159-62 Ag '40

Synthesis of 3,4-benzphenanthrene and 1-methylpyrene. W. E. Bachmann and R. O. Edgerton. bibliog Am Chem Soc J 62:2970-3 N '40

Synthesis of 2-methyl-3,4-benzphenanthrene. M. S. Newman and L. M. Joshel. bibliog Am Chem Soc J 62:972-4 Ap '40

BENZOPORPHIN
See also
Tetrabenzoporphin

BENZOPYRENE
Effect of petroleum ether extract of mouse carcasses on skin tumor production in C57 black mice. J. J. Morton and G. B. Mider. bibliog Pub Health Rep 55:670-6 Ap 19 '40

9-Methyl-3,4-benzpyrene. L. F. Fieser and F. C. Novello. bibliog Am Chem Soc J 62:1855-9 Jl '40

Sulfhydryl and cysteine derivatives of 1,2-benzanthracene, 10-methyl-1,2-benzanthracene and 3,4-benzpyrene. J. L. Wood and L. F. Fieser. bibliog Am Chem Soc J 62: 2674-81 O '40

BENZOPYRYLIUM compounds
Benzopyrylium salts; ozonization. R. L. Shriner and R. B. Moffett. bibliog Am Chem Soc J 62:2711-14 O '40

BENZOQUINONE. See Quinone

BENZOYLACETONE
Diketene, a new industrial chemical. A. B. Boese, jr. bibliog il Ind & Eng Chem 32: 16-22 Ja '40

BENZOYLAMINOMALONIC ester
Synthesis of amino acids from benzoylaminomalonic ester. E. P. Painter. Am Chem Soc J 62:232-3 Ja '40

BENZOYL chloride
Acylation of aldoximes; isomerizations in the benzoylation of *syn-* and *anti*-aldoximes in pyridine. G. Vermillion and C. R. Hauser. Am Chem Soc J 62:2939-42 N '40
Organic derivatives of sulphur, selenium, and tellurium. D. T. Lewis. Chem Soc J p831-2 Jl '40

BENZOYLMESITOYLMETHANE
Properties of benzoylmesitoylmethane. R. P. Barnes, C. I. Pierce and C. C. Cochrane. bibliog Am Chem Soc J 62:1084-7 My '40

BENZOYL peroxide
Thermal decomposition of benzoyl peroxide. D. J. Brown. Am Chem Soc J 62:2657-9 O '40

BENZOYLPROPIONIC acid
Polymethyl aromatic hydrocarbons; synthesis of 1,2,4-trimethylnaphthalene and 1,2-, 1,3- and 1,4-dimethylnaphthalene. M. C. Kloetzel. bibliog Am Chem Soc J 62:1708-13 Jl '40
Some reactions of Δ^{b}-γ-lactones. E. Walton. Chem Soc J p438-42 Ap '40

BENZOYLATION
Acylation of aldoximes; isomerizations in the benzoylation of *syn-* and *anti*-aldoximes in pyridine. G. Vermillion and C. R. Hauser. Am Chem Soc J 62:2939-42 N '40

BENZYL
Use of the benzyl radical in syntheses of methylated sugars; 4:6-dimethyl galactose. J. S. D. Bacon, D. J. Bell and J. Lorber. Chem Soc J p1147-50 Ag '40

BENZYL abietate
Industrial uses of chemicals and related materials. Oil Paint & Drug Rep 137:52 Ap 22 '40

BENZYL benzoate
Influence of solvents and other factors on the rotation of optically active compounds; asymmetric solvent action. T. S. Patterson and C. Buchanan. Chem Soc J p290-3 Mr '40

BENZYL chloride. See Chlorotoluene

BENZYL compounds
Benzylalkali compounds. H. Gilman, H. A. Pacevitz and O. Baine. bibliog Am Chem Soc J 62:1514-20 Je '40

BENZYL cyanide. See Tolunitrile

BENZYL iodide. See Iodotoluene

BENZYL nitrate
Polymethylbenzenes; the nitration of bromopentamethylbenzene. L. I. Smith and J. W. Horner, jr. Am Chem Soc J 62:1349-54 Je '40

BENZYLSTEARYLAMINE
Splitting the CONH linkage by means of ultraviolet light. D. C. Carpenter. bibliog diags Am Chem Soc J 62:289-91 F '40

BEREA college
Safeguarding student workers. R. Larew. il Nat Safety N 42:20+ Jl '40

BERKELEY, California
City manager government in Berkeley (California). A. Harris. 70p 50c Public administration service, Chicago '40

BERLIN
Bourse
Berlin stock exchange. Published in weekly numbers of Commercial & financial chronicle
Nazis ease capital restrictions. B. Ravits. Barron's 20:7 S 2 '40

BERRIES, Frozen
Refrigeration of fruits and berries. H. J. Reed. il Refrig Eng 39:303 My '40

BERRY, Edwin S. 1881-1939
Appreciation. R. Marsh, jr. por Min & Met 21:121-2 F '40

BERYL
Beryl, a case history. L. G. Bliss. bibliog Am Cer Soc Bul 19:159-60 My '40
Beryllium oxide. H. E. White, R. M. Shremp and C. B. Sawyer. bibliog il Am Cer Soc J 22:185-9; 23:157-9 Je '39, Je '40

BERYLLIA. See Beryllium oxide

BERYLLIUM
Alpha-particle groups from the disintegration of beryllium by deuterons. S. K. Allison, E. R. Graves and L. S. Skaggs. Phys R 57:158-9 Ja 15 '40
Beryllium. H. W. Lohse. Can Min J 61:227-8 Ap '40
Beryllium and national defense. C. B. Sawyer. Metals & Alloys 12:426-8 O '40
Beryllium and some of its aluminum alloys. C. B. Sawyer and B. Kjellgren. bibliog il Metals & Alloys 11:163-7 Je '40
Beryllium in Canada. Can Min J 61:458-9 Jl '40
Comparative efficiencies of radioactive neutron sources. E. J. Murphy and others. Phys R 58:88 Jl 1 '40
Debutante metal. P. H. Smith. il Sci Am 162:142-4 Mr '40
Energy and half-life of Be^{10}. E. Pollard. Phys R 57:211 F 1 '40
Energy release from Be^{9} $(d, \alpha)Li^{7}$ and the production of Li^{7}. E. R. Graves. bibliog Phys R 57:855-62 My 15 '40
Feldspar and beryllium in America; old methods and new developments. Chem Age (Lond) 41:329 N 11 '39
Gamma-rays from beryllium and nitrogen bombarded with deuterons. H. R. Crane, J. Halpern and N. L. Oleson. bibliog Phys R 57:13-15 Ja 1 '40
How minute amounts of beryllium improve copper characteristics; abstract. R. H. Harrington. Mach 46:138-9 Mr '40
Internal absorption of gamma rays in radium-beryllium neutron sources. L. F. Curtiss. diag J Research Nat Bur Stand 23:617-19 N '39
Theoretical constitution of metallic beryllium. C. Herring and A. G. Hill. bibliog diags Phys R 58:132-62 Jl 15 '40

BERYLLIUM alloys
Beryllium and beryllium copper. L. L. Stott. Metal Prog 38:539-40 O '40
Beryllium and national defense. C. B. Sawyer. Metals & Alloys 12:426-8 O '40
Beryllium and some of its aluminum alloys. C. B. Sawyer and B. Kjellgren. bibliog il Metals & Alloys 11:163-7 Je '40
Beryllium-copper alloys; working, treating, finishing. E. E. Halls. Metals & Alloys 12:337+ S '40
Debutante metal, beryllium. P. H. Smith. il Sci Am 162:142-4 Mr '40

BERYLLIUM aluminum silicate. See Beryl

BERYLLIUM chromite
Study of the catalytic properties of beryllium chromite. R. K. Ladisch and J. C. W. Frazer. Am Chem Soc J 62:3222-7 N '40

BERYLLIUM oxide
Beryllium oxide refractories. H. E. White, R. M. Shremp and C. B. Sawyer. bibliog Am Cer Soc J 23:157-9 Je '40
Protection of silver by the electrolytic deposition of beryllia. L. E. Price and G. J. Thomas. bibliog il Metal Ind 37:507-10 N '39; Same cond. Engineering 148:675-6 D 15 '39
Reflectivity measurements of silver alloys; possibility of producing tarnish resistant oxide coatings; abstract. E. Raub and M. Engel. Metal Ind 38:33 Ja '40

BERYLLIUM sulfate
Cathodic treatment of copper in a solution of beryllium sulphate to prevent tarnishing; abstract. D. T. Ewing and G. W. Jernstedt. il Iron Age 146:43 Jl 4 '40

BERYLLIUM sulfate—*Continued*
Protection of silver by the electrolytic deposition of beryllia. L. E. Price and G. J. Thomas. bibliog il Metal Ind 37:507-10 N '39; Same cond. Engineering 148:675-6 D 15 '39

BESSARABIA
Economic and social conditions. map Economist 138:144 Ja 27 '40

BESSEL'S functions
Some integrals, differential equations and series related to the modified Bessel function of the first kind. A. H. Heatley. 32p bibliog(p32) pa $1 Univ of Toronto press, Toronto '39

BESSEMER process
Acid Bessemer process of 1940; abstract. H. W. Graham. Iron Age 146:52 O 31 '40
As it was in 1915 and as it is in 1940. H. W. Graham. Metal Prog 37:300 Mr '40
Bessemer process can regain lost ground. H. W. Graham. Blast F & Steel Pl 28:420+ Ap '40
Bessemer steel production; abstract. H. W. Graham. Steel 107:26 O 28 '40
Manufacture of rimming steel by the basic Bessemer process at Corby. W. L. Kerlie. Engineering 148:569 N 17 '39
Method of rapid dephosphorization of Bessemer steel. G. M. Yocom. Iron Age 146:52-3, 83 O 31 '40
Neue untersuchungen und erkenntnisse über den ablauf des basischen windfrischverfahrens. W. Eichholz, G. Behrendt and T. Kootz. il diag Stahl & Eisen 60:61-72 Ja 25 '40
Some recent developments in the iron and steel industry of European countries; basic Bessemer process at Corby and Ebbw Vale. H. A. Brassert. il Blast F & Steel Pl 28:81, 81A-81B+, 147-8 Ja-F '40

BEST, Alfred M., company
Best company celebrates 40th anniversary. Safety Eng 78:24 D '39

BETA rays
Beta-decay and mesotron lifetime. R. Serber. bibliog Phys R 56:1065 N 15 '39
Beta-radiation from Si^{27} and P^{30}. W. H. Barkas and others. Phys R 58:383 Ag 15 '40
Beta-spectra of iodine. G. F. Tape. bibliog Phys R 56:965-71 N 15 '39
Design of a magnetic beta-ray spectrometer. J. L. Lawson and A. W. Tyler. bibliog diags R Sci Instr 11:6-18 Ja '40
Determination of the masses and velocities of three radium B beta-particles; the relativistic mass of the electron. M. M. Rogers, A. W. McReynolds and F. T. Rogers, jr. bibliog Phys R 57:379-83 Mr 1 '40
Direct determination of the charge of the beta-particle. R. Ladenburg and Y. Beers. Phys R 58:757 O 15 '40
Induced β-activity of uranium by fast neutrons. Y. Nishina and others. Phys R 57: 1182 Je 15 '40
Ionization measurements of the radiations from radioactive substances. C. G. Montgomery and D. D. Montgomery. Franklin Inst J 229:600-4 My '40
Study of the nuclear radiations from antimony and arsenic. A. C. G. Mitchell, L. M. Langer and P. W. McDaniel. bibliog diags Phys R 57:1107-17 Je 15 '40
Theory of the electrostatic beta-particle energy spectrograph. F. T. Rogers, jr. bibliog diags R Sci Instr 11:19-22 Ja '40
Transition probabilities in double beta-disintegration. W. H. Furry. bibliog Phys R 56: 1184-93 D 15 '39

BETHEA, Osborne, 1900-
Sketch. P. Troth. por East Underw 41:4 Ja 5 '40

BETHLEHEM, Pennsylvania

Water supply
Mountain water for Bethlehem. il map Eng N 125:36-8 Jl 4 '40
21-mile concrete pressure pipe line and dam feature Bethlehem's new water supply. il diags map Pub Works 70:9-12 N '39

BETHLEHEM steel corporation
Annual report. Comm & Fin Chr 150:1591-2 Mr 9 '40
Backlog, highest in history; profit for quarter. Comm & Fin Chr 151:2635 N 2 '40
Bethlehem bookings set new peacetime mark at $538,368,398. Iron Age 145:76 F 1 '40
Bethlehem hires 25,000 in 1939, liberalizes 1940 vacation plan; report to employees. E. G. Grace. Iron Age 145:87-8 Mr 7 '40
Bethlehem labor policies restated. G. W. Vary. Steel 105:21 D 11 '39
Bethlehem showdown, S.W.O.C. rank-and-file pressure brings official and unofficial strikes. il Business Week p56-7 O 5 '40
Bethlehem under fire; C.I.O. men will ask government to cancel contracts with company. Business Week p44 Ag 10 '40
$105,000,000 bonds offered. Comm & Fin Chr 150:1421-2 Mr 2 '40
Preliminary report for 1939. Comm & Fin Chr 150:681-2 Ja 27 '40
Sells $20,000,000 debentures privately. Comm & Fin Chr 151:541 Jl 27 '40
Statistics of income, capital, stock earnings, etc. 1929-39. Annalist 55:660 My 9 '40
Thumbnail stock appraisal. Mag of Wall St 67:102 N 2 '40
What the war means to Bethlehem Steel. W. Gates. il Mag of Wall St 66:280-3+ Je 15 '40

BETTER business bureaus
324 Indianapolis women pay to hear Business bureau consumer lectures. Ptr Ink 190:69-72 F 23 '40

BETTER light-better sight bureau
Rights of the eye. H. G. Rowell. Edison Elec Inst Bul 8:353-5+ Jl '40

BEVAN, Grace, 1875-
Well-rounded library career. Special Lib 31: 371 O '40

BEVEL gearing. See Gearing, Bevel

BEVERAGES
Bottled soft drinks reach billion dollar sales. S. R. Kaplan. il Adv & Sell 32:20-3, 58, 90 D '39
Chieftain units used in drink dispensers; growth of coin machines opens market for refrigeration. Refrig Eng 39:174 Mr '40
City authorized to require a license of wholesale soft drink business. Pub Health Rep 54:2064-5 N 17 '39
How to pour out carbonated beverages. Refrig Eng 39:374+ Je '40
Management policies by industries; soft drinks bottlers. W. B. Leonard and N. D. Stone. il Bankers Mo 57:152-7+ Mr '40
Soft drink sale encourages station cleanliness. il Nat Pet N 32:30+ S 4 '40
Some drink aspects of food engineering; abstract. S. A. Gregory. Inst Chem Eng Trans 17:197 '39
Ten leaders among soft drinks; pictograph. Sales Management 47:34 O 20 '40
Vitaminized malted beverages; patent. Food Ind 12:89 Ja '40

See also
Apple juice
Beer
Bottling
Coca-Cola
Coca-Cola company
Cocoa
Coffee
Fruit juices
Orange juice
Pulque
Soda fountains
Tea
Whisky
Wine

Analysis
Determination of iron in liquid food products. H. L. Roberts, C. L. Beardsley and L. V. Taylor, jr. il diag Ind & Eng Chem Anal ed 12:365-7 Je 15 '40

Manufacture
Carbonated beverages; flow sheet. Food Ind 12:57 Jl '40
Chemist in the carbonated beverage industry. H. A. Showalter. Can Chem & Process Ind 23:621-2+ D '39
Mechanical handling methods in mineral water plants. C. C. Downie. il diags Mech Handling 27:81-5 Ap '40

BEVERAGES—Manufacture—*Continued*
Pepsi-Cola gives controlled quality to 400 franchise bottlers. I. C. Miller. il Food Ind 12:64-6 Ap '40
Water quality requirements of the soft drink industry. K. Mott. Am Water Works Assn J 32:1512-16 S '40

BIACETYL. See Diacetyl

BIBLIOGRAPHERS
Opportunities for women as research bibliographers. F. W. Adams. J Chem Educ 16: 581-3 D '39

BIBLIOGRAPHICAL planning committee of Philadelphia
Bibliographical planning committee of Philadelphia. M. L. Alexander. Special Lib 30: 328-32 D '39

BIBLIOGRAPHY
Library of Congress and the Special libraries association; cooperation in bibliographical service. Special Lib 31:155-6 My-Je '40
Reference catalogue of current literature; a national inclusive book-reference index of books in print and on sale in the British empire. 2v lxxvip, 1130p; 1538p J. Whitaker & sons, London; R. R. Bowker co, 62 W. 45th st, New York '40

See also subdivision Bibliography under various subjects, e.g.

Accounting
Aeronautics
Business
Ceramics
Chemistry
Chemistry, Technical
Civil engineering
Engineering
Geology
Iron
Labor and laboring classes
Lighting
Metallurgy
Paper making
Petroleum
Physics
Radio communication
Reprints
Rubber
Steel
Textile fabrics
Waterworks

Best books

Booklist books, 1939. 59p pa 75c Am. lib. assn, Chicago '40
Books for tired eyes; a list of books in large print. C. Matson and D. Wurzburg, comps. 3d ed 80p pa 65c Am. library assn, 520 N. Michigan av, Chicago '40
Christmas book list. V. Kirkus. Special Lib 30:333-6 D '39
How to enjoy reading. C. Lee. 262p $2 Waverly house, Boston '39
List of books for a college student's reading; being the Trinity booklist. H. T. Costello, ed. 3d ed 125p Trinity college, Hartford, Conn. '40
List of books for college libraries, 1931-38. C. B. Shaw, ed. 284p $6 American library assn, 520 N. Michigan av, Chicago '40
1000 books for prison libraries, 1936-1939. M. L. Methven, comp. 71p pa 50c Mildred L. Methven, State office bldg, St Paul '39
Subject index of books published up to and including 1880; third series, A-Z. R. A. Peddie. 945p £10 10s Grafton & co, London '39
Three thousand books for a public library. W. A. Munford, comp. 188p 7s 6d Grafton & co, London '39

Bibliography

Bibliographic index; a cumulative bibliography of bibliographies, 1939. 307p Wilson, H.W. '40

Technique

Bibliographic technique. M. Schrero. Special Lib 30:302-6 N '39

BICYCLE paths
Deutschlands radwegebau. H. J. Schacht. il diags V D I 83:1175-8 N 4 '39

BICYCLES
Engineering outlook; cycles and motor cycles. Engineering 149:135-7 F 9 '40
Folding bicycle. il Sci Am 163:88 Ag '40

See also
Cycling
Radio receiving apparatus—Installation on bicycles

Manufacture

Electric oven aids bicycle production; Cleveland welding co. T. A. Driscoll. il Iron Age 145:38 F 22 '40

BICYCLOOCTANEDIONE
Some reactions of Δ^2-cyclohexenone, including the synthesis of bicyclo(2,2,2)-octanedione-2,6. P. D. Bartlett and G. F. Woods. bibliog Am Chem Soc J 62:2933-8 N '40

BIDDEFORD, Maine

Water supply

Experiences with corrosion control. E. T. McDowell. N E Water Works Assn J 54:288-93 S '40

BIDDING, Competitive
Competitive bidding for audit engagements; statement by executive committee of American institute of accountants. J Account 68:367-8 D '39

See also
Securities—Marketing

BIEUGENOL
Bieugenol in a commercial geraniol. H. A. Jones and H. L. Haller. Am Chem Soc J 62:2558-9 S '40

BIG Craters, Idaho. See Craters of the Moon national monument

BIGELOW-SANFORD carpet company
Dividend paying stock selling near quick asset value. Mag of Wall St 66:534 Ag 10 '40

BILLBOARDS

See also
Advertising, Outdoor
Posters

BILLING
Billing procedure of the Brooklyn union gas company. il Am Gas J 151:15-17 D '39
Joint administration and collection of water and sewer accounts. Am Water Works Assn J 31:1957-63 N '39
Short-cut electric bill calculation. R. McMillan. Elec W 114:84-5 Jl 13 '40
Short-cuts in billing routine. R. J. Sever. il Credit & Fin Management 42:15-16+ Ag '40

See also
Collecting of accounts

BILLS of exchange
Protest of bills of exchange in Latin America; summarized treatment of rights and liabilities of the parties. H. P. Crawford. Compar Law Ser 3:183-96 Ap '40

BILLS of lading
Colombia, commercial law digests. For Comm W 1:153 O 26 '40
Delivery of possession under straight bills of lading in Germany. W. L. Smyser. Compar Law Ser 3:439-47 Ag '40
Foreign shipments and the straight bill of lading; practices in Britain, France and Australia. J. O. Janousek. Compar Law Ser 3:365-70 Jl '40
Geolexigraph of the Neutrality act of 1939 (transfer of title). S. E. Perkins. Comm Rep p130-1 F 10 '40
Some aspects of the bill of lading and delivery of property in Philippine law. J. O. Janousek. Comm Rep p794 S 21 '40

BIMETAL. See Thermostats

BINDING energy
Binding energy of H^3. F. W. Brown. Phys R 56:1107-10 D 1 '39
Binding energy of Li^7. K. G. Carroll. bibliog Phys R 57:791-4 My 1 '40
Effect of the Coulomb force on binding energies of light nuclei. W. E. Stephens. bibliog Phys R 57:938-9 My 15 '40

BINDING materials
Methods of binding glass batch; cost comparisons between use of dry batch, briquetted batch and mixed-and-dried batch; abstract. R. L. Shute. Glass Ind 21:275-6 Je '40

See also
Adhesives
Road materials
Shellac

BINNIE, William James Eames, 1867-
Sketch. por Civil Eng 10:57-8 Ja '40

BINNS, Asa, 1873-
Portrait. Inst Mech Eng J & Proc 143: front Ap '40

BINS
Avoiding clogged bin hoppers. C. O. Sandstrom. diags Chem & Met Eng 47:22-3 Ja '40
Construction of bins designed for bituminous coal or coke; illustrations. Sheet Metal Worker 31:64, 66, 68 My '40
Flow through bins. C. A. Lee. diags Chem & Met Eng 47:198-9 Mr '40

See also
Coal bins
Ore bins

BINS, Concrete
Concrete shelf adds to efficiency of coal-storage silo. il diag Concrete 48:5 Je '40
Restoring surface of huge concrete bins spalled by elevator fire. il Concrete 47:3-4 D '39

BINS, Steel
20,500 grain bins in two months; Department of agriculture order received by Butler mfg. co. il Iron Age 144:47 N 30 '39

Manufacture

Ghost plant revives. Business Week p29 N 25 '39

BIOCHEMICAL research foundation. See Franklin institute—Biochemical research foundation

BIOCHEMISTRY. See Biological chemistry

BIOGRAPHY
Current biography. Published monthly by H. W. Wilson co.
Little bits about big men. B. C. Forbes. 223p $2.50 B. C. Forbes pub. co, 120 5th av, New York '40
These men I knew. R. Forbes. 305p $3 Dutton '40
Vocations and professions. P. H. Lotz, ed. 145p $1.25 Association press, New York '40

Bibliography

Biography in collections; suitable for junior and senior high schools. H. Logasa. 3d ed rev & enl 152p $1.50 Wilson, H.W. '40

Dictionaries

American biographies. W. Preston. 1147p $7.50 Harper '40
Who was when? a dictionary of contemporaries. M. A. de Ford. $4.75 Wilson, H.W. '40
Who's who in American art. C. Ball, V. Botsford and P. Ehrlich, eds. v 3, for the years 1940-1941 790p $8; to members $6 Am. federation of arts, Barr bldg, Washington, D.C. '40
Who's who in commerce and industry; the international business who's who. v. 3, 1940-41. 3d international ed 1017p A. N. Marquis co, Chicago '40
Who's who in railroading in North America. 10th ed 716p $7.50 Simmons-Boardman '40
Who's who in the nation's capital, 1938-1939. 5th ed 958p $10 Ransdell incorporated, Washington, D.C. '38

BIOLOGICAL abstracts (periodical)
Original sources in vertebrate embryology and animal cytology. W. Shumway. Science 91: 93-4 Ja 26 '40
Report for 1939. Science 91:550-1 Je 7 '40
Statement of the board of trustees. Science 90:559-60 D 15 '39
Usefulness of Biological abstracts. C. G. Hartman. Science 91:142 F 9 '40

BIOLOGICAL apparatus
Laboratory juice extractor. G. W. Irving, jr. and T. W. Loring. diag Ind & Eng Chem Anal ed 12:548-9 S 15 '40

See also
Microscope and microscopy

BIOLOGICAL chemistry
Biochemical society; abstracts of papers. Chem & Ind 58:1019-22, 1086-8; 59:346-9 N 18, D 16 '39, My 18 '40
Biochemistry of disease. M. Bodansky and O. Bodansky. 684p $8 Macmillan '40
Charakteristische reaktionsmöglichkeiten an schwefelhaltigen naturstoffen. A. Schöberl. bibliog Angew Chemie 53:227-32 My 25 '40
Conferences in biochemistry at the University of Chicago; program. Science 91:565 Je 14 '40
Eli Lilly and company award to Eric G. Ball. Ind & Eng Chem News ed 18:239 Mr 25 '40
Isotope in der biochemischen forschung. C. Enders. bibliog Angew Chemie 53:28-31 Ja 20 '40
Nature of the intermolecular forces operative in biological processes. L. Pauling and M. Delbrück. Science 92:77-9 Jl 26 '40
Radioactive isotopes of calcium and their suitability as indicators in biological investigations. H. Walke, F. C. Thompson and J. Holt. Phys R 57:177-84 F 1 '40
Royal medal awarded to David Keilin. W. Bragg. Science 90:581-2 D 22 '39
Textbook of biochemistry. B. Harrow. 2d ed rev 439p $3.75 Saunders '40
Über die befruchtungsstoffe und geschlechtsbestimmenden stoffe. R. Kuhn. bibliog il Angew Chemie 53:1-6 Ja 6 '40
Use of radioactive isotopes of the common elements in physiology. G. Hevesy. Phys R 57:240-1 F 1 '40
Zum biologischen ab- und aufbau der aminosäuren. W. Franke. bibliog Angew Chemie 52:695-8, 703-8 D 9-16 '39

See also
Antigens and antibodies
Bacteria
Bacteriology
Blood
Botanical chemistry
Cells
Chlorophyl
Creatine
Enzymes
Hormones
Immunity
Metabolism
Nucleoproteins
Nutrition
Physiological chemistry
Plant growth
Plants—Chemical analysis
Proteins
Tissues
Vitamins

BIOLOGICAL laboratories
DuPont plans laboratory for insecticide research. Oil Paint & Drug Rep 137:3+ F 26 '40
Scientific visit to Svedberg's laboratory of Dr. E. B. Sanigar of the Biochemical research foundation's staff. Franklin Inst J 228:664-8 N '39

Equipment

Adaptable rotating unit for roller tube tissue cultures. L. H. Ott, R. Tennant and A. A. Liebow. diags Science 91:437-8 My 3 '40
Some uses of vacuum in micrology. R. T. Hance and R. L. Chermock. diag Science 91:343-4 Ap 5 '40

BIOLOGICAL literature
Original sources in vertebrate embryology and animal cytology. W. Shumway. Science 91: 93-4 Ja 26 '40

BIOLOGICAL physics
Can modern science harmonize physics and biological phenomena? W. F. G. Swann. Franklin Inst J 229:693-708 Je '40

BIOLOGICAL products
Biological products. L. Gershenfeld. 236p $4 Romaine Pierson publishers, New York '39

See also
Serum
Toxins and antitoxins
Viruses

Analysis

Quantitative test for biotin and observations regarding its occurrence and properties. E. E. Snell, R. E. Eakin and R. J. Williams. bibliog Am Chem Soc J 62:175-8 Ja '40

Preservation

Preservation of the infectious agents of some of the rickettsioses. N. H. Topping. bibliog Pub Health Rep 55:545-7 Mr 29 '40

BIOLOGICAL research
Advances in zoology during 1939. D. P. Costello. bibliog il Ind & Eng Chem News ed 18:25-9 Ja 10 '40

BIOLOGICAL research—*Continued*
Biological research institute of the Zoological society of San Diego. D. L. Fox. Science 92:212 S 6 '40
Grassland as a site for basic research on terrestrial animals. V. E. Shelford. Science 90: 564-5 D 15 '39
Radioactivity in biological experiments. S. Goudsmit. Science 90:615-16 D 29 '39

See also
Canal Zone biological area
Microscope and microscopy
National research council
Tissues—Culture

BIOLOGICAL specimens
Ethyl methacrylate as a mounting medium for embryological specimens. W. O. Puckett. Science 91:625-6 Je 28 '40
Latex improves biological models and injected specimens. J. Rubinger. il India Rubber W 102:50-2 Je '40

BIOLOGICAL stains, Commission on standardization of. See Commission on standardization of biological stains

BIOLOGY
Biology in the making. E. E. Snyder. 539p bibliog(p495-518) $2.80 McGraw-Hill '40
Can modern science harmonize physics and biological phenomena? W. F. G. Swann. Franklin Inst J 229:693-708 Je '40
Case against the cell theory. B. J. Luyet. Science 91:252-5 Mr 15 '40; Reply. J. P. Turner. 91:404-5 Ap 26 '40
Fundamentals of biology. A. W. Haupt. 3d ed 443p $3 McGraw-Hill '40
Science in 1939. Science 90:sup16 D 22 '39
Symposium on quantitative biology of the biological laboratory, Cold Spring Harbor; plans, list of speakers. Science 91:590 Je 21 '40

See also
Bacteriology
Biological chemistry
Biomathematics
Blood
Botany
Cells
Ecology
Embryology
Genetics
Heredity
Metabolism
Microorganisms
Microscope and microscopy
Plant cells and tissues
Plants
Zoology

Study and teaching

Episodes and personalities in the development of biology at Brown. A. D. Mead. Science 91:301-5 Mr 29 '40

BIOMATHEMATICS
Advances and applications of mathematical biology. N. Rashevsky. 214p $2 Univ. of Chicago press '40

BIOTIN
Biotin as a growth factor for the butyl alcohol producing anaerobes. E. E. Snell and R. J. Williams. Am Chem Soc J 61:3594 D '39
Biotin (bios IIB, vitamin H), an essential growth factor for certain staphylococci. J. R. Porter and M. J. Pelczar, jr. Science 91:576-7 Je 14 '40
Egg-white injury in chicks and its relationship to a deficiency of vitamin H (biotin). R. E. Eakin, W. A. McKinley and R. J. Williams. Science 92:224-5 S 6 '40
Identity of vitamin H with biotin. V. du Vigneaud and others. bibliog Science 92: 62-3 Jl 19 '40
Possible identity of vitamin H with biotin and coenzyme R. P. György and others. bibliog Science 91:243-5 Mr 8 '40
Quantitative test for biotin and observations regarding its occurrence and properties. E. E. Snell, R. E. Eakin and R. J. Williams. bibliog Am Chem Soc J 62:175-8 Ja '40
Relationship of inositol, thiamin, biotin, pantothenic acid and vitamin B_6 to the growth of yeasts. R. J. Williams, R. E. Eakin and E. E. Snell. bibliog Am Chem Soc J 62:1204-7 My '40

BIOT'S modulus
Effect of Biot's modulus on transient thermal stresses in concrete cylinders. G. Pickett. Am Soc T M Proc 39:913-18 '39

BIRCH
Brown mechanical pulp from yellow birch. M. Kin and C. E. Libby. bibliog Paper Ind 22:675-6 O '40 (to be cont)
Newsprint made from birch and jack pine. R. S. Kellogg. Paper Ind 22:328 Jl '40
Pulp and paper mill utilization of hardwoods and other little used species. K. D. Running. Pulp & Pa of Can (Convention no) 41:181-8 [F] '40
Superpressed plywood, bonded with thermosetting synthetic-resin adhesives. R. K. Bernhard, T. D. Perry and E. G. Stern. bibliog il diags Mech Eng 62:189-95 Mr '40

BIRD houses
Birdhouses. P. V. Champion. 96p $1.25 Bruce pub. '39

BIRDS, Fossil
Check-list of the fossil birds of North America. A. Wetmore. Smithsonian Misc Coll v99, no 4:1-81 '40

BIREFRINGENCE. See Refraction

BIRINGUCCI, Vannuccio, ca 1495-1550
Biringuccio's Pirotechnia, a neglected Italian metallurgical classic. C. S. Smith. il Min & Met 21:189-92 Ap '40

BIRMINGHAM, Alabama

Rapid transit

Cars remodeled for today's needs; reconditioning of ten units for Birmingham electric company. il Transit J 84:131 Ap '40

BIRTH control
Decade of progress in birth control. N. E. Himes. Ann Am Acad 212:88-96 N '40

BIRTH rate
Alarming trend of population; abstract. R. Pearl. Science 91:sup12 Ja 5 '40
Birth rate trends and child welfare. P. K. Whelpton. Ann Am Acad 212:24-31 N '40
Provisional birth and infant mortality statistics for 1939. Pub Health Rep 55:1131-2 Je 21 '40
Provisional natality and mortality figures for 1939. Pub Health Rep 55:508-9 Mr 22 '40

BIRTH registration
Tests for completeness of birth registration. Pub Health Rep 55:330-3 F 23 '40

BISCUITS
Process operations in the food industry. W. L. Campbell. Chem & Ind 59:432-3 Je 22 '40

BISMUTH
Alkinite and silver enrichment at the St Louis mine, Butte county, Idaho. A. L. Anderson. il Econ Geol 35:520-33 Je '40
Application of electromotive force measurements to binary metal systems; lead-bismuth system. H. Seltz. Electrochem Soc Trans 77 (preprint 17):222-30 Ap '40
Artificially radioactive element 85. D. R. Corson, K. R. MacKenzie and E. Segrè. diags Phys R 58:672-8 O 15 '40
Production of radium E and radium F (polonium) from bismuth. J. M. Cork, J. Halpern and H. Tatel. Phys R 57:371-2 Mr 1 '40
Scattering of thermal neutrons by crystals. F. Rasetti. bibliog diag Phys R 58:321-5 Ag 15 '40
Vapor pressure of liquid bismuth between 603 and 638°C. A. H. Weber and S. C. Kirsch. diags Phys R 57:1042-4 Je 1 '40

Analysis

Emploi de la thiourée pour le dosage du bismuth dans les plombs et les étains affinés. R. Petit and R. Meraux. Chimie & Ind 43:629-31 Ap 20 '40

BISMUTH alloys
How to bend tubes and sections; use of Cerrobend (bismuth, lead, tin, cadmium alloy). il Iron Age 146:52-3 N 7 '40
Low melting point alloy used in work-holding devices; Cerromatrix alloy. Mach 46:92 Mr '40

BISMUTH compounds
Some complex sodium bismuth salts of triethanolamine and triisopropanolamine. W. T. Miller. Am Chem Soc J 62:2707-9 O '40

BISMUTH compounds—*Continued*
Synthesis of organobismuth compounds. H. Gilman and A. C. Svigoon. Am Chem Soc J 61:3586 D '39

BISMUTH halides
Conversion of arylbismuth halides to triarylbismuth compounds. H. Gilman and H. L. Yablunky. Am Chem Soc J 62:665-6 Mr '40

BISMUTH sulfide
Photoelectric cells sensitive to long wave length radiation; the bismuth sulfide cell. C. G. Fink and J. S. Mackay. diags Electrochem Soc Trans 77 (preprint 13):155-81 Ap '40

BISON, American
Slaughter of bisons by the Canadian government. Science 91:sup12-13 Ja 5 '40

BISULFITES
Bisulfite binding substances (B.B.S.) and thiamin deficiency. M. Shils, H. G. Day and E. V. McCollum. Science 91:341 Ap 5 '40

Peroxide effect in the addition of reagents to unsaturated compounds and in rearrangement reactions. F. R. Mayo and C. Walling. Chem R 27:394-9 O '40

Recovery of sulfur dioxide from waste gases; regeneration of the absorbent by treatment with zinc oxide. H. F. Johnstone and A. D. Singh. bibliog flow sheet il Ind & Eng Chem 32:1037-49 Ag '40

BITS
Adaptation of cutting bits to mining conditions. J. W. Buch. il diags Min Cong J 26: 23-5 Ja '40

Advance in diamond drill core bits. il Eng & Min J 141:89-90 O '40

Bits reconditioned by sandblasting; Sinta-set core bits impregnated with industrial bort diamonds. il Coal Age 45:96+ N '40

Coal cutting; research in bit design; abstract. J. Buch. Coal Age 44:148+ D '39

Cost of detachable bits at Carlton tunnel. A. H. Bebee. Eng & Min J 141:32 Mr '40

Development of rock-bit efficiency and study of tool-joint life, Louden, Ill. V. V. Horner. Oil & Gas J 39:171-2+ Jl 25 '40

Jigs for grinding jackhammer bits. il Eng & Min J 141:55 Mr '40

Metals in drilling; rotary drilling bits. W. L. Nelson. il Oil & Gas J 38:45+ Ja 18 '40

Transparent packages for bits. il Iron Age 144:44 D 21 '39

BITUMINOUS materials
Addition of bitumen improves quality of concrete. Concrete 48:8 My '40

Asphaltic bitumen as colloid system. J. P. Pfeiffer and R. N. J. Saal. bibliog il J Phys Chem 44:139-49 F '40

Bituminöse schutzanstriche für bauwerke. W. Becker. bibliog Angew Chemie 53:82-8 F 17 '40

Flow properties of asphalts and their measurement by the penetrometer. C. Mack. bibliog il Soc Chem Ind J 58:306-10 O '39

Flow properties of bituminous materials. A. R. Lee, J. B. Warren and D. B. Waters. bibliog diags Inst Pet J 26:101-28 Mr '40

Interesting scale application in paving mix plant. il Roads & Sts 83:70 S '40

Kinematic viscometer for liquid asphaltic products. A. P. Anderson, K. A. Wright and R. L. Griffin. il diags Ind & Eng Chem Anal ed 12:466-8 Ag 15 '40

Manufacture and testing of roofing-felts and damp-courses. D. M. Wilson. diags pls Inst Pet J 26:377-88; Discussion. 388-9 Ag '40

Measurement of flow properties of asphalts by the penetrometer. C. C. Mill and V. G. W. Harrison. Soc Chem Ind J 59:66-7 Ap '40

Physical constants of asphaltic bitumens. R. N. J. Saal and others. bibliog diags Inst Pet J 26:29-39, 246-55 Ja, My '40

Report of the Road research board for the year ended 31st March, 1939; abstract. Inst Pet J 26:298A-300A Je '40

Researches on asphaltenes. F. J. Nellensteyn and J. P. Kuipers. Inst Pet J 26: 401-6 Ag '40

Rheological properties of asphaltic bitumens. R. N. J. Saal and J. W. A. Labout. bibliog J Phys Chem 44:149-65 F '40

Über einige physikalische konstanten von bitumen. P. C. Blokker and others. diags Angew Chemie 52:643-8 O 28 '39

Use of bitumen emulsion in soil stabilization. A. E. Lawrence. Inst Pet J 26:357-64 Jl '40

See also
Asphalt
Coal tar
Oil shales
Pavements, Bituminous
Road tar
Roads, Bituminous

Analysis

Analysis of bituminous materials, with special reference to binder content. R. Preston. il diags Soc Chem Ind J 59:99-108 Je '40

Control of bituminous road materials by analysis. G. H. Fuidge and R. Preston. il Soc Chem Ind J 59:108-14 Je '40

Trichloroethylene as a bituminous solvent. Can Eng 77:6 N 28 '39

Testing

Bending tests on bituminous mixtures. W. O'B. Hillman. diag Pub Roads 21:69-74+ Je '40

Determination of the kinematic viscosity of petroleum asphalts with a capillary tube viscosimeter. R. H. Lewis and W. J. Halstead. il Pub Roads 21:127-38 S '40

Effect of consistency and type of asphalt on the Hubbard-Field stability of sheet asphalt mixtures. W. O'B. Hillman. Pub Roads 21:75-8+ Je '40

Evaluating the adhesive properties of asphalt. A. Holmes. il Am Soc T M Proc 39:1140-9; Discussion. 1150-2 '39

Physical and chemical properties of petroleum asphalts of the 50-60 and 85-100 penetration grades. R. H. Lewis and J. Y. Welborn. Pub Roads 21:1-26 Mr '40

Some factors affecting the thermal susceptibility of asphaltic paving mixtures. R. Vokac. Am Soc T M Proc 39:1153-7; Discussion. T. W. Thomas. 1158 '39

Tests for bituminous binders. Can Eng R & B 78:93 F '40

BITUMINOUS roads. See Roads, Bituminous

BITUMINOUS sand
Processes for treating bituminous sand; revival of interest in Alberta deposits. Can Chem & Process Ind 24:230 My '40

BIURET
Dialkylacetyl biurets. A. J. Hill and W. M. Degnan. bibliog Am Chem Soc J 62:1595-6 Je '40

BLACK, A. G.
Portrait. Burroughs Clearing House 24:18 F '40

BLACK, Joseph, 1728-1799
Portrait from painting by Raeburn. Chem & Ind 59:503 Jl 13 '40

BLACK
Aniline black padding liquor for rayon. Textile Col 62:40 Ja '40

War and blackout curtains. R. Hamilton. Textile Col 62:745-9 N '40

Yellow and black dyes from cliftonia monophylla. C. D. Mell. Textile Col 62:414+ Je '40

See also
Bone black
Carbon black
Logwood

BLACK and Decker manufacturing company
Small companies with large earnings; thumbnail appraisal. Mag of Wall St 65:490 Ja 27 '40

BLACK gum. See Gumwood

BLACK HILLS, South Dakota
Mining of feldspar and associated minerals in the southern Black Hills. J. R. Guiteras. flow sheets maps U S Bur Mines Information Circ 7112:1-104 bibliog(p92-104) '40

BLACK widow spiders. See Spiders

BLACKALL, John C.
President of the National association of insurance commissioners. por Spectator (Property ed) 6:26+ S 19 '40

BLACKBOARDS
Glass chalkboard in colors. Sci Am 162:229 Ap '40
Study of chalkboard visibility. W. G. Darley and L. S. Ickis. il diag Illum Eng 35:431-43 My '40

BLACKOUTS. See Air raids—Protective measures

BLACKTONGUE
Determination of V factor in the urine and tissues of normal dogs and of dogs with blacktongue by the use of hemophilus parainfluenzae. M. Pittman and H. F. Fraser. bibliog Pub Health Rep 55:915-25 My 24 '40

BLAIR, Clarence M. 1885-
Sketch. por Civil Eng 9:751 D '39

BLAIR, Mrs Lorraine L.
How Mrs Blair looks at things. por(cover) Ins Field (Life ed) 69:13 Ag 16 '40

BLAKESLEE, Albert Francis, 1874-
Sketch. E. W. Sinnott. Science 91:103-4 F 2 '40

BLANKETS
Fabrics for national defense. il Textile World 90:64 O '40
Some recent fiber-latex developments. M. C. Teague. Am Dyestuff Rep 29:424 Ag 19 '40

BLAST furnace gas
Blast furnace operation responds to developments of past year. T. L. Joseph. il diags Blast F & Steel Pl 28:154-60, 247-9 F-Mr '40
Coke breeze and anthracite burned on traveling-grate stokers, supplement blast furnace gas; Bethlehem steel company's Steelton plant. H. K. Miller. Blast F & Steel Pl 28:1002-3 O '40
Factors affecting production of blast furnace gas; abstract. J. S. Fulton. Iron Age 146: 80 O 3 '40
Hot blast gas for Dominion Steel at Sydney, N.S. W. S. Wilson. diag Power 84:733 N '40
Ten years' development in steam engineering at the Port Kembla steelworks, N.S.W., Australia. H. Escher. diags Iron & Steel Inst J 139:450-62, pl 26-8 no 1 '39; Same, without pls. Blast F & Steel Pl 27:602-3+, 692-3, 704-5 Je-Jl '39
Vorversuche zum betrieb von Siemens-Martin-oefen mit gichtgasbeheizung unter verwendung von sauerstoffreicher luft. G. Bulle. diags Stahl & Eisen 60:201-6; Discussion. 206 Mr 7 '40

Cleaning
Blast furnace operation responds to developments of past year; reconstruction of gas washers to obtain a dry intermediate gas. T. L. Joseph. il diags Blast F & Steel Pl 28:158-60, 247-8 F-Mr '40
Cleaning blast furnace gas for boiler plant use. R. R. Harmon. diags Blast F & Steel Pl 28:684-5+ Jl '40
Gas washing; system of washing by stationary disintegration, used with parallel spiral-passage moisture eliminator. A. J. Boynton. il diags Steel 105:50, 52-3 D 4 '39
Manufacture of pig iron in America. W. A. Haven. diag Iron & Steel Inst J 141:437-9, pl 40 no 1 '40; Same. Blast F & Steel Pl 28:683+ Jl '40; Excerpts. Elec R (Lond) 126:244 Mr 1 '40

BLAST furnace slag. See Slag

BLAST furnace stoves
Control of fuel-air ratio in the operation of blast furnace stoves. diag Steel 106:80 Mr 25 '40
Manufacture of pig iron in America. W. A. Haven. diags Blast F & Steel Pl 28:683+ Jl '40
Up-to date insulation of hot blast stoves. E. H. Younglove. diags Blast F & Steel Pl 28:461-3 My '40

BLAST furnaces
Blast furnace and raw materials conference, Pittsburgh, April 24-26. Steel 106:78+ My 6 '40
Blast furnace construction and operation. W. A. Haven. Metal Prog 38:583 O '40
Blast furnace in 1939. M. Cox. il Blast F & Steel Pl 28:42-4 Ja '40
Blast furnace operation responds to developments of past year. T. L. Joseph. il diags Blast F & Steel Pl 23:31-6+, 154-60, 247-9 Ja-Mr '40
Blast furnace smelting; as it was in 1915 and as it is in 1940. W. Matheslus. Metal Prog 37:298 Mr '40
Coke for copper blast furnaces; the importance of careful control. A. G. Arend. Chem Age (Lond) 43:11 Jl 6 '40
Coke handling equipment at blast furnace. H. W. Johnson. plans Mech Handling 27: 174-5 Ag '40
Comparative values of iron ore at the blast furnace. G. W. Hewitt. il Blast F & Steel Pl 27:1231-7; 28:50-2+ D '39-Ja '40
Effect of magnesia and low alumina in blast furnace slags on furnace operation and desulphurization. L. F. Sattele. Blast F & Steel Pl 28:659-64 Jl '40
Excess ash in coke; effect of reduced ash content on economics of blast furnace operation. J. P. Dovel. Steel 106:70-1 F 19 '40
Foreign iron blast-furnace practice. W. A. Haven. il Min & Met 21:182-7 Ap '40
Hearth and bosh areas; enlarging areas permits flue dust reductions, coke consumption cut and increased outputs. J. P. Dovel. Steel 106:60+ Ap 22 '40
Industrial applications of electricity; electrical equipment of blast-furnaces. H. G. Weaver. Inst E E J 86:279-80 Mr '40
Inland rebuilds first stack. il Iron Age 145: 43 F 8 '40
Innovation in blast furnace lighting practice. L. E. Riddle. Blast F & Steel Pl 27:1132 N '39
Iron blast-furnace slag becomes important constructional material. W. H. Caruthers. Min & Met 21:337-40 Jl '40
Lead metallurgy, 1939. G. L. Oldright. Eng & Min J 141:89+ F '40
Manufacture of pig iron in America. W. A. Haven. diags maps Iron & Steel Inst J 141:424-47, pl 40, 46-51 no 1 '40; Same abr. Blast F & Steel Pl 28:586-90 Je '40
New blast furnace at Jamshedpur erected by the Tata iron & Steel company; diagram. Blast F & Steel Pl 28:670 Jl '40
Old stone furnace; Rebecca stack, near Lisbon, Ohio, built in 1807. E. S. Dawson and M. H. Mawhinney. il diag Steel 107:62, 64-5 Jl 8 '40
Open-hearth and blast furnace conferences, American institute of mining and metallurgical engineers; program. Steel 106:67-8, 70 Ap 15 '40; Blast F & Steel Pl 28:370-4+ Ap '40; Metals & Alloys 11:A18+ Ap '40
Openhearth operators discuss advances in steel making methods; report of openhearth, blast furnace and raw material conference. M. W. Lightner. Metal Prog 37: 647-8 Je '40
Oxide analysis in iron ore reduction problems. T. L. Joseph, F. W. Scott and M. H. Kalina. bibliog il Blast F & Steel Pl 28: 975-8 O '40
Practical side of blast furnace management in South Africa. R. R. F. Walton. diags Blast F & Steel Pl 28:889-92, 987-9+ S-O '40; Same cond. Engineering 150:299-300, 315 O 11-18 '40
Re-built blast furnace at Workington (England). il Blast F & Steel Pl 27:1159-60 N '39
Republic's blast furnace largest in effective working volume. il diags Blast F & Steel Pl 27:1219-22 D '39
Tata iron and steel co., ltd., builds a blast furnace. E. T. Warren. il Blast F & Steel Pl 28:473-4+ My '40
Unique small-scale smelter; Philippine smelting company. C. A. Weekley and S. W. Norton. flow sheet il diags Eng & Min J 141:77-80 Ag '40

BLAST furnaces—*Continued*
Use of sinter in blast furnace burdens; abstract. J. H. Slater. Iron Age 145:54 My 2 '40

See also
Blast furnace gas
Blowers
Iron metallurgy
Iron works
Slag

Air supply

Blast furnace operation responds to developments of past year; removal of moisture from blast. T. L. Joseph. il diag Blast F & Steel Pl 28:248-9 Mr '40
Contributions to the art of smelting lead products. V. Miller, R. Bainbridge and R. Ellison. U S Bur Mines Rep of Invest 3512: 1-12 '40; Abstract. Can Chem & Process Ind 24:344+ Jl '40
Electric control improves mixer valve operation; variations in hot blast temperature are minimized by new device. il Steel 107: 64-5 S 2 '40
Flexibility; piping interconnections permit four blowing engines to serve four blast furnaces in any combination. R. Trautschold. il plan Steel 106:45-6 Ja 8 '40
Moisture removal from blast furnace air. L. L. Lewis. il diags Refrig Eng 39:89-92, 157-60 F-Mr '40; Same cond. Steel 105:54+ N 20; 42+ N 27 '39; Abstract. Iron Age 144:46 N 23 '39; Same. Blast F & Steel Pl 27:1269+ D '39; Same. Heating-Piping 11:739-40 D '39
Recent developments in blast furnace blower design. R. M. Rush. il diag Blast F & Steel Pl 28:678-9, 682, 707-8 Jl '40
Reminiscences of the first application of dry blast. L. E. Riddle. diags Blast F & Steel Pl 28:464-70 My '40
Woodward iron co. gets second air conditioning system. Refrig Eng 39:32 Ja '40
Woodward iron co. operating first air conditioned blast furnace. il Heat & Ven 36: 27-9 D '39

Charging

Continuous weighing permits accurate blending of ores to blast furnaces; vibratory feeder. J. A. Flint. il Steel 106:48, 51+ F 26 '40

Clay guns

Edgar E. Brosius develops gear-driven boom type mud guns. Blast F & Steel Pl 28:612 Je '40

Lining

Blast furnace refractories have the floor at A. C. S. meeting. Brick & Clay Rec 97: 52-3 S '40
First report on refractory materials; summary. Iron & Steel Inst J 139:652; Discussion. 659-63 no 1 '39
Present application and possible future development of blast-furnace refractories. W. R. McLain. il diags Am Cer Soc Bul 19: 62-8 F '40
Refractories in the iron and steel industry. A. Stein. il Blast F & Steel Pl 28:292-4 Mr '40

BLASTING
Accelerated settlement of embankments by blasting. A. W. Parsons. il diag Pub Roads 20:197-202 D '39
Baltimore's new aqueduct; dynamite's part in the construction of the new Gunpowder falls-Montebello filters water tunnel; with photographs by G. W. Schudel. diags plan Explosives Eng 17:356-68 D '39
Blasters' handbook. A. LaMotte. 10th ed 288p bibliog(p279-82) $1 E. I. Du Pont de Nemours & co, Wilmington, Del. '39
Blasting through the Trans-Canada highway. P. A. Novikoff. il map Explosives Eng 18: 330-4 N '40
Bridge demolition. E. C. Goldie. il Can Eng R & B 78:23+ F '40
Burn cut versus diamond cut. G. D. Thomas. diags Can Min J 61:512-15 Ag '40
Compaction of soils by explosives; Franklin Falls Dam site. A. K. B. Lyman. il Civil Eng 10:205-7 Ap '40
Curtain of water clears tunnel workings after blasting. Comp Air M 45:6224 Ag '40
Demolition of a smokestack. R. A. Trebilcock. il diags plan Explosives Eng 18:234-6 Ag '40
Dewey quarry's biggest blast. F. W. Roman. il diag Explosives Eng 17:354-5 D '39
Dynamite controls a fire; Colon, Panama. il map Explosives Eng 18:327-9 N '40
Dynamite in an automobile plant; a method of blasting drill bits from crankshaft oil holes. O. J. Otto. diags Explosives Eng 17: 376 D '39; Same cond. Coal Age 45:64 Jl '40
Dynamite makes way for new Washington, D.C. building. il Eng N 124:426 Mr 28 '40
Dynamite; Sandt's Eddy plant of the Lehigh portland cement co. il Mech Eng 62:143-4 F '40
Explosives carve highways in our last frontier. A. Muncaster. il Explosives Eng 18: 166-70 Je '40
Highway fills over swamps settled quickly by dynamite. il Concrete 48:5 S '40
Lightning and the premature firing of electrical blasts. plan Eng & Min J 141:52-3 Mr '40
Metal mining practice over sixty years. C. F. Jackson. Can Min J 60:676-7 N '39
My fifty years in the explosives industry. W. Cullen. bibliog il diags Inst Chem Eng Trans 17:11-24 '39; Same, without il and diags. Chem & Ind 58:812-23 S 2 '39; Abstract. Chem Age (Lond) 40:139-41 F 25 '39
Ontario department hastens construction by use of explosives. H. Foster. il Can Eng R & B 78:22 Jl '40
Parallel electric blasting circuits in shafts and tunnels. D. P. Ryan. il diags Explosives Eng 18:230-3 Ag '40
Pinch-hitting for a contractor; blasting concrete seawall. A. M. Williams. diags Explosives Eng 18:62-3 F '40
Quarry blast staged for Newcomen group. il Eng N 123:859 D 28 '39
Record progress by Walsh construction company; Delaware aqueduct. A. Simpson. il diags Explosives Eng 18:138-42 My '40
Relative air dustiness during cycle of operations at Mount Weather testing adit. J. A. Johnson and W. G. Agnew. plan U S Bur Mines Rep of Invest 3453:1-7 '39; Excerpts. Concrete (mill sec) 48:124+ F '40
Shasta will harness the Sacramento; illustrations. Explosives Eng 18:237-44 Ag '40
Some reflections on seismic prospecting. E. A. Eckhardt. il Explosives Eng 18:102-4 Ap '40
Stemming in metal mines. J. A. Johnson, W. G. Agnew and M. Mosier. pl U S Bur Mines Rep of Invest 3509:1-27 bibliog(p26-7); 3528:1-39, pl 1-2 '40
Two blasts at Calaveras cement company. G. S. Wheaton. il Explosives Eng 18:308-11 O '40; Abstract. Concrete (mill sec) 48: 281-2 D '40

See also
Coal mines and mining—Blasting
Coal mines and mining—Explosives
Explosives
Petroleum—Well blasting

Safety devices and measures

Active list of permissible explosives and blasting devices approved prior to June 30, 1940. J. E. Tiffany and Z. C. Gaugler. U S Bur Mines Rep of Invest 3533:1-24 '40
Cushioned blasting; orienting studies. A. R. T. Denues. diags U S Bur Mines Rep of Invest 3510:1-25 bibliog(90 titles, p21-5) '40
Electrical hazards presented by static electricity and earth currents; requirements for shot-firing underground. P. C. Ziemke. diag Eng & Min J 141:42-5 Je '40
Handling and use of explosives; blasting pole holes; West Penn power company. diags Elec W 114:1184 O 19 '40
Men working in safety; construction of East River drive, New York. R. Burkeholder. il Safety Eng 79:6-8 F '40
Pennsylvania Turnpike accident prevention. T. W. Osgood. Roads & Sts 83:76 Je '40
Powder-lowering hook which has solved one of the problems of safe lowering of large-size cartridges. F. J. Haller. il diag Explosives Eng 18:212-13 Jl '40

BLASTING—Safety devices and measures—*Continued*
Safe use of explosives. Safety Eng 80:17 S '40
Spray curtain stops carbon monoxide. il Eng N 125:243-4 Ag 15 '40
Stray electrical currents create serious blasting hazards when grounding of equipment is inadequate. P. C. Ziemke. il Coal Age 45:46-8 N '40

BLASTING, Subaqueous
Dredging the Tennessee river. C. H. Vivian. il Comp Air M 45:6141-2 My '40
Dynamite in water shatters concrete stack. C. R. Wenz. diag Power 84:457 Jl '40
Larger levees for Lake Okeechobee. Eng N 124:637 My 9 '40
Making a water tunnel entrance 165 ft. below lake surface; new fish hatchery at Leavenworth, Wash. diags Eng N 124:371 Mr 14 '40

BLAW-KNOX company
Offering. Comm & Fin Chr 150:1272 F 24 '40
Volatile low-price stock; thumbnail appraisal. Mag of Wall St 65:816 Ap 6 '40

BLEACHERS' association, limited
Ordinary general meeting, 41st, Manchester. Economist 139:24-5 Jl 6 '40

BLEACHING
Better bleach making and bleaching processes; paper and rayon pulp. S. Wang. Pulp & Pa of Can 41:565-8 Ag '40
Bleaching of cellulose, with special reference to bast fibres. E. Butterworth. bibliog Soc Dyers & Col J 55:589-96 D '39; Discussion. E. Kornreich. 56:352-5; Reply. 355 Ag '40
Bleaching pile fabrics. J. C. Kopasz. Textile World 90:66 Je '40
Cold method of bleaching; prevents bleeding and fading of dyes in colored-yarn fabrics. A. D. Damon. Textile World 90:122 S '40
Finishing; developments in 1939. Textile World 90:89-90 F '40

See also
Dyes and dyeing
Paper making—Bleaching

Cotton

Bleaching cellulose. E. Kornreich. bibliog Soc Dyers & Col J 56:352-5 Ag '40
Bleaching cotton and rayon with chlorite. G. P. Vincent. Textile Col 62:736+ N '40
Effect of finishing treatments on durability. O. Mecheels. Textile Col 61:831-2 D '39
Enzyme desizing efficiency; quantitative evaluation. W. M. Scott. bibliog il Ind & Eng Chem 32:784-7 Je '40
Textone. G. P. Vincent. Am Dyestuff Rep 29:269-71 My 27 '40

Jute

Bleaching and dyeing jute. M. R. Fox. Textile Col 62:475-7+ Jl '40

Linen

Bleaching of cellulose, with special reference to bast fibres. E. Butterworth. bibliog Soc Dyers & Col J 55:589-96 D '39
Linen bleaching. Textile Col 62:331 My '40
Some textile developments of 1939; artificial fibres and bleaching processes. G. S. Ranshaw. Chem Age (Lond) 42:52 Ja 27 '40

Paper

See Paper making—Bleaching

Ramie

Method for degumming and bleaching decorticated ramie fiber. M. P. Ramiro. bibliog Textile Col 62:271-4 Ap '40

Rayon

Bleaching cotton and rayon with chlorite. G. P. Vincent. Textile Col 62:736+ N '40
Rapid methods for bleaching and dyeing knitted rayon fabric. Textile Col 62:596-7 S '40
Textone. G. P. Vincent. Am Dyestuff Rep 29:269-71 My 27 '40
Treatment of spun rayons with textone. G. P. Vincent, A. L. Dubeau and J. W. Ivey. Am Dyestuff Rep 29:296-9 Je 10 '40

Wool

Bleaching wool yarns and fabrics; some practical features of the peroxide bleach. Textile Col 62:549-50 Ag '40

BLEACHING materials
Better bleach making and bleaching processes; paper and rayon pulp. S. Wang. Pulp & Pa of Can 41:565-8 Ag '40
Chlorite vs. hypochlorite for bleaching. J. F. White and G. P. Vincent. bibliog Paper Tr J 111:39-44 S 19 '40; Abstract. Chem & Met Eng 47:630 S '40
Design of gas absorption equipment for the production of chlorine water. R. P. Whitney and J. E. Vivian. bibliog diag Paper Tr J 110:29-38 My 16 '40
Lime-chlorine system in the preparation of calcium hypochlorite. F. W. O'Neil and J. D. Rue. Paper Tr J 109:39-42 D 7 '39
Manufacturing sodium chlorite; abstract. M. C. Taylor and others. Chem Ind 46:596 My '40
Sodium chlorite being produced commercially for first time. G. P. Vincent. il Chem Ind 47:280-2 S '40
Sodium chlorite, properties and reactions. M. C. Taylor and others. bibliog Ind & Eng Chem 32:899-903 Jl '40; Abstract. Chem Ind 46:596 My '40
Textone. G. P. Vincent. Am Dyestuff Rep 29:269-71 My 27 '40

See also
Chlorine
Fuller's earth
Hydrogen peroxide
Hypochlorites
Sodium chlorite

BLENDING
Practical approach to the choice of mixing and blending equipment. C. R. Lockard. il diag Chem Ind 45:567-8 N '39

BLIMPS. See Airships

BLIND
Education of the blind. M. E. Frampton, ed. 436p bibliog(p381-428) $3.20 World book co, Yonkers-on-Hudson, N.Y. '40
I begin again. A. Bretz. 201p $1.75 McGraw-Hill '40
You can learn to read Braille. M. S. Loomis. 159p bibliog(p158-9) $2 Am. ptg. house for the blind, Louisville '39

Bibliography

Books about the blind. H. Lende, comp. 215p $2 Am. foundation for the blind, 15 W. 16th st, New York '40

BLINDS
Control of natural light in schoolrooms; relative effectiveness of Venetian blinds, cloth shades, and Aeroshades for daylight control. L. H. Brown. il plan Illum Eng Soc Trans 34:606-20 Je '39; Discussion. Illum Eng 35:249-57 Mr '40
How Chicago Venetian blind co. survived a blitzkrieg of mushroom competition. D. L. Jacobson. il Sales Management 47:30, 32 S 15 '40

BLINKING. See Winking

BLISS, E. W., company
Leaders in the machine tool industry; thumbnail appraisal. Mag of Wall St 66:28 Ap 20 '40

BLISS & Laughlin, Inc.
Moderate-priced newcomer to the New York stock exchange; thumbnail appraisal. Mag of Wall St 65:752 Mr 23 '40

BLISS, Fabyan and company
Discontinues business. Textile World 90:160 F '40

BLOCKADE
See also
European war—Blockade
Freedom of the seas

BLOOD
Clinical blood pharmacology after treatment with X-rays; abstract. D. I. Macht. Opt Soc Am J 30:270 Je '40

BLOOD—*Continued*
Enzymatic deacetylation of heroin and closely related morphine derivatives by blood serum. C. I. Wright. Science 92:244-5 S 13 '40
Histamine release from blood cells in anaphylaxis in vitro. G. Katz. Science 91:221 Mr 1 '40
Nature of the leukocytosis-promoting factor of inflammatory exudates. V. Menkin. Science 91:320-1 Mr 29 '40
Principles of hematology. R. L. Haden. 2d ed rev 362p bibliog(p354-5) $4.50 Lea & Febiger, Philadelphia '40
Radio-iron in plasma does not exchange with hemoglobin iron in red cells. P. F. Hahn and others. Science 92:131-2 Ag 9 '40
Readily demonstrated physiological difference between the red blood cells of different species; abstract. M. H. Jacobs. Science 91: 455 My 10 '40
Recent advances in haematology. A. Piney. 4th ed 312p bibliog(p307) $5 Blakiston '39
Relation of calcium proteinate and colloidal calcium phosphate to the partition of calcium in the blood stream. D. M. Greenberg and C. E. Larson. bibliog J Phys Chem 43: 1139-50 D '39
Studies on the fate of plasma prothrombin. W. D. Andrus, J. W. Lord, jr. and J. T. Kauer. Science 91:48-50 Ja 12 '40
Symposium on the blood and blood-forming organs. E. Meulengracht and others. 264p $3.50 Univ. of Wisconsin press, 811 State st, Madison '39

See also
Hemoglobin
Serum

Analysis

Colorimetric determination of lead chromate by diphenylcarbazide; application of a new method to analysis of lead in blood, tissues, and excreta. T. V. Letonoff and J. G. Reinhold. bibliog Ind & Eng Chem Anal ed 12: 280-4 My 15 '40
Determination of carbon disulfide in blood and urine. A. W. Hunter. bibliog J Ind Hygiene 22:231-4 Je '40
Improvements in determination of iodine in blood. A. L. Chaney. bibliog diag Ind & Eng Chem Anal ed 12:179-81 Mr 15 '40
Method for measuring and recording continuously the pH of the circulating blood. C. E. King and E. W. Benz. diag Science 92:409-10 N 1 '40
Microdetermination of cholesterol in serum. H. K. Alber and J. T. Bryant. Franklin Inst J 229:118-25 Ja '40

Circulation

Control of the circulation of the blood. R. J. S. McDowall, G. E. Malcomson and I. McWhan. 619p bibliog(p497-610) $22.50 Longmans '39
Differential metal bellows manometer for the measurement of blood flow. H. Lawson. diag Science 92:291-2 S 27 '40
Peripheral type of circulatory failure in experimental heat exhaustion; role of posture. R. W. Keeton and others. bibliog Heating-Piping 12:122-6 F '40

Coagulation

Anti-bleeding substances; abstract. H. P. Smith. Science 91:sup8-9 Mr 22 '40
Bleeders; new substance clots blood instantly. Sci Am 163:82-3 Ag '40
Heparin and blood clotting. K. M. Brinkhous and others. bibliog Science 90:539 D 8 '39
Heparin as an anticoagulant for permeability studies. F. R. Hunter, L. D. Stringer and H. D. Weiss. Science 91:579 Je 14 '40
Vitamin K. E. A. Doisy and others. bibliog Science 91:58-62 Ja 19 '40

See also
Thromboplastin

Diseases

Diseases of the blood. J. Frey. 194p bibliog(p176-86) $3.50 House of Field, 19 W. 44th st, New York '39

Examination

Direct method of determining the erythrocyte, leucocyte and thrombocyte count of fowl blood. P. W. Wetmore. Science 92: 386 O 25 '40
Migrations of body protein molecules in solutions; schlieren patterns in blood plasma may be used in diagnosis; abstract. D. A. MacInnes. Science 91:sup 10 My 3 '40
Optical test for cancer. Sci Am 162:359-60 Je '40

Irradiation

Effect of Roentgen irradiation upon erythrocytes. D. H. Drummond, J. P. Tollman and F. L. Richards. bibliog J Phys Chem 44: 172-80 F '40
Sun-bathing the blood; abstract. G. Miley. Science 91:sup6-7 Je 28 '40

Sugar

Diet of golf players; effect of increasing blood sugar; abstract. P. Michael. Science 92: sup10 Ag 2 '40
Effects of steroid glycosides and cortin on insulin convulsions and blood sugar. R. L. Zwemer, K. L. Pines and B. E. Lowenstein. bibliog Science 91:600-2 Je 21 '40

BLOOD groups
Blood groups and blood transfusion. A. S. Wiener. 2d ed 306p bibliog(p287-8) $5 C. C. Thomas, Springfield, Ill. '39

BLOOD pressure
High blood pressure; kidney extract gives relief. M. Van de Water. Science 91:sup8 Ja 12 '40

BLOOD serum. See Serum

BLOOD vessels
Latex emulsions in human vascular preparations. O. V. Batson. Science 90:518-20 D 1 '39
Liquid latex as an injection mass for blood-vessels. D. L. Gamble. Science 90:520 D 1 '39
Neuro-motor mechanism of the small blood vessels of the frog. G. P. Fulton and B. R. Lutz. bibliog Science 92:223-4 S 6 '40

BLOOMINGTON, Illinois

Sewerage

Sewage screenings problem, and how it was solved. O. G. Hendryx and K. Carrington. il Water Works & Sewerage 87:40-1 Ja '40

BLOTTERS
Joining two items; blotter with seven-inch rule printed across the bottom. il Inland Ptr 104:34 Ja '40
Long performance by blotter house organs. Ptr Ink Mo 41:26+ O '40

BLOWERS
Air blast method preferred in meat plant. J. A. Newton. il Refrig Eng 40:151-2 S '40
Automatic defrosting blower unit. il Refrig Eng 39:48+ Ja '40
Baffling twin furnaces for blower application. il diags Sheet Metal Worker 31:60+ Ap '40
Combination oil burner and blower improves scove kiln firing. il Brick & Clay Rec 96: 20 Ja '40
Exhaust fan drive improves power-factor. il Elec W 113:918 Mr 23 '40
Flexibility; piping interconnections permit four blowing engines to serve four blast furnaces in any combination. R. Trautschold. il plan Steel 106:45-6 Ja 8 '40
Ingersoll-Rand motor blower. il Blast F & Steel Pl 28:697 Jl '40
Lessons taught by mistakes in blow pipe work (cont). E. W. Favalora. diags Sheet Metal Worker 31:62-4 Ja '40
Noise control on blower-filter units. G. L. Schwarz. Sheet Metal Worker 31:44+ F '40
Recent developments in blast furnace blower design. R. M. Rush. il diag Blast F & Steel Pl 28:678-9, 682, 707-8 Jl '40
Rotary blowers in activated sludge plants. D. L. Dowling. il diags Water Works & Sewerage 87:440-7 S '40

BLOWERS—*Continued*
Les turbosoufflantes dans les cokeries et usines à gaz. C. Berthelot. diags Génie Civil 116:86-7 F 3 '40

See also
Blast furnaces
Exhaust systems
Fans, Mechanical
Mine ventilation
Ventilation
Ventilators

BLOWFLIES
Insect cultures inbred for 200 generations. D. F. Miller. Science 92:147-8 Ag 16 '40

BLUE
Blue and purple dyes from aquilegia vulgaris. C. D. Mell. Textile Col 62:633 S '40
Blue gelatine-copper; reprinted from volume 22, Transactions of the American electrochemical society (now the Electrochemical society). W. D. Bancroft and T. R. Briggs. Metal Finishing 38:537-8 O '40
Fast colored prints on zellwolle materials on navy blue grounds. Textile Col 62:400-1 Je '40

See also
Indigo
Methylene blue

BLUE RIDGE mountains
Geomorphology of the Catoctin belt. K. Ver Steeg. map Am J Sci 238:685-709, pl 1 O '40

BLUEPRINTS
Aircraft blueprint reading. H. V. Almen and R. K. Mead. 124p $1 Pitman '40
Airplane metal work; v. 1, Airplane blueprint reading. A. M. Robson. 59p pa $1.15 Van Nostrand '40
Chemistry of photo-copying processes. H. D. Murray. diags Chem & Ind 59:645-6 S 14 '40
How to read aircraft blueprints. A. A. Owens and B. F. Slingluff. 257p $4 John C. Winston co, Philadelphia '40
How to read aircraft blueprints; manual and key. A. A. Owens and B. F. Slingluff. 54p pa $1 John C. Winston co, Philadelphia '40
Protecting blueprints; compound, known as Fex. Engineer 169:424 My 3 '40
Simple blueprint reading with particular reference to welding and welding symbols. 138p 50c Lincoln electric co, Cleveland '40

BOARDMAN, Albert Jay
Sketch. por Transit J 84:372 O '40

BOAT building
Plywood joins the marines. C. R. Simmons. il Mod Plastics 17:27-9, 74+ My '40

BOATS and boating
Foldboat holidays. J. Kissner, ed. 316p bibliog(p313) $2.50 Greystone press, 40 E. 49th st, New York '40

See also
Barges
Dredges
Ferryboats
Fire boats
Fishing boats
Flying boats
Freight ships
Motor boats
Shipbuilding
Ships
Steamboats
Torpedo boats
Towboats
Yachts and yachting

BOB White frosted foods, Inc.
Frozen food sold door-to-door; Bob White issues local franchises on a royalty basis. il Business Week p40+ Ap 13 '40

BODMER, John George, 1786-1864
John George Bodmer, engineer and inventor. D. Brownlie. Engineering 148:617-18 D 1 '39

BODONI. See Type and type founding

BOEING airplane company
Brass tacks for the investor; brief analysis. Barron's 20:13 Je 24 '40
Earnings, 1936-39. Comm & Fin Chr 150:2081 Mr 30 '40
Listing; offering. Comm & Fin Chr 150:3195 My 18 '40
To increase stock. Comm & Fin Chr 149: 3546-7 D 2 '39

BOESCHENSTEIN, Harold
Six managers. por(p55) Fortune 22:96 Ag '40

BOGGS, Charles R. 1883-1940
Sketch. Ind & Eng Chem News ed 18:364 Ap 25 '40

BOGS. See Marshes

BOHN aluminum and brass corporation
Brass tacks for the investor; brief analysis. Barron's 20:20 My 13 '40

BOILER cleaning
CO_2 and efficient combustion. S. M. Elonka. Marine Eng 45:65-6 Je '40
Cleaning soot from boiler tops. diags Power 84:458-60 Jl '40
Portland acid-cleans boiler; using inhibited muriatic acid. D. L. Brown, W. E. Briggs and C. E. Coryea. diag Power 84:80-2 F '40
Scale removal by chemical means. M. E. Brines. il diag Power Pl Eng 44:47-9 My '40

BOILER explosions
Cast iron heating boilers do explode. il Locomotive 43:98-104 O '40
Few recent furnace explosions. il Locomotive 43:52-6 Ap '40
Furnace explosion doors. E. R. Fish. Locomotive 43:43-4 Ap '40
Furnace explosions; an operating responsibility. H. M. Spring. il diags Power 84:153-5 Mr '40
Power plant protection. D. F. Reese. il Safety Eng 79:20-2, 24 My '40

See also
Locomotive boiler explosions

BOILER furnaces. See Furnaces, Boiler

BOILER inspection
Look for trouble; inspection of concealed boiler parts is vital for safety. il Safety Eng 80:52-6 O '40
Power plant protection. D. F. Reese. il Safety Eng 79:20-2, 24 My '40
Why concealed parts of boilers should be inspected. il diags Locomotive 43:70-9 Jl '40

See also
Locomotives—Inspection

BOILER inspectors
Qualifying for a boiler inspector. C. C. Custer. Power Pl Eng 44:74-5 F '40

BOILER insurance. See Insurance, Boiler

BOILER makers. See Boilermakers

BOILER meters
Meter records boiler efficiency. Power 84:28 Ja '40
Simple meter charts blowdown; orifice, length of oversize pipe and recording pressure gage. A. A. Markson. diag Power 84:77 F '40
Wirkungsgradmesser für dampfkessel. H. Werkmeister. V D I 84:129 F 24 '40

BOILER plants
Boiler room don'ts. E. Duff. Power 84:669 O '40
Good to the last drop; steam plant of the new Maxwell House plant. il diag Power Pl Eng 44:48-51 Je '40

See also
Boilers
Chimneys
Feed water
Steam plants

Accidents
Death in a boiler; gasoline engine exhaust fumes enter boiler undergoing repair. Safety Eng 80:29 Ag '40
Once is too often to dry-fire a boiler. C. C. Custer. Power 84:172-3 Mr '40

Costs
Boiler costs. Power Pl Eng 44:90 Ja '40
How about low-fusion coal? price difference wiped out extra cost of larger pulverized-coal furnace and produced savings. C. A. Marshall. diag Power 83:736-7 D '39
How Baldwin Rubber reduced its steam cost from $0.27 to under $0.20 per 1,000 pounds of coal. S. R. Hunter. flow sheet il Rubber Age 47:379-82 S '40

Efficiency
Cost of steam with coal as fuel; chart. I. E. Brooke. Heating-Piping 12:537-8 S '40
Cost of steam with oil as fuel. I. E. Brooke. chart Heating-Piping 12:615-16 O '40

BOILER plants—Efficiency—*Continued*
Economizers make no noise. Power 84:296-7 My '40
How to build big-unit efficiency into the small boiler plant. J. Breslove, jr. il diags Power 84:715-17+ N '40
How to get the most dollars from your metering penny. P. Swain. diags Power 84: 272-4 My '40

Equipment
Air preheaters for heat balance. diags Power 84:366-8+ Je '40
Automatic control solves dual-fuel problems; boilers of Cleveland refinery fired with oil-refinery gas and pulverized coal. W. E. Sachse. il diag Power 84:492-4 Ag '40
Bethlehem Steel installs central boiler plant at Steelton. H. K. Miller. flow diags il Power Pl Eng 44:36-40 Mr '40
Boiler-room accessories; questions and answers. diags Power 84:605 S '40
Chanute field gets up steam; Army technical aviation school; steam generating plant. il plans Power Pl Eng 44:48-53+ O '40
Coal handling at Chicago's sewage-treatment works. W. G. Hudson. il diag Power 84:507-9 Ag '40
Combustion control specifications. R. H. Morris. diags Power Pl Eng 43:430-3, 509-11, 572-4, 659-62, 716-20, 776-91 Jl-D '39
Common sense licks the depression, boosts plant efficiency at Garnerville. il diags Power 84:440-3 Jl '40
Development in design of boilers and boiler house auxiliaries. A. Pollitt. diags Engineer 169:381-3, 405-6, 425-6 Ap 19-My 3 '40
Dust and fly ash removal from boilers. R. Lincoln. Heat & Ven 37:50-1 Ag '40
Dust laboratory studies fan-abrasion problem. R. L. Lincoln. il diag Power 84:734-5 N '40
Dust-tight conveyors help keep boiler room spotless. il diag Steel 106:55 My 27 '40
Fuel conservation engineer's pets. J. C. De Foe. diags Power Pl Eng 44:86-7 S '40
Gage glass troubles. Power Pl Eng 44:80 Ag '40; Discussion. 44:97-8 O '40
Hotel reduces steam costs. H. Devol. il diags Power Pl Eng 44:63-4 F '40
How many draft gages and where? W. H. Pugsley. diag Power 84:668-9 O '40
How to build big-unit efficiency into the small boiler plant. J. Breslove, jr. il diags Power 84:715-17+ N '40
Life-size model tests control board. H. A. Johnson and G. Metz. il diags Power 84: 370-1 Je '40
Modest modernization boosts boiler efficiency 15%; Surpass leather co. C. C. Harrington. il Power 84:37-8 Ja '40
National folding box co. builds 400-lb. power plant at New Haven mill. F. L. Smith. il diag Paper Tr J 109:48+ N 30 '39
New boiler for Morse twist drill and machine co. il plan Power Pl Eng 44:56-8 N '40
New boiler plant installed; Hunter Baltimore rye distillery at Gwynbrook, Md. H. G. Burrill. il diags Manuf Rec 109:30-1 Ap '40
100% makeup at 825 lb, 750 F; Youngstown Sheet and Tube installs high-pressure topping units. il diag plan Power 84:637-9 O '40
Pressure-operated controls for electrical apparatus. diags Engineering 149:77 Ja 19 '40
Review of power and mechanical equipment. il diags Power 83:794-828+ Mid-D '39
Ten years' development in steam engineering at the Port Kembla steelworks, N.S.W., Australia. H. Escher. diags Iron & Steel Inst J 139:443-73, pl 26-9 no 1 '39; Same, without pls. Blast F & Steel Pl 27:490-1+, 602-3, 624, 692-3, 704-5, 849-51, 960-2 My-S '39; Discussion. Iron & Steel Inst J 139: 474-7 no 1 '39
U.S. army Air corps, McChord field; central heating plant. W. S. Leland. il Heat & Ven 37:25-7 S '40
Worm gears save space for draft-fan drive. E. J. Morgan. il plan Power 83:735 D '39
Youngstown Sheet and Tube's new boilers operate on 100% make up. W. C. Kernahan. il plan Blast F & Steel Pl 28:175-8 F '40

See also
Boilers
Coal handling
Fuel economizers
Furnaces, Boiler
Stokers, Mechanical

Management
Boiler operation schedule; problem. Power Pl Eng 44:91 S '40; Discussion. 44:78-81 N '40
How to choose economical fuel for heating boilers. P. R. Unger. Heating-Piping 12: 295-7 My '40

Records
Fuel consumption record forms help to promote heating economy. L. W. Mauger. Heating-Piping 11:753-4 D '39

Safety devices and measures
Combustible gas alarm assists in boiler control. R. Winters. Power Pl Eng 44:73 Mr '40
Power plant protection. D. F. Reese. il Safety Eng 79:20-2, 24 My '40
Safe handling of feedwater chemicals. S. H. Coleman. diag Power 83:770 D '39
Safe lighting for boiler interiors. H. M. Spring. il Power 84:683 O '40

Specifications
Combustion control specifications. R. H. Morris. diags Power Pl Eng 43:430-3, 509-11, 572-4, 659-62, 716-20, 776-91 Jl-D '39

BOILER plates
Boiler plate; increase in pressure during hundred years necessitated development of stronger steel. W. G. Theisinger. Power Pl Eng 44:85 Ag '40

BOILER scale
Review of progress in feedwater treatment. C. H. Fellows. bibliog Mech Eng 62:392-6 My '40; Same, Engineering 149:568-9, 601-2, 633 Je 7, 21-28 '40; Abstract. diags Power 84:423-5 Jl '40
Scale removal by chemical means. M. E. Brines. il diag Power Pl Eng 44:47-9 My '40
Scaling of boilers; identification of phases in calcium silicate scales. L. M. Clark and C. W. Bunn. Soc Chem Ind J 59: 155-8 Ag '40
Silica in boiler feedwater. W. F. Peters, jr. and W. D. Turner. bibliog Power Pl Eng 44:54-7 Mr; 47-9 Ap '40

Analysis
Method for analysis of boiler scales and sludges; colorimetric and turbidimetric methods in conjunction with a Phototester as compared with gravimetric methods. F. K. Lindsay and R. G. Bielenberg. bibliog il diag Ind & Eng Chem Anal ed 12:460-3 Ag 15 '40

BOILER tubes
Boiler tube erosion attributed to steam from soot blower. il Locomotive 43:113-15 O '40
Boiler tubes become parkway fixture. diags Elec W 113:452 F 10 '40
Cleaning boiler tubes. diags Power 84:746-7 N '40
Stub tubes keep boiler working; temporary installations in cases of tube failure. R. O. Billings. diags Power 84:658 O '40

BOILERMAKERS
Training boilermaker apprentices to become better mechanics; Master boiler makers' association committee report. Ry Mech Eng 113:443-5 N '39

BOILERS
Advances in power equipment in past ten years. il diags Power Pl Eng 44:59-60 Ja '40
Advancing boiler pressure; abstract. A. A. Potter. Power Pl Eng 44:106+ Je '40
Boiler developments; abstract. A. Pollitt. Elec R (Lond) 126:246 Mr 1 '40
Boiler operator's guide. H. M. Spring, jr. 353p $3 McGraw-Hill '40
Boilers, piping, heat transfer; abstracts of ASME papers. Power 83:836 Mid-D '39

BOILERS—*Continued*

Boston Edison co. increases 1400 lb. boiler output at Edgar. C. H. Danforth. il diags Power Pl Eng 44:40-6 My '40

Circulation in horizontal tubular boilers. diag Power Pl Eng 44:81 F '40

Cross connections to steam boilers. R. F. Goudey. Water Works & Sewerage 87:365-7 Ag '40

Evolution of the horizontal return tubular boilers. C. C. Custer. Power Pl Eng 44: 61-2 N '40

Fisk station topping-unit operation; boiler outages and repairs. A. E. Grunert. Engineering 149:210-11 F 23 '40

Flexible steam provisions for combination turbine; boiler units in Walnut station. C. A. Butler, jr. diags Elec W 114:397-9+ Ag 10 '40

Handbook on boilermaking; a handbook for the practical man and the student. K. Morrison. 106p $1.50 Chemical pub. co. '39

High-pressure, high-temperature superimposed installations at Waterside station. J. C. Falkner. Engineering 149:184-5 F 16 '40

How to build big-unit efficiency into the small boiler plant. J. Breslove, jr. il diags Power 84:715-17+ N '40

Load pickup and steam standby; heat stored in the boilers. F. G. Philo. Gen Elec R 42: 520-4 D '39

Million pound per hr. top for Sherman creek. diag Power Pl Eng 44:112 O '40

More about boilers; questions and answers. H. Spring. Power 83:777 D '39

New boiler for Morse twist drill and machine co. il plan Power Pl Eng 44:56-8 N '40

New boiler, no shutdown at Toledo pumping station. E. M. Wilgus. il Power 84:645-7 O '40

Quelques constructions récentes de l'industrie mécanique. R. Sulzer. il diags Soc Ing Civils Mémoires 91:864-77 N '38

Schmidt-Hartmann boiler. diags Power 83: 754 D '39

Small steam generator for cleaning batteries. il Transit J 84:170-1 My '40

Specialised boilers; abstract and discussion. R. P. Wallis. Elec R (Lond) 126:103-4 Ja 26 '40

Steam raising boilers for industrial purposes. A. H. Hayes and A. I. Hayes. 270p 7s 6d Forum pub. co, London '38

See also

Boiler explosions and other headings beginning Boiler
Feed water
Feed water heating
Feed water purification
Flue gas
Furnaces, Boiler
also Master boiler makers' association

Benson boiler

Benson boiler. diags Power 83:757 D '39

Blowdown

Blow off tanks are easy. B. H. Whitehouse. diags Power Pl Eng 44:74 Je '40

Blowdown tank connections. diags Power 84: 178-80 Mr '40

Flashed steam recoverable from continuous blow down systems; chart. Power Pl Eng 44:102 O '40

Simple meter charts blowdown; orifice, length of oversize pipe and recording pressure gage. A A. Markson. diag Power 84:77 F '40

Why and how of blowdown. H. Spring. diags Power 84:375-6 Je '40

Control

Automatic boiler control; Hagan system. il diags Engineer 168:620-1 D 22 '39

Automatic control solves dual-fuel problems; boilers of Cleveland refinery fired with oil-refinery gas and pulverized coal. W. E. Sachse. il diag Power 84:492-4 Ag '40

Boiler auxiliary drives; Metrovic unified boiler control. il diags Power Pl Eng 44: 54-6 O '40

Boiler combustion control in the steel mill. M. J. Boho. flow charts diags Blast F & Steel Pl 28:806-9 Ag '40

Combustion control; Bailey combustion control system. il Rayon 21:646-7 O '40

Combustion control specifications. R. H. Morris. diags Power Pl Eng 43:430-3, 509-11, 572-4, 659-62, 716-20, 776-91 Jl-D '39

Life-size model tests control board. H. A. Johnson and G. Metz. il diags Power 84:370-1 Je '40

Minneapolis-Honeywell summer-winter controller. il Paper Tr J 109:59 N 30 '39

More sensitive control; new automatic combustion control for chain grate, stoker-fired boilers. R. Trautschold. plan Steel 106:74+ My 6 '40

Regulators for boilers and paper machines. A. C. Wenzel. diags Paper Tr J 110:89-97 Je 27 '40

Save money by maintaining efficiency. J. F. Springer. Rayon 20:661-2, 716-17 N-D '39

Corrosion

Developments in the conditioning of boiler feed water. E. F. Walsh. diags Am Gas J 152:11-14, 42 F; 14-16 Mr '40

Forced circulation stops corrosion. il Power 84:383 Je '40

Review of progress in feedwater treatment. C. H. Fellows. bibliog Mech Eng 62:392-6 My '40; Same. Engineering 149:568-9, 601-2, 633 Je 7, 21-28 '40; Abstract. diags Power 84:423-5 Jl '40

Design

Circulation of water and steam in watertube boilers, and the rational simplification of boiler design. W. Y. Lewis and S. A. Robertson. bibliog diags Inst Mech Eng J & Proc 143:Proc 147-75 Je '40; Excerpts. Engineer 169:260-3 Mr 15 '40; Engineering 149:291-4 Mr 15 '40; Mech Eng 62:405-6 My '40; Discussion. Inst Mech Eng J & Proc 143:Proc 175-81 Je '40; Engineer 169: 249-50 Mr 15 '40; Engineering 149:258-9 Mr 8 '40

Development in design of boilers. A. Pollitt. diag Engineer 169:381 Ap 19 '40

Developments in steam boilers. S. Train. diag Blast F & Steel Pl 28:266-8, 360-1 Mr-Ap '40

Forced-circulation boiler for Somerset station. Power 84:546c Ag '40

It's your furnace. G. C. Kohlar. diags Power Pl Eng 44:45-7+ Mr '40

Large four-furnace Economic boiler. il diags Engineer 169:310-11 Mr 29 '40

More steam from less boiler; European boiler development. bibliog diags Power 83:749-60 D '39

Review of forty years' development in mechanical engineering plant for power stations. L. Pearce. diags Inst Mech Eng J & Proc 142:Proc 332-49 F '40; Same abr. Engineering 149:472-3, 492-3 My 3-10 '40

Unique boiler plant generates carbon dioxide and burns wood waste and pulverized coal; Ontario paper company. diag Pulp & Pa of Can 41:18-20 Ja '40

Wissenschaftliche grundlagen beim bau von druck- und dampfkesseln. E. Siebel. il diags Chemische Fabrik 13:25-30 Ja 27 '40

Efficiency

Common sense licks the depression, boosts plant efficiency at Garnerville. il diags Power 84:440-3 Jl '40

Figuring boiler efficiency. P. Swain. Power 84:603 S '40

Heat-loss method of determining boiler efficiency. E. L. McDonald. Power Pl Eng 44: 46-8 Jl '40

Intermittent burning of gas and pulverized coal. H. A. Kleinman. diag Gas Age 86: 16-19 Ag 29 '40

Maintaining optimum boiler efficiency. P. A. Moe. Power Pl Eng 44:54-6 S '40

Meter records boiler efficiency. Power 84:28 Ja '40

Modest modernization boosts boiler efficiency 15%; Surpass leather co. C. C. Harrington. il Power 84:37-8 Ja '40

Simplified boiler efficiency chart. W. F. Schaphorst. Water Works & Sewerage 86: 508 D '39

BOILERS—Efficiency—*Continued*
Simplified method for estimating the thermal efficiency of steam boilers. J. W. Reber. Engineering 149:102-3 Ja 26 '40; Abstract. Blast F & Steel Pl 28:902, 904-7 S '40
Sloane-Blabon corp. cuts plant costs by $0.15 per M. lb. of steam. R. R. Frederick. diag Power 84:430-2 Jl '40

Electric heating

Electric steam boiler; sausage cooking and drying; industrial data sheet. J. H. Hedge. il Elec West 85:49 N '40
Electric steam boilers for sterilizing dairy utensils; abstract. J. R. Tavernetti and K. F. McIntire. Mech Eng 62:551-2 Jl '40
Installation is self-liquidating; Lockwood co. electric steam generator or boiler. Textile World 89:97-8 N '39

See also
Boilers, Heating—Electric heating

Equipment

Forced circulation stops corrosion. il Power 84:383 Je '40

See also
Boiler tubes
Stokers, Mechanical

Failures

A.S.M.E. boiler code; addenda to par. CA-5. Mech Eng 62:249-52 Mr '40
Boiler failures, Wisconsin. Power Pl Eng 44: 124 Ja '40
Causes of cracks in boiler shell plates. A. C. Wiggins. il Power 84:524-5 Ag '40
Look for trouble; inspection of concealed boiler parts is vital for safety. il Safety Eng 80:52-6 O '40
Stub tubes keep boiler working; temporary installations in cases of tube failure. R. O. Billings. diags Power 84:658 O '40
Temperature stresses in boilers. C. C. Custer. Power Pl Eng 44:49-50 Ap '40
Watch that feedwater connection! diags Power 84:667 O '40
Water conditioning and the cracking of boiler plate. Marine Eng 45:96+ Jl '40

See also
Boiler inspection
Locomotive boilers—Failures

Firing

ABC's of draft. W. H. Pugsley. diags Power 84:522-3 Ag '40
Advances in power equipment in past ten years. Power Pl Eng 44:60-1 Ja '40
Automatic control solves dual-fuel problems; boilers of Cleveland refinery fired with oil-refinery gas and pulverized coal. W. E. Sachse. il diag Power 84:492-4 Ag '40
Coal-fired stationary boilers; Railway fuel and traveling engineers association committee report. Ry Mech Eng 114:503 N '40
Coke breeze and anthracite burned on traveling-grate stokers, supplement blast furnace gas; Bethlehem steel company's Steelton plant. H. K. Miller. Blast F & Steel Pl 28:1002-3 O '40
Combustion calculations. C. W. Messersmith. Power Pl Eng 44:45-7 Je; 44-5+ Jl '40
Decade of progress in fuel utilization. R. A. Sherman. il diags Power Pl Eng 44:72-8 Ja '40
Formulas for the heat value of coal. Power Pl Eng 43:804-5 D '39; 44:79-80 F; 77-8 Mr '40
Fuels and combustion; questions and answers. Power 84:322 My '40
Get the inside story by furnace snapshots. R. Atlas. il diags Power 84:453 Jl '40
How and why of draft measurement. W. H. Pugsley. diags Power 84:594-5 S '40
Pays for itself in three months; Riverside & Dan River cotton mills automatic combustion control on seven boilers. il Textile World 89:94-5 N '39
Power plant operation problems. R. W. Crain. il diags Power Pl Eng 44:65-8 S; 84 O '40
Some contributions of chemistry and chemical engineering to steam generation. G. W. Hewson and R. L. Rees. Inst Chem Eng Trans 17:47-52 '39; Abstract. Engineering 147:289 Mr 10 '39
Steam from special fuels; making use of waste materials. diags Elec R (Lond) 126:564-6 My 24 '40
Ten years' development in steam engineering at the Port Kembla steelworks, N.S.W., Australia. H. Escher. diags Iron & Steel Inst J 139:443-55, pl 26 no 1 '39; Same, without pl. Blast F & Steel Pl 27:490-1+, 602-3+ My-Je '39; Discussion. Iron & Steel Inst J 139:474-7 no 1 '39
What! no CO_2 bonus systems? Power Pl Eng 43:806-7 D '39
Why not a coking index? helps solve practical coal-selection problems. C. E. Pritchard. il Power 84:302-3 My '40

See also
Boilers—Electric heating
Boilers—Gas firing
Boilers—Oil firing
Boilers, Heating—Firing
Boilers, Marine—Firing
Stokers, Mechanical

Gas firing

Another food factory adopts gas for steam raising. il Gas J (Lond) 228:238 N 1 '39
Burner for gas-fired boilers; patent. diag Gas J (Lond) 231:543 S 25 '40
Cleaning blast furnace gas for boiler plant use. R. R. Harmon. diags Blast F & Steel Pl 28:684-5+ Jl '40
Combustion systems, controls for gas-fired boilers. H. Cooney. diags Oil & Gas J 39:61-3, 66 Ag 22 '40
Cost of steam with gas as fuel; charts. I. E. Brooke. Heating-Piping 12:669-70 N '40
Gas engine driven generator improves operation at Franklin heating station; Rochester, Minn.; conversion from pulverized coal to gas firing. N. D. Adams. il diags Heating-Piping 12:643-5 N '40
Hot blast gas for Dominion Steel at Sydney, N.S. W. S. Wilson. diag Power 84:733 N '40
Intermittent burning of gas and pulverized coal. H. A. Kleinman. diag Gas Age 86:16-19 Ag 29 '40; Excerpt. Power Pl Eng 44: 82-3 O '40
Luminous flame firing. R. C. Vroom. Power Pl Eng 44:87 My '40; Discussion. 44:78 Ag; 91 O '40
Ten years' development in steam engineering at the Port Kembla steelworks, N.S.W., Australia. H. Escher. diags Iron & Steel Inst J 139:450-62, pl 26-8 no 1 '39; Same, without pls. Blast F & Steel Pl 27:602-3+, 692-3, 704-5 Je-Jl '39; Discussion. Iron & Steel Inst J 139:474-7 no 1 '39

See also
Boilers, Heating—Gas firing

La Mont boiler

See Boilers, Water tube—La Mont boiler

Loeffler boiler

Examination and tests of welded parts for steam power plant. A. H. Goodger. bibliog diags Inst Mech Eng J & Proc 142:Proc 261-87, pl 1-12 Ja '40
Loeffler boiler. diags Power 83:756 D '39

Manufacture

All-welded boiler approved. H. B. Fergusson and E. F. Burford. il Steel 106:57-8+ Ja 22 '40
Boiler advances; welding at Barberton, O. plant of Babcock & Wilcox co. il diag Steel 105:64-5+ N 27 '39
Building a boiler. R. H. Emrick. il Power 84:706-7 N '40
Developments in steam boilers. S. Train. Blast F & Steel Pl 28:361 Ap '40
Lukens spins Scotch boiler heads from two gages of steel. il Marine Eng 45:56-7 Je '40

Marine boilers

See Boilers, Marine

BOILERS—*Continued*

Models

Hobbyist comes through; out of Ernest Keithley's cellar comes a Combustion Engineering exhibit for the World's fair. A. H. Little. Ptr Ink 191:77-8 Ap 26 '40

Micro giant; scale model of boiler at Ford motor co.'s Rouge plant, built by E. C. Keithley. il Power 84:378 Je '40

Model maker's problem; gage glass won't show the correct water level. il Power 84:608 S '40

Oil firing

Cost of steam with oil as fuel. I. E. Brooke. chart Heating-Piping 12:615-16 O '40

Hotel New Yorker goes back to coal; advantages of a 2-fuel plant. M. Lewis. Power 84:498-9 Ag '40

Mechanical atomization of fuel oil heavier than bunker C; burning cracking-still residuum in combination pulverized-coal and fuel-oil burners. G. G. Martinson. diags Oil & Gas J 38:80-2 My 9 '40

Percent oil loss chart. Power Pl Eng 44:88 Ap '40

See also

Boilers, Heating—Oil firing
Boilers, Marine—Oil firing

Pulverized coal firing

Decade of progress in fuel utilization. R. A. Sherman. il diags Power Pl Eng 44:72-4 Ja '40

Design problems involved in burning pulverized midwest coals. M. Frisch. Concrete (mill sec) 48:193 Je '40

Eavenson & Levering makes modernization pay as it goes. W. A. Lofft. il Power 84:379-81 Je '40

Effect of coal characteristics on pulverised-coal firing. O. Craig. Mech Eng 62:452-4 Je '40; Same. Engineer 169:512-14 Je 7 '40; Same. Engineering 150:79-80 Jl 26 '40; Discussion. Mech Eng 62:751-2 O '40

Hotel New Yorker goes back to coal; advantages of a 2-fuel plant. W. Lewis. Power 84:498-9 Ag '40

How about low-fusion coal? price difference wiped out extra cost of larger pulverized-coal furnace and produced savings. C. A. Marshall. diag Power 83:736-7 D '39

How Baldwin Rubber reduced its steam cost from $0.27 to under $0.20 per 1,000 pounds of coal. S. R. Hunter. flow sheet il Rubber Age 47:379-82 S '40

Intermittent burning of gas and pulverized coal. H. A. Kleinman. diag Gas Age 86: 16-19 Ag 29 '40; Excerpt. Power Pl Eng 44: 82-3 O '40

Kraemer firing system makes good showing on Europe's low-grade fuels. M. F. A. Wulfinghoff. diag Power 84:328 My '40

Maintaining optimum boiler efficiency. P. A. Moe. Power Pl Eng 44:54-6 S '40

Milwaukee's contribution to pulverized-coal development. H. Kreisinger and J. Blizard. diags Mech Eng 62:723-6+ O '40

Modest modernization boosts boiler efficiency 15%; Surpass leather co. C. C. Harrington. il Power 84:37-8 Ja '40

Pulverised-fuel developments. V. Walker. diag Elec R (Lond) 126:7-8 Ja 5 '40

Pulverised-fuel furnaces. V. Walker. diag Elec R (Lond) 127:67-8 Jl 26 '40

Ten years' development in steam engineering at the Port Kembla steelworks, N.S.W., Australia. H. Escher. diags Iron & Steel Inst J 139:448-62, pl 26-8 no 1 '39; Same, without pls. Blast F & Steel Pl 27:509-10, 602-3, 624, 692-3, 704-5 My-Jl '39

Pulverized coke firing

Ten years' development in steam engineering at the Port Kembla steelworks, N.S.W., Australia. H. Escher. diags Iron & Steel Inst J 139:462-7, pl 28-9 no 1 '39; Same, without pls. Blast F & Steel Pl 27:849-50 Ag '39

Repair

How to repair a blistered boiler shell. H. M. Spring. il Power 84:451-2 Jl '40

How to repair a cracked boiler head. H. M. Spring. il diags Power 84:454 Jl '40

Safety devices and measures

High and low water. Power Pl Eng 44:90 Ja '40

Safe operation and installation of automatic stokers. H. B. Evans. Heat & Ven 37:50 My '40

See also

Boiler inspection

Standards

A.S.M.E. boiler code; addenda to par. CA-5. Mech Eng 62:249-52 Mr '40

Report of A.P.I. committee on the standardization of oil-field boilers. Am Pet Inst Proc 21M(4):165-8 My '40

Revisions and addenda to boiler construction code. diag Mech Eng 61:930; 62:332-4, 414-17, 485+, 831-2 D '39, Ap-Je, N '40

Statistics

Cast-iron boilers and radiators, 1936-1939. Survey of Cur Business 1940 Sup p130-1 [supplemented in monthly numbers]

Sulzer boiler

Sulzer boiler. diags Power 83:758 D '39

Tables, calculations, etc.

Combustion calculations. C. W. Messersmith. Power Pl Eng 44:45-7 Je; 44-5+ Jl '40

Maximum allowable working stresses for ferrous materials in lb. per sq. in.; boiler construction code; tabulation. Mech Eng 62: 486-7 Je '40

Simplified method for estimating the thermal efficiency of steam boilers. J. W. Reber. Engineering 149:102-3 Ja 26 '40

Vibration; its effect on heat transfer. W. E. Mason and L. M. K. Boelter. bibliog Power Pl Eng 44:43-4+ Je '40

Testing

Don't guess, be sure; simple and economical boiler test arrangement. H. Whitehouse. plan Power Pl Eng 44:70-1 O '40

Examination and tests of welded parts for steam power plant. A. H. Goodger. bibliog diags Inst Mech Eng J & Proc 142:Proc 261-87, pl 1-12 Ja '40; Discussion. 143:Proc 73-80, pl 13-16 Ap '40

Examinations and tests for fusion welded boiler drums; abstract. L. W. Schuster. Metals & Alloys 11:MA30 Ja '40

Heat-loss method of determining boiler efficiency. E. L. McDonald. Power Pl Eng 44: 46-8 Jl '40

Velox boiler

Dampflokomotive mit Veloxkessel. E. Born. bibliog V D I 84:40 Ja 13 '40

French locomotive with Velox boiler. il diags Engineer 169:199-202 Mr 1 '40

Usines électriques de secours aménagées dans des galeries à l'abri des bombardements. plans Génie Civil 115:329 O 28 '39

Velox boiler. diags Power 83:759 D '39

Water tube boilers

See Boilers, Water tube

Wood firing

Bark burning furnaces for the pulp and paper industries. C. A. Hulsart. diags Paper Tr J 111:65-71 Ag 29 '40

Dividends from smoke abatement in furniture factory. J. Donaly. il Power Pl Eng 44: 45-6 F '40

Efficient burning of wood. diags Mech Eng 62:322-3 Ap '40

Help needed on hogged fuel. diag Power Pl Eng 44:80 Ap '40; Discussion. R. Atlas. 44:80 Ag '40

How Baie Comeau disposes of refuse wood and bark; burns it to generate steam. E. J. Calnan. il diag Paper Ind 22:47-8 Ap '40

Unique boiler plant generates carbon dioxide and burns wood waste and pulverized coal; Ontario paper company. diag Pulp & Pa of Can 41:18-20 Ja '40

BOILERS, Diphenyl
Design and operation of a high temperature Dowtherm system. R. E. Hulme. il diag Chem & Met Eng 47:685-7 O '40
Dowtherm heating systems. P. W. Foster, jr. diags Paper Tr J 111:29-32 Jl 25 '40
Organic compounds for industrial heating; characteristics of diphenyl and triphenyl systems. H. Seymour. Chem Age (Lond) 43: 43-4 Jl 27 '40

BOILERS, Heating
Boiler connections for heating and domestic hot water using an indirect heater. diags Dom Eng 155:49-51+ F '40
Heating system with grateless boiler and automatic temperature control. il diag Engineer 170:269-70 O 25 '40
Suggestions for the care of heating plants idle during summer months. Locomotive 43: 36-41 Ap '40
Tremendous field for improvement in existing plant heating systems. S. R. Lewis. il diags Heating-Piping 12:16-18 Ja '40
Water treatment for heating boilers. K. Steiner and R. A. Nelson. il map Heating-Piping 12:177-9, 428-30 Mr, Jl '40

Coke firing
Domestic heating with coke. C. C. Russell. Mech Eng 62:211-12 Mr '40

Design
Domestic-heating boilers for automatic firing. L. N. Hunter. bibliog il Mech Eng 62: 203-6 Mr '40

Electric heating
Electric thermal storage; a means of coal conservation in the national interest. W. L. Shand. Elec R (Lond) 125:757-8 D 15 '39
Electrical thermal-storage plant. Engineering 148:508 N 3 '39; Same cond. Elec W 113: 1394 My 4 '40
Electrical water-heating installation at Poplar town hall. Engineering 150:288 O 11 '40
Electrode thermal storage equipment at Poplar town hall. il Engineer 170:128 Ag 23 '40
Showroom heating. il Electrician 123:322 S 29 '39
Water heating notes; electrode boilers. Electrician 123:552 D 29 '39

Failures
Cast iron heating boilers do explode. il Locomotive 43:98-104 O '40

Firing
Anthracite as a fuel for domestic heating. A. J. Johnson. il Mech Eng 62:208-10 Mr '40
Bituminous stoker sales pass half million mark. il diags Sheet Metal Worker 31:44+ S '40
Comparative tests of various fuels when burned in a domestic hot-water boiler, 1935 to 1938. C. E. Baltzer and E. S. Malloch. 23p pa 25c Canada. Dept. of mines and resources, Ottawa '40
Draft for boilers; tests of stoker-fired boiler operation. W. Knox. Dom Eng 156:54+ N '40
Flexible heat, lowered fuel costs result from stoker installation; Avondale garage and car house of the Cincinnati street railway. T. A. Marsh. il diag Heat & Ven 37:44-5 N '40
How to choose economical fuel for heating boilers. P. R. Unger. Heating-Piping 12: 295-7 My '40
Looking ahead in the anthracite stoker field. il diag Sheet Metal Worker 31:50, 52, 54+ Ag '40
Use of Iowa coals in domestic stokers. M. P. Cleghorn and R. J. Helfinstine. enl ed il map Iowa Eng Exp Sta Bul 144:1-40 '39

Gas firing
Engineer air conditions his home; gas fired equipment uses Freon 113 for heating and cooling. C. F. Boester. il diag plan Heat & Ven 37:15-18 F '40
Gas heating. C. G. Segeler. diag Mech Eng 62:212-14 Mr '40
Minneapolis gas light company gets 60 per cent of automatic heating. il Gas Age 85: 14-16 F 1 '40
New method of estimating heating requirements. E. D. Landfear. Gas Age 86:29-30 S 12 '40
Progress in gas central heating. il Gas J (Lond) 231:193-4 Jl 31 '40
Progress of heating with gas in 1939. C. G. Segeler. Heat & Ven 37:40-1 Ja '40
Separate bathroom heating system for Santa Monica apartment; Shangri-La apartment hotel. il Heat & Ven 37:30-1 N '40
Spring and fall heating. G. M. Nash. il Am Gas Assn Proc 1939:332-4
Summer-winter water heating by coil attachments to central gas heating plant; with cost data. G. C. Beck. Am Gas Assn Proc 1939:337-43
Vertical conversion gas burners. L. S. Reagan. il diags Heating-Piping 12:362-6 Je '40

Installation
Getting boilers into a tight spot; installation in Beaux Arts apartments, New York. E. A. Kingsley and R. S. Bruns, jr. il diag Heating-Piping 12:291-3 My '40

Manufacture
Welding of heating boilers; L. O. Koven & brother. H. S. Card. il diags Iron Age 145: 42-5 Ap 25 '40

Oil firing
Domestic oil burners. M. A. Powers. Mech Eng 62:207-8 Mr '40
Hot-water boilers in series heat California building. T. W. Bean. diags Power 84:241 Ap '40
Oil burner market expands. il Nat Pet N 32: 27-8, 30, 32-3 O 2 '40
Soot in oil-fired systems. Dom Eng 156: 58+ N '40
Starting oil burner. diags Power 84:388-91 Je '40

Rating
Effect of soot on rating of heating boilers; tests reported in BMS54. Franklin Inst J 230:652-3 N '40
How big is a boiler? K. Steiner and F. Ravnsbeck. Heating-Piping 12:595-7 O '40
Institute of boiler and radiator manufacturers adopts new ratings. Dom Eng 155:42-3+ Ja '40; Excerpt. Heat & Ven 37:145 Ja '40

Standards
Recent advances in bituminous domestic stokers. R. A. Sherman. il diags Sheet Metal Worker 30:54, 56+ N '39

BOILERS, Marine
Care of high-pressure boilers. Marine Eng 45:82 My '40
CO_2 and efficient combustion. S. M. Elonka. Marine Eng 45:65-6 Je '40
Fifty years of marine engineering. A. L. Mellanby. diags Inst Mech Eng J & Proc 143:Proc 328-48 bibliog(p347-8) pl 1-2 O '40; Engineering 149:328, 371-3, 381-2, 420 Mr 29-Ap 19 '40; Same cond. il Engineer 169: 270-2, 307-9 Mr 22-29 '40
La Mont waste-heat boiler in motorship Hav. diags Engineering 149:275-6, 282 Mr 15 '40
Low maintenance cost on marine brick work. S. M. Elonka. Marine Eng 44:570 D '39
Marine boiler and engine room blue book for wipers, oilers and firemen. R. G. Wooler. 78p $2 Ocean pub. co. New York '39
S.S. America; machinery. il plans Marine Eng 45:122-7 Ag '40

Firing
Draft inducer installed on steamer Sandy Hook. diag Marine Eng 45:62 O '40
Shipbuilding and marine engineering in 1939; stoker fired boilers. il Engineer 169:60 Ja 19 '40

Oil firing
Shipbuilding and marine engineering in 1939. il diag Engineer 169:60-1 Ja 19 '40

BOILERS, Mercury
Stator gas duplex unit; combination refrigerator and water heater uses mercury vapor boiler. R. D. McNiece. Am Gas J 152:35-6 My '40

BOILERS, Range
Range boilers, galvanized, 1936-1939. Survey of Cur Business 1940 Sup p131 [supplemented in monthly numbers]

BOILERS, Waste heat
Application of superheated steam to combination-unit prime movers. A. E. Harnsberger. il diags Am Pet Inst Proc 21M(3): 24-8 My '40; Same. Oil & Gas J 39:35, 38 My 30 '40; Discussion. Am Pet Inst Proc 21M(3):28-9 My '40
La Mont waste-heat boiler in motorship Hav. diags Engineering 149:275-6, 282 Mr 15 '40
Radiant heat from slag used to raise steam; Douglas copper smelter of the Phelps Dodge corporation. Comp Air M 44:6046 D '39
Recovery unit performance in burning kraft process black liquor. L. S. Wilcoxson and F. G. Ely. il diags Paper Tr J 110:30-6 My 9 '40
Waste-heat boilers, utilizing heat from exhaust of heavy duty blower-gas engines; Bethlehem steel co. T. A. Lewis. il Steel 106:62, 64+ Mr 25 '40
Waste heat unit produces 1,000,000 lbs. of steam. il Nat Pet N 32:R78 Mr 6 '40

BOILERS, Water tube
Change from water into steam. W. Y. Lewis and S. A. Robertson. diag Blast F & Steel Pl 28:491-3 My '40
Circulation of water and steam in watertube boilers, and the rational simplification of boiler design. W. Y. Lewis and S. A. Robertson. bibliog diags Inst Mech Eng J & Proc 143:Proc 147-75 Je '40; Excerpts. Engineer 169:260-3 Mr 15 '40; Engineering 149:291-4 Mr 15 '40; Mech Eng 62:405-6 My '40; Discussion. Inst Mech Eng J & Proc 143:Proc 175-81 Je '40; Engineer 169:249-50 Mr 15 '40; Engineering 149:258-9 Mr 8 '40
Controlled steam generation. J. G. Coutant. diags Blast F & Steel Pl 28:179-80 F '40
High pressure and forced circulation boilers. R. P. Wallis. diags Engineering 149:246-8 Mr 8 '40
Large forced-circulation boiler for Somerset station. Mech Eng 62:sup18 S '40
Review of forty years development in mechanical engineering plant for power stations. L. Pearce. diags Inst Mech Eng J & Proc 142:Proc 337-47 F '40; Same abr. Engineering 149:472-3, 492-3 My 3-10 '40; Excerpt. Engineer 169:108-9 F 2 '40

La Mont boiler
Developments in steam boilers. S. Train. diag Blast F & Steel Pl 28:266-8, 360-1 Mr-Ap '40
La Mont boiler. diags Power 83:755 D '39
La Mont waste-heat boiler in motorship Hav. diags Engineering 149:275-6, 282 Mr 15 '40

Lewis boiler
Circulation of water and steam in watertube boilers, and the rational simplification of boiler design. W. Y. Lewis and S. A. Robertson. diags Inst Mech Eng J & Proc 143: Proc168-73 Je '40; Same. Engineer 169:261-3 Mr 15 '40

BOILING
Review and summary of developments in heat transfer by conduction and convection. W. H. McAdams. il Am Inst Chem Eng Trans 36:8-13 F '40
Transmission of heat to boiling liquids. T. H. Insinger, jr. and H. Bliss. bibliog diags Am Inst Chem Eng Trans 36:491-513; Discussion. 513-16 Ag '40

BOILING points
Benzene and toluene isopiestic liquid-vapor equilibrium data. F. Todd. bibliog Ind & Eng Chem 32:287-8 F '40
Boiling point; composition diagram of immiscible and partially miscible liquid systems. M. Randall and W. Avila. J Chem Educ 17:536-7 N '40
Boiling point; molecular weight chart for higher hydrocarbons. D. S. Davis. Ind & Eng Chem 32:1148 Ag '40
Boiling point relationships among aliphatic hydrocarbons. G. Egloff, J. Sherman and R. B. Dull. bibliog J Phys Chem 44:730-45 Je '40
Boiling points of *n*-alkyl primary amines. A. W. Ralston and others. bibliog diag Ind & Eng Chem 32:1093-4 Ag '40
Boiling points of *n*-heptane and 2,2,4-trimethylpentane over the range 100- to 1,500-millimeter pressure. E. R. Smith. bibliog diag J Research Nat Bur Stand 24:229-34 Mr '40
Calculation of boiling points of aliphatic hydrocarbons. C. R. Kinney. bibliog Ind & Eng Chem 32:559-62 Ap '40
Distillation curves of blends. W. L. Nelson. Oil & Gas J 38:64 F 29 '40
Fluorinated derivatives of ethane and ethylene; corrective data. A. L. Henne and E. G. Wiest. Am Chem Soc J 62:2051-2 Ag '40
Improved form of the Cottrell boiling point apparatus. V. T. Jackson. diag J Chem Educ 17:472 O '40
Liquid state of the elements. W. Hume-Rothery. bibliog J Phys Chem 44:808-24 Je '40
Normal melting and boiling points of iodine. J. D. Parent. J Chem Educ 17:189 Ap '40
Physical properties of some purified aliphatic hydrocarbons. D. B. Brooks, F. L. Howard and H. C. Crafton, jr. bibliog J Research Nat Bur Stand 24:33-45 Ja '40

BOLIVIA
See also
Geology—Bolivia
Labor laws and legislation—Bolivia
Mines and mineral resources—Bolivia
Petroleum industry and trade—Bolivia
Tin mines and mining —Bolivia

BOLL worms. See Cotton—Diseases and pests

BOLLÉE, Amédée, 1844-1917
Amédée Bollée, pioneer of mechanical road locomotion; abstract. J. R. Nichols. Engineering 149:314-15 Mr 22 '40

BOLOMETERS
Bolometrische messlehre. il diags V D I 84: 121-3 F 17 '40

BOLTON, Henry Carrington, 1843-1903
Historian and bibliographer of chemistry. C. A. Browne. por J Chem Educ 17:457-61 O '40

BOLTS and nuts
Boots one-piece self-locking nut. diags Ry Mech Eng 114:237 Je '40; Automotive Ind 82:561 Je 15 '40
Checking stretch of connecting-rod bolts. diags Power 84:46-8 Ja '40
Joining and welding; developments in 1939. Steel 106:350-2 Ja 1 '40
Lamson & Sessions self-locking nut. il Iron Age 144:46 N 30 '39
Location of jam nuts. J. J. Pesqueira. diags Product Eng 11:526-7 N '40
Nut tightness. H. L. Dawtrey. diag Engineer 169:214-15 Mr 1 '40
Photoelasticity as applied to design problems. O. J. Horger and T. V. Buckwalter. bibliog il diags Iron Age 145:42-50 My 23 '40
Proposed API bolt specifications. A. Chapman. diags Am Pet Inst Proc 21M(4):175-7 My '40
Reducing creep in alloy steel bolting materials. J. J. Kanter. il Steel 106:44-8, 72 Mr 4 '40
Report on physical properties of bolts. A. Chapman. Am Pet Inst Proc 21M(4):173-4 My '40

Advertising
Bolts and nuts come out boldly. il Ptr Ink Mo 40:17 Ap '40

Manufacture
Bolts and nuts; mechanical handling facilities; Lamson & Sessions co. F. B. Jacobs. il Steel 107:52, 55+ O 21 '40

BOLTS and nuts—Manufacture—*Continued*
Spheroidizing to obtain ductility required for cold-heading work. il Steel 106:64+ Ap 15 '40

Standards

Revision of bolt standard features single scale of thread lengths. M. C. Horine. Ind Stand 11:101-2 Ap '40

BOLTZMANN equation
Steady-state diffusion under conditions of generalized source and incident current distributions. E. A. Schuchard and E. A. Uehling. Phys R 58:611-23 O 1 '40

BOMAR, Walter Frank
Walter Frank Bomar; with specimens of his art. por Inland Ptr 104:25-7 D '39

BOMBARDMENT
Law on bombardment. R. W. Fixel. Aero Digest 36:100, 103 Ap '40

BOMBAY, India
Port of Bombay. Comm Rep p1173 D 16 '39

BOMBERS. See Airplanes, Military

BOMBS (chemical apparatus)
Bomb for determining organic chlorine by lime-fusion method. W. M. MacNevin and W. H. Baxley. diags Ind & Eng Chem Anal ed 12:299-300 My 15 '40

BOMBS, Aerial
Art of dive bombing. H. F. King. diags Sci Am 162:353 Je '40
Bombing from aircraft. il Engineer 170:172-3 S 13 '40
Dangers of bombing; abstract. A. T. Colwell. S A E J 46:270 Je '40
Overhead lines and bombs; lessons from recent experiences. Elec R (Lond) 127:255-6 S 27 '40; Same abr. Elec W News ed 114: 1236 O 26 '40
Will bombs dominate? A. E. Oxley. il diags Sci Am 161:327-9 D '39

BOMBS, Incendiary
Dynamic effect of incendiary bombs on roofs. J. D. W. Ball. diags Engineer 169:459-60 My 17 '40
Incendiary bombs. Can Chem & Process Ind 24:168 Ap '40

BONDERIZING
Bonderizing sheets to hold paint. il Sheet Metal Worker 31:32-4 S '40
Rust proofing and finishing of unit heater casings and convector enclosures. C. T. Perkins. il Metal Ind 37:602-4 D '39
Rust proofing processes. C. Cleveland. il Metal Ind 38:64-5 Ja '40

BONDHOLDERS
Modification provisions of corporate mortgages and trust indentures. C. H. Haines, jr. Trusts & Estates 69:677-9 D '39
Ruling by U.S. Supreme court in Lumber products co. case upholds priority of bondholders before participation by stockholders in reorganization of corporations under Bankruptcy act; ruling in case of Kansas City terminal railway co. Comm & Fin Chr 149:3481-2 D 2 '39

BONDS
Accent on safety; the case against common stocks for a widow's investments. Barron's 20:8 Mr 4 '40
Arbitraging medium, lower grade bonds. P. B. B. Andrews. Annalist 56:431+ O 2 '40
Avoiding fashions in widow's investments. T. E. Brittingham, jr.; G. A. Drew; G. Webb. Barron's 20:20 Mr 18 '40
Bond market unlikely to be harmed by the first year of the defense program. S. L. Miller. Annalist 56:77+ Jl 18 '40
Bond portfolios in transition. E. S. Adams. Banking 33:72-4 S '40
Changed appraisal of Western Union bonds. A. Jansen. Barron's 20:19 Ja 22 '40
800 New York bankers attend conferences on bond investments, held simultaneously in 10 cities. Comm & Fin Chr 150:929 F 10 '40
Flexible investment program for the new year. J. S. Williams. Mag of Wall St 65: 332-3 D 30 '39
High-grade bonds expected to remain stable despite the war. S. L. Miller. Annalist 55: 116-17+ Ja 25 '40
Insurance policyholders' stake in the utilities; constructive criticism of present utility long-term bond contracts from the insurance investors' standpoint. F. J. McDiarmid. Pub Util 25:643-52 My 23 '40
International Mercantile Marine's bond problem; company faces heavy maturity next year. Barron's 20:19 F 26 '40
Investing for a widow; a balanced program. H. C. Bond. Barron's 19:20 N 27 '39
Investing for a widow, 1939 style; Barron's contest provided a poll of investor sentiment. L. Tomlinson. Barron's 19:3-4 D 4 '39
Investment clinic; are income stocks more attractive than good bonds? J. S. Williams. Mag of Wall St 65:676-7+ Mr 9 '40
Is your bond account ready? analyze current position for safety. E. S. Adams. Banking 33:38-9 N '40
Legal aspects of bond investments. R. M. Remick. Trusts & Estates 71:306-11 S '40
No war inflation; why? N. T. Carruthers. Mag of Wall St 66:611-13+ S 7 '40
Outlook for the savings bank type of investment. H. Bruere. Comm & Fin Chr 150:486 Ja 27 '40
Position of high-grade bond market stronger than ever, despite the war. S. L. Miller. Annalist 55:550-1 Ap 18 '40
Protecting bank bond investments. J. F. Ebersole. Harvard Business R 18 no 4:410-16 [Jl] '40
Reviewing bond market in 1939. T. E. Hough. Comm & Fin Chr 150:45-6 Ja 6 '40
Revolving fund protects bond income. R. R. Fairchild. Bankers Mo 57:504+ S '40
Some considerations on the management of commercial bank investments. N. L. Silverstein. bibliog J Business 13:136-45 Ap '40
Tax boost stimulates interest in bonds. Business Week p42 Jl 13 '40
Values in Canadian bonds; ability of country to service debt in American dollars. F. J. McDiarmid. Barron's 20:18 Je 17 '40
Who manages your bond account? O. A. Rossman. il Burroughs Clearing House 24:14-16+ Ap '40
Why bonds fluctuated in 1939. Barron's 20: 33 Ja 15 '40
Widow's investments; criticism; bonds vs. income stocks. S. R. Thayer. Barron's 19:7 D 18 '39
Your taxes; tax-free covenants. D. Horne. Banking 33:54-5 Jl '40

See also

Debts, Public
Municipal bonds
New York stock exchange
Public utilities—Securities
Railroads—Securities
Securities
State bonds
Stock exchange
Stocks

Accounting

Courts and the theory of interest. R. W. Snyder. J Account 69:266-77 Ap '40
Discounts in trust investments; accounting aspects of bonds selling below par. J. Forer. Trusts & Estates 70:211-14 F '40

Default

Bond redemptions and defaults; latest notices. Published in weekly numbers of Annalist
Calculation of exchange values of defaulted rail bonds in reorganization. S. L. Miller. Annalist 55:515-16 Ap 11 '40
Enigma of defaulted rail bonds; hidden earning power due to abnormal charges for maintenance. E. S. Brooks. Barron's 20:3 Mr 4 '40
Guide to defaulted railroad bonds and railroad reorganization securities. P. B. McGinnis, ed. 2d ed 100p pa $1.25 Pflugfelder, Bampton & Rust, 61 Broadway, New York '40

BONDS—Default—*Continued*
Statistical analysis of publicly offered foreign dollar bonds. 20p Inst. of international finance, 90 Trinity place, New York '40

See also
Bonds, Government—Default

Marketing

Bond boomerang; competitive bidding narrows spread. Business Week p54-5 N 2 '40
Bond salesmen sell again; high-grade issues at record prices. J. P. Broderick. Barron's 20:19 O 21 '40
Market action of new issues; a survey of investor experience. O. Lasdon. Comm & Fin Chr 151:1774-80 S 28 '40; Summary. Bankers M 141:453-4 N '40
Ratings are bar to small issues; unofficial policy of using ratings in regulating bank investments. J. K. Starkweather. Inv Banking 10:13-14 Mr '40
SEC member sees insurance funds as headache to investment bankers. S. T. Pike. Nat Underw (Life ed) 44:4 S 27 '40

Price indexes

Bond prices, 1936-1939. Survey of Cur Business 1940 Sup p71 [supplemented in monthly numbers]
Bonds day by day; chart. Published in weekly numbers of Business week
Course of the bond market. Published in weekly numbers of Commercial & financial chronicle

Prices

Appraising the stock market; effects of uncertain governmental taxes and regulations. L. M. Hostetler. Barron's 20:3 Ag 19 '40
Averages, Nov. 1938-Nov. 1939. Fed Res Bul 26:40 Ja '40 [cont monthly]
Bond bulletin. J. S. Williams. Mag of Wall St 65:422-3; 66:35+, 103+, 160-1, 273+; 66: 531, 681+ Ja 13, Ap 20-Je 1, Ag 10, S 21 '40
Bond market record in 1939; New York stock exchange and curb exchange. Mag of Wall St Manual p15-17 Mr 2 '40
Bond transactions, New York stock exchange. Published in weekly numbers of Annalist
Bond transactions, New York stock exchange, 1939. Annalist 55:172-6 Ja 25 '40
Course of prices of railroad and miscellaneous bonds on New York stock exchange, 1939, monthly; tabulation. Comm & Fin Chr 150: 56-65 Ja 6 '40
Foreign unlisted dollar bonds. Published in weekly numbers of Commercial & financial chronicle
High-grade bonds unattractive investments at prevailing prices. C. S. Carter. Comm & Fin Chr 150:3288 My 25 '40
Investment results from cushion bonds; current high premiums reduce opportunities for successful averaging. W. W. Amos. Barron's 20:18 Ag 26 '40
Listed bond quotations; transactions of the more active bonds on the New York stock and curb exchanges. Published in weekly numbers of Barron's
Market action of new issues; a survey of investor experience. O. Lasdon. Comm & Fin Chr 151:1774-80 S 28 '40
Monthly range of prices on the New York stock exchange, Jan.-June, 1940. Comm & Fin Chr 151:341-9 Jl 20 '40
New York curb exchange. Published in weekly numbers of Commercial & financial chronicle
New York stock exchange—bond record, Friday, weekly and yearly. Published in weekly numbers of Commercial & financial chronicle
St Louis stock exchange monthly range of prices, 1939. Comm & Fin Chr 150:586 Ja 27 '40
Transactions on out-of-town markets. Published in weekly numbers of Annalist [discontinued O 24]
Transactions on out-of-town markets, 1939. Annalist 55:182-4 Ja 25 '40
Transactions on the New York curb exchange. Published in weekly numbers of Annalist [discontinued O 24]
Transactions, on the New York curb exchange, 1939. Annalist 55:180-1 Ja 25 '40

Rating

Credit files for securities. E. S. Adams. Banking 32:26-7 F '40
How to study industrials for a small bank's investment. R. R. Fairchild. Bankers Mo 57:278-9+ My '40
How to test your bonds; ratios set up for various classes of corporate issues by bankers' committee. E. S. Adams. Barron's 19: 8+ D 4 '39
Ratings are bar to small issues; unofficial policy of using ratings in regulating bank investments. J. K. Starkweather. Inv Banking 10:13-14 Mr '40

Redemption

Bond calls. Barron's 20:19 Ja 8 '40 [pub irregularly]
Bond redemptions and defaults; latest notices. Published in weekly numbers of Annalist
Principal 1940 bond maturities. Barron's 20: 18 Ja 1 '40

Refunding

Bond refunding gains favor. Business Week p54-5 F 10 '40
Industrial bond and preferred stock refundings, 1933-1937. J. B. Hubbard. R Econ Statis 20:161-84; 22:17-44, 182 N '38, F, N '40
1940 refunding operations; utility industry. O. Ely. Pub Util 25:103-4 Ja 18 '40
Unamortized discount and premium on bonds refunded. H. C. Freeman. J Account 68: 397-9 D '39; Discussion. G. O. May. 69:49-51 Ja '40

Statistics

Security markets; bonds, 1936-1939. Survey of Cur Business 1940 Sup p71-3 [supplemented in monthly numbers]
Stock and bond market averages and volume of trading. Published in weekly numbers of Annalist
Total market value and average price by industry of bonds listed on New York stock exchange on Dec. 30. Comm & Fin Chr 150: 198-9 Ja 13 '40 [cont monthly]

Tables, calculations, etc.

Comprehensive bond values tables, showing net returns on bonds and other redeemable securities paying interest semiannually. 2d pocket ed 1071p $5.50 Financial pub. co, Boston '39
Monthly bond values, showing yields and values of bonds paying interest semiannually. 1275p $5.50 Financial pub. co, Boston '39

Yields

Averages, Nov. 1938-Nov. 1939. Fed Res Bul 26:39 Ja '40 [cont monthly]
Bonds, yields, 1936-1939. Survey of Cur Business 1940 Sup p73 [supplemented in monthly numbers]
Course of the bond market. Published in weekly numbers of Commercial & financial chronicle
Economic changes in the United States, 1856-1939; chart. Annalist 55:144-5 Ja 25 '40
High premium bonds; yield advantage often rests with government over corporate issues. B. E. Tibbo. Barron's 20:18 Ap 8 '40
High yields on Pere Marquette bonds. A. Jansen. Barron's 20:19 Ag 26 '40
Long and short-term bond maturities for investment; statistical analysis. G. M. Grinnell and A. P. Maher. Annalist 56: 203+ Ag 15 '40
Utility bonds which earned charges in 1939 and yield 5-8½%; tabulation. Pub Util 26: 165 Ag 1 '40
Why own common stocks? profit and loss experience compared with that in bonds during past 25 years. J. W. Bridges. Barron's 20:18 Je 24 '40

BONDS, Convertible
Short-term convertible, Vanadium 5s, 1941. Barron's 20:19 F 12 '40
Stretching the widow's income. N. Piccirilli and others. Barron's 20:18 Mr 25 '40
Today's opportunities in bonds and preferreds; change in status relative to common stocks. J. S. Williams. Mag of Wall St 66:616-17+ S 7 '40

BONDS, Federal farm mortgage
Fully guaranteed obligations by agencies, monthly, Nov. 1938-Nov. 1939. Fed Res Bul 26:41 Ja '40 [cont monthly]

BONDS, Government
Dealings in foreign government securities at N.Y. stock exchange in 1939, monthly; tabulation. Comm & Fin Chr 150:65-6 Ja 6 '40
No more tax-exempt bonds? Business Week p45 S 21 '40
War financing; the functions of taxation and borrowing. E. M. Patterson. Trusts & Estates 71:151-5 Ag '40
Will foreign bonds recover? B. C. Rodes. Bankers M 139:489-92 D '39

See also
Debts, Public
Municipal bonds
State bonds

Default
Foreign bondholders protective council report shows 39.6% of $5,553,517,206 foreign dollar bonds outstanding are in default. Comm & Fin Chr 151:1070 Ag 24 '40
New deal discovers South America; interest-default status of foreign dollar bonds, Dec. 31, 1938. Annalist 54:661 N 23 '39
Publicly offered foreign dollar bonds were 38.12% in default as to interest on Dec. 31, 1939, according to Institute of international finance. Comm & Fin Chr 150:3145 My 18 '40

Argentina
Funds received in New York to pay matured and unpaid coupons of Santa Fe (Argentina) external 7% gold bonds of 1924. Comm & Fin Chr 151:2729 N 9 '40

Canada
Big wheat crop plagues Canada. Business Week p48 S 21 '40
Canada's first war loan. J. L. Ralston. Bankers M 140:239-40 Mr '40
Favorable terms of first Dominion war loan. Annalist 55:74 Ja 18 '40
Values in Canadian bonds; ability of country to service debt in American dollars. F. J. McDiarmid. Barron's 20:18 Je 17 '40

China
Advance in Far Eastern bonds. Economist 137: 221 N 11 '39

Colombia
Department of Tolima (Colombia) ordered by South American court to make payments on its 7% external bonds. Comm & Fin Chr 151:2571-2 N 2 '40

Germany
Conversion of Reichsbahn preferred shares. For Comm W 1:155 O 26 '40

Great Britain
First war borrowing; calling the small investor. Economist 137:280, 297-8 N 25 '39
Gilt-edged budget; stock exchange budget reactions. Economist 138:780 Ap 27 '40
Gilt-edged precedent; yield differentials. Economist 138:68 Ja 13 '40
Lombard Street and the conversion loan; overture to defence borrowing? market reaction. Economist 138:106, 109 Ja 20 '40
Minimum prices compared; September, 1938, August, 1939, March, 1940, and interest rates. Economist 138:525-6 Mr 23 '40
National war bonds. Economist 138:1113-14 Je 29 '40
Three per cent; British government loan for £300 millions. Economist 138:409-10, 428-9 Mr 9 '40

Ireland
New Irish loan; 4 per cent. Exchequer bonds amounting to £7,000,000. Economist 137: 507-8 D 30 '39

Japan
Advance in Far Eastern bonds. Economist 137:221 N 11 '39

Panama
Republic of Panama offers holders of $11,313,500 5% bonds to exchange for new 3½% bonds. Comm & Fin Chr 150:2182 Ap 6 '40

Poland
Polish government suspends interest payments on all issues for duration of war; plan for issuing funding bonds dropped. Comm & Fin Chr 150:42-3 Ja 6 '40

United States
Baby bond sales aggregated $3,860,273,475 on March 30, 1940. Comm & Fin Chr 150:2971 My 11 '40
Baby bonds grow up; U.S. savings bonds. R. A. Lewis, jr. Banking 32:83-4 My '40
Banking and Treasury finance in 1939. Fed Res Bul 26:1-8 Ja '40
Billions for defense; practical aspect of government borrowing. A. W. Atwood. Banking 33:25-6 Jl '40
Course of prices of government securities on New York stock exchange in 1939, monthly; tabulation. Comm & Fin Chr 150:77 Ja 6 '40
Deficit financing; Morgenthau seeks to borrow half billion dollars on 2% notes. Business Week p40 D 2 '39
Final figures on Treasury offering of 2% bonds of 1948-50. Comm & Fin Chr 149:3641 D 9 '39
Government bond investment policy. D. H. Mills. Bankers M 140:390-2 My '40
Government obligations and municipals. J. C. Shelor. Trusts & Estates 70:141-3 F '40
Government securities; market transactions for Treasury investment accounts in December, 1939 and by months, since December, 1937. Comm & Fin Chr 150:359 Ja 20 '40 [cont monthly]
High premium bonds; yield advantage often rests with government over corporate issues. B. E. Tibbo. Barron's 20:18 Ap 8 '40
Interest rates on baby bonds. J. Berg. Barron's 20:1 Ap 1 '40
Issue sells too well. Business Week p49-50 Jl 20 '40
Monthly range of United States government, Jan.-June, 1940. Comm & Fin Chr 151:340 Jl 20 '40
New index of United States government bond prices. Fed Res Bul 26:1179-80, 1206 N '40
New offering of $100,000,000 or thereabouts of 91-day Treasury bills. Comm & Fin Chr 151:628-9 Ag 3 '40
Portfolio policy for government securities. G. Freund and F. Spodick. Bankers M 141:206-8 S '40
Role of government bonds as trust investments. M. R. Stahl. Trusts & Estates 69: 497-502 N '39
Savings bonds: redeem or hold? D. Myrick. Barron's 20:1 O 7 '40
Secretary of Treasury Morgenthau limits sale of baby bonds to individuals to keep debt within limit. Comm & Fin Chr 150:1855 Mr 23 '40
Support for the government bond market; resources of Treasury and Federal reserve system adequate to redeem entire public debt. F. H. Richardson and S. Merriman. Barron's 20:9 Ag 19 '40
Treasury finance. Bankers M 141:134-5 Ag '40
Treasury financing in 1939. Comm & Fin Chr 150:21-2 Ja 6 '40

BONDS, Government—United States—*Cont.*
Treasury offers $500,000,000 of 2% bonds of 1948-50. Comm & Fin Chr 149:3479-80 D 2 '39
Treasury offers $600,000,000 of 2¼% bonds of 1954-56. Comm & Fin Chr 151:180 Jl 13 '40
Treasury offers 3 ¼-year 1% notes in exchange for $353,000,000 of 3 ⅜% bonds maturing June 15. Comm & Fin Chr 150:3750 Je 15 '40
Treasury offers ¾% five-year notes in exchange for $738,428,400 of 1½% notes maturing June 15. Comm & Fin Chr 150:1523 Mr 9 '40
Treasury offers 2 ¼% bonds of 1951-1953 and 1% notes of 1944 in exchange for 1 ⅝% notes maturing March 15. Comm & Fin Chr 149: 3796-7, 3947 D 16-23 '39
United States bond market; abstract. S. F. Porter. Trusts & Estates 71:155 Ag '40
U.S. bonds worry the banks again. Business Week p47-9 My 11 '40
United States government securities. Published in weekly numbers of Annalist
United States government securities; a review of financing operations and price records. 1940 ed 60p C. J. Devine & co, 48 Wall st, New York '40
United States government securities on the New York stock exchange. Published in weekly numbers of Commercial & financial chronicle
War and interest rate trends. M. Nadler. Bankers M 141:19-20 Jl '40
War and its effects on American banking. M. Nadler. Comm & Fin Chr 151:28-30 sec 3 O 12 '40; Excerpt (War and bank investments). Bankers M 141:402-4 N '40

BONDS, Housing authority
U.S. housing project bonds. H. N. Bulow. Barron's 20:8 N 4 '40
United States housing authority; local housing units ask bids on note issues. Comm & Fin Chr 150:302 Ja 13 '40

BONDS, Municipal. See Municipal bonds

BONDS, Rail. See Rail bonds

BONDS, Real estate
Public housing opening to private investors; local housing authority long-term bonds. Bankers M 140:356-8 Ap '40

BONDS, Revenue
Issuance of revenue bonds. J. L. Beebe. Pub Util 24:697-9 N 23 '39
New distribution system at Houma, La.; financed by sale of municipal revenue bonds. T. B. Smith. il Gas Age 85:19+ F 1 '40
Revenue bond; an experiment in public finance. H. C. Burke, jr. Pub Util 25:46-7 Ja 4 '40

BONDS, State. See State bonds

BONE black
Bone char reactivation; heat transfer and temperature changes. J. M. Brown and W. A. Bemis. diags Ind & Eng Chem 32:1112-14 Ag '40
Revivifying bone char; a new method and apparatus. E. W. Rice. diag Ind & Eng Chem 31:1516-18 D '39

BONES
Age and the lead content of certain human bones; a compilation and statistical analysis of recently published data. H. P. Morris. bibliog J Ind Hygiene 22:100-3 Mr '40
See also
Marrow

BONI, Albert
Portrait. Business Week p48-9 D 9 '39

BONNEVILLE dam. See Columbia river—Bonneville dam

BONUS system
Bonus cuts costs, ups pay, 12%; Post products division of General foods corp. R. H. Pratt. Factory Management 98:58-9 Ap '40
Carrier corp. five-year bonus plan voted. Comm & Fin Chr 150:2085-6 Mr 30 '40
Incentive plan for a trading business. H. J. Pratt. N A C A Bul 22:147-56 O 15 '40
Maintenance 80% on incentive; time study and methods, Westinghouse East Pittsburgh plant. G. J. Stegemerten. il Factory Management 98:86-7 Mr '40
More profit-sharing. Business Week p53-5 D 9 '39
Wage incentive plan proves desirable; Oklahoma natural gas company. F. E. Kee. Gas Age 84:59-60 D 21 '39
Wage incentives and industrial relations at American type founders. T. R. Jones. Management R 29:13-14 Ja '40
See also
Wage payment plans

BONUS system (for executives)
Bonus case before Supreme court. Comm & Fin Chr 151:2339 O 19 '40
Carrier corp. five-year bonus plan voted. Comm & Fin Chr 150:2085-6 Mr 30 '40
Establishing standard allowances under a supervisory incentive plan. Management R 29:343-4 S '40
Profit-sharing versus straight salary for company executives; variable bonus based on earnings. G. T. Trundle, jr. Sales Management 47:25-6 O 1 '40
Salary and bonus plans for department executives; Dartnell survey. Am Business 10:37-40 Ag '40; Abstract. Management R 29:283-4 Ag '40
Salary and bonus plans for top executives; a Dartnell survey. Am Business 10:11-13+ Jl '40; Abstract. Management R 29:238-9 Jl '40
Wage incentives and industrial relations at American type founders; supervisors' bonus plan. T. R. Jones. Management R 29:13-14 Ja '40

BOOK industry and trade
British book trade organisation: a report on the work of the joint committee. F. D. Sanders, ed. 199p $2 R. R. Bowker co, New York '40
English book trade; an economic history of the making and sale of books. M. Plant. 500p bibliog(p451-80) $5 R. R. Bowker co, 62 W. 45th st, New York '39
Plan to reduce book prices and cause people to resume reading as of yore; lack of retail outlets. W. H. Ingersoll. Ptr Ink 190:65-6, 68-9 Mr 1 '40
Trade in. Ptr Ink 190:92 F 9 '40
See also
Paper industry and trade
Printing trade
Publishing
Subscription books

Bibliography
Book trade bibliography in the United States in the nineteenth century. A. Growoll. 79p bds $7.50 E. Byrne Hackett, Brick row book shop, New York '39

Directories
Clegg's International directory of the world's book trade; booksellers, publishers, book collectors, etc. 1940-1. 371p $7.50 for sale by Wilson, H.W. '40

Exhibitions
Minneapolis book and art show. il Publishers' Weekly 138:1580-5 O 19 '40

Statistics
Book publication, 1936-1939. Survey of Cur Business 1940 Sup p147 [supplemented in monthly numbers]

Great Britain
Cheap books. Economist 139:331-2 S 14 '40
English book trade; an economic history of the making and sale of books. M. Plant. 500p $5 R. R. Bowker co, New York '39

BOOK prices
American book-prices current; a record of books, manuscripts, and autographs sold in the principal auction rooms of the United States during the season 1939-1940. E. Lazare, comp. 247p $10 R. R. Bowker co, New York '40

BOOK prices—*Continued*
Trade prices current of American first editions, 1937-1940. 283p $3.50; with American book-prices current $10 R. R. Bowker co, New York '40

BOOK purchasing. See Libraries—Book purchasing

BOOK selection
How libraries pick technical books. D. G. Legerman. Publishers' Weekly 138:238-40 Jl 27 '40
Practice of book selection. L. R. Wilson, ed. 368p bibliog(p344-56) $2.50 Univ. of Chicago press '40

BOOKBINDING
Check list of mechanical binding processes. Ptg Art 68 no 4:N1 '40
Case bookbinding today; design, style and color. D. C. Brock. il Ptg Art 68 no 4:N5-N6 '40
Maintaining leather book bindings. Civil Eng 10:540-1 Ag '40
Primer to bookbinding. F. W. Grimm. 66p $1.75 Houghton '39

BOOKCASES
Storage; bookshelves in wall of stairway. il diag Arch Rec 88:64 Ag '40

BOOKKEEPING
Bookkeeping for personal and business use; the master key. J. G. Kirk, G. M. Alleman and I. Klein. 301p pa $1 John C. Winston co, Philadelphia '40
Record keeping for everyone (abridged). W. L. Moore, H. E. Wheland and C. M. File. 240p South-western pub. co. '40
Ringing the bell; bookkeeping system for small radio service shops. S. C. Milbourne. Radio N 23:32-3+ F; 30-1+ Mr '40
Where profits are realized; five points a businessman must learn from his bookkeeping system. S. E. Davis. il Dom Eng 156:36-8+ N '40

See also
Accounting
Auditing
Cost accounting

Study and teaching

Survey of needs and trends in bookkeeping; results of questionnaire published in The balance sheet, December, 1938. 14p Southwestern pub. co. '39

BOOKLETS, Advertising. See Advertisements—Books and booklets

BOOKS
Bookmaking. Published in Publishers' weekly, first issue of every month
Caxton folks in 1935 published first editions by offset technique. Inland Ptr 104:75 Mr '40

See also
Bibliography
Cataloging
Classification
Libraries
Printing
Publishing

Importation

See Libraries—Importation of books and periodicals

Photographic reproduction and projection

Condensed library; A. & C. Boni figuring on production of microprint books and projector. il Business Week p48-9 D 9 '39

BOOKS and reading
Books and you. W. S. Maugham. 107p $1.25 Doubleday '40
How to read a book. M. J. Adler. 398p bibliog(p377-89) $2.50 Simon & Schuster, New York '40
Insurance men tell of books which have influenced them. East Underw 41:90+ pt 2 O 4 '40
Reading clubs for engineers; reading plan adopted by TVA at Chattanooga. W. H. Kaiser. Mech Eng 62:473-4 Je '40

See also
Bibliography

BOOKSELLERS and bookselling
Great bookstore in action. A. Kroch. 32p $1 Univ. of Chicago press '40
Plan to reduce book prices and cause people to resume reading as of yore; lack of retail outlets. W. H. Ingersoll. Ptr Ink 190:65-6, 68-9 Mr 1 '40

See also
Subscription books

Directories

Book stores and publishers in Latin America; a list compiled in the Columbus memorial library. Pan American union, Washington, D.C. '40

BOOSTERS
Blowing-in a booster. D. F. Young. diags Elec West 84:45 Ap '40
Boosters connected without interruption. L. F. Young. diags Elec W 114:102 Jl 13 '40
Quadrature boosters and transmission. A. M. Taylor. diags Electrician 124:390-1 My 31 '40

BOOTS pure drug company
Annual ordinary general meeting, 52d, London. Economist 138:1055 Je 15 '40

BORAH, William Edgar, 1865-1940
Sketch. Comm & Fin Chr 150:631-2 Ja 27 '40

BORATES

See also
Propyl borate

BORAX
Borax; an authoritative survey of the borax industry from its beginning to its future outlook. R. M. Curts. il map Chem Ind 47: 366-73 O '40
Decreasing the combustibility of sawdust; relative effectiveness of certain chemicals. J. L. McCarthy. bibliog Ind & Eng Chem 32:1494-6 N '40

BORAX consolidated, limited
Ordinary general meeting, 42d, London. Economist 138:398 Mr 2 '40

BORDEAUX extra. See Congo violet

BORDEN company
Annual report, 1939. Comm & Fin Chr 150: 1754-5, 1792-5 Mr 16 '40
Greener pastures for dairy companies. F. H. McConnell. Barron's 20:8 Ja 1 '40

BORDERS (printing)
Creating distinctive border patterns by clever use of standard type rules. W. Laufer. il Inland Ptr 105:58-9 Ag '40

BOREHOLE surveying
Depth measurements by means of multiple-strand wire lines. H. E. Gross and J. P. Hays. bibliog diags Am Pet Inst Proc 21M(4):41-7; Discussion. 47-9 My '40

BORG WARNER corporation
Thumbnail stock appraisal. Mag of Wall St 67:32 O 19 '40

BORIC acid
Fermentation of concentrated solutions of glucose to gluconic acid; improved process. A. J. Moyer, E. J. Umberger and J. J. Stubbs. bibliog Ind & Eng Chem 32:1379-83 O '40
Piero Ginori Conti; his work in chemistry; boric acid manufacture with volcanic steam. bibliog Ind & Eng Chem News ed 18:108 F 10 '40
Progress reports, Metallurgical division; beneficiation of boron minerals. R. G. Knickerbocker and others. pls U S Bur Mines Rep of Invest 3525:1-18 '40
Sugar alcohols; a study of the effect of the anhydrides of sorbitol on the dissociation constant of boric acid. F. K. Bell, C. J. Carr and J. C. Krantz, jr. bibliog J Phys Chem 44:862-5 O '40

BORIDES
Borides vs. carbides. F. H. Clark. Min & Met 21:20-1 Ja '40

BORING bars
Boring bar for taper holes. M. H. Ball. diag Am Mach 84:216 Ap 3 '40
Contraction in grey cast iron. E. Longden. diags Engineer 170:11-12 Jl 5 '40
Niched boring bar reduces chatter. A. L. Greene. diags Am Mach 84:754 O 2 '40

BORNEO
Bandjermasin and other ports of Borneo. il(cover) Comm Rep p786 S 14 '40

BORNEOL
Preparation of borneol glucuronide. H. K. Murer and L. A. Crandall, jr. Am Chem Soc J 62:674-5 Mr '40

BORNITE
Bornite-klaprotholite relations at Concepcion del Oro, Mexico. P. Krieger. il Econ Geol 35:687-97 S '40

BORNYL esters
Question of intramolecular asymmetric induction. A. McKenzie and A. D. Wood. Chem Soc J p1536-44 O '39

BORON
Boron creates special problems in Los Angeles' water supply. Eng N 125:113-14 Jl 18 '40
Capture cross sections for thermal energy neutrons. C. Lapointe and F. Rasetti. bibliog Phys R 58:554-6 S 15 '40
Progress reports, Metallurgical division; beneficiation of boron minerals. R. G. Knickerbocker and others. pls U S Bur Mines Rep of Invest 3525:1-18 '40
Protons from the transmutation of boron by deuterons. E. Pollard, W. L. Davidson, jr. and H. L. Schultz. Phys R 57:1117-20 Je 15 '40
Search for resonance scattered protons from B^{11} and F^{19}. W. R. Kanne, R. F. Taschek and G. L. Ragan. bibliog diags Phys R 58: 693-5 O 15 '40
Spectroscopic evidence for the B_3 molecule. A. E. Douglas and G. Herzberg. Phys R 57:752 Ap 15 '40
Structure and properties of glasses containing boron. M. L. Huggins. Am Chem Soc J 62:2248 Ag '40
See also
Colemanite
Soils—Boron content

Analysis
Determination of boron in plant material; an ignition-electrometric titration method. L. V. Wilcox. bibliog diag Ind & Eng Chem Anal ed 12:341-3 Je 15 '40
Estimation of boron in glasses; a flame test. diag Glass Ind 20:464 D '39

BORON compounds
Cyanates of silicon, phosphorus and boron; instability of certain ternary boron compounds. G. S. Forbes and H. H. Anderson. Am Chem Soc J 62:761-3 Ap '40

BORON cyanate
Cyanates of silicon, phosphorus and boron; instability of certain ternary boron compounds. G. S. Forbes and H. H. Anderson. Am Chem Soc J 62:761-3 Ap '40

BORON fluoride
Alkylation of benzene with alcohols, boron fluoride and assistants. N. F. Toussaint and G. F. Hennion. bibliog Am Chem Soc J 62:1145-7 My '40
Condensations; a general theory for certain carbon-carbon condensations effected by acidic and basic reagents. C. R. Hauser and D. S. Breslow. Am Chem Soc J 62: 2389-92 S '40
Condensations of certain active hydrogen compounds effected by boron trifluoride and aluminum chloride. D. S. Breslow and C. R. Hauser. bibliog Am Chem Soc J 62: 2385-8 S '40
Condensations; the alkylation of ethyl acetoacetate with isopropyl acetate in the presence of boron trifluoride. D. S. Breslow and C. R. Hauser. bibliog Am Chem Soc J 62:2611-12 O '40
Methylboric acid and its anhydride; the methylboron fluorides. A. B. Burg. diag Am Chem Soc J 62:2228-34 Ag '40
Reaction of boron fluoride with aluminum chloride or bromide. E. L. Gamble, P. Gilmont and J. F. Stiff. bibliog Am Chem Soc J 62:1257-8 My '40
Reactions of anils; addition of methyl ketones to benzalaniline in the presence of boron fluoride. H. R. Snyder, H. A. Kornberg and J. R. Romig. Am Chem Soc J 61:3556-8 D '39
Sulfonation and nitration reaction promoted by boron fluoride. R. J. Thomas, W. F. Anzilotti and G. F. Hennion. bibliog Ind & Eng Chem 32:408-10 Mr '40

BORON hydrides
Preparation and properties of diborane diphosphine. E. L. Gamble and P. Gilmont. bibliog Am Chem Soc J 62:717-21 Ap '40

BORON trifluoride. See Boron fluoride

BORON triphenyl
Quaternary ammonium salts with anions containing triphenylboron. D. L. Fowler and C. A. Kraus. bibliog Am Chem Soc J 62: 1143-4 My '40

BOSCH, Carl, 1875-1940
Sketch. por(p369) Chem & Met Eng 47:362 My '40

BÖSE, Emil, 1868-1927
Portrait. Geol Soc Special Pa no 26:front '40

BOSE-EINSTEIN statistics
Bose-Einstein fluids. L. Goldstein. Phys R 57:241-2 F 1 '40; Correction. 57:457 Mr 1 '40
Stationary states of scalar and vector fields. H. Snyder and J. Weinberg. Phys R 57: 307-14 F 15 '40

BOSTON
Have cities stopped growing? E. Whitmore. il Am Business 10:26-8, 48 O '40
Port of Boston. Comm Rep p1223+ D 30 '39

Harbor
Pollution of Boston harbor. S. A. Greeley. maps Boston Soc C E J 27:102-9 Ap '40
Pollution of Boston harbor. A. D. Weston and G. P. Edwards. il maps Am Soc C E Proc 65:383-418 Mr '39; Discussion. 65:1103-4, 1797-9; 66:312-16, 648-50 Je, D '39, F, Ap '40

Industries
Chemical tourist visits at the hub of New England chemical trade. W. Haynes. il Chem Ind 46:26-9, 158-62 Ja-F '40

Sewerage
Discussion of problems of sewerage and sewage disposal in metropolitan Boston. H. P. Eddy, jr. and A. L. Fales. maps plans Boston Soc C E J 27:79-101 Ap '40
Pollution of Boston harbor. S. A. Greeley. maps Boston Soc C E J 27:102-9 Ap '40
Pollution of Boston harbor. A. D. Weston and G. P. Edwards. il maps Am Soc C E Proc 65:383-418 Mr '39; Discussion. 65:1103-4, 1797-9; 66:312-16, 648-50 Je, D '39, F, Ap '40

Water supply
Boston's new conduit; steel-concrete pipe. il Water Works & Sewerage 87:78 F '40
Metropolitan Boston's new water-supply system; steel-concrete pipe line. W. R. Brend. il Can Eng 77:9 N 28 '39
Plugs for aqueduct testing formed from steel plates; new Boston pressure aqueduct. S. M. Dore. il Eng N 124:330-1 F 29 '40
Real estate acquisitions for metropolitan Boston's water supply in the Swift River and Ware River watersheds. J. A. Christenson. il maps N E Water Works Assn J 54:194-225 Je '40

BOSTON and Maine railroad
Boston & Maine fetes 50-year commuters. Ry Age 108:451-2 Mr 9 '40
Debt readjustment plan. Comm & Fin Chr 150:123, 428-9, 1755-6, 2081-2 Ja 6, 20, Mr 16, 30 '40
Deposits do not meet requirements of RFC. Comm & Fin Chr 150:3039-40 My 11 '40
New type of railroad organization; RFC offers cash and new securities. F. E. Park, jr. Barron's 20:9 Ja 22 '40
Plan declared operative. Comm & Fin Chr 150:3812-13 Je 15 '40
Plan of exchange to refinance outstanding bonds, and income statement, 1936-39. Comm & Fin Chr 150:1755-6 Mr 16 '40

BOSTON and Maine railroad—*Continued*
Refinance plan made public. Ry Age 108:108-9 Ja 6 '40
Time for deposits extended for plan of exchange. Comm & Fin Chr 150:2869 My 4 '40

BOSTON and Providence railroad
Reorganization. Comm & Fin Chr 149:3866 D 16 '39

BOSTON conference on distribution
Annual conference, 12th, Boston. Business Week p45-6 O 12 '40
Discussion of war-time economy problems at conference. Comm & Fin Chr 151:2290 O 19 '40
Twelfth Boston conference on distribution, 1940. 103p pa $3.75 Daniel Bloomfield, director, Retail trade board, Boston chamber of commerce, 80 Federal st, Boston '40

BOSTON Edison company
Earnings, 1936-39. Comm & Fin Chr 150: 2249 Ap 6 '40
Files $53,000,000 bond issue. Comm & Fin Chr 151:2795 N 9 '40

BOSTON elevated railway
Traffic statistics and receipts and expenditures, 1936-39. Comm & Fin Chr 150:1755 Mr 16 '40

BOSTON, Revere Beach and Lynn railroad
Narrow Gage suspends; buses take over service. il Bus Transportation 19:72 F '40

BOSTON society of civil engineers
Annual reports. Boston Soc C E J 27:154-81 Ap '40

BOSTON stock exchange
Weekly record. Published in weekly numbers of Commercial & financial chronicle

BOSWORTH, Mount
Lower and middle Cambrian stratigraphy of southwestern Alberta and southeastern British Columbia. C. Deiss. diags maps Geol Soc Bul 51:731-93 bibliog(p792-3) pl 1-5 My '40

BOTANICAL chemistry
Are pectic substances precursors to lignin? E. Bennett. Science 91:95-6 Ja 26 '40
Induced formation of β-centiobiosides in gladiolus corms and tomato plants treated with chemicals. L. P. Miller. bibliog Science 92: 423 Jl 12 '40

See also
Bacteria
Cellulose
Chlorophyl
Hormones, Plant
Photosynthesis
Plant cells and tissues
Plants—Chemical analysis

BOTANICAL research
Advances in botany. F. E. Denny. bibliog il Ind & Eng Chem News ed 18:59-63 Ja 25 '40
Standard experimental vegetation type. R. L. Piemeisel. Science 92:195-7 Ag 30 '40

BOTANY
Advances in botany. F. E. Denny. bibliog il Ind & Eng Chem News ed 18:59-63 Ja 25 '40
Columbus meeting of the American association for the advancement of science and associated societies; section on botanical sciences (G) and affiliated societies. Science 91:112-16 F 2 '40

See also
Aquatic plants
Bacteriology
Botanical chemistry
Diatoms
Dyes and dyeing—Natural dyes
Fungi
Paleobotany
Photosynthesis
Plant cells and tissues
Plant growth
Poisonous plants
Rubber plants and planting
Trees
Weeds

Bibliography
Recent botanical books; reviews. E. B. Matzke. Science 91:359-61 Ap 12 '40

Ecology
Standard experimental vegetation type. R. L. Piemeisel. Science 92:195-7 Ag 30 '40

See also
Vegetation mapping

Nomenclature
Stability in nomenclature. A. C. Smith. Science 91:572-3 Je 14 '40

Physiology
Plant hormones. D. H. Killeffer. il Ind & Eng Chem News ed 18:395-9 My 10 '40

See also
Hormones, Plant
Plants—Reproduction

Canada
Expedition to Hudson bay of the University of Minnesota. E. C. Abbe. Science 90:458-9 N 17 '39

Guatemala
Survey of the flora of Guatemala. Science 92:305 O 4 '40

BOTANY, Economic
American book of the woods; prints and uses of 256 trees, shrubs, herbs and vines. D. S. Marx. 45 pls pa $2 Botanic pub. co, 3317 Madison rd, Cincinnati '40

See also
Cotton
Dyes and dyeing—Natural dyes
Flax
Forest products
Fungi
Grain
Grasses
Hemp
Herbs
Rubber plants and planting
Textile fibers
Weeds

BOTANY, Medical
American book of the woods; prints and uses of 256 trees, shrubs, herbs and vines. D. S. Marx. 45 pls pa $2 Botanic pub. co, 3317 Madison rd, Cincinnati '40

See also
Herbs

BOTTLE caps and seals
Resins for closure efficiency; composite liners depend on synthetics for cleanliness and effective seal. G. C. Miller. il Mod Plastics 17:33 Mr '40

BOTTLE cleaning
Improved air cleaner for bottles. il Chem Ind 47:398 O '40

BOTTLE washing
Aluminum labels and foils weaken bottle washing solutions. C. A. Shillinglaw and M. Levine. Food Ind 12:41 Ja '40
Testing bottle washing solutions; abstract. C. M. Moore. Food Ind 12:88 Ja '40

BOTTLED gas. See Gas, Bottled

BOTTLED goods

See also
Beer
Beverages

BOTTLES
Advances in glass container industry. il Ind & Eng Chem News ed 18:662 Ag 10 '40
Bottles for internal pressure. F. W. Preston. diags Glass Ind 21:272-3+ Je '40
Chemical durability of glassware from the distiller's standpoint; abstract and discussion. A. Herman. Glass Ind 21:276+ Je '40
Improving the strength of glass containers through design. L. G. Ghering. il diags Glass Ind 20:443-7+ D '39
Plastics competition; award to Tri-pak gun kit, for lubricating oil containers. il Mod Plastics 18:71, 97 O '40
Proper container design speeds liquid filling. F. B. Fairbanks. il diags Food Ind 12:64-6 Je '40
Returned bottles again issue. Food Ind 12:55 Ag '40
Solubility of bottle glass. Glass Ind 20:452 D '39
Stresses in bottles or jars from differences in outside and inside temperatures (static temperature gradient). F. W. Preston. diags Am Cer Soc J 23:119-21 Ap '40; Discussion. J. B. Murgatroyd. 23:328-9; Reply. 329 N '40

Manufacture
Making moulds at Swindell brothers, inc. il Glass Ind 21:471-4 N '40

BOTTLES—*Continued*

Testing

Effect of time and temperature on accelerated chemical durability tests made on commercial glass bottles; dilute acid, distilled water, and sodium hydroxide tests. F. R. Bacon and O. G. Burch. bibliog Am Cer Soc J 23:1-9 Ja '40

Resistance of glass bottles to neutral alcoholic solutions. F. R. Bacon and O. G. Burch. Am Cer Soc J 23:147-51 My '40

Staining glasses with silver; a possibility of studying inhomogeneities. J. C. Turnbull and W. A. Weyl. il Glass Ind 21:13-18+ Ja '40

BOTTLING

Bottled soft drinks reach billion dollar sales. S. R. Kaplan. il Adv & Sell 32:20-3, 58, 90 D '39

Bottling for profit. M. V. Rosenbloom and A. B. Greenleaf, eds. 192p $3 American industries surveys, New York '40

From scratch to national distribution in 5 years: the story of Mission orange. A. J. P. Vandermyn. il Sales Management 47:46-8 O 20 '40

Management policies by industries; credit hazards and insurance coverage. W. B. Leonard and N. D. Stone. il Bankers Mo 57:152-7+ Mr '40

Pepsi-Cola gives controlled quality to 400 franchise bottlers. I. C. Miller. il Food Ind 12:64-6 Ap '40

BOTTLING equipment

Mechanical handling methods in mineral water plants. C. C. Downie. il diags Mech Handling 27:81-5 Ap '40

BOTTLING machines

Manufacture

Machine gas cutting of stainless-clad plates, Crown cork & seal co. W. Lyon and M. G. Wicker. il Iron Age 145:42-3 Ap 11 '40

What it takes to turn stainless; Crown cork & seal company. il diags Am Mach 84: 195-8 Ap 3 '40

BOTTLING plants

Bottling plant, Greensboro, N.C. for Canada Dry; views, plan and construction outline. Arch Forum 72:363-4 My '40

BOUCHARD, Telesphore Damien, 1881-

Quebec's Minister of roads and public works. por Can Eng 77:11 N 21 '39

BOULEVARDS. See Parkways

BOUNDARIES

International boundaries; a study of boundary functions and problems. S. W. Boggs. 272p bibliog(p249-60) $3.25 Columbia univ. press '40

See also
Wyoming—Boundaries

BOUNDARIES (estates)

Proposed standards for land descriptions. P. Kissam. Civil Eng 10:696-7 N '40

Registration of surveys needed in most states. P. Kissam. Eng N 124:334 F 29 '40

Treatise on the law of surveying and boundaries. F. E. Clark. 2d ed 896p $6 Bobbs '39

BOUNDARY layer, Theory of

Air flow in the boundary layer of an elliptic cylinder. G. B. Schubauer. bibliog il diag U S Nat Advisory Com for Aeronautics 1939:207-26 '40

Boundary layer and wake survey measurements in flight and in the wind tunnel. L. B. Rumph, jr. and R. Schairer. bibliog il diags J Aeronautical Sci 7:425-33 Ag '40

BOURBONAL

Qualitative test for ethyl vanillin in vanilla extract. H. W. Chenoweth. Ind & Eng Chem Anal ed 12:98-9 F 15 '40

BOURNE, George Lewis, 1874-1940

Sketch. por Ry Age 108:1011 Je 8 '40

BOWATER'S Newfoundland pulp and paper mills, ltd.

Bonds offered. Comm & Fin Chr 150:123-4 Ja 6 '40

BOWER rolling bearing company

Brass tacks for the investor; brief analysis. Barron's 20:20 Ap 8 '40

BOWIE, William, 1872-1940

Sketch. por Eng N 125:323 S 12 '40

BOWLING alleys

Lighting

Bowling alley pins use 55 ft.-candles. il Elec W 114:568 Ag 24 '40

BOWMAN, Oliver Otis, b. 1838-

History of the Bowmans; O. O. Bowman and his sons, W. J. J. and R. K. Bowman; activities in manufacturing a full line of plumbing fixtures. por(cover) Am Cer Soc Bul 19:175-7 My '40

BOXES

Moisture content of wooden containers in which canned goods have rusted; Vancouver laboratory experiments. Weekly Underw 141: 1168-9 D 2 '39

See also
Paper boxes

Manufacture

Robinson two-operator dovetailing machine. il Engineering 148:621-2 D 1 '39; Engineer 168:552-3 D 1 '39

BOY scouts

President Roosevelt praises boy scouts on 30th anniversary. Comm & Fin Chr 150:917 F 10 '40

BOYCOTT

Electrical jolt; indictment charges union and contractors with boycott against firms outside New York. Business Week p29+ Ap 6 '40

BOYD, Thomas Alvin, 1888-

Awarded Lamme medal. Ind & Eng Chem News ed 17:707 N 20 '39

BOYLE, Robert, 1627-1691

Robert Boyle, scientist. M. Schofield. por Chem & Ind 59:615-19 Ag 31 '40

Sketch. Chem & Ind 59:515-17 Jl 20 '40

BOYS

ASA clothing committee to vote on body sizes for junior boys. il Ind Stand 11:257-8 O '40

BRACHIOPODA, Fossil

Neocomian faunas of northern Mexico. R. W. Imlay. diags maps Geol Soc Bul 51:117-90, pl 1-21 bibliog(p166-8) Ja '40

BRACING

How to lay out braces with the steel square. G. Townsend. diags Am Bld 62:81+ Mr '40

See also
Wind pressure

BRADLEY, Will H. 1868-

Man of many talents. S. Kramer. por(front) Inland Ptr 104:35-7 Mr '40

BRAIN

Biochemistry of brain tissue. R. A. Peters. bibliog Chem & Ind 59:373-8 Je 1 '40

Brain waves. Sci Am 163:83 Ag '40

Cerebral pathology in rodents in endemic typhus and Rocky Mountain spotted fevers. R. D. Lillie, R. E. Dyer and N. H. Topping. Pub Health Rep 54:2137-48, pl 1-2 D 1 '39

Cerebrospinal pathology of experimental poliomyelitis in the eastern cotton rat, sigmodon hispidus hispidus, and in the white mouse, mus musculus. R. D. Lillie and C. Armstrong. Pub Health Rep 55:718-25, pl 1-4 Ap 25 '40

Growth of the human brain. Science 91:sup 10 My 10 '40

Histological technique for intracranial tumours. D. S. Russell. 71p bibliog(p68-9) $2.50 Oxford '39

Method of studying the availability of various substrates for human brain metabolism during therapeutic insulin shock. J. Wortis and W. Goldfarb. bibliog Science 91:270-1 Mr 15 '40

Preservation of brain specimens; use of pliofilm. L. W. Darrah. Rubber Age 46: 376 Mr '40

Your brain and its story. R. J. A. Berry. 165p $2.50 Oxford '39

BRAIN—*Continued*

Diseases

Compendium of regional diagnosis in lesions of the brain and spinal cord. R. Bing. 11th ed 292p $5 C. V. Mosby co, St Louis '40

BRAKE beams

Unit truck and brake beam. il Ry Age 108: 1129 Je 22 '40; Same. Ry Mech Eng 114: 286+ Jl '40

BRAKE linings

Synthetic latex in brake linings; abstract. V. D. Gerasimova and E. L. Podocenova. India Rubber W 102:64 Jl '40

Testing

Small inertia-type machine for testing brake lining. R. H. Taylor and W. L. Holt. pls diags J Research Nat Bur Stand 24:531-46 My '40

BRAKE shoes

Testing

Machine pour l'essai des sabots de frein, installée au banc d'essais de locomotives de Vitry-sur-Seine. Génie Civil 116:92 F 3 '40; Abstract (Railway brake shoe testing machine). Engineer 169:374 Ap 19 '40

BRAKES

Lastsenkvorrichtung für krane mit mechanischer bremse und hilfsmotor. H. Ernst. diags V D I 84:157-9 Mr 2 '40

New vertical wheel hand brake developed. il Ry Age 109:635 N 2 '40

Pull, don't drive brake-shoe pins. W. Devaughn. il diag Power 84:742 N '40

See also
Air brakes

Manufacture

Metallurgical aspects of brake drums for heavy duty service. V. A. Crosby and G. A. Timmons. il Foundry 68:32-4, 83-4 Jl '40

BRAKES, Automobile

Bremswerkuntersuchungen am kraftfahrzeug. H. Klaue. V D I 83:1225 N 18 '39

Lambert brake. diag Automobile Eng 29:454 D '39

Steering and brakes, 1941 cars; specifications tabulated. Automotive Ind 83:450 O 15 '40

BRAKES, Electric

Electric braking for railroad and urban transit equipment. F. H. Craton and F. M. Turner. bibliog Elec Eng 59:Trans 489-94 S '40

Electric service brake for electric-drive buses. Gen Elec R 43:346 Ag '40

General Electric solenoid control of spring drum brake for P.C.C. cars. il Transit J 84: 288 Ag '40

Super P.C.C. cars for St Louis. il Mass Transportation 36:148-9 Jl '40

See also
Braking, Regenerative

BRAKES, Hydraulic

Girling disc brake. diags Automobile Eng 30:180-1 Je '40

Hydraulic remote controls; Lockheed equipment. il diags Engineer 168:634-8 D 29 '39

Lambert brake. diag Automobile Eng 29:454 D '39

Manufacture

Facing brake pistons 3000 per hr; Doehler die casting co. H. Chase. il Iron Age 145: 41 Ap 25 '40

BRAKES, Magnetic

Can anybody solve this problem? A. H. Parker. Power Pl Eng 43:737-8 N '39; Discussion. diag 44:94-5 Ja '40

Magnetic brakes for marine service. il Marine Eng 45:79 O '40

BRAKES, Motor bus

Electric brake for electric drive buses. F. M. Turner. diag Transit J 84:246-7 Jl '40

Electric braking for railroad and urban transit equipment. F. H. Craton and F. M. Turner. bibliog Elec Eng 59:Trans 489-94 S '40

Electric service brake for electric-drive buses. Gen Elec R 43:346 Ag '40

Metallurgical aspects of brake drums for heavy duty service. V. A. Crosby and G. A. Timmons. il Foundry 68:32-4, 83-4 Jl '40

Motor transport, Great Britain. E. C. Ottaway. diags Inst Mech Eng J & Proc 142: Proc58-62, pl 6 N '39; Same cond. Engineer 169:287-8 Mr 22 '40

Quiet please; nonresonant types of drums designed to stop brake squeal on buses. il diag Bus Transportation 19:280-1 Je '40

See also
Air brakes, Motor bus

BRAKES, Motor truck

Girling disc brake. diags Automobile Eng 30:180-1 Je '40

Metallurgical aspects of brake drums for heavy duty service. V. A. Crosby and G. A. Timmons. il Foundry 68:32-4, 83-4 Jl '40

Motor transport, Great Britain. E. C. Ottaway. diags Inst Mech Eng J & Proc 142: Proc 58-62, pl 6 N '39; Same cond. Engineer 169:287-8 Mr 22 '40

BRAKES, Trolley bus

Electric braking for railroad and urban transit equipment. F. H. Craton and F. M. Turner. bibliog Elec Eng 59:Trans 489-94 S '40

BRAKING, Dynamic

Electric brake for electric drive buses. F. M. Turner. diag Transit J 84:246-7 Jl '40

BRAKING, Regenerative

Electric braking for railroad and urban transit equipment. F. H. Craton and F. M. Turner. bibliog Elec Eng 59:Trans 490-1 S '40

Means of providing controlled acceleration and deceleration and also controlled regenerative emergency braking on Ward-Leonard mine hoists. H. Freeman. diags Inst E E J 85:713-18 D '39; Abstract. Elec R (Lond) 125:789 D 22 '39; Discussion. Inst E E J 86:501-5 My '40

BRAN

Analysis of the fibrous and carbohydrate constituents of feeding stuffs; the determination of cellulose. E. G. Hallsworth. bibliog Soc Chem Ind J 59:9-17 Ja '40

BRANCH factories, Foreign

Americans in Scandinavia. Business Week p56-7 Ap 20 '40

Three American plants for South America. Rubber Age 46:381 Mr '40

BRANCH managers

Are salesmen through at forty? pictograph. Sales Management 47:27 Jl 15 '40

BRANDING

See also
Labels

BRANDS, Advertised. See Advertising, National

BRANIFF airways, inc.

Common stock offered. Comm & Fin Chr 150: 2082 Mr 30 '40

BRANLY, Edouard, 1844-1940

Discours prononcé à l'Académie des sciences. G. Perrier. Génie Civil 116:250-1 Ap 13 '40

BRASCH, J. F. 1871-

Born under a spinning frame. Textile World 90:85 Mr '40

BRASS

As it was in 1915 and as it is in 1940. W. R. Webster. Metal Prog 37:295 Mr '40

Corrosion-resisting properties of bronze condenser tubes; electrode potential-time relationships. J. Chapman and J. W. Cuthbertson. diag Soc Chem Ind J 58:330-4 N '39

Electrolytic etching of brass. G. C. Williams and G. Rieger. bibliog il Electrochem Soc Trans 77 (preprint 20):259-62 Ap '40

Failures in admiralty metal condenser tubes, with and without arsenic; with photomicrographs. J. T. Kemp. Am Pet Inst Proc 21M(3):87-92 My '40

Flame shaping brass and aluminum; use of paste which acts as a refractory to protect metal alongside line of cut. H. H. Moss. il diags Steel 107:58-9+ S 2 '40

BRASS—*Continued*
Nomenclature and classification of cast copper and copper-base alloys. S. Tour. Am Soc T M Proc 39:271-6 '39
Outdoor exposure tests of electroplated nickel and chromium coatings on steel and nonferrous metals. W. Blum and P. W. C. Strausser. J Research Nat Bur Stand 24: 443-74 Ap '40
Phosphorized admiralty condenser tubes. C. A. Gleason. Power Pl Eng 44:96 Ap '40
Phosphorized admiralty metal for dezincification. Oil & Gas J 38:61 Ap 18 '40
Phosphorized metal for condenser tubes. Elec W 113:1092 Ap 6 '40
Temperature dependence of Young's modulus of beta-brass single crystals. J. S. Rinehart. bibliog Phys R 58:365-71 Ag 15 '40
Tinning copper and brass by immersion. J. D. Sullivan and A. E. Pavlish. il Metals & Alloys 11:131-4 My '40
Weight of bar stock; hexagonal brass. L. deL. Berg. Am Mach 84:387 My 29 '40
X-ray $K\beta_{2,5}$-emission lines and K-absorption limits of Cu-Zn alloys. J. A. Bearden and H. Friedman. bibliog Phys R 58:387-95 S 1 '40

See also
Brass founding
Brazing

Testing

Testing of brass alloys for dezincification resistance. F. M. Barry. bibliog il Am Pet Inst Proc 21M(3):68-72 My '40

BRASS founding
Avoiding defects in the nonferrous foundry. N. K. B. Patch. Foundry 67:31-2+ D '39; 68:35, 88+ Ja; 29+ F; 33+ Mr; 33+ Ap; 95+ My '40
Cleanliness features shop melting brass for plumbing trade. P. Dwyer. il Foundry 68: 24-6+ Ag '40
Ills and cures in the nonferrous foundry. A. Fritschle. il Foundry 68:30-1+ Jl '40
Nonferrous castings made in modern foundry; Hobart mfg. co; electric food-preparing machinery. il Foundry 68:40-2+ S '40
Non-ferrous foundry practice. J. Laing and R. T. Rolfe. 336p $6 Van Nostrand '40
Nonferrous melting in sand casting foundries; abstract. H. Gieseke. Foundry 68:120 My '40
Nonferrous metals absorb gas during melting. N. K. B. Patch. Foundry 68:48+ Je '40
Problems in nonferrous foundry practice. W. B. George. Foundry 68:49+ O '40
Use of refractories in melting copper and copper alloys in an Ajax-Wyatt induction furnace. S. H. Booth. Am Cer Soc Bul 19: 171-2 My '40

BRASS foundries

Equipment

Cleanliness features shop melting brass for plumbing trade. P. Dwyer. il Foundry 68: 24-6+ Ag '40

BRASS plating
Analysis of free sodium cyanide in brass plating solutions. W. M. McNabb and S. Heiman. bibliog Ind & Eng Chem Anal ed 12:161-3 Mr 15 '40; Same. Metal Ind 38: 260-2 My '40
Brass plating at high speed. Iron Age 146: 59 N 14 '40
Die herstellung von kupfer- und tombakplattierten tiefziehstahl-blechen und ihre verarbeitung. C. Rademacher. diags Stahl & Eisen 59:1379-82 D 28 '39

BRASS work
Carbide-tipped tools for turning brass. C. G. Williams. diags Am Mach 84:245 Ap 17 '40
Dies for bending brass channels to rectangular and hexagonal shapes. W. Richards. diags Mach 47:145-7 S '40

BRASS works
New type billet heater for brass mill. il Iron Age 144:29 N 30 '39

BRASSICASTEROL
Brassicasterol; degradation by ozone. E. Fernholz and H. E. Stavely. Am Chem Soc J 62:428-30 F '40
Brassicasterol, the characteristic sterol of rapeseed oil. E. Fernholz and H. E. Stavely. Am Chem Soc J 62:1875-7 Jl '40

BRASSIERES
Doubling in bras; Formfit sales combination. Business Week p42-3 O 12 '40
Formfit lifts product above price dog-fight: sales jump 50%; new product, a new price policy, and some smart advertising. W. H Lowy. il Sales Management 46:25-6 Je 1 '40

BRAZIL
Seven keys to Brazil. V. Kelsey. 314p bibliog(p301-7) $3 Funk and Wagnalls co, New York '40

See also
Chemical industries—Brazil
Coffee trade—Brazil
Cotton trade—Brazil
Merchant marine—Brazil
Social laws and legislation—Brazil
Steel industry and trade—Brazil

Commerce

Brazil's foreign trade during 1938 and 1939. Comm Rep p295 Mr 30 '40
Brazil's foreign trade in first 8 months of 1939. Comm Rep p1097 N 25 '39
Effects of war on Brazil. Comm Rep p1093-6 N 25 '39
Foreign trade of Brazil in 1939. R. S. Smith. Comm Rep p488-9 My 25 '40
Hemisphere sales job; trunks of samples from Brazil. il Business Week p24-5 O 12 '40
Markets in Brazil. Engineering 150:233-4, 254-5 S 20-27 '40
Report on trade relations of Brazil issued by United States Tariff commission. Comm & Fin Chr 151:1374 S 7 '40

Economic conditions

Brazil; editorial. Comm & Fin Chr 151:14-18 Jl 6 '40
Business situation, 1939. Comm Rep p1216-18 D 30 '39
Economic conditions. For Comm W 1:51-2, 241 O 12, N 9 '40
Tabular guide to economic conditions. Comm Rep p358 Ap 13 '40

Industries and resources

Industrial expansion. R. E. Cahn. Comm Rep p1128-9 D 2 '39
Resources and export prospects. Economist 138:518 Mr 23 '40

Yearbooks

Brazil yearbook and manual, 1940. J. W. Brunk and H. Franklin, eds. 352p $3.75 Brazil-yearbook, 509 5th av, New York '39

BRAZIL, Indiana
Employment and unemployment in a depressed labor market. M. E. West, E. J. Fitzgerald and G. L. Bird. Monthly Labor R 51:588-91 S '40

BRAZILIAN traction, light and power company
Earnings, 1936-39. Comm & Fin Chr 150: 3813 Je 15 '40

BRAZING
Braze tube bus with low-melt alloy. il diags Elec W 112:1470+ N 18 '39
Brazing aluminum alloy parts. G. O. Hoglund. il Iron Age 145:34-6+ Ja 11 '40
Brazing aluminum alloys. il Steel 106:60, 62+ Ap 15 '40
Brazing aluminum alloys. A. H. McGraw. il diags Product Eng 11:176-9 Ap '40
Broach repair method; brazing with silver solder; with cost data. il Steel 107:66 S 9 '40; Same cond. Mach 47:143 S '40
Electric furnace brazing by Kelvinator. E. W. Cunningham. il Metals & Alloys 11: 125-30 My '40
Fixture for holding carbide tools while brazing. S. M. White. diags Mach 46:117-18 My '40
Joining thin tubing to cast brass; making an immersion-type urn heater. il Steel 106:50 F 12 '40; Metal Ind 38:147 Mr '40

BRAZING—*Continued*
Low temperature brazing with silver alloys. R. H. Leach. bibliog il Iron Age 146:45-7 Jl 11; 36-9 Jl 18 '40
Low-temperature silver brazing alloy used on heavy current conductors. Mach 46: 139 Mr '40
Multi-purpose furnace serves engine plant. il Elec W 114:114 Jl 13 '40
Operations in Studebaker's modernized plant; brazing furnace. il Mach 46:116-17 Ap '40
Quick method of applying large shanks to small drills, using Easy-Flo silver brazing alloy. il Mach 46:169 Ap '40
Redesigning for furnace brazing. H. M. Webber and T. L. Swansen. il diags Product Eng 11:448-9, 518-19 O-N '40
Repair welding, brazing and soldering of light metal castings. E. R. Thews. diags Metal Ind 38:84-6, 149-53 F-Mr '40
Saving with brazing; air conditioning and refrigerator parts; Westinghouse electric & mfg. co. A. K. Phillippi. il Am Mach 84: 903-6 N 13 '40

BREAD
Air conditioning as applied to foods and industry; manufacture of processed foods. H. B. Matzen. Refrig Eng 40:298-9 N '40
Cooling for high speed bread mixing. E. B. Derr. il diag Refrig Eng 39:375-6 Je '40
Don't eat bread. A. Klein. 116p $1.50 Rodale press, Emmaus, Pa. '39
Effect of temperature on dough properties; abstract. J. C. Baker and M. D. Mize. Food Ind 12:88 Ja '40
Étude de la synérèse du gluten de froment. E. Baron. Chimie & Ind 43:277-82 F 20 '40
Manganese and zinc content of rye flour and bread; abstract. M. W. Tul'chinskii. Food Ind 12:88+ Ag '40
Milk bacteria in bread; abstract. Food Ind 12: 90 S '40
Preserved bread. Food Ind 12:96 O '40
Studies of bread aroma; abstract. E. Komm and G. Lehman. Food Ind 12:92-3 My '40
Studies of bread aroma; isolation of rye bread aroma substances; abstract. E. Komm and G. Lehmann. Food Ind 12:95 Jl '40

See also
Bakers and bakeries
Baking
Flour
Leavening agents
Yeasts

Advertising

Bakery promotion for Dionne quintuplet bread offered to independent bakers by the Bakers research bureau. il Ptr Ink 189:19-20 D 29 '39
Today's promotion of branded bread. A. T. Joyce. il Adv & Sell 33:30-2, 46 S '40

Analysis

Micro-determination of bromine in foodstuffs. W. P. Ford and others. bibliog Soc Chem Ind J 59:177-80 Ag '40

Iron content

Iron content of bread and bread ingredients. C. Hoffman, T. R. Schweitzer and G. Dalby. bibliog Ind & Eng Chem Anal ed 12:454-5 Ag 15 '40

Standards

Standards for bread proposed at hearing. Food Ind 12:80 Mr '40

BREAKFAST foods. See Cereals, Prepared

BREAKWATERS
See also
Dikes (engineering)

BREAST
Factors influencing carcinogenesis with methylcholanthrene; lack of effect of foster nursing. M. B. Shimkin and H. B. Andervont. bibliog Pub Health Rep 54:2080-5 N 24 '39

BREATHING. See Respiration

BRECCIA
Cambrian slide breccia, Grand canyon, Arizona. R. P. Sharp. bibliog diags Am J Sci 238:668-72, pl 1 S '40
Cuneiform fragments diagnostic of fault breccia. C. H. White. il Econ Geol 35:92-7 Ja '40

BRECKENRIDGE, Lester Paige, 1858-1940
Sketch. por Mech Eng 62:738-9 O '40

BREMNER, David A.
Portrait. Engineer 168:supp N 24 '39

BRENTHOL. See Naphthol AS

BRETT, William Howard
Portrait of a librarian; William Howard Brett. L. A. Eastman. 104p bibliog(p101-2) $2.75 American library assn, Chicago '40

BREWERIES
Uniform results from batch operations obtained by quality control; Anheuser-Busch. B. H. Nissen. flow sheets il Food Ind 12: 39-42 F '40

Electric equipment

Brewery installation. il Elec R (Lond) 126:61-3 Ja 19 '40; Abstract. Elec W 113:768 Mr 9 '40

Equipment

Modern refrigerating equipment boosts Ruppert brewery efficiency. il diag Power 84:83-5 F '40

Waste

Growing importance of industrial waste disposal; a review of developments in 1939. F. W. Mohlman. Water Works & Sewerage 87:96 Mr '40
Waste problems in the fermentation industry. C. S. Boruff. bibliog il Ind & Eng Chem 31:1335-7 N '39

BREWING
Use of hydrogen peroxide in steep water; abstract. C. Enders and others. Food Ind 12:87 N '40

BREWING industries
Sales control to develop small accounts lifts volume for Narragansett brewing co. Sales Management 46:56, 58 Ja 15 '40
Taste test package jumps sales for Harvard brewing company. H. Protzman. il Sales Management 46:64 F 1 '40

See also
Beer

Public relations

Using the transportation department to build good-will; brewer's truck drivers trained to help motorists in trouble. J. S. Labatt. il Ptr Ink Mo 41:50+ N '40

Statistics

Big brewers boost share of U.S. beer business. Sales Management 46:54+ Je 1 '40

Great Britain

Brewery companies' progress. Economist 137: 343 D 2 '39
Brewery profits and prospects. Economist 139: 223 Ag 17 '40
Brewery results reviewed. Economist 137: 424-5 D 16 '39
Brewery share prospects. Economist 138:152-4 Ja 27 '40

BREWSTER aeronautical corporation
These management methods helped turn the corner. E. Clifford. il Am Business 10:20-2 F '40

BRIBERY, Commercial
Unfair competition and the Cincinnati agreement. H. F. Schaefer. Oil Paint & Drug Rep 138:55-7 N 11 '40

BRICK chimneys. See Chimneys, Brick

BRICK construction
Brick is in every way desirable for safety in air raid bombing. il Brick & Clay Rec 97: 35-6 S '40
Clay products are ideal for defense construction. il Brick & Clay Rec 97:38+ Ag '40
Close coordination speeds Buffalo housing project; with cost data. il diag Eng N 123:822-5 D 21 '39
Correct use of flashing prevents moisture penetration. diag Brick & Clay Rec 96:32-3 Je '40

BRICK construction—*Continued*
How much do you know about brick bonds? diags Brick & Clay Rec 95:37 N '39
How to build waterproof foundations with clay products. il diags Brick & Clay Rec 96:31 Ap '40
It's easy to relax by a brick fireplace. il diags Brick & Clay Rec 95:34-6 N '39
Low cost of brick construction; abstract. W. F. Schlake. Brick & Clay Rec 96:42+ My '40
"See America first" can mean more orders for clay; brick for tourist cabins. il diag plans Brick & Clay Rec 96:36-8 My '40
Tourist courts are $300,000,000 business; new market for clay products. il Brick & Clay Rec 97:33 O '40
Vault shell materials and layout proportions; trends as to use of concrete or brick in network vaults. J. S. Parsons. diags Elec W 113:886-8+ Mr 23 '40
War construction bringing boom to British brick makers. il Brick & Clay Rec 97:30 O '40

See also
Brick houses
Masonry
Pavements, Brick
Roads, Brick
Sewers, Brick
Walls, Brick

Design
Design of load-bearing brickwork. Engineering 150:170 Ag 30 '40
Rational design of load-bearing brickwork. Engineer 170:129 Ag 23 '40

Reinforcement
Bureau of standards tests prove qualities of RBM and cavity walls. il Brick & Clay Rec 95:26-7 N '39
Half bond utilized in reinforced brick masonry. diag Brick & Clay Rec 96:38 My '40
How a wise showman uses brick; Walt Disney studios. il Brick & Clay Rec 97:20-2 N '40
Lowest cost housing job built with reinforced brick masonry walls; Groutlock masonry. il Brick & Clay Rec 97:37-8 S '40
Paving brick best for defense highways, reinforced brick masonry suitable for bridges. Brick & Clay Rec 97:13-14 S '40
Photoelastic analysis of a prestressed beam. F. O. Anderegg, R. Weller and B. Fried. il Am Soc T M Proc 39:979-82; Discussion. 983-6 '39

BRICK construction in winter
Brick can be laid in sub-zero weather by following these suggestions. Brick & Clay Rec 97:40 S '40

BRICK handling
Breaking the bottleneck in brick handling with the industrial lift truck. il Brick & Clay Rec 97:15-16 Jl '40
Increase brick storage space 25% without additional building; Buffalo brick corp. il diag Brick & Clay Rec 97:14-16 Ag '40

BRICK houses
Brick homes; views and plans. Brick & Clay Rec 96:40-1 F; 32-3 Ap '40
Hollow brick wall design in Houston home. C. A. Loeffler. il diags plan Am Bld 62: 66-7 Je '40
Lowest cost housing job built with reinforced brick masonry walls; Groutlock masonry. il Brick & Clay Rec 97:37-8 S '40
National plan service to distribute new SCPI plan book. Brick & Clay Rec 96:54 Ja '40
Proving it for the prospect with itemized costs. il plan Brick & Clay Rec 97:33-5 N '40
Security expressed in brick. il plans Am Bld 62:56-7 O '40
Security homes appeal to Chicago buyers; Lincolnwood estates. il plans Am Bld 62: 58-9 O '40
Seeing is believing! promoting sale of brick for houses. C. Grandy. il Brick & Clay Rec 97:31-3 N '40
250% return on investment in brick. il Brick & Clay Rec 96:39-40 F '40
Views and plans. Brick & Clay Rec 95:38-9 N '39
Why I like my new brick home; testimonial by A. C. Smith. il plan Brick & Clay Rec 97:36 N '40
Will builds well; Matt. P. Will gives buyers high quality; with TruCost figures. il plans Am Bld 62:56-7, 92 N '40

BRICK industry and trade
Clay products industry ready to handle defense construction. Brick & Clay Rec 97: 9-10 O '40
Man who sells brick short won't make brick long. R. P. Stoddard. Brick & Clay Rec 96: 44 My '40
Salesman who has all the answers; sales manual, Yankee Hill brick mfg. co. diags Brick & Clay Rec 96:48, 50 Ja '40
Seeing is believing! promoting sale of brick for houses. C. Grandy. il Brick & Clay Rec 97:31-3 N '40

See also
Clay industries

Advertising
Best defense is a good offense! program of Columbia brick works. il Brick & Clay Rec 96:48, 50+ F '40
Only real security campaign helps manufacturer, dealer. Brick & Clay Rec 97:42+ S '40
Selling clay products over the air helps dealers get business. Brick & Clay Rec 97:41 Jl '40

Statistics
Common and face brick production, revision; totals, monthly, 1923-June 1940; separately, 1934-June, 1940. Fed Res Bul 26:838-9 Ag '40
Common brick, face brick, vitrified paving brick, 1936-1939. Survey of Cur Business 1940 Sup p150-1 [supplemented in monthly numbers]
How important the dealer is in brick distribution; brick shipment analysis by types of construction. Brick & Clay Rec 97:37 N '40

Great Britain
London brick company profits, 1937-39 and report of annual general meeting. Economist 138:478, 543 Mr 16-23 '40
War construction bringing boom to British brick makers. il Brick & Clay Rec 97:30 O '40

BRICK lining
Brick's lower cost wins canal job over concrete; irrigation project in Nebraska. G. B. Blackstone. il Brick & Clay Rec 96:17+ F '40
Waterproofing a brick tunnel; Otisville tunnel of the Erie railroad. S. A. Potter, jr. diags Civil Eng 10:702-4 N '40

BRICK making. See Brickmaking

BRICK pavements. See Pavements, Brick

BRICK roads. See Roads, Brick

BRICK sewers. See Sewers, Brick

BRICK walls. See Walls, Brick

BRICK works

See also
Brickmaking

Employees
Worker makes as many brick in 9 hours as his grandfather made in 27 hours. Brick & Clay Rec 95:24-6 N '39

Equipment
Burn brick from top and bottom in chamber kiln using gas; Humboldt brick & tile co. il Brick & Clay Rec 97:24-5 N '40
Coal handling plant at Marston Valley brick co. ltd. il diags Mech Handling 27:135-7 Je '40
Give fire brick good heat soaking in M. D. Valentine new tunnel kiln. il Brick & Clay Rec 97:44-6 Jl '40
Increase brick storage space 25% without additional building; Buffalo brick corp. il diag Brick & Clay Rec 97:14-16 Ag '40
Increased maximum pressure time improves density of brick; plant of Illinois clay products co. il Brick & Clay Rec 96:56-8 F '40

BRICK works—Equipment—*Continued*
Model of compactness; new soft mud plant; Daniel brick co. il diag Brick & Clay Rec 97:24-5 S '40
Operator designed his own tunnel kiln and dryer! Fayette brick & tile co. il diags Brick & Clay Rec 97:15-16 O '40
They do many things differently in a glazed brick plant; East Canton plant, National fireproofing corp. il diag Brick & Clay Rec 96:20-2 F '40
Use and advantages of insulating firebrick in the circle system. J. D. McCullough and G. M. Frederick. diags Am Cer Soc Bul 19:16-19 Ja '40
See also
Brick handling

Layout
Circle system for manufacture of brick and tile; Washington brick company, Muirkirk, Md. J. R. Clark and T. W. Garve. il diags plan Am Cer Soc Bul 19:12-16 Ja '40

Power
Save $210 per month with Diesels. il Brick & Clay Rec 97:34 S '40

BRICKLAYING
Plain and fancy brickwork. W. S. Lowndes. 73p, 62p $1.60 International textbook co, Scranton, Pa. '39
These are successful methods for laying outdoor brickwork. il Brick & Clay Rec 97: 38+ Jl '40
See also
Masonry
Mortar

Study and teaching
So that the brick industry has men to lay its product; Structural clay products institute training program. il Brick & Clay Rec 96: 35-6 F '40

BRICKMAKING
Burn brick from top and bottom in chamber kiln using gas; Humboldt brick & tile co. il Brick & Clay Rec 97:24-5 N '40
Circle system for manufacture of brick and tile; Washington brick company, Muirkirk, Md. J. R. Clark and T. W. Garve. il diags plan Am Cer Soc Bul 19:12-16 Ja '40
Effect of thermal process on physical properties; structural clay products. R. Russell, jr. bibliog il Am Cer Soc Bul 19:1-12 Ja '40
Giving your clay the third degree. T. W. Garve. il diags Brick & Clay Rec 96:15-17 F; 21-2 Mr '40
Having drying troubles? L. R. Whitaker. diags Brick & Clay Rec 95:14-16 N; 17-19 D '39; 96:24-6 F; 18-20 Mr; 19-21 Ap; 23-4 My; 30-1 Je; 97:27-8 Jl; 26-8 Ag; 30-2 S; 27-8+ O '40
How can we obtain more flashed brick? Brick & Clay Rec 96:27 F '40
How to control scumming and efflorescence. H. G. Schurecht. Brick & Clay Rec 95:28 N '39
Mechanization in the brick industry. A. J. Van Tassel and D. W. Bluestone. 83p bibliog(p78-83) Works progress administration, Washington, D.C. '39; Summary. Brick & Clay Rec 96:32-4 F '40
Proportion clay particle sizes to improve final product. H. G. Schurecht and J. Reid. Brick & Clay Rec 95:18-19 N '39
Relation of setting face brick in downdraft kilns to heat distribution. F. E. Lobaugh. diags Am Cer Soc Bul 19:361-4 O '40
Structural clay products. J. J. W. Palmer. il U S Bur For & Dom Com Trade Information Bul 842:1-19 '39
They do many things differently in a glazed brick plant; East Canton plant, National fireproofing corp. il diag Brick & Clay Rec 96:20-2 F '40
They treat 'em like diamonds; making salt glazed brick; Metropolitan paving brick co. il Brick & Clay Rec 96:24-5 Je '40
Too many brick set in kiln defeat benefit of long flame. J. G. Seanor. Am Cer Soc Bul 19:245-7 Jl '40
Top-fired tunnel kiln uses coal to burn clay-wares economically. P. Dressler. il diag Brick & Clay Rec 96:22-3 Ap '40
See also
Brick works

BRICKMAKING machinery
No extra reels for cutting large units claim for new pneumatic cutter. il Brick & Clay Rec 97:40+ Ag '40
See also
Auger machines

BRICKS
Brick comes into its own in the fireplace market; illustrations. Brick & Clay Rec 97: 34 O '40
Large unit combining the qualities of brick and tile; Speedbrik. il Brick & Clay Rec 96:47 Ap '40
Non-corrosive, non-metallic materials; brick and cements. il Rayon 21:373-4 Je '40
Painting brick surfaces. Oil Paint & Drug Rep 138:51 N 4 '40
What about large units? il Brick & Clay Rec 96:18-21 My '40
See also
Brick construction
Brick industry and trade
Brickmaking
Clay
Clay industries
Fire brick
Magnesia brick
Masonry
Pavements, Brick
Silica brick
Tiles

Color
Glazed brick & tile institute begins library of shades files. Brick & Clay Rec 96:13 F '40
How can we obtain more flashed brick? Brick & Clay Rec 96:27 F '40
Zinc-vapor glazing of clays; effect of variable lime and alkalis in clays on zinc-vapor glaze colors. C. M. Lampman and H. G. Schurecht. Am Cer Soc J 23:167-70 Je '40

Drying
Having drying troubles? L. R. Whitaker. diags Brick & Clay Rec 95:14-16 N; 17-19 D '39; 96:24-6 F; 18-20 Mr; 19-21 Ap; 23-4 My; 30-1 Je; 97:27-8 Jl; 26-8 Ag; 30-2 S; 27-8+ O '40
Recirculating radiated waste-heat drier operated under controlled humidity and temperature. H. R. Straight. diags Am Cer Soc Bul 18:427-9 N '39
Seventeen fans line top flue of unique tunnel dryer; Brookhaven pressed brick & mfg. co. il diag Brick & Clay Rec 97:26-7 N '40

Manufacture
See Brickmaking

Moisture absorption
Correct use of flashing prevents moisture penetration. diag Brick & Clay Rec 96:32-3 Je '40
Moisture detector gives facts about masonry walls. F. Heath. il Brick & Clay Rec 97: 16-17 O '40; Discussion. C. L. Frederick, jr. 97:35 N '40
Tests of the resistance to rain penetration of walls built of masonry and concrete; tests of 101 wall specimens built of concrete masonry, cast-in-place concrete and solid brick faced masonry. R. E. Copeland and C. C. Carlson. il diags Am Concrete Inst J 11:169-92 N '39; Discussion. 12:sup 192^1-192^{12} S '40

Sulfur content
Rôle of sulphates in the decay of building stones, mortars, and bricks. T. McLachlan. il Soc Chem Ind J 59:133-8 Jl '40

Testing
Disintegration of face brick by crystallization of soluble salt. J. M. Hardesty. bibliog il Am Soc T M Proc 39:971-5; Discussion. il 976-8 '39

BRICKS, Insulating
Deformation of insulating firebrick under load. C. L. Norton, jr. and V. J. Duplin, jr. il diags Am Cer Soc J 23:22-5 Ja '40

BRICKS, Insulating—*Continued*
Decrease firing time and fuel consumption with hot face insulation. diags Brick & Clay Rec 95:55-6+ D '39
Insulating refractories provide fuel saving and added furnace life. Brick & Clay Rec 96: 58-9 F '40

See also
Fire brick

BRIDGE approaches
Bridge and tunnel approaches. J. F. Curtin. il Am Soc C E Proc 65:1527-51 N '39; Discussion. il diags 66:371-7, 525-30, 721-34, 1813-24 F-Ap, D '40
Features of Cleveland's Main Avenue bridge. J. O. McWilliams, W. E. Blaser and F. L. Plummer. il plans Roads & Sts 82:27-9 D '39
Planting difficulties in highway landscaping; approaches to the San Francisco-Oakland Bay bridge. H. D. Bowers. Eng N 124:170 F 1 '40
Traveler speeds arch viaduct forms; link in the approach system of the George Washington bridge. K. A. Sheppard. il diags Eng N 125:334-6 S 12 '40
Welded rigid frames, European style; Main Ave. bridge project, Cleveland, Ohio. F. L. Plummer. il diags Eng N 125:91-3 Jl 18 '40

BRIDGE bearings
Concrete rocker bearing. diags Can Eng R & B 78:28+ Jl '40

BRIDGE design
Adjustment of continuous bridge affected by warping; Illinois River bridge at Hennepin and at Lacon. L. T. Wyly, T. I. Fullenwider and R. B. Murphy. il diags Eng N 125:280-2 Ag 29 '40
All-welded road bridge at Clayhithe. il diags Engineering 149:409-11, 414 Ap 19 '40
Bridges and buildings, 1939. W. G. Bowman. il Eng N 124:235-7 F 15 '40
Bridges for 68,000-lb. axle loads. E. J. Napier. il Can Eng R & B 78:17-19+ Ja '40
Bridges of the Grand River project. V. H. Cochrane. il diags Civil Eng 9:724-6 D '39
Bridging the Pennsylvania Turnpike. R. F. Graef. il Eng N 125:284-7 Ag 29 '40
Bronx-Whitestone suspension bridge. il diags Engineer 168:462-3, 472, 487-9, 496 N 10-17 '39
Canopy type towers, feature of Housatonic River bridge, Conn.; with cost data. W. G. Grove. il diags Roads & Sts 82:49-52 N '39
Design and erection features mark this bridge job, Jersey City; asbestos cement for concrete forms. il diags Ry Age 109: 475-8 O 5 '40
Design features of Thomas A. Edison bridge over Raritan river. M. Goodkind. il maps Civil Eng 10:491-4 Ag '40
Development of rigid-frame structures in Ontario. V. S. Murray. il Can Eng R & B 78: 20-1+ Jl '40
Dynamic model of Tacoma Narrows bridge. F. B. Farquharson. il diags Civil Eng 10: 445-7 Jl '40
Earthquake stresses in the San Francisco-Oakland Bay bridge. N. C. Raab and H. C. Wood. diags map Am Soc C E Proc 66:1447-68 O '40
Highway bridges under wartime loads. G. S. Paxson. il Eng N 124:98-100 Ja 18 '40
Hollow-ribbed bridge of rigid frame type has unusual features; Elkhart, Indiana. il diags Concrete 48:3-4+ Ja '40
Influence lines, their practical use in bridge calculation. D. S. Stewart. 215p 12s 6d Constable & co, London '39
Lattice girder bridge. H. P. Philpot. 223p $2.60 Longmans '39
Model tests, bridge pier supported on long steel piles. T. F. Comber, jr. and J. M. Coan, jr. il diags Am Soc C E Proc 66: 1033-52 Je '40
Net sectional area of tension members. J. D. W. Ball. Engineer 169:251-2 Mr 15 '40
New Wandsworth bridge, London. il diags Engineering 148:707-9, 720, pl 27 D 29 '39
One-leg bents support steel grid deck; bridge between Stratford and Milford, Conn. W. G. Grove. il diags Eng N 125:328-31 S 12 '40
Port Arthur-Orange bridge, Texas, U.S.A. il diags map Engineering 150:1-4, 64-6, pl 1, 6 Jl 5, 26 '40
Post the old bridges; uniform vehicle codes and uniform existing bridge load-rating standards needed. Roads & Sts 83:56, 58+ My '40
Practice of state highway departments in the design of abutments. Am Soc C E Proc 66:1053-62 Je '40; Abstract. Can Eng R & B 78:106+ O '40; Discussion. Am Soc C E Proc 66:1349-50, 1562-8, 1836-8 S-O, D '40
Present trends in structural design; developments of the past twenty-five years. O. H. Ammann. il Civil Eng 10:21-4 Ja '40
Provision for seismic forces in design of Golden Gate bridge. L. S. Moisseiff. il diags Civil Eng 10:33-5 Ja '40
Quelques innovations dans le domaine des travaux publics; ponts à tiges inclinées. R. Christiani. il diag Soc Ing Civils Mémoires 92:440-9 Jl-D '39
Remarques sur la résistance des cintres en bois de grande ouverture; l'effondrement du cintre du pont en béton armé sur le fleuve Angerman, en Suède. il Génie Civil 116:283 Ap 27 '40
Reverse cantilever frame. P. W. Leisner. il diags W Soc E J 44:260-71 O '39
Rigid-frame bridge. A. G. Hayden. 2d ed 285p $4.50 Wiley '40
Rigid-frame bridges. E. Napier. il diags Can Eng R & B 78:13-15, 66, 90, 92, 94-5 Ap '40
Selection of bridge structures for economy; Pennsylvania Turnpike. R. F. Graef. il Roads & Sts 83:58-60 Je '40
Short cuts in designing continuous frame bridges; proposed five-span structure over C.N.R. E. J. Napier. plans Can Eng R & B 78:11-13+ Ag '40
Six-lane highway bridge over the Welland river. A. Sedgwick. il diags Can Eng R & B 78:18-19+ S '40
Storstrom and Masnedsund bridges, Denmark. G. A. Maunsell and J. F. Pain. il diags Engineering 149:4-6, 12, 53-5, 64, pl 1, 4 Ja 5, 19 '40
Tacoma Narrows bridge. C. H. Eldridge. il diags map Civil Eng 10:299-302 My '40
Tied arches to span the Mississippi. il diags Eng N 124:366-9 Mr 14 '40
Unique framing for skew overpass. il diag Eng N 124:447 Mr 28 '40
Unusual features of design and construction mark new bridge over the Mississippi at Baton Rouge, La. carrying a single track and two highways. il Ry Age 108:1172-4 Je 29 '40
Viaduct approach to Lincoln tunnel. C. W. Dunham. il diags plan Eng N 124:311-14 F 29 '40
Wailuku River bridge, Hawaii. H. A. Ciuli. il diag Civil Eng 10:87-9 F '40
West Third Street vertical-lift bridge in Cleveland, Ohio. W. P. Brown. il Civil Eng 10:429-32 Jl '40
Wichert spans on Potomac bridge. il map Eng N 124:791-2 Je 6 '40

See also
Bridge approaches
Bridges—Load
Bridges—Stresses
Bridges, Arched
Bridges, Suspension

BRIDGE engineering
Engineer of design; typical problems of the San Francisco-Oakland Bay bridge. G. B. Woodruff. il Cornell Eng 5:5-7 F '40
Features of Cleveland's Main Avenue bridge; welding, longest span girders, column spread footings, expansion on curves. J. O. McWilliams, W. E. Blaser and F. L. Plummer. il diags plans Roads & Sts 82: 25-33 D '39
Lake Washington pontoon bridge. C. E. Andrew. il diags map Civil Eng 9:703-6; 10:17-20 D '39-Ja '40
Maintenance savings on modern bridges pay for replacing old ones; Tarrant county, Texas; with cost data. il Pub Works 71: 20-2 My '40

BRIDGE engineering—*Continued*
Practice of state highway departments in the design of abutments. Am Soc C E Proc 66:1053-62 Je '40; Abstract. Can Eng R & B 78:106+ O '40; Discussion. Am Soc C E Proc 66:1349-50, 1562-8, 1836-8 S-O, D '40
Rainbow bridge; proposed international bridge at Niagara Falls. il diag plan Can Eng R & B 78:9-11+ F '40
Ralph Modjeski dies; bridge engineer. Eng N 125:2 Jl 4 '40

BRIDGE failures
Bridge foundation failures. R. Borhek. Roads & Sts 83:76+ My '40
Bridge losses from floods. R. J. Borhek. Roads & Sts 82:68+ N '39
Cable break drops bridge into Rio Grande; suspension bridge between Hidalgo, Texas and Reynosa, Mexico. il Eng N 123:672 N 23 '39
California highway department fights floods. F. W. Panhorst. Civil Eng 10:174-5 Mr '40
Examination of welded steel specimens from the Hasselt bridge; abstract. L. Reeve. Metals & Alloys 11:MA324+ Je '40
Floods, bridges, foundations and failures. R. J. Borhek. Roads & Sts 82:66+ N '39
Partly completed bridge in New York city wrecked when derrick falls. il diag Eng N 123:662 N 16 '39
Tacoma Narrows bridge wrecked by wind. N. A. Bowers. il Eng N 125:647, 656-8 N 14 '40

BRIDGE insurance. See Insurance, Bridge

BRIDGE painting
Bridge paint is steam-cleaned; San Francisco-Oakland Bay bridge. il Eng N 125:238-9 Ag 15 '40
Field practice with special reference to Golden Gate bridge. R. G. Cone. il Civil Eng 10:416-17 Jl '40
Paint maintenance problem on Golden Gate bridge. Eng N 123:774-5 D 7 '39
Permanent painting scaffolds for the Golden Gate bridge. R. G. Cone. diags Eng N 124: 582-3 Ap 25 '40

BRIDGE railings
Bridge handrails; good and bad design. il Pub Works 70:17 D '39

BRIDGE traffic
Measuring the potential traffic of a proposed vehicular crossing; estimating revenues from tolls. N. Cherniack. maps Am Soc C E Proc 66:207-45 F '40; Discussion. 66: 1184-6, 1329-36, 1679-87 Je, S, N '40

See also
Electric railroads—Bridge crossing

Radio control

Tune 550, highway radio ahead; transmitter on George Washington bridge, New York, transmits instructions to motorists. il Electronics 13:32 S '40

BRIDGES, Harry R.
Bridges' foes worry; Coast business men don't want to see him deported, because of martyrdom that would result. Business Week p28 Je 22 '40
Bridges invades East; C.I.O.'s first intramural fight looms in wholesale employees' union. Business Week p37-8 Je 29 '40
Bridges looks East; has eye on Atlantic warehouses. Business Week p37-8 Ap 13; 39-41 Ap 20 '40
Bridges loses again. Business Week p47+ O 12 '40
Dean James M. Landis rules that Harry Bridges is not a communist. Comm & Fin Chr 150:47-8 Ja 6 '40
New Bridges; ends long waterfront fight. Business Week p34 N 16 '40
Portrait. Business Week p45 O 26 '40
Same Bridges, but no communist. por Business Week p39-41 Ja 6 '40

BRIDGES
Bridges and buildings, 1939. W. G. Bowman. il Eng N 124:235-7 F 15 '40
Bridges of the Grand River project. V. H. Cochrane. il diags Civil Eng 9:724-6 D '39
Bridging busy electrified tracks. L. T. Smith and L. C. Riggle. il Eng N 125:210-12 Ag 15 '40
Bridging the Mississippi river. J. A. Fox. il map Manuf Rec 109:28-9 F '40
Bridging the Pennsylvania Turnpike. R. F. Graef. il Eng N 125:284-7 Ag 29 '40
Features of Cleveland's Main Avenue bridge; welding, longest span girders, column spread footings, expansion on curves. J. O. McWilliams, W. E. Blaser and F. L. Plummer. il diags plans Roads & Sts 82:25-33 D '39
Maintenance savings on modern bridges pay for replacing old ones; Tarrant county, Texas; with cost data. il Pub Works 71: 20-2 My '40
Major projects of 1939. il Eng N 124:266-8 F 15 '40
Rigid-frame bridges. E. Napier. il diags Can Eng R & B 78:13-15, 66, 90, 92, 94-5 Ap '40
Roads, bridges, and tunnels in 1939. il diags Engineer 169:21-4, supp 4, 30-1 Ja 5-12 '40
Round-table conference; dual-highways; respective merits of single deck, divided deck and twin bridges. Can Eng R & B 78: 40 O '40
St Louis Municipal bridge is ready for use. M. H. Doyne. il map Ry Age 107:923-5 D 16 '39
Selection of bridge structures for economy; Pennsylvania Turnpike. R. F. Graef. il Roads & Sts 83:58-60 Je '40
Toronto's western approach. V. S. Murray. il map Can Eng R & B 78:14-17+ My '40
Unusual features of design and construction mark new bridge over the Mississippi at Baton Rouge, La. carrying a single track and two highways. il diag plan Ry Age 108:1172-8 Je 29 '40
Viaduct shortcuts traffic congestion on New Orleans streets. il Eng N 124:698 My 23 '40
Wahnapitae River bridge. il diag Can Eng 77:4-6 N 28 '39

See also
Bridge design
Culverts
Girders
Highway administration
Highway engineering
Rivers—Covering
San Francisco Bay bridges
Trusses
also subdivision Bridges under names of cities, e.g. London, England—Bridges; New York (city)—Bridges

Abutments

Advantages of box abutments. Eng N 125:38 Jl 4 '40
Practice of state highway departments in the design of abutments. Am Soc C E Proc 66:1053-62 Je '40; Abstract. Can Eng R & B 78:106+ O '40; Discussion. Am Soc C E Proc 66:1349-50, 1562-8, 1836-8 S-O, D '40
Precast concrete slabs face bridge abutments; grade separation bridges on Connecticut's Merritt parkway. L. G. Sumner. il diags Eng N 124:37-9 Ja 4 '40

Architecture

A.I.S.C. awards for artistic steel bridges. il Civil Eng 10:476 Jl '40; Eng N 124:836 Je 20 '40
Building a beautiful bridge; Capital memorial bridge at Frankfort, Ky.; with cost data. E. D. Smith. il diag Eng N 123:837-9 D 21 '39
Federal funds build attractive grade separation structures; three at Columbus, Ohio, on the Chesapeake & Ohio. il plan Ry Age 107:852-4 D 2 '39
Highway structures; must comprise harmonized artistic works including bridges, viaducts and subways. R. Savary. il Can Eng 77:4-6+ N 21 '39

Cost

Bascule bridge, Cheboygan, Mich.; unit prices. Eng N 124:942 Je 27 '40

BRIDGES—Cost—*Continued*

Bascule bridge, Ocean City, Md.; unit prices. Eng N 125:198 Ag 8 '40

Bridge and approaches, Georgia; unit prices. Eng N 123:804 D 14 '39

Bridge approach, Cleveland, Ohio; unit prices. Eng N 124:71 Ja 11 '40

Bridge approach, North Kingston, Rhode Island; unit prices. Eng N 123:782 D 7 '39

Bridge, California; unit prices. Eng N 125: 638 N 7 '40

Bridge, Colorado; unit prices. Eng N 123: 852 D 21 '39

Bridge, Medway, Maine; unit prices. Eng N 124:188 F 1 '40

Bridge substructure, Delaware; unit prices. Eng N 125:445 O 3 '40

Bridges and highway, Alabama; unit prices. Eng N 125:661 N 14 '40

Contract unit bid prices; list of projects showing how contractors bid in 1939-1940. Eng N 124:sup178-89 Je 20 '40

Dredging and bridge construction, Michigan; unit prices. Eng N 124:352 Mr 7 '40

Highway bridge, West Virginia; unit prices. Eng N 124:765 My 30 '40

Passaic River bridge, New Jersey; unit prices. Eng N 124:294 F 22 '40

Piers and abutments, Kettle Falls bridge; unit prices. Eng N 124:610 Ap 25 '40

Piers and abutments Pit River bridge; unit prices. Eng N 124:70 Ja 11 '40

Superstructure, Pit River bridge; unit prices. Eng N 124:400 Mr 14 '40

Underpass and bridge, Detroit, Michigan; unit prices. Eng N 124:421 Mr 21 '40

Erection

All-welded road bridge at Clayhithe. il diags Engineering 149:409-11, 414 Ap 19 '40

Another bridge uses safety net; Dayton Avenue bridge, Los Angeles. il Eng N 124:466 Mr 28 '40

Building a beautiful bridge; Capital memorial bridge at Frankfort, Ky. E. D. Smith. Eng N 123:838-9 D 21 '39

Building the world's largest floating bridge. C. E. Andrew. il diags Civil Eng 10:17-20 Ja '40

Construction of Thomas A. Edison bridge; with cost data. M. Goodkind. il Civil Eng 10:628-31 O '40

Deer Isle-Sedgwick bridge in Maine. il diags Engineer 168:630-2, 640 D 29 '39

Einrichtung von baustellen für grosse beton- und steinbrücken. H. Rietli. V D I 83:1299-1300 D 23 '39

Henley bridge near St Catharines, Ont. il Can Eng R & B 78:22-4+ Mr '40

Horse-and-buggy days of bridge building. H. S. Tullock. il Civil Eng 10:563-6 S '40

Lift span up on schedule for Passaic River bridge. Eng N 125:375 S 19 '40

Lions Gate bridge at Vancouver. il diags Engineer 168:534-7, 544 D 1 '39

Lions Gate bridge, spanning the entrance to Vancouver harbour. W. W. Cushing. il Cornell Eng 5:11-12+ D '39

New Wandsworth bridge, London. il diags Engineering 148:707-9, 720, pl 27 D 29 '39

New Waterloo bridge, London. il Engineering 148:545-6, 556, pl 20 N 17 '39

New York's latest interborough bridge. N. Deutschman. il Eng N 123:708-9 N 23 '39

One-leg bents support steel grid deck; bridge between Stratford and Milford, Conn. W. G. Grove. il diags Eng N 125:330-1 S 12 '40

Port Arthur-Orange bridge, Texas, U.S.A. il diags Engineering 150:121-2, 130, pl 9 Ag 16 '40

Self-anchored I-girder suspension bridge. C. H. Gronquist. il diags Eng N 124:849-51 Je 20 '40

Storstrom and Masnedsund bridges, Denmark. G. A. Maunsell and J. F. Pain. il diags Engineering 149:53-5, 64, pl 4 Ja 19 '40

Three methods for erecting lift bridges. G. B. Sowers. il Eng N 125:166-8 Ag 1 '40

Tied arches to span the Mississippi. il Eng N 124:369-70 Mr 14 '40

200-ton bridge girders; Thomas A. Edison bridge. il Can Eng R & B 78:64 Ap '40

Unusual features of design and construction mark new bridge over the Mississippi at Baton Rouge, La. carrying a single track and two highways. il diag plan Ry Age 108:1175-8 Je 29 '40

Wailuku River bridge, Hawaii. H. A. Ciuli. il diag Civil Eng 10:87-9 F '40

Welded cable saddles for Tacoma Narrows bridge. J. Jones. il diags Eng N 123:773-4 D 7 '39

Welded railway trestle. T. H. Gardner. il Steel 105:55, 58+ D 11 '39

Welded rigid frames, European style; Main Ave. bridge project, Cleveland, Ohio. F. L. Plummer. il diags Eng N 125:91-3 Jl 18 '40

See also

Bridges—Reconstruction

Fires and fire protection

Timber deck fire wrecks bridge in Kansas City. il Eng N 124:562 Ap 25 '40

Flood protection

Bridges given deep roots with steel H-section piles; four structures on the Union Pacific in southern California. il diags Ry Age 109: 178-82 Ag 3 '40

Floods, bridges, foundations and failures. R. J. Borhek. Roads & Sts 82:66+ N '39

Highway work and stream bank control experience; Texas co., Oklahoma. H. C. Williams. Pub Works 71:57-8 Ap '40

Floors

Composite steel and reinforced concrete construction for highway bridges. C. P. Cueni. il diags Roads & Sts 82:48-9 D '39

Design features of Thomas A. Edison bridge over Raritan river. M. Goodkind. il maps Civil Eng 10:491-4 Ag '40

Non-rattling wooden bridge floors; abstract. J. C. Akers. Pub Works 71:39 My '40

Redecking an old bridge with treated timber, paved with asphalt; Morrison Street bridge in Portland, Ore. il diags Eng N 124:20-2 Ja 4 '40

Self-anchored I-girder suspension bridge; 20-ft. concrete-filled steel grid deck will carry traffic across the Wabash river south of Terre Haute, Ind. C. H. Gronquist. il diags Eng N 124:849-51 Je 20 '40

Tests of concrete slabs for bridge floors; three series of tests at University of Illinois. Eng N 123:686 N 23 '39

Foundations and piers

Bridge foundation failures. R. Borhek. Roads & Sts 83:76+ My '40

Bridge piers of structural steel piles meet with favor on the C.N.R. il diag Ry Age 108:544-9 Mr 23 '40

Bridges given deep roots with steel H-section piles; four structures on the Union Pacific in southern California. il diags Ry Age 109: 178-82 Ag 3 '40

Bronx-Whitestone suspension bridge. il diags Engineer 168:487-9, 496 N 17 '39

Building a beautiful bridge; Capital memorial bridge at Frankfort, Ky. E. D. Smith. il diag Eng N 123:837-8 D 21 '39

Le calcul de la résistance des piles de ponts à la poussée cinématique d'un courant. A. Brolkos. Génie Civil 116:87-9, 102-4 F 3-10 '40

Canopy type towers, feature of Housatonic River bridge, Conn.; with cost data. W. G. Grove. il diags Roads & Sts 82:49-52 N '39

Construction of Thomas A. Edison bridge; with cost data. M. Goodkind. il Civil Eng 10:628-31 O '40

Deep piers built in stiff tides; Tacoma Narrows suspension bridge. C. F. A. Mann. il diags Sci Am 161:340-1 D '39

Deer Isle-Sedgwick bridge in Maine. il diags Engineer 168:631-2, 640 D 29 '39

Design features of Thomas A. Edison bridge over Raritan river. M. Goodkind. il maps Civil Eng 10:491-4 Ag '40

BRIDGES—Foundations and piers—*Continued*
Difficult construction in Cleveland's Main Avenue bridge piers. il Concrete 48:5 N '40
Floods, bridges, foundations and failures. R. J. Borhek. Roads & Sts 83:66+ N '39
Four-legged caisson sunk for bridge pier at Ludlow Ferry, Md. il Eng N 123:724 N 30 '39
Henley bridge near St Catharines, Ont. il Can Eng R & B 78:22-4+ Mr '40
Holes pre-bored for underpass falsework; four-lane underpass under tracks of B. & O.C.T. railway in Chicago. il Eng N 124: 654-5 My 9 '40
Horse-and-buggy days of bridge building. H. S. Tullock. il Civil Eng 10:563-6 S '40
How dredging and jetting operations sink huge concrete piers; use of Flexicore tubes, Wax Lake Outlet bridge in Louisiana. il diag Concrete 48:3-4 S '40
Lions Gate bridge at Vancouver. il diags Engineer 168:535-7 D 1 '39
Long piles and floating caissons for Potomac River bridge piers. il diags Eng N 124:306-10 F 29 '40
Lowering a 160-ton load. W. H. Mueser. il Eng N 124:151 F 1 '40
Model tests, bridge pier supported on long steel piles. T. F. Comber, jr. and J. M. Coan, jr. il diags Am Soc C E Proc 66: 1033-52 Je '40
New pier design for deep overburden; Missouri River bridge at Brownville, Neb. E. E. Howard. il diags Eng N 123:687-8 N 23 '39
New York's latest interborough bridge; acid soil required special foundation design and alkalizing procedure. N. Deutschman. il diags Eng N 123:706-8 N 23 '39
Plywood form panels re-used 14 times in deep bridge piers. il Eng N 124:379 Mr 14 '40
Port Arthur-Orange bridge, Texas, U.S.A. il diags map Engineering 150:1-4, 64-6, pl 1. 6 Jl 5, 26 '40
Quelques innovations dans le domaine des travaux publics; méthodes pour fondations en série; la construction du pont sur le Petit Belt; la construction du pont sur le Storström. R. Christiani. il diags map Soc Ing Civils Mémoires 92:450-66 Jl-D '39
Reconstruction of the Katugastota bridge, Ceylon. S. Mahadeva. il diags Engineering 149:269-72, pl 14 Mr 15 '40
Round-table conference; unequal settlement in continuous bridge structures. Can Eng R & B 78:31 Ap '40
Settlement studies of Huey P. Long bridge. W. P. Kimball. bibliog diags Civil Eng 10: 145-8 Mr '40; Discussion. K. Terzaghi. 10:311 My '40
Simple truss bridge lengthened into long cantilever; Missouri Pacific railroad bridge at Krotz Springs, La. H. J. Engel. il diags Eng N 125:23-4 Jl 4 '40
Six-lane highway bridge over the Welland river. A. Sedgwick. il diags Can Eng R & B 78:18-19+ S '40
Steel pile bridge piers on Canadian national railways. il diags Engineer 170:20-3 Jl 12 '40
Steel pile piers for railroad bridges; Canadian national railways. il Eng N 123: 826-7 D 21 '39
Storstrom and Masnedsund bridges, Denmark. G. A. Maunsell and J. F. Pain. il Engineering 149:4-6, 12, pl 1 Ja 5 '40
Substructure for long bridge built in fast time; Jamestown bridge over Narragasett bay. il diag Eng N 124:181-3 F 1 '40
Tacoma Narrows bridge. C. H. Eldridge. il Civil Eng 10:299-301 My '40
Tremie concreting scheme simplifies foundation job; bridge-pier foundation given protective concrete armor. W. F. Way. diags Eng N 124:19-20 Ja 4 '40
Unusual equipment speeds caissons and piers; Raritan River bridge at Perth Amboy, N.J. il diags Eng N 125:30-3 Jl 4 '40
Unusual features of design and construction mark new bridge over the Mississippi at Baton Rouge, La. carrying a single track and two highways. il diag Ry Age 108: 1174-5 Je 29 '40
Unusual problems attend Narrows bridge construction. J. Bashford. il map Comp Air M 44:6033-5 D '39
Wahnapitae River bridge. il diag Can Eng 77:4-5 N 28 '39

See also
Cofferdams

Lighting

Building a beautiful bridge; Capital memorial bridge at Frankfort, Ky. E. D. Smith. Eng N 123:839 D 21 '39
World's longest floating bridge to be sodium-lighted. Can Eng 77:15 D 19 '39; Same abr. Illum Eng 35:9 Ja '40

Load

Highway bridges under wartime loads. G. S. Paxson. il Eng N 124:98-100 Ja 18 '40
Post the old bridges; uniform vehicle codes and uniform existing bridge load-rating standards needed. Roads & Sts 83:56, 58+ My '40
Reverse cantilever frame. P. W. Leisner. il diags W Soc E J 44:260-71 O '39

See also
Bridges, Railroad—Load

Maintenance and repair

Bridge recabled after 12 years' service; Ohio River highway bridge at Portsmouth. il diags Eng N 124:593-7 Ap 25 '40
County bridge maintenance; Kent county, Michigan, employs arc welding. L. W. Brunson. il Roads & Sts 83:62, 64, 66+ Ag '40
Organization and procedure for maintaining six hundred bridges; Douglas county, Oregon. F. C. Frear. il Pub Works 71:36-7 O '40

See also
Bridges—Reconstruction
Bridges, Concrete—Maintenance and repair
Bridges, Railroad—Maintenance and repair

Model testing

Centrifuge for testing mines and bridges in new Columbia school of engineering research. W. Davis. Science 90:sup8 N 17 '39
Dynamic model of Tacoma Narrows bridge. F. B. Farquharson. il diags Civil Eng 10: 445-7 Jl '40
Model tests, bridge pier supported on long steel piles. T. F. Comber, jr. and J. M. Coan, jr. il diags Am Soc C E Proc 66: 1033-52 Je '40
Reverse cantilever frame. P. W. Leisner. il diags W Soc E J 44:268-71 O '39

Painting

See Bridge painting

Protection

Tremie concreting scheme simplifies foundation job; bridge-pier foundation given protective concrete armor. W. F. Way. diags Eng N 124:19-20 Ja 4 '40

Reconstruction

Columbia River bridge raised 45 ft. il Eng N 125:464-5 O 10 '40
Kentucky remodels state highway bridges. il plan Concrete 48:5+ O '40
Long bridge raised by unique procedure at Guntersville, Ala. E. Harsch. il diags Eng N 123:757-61 D 7 '39
Methods employed in the rehabilitation of a high concrete viaduct. R. Van Brimmer. il Pub Works 71:16-18 S '40
Raising and widening concrete bridge in Chickamauga reservoir. E. Scroggie. il diag Civil Eng 10:505-7 Ag '40
Reconstruction of the Katugastota bridge, Ceylon. S. Mahadeva. il diags Engineering 149:269-72, pl 14 Mr 15 '40
Reconstruction of the Menai suspension bridge. il Engineering 148:655-7 D 15 '39

BRIDGES—Reconstruction—*Continued*
Reconstruction of the Walpole-Bellows Falls arch bridge. H. E. Langley and E. J. Ducey. il diags Am Soc C E Proc 65:643-68 Ap '39; Discussion. 65:1314, 1445-6; 66:125-30 S-O '39, Ja '40

See also
Bridges, Railroad—Reconstruction

Specifications

Standard specifications for road and bridge construction. 465p Michigan state highway dept, Lansing '40

Stresses

Adjustment of continuous bridge affected by warping; Illinois River bridge at Hennepin and at Lacon. L. T. Wyly, T. I. Fullenwider and R. B. Murphy. il diags Eng N 125:280-2 Ag 29 '40

Earthquake stresses in the San Francisco-Oakland Bay bridge. N. C. Raab and H. C. Wood. diags map Am Soc C E Proc 66: 1447-68 O '40

European developments in the study of impact and fatigue in structures. F. H. Frankland. bibliog Civil Eng 10:208-10 Ap '40

Provision for seismic forces in design of Golden Gate bridge. L. S. Moisseiff. il diags Civil Eng 10:33-5 Ja '40

See also
Bridges—Load

Testing

Adjustment of continuous bridge affected by warping; Illinois River bridge at Hennepin and at Lacon. L. T. Wyly, T. I. Fullenwider and R. B. Murphy. il diags Eng N 125:280-2 Ag 29 '40

Tolls

Measuring the potential traffic of a proposed vehicular crossing; estimating revenues from tolls. N. Cherniack. maps Am Soc C E Proc 66:207-45 F '40; Discussion. 66: 1184-6, 1329-36, 1679-87 Je, S, N '40

Toll structures and toll collection. G. Hartley. il diags Am Soc C E Proc 66:525-30 Mr '40

Widening

Raising and widening concrete bridge in Chickamauga reservoir. E. Scroggie. il diag Civil Eng 10:505-7 Ag '40

Wrecking

Bridge demolition. E. C. Goldie. il Can Eng R & B 78:23+ F '40

Design and erection features mark this bridge job, Jersey City; demolition of old bridge. il Ry Age 109:477-8 O 5 '40

Belgium

Albert canal. il Engineering 148:659-60, 666 D 15 '39

Les ponts métalliques du canal Albert, de Liége à Anvers. il Génie Civil 116:140-1 F 24 '40

Canada

Bridges for 68,000-lb. axle loads. E. J. Napier. il Can Eng R & B 78:17-19+ Ja '40

Ceylon

Reconstruction of the Katugastota bridge. S. Mahadeva. il diags Engineering 149:269-72, pl 14 Mr 15 '40

Denmark

Storstrom and Masnedsund bridges. G. A. Maunsell and J. F. Pain. il diags Engineering 149:4-6, 12, 53-5, 64, pl 1, 4 Ja 5, 19 '40

New South Wales

Noted Australian bridge must be rebuilt; Hawkesbury River bridge of the government railways of New South Wales. Eng N 123: 698 N 23 '39

Ontario

Development of rigid-frame structures in Ontario. V. S. Murray. il Can Eng R & B 78: 20-1+ Jl '40

BRIDGES, Arched

Bridging the Alabama at Selma. il Eng N 124: 756-7 My 30 '40

Farjsund bridge, Finland. il Engineer 168: 589 D 15 '39

Henley bridge near St Catharines, Ont. il Can Eng R & B 78:22-4+ Mr '40

New link in Westchester County parkway system. il Eng N 124:300 F 29 '40

Quelques innovations dans le domaine des travaux publics; ponts à tiges inclinées. R. Christiani. il diag Soc Ing Civils Mémoires 92:440-9 Jl-D '39

Rainbow bridge; proposed international bridge at Niagara Falls. il diag plan Can Eng R & B 78:9-11+ F '40

Remarques sur la résistance des cintres en bois de grande ouverture; l'effondrement de cintre du pont en béton armé sur le fleuve Angerman, en Suède. il Génie Civil 116:283 Ap 27 '40

Repairing a concrete arch viaduct. R. Van Brimmer. il diags Eng N 125:226-8 Ag 15 '40

Tied arches to span the Mississippi. il diags Eng N 124:366-70 Mr 14 '40

Villeneuve-St. Georges bridge, France. il diag Engineer 169:212-13 Mr 1 '40

Wailuku River bridge, Hawaii. H. A. Ciufi. il diag Civil Eng 10:87-9 F '40

BRIDGES, Bascule

Miami bascule span is south Florida's largest. il Eng N 124:133 Ja 25 '40

BRIDGES, Brick

Paving brick best for defense highways, reinforced brick masonry suitable for bridges. Brick & Clay Rec 97:13-14 S '40

BRIDGES, Cantilever

Columbia River bridge raised 45 ft. il Eng N 125:464-5 O 10 '40

Lakefront freeway speeds Cleveland traffic. il map Eng N 124:494-7 Ap 11 '40

New bridge in Brisbane; it's the second largest in Australia. il Eng N 124:296 F 29 '40

New Wandsworth bridge, London. il diags Engineering 148:707-9, 720, pl 27 D 29 '39

Port Arthur-Orange bridge, Texas, U.S.A. il diags map Engineering 150:1-4, 64-6, 121-2, 130, pl 1, 6, 9 Jl 5, 26, Ag 16 '40

Reverse cantilever frame. P. W. Leisner. il diags W Soc E J 44:260-71 O '39

Simple truss bridge lengthened into long cantilever; Missouri Pacific railroad bridge at Krotz Springs, La. H. J. Engel. il diags Eng N 125:22-4 Jl 4 '40

Unusual features of design and construction mark new bridge over the Mississippi at Baton Rouge, La. carrying a single track and two highways. il diag plan Ry Age 108: 1172-8 Je 29 '40

BRIDGES, Concrete

Bridge demolition. E. C. Goldie. il Can Eng R & B 78:23+ F '40

Bridge that floats. C. F. A. Mann. il Sci Am 162:75-7 F '40

Bridging the Alabama at Selma. il Eng N 124:756-7 My 30 '40

Design and erection features mark this bridge job, Jersey City; asbestos cement for concrete forms. il diags Ry Age 109:475-8 O 5 '40

Difficult construction in Cleveland's Main Avenue bridge piers. il Concrete 48:5 N '40

Einrichtung von baustellen für grosse beton- und steinbrücken. H. Rietli. V D I 83:1299-1300 D 23 '39

Farjsund bridge, Finland. il Engineer 168: 589 D 15 '39

Henley bridge near St Catharines, Ont. il Can Eng R & B 78:22-4+ Mr '40

Hollow-ribbed bridge of rigid frame type has unusual features; Elkhart, Indiana. il diags Concrete 48:3-4+ Ja '40

Investigation of rigid frame bridges; tests of structural hinges of reinforced concrete. R. W. Kluge. il diags Ill Eng Exp Sta Bul 322:1-33 '40 (pa 40c); Excerpts. Can Eng R & B 78:49, 58 Ag '40

Kentucky remodels state highway bridges. il plan Concrete 48:5+ O '40

BRIDGES, Concrete—*Continued*
Lake Washington floating bridge; anchoring and assembling the concrete pontoons. C. E. Andrew. il diags Roads & Sts 83:33-6 F '40
Lake Washington pontoon bridge. C. E. Andrew. il diags map Civil Eng 9:703-6; 10:17-20 D '39-Ja '40
Louisiana tries low heat cement for piers and roadway slab of the Baton Rouge bridge. H. L. Lehman and E. L. Erickson. il Eng N 125:353-4 S 12 '40
Methods employed in the rehabilitation of a high concrete viaduct. R. Van Brimmer. il Pub Works 71:16-18 S '40
Moorings for Lake Washington bridge. il diags Eng N 125:82-5 Jl 18 '40
New Waterloo bridge, London. il Engineering 148:545-6, 556, pl 20 N 17 '39
Pre-stressed 108-ft. girders in German bridge. G. N. Brekke. il diag Eng N 124:452 Mr 28 '40
Quelques innovations dans le domaine des travaux publics; ponts à tiges inclinées. R. Christiani. il diag Soc Ing Civils Mémoires 92:440-9 Jl-O '39
Raising and widening concrete bridge in Chickamauga reservoir. E. Scroggie. il diag Civil Eng 10:505-7 Ag '40
Seattle's floating bridge. H. W. Young. il Comp Air M 45:6072-8 F '40
Seattle's long reinforced concrete pontoon bridge opened to traffic. il Concrete 48:8 O '40
Special features reduced cost of this highway subway; three-span structure on Canadian National; Coaticook, Que. il diags Ry Age 108:814-16 My 11 '40
Villeneuve-St. Georges bridge, France. il diag Engineer 169:212-13 Mr 1 '40
Wailuku River bridge, Hawaii. H. A. Ciufi. il diag Civil Eng 10:87-9 F '40
Watertight concrete pontoons for Lake Washington bridge at Seattle. il Eng N 124:162-3 F 1 '40

Cost

Bridge and approaches, Connecticut; unit prices. Eng N 125:48 Jl 4 '40

Maintenance and repair

Concrete repair and restoration work on Akron's big viaduct; with cost data. il Concrete 48:5 Ja '40
Repairing a concrete arch viaduct. R. Van Brimmer. il diags Eng N 125:226-8 Ag 15 '40

BRIDGES, Floating. See Bridges, Pontoon

BRIDGES, Industrial
Inter-plant handling; new 5-way bridge, Mansfield, Ohio, plant of Westinghouse electric & mfg. co. C. L. Van Derau. il Steel 107:48+ Jl 1 '40

BRIDGES, Iron and steel
A.I.S.C. awards for artistic steel bridges. il Civil Eng 10:476 Jl '40; Eng N 124:836 Je 20 '40
All-welded road bridge at Clayhithe. il diags Engineering 149:409-11, 414 Ap 19 '40
Auto-route de l'ouest. il Engineer 169:276-7 Mr 22 '40
Brief review of steel column tests. L. T. Wyly. bibliog il diags W Soc E J 45:99-113; Discussion. 113-16 Je '40
Building a beautiful bridge; Capital memorial bridge at Frankfort, Ky.; with cost data. E. D. Smith. il diag Eng N 123:837-9 D 21 '39
Construction of Thomas A. Edison bridge; with cost data. M. Goodkind. il Civil Eng 10:628-31 O '40
Design features of Thomas A. Edison bridge over Raritan river. M. Goodkind. il maps Civil Eng 10:491-4 Ag '40
European developments in the study of impact and fatigue in structures. F. H. Frankland. bibliog Civil Eng 10:208-10 Ap '40
Hainault bridge; all-welded construction for the London passenger transport board. il Electrician 124:412 Je 7 '40
One-leg bents support steel grid deck; bridge between Stratford and Milford, Conn. W. G. Grove. il diags Eng N 125:328-31 S 12 '40
Les ponts métalliques du canal Albert, de Liége à Anvers. il Génie Civil 116:140-1 F 24 '40
Tied arches to span the Mississippi. il diags Eng N 124:366-70 Mr 14 '40
Viaduct approach to Lincoln tunnel. C. W. Dunham. il diags plan Eng N 124:311-14 F 29 '40

See also
Bridges, Railroad

Wrecking

Note sur les accidents de saturnisme dus à l'inhalation des fumées résultant du découpage d'un pont métallique. G. Batta, J. Firket and E. Leclerc. Chimie & Ind 43:637-8 Ap 20 '40

BRIDGES, Lift
Lift span up on schedule for Passaic River bridge. Eng N 125:375 S 19 '40
Three methods for erecting lift bridges. G. B. Sowers. il Eng N 125:166-8 Ag 1 '40
West Third Street vertical-lift bridge in Cleveland, Ohio. W. P. Brown. il Civil Eng 10:429-32 Jl '40

BRIDGES, Movable
Bridge that floats. C. F. A. Mann. il Sci Am 162:75-7 F '40
Lake Washington pontoon bridge. C. E. Andrew. il diags map Civil Eng 9:703-6; 10:17-20 D '39-Ja '40

See also
Bridges, Bascule
Bridges, Lift

BRIDGES, Pontoon
Bridge out, pontoons to the rescue; temporary structure replaces fallen bridge, Hidalgo, Texas. il Eng N 124:132 Ja 25 '40
Bridge that floats. C. F. A. Mann. il Sci Am 162:75-7 F '40
Lake Washington floating bridge; anchoring and assembling the concrete pontoons. C. E. Andrew. il diags Roads & Sts 83:33-6 F '40
Lake Washington four-lane floating bridge, 6561 feet long, takes over 8000 tons of steel. il Steel 105:29 N 27 '39
Lake Washington pontoon bridge. C. E. Andrew. il diags map Civil Eng 9:703-6; 10:17-20 D '39-Ja '40
Moorings for Lake Washington bridge. il diags Eng N 125:82-5 Jl 18 '40
Seattle's floating bridge. H. W. Young. il Comp Air M 45:6072-8 F '40
Seattle's long reinforced concrete pontoon bridge opened to traffic. il Concrete 48:8 O '40
Vermont builds a floating timber bridge at Brookfield. il Pub Works 71:41-2 Ap '40
Watertight concrete pontoons for Lake Washington bridge at Seattle. il Eng N 124:162-3 F 1 '40

BRIDGES, Railroad
Bridge piers of structural steel piles meet with favor on the C.N.R. il diag Ry Age 108:544-9 Mr 23 '40
Bridges for 68,000-lb. axle loads. E. J. Napier. il Can Eng R & B 78:17-19+ Ja '40
Can one preframe treated timber for bridges? G. H. Trout. Ry Age 108:242-3 F 3 '40
Cutting culvert cost under high fills; Moffat railway. il diag Eng N 125:632-3 N 7 '40
Federal funds build attractive grade separation structures; three at Columbus, Ohio, on the Chesapeake & Ohio. il plan Ry Age 107:852-4 D 2 '39
Hainault bridge; all-welded construction for the London passenger transport board. il Electrician 124:412 Je 7 '40
Noted Australian bridge must be rebuilt; Hawkesbury River bridge of the government railways of New South Wales. Eng N 123:698 N 23 '39
Pre-cast 135-ton concrete slabs on C.N.R. subway. C. P. Disney. il diags Can Eng R & B 78:13-15, 56 S '40

BRIDGES, Railroad—*Continued*
Rock Island completes its Samson of the Cimarron; eight-mile cut-off, involving three-tier fills and a 1269-ft. river bridge. il diags map Ry Age 108:202-7+ Ja 27 '40
St Louis Municipal bridge is ready for use. M. H. Doyne. il map Ry Age 107:923-5 D 16 '39
St Louis signals Municipal bridge. il maps Ry Age 108:325-8 F 17 '40
Special features reduced cost of this highway subway; three-span structure on Canadian National; Coaticook, Que. il diags Ry Age 108:814-16 My 11 '40
Steel pile bridge piers on Canadian national railways. il diags Engineer 170:20-3 Jl 12 '40
Steel pile piers for railroad bridges; Canadian national railways. il Eng N 123: 826-7 D 21 '39
30-mile line diversion on the Southern Pacific in upper Sacramento River valley requires 12 tunnels, 8 bridges and extensive grading. il Ry Age 108:1111-12 Je 22 '40
Unusual features of design and construction mark new bridge over the Mississippi at Baton Rouge, La. carrying a single track and two highways. il diag plan Ry Age 108: 1172-8 Je 29 '40
Welded railway trestle. T. H. Gardner. il Steel 105:55, 58+ D 11 '39
Wood bridges and trestles; A.R.E.A. committee report. Ry Age 108:520 Mr 16 '40

See also
Railroads—Track elevation

Load

European developments in the study of impact and fatigue in structures. F. H. Frankland. bibliog Civil Eng 10:208-10 Ap '40

Maintenance and repair

Co-operating with the P. & S. dept. in protecting B. & B. requirements; abstract. H. R. Duncan. Ry Age 109:637-8 N 2 '40
Repair and renewal of ballasted-deck bridges; American railway bridge and building association committee report. Ry Age 109:638 N 2 '40

Reconstruction

Bridges given deep roots with steel H-section piles; four structures on the Union Pacific in southern California. il diags Ry Age 109: 178-82 Ag 3 '40
Simple truss bridge lengthened into long cantilever; Missouri Pacific railroad bridge at Krotz Springs, La. H. J. Engel. il diags Eng N 125:22-4 Jl 4 '40

Testing

Do higher speeds increase stresses in bridges? Santa Fe experiments. R. A. Van Ness. il Ry Age 108:364-7 F 24 '40

BRIDGES, Steel. See Bridges, Iron and steel

BRIDGES, Stone
Einrichtung von baustellen für grosse beton- und steinbrücken. H. Rietli. V D I 83:1299-1300 D 23 '39

BRIDGES, Suspension
Bridge recabled after 12 years' service; Ohio River highway bridge at Portsmouth. il diags Eng N 124:593-7 Ap 25 '40
Bronx-Whitestone suspension bridge. il diags Engineer 168:462-3, 472, 487-9, 496 N 10-17 '39
Deep piers built in stiff tides; Tacoma Narrows suspension bridge. C. F. A. Mann. il diags Sci Am 161:340-1 D '39
Deer Isle-Sedgwick bridge in Maine. il diags Engineer 168:630-2, 640 D 29 '39
Dynamic model of Tacoma Narrows bridge. F. B. Farquharson. il diags Civil Eng 10: 445-7 Jl '40
Economic analysis of short-span suspension bridges for modern highway loadings. C. B. McCullough, G. S. Paxson and D. R. Smith. 95p Oregon state highway dept, Salem '38
Lions Gate bridge at Vancouver. il diags Engineer 168:534-7, 544 D 1 '39
Lions Gate bridge, spanning the entrance to Vancouver harbour. W. W. Cushing. il Cornell Eng 5:11-12+ D '39
Le pont suspendu de Bronx-Whitestone sur l'East river, à New-York. il diags Génie Civil 115:445-8 D 23 '39
Reconstruction of the Menai suspension bridge. il Engineering 148:655-7 D 15 '39
Self-anchored I-girder suspension bridge; 20-ft. concrete-filled steel grid deck will carry traffic across the Wabash river south of Terre Haute, Ind. C. H. Gronquist. il diags Eng N 124:849-51 Je 20 '40
Tacoma Narrows bridge. C. H. Eldridge. il diags map Civil Eng 10:299-302 My '40
Tacoma Narrows bridge wrecked by wind. N. A. Bowers. il Eng N 125:647, 656-8 N 14 '40
Unusual problems attend Narrows bridge construction. J. Bashford. il map Comp Air M 44:6033-5 D '39
Welded cable saddles for Tacoma Narrows bridge. J. Jones. il diags Eng N 123:773-4 D 7 '39

Anchorages

Bronx-Whitestone suspension bridge. il diags Engineer 168:487, 496 N 17 '39
Tacoma Narrows bridge. C. H. Eldridge. il diags Civil Eng 10:299-302 My '40

BRIDGES, Temporary
Bridge out, pontoons to the rescue; temporary structure replaces fallen bridge, Hidalgo, Texas. il Eng N 124:132 Ja 25 '40

BRIDGES, Wooden
Can one preframe treated timber for bridges? G. H. Trout. Ry Age 108:242-3 F 3 '40
Vermont builds a floating timber bridge at Brookfield. il Pub Works 71:41-2 Ap '40
WPA bridge and culvert construction projects in a Nebraska county. R. S. Clark. il diags plans Pub Works 71:10-13 Ag '40

BRIGGS manufacturing company
Statistics of income, capital, stock earnings, etc. 1929-39. Annalist 55:896 Je 27 '40

BRIGHTNESS
Contrast as an aid to lighting. il Electrician 124:349 My 10 '40
Evaluation of street lighting. K. M. Reid and H. J. Chanon. fold chart il Illum Eng Soc Trans 34:1209-31 bibliog(p1230-1); Discussion. 1231-2 D '39
Investigation of methods for testing diffusing materials, with particular reference to their use in the reduction and redistribution of the brightnesses of tubular sources. il Illum Eng 35:708-13 S '40
Specification points of brightness. H. L. Logan. il diags Illum Eng Soc Trans 34: 881-906 S '39; Discussion. Illum Eng 35: 244-7 Mr '40

See also
Paper—Brightness

BRIGHTON, England
Utilities pool their A.R.P. emergency services; gas, electricity, and water. Gas J (Lond) 228:229-30 N 1 '39

BRINE
Barium in Appalachian salt brines. E. T. Heck. bibliog maps Am Assn Pet Geologists Bul 24:486-93 Mr '40
Brine-recovery system, Eavenson & Levering plant, lowers chemical cost for treating water. C. C. Harrington. il diag Textile World 90:65 Jl '40
Electricity in the manufacture of potash; Searles Lake plant of the American potash and chemical corporation. G. F. Maughmer. il diags Gen Elec R 43:392-8 O '40
Operating brine tanks in parallel. A. A. Fette. diag Power Pl Eng 44:74 Ag '40
Salting of cucumbers; influence of brine salinity on acid formation. I. D. Jones. bibliog Ind & Eng Chem 32:858-61 Je '40
Specific heats of brines. R. S. Jessup. Refrig Eng 40:100-1 Ag '40
Study of brine-disposal systems in Illinois oil fields. S. S. Taylor, W. C. Holliman and C. J. Wilhelm. bibliog flow diags U S Bur Mines Rep of Invest 3534:1-20 '40

BRINE—*Continued*
Treatment and disposal of oil field brines. J. J. Rady. il Oil & Gas J 38:48-9+ Mr 14 '40
Waste problems of a chemical company; Dow chemical company, Midland, Mich. I. F. Harlow. Ind & Eng Chem 31:1346-8 N '39
See also
Salt

Analysis
York brine testing set. il Refrig Eng 40:170-1 S '40

BRIQUETS (fuel)
Fuel briquets in 1939. Gas Age 86:24 Ag 1 '40
Wood coke for western steel. Chem Ind 46: 211 F '40

BRIQUETTING
Portland cement in glass batch briquets. R. L. Shute and A. E. Badger. Glass Ind 21:28 Ja '40
See also
Agglomeration

BRIQUETTING (fuel)
L'extraction, le séchage et l'autoagglomération de la tourbe. C. Berthelot. diags Génie Civil 116:231-4 Ap 6 '40
North Dakota plant carbonizes lignite at mine mouth and briquets resultant char for shipment. R. D. Hall. il Coal Age 45:47-8 Ag '40
Der tellertrockner in braunkohlenbrikettfabriken. E. Heugel. diag V D I 84:193-4 Mr 16 '40

BRISTLES
China exports. For Comm W 1:138 O 19 '40

BRISTOL-MYERS company
Offering attractive income at a large discount. E. A. Barnes. Mag of Wall St 66:300-1+ Je 15 '40
Thumbnail stock appraisal. Mag of Wall St 67:155 N 16 '40

BRITISH-AMERICAN tobacco company
Report of profits, years ended Sept. 30, 1937-39 and 37th annual general meeting, London. Economist 138:28, 120 Ja 6, 20 '40

BRITISH association for the advancement of science
Meeting, Dundee, Aug. 30-Sept. 1. Electrician 123:255-7, 273 S 8-15 '39

BRITISH association of chemists
Annual meeting, 22d, London, Nov. 25. Chem Age (Lond) 41:374 D 2 '39

BRITISH broadcasting corporation
Ariel and all his quality; an impression of the BBC from within. R. S. Lambert. 318p $3.50 Ryerson press '40
Finance during the war. Economist 138:417 Mr 9 '40
Money for broadcasting; wartime record. Economist 137:248 N 18 '39

Libraries
B.B.C. libraries and information bureaux. G. Pocock. Assn of Sp Lib & Inf Bur Proc 1939:62-76

BRITISH chemical and dyestuffs traders' association
Annual general meeting, 17th, London, May 1. Chem Age (Lond) 42:271 My 11 '40

BRITISH COLUMBIA
See also
Geology—British Columbia
Mines and mineral resources—British Columbia
Wages—British Columbia

Economic conditions
British Columbia economics and trade. Can Chem & Process Ind 24:450 S '40

Industries and resources
British Columbia looks ahead. H. G. Nichols. il map Can Min J 61:444-50, 584-9, 662-7, 732-8 Jl, S-N '40

BRITISH COLUMBIA telephone company
Bond offering. Comm & Fin Chr 150:1422-3 Mr 2 '40

BRITISH commercial gas association
Annual meeting, 28th, London, Dec. 13. Gas J (Lond) 228:612-13 D 20 '39

BRITISH electrical and allied manufacturers' association
Annual report, 1939. Elec R (Lond) 126:453 Ap 19 '40; Engineering 149:444 Ap 26 '40

BRITISH electrical development association
Annual meeting and luncheon, London, March 15. Electrician 124:221-2 Mr 22 '40; Elec R (Lond) 126:339-40 Mr 22 '40

BRITISH GUIANA

Economic conditions
British Guiana's possibilities. Economist 138: 856 My 11 '40

BRITISH HONDURAS

Commerce
Economic conditions and commerce, 1938 and 1939. C. E. Gidden. Comm Rep p417+ My 4 '40

BRITISH insulated cables, limited
Ordinary general meeting, 44th, Liverpool. Economist 138:656 Ap 6 '40; Electrician 124:274 Ap 5 '40
Profits, 1937-39. Economist 138:528 Mr 23 '40

BRITISH MALAYA. See Malaya, British

BRITISH oxygen company
Progress and bonus; profits, 1937-39. Economist 138:582 Mr 30 '40

BRITISH standards association
Objects; abstract. P. Good. Elec R (Lond) 126:427-8 Ap 12 '40

BRITISH WEST INDIES. See West Indies, British

BRITTON, Elizabeth Gertrude Knight
Bronze plaque unveiled at the New York botanical garden. Science 91:444 My 10 '40

BRITTON, Mason
Portrait. Ptr Ink 190:74 F 18 '40
Silver medal award. por Adv & Sell 33:39 F 15 '40

BRITTON, Wilton Everett, 1868-1939
Tribute to the late Dr W. E. Britton, state entomologist of Connecticut. R. B. Friend. Science 92:100-1 Ag 2 '40

BROACHES

Repair
Broach repair method; brazing with silver solder; with cost data. il Steel 107:66 S 9 '40; Same cond. Mach 47:143 S '40

BROACHING
Arbor press broaching fixture. E. B. Wilson. diags Mach 46:166-7 Ja '40
Broaching hits the mark; operations on rifle parts. il diags Am Mach 83:994-7, 1032-5 N 29-D 13 '39
Broaching parts for combat cars. il Mach 47:123 S '40
Broaching spark plugs to improve finish. il diags Mach 46:89 My '40
Performing broaching operations in foot and power presses; slots in the arms of candelabra. M. J. Goldstein. il diags Mach 46: 98-9 Ag '40
Precision broaching, stamping and milling; Toledo scale co. D. R. James. il Iron Age 145:40-2 My 16 '40
Square holes in machine table are broached. W. G. Porter. diags Am Mach 84:256 Ap 17 '40

BROACHING machines
American broach & machine co.'s Gearbroacher equipped to produce four hundred starter gears an hour. il Mach 46:122-3 Ag '40; Am Mach 84:734 S 18 '40
Broach with shuttling tables; Oilgear double-slide, pull-down broach. il diags Product Eng 11:202-3 My '40
Broaching machine equipped for producing bourrelet grooves on 81-millimeter shells. il Mach 47:164 O '40
Broaching machines assemble press-fit parts. diags Steel 106:71 Je 10 '40
Broaching of rifle parts. il Iron Age 145:40-1 Mr 28 '40

BROACHING machines—*Continued*
Colonial single ram broaching machine. il (p171) Automotive Ind 83:169-70 Ag 15 '40; Steel 107:60 S 16 '40
New broaching equipment built by American broach & machine co. il Mach 47:157-8 S '40; Automotive Ind 83:208-9 S 1 '40
Oilgear twin horizontal broaching machines. il Mach 46:149 Je '40; Am Mach 84:436 Je 12 '40
Recent developments in broaching automotive parts. il Mach 46:92-4 F '40

BROADCAST music, Incorporated
ASCAP defied; B.M.I. becomes largest of world's music publishers. Business Week p50-2 N 16 '40
ASCAP v. N.A.B.; last inning score. N. Miller; E. C. Mills. Adv & Sell 33:29+ N '40
Broadcasters solid against ASCAP. Business Week p30-1 Ag 17 '40
Ready to operate. Ptr Ink 190:14 F 16 '40

BROADSIDES
Double duty piece for Ruberoid; after selling the dealer, it helps to sell product to retail customer. il Inland Ptr 104:32 Ja '40

BROCCOLI
Half page for broccoli; how two immigrants built big garden business; D'Arrigo brothers. J. Lewis. il Ptr Ink 190:11-14 Ja 5 '40

BROCKWAY, Lawrence Olin, 1907-
American chemical society award in pure chemistry. Ind & Eng Chem News ed 18: 344 Ap 25 '40

BROILERS, Electric. See Electric broilers

BROKERS
Brokerage failure procedure redefined in claim growing out of bankruptcy of McMillan, Rapp & co. of Philadelphia, former dealers in investment securities. Comm & Fin Chr 151:633 Ag 3 '40
Brokerage firm's new services; house equipment and services by Merrill Lynch, E. A. Pierce & Cassatt. Barron's 20:5 S 23 '40
Fees for brokers; New York exchange weighs plan designed to bolster member firms' incomes. Business Week p34 D 23 '39
Governors of New York stock exchange receive report of special committee on brokers' revenue; recommends adoption of mandatory minimum service charges. Comm & Fin Chr 149:3808 D 16 '39
National association of securities dealers explains SEC rules on keeping and preserving records. Comm & Fin Chr 150:200 Ja 13 '40
New firm of Whitehouse, Hudson & co., members of New York stock exchange, opens for business. Comm & Fin Chr 150:51 Ja 6 '40
New York stock exchange adopts schedule of minimum charges on special services for customers. Comm & Fin Chr 150:199-200 Ja 13 '40
Records required; S.E.C. rules that registered dealers must preserve business correspondence. Inv Banking 10:22 Ja '40
Roper survey of customers of New York stock exchange. Comm & Fin Chr 150:1063 F 17 '40
SEC issues opinion regarding status of over-the-counter brokers under Investment advisers act. C. T. Lane. Comm & Fin Chr 151:2579 N 2 '40
SEC studying Bankruptcy law as it affects stock brokers. Comm & Fin Chr 150:215-16 Ja 13 '40
Selling stocks, supermarket style; Merrill Lynch, E. A. Pierce adopts mass volume methods to cut costs. Business Week p42 Je 29 '40

See also
Food brokers
Insurance brokers
Stock exchange

Accounting

Cutting time and cost on stock brokerage audits. J. S. Seidman. J Account 70:238-40 S '40

BROKERS' loans
Brokers' loans at 1932 low. Barron's 20:1 Je 10 '40.
Customers' debit balances, money borrowed, and principal related items of stock exchange firms carrying margin accounts, monthly, March 1938-Nov. 1939. Fed Res Bul 26:38 Ja '40 [cont monthly]
Outstanding brokers' loan on New York stock exchange during December. Comm & Fin Chr 150:44 Ja 6 '40 [cont monthly]

BROMELIN
Meat packer puts fruit enzyme to work; proteolytic enzyme in pineapple juice improves eating qualities of frankfurts and pork sausages. J. M. Ramsbottom and C. A. Rinehart. il Food Ind 12:45-7 Je '40

BROMIDES
F.D.A. defines safe dosage of bromides and acetanilide. Oil Paint & Drug Rep 138:5 Jl 1 '40
Regarded by F.D.A. as most dangerous drugs. Oil Paint & Drug Rep 137:3 Ja 8 '40
Steric inhibition of resonance; rates of reaction of nitro- and cyano-aryl halides. W. C. Spitzer and G. W. Wheland. bibliog Am Chem Soc J 62:2995-3002 N '40

See also
Alkali bromides
Methyl bromide
Potassium bromide
Silver bromide

BROMINATION
Bromination of 2-naphthyl benzoate. S. E. Hazlet. Am Chem Soc J 62:2156-7 Ag '40
α-bromo-α-sulfonylamides. W. M. Ziegler and R. Connor. bibliog Am Chem Soc J 62:1049-53 My '40
Determination of *m*-xylidines and total *o*- and *p*-xylidines. W. Seaman, A. R. Norton and R. W. Mason. bibliog Ind & Eng Chem Anal ed 12:345-8 Je 15 '40
Dibromo-α-oestradiol. R. B. Woodward. Am Chem Soc J 62:1625-6 Je '40
Esters of brominated aminobenzoic acids. M. B. Moore and E. H. Volwiler. bibliog Am Chem Soc J 62:2799-801 O '40
Halogenation of hydrocarbons; substitution of chlorine and bromine into straight-chain olefins. H. P. A. Groll and G. Hearne. bibliog diags Ind & Eng Chem 31:1530-7 D '39
Heat of photobromination of the phenyl methanes and cinnamic acid, and the influence of oxygen. J. L. Magee and F. Daniels. bibliog Am Chem Soc J 62:2825-33 O '40
Oxygen inhibition in the photobromination of cinnamic acid. R. F. Brown and F. Daniels. bibliog Am Chem Soc J 62:2820-5 O '40
Polyalkylbenzenes; nitration of tetra-, penta- and hexa-ethylbenzenes; bromination of the tetraethylbenzenes. L. I. Smith and C. O. Guss. bibliog Am Chem Soc J 62:2635-8 O '40
Properties of benzoylmesitoylmethane. R. P. Barnes, C. I. Pierce and C. C. Cochrane. bibliog Am Chem Soc J 62:1084-7 My '40
Reaction velocities at low temperatures; a convenient low-temperature thermostat; bromination of acetone between —40° and +10°. R. P. Bell and J. K. Thomas. diag Chem Soc J p1573-8 O '39
Rearrangement of the triphenylmethyl ethers of ortho cresol and brominated ortho cresols. H. A. Iddles, W. H. Miller and W. H. Powers. Am Chem Soc J 62:71-3 Ja '40
Side-chain bromination. J. R. Sampey, F. S. Fawcett and B. A. Morehead. Am Chem Soc J 62:1839-40 Jl '40
Side-chain bromination; negative catalytic effects. J. R. Sampey and E. M. Hicks. Am Chem Soc J 62:3252-3 N '40
Studies in the sterol group; the bromination of 7-ketocholesteryl acetate. H. Jackson and E. R. H. Jones. Chem Soc J p659-63 My '40

BROMINE
Action of bromine on certain thioamides. D. E. Worrall and A. W. Phillips. Am Chem Soc J 62:424-5 F '40
Activation of aromatic halogen by ortho ammonium salt groups. W. S. Emerson, F. B. Dorf and A. J. Deutschman, jr. bibliog Am Chem Soc J 62:2159-60 Ag '40

BROMINE—*Continued*
Bromine-bromine distance in the dibromides of *cis-* and *trans*-stilbene. J. D. McCullough. bibliog Am Chem Soc J 62:480-2 Mr '40
Chemical activation by isomeric radioactive transition; the reaction of Br^{80} (18 min. half-life) with carbon tetrachloride. J. E. Willard. diag Am Chem Soc J 62:256-61 F '40
Concentration of radioactive bromine produced by gamma-radiation. W. H. Barkas and others. Phys R 58:577 S 15 '40
Decay of the 4.5-hour Br^{80} isomer. D. DeVault and W. F. Libby. bibliog Phys R 58: 688-92 O 15 '40
Differences observed in the behavior of unsaturated hydantoins under the action of bromine. M. J. McLean and D. R. Seeger. bibliog Am Chem Soc J 62:1416-19 Je '40
Electron scattering in bromine gas. C. H. Shaw and T. M. Snyder. bibliog Phys R 58: 600-2 O 1 '40
Extragranular factors in photographic sensitivity. S. E. Sheppard and C. L. Graham. bibliog il diags Franklin Inst J 230:619-41 N '40
Fine structure of the X-ray absorption limits of bromide and chlorine. T. M. Snyder and C. H. Shaw. bibliog Phys R 57:881-6 My 15 '40
Hydrolysis of bromine; the hydration of the halogens; the mechanism of certain halogen reactions. H. A. Liebhafsky. Am Chem Soc J 61:3513-19 D '39
K-absorption edges of Br (35) and Kr (36). C. H. Shaw. Phys R 57:877-81 My 15 '40
Mechanism of chemical reactions accompanying the isomeric radioactive transition of Br^{80}. J. E. Willard. bibliog Am Chem Soc J 62:3161-5 N '40
New reaction of formic acid. T. L. Davis and W. P. Green, jr. bibliog Am Chem Soc J 62:1274-6 My '40
Photoreactions sensitized by the halogens. J. W. T. Spinks. Chem R 26:135-8 F '40
Radioactivity produced by proton bombardment of bromine and iodine. E. C. Creutz and others. il diag Phys R 58:481-6 S 15 '40
Reaction of bromine with anthracene in dioxane. C. C. Price and C. Weaver. Am Chem Soc J 61:3360-1 D '39
Reaction of bromine with furfural and related compounds. E. E. Hughes and S. F. Acree. bibliog J Research Nat Bur Stand 24:175-80 F '40
Structure of the lower excited levels of the Br^{80} nucleus. A. P. Grinberg and L. I. Roussinow. Phys R 58:181 Jl 15 '40
Thermal and photochemical exchange reactions of bromine. J. N. Wilson and R. G. Dickinson. Am Chem Soc J 61:3519-20 D '39

Analysis

Micro-determination of bromine in foodstuffs. W. P. Ford and others. bibliog Soc Chem Ind J 59:177-80 Ag '40

Manufacture

Bromine from sea water; Ethyl-Dow chemical co.; flow sheets. il Chem & Met Eng 46: 771-4 D '39
Bromine recovery improved in Germany. Oil Paint & Drug Rep 136:3+ N 27 '39
Sea water, but pay dirt for Dow; wide variety of strategic minerals from the ocean. Business Week p20, 22-3 S 21 '40
Searles Lake latest source of bromine. il map Chem Ind 46:156-7 F '40; Excerpt. Sci Am 162:356 Je '40

BROMINE compounds
Acetylation of alpha-bromo ketones and their derivatives. R. P. Barnes and V. J. Tulane. Am Chem Soc J 62:894-6 Ap '40
Dibenzofuran; the reaction of bromo-ethers with *n*-butyllithium. H. Gilman, J. Swislowsky and G. E. Brown. bibliog Am Chem Soc J 62:348-50 F '40
Ketene acetals; the preparation of ketene acetals from α-bromo-orthoesters. P. M. Walters and S. M. McElvain. bibliog Am Chem Soc J 62:1482-4 Je '40
Reaction of organic halides with piperidine; negatively substituted ethyl bromides. E. L. Foreman and S. M. McElvain. bibliog Am Chem Soc J 62:1435-8 Je '40
Reaction of organic halides with piperidine; some branched chain β-bromo-esters. E. L. Foreman and S. M. McElvain. bibliog Am Chem Soc J 62:1438-41 Je '40
Thermal and photochemical exchange reactions of bromine. J. N. Wilson and R. G. Dickinson. Am Chem Soc J 61:3519-20 D '39

See also
Bromides
Bromination

BROMINE number
Determination of unsaturation in aliphatic hydrocarbon mixtures by bromine absorption. J. B. Lewis and R. B. Bradstreet. Ind & Eng Chem Anal ed 12:387-90 Jl 15 '40

BROMINE oxides
Reactions of high energy atoms produced by slow neutron capture. W. F. Libby. Am Chem Soc J 62:1939-40 Ag '40

BROMOACETOPROPANOL
Derivatives of γ-acetopropyl alcohol. J. R. Stevens and G. A. Stein. bibliog Am Chem Soc J 62:1045-8 My '40

BROMOANILIDES
Melting points of the *p*-bromoanilides of solid fatty acids. D. F. Houston. bibliog Am Chem Soc J 62:1303-4 My '40

BROMOBENZALPYRUVIC acid
Addition reactions of unsaturated *alpha*-ketonic acids. M. Reimer and E. Tobin. bibliog diags Am Chem Soc J 62:2515-20 S '40

BROMOBENZENE
Electric moments of some substituted benzoic acids. C. S. Brooks and M. E. Hobbs. bibliog Am Chem Soc J 62:2851-4 O '40
Partial pressure of hydrogen chloride from its solutions in the mono-halobenzenes at 25°. S. J. O'Brien and J. B. Byrne. bibliog Am Chem Soc J 62:2063-5 Ag '40

BROMOBENZOHYDRYLAMINE
Optical rotatory powers of some 4-substituted benzhydrylamines. G. R. Clemo, C. Gardner and R. Raper. Chem Soc J p1958-60 D '39

BROMOBENZOIC acid
Electric moments of some substituted benzoic acids. C. S. Brooks and M. E. Hobbs. bibliog Am Chem Soc J 62:2851-4 O '40

BROMOCHOLESTANONE
Collidine treatment of 2-bromocholestanone. R. P. Jacobsen. Am Chem Soc J 62:1620-1 Je '40

BROMODIBENZOFURAN
Dibenzofuran; the two-stage metalation of 2-bromodibenzofuran. H. Gilman, W. Langham and H. B. Willis. bibliog Am Chem Soc J 62:346-8 F '40

BROMODIMETHYLANILINE
Halogen-metal interconversion with *m-* and *p*-bromodimethylanilines. H. Gilman and I. Banner. bibliog Am Chem Soc J 62:344-5 F '40

BROMODIPHENYL
Oxidation of certain heteronuclear-substituted polybromodiphenyls. F. H. Case. bibliog Am Chem Soc J 61:3487-90 D '39

BROMOFORM
Hydrogen bonds involving the C-H link; effect of structure on bonding of donor and acceptor molecules. C. S. Marvel, M. J. Copley and E. Ginsberg. bibliog Am Chem Soc J 62:3109-12 N '40

BROMOHYDRIN
Reduction of α-bromo-ketones by aluminum isopropylate; with a note on the isomeric amino-alcohols of the ephedrine series. P. G. Stevens, O. C. W. Allenby and A. S. DuBois. bibliog Am Chem Soc J 62:1424-8 Je '40

BROMOIODOPROPANE
Peroxide effect in the addition of reagents to unsaturated compounds; the addition of hydrogen iodide to propene, 1-bromopropene, allyl chloride, and allyl bromide. M. S. Kharasch, J. A. Norton and F. R. Mayo. bibliog Am Chem Soc J 62:81-6 Ja '40

BROMOISOBUTYROPHENONE
Reduction of α-bromo ketones by aluminum isopropylate. P. G. Stevens and O. C. W. Allenby. Am Chem Soc J 62:3264-5 N '40
Reduction of α-bromo-ketones by aluminum isopropylate; with a note on the isomeric amino-alcohols of the ephedrine series. P. G. Stevens, O. C. W. Allenby and A. S. DuBois. bibliog Am Chem Soc J 62:1424-8 Je '40

BROMOISOQUINOLINE
Preparation and properties of some 4-substituted isoquinolines. F. W. Bergstrom and J. H. Rodda. bibliog Am Chem Soc J 62: 3030-2 N '40

BROMOMALONATE
Mechanism of substitution at a saturated carbon atom; polar effect of the carboxylate ion group as illustrated by the hydrolysis of the bromomalonate and α-bromomethylmalonate ions. E. D. Hughes and N. A. Taher. Chem Soc J p956-60 Jl '40

BROMOMESIDINE
Restricted rotation in arylamines; preparation and resolution of N-succinyl-N-methylbromomesidine. R. Adams and L. J. Dankert. Am Chem Soc J 62:2191-3 Ag '40

BROMOMETHOXYDIBENZOFURAN
Dibenzofuran; the reaction of bromo-ethers with *n*-butyllithium. H. Gilman, J. Swislowsky and G. E. Brown; bibliog Am Chem Soc J 62:348-50 F '40

BROMOMETHYLBUTANONE
alpha-Bromo secondary alkyl ketones; reaction of 3-bromo-3-methyl-2-butanone with methylmagnesium iodide. R. B. Greenburg and J. G. Aston. Am Chem Soc J 62:3135 N '40
alpha-Bromo secondary alkyl ketones; reaction with sodium alcoholates; a new synthesis of tertiary acids by rearrangement. J. G. Aston and R. B. Greenburg. bibliog Am Chem Soc J 62:2590-5 O '40

BROMOMETHYLFURAN
Mono- and di-α-furfuryl glycines. J. E. Zanetti and J. T. Bashour. Am Chem Soc J 62:1511-12 Je '40

BROMOMETHYLMALONATE
Mechanism of substitution at a saturated carbon atom; polar effect of the carboxylate ion group as illustrated by the hydrolysis of the bromomalonate and α-bromomethylmalonate ions. E. D. Hughes and N. A. Taher. Chem Soc J p956-60 Jl '40

BROMONAPHTHALENE
Some factors affecting halogen-metal interconversions. H. Gilman and F. W. Moore. Am Chem Soc J 62:1843-6 Jl '40

BROMOPENTAMETHYLBENZENE
Polymethylbenzenes; the nitration of bromopentamethylbenzene. L. I. Smith and J. W. Horner, jr. Am Chem Soc J 62:1349-54 Je '40

BROMOPHENOL
Preparation of *m*-halogenophenols. H. H. Hodgson. Am Chem Soc J 62:230 Ja '40

BROMOPROPENE
Peroxide effect in the addition of reagents to unsaturated compounds; the addition of hydrogen iodide to propene, 1-bromopropene, allyl chloride, and allyl bromide. M. S. Kharasch, J. A. Norton and F. R. Mayo. bibliog Am Chem Soc J 62:81-6 Ja '40

BROMOPROPIONITRILE
Optical activity of α-bromopropionitrile. K. L. Berry and J. M. Sturtevant. Am Chem Soc J 61:3583-4 D '39

BROMOPROPIOPHENONE
Reduction of α-bromo-ketones by aluminum isopropylate; with a note on the isomeric amino-alcohols of the ephedrine series. P. G. Stevens, O. C. W. Allenby and A. S. DuBois. bibliog Am Chem Soc J 62:1424-8 Je '40

BROMOSELTZER
Bromo seltzer seizure. Ptr Ink 190:70 Ja 12 '40
Case settled by consent. Oil Paint & Drug Rep 137:3+ Ja 8 '40

BROMOSTYRENE
Structure of vinyl polymers; polystyrene and some of its derivatives. C. S. Marvel and N. S. Moon. Am Chem Soc J 62:45-9 Ja '40

BROMOSULFONAMIDES
Addition of N-haloamides to olefins. M. S. Kharasch and H. M. Priestley. Am Chem Soc J 61:3425-32 D '39

BROMOSULFONES
α-Bromosulfones. W. M. Ziegler and R. Connor. bibliog Am Chem Soc J 62:2596-9 O '40

BROMOSULFONYLAMIDE
α-bromo-α-sulfonylamides. W. M. Ziegler and R. Connor. bibliog Am Chem Soc J 62: 1049-53 My '40

BROMOTETRONYL sulfanilamide
Condensation of sulfanilamide with an enol; N^4-α-bromotetronyl sulfanilamide. W. D. Kumler. Am Chem Soc J 62:2560-1 S '40

BROMOTOLUENE
Vapor pressures of some organic compounds. J. M. Stuckey and J. H. Saylor. bibliog diag Am Chem Soc J 62:2922-5 N '40

BROMOTRIPHENYLPYRIDINE
Reaction between a highly-substituted bromopyridine and lithium. C. F. H. Allen and G. F. Frame. Am Chem Soc J 62:1301 My '40

BRONZE
Adhesion of white metal to bronze. K. Ray. il diags Engineer 170:sup[Metallurgist] 131-3 O 25 '40
Bearing metals; suitability in relation to modern requirements. M. Melhuish. Automobile Eng 30:304-5 O '40
Corrosion-resisting properties of bronze condenser tubes; electrode potential-time relationships. J. Chapman and J. W. Cuthbertson. diag Soc Chem Ind J 58:330-4 N '39
Effect of bronze on marble. Franklin Inst J 229:239-40 F '40
General purpose nickel-bronze alloy; comparisons with gun metal, high-tensile brass and phosphor-bronze. A. Dunlop. bibliog Iron Age 146:30-4 Ag 29 '40
High tin bronzes. Iron Age 145:47 F 1 '40
Influence of various lubricants on the seizure characteristics of hard steel and bronze. D. Clayton. il Engineering 149:131-5, 144 F 9 '40
Metal shapes for glass block construction. diag Steel 106:75 Mr 4 '40
Nomenclature and classification of cast copper and copper-base alloys. S. Tour. Am Soc T M Proc 39:271-6 '39
Progress in tin research. Engineering 149: 302-3 Mr 22 '40
Research work on tin. Engineer 169:265 Mr 15 '40
Tools of cast bronze; jigs, fixtures, punches, dies, etc. use of plaster molds; making ornamental lamps. M. Golden. il Am Mach 84:574-6 Ag 7 '40
See also
Aluminum bronze
Silicon bronze

BRONZE *founding*
Avoiding defects in the nonferrous foundry. N. K. B. Patch. Foundry 67:31-2+ D '39; 68:35, 88+ Ja; 29+ F; 33+ Mr; 33+ Ap; 95+ My '40
Ills and cures in the nonferrous foundry. A. Fritschle. il Foundry 68:30-1+ Jl '40
Nonferrous metals absorb gas during melting. N. K. B. Patch. Foundry 68:48+ Je '40
Nonferrous practice problems are studied at American foundrymen's association; abstracts of papers. Foundry 68:95+ Je '40
Problems in nonferrous foundry practice. W. B. George. Foundry 68:49+ O '40

BRONZE welding
Aluminum-bronze welds. W. B. Scott. il Steel 107:56, 58, 60 N 11 '40
Bronze welding repairs condenser. T. B. Jefferson. diags Power 84:525 Ag '40

BRONZE welding—*Continued*
Building up broken gear teeth by bronze-welding. diags Mach 46:128 My '40
Building up valve seats by bronze welding. G. G. Routledge and W. A. Duncan. il Am Water Works Assn J 31:2157-65 D '39
Flaming the fans; fans for portable tools assembled by bronze welding. J. E. Taylor. il diags Am Mach 83:1030-1 D 13 '39
Paper mill piping; bronze-welding for copper piping joints. il Pulp & Pa of Can 41: 723-4 O '40
Welding cuts compressor-repair cost. S. W Hines. il diags Power 84:381-2 Je '40
Welding galvanised iron; application of zinc. H. Seymour. Chem Age (Lond) 42:sup25 Je 1 '40
Welding of cast iron. L. Tibbenham. Iron Age 145:38 Je 27 '40

BROOKFIELD, Vermont
Bridges
Vermont builds a floating timber bridge. il Pub Works 71:41-2 Ap '40

BROOKLINE, Massachusetts
Water supply
Brookline's spheroidal tank. W. B. Bushway. il N E Water Works Assn J 54: 76-84 Mr '40

BROOKLYN, New York
Rapid transit
Economics of vehicle selection; determining the proper types for use on a large system. K. M. Hoover. il Transit J 84:389-90 O '40
Subway
Brooklyn subway extension all under contract. map Eng N 125:383 S 19 '40

BROOKLYN and Queens transit corporation
Ewen committee plan of distribution unfair to bondholders. Comm & Fin Chr 149:4020-1 D 23 '39

BROOKLYN Edison company
Earnings, 1936-39. Comm & Fin Chr 150:1423 Mr 2 '40

BROOKLYN-MANHATTAN transit corporation
Present situation explained by officials. Comm & Fin Chr 150:1593-4 Mr 9 '40
Proposals to be considered at annual meeting. Comm & Fin Chr 151:1272 Ag 31 '40

BROOMS
5000 dozens sold in 8 weeks; molded parts of Tenite for broom; Rich & France. il Mod Plastics 17:49+ Je '40
Plastics competition; award to Rich & France, inc. il Mod Plastics 18:61, 94 O '40

BROUN, Heywood, 1888-1939
Heywood Broun as he seemed to us. J. L. Lewis and others. 48p $1 Random house, 20 E. 57th st, New York '40
Sketch. Comm & Fin Chr 149:3964 D 23 '39

BROUSSONETIA papyrifera. See Paper mulberry

BROWN, Sir Harold Arthur, 1878-
Portrait. Inst Mech Eng J & Proc 142:front Ja '40

BROWN, Lewis Herold, 1894-
Franklin institute awarded the first Vermilye medal to Lewis Herold Brown. por Franklin Inst J 228:771-9 D '39; Ind & Eng Chem News ed 17:707 N 20 '39; Heating-Piping 11:768 D '39

BROWN, William Henry, 1884-1939
Sketch. E. D. Merrill. Science 90:531-2 D 8 '39

BROWN
Brown dyes from the species of geum. C. D. Mell. Textile Col 62:412-13 Je '40
Present importance of fast browns in dyeing and printing. R. Sansone. il Textile Col 62:448-51+, 522-4 Jl-Ag '40
War and blackout curtains. R. Hamilton. Textile Col 62:745-9, 813-16+ N-D '40

BROWN coal. See Lignite

BROWN company (Maine)
Increases sales and profits. Paper Tr J 111:7 Ag 15 '40
Reorganization plan approved. Comm & Fin Chr 151:2487 O 26 '40

BROWN university
Eclipse expedition. Science 92:28-9 Jl 12 '40
Episodes and personalities in the development of biology at Brown. A. D. Mead. Science 91:301-5 Mr 29 '40

BROWNIAN movement
Diffusion, Brownian movement, Loschmidt-Avogadro's number and light. F. Ehrenhaft. bibliog Phys R 57:1050 Je 1 '40
Influence of Brownian movement on the viscosity of solutions. R. Simha. bibliog J Phys Chem 44:25-34 Ja '40

BROWNVILLE, Nebraska
Bridges
New pier design for deep overburden. E. E. Howard. il diags Eng N 123:687-8 N 23 '39

BRUCELLOSIS. See Undulant fever

BRUCINE
Isolation of keturonic acids; isolation of crystalline brucine salts of keturonic acids prepared by oxidation of *l*-xylose, *l*-arabinose and *d*-glucosamine. L. T. Crews, J. P. Hart and M. R. Everett. Am Chem Soc J 62:491-3 Mr '40

BRUCITE
Brucite in Quebec. Can Min J 60:803 D '39
Dolomite and brucite-marble in the Scottish highlands; abstract. W. Q. Kennedy. Chem & Ind 59:558-9 Ag 3 '40
Magnesia from Canadian brucite; possibilities of commercial utilization of deposits. il Can Chem & Process Ind 24:3-5+ Ja '40

BRUSHES
See also
Paint brushes
Manufacture
Cases in work simplification; simultaneous two-hand or alternate left- and right-hand operation in making Rubberset brushes. J. J. Baer. il Factory Management 98:58-9 O '40

BRUSHES (electric machinery)
Brushes and brush setting, direct current motors. F. A. Annett. diag Power 84:96-7 F '40
Carbon brushes for modern transportation equipment. J. C. Aydelott. il Mass Transportation 36:11-14 Ja '40
How to select carbon brushes to withstand shocks encountered in coal-mine locomotive service. C. W. Lange. il Coal Age 45: 53-4 N '40
Jig to fit brushes to commutators and slip rings. E. G. Key and M. M. Jennings. Power Pl Eng 44:80 Jl '40
Testing
Induction-motor brushes; testing under load conditions. G. H. Rawcliffe. il diag Elec R (Lond) 125:613-14 N 10 '39

BRUSHES, Industrial
Plastics competition; award to M. W. Jenkins sons, inc. il Mod Plastics 18:69, 96 O '40
See also
Paint brushes

BRUSSELS, Belgium
Railroads
North-south junction railway. il diags maps Engineering 150:10, 13-15, 21-3, 70, 74-5, pl 3 Jl 5-12, 26 '40
Rapid transit
Les véhicules de transports en commun de l'agglomération bruxelloise. il Génie Civil 115:374-5 N 18 '39

BRYANT, Lane, Inc. See Lane Bryant, Inc.

BUCHAN, John, 1875-1940
Sketch. Comm & Fin Chr 150:1080 F 17 '40

BUCHANANIA latifolia
Dyes and tans from Buchanania latifolia. C. D. Mell. Textile Col 62:201 Mr '40

BUCHMAN, Louis, 1887-
Sketch. por Explosives Eng 18:4-5 Ja '40

BUCK, Glen, 1876-
Copy's giants. L. R. Alwood. Ptr Ink 193: 19-21 N 8 '40

BUCKETS
Blaw-Knox bucket designed especially for open hearth service. il Blast F & Steel Pl 28:1006-7 O '40

BUCKNER, Walker, 1871-1939
Sketch. por East Underw 40:8 N 17 '39; Ins Field (Life ed) 68:7-8 N 17 '39; Spectator (Life ed) 143:11 N 23 '39; Weekly Underw 141:1092 N 18 '39

BUDD, Ralph, 1879-
Budd's duties in defense post; President Roosevelt last week defines role of Ralph Budd as member of Advisory commission of the Council of national defense. Ry Age 108:1019-20 Je 8 '40

BUDDE effect
Photoexpansion of chlorine; the recombination of chlorine atoms. M. Ritchie and R. L. Smith. Chem Soc J p394-401 Ap '40

BUDGET
Business man's interest in national fiscal policy; compensatory fiscal policy versus balanced budget. B. Ruml. Advanced Management 4 no5:122-5 '39
Control of expenditures in the local governmental units of Illinois. H. K. Allen. Ill U Bur of Business Research Bul 61:1-58 '40
Possibilities of the use of cost accounting in public budget making [thesis]. A. H. F. Stephan. 159p bibliog(p157-9) Univ. of Pennsylvania, Philadelphia '39
Ratio control system for hospitals. W. A. Dawson. J Account 69:112-13 F '40

See also
Finance
Government expenditures
Purchasing, Government

Australia
Estimates for 1939-40 revised. Comm & Fin Chr 149:3474 D 2 '39

Bulgaria
Bulgaria's budget larger for calendar year 1940. Comm Rep p692 Ag 10 '40

Canada
Canadian budget. Comm Rep p589+ Jl 6 '40
Dominion budget. Can Min J 61:451-2 Jl '40

France
French budget for 1940. Economist 138:9-10, 11-12 Ja 6 '40
New French budget. Comm Rep p144 F 10 '40

Great Britain
Another budget; first supplementary budget. Economist 139:66-7, 111-12 Jl 20-27 '40
British budget estimates for 1940-41. Comm Rep p520-1 Je 8 '40
Budget of delusions; the budget accounts. Economist 138:759-60, 763-4 Ap 27 '40
Budget; revenue and expenditure. Economist 138:sup 1-6 Ap 13 '40
Budget problem. Economist 138:605-6 Ap 6 '40
Largest British budget (£2,667,000,000) is presented to House of commons. Comm & Fin Chr 150:2647 Ap 27 '40

India
Budget returns show deficit trend. For Comm W 1:253-4 N 9 '40

Italy
Italian budgets. Comm Rep p145+ F 10 '40
Italy's imperial budget and new loans. Economist 138:616-17 Ap 6 '40

New York (state)
New York's battle of the budget. L. R. Guylay. il Nation's Business 27:31-3+ D '39

New Zealand
New Zealand's war budget. Economist 139: 282 Ag 31 '40

Persia
Iran's budget larger. Comm Rep p706 Ag 17 '40

Sweden
Swedish financial experience offers little support for capital budget idea. J. C. Gebhart. bibliog Annalist 55:67-8 Ja 18 '40

United States
Budget message of President Roosevelt for fiscal year ended June 30, 1941. Comm & Fin Chr 150:27-30 Ja 6 '40
Capital budget; the latest form of rationalizing the huge federal deficit. J. C. Gebhart. bibliog Annalist 55:37+, 67-8 Ja 11-18 '40
Danger of federal economy; budget balancing unlikely. L. C. Duncan. Barron's 19:8 D 18 '39
Economic balance and a balanced budget; public papers of Marriner S. Eccles. R. L. Weissman, ed. 299p $3.50 Harper '40
Federal financial operations, 1939. Survey of Cur Business 20:37-44 F '40
Fortune survey; balancing the budget. Fortune 21:122 Ap '40
Funds for government power projects smaller; budget estimates. Elec W News ed 113: 833-4 Mr 16 '40
Meaning of the budget for fiscal year ended June 30, 1941. E. S. Duffield. Barron's 20:4 Ja 8 '40
President's budget message. Nat City Bank p19-23 F '40
Ready to pay defense price. Business Week p15-16 Je 8 '40
Roosevelt budget plan shows U.S. looks for better 1940 business. M. Nadler. Ptr Ink 190:11-12+ F 2 '40
Senator Harrison suggests Congress name special committee to study President Roosevelt's budget proposals. Comm & Fin Chr 150:49 Ja 6 '40
Sharp disputes likely over President's budget message. Iron Age 145:52 Ja 11 '40

BUDGET, Business
ABC of the variable budget; uses of the profitgraph. A. A. Merrill. Factory Management 98:40-1 Ap '40
Approaches to budgetary control in the dairy industry. A. Herrick. J Account 70:43-9 Jl '40
Budget follow-through; Talon, inc. P. K. Poulton and P. H. Goldsmith. Factory Management 98:61-3+ F '40
Budget principles and procedure. J. R. Bartizal. 219p $3.65; school ed $2.75 Prentice-Hall '40
Budgeting for control; Gates rubber company, Denver, Colo. C. N. Kohl. N A C A Bul 21:746-57 F 15 '40
Budgeting for the smaller company; Seidlitz paint and varnish co. W. P. Marsh. N A C A Bul 21:1233-43 Je 1 '40
Budgeting for varying volume; Talon, inc. P. K. Poulton and P. H. Goldsmith. il Factory Management 98:54-6 Ja '40
Budgeting inventories and stabilizing employment; Talon, inc. P. K. Poulton and P. H. Goldsmith. il Factory Management 97: 52-5 D '39
Budgeting your customer's business. I. J. Gale. Credit & Fin Management 42:17-18+ Jl '40
Case study in budgetary control; Manville-Jenckes corp, Manville, R.I. W. A. Haskins, jr. and F. F. Gilmore. N A C A Bul 21:1011-36 Ap 15 '40
0.59% profits tighten agency budgets. W. A. Burke. Adv & Sell 32:49+ D '39
First steps in setting up a budget program. I. D. Dawes. Am Business 10:30-2+ Mr '40
Road maps, tours and detours in management; budget provides a useful guide. P. Kellogg. Pulp & Pa of Can 41:434-8 Je '40
Several phases of budgeting for an office appliance manufacturer; Monroe calculating machine co, Orange, N.J. S. Zweckbronner. N A C A Bul 21:727-45 F 15 '40
Standard Gas & Electric sets $37,047,735 budget. Elec W 112:1871 D 30 '39

BUDGET, Business—*Continued*
Variable budget control; through management by exception and dynamic costs. F. V. Gardner. 357p $4 McGraw-Hill '40
What makes the budget work. R. H. Robnett. N A C A Bul 21:1244-58 Je 1 '40
What the general manager thinks about. R. T. Kent. Mech Eng 62:370-2 My '40; Same cond. Engineer 169:523-4 Je 7 '40

BUDGET, Household
Accounting for the individual and family. N. H. Radell. 348p $3 Prentice-Hall '40
Clothing expenditures of wage earners and clerical workers. Monthly Labor R 50:267-85 F '40
Consumer expenditures in the United States at different income levels, 1935-36. Monthly Labor R 50:377-81 F '40
Consumer incomes and family budgetary expenditures; Printers' Ink market explorations; Alabama, Florida, Georgia, Kentucky, Louisiana, Mississippi, North Carolina, South Carolina, Tennessee and Virginia. maps Ptr Ink 193:sup 1-55 O 25 '40
Consumer incomes and family budgetary expenditures; Printers' Ink market explorations; Delaware, District of Columbia, Maryland, Ohio, Pennsylvania and West Virginia. Ptr Ink 192:sup3-55 S 27 '40
Consumer incomes and family budgetary expenditures; Printers' Ink market explorations; New England states. maps Ptr Ink 191:sup 1-32 Je 28 '40
Consumer incomes and family budgetary expenditures; Printers' Ink market explorations; New York and New Jersey. maps Ptr Ink 192:sup1-39 Ag 2 '40
Expenditure habits of wage earners and clerical workers; data based on actual incomes and expenditures of 14,469 families in 1 year during the period 1934-36. F. M. Williams and A. C. Hanson. Monthly Labor R 49: 1311-34 D '39
Expenditures of wage earners and clerical workers for housefurnishings and operation. Monthly Labor R 50:1349-66 Je '40
Family expenditures for medical care, personal care, and miscellaneous items; including gifts and contributions, education, taxes. Monthly Labor R 50:1062-79 My '40
Family expenditures in selected cities, 1935-36; food. map U S Bur Labor Statistics Bul 648 v2:1-406 '40
Family expenditures in selected cities, 1935-36; travel and transportation. L. A. Epstein; J. R. Wood, jr. map U S Bur Labor Statistics Bul 648:1-165 '40
Family income and expenditure in New York city, 1935-36; v. 2, Family expenditure. A. D. H. Kaplan, F. M. Williams and A. C. Hanson. map U S Bur Labor Statistics Bul 643:1-232 '39
Family income and expenditure in selected urban communities of the west central-Rocky Mountain region, 1935-36; v. 2, Family expenditure. A. D. H. Kaplan, F. M. Williams and L. A. Epstein. map U S Bur Labor Statistics Bul 646:1-313 '40
Financial security in a changing world. M. S. Rukeyser. 272p $2.50 Greenberg, 67 W. 44th st, New York '40
Food expenditures of wage earners and clerical workers. Monthly Labor R 51:250-66 Ag '40
Housing, an item of national expense; review of Consumer expenditures in the U.S., by National resources committee. Arch Forum 72:127-30+ F '40
Housing facilities and expenditures of wage earners and clerical workers. Monthly Labor R 50:807-24 Ap '40
How to make your budget balance. E. C. Harwood and H. Fowle. 143p pa $1 Am. inst. for economic research, 54 Dunster st, Harvard sq, Cambridge, Mass. '40
Income-expenditure relations. E. W. Gilboy. R Econ Statis 22:115-21 Ag '40
Income, family size, and the economic level of the family. Monthly Labor R 50:115-34 Ja '40
International survey of recent family living studies; families of unemployed workers. bibliog Int Labour R 41:645-62 Je '40
Methods of family living studies; income, expenditure, consumption. R. M. Woodbury. 144p bibliog(p115-18) pa $1 Int. labor office '40
Money disbursements of wage earners and clerical workers in eight cities in the east north central region, 1934-36. F. M. Williams and A. C. Hanson. U S Bur Labor Statistics Bul 636:1-443 '40
Money disbursements of wage earners and clerical workers in five cities in the Pacific region, 1934-36. F. M. Williams and A. C. Hanson. maps U S Bur Labor Statistics Bul 639:1-358 '39
Money disbursements of wage earners and clerical workers in the North Atlantic region, 1934-36; v. 2, Eleven cities. F. M. Williams and A. C. Hanson. U S Bur Labor Statistic Bul 637:1-522 '39
More than mere living. H. T. Rich. 213p $1.75 McGraw-Hill '40
Quantity and cost budgets for four income levels; I, Family of an executive; II, Family of a clerk; III, Family of a wage earner; IV, Dependent families or children; prices for San Francisco, March 1939. 96 numb l Univ. of California press, Berkeley '39
Savings of wage earners and clerical workers, 1934-36. Monthly Labor R 51:119-39 Jl '40
Transportation and recreation expenditures of wage earners and clerical workers. Monthly Labor R 50:556-73 Mr '40

See also
Cost of living

BUDGET, Municipal
Municipal budgets for capital improvement. L. Morey. Ill U Bul 36, no 102:1-15 '39
State supervision of local budgeting. W. Kilpatrick. 131p pa $1 National municipal league, New York '39

BUDGET, Personal
Accounting for the individual and family. N. H. Radell. 348p $3 Prentice-Hall '40
Financial guide for living; selling plan of successful woman producer. L. L. Blair. Ins Field (Life ed) 69:14-15 Ag 16 '40
How WPA wages are spent. Monthly Labor R 50:929-30 Ap '40
Quantity and cost budget for a single working woman; prices for San Francisco, March 1939. 10 numb l pa 15c Univ. of California press, Berkeley '39

BUDGET, State
Engineer and the budget. G. R. Thompson. Civil Eng 10:353-4 Je '40

BUENOS AIRES
Port of Buenos Aires. Comm Rep p10+ Ja 6 '40

Water supply
Fractionated coagulation; a new procedure. R. A. Trelles, D. J. Bengolea and A. G. Poccard. Am Water Works Assn J 32:742-50 My '40

BUFFALO, New York
Buffalo reviews her architecture; six photographs, 1863-1939. Arch Forum 72:sup14 F '40

Harbor
Port of Buffalo, New York. rev ed 166p U.S. Engineer dept, Board of engineers for rivers and harbors, Washington '40

Rapid transit
How mass transportation is conducted in Buffalo. il Mass Transportation 36:100-5 My '40
Operating results, small buses vs. cars and trolley coaches; comparison of four years operation in Buffalo and Indianapolis. il Mass Transportation 36:168-70 Ag '40
Selling more rides in Buffalo and Niagara Falls; operating 436 buses and 262 street cars. B. J. Yungbluth. il Transit J 84:86-8 Mr '40

BUFFALO, New York—*Continued*

Sanitary affairs

Oklahoma City and Buffalo get stickers; campaigns by master plumbers result in health-protecting plumbing laws. Dom Eng 155:54 Mr '40

Sewerage

Bacterial pollution of the Niagara river; improvement in conditions after sewage treatment at Buffalo. G. E. Symons and R. W. Simpson. bibliog map Am Water Works Assn J 32:1529-46 S '40

Operating experiences at Buffalo; abstract. C. R. Velzy, J. W. Johnson and G. E. Symons. Water Works & Sewerage 87:315-16 Jl '40

Sewage disposal project. S. A. Greeley. flow diags diags plans Am Soc C E Proc 65: 1341-65 O '39; Discussion. 65:1638-40; 66:739-44, 964-6 N '39, Ap-My '40

Sewage treatment at Buffalo; with flow sheets. G. E. Symons, C. R. Velzy and B. Morey. bibliog Am Inst Chem Eng Trans 36:325-44 Je '40

Sludge filtration and incineration at Buffalo; abstracts. C. R. Velzy. Water Works & Sewerage 86:496 D '39; diag Eng N 124:393-4 Mr 14 '40

BUFFALO Creek railroad

Bonds offered. Comm & Fin Chr 151:2636 N 2 '40

BUFFALOES

See also
Bison, American

BUFFER action

Effect of phosphate buffers on the electrical mobility of hemoglobin. M. H. Gorin, H. A. Abramson and L. S. Moyer. bibliog Am Chem Soc J 62:643-4 Mr '40

BUFFER mixtures

Acidity scale in glacial acetic acid; buffer solutions $-1.6<H_0<3.8$. N. F. Hall and F. Meyer. bibliog Am Chem Soc J 62:2493-500 S '40

Oxidation-reduction potentials measured with the dropping mercury electrode; polarographic study of quinhydrone in buffered and unbuffered solutions. O. H. Müller. Am Chem Soc J 62:2434-41 S '40

BUFFING. See Polishing

BUFFING materials. See Polishing materials

BUILDERS' risk insurance. See Insurance, Builders' risk

BUILDING

All about houses. G. Conklin. 194p $2 Julian Messner, 8 W. 40th st, New York '39

Bankers Life building, Des Moines; structure. il diags Arch Rec 87:62-3 Je '40

Better plants build airplanes faster. il diags plan Eng N 125:560-70 O 24 '40

Building, estimating and contracting; a home-study course and general reference work. 9v $29.80 American technical soc, Chicago '40

Construction reports. Published in weekly numbers of Engineering news-record

Construction tricks for low cost housers taught by a Pennsylvania lumber dealer. il plans Arch Forum 72:374-5+ My '40

Factories for the 'forties; report to executives on materials, trends, and economies of plant design, construction, and modernization. il Business Week p41-52 Ja 27 '40

Gas provides heat for new building construction. W. F. Powers. il Am Gas Assn Mo 22:344 O '40

How complete wall sections are made horizontally on the job by a builder in Washington, D.C. il diag plan Am Bld 62:64-5 Jl '40

Low cost house created by J. A. Stein for the Design decade number. il diag plan Arch Forum 73:264-5 O '40

Master specifications for reconditioning (including repairing, rehabilitation, rebuilding, enlargement, and demolition) <under corporation supervision> 3d ed 226p Home owners' loan corp, Appraisal and reconditioning division, Washington, D.C. '40

Navy goes into action on housing; barracks for embryo sailors at Newport training station. il Eng N 125:534-6 O 24 '40

New effects with wood siding. il diags Am Bld 62:64-70 Ja '40

One hundred year home tested; steel frame, metal lath, concrete stucco. E. M. Lurie. il plans Am Bld 62:70-1+ My '40

Planning for productivity. K. Lönberg-Holm and C. T. Larson. 43p pa $1 International industrial relations inst, 130 E. 22d st, New York '40

Power equipment cuts costs of small Stamford houses. il Am Bld 62:66-7+ My '40

Research develops a $2,600 house in sixteen years, builds it in ten days; horizontal construction. il diags plan Arch Forum 72:365-9+ My '40

See also

Air conditioning
Air raids and building
Architecture
Beams
Brick construction
Bridges
Building materials
Building trades
Chimneys
Concrete, Reinforced
Concrete construction
Concrete houses
Construction equipment
Contractors
Dampness in buildings
Doorways
Earthquakes and building
Engineering
Factories
Federal home building service plan
Fireproof construction
Flashing
Floors
Foundation soils
Foundations
Framing (building)
Gas holders
Girders
Grouting
Hangars
Heating
High buildings
Home ownership
Hot water supply
Hotels
House painting
Houses, Fabricated
Masonry
Mechanical equipment of buildings
Office buildings
Painting, Industrial
Piers
Piles and pile driving
Plaster and plastering
Plumbing
Public works
Railroads—Buildings and structures
Roofs
Scaffolding
School buildings
Sheet metal work, Architectural
Shipbuilding
Soundproofing
Steel construction
Steel houses
Strains and stresses
Strength of materials
Theaters
Trusses
Underground construction
Ventilation
Waterproofing
Wind pressure
Windowless construction
Windows
Wood construction
Wrecking

Cost

Average cost of newly built homes in United States has been reduced over 10% in three years, says FHLBB. Comm & Fin Chr 149: 3346 N 25 '39

Baltimore building costs and operations, 1900-1939. A. F. Di Domenico. Manuf Rec 109: 24-5+ S; 36-7 O '40

Building cost indexes: uses and statistical limitations; with thumbnail descriptions of leading indexes and index numbers, 1913-1939. E. Eaves and J. A. Livingston. Annalist 55:590-1 Ap 25 '40

Building costs too high; residential construction lagging despite shortage. M. Pescatello. Annalist 54:823-4; Discussion. J. Collins. 824 D 28 '39

Building costs up from '39. Nation's Business 28:89 Je '40

Building operations in principal cities of the United States. Published in Monthly labor review

Construction cost indexes, 1936-1939. Survey of Cur Business 1940 Sup p21-2 [supplemented in monthly numbers]

Construction costs, 1939. Eng N 124:257-8 F 15 '40

Construction costs, 1940 edition. diags map Eng N 124:869-930, sup153-212 Je 20 '40

Costs of a welded mill building; comparison with riveting costs; barge assembly shop of the Dravo corp. G. H. Atwood. Eng N 124:158 F 1 '40

BUILDING—Cost—*Continued*
Current trends of building costs. C. Shute. Arch Rec 87:90-1 Mr; 85-6 Ap; 96-7 Je; 88: 77-8 Jl; 77-8 Ag '40
Differentials in housing costs. D. L. Wickens. Monthly Labor R 49:1094-7 N '39
Forum building cost index; local home building costs in 80 cities. Published in Architectural forum
Houses and lots at $1,570 redefine low cost, Owensboro, Ky., project; views, plans, construction outline. Arch Forum 73:208-9 S '40
Housing under Farm security administration. Monthly Labor R 49:636-7 S '39
Indexes of construction cost for public utility industries for use in reproduction cost valuations. C. E. Troxel. J Land & Pub Util Econ 16:363-8 Ag '40
Labor and unit costs in PWA low-rent housing. H. B. Byer and C. A. Trump. Monthly Labor R 49:578-86 S '39
Low cost house is plugged by a newspaper in Bridgeport, Conn.; with cost data and construction outline. il plan Arch Forum 72:131+ F '40
Low-cost housing under the USHA experiment; cost data. N. Strunk. J Land & Pub Util Econ 16:96-9 F '40
Low cost of brick construction; abstract. W. F. Schlake. Brick & Clay Rec 96:42+ My '40
Proving it for the prospect with itemized costs. il plan Brick & Clay Rec 97:33-5 N '40
$265 sawed off house cost; power equipment on houses, bars, millwork. il Am Bld 62: 60-1+ N '40
War's effect on building costs. il Arch Forum 71:473-4 D '39
What's happened to building costs; chart, 1929-1939. Business Week p16 Ja 6 '40
Why building costs are high. J. Mark. Eng N 125:275-6 Ag 29 '40
You sell more clay products when you sell Farren-wall. diags Brick & Clay Rec 96: 25-6+ Mr '40

Economic aspects
Building industry; maker and breaker of booms and depressions. C. D. Long, jr. bibliog il Dun's R 47:17-21+ D '39

Estimates
Average house construction quantities; tabulation. Arch Forum 71:480-1 D '39
Building costs are not comparable on a square foot basis. C. A. Haynes. Power Pl Eng 44:130+ Ja '40
Building estimator's reference book. F. R. Walker. 9th ed 1701p with vest pocket estimator $10 Frank R. Walker co, 708 Merchandise Mart, Chicago '40
Construction estimates and costs. H. E. Pulver. 653p $5 McGraw-Hill '40
Estimating costs of factory construction. Ind & Eng Chem News ed 17:790 D 20 '39
Simplified carpentry estimating. J. D. Wilson and C. M. Rogers. 204p $2.50 Simmons-Boardman '40

Finance
Construction contracts awarded, by types of financing, monthly, Jan. 1934-Nov. 1939. Fed Res Bul 26:52 Ja '40 [cont monthly]
Construction financing, 1939. Eng N 124:255 F 15 '40
Factory and commercial building to increase; residence work to fall; total steady in 1940. L. S. Schnitman. Heat & Ven 37:17-21 Ja '40

See also
Building and loan associations
Building loans
Federal housing administration
Federal national mortgage association
Federal savings and loan associations
Home ownership—Finance
Housing finance

Heating aspects
Current problems in wall condensation. L. V. Teesdale. Heat & Ven 37:46-7 N '40
Data on heating and sheet metal; typical base wall of hollow concrete blocks. A. M. Daniels. Sheet Metal Worker 31:63-4 Ag '40
Diminishing effectiveness of successive thicknesses of insulating materials. P. D. Close. plans Heating-Piping 12:191-4 Mr '40
Estimating heat flow through sunlit flat roofs; reference data. C. O. Mackey and L. T. Wright, jr. Heat & Ven 37:26a-26b Ag '40
Heat gain through glass blocks by solar radiation and transmittance. F. C. Houghten and others. il diags Heating-Piping 12:264-70 Ap '40
Housewife test shows the sales value of insulation in Droesch homes; with TruCost figures. il plans Am Bld 62:68-9+, 119 My '40
How hot is the ceiling? T. D. Phillips. il Dom Eng 156:42+ O '40
Insulation and heat loss; abstract. E. S. Draper. Science 90:sup10 N 17 '39
Insulation board for home building. il diags plans Am Bld 61:43-71 D '39
Novel heating in basementless Nashville home; with construction outline and TruCost figures. il plans Am Bld 62:68-9 Mr '40
Speed and accuracy in figuring heat loss. R. A. Krauss. Heat & Ven 37:35-9 O '40
Temperature test house; home of Milton S. Wunderlich. il Sheet Metal Worker 31:60+ S '40
Thermal test coefficients of aluminum insulation for buildings. G. B. Wilkes, F. G. Hechler and E. R. Queer. diags Heating-Piping 12:68-72 Ja '40

See also
Cooling—Tables, calculations, etc.

Rapid construction
Close coordination speeds Buffalo housing project; with cost data. il diag Eng N 123: 822-5 D 21 '39
Office building completed in 79 working days; use of special cellular steel floor, roof and partition sections, bonded metal paneling for walls; H. H. Robertson co. H. B. Winslow. il diags Steel 106:46-8+ F 19 '40

Repair and reconstruction
Enlarging a National Guard armory in Chicago. S. E. Berkenblit. il diags Eng N 125: 294-6 Ag 29 '40
Trusses put under heavy dome to permit removal of walls; increasing seating capacity of Second Baptist church, Houston, Tex. F. J. Niven. il plan Eng N 123:755 D 7 '39

See also
Bridges—Reconstruction
Buildings, Remodeled
Heating industry—Remodeling
Plumbing trade—Remodeling
Remodeling (architecture)

Safety devices and measures
Another bridge uses safety net; Dayton Avenue bridge, Los Angeles. il Eng N 124: 466 Mr 28 '40
Built with safety; Aetna life affiliated companies building. il Safety Eng 80:9-10 Ag '40
Causes and prevention of accidents in the construction industry, 1938; building, railroad, and highway construction. M. D. Kossoris and S. Kjaer. Monthly Labor R 49:658-73 S '39
How to anchor against storm damage. J. A. Newlin. il Am Bld 62:45+ S '40
Safety pays dividends. J. W. Cowper and H. O. Locher. il Civil Eng 10:551-4 S '40

Specifications
Architectural specifications. H. R. Sleeper and F. L. Ackerman. 822p $10 Wiley '40
Good lumber house; how to specify and build it. diags Am Bld 62:58-61 Ja '40
Lumber grade-use guide. Am Bld 62:72-5 Ja '40
West Coast woods of the Douglas fir region. diags Am Bld 62:78-80 Ja '40

BUILDING—*Continued*

Standards

Analysis of mortgage security; how FHA's mortgage risk rating system affects builders, borrowers and lenders. il Arch Forum 72:437-9+ Je '40

Banking's survey: housing standards. Banking 32:25 My '40

Building code committee reports show 5 proposed standards near completion. Ind Stand 11:123-5 My '40

Building types; standards for houses with illustrated case studies. Arch Rec 87:93-108 Mr '40

FHLBB says principal need of housing market and home-financing business is assurance that standards will improve as residential construction increases. Comm & Fin Chr 149:3345-6 N 25 '39

Labeling quality homes in $5000 class; certificate of excellence. Barron's 20:5 Mr 4 '40

Mortgagees probe and improve New York construction, cease lending in the dark; Mortgage conference. il Arch Forum 72:371-2+ My '40

New project for better construction, lower cost should encourage more building; coordination of dimensons of building materials and equipment. M. W. Adams. il Ind Stand 10:298-301 D '39; Excerpts. Arch Forum 72:191-2 Mr '40

New structural system employs no nails; PHC housing corporation's beam-joist-and-stud system. il plans Arch Rec 88:74-5 Ag '40

Structural properties of conventional wood-frame constructions for walls, partitions, floors, and roofs. G. E. Heck. bibliog il U S Nat Bur Stand Rep BMS25:1-23 '39

Survey reveals wide use of 20,000 lb. unit stress. Eng N 124:299 F 29 '40

Whose cheap housing boom is it? Bureau of standards' tests of low-cost building materials. Business Week p15-16 Mr 2 '40

See also

Building laws and regulations

Concrete construction—Standards

Windows—Size

Statistics

Baltimore building costs and operations, 1900-1939. A. F. Di Domenico. Manuf Rec 109: 24-5+ S; 36-7 O '40

Builders of 1-family houses in 72 cities. Monthly Labor R 51:732-9 S '40

Building activity; abstract. T. S. Holden. Iron Age 145:87-8 My 2 '40

Building construction, 1921 to 1938. U S Bur Labor Statistics Bul 668:1-114 '40

Building construction trend upward in the United States during 1939; comparisons by years, months, states, cities, types of buildings, etc Comm & Fin Chr 150:331-8 Ja 20 '40

Building operations in principal cities of the United States. Published in Monthly labor review

Building permit values by cities. Published in monthly numbers of Dun's statistical review; summary in Dun's review

Construction contracts awarded, by types of construction, monthly Jan. 1938-Oct. 1939, and by districts, Nov. 1938 and 1939. Fed Res Bul 26:52 Ja '40 [cont monthly]

Construction contracts awarded in 37 states (F. W. Dodge corporation) etc. 1936-1939. Survey of Cur Business 1940 Sup p16-19 [supplemented in monthly numbers]

Construction contracts awarded; valuation of total building, monthly, 1925-Sept. 1939. Survey of Cur Business 19:17 N '39

Construction fans out along broad front; charts. Business Week p24 Je 29 '40

Construction, 1939. Survey of Cur Business 20:17-21 F '40

Engineering construction sets new records. Eng N 124:251-5 F 15 '40

Estimates of construction activity in the United States. Survey of Cur Business 20: 14-15 S '40

Gain in non-farm residential construction in 1939 noted in annual report of FHLBB. Comm & Fin Chr 149:3647 D 9 '39

Indicated expenditures for building construction (based on building permits), Sept. 1929-Dec. 1939. Survey of Cur Business 20: 16 Ap '40

New dwelling units provided in urban areas during 1939 increased 40% over 1938; by private and USHA funds. Comm & Fin Chr 150:1342 Mr 2 '40

1939 building in review; charts and tables. Arch Forum 72:61 Ja '40

1940 building outlook bright. Am Bld 62:35-8+ Ja '40

November permit valuations and building construction in United States. Comm & Fin Chr 150:184 Ja 13 '40 [cont monthly]

Residential construction. S. J. Dennis. Survey of Cur Business 20:10-15 My '40

Secretary of Labor Perkins reports residential construction was one-third greater in 1939 than 1938. Comm & Fin Chr 150:3269 My 25 '40

Size of building operations in residential construction, 1938. Am Bld 62:91 Je '40

Summary of building construction in principal cities, January 1940. Monthly Labor R 50:741-4 Mr '40 [cont monthly]

Trends in the building industry; charts and tables. Published in Architectural forum

Where are architectural pastures greenest in 37 eastern states? with map and table showing geographical distribution of architects and architects' offices and dollar volume of building. Arch Rec 87:84 Ap '40

See also

Building trades—Statistics

Tables, calculations, etc.

Estimating tables for building supply dealers & mason contractors. A. F. Schaefer. 72 numb 1 $10 Albert F. Schaefer, 1053 Chili av, Rochester, N.Y. '39

Baltimore

Building costs and operations, 1900-1939. A. F. Di Domenico. Manuf Rec 109:24-5+ S; 36-7 O '40

Canada

Canadian building boom buds. Arch Forum 73:205-7 S '40

Egypt

Settlement studies of structures in Egypt. G. P. Tschebotareff. diags plans Am Soc C E Proc 64:1541-67 O '38; Discussion. 65:344-50, 881-3, 1064-8; 66:633-47 F, My-Je '39, Ap '40

Great Britain

Building in 1939. Economist 138:sup44 F 17 '40

Building in wartime. Economist 138:324-5 F 24 '40

Long Island

250 largest Long Island developments, with names of builders, price range of houses, etc. il map Am Bld 62:83-5+ Ap '40

Southern states

South's construction nears record high in 1939. S. A. Lauver. il Manuf Rec 109:42-5+ Ja '40

United States

Biggest home-building year since 1929. Concrete 48:27 Ag '40

Building activity; abstract. T. S. Holden. Iron Age 145:87-8 My 2 '40

Building construction prospects. M. H. Baker. Rock Prod 42:49 D '39

Building construction trend upward in the United States during 1939; comparisons by years, months, states, cities, types of buildings, etc. Comm & Fin Chr 150:331-8 Ja 20 '40

BUILDING—United States—*Continued*
Building forecast for 1940. L. S. Schnitman. Barron's 20:3 F 19 '40
Building forecast, 1940. Arch Forum 72:57-60 Ja '40
Building hits 10-year peak. Dom Eng 156:40-1+ O '40
Building in 1939. Fed Res Bul 26:85-7 F '40
Building operations in principal cities. Published in Monthly labor review
Building prospects aired at conference in Washington, D.C. Nov. 16-17. Eng N 123: 671+ N 23 '39
Building volume points higher. il Mag of Wall St 66:574-5 Ag 24 '40
Civil engineering and construction in 1939. il map Eng N 124:223-48 F 15 '40
Construction for defense. Comp Air M 45: 6242 S '40
Construction gains again. Eng N 124:250-8 F 15 '40
Construction, 1939. Survey of Cur Business 20:17-21 F '40
Construction outlook for 1940. Sheet Metal Worker 30:21-2 D '39
Construction; review and prospects. W. A. Phair. Iron Age 145:132-4 Ja 4 '40
Contracts and capital; news of contract volume and construction financing. Published in weekly numbers of Engineering news-record
Defense; building industry aspects. Arch Forum 73:sup2+ Jl '40
Estimates of construction activity. Survey of Cur Business 20:14-15 S '40
Factory and commercial building to increase; residence work to fall; total steady in 1940. L. S. Schnitman. Heat & Ven 37:17-21 Ja '40
Forecast of construction in 1940. T. S. Holden. Concrete 47:8+ D '39
Increase of about 10% in new construction expected. J. Collins. Annalist 55:118 Ja 25 '40
National defense program spurs new demands for immediate construction. T. S. Holden. Arch Rec 88:80-1 Jl '40
1940 building outlook bright. Am Bld 62:35-8+ Ja '40
1940 residential building outlook. L. S. Schnitman. Barron's 20:31-3 Ja 15 '40
Outlook for the residential real estate market. R. H. Richards. J Land & Pub Util Econ 15:397-403 N '39
Privately financed contracts to continue upward trend; record for 1939, prospects for 1940. T. S. Holden. Concrete 48:11 F '40
Residential construction. S. J. Dennis. Survey of Cur Business 20:10-15 My '40
Residential construction in the first quarter of 1940. H. B. Byer and S. Jaffe. Monthly Labor R 51:481-7 Ag '40
Sixth consecutive year of construction industry recovery closed, with bright outlook for 1940, according to F. W. Dodge corp. Comm & Fin Chr 150:183 Ja 13 '40
Summary of building construction in principal cities, January 1940. Monthly Labor R 50:741-4 Mr '40 [cont monthly]
This year's building prospect; abstract. T. S. Holden. Concrete 48:8 Je '40
What's ahead in 1940? construction. il Steel 106:163-5+ Ja 1 '40

See also
Building trades—United States

BUILDING, Underground. See Underground construction

BUILDING accidents
Causes and prevention of accidents in the construction industry, 1938; building, railroad, and highway construction. M. D. Kossoris and S. Kjaer. Monthly Labor R 49:658-73 S '39
Doing something about accidents; Constructors association of western Pennsylvania. R. A. MacGregor. il Eng N 125:283 Ag 29 '40
Matter of construction. E. N. Goldstine. il Safety Eng 79:9-10 Je '40
Safety pays dividends. J. W. Cowper and H. O. Locher. il Civil Eng 10:551-4 S '40

BUILDING and earthquakes. See Earthquakes and building

BUILDING and loan association buildings
Assets up with members in new Bronxville saving & loan building. il plan Arch Forum 72:370 My '40

BUILDING and loan associations
Annual convention of New York state league of savings & loan associations, Lake Placid. Comm & Fin Chr 150:3907-8 Je 22 '40
Forty-six associations taken over by New Jersey state banking department. Comm & Fin Chr 150:2806-7 My 4 '40
Own-a-home savings clubs build business for the 40's. il Am Bld 62:48-9 Je '40
Savings and loan annals, 1939. 912p [directory p745-903] $5 United States savings & loan league, 333 N. Michigan av, Chicago '40
Savings and loan modernization of buildings and offices. H. V. Odle. il Burroughs Clearing House 24:20-4+ F '40
Significant post-depression changes in savings and loan practices. F. T. Greene. J Land & Pub Util Econ 16:30-6 F '40

See also
Federal savings and loan associations

Accounting
New construction loan safeguards. J. Farnham. il Burroughs Clearing House 24:24-5 My '40

Law
Laws governing building and loan associations; rev. to June 1, 1939. 145p C. B. Akers, auditor of state, Des Moines, Iowa '39

Statistics
Associations in 1939 report total loan volume of $986,383,000; highest in nine years. Comm & Fin Chr 150:1530 Mr 9 '40
Building and loan associations, number, membership, and assets by states, 1938. Monthly Labor R 49:1417-18 D '39
November volume of advances by savings, building and loan associations. Comm & Fin Chr 150:374 Ja 20 '40 [cont monthly]
Three-fourths of associations in United States savings and loan league with assets over $5,000,000 increased assets in 1939. Comm & Fin Chr 150:2969-70 My 11 '40

Great Britain
Halifax building society 87th annual general meeting, Halifax. Economist 138:650 Ap 6 '40

BUILDING contracts
Business methods in the building field; a manual of practice in documentary procedure for the development, prosecution and execution of industrial, power and building projects. G. Schobinger and A. M. Lackey. 350p $3.50 McGraw-Hill '40
Construction contracts for defense. L. B. Wehle. Eng N 125:155-8 Ag 1 '40
What form of building contract best conserves the owner's interests? H. C. Turner. Arch Forum 72:53-4 Ja '40

See also
Contractors

BUILDING fittings
Builders' hardware. 128p $1.30 International textbook co, Scranton, Pa. '39
Buyers respond to the unusual in home fittings. D. G. Bareuther. il Am Bld 62:62-3+ Ap '40

See also
Hardware
Sheet metal work, Architectural

Standards
Builders' hardware (nontemplate). 2d ed diags U S Nat Bur Stand Commercial Standard CS22-40:1-18 '40

BUILDING inspection
Tremendous trifles that count in good building; inspection report lists 166 items. J. B. Mason. il plans Am Bld 62:72-3+ Mr '40

BUILDING laws and regulations
Building codes; for higher or lower construction costs? il Ind Stand 11:72-4 Mr '40

See also
Housing laws

California

Building code for California. E. Bergstrom, ed. 473p bibliog(p412-14) $5 California state chamber of commerce, San Francisco '39

New York

New York O. K. of cavity wall big chance for brick. il diags Brick & Clay Rec 97: 25-6 S '40

BUILDING loans
Home-financing field conditions sounder. F. W. Catlett. Bankers M 139:539-40 D '39
Home mortgage loans by New York home loan bank, third quarter of 1939. Comm & Fin Chr 149:3202 N 18 '39
Low interest rates for housing loans. J. K. Barnes. Annalist 54:694 N 30 '39
Modernization drive is under way; FHA campaign. il Am Bld 62:50-1 N '40
New construction loan safeguards. J. Farnham. il Burroughs Clearing House 24:24-5 My '40
Title I loans for low cost housing; new FHA plan. W. P. Murray. il Burroughs Clearing House 24:18-20+ D '39

See also
Building and loan associations
Federal housing administration
Home loan banks
Home ownership—Finance
Housing finance
Mortgages
Public works administration
Reconstruction finance corporation

BUILDING lots. See Building sites

BUILDING materials
Asbestos cement materials in building construction. diags Engineer 170:23 Jl 12 '40
Builders' materials. B. H. Knight and R. G. Knight. 304p bibliog(p289) $4 Longmans '39
Building materials store displays products in use. il diags plan Am Bld 62:65 O '40
Cement-latex mixtures; their composition and applications. H. J. Stern. bibliog India Rubber W 102:37-40 My '40
Construction units appear; small, light, plastic blocks used experimentally by architect Alden Dow. il Mod Plastics 17:30-1, 70+ F '40
Cotton's uses in relation to housing and construction. C. K. Everett. il Manuf Rec 108:19+ D '39
Employment and materials, 1939. Eng N 124: 256 F 15 '40
House of gypsum; Gips-Union, Zurich; precast products for flooring, walls, and ceilings. F. O. Anderegg. il diags Rock Prod 43:37-8 O '40
Iron blast-furnace slag becomes important constructional material. W. H. Caruthers. Min & Met 21:337-40 Jl '40
Manufacture and testing of roofing-felts and damp-courses. D. M. Wilson. diags pls Inst Pet J 26:377-88; Discussion. 388-9 Ag '40
Master specifications for reconditioning (including repairing, rehabilitation, rebuilding, enlargement, and demolition) <under corporation supervision> 3d ed 226p Home owners' loan corp, Appraisal and reconditioning division, Washington, D.C. '40
New project for better construction, lower cost should encourage more building; coordination of dimensions of building materials and equipment. M. W. Adams. il Ind Stand 10:298-301 D '39
Plastic building panels. Barron's 19:17 D 4 '39
Plastics and architecture. M. Sanders. il Arch Rec 88:65-76 Jl '40
Plastics in building. il Arch Forum 72:413-17 Je '40
Recent progress in the nonmetallics. O. Bowles. Min & Met 21:95-7 F '40
Research can re-house America; mass production techniques, new products needed to make better, cheaper homes. J. V. Sherman. Barron's 20:9 Ag 26 '40
Stainless steel lumber. il Sheet Metal Worker 31:38 Jl '40
Stress, strain, and structural damage. H. F. Moore. il diags Am Soc T M Proc 39:549-70 '39; Same. Ill U Eng Exp Sta Reprint 15:1-24 '39 (pa 15c)
Structural properties of Insulite wall and Insulite partition constructions sponsored by the Insulite co. H. L. Whittemore, A. H. Stang and T. R. C. Wilson. bibliog il diags U S Nat Bur Stand Report BMS31:1-52 '39
Study of the fire resistance of building materials. H. D. Foster. il diags Ohio State U Eng Exp Sta Bul 104:1-58 '40 (pa 60c)
Superiority of clay not emphasized in present fire resistive ratings. Brick & Clay Rec 97:27-8 N '40
Two new building materials: Hubbellite and vermiculite plaster. Ind & Eng Chem News ed 18:289 Ap 10 '40

See also
Adobe
Aluminum, Structural
Asbestos
Bricks
Celotex
Cement
Clay products
Concrete
Concrete, Reinforced
Concrete blocks
Concrete brick
Concrete slabs
Concrete stone
Concrete tile
Cork
Fiber board
Fire resisting materials
Flooring
Glass
Glass, Structural
Gravel
Gunite
Gypsum
Insulation (heat)
Iron
Limestone
Lumber
Masonite
Masonry
Mortar
Onyx marble
Plaster and plastering
Plastic materials, Laminated
Plywood
Pozzuolana
Sheet metal, Enameled
Sheet metal work, Architectural
Sheet steel
Shingles, Asbestos
Shipbuilding—Materials
Steel, Structural
Strength of materials
Terra cotta
Tiles
Wall board
Wood

Advertising

Look homeward theme gives Certain-teed men ads they use. il Sales Management 47:18+ O 10 '40

Analysis

Method for the determination of carbonate in small amounts of materials. F. E. Jones. diags Soc Chem Ind J 59:21-3 Ja '40

Heat transmission

See Heat transmission—Tables, calculations, etc.

Manufacture

See also
Brickmaking
Fiber board—Manufacture

Prices

Banking's survey; possibility of an increase in costs of building materials. Banking 32:29-30 Ap '40
Building material costs remain higher than prices of other commodities, according to analysis by FHLBB. Comm & Fin Chr 151: 2588 N 2 '40
Construction material prices, 1920-1939 and basic building materials prices, 1874 to 1939 in New York city. Eng N 124:889 Je 20 '40
Materials prices. Eng N 124:52-5 Ja 4 '40 [cont monthly]

Standards

1939 book of A.S.T.M. standards including tentative standards (a triennial publication); pt. II, Nonmetallic materials—constructional. 1217p $8 Am. soc. for testing materials, 260 S. Broad st, Philadelphia '39

Testing

Current problems in wall condensation. L. V. Teesdale. Heat & Ven 37:46-7 N '40

BUILDING materials—Testing—*Continued*
Methods of moisture control and their application to building construction. F. B. Rowley, A. B. Algren and C. E. Lund. il diags Univ of Minn, Eng Exp Sta Bul 17: 1-57 '40
Sonic method of determining the modulus of elasticity of building materials under pressure. L. Obert. diags Am Soc T M Proc 39:987-95; Discussion. 996-8 '39

BUILDING paper. See Paper, Building

BUILDING research
Needs for research in the building industry. J. E. Burchard. J Eng Educ 30:601-5 Mr '40
Research can re-house America; mass production techniques, new products needed to make better, cheaper homes. J. V. Sherman. Barron's 20:9 Ag 26 '40
Settlement studies of structures in Egypt. G. P. Tschebotareff. diags plans Am Soc C E Proc 64:1541-67 O '38; Discussion. 65: 344-50, 881-3, 1064-8; 66:633-47 F, My-Je '39, Ap '40

See also
Building materials

BUILDING sites
Diagnosis and suggested treatment of an urban community's land problem; Flint, Mich. and vacant lot problem. E. N. Bacon. maps J Land & Pub Util Econ 16:72-88 F '40
New trend toward half-acre homesites. D. G. Bareuther. il plans Am Bld 61:28-9+ D '39
Superblock vs. gridiron; breakdown of site improvement costs. plans Arch Forum 73: 66-7 Jl '40
Triangular plot sets design problem; house in Burlingame, Calif. il plans Arch Rec 88:58-60 S '40
Yardstick of residential lot needs; 22 lots per 100 population. H. C. Monchow. J Land & Pub Util Econ 15:474-7 N '39

See also
Hillside architecture

BUILDING stone

See also
Concrete stone
Quarries and quarrying
Stone cutting

Testing

Physical, mineralogical, and durability studies on the building and monumental granites of the United States. D. W. Kessler, H. Insley and W. H. Sligh. diag 4 pls J Research Nat Bur Stand 25:161-206 Ag '40
Sonic method of determining the modulus of elasticity of building materials under pressure. L. Obert. diags Am Soc T M Proc 39:987-95; Discussion. 996-8 '39

Weathering

Rôle of sulphates in the decay of building stones, mortars, and bricks. T. McLachlan. il Soc Chem Ind J 59:133-8 Jl '40

BUILDING trades
Beaver hats of tomorrow; construction and building. R. K. Tomlin; H. Myers; T. S. Holden. Ptr Ink 191:66-7 Je 7 '40
Building prospects studied by industry. Oil Paint & Drug Rep 136:5+ N 20 '39
Clay products puts its cards on the dealers' table; relations of clay manufacturer and lumber and building supply dealer. D. Whitlock. Brick & Clay Rec 96:44+ F '40
Defense workers rush to buy security homes at $22 per month at Chicopee, Mass. J. B. Mason. il diags plan Am Bld 62:34-7+ S '40
House building made easier than you think; promotional work of Hartford lumber dealer. il plans Arch Forum 72:445-7+ Je '40
More integration, less prefabrication spells success for American houses, inc; $2,750 houses, $20-per-room apartments. il plans Arch Forum 73:69-72+ Jl '40
Only indestructible security; Neibrenbuilt plan. il plans Am Bld 62:42-3 O '40
Quadruplet houses and four-family flats sold with tenants yield investors a fancy 14 per cent return; with income analysis and construction outline. il plans Arch Forum 72:440-1. sup56 Je '40
Self-selling details; New Jersey's General properties, inc. complete building service in the $13,000-and-up market. il plans Arch Forum 73:61-5+ Jl '40
$36 a month; Weber brothers, Buffalo, build five-room two-story houses. il diags plans Am Bld 62:38-9 S '40
Trade-in plan offers better security; William T. Richardson takes old houses in exchange for new. S. A. Lewis. il plans Am Bld 62:53-5+ O '40
Two chips off the old blocks; I. R. Stich and F. E. Gibson, young sons of prominent builders make name for themselves on Long Island. il plans Am Bld 62:50-1 Ag '40

See also
Brick industry and trade
Cement industry and trade
Concrete industry
Contractors
Housing projects
Lumber trade
Painting, Industrial
Plumbing trade

Accounting

Payroll accounting for construction contractors. W. B. Pinson. J Account 70:321-3 O '40

Advertising

FHA helps building industry in planning big August advertising drive. il Ptr Ink 192: 21-2 Jl 12 '40
$1.00-a-day home is 1940 goal; National small homes demonstration sponsored by building industry. H. R. Northup. il plans Am Bld 62:48-50+ F '40
Only real security campaign helps manufacturer, dealer. Brick & Clay Rec 97:42+ S '40
This house magazine carries most of load in mail selling program; International fibre board, Ottawa. il Ptr Ink 190:78-9 F 9 '40

Directories

Classified directory and buyers' guide; manufacturers, materials, and equipment. Am Bld 62:163-4+ Ap '40

Finance

Building material earnings; Yale & Towne, Johns-Manville and Lone star cement corp. Annalist 55:77-8 Ja 18 '40
Earnings, 1939 and 1938, of manufacturers of building materials and equipment. Arch Forum 72:sup80 Ap '40
Financial reports, Otis elevator co., Lone star cement corp., Johns-Manville corp. Annalist 56:45 Jl 11 '40
Fourth-quarter increase in building material activity followed by a recession. L. Applegate. Annalist 55:357-8 Mr 7 '40

See also
National gypsum company

Labor conditions

A. F. of L. leaders to combat Justice Department's action against alleged anti-trust practices in building trades. Comm & Fin Chr 150:1700 Mr 16 '40
Apprentices, and builders. H. L. Binsse. Arch Forum 73:174-5 S '40
CIO builds; United construction workers organizing committee is approaching New York city contractors. Arch Forum 72:sup4 Mr '40
C.I.O. sets terms to woo builders. Business Week p46-7 F 17 '40
C.I.O. signs builders; agreement with employers in District of Columbia. Business Week p31-2 D 2 '39
Construction men disagree with Harrison on labor supply. Eng N 125:439 O 3 '40
Construction wage rates and trends. Eng N 124:898-904 Je 20 '40
Defense bonanza; carpenters' union big initiation fees on cantonment jobs. Business Week p46-7 N 9 '40

BUILDING trades—Labor conditions—*Cont.*
Dismissal compensation and other benefits for Colombian construction workers. Monthly Labor R 51:70-1 Jl '40
Labor and builders reach agreement; contract signed by Construction workers' organizing committee and Construction industry employers, inc. Eng N 123:721+ N 30 '39
Labor fight between A.F.L. and C.I.O. may benefit builders. Business Week p32-3 Mr 30 '40
Labor union activities to be investigated. T. Arnold. Eng N 123:752 D 7 '39
Labor; wage reductions. Arch Forum 73: sup4 Jl '40
Law over labor. C. B. Coates. il Factory Management 98:48-51 Mr '40
Letter from Construction workers' organizing committee; C.I.O. tells builders in District of Columbia it can lower their costs. Business Week p39 Je 15 '40
Skilled and common wage rates, per hour. Published in Engineering news-record, first technical issue of each month
Union wages, hours, and working conditions in the building trades, June 1, 1939. F. S. McElroy. U S Bur Labor Statistics Bul 674:1-87 '40; Same abr. Monthly Labor R 49:1203-26 N '39
Unusual union advertisement; Building and construction trades council of Hudson county, N.J. Ptr Ink 189:64-5 N 24 '39
Wage rates per hour for building trades in principal cities; tabulation. E. M. Craig. Sheet Metal Worker 31:61 Ja '40
Why building costs are high. J. Mark. Eng N 125:275-6 Ag 29 '40

See also
Building accidents
Carpenters

Model home exhibits
Insulation board adapted to demonstration houses. il diags plans Am Bld 61:51-3 D '39

Securities
Companies associated with building industries, 1937-39. Mag of Wall St Manual p36-7 Mr 2 '40
Heavy construction headed for new peaks; benefits to makers of building materials. H. D. Steinmetz. il Mag of Wall St 67:143-5+ N 16 '40
Position of leading building stocks. Mag of Wall St 65:606; 66:575 F 24, Ag 24 '40
What's the matter with the building shares? W. Gates. il Mag of Wall St 65:602-3+ F 24 '40

Statistics
Engineering construction sets new records. Eng N 124:251-5 F 15 '40
Lumber, building supply and hardware store sales in metropolitan areas, 1938; Printers' Ink market explorations. maps Ptr Ink Mo 40:40-1, 43-5 F '40

Canada
Report on the construction industry in Canada, 1938. 73p pa 25c Canada. Dominion bur. of statistics, Ottawa '39

Chicago
Lid to come off? going to find out why ready-mix is not used in Chicago. Rock Prod 43:66 Ap '40

Great Britain
Building material shares. Economist 138:623-5 Ap 6 '40
Engineering outlook; constructional and general engineering. Engineering 149:379-81 Ap 12 '40

Long Island
Long Island homes; special Long Island issue. il plans map Am Bld 62:59-95 Ap '40

Pittsburgh
Pittsburgh contractors and union consent to judgment in government action against building industry. Heat & Ven 37:142 Ja '40

United States
Anti-trust action and American housing. C. D. Edwards. J Land & Pub Util Econ 15: 456-63 N '39
Building costs too high; residential construction lagging despite shortage. M. Pescatello. Annalist 54:823-4; Discussion. J. Collins. 824 D 28 '39
Building industry feels effect of vast national defense program. il Am Bld 62:37-9 N '40
Building industry; maker and breaker of booms and depressions. C. D. Long, jr. bibliog il Dun's R 47:17-21+ D '39
Building trust-busters eye 1940. Business Week p15-16 Ja 6 '40
Competition throughout building industry needed for successful action against restraints of trade. C. D. Edwards. Comm & Fin Chr 150:1074 F 17 '40
Construction industry's inventory; a good year in 1940. R. L. Van Boskirk. il Nation's Business 28:22+ Ja '40
Defense spurs building activity. W. C. Bober. Barron's 20:3 N 11 '40
Department of justice progress listed in building industry probe. il Eng N 124:62 Ja 11 '40
Heavy construction headed for new peaks. H. D. Steinmetz. il Mag of Wall St 67:143-5+ N 16 '40
1940 and the building industry. H. Abraham; M. H. Baker. Comm & Fin Chr 150:482, 484 Ja 27 '40
War will not stop building. Brick & Clay Rec 97:17-18 Jl '40

BUILDINGS
Major projects of 1939. il Eng N 124:270-1 F 15 '40

See also
Air raids and building
Airport buildings
Apartment houses
Architecture
Bank buildings
Building
Churches
College buildings
Concrete buildings
Courthouses
Dampness in buildings
Earthquakes and building
Employees' buildings
Exhibition buildings
Factories
Farm buildings
Foundries
Garages
Gasoline service stations—Construction and design
Hangars
High buildings
Hotels
Houses
Industrial buildings
Machine shops
Mechanical equipment of buildings
Office buildings
Public buildings
Railroads—Buildings and structures
School buildings
Sheet metal buildings
Shopping centers
Steel construction
Store buildings
Theaters
Warehouses

Cleaning
Chemistry aids in building management. C. C. Degenhardt. Bankers Mo 57:113 F '40

Demolition
See Wrecking

Exterior lighting
Academy theatre, Los Angeles. il(cover) Illum Eng 35:188-9 Mr '40
Chicago pioneers permanent fluorescent floodlighting; method of floodlighting buildings without setbacks; Commonwealth Edison company's Northern service building tower. E. D. Tillson and C. Kohler. il diag Elec W 114:1303-4 N 2 '40
City hall, Kansas City, Missouri. il Illum Eng 35:126 F '40
Fluorescent floodlighting for Commonwealth Edison building. il Illum Eng 35:655-6 S '40
Fluorescent floodlighting, General Electric building, New York. il Arch Forum 72:418 Je '40
Revival of building floodlighting with better load factor; fluorescent floodlights. A. F. Dickerson. il Gen Elec R 43:139 Mr '40
University of Texas, library tower. il Illum Eng 35:123 F '40

BUILDINGS—*Continued*

Management

College building maintenance costs. W. W. Randolph. Eng N 124:378 Mr 14 '40

Obsolescence

Neighborhood trends and building depreciation are measurable. il maps Arch Rec 87: 90-1 My '40

Vibration

Natural period of vibration of building frames. J. E. Goldberg. diag Am Concrete Inst J 11:81-95 S '39; Discussion. 11:sup 96¹-96⁸ F '40

Wrecking

See Wrecking

BUILDINGS, Industrial. See Industrial buildings

BUILDINGS, Multiple use

Park-and-shop building also includes sports facilities; Chevy Chase stores, Washington, D.C. il diag plans Arch Rec 87:119-20 Je '40

Well planned building combines 5-room apartment, garage, and small store. il plans Am Bld 62:104-5 Ap '40

BUILDINGS, Portable

Why not sell portable steel buildings and steel ceilings? Lutters' portable garage co. il Sheet Metal Worker 31:27-8 Ap '40

BUILDINGS, Remodeled

Modernizing Main street. F. T. Brown. il Am Bld 62:66-7+ O '40

Rejuvenation wins tenants. S. Ware. il Nation's Business 28:21-3, 102+ Je '40

Remodeling in glass attracts attention and dollars; jewelry store for Pugh brothers, Pittsburgh. il plans Arch Forum 72:205 Mr '40

Survey measures remodeling; 1,362 realtors, financiers, contractors and architects answer. Arch Forum 72:135 F '40

BUILDINGS, Standard

Prefabricated steel panel system for industrial buildings; Lindsay structure. il diags Am Bld 62:110+ Ap '40

Shop-built all-steel utility buildings at new Irwin works of Carnegie-Illinois steel corporation, Pittsburgh. il diags Am Bld 62: 64-5+ My '40

Stock buildings and their uses. il Factory Management 98:B62-B63 Ap '40

See also

Houses, Fabricated

BUILDINGS, Temporary

Experience in maintenance of large timber structures; temporary buildings of the Golden Gate international exposition. J. J. Gould. diags Eng N 125:240-2 Ag 15 '40

BULGARIA

Southern Dobruja; territorial dispute between Rumania and Bulgaria. map Economist 138: 566-7 Mr 30 '40

Commerce

Foreign trade in 1939. Comm Rep p413 My 4 '40

Economic conditions

Bulgaria in 1939. Economist 138:sup 18-19 F 17 '40

Business situation. Comm Rep p660 Ag 3 '40

Economic conditions. For Comm W 1:193-4 N 2 '40

Economic situation in 1939. Comm Rep p269-70 Mr 23 '40

BULKHEADS

Bulkhead and slip, Cleveland, Ohio; unit prices. Eng N 125:304 Ag 29 '40

Bulkhead wall and sewers, New York; unit prices. Eng N 125:432 S 26 '40

Port of New York; Bayonne terminal. M. Garsaud. il diags map Civil Eng 10:425-8 Jl '40

Something new in bulkhead anchorages; sheetpile bulkhead along rectified Cuyahoga River channel. G. B. Sowers. il diags Eng N 125:355-6 S 12 '40

Submerged barriers for shore protection; lake frontage, Chicago. E. E. R. Tratman. diags map Engineer 169:226-8 Mr 8 '40

Underwater seawall widens Chicago beach; jetties on Lincoln Park lakefront connected by sheetpile wall to form pockets for sandfill. plan Eng N 123:762-3 D 7 '39

BULKHEADS, Mine

How water breaks in Wabash River valley operations are checked and sealed off at Saxton mine. il diag Coal Age 45:49-50 Ag '40

BULLARD company

Earnings soar. G. L. Merton. il Mag of Wall St 67:40-1+ O 19 '40

Leaders in the machine tool industry; thumbnail appraisal. Mag of Wall St 66:28 Ap 20 '40

Thumbnail stock appraisal. Mag of Wall St 66:682 S 21 '40

BULLETIN boards

Bulletin board. il Nat Safety N 41:158+ Mr '40

BULLION. See Money; Precious metals

BULLITT, William Christian, 1891-

Portrait. Fortune 20:50 D '39

BULOVA watch company

Bulova spends $2,000,000 in 1940 to build customers for dealers. il Sales Management 46:24-6 F 15 '40

BUNA. See Rubber, Artificial

BUNGALOWS

Five two-family bungalows; one of FHA's smallest, lowest rent projects, gives Indianapolis builder 14 per cent income; with cost data. il plans Arch Forum 73:140-1 Ag '40

BUNKER, John Wymond Miller, 1886-

Portrait. Eng N 124:483 Ap 11 '40

BUNKERING stations. See Oil bunkering stations

BUNKS

Double deck bunk for summer cottage or small room. diags Am Bld 62:77 My '40

BUNSEN burner

Recent views on factors affecting flame velocity. D. T. A. Townend and M. MacCormac. bibliog Gas J (Lond) 229:294, 299-301 F 7 '40

BUOYS

Locating and maintaining buoys on the Great Lakes. F. P. Dillon. il Civil Eng 10:103-4 F '40

Seadrome contact light buoy. il Rubber Age 46:234 Ja '40

BURCHELL, W. Bartlett, 1888-1940

Sketch. East Underw 41:16 N 8 '40

BUREAU of personal accident and health underwriters

Annual meeting, Atlantic City, May 16-17. East Underw 41:31 My 17; 31+ My 24 '40; Ins Field (Life ed) 69:6 My 24 '40; Nat Underw 44:19+ My 23 '40; Spectator (Property ed) 5:10-11+ My 30 '40; Weekly Underw 142:1275 My 25 '40

BURETS

Locknut for a weight buret. M. Kilpatrick. diags Ind & Eng Chem Anal ed 12:548 S 15 '40

BURGLAR alarms

Bank vault burglar alarm research. H. D. Brailsford. Electronics 13:81-2 O '40

Fire detection on parade; demonstration studio of American district telegraph co.; electric protection systems against fire, burglary and holdup. il Safety Eng 78:8 D '39

BURIAL

Treasure in East Anglia; a buried Anglo-Saxon ship; sepulchral mound at Sutton Hoo. J. R. Moir. il Sci Am 162:266-7 My '40

BURMA corporation

Annual general meeting, Rangoon. Economist 138:121 Ja 20 '40

Profits, years ended June 30, 1937-39. Economist 137:262 N 18 '39

BURNERS
Mechanical atomization of fuel oil heavier than bunker C; burning cracking-still residuum in combination pulverized-coal and fuel-oil burners. G. G. Martinson. diags Oil & Gas J 38:80-2 My 9 '40
Use of pitch as a fuel. A. Bargeboer. il diags Gas J (Lond) 231:365-6+ Ag 28 '40

See also
Gas burners
Oil burners

BURNISHING. See Polishing

BURNS and scalds
First aid for burns; application of tannic acid. C. A. McAvoy. Sci Am 163:126-7 S '40
Immediate treatment of burns. H. S. Allen. Nat Safety N 42:82+ O '40

BURPEE, David, 1893-
Personalities in science. por Sci Am 163:115 S '40

BURRELL engines. See Steam engines—History

BURY'S rule
Approximate rules for solute activities in dilute solutions of non-electrolytes, generalized form of Bury's rule. M. Randall, W. F. Libby and B. Longtin. J Phys Chem 44:313-21 Mr '40

BUS transportation (periodical)
We are 19. Bus Transportation 19:9 Ja '40

BUSBARS
Braze tube bus with low-melt alloy. il diags Elec W 112:1470+ N 18 '39
Concentric bus for resistance welders. W. Specht. diag Elec W 114:558 Ag 24 '40
Increase bus capacity at South Meadow. il Elec W 113:1356-7 My 4 '40
Inductance of hollow rectangular conductors. T. J. Higgins. Franklin Inst J 230:375-80 S '40
Inefficient open wiring eliminated; bus-bar feeders provide flexible system; Kezar Falls (Me.) woolen co. F. A. Westbrook. il diag Textile World 90:61 Ag '40
Integrated supply improves service to welders; utility substation co-ordinated with plant interlaced bus scheme; Midland steel products company, Detroit. W. B. Hurley and W. Smith. il diags Elec W 113:1198-1200 Ap 20 '40
Interlaced bus design solves space problem. G. E. Tennant. il diags Elec W 114:991-2+ O 5 '40
Interleaved bus solves wiring problem. diags Elec W 113:2068+ Je 29 '40
New, a laminated bus; Los Angeles post-office and Federal building. il diags Elec West 84:58 My '40
No rewiring with plug-in power; all power for motors and lighting is distributed through a bus-duct system, Toledo scale company. H. Schaal. il Factory Management 98:78-9 Ja '40
Overhead bus-bar system for machine shops. il Engineer 169:541-2 Je 14 '40
Restriking-voltage characteristics under various fault conditions at typical points on the network of a large city supply authority. L. Gosland. diags Inst E E J 86: 248-74, pl 1-2 bibliog(p270) Mr '40
Ring bus effects savings at Boulder. T. J. Lovell. il diags Elec W 114:554 Ag 24 '40
Sectionalized buses; various arrangements with respect to short-circuit current, regulation, and stability. W. M. Hanna. diags Gen Elec R 43:399-402 O '40
Temperature rise of bus bars; calculated and test results for single and built-up bar forms, also solid and tubular round, and square tubular forms. H. B. Dwight, G. W. Andrew and H. W. Tileston, jr. bibliog Gen Elec R 43:213-16 My '40

Protection
Bus-bar protection. diags Electrician 123:214, 239, 260 Ag 25-S 8 '39
Current transformers and relays for high-speed differential protection, with particular reference to offset transient currents. E. C. Wentz and W. K. Sonnemann. il diags Elec Eng 59:Trans481-8 Ag '40
Phototube method for bus protection. L. D White. il Elec W 112:1890 D 30 '39
Relay protection of a-c rotating machines, transformers, buses, and lines. C. R. Mason. diags Gen Elec R 42:493-6 N '39

BUSES

See also
Motor buses
Trolley buses

Doors
Information on vehicles equipped with center doors; operating time; tabulation. Transit J 84:252 Jl '40

BUSH, Vannevar, 1890-
Coordinator, Research division of the National defense advisory commission. F. Neely. por Aviation 39:76 Jl '40

BUSH terminal buildings company
Earnings, 1936-39. Comm & Fin Chr 150:2083-4 Mr 30 '40

BUSH terminal company
Earnings, 1937-39. Comm & Fin Chr 150:2083 Mr 30 '40

BUSHINGS
Applying link trunnion bushings in Walschaert valve-gear brackets. A. D. Hollis. diags Ry Mech Eng 114:78 F '40
Dresser casing bushings. il Water Works & Sewerage 87:sup88 My '40
Dresser device provides quick pipe closure; casing bushing. il Gas Age 85:54 Je 6 '40; Am Gas J 152:46 Je '40
Flexible bushing developed by the Harris products co.; Torflex bushing. Automotive Ind 82:151 F 15 '40
Lathe attachment for grooving bushings. R. C. Smithyman. il diags Am Mach 84:752-4 O 2 '40
Making bronze bushings efficiently; Harnischfeger corp. H. Menck. il Steel 107:61+ Jl 15 '40
Making pipe bushings from standard pipe. W. F. Schaphorst. Water Works & Sewerage 87:204 My '40
Vibration dampener bushing for hand grinders. P. L. Kuznick. il India Rubber W 102: 55 Ap '40

Standards
Brass bushing standards; reference book sheet. A. C. Rasmussen. Product Eng 11: 337 Jl '40

BUSHINGS, Insulating
Analysis of bushing-current-transformer performance. J. P. Gebelein and J. A. Elzi. diags Elec Eng 59:Trans 541-6 S '40
Improvements in the construction of condenser bushings. A. J. A. Peterson. il diags Elec Eng 58:Trans 646-50; Discussion. Trans 650 D '39
Modern insulators; five years' developments in high-voltage outdoor type. J. S. Forrest. diags Elec R (Lond) 126:474 Ap 26 '40
Operating experience with high-voltage alternators. W. D. Horsley. diag Inst E E J 86:350 Ap '40
Overcurrent performance of bushing-type current transformers. C. A. Woods, jr. and S. A. Bottonari. diags Elec Eng 59:Trans 554-60 S '40
Proposed standards for outdoor bushings. Elec Eng 59:Trans 590-1 O '40
Sealed glass bushings for electrical apparatus. A. W. Hull, R. W. Moore and O. H. Doll. il diag Gen Elec R 42:525-8 D '39
Test, maintenance of 110-kv. bushings. J. P. Medlin. diags Elec West 84:135-7 Je '40
Transient and steady-state performance of potential devices. E. L. Harder, P. O. Langguth and C. A. Woods, jr. il diags Elec Eng 59:Trans 91-9; Discussion. Trans 99-102 F '40

BUSINESS
America's challenge to every man in business. P. Cabot. Ptr Ink 191:25-6, 30+ My 31 '40
And now, to work! Ptr Ink 193:11-12 N 8 '40
Building for business leadership. A. L. Miller. 238p bibliog(p239) $2 Barron's, New York '40

BUSINESS—*Continued*

Business and capitalism; an introduction to business history. N. S. B. Gras. 408p bibliog (p373-85) $3.50 Crofts '39; Review, by C. W. Moore. Mech Eng 62:536 Jl '40

Business effects of conscription. P. T. Cherington. il Adv & Sell 33:22-4+ S '40

Business principles and management. B. A. Shilt and W. H. Wilson. 636p $1.80 South-western pub. co. '40

Conference board studies in enterprise and social progress. 327p $5 Nat. ind. conf. bd. '39

Confident and strong, U.S. advertisers plan for full speed ahead; replies to P. I. inquiry. Ptr Ink 193:11-16 N 15 '40

Consumer economic problems. H. G. Shields and W. H. Wilson. 767p $1.88 South-western pub. co. '40

Executive's desk book; a practical manual of correct usage in business, official, and social activities including the Winston dictionary. W. J. Pelo, ed. 482p, 1352p bibliog(p436-50) $5.95 John C. Winston co, Chicago '40

Financial security in a changing world. M. S. Rukeyser. 272p $2.50 Greenberg, 67 W. 44th st, New York '40

First, peace among ourselves. C. E. Wilson. Elec W 113:1889 Je 15 '40

Fortune forum of executive opinion. Fortune 22:72-3, 112, 114 S; 74-5+ O '40

Goodbye to the thirties. H. Eckhardt. Adv & Sell 32:17-19+ D '39

Greenwood's business desk book; the standard business guide and correspondents' handbook for executives & secretaries. W. J. Greenwood. rev & enl ed 815p $1.49 Blue ribbon books '40

How population affects markets. W. F. Ogburn. il Nation's Business 28:70+ My '40

How U.S. business can be mainspring of defense program; full productive capacity is demanded. P. Hollister. Ptr Ink 191:11-14, 98, 100 Je 28 '40; Adv & Sell 33:17-18+ Jl '40

Looking to 1950. L. Nejelski and others. Oil Paint & Drug Rep 138:60+ O 14 '40

Management, backbone of U.S. defense program, must rise to its opportunities. R. K. Strassman. Ptr Ink 193:67-70 O 4 '40

New outlook in business. B. Batchelor, ed. 323p $3 Harper '40

One thousand ways to make $1000. F. M. C. Minaker, ed. 3d rev ed 478p bibliog(p437-68) $2.50 Dartnell corp, Chicago '40

Our business life. L. L. Jones. 2d ed 680p $1.50 Gregg '39

Peace time economy need not be ruined as nation prepares; experiences of past, including World war. S. W. Reyburn. Ptr Ink 192:11-14 S 20 '40

Promise and problem of technological progress. J. Lloyd. il Mag of Wall St 66:78-80+ My 4 '40

Sales machine, kept in highest gear, can lighten tax burden. G. F. Tilton. Ptr Ink 192:61, 64-6+ Jl 12 '40

Second conference on business-consumer relations; proceedings, New York, May 13-14, 1940. 134p $2.50 National assn. of better business bureaus, 405 Lexington av. New York '40

Simple business is best. J. A. Murphy. Barron's 20:7 Ja 8 '40

Speaking of change; a selection of speeches and articles. E. A. Filene. 324p 75c; pa 25c National home library foundation, Washington, D.C. '39

Too big. M. L. Ernst. 314p $2.75 Little '40

Town meeting of the air; can business and government work together today? Inv Banking 10:26-7 Ja '40

Understanding American business. H. B. Neill and H. M. Cool. 448p $2.50; text ed $1.92 Macmillan '40

See also

Accounting
Advertising
Applications for positions
Auditing
Billing
Bookkeeping
Budget, Business
Business conditions
Business failures
Business management
Cash business
Catalogs
Christmas business
Collecting of accounts
Commerce
Commercial correspondence
Commercial law
Competition
Cooperation
Corporations
Cost accounting
Credit
Delivery of goods
Department stores
Efficiency, Industrial
Employment management
Executives
Export trade
Federal trade commission
Files and filing (documents, etc.)
Finance
Financial statements
Government aid to business
Government regulation of industry
House organs
Income
Industrial management
Industry
Instalment plan
Insurance
Inventories
Investments
Jobbers
Mail order business
Mailing
Mailing lists
Manufactures
Marketing
Merchandizing
Money
Office management
Orders
Organization in industry
Price polices
Profit
Public relations
Purchasing
Real estate business
Retail trade
Sales letters
Salesmanship
Salesmen
Seasonal industries
Securities
Show windows
Speculation
Stabilization in industry
Success
Taxation
Telephone in business
Trade associations
Trade marks
Trust companies
Trusts, Industrial
War—Economic aspects
Weather—Business aspects
Winter business

Bibliography

Book list; selected American publications, August 1 to November 1, 1939. Harvard Business R 18 no 2:261-4 [Ja] '40

Books in brief. Ptr Ink 189:68-9 D 29 '39; 190:49-50 F 23; 191:77-9 Ap 12; 192:64-6 Jl 5; 193:67, 70 O 11; 67-8 O 18 '40

Business books for today. Cleveland Pub Lib Business Information Bur v 2, no 2:1-2 Ap '40

Business literature; a monthly note; published by the Business branch, Newark public library, Newark, N.J.

Kress library of business and economics; catalogue covering material published through 1776 with data upon cognate items in other Harvard libraries. 414p pa $5 Baker library, Harvard graduate school of business administration, Boston '40

New books for executives. Published in monthly numbers of American business

Reference shelf. (Business literature v 12, no 10) 2p Business branch, Newark public library Je '40

Securing business information. (Business literature v 12, no 8) 2p Business branch, Newark public library, Newark, N.J. Ap '40

Selected books on business. Univ. of Nebraska, Studies in Business 43:1-50 '39 (pa 50c)

Survey of books for executives. Published in monthly numbers of Management review

Ten outstanding books of the year; for investors and businessmen. W. T. Cobb. Barron's 19:9 D 18 '39

Your business in a changing economy; 1939 books that look ahead. Cleveland Pub Lib Business Information Bur v 10, no 4:1-4 D '39

Biography

Who's who in commerce and industry; the international business who's who. v. 8, 1940-41. 3d international ed 1017p $15 A. N. Marquis co, Chicago '40

Foreign expansion

See also

Branch factories, Foreign

BUSINESS—*Continued*

History

Casebook in American business history. N. S. B. Gras and H. M. Larson. 765p $5 Crofts '39; Review, by C. W. Moore. Mech Eng 62:536+ Jl '40

Growth of rigidities. N. S. B. Gras. Harvard Business R 18 no 3:322-36 [Ap] '40

Pioneer merchant of St Louis, 1810-1820; the business career of Christian Wilt. Sister Marietta Jennings. 219p bibliog(p203-10) $2.50 Columbia univ. press '39

Mortality

Automobile industry's mortality table; 21 out of 812 passenger cars still being produced. Business Week p16 D 16 '39

Births and deaths of retail stores in Indiana, 1929-1937. G. W. Starr and G. A. Steiner. il Dun's R 48:23-8 Ja '40

Business success and failure. H. V. Prochnow. Bankers M 141:69 Jl '40

See also
Business failures

Opportunities

Yes; little fellows, aided by advertising, can still grow big. C. B. Larrabee. Ptr Ink 192:11-14 S 27 '40

Political aspects

Business during presidential years since 1832. L. M. Hostetler. Barron's 20:20 Ja 29 '40

Election year market swings since 1900; chart. Mag of Wall St 66:450 Jl 27 '40

1940 Congress; what it can accomplish for business in a presidential year. Mag of Wall St 65:334-6 D 30 '39

Presidential elections, business and the market; a forty-six year period at a glance; with chart. H. M. Tremaine. Mag of Wall St 65:402-3 Ja 13 '40

Talking politics to employees. J. Garth. il Am Business 10:17+ S '40

12 questions facing business in '40. H. H. Heimann. Credit & Fin Management 42:6-8+ Ja '40

See also
Government regulation of industry
Industry and state
Presidential campaigns

Reports

Business reports; investigation and presentation. A. G. Saunders and C. R. Anderson. 2d ed 468p bibliog(p455-61) $3.50 McGraw-Hill '40

Reports to executives

How's our own red tape? much report-making and useless procedures will tangle efficiency. W. H. Conant. Barron's 20:5 Je 3 '40

When the president says, "let's see the figures"; Dartnell survey of control reports. Am Business 10:13-15+ Mr '40

Reports to government

Department of commerce asks manufacturers to cooperate in monthly industry survey. Comm & Fin Chr 151:185 Jl 13 '40

Industry reporting within a rationalized system of federal statistics. S. A. Rice. Edison Elec Inst Bul 7:547-8 N '39

Small business

Aid for little fellow; SEC reports to TNEC. Business Week p22 S 14 '40

Banks and idle money; improving credit facilities for small business. W. Thomas. Fed Res Bul 26:192-200 Mr '40; Excerpts. Comm & Fin Chr 150:1698-9 Mr 16 '40

Credit needs of small business. E. G. Draper. Bankers M 141:159-61 Ag '40

Financial problem of small business; summary of TNEC report. J. C. O'Mahoney. Bankers M 141:349-51 O '40; Same. Fed Res Bul 26:1055-6 O '40

Financing the defense program; contracts by the smaller business enterprises. Fed Res Bul 26:1171 N '40

How can a small company break in against big-time competition? C. E. Jamieson & co. C. E. Jamieson. Sales Management 47: 48-50 N 1 '40

Little company cracks big time market; sells 36,000 Ford tractors in year; achievement of Ferguson-Sherman. A. M. Howe. il Ptr Ink 193:21-2+ O 18 '40

Mead bill for direct loans to business introduced; Industrial loan corporation under the Federal reserve system. H. D. Ralph. il Burroughs Clearing House 24:15-16 D '39

New proposals for government loans to small business. Nat City Bank p137-40 D '39

Problems in small business credit. A. L. M. Wiggins. Bankers M 141:219-21 S '40

Profits and dividends; big business vs. small. E. B. George and R. L. Tebeau. bibliog il Dun's R 48:11-22 Ja '40

Proposals for making loans to small business contained in report prepared for TNEC by group of SEC. Comm & Fin Chr 151:1507-8 S 14 '40

SEC Chairman Frank urges Congress to create loan system to aid small business; proposes organizing regional banks to supply equity capital. Comm & Fin Chr 150:363 Ja 20 '40

Small business needs credit; Mead bill plan. J. M. Mead. Bankers M 140:159-60 F '40

Small business tells needs; United States junior chamber of commerce survey. Inv Banking 10:31 Ja '40

Small business wants capital; the Mead bills and the issue between the new deal and the bankers. W. L. Stoddard. bibliog Harvard Business R 18 no 3:265-74 [Ap] '40

Use existing system for small business credit. W. Netherland. Bankers M 140:488-9 Je '40

Wanted: new banking system for small business. P. R. Nehemkis, Jr. Bankers M 140: 484-7 Je '40

Woman builds big industrial business from small start; Kellems products, inc. E. H. Pearson. Ptr Ink 193:9-12 O 4 '40

Yes; little fellows, aided by advertising, can still grow big; case studies of spectacular successes in recent depression years; Pepsi-Cola, Philip Morris and others. C. B. Larrabee. Ptr Ink 192:11-14 S 27 '40

See also
National federation of small manufacturers

BUSINESS budget. See Budget, Business

BUSINESS conditions

America, the war, and interest rates. F. C. James. Trusts & Estates 70:601-3 Je '40

Annalist index of business activity. S. L. Miller. Annalist 55:107 Ja 25 '40 [cont monthly thru O 24]

Back to work we go! Ptr Ink 192:11-14 Jl 19; 60-2. 64 Jl 26; 17-20 Ag 2; 23-4, 27, 30 Ag 9; 23-6 Ag 16; 17-20 Ag 23; 19-22 Ag 30; 23-6 S 6; 19-22 S 13 '40 [cont weekly]

Bank clearings in 1939 and the course of trade and speculation. Comm & Fin Chr 150:544-57 Ja 27 '40

Break-through in the markets. Business Week p55, 57-9 My 18 '40

Build America! viewpoints at annual meeting of Chamber of commerce of the United States, Washington, D.C. Nation's Business 28:33-64 Je '40

Business activity index shows sharp decline. S. L. Miller. Annalist 55:294-5+ F 22 '40

Business and finance speaks; symposium on 1940 prospects. K. S. Adams and others. Comm & Fin Chr 150:480+ Ja 27 '40

Business and securities reached peak levels in 1939 on recovery rather than war factors. A. T. Miller. Mag of Wall St Manual p 1-2+ Mr 2 '40

Business beats the blitzkrieg; sales and advertising rise. L. M. Hughes. Sales Management 46:62+ Je 15 '40

Business conditions and the defense program. Fed Res Bul 26:1029-39 O '40

Business developments overseas. Published monthly in Economist Trade supplement

BUSINESS conditions—*Continued*
Business faces the forties. S. C. Davis. Management R 29:4-5 Ja '40
Business in 1940. H. H. Heimann. Bankers M 189:532 D '39
Business looks good! cheerful picture in P.I. jury report. D. E. Robinson. Ptr Ink 192: 11-13, 58+ Jl 26 '40
Business outlook. D. W. Ellsworth. Published in weekly numbers of Annalist
Business outlook; indications of improvement visible; with charts. D. W. Ellsworth. Annalist 55:547-8 Ap 18 '40
Business record, state by state; percent gain or loss from first nine months 1938 to first nine months 1939; tabulation. Business Week p32 D 23 '39
Business record, state by state; per cent gain or loss from first quarter 1939 to first quarter 1940; tabulation. Business Week p18 Je 29 '40
Business record, state by state; per cent gain or loss in 1939 compared with 1938; tabulation. Business Week p46 Mr 23 '40
Business review and forecast. C. L. Benner. East Underw 41:10-11+ Ja 26 '40
Business situation abroad. L. Domeratzky. Published in weekly numbers of Commerce reports [cont as Foreign commerce weekly beginning O 5]
Business spotlight shifts; end of production boom puts emphasis on defensive strength. H. L. Blackburn. il Mag of Wall St 65:656-8+ Mr 9 '40
Business thermometer. Published in monthly numbers of Credit and financial management
Business trend. Published in weekly numbers of Steel
Condition of business. Published in monthly numbers of Banking
Current level of economic activity; review of 1939. Fed Res Bul 26:81-8 F '40
Defense boom may be delayed. L. M. Hostetler. Barron's 20:3 Ag 12 '40
Distribution of war-born deposits; Reserve districts bordering the sea show largest rise, mid-West and deep South, the least. L. M. Hostetler. Barron's 20:18 S 30 '40
Economic changes in the United States, 1856-1939; chart showing business activity, prices, commercial paper rates, bond yields. Annalist 55:144-5 Ja 25 '40
Economic continuity broken, investors face entirely new financial situation. E. W. Axe. Annalist 56:70-1+ Jl 18 '40
Economic review of 1939. Survey of Cur Business 20:3-52 F '40
Effect of war developments on American markets. Fed Res Bul 26:489-94 Je '40
Effects of the defense program on consumers' goods industries and trade. P. M. Carlisle. Annalist 56:332+ S 12 '40
Eight years' discussion of business and business problems; how editorials in Railway age from Sept. 17, 1932, to the present have pointed out upswings and downswings of business. Ry Age 109:626-33 N 2 '40
Employment lagging, except in defense industries; business index higher in second quarter. D. W. Ellsworth. Annalist 56:74-5 Jl 18 '40
Examining the base for sustained 1940 recovery. G. W. Mathis. Mag of Wall St 65:392-4+ Ja 13 '40
Examining the danger signals. J. Lloyd. Mag of Wall St 65:222-3+ D 2 '39
First half roundup; 1940 compared with 1939; chart. Business Week p33 Ag 3 '40
First quarter roundup; 1940 compared with 1939; chart. Business Week p33 My 4 '40
Gauging business ahead by orders. J. D. C. Weldon. il Mag of Wall St 65:461-3+ Ja 27 '40
General business conditions. Published in monthly numbers of National city bank
Good old days are gone but good new days are coming. J. D. C. Weldon. Mag of Wall St 66:15-17+ Ap 20 '40
How much business reaction? economic factors suggest only moderate recession. W. Gates. Mag of Wall St 65:528-9+ F 10 '40
How 21 industries line up at start of 1940; tabulation. Barron's 20:21-2 Ja 15 '40
How will business be next year? Sales Management 45:26 D 15 '39
How's business? cross currents behind the composite index. P. Dobbs. Mag of Wall St 65:281+ D 16 '39
How's business? weekly and monthly indexes of production and trade. Published in weekly numbers of Barron's
Indications of business activity. Published in weekly numbers of Commercial & financial chronicle
Industry appraises its outlets; consumer buying power vs. production. J. C. Cresswill. il Mag of Wall St 65:204-6+ D 2 '39
Iron, steel export prospects considered best since 1920; January-February exports triple those for same period last year. Steel 106: 18-19 Ap 1 '40
Map of the nation's business. F. Greene. Published in monthly numbers of Nation's business
Most depression losses not recovered in 1939, reports the Conference board. Comm & Fin Chr 150:779 F 3 '40; Same. Bankers M 140: 260-1 Mr '40
National city bank of New York sees indication of check in business decline. Comm & Fin Chr 150:2806 My 4 '40
National summary of business conditions. Published in monthly numbers of Federal reserve bulletin
Nine reasons why advertising should continue despite election and war. D. Taylor. Ptr Ink 190:25-6+ F 16 '40
1929 is not a good yardstick. Business Week p40 D 23 '39
1940, a bird's eye preview; with charts, 1936-39. Comm & Fin Chr 150:473-6, 478 Ja 27 '40
Outlook for common stocks in 1940 made uncertain by world political upheaval. E. W. Axe. Annalist 55:104+ Ja 25 '40
Outlook for 1940. L. P. Ayres. Trusts & Estates 70:53-4 Ja '40
Picture of business; charts and maps. Banking 33:49-53 S '40
Preview for 1940; business for the first quarter, and the outlook for leading industries. G. W. Mathis. il Mag of Wall St 65:328-31+ D 30 '39
Recent economic changes. S. L. Miller. Annalist 55:554 Ap 18 '40
Regional business outlook. Published in weekly numbers of Business week
Regional trade barometers. L. D. H. Weld. map Dun's R 48:32-7 Ja '40 [cont monthly]
Reverse recovery; durable goods leadership. J. D. C. Weldon. il Mag of Wall St 67:131-3+ N 16 '40
Review of the month. Published in monthly numbers of Federal reserve bulletin
Rise or pause in fourth quarter business? W. Gates. Mag of Wall St 66:659-60 S 21 '40
Second quarter business outlook. J. D. C. Weldon. Mag of Wall St 65:722-6+ Mr 23 '40
Secretary Hopkins says business recovery is widening. Comm & Fin Chr 151:186 Jl 13 '40
Six months of economic war; report to executives. Business Week p31-4+ Mr 2 '40
Stock market and business prospects; speculation no longer sustains recovery. J. F. Hughes. Annalist 55:195+ F 1 '40
Stop, look and listen; dangers in abnormal business conditions caused by war. J. H. Van Deventer. Iron Age 145:49-51 Ja 4 '40
Summary of business conditions in United States by Board of governors of Federal reserve system, December. Comm & Fin Chr 150:343-4 Ja 20 '40 [cont monthly]
Survey of business trends, 1939; sales and inventories; final report. Dun's R 48:5-16 My '40
Survey of business trends, 1939; sales and inventories; preliminary report. il Dun's R 48:10-19 Mr '40
Survey of current business; 1940 supplement. Survey of Cur Business 1940 Sup p 1-249 (pa 40c)

BUSINESS conditions—Continued
Third quarter business outlook. W. Gates. Mag of Wall St 66:338-40+ Je 29 '40
Timing the armament boom. L. Stern. il Mag of Wall St 66:608-10+ S 7 '40
Tone of business; supply-demand factors indicate need for adjustment. R. R. Irwin. Barron's 20:20 O 28 '40
U.S. industry readjusts to war. J. Lloyd. Mag of Wall St 66:266-8 Je 15 '40
Viewing 1940 outlook, Fenner & Beane. Comm & Fin Chr 150:36 Ja 6 '40
Weekly index numbers, measuring business activity. G. Baumgart. J Business 13:234-52 Jl '40
Which way for business now? J. D. C. Weldon. Mag of Wall St 66:74-5+ My 4 '40
Why business fight to restore lagging prosperity is sure to triumph in end. M. Shields. Ptr Ink 191:11-14 My 10 '40
Year ended with industrial production index at new high record. J. Collins. Annalist 55: 106-7 Ja 25 '40

See also
Business cycles
Business depression
Business failures
Business forecasting
Business statistics
Economic conditions
Export trade
Index numbers (economics)
Market statistics
Prices

BUSINESS conferences
Let's not call a conference. W. H. Conant. Barron's 20:7+ S 9 '40
Studies in cooperation. S. A. Courtis. Personnel J 18:314-34 Mr '40
Why Mr Big should call a conference; using clinical method in business. E. R. Conover. Barron's 20:9 S 30 '40

BUSINESS consolidations
Nature of acquired surplus. T. York. J Account 69:363-8 My '40

See also
Railroads—Consolidation

BUSINESS cycles
Banking and the business cycle. L. P. Ayres. Comm & Fin Chr 150:4060 Je 29 '40; Same. Bankers M 141:175-6 Ag '40
British share prices, 1811-1850. A. D. Gayer, A. Jacobson and I. Finkelstein. R Econ Statis 22:78-93 My '40
Business activity's complex cyclical pattern; the modal index. S. Hutner. Annalist 55: 832-3 Je 13 '40
Business and changing climates; are slow climatic changes the basic, underlying cause of economic cycles? C. A. Mills. il map Sci Am 163:206-8 O '40
Business cycles and forecasting. E. C. Bratt. rev ed 814p $4 Business publications, Chicago '40
Our changed economy. L. Stern. Mag of Wall St 65:278-80+ D 16 '39
Profits, interest and investment, and other essays on the theory of industrial fluctuations. F. A. von Hayek. 266p $2 Musson bk. co, Toronto, 2 '39
To preserve our free banking system. R. W. Manuel. Bankers M 141:285-90 O '40
Turning points in business cycles. L. P. Ayres. 214p $2.75 Macmillan '39; Review, by D. S. Tucker. Mech Eng 62:315-16 Ap '40

See also
Business depression
Business forecasting
Stabilization in industry

BUSINESS depression
American economy, 1929-1939. Economist 137: 319-20 D 2 '39
Basing railroad reorganizations on permanency of depression. Ry Age 109:357-60 S 14 '40
Depressions challenge management. J. R. Weaver. Iron Age 145:112-13+ Ja 4 '40
Extent of waste from depression unemployment; summaries and excerpts from National resources committee report. Monthly Labor R 49:1075-9 N '39
1937 recession in England. J. A. Brown. bibliog Harvard Business R 18 no 2:248-60 [Ja] '40
Our mature economy; arguments against this doctrine. Nat City Bank p44-7 Ap '40
Watch the business danger signals. J. D. C. Weldon. Mag of Wall St 65:598-9+ F 24 '40

See also
Business conditions
Business cycles
Business failures
Business management
Stabilization in industry
Unemployment

BUSINESS districts
Fighting property depreciation in downtown Pittsburgh. W. S. Walker. il Civil Eng 10:590-2 S '40
Modernizing Main street. F. T. Brown. il Am Bld 62:66-7+ O '40
Urban land institute to undertake study of factors affecting losses or growth of downtown areas in 12 or more cities. Comm & Fin Chr 151:1368 S 7 '40

BUSINESS education
Business and money-making; for use in private schools of business. A. B. Zu Tavern. 126p pa 98c Commercial textbook co, 1032 Mission st, South Pasadena, Calif. '39
Business curriculum; sixth yearbook of the National commercial teachers federation. 456p $2.50; to members $2 National commercial teachers federation, J. M. Hill, sec, Bowling Green business univ, Bowling Green, Ky. '40
Business education; basic principles and trends. H. A. Tonne. 344p $2 Gregg '39
Business education in school situations; proceedings of the University of Chicago Conference on business education, 1939. 36p pa 50c Univ. of Chicago press '39
Distributive education; information for teachers and administrators of business education. J. M. Hanna and M. H. Freeman, eds. 55p bibliog(p52-3) gratis South-western pub. co. '40
Fellowships for business executives of the Massachusetts institute of technology. Science 91:210 Mr 1 '40
Fundamental issues in business education. J. M. Hanna. 56p gratis South-western pub. co. '40
Introductory business training. J. M. Brewer, F. Hurlbut and J. Caseman. new ed 524p $1.60 Ginn '40
Methods of teaching commercial subjects. R. G. Walters. 32p bibliog(p30-2) pa gratis South-western pub. co. '39
National commercial teachers federation, fifth yearbook; Indices of good teaching. 359p $2.50 National commercial teachers federation, Bowling Green, Ky. '39
Office and secretarial training. R. Stickney and B. G. Stickney. rev ed 423p bibliog (p260-8) $1.60 Prentice-Hall '40
Research studies in business education. 85p Delta pi epsilon, Beta chapter, A. & M. college, Stillwater, Okla. '40
Social and economic program; adapting to new horizons in education for business management. H. B. Wells and A. M. Weimer. Trusts & Estates 70:465-8 My '40

See also
Accounting—Study and teaching
Commercial law—Study and teaching
Executives—Training
Marketing—Study and teaching
Secretaries, Private
Shorthand
Statistics—Study and teaching
Trust service, Education for
Typewriting

Bibliography
Annotated bibliography for course 232.3, 4. P. S. Lomax and L. R. Toll. 64 numb l New York university bookstore, New York '40
Bibliography of tests and testing in business subjects. C. W. Woodside and S. J. Wanous, comps. 36p pa gratis South-western pub. co. '39
Classified bibliography of articles in The balance sheet from September, 1927, to May, 1939. 24p South-western pub. co. '39

BUSINESS education—Bibliography—*Continued*
Preliminary bibliography of current periodicals, quarterlies, yearbooks, and bulletins in business education with annotations, excerpts, reviews, and index. H. B. Buckley. U S Office of Educ Misc 2221:1-33 '39

Tests and scales

Bibliography

Tests in business education. D. Segel and K. B. Haas. U S Office of Educ Misc 2109:1-16 '38

BUSINESS ethics
Backbone of industry; personal and public relations and ethics of the refractory industry. J. D. Ramsay. Brick & Clay Rec 97:50+ Ag '40

Business, management and character. R. W. Babson and T. H. Schutte. 63p $1 Christopher pub. house, Boston '40

See also
Accounting ethics
Advertising ethics
Banking ethics
Competition, Unfair
Insurance ethics
Libel and slander
Price cutting
Price discrimination
Price fixing
Speculation
Success
Trade practices
Trust companies—Ethics
Wealth, Ethics of

BUSINESS expansion. See Business management—Expansion problems

BUSINESS failures
Analyzing the record of industrial and commercial failures in 1939, with comparative figures since 1896. Dun's R 48:38-42 F '40

Business failures in the first quarter. Dun's R 48:21-4 My '40

Canadian failures by provinces, monthly; and quarterly record by province, city, and division of industry. Published in Dun's statistical review; summary in Dun's review

Commercial failures, by districts. Published in monthly numbers of Federal reserve bulletin

Commercial failures in Canada, monthly, 1934-38. Survey of Cur Business 19:18 N '39

Commercial failures, 1936-1939. Survey of Cur Business 1940 Sup p53-4 [supplemented in monthly numbers]

Monthly and quarterly failures by division of industry, city, state, Federal reserve district, and size of liability. Published in Dun's statistical review; summary in Dun's review

Why businesses fail. J. A. Murphy. Sales Management 46:18-20+ Mr 1; 27-8+ Mr 15 '40

See also
Bank failures
Bankruptcy
Business—Mortality
Business depression
Corporations—Finance

BUSINESS fallacies
We worship silly things, too; modern superstitions. il Am Business 10:23 My '40

BUSINESS forecasting
Beaver hats of tomorrow offer bright future for industry despite waste of war; roundup of editorial opinion as to current technical development in next two years. Ptr Ink 191:11-13, 65-9 Je 7 '40

Boom and doom; industrial advertisers in convention. A. M. Howe. Ptr Ink 192:41, 44+ S 27 '40

Business barometers and investment. R. W. Babson. 270p $3 Harper '40

Business forecasters; derivative price index; bank debit-commercial loan ratio. S. L. Miller. Annalist 56:39+, 204+, 334 Jl 11, Ag 15, S 12 '40

Business forecasters; revised money supply-demand indicator and derivative price index decline. F. Salz. Annalist 55:68+, 292, 479, 879; 56:62-3 Ja 18, F 22, Mr 28, Je 20, Jl 11 '40

Business outlook; new-order indexes as business forecasters. D. W. Ellsworth. Annalist 55:585-6 Ap 25 '40

Cost-selling-price business forecaster. G. M. Ule. Annalist 56:334 S 12 '40

Gauging business ahead by orders. J. D. C. Weldon. il Mag of Wall St 65:461-3+ Ja 27 '40

How Westinghouse makes business forecasts; abstract. F. D. Newbury. Management R 29: 64-5 F '40

Inventory and new order statistics; new order indexes as business forecasters; letter by F. Roe; discussion. Annalist 55:889; 56:63 Je 27, Jl 11 '40

New signposts for industry; population trend vital factor for businessmen and investors. F. H. Sterns. Barron's 20:3 F 5; 20 F 26 '40; Abstract. Management R 29:124-5 Ap '40

No danger sign in bank figures. L. M. Hostetler. Barron's 20:9 Ja 1 '40

Relationship between cost and selling price indices as a business forecaster. G. M. Ule. Annalist 55:229, 516 F 8, Ap 11 '40

Trend of sales-inventory ratio less favorable, despite further rise. R. S. Driscoll. Annalist 56:239 Ag 22 '40

Watch the banking figures; relationship to future changes in business. L. Stern. Mag of Wall St 65:212-13+ D 2 '39

Watch the business danger signals. J. D. C. Weldon. Mag of Wall St 65:598-9+ F 24 '40

See also
Budget, Business
Cash estimates
Dow theory
Market statistics
Production and sales, Coordination of
Sales estimates

BUSINESS gifts. See Christmas gifts—Business gifts

BUSINESS information
Check list of government reports of value to sales executives. Sales Management 46: 56-7 My 1 '40

Cooperation in business library service; symposium. Special Lib 31:251-60 Jl-Ag '40

Bibliography

Market research sources, 1940; a guide to information on domestic marketing. R. Bretherton. U S Bur For & Dom Com, Domestic Commerce Ser 110:1-236 '40

BUSINESS insurance. See Insurance, Business

BUSINESS law. See Commercial law

BUSINESS letters. See Commercial correspondence; Sales letters

BUSINESS libraries
Business library and its relation to management. C. N. Watkins. Special Lib 31:245-8 Jl-Ag '40

Cooperation in business library service; symposium. Special Lib 31:251-60 Jl-Ag '40

Value of a general company library. Management R 29:190-1 My '40

Who is your public and how do you serve it? K. B. Elliott. Special Lib 31:193-5 Jl-Ag '40

See also
Bank libraries
Libraries—Business branches and departments
Technical libraries
Trade associations—Libraries

BUSINESS luncheons and dinners
How to be a clever host at a business lunch or dinner. il Sales Management 47:22-4+ Ag 1 '40

BUSINESS management
Administrative organization in business and industry. L. A. Appley. Mech Eng 62:278-82 Ap '40

Air conditioning contractor; potential volume, overhead, diversification and employees' functions. J. H. Carter. diag Heating-Piping 12:180-1, 289-90 Mr, My '40

Air conditioning contractor; value of using cost estimating sheets; how selling price is found. J. H. Carter. il Heating-Piping 12: 481-3 Ag '40

American radiator & standard sanitary corp.; President Henry Reed I, out to lick inefficiency. il plan Fortune 21:56-61+ Mr '40

Are you a business executive? W. C. Moore. Pulp & Pa of Can 41:502 Jl '40

BUSINESS management—*Continued*

Are your business methods in a rut? establish a periodic check-up system for each business step. W. H. Conant. Barron's 20:7 O 7 '40

Board of directors. G. E. Bates. Harvard Business R 19 no 1:72-87 [S] '40

Bosses who get in my hair; the cold water sprinkler. A. R. Barkley. Am Business 10: 28-9 Ja '40

Business management and character. R. W. Babson and T. H. Schutte. 63p $1 Christopher pub. house, 1140 Columbus av, Boston '40

Business policies and management. W. H. Newman. 644p $4 South-western pub. co. '40

Democracy in management; how Williamson makes it work; all junior executives share in formulating general management policies and in administering them. W. L. McGrath and L. B. Murphy. Sales Management 47: 18-20+ Ag 1 '40

Director's job in management. R. W. Lea. Management R 29:164-8 My '40

Don't-put-your-neck-out executive. E. Whitmore. Am Business 9:30+ D '39

Evolution of management attitudes as applied to the employe, the customer, the stockholder, to government and the public. C. C. Conway. Advanced Management 4 no5:141-4 '39

Executive and the technologist; a proper understanding between them. W. B. Bell. Ind & Eng Chem News ed 18:185-90 Mr 10 '40; Same. Chem Ind 46:296+ Mr '40

Function of management in marketing. D. R. G. Cowan. Ann Am Acad 209:71-8 My '40

Further thoughts on the management aspect of accounting control. S. A. Peck. N A C A Bul 21:549-68 Ja 1 '40

Gearing a business for national defense. M. Bower. Harvard Business R 19 no 1:66-71 [S] '40; Excerpts. Management R 29:353-5 O '40

Half page for broccoli; how two immigrants built big garden business; D'Arrigo brothers. J. Lewis. il Ptr Ink 190:11-14 Ja 5 '40

Heedless of the future. G. W. Hill. Business Week p59 Ap 6 '40

How's our own red tape? much report-making and useless procedures will tangle efficiency. W. H. Conant. Barron's 20:5 Je 3 '40

Indexes of company performance; charting results against quotas monthly to provide dynamic picture; interview with Wallace Clark. B. Brougham. Barron's 20:9-10 Ap 8 '40

Internal control; a panel discussion. N A C A Bul 21:1519-44 Ag 15 '40

International Business Machines is Mr Thomas J. Watson's temple of the company spirit. il Fortune 21:36-43+ Ja '40

Job of an executive; review of C. I. Barnard's The functions of the executive, with supplementary comment. M. T. Copeland. Harvard Business R 18 no 2:148-60 [Ja] '40; Reply. C. I. Barnard. 18 no 3:295-308 [Ap] '40

Let the big fellows be your smallest worry; story of a comparatively small chemical manufacturer, by A. R. Maas as told to J. H. Collins. Nation's Business 28:20-2, 78+ S '40

Let's not call a conference. W. H. Conant. Barron's 20:7+ S 9 '40

Management consultants deal with people. R. Donham. Harvard Business R 19 no 1:33-41 [S] '40

Management policies by industries; job printers E. T. Miller. Bankers Mo 57:285-7+ My '40

Management policies by industries; soft drinks bottlers. W. B. Leonard and N. D. Stone. il Bankers Mo 57:152-7+ Mr '40

Management policies by industries; steel castings industry. O. E. Mount. il Bankers Mo 57:95-6, 98, 100 F '40

Management policies that help a business grow; Pliofilm firm, Richards, Boggs and King. E. Whitmore. il Am Business 9:18-20+ D '39

Management research; examples from fields of public relations and merchandizing. J. S. Perkins. Harvard Business R 18 no 4:488-95 [Jl] '40

Newer fields in cost application. C. Reitell. N A C A Bul 21:849-58 Mr 15 '40

Overworked executives and the short hour week. J. Garth. il Am Business 10:11-13+ My '40

Planning of future earnings; formulation of operating program a year ahead fixes responsibility and improves management. W. Clark. Barron's 20:7 F 5 '40

Road maps, tours and detours in management; budget provides a useful guide. P. Kellogg. Pulp & Pa of Can 41:434-8 Je '40

Safeway stores, inc.; behaves as if it were operated for the benefit of its producers, employees, and consumers. il Fortune 22: 60-4+ O '40

Social responsibility of management five years hence; symposium. Advanced Management 5:125-9+ Jl-S '40

Standardization, the automatic pilot of management; standards in merchandizing, selling, research; organizing for standardization. J. Gaillard. Advanced Management 4 no5:145-50 '39

Training men to look ahead. E. H. Schell. Nation's Business 28:30, 32+ Mr '40

Use these management controls in 1940. E. H. Shanks. il Am Business 9:11-14 D '39

What did business learn from the tumbling thirties? a Dartnell survey. il Am Business 10:11-13+ Ja '40

What the general manager thinks about. R. T. Kent. Mech Eng 62:370-4 My '40; Same cond. Engineer 169:523-4 Je 7 '40

What to do when customers ask contributions to their pet charities. Ptr Ink 191:19-21 My 17 '40

When a business stops to admire itself; success of Simmons hardware company and subsequent decline. E. Whitmore. Am Business 10:31-2 Jl '40

When conscription comes, will you be caught napping? C. Norton. Sales Management 47:62-4 S 1 '40

When the president says, "let's see the figures"; Dartnell survey of control reports. Am Business 10:13-15+ Mr '40

Where do general managers come from? E. Whitmore. il Am Business 10:11-13+ Ap '40

Why businesses fail. J. A. Murphy. il Sales Management 46:18-20+ Mr 1; 27-8+ Mr 15 '40

Why businesses succeed. J. A. Murphy. Sales Management 46:25, 28, 31 Ap 1 '40

Why Mr Big should call a conference; using clinical method in business. E. R. Conover. Barron's 20:9 S 30 '40

Young men in top management. W. Webb. Am Business 10:18-20 S '40

See also

Accounting
Advertising managers
Auditing
Bookkeeping
Budget, Business
Business ethics
Business forecasting
Collecting of accounts
Competition
Complaints
Controllers
Corporations
Credit
Credit departments
Credit managers
Delivery of goods
Department stores—Management
Diversification in industry
Efficiency, Inustrial
Employment management
Executives
Factory management
Files and filing (documents, etc.)
Hospitals—Management
Ideas in business
Industrial management
Instalment plan
Insurance, Business
Inventories
Jobbers
Mail order business
Mailing
Marketing
Merchandizing
Office management
Orders
Organization in industry
Overhead expense
Production and sales, Coordination of
Profit
Purchasing
Retail trade—Store management
Sales management
Sales policies
Sales promotion departments
Show windows
Success
Trade marks
Waste

BUSINESS management—*Continued*

Bibliography

Financial management; abstracts. Published in monthly numbers of Management review

Expansion problems

Hills bros.' formula for cracking and holding metropolitan markets. il Sales Management 46:20-2 Je 15 '40

More volume; problems in trying to expand sales through added new lines. W. H. Conant. Barron's 20:9 My 27 '40

Size; the mirage of management. H. A. Hopf. Management R 29:122-3 Ap '40

What about war orders? manufacturers will have to consider four principles. J. Garth. Am Business 10:34-5 Ja '40

When we expand; first we go after bottlenecks; Monsanto chemical company. C. Belknap. il Factory Management 98:52-3+ My '40

BUSINESS men

Business man's health plight; faulty food habits. W. R. P. Emerson. il Nation's Business 27:19-21 D '39

Do not allow success to go to your head. W. A. McGarry. il Nation's Business 28:24-6+ Ap '40

30,000 managers earning $15,000 to $200,000 plus. *pors* Fortune 21:58-62+ F '40

Those who think they know all. J. J. Dryer. Inland Ptr 105:53-4 Ag '40

See also
Executives

BUSINESS men's assurance company of America

Anniversary, 30th. East Underw 40:3+ D 8 '39; Ins Field (Life ed) 68:10 D 15 '39

BUSINESS names

Corporate names; restriction of right to use family name. Sci Am 162:319 My '40

BUSINESS news

Next month in business; a calendar of coming events. Published in monthly numbers of American business

BUSINESS periodicals

See also
Advertising mediums
—Trade journals

BUSINESS reports. See Business—Reports

BUSINESS research

Business reports; investigation and presentation. A. G. Saunders and C. R. Anderson. 2d ed 468p bibliog(p455-61) $3.50 McGraw-Hill '40

Business struggles with growing burden of statistical reports, Conference board observes. Comm & Fin Chr 150:904 F 10 '40

Factors affecting the rate of return on mailed questionnaires. W. Mitchell, jr. Am Statis Assn J 34:683-92 D '39

Management research; examples from fields of public relations and merchandizing. J. S. Perkins. Harvard Business R 18 no 4: 488-95 [JI] '40

Proceedings of the Ohio conference of statisticians on business research, 1939 held at the Ohio state university, November 10 and 11, 1939. Ohio State U College of Commerce Conference Ser 8:1-102 '40

Tour of universities started by Department of commerce. Oil Paint & Drug Rep 136:5 D 18 '39

See also
Accounting research
Advertising research
Market research

BUSINESS risk. See Risk

BUSINESS schools and colleges

Curriculum

Trust education in the universities; survey reveals inadequacy of present opportunities. Trusts & Estates 70:545-7 My '40

BUSINESS statistics

Business analyst; statistics of industry, trade, commodities, money and credit. Published in bi-weekly numbers of Magazine of Wall Street

Business index, weekly and monthly figures, 1937-39. Business Week p28 F 3 '40

Business indexes; production, employment, etc; index totals, 1919-39; monthly, June, 1937-July, 1940; revision. Fed Res Bul 26: 979 S '40 [cont monthly]

Business record, state by state; percent gain or loss from first nine months 1938 to first nine months 1939; tabulation. Business Week p32 D 23 '39

Business record, state by state; per cent gain or loss from first quarter 1939 to first quarter 1940; tabulation. Business Week p18 Je 29 '40

Business record, state by state; per cent gain or loss in 1939 compared with 1938; tabulation. Business Week p46 Mr 23 '40

Business roundup; 1939 compared with 1938; chart. Business Week p45 F 3 '40

Business statistics. Published in weekly numbers of Annalist

First 9 months' roundup; 1939 compared with 1938; chart. Business Week p28 N 11 '39

First 9 months roundup; 1940 compared with 1939. Business Week p52 N 9 '40

For 36 manufacturing industries, fourteen important financial ratios for 1938; tabulation. R. A. Foulke. Dun's R 47:12-13 D '39

General indexes of business activity in the past thirty years. F. R. Garfield. Fed Res Bul 26:495-501 Je '40

1939 census of business gets under way. F. A. Gosnell. Am Statis Assn J 34:667-73 D '39

Prospect of a durable goods recovery best in 10 years; statistical survey, index numbers and charts. Steel 106:257-63 Ja 1 '40

Relativity of the moral hazard. R. A. Foulke. 61p Dun & Bradstreet, 290 Broadway, New York '40

Seven fundamentally important indicators for the business pilot, 1932-39; chart. Barron's 19:10 N 27 '39

Significant business indicators. Dun's R 48: 41 Ja '40 [cont monthly]

Six recent new years, 1934-39; charts of factory employment, industrial production of manufactures and minerals, and construction. Banking 32:1, 3 D '39

Statistics for Federal reserve chart book. Fed Res Bul 26:56 Ja '40 [cont monthly]

Statistics takes a second breath; review of the literature. C. A. Bliss. Harvard Business R 18 no 4:510-19 [JI] '40

Summary table: selected business indicators for specified years and percentage changes, 1929, 1932-33, 1937-39. Survey of Cur Business 20:53-4 F '40

Survey of business trends, 1939; sales and inventories; final report. Dun's R 48:5-16 My '40

Survey of business trends, 1939; sales and inventories; preliminary report. il Dun's R 48:10-19 Mr '40

Survey of current business; 1940 supplement. Survey of Cur Business 1940 Sup p 1-249 (pa 40c)

Through the statistician's eyes; graphic reviews. Dun's R 48:42-3 Ja '40 [cont monthly]

Trend of business; production, payrolls, department store sales, commodity prices, stock prices. Dun's R 48:30-1 Ja '40 [cont monthly]

Uses of the census of business. P. T. Cherington. Am Statis Assn J 35:107-15 Mr '40

See also
Business conditions
Business forecasting
Commercial statistics
Index numbers (economics)
Market statistics
Prices—Statistics
Prices, Wholesale—Statistics
Sales statistics

BUSINESS streets

Wanted: 50,000 campaigns to modernize Main street. T. Brown. il Sales Management 46: 22-4+ My 1 '40

BUSINESS women
Woman builds big industrial business from small start; Kellems products, inc. E. H. Pearson. Ptr Ink 193:9-12 O 4 '40
See also
Woman—Employment
BUSINESS year. See Fiscal year
BUTADIENE
Absorption and fluorescence spectra of certain dihydroisobenzofurans and isobenzofurans. R. Adams and M. H. Gold. Am Chem Soc J 62:2038-42 Ag '40
Ameripol, a new butadiene synthetic rubber. il India Rubber W 102:47-8 Jl '40
Buna synthetic rubber. E. Konrad. Roy Aeronautical Soc J 44:440-2 My '40
Catalytic dehydrogenation of monoolefins to diolefins; source materials for synthetic rubber and resins. A. V. Grosse, J. C. Morrell and J. M. Mavity. bibliog diag Ind & Eng Chem 32:309-11 Mr '40
Destructive hydrogenation of high-molecular-weight polymers; isobutene polymer, butadiene polymer, and natural rubber. V. N. Ipatieff and R. E. Schaad. il Ind & Eng Chem 32:762-4 Je '40
Diene addition products to diaroylethylenes and their transformation products. R. Adams and R. B. Wearn. Am Chem Soc J 62:1233-7 My '40
Hazards associated with butadiene and its peroxides. D. A. Scott. Inst Pet J 26:272 My '40
Hazards with butadiene and its peroxides. D. A. Scott. Ind & Eng Chem News ed 18: 404 My 10 '40
Rubber from petroleum gases. D. North. il Chem & Met Eng 47:220-4 Ap '40
Rubber from petroleum is entering commercial stage; plans to produce Buna rubber in the United States. H. S. Norman. il Oil & Gas J 38:9-10 Ap 11 '40
Synthesis of 1,3-diphenyldihydroisobenzofurans, 1,3-diphenylisobenzofurans and *o*-dibenzoylbenzenes from the diene addition products to dibenzoylethylene. R. Adams and M. H. Gold. bibliog Am Chem Soc J 62:56-61 Ja '40
Synthetic rubbers; a review of their compositions, properties, and uses. L. A. Wood. India Rubber W 102:33-13, 51 bibliog(232 titles, p41-3, 51) Jl '40
BUTALDEHYDE. See Butyraldehyde
BUTANE
Activities of Stargas department; Lone Star gas company distributes liquefied petroleum gas in rural districts. E. F. Schmidt. il Gas Age 86:40-1 N 7 '40
Alternative fuel; butane as fuel for road vehicles. L. van Lottom Automobile Eng 30:219-20 Jl '40
Automatic operation to feature Magnolia's new east Texas butane pipe-line system. D. H. Stormont. il Oil & Gas J 38:38-40 D 7 '39
Bringing gas service to Cape Cod; butane distribution system. T. R. Robinson and A. C. Klein. il map Gas Age 86.18-20 Jl 13 '40
Butane-propane news. Published monthly by Western business papers, 810 S. Spring st, Los Angeles
Catalytic dehydrogenation of gaseous paraffins. A. V. Grosse and V. N. Ipatieff. bibliog il Ind & Eng Chem 32:268-72 F '40
Catalytic dehydrogenation process (gaseous paraffins to olefins). A. V. Grosse and others. flow diags il Am Pet Inst Proc 20(3):110-20 '39; Same. Oil & Gas J 38:53, 55-6 N 23 '39; Same cond. Nat Pet N 31. R520-1 N 29 '39
Commercial butane, a waste material, becomes a valuable product; abstract. C. E. McCartney. Oil & Gas J 39:46 N 7 '40
Cost of cutting with butane, propane and acetylene. W. T. Tiffin and O. R. Eads. Iron Age 144:42-3 D 21 '39; Discussion. E. L. Mathy. 14:43+ My 16 '40
Critical solution temperatures and aniline points of some butane hydrocarbons. C. G. Ludeman. bibliog diag Ind & Eng Chem Anal ed 12:446-8 Ag 15 '40
Depropanization of butane. L. J. Coulthurst. il Oil & Gas J 39:50 Jl 11 '40
Economics of liquefied petroleum gases. J. W. Vaiden. bibliog Oil & Gas J 39:74, 76+ My 23 '40
Gulf plants produce high gasoline yield by polyform process. P. Ostergaard and E. R. Smoley. flow sheets il Oil & Gas J 39: 52-3+ S 12 '40; Same. Nat Pet N 32:R330-1+ S 18 '40
Heat capacity and entropy, heats of fusion and vaporization and the vapor pressure of *n*-butane. J. G. Aston and G. H. Messerly. bibliog Am Chem Soc J 62:1917-23 Ag '40
History and future of butane as a motor-truck fuel; abstract. E. E. Tattersfield. S A E J 47:311 Ag '40
Isomerization equilibrium of *n*-butane and *i*-butane and the third law of thermodynamics. G. H. Messerly, J. G. Aston and R. M. Kennedy. Am Chem Soc J 62:1630-1 Je '40
Liquefied petroleum gas in the national defense program; use as fuel and as raw material for chemical conversion. H. N. Wade. flow sheet il Chem Ind 47:160-4 Ag '40
Liquid-vapor equilibrium relations in binary systems; the ethane-*n*-butane system. W. B. Kay. diag Ind & Eng Chem 32:353-7 Mr '40
New field he conquered; selling butane gas systems together with the gas appliances; McKay plumbing company. il Dom Eng 156:48-9+ O '40
New plant recovers butanes and natural gasoline from Magnolia reserves. G. Weber. flow diag il Oil & Gas J 39:48-9 My 23 '40
Oil and gas power; cotton gin. il Power 84:348-9 Je '40
Partial volumetric behavior of lighter paraffin hydrocarbons in the gas phase; methane, ethane, propane, *n*-butane in binary mixtures. B. H. Sage and W. N. Lacey. bibliog Oil & Gas J 38:189-92+ N 17 '39
Phase equilibria in hydrocarbon systems; Joule-Thomson coefficients for gaseous mixtures of methane and *n*-butane. R. A. Budenholzer, B. H. Sage and W. N. Lacey. bibliog Ind & Eng Chem 32:384-7 Mr '40
Phase equilibria in hydrocarbon systems; methane—*n*-butane system in the gaseous and liquid regions. B. H. Sage, R. A. Budenholzer and W. N. Lacey. bibliog Ind & Eng Chem 32:1262-77 S '40
Phase equilibria in hydrocarbon systems; methane—*n*-butane system in the two-phase region. B. H. Sage, B. L. Hicks and W. N. Lacey. bibliog Ind & Eng Chem 32:1085-92 Ag '40
Phase equilibria in hydrocarbon systems; the propane-*n*-butane system in the critical region. C. N. Nysewander, B. H. Sage and W. N. Lacey. bibliog diags Ind & Eng Chem 32:118-23 Ja '40
Pressure-volume-temperature relations for *n*-butane. W. B. Kay. Ind & Eng Chem 32: 358-60 Mr '40
Refinery gas; a raw material of growing importance. R. E. Wilson. Chem & Ind 58: 1095-1101 D 23 '39; Same cond. Nat Pet N 31:R541-2+ D 13 '39; Abstract. Ind & Eng Chem News ed 17:697-8 N 20 '39
Shell and Coltexo complete butane plant in Wasson-Bennett field. il plan Oil & Gas J 38:208-9, 213 Ja 25 '40
Some observations on the thermodynamics of hydrocarbons and related compounds. J. G. Aston. il Chem R 27:59-73 bibliog(p72-3) Ag '40
Substituting butane and propane for manufactured gas. A. C. Rathkey. il Gas Age 85:22-4 F 1 '40
Viscosity of gases and vapors at high pressures. E. W. Comings and R. S. Egly. bibliog Ind & Eng Chem 32:714-18 My '40
Warren installs pressure tanks to accommodate liquefied-gas users. il Oil & Gas J 39:39-O 31 '40
While future supplies are vast, other uses are seen for butane. Nat Pet N 32:32+ Ag 14 '40
BUTANOL. See Butyl alcohol
BUTANONE
Solvents in industry. Metal Finishing 38:470 Ag '40

BUTANONE—*Continued*
Thermal data on organic compounds; modern combustion data for two methylnonanes, methyl ethyl ketone, thiophene and six cycloparaffins. G. E. Moore, M. L. Renquist and G. S. Parks. bibliog Am Chem Soc J 62:1505-7 Je '40

BUTENE
Catalytic cracking of aliphatic hydrocarbons. G. Egloff and others. bibliog Am Chem Soc J 61:3571-80 D '39
Catalytic dehydrogenation of monoolefins to diolefins; source materials for synthetic rubber and resins. A. V. Grosse, J. C. Morrell and J. M. Mavity. bibliog diag Ind & Eng Chem 32:309-11 Mr '40
Catalytic dehydrogenation process (gaseous paraffins to olefins). A. V. Grosse and others. flow diags il Am Pet Inst Proc 20(3):110-20 '39; Same. Oil & Gas J 38:53, 55-6 N 23 '39; Same cond. Nat Pet N 31: R520-1 N 29 '39
Gas imperfection; experimental determination of second virial coefficients for seven unsaturated aliphatic hydrocarbons. E. E. Roper. bibliog diag J Phys Chem 44:835-47 O '40
Polybutenes; properties and uses in petroleum products. R. M. Thomas and others. bibliog il Ind & Eng Chem 32:299-304 Mr '40
Rubberlike properties of polybutene. W. J. Sparks and others. bibliog il Ind & Eng Chem 32:731-6 My '40
Synthetic 190, a polybutene of high molecular weight. India Rubber W 102:45 Je '40

BUTENYL bromides
Allylic rearrangements; the reproducibility of the standard methods for the preparation of butenyl bromide mixtures. W. G. Young and K. Nozaki. Am Chem Soc J 62: 311-13 F '40

BUTLER, Pierce, 1866-1939
Sketch. Comm & Fin Chr 149:3203 N 18 '39

BUTLER, Ralph Starr
Portrait. Ptr Ink 190:74 F 16 '40
Silver medal award. por Adv & Sell 33:38 F 15 '40

BUTLER, Pennsylvania
Sewerage
Operating experiences; abstract. T. R. Haseltine. Water Works & Sewerage 87:372 Ag '40

BUTLEROV, Alexander Mikhailovich, 1828-1886
Alexander Mikhailovich Butlerov. H. M. Leicester. bibliog pors J Chem Educ 17:203-9 My '40

BUTTER
Butter marketing by cooperative creameries in the Middle West. P. E. Quintus and T. G. Stitts. il maps U S Farm Credit Administration Bul 36:1-66 bibliog(p66) '39
Causes of bad flavor in butter reported. Food Ind 12:70-1 Ja '40
Effect of tomato juice on production of flavor contributants in butter cultures; abstract. C. W. Abbott. Food Ind 12:95 Je '40
New method of packing butter developed in Denmark. Comm Rep p198 F 24 '40
Skunk-like odor of bacterial origin in butter; abstract. T. J. Clayton and B. W. Hammer. Food Ind 12:91 F '40
Studies of deterioration in wrapped butter; abstract. E. Erbacher and W. Schoppmeyer. Food Ind 11:711 D '39
Trouble shooting for flavor defects; abstract. V. L. Turgasen. Food Ind 12:98-9 Mr '40
Manufacture
Approaches to budgetary control in the dairy industry. A. Herrick. J Account 70:43-9 Jl '40
Quality control improved by research methods; practices employed to raise butter standard; keeping quality test. M. E. Parker. il Food Ind 12:41-4 Mr '40
Refrigeration in butter and cheese making. L. C. Thomsen. diags Refrig Eng 39:1-6 sec 2 F '40
By-products
Success in byproduct production demands quality control; illustrated in manufacture of casein. J. Chrisman. flow diag il Food Ind 12:45-7+ Ag '40
Statistics
Butter production, revision; monthly, 1923-June, 1940. Fed Res Bul 26:852 Ag '40
Dairy products, 1936-1939. Survey of Cur Business 1940 Sup p101 [supplemented in monthly numbers]
Storage
Studies on the keeping quality of butter in cold storage. O. R. Overman, O. F. Garrett and H. A. Ruehe. il diag Ill U Agric Exp Sta Bul 446:47-90 bibliog(p68-70) '38
Testing
Quality control improved by research methods; practices employed to raise butter standard. M. E. Parker. il Food Ind 12:41-4 Mr '40

BUTTER fat
Component glycerides of a typical cow milk fat. T. P. Hilditch, S. Paul and others. Soc Chem Ind J 59:138-44 Jl '40
Fats and oils battle for food industries market. G. W. McBride. Food Ind 12:70-3 Mr '40

BUTTER muslin
Butter muslin; British standard specification. Textile Inst J 31:S11-12 Ja '40

BUTTONHOLES
Buttonhole webbings. E. J. Gibbons. il diags Textile World 90:64-5 Ag '40

BUTTONS
Button collecting. P. de S. Crummett. 157p bibliog(p155-7) $1.50 Lightner pub. co, 2810 S. Michigan av, Chicago '39
Manufacture
Casein plastics. G. H. Brother. bibliog il Ind & Eng Chem 32:31-3 Ja '40
Statistics
Buttons, freshwater pearl, 1936-1939. Survey of Cur Business 1940 Sup p157 [supplemented in monthly numbers]

BUTYL acetate
Effect of nonvolatile material on solvent balance; plasticizers. J. B. Dorsch. Ind & Eng Chem 32:279-82 F '40
Evaluation of nitrocellulose lacquer solvents; study of hydrocarbon diluents by the constant-viscosity procedure. V. W. Ware and W. M. Bruner. bibliog Ind & Eng Chem 32:78-82 Ja '40
Industrial uses of chemicals and related materials. Oil Paint & Drug Rep 138:33 N 11 '40
Solvents and industry; normal butyl acetate. Metal Finishing 38:418 Jl '40
Surface tension of a solvent-diluent mixture. J. K. Stewart and G. C. Hook. bibliog il Ind & Eng Chem 32:871-6 Je '40

BUTYL alcohol
Activity of the constituents in mixtures of *n*-butyl alcohol and water at 30°C. M. Randall and H. P. Weber. diag J Phys Chem 44:917-20 O '40
Alkylation of benzene with *d-s*-butyl alcohol. C. C. Price and M. Lund. bibliog Am Chem Soc J 62:3105-7 N '40
Biotin as a growth factor for the butyl alcohol producing anaerobes. E. E. Snell and R. J. Williams. Am Chem Soc J 61:3594 D '39
Chemistry of butanol lignin. A. Bailey. bibliog Paper Tr J 111:86-9 Ag 29 '40
Chemistry of lignin; the butanolysis of wood. A. J. Bailey. bibliog Paper Tr J 110:29-32 Ja 11 '40
Effect of nonvolatile material on solvent balance; plasticizers. J. B. Dorsch. Ind & Eng Chem 32:279-82 F '40
Heterogeneity of lignin. A. Bailey. diag Paper Tr J 111:27-30 Ag 15 '40

BUTYL alcohol—*Continued*
Physical properties of the ternary system butyl alcohol—ethyl acetate—toluene. E. E. Litkenhous, J. D. Van Arsdale and I. W. Hutchinson, jr. bibliog J Phys Chem 44:377-88 Mr '40
Preparation and properties of butanol lignin. A. J. Bailey. bibliog Paper Tr J 111:27-30 Ag 8 '40
Solvents in industry. Metal Ind 38:71-2 Ja '40
Surface tension of a solvent-diluent mixture. J. K. Stewart and G. C. Hook. bibliog il Ind & Eng Chem 32:871-6 Je '40
Trimethylcarbinol as a cryoscopic solvent. F. H. Getman. Am Chem Soc J 62:2179-80 Ag '40

Analysis

Chemical examination of urea coating resins. J. J. Levenson, jr. bibliog diags Ind & Chem Anal ed 12:332-7 Je 15 '40

BUTYL benzoylhydryl chloride
Mechanism of substitution at a saturated carbon atom; a kinetic demonstration of the unimolecular solvolysis of alkyl halides; kinetics of, and salt effects in, the hydrolysis of *p*-monoalkylbenzhydryl halides in aqueous acetone. M. G. Church and others. Chem Soc J p971-4 Jl '40

BUTYL borate
Dipole moments and structures of the esters of some fatty and some inorganic acids. G. L. Lewis and C. P. Smyth. bibliog Am Chem Soc J 62:1529-33 Je '40

BUTYL bromide
Mechanism of elimination reactions; kinetics of olefin elimination from ethyl, *iso*propyl, *tert.*-butyl and α- and β-phenyl-ethyl bromides in acidic and in alkaline alcoholic solution; effects due to, and factors influencing, the two mechanisms of elimination. E. D. Hughes and others. Chem Soc J p899-912 Jl '40
Mechanism of substitution at a saturated atom; hydrolysis of *tert.*-butyl bromide in acidic moist acetone. L. C. Bateman, K. A. Cooper and E. D. Hughes. Chem Soc J p913-20 Jl '40
Mechanism of substitution at a saturated carbon atom; a kinetic demonstration of the unimolecular solvolysis of alkyl halides; kinetics of, and salt effects in, the hydrolysis of *tert.*-butyl bromide in aqueous acetone. L. C. Bateman, E. D. Hughes and C. K. Ingold. Chem Soc J p960-6 Jl '40
Mechanism of substitution at a saturated carbon atom; hydrolysis of methyl, ethyl, *iso*propyl and *tert.*-butyl bromides in acidic solutions under conditions believed to be conducive to uniformity of mechanism. L. C. Bateman and E. D. Hughes. Chem Soc J p945-8 Jl '40
Mechanism of substitution at a saturated carbon atom; mechanisms operative in the hydrolysis of methyl, ethyl, *iso*propyl, and *tert.*-butyl bromides in aqueous solutions. L. C. Bateman and others. Chem Soc J p926-35 Jl '40
Mechanism of substitution at a saturated carbon atom; unimolecular and bimolecular substitutions of *n*-butyl bromide with water, and with anions, as substituting agents in formic acid solution. L. C. Bateman and E. D. Hughes. Chem Soc J p940-4 Jl '40

BUTYL chloride
Mechanism of substitution at a saturated carbon atom; unimolecular substitutions of *tert.*-butyl chloride with water, and with anions, as substituting agents in formic acid solution. L. C. Bateman and E. D. Hughes. Chem Soc J p935-40 Jl '40
Molecular rotation and polymorphism in the methyl chloromethanes. A. Turkevich and C. P. Smyth. bibliog Am Chem Soc J 62: 2468-74 S '40

BUTYLIDENE fluorene
Preparation of alkylidene fluorenes from fluorene with aliphatic aldehydes. R. F. Schultz and C. F. Smullin. Am Chem Soc J 62:2904-5 N '40

BUTYL lithium. See Lithium compounds

BUTYL magnesium bromide
Electrolysis of some higher aliphatic organomagnesium halides in ethyl ether. W. V. Evans, D. Braithwaite and E. Field. Am Chem Soc J 62:534-6 Mr '40
System *n*-butylmagnesium bromide—magnesium bromide—ethyl ether. W. E. Doering and C. R. Noller. Am Chem Soc J 61:3436-7 D '39

BUTYL magnesium chloride
Equilibrium composition of *n*-butylmagnesium chloride solutions in ethyl ether. C. R. Noller and D. C. Raney. Am Chem Soc J 62: 1749-51 Jl '40

BUTYL rubber. See Rubber, Artificial

BUTYL sulfonyl acetamide
Alkylation of α-sulfonylamides. A. Pomerantz and R. Connor. Am Chem Soc J 61:3139-45 N '39

BUTYL trichloroacetates
Chlorination of butyl trichloroacetates. H. M. Waddle and H. Adkins. bibliog Am Chem Soc J 61:3361-4 D '39

BUTYNE
Catalytic hydration of acetylene and of some alkylacetylenes. R. E. Schaad and V. N. Ipatieff. bibliog Am Chem Soc J 62:178-80 Ja '40

BUTYRALDEHYDE
Aldehyde complexes of copper salts. T. L. Davis and W. P. Green, jr. Am Chem Soc J 62:1272-4 My '40
Aldehyde-nitroparaffin condensation. B. M. Vanderbilt and H. B. Hass. bibliog Ind & Eng Chem 32:34-8 Ja '40
Condensation of butyraldehyde and aniline. M. S. Kharasch, I. Richlin and F. R. Mayo. bibliog Am Chem Soc J 62:494-7 Mr '40
Oxidation of aldehydes; the combustion zones of butaldehyde, *iso*butaldehyde, propaldehyde, acetaldehyde, glyoxal, and acraldehyde. D. M. Newitt, L. M. Baxt and V. V. Kelkar. diag Chem Soc J p1703-10 N '39

BUTYRIC acid
Analysis of mixtures of aliphatic acids. S. T. Schicktanz, W. I. Steele and A. C. Blaisdell. bibliog Ind & Eng Chem Anal ed 12: 320-4 Je 15 '40
Anomalous strength of *n*-butyric acid. H. O. Jenkins and J. F. J. Dippy. bibliog Am Chem Soc J 62:483-4 Mr '40
Chlorinations with sulfuryl chloride; (a) the peroxide-catalyzed chlorination of aliphatic acids and acid chlorides; (b) the photochemical sulfonation of aliphatic acids. M. S. Kharasch and H. C. Brown. Am Chem Soc J 62:925-9 Ap '40
Ionization constants of weak acids at 25° from conductance measurements; a method of extrapolating the data. B. Saxton and L. S. Darken. bibliog Am Chem Soc J 62: 846-52 Ap '40
Quinonyl derivatives of fatty acids. L. F. Fieser, M. D. Gates, jr. and G. W. Kilmer. bibliog Am Chem Soc J 62:2966-70 N '40

BUTYRIC anhydride
Physical properties of the aliphatic acid anhydrides. D. T. Lewis. Chem Soc J p32-6 Ja '40
Rates of formation of sulfoaliphatic acids. T. F. Murray, jr. and W. O. Kenyon. bibliog Am Chem Soc J 62:1230-3 My '40

BUYING. See Purchasing

BUYING habits
American women are sincere friends of American business. A. S. Richardson. Ptr Ink 191:11-14+ My 31 '40
Canadian buying habits change because of war; thoughts for U.S. advertisers. M. Brown. il Ptr Ink 190:23-6, 30+ Ja 26 '40
Consumer's dollar. Management R 29:142-3 Ap '40
Radio's system of checking buying habits may suggest idea to other media. C. E. Hooper. Ptr Ink 190:11-14+ Mr 22 '40
Why do people buy away from home? pictograph. Sales Management 47:40 Ag 15 '40

BUYING motives
Motives as a tool of market research. D. McGregor. Harvard Business R 19 no 1: 42-51 [S] '40
What motivates business buyers. D. J. Duncan. Harvard Business R 18 no 4:448-54 [JI] '40

BUYING power. See Market statistics

BYERS, A. M., company
Stocks in the low-price range; thumbnail appraisal. Mag of Wall St 65:355 D 30 '39

BY-PRODUCTS. See Waste products; also subdivision By-products under special subjects, e.g. Gas manufacture—By-products

C

C.I.F. clause. See Sales

CABINETS
How to estimate accurately. J. D. Wilson. diags Am Bld 61:72+ D '39
Portable cabinets for materials used in mineral determinations. K. G. Skinner. 4 pls U S Bur Mines Information Circ 7127:1-6 '40

CABINETS, Steel
Modernized finishing department. J. R. Williams. il plan Metal Ind 38:125-6+ F '40

CABINS
Cabin specialists build volume business. W. Graham. il diags Am Bld 62:50-1 My '40
"See America first" can mean more orders for clay; brick for tourist cabins. il diag plans Brick & Clay Rec 96:36-8 My '40
Ski cabin in the high Sierras. il plans Arch Rec 87:68-9 Mr '40

See also
Tourist camps, hostels, etc.

CABLE and wireless, limited
Earnings, 1937-39, and ordinary general meeting. Economist 138:906, 953 My 18-25 '40

CABLE and wireless (holding), limited
Ordinary general meeting, 11th, London. Economist 138:987 Je 1 '40

CABLE grips
Woman builds big industrial business from small start; Kellems products, inc. E. H. Pearson. Ptr Ink 193:9-12 O 4 '40

CABLE railroads. See Railroads, Cable

CABLES
Bridge recabled after 12 years' service; Ohio River highway bridge at Portsmouth. il diags Eng N 124:593-7 Ap 25 '40
Cable care and selection for coal handling. F. L. Spangler. il Power Pl Eng 44:69-71 S '40

See also
Anchorage
Bridges, Suspension
Cableways
Chains
Electric cables
Telephone cables
Wire rope

CABLES, Electric. See Electric cables

CABLES, Submarine
Cross Nantucket Sound with five-mile cable; brings high-line service to Martha's Vineyard. il Elec W 114:684-6 S 7 '40
22-kv. submarine cable laid by Cape utility; connects island of Martha's Vineyard with mainland substation at Falmouth. il Elec W News ed 114:317 Ag 3 '40

CABLEWAYS
Aerial ropeways for coal mines. Mech Handling 27:21-2 Ja '40
Aerial tram at Sherritt Gordon; with cost data. L. C. Smith. il diags plan Can Min J 61:563-5 S '40
Aerial tramways in the metal-mining industry; construction and operating costs. O. H. Metzger. diags map U S Bur Mines Information Circ 7095:1-47 '40; Same. Eng & Min J 141:111-12 Ap; 113-14 My; 107-8 Je; 107-8 Jl; 147-8 Ag; 117-18 S; 109-10 O; 113-14 N; 114 D '40
Les ascenseurs du téléférique de l'Exposition de Zurich. il Génie Civil 115:343-4 N 4 '39
Coal handling plant at Marston Valley brick co. ltd. il diags Mech Handling 27:135-7 Je '40
Electric drive of an Indian ropeway; Bhupendra cement works. il Engineer 170: 104-5 Ag 16 '40
Excavate by slackline cableway. il Rock Prod 43:72 Ja '40
Fraser River transporter ferry pinch hits for highway bridge. il Eng N 124:715 My 23 '40
L'installation de manutention des minerais de fer pour le chargement des navires à l'Ile de Chypre. il diags Génie Civil 116: 145-8 Mr 2 '40
Köping ropeway. il Engineer 170:39-41 Jl 19 '40
Mechanical handling by cableways; application to construction. il diags Mech Handling 27:145-7 Jl '40
New Indian ropeway; Bhupendra cement works. il Mech Handling 27:121-3 Je '40
Norris Dam construction cableways; with cost data. R. T. Colburn and L. A. Schmidt, jr. il diags plans Am Soc C E Proc 65:1733-64 D '39; Discussion. 66:584-6, 793-4, 1139-44 Mr-Ap, Je '40
Ship-loading ropeway. il diags Engineer 168: 568, 572-3 D 8 '39

See also
Conveying machinery

CABOOSE cars. See Cars, Caboose

CACAO

See also
Cocoa

CADMIUM
Application of electromotive force measurements to binary metal systems; cadmium-antimony system. H. Seltz. Electrochem Soc Trans 77 (preprint 17):230-5 Ap '40
Cadmium cadmium sulfate half-cell for measuring potentials in the earth. S. Ewing. Am Gas Assn Proc 1939:635-40
Cadmium-nickel storage battery. A. P. Hauel. Elec W 112:1476 N 18 '39
Interference phenomena in the scattering of slow neutrons. H. G. Beyer and M. D. Whitaker. bibliog diags Phys R 57:976-81 Je 1 '40
Internal conversion in 6.4-hour Cd. R. G. Sachs. Phys R 57:159-60 Ja 15 '40
Separation method and qualitative test for cadmium ion involving alkaline tartrate complexes. J. P. McReynolds. J Chem Educ 17:532 N '40

Analysis
Separation of cadmium from zinc by the use of granular aluminum. F. E. Townsend and G. N. Cade, jr. Ind & Eng Chem Anal ed 12:163-4 Mr 15 '40

CADMIUM alloys
Copper-zirconium-cadmium bronze. F. R. Hensel, E. I. Larsen, and A. S. Doty. Metals & Alloys 10:372-80 D '39
Corrosion of bearing materials; abstract. A. F. Underwood. S A E J 46:99 Mr '40

CADMIUM compounds
Constitution of complex metallic salts; bridged compounds containing two different metallic atoms. F. G. Mann and D. Purdie. Chem Soc J p1230-5 S '40

CADMIUM cyanide
Glycerine foots as brightening agent in cadmium cyanide baths. F. C. Mathers and W. J. Guest. Electrochem Soc Trans 78 (preprint 12):173-4 O '40

CADMIUM halides
Constitution of complex metallic salts; the structure of the tertiary phosphine and arsine derivatives of cadmium and mercuric halides. R. C. Evans and others. Chem Soc J p1209-30 S '40

CADMIUM oxalate
Solubility of cadmium and zinc oxalates in salt solutions. W. C. Vosburgh and J. F. Beckman. Am Chem Soc J 62:1028-31 My '40

CADMIUM perchlorate
Solubility of cadmium and zinc oxalates in salt solutions. W. C. Vosburgh and J. F. Beckman. Am Chem Soc J 62:1028-31 My '40

CADMIUM plating
Cadmium plating; with cost data and review of properties. A. Bregman. il Iron Age 145: 36-40 Ap 18 '40
Dropping tests for measuring the thickness of zinc and cadmium coatings on steel. A. Brenner. diag Metal Ind 38:91-5; Discussion. 95 F '40

CADMIUM poisoning
Experimental chronic cadmium poisoning. R. H. Wilson and F. DeEds. Science 90:498 N 24 '39

CADMIUM sulfate
Cadmium-cadmium sulfate half-cell for measuring potentials in the earth. S. Ewing. Am Gas Assn Proc 1939:635-40
System magnesium sulfate, cadmium sulfate and water at 25 and 40°. W. C. Vosburgh and others. Am Chem Soc J 62:1472-3 Je '40

CADMIUM sulfide
Optimum efficiency conditions for white luminescent screens in kinescopes; zinc-cadmium sulphide phosphor systems. H. W. Leverenz. bibliog diag Opt Soc Am J 30:309-15 Jl '40

CAESIUM. See Cesium

CAFETERIAS. See Lunchrooms and cafeterias

CAFFEIN
Meeting the caffein shortage; coffee and cocoa as raw materials. A. L. Davidson. Can Chem & Process Ind 24:493-4 O '40; Same. Oil Paint & Drug Rep 138:5+ N 11 '40

CAISSON disease
Helium-oxygen mixtures for alleviation of tubal and sinus block in compressed air workers. J. W. Crosson, R. R. Jones and R. R. Sayers. bibliog Pub Health Rep 55: 1487-96 Ag 16 '40

CAISSONS
Advantages and economies in installation of precast manholes by the caisson method. E. Williams. il plans Edison Elec Inst Bul 8:107-12 Mr '40
Bronx-Whitestone suspension bridge. il diags Engineer 168:487-9, 496 N 17 '39
Construction and equipment of no. 5 shaft at Lake Shore mine, limited; with cost data. J. C. Adamson. il diags Can Min J 61:10-14 Ja '40
Delaware aqueduct, New York; Merriman dam. il diags Engineer 170:101-2 Ag 16 '40
Formen von druckluftgründungskörpern. K. Lenk. diags V D I 84:161-2 Mr 2 '40
Four-legged caisson sunk for bridge pier at Ludlow Ferry, Md. il Eng N 123:724 N 30 '39
Lions Gate bridge at Vancouver. il diags Engineer 168:535-7 D 1 '39
Long piles and floating caissons for Potomac River bridge piers. il diags Eng N 124: 306-10 F 29 '40
Manholes by caisson method; Consolidated Edison co. of New York. il Eng N 124:441 Mr 28 '40
Precision devices for sinking tunnel caissons; vehicular tunnel under the river Maas at Rotterdam. J. P. Van Bruggen. il diags Eng N 125:608-10 N 7 '40
Road tunnel under the river Maas at Rotterdam. J. P. Van Bruggen. il diags Engineering 150:163-4, 170, pl 12 Ag 30 '40
Shop construction of precast caisson manholes. E. Williams. il Elec W 113:2051 Je 29 '40
Simple truss bridge lengthened into long cantilever; Missouri Pacific railroad bridge at Krotz Springs, La. H. J. Engel. il diags Eng N 125:23-4 Jl 4 '40
Tacoma Narrows bridge. C. H. Eldridge. il diags Civil Eng 10:299-302 My '40
Underpinning beats subway threat to famous Chicago building; Monadnock office building carried on floating foundations underpinned with caissons; piers picked up through grillages resting on the foundation mats. il diags Eng N 125:422-6 S 26 '40
Unusual equipment speeds caissons and piers; Raritan River bridge at Perth Amboy, N. J. il diags Eng N 125:30-3 Jl 4 '40
Unusual problems attend Narrows bridge construction. J. Bashford. il map Comp Air M 44:6033-5 D '39

See also
Bridges—Foundations and piers

CAKE
Bread baking test suggested for pastry flours. J. A. Shellenberger. il Food Ind 12:52-4 F '40
Cake baking flow sheet. Food Ind 12:53 Ap '40
Method of evaluating color variations of baked food products. W. B. Kirk. il diags Am Gas Assn Mo 22:261-4 Jl-Ag '40
Preparing and baking yellow sponge cake at different altitudes; abstract. W. E. Pyke and G. Johnson. Food Ind 12:92 Je '40
Science fights history in the bakery. A. A. Maddy. Chem & Ind 59:572-5 Ag 10 '40

See also
Dough

CALCINATION
Recovery of sulfur dioxide from waste gases; regeneration of the absorbent by treatment with zinc oxide. H. F. Johnstone and A. D. Singh. bibliog flow sheet il Ind & Eng Chem 32:1037-49 Ag '40

CALCITE
Direct comparison on a crystal of calcite of the X-ray and optical interferometer methods of determining linear thermal expansion; evidence of differences among calcite crystals. J. B. Austin and others. bibliog Phys R 57:931-3 My 15 '40
Disappointed prospector in the Southwest finds biggest calcite deposits ever discovered. Sci Am 163:265 N '40
Distinction between calcite and dolomite on polished surfaces. J. Rodgers. bibliog Am J Sci 238:788-98 N '40
Fundamental relation between lattice constants and density. F. Foote and E. R. Jette. bibliog Phys R 58:81-6 Jl 1 '40
New calcite source discovered. Am Cer Soc Bul 19:415 O '40
Preparation of fluorescent calcite. G. R. Fonda. bibliog il J Phys Chem 44:435-9 Ap '40
Scattering of thermal neutrons by crystals. F. Rasetti. bibliog diag Phys R 58:321-5 Ag 15 '40

CALCIUM
Iodofluoride method for the determination of copper; effects of antimony, aluminum, and calcium. W. R. Crowell and A. T. Spiher. Ind & Eng Chem Anal ed 12:147 Mr 15 '40
Magnesium-like spectra of chlorine, potassium, calcium and scandium. W. L. Parker and L. W. Phillips. Phys R 57:140-1 Ja 15 '40
Radioactive isotopes of calcium and their suitability as indicators in biological investigations. H. Walke, F. C. Thompson and J. Holt. Phys R 57:177-84 F 1 '40

Analysis
Estimation of submicroquantities of calcium. A. E. Sobel and I. A. Kaye. Ind & Eng Chem Anal ed 12:118-20 F 15 '40
Examination of the Morgan rapid method of soil testing; the analytical procedures for phosphorus, potassium, and calcium. J. Tinsley and N. H. Pizer. Soc Chem Ind J 59:206-10 S '40
Motorized apparatus for the rapid determination of calcium and magnesium in water. W. F. Langelier. bibliog il diag Am Water Works Assn J 32:279-93 F '40

CALCIUM arsenate
Arsenates standards proposed and label control by Department of agriculture. Oil Paint & Drug Rep 137:3+ Ja 15 '40

CALCIUM borate
Progress reports, Metallurgical division; beneficiation of boron minerals. R. G. Knickerbocker and others. pls U S Bur Mines Rep of Invest 3525:13-18 '40

CALCIUM boride
Progress reports, Metallurgical division; electrometallurgical investigations; electrolytic method for the production of calcium boride. J. Koster, R. G. Knickerbocker and A. L. Fox. bibliog pls U S Bur Mines Rep of Invest 3500:1-21 '40

CALCIUM carbide
German demand for carbide presents production problem. Ind & Eng Chem News ed 18:894 O 25 '40

Manufacture
Carbide plant to be erected in Oregon by Stuart oxygen co. Oil Paint & Drug Rep 138:5+ Jl 22 '40

CALCIUM carbonate
Calcium carbonate deposits marginal to glaciers. J. C. Ludlum. Science 91:544-5 Je 7 '40
Corrosion control. O. C. Blumberg. Am Water Works Assn J 32:396-8 Mr '40
Effect of carbonate-ion concentration in water softening. T. E. Larson. bibliog Ind & Eng Chem 32:1240-1 S '40
Evaluation of calcium carbonate coating colors formulated with various adhesives. H. F. Roderick and A. E. Hughes. Paper Tr J 110:104-8 F 22 '40
Function of pH in water treatment. C. E. Imhoff. il diags Paper Tr J 110:37-44 Ap 4 '40
Inhibiting action of minute amounts of sodium hexametaphosphate on the precipitation of calcium carbonate from ammoniacal solutions. R. F. Reitemeier and T. F. Buehrer. bibliog il J Phys Chem 44:535-74 My '40
Die kinetik des thermischen zerfalls von calciumcarbonat. G. F. Hüttig and H. Kappel. diags Angew Chemie 53:57-9 F 3 '40
Making lime in rotary kilns from carbonate sludge; West Virginia pulp & paper co. flow diag il Rock Prod 43:31-2 My '40
Sedimentation of suspensions. L. T. Work and A. S. Kohler. bibliog diag Ind & Eng Chem 32:1329-34 O '40; Same. Am Inst Chem Eng Trans 36:701-19 O '40
Sodium hexametaphosphate as an aid in the control of corrosion. O. Rice. diag N E Water Works Assn J 54:25-33 Mr '40
Theoretical limits of the lime-soda method of water softening. T. E. Larson and A. M. Buswell. bibliog il Ind & Eng Chem 32:130-2 Ja '40
Thickening calcium carbonate slurries. E. W. Comings. flow diag il Ind & Eng Chem 32: 663-7 My '40
Water softening; sign of the charge on colloidal particles of hydrous alumina, hydrous magnesium, and calcium carbonate. T. E. Larson and A. M. Buswell. bibliog il Ind & Eng Chem 32:132-3 Ja '40

See also
Aragonite
Limestone
Onyx marble

Analysis
Gas-volume method for determination of carbonate in calcareous materials. G. E. Bessey. diag Soc Chem Ind J 58:178-80 My '39; Same cond. Rock Prod 43:51-2 Mr '40
Isotopic composition of oxygen in carbonate rocks and iron oxide ores. M. Dole and R. L. Slobod. Am Chem Soc J 62:471-9 Mr '40

CALCIUM carbonates
Machine for testing dentifrice abrasion. R. W. Smith. bibliog il diags Ind & Eng Chem Anal ed 12:419-23 Jl 15 '40

CALCIUM chloride
Barium chloride from barite and calcium chloride; factors affecting production. R. N. Shreve and R. K. Toner. bibliog Ind & Eng Chem 32:568-73 Ap '40
Calcium chloride for dehydrating air and other gases. diag Chem & Met Eng 47:304 My '40
Estimating binder in road emulsions. Can Eng R & B 78:102+ O '40
Experiences building and curing cement concrete roads; Suffolk county, New York. H. Tuthill. il Pub Works 71:24+ S '40
Experimental data in connection with chloride salts-resistant concrete pavement. C. C. Ahles. Explosives Eng 18:267-71 S '40
Gas dehumidification prevents hydrate freezing troubles. E. G. Hammerschmidt. bibliog Nat Pet N 32:R162-3, R167-8 My 15 '40; Same. Oil & Gas J 39:61, 64+ My 23 '40
Rapid curing, more strength with calcium chloride; concrete blocks. il Concrete 48:39 F '40
Stabilized soil mixtures; results of tests on circular tracks by Public roads administration. E. A. Willis. il Roads & Sts 83:42-3 F '40
Stiffened wash-resistant fabrics; cellulose parchmentizing processes. Textile Col 62: 258-9 Ap '40
Studies of water-retentive chemicals as admixtures with nonplastic road-building materials. E. A. Willis and C. A. Carpenter. il Pub Roads 20:173-87 N '39; Abstract. Pub Works 70:23-4 D '39
Vapor pressures of salt solutions. M. F. Bechtold and R. F. Newton. diag Am Chem Soc J 62:1390-3 Je '40
X-ray emission spectra and electronic energy bands of compounds. J. Valasek. bibliog Phys R 58:213-18 Ag 1 '40

CALCIUM chromate
Reactions of chromates at high temperatures; decomposition of calcium, strontium, and barium chromates; abstract. V. T. Athavale and S. K. K. Jatkar. Am Cer Soc J 23 (Cer A 19):30-2 Ja '40

CALCIUM compounds
Extent of dissociation of salts in water; calcium and barium salts of dicarboxylic acids. N. E. Topp and C. W. Davies. Chem Soc J p87-93 Ja '40

CALCIUM cyanamide
Chemistry of cyanamide. G. Barsky. bibliog il Ind & Eng Chem News ed 18:759-62 S 10 '40
Cyanamide, dicyandiamide, and melamine; optical and crystallographic properties. T. G. Rochow and others. il Ind & Eng Chem 32:1187-8 S '40
Cyanamide for improving dyeing. Textile Col 62:690 O '40

Manufacture
Production of cyanamide; pictured flow sheet. Chem & Met Eng 47:253-6 Ap '40

CALCIUM fluoride
Tissue reaction to some carbon arc dusts. E. L. MacQuiddy and others. il J Ind Hygiene 21:498-513 bibliog(p511-13) D '39

CALCIUM hydroxide
Adsorption of nitrous oxide on certain pseudomorphs. A. B. Lamb and C. D. West. bibliog Am Chem Soc J 62:3176-80 N '40
Prevention of silicosis; experimental investigations on the action of certain non-siliceous dusts and silica in the origin and development of silicosis. C. Naeslund. J Ind Hygiene 22:1-30 bibliog(p28-30) Ja '40

CALCIUM hypochlorite
Calcium hypochlorite in water purification. J. O. Logan and W. L. Savell. Am Water Works Assn J 32:1517-27 S '40
Determination of the bleach requirement of wood pulp. C. M. Koon. bibliog Paper Tr J 111:34-6 Ag 8 '40
Lime-chlorine system in the preparation of calcium hypochlorite. F. W. O'Neil and J. D. Rue. Paper Tr J 109:39-42 D 7 '39
Oxidation of thiophen-sulphur by calcium hypochlorite solutions. E. G. R. Ardagh, W. H. Bowman and A. S. Weatherburn. Soc Chem Ind J 59:27-8 F '40

CALCIUM hypophosphite
Cerimetric determination of small amounts of arsenic after reduction with hypophosphite reagents. I. M. Kolthoff and E. Amdur. diags Ind & Eng Chem Anal ed 12: 177-9 Mr 15 '40

CALCIUM in the body
Relation of calcium proteinate and colloidal calcium phosphate to the partition of calcium in the blood stream. D. M. Greenberg and C. E. Larson. bibliog J Phys Chem 43:1139-50 D '39

CALCIUM iodate
Interaction of ions and dipolar ions; solubility of barium and calcium iodates in glycine and in alanine solutions. R. M. Keefer, H. G. Reiber and C. S. Bisson. bibliog Am Chem Soc J 62:2951-5 N '40

CALCIUM lignosulfonate
Preparation of desulphonated lignin from calcium lignosulphonate. I. A. Pearl and H. K. Benson. bibliog Paper Tr J 111:29-31 N 7 '40

CALCIUM molybdate

Analysis

Rapid determination of copper by α-benzoin oxime in ferromolybdenum, calcium molybdate, etc. L. Silverman. bibliog Ind & Eng Chem Anal ed 12:343-4 Je 15 '40

CALCIUM nitrate
Activity coefficient of calcium nitrate in aqueous solution at 25° from isopiestic vapor pressure measurements. R. A. Robinson. bibliog Am Chem Soc J 62:3130-1 N '40

CALCIUM oxalate
Solubility of calcium oxalate in various salt solutions. H. Shehyn and D. B. Pall. diag J Phys Chem 44:166-71 F '40

CALCIUM oxide. See Lime

CALCIUM phosphates
Basic calcium phosphates and related systems; some theoretical and practical aspects. S. Eisenberger, A. Lehrman and W. D. Turner. Chem R 26:257-96 bibliog (230 references, p290-6) Ap '40

Developments in the conditioning of boiler feed water. E. F. Walsh. diags Am Gas J 152:14, 42 F '40

Equilibrium in the system calcium oxide—phosphorus pentoxide—water. K. L. Elmore and T. D. Farr. bibliog Ind & Eng Chem 32:580-6 Ap '40

Function of pH in water treatment. C. E. Imhoff. il diags Paper Tr J 110:37-44 Ap 4 '40

New monocalcium phosphate. J. M. Gillet. il Chem Ind 45:662-3 D '39

Relation of calcium proteinate and colloidal calcium phosphate to the partition of calcium in the blood stream. D. M. Greenberg and C. E. Larson. bibliog J Phys Chem 43:1139-50 D '39

Tissue reaction to some carbon arc dusts. E. L. MacQuiddy and others. il J Ind Hygiene 21:498-513 bibliog(p511-13) D '39

Über die beziehungen zwischen den kalk-alkali- und den kalksilico-phosphaten; abstract. A. Schleede. Angew Chemie 53:65 F 3 '40

See also
Phosphate rock

CALCIUM proteinate
Relation of calcium proteinate and colloidal calcium phosphate to the partition of calcium in the blood stream. D. M. Greenberg and C. E. Larson. bibliog J Phys Chem 43:1139-50 D '39

CALCIUM silicates
Scaling of boilers; identification of phases in calcium silicate scales. L. M. Clark and C. W. Bunn. Soc Chem Ind J 59:155-8 Ag '40

Silene, a pigment with reenforcing properties. India Rubber W 102:49 Ag '40; Rubber Age 47:246 Jl '40

System calcium oxide—silica—water at 30°; the association of silicate ion in dilute alkaline solution. P. S. Roller and G. Ervin, jr. bibliog Am Chem Soc J 62:461-71 Mr '40

See also
Monticellite

Bibliography

Bibliography on orthosilicates of the alkaline earths with special reference to their use in the refractory field. G. E. Seil and others, comps. Am Cer Soc J 23 (Cer A 19):273-84 N '40

CALCIUM sulfate
Deposition of calcium sulfate from sea water. E. Posnjak. bibliog Am J Sci 238:559-68 Ag '40

Disintegration of face brick by crystallization of soluble salt. J. M. Hardesty. bibliog il Am Soc T M Proc 39:971-5; Discussion. il 976-8 '39

Ersatz raw materials for German H_2SO_4. K. Falk. il Chem & Met Eng 47:333 My '40

Heat of hydration of calcium sulfates; direct and heat-of-solution measurements. J. C. Southard. bibliog diag Ind & Eng Chem 32:442-5 Mr '40

See also
Gypsum

CALCIUM sulfonates
Studies of sulfonates. H. V. Tartar and R. D. Cadle. bibliog J Phys Chem 43:1173-9 D '39

CALCIUM thiocyanate
Qualitative identification and quantitative estimation of nylon in the presence of silk, wool and cotton. R. Gerber and K. Lathrop. bibliog Am Dyestuff Rep 29:437-40+ S 2 '40

Separation of viscose and cotton by solvent action. J. H. Levin and R. A. Martinell. Textile Col 62:462-3 Jl '40

CALCO chemical company
American Cyanamid Calco division, formerly the Calco chemical co. Fortune 22:102+ S '40

CALCULATING machines
Calculator cuts proving time in half. A. J. Vogel. Bankers Mo 57:42-3 Ja '40

Paisley interest calculator. il Bankers Mo 57:439 Jl '40

Sales policies that break records regardless of business conditions; Marchant calculating machine co. E. B. Jessup. il Sales Management 46:62, 64-5 Mr 1 '40

Advertising

Poor Pedro; peanut vendor and calliope put strong advertising punch behind Monroe calculating machines. C. J. Swan. il Ptr Ink 190:23-4 F 23 '40

Manufacture

Preventing press-work troubles; Marchant calculating machine company. W. Kassebohm. diags Am Mach 84:162-3 Mr 20 '40

CALCULUS
Advanced calculus. I. S. Sokolnikoff. 446p $4 McGraw-Hill '39

Calculus. C. K. Robbins and N. Little. 398p $3.25 Macmillan '40

Complex variable & operational calculus with technical applications. N. W. McLachlan. 355p bibliog(p332-42) $6.50 Macmillan '39

Differential and integral calculus. R. R. Middlemiss. 416p $2.50 McGraw-Hill '40

Elementary calculus. G. W. Caunt. 388p $2.75 Oxford '39

Introduction to the calculus. A. Dresden. 428p $3.40 Holt '40

Mathematical analyis for engineers. M. A. Keasey. 5th ed 221p $2.75 Miles A. Keasey, Drexel inst., Philadelphia '39

Operational methods in the theory of airfoils in non-uniform motion. W. R. Sears. diags Franklin Inst J 230:95-111 Jl '40

Transformation extending the use of Heaviside's operational calculus. A. J. Meyerhoff and M. B. Reed. Elec Eng 59:386 S '40

Treatise on advanced calculus. P. Franklin. 595p bibliog(p585-6) $6 Wiley '40

See also
Heaviside's expansion theorem

CALCULUS, Integral
Integration. R. P. Gillespie. 126p $1.50 Interscience publishers, 215 4th av, New York '39

CALCULUS of variations
Die unmittelbaren verfahren der variationsrechnung als hilfsmittel des ingenieurs. F. Schwank. bibliog V D I 84:313-17 My 11 '40

CALCUTTA, India
Port of Calcutta. Comm Rep p63-4 Ja 20 '40

CALDER, William Alexander Skeen, 1874-1940
Sketch. por Chem & Ind 59:20 Ja 13 '40

CALENDAR, Egyptian
Buhl planetarium used to find date when Egypt's calendar started; abstract. J. Johnson. Science 91:sup10 Ja 19 '40

CALENDARS
Art calendars needed in our program. C. W. Fishbaugh. il Bankers Mo 57:390-1+ Jl '40
Calendar with pencil. Inland Ptr 104:28 D '39
Calendars for specific industries; Brown instrument company. Ptr Ink Mo 41:22 S '40
Calendars popularize our bank. C. W. Fishbaugh. il Bankers Mo 57:72-3 F '40
How many days between January 22 and October 10? Heinz interest and discount time-teller and desk calendar. il Bankers Mo 57:568 O '40
Old prints sell life insurance. il Ptr Ink Mo 40:13+ F '40
This calendar sells. il Ptr Ink Mo 40:26 Ap '40
Turning over a new leaf; Reading Street Railway calendar that does a real selling job. il Bus Transportation 19:15 Ja '40

CALGON. See Sodium hexametaphosphate

CALICO printing
Bright fast pinks. R. Sansone. Textile Col 61:817-19 D '39
Developments in the printing of chrome reds. R. Sansone. Textile Col 62:240-3 Ap '40
Scumming or tarnish on printed goods and its causes. F. H. M. New. il Rayon 21:480-2 Ag '40

See also
Chintz

CALIFORNIA
California. J. W. Caughey. 680p bibliog(p607-49) $5; school ed $3.75 Prentice-Hall '40

See also
Architecture, Domestic—California
Clay—California
Gas, Natural—California
Gold mines and mining—California
Irrigation—California
Labor and laboring classes—California
Mercury mines and mining—California
Petroleum industry and trade—California
Water supply—California

Economic conditions
Money disbursements of wage earners and clerical workers in five cities in the Pacific region, 1934-36. F. M. Williams and A. C. Hanson. maps U S Bur Labor Statistics Bul 639:1-358 '39

Politics and government
Politics on the West coast; land where third term means less than power or pensions. il maps Fortune 21:40-53 Mr '40

CALIFORNIA association of employers
Another boss union; wholesalers and retailers in smaller California cities. Business Week p39 S 28 '40

CALIFORNIA fruit growers exchange
Mountains of oranges: Sunkist's time-tested point-of-sale technique. R. Eller. il Sales Management 47:36-9 S 1 '40
Sunkist extends its domestic advertising to offset lost foreign markets. R. Z. Eller. Ptr Ink 193:15-18 O 11 '40

CALIFORNIA institute of technology
Exhibits in the geological sciences. Science 91:516 My 31 '40

CALIFORNIA public service company
Sale of $500,000 bonds and issuance of stock allowed by SEC. Comm & Fin Chr 149: 4021 D 23 '39

CALIFORNIA university
S.P.E.E. California convention. B. M. Woods. il J Eng Educ 30:547-54 Mr '40

Radiation laboratory
Presentation of Nobel prize; response. E. O. Lawrence. Science 91:329-30 Ap 5 '40

CALIFORNIA university press
University press in its new home. il plan Inland Ptr 104:72-3 F '40

CALIFORNIA walnut growers association
How that diamond is branded on walnuts—and Mrs America's mind. C. Thorpe. il Sales Management 46:18-20, 58 My 1 '40

CALINGAERT, George, 1896-
Interview with a research chemist. M. G. Van Voorhis. por(cover) Nat Pet N 32:R42-3 F 7 '40

CALKING
Plastic calking materials. Franklin Inst J 229:641-2 My '40

CALLAHAN, John M.
Top-flight craftsmen. por Inland Ptr 105:47 My '40

CALLAO, Peru
Port of Callao. il(cover) Comm Rep p737+ Ag 31 '40

CALLBREATH, James Finch, 1858-1940
Portrait. Min Cong J 26:8 Ag '40

CALOMEL. See Mercury chlorides

CALORIMETERS and calorimetry
Heats of organic reactions; new calorimeter and the denaturation of methemoglobin by alkali. J. B. Conn, G. B. Kistiakowsky and R. M. Roberts. diag Am Chem Soc J 62: 1895-1905 Ag '40
Inexpensive stirrer for large water baths. A. Hemingway and W. B. Shelley. diag R Sci Instr 11:204-5 Je '40
Photocalorimeter; the quantum efficiency of photosynthesis in algae. J. L. Magee and others. diags Am Chem Soc J 61:3529-33 D '39
Specific heats of some aqueous sodium and potassium chloride solutions at several temperatures. C. B. Hess and B. E. Gramkee. bibliog diag J Phys Chem 44:483-94 Ap '40
Specific heats of some aqueous sodium and potassium chloride solutions at several temperatures. C. M. White. bibliog J Phys Chem 44:494-512 Ap '40
Wärmemengenzählung mit dampf-durchflussintegratoren. H. Lohmann and H. Jordan. V D I 83:1217-18 N 18 '39
Zur thermochemie der legierungen. F. Weibke. bibliog diags Angew Chemie 53: 74-80 F 17 '40

See also
Specific heat

CALYTHRONE
Calythrone; separated from the essential oil obtained from calythrix tetragona. A. R. Penfold and J. L. Simonsen. Chem Soc J p412-15 Ap '40

CAMBRIDGE, Massachusetts

Water supply
Filtration plant visitors. F. E. Smith. il Pub Works 70:14-16 D '39

CAMEL'S hair
Textile fiber atlas. W. von Bergen and W. Krauss. il Rayon 21:87-8 F '40

CAMERAS
Camera for photographic demonstration. D. H. Gurinsky. il J Chem Educ 17:432-3 S '40
Camera guns; two types permit economical aerial gunnery practice. il Sci Am 163:81 Ag '40
Choosing a photographic lens. Consumers' Research Bul (Gen bul ser) 9:11-12 Ap '40
Exact and approximate computation of Schmidt cameras. F. A. Lucy. Opt Soc Am J 30:251-4 Je '40
Flat-field cameras. J. G. Baker. diags Sci Am 161:376-7 D '39
Graphic Graflex photography; the master book for the larger camera. W. D. Morgan and others. 403p $4 Morgan & Lester, New York '40

CAMERAS—*Continued*
History of the kodak and its continuations; the first folding and panoramic cameras. M. F. Hammer. 95p $2 Mina Fisher Hammer, 128 E. 34th st, New York '40
Inexpensive microphotographic camera. E. M. Abrahamson. il Science 91:510 My 24 '40; Discussion. J. F. McClendon. 92:134 Ag 9 '40
Lightning recording instruments; boys cameras. J. H. Hagenguth. il diags Gen Elec R 43:251-5 Je '40
Mark IIurd aerial precision camera. il diags Aero Digest 37:171 N '40
Molding photographic history; economies made possible with molded plastics. C. R. Simmons. il Mod Plastics 17:43-6, 86, 88 Ap '40
120,000-exposure-per-second camera; high-speed pinhole camera; application to circuit-breaker arc studies. D. C. Prince and W. K. Rankin. il diag Gen Elec R 42: 391-3 S '39; Same. Engineer 168:596-7 D 15 '39

Advertising

Learning as it grows, Universal Camera builds volume by good advertising. F. G. Klock. Ptr Ink 193:17-20 N 1 '40

CAMERAS, Electron diffraction
Design and performance of an electron diffraction camera. J. E. Ruedy. il diags R Sci Instr 11:292-5 S '40
Symposium on optical methods for study of molecular structure; electronic diffraction method. L. R. Maxwell. bibliog il diags Opt Soc Am J 30:374-95 S '40

CAMP fire girls
How camp fire girls learned all about gas fuel. N. Walker. il Gas Age 86:39+ S 26 '40

CAMP sanitation
New regulations for camps, Ontario. Can Eng W & S 78:48-9+ Je '40

CAMPAIGN funds
Presidential $$$. il Fortune 22:46-9+ Jl '40

CAMPBELL, Charles A. 1893-
Sketch. por Ry Age 108:381 F 24 '40

CAMPBELL, Wyant and Cannon foundry company
Thumbnail stock appraisal. Mag of Wall St 66:168 My 18 '40
Thumbnail stock appraisal. Mag of Wall St 67:33 O 19 '40

CAMPHOR
Addition of magnesium iodide to camphor and terpene derivatives. S. T. Bowden and T. F. Watkins. Chem Soc J p1961 D '39
Dielectric properties of organic compounds; relation to chemical composition and physical structure. S. O. Morgan and W. A. Yager. bibliog Ind & Eng Chem 32:1519-28 N '40
New method of resolving a racemic compound. G. M. Henderson and H. G. Rule. Chem Soc J p1568-73 O '39
Outlook in strategic chemicals. G. T. Barnhill, jr. Chem Ind 47:30 Jl '40
Studies in the omega-camphor series; on the synthesis of 2-keto-apocamphane-1-acetic acid. T. Hasselstrom and B. L. Hampton. Am Chem Soc J 61:3445-8 D '39
Synthetic camphor. J. K. Hunt. Ind & Eng Chem 32:1167 S '40
Tertiary naphthenic acids; synthesis of 1,2,3,3-tetramethylcyclopentanecarboxylic acid from camphor. B. Shive, J. T. Horeczy and H. L. Lochte. bibliog Am Chem Soc J 62: 2744-6 O '40

See also
Nitrocamphor

CAMPING
Camp management. H. W. Gibson. rev ed 304p $5 Greenberg, New York '39
Modern camping guide. G. W. Martin. 349p bibliog(p341-2) $2.50 Appleton-Century '40
Solving camp behavior problems. J. K. Doherty. 62p bibliog(p61-2) pa 50c Association press, 347 Madison av, New York '40

CAMPS

See also
Farm camps
Labor camps
Military training camps

CAMPS, Military. See Military posts; Military training camps

CAMPS, Tourist. See Tourist camps, hostels, etc.

CAMS
Cam design analysis; with formulas for determining cam motion factors. W. H. Shorter, jr. Product Eng 11:223-7, 264-5 My-Je '40; Discussion. H. E. Golber. 11: 324 Jl '40
Cam gear design for restricted space. P. M. Heldt. diag Automotive Ind 82:476 My 15 '40
Forming die operated by inside and outside cams. C. R. Cory. diags Mach 46:115 My '40
Hydraulic circuits utilizing cam-operated valves. J. C. Cotner. diags Product Eng 11:228-9, 274-5, 412-13 My-Je, S '40
New material for speed cams; combination of molding and laminating phenolic. G. O. Small. il Mod Plastics 17:30-1, 76+ D '39
Variable-stroke cam-actuated mechanism. A. B. Bassoff. diags Mach 46:196 Jl '40

Manufacture

Hey cam milling machine. il Automobile Eng 30:273-4 S '40

CAMSHAFTS
Timing drives; some notes on American and English practice. il Automobile Eng 30:11-13 Ja '40

CAN. See Cans; Tin cans

CANADA
Business situation. Comm Rep p41-2 Ja 20 '40 [cont monthly] [cont as For Comm W O 5]
Canada: America's problem. J. MacCormac. 287p $2.75 Viking press '40
Canadian tourist income falls off sharply in 1940. Nat Pet N 32:28 O 16 '40
Eyes on Canada! what the western Canadian bus business has to offer tourists. B. Welbourne. il Bus Transportation 19:414-18 S '40
Mingling of the Canadian and American peoples; v. 1, Historical. M. L. Hansen. 274p $3 Yale univ. press '40

See also
Banks and banking—Canada
Building trades—Canada
Ceramic industries—Canada
Chemical industries—Canada
European war, 1939—Canada
Gold mines and mining—Canada
Hydroelectric plants—Canada
Labor supply—Canada
Manufactures—Canada
Mines and mineral resources—Canada
Railroads—Canada
Roads—Canada
Securities—Canada
Strikes—Canada
Tariff—Canada
Wheat—Canada

Army

Canadian restrictions on recruiting. Monthly Labor R 49:1361-2 D '39

Bibliography

Canadian catalogue of books published in Canada, about Canada, as well as those written by Canadians, with imprint of 1939. F. B. Murray, E. W. Loosley and M. Shepard, comps. 56p pa 50c Public library, Toronto '40

Commerce

Canada-U.S. trade potentialities. Bankers M 141:428-9 N '40
Canada woos Latins. Business Week p50 N 25 '39
Canada's credit position. Bankers M 141: 241-2 S '40
Canadian exports (excluding gold); revision, monthly, 1926-39. Survey of Cur Business 20:17 Mr '40

CANADA—Commerce—*Continued*
Canadian foreign trade by economic groups, 1938 and 1939; tabulation. Annalist 55:266 F 15 '40
Canadian marketing problems; ten essays. H. R. Kemp, ed. 152p $2.50 Univ. of Chicago press '39
Canadian purchases of American goods reach new peak as payment problem grows. S. L. Miller. Annalist 56:467-8 O 10 '40
Canadian trade gain in 1939 largely with United States. Comm Rep p207-8 Mr 2 '40
Chemical industry makes new record; 1939 data. W. H. Losee and H. McLeod. Can Chem & Process Ind 24:216-25 My '40
Monthly report of the trade of Canada (imports for consumption and exports), January 1940. 455p pa 75c Canada. Dominion bur. of statistics, Ottawa '40 [cont monthly]
Need for defense may weld ties with Canada still more tightly. C. E. Wright. Iron Age 145:75-6+ Je 20 '40
Trade of Canada, fiscal year ended March 31, 1939. 892p pa $3 Canada. Dominion bur. of statistics, Ottawa '40

See also
Shipping—Great Lakes

Commercial policy

Canada commandeers; foreign exchange move. Business Week p51 My 4 '40
Canada's ability to service U.S. debts; unfavorable balance of trade necessitates sharp curtailment of non-essential imports. L. Jack. Barron's 20:19 Ag 19 '40
Canada's foreign exchange resources problem. H. Drummond. Bankers M 140:520-1 Je '40
Canadian dollar under control; an outline of regulations as of June 27. E. C. Stiefel. Annalist 56:6 Jl 4 '40
Canadian government orders citizens to surrender foreign currencies. Comm & Fin Chr 150:2803 My 4 '40
Dollar diplomacy; Canada stops redemption of currency returned from U.S.; retail trade in border cities affected. Business Week p53-4 Ap 6 '40
Trade regulations. Comm Rep p708-9 Ag 17 '40

See also
Tariff—Canada

Constitution

Canada weighs new federal setup if draft constitution is adopted. Business Week p56-7 My 25 '40

Defenses

Canada at the end of the first year of war; the military and economic situation. S. L. Miller. Annalist 56:507-9 O 17 '40
Our defense agreement with Canada. F. J. McDiarmid. map Barron's 20:9 S 9 '40
U.S. and Canada map joint defense. Business Week p45-6 Ag 31 '40

See also
Canada—Foreign relations—United States

Economic conditions

American credit to ease Canadian foreign exchange problem; business at peak. S. L. Miller. Annalist 56:276-7 Ag 29 '40
Annalist index of Canadian business activity. S. L. Miller. Annalist 55:132-5 Je 25 '40 [cont monthly]
Business conditions in Canada. Can Chem & Process Ind 24:15 Ja '40
Business conditions in Canada during the calendar year 1939 compared with 1938 and with 1929, 1933 and 1937. 16p pa 25c Canada. Dominion bur. of statistics, Ottawa '40
Business situation. Comm Rep p41-2 Ja 20 '40 [cont monthly] [cont as For Comm W O 5]
Busy Dominion. Business Week p53-4 D 16 '39
Canada at the end of the first year of war; the military and economic situation. S. L. Miller. Annalist 56:507-9 O 17 '40
Canada at war. Nat City Bank p128-31 N '40
Canada in 1939. Economist 138:sup21 F 17 '40
Canada is unafraid; direct-mail advertising convention hears inspiring report. B. W. Keightley. Ptr Ink 193:63-4 O 11 '40
Canada matches the war pace; empire demand pushes Dominion industry ahead on wide front. Business Week p33 D 30 '39
Canada, 1940; the official handbook of present conditions and recent progress. 202p pa 25c Canada. Dominion bur. of statistics, Ottawa '40
Canada's economic powers and export opportunities. S. H. Logan. Bankers M 140: 55-6 Ja '40
Canadian business after one year of war; charts. Business Week p67 S 14 '40
Canadian business showed improvement in 1939. J. A. McLeod. Comm & Fin Chr 150: 485+ Ja 27 '40
Canadian failures by provinces, monthly; and quarterly record by province, city and division of industry. Published in Dun's statistical review; summary in Dun's review
Canadian industry makes moderate progress in first quarter. S. L. Miller. Annalist 55: 563-4 Ap 18 '40
Canadian recovery accelerated by war. C. M. Short. Barron's 20:9 Ja 15 '40
Canadian war aid and control. H. R. Drummond. Bankers M 140:54-5 Ja '40
Commercial failures in Canada, monthly, 1934-38. Survey of Cur Business 19:18 N '39
Credit position of Canada. rev ed 35p Inst. of international finance, 90 Trinity place, New York '40
Current conditions in Canada. Published in monthly numbers of Bankers magazine
Economic improvement in Canada substantial but irregular in second quarter. S. L. Miller. Annalist 56:81-4 Jl 18 '40
Economic outlook for 1940. S. L. Miller. Annalist 55:132-5 Ja 25 '40
Economic situation in Canada in the first seven months of 1940 as compared with the same period of 1939. Can Chem & Process Ind 24:449 S '40
Forecast of Canadian-United States dollar parity just another Wall Street rumor. S. L. Miller. Annalist 56:308-9 S 5 '40
Good times ahead; Canadian war boom will spill over into United States. S. Leacock. Barron's 19:9 D 4 '39
More people making more money in Canada's controlled boom. J. H. Love. il Sales Management 46:27-8+ Ja 15 '40
Strengthening of economic ties between United States and Canada looked for by Institute of international finance. Comm & Fin Chr 151:787 Ag 10 '40
Trend of business, Canada and U.S.; charts. Business Week p54 D 16 '39; 57 F 10; 61 Mr 16; 62 Ap 13; 55 Je 22; 45 Ag 17; 65 O 12; 66 N 16 '40
War effects on Canadian-American business. Bankers M 139:519-20 D '39
War seen exercising far-reaching effects on Canada. Annalist 56:542-3 O 24 '40
Wartime regimentation creating many new problems for Canadian businessmen. W. A. McKague. Annalist 54:758 D 14 '39

See also
Cost of living—Canada

Economic policy

Canadian economy. A. Comstock, ed. 47p bibliog(p47) pa 25c Mt Holyoke college, Dept. of economics and sociology, South Hadley, Mass. '40
Economic reconfederation; Sirois report on Dominion-provincial relations charts new financial patterns. J. R. Johnson. Trusts & Estates 71:5-8+ Jl '40

Executive departments

Government war organization; of particular interest to chemical and process industries. Can Chem & Process Ind 23:553-4 N '39

CANADA—*Continued*

Foreign exchange control board

Canada exempts resident Americans from foreign exchange control. Comm & Fin Chr 150:3956 Je 22 '40
Canada's foreign exchange control. Bankers M 140:146, 148 F '40
Canadian dollar under control: an outline of regulations as of June 27. E. C. Stiefel. Annalist 56:6 Jl 4 '40
Canadian exchange control. Economist 137: 416 D 16 '39
Foreign exchange control in Canada; how payments to residents and non-residents are affected. W. R. Dillon. Trusts & Estates 70:260-2 Mr '40
Takes over American dollars held by Canadians. S. L. Miller. Annalist 55:658-9 My 9 '40

Foreign relations

United States

All right Mr Roosevelt (Canada and the United States). S. Leacock. 40p pa 15c Farrar '39
Canada and United States neutrality. B. K. Sandwell. 34p pa 15c Farrar '39
Canadian-United States joint board of defense hold meeting in Ottawa. Comm & Fin Chr 151:1214 Ag 31 '40
Economic effects of the United States-Canada defense pact. Bankers M 141:333-4 O '40
Joint Canadian-United States defense pact concluded. Comm & Fin Chr 151:1067 Ag 24 '40
Problem of Canada; number one obligation in the enforcement of the Monroe doctrine. H. M. Tremaine. il Mag of Wall St 66:346-7+ Je 29 '40
U.S. and Canada map joint defense. Business Week p45-6 Ag 31 '40
U.S.-Canadian defense pact a political recognition of close economic relations. S. L. Miller. Annalist 56:244-5 Ag 22 '40

Industries and resources

American investment 4 billions in Dominion's industrial expansion. Steel 105:45+ N 20 '39
Canada at war; its industry may soon need U.S. dollars; will compete with U.S. and England when peace comes. il map Fortune 22:50-7+ N '40
Canada takes over; industry brought under centralized control; war directory. Business Week p20+ Jl 13 '40
Canada's crisis hinges on trade; progress of war business moot issue in general election of Mar. 26. il Business Week p51-3 F 3 '40
Canada's great defense program gaining momentum. C. M. Short. il Annalist 56:80-1 Jl 18 '40
Canada's industrialization. C. E. Wright. Iron Age 144:48-9+ N 30 '39
Canadian industry expected to reach full capacity to fill 1940 war orders. C. M. Short. Annalist 55:327 F 29 '40
French collapse spurs Canadian industrial effort. Annalist 55:859-60 Je 20 '40
Industrialization of Canada to be greatly increased if European war continues. Comm & Fin Chr 149:3198 N 18 '39
More Dominion plants; authorizations for construction and expansion of arms factories reach $80,000,000. Business Week p49 Jl 27 '40
War brings opportunities for new Canadian industries. J. Montagnes. Barron's 20:8 Jl 15 '40
War causes sharp acceleration of Canadian industrial activity. W. D. Euler. Annalist 55:138+ Ja 25 '40

Inventions board

Inventions board of the Canadian government. Science 91:283-4 Mr 22 '40

Politics and government

New Dominion? Business Week p65 N 16 '40
Problems in Canadian unity. V. Anderson, ed. 153p bibliog(p151-3) $1.50 Nelson '38

Statistics

British Columbia looks ahead; relations between mining, population and manufacturing. H. G. Nichols. il map Can Min J 61:584-9 S '40
Canada year book, 1940. 1192p $1.50 Canada. Dominion bur. of statistics, Ottawa '40
Canadian statistics, 1936-1939. Survey of Cur Business 1940 Sup p162-4 [supplemented in monthly numbers]

War industries control board

Canada takes over; industry brought under centralized control; war directory. Business Week p20+ Jl 13 '40

Wartime prices and trade board

Canadian wartime prices and trade board. Monthly Labor R 49:1360-1 D '39

CANADA dry ginger ale, inc.

Earnings, years ended Sept. 30, 1936-39. Comm & Fin Chr 149:3867 D 16 '39
WSAI wins Canada Dry promotion award. il Sales Management 46:41 My 1 '40

CANADA life assurance company

50th anniversary in the United States. Nat Underw (Life ed) 43:4 N 24 '39; East Underw 40:3 N 24 '39

CANADIAN chemical association

Seigniory club convention; review of general and sectional meetings. Can Chem & Process Ind 24:277-85+ Je '40

CANADIAN colonial airways

Stock sold. Comm & Fin Chr 150:3966-7 Je 22 '40

CANADIAN electrical association

Annual meeting, 50th. Edison Elec Inst Bul 8:406 Ag '40

CANADIAN engineering standards association

Canadian standards association acts to speed program. Ind Stand 11:150-1 Je '40

CANADIAN institute of chemistry

Some Canadian chemical history; development of Society of chemical industry and Canadian institute of chemistry. F. J. Hambly. Can Chem & Process Ind 24: 426-7 Ag '40

CANADIAN institute of mining and metallurgy

Meeting, Winnipeg, March 11-13. Can Chem & Process Ind 24:115+ Mr '40; Can Min J 61:215-19 Ap '40

CANADIAN institute of plumbing and heating

Two allied institutes; Canadian institute on sewage and sanitation and Canadian institute of plumbing and heating. W. W. Goforth. Can Eng W & S 78:46-7, 49 O '40

CANADIAN institute on sewage and sanitation

Annual meeting, 7th, Toronto, Oct. 24-25. Can Eng W & S 78:11-38 O '40
Two allied institutes, Canadian institute on sewage and sanitation and Canadian institute of plumbing and heating. W. W. Goforth. Can Eng W & S 78:46-7, 49 O '40

CANADIAN international paper company

Earnings, 1936-39. Comm & Fin Chr 150:3503 Je 1 '40

CANADIAN life insurance officers association

Annual meeting, 47th, Montreal. East Underw 41:3-4 Je 7 '40; Nat Underw (Life ed) 44:5+ Je 7 '40

CANADIAN national express

Canadian national express. il Ry Age 108:220-1 Ja 27 '40

CANADIAN national railways

Canadian national railway, 1923-1939. 13p pa 20c Canada. Dominion bur. of statistics, Ottawa '40
Income account, years ended Dec. 31, 1936-39. Comm & Fin Chr 150:2084-5 Mr 30 '40

CANADIAN oil companies, ltd.

Bonds offered. Comm & Fin Chr 150:274 Ja 13 '40

CANADIAN Pacific express company

Operates a fleet of 714 motor vehicles. il Ry Age 108:219-20 Ja 27 '40

CANADIAN Pacific railway
Annual report, 59th. Comm & Fin Chr 150: 2085, 2125-30 Mr 30 '40; Same abr. Ry Age 108:601-6 Mr 30 '40; Excerpts. Economist 138:636-7 Ap 6 '40
Canadian Pacific dividend shock. Economist 138:304 F 17 '40
Canadian Pacific railway, 1923-1939. 11p pa 25c Canada. Dominion bur. of statistics, Ottawa '40
Dividend policy and profits, 1937-39. Economist 138:476-7 Mr 16 '40
How war affects Canadian Pacific. A. T. Christie. map Barron's 20:13 My 20 '40
Volatile low priced equities; thumbnail appraisal. Mag of Wall St 65:686 Mr 9 '40

CANADIAN pulp and paper association
Annual meeting, 27th, Montreal, Jan. 24-26. Pulp & Pa of Can (Convention no) 41:55-150+ [F] '40; Paper Tr J 110:9, 18-21 F 1 '40
Presidents; portraits. Pulp & Pa of Can 41:552, 562, 564 Ag '40
Pulp and paper association organized to serve. F. G. Robinson. Pulp & Pa of Can 41:388-90 My '40

Technical section

Aims. V. H. Emory. Pulp & Pa of Can 41: 537-8 Ag '40
Chairmen; portraits. Pulp & Pa of Can 41:536, 544, 550 Ag '40
Creation. R. L. Campbell. Pulp & Pa of Can 41:533-4 Ag '40
Early members of the council and committees; portraits. Pulp & Pa of Can 41:582, 586, 590, 597, 605-6, 608-10 Ag '40
Twenty-five years of the Technical section. J. N. Stephenson. Pulp & Pa of Can (Convention no) 41:71-4 [F] '40

Woodlands section

Annual meeting, 22d, Montreal, Jan. 24-26. Pulp & Pa of Can (convention no) 41: 151-3, 155-6 [F] '40

CANADIAN refractories limited
History. il Can Min J 60:sup294 N '39

CANADIAN-United States joint board of defense
Meetings, Ottawa. Comm & Fin Chr 151:1214 Ag 31 '40

CANAL lining
Brick's lower cost wins canal job over concrete; irrigation project in Nebraska. G. B. Blackstone. il Brick & Clay Rec 96: 17+ F '40
Concrete linings for irrigation canals. C. W. Wood. il Civil Eng 10:29-32 Ja '40
Cooling tower in unusual setting; constructing section of Coachella canal. il Comp Air M 45:6292 N '40
Fresno County's irrigation canals are lined with concrete. I. H. Tielman. Concrete 48: 22 N '40

CANAL traffic

Statistics

Canal statistics for the year ended December 31, 1939. 57p pa 25c Canada. Dominion bur. of statistics, Ottawa '40
Waterway traffic, 1936-1939. Survey of Cur Business 1940 Sup p84-5 [supplemented in monthly numbers]

CANAL Zone. See Panama Canal Zone

CANAL Zone biological area
Canal Zone biological area; Barro Colorado island. Science 92:422 N 8 '40

CANALS
Aspects théoriques de l'écoulement de l'eau dans un canal comportant des obstacles. A. Brolkos. Génie Civil 116:356-9 Je 1 '40
Maritime and land operations contrasted in Chalkley field. N. Williams. il Oil & Gas J 38:40-1+ Mr 7 '40
Pre-cast concrete piles for canal walls at Long Beach, Calif. J. W. B. Blackman. il diags Civil Eng 10:719-20 N '40
Recherches sur l'écoulement de l'eau à l'entrée d'un canal découvert. L. Escande. il Génie Civil 116:152-4, 164-6 Mr 2-9 '40

See also
Dredges
Irrigation canals
Locks (hydraulic engineering)
Waterways

Cost

Dikes and diversion canal, South Carolina; unit prices. Eng N 124:70-1 Ja 11 '40
Dikes and pilot canal, Missouri; unit prices. Eng N 123:782 D 7 '39

Rates and tolls

Unions urge canal tolls. Ry Age 108:418+ Mr 2 '40

Belgium

Albert canal. il diags maps Engineering 148: 375-7, 431-3, 489-91, 492, 502, 574-6, 657-60, 666, pl 13, 16, 18, 22, 25 O 6, 20, N 3, 24, D 15 '39
War christens Belgium's Albert canal. il map Eng N 124:729-32 My 23 '40

Germany

Air force targets in Germany; Dortmund-Ems canal. il plans map Engineer 170:59-61 Jl 26 '40

Great Britain

English canals. map Economist 138:735-6 Ap 20 '40

See also
Manchester ship canal

Illinois

See also
Illinois and Michigan canal

Netherlands

Juliana ship canal, Holland. map Engineering 149:403-4 Ap 19 '40

New York (state)

See also
New York state barge canal

Ohio

Lake Erie and Ohio river canal. 308p U.S. Engineer dept, Washington '39

South Carolina

Developing the Santee and Cooper rivers; combined power and navigation project in South Carolina. il diags map Eng N 124:706-11 My 23 '40
Preview of Santee Cooper. Eng N 124:375 Mr 14 '40

United States

I.C.C. makes public report on Lake Erie-Ohio River canal. Ry Age 108:245-8 F 3 '40
ICC reports Lake Erie-Ohio canal would cause railroads heavy loss. Steel 106:29 F 5 '40

CANALS, Drainage. See Drainage

CANALS, Irrigation. See Irrigation canals

CANCER
Attempted characterization of malignant tissue protein with d-amino acid oxidase. L. E. Arnow and J. C. Opsahl. Science 91: 431-2 My 3 '40
Attempts to produce tumors in rats by feeding crude wheat germ oil made of prolonged ether extraction. H. Blumberg. bibliog Pub Health Rep 55:531-7 Mr 29 '40
Cancer and sunlight; abstract. F. L. Apperly. Science 91:sup13 Mr 29 '40
Cancer and the public health. T. Parran, jr. Science 90:427-30 N 10 '39
Cancer can be conquered. M. M. O'Brien. 62p $1 Binfords & Mort, 102 NW 9th av, Portland, Ore. '39
Cancer in catfish; pathology and transmission; abstract. B. Lucké and H. Schlumberger. Science 92:418-19 N 8 '40

CANCER—*Continued*
Cancer in childhood and a discussion of certain benign tumors. H. W. Dargeon, ed. 114p $3 C. V. Mosby co, St Louis '40
Cancer institute of medicine at Buenos Aires. Science 91:63-4 Ja 19 '40
Cancer prevention; vitamin K; abstract. L. F. Fieser. Science 92:supl1 S 20 '40
Cancerogenic tissue extract from human sources. P. E. Steiner. Science 92:431-2 N 8 '40
Cause of cancer. Science 91:supl2 Mr 15 '40
Centriole in radiated tumor tissue. L. C. Fogg and S. Warren. bibliog Science 91: 528-9 My 31 '40
Chemical control of cancer. Science 91:sup 9-10 Mr 8 '40
Chemically induced plant tumors; clues to mechanism of cancer production being sought. M. Levine. Science 90:supl1 D 8 '39
Chemistry of natural immunity. W. F. Koch. rev ed 201p bibliog(p199-201) $2 Christopher pub. house, Boston '39
Coenzyme concentration of tissues. F. Bernheim and A. V. Felsovanyi. Science 91:76 Ja 19 '40
Coenzyme I and riboflavin content of livers of rats fed butter yellow. C. J. Kensler, K. Suguira and C. P. Rhoads. bibliog Science 91:623 Je 28 '40
Conjugation of amino acids with isocyanates of the anthracene and 1,2-benzanthracene series. L. F. Fieser and H. J. Creech. bibliog Am Chem Soc J 61:3502-6 D '39
Cure of cancer and slow neutrons; abstract. P. A. Zahl, F. S. Cooper and J. R. Dunning. Science 92:supl4 O 25 '40
Determination of the thoron content of air and its bearing on lung cancer hazards in industry. R. D. Evans and C. Goodman. il diag J Ind Hygiene 22:89-99 bibliog(p98-9) Mr '40
Determination of the total *d*-amino acid content of human tumors and normal tissues by means of *d*-amino acid oxidase. F. Lipmann and others. bibliog Science 91:21-3 Ja 5 '40
Effect of petroleum ether extract of mouse carcasses on skin tumor production in C57 black mice. J. J. Morton and G. B. Mider. bibliog Pub Health Rep 55:670-6 Ap 19 '40
Factors influencing carcinogenesis with methylcholanthrene; lack of effect of foster nursing. M. B. Shimkin and H. B. Andervont. bibliog Pub Health Rep 54:2080-5 N 24 '39
Factors influencing carcinogenesis with methylcholanthrene; the effect of solvents. M. B. Shimkin and H. B. Andervont. bibliog Pub Health Rep 55:537-45 Mr 29 '40
Fifth column disease. I. F. Marcosson. Safety Eng 80:37 Ag '40
Fight on cancer. C. C. Little. 31p Public affairs committee, New York '39
Fraction of human urine which causes fetus resorption in rats and mice. J. O. Ely. Franklin Inst J 230:519-20 O '40
Freezing treatment questioned. Refrig Eng 39:232 Ap '40
Further study of the mode of action of methylcholanthrene on normal tissue cultures. W. R. Earle and C. Voegtlin. bibliog Pub Health Rep 55:303-22, pl 1-9 F 23 '40
L'Institut du cancer, à Amsterdam; installation pour le traitement du cancer au moyen d'un tube à rayons X à 1 million de volts. il diags Génie Civil 116:305-7 My 11 '40
Interactions between polycyclic hydrocarbons and sterols in mixed surface films at the air-water surface. W. W. Davis, M. E. Krahl and G. H. A. Clowes. Am Chem Soc J 62:3080-98 N '40
Journal of the National cancer institute, new publication of the Public health service. Pub Health Rep 55:1831-2 O 4 '40
meso-Alkyl anthracenes. L. F. Fieser and T. G. Webber. bibliog Am Chem Soc J 62: 1360-2 Je '40
9-Methyl- and 10-methyl-1,2-benzanthracene. C. K. Bradsher. Am Chem Soc J 62:1077-8 My '40
20-Methyl-4-azacholanthrene. L. F. Fieser and E. B. Hershberg. bibliog Am Chem Soc J 62:1640-5 Jl '40
Mutual relations between various organs in the mortality from cancer; an analysis of occupational mortality statistics of England and Wales; abstract. S. Peller. J Ind Hygiene 22:supl40-1 S '40
Need for intensive educational campaigns in cancer control. Pub Health Rep 55:653-5 Ap 12 '40
New cancer film an important educational feature. Pub Health Rep 55:784-5 My 3 '40
New cancer serum; abstract. W. H. Welker. Science 92:sup8 Jl 19 '40
New methyl and dimethyl derivatives of cholanthrene. L. F. Fieser and D. M. Bowen. bibliog Am Chem Soc J 62:2103-8 Ag '40
Non-specificity of amino acid configuration in malignant tissue hydrolysates. O. K. Behrens and others. bibliog Science 92:32-4 Jl 12 '40
Optical test for cancer. Sci Am 162:359-60 Je '40
Optical tests for determining the presence of cancer; abstract. M. W. Mettenleiter. Science 91:supl2-13 Mr 29 '40
Polycyclic aromatic hydrocarbons. G. M. Badger, J. W. Cook and F. Goulden. Chem Soc J p16-18 Ja '40
Polycyclic aromatic hydrocarbons. J. W. Cook and Mrs A. M. Robinson. Chem Soc J p303-4 Mr '40
Polycyclic aromatic hydrocarbons. C. L. Hewett. Chem Soc J p293-303 Mr '40
Preliminary note on the extraction of a carcinogenic factor from primary human mammary cancer. J. F. Menke. Science 92: 290-1 S 27 '40
Prevention of spread through the body of the germs of cancer; abstract. O. V. Batson. Science 92:supl0 Jl 5 '40
Production of tumors by injection of a carcinogen into the amniotic fluid of mice. L. W. Law. Science 91:96-7 Ja 26 '40
Report of the New York state legislative Cancer survey commission, transmitted to the Legislature February 15, 1939. 166p New York (state) Cancer survey commission, Albany '39
Roller bottle tissue culture system. D. T. Shaw, L. C. Kingsland and A. M. Brues. bibliog diags Science 91:148-9 F 9 '40
Roto; new cancer treatment method by X-rays. Sci Am 163:192 O '40
Sarcomata and carcinomata induced in cottontail rabbits by methylcholanthrene. J. T. Syverton and G. P. Berry. Science 91:298 Mr 22 '40
Slow neutrons from atom-smashing cyclotron effective against cancer. Science 91:sup9 Ja 12 '40
Starvation treatment of wildly growing cancer cells; abstract. R. H. Steckel and J. R. Murlin. Science 91:sup8 Mr 22 '40
Studies on some possible causative factors of the spontaneous adenomatous lesion of the stomach in mice of strain I. H. B. Andervont. bibliog Pub Health Rep 54:2085-93, pl 1-4 N 24 '39
Sulfhydryl and cysteine derivatives of 1,2-benzanthracene, 10-methyl-1,2-benzanthracene and 3,4-benzpyrene. J. L. Wood and L. F. Fieser. bibliog Am Chem Soc J 62: 2674-81 O '40
Synthesis of 4,5-dimethylchrysene. M. S. Newman. bibliog Am Chem Soc J 62:2295-300 S '40
Synthesis of 4',8'-dihydroxy-1,2,5,6-dibenzanthracene and its relation to products of metabolism of the hydrocarbon. J. Cason and L. F. Fieser. bibliog Am Chem Soc J 62:2681-7 O '40
Synthesis of growth-inhibitory polycyclic compounds. G. M. Badger and J. W. Cook. Chem Soc J p802-6 My '39; p409-12 Ap '40
Synthesis of 2-methyl-3,4-benzphenanthrene. M. S. Newman and L. M. Joshel. bibliog Am Chem Soc J 62:972-4 Ap '40

CANCER—*Continued*
Treatment of cancer and allied diseases, by one hundred and forty-seven international authors. G. T. Pack and E. M. Livingston, eds. 3v $36 Harper '40
Treatment of cancer in man. T. J. Glover and J. E. White. 80p bibliog(p80) Murdock foundation, 2519 Creston av, New York '40
Unconquered enemy. B. Sokoloff. 198p bibliog(p167-91) $1.75 Greystone press, 40 E. 49th st, New York '40
Youth looks at cancer; a text. H. R. Steward. 55p bibliog(p47-53) 75c Brookville press, Brookville, N.Y. '40
Zinc peroxide treatment for cancer; abstract. B. S. Freeman. Science 92:sup10 Ag 2 '40
See also
Finney-Howell research foundation

Statistics
Cancer in Hartford, a statistical analysis, 1920-1936. H. F. Hirsche, ed. 60p bibliog(p45-6) Board of health, Hartford, Conn. '38
Cancer mortality in the United States according to site, by sex and age, 1938. Pub Health Rep 55:731-5 Ap 26 '40
Cancer mortality in the United States; 1, Trend of recorded cancer mortality in the death registration states of 1900, from 1900 to 1935; 2, Recorded cancer mortality in geographic sections of the death registration states of 1920, from 1920 to 1935. M. Gover. (Pub. health bul. no. 248, 252) U.S. Public health service, Washington; pa ea 10c Supt. of doc. '39-'40; Review. Pub Health Rep 55:1541-3 Ag 23 '40
Disabling morbidity, and mortality from cancer among the male employees of an oil refining company with reference to age, site, and duration, 1933-38, inclusive. W. M. Gafafer and R. Sitgreaves. bibliog Pub Health Rep 55:1517-26 Ag 23 '40
Incidence of cancer in Cook county, Illinois, 1937. H. F. Dorn. Pub Health Rep 55: 628-50 Ap 12 '40
Incidence of cancer in Pittsburgh and Allegheny county, Pennsylvania, 1937. A. J. McDowell. Pub Health Rep 55:1419-51 Ag 9 '40

CANDELABRA. See Candlesticks

CANDLES
German manufacture of candles. Comm Rep p6 Ja 6 '40

CANDLESTICKS
Performing broaching operations in foot and power presses; slots in the arms of candelabra. M. J. Goldstein. il diags Mach 46:98-9 Ag '40

CANDY
Volumetric estimation of lac on glazed candies. N. M. Molnar and J. Grumer. bibliog Ind & Eng Chem Anal ed 11:673-4 D 15 '39
See also
Confectionery

Manufacture
Candy engineer; keeping chocolates at the right temper. P. H. Keeney. diag Power Pl Eng 44:86 S '40

CANDY factories

Air conditioning
Edgar P. Lewis & sons; manufacturer of candy; use of ten Bryant silica-gel type air dehumidifiers. D. R. McNally. il Heat & Ven 37:37-40 Ag '40

Employees
Wages and working conditions in the Cuban candy industry, 1940. T. S. Campen. Monthly Labor R 51:729 S '40

CANDY stores
Candy shop for Altman & Kuhne, New York. il diags plan Arch Forum 72:89-92 F '40

CANDY trade
Method for pre-testing new products. R. B. L. Singer. il Adv & Sell 33:28-30, 60+ Jl '40
Peek-a-boo boxes jump summer sales 30% for Busy Bee candy. W. H. Zumwinkel. il Sales Management 47:22-3 Ag 15 '40

Accounting
Material control for a chain of confectionery stores; Fred Sanders, Detroit. R. F. Brockmiller. il N A C A Bul 21:1305-14 Je 15 '40

Statistics
Candy, sales by manufacturers, 1936-1939. Survey of Cur Business 1940 Sup p114 [supplemented in monthly numbers]
Latin American markets for confectionery; relative importance of principal countries, 1937-39 and United States exports, 1938 and 1939. A. S. Nemir. Comm Rep p350+ Ap 13 '40

CANNABIDIOL
Cannabis indica; isolation of cannabidiol from Egyptian hashish; observations on the structure of cannabinol. A. Jacob and A. R. Todd. Chem Soc J p649-53 My '40
Conversion of cannabidiol to a product with marihuana activity; a type reaction for synthesis of analogous substances. R. Adams and others. Am Chem Soc J 62:2245-6 Ag '40
Isolation of cannabinol, cannabidiol and quebrachitol from red oil of Minnesota wild hemp. R. Adams, D. C. Pease and J. H. Clark. bibliog Am Chem Soc J 62:2194-6 Ag '40
Structure of cannabidiol; a method of synthesis of a tetrahydrocannabinol which possesses marihuana activity. R. Adams and B. R. Baker. Am Chem Soc J 62: 2405-8 S '40
Structure of cannabidiol, a product isolated from the marihuana extract of Minnesota wild hemp. R. Adams, M. Hunt and J. H. Clark. bibliog Am Chem Soc J 62:196-200 Ja '40
Structure of cannabidiol; absorption spectra compared with those of various dihydric phenols. R. Adams, C. K. Cain and H. Wolff. bibliog Am Chem Soc J 62:732-4 Ap '40
Structure of cannabidiol; isomerization of cannabidiol to tetrahydrocannabinol, a physiologically active product; conversion of cannabidiol to cannabinol. R. Adams and others. Am Chem Soc J 62:2402-5 S '40
Structure of cannabidiol; position of the alicyclic double bonds. R. Adams and others. bibliog Am Chem Soc J 62:2215-19 Ag '40
Structure of cannabidiol; position of the double bonds in cannabidiol; marihuana activity of tetrahydrocannabinols. R. Adams and others. Am Chem Soc J 62:2566-7 S '40
Structure of cannabidiol; reduction and cleavage. R. Adams, M. Hunt and J. H. Clark. Am Chem Soc J 62:735-7 Ap '40
Structure of cannabidiol; the position of the linkage between the two rings. R. Adams and others. diag Am Chem Soc J 62:1770-5 Jl '40

CANNABINOL
Cannabis indica; the synthesis of dibenzopyran derivatives, including an isomer of cannabinol. R. Ghosh, D. C. S. Pascall and A. R. Todd. Chem Soc J p1118-21 Ag '40
Conversion of cannabidiol to a product with marihuana activity; a type reaction for synthesis of analogous substances; conversion of cannabidiol to cannabinol. R. Adams and others. Am Chem Soc J 62: 2245-6 Ag '40; Discussion. G. Powell and T. H. Bembry. 62:2568-9 S '40
Isolation of cannabinol, cannabidiol and quebrachitol from red oil of Minnesota wild hemp. R. Adams, D. C. Pease and J. H. Clark. bibliog Am Chem Soc J 62:2194-6 Ag '40
Structure of cannabinol; a second method of synthesis of cannabinol. R. Adams and B. R. Baker. Am Chem Soc J 62:2401 S '40

CANNABINOL—*Continued*
Structure of cannabidiol; isomerization of cannabidiol to tetrahydrocannabinol, a physiologically active product; conversion of cannabidiol to cannabinol. R. Adams and others. Am Chem Soc J 62:2402-5 S '40
Structure of cannabinol; preparation of an isomer, 3-hydroxy-1-*n*-amyl-6,6,9-trimethyl-6-dibenzopyran. R. Adams and others. Am Chem Soc J 62:2197-200 Ag '40
Structure of cannabinol; synthesis of cannabinol, 1-hydroxy-3-*n*-amyl-6,6,9-trimethyl-6-dibenzopyran. R. Adams, B. R. Baker and R. B. Wearn. Am Chem Soc J 62:2204-7 Ag '40
Structure of cannabinol; synthesis of two additional isomers containing a resorcinol residue. R. Adams and B. R. Baker. Am Chem Soc J 62:2208-15 Ag '40
Structure of cannabinol; synthesis of two new isomers; 3-hydroxy-4-*n*-amyl- and 3-hydroxy-2-*n*-amyl 6,6,9-trimethyl-6-dibenzopyrans. R. Adams, C. K. Cain and B. R. Baker. Am Chem Soc J 62:2201-4 Ag '40

CANNABIS. See Hemp; Marihuana

CANNED fish
Easy way to tell when to stop drying process; gage quickly measures moisture content of product; canning plant of Atlantic coast fisheries co. H. E. Rue. diags Food Ind 12:40-1 Ag '40
Waste utilized to improve quality of product; late season salmon brought up to par by addition of oil from inedible parts of fish. H. Cloukey. il Food Ind 12:54 Ja '40

CANNED food
Almanac of the canning industry, 1940. 226p pa $1 Canning trade, 20 S. Gay st, Baltimore '40
B.C. canning industry discusses position. Can Chem & Process Ind 24:178-9 Ap '40
Canned Atlantic crab meat; a new American food. C. R. Fellers and S. G. Harris. bibliog il Ind & Eng Chem 32:592-4 Ap '40
Early British war demand for canned vegetables spotlights tomato items. C. E. Birgfeld. Comm Rep p65 Ja 20 '40
Fruit and vegetable canning industry in Canada. E. P. Hawk. Comm Rep p399-400 Ap 27 '40
Influence of the steel-base composition on the rate of formation of hydrogen-swells in canned-fruit tinplate containers. T. P. Hoar, T. N. Morris and W. B. Adam. bibliog diags Iron & Steel Inst J 140:55-92, pl 9; Discussion. 93-4 no 2 '39
Is chemical industry ready? canning industry. C. O. Ball. il Ind & Eng Chem 32:1173-5 S '40
Metallic contamination of foods; lead in maple syrup, copper content and contamination of tomatoes, canned chicken, etc. J. T. Janson and C. E. Allen. bibliog Can Chem & Process Ind 24:389-91+ Ag '40
Schuckl and U.S. products co. adopt grade labeling; approved by U.S. Dept. of agriculture Marketing service. il Sales Management 47:23-4 Ag 15 '40
Standardization of packages. C. Campbell. U S Nat Bur Stand Misc Pub M165:95-9; Discussion. 100-4 '40
Verhalten des vitamins B_1 beim kochen und konservieren von gemüsen. G. Lunde, H. Kringstad and A. Olsen. Angew Chemie 53: 123-5 Mr 16 '40
War conditions as technical and economic factors in canning and bacon industry; function of canning laboratory of National research council. W. H. Cook and E. J. Reedman. Can Chem & Process Ind 24:288-9 Je '40
What a dealer profit-sharing plan is doing for Baxter bros. B. H. M. White. il Sales Management 47:40-1 Jl 15 '40

See also
Canned fish
Canned meat
Canneries
Canning and preserving
Fruit juices
Tin cans

Standards
Canners try government grading. il Business Week p44-5 Jl 6 '40
Digest of Agricultural marketing service standards for canned fruits. Food Ind 12:61-2 O; 55-6+ N '40
Is grade labeling perfect? Ptr Ink Mo 41: 34 O '40
Question grade labels; packers say arbitrary approval plans don't supply adequate data for consumers. Business Week p28-9 Ag 3 '40

CANNED goods
How Rival packing company's new plant speeds production; dog food factory, offices and management. il Am Business 10:33-40 Ap '40
Labels; functionally designed. il Ptr Ink Mo 41:10-11 O '40
Moisture content of wooden containers in which canned goods have rusted; Vancouver laboratory experiments. Weekly Underw 141: 1168-9 D 2 '39

See also
Canned food

CANNED meat
Relato can-topper store units treble promotions for Spam; Hormel's four-color displays. il Sales Management 47:47-8 S 1 '40

CANNEL coal
Classification of oil shales and cannel coals; confusion in nomenclature and classification of oil-yielding materials. A. L. Down and G. W. Himus. Inst Pet J 26:329-35, pl 1-5; Discussion. 336-48 Jl '40

CANNERIES
Is chemical industry ready? canning industry. C. O. Ball. il Ind & Eng Chem 32:1173-5 S '40
Salmon canners' union; West Coast firms will negotiate with labor as a unit. Business Week p33-5 Mr 16 '40
Salmon packers defy the union. Business Week p26+ My 4 '40

See also
Tin cans

Equipment
British canning plant. il diags plan Engineer 169:520-1, 528-30 Je 7-14 '40
Pea canning and freezing; flow sheet. Food Ind 12:53 My '40
Process operations in the food industry. W. L. Campbell. Chem & Ind 59:433-4 Je 22 '40

Lighting
Fluorescent ceiling for pineapple cannery. il diag Elec W 114:1186+ O 19 '40

Power
Mustering corrective kva; capacitors returned to irrigation circuits at end of cannery season; Pacific gas and electric co. J. F. Roberts. Elec West 84:47 My '40

Waste
Drying method changes composition of grapefruit byproduct. G. N. Pulley and H. W. von Loesecke. bibliog il Food Ind 12:62-3+ Je '40
Grapefruit canning; treatment of wastes; abstract. Ratliff. Eng N 125:176 Ag 1 '40
Treatment methods for waste from citrus juice canning plants. C. A. Billings. flow diag il Pub Works 71:7-8 Ag '40

CANNING and preserving
Application of calcium in the commercial canning of whole tomatoes; abstract. Z. I. Kertesz and others. Food Ind 12:95-6 Je '40
British canning plant. il diags plan Engineer 169:520-1, 528-30 Je 7-14 '40
Canned Atlantic crab meat; a new American food. C. R. Fellers and S. G. Harris. bibliog il Ind & Eng Chem 32:592-4 Ap '40
Characteristics of greening in canned vegetables; abstract. E. Vollhase. Food Ind 12:92 S '40
Chemical engineering problems in the canning industry; abstract and discussion. T. W. Jones. Chem & Ind 59:311-12 My 4 '40
Color changes in green vegetables; frozen-pack peas and string beans. G. Mackinney and C. A. Weast. Ind & Eng Chem 32: 392-5 Mr '40

CANNING and preserving—*Continued*
Heat sterilization in bags creates technologic problems. Food Ind 12:31-2 Ja '40
How to use dextrose in canning. E. W. Eickelberg. il Food Ind 12:33-5 Ja; 50-1 F '40
Natural green color fixed in canned vegetables; patent. Food Ind 12:93-4 Ap '40
Rate of heat penetration in canned tomato juice; abstract. L. J. Frost. Food Ind 12:90 Ag '40
Steam required for corn canning. S. H. Coleman. Power Pl Eng 44:54 Ap '40
Taking the guesswork out of pasteurizing; temperature at which canned or bottled fruit juices should be heat sterilized. C. S. Pederson and E. A. Beavens. Food Ind 12: 61-3 Ap '40
Temperature measurement and control in the food industry. F. C. Baselt and C. O. Ball. il Ind & Eng Chem News ed 18:391-3 My 10 '40

See also
Canned food
Canneries
Tin cans

CANS
Lacquered black plate for containers, to save tin. Steel 107:33 Jl 8 '40

See also
Canned food
Continental can company
Ice cream cans
Milk cans
Oil cans
Tin cans

Manufacture
Efficient lay-out for blanking can tops. R. L. Wakelee. diag Mach 47:161 N '40
Germans use lacquer and welding to make packers cans. Iron Age 145:78 Je 6 '40

CANS, Oil. See Oil cans

CANTEENS
Gift to the forces; mobile canteen. il Gas J (Lond) 228:685 D 27 '39

CANTONMENTS. See Military training camps

CANVAS
Management policies by industries; canvas goods manufacture. S. T. Jessop. il Bankers Mo 56:724-7+ D '39

CANVASSERS
It pays to blue-print salesmen's jobs; house-to-house salesmen of food products. B. R. Canfield. Adv & Sell 33:27 Ap '40
Skit shows Crosley men how to interpret product to housewives. il Sales Management 47:56 Ag 15 '40

CANVASSING
Selling transportation direct; house-to-house canvasses by attractive representatives of the National City lines. il Transit J 84: 277-8 Ag '40
United States Supreme court voids Irvington, N.J. ordinance barring canvassing of homes for sale of booklets. Comm & Fin Chr 149: 3342-3 N 25 '39
Lee urges dealers to canvass, and tells them how to do it; work clothing. C. A. Reynolds. Sales Management 47:44-5 S 15 '40

CANYONS, Submarine
Origin of submarine canyons; a critical review of hypotheses. D. Johnson. 126p $2.50 Columbia univ. press '39
Origin of the submarine valleys on the continental slopes of the North Atlantic; abstract. W. H. Bucher. Science 91:480-1 My 17 '40
Submarine canyons off the southern California coast. Science 92:sup7 Ag 16 '40
Submarine valleys and related geologic problems of the North Atlantic. W. H. Bucher. Geol Soc Bul 51:489-511 bibliog(p509-11) Ap '40

CAPACITOR motors. See Electric motors, Induction

CAPACITORS. See Condensers (electricity)

CAPE COD
Cape Cod advertises as area, and vacationist business jumps to new high. J. Searle. Ptr Ink 189:19-20 D 8 '39

CAPILLARIES
Data on capillaries. D. P. Heath. Refrig Eng 39:304 My '40
Determination of the kinematic viscosity of petroleum asphalts with a capillary tube viscosimeter. R. H. Lewis and W. J. Halstead. il Pub Roads 21:127-38 S '40
Lining of metal capillaries with glass and the application to a capillary positive ion source. I. A. Getting and H. W. Leighton. diags Rt Sci Instr 11:232-4 Jl '40
Properties of liquids in fine capillaries; surface tension and density. L. H. Cohan and G. E. Meyer. diag Am Chem Soc J 62: 2715-16 O '40

CAPILLARITY
Capillary behavior in porous solids; abstract. M. C. Leverett. Oil & Gas J 39:64 O 31 '40
Capillary flow in porous solids. N. H. Ceaglske and F. C. Kiesling. bibliog diag Am Inst Chem Eng Trans 36:211-25 Ap '40
Earliest history of capillary chemistry. I. Traube. J Chem Educ 17:324-9 bibliog(50 titles, p328-9) Jl '40
Methods for measuring the passage of water through concrete. W. M. Dunagan. bibliog il diags Am Soc T M Proc 39:866-80; Discussion. 881 '39

See also
Surface tension

CAPITAL
Aid for little fellow; SEC reports to TNEC. Business Week p22 S 14 '40
Anlagenutzung und zins in der kostenrechnung. H. Kreis. Stahl & Eisen 60:2-9; Discussion. 10-12 Ja 4 '40
Capital can't pull unless it's free. E. F. Connely. Nation's Business 28:67, 70+ Je '40
Capital flotations, by use of proceeds, type of security, and type of borrower, 1935-1939. Survey of Cur Business 1940 Sup p66-70 [supplemented in monthly numbers]
Capital flotations in the United States, calendar year 1939. Comm & Fin Chr 150:19-26 Ja 6 '40
Capital *is* needed; saturation-point theory of savings and investment refuted by Economic policy commission of the American bankers association. Inv Banking 10:24-6 My '40
Capital issues. Bankers M 139:531 D '39
Capital issues for new capital and for refunding, domestic and foreign totals, 1929-1938, by months, Nov. 1938-Nov. 1939. Fed Res Bul 26:40 Ja '40 [cont monthly]
Capital issues under control; home corporation stocks. Economist 139:95-6 Jl 20 '40
New capital flotations in the United States during the month of December. Comm & Fin Chr 150:19-26 Ja 6 '40 [cont monthly]
New capital issues in Great Britain. Comm & Fin Chr 150:328 Ja 20 '40 [cont monthly]
New capital issues, 1939. Economist 138:sup9-10 F 17 '40
New capital security offerings of domestic corporations, by quarters, 1929-39 Nat City Bank p15 F '40; Same. Comm & Fin Chr 150:727 F 3 '40
New domestic security issues for productive uses, monthly, 1921-July, 1940. Survey of Cur Business 20:17 S '40
Small business wants capital; the Mead bills and the issue between the new deal and the bankers. W. L. Stoddard. bibliog Harvard Business R 18 no 3:265-74 [Ap] '40
Studies in the theory of money and capital. E. Lindahl. 391p $3 Farrar '40

See also
Banks and banking
Corporations—Finance
Dividends
Economics
Industry
Interest
Investments
Labor and laboring classes
Monopolies
Profit
Stockholders
Trusts, Industrial
Wealth

CAPITAL, Circulating
Get more exact credit information: the circulation principle. R. M. Swisher. Bankers Mo 57:76-8, 158, 160-1, 280-1, 341+, 463, 505+ F-Mr, My-Je, Ag-S '40

CAPITAL gains tax. See Income tax—Capital gains tax

CAPITAL goods industries. See Equipment industries

CAPITALISM
Adjusted capitalism. C. H. White. 66p $1.25 Christopher pub. house, 1140 Columbus av, Boston '40
Are democracy and private enterprise inseparable? Pub Util 26:233-4 Ag 15 '40
Business and capitalism; an introduction to business history. N. S. B. Gras. 408p bibliog (p373-85) $3.50 Crofts '39; Review, by C. W. Moore. Mech Eng 62:536 Jl '40
Capital in a democracy; economic lessons for America of European capitalism's collapse. A. F. Schlomann. Trusts & Estates 71: 119-24 Ag '40
Capitalism the creator; the economic foundations of modern industrial society. C. Snyder. 473p bibliog(p463) $3.75 Macmillan '40; Review, by J. Philp. East Underw 41: 22+ pt 2 O 4 '40
Headless horsemen of economic hollow; why private capitalism will triumph over fifth columnists. M. M. Jones. Trusts & Estates 71:365-9+ O '40
Insurance men's Buffalo panel says profit motive essential. East Underw 41:38 S 20 '40
National capitalism; the government's record as protector of private monopoly. E. Davies. 320p 10s 6d V. Gollancz, London '39
Triumph of American capitalism; the development of forces in American history to the end of the nineteenth century. L. M. Hacker. 460p bibliog(p439-45) $3 Simon and Schuster, New York '40

CAPITALISTS and financiers
Myths of the machine age. S. Bristol. 128p $1.25 Wetzel pub. co, Los Angeles '39

CAPITOL Reef, Utah
Geographic and geologic sketch of the Capitol Reef region, Utah. H. E. Gregory and J. C. Anderson. bibliog maps Geol Soc Bul 50:1827-50, pl 1-9 D '39

CAPITOLS
See also
Washington, D.C.—Capitol

CAPPING machines
VPC in-line capping machine. il Food Ind 12:92 Jl '40

CAPROIC acid
Quinonyl derivatives of fatty acids. L. F. Fieser, M. D. Gates, jr. and G. W. Kilmer. bibliog Am Chem Soc J 62:2966-70 N '40

CAPRYL alcohol. See Octyl alcohol

CAPRYLENE. See Octene

CAR. See Cars

CAR axles
Report on car construction; passenger-car axles; A.A.R. Mechanical division. diags Ry Age 109:22-5 Jl 6 '40; Same. Ry Mech Eng 114:282-5 Jl '40
Safer railroad axle. Business Week p32 Jl 13 '40

Testing
Fatigue strength of machined forgings 6 to 7 in. in diameter. O. J. Horger and H. R. Neifert. bibliog il diag Am Soc T M Proc 39:723-37; Discussion. 738-40 '39

CAR cards. See Advertising cards

CAR cleaning
Locomotive and car cleaner; Vapor thermopressure cleaning machine. il Ry Mech Eng 114:331 Ag '40
Record assures clean cars. Transit J 83:451-2 N '39
See also
Car washing machines
Tank cars—Cleaning

CAR cooling
Commuters get first air conditioned cars. il Refrig Eng 40:87-8 Ag '40
Improved methods of railroad air conditioning; the Santa Fe prefers steam ejector equipment. A. E. Voigt. il Refrig Eng 40:16-17 Jl '40
Railway air conditioning problems; abstract. A. R. Walker. Heating-Piping 12:142 Mr '40
Reheat control for air conditioning. Ry Age 109:315 Ag 31 '40
Susquehanna installs modern rail cars; powered by oil burning engine with hydraulic-mechanical drive. il plan Ry Age 109:135-8+ Jl 27 '40; Ry Mech Eng 114:303-9 Ag '40

CAR couplings
Development of automatic coupling for mine haulage. E. Larsson. il diags Min Cong J 25:42-3 N '39
Report of A.A.R. committee on couplers and draft gears. il diags Ry Mech Eng 114:255-9 Jl '40; Same abr. Ry Age 109:14-17 Jl 6 '40

CAR decoration. See Cars—Decoration

CAR department officers' association
Annual meeting, Chicago, Oct. 22-25. Ry Age 109:642-3+ N 2 '40
Annual meeting, Chicago, Oct. 22-25; with papers. Ry Mech Eng 114:472-86+ N '40
Annual meeting, Chicago; program. Ry Mech Eng 114:353 S '40

CAR departments. See Railroads—Car departments

CAR doors
Denver and Rio Grande Western automobile-box cars designed for dual service; unusual door arrangement permits use for grain and other commodities. il Ry Age 108:135-7 Ja 13 '40; Same. Ry Mech Eng 114:62-4 F '40
Door magnet valve grinding tools. E. Rogers. il Transit J 84:28 Ja '40
End-door operator for passenger cars by National pneumatic co. il Ry Age 108:822 My 11 '40
Exhibit of modern equipment; door devices; pictorial review. Transit J 84:336-7 S '40

CAR dumpers
Dumps a car a minute; greatest coal car dumper; Pennsylvania railroad dock at Sandusky, Ohio. L. T. Henderson. il Sci Am 163:268-9 N '40
Mass handling of ore cars; new car dumper; Edgar Thomson works, Carnegie-Illinois steel corp. il Steel 106:45-6 Ja 22 '40
New coal dumper on the Pennsylvania handles a car a minute. il plans Ry Age 108: 624-9 Ap 6 '40

CAR ferries. See Train ferries

CAR heating
Commuters get first air conditioned cars. il Refrig Eng 40:87-8 Ag '40
Exhibit of modern equipment; pictorial review. Transit J 84:338 S '40
Illinois Central builds three heater cars for use with Diesel-electric locomotives handling passenger equipment at terminals. H. Anderson. il Ry Mech Eng 114:186+ My '40
Railway air conditioning problems; abstract. A. R. Walker. Heating-Piping 12:142 Mr '40
Super P.C.C. cars for St Louis. Mass Transportation 36:152-3 Jl '40

CAR inspection
Freight car inspection and preparation for commodity loading. Car department officers' association committee report. Ry Mech Eng 113:464-5+ N '39
Standard classification commodity cards; Car department officers' association committee report. Ry Mech Eng 114:478-80 N '40

CAR lighting
Exhibit of modern equipment; pictorial review. Transit J 84:339 S '40
Life of headlight bulbs; experiences of various companies. Transit J 84:176 My '40
Pullman lounge-bedroom cars with plastic lens-controlled fluorescent lighting. il Ry Age 108:859-60 My 18 '40
Simplified fluorescent lighting; New York Central coach. il Ry Age 108:666-7 Ap 13 '40
Southern Pacific's new daylight streamliners. Illum Eng 35:404-5 My '40

CAR loadings. See Railroads—Freight

CAR painting and finishing
Car painting for cold climate; experience of the Toronto transportation commission. il Transit J 84:32-3 Ja '40
Report on painting; Car department officers' association. Ry Mech Eng 113:461-2 N '39
Report on painting; Car department officers' association committee. Ry Mech Eng 114: 483-4 N '40

CAR roofs
Single-board refrigerator car roof. diags Ry Mech Eng 114:121 Mr '40

CAR seats
Exhibit of modern equipment; pictorial review. Transit J 84:330-4 S '40
New subway seat developed by Firestone; combines Airtex (latex foam rubber) with plastic woven fabric, known as Saran. India Rubber W 102:47 S '40
New synthetic for car seats; material woven from Saran. il Textile World 90:65 S '40
Plastic seat covering; Saran. il Transit J 84:400 O '40
Seats of tomorrow, today! extruded vinylidene chloride plastic woven into seat covering material for subway cars. W. C. Goggin. il Mod Plastics 18:36-9 N '40

CAR shops
Chicago & Eastern Illinois builds modern coach shop at Danville. il plan Ry Age 108:122-5+ Ja 13 '40
New Haven's Readville shop rebuilds 16,400 arch bar trucks. il plan Ry Mech Eng 113:552-5 D '39
Shop operation, facilities and tools; Car department officers' association committee report. Ry Mech Eng 113:462-4 N '39

See also
Railroads—Shops

Equipment

Carriage body lifting cranes. il plan Engineer 169:350 Ap 12 '40
Centralia car-shop kinks. il Ry Mech Eng 114:28-33 Ja '40
Forming steel car parts. il Ry Mech Eng 114:234-5 Je '40
Handling device for punching steel plate. il Ry Mech Eng 114:404-5 O '40
Press brake pays dividends in car building. il Iron Age 144:39 D 14 '39
Sash cleaning and glazing methods; Point St Charles car shops of the Canadian National. il diags Ry Mech Eng 114:197-8 My '40

CAR springs
Fundamental development in suspension and construction for railroad cars. P. K. Beemer and others. il diags Mech Eng 62:779-84 N '40
Reconditioning carbon-steel springs; Point St Charles locomotive shops. il Ry Mech Eng 114:201-2 My '40
Truck-spring snubbers. W. S. Spieth. Ry Mech Eng 114:175-9+ My '40

CAR trucks
A.A.R. high-speed freight car truck test report. il diags plans Ry Mech Eng 114: 345-52 S '40; Same cond. Ry Age 109:390-3+ S 21 '40
Commonwealth four-wheel truck for passenger cars. il Ry Mech Eng 114:294 Jl '40; Same. Ry Age 108:1128 Je 22 '40
Freight car trucks for speed. il Ry Age 108: 920-3 My 25 '40
Mastering momentum in transport. L. K. Silcox. Engineer 169:510-11 Je 7 '40
New Haven's Readville shop rebuilds 16,400 arch bar trucks. il plan Ry Mech Eng 113:552-5 D '39
Truck-spring snubbers. W. S. Spieth. Ry Mech Eng 114:175-9+ My '40
Unit truck and brake beam. il Ry Age 108:1129 Je 22 '40; Same. Ry Mech Eng 114: 286+ Jl '40

CAR ventilation
Super P.C.C. cars for St Louis. Mass Transportation 36:152-3 Jl '40

See also
Car cooling

CAR washing machines
Einkammer-waschmaschine für fahrzeugunterhaltung. H. Bieck. il diag V D I 83: 1238-9 N 25 '39

CAR wheels
A.A.R. committee report on wheels. diags Ry Mech Eng 114:251-4 Jl '40; Same, without diags. Ry Age 109:11-13 Jl 6 '40
Improvements at the Readville shop facilitate demounting wheels. il plan Ry Mech Eng 114:70-3 F '40
Mastering momentum in transport. L. K. Silcox. Engineer 169:480-1, 500-1 My 24-31 '40
Pneumatic tires for rail cars. diag Mech Eng 62:149 F '40

Repair

Babbitt ring poured in hub reclaims car wheels. il Coal Age 45:64+ Ag '40

CAR windows
Sash cleaning and glazing methods; Point St Charles car shops of the Canadian National. il diags Ry Mech Eng 114:197-8 My '40

CARBANILATES. See Phenylurethans

CARBANILIC acid
Some alkamine esters of alkylthio-substituted phenylcarbamic acids. J. J. Donleavy and J. English, jr. bibliog Am Chem Soc J 62:2965-6 N '40

CARBAZOLE
Heterocyclic local anesthetics; carbazole, dibenzofuran and dibenzothiophene derivatives. R. R. Burtner and G. Lehmann. bibliog Am Chem Soc J 62:527-32 Mr '40

CARBIDE and carbon chemicals corporation
Expansion in plastics; Vinylite. Business Week p50-1 S 7 '40

CARBIDE cutting tools. See Cutting tools, Carbide

CARBIDES
Metals in drilling; hard-facing materials. W. L. Nelson. il Oil & Gas J 38:50+ F 8 '40

See also
Cutting tools, Carbide
Tungsten carbide

Analysis

Investigation of carbides by the methane synthesis method. R. Schenck, F. Kurzer and H. Wesselkoch. Engineer 170:sup[Metallurgist] 135-6 O 25 '40

CARBINOLS
Antiplasmodial action and chemical constitution; the synthesis of some complex carbinolamines and polyamines. T. S. Work. Chem Soc J p1315-20 S '40
Antiplasmodial action and chemical constitution; carbinolamines derived from naphthalene and quinoline. H. King and T. S. Work. Chem Soc J p1307-15 S '40
Free radicals and radical stability; the stability of formates and the reduction of triarylcarbinols. S. T. Bowden, D. L. Clarke and W. E. Harris. diags Chem Soc J p874-80 Jl '40

CARBIS, Sam H.
Sam Carbis had an idea; prospered in making aluminum ladders. por Iron Age 146:58-9 N 14 '40

CARBITOL
Production of low temperatures; a simplified and inexpensive laboratory procedure. H. L. Wikoff, B. R. Cohen and M. I. Grossman. Ind & Eng Chem Anal ed 12:92-4 F 15 '40
Solid derivatives of monoalkyl ethers of ethylene glycol and diethylene glycol. J. F. Manning and J. P. Mason. Am Chem Soc J 62:3136-9 N '40
Solid derivatives of monoalkyl ethers of ethylene glycol and diethylene glycol. J. P. Mason and J. F. Manning. bibliog Am Chem Soc J 62:1635-40 Jl '40

CARBODIIMIDE
Water-repellent finishing auxiliaries; mono- and di- substituted carbo-diimides. A. J. Hall. Textile Col 62:184-5 Mr '40

CARBOHYDRATES
Coal and oil from plant carbohydrates; abstract. E. Berl. Science 92:sup11 S 20 '40
Effect of certain carbohydrates on the determination of carotene. E. J. Lease and J. H. Mitchell. bibliog Ind & Eng Chem Anal ed 12:337-8 Je 15 '40
Formation of fuels; a new theory of the origin of gas, oil and coal. E. Berl. Am Gas Assn Mo 22:335-6 O '40
Nature of the carbohydrate residue in ovomucoid; the glucosamine constituent. M. Stacey and J. M. Woolley. Chem Soc J p184-91 F '40
Partly aromatic constitution of artificial carbohydrate coals; error of Fischer's and Bone's viewpoint as to origin of coal. E. Berl and W. Koerber. Ind & Eng Chem 32:676-7 My '40
Studies on reactions relating to carbohydrates and polysaccharides; the relation between concentration and viscosity of polyoxyethylene glycols. E. L. Lovell and H. Hibbert. bibliog Am Chem Soc J 62:2140-3 Ag '40
Studies on reactions relating to carbohydrates and polysaccharides; the surface tensions of aqueous solutions of polyoxyethylene glycols. E. L. Lovell and H. Hibbert. bibliog Am Chem Soc J 62:2144-8 Ag '40
X-ray investigations of carbohydrates. H. Mark. Chem R 26:169-86 bibliog(55 references, p185-6) Ap '40

See also
Aldehydes
Cellulose
Glucose
Starch
Sugars

Analysis
Analysis of the fibrous and carbohydrate constituents of feeding stuffs; the determination of cellulose. E. G. Hallsworth. bibliog Soc Chem Ind J 59:9-17 Ja '40
Analysis of the fibrous and carbohydrate constituents of feeding stuffs; the furfuraldehyde-yielding constituents. E. G. Hallsworth. Soc Chem Ind J 58:357-63 D '39

CARBOLIC acid. See Phenol

CARBOLOY. See Tungsten carbide

CARBOLOY company
Carboloy makes sixth price cut since 1929; standardizes tools; denies secret covenants with Krupp's. Steel 107:33 S 9 '40

CARBOMETHOXYSTILBENE
Synthesis of certain carbalkoxystilbenes. R. C. Fuson and H. C. Cooke, jr. Am Chem Soc J 62:1180-3 My '40

CARBON
Adsorption analysis; relation between adsorption isotherm and position on the adsorption column. H. G. Cassidy. Am Chem Soc J 62:3076-9 N '40
Adsorption analysis; the adsorption of higher fatty acids. H. G. Cassidy. bibliog Am Chem Soc J 62:3073-6 N '40
Carbon arc as a radiation standard. H. G. MacPherson. Opt Soc Am J 30:189-94 My '40
Carbon electrodes; their manufacture on a small scale. A. G. Arend. Electrician 124: 185-6 Mr 8 '40
Collisions of alpha-particles with nuclei. G. A. Wrenshall. bibliog Phys R 57:1095-1100 Je 15 '40
Energy loss of electrons in carbon and the decay of the mesotron. H. R. Crane, N. L. Oleson and K. T. Chao. Phys R 57:664 Ap 1 '40
First California calcining unit completed at Wilmington; carbon from petroleum coke. L. P. Stockman. il Oil & Gas J 39:36+ Jl 4 '40
Gamma-ray resonances from the bombardment of carbon by deuterons. W. E. Bennett and T. W. Bonner. Phys R 58:183-5 Jl 15 '40
Multiple scattering of fast electrons; lead foils, carbon laminae and aluminum foil. C. W. Sheppard and W. A. Fowler. bibliog diags Phys R 57:273-80 F 15 '40
Partly aromatic constitution of artificial carbohydrate coals; error of Fischer's and Bone's viewpoint as to origin of coal. E. Berl and W. Koerber. Ind & Eng Chem 32:676-7 My '40
Radioactive carbon of long half-life. S. Ruben and M. D. Kamen. bibliog Phys R 57:549 Mr 15 '40
Resonances in the emission of neutrons from the reaction $C^{13}+H^2$. T. W. Bonner, E. Hudspeth and W. E. Bennett. Phys R 58:185-6 Jl 15 '40
Resonances in the emission of protons from the reaction $C^{13}+H^2$. M. M. Rogers and others. Phys R 58:186 Jl 15 '40
Scattering of alpha-particles by carbon and oxygen. A. J. Ferguson and L. R. Walker. bibliog diags Phys R 58:666-71 O 15 '40
Some variables in filter clays. L. M. Henderson, C. M. Ridgway and W. B. Ross. Am Pet Inst Proc 21M(3):30-6 My '40; Same. Nat Pet N 32:R193, R195, R197-9 My 29 '40; Discussion. Am Pet Inst Proc 21M(3):36-8 My '40
Steam-carbon complex. S. Muller and J. W. Cobb. diag Chem Soc J p177-83 F '40; Summary. Gas J (Lond) 230:443 My 29 '40
Theoretical maxima and minima in the anomalous scattering of alpha-particles. P. Seligmann. bibliog Phys R 58:492-8 S 15 '40

See also
Carbon black
Charcoal
Coal
Coke
Diamonds
Diamonds, Industrial
Graphite

Analysis
Accuracy and precision of microanalytical determination of carbon and hydrogen; a statistical study. F. W. Power. bibliog Ind & Eng Chem Anal ed 11:660-73 D 15 '39
Analysis of black enamels. S. E. Berkenblit. Ind & Eng Chem Anal ed 12:453-4 Ag 15 '40
Apparatus for semimicrodetermination of carbon and hydrogen. C. Niemann and V. Danford. il diags Ind & Eng Chem Anal ed 12:563-6 S 15 '40
Determination of the carbon content of organic materials; a simple micromethod. B. E. Christensen, R. Wong and J. F. Facer. bibliog diag Ind & Eng Chem Anal ed 12:364-5 Je 15 '40
Gas-volumetric semimicrodetermination of carbon; a wet method for aliphatic and cyclic compounds. E. Berl and W. Koerber. diag Ind & Eng Chem Anal ed 12:245-6 Ap 15 '40
Magnetic determination of carbon in steel; Carbanalyzer; abstracts. H. K. Work and H. T. Clark. bibliog diags Engineer 170:46-7 Jl 19 '40; Steel 106:62+ F 5 '40; Engineering 150:138-9 Ag 16 '40
Microdetermination of carbon and hydrogen; use of Abrahamczik absorption tubes. R. O. Clark and G. H. Stillson. bibliog il diags Ind & Eng Chem Anal ed 12:494-8 Ag 15 '40
Microdetermination of organic carbon by the wet method. E. F. Degering and T. Z. Ball. bibliog diags Ind & Eng Chem Anal ed 12:124-5 F 15 '40
Modern analysis in the foundry; combustion-type carbon and sulphur determinators, and spectroscope equipment, Fairbanks, Morse & co. G. W. Zabel and J. Schuch. il Iron Age 145:31-7 My 2 '40
Use of Carbanalyzer; the Leeka process for carbon determination; discussion at conference of Open hearth committee. Iron Age 145:56 My 2 '40

Isotopes
Carbon isotopes of mass ten and eleven. L. A. Delsasso and others. bibliog Phys R 58:586-90 O 1 '40
Concentration of carbon 13 by thermal diffusion. A. O. Nier. bibliog diag Phys R 57:30-4 Ja 1 '40
Discussion of the isotopic weight of C^{13}. J. Mattauch. bibliog Phys R 57:1155-9 Je 15 '40
Mass and stability of C^{14}. E. Pollard. Phys R 56:1168 D 1 '39
Nuclear magnetic moment of C^{13}. R. H. Hay. bibliog Phys R 58:180-1 Jl 15 '40
Nuclear spin of C^{13}. D. R. Inglis. bibliog Phys R 58:577 S 15 '40

CARBON—Isotopes—*Continued*
Radioactive carbon as a tracer in the synthesis of propionic acid from CO_2 by the propionic acid bacteria. S. F. Carson and others. bibliog Science 92:433-4 N 8 '40
Separation of isotopes. W. Davis. Science 90: supl0 D 1 '39
Spin of carbon thirteen. C. H. Townes and W. R. Smythe. il Phys R 56:1210-13 D 15 '39
Thermal separation of isotopes. W. W. Watson. diags Phys R 57:899-902 My 15 '40

CARBON, Activated
ABC of taste and odor control with activated carbon. E. A. Sigworth. il Pub Works 71: 33-4, 37-40 S '40
Activated carbon adsorption. C. L. Mantell. diag Chem & Met Eng 47:305-7 My '40
Activated carbon as a catalyst in certain oxidation-reduction reactions; decomposition of hydrogen peroxide; autoxidation of stannous chloride and potassium urate. E. C. Larsen and J. H. Walton. bibliog J Phys Chem 44:70-85 Ja '40
Activated carbon in taste and odor control. E. A. Sigworth. flow sheet Water Works & Sewerage 87:supl14 Ap '40
Activated charcoal; abstract. L. J. Burrage. Chem & Ind 58:1017 N 18 '39
Adsorption as a means of separation. J. W. Hassler. il Ind & Eng Chem 32:640-4 bibliog(41 references, p644) My '40
Algae black-out with activated carbon. W. T. Bailey. il Water Works & Sewerage 87: 380-2 Ag '40
Benzin- und gasolgewinnung mit aktivkohle aus den restgasen der benzinsynthese nach Fischer-Tropsch-ruhrchemie. W. Herbert and H. Ruping. diag Chemische Fabrik 13: 149-53 My 4 '40
Bone char reactivation; heat transfer and temperature changes. J. M. Brown and W. A. Bemis. diags Ind & Eng Chem 32:1112-14 Ag '40
Handling and feeding activated carbon at Detroit. N. Powers. Am Water Works Assn J 32:621-4 Ap '40
Is chemical industry ready? activated carbon. A. B. Ray. Ind & Eng Chem 32:1166-7 S '40
Is coconut-shell charcoal strategic defense material. E. L. Luaces. Oil Paint & Drug Rep 138:3+ S 9 '40
Modern purifier, activated carbon. J. Wrench. il diag Chem Ind 46:291-5 Mr '40
Recovery of solvent vapors. A. B. Ray. flow diag Chem & Met Eng 47:331-2 My '40
Uniform basis for activated carbon comparison. W. A. Helbig. Am Water Works Assn J 31:1931-44 N '39
Use of activated carbon in purification plants. O. J. Ripple. bibliog Am Water Works Assn J 32:609-12 Ap '40
Use of granular activated carbon at Bay City, L. B. Harrison. diags Am Water Works Assn J 32:593-608 Ap '40

CARBON, Porous
Fluid flow through porous carbon. M. R. Hatfield. bibliog il diags Ind & Eng Chem 31: 1419-24 N '39
Porous carbon electrodes; oxidation of arsenite. M. Janes. diag Electrochem Soc Trans 77 (preprint 5):59-71 Ap '40
Porous carbon in electrochemical applications. G. Heise. Can Chem & Process Ind 24:46 Ja '40

CARBON, Structural
Pipes and fittings of carbon and graphite; Karbate materials. il Iron Age 146:43 S 5 '40
Structural carbon and graphite; chemical resistance, physical properties, makers. Chem & Met Eng 47:607-9 S '40

CARBON black
Carbon black aids cement grinding. Oil Paint & Drug Rep 138:5 Jl 8 '40; Same. Concrete (mill sec) 48:219 Ag '40; Same abr. Sci Am 163:208 O '40
Coefficient of thixotropy of suspensions of carbon black in mineral oil. J. E. Arnold and C. F. Goodeve. bibliog diags J Phys Chem 44:652-70 My '40
Colloidal carbon as a grinding aid in portland cement manufacture. C. W. Sweitzer and A. E. Craig. il Ind & Eng Chem 32:751-6 Je '40
Columbian Carbon; United Carbon; favored by rising profits from natural gas and improvement in carbon black. P. Dobbs. il Mag of Wall St 65:360-1, 381-2 D 30 '39
Effect of particle size on processing properties and abrasion resistance of carbon black in tread stocks. G. L. Roberts. il India Rubber W 101:39-42+ F '40
Effect of the physical and chemical properties of carbon black on its electrical resistivity. G. L. Roberts and E. G. Emmert. il Rubber Age 46:159-62 D '39
Electron microscope reveals size and shape of ultimate particles of carbon black. Ind & Eng Chem News ed 18:492 Je 10 '40
General Atlas opens new plant at Guymon, Okla. il Rubber Age 46:296 F '40
Isolation and identification of fluoranthene from carbon black. J. Rehner, jr. Am Chem Soc J 62:2243-4 Ag '40
Particle size and shape of colloidal carbon as revealed by the electron microscope. bibliog il Rubber Age 47:309-16 Ag '40
Practical evaluation of commercial rubber carbon blacks by X-ray diffraction. G. L. Clark and H. D. Rhodes. bibliog il Ind & Eng Chem Anal ed 12:66-71 F 15 '40
Some properties of Perbunan; effect of carbon black on strength. I. E. Lightbown. Rubber Age 47:21 Ap '40
To use carbon black in Arctic pictures; powder dropped on snow will permit faster and more accurate overlapping of aerial photographs. il Rubber Age 46:183 D '39
X-ray structure of rubber-carbon black mixtures. S. D. Gehman and J. E. Field. bibliog il Ind & Eng Chem 32:1401-7 O '40
See also
Bone black

Statistics
Carbon-black sales reached record levels in 1939. Oil & Gas J 39:30 Je 20 '40; Oil Paint & Drug Rep 137:38 Je 24 '40; Am Gas J 153:43 Ag '40

CARBON compounds
See also
Carbohydrates
Chemistry, Organic
Degradation
Hydrocarbons

Analysis
Semimicro-Dumas method for difficult compounds. A. R. Ronzio. bibliog diags Ind & Eng Chem Anal ed 12:303-4 My 15 '40

CARBON dioxide
Absorption of carbon dioxide in aqueous alkalies. H. J. Welge. bibliog Ind & Eng Chem 32:970-2 Jl '40
Calculation of the distribution of carbon dioxide between water and steam. A. M. Amorosi and J. R. McDermet. Am Soc T M Proc 39:1204-17; Discussion. 1218-20 '39
CO_2 and efficient combustion. S. M. Elonka. Marine Eng 45:65-6 Je '40
Carbonation of organoalkali compounds. H. Gilman and H. A. Pacevitz. Am Chem Soc J 62:1301-2 My '40
Chemisorptions of gases on iron synthetic ammonia catalysts. S. Brunnauer and P. H. Emmett. bibliog Am Chem Soc J 62:1732-46 Jl '40
Correlation between the carbon dioxide and mineral content of water and its corrosivity. W. Rudolfs and T. T. Wong. Am Water Works Assn J 31:1909-24; Discussion. S. Shenker. 1924-5 N '39
Corrosion in steam heating systems; eliminating deleterious gases from steams. L. F. Collins and E. L. Henderson. diag Heating-Piping 12:24-7 Ja '40
Corrosion in steam heating systems; removal of carbon dioxide by feedwater treatment. L. T. Collins and E. L. Henderson. diags Heating-Piping 12:99-101 F '40

CARBON dioxide—*Continued*

Determination of uronic acids in cellulosic materials; based on estimation of amount of carbon dioxide evolved. R. L. Whistler, A. R. Martin and M. Harris. bibliog diag J Research Nat Bur Stand 24:13-23 Ja '40

Dielectric constants of ammonia, nitrogen, and carbon dioxide at ultra-high frequency. G. W. Fox and A. H. Ryan. bibliog Phys R 56:1132-6 D 1 '39

Equilibrium between vapor and liquid phases in the system CO_2—H_2O—K_2O—SiO_2. G. W. Morey and M. Fleischer. bibliog diag Geol Soc Bul 51:1035-57 Jl '40

Explosive properties of cyclopropane; prevention of explosions by dilution with inert gases; hazards of gases and vapors used in anesthesia. G. W. Jones, R. E. Kennedy and G. J. Thomas. bibliog pl U S Bur Mines Rep of Invest 3511:1-17 '40

Gelation of magnesium silicate suspensions by carbon dioxide and other agents. R. Roseman, H. Eisenberg and M. B. Levin. Am Chem Soc J 62:676 Mr '40

Infra-red spectra of polyatomic molecules. D. M. Dennison. Rs Mod Phys 12:175-214 bibliog(p213-14) Jl '40

Isothermal changes in enthalpy for some gases. R. York, jr. and H. C. Weber. bibliog Ind & Eng Chem 32:388-92 Mr '40

Kinetics of isotopic exchange between carbon dioxide, bicarbonate ion, carbonate ion and water. G. A. Mills and H. C. Urey. bibliog Am Chem Soc J 62:1019-26 My '40

Miscibility of carbon dioxide and water under high pressure. D. L. Katz. Am Chem Soc J 62:1629-30 Je '40

Optical dispersion and molar refraction at zero frequency for compressed nitrogen, argon, and carbon dioxide measured as functions of density. C. E. Bennett. Phys R 58:263-6 Ag 1 '40

Oxyhydrogen reaction in green algae and the reduction of carbon dioxide in the dark. H. Gaffron. Science 91:529-30 My 31 '40

Performance of packed towers; liquid film data for several packings. T. K. Sherwood and F. A. L. Holloway. bibliog diag Am Inst Chem Eng Trans 36:39-69; Discussion. 69-70 F '40

Radioactive carbon as a tracer in the synthesis of propionic acid from CO_2 by the propionic acid bacteria. S. F. Carson and others. bibliog Science 92:433-4 N 8 '40

Removing excess carbon dioxide from a controlled atmosphere fruit storage. A. Van Doren. il diag Refrig Eng 40:303-4 N '40

Solubility of carbon dioxide in benzene at elevated pressure. S. Wan and B. F. Dodge. flow sheet diags Ind & Eng Chem 32:95-8 Ja '40

Solubility of carbon dioxide in water at various temperatures from 12 to 40° and at pressures to 500 atmospheres; critical phenomena. R. Wiebe and V. L. Gaddy. Am Chem Soc J 62:815-17 Ap '40

Strength of carbonic acid; the rate of reaction of carbon dioxide with water and hydroxyl ion. A. R. Olson and P. V. Youle. bibliog Am Chem Soc J 62:1027-8 My '40

Try CO_2 in bulk on big outdoor oil fires. il diags Elec W 114:676-7 S 7 '40

Viscosity of gases and vapors at high pressures. E. W. Comings and R. S. Egly. bibliog Ind & Eng Chem 32:714-18 My '40

We fight fire with gas; S. C. Johnson & son, inc. J. Collier. il Factory Management 98: 71-3 S '40

Weighing flask for precision standardization of strong alkalies in the absence of carbon dioxide. P. Nahinsky and H. A. Laitinen. diag Ind & Eng Chem Anal ed 12:417 Jl 15 '40

See also

Photosynthesis
Water purification
—Carbon dioxide removal

Analysis

Determination of carbon dioxide in aqueous solution. J. R. I. Hepburn. diag Soc Chem Ind J 58:340-2 N '39

Method for the determination of carbonate in small amounts of materials. F. E. Jones. diags Soc Chem Ind J 59:21-3 Ja '40

Simple CO_2 indicator for digestor or stack gas testing. il Water Works & Sewerage 87:sup75 Ag '40

See also

Flue gas—
Analysis

Industrial applications

Airport fire fighting. C. L. Griffin. il Aviation 39:42-3+ Je '40

Automatic smothering of liquid fires. P. W. Eberhardt. diags India Rubber W 103:45-6 N 40

Carbon dioxide becomes mobile; fire extinguishing equipment for airports. D. Mapes. il Aero Digest 36:58+ Je '40

CO_2 fire protection for the chemical industry. R. E. Eberhardie. il Chem & Ind 59:541-3 Jl 27 '40

Carbon dioxide fire trucks now used for industries and airports. P. W. Eberhardt. il East Underw 41:31 My 3 '40

Carbon dioxide gas as a fire prevention aid. A. M. Doxsey. il Chem Ind 47:394-6 O '40

Carbon dioxide on wheels; mobile units carrying fire-killing gas. il Sci Am 163:197-8 O '40

Control of fire hazards; carbon-dioxide systems. P. W. Eberhardt. il diag Steel 106: 46-7, 76-7 Ap 15 '40

Fighting fire in the rubber factory with carbon dioxide. P. W. Eberhardt. il diag Rubber Age 47:172-4 Je '40

Fire extinguishment with carbon dioxide. Franklin Inst J 228:649-51 N '39

Fire protection for private planes; carbon dioxide systems. C. L. Griffin. il diag Aero Digest 36:65-6 Ap '40

Gas automatically smothers liquid fires in many industrial plants. P. W. Eberhardt. East Underw 41:26 Je 28 '40; Same abr. Am Dyestuff Rep 29:575-6 O 14 '40

Gas storage; use of atmospheres modified by carbon dioxide for fruits and vegetables in storage and transit. C. Brooks. bibliog Can Chem & Process Ind 24:111-12 Mr '40

How an acetate rayon plant assures fire protection; carbon dioxide system, hand extinguishers and sprinklers. M. B. Morgan. il plan Chem & Met Eng 47:403-5 Je '40

Lux fire-fighting laboratory dedicated; housed in a 10-ton truck. il Ind & Eng Chem News ed 17:737 D 10 '39

Modified atmospheres for fruits and vegetables in storage and in transit. C. Brooks. Refrig Eng 40:233-7 bibliog(48 titles, p237) O '40

New bag preserves flavor with inert gas; pliofilm lining seals product in carbon dioxide and is impermeable to air and moisture. il Food Ind 12:42-3 Ja '40

Progress made in gas storage of fruits, vegetables. H. H. Plagge. bibliog il Food Ind 12:46-8+ O '40

Scientific principles of storing unfermented fruit juices under carbon dioxide pressure; abstract. A. Oatenvalder and J. Jenny. Food Ind 12:89 Ja '40

Sleepless fire fighters. P. W. Eberhardt. il diag Nat Safety N 41:26-7+ F '40

Walter Kidde & co. demonstrates carbon-dioxide extinguishers. East Underw 40:34 N 24 '39

See also

Carbon dioxide,
Solid

Manufacture

Unique boiler plant generates carbon dioxide and burns wood waste and pulverized coal; Ontario paper company. diag Pulp & Pa of Can 41:18-20 Ja '40

CARBON dioxide, Liquid

Manufacture

Alkali slurry for CO_2 recovery from flue gases. G. T. Reich. diags Chem & Met Eng 47: 152-5 Mr '40

Dry ice convertors for making liquid CO_2. il Refrig Eng 38:348 D '39

CARBON dioxide, Solid
Dry ice as a preventive of atmospheric oxidation. G. E. Ferguson and L. Schefian. Ind & Eng Chem Anal ed 12:276 My 15 '40
Dry ice convertors for making liquid CO_2. il Refrig Eng 38:348 D '39
Dry ice extinguishes fire. il Safety Eng 78: 21 D '39
Dry-ice freezing unit for cutting frozen sections. K. U. Smith. diag Science 92:364 O 18 '40
Dry ice on job from pop to planes. Business Week p56-8 O 26 '40
Dry ice used for developing well at Glendale, Arizona. C. W. Hircock. Pub Works 70: 28 D '39
Dry ice used to increasing extent for perishable shipments; wet and dry ice combination. C. T. Longaker. il diags Ry Age 109: 175-7 Ag 3 '40
Production of low temperatures; a simplified and inexpensive laboratory procedure. H. L. Wikoff, B. R. Cohen and M. I. Grossman. Ind & Eng Chem Anal ed 12:92-4 F 15 '40

Manufacture

Alkali slurry for CO_2 recovery from flue gases. G. T. Reich. diags Chem & Met Eng 47:152-5 Mr '40
Distilling limestone, a new industry; Gillette lime kiln, or carbon dioxide generator used by Frozen carbonic corporation. il Rock Prod 43:22-3 Ja '40

Safety measures

Dry ice (CO_2); hazards and precautions. Nat Safety N 41:38, 40 F '40

CARBON disulfide
Analysis of bituminous materials, with special reference to binder content. R. Preston. il diags Soc Chem Ind J 59:99-108 Je '40
Die herstellung von schwefelkohlenstoff. W. Witt. Angew Chemie 53:232-4 My 25 '40
Magneto-optic rotation; carbon disulfide and benzene solutions. C. E. Waring, H. Hyman and S. Steingiser. diag Am Chem Soc J 62:2028-31 Ag '40
Occupational poisoning in the viscose rayon industry; abstract. A. Hamilton. Safety Eng 79:38 Je '40
Rate of xanthation of soda cellulose; effect of bulk number. P. C. Scherer and L. C. Ikenberry. bibliog Rayon 21:529-30 S '40
Rotational analysis of some CS_2 bands in the near ultraviolet system. L. N. Liebermann. Phys R 58:183 Jl 15 '40
Side-chain bromination; negative catalytic effects. J. R. Sampey and E. M. Hicks. Am Chem Soc J 62:3252-3 N '40
Sulphide hazards shown by Department of labor report. Oil Paint & Drug Rep 137:3+ My 27 '40

Analysis

Determination and recording of carbon disulfide and hydrogen sulfide in the viscose-rayon industry. G. M. Reece, B. White and P. Drinker. bibliog flow diag il diags J Ind Hygiene 22:416-24 N '40
Determination of carbon disulfide in air by means of copper and diethylamine in 2-methoxyethanol. F. F. Morehead. bibliog il Ind & Eng Chem Anal ed 12:373-4 Je 15 '40
Determination of carbon disulfide in blood and urine. A. W. Hunter. bibliog J Ind Hygiene 22:231-4 Je '40
Field determinations of carbon disulfide in air. F. J. Viles. bibliog diags J Ind Hygiene 22:188-96 My '40

CARBON monoxide
Carbon monoxide as an inhibitor for stainless steel. H. H. Uhlig. bibliog Ind & Eng Chem 32:1490-4 N '40
Chemisorptions of gases on iron synthetic ammonia catalysts. S. Brunauer and P. H. Emmett. bibliog Am Chem Soc J 62: 1732-46 Jl '40
Chemistry of sulfur dioxide reduction; kinetics. R. Lepsoe. bibliog il Ind & Eng Chem 32:910-18 Jl '40
Conditions influencing the intensity of the $^3\Pi—^1\Sigma$ Cameron bands of CO. G. E. Hansche. bibliog il Phys R 57:289-91 F 15 '40
La conversion du méthane en hydrogène et en oxyde de carbone; procédés de la Société belge de l'azote, à Renory. C. Berthelot. il diags Génie Civil 115:461-4 D 30 '39
Effect of hydrogen-ion concentration on the growth of hydrogen and carbon monoxide bacteria. G. W. Jones and G. S. Scott. U S Bur Mines Information Circ 7133:1-5 '40
Free radicals and radical stability; the influence of the phenoxyl group on the stability of ketylic derivatives; the preparation of carbon monoxide from carbonates. S. T. Bowden and T. John. Chem Soc J p213-16 F '40
Industrial synthesis of hydrocarbons from hydrogen and carbon monoxide. A. J. V. Underwood. il Ind & Eng Chem 32:449-54 Ap '40
Pseudomethemoglobin and its reaction with carbon monoxide after reduction. G. Barkan and O. Schales. Science 90:616 D 29 '39
Spray curtain stops carbon monoxide. il Eng N 125:243-4 Ag 15 '40
Stemming in metal mines; progress report 2. J. A. Johnson, W. G. Agnew and M. Mosier. U S Bur Mines Rep of Invest 3528:1-39, pl 1-2 '40

CARBON monoxide detectors
Detection of carbon monoxide. Engineering 149:382 Ap 12 '40
Is gas present? E. G. Meiter. il Nat Safety N 41:24-5+ Ja '40

CARBON monoxide poisoning
Analysis of the effect of carbon monoxide on the respiration of frog skeletal muscle; abstract. J. N. Stannard. J Ind Hygiene 22:sup 143-4 S '40
Death in a boiler; gasoline engine exhaust fumes enter boiler undergoing repair. Safety Eng 80:29 Ag '40
Gastrointestinal symptoms simulating ulcer in chronic carbon monoxide poisoning; abstract. H. G. Beck. J Ind Hygiene 22:sup 53-4 Mr '40
How dangerous is gas? W. B. Paton. Can Min J 61:527-9 Ag '40
Monoxide gas dangers multiply during winter. W. S. Paine. Weekly Underw 141:1170 D 2 '39

CARBON oxides
Carbon suboxide in the Friedel-Crafts reaction. J. H. Billman, G. E. Tripp and R. V. Cash. bibliog Am Chem Soc J 62:770-1 Ap '40

See also
Carbon dioxide
Carbon monoxide

CARBON paper
How to avoid carbon paper complaints. N. D. Stone. Bankers Mo 57:222+ Ap '40

CARBON suboxide. See Carbon oxides

CARBON tetrachloride
Binary liquid systems; the azeotropic composition of carbon tetrachloride-ethyl acetate mixtures as a function of the pressure. P. W. Schutz and R. E. Mallonee. Am Chem Soc J 62:1491-2 Je '40
Chemical activation by isomeric radioactive transition; the reaction of Br^{80} (18 min. half-life) with carbon tetrachloride. J. E. Willard. diag Am Chem Soc J 62:256-61 F '40
Chlorination of methane for the preparation of carbon tetrachloride. A. I. Kiprianov and T. S. Kusner. bibliog diag Oil & Gas J 38:49-50 Ja 18 '40
Chromic oxide as an adsorbent. E. H. Harbard and A. King. diag Chem Soc J p19-29 Ja '40
Downdraft ventilation; for solvents producing heavier-than-air vapors. W. C. L. Hemeon. il diag Safety Eng 79:12, 14 Ap '40
Magnitude of the solvent effect in dipole-moment measurement; resolution of the solvent effect into its contributory factors. F. R. Goss. Chem Soc J p752-8 Je '40

CARBON tetrachloride—*Continued*
Mechanism of chemical reactions accompanying the isomeric radioactive transition of Br^{80}. J. E. Willard. bibliog Am Chem Soc J 62:3161-5 N '40
Molecular rotation and polymorphism in the methyl chloromethanes. A. Turkevich and C. P. Smyth. bibliog Am Chem Soc J 62: 2468-74 S '40
Reaction between phosphorus and iodine in carbon tetrachloride solution. D. Wyllie, M. Ritchie and E. B. Ludlam. Chem Soc J p583-7 My '40
Side-chain bromination; negative catalytic effects. J. R. Sampey and E. M. Hicks. Am Chem Soc J 62:3252-3 N '40
Vapor-liquid equilibrium; carbon tetrachloride-benzene mixtures. G. Scatchard, S. E. Wood and J. M. Mochel. bibliog Am Chem Soc J 62:712-16 Ap '40

Analysis

Use of interferometer for two component mixtures; mixtures of carbon tetrachloride and gasoline. G. C. Harrold and L. E. Gordon. il J Ind Hygiene 21:491-7 D '39

CARBON transfer process
Patterns on maps and drawings by the carbon transfer process. C. W. Thornthwaite and C. F. S. Sharpe. diag map Science 91: 367-8 Ap 12 '40

CARBONATED beverages. See Beverages

CARBONATED water. See Water, Carbonated

CARBONATES

Analysis

Gas-volume method for determination of carbonate in calcareous materials. G. E. Bessey. diag Soc Chem Ind J 58:178-80 My '39; Same cond. Rock Prod 43:51-2 Mr '40

Isotopic composition of oxygen in carbonate rocks and iron oxide ores. M. Dole and R. L. Slobod. Am Chem Soc J 62:471-9 Mr '40

CARBONIC acid
Strength of carbonic acid; the rate of reaction of carbon dioxide with water and hydroxyl ion. A. R. Olson and P. V. Youle. bibliog Am Chem Soc J 62:1027-8 My '40

See also
Carbon dioxide

CARBONYL chloride. See Phosgene

CARBONYL compounds
Carbonyl constituents of eucalyptus oils; the constitution of phellandral; *d*-, *l*-, and *dl* (synthetic)-phellandric acids. R. G. Cooke, A. K. Macbeth and T. B. Swanson. Chem Soc J p808-10 Je '40

Condensations of carbonyl compounds; a kinetic study of the reaction of acetophenone with benzaldehyde. E. Coombs and D. P. Evans. Chem Soc J p1295-1300 S '40

Conjugation of carbonyl groups and the absorption spectrum of triketopentane. M. Calvin and C. L. Wood. bibliog diags Am Chem Soc J 62:3152-5 N '40

Effect of carbonyl derivatives as impurities in alcohols. B. J. Fontana and T. D. Stewart. Am Chem Soc J 62:2878-9 O '40

See also
Nickel carbonyl

CARBONYLS
Valence relations among the metal carbonyls. A. A. Blanchard. Chem R 26:409-22 bibliog(p421-2) Je '40

CARBOSTYRIL
Complexes of polynitro-compounds; compounds of polynitro-substances with derivatives of carbostyril, etc. A. Kent, D. McNeil and R. M. Cowper. Chem Soc J p1858-62 D '39

CARBURETERS
Bendix-Stromberg injection carburetor. diags Aero Digest 36:72+ Ap '40

Buick aims at fuel economy with compound dual carburetor. il diags Automotive Ind 83:240-2 S 15 '40

Carburation and carburettors. C. H. Fisher. 316p 18s Chapman & Hall, London '39

Coal-gas carburettors for running-in and road service. diags Engineering 149:60-1 Ja 19 '40

Coal gas, low-pressure system for petrol vehicles. il diags Automobile Eng 30:113-15 Ap '40

Methods of preventing carburetor air intake icing. Aero Digest 37:116, 121 N '40

Prevention of carburetor icing, and other suggestions for flying light airplanes in cold weather. R. D. Hicks. diag Aero Digest 35:44+ D '39

Review of the relative merits of petrol injection and carburettors for aero engines. J. E. Ellor and F. M. Owner. bibliog il diags Roy Aeronautical Soc J 43:838-62; Discussion. 862-74 N '39

Running petrol engines on coal gas. il diag Engineer 169:168-9 F 16 '40

Save money on gas thru frequent adjustment of idling jets. Bus Transportation 19:348-9 Jl '40

Up-draft and down-draft carburetors. W. A. Roberts. diags Bus Transportation 19:516-19, 572-4 O-N '40

See also
Gas and oil engines
—Manifolds

Manufacture

Two million carburetors a year; Carter carburetor corp. J. Geschelin. il diags Automotive Ind 82:404-13+ My 1 '40

Testing

Aircraft industries modernize testing facilities; a pictorial progress report. M. F. Behar. Instruments 13:50-1 F '40

CARBURIZING. See Case hardening

CARBURIZING furnaces. See Furnaces, Carburizing

CARCINOMA. See Cancer

CARD system in business
Stock cards are requisitions on C. & E. I. il Ry Age 108:1099-1102 Je 22 '40

See also
Punched card system

CARDENAS, Lázaro, 1895-
Political leadership in Mexico. H. B. Parkes. Ann Am Acad 208:12-22 Mr '40

CARDING machines
Belt drives for cards. diags Textile World 90: 96-7 Ap '40

CARDING of cotton. See Cotton carding

CARDING of wool. See Wool carding

CARDOZO, Benjamin Nathan, 1870-1938
Benjamin N. Cardozo, American judge. G. S. Hellman. 339p $3.50 McGraw-Hill '40

CARENE
Observations on the condensation products from α-terpinene and the carenes with maleic anhydride. N. F. Goodway and T. F. West. Chem Soc J p702-3 My '40

CAREY, William Gibson, 1896-
Portrait. Business Week p20 Ap 27 '40; Nation's Business 28:34 Je '40

CARGO handling
Handling cargo on the Exporter. A. O. Loomis. il Marine Eng 44:564-5 D '39

See also
Loading and unloading—Ships
Longshoremen

CARIBBEAN region
Caribbean danger zone. J. F. Rippy. 296p bibliog(p265-83) $3 Putnam '40

Expedition of the Field museum to the Caribbean. Science 91:284 Mr 22 '40

Paleogene of Barbados and its bearing on history and structure of Antillean-Caribbean region. A. Senn. charts maps Am Assn Pet Geologists Bul 24:1548-1610 bibliog (85 titles, p 1607-10) S '40

CARILLONS
Cathedral carillon; electro-pneumatic operation. il Elec R (Lond) 125:729 D 8 '39

CARNAUBA wax
Carnauba wax from plantation to industry. D. F. Sweet. bibliog il map Chem Ind 47: 254-8, 379-82 S-O '40
Identification of commonly used waxes in admixture. S. Zweig and A. Taub. bibliog Ind & Eng Chem Anal ed 12:9-14 Ja 15 '40

CARNEGIE corporation
Grants. Science 90:587 D 22 '39

CARNEGIE institution of Washington
Annual meeting. Science 90:586-7 D 22 '39
Year book no. 38, July 1, 1938-June 30, 1939; with administrative reports through December 15, 1939. 394p bibliog(p367-84) Carnegie inst. of Washington, Washington, D.C. '39

CAROLINA, Clinchfield and Ohio railway
Bonds offered. Comm & Fin Chr 151:1137 Ag 24 '40

CAROLINA power and light company
Private sale of $46,000,000 bonds approved by SEC. Comm & Fin Chr 150:3654 Je 8 '40

CAROTENE
Constitution and physiological significance of carotene and allied pigments. R. A. Morton. Chem & Ind 59:301-7 My 4 '40
Determination of chlorophyll and carotene in plant tissue. H. G. Petering, W. Wolman and R. P. Hibbard. bibliog Ind & Eng Chem Anal ed 12:148-51 Mr 15 '40
Effect of the basal diet on the biological assay of vitamin-*A*. N. T. Gridgeman, H. Lees and H. Wilkinson. Soc Chem Ind J 59:120-5 Je '40
Factors affecting adsorptive power of magnesia for carotene. G. S. Fraps, A. R. Kemmerer and S. M. Greenberg. bibliog Ind & Eng Chem Anal ed 12:16-18 Ja 15 '40
Isolation of carotene from green plant tissue; use of barium hydroxide octahydrate. H. G. Petering, P. W. Morgal and E. J. Miller. flow sheet bibliog Ind & Eng Chem 32:1407-12 O '40

Analysis

Determination of carotene. G. Kernohan. bibliog Science 90:623 D 29 '39
Effect of certain carbohydrates on the determination of carotene. E. J. Lease and J. H. Mitchell. bibliog Ind & Eng Chem Anal ed 12:337-8 Je 15 '40

CAROTENOIDS
Constitution and physiological significance of carotene and allied pigments. R. A. Morton. Chem & Ind 59:301-7 My 4 '40
Microscope hot stage for determination of melting points; application to carotenoid pigments. F. P. Zscheile and J. W. White, jr. bibliog il diags Ind & Eng Chem Anal ed 12:436-8 Jl 15 '40

CAROTHERS, Wallace Hume, 1896-1937
Nylon. por Fortune 22:56-60+ Jl '40
Sketch. J. R. Johnson. Chem Soc J p100-2 Ja '40

CARPENTER, Sir Harold, 1875-1940
Sketch. por Chem Age (Lond) 43:133 S 21 '40

CARPENTER, Lewis Van, 1895-1940
Sketch. por Water Works & Sewerage 87:213 My '40

CARPENTER, Walter Samuel, jr.
President of E. I. du Pont de Nemours & co. por Barron's 20:5 My 27 '40

CARPENTER steel company
Stock priced at five to eight times earnings; thumbnail appraisal. Mag of Wall St 66: 740 O 5 '40

CARPENTERS
Who will be the building craftsmen of tomorrow? J. D. Wilson. Am Bld 62:46-7+ Jl '40

CARPENTERS' square. See Square (instrument)

CARPENTRY
Carpentry and joinery work. N. L. Burbank. 3d ed 286p $3 Simmons-Boardman '40
Home carpentry. E. T. Hamilton. 466p $3.50 Dodd '40
Simplified carpentry estimating. J. D. Wilson and C. M. Rogers. 204p $2.50 Simmons-Boardman '40
See also
Building
Floors
Framing (building)

Estimates

Simplified carpentry estimating. J. D. Wilson and C. M. Rogers. 204p $2.50 Simmons-Boardman '40

CARPET beetles
Use of black carpet beetles in the testing of moth-proofed materials; abstract. R. E. Slabaugh. Oil Paint & Drug Rep 138:56 O 28 '40

CARPET factories

Employees

Earnings and hours in the carpet and rug industry. H. E. Riley and E. M. Bunn. Monthly Labor R 51:164-83 Jl '40

Waste

Novel method of waste removal; Alexander Smith & sons carpet co. il Textile World 89:112 N '39

CARPET lining
See also
Ozite

CARPETS
Black light and white magic; uses of ultraviolet rays; fluorescent carpets for moving picture theaters. S. G. Hibben. Illum Eng 35:372-3 Ap '40
Broadloom brings changes. il Ptr Ink Mo 40:5-8+ Je '40
Carpet makers try rayon fibers. Barron's 20:5 Ja 22 '40
Carpet trade needs rayon; is rayon ready? J. A. Truitt. Rayon 21:33-4+, 101-3 Ja-F '40
Fluorescent carpet acts as guide in the dark. il Textile World 90:46 Jl '40
Improvement of Chinese and other carpet wools. R. H. Burns, A. Johnston and W. C. Chen. bibliog Textile Inst J 31:T37-48 Ap '40
New carpet fabrics. Business Week p35 Ja 13 '40
Night-light carpets. Textile Col 62:524 Ag '40
Printing of wool: warp printing. E. W. Pierce. Am Dyestuff Rep 29:154 Ap 1 '40
Weaving and dyeing in North Africa. J. Gallotti. Textile Col 62:161-4, 237-9+ Mr-Ap '40
See also
Rugs

History

Beginnings of the modern carpet industry. A. Varron. Textile Col 62:382-4 Je '40
Carpets in European peasant art. A. Varron. Textile Col 62:455-7 Jl '40
Carpets in the Turkish fashion. A. Varron. Textile Col 62:314-15+ My '40

Prices

Rug buyers win strike; demand quantity discount. Business Week p38-9 Mr 9 '40

Testing

Standard methods of testing pile floor covering adopted 1939; American society for testing materials. Textile Col 62:407-9 Je '40

CARPETS, Oriental
Nature and the Persian carpet. A. Juvet-Michel. Textile Col 61:326+ D '39

CARRERAS, limited
Report on profits for the years ended Oct. 31, 1937-39. Economist 137:425 D 16 '39

CARRIER, Willis Haviland, 1876-
Portrait. Iron Age 145:79 F 29 '40; Steel 106: 23 Mr 4 '40

CARRIER corporation
Carrier makes the weather; spotty earnings record. W. Gates. il Mag of Wall St 65: 692-3+ Mr 9 '40

CARRIER current control
Carrier control is faster than hunt fault procedure. H. W. Coffin. il map Elec W 113:290-1+ Ja 27 '40
Carrier-current losses measured and interference minimized on Boulder-Los Angeles transmission lines. J. D. Laughlin, W. E. Pakala and M. E. Reagan. il diags Elec Eng 59:Trans 4-9; Discussion. Trans 9-10 Ja '40
Carrier-current relaying improved. S. L. Goldsborough. Elec W 113:156 Ja 13 '40
Carrier telemetering simplifies dispatching; Central Vermont public service corp. H. L. Durgin. il diag Elec W 112:1732-3+ D 16 '39
Carrier telemetering with the metameter. G. S. Lunge. il Gen Elec R 43:336-43 Ag '40
Centralised control system for special signals for A.R.P. and other purposes; Ripplay system. il Engineer 168:598 D 15 '39
Electrical developments of 1939. G. Bartlett. il Gen Elec R 43:15-16 Ja '40
Metameter system of telemetering. F. B. Bristol and G. S. Lunge. il diags Gen Elec R 42:466-72 N '39
New tubes simplify carrier power supply. R. M. Smith. diags Elec W 113:459 F 10 '40
Outside lighting in Paris. diags Elec R (Lond) 126:338 Mr 22 '40
Remote supervisory control on the Wirral railway; Strowger remote photo-telemetering equipment. diags Engineer 169:126-7 F 9 '40
Street lighting in France; control of the Paris system. diags Electrician 124:19 Ja 12 '40
Superimposed control applications, with special reference to tariffs and load-levelling. D. J. Bolton. Inst E E J 86: 329-36; Discussion. 336-44 Ap '40
Unattended power station, remotely controlled by carrier current; Axelfors station. S. Anker-Rasmussen. il diag Elec R (Lond) 126:541-2 My 17 '40

CARRIER current telephone. See Telephone, Carrier current

CARRIERS
See also
Air lines
Canals
Electric railroads
Freight car service
Gas, Natural—Pipe lines
Interstate commerce
Motor bus lines—Laws and regulations
Motor trucks—Laws and regulations
Motor trucks in freight service
Postal service
Public utilities
Railroad law
Railroads
Shipping
Steamboat lines
Street railroads
Transportation
Trolley buses
Waterways

CARRUTHERS, John Litster, 1895-
Elected president of the American ceramic society. bibliog por Am Cer Soc Bul 19:182 My '40

CARS
A.A.R. committee report on car construction. diags Ry Mech Eng 114:277-85 Jl '40; Same cond. Ry Age 109:19-25 Jl 6 '40
Car maintenance, performance and expense. O. A. Garber. Ry Mech Eng 114:474-5 N '40
Deadweight lowered; abstract. E. G. Young. Steel 105:72 D 18 '39
Delaware & Hudson reconditions passenger coaches. il Ry Age 109:83-4 Jl 13 '40
Design decade. il Arch Forum 73:308-11 O '40
Progress in passenger cars. il Ry Age 108: 15 Ja 6 '40
Progress in railway mechanical engineering, 1938-1939. il Mech Eng 61:872-4 D '39
See also
Car cooling
Car trucks
Car wheels
Chair cars
Coal cars
Draft gears
Freight cars
Mine cars
Motor cars (railroad)
Postal cars
Refrigerator cars
Sleeping cars
Street cars
Tank cars
Water cars
also Car department officers' association

Bearings
Distribution and sources of journal-box temperature. E. S. Pearce. diags Ry Mech Eng 114:68-9+ F '40
Symington-Gould latched lid for journal boxes. il Ry Age 108:1131 Je 22 '40

Decoration
D. & H. rebuilds diner-lounge for Albany-Montreal service. il Ry Age 109:306 Ag 31 '40
Santa Fe gets seven new cars from Pullman-Standard. il Ry Age 108:663-5+ Ap 13 '40
Temiskaming & Northern Ontario Diesel-powered rail train. il Ry Age 108:447-8 Mr 9 '40

Design
Delaware & Hudson lightweight coaches. il diag Ry Mech Eng 114:8-12+ Ja '40; Same cond. Ry Age 107:813-14 N 25 '39
Designed for welding. V. R. Willoughby. il diag Product Eng 11:100-3 Mr '40
Designing for high tensile steels. H. M. Priest. diags chart Ry Mech Eng 113:528-33; 114:15-19 D '39-Ja '40
Fundamental development in suspension and construction for railroad cars. P. K. Beemer and others. il diags Mech Eng 62: 779-84 N '40
Lightweight passenger rolling stock. W. A. Stanier. diags Inst Mech Eng J & Proc 142:Proc 13-32, pl 1-16 N '39; Same cond. Engineering 149:165-70, 172, pl 9 F 16 '40; Excerpts. Mech Eng 61:880-2 D '39; Discussion. Inst Mech Eng J & Proc 142:Proc81-2 D '39
Mastering momentum in transport. L. K. Sillcox. Engineer 169:510-11 Je 7 '40
Missouri Pacific gets aluminum streamliners from American car and foundry co. il diags plans Ry Age 108.353-63 F 24 '40; Ry Mech Eng 114:87-93+ Mr '40
New Missouri Pacific Eagle. il Product Eng 11:152-3 Ap '40
Railway passenger cars for high-speed service; abstract. P. Parke. S A E J 46:sup14 Mr '40

Equipment
East Coast Florida resorts served by two new trains; the Atlantic Coast Line Champion and the Florida East Coast Henry M. Flagler. il Ry Age 107:962-7 D 23 '39
Kansas City Southern-Louisiana & Arkansas streamliner Southern Belle. il Ry Age 109: 469-74+ O 5 '40; Same cond. plans Ry Mech Eng 114:523-5+ D '40
Missouri Pacific gets aluminum streamliners from American car and foundry co. il diags plans Ry Age 108:353-63 F 24 '40; Ry Mech Eng 114:87-93+ Mr '40
Pressed steel car co. shows de luxe passenger coach. il diag Ry Age 109:432-4+ S 28 '40; Same cond. Ry Mech Eng 114: 382-5 O '40
Pullman lounge-bedroom cars with plastic lens-controlled fluorescent lighting. il Ry Age 108:859-60 My 18 '40
Recent developments for locomotives and cars. il diags Ry Age 108:1127-34 Je 22 '40
Seaboard adds new cars to Silver Meteor service. il Ry Age 107:951-4 D 23 '39
Southern Pacific installs new Daylight trains. il Ry Age 108:281-8 F 10 '40
Susquehanna installs modern rail cars; powered by oil burning engine with hydraulic-mechanical drive. il plan Ry Age 109:135-8+ Jl 27 '40; Ry Mech Eng 114:303-9 Ag '40
See also
Air brakes

Interchange
Report of arbitration committee; A.A.R. Mechanical division. Ry Age 109:28-32 Jl 6 '40; Same. Ry Mech Eng 114:265-9 Jl '40
Report on labor and material prices; A.A.R. Mechanical division. Ry Age 109:32-3 Jl 6 '40; Same. Ry Mech Eng 114:269-70 Jl '40
See also
Freight cars—Interchange

CARS—*Continued*

Lubrication

A.A.R. Mechanical division report on lubrication of cars and locomotives; abstracts. Ry Age 109:9-11 Jl 6 '40; Ry Mech Eng 114: 250-1 Jl '40

Hennessy mechanical lubricator for A.A.R. journals. il Ry Age 108:1130-1 Je 22 '40

Lubricants and lubrication; Car department officers association committee report. Ry Mech Eng 114:477-8 N '40

Manufacture

Festigkeitsversuche mit geschweissten drehgestellen. O. Taschinger. il diag V D I 83: 1297-8 D 23 '39

Recent innovations in railroad freight and passenger equipment. M. J. Roberts. J Business 13:56-73 Ja '40

Strain-bearing panel system; Permagrip fastening method of making stressed-skin structures applicable to auto, truck and railroad car bodies, etc. E. Schaefer. diags Steel 106:52, 54+ F 26 '40

Reconstruction

D. & H. rebuilds diner-lounge for Albany-Montreal service. il plan Ry Age 109:305-6 Ag 31 '40

Missouri Pacific rebuilds seven chair cars. il plan Ry Mech Eng 114:118-19 Mr '40

Nickel Plate gets two club-lounge cars. il Ry Age 109:584-5 O 26 '40

Repair

Centralia car-shop kinks. il Ry Mech Eng 114:28-33 Ja '40

Handling passenger-train cars at terminals; with cost data. Ry Age 107:792-5 N 18 '39

Pioneer Zephyr is repaired in record time. il diag plan Ry Age 108:397-400 Mr 2 '40

Shop operation, electric welding; Car department officers association committee report. Ry Mech Eng 114:475-7 N '40

Riding qualities

Draft gears, their relation to riding comfort of cars. il Ry Age 108:619-23+ Ap 6 '40; Ry Mech Eng 114:94-9 Mr '40

Smoother riding in new Hill rail passenger car. L. F. Holtzman. il Barron's 20:7 Jl 1 '40

Statistics

Passenger train cars, 1936-1939. Survey of Cur Business 1940 Sup p161 [supplemented in monthly numbers]

Passenger-train cars ordered in 1939. F. W. Kraeger. il Ry Age 108:89-92 Ja 6 '40

Railroad car production, revision; monthly, 1923-June, 1940. Fed Res Bul 26:830 Ag '40

Railway equipment shipments; revision, monthly, 1919-39. Survey of Cur Business 20:16 Mr '40

Testing

Draft gears, their relation to riding comfort of cars. il Ry Age 108:619-23+ Ap 6 '40; Ry Mech Eng 114:94-9 Mr '40

Vibration

Vibration of rail and road vehicles. B. S. Cain. 258p bibliog(p255-6) $5 Pitman '40

CARS, Aluminum

Chemistry in train construction; Missouri Pacific lines. il Ind & Eng Chem News ed 18: 264+ Mr 25 '40

High-speed lightweight trains. C. T. Ripley. Inst Mech Eng J & Proc 142:Proc98-101 D '39; Same. Engineer 168:454-5 N 3 '39

Kansas City Southern-Louisiana & Arkansas streamliner Southern Belle. il Ry Age 109: 469-74+ O 5 '40; Same cond. plans Ry Mech Eng 114:523-5+ D '40

Missouri Pacific gets aluminum streamliners from American car and foundry co. il diags plans Ry Age 108:353-63 F 24 '40; Ry Mech Eng 114:87-93+ Mr '40

CARS, Caboose

Caboose cars for the New Haven. il Ry Age 109:671-3 N 9 '40

New cabooses built at Milwaukee shops. il Ry Mech Eng 114:193-5 My '40

CARS, Chair. See Chair cars

CARS, Electric railroad

Electric railcar for the Bex and Villars-Chesieres railway. il diags Engineering 150:6-7, pl 2 Jl 5 '40

Exhibit of modern equipment; pictorial review. Transit J 84:328-9 S '40

L.M.S. electric trains. il Electrician 124:91-2 F 2 '40; Elec R (Lond) 126:131 F 2 '40

Modernized cars, North Shore line. il Mass Transportation 35:343 N '39

New rolling stock for the Liverpool and Southport electrified lines. il(p112) Engineer 169:109-10 F 2 '40; Engineering 149: 222-3, 226 Mr 1 '40

New rolling stock for the Waterloo and City railway. il Engineering 149:138 F 9 '40

See also
Cars, Subway
Street cars

CARS, Freight. See Freight cars

CARS, Heater

Illinois Central builds three heater cars for use with Diesel-electric locomotives handling passenger equipment at terminals. H. Anderson. il Ry Mech Eng 114:186+ My '40

CARS, Inspection

Buda passenger and official inspection cars. il Ry Age 109:311-12 Ag 31 '40

Rail fissures give up secrets; Sperry detector car. il diags Sci Am 162:283 My '40

Railway track maintenance; track recording car. il Elec R (Lond) 125:579-80 N 3 '39

Seeks greatest rail safety through regular testing; Missouri Pacific flaw detector car. il map Ry Age 109:214-18 Ag 10 '40

Sperry rail-defect detecting car. il diags plan Engineering 150:223-5, pl 15-16 S 20 '40

CARS, Postal. See Postal cars

CARS, Steel

Articulated train of 14 cars features welding, stainless steel; daylight trains operated by the Southern Pacific company. il Steel 106:60 Ja 15 '40

Buda passenger and official inspection cars. il Ry Age 109:311-12 Ag 31 '40

Caboose cars for the New Haven. il Ry Age 109:671-3 N 9 '40

Delaware & Hudson light-weight coaches. il diag Ry Mech Eng 114:8-12+ Ja '40; Same cond. Ry Age 107:812-16 N 25 '39

Designing for high tensile steels. H. M. Priest. diags chart Ry Mech Eng 113:528-33; 114: 15-19 D '39-Ja '40

East Coast Florida resorts served by two new trains; the Atlantic Coast Line Champion and the Florida East Coast Henry M. Flagler. il Ry Age 107:962-7 D 23 '39

High-speed lightweight trains. C. T. Ripley. Inst Mech Eng J & Proc 142:Proc98-101 D '39; Same. Engineer 168:454-5 N 3 '39; Excerpts. Metal Prog 37:42+ Ja '40

Lightweight passenger rolling stock. W. A. Stanier. diags Inst Mech Eng J & Proc 142:Proc 13-32, pl 1-16 N '39; Same cond. Engineering 149:165-70, 172, pl 9 F 16 '40; Excerpts. Mech Eng 61:880-2 D '39; Discussion. Inst Mech Eng J & Proc 142:Proc81-2 D '39

Pressed steel car co. shows de luxe passenger coach. il diag Ry Age 109:432-4+ S 28 '40; Same cond. Ry Mech Eng 114: 382-5 O '40

Railway-car engineering. D. S. Ellis. Mech Eng 62:18-22 Ja '40; Discussion. 62:483-4 Je '40

Recent developments on the Italian state railways. il Engineering 149:34-5 Ja 12 '40

Santa Fe gets seven new cars from Pullman-Standard. il Ry Age 108:663-5+ Ap 13 '40

Seaboard adds new cars to Silver Meteor service. il Ry Age 107:951-4 D 23 '39

Southern Pacific installs new Daylight trains. il Ry Age 108:284-8 F 10 '40

See also
Freight cars, Steel

CARS, Steel—*Continued*

Manufacture

Lightweight passenger rolling stock. W. A. Stanier. diags Inst Mech Eng J & Proc 142:Proc 13-32, pl 1-16 N '39; Same cond. Engineering 149:165-70, 172, pl 9 F 16 '40

Passenger coach has sheathing arc welded in place. A. E. Katz. diags Steel 105:66+ D 18 '39

CARS, Subway

New subway seat developed by Firestone; combines Airtex (latex foam rubber) with plastic woven fabric, known as Saran. India Rubber W 102:47 S '40

Seats of tomorrow, today! extruded vinylidene chloride plastic woven into seat covering material for subway cars. W. C. Goggin. il Mod Plastics 18:36-9 N '40

Cleaning

Einkammer-waschmachine für fahrzeugunterhaltung. H. Bieck. il diag V D I 83:1238-9 N 25 '39

CARTELS. See Trusts, Industrial—International trusts

CARTER, William, company

Carter co's. 75 years. il Textile World 90:54 Ap '40

CARTERITE process

Carterite process for making resin boards and blanks. R. B. Landrigan and H. Rosecaln. diag Mod Plastics 17:50 D '39

CARTOONS

George Price, good humor man, ed. by R. McCallister. G. Price. $2 Farrar '40

CARTRIDGE cases

Manufacture

Cartridge case manufacture; abstract. L. H. Campbell, jr. Metals & Alloys 11:MA145-6 Mr '40

Cartridge case technique. S. D. Brootzkoos. diags Am Mach 84:46-9 F 7 '40

Equipping a cartridge case shop. E. C. Bomar. il Iron Age 146:42-52 O 10 '40

Every shell needs a case; procedure at Frankford arsenal. il Am Mach 84:136-9 Mr 6 '40

How to make artillery cartridge cases. F. J. Lerro. il diags Am Mach 84:760-70 O 2 '40

Hydraulic press mfg. co. cartridge case heading press incorporates six-station turret table. il Am Mach 84:107 F 21 '40; Steel 106: 80 Mr 4 '40

CARVACRYLAMINE

Preparation and properties of 6-halogenated carvacrylamines from *p*-cymene. R. W. Bost and G. C. Kyker. bibliog Am Chem Soc J 62:913-17 Ap '40

CARVETH, Hector Russell, 1873-

American contemporaries. por Ind & Eng Chem News ed 18:389-90 My 10 '40

CARYA cordifornia

Composition of the fatty oil from carya cordifornia nuts. J. L. Riebsomer, R. Larson and L. Bishman. Am Chem Soc J 62: 3065-6 N '40

CARYOPHYLLENE

Addition reactions to conjugated systems; caryophyllene and maleic anhydride. N. F. Goodway and T. F. West. Chem Soc J p1853-5 D '39

CASABLANCA, France

Port of Casablanca, French Morocco. il(cover) Comm Rep p731 Ag 24 '40

CASAGRANDE, Leo

Über die elektrochemische bodenverfestigung nach dem verfahren von L. Casagrande. E. Kumutat. bibliog il Angew Chemie 53:168-71 Ap 13 '40

CASE hardening

Autogenes härten von gusseisen und temperguss. G. Kritzler. il V D I 84:148-50 Mr 2 '40

Building up wear resistance; flame-hardened molybdenum steels meet exacting requirements. il Steel 106:60, 62 Mr 18 '40

Carburizing; as it was in 1915 and as it is in 1940. J. F. Wyzalek. Metal Prog 37:309 Mr '40

Carburizing methods. O. W. McMullan. Metal Prog 38:425-7 O '40

Case carburization of steel. E. G. Mahin. il Iron Age 145:17-22 My 30; 53-7 Je 6 '40

Case hardening in liquid baths. F. D. Waterfall. il Iron Age 145:27-31 Je 27; 146:32-5 Jl 4 '40

Case-hardening steels containing manganese. Engineer 169:sup[Metallurgist] 119-20 Je 28 '40

Converting worn rolls. W. F. Lautner. il Steel 105:42, 44 D 25 '39; Abstract. Metals & Alloys 11:MA208 Ap '40

Crankshaft hardening; oxyacetylene flames and water quenching jets. il Steel 106:50, 52+ Ap 29 '40

Flame hardening. J. J. Crowe. Metal Prog 38:427 O '40

Flame-hardening and hard-surfacing. C. E. MacQuigg. Mach 46:123-4 Je '40

Flame hardening and softening. R. L. Rolf. Metal Prog 38:495-6 O '40

Flame hardening cast iron. Oil & Gas J 39:56 Ag 29 '40

Flame hardening cast iron. R. O. Day. il Steel 106:46-9 My 6; 89 My 13 '40

Flame hardening; composite of abstracts. Metals & Alloys 11:MA85 F '40

Flame hardening in oil industry. bibliog il Oil & Gas J 38:194 Mr 28 '40

Flame-hardening of gear teeth. D. Vande Vate. il Mach 46:123-6 F '40

Flame hardening of Meehanite. F. H. Bickford. il diag Iron Age 145:19-21 Ja 11; 31-4 Ja 18 '40

Flame-hardening of sheaves. W. L. Nelson. diags Oil & Gas J 39:71 S 26 '40

Flame hardening standardization. A. L. Hartley. il diags Iron Age 146:25-34 O 17; 34-8 O 24; 34-43 O 31; 54-63 N 7; 48-52 N 14 '40

Heat treating; developments in 1939. il Steel 106:196, 198, 200+ Ja 1 '40

Heat treating metals by electrical induction. il Automotive Ind 81:624-5 D 15 '39

Heat treatment of steel by high-frequency currents G. Babat and M. Losinsky. diags Inst E E J 86:161-8, pl 1-2 F '40; Excerpts. Engineering 149:251-2 Mr 8 '40

Holding for hardening. F. W. Curtis. il diags Am Mach 84:697-9 S 18 '40

Improving the durability of large industrial gears. E. J. Wellauer. il Metal Prog 37: 653-7+ Je '40

Induction currents for surface hardening. Elec W 113:316 Ja 27 '40

Induction hardening of drill chuck bodies. il Iron Age 144:26-7 D 28 '39

Induction heating. M. Seyt. Metal Prog 38: 420 O '40

Induction heating, followed by water-spray quench; newly developed method for hardening inside wearing surfaces of cylinders, etc. il Steel 105:54+ N 27 '39; Same cond. Iron Age 144:40 N 30 '39; Excerpt. Mach 46:296 D '39

Induction heating for inside bores. il Elec W 114:1350 N 2 '40

Induction heating progresses. Elec W 114: 110 Jl 13 '40

Machine heats and quenches inner walls of metal cylinders. il Comp Air M 45:6244 S '40

Making welded gears; flame hardened; Harnischfeger corp. H. Menck. il Steel 107:66-8 Jl 1 '40

Power oscillators; circuit for surface hardening of steel. G. Babat and M. Losinsky. il diags Wireless Eng 17:16-18 Ja '40

Precise control possible gives induction hardening big boost. J. F. Wyzalek. Steel 107:171 O 14 '40

Salt bath heat treating. W. F. Sherman. il diags Iron Age 146:43-7 N 14 '40

Selection of steel and heat treatment for spur gears. H. B. Knowlton and E. H. Snyder. bibliog il diags Am Soc for Metals Trans 28:687-708; Discussion, 708-13 S '40

CASE hardening—*Continued*
Some metallurgical phases of flame hardening. R. O. Day. il Metals & Alloys 12:166-71 Ag '40
Sulphide inclusions from clay packing. G. K. Manning. il Metal Prog 36:747-8 D '39
Surface coatings found to affect properties of steel; combination corrosion-fatigue tests. il Steel 107:80-2 N 4 '40
Test method for the evaluation of aqueous quenching media for steel hardening. F. W. Trembour and H. Scott. il Am Soc for Metals Trans 28:513-31; Discussion. 531-6 S '40
Tocco Junior hardening machine. il Mach 47:174 N '40; Automotive Ind 83:459-60 O 15 '40
Tocco Junior heat-treating unit surface-hardens small parts. il Am Mach 83:1095 D 27 '39
Transmission shifter yokes are flame hardened automatically. il Steel 106:64 Je 10 '40
Verdreh-dauerhaltbarkeit von einsatzgehärteten, hohlen kurbelwellenzapfen mit innenverstärkung an der ölbohrung. H. Cornelius and F. Bollenrath. il V D I 83:1257-8 D 2 '39
Vertical spinning while flame hardening prevents distortion. R. L. Rolf. Steel 107: 176+ O 14 '40
Wear of crankshafts with lead-bronze bearings. C. G. Williams and H. Ludicke. il S A E J 46:98-9 Mr '40
Wear resistance of flame hardened and unhardened lathe bed ways. il Automotive Ind 82:452 My 15 '40
Witherite in case hardening; abstract. J. M. Noy and L. G. Bliss. Metals & Alloys 11:MA197 Ap '40

Cyanide process
Cyanide shop revamped; Lindberg steel treating co. il Iron Age 146:41 O 17 '40

Gas carburizing
Automatic batch carburizing. il Steel 106:72, 74+ My 13 '40
Hypercarb process of gas carburizing; abstract. W. A. Darrah. Iron Age 146:54 S 19 '40
Practical gas carburizing. J. F. Wyzalek and M. H. Folkner. il diags Metal Prog 38: 261-8 S '40

Nitriding process
Case-hardening of special steels by nitrogen. Engineering 148:640 D 8 '39
Introductory study of the nitriding of hardened high speed steel by the use of molten cyanides. J. G. Morrison and J. P. Gill. il diags Am Soc for Metals Trans 27:935-1011 D '39; Excerpt. Steel 105:52-3 O 30 '39; Discussion. Am Soc for Metals Trans 27: 1011-14 D '39
Method of sclero-grating employed for the study of grain boundaries and of nitrided cases; grain structures revealed by cutting. B. O. W. L. Ljunggren. diags Iron & Steel Inst J 141:341-400, pl 22-39 bibliog(p339-400) no 1 '40; Summary. Engineering 149:517-18 My 24 '40; Discussion. Iron & Steel Inst J 141:401-4 no 1 '40
Nitrided stainless steels. H. Drever. il Metals & Alloys 12:271-3 S '40
Nitriding. V. O. Homerberg. Metal Prog 38: 429 O '40
Nitriding of stainless steel. Iron Age 146:55 S 19 '40

Shorter process
New gear tooth hardening machine; Shorter Process. il Engineer 169:384-5 Ap 19 '40; Automobile Eng 30:156 My '40
Shorter flame hardener, handles gears and shafts. il Am Mach 84:435-6 Je 12 '40
Shorter Process surface-hardening machine. il diags Engineering 150:226-8, 230 S 20 '40

CASE school of applied science, Cleveland, Ohio
New chemical engineering building. E. A. Arnold and D. O. Hubbard. il plans Ind & Eng Chem Anal ed 11:675-7 D 15 '39
Observatory. Science 91:64-5 Ja 19 '40

CASEIN
Casein and lactose from skim milk; abstract. Kato. Chem Age (Lond) 42:258 My 4 '40
Casein plastics. G. H. Brother. bibliog il Ind & Eng Chem 32:31-3 Ja '40
Differentiation between lanital, wool and casein; abstract. Justin-Mueller. Am Dyestuff Rep 29:501 S 30 '40
Dyeing casein fibres. C. H. S. Tupholme. Textile Col 61:803-6+ D '39
Effects of the wettability of paper coating raw stock. G. Davidson. il Paper Tr J 110:30-2 Je 13 '40
Evaluation of calcium carbonate coating colors formulated with various adhesives. H. F. Roderick and A. E. Hughes. Paper Tr J 110:104-8 F 22 '40
La fabrication et les propriétés du lanital, laine artificielle, tirée de la caséine du lait. Lo Duca. il diag Génie Civil 115:317-20 O 28 '39
Hats made with milk; casein fiber blended with natural rabbit fur. Business Week p55 O 12 '40
History of plastics and their uses in the automotive industry. G. M. Kline. Mod Plastics 17:86+ Jl '40; Same. S A E J 46: 202-3 My '40
Lactic acid and casein; pictured flow sheet. Chem & Met Eng 47:427-30 Je '40
Latex-casein adhesives. India Rubber W 101: 44 Mr '40
Making casein fiber. E. O. Whittier and S. P. Gould. bibliog Ind & Eng Chem 32: 906-7 Jl '40
New methods for diazotype printing. T. W. A. Borgesius and H. I. Waterman. bibliog Soc Dyers & Col J 56:23-6 Ja '40; Abstract. Am Dyestuff Rep 29:282-3 My 27 '40
New synthetic textile fibers. H. R. Mauersberger. Rayon 21:679 N '40
R-53 new casein fiber for hat making H. R. Mauersberger. il Rayon 21:670 N '40
See also
Whey

Manufacture
Manufacture of uniform casein. W. E. Stringer. Paper Tr J 110:46-8 Mr 14 '40
Rennet and acid casein; continuous process for plastic grade material. Can Chem & Process Ind 24:173 Ap '40
Success in byproduct production demands quality control; illustrated in manufacture of casein. J. Chrisman. flow diag il Food Ind 12:45-7+ Ag '40

CASH and carry plan
Store experiments; Bamberger expands informative labeling, tries out radio-advertised cash-and-carry basement. Business Week p46 S 28 '40

CASH business
How expenses and profits vary with retail credit policies; comparisons of operating ratios for typical retail stores according to the proportion of merchandise sold on cash, charge account, and installment credit terms. W. L. Mitchell, jr. Dun's R 48:26-32+ N '40

CASH discount. See Discount, Cash

CASH estimates
Why not a cash forecast? important as sales estimates. G. T. Trundle, jr. Credit & Fin Management 41:26-9 D '39

CASH on delivery system
Traffic problems in credit; claims and C.O.D. collections. E. Rusch. Credit & Fin Management 42:11-13+ Jl '40; Discussion. D. W. C. Becker. 32 S '40

CASH registers
NCR moves in; boosts grocery-trade volume 40 per cent. A. H. Little. il Ptr Ink 189:21-4 D 29 '39

CASHEW nutshell oil
Cashew nut shell liquid; polymerization, distillation, etc. M. T. Harvey and S. Caplan. bibliog il Ind & Eng Chem 32:1306-10 O '40
Dermatitis from cashew nut shell oil. J. G. Downing and S. W. Gurney. il J Ind Hygiene 22:169-74 My '40

CASHMERE
Textile fiber atlas. W. von Bergen and W. Krauss. il Rayon 21:85-6 F '40

CASPARI, Charles E., 1875-
American contemporaries. F. W. Sultan. por Ind & Eng Chem News ed 18:623 Jl 25 '40

CASSAVA
Brazil offers a crop; manioc, used in tapioca and plastics. Business Week p65 O 19 '40

CASSEGRAIN mirrors. See Telescope—Mirrors

CAST iron
Alloy cast iron for heavy duty applications; toggles and backing plates in cold heading machines. il diags Product Eng 11:494 N '40
Alloy cast irons for refinery equipment; tabulation. Oil & Gas J 38:50 Mr 7 '40
Alloy cast irons in steel plants. A. B. Everest. il Blast F & Steel Pl 28:700-1 Jl '40
American foundrymen's association, 44th annual meeting, Chicago, May 6-10; abstracts of papers. Steel 106:52, 54+ My 13; 56, 58, 60+ My 20 '40
American recommended practice; manual for the computation of strength and thickness of cast iron pipe. diags Am Water Works Assn J 31:sup ASA A21.1 p 1-26, 1-43 D '39
American society for testing materials, 43d annual meeting; abstracts and committee reports. Foundry 68:32+ Ag '40
American standard specifications for cast iron pit cast pipe for water or other liquids. Am Water Works Assn J 31:sup ASA A21.2 p 1-21 D '39
American standard specifications for cement mortar lining for cast iron pipe and fittings. Am Water Works Assn J 31:sup ASA A21.4 p 1-7 D '39
Application of nickel cast irons; reference book sheet. Am Mach 84:177 Mr 20 '40
As it was in 1915 and as it is in 1940. H. A. Schwartz. Metal Prog 37:305+ Mr '40
Autogenes härten von gusseisen und temperguss. G. Kritzler. il V D I 84:148-50 Mr 2 '40
Case hardening in liquid baths. F. D. Waterfall. Iron Age 146:33-4 Jl 4 '40
Cast iron in engineering construction; abstract. J. L. Francis. Metals & Alloys 11: MA96-7 F '40
Cast iron in the ladle; agents for modifying its properties. A. J. N. Smith. Chem Age (Lond) 41:sup26-7 N 4 '39
Cast irons; the control and improvement of their properties. C. H. Lorig. il Product Eng 11:209-12 My '40
Casting; developments in 1939. il Steel 106: 215-6+ Ja 1 '40
Causes of 32 types of gray iron casting defects; tabulation. W. B. McFerrin. Iron Age 146:44-7 S 5 '40
Changing from welded to cast frame construction in press design. E. V. Crane. il Mach 46:159-61 Ja '40; Discussion (Cast frame versus welded construction in press design). A. E. Gibson 46:130-1 Mr; (Cast versus welded press construction). I. Patrick. 46:95 My; (Welded versus cast press frames). A. Clements. 47:146-8 N '40
Copper in cast iron. T. Barlow. il Iron Age 145:19-22 Ja 25; 40-3+ F 1 '40
Criterion for an A-1 gray iron. J. E. Hurst. Metal Prog 37:561-2 My '40
Cupola possibilities and limitations for making high-strength iron; use of Fer X; cost data. H. W. Gillett and C. H. Lorig. bibliog il Iron Age 144:17-23+ D 28 '39
Cylinders and pistons; production at Morris motors, ltd; low temperature treatment. il Automobile Eng 30:44 F '40
Depreciation of cast-iron water mains related to actual service lives. R. Newsom and E. H. Aldrich. Am Water Works Assn J 32:795-818 My '40
Developing special properties by heat treating the malleable irons. R. J. Cowan. il Steel 106:44-7, 72+ Mr 25 '40
Dies of cast iron. R. Bredenbeck. il Iron Age 145:38-9 My 16 '40
Dust-free cuts on cast iron; Buick oil-pump bodies. il diags Am Mach 84:128-9 Mr 6 '40
Effect of ladle additions on the properties of cast iron. E. Piwowarsky. Iron Age 146:38 Ag 22 '40
Electric furnace cast irons containing copper. T. E. Barlow. il Metals & Alloys 12: 36-9, 158-65 Jl-Ag '40
Electric furnace gray iron in Germany. G. Sper. Iron Age 144:39 D 7 '39
Enameling irons; coarse graphite and nonmetallic inclusions as cause of blisters. A. S. Hawtin. il Steel 106:66-7+ Mr 25 '40
Engineering design with iron castings; composite of abstracts. Metals & Alloys 11: MA350 Je '40
Flame hardening cast iron. Oil & Gas J 39:56 Ag 29 '40
Flame hardening cast iron. R. O. Day. il Steel 106:46-9 My 6; 89 My 13 '40
Flame hardening of Meehanite. F. H. Bickford. il diag Iron Age 145:19-21 Ja 11; 31-4 Ja 18 '40
Flame hardening standardization. A. L. Hartley. il diags Iron Age 146:25-34 O 17; 34-8 O 24; 34-43 O 31; 48-52 N 14 '40
Glass molds present many problems. R. M. Scafe. il Foundry 68:30-1+ Ag; 36+ S '40
Gray cast iron; a new heat treatment. E. L. Bartholomew. il Iron Age 146:52-4 Ag 1 '40; Same cond. Steel 107:60+ Ag 5 '40
Hard-surfacing steel and cast iron; reference book sheet. Am Mach 83:1007-8 N 29 '39
Heat treatment of cast irons. G. P. Phillips. Metal Prog 38:429-30 O '40
Heat treatment of cast steels and irons; as it was in 1915 and as it is in 1940. R. H. McCarroll. Metal Prog 37:308 Mr '40
High nickel-chromium castings. J. B. Shelby. Metal Prog 38:471 O '40
High-test cast irons; composite of abstracts. Metals & Alloys 11:MA191-2 Ap '40
Influence of graphite ladle additions on the mechanical properties of gray cast iron, by A. H. Dierker, R. P. Schneider and H. H. Dawson; The effect of calcium chloride admixture with portland cement, by J. R. Shank. il diags Ohio State Univ Studies Eng Ser v 8, no 4:1-16 '39
Ladle additions to cast iron. R. Schneidewind. Metal Prog 38:374-5+ O '40
Making better machine-tool castings. F. J. Dost. il Mech Eng 62:365-9 My '40
Malleable cast iron; abstract. H. G. Hall. Metals & Alloys 12:98 Jl '40
Meehanite's role in the manufacture of rubber machinery. F. L. Dawes. il Rubber Age 47:247-8 Jl '40
Metallurgical aspects of brake drums for heavy duty service. V. A. Crosby and G. A. Timmons. il Foundry 68:32-4, 83-4 Jl '40
Metallurgical study of cast-iron glass molds. W. H. Bruckner, L. R. Kovac and A. B. Wilder. il Am Cer Soc Bul 19:58-61 F '40
Microstructure of Ni-resist. il Metal Prog 38: 285 S '40
Modern engineering practice and two-inch cast-iron pressure pipe; with cost data. C. D. Cox. il N E Water Works Assn J 54:294-8 S '40
New alloy additions reduce chilling, improve cast irons; SMZ and CMSZ. Steel 107:72 Jl 29 '40
New SMZ alloy transforms white cast iron to strong gray iron. il Steel 107:57 S 23 '40; Same. Blast F & Steel Pl 28:812-13 Ag '40
Pearlitic malleable from the electric furnace. E. F. Cone. il Metals & Alloys 12:150-3 Ag '40
Pressure-resisting and high-duty iron castings. J. L. Francis. Engineer 170:93-5 Ag 9 '40
Progress in metallic materials for mining engineering. P. D. Merica and J. E. Kerr. il Can Min J 60:739-41 N '39
Rapid routine examination for microstructure control; abstract. E. K. Smith. Iron Age 144:76-7 D 14 '39
Rebuilding worn cast iron surfaces. il Iron Age 146:49 S 5 '40
Rebuilding worn cast iron surfaces; cams and roller trippers for a button drilling machine. il Steel 107:76-7 N 11 '40

CAST iron—*Continued*
Short cycle annealing of malleable iron; continuous roller hearth and pusher tray furnaces. R. M. Cherry. il diags Iron Age 146:34-7 S 26 '40
Some early experiences in enameling cast iron. E. L. Dawes. il Am Cer Soc Bul 19:177-8 My '40
Some recent developments in iron and steel castings. R. C. Good. il Foundry 68:46-8+ O; 42-4+ N '40
Steel and iron castings. E. Bremer. Metal Prog 38:373-4 O '40
Steel-faced cast iron dies for drop hammer work. J. H. Engel. il Iron Age 145:46-8 Mr 21 '40
Strengthening anneal developed for nickel-chromium irons. Steel 107:52 N 11 '40; Engineer 170:273 O 25 '40
Study in grey cast iron. H. J. Young. il Inst Mech Eng J & Proc 142:55-60 Mr '40
Wear related to structure; abstracts. E. K. Smith. Foundry 68:57 Ja '40; il Steel 106: 44+ F 26 '40
Welding of cast iron. L. Tibbenham. Iron Age 145:36-8; Discussion. 38 Je 27; 146:43 Jl 18 '40
Welding of cast iron by the oxy-acetylene process. L. Tibbenham. 88p $1.60 Pitman '39
Wet-process leadless cast-iron enamels. B. Niklewski, jr. and A. I. Andrews. bibliog Am Cer Soc J 23:178-85 Je '40

See also
Car wheels
Corrosion and anti-corrosives
Foundry practice
Iron
Iron founding
Iron metallurgy
Pig iron
Spiegeleisen

Graphitization
Accelerating effect of certain metallic elements on graphitization. H. A. Schwartz and others. bibliog Am Soc for Metals Trans 28:143-53; Discussion. 153-6 Mr '40
New graphitizing alloy for ladle additions. il Iron Age 145:49 Je 6 '40
Strength of steel and cast iron; filament theory. M. G. Corson. Iron Age 145:34-5 Je 20 '40
Titanium as an alloy for cast iron; abstract. P. Bastien. Automotive Ind 82:554-5 Je 15 '40

Specifications
Variations in European specifications for iron castings. F. Giolitti. Metal Prog 37:67 Ja '40

Statistics
Cast-iron boilers and radiators, 1936-1939. Survey of Cur Business 1940 Sup p130-1 [supplemented in monthly numbers]

Testing
Contraction in grey cast iron. E. Longden. diags Engineer 170:11-12, 30-1 Jl 5-12 '40
Damping capacity of cast iron with special reference to cast crankshafts; abstract. J. Geiger. Metals & Alloys 11:MA222 Ap '40
Effect of casting temperature on the primary microstructure of cast irons; theories of dendrite formation and of the solidification of iron-carbon alloys. A. L. Norbury. diags Iron & Steel Inst J 140:161-75, pl 23-38; Discussion. 176-80, pl 38a no 2 '39
Influence of chromium on the oxidation resistance of cast iron. C. O. Burgess. il Am Soc T M Proc 39:604-22; Discussion. 623-5 '39
Mechanical properties of a high-strength cast iron. J. O. Draffin and W. L. Collins. il diags Am Soc T M Proc 39:589-602; Discussion. 603 '39
Relation of carbon nodule size and tensile properties of malleable cast iron. H. A. Schwartz, H. J. Schindler and J. F. Elliott. Am Soc T M Proc 39:583-4 '39
Resistance of high-silicon malleable iron to drilling. H. A. Schwartz, R. C. Kasper and N. E. Mertz. Am Soc T M Proc 39:586-7; Discussion. 588 '39
Studies on cast iron; abstracts of ASTM papers. Iron Age 146:46 Jl 4 '40

CAST stone. See Concrete stone

CAST stone institute
Annual meeting, Washington, Feb. 12-14. Concrete 48:14 Mr '40; Rock Prod 43:73-4 Mr '40

CASTING, Centrifugal
Centrifugal casting for quality. F. Giolitti. Metal Prog 37:566+ My '40
Centrifugal casting in Germany. W. A. Geisler. Automobile Eng 30:80 Mr '40
Centrifugal casting; process, limitations and advantages. J. D. Zaiser. il diags Iron Age 146:28-8 Ag 8 '40
Centrifugal composite castings. diag Automobile Eng 30:115 Ap '40
Centrifugally cast gear blanks introduced by Ford. C. O. Herb. il diags Mach 46:85-8 My '40

CASTING machines
Continuous casting. T. W. Lippert. il diags Iron Age 145:31-9 Ap 4 '40
Continuous casting; scheme removes heat from congealing metal fast enough to avoid rupture of solidifying skin; Williams engineering co. E. R. Williams. il Steel 106:48-9+ Ap 8 '40
Die roheisengiessmaschine der Duisburger kupferhütte. A. Koch. il diags Stahl & Eisen 59:749-53 Je 29 '39; Abstract. Génie Civil 116:53-4 Ja 20 '40

CASTINGS
Fatigue strength of castings improved by new screw thread system. H. Caminez. diags Aero Digest 37:102, 105-6, 109 O '40
Faulty castings; application of welding. Automobile Eng 30:189-90 Je '40
Foundry industry and army ordnance. N. F. Ramsey. il diags Foundry 68:28-9, 78+ Mr; 28-9, 98+ Ap '40
Heat resisting castings, medium nickel type. H. I. Dixon. Metal Prog 38:469+ O '40
Magnesium castings used in Germany. Metal Prog 37:63+ Ja '40
Malleable castings orders in the United States, net tons; monthly, 1925-1939; tabulation. Iron Age 145:165 Ja 4 '40
Metals and alloys in home washing machines. H. Chase. il diags Metals & Alloys 11:66-8 Mr '40
Multiple scribing of parallel lines on castings. R. S. Alexander. diags Am Mach 84: 255 Ap 17 '40
New method for finishing castings. Mach 46: 242 D '39
Repair welding, brazing and soldering of light metal castings. E. R. Thews. diags Metal Ind 38:84-6, 149-53 F-Mr '40
Speedy method of castings finishing; New Wrinkle dip-process. Metals & Alloys 11: MA1 Ja '40
Surface treatment of aluminium castings. Engineering 150:110 Ag 9 '40
Welding as a substitute for casting. S. F. Dorey. Engineering 149:237-9 Mr 1 '40

See also
Cast iron
Foundry practice
Steel castings

Cleaning
Grinding and sanding castings without dust; Monarch machine tool co. plant. il Iron Age 146:51 S 12 '40
How new Plymouth washers clean engine castings. il Mach 46:142-5 Ap '40
New castings cleaning department at the Monarch machine tool co.'s plant. il Automotive Ind 83:260 S 15 '40
Process cleans zinc die castings without peeling; Dyclene process. Steel 106:68 F 12 '40
Reduces breakage in cleaning; Pennsylvania lawn mower works. C. C. Herman. il Foundry 68:86 S '40

Testing
Castings must pass many tests. M. D. Johnson. il Foundry 68:28-33+ S '40
Radiographic development in the casting industries. C. W. Briggs. il Metals & Alloys 11:1-5 Ja '40

CASTOR beans
Ricinus communis; oxidation of ricinoleic acid. St E. Brady. Am Chem Soc J 61:3464-7 D '39

CASTOR oil
Action of lead tetraacetate upon hydroxylated fat acids and related compounds; hydroxylated ricinoleic acid and castor oil. J. T. Scanlon and D. Swern. Am Chem Soc J 62:2309-11 S '40
Bodying dehydrated castor oil and others. Oil Paint & Drug Rep 138:49 N 4 '40
Bodying of dehydrated castor oil. J. D. von Mikusch. bibliog il Ind & Eng Chem 32: 1061-9 Ag '40
Castor oil extraction with alcohol studied. Oil Paint & Drug Rep 137:33C Mr 11 '40
Catalytic methods for increasing the unsaturation of long-chain fatty compounds; dehydration of castor oil. W. C. Forbes and H. A. Neville. bibliog Ind & Eng Chem 32: 555-8 Ap '40
Chemicals from castor oil; sebacic acid and capryl alcohol. Chem Age (Lond) 43:71 Ag 10 '40
Composition and analysis of dehydrated castor oil. G. W. Priest and J. D. von Mikusch. bibliog il diags Ind & Eng Chem 32:1314-19 O '40
Dehydrated castor oil. J. C. Weaver. Oil Paint & Drug Rep 138:5+ S 30 '40
Dehydrated castor oil; abstract. G. W. Priest. Oil Paint & Drug Rep 137:31 Ja 15 '40
Dehydrated castor oil; an economic study. D. H. Killeffer. bibliog Ind & Eng Chem 32:1466-8 N '40
L'infériorité de l'huile de ricin pour le graissage des moteurs d'avions. Génie Civil 116:170-1 Mr 9 '40
Wijs iodine numbers for conjugated double bonds; influence of sample-reagent ratio. W. C. Forbes and H. A. Neville. Ind & Eng Chem Anal ed 12:72-4 F 15 '40

CASTOR oil, Sulfonated. See Turkey red oil

CASUALTY actuarial society
Annual meeting, 25th, New York, Nov. 16-17. East Underw 40:34-5 N 17; 36, 40 N 24; 32 D 1 '39; Ins Field (Fire ed) 68:10-11 N 23 '39; Spectator (Property ed) 5:9 N 30 '39
President's address, 25th anniversary meeting, New York. F. S. Perryman. Weekly Underw 141:1126, 1131-2 N 25 '39
Society had a busy 1939. F. S. Perryman. Weekly Underw 142:322 F 3 '40
Spring meeting, New York. East Underw 41:32+ My 24 '40; Nat Underw 44:19+ My 23 '40

CASUALTY insurance. See Insurance, Casualty

CASUARINA. See Beefwood

CATALASE
Observations on the anticatalase activity of sulfanilamide and related compounds before and after ultraviolet irradiation. M. P. Benoy. Franklin Inst J 230:402-5 S '40

CATALOGING
Analytics for serials? P. F. Hayes; A. M. Avakian. Special Lib 31:22 Ja '40
Author entry for government publications. J. B. Childs. 38p Library of Congress, Washington '39
Catalogers' and classifiers' yearbook. number 8 152p pa $2.25 American library assn, 520 N. Michigan av, Chicago '40
Notes used on catalog cards; a list of examples. O. Swain, comp. 102p pa $1.25 Am. library assn, 520 N. Michigan av, Chicago '40
Plan for organizing pamphlets and books in a small office. F. C. Bell. Special Lib 30: 307-11 N '39
Problems clinic, Baltimore conference. Special Lib 30:264 O '39

CATALOGS
All dressed up; two major selling innovations mark the latest issue of Butler brothers' wholesale catalog. il Ptr Ink 190:19-22 F 23 '40
Catalog comeback; mail-order thrives today as never before. P. H. Erbes, jr. Ptr Ink 191:11-13+ Ap 5 '40
Catalog distribution; eight considerations: Ptr Ink 191:19-22 Je 21 '40; Abstract. Management R 29:297-8 Ag '40
Catalog innovations; Montgomery Ward, Sears, Roebuck and Chicago mail order co. Ptr Ink 190:45-6 F 2 '40
Catalogs with new ideas. il Ptr Ink Mo 40:32, 35 F '40
Factory's catalog service. Published in monthly numbers of Factory management
Good old days; a history of American morals and manners as seen through the Sears, Roebuck catalogs, 1905 to the present. D. L. Cohn. 597p $3.75 Simon & Schuster, New York '40
Sears and Ward spring catalogs. Business Week p34 F 3 '40
Small campaign, big selling job; L. Isaacson & sons' catalog. il Ptr Ink Mo 41:13 S '40
Ten mail-order Americas; Sears, Roebuck's ten sectional catalogs. G. Bijur. Adv & Sell 33:33-4, 54 S '40
Two catalogs find $21,000 sales. F. Rundell. Inland Ptr 105:64-5 Ag '40
See also
Trade directories

CATALOGS, Card
Recent cards in a separate file. E. H. McClelland. Special Lib 31:21 Ja '40

CATALOGS, Classified
What advantages are found in a classed catalogue in libraries that use it? E. H. McClelland. Special Lib 31:21 Ja '40

CATALYSIS
Acid-base catalysis in the depolymerisation of dimeric glycolaldehyde. R. P. Bell and J. P. H. Hirst. diag Chem Soc J p1777-80 N '39
Acid catalysis in non-aqueous solvents; the mutarotation of α-nitrocamphor in chlorobenzene solution. R. P. Bell and J. A. Sherred. Chem Soc J p1202-5 Ag '40
Acid catalysis in non-aqueous solvents; the rearrangement of *N*-chloroacetanilide in chlorobenzene solution at 100°. R. P. Bell and P. V. Danckwerts. Chem Soc J p1774-6 N '39
Application of catalytic desulfurization process. M. W. Conn. flow diags Oil & Gas J 39:40, 42, 45+ O 24 '40
Catalysis by metallized bentonites. G. Broughton. J Phys Chem 44:180-4 F '40
Catalysis in the formation of α-methoxymercurials from ethylenes. A. M. Birks and G. F. Wright. Am Chem Soc J 62:2412-21 S '40
Catalytic cyclization of aliphatic hydrocarbons to aromatics. A. V. Grosse, J. C. Morrell and W. J. Mattox. bibliog il diag Ind & Eng Chem 32:528-31 Ap '40
Catalytic decomposition of azodicarbonate ion. C. V. King. bibliog Am Chem Soc J 62:379-85 F '40
Catalytic dehydrogenation field is surveyed; abstract. A. G. Oblad, R. F. Marschner and L. Heard. Nat Pet N 32:R157 My 1 '40
Catalytic dehydrogenation of gaseous paraffins. A. V. Grosse and V. N. Ipatieff. bibliog il Ind & Eng Chem 32:268-72 F '40
Catalytic dehydrogenation of representative hydrocarbons. A. G. Oblad, R. F. Marschner and L. Heard. bibliog diag Am Chem Soc J 62:2066-9 Ag '40
Catalytic dehydrogenation process (gaseous paraffins to olefins). A. V. Grosse and others. flow diags il Am Pet Inst Proc 20(3):110-20 '39; Same. Oil & Gas J 38:53, 55-6 N 23 '39; Same cond. Nat Pet N 31: R520-1 N 29 '39
Catalytic desulfurization solves problem in high-sulfur distillate. J. E. Pew and A. E. Buell. il diags Nat Pet N 32:R354-5, R357-8 O 2 '40
Catalytic desulfurization to improve aviation blending naphthas. W. A. Schulze and R. C. Alden. Am Pet Inst Proc 20(3):72-7 '39; Same. Oil & Gas J 38:199-200+ N 17 '39
Catalytic effect of metals on the ageing of lubricating oil for Diesel engines. H. L. Matthijsen. pl diags Inst Pet J 26:72-90 bibliog(43 references, p89-90) F '40

CATALYSIS—*Continued*

Catalytic effect of osmium compounds on the reduction of perchloric acid by hydrobromic acid. W. R. Crowell, D. M. Yost and J. D. Roberts. Am Chem Soc J 62:2176-8 Ag '40

Catalytic formation of potassium nitrite from potassium nitrate in liquid ammonia. F. W. Bergstrom. bibliog diag Am Chem Soc J 62:2381-4 S '40

Catalytic hydrolysis of chlorobenzene in the vapor phase. A. A. Vernon and F. X. Thompson. bibliog J Phys Chem 44:727-30 Je '40

Catalytic oxidation of hydrogen on platinum; a search for chemiluminescence and ionization. R. Potvin and C. Ouellet. bibliog diags J Phys Chem 44:235-46 F '40

Catalytic reforming for the production of aviation gasoline. A. G. Peterkin, J. R. Bates and H. P. Broom. flow diag il Am Pet Inst Proc 20(3):101-8 '39; Abstract. Nat Pet N 31:R517-19 N 29 '39; Discussion. Am Pet Inst Proc 20(3):108-9 '39

Catalytic vapor-phase oxidation of aliphatic kerosene fraction. W. G. Parks and E. F. Story. bibliog diag Oil & Gas J 39:54, 56+ S 5 '40

Catalyzed cleavage of diacetone alcohol and other ketols and unsaturated ketones. S. H. McAllister, W. A. Bailey, jr. and C. M. Bouton. bibliog Am Chem Soc J 62: 3210-15 N '40

Dehydrogenation; catalytic disproportionation and dehydrogenation of some terpenes and terpene ketones. R. P. Linstead, K. O. A. Michaelis and S. L. S. Thomas. Chem Soc J p1139-47 Ag '40

Determination of organic sulfur in gases by the catalytic hydrolysis method. L. T. Jilk. il diags Am Soc T M Proc 39:1159-68; Discussion. 1169-70 '39

Dissociation catalytique et synthèse du méthanol. O. Kostelitz and G. Hensinger. Chimie & Ind 42:757-73 N '39

Economic factors in catalytic cracking. J. S. Carey and H. W. Ortendahl. Nat Pet N 32:R370-2, R375 O 16 '40; Same. Oil & Gas J 39:55-6+ O 17 '40

Economics of catalytic oxidation in the vapor phase. C. Conover. Ind & Eng Chem 32: 1298-1300 O '40

Equilibrium and kinetics of the thermal isomerization of dichloroethylene catalyzed by iodine. R. E. Wood and R. G. Dickinson. Am Chem Soc J 61:3259-63 D '39

Kinetics of the catalysed polymerisation of styrene; on the mechanism of metal chloride catalysis. G. Williams. Chem Soc J p775-84 Je '40

Some catalytic reactions. A. J. Currier. bibliog il J Chem Educ 17:262-4 Je '40

Sun Oil operating large Houdry catalytic gasoline treating unit at Marcus Hook. H. S. Norman. flow chart il diag Oil & Gas J 38:106-7, 111+ Mr 28 '40

Twelfth report of the Committee on catalysis. National research council. R. E. Burk and others. 387p $5 Wiley '40

Über die zwischenzustände bei modifikationsumwandlungen und die katalytische beeinflussung dieser vorgänge durch fremdgase. G. F. Hüttig. Angew Chemie 53:35-9 Ja 20 '40

See also
Houdry process

CATALYSTS

Activated carbon as a catalyst in certain oxidation-reduction reactions; decomposition of hydrogen peroxide; autoxidation of stannous chloride and potassium urate. E. C. Larsen and J. H. Walton. bibliog J Phys Chem 44:70-85 Ja '40

Catalysts from alloys; nickel catalysts. M. Raney. bibliog il diags Ind & Eng Chem 32:1199-1203 S '40

Catalytic cracker specializes in 100-octane fuel base. M. G. Van Voorhis. flow chart il plan Nat Pet N 32:R386-8+ O 30 '40

Catalytic cracking of aliphatic hydrocarbons. G. Egloff and others. bibliog Am Chem Soc J 61:3571-80 D '39

Catalytic hydration of acetylene and of some alkylacetylenes. R. E. Schaad and V. N. Ipatieff. bibliog Am Chem Soc J 62:178-80 Ja '40

Catalytic methods for increasing the unsaturation of long-chain fatty compounds; dehydration of castor oil. W. C. Forbes and H. A. Neville. bibliog Ind & Eng Chem 32:555-8 Ap '40

Catalytic toxicity and chemical structure; simple anions containing toxic elements. E. B. Maxted and R. W. D. Morrish. Chem Soc J p252-6 Mr '40

Catalytic toxicity and chemical structure; the poisoning of platinum catalysts by metals. E. B. Maxted and A. Marsden. Chem Soc J p469-74 Ap '40

Chemisorptions of gases on iron synthetic ammonia catalysts. S. Brunauer and P. H. Emmett. bibliog Am Chem Soc J 62: 1732-46 Jl '40

Curing phenol resins with metal chlorides; stannous and chromic chlorides. L. E. Stout and C. R. McAlister, jr. diags Mod Plastics 18:59-61+ N '40

Le développement des applications techniques de l'hydrogénation. E. F. Armstrong and K. A. Williams. Chimie & Ind 42:234-42 Ag '39; Same (Development of the technical applications of hydrogenation). Chem Age (Lond) 41:271-2, 285-8 O 14-21 '39; Same. Chem & Ind 59:3-9 Ja 6 '40

Equilibrium in an esterification reaction with perchloric acid as catalyst. H. M. Trimble and E. L. Richardson. Am Chem Soc J 62: 1018-19 My '40

Heats of adsorption of gases on iron synthetic ammonia catalysts at low temperatures. R. A. Beese and N. P. Stevens. Am Chem Soc J 62:2134-40 Ag '40

Heteropoly-acids as catalysts for the vapor phase partial oxidation of naphthalene. M. M. Marisic bibliog Am Chem Soc J 62: 2312-17 S '40

Hydrogen fluoride as a condensing agent; the reaction of alcohols and ethers with benzene. J. H. Simons and S. Archer. Am Chem Soc J 62:1623-4 Je '40

Hydrogenation of aniline. C. F. Winans. bibliog Ind & Eng Chem 32:1215-16 S '40

Hydrogenation of ethylene at surfaces of certain oxides; molybdenum oxide compounds. J. F. Woodman, H. S. Taylor and J. Turkevich. Am Chem Soc J 62:1397-9 Je '40

Hydrogenation of ethylene at surfaces of certain oxides; zinc oxide and zinc chromite. J. F. Woodman and H. S. Taylor. bibliog Am Chem Soc J 62:1393-6 Je '40

Hydrogenation of petroleum fractions, employing a large percentage of catalyst. H. I. Waterman and C. Van Vlodrop. Inst Pet J 26:452-6 S '40

Hydrogenation of quinone with palladium and platinum catalysts. E. F. Rosenblatt. Am Chem Soc J 62:1092-4 My '40

Hydrogenation; role of the catalyst. H. Adkins. bibliog Ind & Eng Chem 32:1189-92 S '40

Importance of pH and catalysts in bleachery operations. J. D. Rue. Paper Tr J 110: 98-101 Je 27 '40; Same. Pulp & Pa of Can 41:661-4 S '40

Mixed catalysts promise optimum in hydrogenation of benzene. V. N. Ipatieff. il Nat Pet N 32:R280-2 Ag 7 '40; Same. Science 91:605-8 Je 28 '40

Mixed copper-chromium oxide hydrogenation catalysts. V. N. Ipatieff, B. B. Corson and J. D. Kurbatov. bibliog J Phys Chem 44: 670-9 My '40

Nature of the surface of catalytic nickel; poisoning by ethylene and by methane decomposition. W. W. Russell and W. V. Loebenstein. Am Chem Soc J 62:2573-80 O '40

New mechanism for the action of the vanadium pentoxide-silica-alkali pyrosulfate catalyst for the oxidation of sulfur dioxide. J. H. Frazer and W. J. Kirkpatrick. bibliog Am Chem Soc J 62:1659-60 Jl '40

CATALYSTS—*Continued*
Nickel as a catalyst for the hydrogenation of aromatic halogen compounds. C. F. Winans. bibliog Am Chem Soc J 61:3564-5 D '39
Oxidation of ascorbic acid by oxygen with cupric ion as catalyst. A. O. Dekker and R. G. Dickinson. bibliog Am Chem Soc J 62: 2165-71 Ag '40
Reduction over a Raney catalyst of the esters of α-amino acids to corresponding alkamines. G. Ovakimian, M. Kuna and P. A. Levene. Am Chem Soc J 62:676-7 Mr '40
Relative effect of inhibitants on adsorption and on catalytic activity. E. B. Maxted and H. C. Evans. Chem Soc J p1750-4 N '39
Sohio polymerization unit first using new catalyst; copper pyrophosphate. M. G. Van Voorhis. flow chart il Nat Pet N 32:R230-1, R233 Je 26 '40
Structure of vinyl polymers; catalysts. C. S. Marvel and E. H. Riddle. Am Chem Soc J 62:2666-70 O '40
Study of the catalytic properties of beryllium chromite. R. K. Ladisch and J. C. W. Frazer. Am Chem Soc J 62:3222-7 N '40
Über die durch pervanadinsäure katalysierte wasserstoffperoxyd-oxydation cyclischerverbindungen. W. Treibs. bibliog Angew Chemie 52:698-700 D 9 '39
Untersuchungen von katalysatoren mit dem Universal-elektronenmikroskop. M. v. Ardenne and D. Beischer. il Angew Chemie 53:103-7 Mr 2 '40
Vapor-phase esterification of benzoic acid with ethyl alcohol; effect of oxides on catalytic activity of silica gel. A. A. Vernon and B. M. Brown. bibliog diag Ind & Eng Chem 32:534-6 Ap '40

See also
Antioxidants
Enzymes
Hormones
Vitamins
Vulcanization—Accelerators

CATAPULTS, Airplane. See Seaplanes—Launching

CATECHOL
Indano-indanes. J. B. Niederl and R. H. Nagel. Am Chem Soc J 62:3070-2 N '40

CATENARY
Formulas for the solution of catenary problems. J. Joffe. Civil Eng 10:306-7 My '40
Parameter of catenary curve for any given span and dip. D. Bregman. Civil Eng 10: 657-8 O '40
Une propriété intéressante de la chaînette. M. Bourseire. Génie Civil 116:11-12 Ja 6 '40

CATERPILLAR tractor company
Connor of Caterpillar. Fortune 22:94+ Ag '40
Glance at the week's reports on earnings. H. Lawrence. Barron's 20:13 Ja 29 '40

CATERPILLAR vehicles. See Motor vehicles—Track-layer type

CATHODE ray oscillographs. See Oscillographs, Cathode ray

CATHODE ray tubes
Automatic curve tracer. il diag Electronics 13:65 F '40
Cathode-ray frequency modulation generator. R. E. Shelby. il diags Electronics 13:14-18 F '40
Cathode-ray tube used as aircraft instrument indicator; flight-ray indicator. il diag Electronics 13:36+ Mr '40
Cathode-ray tubes. M. von Ardenne. 530p $14 Pitman '39
Cathode-ray type synchronism indicator. F. S. Beale. il diag Instruments 13:77-8 Mr '40; Abstract. Electronics 13:105 Ap '40
Darstellung abklingender schwingungen als stehendes bild auf der kathodenstrahlröhre. J. Czech. il diag V D I 84:83-5 F 3 '40
Electron gunfire; patterns formed on a cathode-ray tube screen. C. E. Burnett. Electronics 13:38 Ap '40
Electron transit time; effects in cathode-ray tubes and diodes. W. E. Benham. Wireless Eng 16:598-602 D '39
Flightray, a multiple instrument indicator. P. R. Bassett and J. Lyman. il diags J Aeronautical Sci 7:199-204 Mr '40; Abstract. Aero Digest 36:254+ Mr '40
Flightray; cathode ray tube shows indications of four instruments. D. Fink. il diag Aviation 39:100-1 F '40
Improved cathode-ray oscilloscope design. W. A. Geohagen. diags Electronics 13:36-9 N '40
Optimum efficiency conditions for white luminescent screens in kinescopes; zinc-cadmium sulphide phosphor systems. H. W. Leverenz. bibliog diag Opt Soc Am J 30: 309-15 Jl '40
Production color analysis of kinescope screens. T. B. Perkins. diag Opt Soc Am J 30:295-6 Jl '40
Radio progress during 1939; cathode-ray and television tubes. bibliog Inst Radio Eng Proc 28:103-4 Mr '40
Rectilinear electron flow in beams. J. R. Pierce. diags J Ap Phys 11:548-54 Ag '40
Space-charge limitations on the focus of electron beams. B. J. Thompson and L. B. Headrick. Inst Radio Eng Proc 28: 318-24 Jl '40
Trapezium distortion in cathode-ray tubes. B. C. Fleming-Williams. diags Wireless Eng 17:61-4 F '40

See also
Oscillographs, Cathode ray

CATHODE rays
Excitation and detection of ultraviolet fluorescence. R. G. Franklin and A. J. Allen. diags Franklin Inst J 230:263-8 Ag '40
Ring focusing of negative ions in a cathode-ray beam. C. H. Bachman. bibliog il diags J Ap Phys 11:83-5 Ja '40
Theory on cathode luminescence. U. Fano. Phys R 58:544-53 S 15 '40

CATHODES
Improvement in quality of metal deposits due to rotation of cathode applies likewise to metal deposits by displacement. R. Piontelli. bibliog il Electrochem Soc Trans 77 (preprint 7):83-92 Ap '40
Mercury cathode in metallurgical analysis. A. E. Pavlish and J. D. Sullivan. il Metals & Alloys 11:56-9 F '40
Starting characteristics of a trigger tube with a radioactive cathode; Westinghouse WL-759 designed to operate small relays. W. B. Nottingham. diags R Sci Instr 11:2-6 Ja '40
Townsend ionization coefficients for Ni and Al cathodes in an atmosphere of hydrogen. D. H. Hale. bibliog diag Phys R 56:1199-1202 D 15 '39

See also
Electrodes

CATHODIC protection. See Metal protection; Pipe lines—Protection; Water tanks, Steel—Cathodic protection

CATHODOLUMINESCENCE. See Luminescence

CATSUP
New container upsets precedent; catchup and chili sauce sold together in multiple-unit package. il Food Ind 12:53 N '40

See also
Tomato catsup

CATTLE
Effect on animal health of feeding sewage; swine and cattle in severe six-month test remain in good condition. A. B. Crawford and A. H. Frank. il Civil Eng 10:495-6 Ag '40

Diseases and pests
Bovine pseudorabies or mad itch virus. R. Graham, C. C. Morrill and L. E. Boley. bibliog Science 91:623-4 Je 28 '40
Musca domestica and hippelates flies; vectors of bovine mastitis. D. A. Sanders. Science 92:286 S 27 '40

CATTLE trade

Western states
Historic sketches of the cattle trade of the West and Southwest. J. G. McCoy. 435p $6 Arthur H. Clark co, Glendale, Calif. '40

CAUSTIC soda. See Sodium hydroxide

CAVES

See also
Ice caves

CAVITATION

Soundless sound waves; supersonic waves in science and industry. W. L. Finlay. il diags Sci Am 162:216-17 Ap '40

See also
Hydraulic machinery
—Cavitation

CAXTON printers

Caxton folks in 1935 published first editions by offset technique. Inland Ptr 104:75 Mr '40

CEDAR

Ethanolysis of western red cedar, Douglas fir and western hemlock. J. S. Brawn, R. D. Heddle and J. A. F. Gardner. Am Chem Soc J 62:3251-2 N '40

West Coast woods of the Douglas fir region. diags Am Bld 62:78-80 Ja '40

Western red cedar shingles. il Am Bld 62:90 Ja '40

CEILINGS

Beautiful interiors obtained with insulation board products. il Am Bld 61:46-50, 54-5 D '39

Fresco in Frisco; St Francis hotel. M. Pake. il Mod Plastics 17:30-1+ Ja '40

How hot is the ceiling? T. D. Phillips. il Dom Eng 156:42+ O '40

Nailing channel permits ceiling to be attached mechanically. il Steel 106:50 Je 3 '40

Roof and ceiling insulation of primary importance. il diags Am Bld 61:61-3 D '39

Solution for ceiling sweat problems. Water Works & Sewerage 87:492 O '40

CEILINGS, Steel

Why not sell portable steel buildings and steel ceilings? Lutters' portable garage co. il Sheet Metal Worker 31:27-8 Ap '40

CELANESE. See Rayon

CELANESE corporation of America

Big earner in textile field. Barron's 20:19+ S 16 '40

Comments on operating and financial results for the past year. Barron's 20:8 Mr 11 '40

Debentures offered. Comm & Fin Chr 151: 1274 Ag 31 '40

Income account for calendar years 1936-39. Comm & Fin Chr 150:1595 Mr 9 '40

Strongest yarn; Celanese introduces tough fiber used in England. Business Week p40 S 21 '40

To vote increase in bond issue to finance expansion. Comm & Fin Chr 150:3348 My 25 '40

CELERY

Analysis

Quantitative analysis of plant tissues for lithium by the ramage flame spectrographic method. N. L. Kent. il diag Soc Chem Ind J 59:148-53 Jl '40

CELL division (biology)

Anaphase movement in allium cernuum. R. T. Brumfield. Science 91:97-8 Ja 26 '40

Periodic mitotic activity in the epidermis of the albino rat. C. M. Blumenfeld. bibliog Science 90:446-7 N 10 '39

CELLOPHANE

Cellophane converters ordered to free prices. Oil Paint & Drug Rep 138:5+ S 9 '40

Cellophane cover slips and a method for mounting. I. Bucholtz. Science 92:436 N 8 '40

Cellophane seal keeps dust out of stretcher case. K. N. Banthin. diags Factory Management 98:49-50 Ap '40

Polarizing properties of cellophane. D. Middlehurst and R. Weller. R Sci Instr 11:108 Mr '40

Transparent packages for bits. il Iron Age 144:44 D 21 '39

X-ray studies of crystallite orientation in cellulose fibers; fiber structures from coagulated cellulose. W. A. Sisson. bibliog il diags J Phys Chem 44:513-29 Ap '40

CELLOSOLVE

3-Nitrophthalates of the mono ethers of ethylene and diethylene glycol. A. J. Veraguth and H. Diehl. Am Chem Soc J 62:233 Ja '40

Production of low temperatures; a simplified and inexpensive laboratory procedure. H. L. Wikoff, B. R. Cohen and M. I. Grossman. Ind & Eng Chem Anal ed 12:92-4 F 15 '40

Solid derivatives of monoalkyl ethers of ethylene glycol and diethylene glycol. J. F. Manning and J. P. Mason. Am Chem Soc J 62:3186-9 N '40

Solid derivatives of monoalkyl ethers of ethylene glycol and diethylene glycol. J. P. Mason and J. F. Manning. bibliog Am Chem Soc J 62:1635-40 Jl '40

CELLS

Apparently fundamental minimum lethal ion equivalent; abstract. A. Goetz. Science 91: 419-20 My 3 '40

Case against the cell theory. B. J. Luyet. Science 91:252-5 Mr 15 '40; Reply. J. P. Turner. 91:404-5 Ap 26 '40

Centriole in radiated tumor tissue. L. C. Fogg and S. Warren. bibliog Science 91: 528-9 My 31 '40

Heparin as an anticoagulant for permeability studies. F. R. Hunter, L. D. Stringer and H. D. Weiss. Science 91:579 Je 14 '40

Particulate components of normal and tumor cells. A. Claude. bibliog Science 91:77-8 Ja 19 '40

Practical model of the animal cell membranes. H. N. Holmes. J Phys Chem 43:1151-3 D '39

See also
Cancer
Chromatophores
Chromosomes
Embryology
Plant cells and tissues
Tissues

CELLS, Electric. See Electric batteries; Photoelectric cells; Storage batteries

CELLUFOAM corporation

Masonite corp. purchases Cellufoam plant. Paper Tr J 109:21 D 7 '39

CELLULOID

Marking rocks, minerals and fossils; celluloid dissolved in acetone protects labels. G. D. Hubbard. Science 90:624 D 29 '39

Visual stress analysis; use of polarized light and celluloid models. E. W. P. Smith. diag Steel 106:60+ Je 24 '40

See also
Pyralin

CELLULOSE

Absorption of substantive dyes by cellulose from solutions of very high dye and salt concentrations. S. M. Neale and W. A. Stringfellow. bibliog Soc Dyers & Col J 56:19-21 Ja '40; Abstract. Am Dyestuff Rep 29:281 My 27 '40

Absorption of the substantive dye, sky blue FF, by cotton cloth dyed with the vat dye, cibanone orange R. S. M. Neale and W. A. Stringfellow. bibliog Soc Dyers & Col J 56:21-3 Ja '40

Action of alkylene oxides on cellulose. L. G. Lawrie, R. J. W. Reynolds and D. Ward. bibliog il Soc Dyers & Col J 56:6-17 Ja '40; Abstract. Am Dyestuff Rep 29:331 Je 24 '40

Anselme Payen, discoverer of cellulose. J. D. Reid and E. C. Dryden. bibliog Textile Col 62:43-5 Ja '40

Arrangement of the cellulose crystallites in ray cells of white oak as determined by X-rays. S. T. Gross, G. L. Clark and G. J. Ritter. il Paper Tr J 109:37-8 D 7 '39

Bleaching of cellulose, with special reference to bast fibres. E. Butterworth. bibliog Soc Dyers & Col J 55:589-96 D '39; Discussion. E. Kornreich. 56:352-5; Reply. 355 Ag '40

Cellulose and its by-products. W. B. Campbell. Pulp & Pa of Can 40:741-4 D '39

Cellulose; new sources, new converting methods, new uses. A. C. Rogers. il Pulp & Pa of Can 41:607-8 Ag '40

Cellulose sheet swelling; effect of temperature and concentration of sodium hydroxide solutions. G. A. Richter and K. E. Glidden. bibliog il Ind & Eng Chem 32:480-6 Ap '40

CELLULOSE—*Continued*

Cellulose sheet swelling; effect of temperature, secondary reagents, and sheet physical properties on swelling in sodium hydroxide solutions. G. A. Richter and K. E. Glidden. il Ind & Eng Chem 32:1122-8 Ag '40

Chemical modification of cellulose, with some observations on the more recent developments in textile finishing processes. J. Craik and W. R. Davis. il Soc Dyers & Col J 55:597-606 D '39

Chemistry of lignin; the existence of a chemical bond between lignin and cellulose. A. J. Bailey. bibliog il Paper Tr J 110:29-34 Ja 4 '40

Chemistry of the viscose process. W. H. Hayford, jr. Rayon 21:685-7 N '40

Conception of cotton fiber structure upheld. H. R. Mauersberger. bibliog il Rayon 21: 413-15 Jl '40

Crystallite growth during carbonization. H. E. Blayden, H. L. Riley and A. Taylor. Am Chem Soc J 62:180-6 Ja '40

Diameter variation in cellulose fibrils. A. J. Bailey and R. M. Brown. bibliog il Ind & Eng Chem 32:57-63 Ja '40

Drying characteristics of regenerated cellulose cylinders. A. W. Hawkins and W. L. Beuschlein. bibliog Ind & Eng Chem 32: 944-6 Jl '40

Dyeing of cellulosic materials; a review of the physics and chemistry of the dyeing process. J. Boulton and T. H. Morton. il Soc Dyers & Col J 56:145-59 bibliog(67 references, p158-9) Ap '40; Abstract. Am Dyestuff Rep 29:502-4 S 30 '40

Eine einfache und rasch auszuführende methode zur quantitativen trennung von kunstfasern aus hydratcellulose und fasern aus nativer cellulose. Schwertassek. Angew Chemie 52:700-1 D 9 '39

Expanding horizon for cellulose. Pulp & Pa of Can 41:650+ S '40

Fluidity of cotton in dimethyl dibenzyl ammonium hydroxide; measure of cotton degradation. W. W. Russell and N. T. Woodberry. bibliog diag Ind & Eng Chem Anal ed 12:151-4 Mr 15 '40; Abstract. Textile Col 62:472-3 Jl '40

Formation of crystalline cellulose in plastids of living cells; abstract. W. K. Farr. Science 92:416 N 8 '40

Hydrogen bridging in cellulose as shown by infrared absorption spectra. J. W. Ellis and J. Bath. bibliog il Am Chem Soc J 62: 2859-61 O '40

Insulating paper in the telephone industry. J. M. Finch. bibliog il Ind & Eng Chem 32:1021-8 Ag '40

Intermicellar hole and tube system in fiber structure. H. Mark. il diags J Phys Chem 44:764-88 bibliog(118 references, p785-8) Je '40

Is chemical industry ready? wood cellulose. G. A. Richter. Ind & Eng Chem 32:1159-60 S '40

Mercerisation of various cellulose fibres. J. R. Katz and J. Seiberlich. bibliog Pulp & Pa of Can 41:337-40 Ap '40

Method for estimating the internal surface of cellulose by means of thallous ethylate. C. A. Harris and C. B. Purves. bibliog il diags Paper Tr J 110:29-33 F 8 '40

Der micellare aufbau der cellulose und ihrer derivate. O. Kratky. bibliog il diags Angew Chemie 53:153-62 Ap 13 '40; Abstract (Micellar structure of cellulose and its derivatives). Soc Dyers & Col J 56:370 Ag '40

Modification of cellulose by oxidation. G. F. Davidson. bibliog Soc Dyers & Col J 56: 58-63 F '40; Abstract. Am Dyestuff Rep 29: 379-80 Jl 22 '40

New interpretations of structural aspects of the paper sheet. G. E. Landt and S. A. Rulon. bibliog diags Paper Tr J 111:32-6 Jl 25 '40

Partly aromatic constitution of artificial carbohydrate coals; error of Fischer's and Bone's viewpoint as to origin of coal. E. Berl and W. Koerber. Ind & Eng Chem 32:676-7 My '40

Polysaccharides; the methylation of cellulose in air and in nitrogen. W. N. Haworth and others. Chem Soc J p1885-98 D '39

Polysaccharides; the methylation of cellulose in an inert atmosphere. W. N. Haworth, R. E. Montonna and S. Peat. Chem Soc J p1899-1901 D '39

Properties of the oxycelluloses formed in the early stages of the oxidation of cotton cellulose by periodic acid and metaperiodate. G. F. Davidson. bibliog Textile Inst J 31:T81-96 Jl '40

Purified wood cellulose. G. A. Richter. il Ind & Eng Chem 32:324-8 Mr '40

Rate of xanthation of soda cellulose; effect of bulk number. P. C. Scherer and L. C. Ikenberry. bibliog Rayon 21:529-30, 611-12 S-O '40

Regional government research on cotton linters, chemical cotton, cellulose, woodpulp, etc. Rayon 21:240-1, 347-8 Ap, Je '40

Relation of cation exchange to the acidic properties of cotton. A. M. Sookne and M. Harris. bibliog Am Dyestuff Rep 29:357-60, 383-6 Jl 22 '40; Same. J Research Nat Bur Stand 25:47-60 Jl '40

Solubility of beta-cellulose in aqueous solutions of inorganic and organic compounds. J. R. Katz and J. Seiberlich. Paper Tr J 110:37-8 F 15 '40

Structure of cellulose. W. H. Hayford, jr. bibliog Rayon 21:355-6, 416-17 Je-Jl '40

Structure of cellulose and other polymers related to simple sugars. W. N. Haworth. il diags Soc Dyers & Col J 56:49-58 F '40

Surface of cellulose and its dyeing properties; based on paper by Broda and Mark. F. G. Brown. Textile Col 62:739-40 N '40

Trend of progress in the cellulosic textile industry. H. A. Thomas. Chem & Ind 58:617-25 bibliog(76 references, p625) Jl 1 '39; Same. Rayon 20:639-40, 694-6; 21:23-5 N '39-Ja '40; Discussion. Chem & Ind 58:697-9 Jl 22 '39

X-ray investigations of carbohydrates. H. Mark. Chem R 26:169-86 bibliog(55 references, p185-6) Ap '40

X-ray studies of crystallite orientation in cellulose fibers; fiber structures from coagulated cellulose. W. A. Sisson. bibliog il diags J Phys Chem 44:513-29 Ap '40

X-ray studies regarding the structure and behavior of native cellulose membranes. W. A. Sisson. Chem R 26:187-201 bibliog (57 references, p200-1) Ap '40

Zellstoff und zellwolle, eine celluloseproblem. R. E. Dörr. Angew Chemie 53:13-17 Ja 6 '40

See also

Cotton
Ethyl cellulose
Hemicelluloses
Holocellulose
Hydrocellulose
Lignin
Mercerizing
Nitrocellulose
Oxycellulose
Paper
Rayon
Sulfite liquor
Viscose

Analysis

Analysis of the fibrous and carbohydrate constituents of feeding stuffs; the determination of cellulose. E. G. Hallsworth. bibliog Soc Chem Ind J 59:9-17 Ja '40

Determination of cellulose in fibrous agricultural wastes; a rapid method using monoethanolamine. J. D. Reid, G. H. Nelson and S. I. Aronovsky. bibliog diag Ind & Eng Chem Anal ed 12:255-9 My 15 '40

Determination of moisture in native and processed cellulose; titrimetric determination using Karl Fischer reagent. J. Mitchell, jr. bibliog Ind & Eng Chem Anal ed 12: 390-1 Jl 15 '40

Determination of uronic acids in cellulosic materials; based on estimation of amount of carbon dioxide evolved. R. L. Whistler, A. R. Martin and M. Harris. bibliog diag J Research Nat Bur Stand 24:13-23 Ja '40; Same. Am Dyestuff Rep 29:1-6 Ja 8 '40

Yield and viscosity of holocellulose and some of its cellulosic fractions. W. G. Van Beckum and G. J. Ritter. bibliog Paper Tr J 109:107-9 N 30 '39

CELLULOSE acetate
Apparatus for the study of the photochemistry of sheet materials. H. F. Launer. bibliog pls diags J Research Nat Bur Stand 24:567-77 My '40
Atmospheric (gas) fading of colored cellulose acetate. C. A. Seibert. bibliog il diags Am Dyestuff Rep 29:363-70; Discussion. 370-4 Jl 22 '40
Cellulose and its by-products. W. B. Campbell. Pulp & Pa of Can 40:743-4 D '39
Cellulose esters of dibasic organic acids. C. J. Malm and C. R. Fordyce. bibliog Ind & Eng Chem 32:405-8 Mr '40
Dolls; injection molded of cellulose acetate. il Mod Plastics 18:47 N '40
Plasticizers for cellulose acetate and cellulose acetate butyrate. C. R. Fordyce and L. W. A. Meyer. il Ind & Eng Chem 32:1053-60 Ag '40
Plastics and their uses in the automotive industry. G. M. Kline. S A E J 46:203-4 My '40
Plastics from cellulose acetate of higher acetylation. W. E. Gloor. il Mod Plastics 17:62-3 Ap '40
Polysaccharides; the methylation of cellulose in air and in nitrogen. W. N. Haworth and others. Chem Soc J p1885-98 D '39
Saponified cellulose acetate materials; rayon pile fabric on cotton back. Textile Col 62: 329-30 My '40
Some relations between molecular structure and plasticizing effect. A. Kirkpatrick. J Ap Phys 11:255-61 Ap '40
Spontaneous extension of cellulose acetate films. E. Freund and F. Deutsch. bibliog Rayon 21:280-3 My '40
Unesterified primary hydroxyls in acetone soluble cellulose acetate. F. B. Cramer and C. B Purves. bibliog Am Chem Soc J 61: 3458-62 D '39
Unesterified secondary hydroxyls in acetone soluble cellulose acetate. F. B. Cramer, R. C. Hockett and C. B. Purves. bibliog Am Chem Soc J 61:3463-4 D '39

See also
Lacquer and lacquering — Varnish and varnishing
Rayon

Manufacture
Strongest yarn; Celanese introduces tough fiber used in England. Business Week p40 S 21 '40

Statistics
Cellulose plastic products, 1936-1939. Survey of Cur Business 1940 Sup p96 [supplemented in monthly numbers]

CELLULOSE acetate butyrate
Airplane dopes; relation of tautening and weathering qualities to composition. F. W. Reinhart and G. M. Kline. bibliog il Ind & Eng Chem 32:184-93 F '40
Injection molded, 2-minute cycle; portable register, for United autographic register co. made of Tenite II. D. Szantay. il Mod Plastics 17:38+ Je '40
Plasticizers for cellulose acetate and cellulose acetate butyrate. C. R. Fordyce and L. W. A. Meyer. il Ind & Eng Chem 32:1053-60 Ag '40

CELLULOSE acetate propionate
Airplane dopes; relation of tautening and weathering qualities to composition. F. W. Reinhart and G. M. Kline. bibliog il Ind & Eng Chem 32:184-93 F '40

CELLULOSE esters
Airplane dopes; relation of tautening and weathering qualities to composition. F. W. Reinhart and G. M. Kline. bibliog il Ind & Eng Chem 32:184-93 F '40
Cellulose esters of dibasic organic acids. C. J. Malm and C. R. Fordyce. bibliog Ind & Eng Chem 32:405-8 Mr '40
Chemical modification of cellulose, with some observations on the more recent developments in textile finishing processes. J. Craik and W. R. Davis. il Soc Dyers & Col J 55: 597-606 D '39
Ethers, mixed esters and high acetyl esters of cellulose in the plastics industry; abstract. E. Couzens. Chem & Ind 58:1083-4 D 16 '39
Film-forming plastics; effect of solvents, diluents, and plasticizers on properties of films formed from airplane dopes. F. W. Reinhart and G. M. Kline. bibliog Ind & Eng Chem 31:1522-9 D '39
Plastics progress during 1939; cellulose esters. H. K. Haviland. bibliog il Mod Plastics 17: 45-6 Ja '40

Analysis
Methods for the analysis of cellulose derivatives; determination of total combined acyl in cellulose organic esters; abstract. L. B. Genung and R. C. Mallatt. Am Dyestuff Rep 29:491 S 30 '40

CELLULOSE ethers
Cellulose ether finishes for textiles. J. A. Clark. Am Dyestuff Rep 29:549-50 O 14 '40
Cellulose ether finishes on cotton fabrics improved by application of urea-formaldehyde resins. Textile Col 62:617 S '40
Chemical modification of cellulose, with some observations on the more recent developments in textile finishing processes. J. Craik and W. R. Davis. il Soc Dyers & Col J 55:597-606 D '39
Ethers, mixed esters and high acetyl esters of cellulose in the plastics industry; abstract. E. Couzens. Chem & Ind 58:1083-4 D 16 '39
New sheeting finish with alkali-soluble cellulose ethers is permanent after repeated launderings; Ceglin. M. A. Golrick, jr. flow chart. il diag Textile World 90:55-7 Mr '40
Plastics progress during 1939; cellulose ethers. S. L. Bass and A. E. Young. bibliog il Mod Plastics 17:46-8 Ja '40

See also
Ethyl cellulose

CELLULOSE nitrate. See Nitrocellulose

CELLULOSE xanthate
Rate of xanthation of soda cellulose; effect of bulk number. P. C. Scherer and L. C. Ikenberry. bibliog Rayon 21:529-30 S '40

CELOTEX
Celotex finds a way to demonstrate savings achieved by insulation. G. D. Andrews. il Sales Management 46:25-6+ F 1 '40
These salesmen use blocks in third dimension insulation selling. il Ptr Ink 190:23-4 F 9 '40

CELOTEX corporation
Celotex corp. faces charges of violation of section 7 of the Clayton act. Paper Tr J 109:66 N 30 '39

CEMENT
American railway engineering association: report on masonry; varieties of portland cement. Concrete 48:8 Ap '40
Annual meeting of A.S.T.M. adopts new standards. Concrete 48:8 Ag '40
Artificial pozzolanas found fully equal to natural products. Concrete (mill sec) 48:156-7 Ap '40
Atoyac places third special on Mexican market: Caloyac made from black earth. A. J. Blank. il Concrete (mill sec) 48:253-5 O '40
Cement and concrete are not what they used to be. R. E. Davis. il Min & Met 20:537-41 D '39
Cement-latex mixtures; their composition and applications. H. J. Stern. bibliog India Rubber W 102:37-40 My '40
Cement takes spotlight at Industrial minerals meeting. P. H. Delano. Rock Prod 42:56 D '39
Comparison of the physical and mechanical properties of hand rodded and vibrated concrete made with different cements. G. W. Washa. bibliog Am Concrete Inst J 11:617-45 Je '40; Discussion. 12:sup648[1]-648[8] S '40
Concrete technology. M. N. Clair. Boston Soc C E J 27:187-94 Jl '40
La fabrication des ciments portland très siliceux dans l'U.R.S.S. il Génie Civil 116: 235-6 Ap 6 '40

CEMENT—*Continued*

Fineness and water-cement ratio in relation to volume and permeability of cement; abstract. J. R. Coleman and G. L. Corrigan. Oil & Gas J 39:64+ O 31 '40

How cement mortar is removed from pallets. Concrete 48:20 Je '40

Influence of cement and aggregate on concrete expansion; destructive action between alkali, chert and shale. T. E. Stanton, jr. il Eng N 124:171-3 F 1 '40

Laboratory studies of asphalt cements. F. C. Lang and T. W. Thomas. il diags Univ of Minnesota Eng Exp Sta Bul 15:1-92 '39 (50c)

Lean concrete mixes; a study of the effect of cement content, fineness on compressivo strength, durability and volume changes of concrete. E. Gruenwald. Am Soc T M Proc 39:810-40; Discussion. 841-50 bibliog(p850) '39

Louisiana tries low heat cement for piers and roadway slab of the Baton Rouge bridge. H. L. Lehman and E. L. Erickson. il Eng N 125:353-4 S 12 '40

Masonry, natural and blended cements discussed by engineers. Concrete (mill sec) 48:207-8 Jl '40

New oil-well and aluminous cements developed. Concrete (mill sec) 47:280 D '39

Particle size distribution of portland cement and what it means. F. O. Anderegg. Rock Prod 43:52-4 S '40

Portland cement in glass batch briquets. R. L. Shute and A. E. Badger. Glass Ind 21:28 Ja '40

Portland cement; theories (proven and otherwise) and specifications. P. H. Bates. Rock Prod 43:75-7 Ag '40

Rebuilding stacks; heat-resistant cement applied with gun to corroded steel stacks. il Steel 105:64-5+ D 18 '39

Slag and gypsum cements. F. O. Anderegg. Rock Prod 43:52 Mr '40

System calcium oxide—silica—water at 30°; the association of silicate ion in dilute alkaline solution. P. S. Roller and G. Ervin, jr. bibliog Am Chem Soc J 62:461-71 Mr '40

See also

Cements
Concrete
Grouting
Gunite
Mortar

Alumina cement

A.R.E.A. reports on calcium-aluminate cement. Concrete (mill sec) 48:194 Je '40

Effect of temperature on high-alumina cement. F. M. Lea. Soc Chem Ind 59:18-21 Ja '40

New oil-well and aluminous cements developed. Concrete (mill sec) 47:280 D '39

Use of refractories in melting copper and copper alloys in an Ajax-Wyatt induction furnace. S. H. Booth. Am Cer Soc Bul 19: 171-2 My '40

Analysis

Determination of silica and R_2O_3 in portland cement. L. R. Dawson and R. V. Andes. bibliog Ind & Eng Chem Anal ed 12:138-9 Mr 15 '40

Determination of sodium and potassium in cements. L. G. Carmick. Pub Roads 21:79-81 Je '40; Same. Concrete (mill sec) 48: 224-5 Ag '40

Nature of the glass in portland cement clinker. H. Insley. bibliog pls J Research Nat Bur Stand 25:295-300 S '40; Excerpts. Concrete (mill sec) 48:270+ N '40

Oxides extracted in Merriman's test of portland cement. E. P. Flint and P. H. Bates. Rock Prod 43:46-7 O '40

Quicker chemical analysis of portland cements; A.S.T.M. report. Concrete (mill sec) 48:176 My '40

Expansion and contraction

Autoclave anomalies. Rock Prod 43:79 Ag '40

Expansions in the autoclave caused by magnesia. H. H. Vaughan. Rock Prod 43: 48-50 Ap '40

Fineness

Colloidal carbon as a grinding aid in portland cement manufacture. C. W. Sweitzer and A. E. Craig. il Ind & Eng Chem 32:751-6 Je '40

Lean concrete mixes; a study of the effect of cement content, fineness on compressive strength, durability and volume change of concrete. E. Gruenwald. Am Soc T M Proc 39:810-40; Discussion. 841-50 bibliog(p850) '39

Specific surface and particle size distribution of finely divided materials; with data on use of photelometer. M. N. States. il diags Am Soc T M Proc 39:795-807; Discussion. 808-9 '39

Magnesia cement

Über eigenartige magnesiazemente mit hydroxydgelen. A. C. Vournazos. il Angew Chemie 53:136-8 Mr 30 '40

Manufacture

Add secondary advantages to fuel savings by recovering clinker heat. il diag Concrete (mill sec) 48:198-9+ Jl '40

Can portland cement be improved? P. H. Bates. Eng N 125:107-8 Jl 18 '40

Carbon black aids cement grinding. Oil Paint & Drug Rep 138:5 Jl 8 '40; Same. Concrete (mill sec) 48:219 Ag '40; Same abr. Sci Am 163:208 O '40

Colloidal carbon as a grinding aid in portland cement manufacture. C. W. Sweitzer and A. E. Craig. il Ind & Eng Chem 32: 751-6 Je '40

Developments and trends in cement. N. C. Rockwood. Rock Prod 43:35+ Ja '40

Flotation as applied to modern cement manufacture. G. K. Engelhart. flow sheet bibliog il Ind & Eng Chem 32:645-51 My '40

Flotation process draws lively interest of cement industry. il Concrete (mill sec) 48: 102-3 Ja '40

Fluxes and their influence on burning clinker. S. Gottlieb. bibliog Rock Prod 43:46-8 My; 49-51 Je; 41-2+ Jl '40

Froth flotation as applied to modern cement manufacture. G. K. Engelhart. Concrete (mill sec) 48:123 F '40

Grinding, for high surface; Nazareth cement co. B. Nordberg. il plan Rock Prod 43: 22-4 Je '40

How slurry filters solved a big problem in wet-process manufacture. il Concrete (mill sec) 48:182-3 Je '40

How to improve grinding. C. D. Rugen, J. A. Kivert and R. E. Boehler. il Rock Prod 43:33-4+ Mr; 31-2 Ap; 35-7 My '40

Iron oxide vs. alumina as a fluxing agent. A. J. Blank. Rock Prod 43:47-50 N '40

Keep up with demands for special cements; Calaveras cement co. B. Nordberg. flow sheet il Rock Prod 43:24-7 Ag '40

Kiln and mill controls to make seven cements; Yosemite portland cement co. B. Nordberg. il diag Rock Prod 42:26-8 D '39

Making white cement; Carneva portland cement co. il Rock Prod 43:55+ F '40

Mechanization in the cement industry. G. Perazich, S. T. Woal and H. Schimmel. 113p Work projects administration, Washington D.C. '39

Present-day control of burning process approaches perfection. il Concrete (mill sec) 48:262-3 N '40

Reducing the required water in slurry. Concrete (mill sec) 48:155 Ap '40

Sampling cement materials. N. C. Rockwood. flow sheet diags Rock Prod 43:47-8, 51+ Ag '40

Sampling devices for processing portland cement. N. C. Rockwood and B. Nordberg. il diags Rock Prod 43:39-40 O '40

Slurry screens reduce grinding cost. A. E. Reed. il diags Rock Prod 43:61-2 Ag '40

See also

Cement kilns
Cement plants

Prices

Price policies of the cement and allied industries. N. C. Rockwood. Min & Met 21:425-7 S '40

CEMENT—Prices—*Continued*
Record low bids posted for cement. Eng N 124:411 Mr 21 '40
Wholesale price of portland cement, yearly, 1926-1939; monthly, 1933-1939. Survey of Cur Business 20:18 Ap '40

Specifications

Five types of cement; American society for testing materials also writes into standard specifications the autoclave test. Rock Prod 43:35+ Ag '40; Excerpt. Eng N 125:105 Jl 18 '40
Pennsylvania Turnpike; specifications for aggregates and cement. il Rock Prod 43: 39-42+ S '40
Sampling clinker and cement to meet the New York state specifications. N. C. Rockwood and B. Nordberg. il diags Rock Prod 43:39-41 N '40

Standards

A.S.T.M. standards on cement; specifications, chemical analysis, physical tests, prepared by Committee C-1 on cement. 99p bibliog(p63-76) pa $1 Am. soc. for testing materials, 260 S. Broad st, Philadelphia '39

Testing

Action of alkalis on blast-furnace slag. A. O. Purdon. Soc Chem Ind J 59:191-202 S '40
Five types of cement; American society for testing materials also writes into standard specifications the autoclave test. Rock Prod 43:35+ Ag '40
How dairy wastes affect cement mortar. F. M. Lea and G. E. Bessey. Concrete 48:41-2 Ap '40
L'influence de la qualité des ciments et de la répartition des armatures dans la fissuration du béton armé. diags Génie Civil 116:47-9 Ja 20 '40
Proposed method of test for volume change. diags Concrete (mill sec) 48:203-4 Jl '40
Statistical analysis of compression tests on mortar cylinders, cubes and prisms. H. W. Leavitt and H. A. Pratt. bibliog Am Soc T M Proc 39:851-8; Discussion. 859 '39
Sulfate-resistance of commercial cements. P. W. Manson. Concrete (mill sec) 48:171-3 My '40
Testing the solubility of cements; performance in concrete under water pressure on one side only. Concrete (mill sec) 48:251-2 O '40
Thermal coefficient of expansion of portland cement; long-time tests. S. L. Meyers. bibliog Ind & Eng Chem 32:1107-12 Ag '40
Year's work of committee on cement; American society for testing materials. Concrete (mill sec) 48:209 Jl '40

Transportation

Baltimore & Ohio builds wagon-top hopper cars. il Ry Age 108:1063-4 Je 15 '40
Bulk cement carriers. il Rock Prod 43:30 Je '40
Lehigh Valley converts hopper cars for cement. il Ry Mech Eng 114:318-21 Ag '40
Special handling of bulk cement on Michigan job. il Roads & Sts 82:76 N '39
Standard bags for ocean shipments of cement. Concrete (mill sec) 48:269+ N '40

CEMENT, Effect of mine water on
Tests on the effect of acid mine waters on various cements. R. D. Leitch and J. G. Calverley. pls U S Bur Mines Rep of Invest 3487:1-7 '40; Same cond. Eng & Min J 141: 117-18 Mr '40; Excerpts. Concrete 48:41-2 My '40; Conclusions. Can Min J 61:155 Mr '40

CEMENT, Effect of sulfates on
Performance of portland-pozzolan cements in concrete work. Concrete (mill sec) 48:178 My '40
Sulfate-resistance of commercial cements. P. W. Manson. Concrete (mill sec) 48:171-3 My '40
Sulfate resisting cement. D. G. Miller. Rock Prod 43:78-9 Ag '40

CEMENT, Refractory
Mechanism of the hardening of clay-sodium-silicate mixtures. W. R. Morgan, W. L. Peskin and S. J. Kronman. Am Cer Soc J 23:170-3 Je '40
Refractory cements. A. B. Wilson. Pulp & Pa of Can 41:702+ S '40
Use of refractories in melting copper and copper alloys in an Ajax-Wyatt induction furnace. S. H. Booth. Am Cer Soc Bul 19: 171-2 My '40

CEMENT bags
New type of bag closure. R. B. Fortuin. il diags Rock Prod 43:75-6 O '40
Standard bags for ocean shipments of cement. Concrete (mill sec) 48:269+ N '40

CEMENT clinkers
Add secondary advantages to fuel savings by recovering clinker heat. il diag Concrete (mill sec) 48:198-9+ Jl '40
Clinker cooling, no mystery. A. W. Catlin. Rock Prod 43:31-2 F '40
Clinker heat recovery. il diag Rock Prod 43: 38 Ja '40
Colloidal carbon as a grinding aid in portland cement manufacture. C. W. Sweitzer and A. E. Craig. il Ind & Eng Chem 32: 751-6 Je '40
Fluxes and their influence on burning clinker. S. Gottlieb. bibliog Rock Prod 43:46-8 My; 49-51 Je; 41-2+ Jl '40
How to improve grinding. C. D. Rugen, J. A. Kivert and R. E. Boehler. il Rock Prod 43:33-4+ Mr; 31-2 Ap; 35-7 My '40
Present-day control of burning process approaches perfection. il Concrete (mill sec) 48:262-3 N '40
Sampling clinker and cement to meet the New York state specifications. N. C. Rockwood and B. Nordberg. il diags Rock Prod 43:39-41 N '40

Glass content

Comparing crystalline and glassy cements; abstract. T. W. Parker. Concrete (mill sec) 48:129 F '40
Nature of the glass in portland cement clinker. H. Insley. bibliog pls J Research Nat Bur Stand 25:295-300 S '40; Excerpts. Concrete (mill sec) 48:270+ N '40

CEMENT dust
Cement does not cause silicosis. L. U. Gardner and others. Eng N 125:148 Ag 1 '40
Dust collecting becomes a major problem in engineering. il Concrete (mill sec) 48:230-1+ S '40
Good housekeeping standards of atmospheric dusts. il Concrete (mill sec) 48:236-8 S '40
Guarding against rheumatism, and care for eyes and ears. Concrete (mill sec) 47:275 D '39
Make profitable use of dust; new applications found for dust collectors in cement mills. R. S. Torgerson. il diag Rock Prod 43:55, 57+ Ag '40
Microscopic method for portland cement in dust samples. I. A. Pearl. il Ind & Eng Chem Anal ed 12:492-3 Ag 15 '40
Prevention of silicosis; experimental investigations on the action of certain non-siliceous dusts and silica in the origin and development of silicosis. C. Naeslund. J Ind Hygiene 22:1-30 bibliog(p28-30) Ja '40

CEMENT handling
See also
Screening

CEMENT industry and trade

Advertising

Display your products, and why not? cement samples and advertising material for schools and colleges. E. Zetterberg. Concrete (mill sec) 48:205 Jl '40

Finance

Building trend favors cement; leading companies' earnings. P. Porzelt. Barron's 19:9 N 27 '39
SEC issues 1939 supplement for cement manufacturers. Comm & Fin Chr 151:1507 S 14 '40

CEMENT industry and trade—*Continued*

History

Fifty years of progress by Universal Atlas. il Concrete (mill sec) 47:276 D '39
Pioneer but little-known cement mill at Rockland, Maine. C. H. Sonntag. il plan Concrete (mill sec) 48:118-21+ F '40

Statistics

Annual volume of production of special cements. E. V. Balser and P. M. Tyler. Concrete (mill sec) 48:274 N '40
Cement production, revision; monthly, 1923-June, 1940. Fed Res Bul 26:837 Ag '40
December production and shipments of portland cement. Comm & Fin Chr 150:609-10 Ja 27 '40 [cont monthly]
Full year's accomplishment in cement industry. Concrete (mill sec) 48:257 O '40
Masonry, natural and pozzolan cement production; abstract. E. V. Balser and P. M. Tyler. Concrete (mill sec) 48:227 Ag '40
Observe no upward trend in special cements, 1936-1938. O. Bowles and E. V. Balser. Concrete (mill sec) 47:277+ D '39
Portland cement, 1936-1939. Survey of Cur Business 1940 Sup p150 [supplemented in monthly numbers]
World production of portland cement, 1934-38. Concrete (mill sec) 47:281 D '39

Great Britain

Associated portland cement manufacturers 41st ordinary general meeting, London. Economist 138:655 Ap 6 '40
Reduced cement profits; Associated portland cement and British portland cement experience, 1938 and 1939. Economist 138: 431, 582 Mr 9, 30 '40

Latin America

Cement industry of Latin America. O. Bowles and R. B. Miller. bibliog map U S Bur Mines Information Circ 7102:1-38 '40; Excerpt. Concrete (mill sec) 48:160-1 Ap '40

United States

Gains and trends in cement manufacture in 1939. Concrete (mill sec) 48:122 F '40

CEMENT kilns

Improvised kiln feeders. il Rock Prod 43:99 Ja '40
Modern rotary kiln and its auxiliary equipment. il diags Concrete (mill sec) 48:134-5, 150-1 Mr-Ap '40
Present-day control of burning process approaches perfection. il Concrete (mill sec) 48:262-3 N '40

See also
Cement plants

Firing

More efficient kiln firing; Nazareth cement co. il diags Rock Prod 43:43, 45+ Ag '40
Reasons for direct firing explained; abstract. R. M. Hardgrove. Concrete (mill sec) 48: 227 Ag '40

Lining

Finds magnesia bricks as kiln linings have their disadvantages. S. Gottlieb. Concrete (mill sec) 48:158+ Ap '40
Magnesia brick linings permit use of high temperatures. F. Kremer. Concrete (mill sec) 48:106-7 Ja '40
Use of magnesite in kiln linings. A. W. Comber. Concrete (mill sec) 48:268+ N '40

CEMENT lined pipe

American standard specifications for cement mortar lining for cast iron pipe and fittings. Am Water Works Assn J 31:sup ASA A21.4 p 1-7 D '39
Lining cast-iron mains in position with cement mortar. J. E. Gibson. il Am Water Works Assn J 32:819-37 My '40; Same. Water Works & Sewerage 87:223-30 My '40
Lining large steel water pipe with portland cement mortar. il Pub Works 71:22 O '40
Lining pipes in place; abstract. B. Harkness. Water Works & Sewerage 87:22 Ja '40
Rehabilitation of force mains at Akron, Ohio. W. R. LaDue. il diags map Water Works & Sewerage 87:469-74 O '40
Tentative standard, American water works association; specification for cement-mortar protective coating for steel water pipe of sizes 30 inches and over. Am Water Works Assn J 32:sup7A.7 p 1-18 Ja '40
Wichita makes cast-iron water line history. il map Eng N 125:214-18 Ag 15 '40

CEMENT lining

Chemical resistance of sulphur cements. C. R. Payne and W. W. Duecker. bibliog il Am Inst Chem Eng Trans 36:91-105 F '40; Same. Chem & Met Eng 46:766-70 D '39

CEMENT plants

Good housekeeping standards of atmospheric dusts. il Concrete (mill sec) 58:236-8 S '40
Gulf Portland's plant sold to Boettcher group. il Concrete (mill sec) 48:200 Jl '40
Marquette buys Hawkeye's Des Moines plant. Concrete (mill sec) 48:248 O '40
Pioneer but little-known cement mill at Rockland, Maine. C. H. Sonntag. il plan Concrete (mill sec) 48:118-21+ F '40
Progress at Permanente. il Rock Prod 43:43 Ja '40
Small pioneer cement plant made history in Ohio; Art portland cement plant. Concrete (mill sec) 48:170 My '40

See also
Cement—Manufacture
Cement kilns

Accidents

Analysis of cement and quarry accident experience. I. F. Legore. Concrete (mill sec) 48:126-7 F '40
Analysis of cement and quarry industry's accident experience. I. F. LeGore. il Concrete (mill sec) 48:264-5, 283-5 N-D '40
Excellent record chalked up in no-accident campaign. Concrete (mill sec) 48:220 Ag '40

Costs

Elements of cost in a barrel of portland cement; with graphs. N. C. Rockwood. Rock Prod 43:20-1 Ja '40

Electric equipment

Electric drive of an Indian ropeway; Bhupendra cement works. il Engineer 170:104-5 Ag 16 '40
Electric equipment plays big part in cement manufacture; quarry operations, rock haulage, crushing, handling and grinding. il Concrete (mill sec) 48:214-15 Ag '40

Employees

Cement does not cause silicosis. L. U. Gardner and others. Eng N 125:148 Ag 1 '40
Decision on prevailing minimum wages. Concrete (mill sec) 48:140 Mr '40
Guarding against rheumatism, and care for eyes and ears. Concrete (mill sec) 47:275 D '39
Health in the cement industry. A. J. R. Curtis. il Rock Prod 42:35-6+ N; 37-8 D '39; 43:49-50 Mr '40
Sick absenteeism; how reported in the cement industry. A. J. R. Curtis. Concrete (mill sec) 48:221-2 Ag '40
Wage determination for cement industry. Monthly Labor R 50:695-6 Mr '40

Equipment

Convert rock dryers from gas to coal; Dewey portland cement co. il plan Rock Prod 43: 33-4 Je '40
Cooling cement and clinker. il Rock Prod 43: 40-1 Ja '40
Crushing and grinding operations must be watched. il Concrete (mill sec) 48:246-7 O '40
Crushing operations get much attention in cement manufacture. il Concrete (mill sec) 48:166-7 My '40
Dust collecting becomes a major problem in engineering. il Concrete (mill sec) 48: 230-1+ S '40
Dust collection; standard round filter in cement bagging plant. diags Mech Handling 27:113-15 My '40

CEMENT plants—Equipment—*Continued*
Fabricated-steel cement-grinding tube mill. il diags Engineering 148:681-2, pl 26 D 22 '39
Giant's new direct-firing coal mills. il diag Rock Prod 43:36-7 Ja '40
Grinding, for high surface; Nazareth cement co. B. Nordberg. il plan Rock Prod 43:22-4 Je '40
How slurry filters solved a big problem in wet-process manufacture. il Concrete (mill sec) 48:182-3 Je '40
Keep up with demands for special cements; Calaveras cement co. B. Nordberg. flow sheet il Rock Prod 43:24-7 Ag '40
Kiln and mill controls to make seven cements; Yosemite portland cement co. B. Nordberg. il diag Rock Prod 42:26-8 D '39
Köping ropeway. il Engineer 170:39-41 Jl 19 '40
Measuring dust collector performance. G. L. Kirp and R. B. Foley. flow diag il Rock Prod 43:41-3+ Ap '40
Mechanization in the cement industry. G. Perazich, S. T. Woal and H. Schimmel. 113p Work projects administration, Washington, D.C. '39; Review. Monthly Labor R 51:47-50 Jl '40
More efficient kiln firing; Nazareth cement co. il diags Rock Prod 43:43, 45+ Ag '40
New dust collectors at Petoskey. il Rock Prod 43:46 Ja '40
Private power supply; Rugby portland cement co. il Elec R (Lond) 125:807-9 D 29 '39
Proportioning raw materials; continuous weighing and batch type devices. N. C. Rockwood. il diags Rock Prod 43:36-9+ Ag '40
Recent developments in dust collection; illustrations. Rock Prod 43:44-5 Ja '40
Sampling clinker and cement to meet the New York state specifications. N. C. Rockwood and B. Nordberg. il diags Rock Prod 43:39-41 N '40
Small cyclonic collectors for stack dust; Peerless cement corp. plant. B. Nordberg. il plan Rock Prod 43:31-2 Jl '40
Spend million, triple capacity; Cebu portland cement co. E. Taylor. il plan Rock Prod 43:24-6 F '40
Tube mill for cement grinding. il diags Engineer 169:136, 140-1 F 9 '40

See also
Cement kilns
Cement sampling

Fires and fire protection
Preventing fires in plants. A. J. R. Curtis. Rock Prod 43:38-40 My; 31-2 S '40

Fuel
Convert rock dryers from gas to coal; Dewey portland cement co. il plan Rock Prod 43: 33-4 Je '40

Management
Protection of lubrication in the cement mill. A. F. Brewer. il Rock Prod 43:64, 66 Ag '40
Sampling cement materials. N. C. Rockwood. flow sheet diags Rock Prod 43:47-8, 51+ Ag '40
Storage bin problem is vital; sampling methods. W. C. Hanna. Rock Prod 43:29-30 Ag '40

Power
Private power supply; Rugby portland cement co. il Elec R (Lond) 125:807-8 D 29 '39

Safety devices and measures
Prenez garde! is the plant's motto; Canada cement company. J. H. G. Dempster. Nat Safety N 42:56 S '40
Safety congress holds big gathering in Chicago; Cement and quarry section. Concrete (mill sec) 48:278 N '40
Talk shop at Safety congress; Cement and quarry section. Rock Prod 43:42-3 N '40
Twenty-one safety conferences in first half of 1940 by cement plant safety leaders. Concrete (mill sec) 48:242 S '40
Works safety jottings; precautions with acids and alkalies. J. Creevey. Chem Age (Lond) 43:134 S 21 '40

CEMENT research
Action of alkalis on blast-furnace slag. A. O. Purdon. Soc Chem Ind J 59:191-202 S '40
Bleeding of portland cement paste, mortar and concrete, treated as a special case of sedimentation. T. C. Powers. 160p bibliog(p156-60) gratis Research laboratory of the Portland cement assn, Chicago '39
Cement research in pozzolana cements in the U.S.S.R; abstract. Am Concrete Inst J 11:702-3 Je '40
Comparing crystalline and glassy cements; abstract. T. W. Parker. Concrete (mill sec) 48:129 F '40
Experimental data in connection with chloride salts-resistant concrete pavement. C. C. Ahles. Explosives Eng 18:267-71 S '40
La fabrication des ciments portland très siliceux dans l'U.R.S.S. il Génie Civil 116: 235-6 Ap 6 '40
How dairy wastes affect cement mortar. F. M. Lea and G. E. Bessey. Concrete 48:41-2 Ap '40
Pavement scaling successfully checked; fish oil stearate and Vinsol resin as chloride resistors. O. L. Moore. il Eng N 125:471-4 O 10 '40
Thermal coefficient of expansion of portland cement; long-time tests. S. L. Meyers. bibliog Ind & Eng Chem 32:1107-12 Ag '40

CEMENT sampling
Cement executives give views on bin problem. N. C. Rockwood. il Rock Prod 43:29-30 S '40
Sampling cement materials. N. C. Rockwood. flow sheet diags Rock Prod 43:47-8, 51+ Ag '40
Sampling clinker and cement to meet the New York state specifications. N. C. Rockwood and B. Nordberg. il diags Rock Prod 43:39-41 N '40
Sampling devices for processing portland cement. N. C. Rockwood and B. Nordberg. il diags Rock Prod 43:39-40 O '40
Storage bin problem is vital; sampling methods. W. C. Hanna. Rock Prod 43:29-30 Ag '40

CEMENT-SAND molds. See Molds (for casting)—Cement-sand molds

CEMENT storage
Cement executives give views on bin problem. N. C. Rockwood. il Rock Prod 43:29-30 S '40
Storage bin problem is vital; sampling methods. W. C. Hanna. Rock Prod 43:29-30 Ag '40

CEMENT workers
See also
Cement plants—Employees

CEMENTING
See also
Petroleum—Well cementing

CEMENTS
Adhesives and cements for metals; abstract. Metals & Alloys 12:558 O '40
Chemical resistance of sulphur cements. C. R. Payne and W. W. Duecker. bibliog il Am Inst Chem Eng Trans 36:91-110 F '40; Same. Chem & Met Eng 46:766-70; 47:20-1 D '39-Ja '40; Discussion. Am Inst Chem Eng Trans 36:111 F '40
Non-corrosive, non-metallic materials; brick and cements. il Rayon 21:373-4 Je '40

See also
Adhesives
Cement
Glue
Rubber cement

CEMETERIES
Cemetery liability insurance to be made attractive; abstracts. E. W. Sawyer. East Underw 41:30 Jl 26 '40; Nat Underw 44: 14+ Jl 18 '40

CEMETERIES—*Continued*
Real estate acquisitions for metropolitan Boston's water supply in the Swift River and Ware River watersheds; cemetery removals and Quabbin park cemetery. J. A. Christenson. il N E Water Works Assn J 54:229-39 Je '40

CENCO impulse counter
Modified Cenco impulse counter. A. A. Petrauskas and D. L. Northrup. il diag R Sci Instr 11:298 S '40

CENSORSHIP
Censor marches on; recent milestones in the administration of the obscenity law in the United States. M. L. Ernst and A. Lindey. 346p $2.50 Doubleday '40
Censorship of papers and articles in scientific and technical journals. J. Pickett. Chem & Ind 59:215 Mr 30 '40
See also
Freedom of the press

CENSUS
Census, past and future. H. L. Dunn. Am Statis Assn J 35:242-51 pt 2 Mr '40

United States
Avoiding census jitters. W. L. Bailey. J Land & Pub Util Econ 16:349-51 Ag '40
Census includes safety data. Safety Eng 79: 14 Je '40
Census Q. and A.; five queries discussed. V. D. Reed. il Ptr Ink 190:17-19 F 2 '40
Census to yield complete data on steel, consuming industries. Iron Age 144:58-9 N 30 '39
From tubs to radios; first U.S. housing census will uncover valuable marketing data. V. D. Reed. Ptr Ink 191:40 Ap 5 '40
Housing census includes questions on domestic gas consumption. A. W. von Struve. Am Gas J 152:25-6 Mr '40
Method for marshalling census data. D. C. Whittinghill. il Adv & Sell 33:25-7+ S '40
New inquiries for the census of 1940. M. J. Proudfoot. J Land & Pub Util Econ 16: 102-4 F '40
1940 census will be real marketing aid. V. D. Reed. Ptr Ink 190:23-4+ Ja 5 '40
1940 census will tell plenty about people who make this country's markets. V. D. Reed. Ptr Ink 190:21-2 Mr 15 '40; Correction. 190: 18 Mr 22 '40
Plans for vital statistics in 1940. H. L. Dunn. Am Statis Assn J 35:86-92 Mr '40
Sizing up the census. il Business Week p16 Mr 9 '40
Survey of U.S. housing to accompany population census. Arch Rec 87:10+ Mr '40
U.S. censuses, past and present. Special Lib 31:14 Ja '40
Uses of the census of business. P. T. Cherington. Am Statis Assn J 35:107-15 Mr '40
What marketers will get from the new census. V. D. Reed. Sales Management 46: 48, 50-1 Ja 15 '40
What will the census be worth? S. H. Frederick. Barron's 20:3 Ap 1 '40; Reply. V. D. Reed. 20:20 Jl 1 '40

CENTER of gravity. See Center of mass

CENTER of mass
Determination of the center of gravity of the beam of a chemical balance. H. V. Moyer. J Chem Educ 17:540 N '40

CENTERING (arches). See Arches, Concrete—Centering

CENTERING (machine work)
Centering arbor for facing flanges of cast-iron fittings. M. H. Ball. diag Mach 46:117 Ag '40
Centering device. F. Doughty. diags Am Mach 83:1044 D 18 '39
Frew shell-centering machine. il Mach 47:158-9 S '40

CENTRAL AMERICA
See also
Air lines—Central America

Commerce
Markets in Central America. Engineering 150: 294-5 O 11 '40

Economic conditions
Business situation, 1939. Comm Rep p4-5 Ja 6 '40

CENTRAL and south west utilities company
Annual report. Comm & Fin Chr 150:2715-16 Ap 27 '40
Consolidation plan. Comm & Fin Chr 150: 1131 F 17 '40

CENTRAL electric and telephone company
Securities offered. Comm & Fin Chr 150:2086 Mr 30 '40

CENTRAL Kansas power company
To sell preferred stock. Comm & Fin Chr 151:2637 N 2 '40

CENTRAL Maine power company
Sale of bonds and stock. Comm & Fin Chr 149:3549 D 2 '39
Securities offered. Comm & Fin Chr 151:2346-7 O 19 '40

CENTRAL mining and investment corporation
Ordinary general meeting, 35th, London. Economist 138:912 My 18 '40

CENTRAL motor freight association of Chicago
Truckers get bail card; Illinois haulers find way to avoid delays. Business Week p30 Ag 24 '40

CENTRAL newspapers, inc.
Bonds offered to residents of Indiana. Comm & Fin Chr 151:2347 O 19 '40

CENTRAL of Georgia railway
Traffic statistics and income account for years 1936-39. Comm & Fin Chr 150:2871 My 4 '40

CENTRAL railroad of New Jersey
Traffic statistics and operating account for years 1936-39. Comm & Fin Chr 150:2871-2 My 4 '40

CENTRAL states electric company
$2,250,000 bonds offered. Comm & Fin Chr 149:4168-9 D 30 '39

CENTRAL states sewage works association
Annual meeting, 12th, Chicago, Oct. 12-13. Water Works & Sewerage 86:492-500 D '39

CENTRAL statistical board. See United States—Central statistical board

CENTRAL transit equipment association
Annual meeting, Cleveland, May 23. Mass Transportation 36:129 Je '40
Fall meeting, Toledo. Mass Transportation 35:341-2 N '39

CENTRAL Valley project. See Electricity supply—California; Irrigation—California

CENTRAL Wisconsin gas company
Bonds offered. Comm & Fin Chr 151:2489 O 26 '40

CENTRIFUGAL casting. See Casting, Centrifugal

CENTRIFUGAL pipe corporation
To reduce capital, etc. Comm & Fin Chr 149:3549-50 D 2 '39

CENTRIFUGAL pumps. See Pumps, Centrifugal

CENTRIFUGES
Advances in menhaden reduction; centrifugal processing. J. H. Smith. il Chem & Met Eng 47:99-100 F '40
Centrifugal machine developed for dewatering moisture samples; Mesabi iron ore samples. G. E. Tucker. il diags Eng & Min J 141:56-7 Je '40
Centrifugal supercontactor; abstract. W. J. Podbielniak. Oil & Gas J 38:57 N 23 '39
Centrifugals, filters and thickeners at chemical exposition. il Chem & Met Eng 46:690-1, 785 N-D '39
Centrifuge aids studies of particle-size distribution. E. A. Hauser. Concrete (mill sec) 48:125 F '40
Centrifuge for testing mines and bridges in new Columbia school of engineering research. W. Davis. Science 90:sup8 N 17 '39
Centrifuge used for fresh water research. J. K. G. Silvey. Ind & Eng Chem News ed 18: 256 Mr 25 '40

CENTRIFUGES—*Continued*
Directly air-driven transparent ultra-centrifuges. J. W. McBain and A. H. Lewis. bibliog il diag J Phys Chem 43:1197-1205 D '39
Effect of solvation on frictional constants and frictional ratios as determined with the ultracentrifuge and by diffusion. E. O. Kraemer. Franklin Inst J 229:680-7 My '40
Effect of solvation upon molecular weight determinations by means of ultracentrifugal methods. E. O. Kraemer. Franklin Inst J 229:531-8 Ap '40
Emulsion deoiling process separates oil-wax mixtures. A. H. Schutte. flow chart il diags Nat Pet N 32:R402-4, R406, R408 N 13 '40; Same. Oil & Gas J 39:113-14, 117+ N 14 '40
High-speed centrifuges and the diagnosis of disease. Science 91:sup10+ Mr 15 '40
Hormone studies with the ultracentrifuge; an application of Toepler's schlieren method to the analytical ultracentrifuge. J. A. Chiles, jr. and A. E. Severinghaus. bibliog il diags R Sci Instr 11:71-6 F '40
Particle size determination of colloidal systems by the supercentrifuge. E. A. Hauser and H. K. Schachman. bibliog diags J Phys Chem 44:584-91 My '40
Scientific visit to Svedberg's laboratory of Dr. E. B. Sanigar of the Biochemical research foundation's staff. Franklin Inst J 228:664-8 N '39
Separation and fractionation of colloidal systems. E. A. Hauser and J. E. Lynn. flow sheet bibliog diag Ind & Eng Chem 32: 659-62 My '40
Separation of alloys and isotopes by the centrifuge. H. C. Pollock. diags Phys R 57: 935-6 My 15 '40
Sharples horizontal centrifuge. il diag Engineer 168:451-2 N 8 '39
Some properties of sodium palmitate curd as studied in the centrifuge. J. W. McBain and T. F. Ford. il diag Am Chem Soc J 62:866-9 Ap '40
Specific volume factor in ultracentrifugal analysis. E. O. Kraemer. Franklin Inst J 229:393-7 Mr '40
Theory of the separation of isotopes by thermal or centrifugal methods. A. Bramley. Science 92:427-8 N 8 '40

CENTURY indemnity company, Hartford, Connecticut
Company analysis. Spectator (Property ed) 5:42-3 F 8 '40

CEPHALOPODA, Fossil
Publication dates of some of Hyatt's cephalopod genera. R. R. Shrock. Am J Sci 238: 676-8 S '40
See also
Ammonoidea

Bibliography
Bibliographic index of North American Devonian cephalopoda. E. M. Kindle and A. K. Miller. Geol Soc Special Pa no 23:1-179 '39

CERAMIC abstracts
Indexes to Ceramic abstracts, v 18, 1939; comp. by the American ceramic society. Am Cer Soc J 22 (Cer A 18):317-96 D '39

CERAMIC art
Ceramic design and the market. J. A. Foster. Am Cer Soc Bul 18:457-8 D '39
Cincinnati pottery club. C. C. Newton. il Am Cer Soc Bul 19:345-51 S '40
Clara Chipman Newton, pioneer secretary, Rookwood pottery company. Am Cer Soc Bul 18:443-5 N '39
National youth administration in ceramic art. V. O. Neff. Am Cer Soc Bul 18:463-5 D '39
See also
Pottery—Decoration

Exhibitions
Eighth national ceramic exhibition prize awards announced. il Am Cer Soc Bul 18: 439-41 N '39
Old Bow porcelain in the Walters art gallery. il Am Cer Soc Bul 19:304-6 Ag '40

CERAMIC engineering

Study and teaching
Institute of ceramic engineers, committee on ceramic engineering education. Am Cer Soc Bul 19:230-2 Je '40

CERAMIC industries
Production of stone, clay, and glass products, revision; monthly, 1923-June, 1940. Fed Res Bul 26:837 Ag '40
See also

Brick industry and trade	Fire brick
Cement industry and trade	Glass trade
Clay industries	Kilns
Enamel and enameling	Pottery
	Refractory materials
	Terra cotta

History
Development and growth of the feldspar industry; with chronological index. H. B. DuBois. Am Cer Soc Bul 19:206-13 Je '40
Edward Ray Weidlein, director of Mellon institute, Pittsburgh. Am Cer Soc Bul 19: 344-5 S '40
History of the Bowmans; O. O. Bowman and his sons, W. J. J. and R. K. Bowman; activities in manufacturing a full line of plumbing fixtures. il Am Cer Soc Bul 19: 175-7 My '40
Moses Golding. Am Cer Soc Bul 19:205-6 Je '40

California
Clay deposits of California. W. F. Dietrich. bibliog Am Cer Soc Bul 19:340-4 S '40

Canada
Ceramics in war. Can Chem & Process Ind 24:498-9+ O '40

CERAMIC laboratories
Development of a laboratory continuous kiln. C. H. Commons, jr. and E. E. Kunzman. diags Am Cer Soc Bul 19:331-3 S '40
Progress reports from the Electrotechnical laboratory, Bureau of mines, at Norris, Tenn. H. Wilson, M. S. Nelson and others. Am Cer Soc Bul 19:92-4 Mr '40

CERAMIC materials
American ceramic materials in pottery. H. Wilson and E. Wilson. Am Cer Soc Bul 19: 285-7 Ag '40
Aplite, a new ceramic material. P. S. Dear and J. W. Whittemore. Am Cer Soc J 23: 77-80 Mr '40
Beryl, a case history. L. G. Bliss. bibliog Am Cer Soc Bul 19:159-60 My '40
Ceramic insulating materials. H. Thurnauer. bibliog il Elec Eng 59:451-9 N '40
Ceramic insulators for spark plugs. F. H. Riddle. il diag S A E J 46:236-42 Je '40
Ceramic materials; physical and electrical properties. diags Electrician 125:137-8 S 13 '40
Decomposition of rocks and ceramic materials with a small amount of sodium carbonate. J. I. Hoffman. J Research Nat Bur Stand 25:379-83 S '40
Developing Canada's nepheline syenite. C. M. Nicholson. bibliog flow sheets il map Can Min J 61:135-46 Mr '40
Development and preliminary studies of pinite; a rock composed of hydrous aluminum silicates. G. A. Page, F. F. Raine and V. R. Sullivan. bibliog il Am Cer Soc J 23:71-7 Mr '40
Pinitized tuff of ceramic importance. P. F. Kerr. il diags map Am Cer Soc J 23:65-71 Mr '40
Recent progress in the nonmetallics. O. Bowles. Min & Met 21:97-8 F '40
See also

Clay	Refractory materials
Feldspar	Silica
Kaolin	Silicates
Pyrophyllite	Talc

CERAMIC patents
Ceramic abstracts. Published in monthly numbers of American ceramic society journal

CERAMIC research
Activities of the American ceramic society; committee on research. Am Cer Soc Bul 19:214-18 Je '40
Evaluation of glaze-fit test methods. W. C. Bell. bibliog il diags Am Cer Soc J 23:163-6 Je '40
Influence of internal lubrication on drying and fired characteristics of a plastic clay body. H. R. Straight. il Am Cer Soc Bul 19:168-70 My '40
Inventory-taking of structural clay products research programs. H. C. Plummer and F. Heath, jr. Am Cer Soc Bul 18:466-7 D '39
Length changes of whiteware clays and bodies during initial heating, with supplementary data on mica. R. F. Geller and E. N. Bunting. bibliog diag J Research Nat Bur Stand 25:15-40 Jl '40
Minutes of meeting of the whiteware research committee of the American ceramic society. Am Cer Soc Bul 19:80-1 F '40
Properties of kaolinite as a function of its particle size. C. G. Harman and F. Fraulini. bibliog il Am Cer Soc J 23:252-9 S '40
See also
Glass research

CERAMICS
Ceramics in the Division of geology and geography, National research council. Am Cer Soc Bul 19:221 Je '40
Development of ceramic ware for the chemical industry. P. C. Kingsbury. bibliog Am Inst Chem Eng Trans 36:433-42 Je '40
Fortschritte der keramik seit 1926. W. Funk. bibliog Angew Chemie 53:221-7 My 25 '40
Improving ceramic products; discussed at American ceramic society meeting at Toronto. Can Chem & Process Ind 24:158-60 Ap '40
Knickknack trade goes ersatz. Business Week p22 Ag 3 '40
Symposium on importance of thermal history. P. Dressler and others. bibliog il diags Am Cer Soc Bul 18:411-21 N '39
Work of Professional and service division, Works progress administration, in ceramics. W. Atchley. Am Cer Soc Bul 18:460-2 D '39
See also
Brickmaking
Cement
Clay
Clay products
Enamel and enameling
Fire brick
Glass
Glazes
Kilns
Porcelain
Pottery
Pyrometric rings
Refractory materials
Stoneware
Terra cotta
Tiles
also American ceramic society

Bibliography
Ceramic abstracts. Published in monthly numbers of American ceramic society journal
Indexes to Ceramic abstracts, v 18, 1939; comp. by the American ceramic society. Am Cer Soc J 22 (Cer A 18):317-96 D '39

Study and teaching
Ceramic extension program of the Pennsylvania state college. E. P. McNamara. Am Cer Soc Bul 19:318-21 Ag '40

CERAMISTS
Modern pioneer awards. Am Cer Soc Bul 19: 178-81 My '40

CERATES
Cerate oxidimetry; preparation and stability of solutions. G. F. Smith and C. A. Getz. Ind & Eng Chem Anal ed 12:339-40 Je 15 '40

CEREALS
See also
Bran

CEREALS, Prepared
Complete product protection tested and approved; packaged cereal products made insect free with aid of electrical treatment. G. E. O'Brien. il Food Ind 12:54-6 My '40
Two years of preparation, and then new product quickly wins market; how General Mills experimented with KIX, a corn cereal. D. D. Davis. il Ptr Ink 190:11-13+ F 16 '40

CERIN
Cerin and friedelin; surface films of cerin, friedelin and some related substances. N. L. Drake and J. K. Wolfe. bibliog Am Chem Soc J 62:3018-21 N '40

CERIUM
Cerate oxidimetry; electrolytic oxidation of cerium without use of a diaphragm cell. G. F. Smith, G. Frank and A. E. Kott. Ind & Eng Chem Anal ed 12:268-9 My 15 '40
Cerate oxidimetry; preparation and stability of solutions. G. F. Smith and C. A. Getz. Ind & Eng Chem Anal ed 12:339-40 Je 15 '40
Light-sensitive glass and its application for ultra-violet measurements; cerium-vanadium glasses. L. O. Upton. Glass Ind 21:109-12 Mr '40
Magnetic properties of metallic cerium. C. Starr and A. R. Kaufmann. Phys R 58: 657 O 1 '40
Zeeman effects in complex spectra at fields up to 100,000 gauss. G. R. Harrison and F. Bitter. il Phys R 57:15-20 Ja 1 '40

CERIUM compounds
Industrial uses of chemicals and related materials; cerium naphthenate. Oil Paint & Drug Rep 137:43 F 12 '40

CERIUM nitrates
Cerate oxidimetry; electrolytic oxidation of cerium without use of a diaphragm cell. G. F. Smith, G. Frank and A. E. Kott. Ind & Eng Chem Anal ed 12:268-9 My 15 '40

CERIUM oxides
Glass for ultra-violet estimation; limits for cerous and vanadous oxides. Chem Age (Lond) 42:257 My 4 '40

CERIUM sulfate
Cerate oxidimetry; electrolytic oxidation of cerium without use of a diaphragm cell. G. F. Smith, G. Frank and A. E. Kott. Ind & Eng Chem Anal ed 12:268-9 My 15 '40
Cerimetric determination of small amounts of arsenic after reduction with hypophosphite reagent. I. M. Kolthoff and E. Amdur. diags Ind & Eng Chem Anal ed 12:177-9 Mr 15 '40
Determination of iodine in thyroid and its preparations by cerate oxidimetry. W. W. Hilty and D. T. Wilson. bibliog Ind & Eng Chem Anal ed 11:637-9 D 15 '39
Determination of minute amounts of potassium; iodometric evaluation of the cobaltinitrite precipitate, using ceric sulfate. I. A. Kaye. bibliog Ind & Eng Chem Anal ed 12:310-11 My 15 '40
New applications of the silver reductor; determination of uranium and copper. N. Birnbaum and S. M. Edmonds. bibliog Ind & Eng Chem Anal ed 12:155-7 Mr 15 '40

CERROBEND. See Bismuth alloys

CERRO DE PASCO copper corporation
War and Cerro de Pasco. E. A. Barnes. Mag of Wall St 66:411+ Jl 13 '40

CERTIFICATION of products. See Products, Certification of

CESIUM
New high-sensitivity photosurface. A. M. Glover and R. B. Janes. il Electronics 13: 26-7 Ag '40
Radioactive products from gases produced in uranium fission. G. N. Glasoe and J. Steigman. Phys R 58:1-6 Jl 1 '40
Radiofrequency spectra of sodium, rubidium and caesium. S. Millman and P. Kusch. Phys R 58:438-45 S 1 '40
Radio-isotopes of Ba and Cs. D. C. Kalbfell and R. A. Cooley. bibliog Phys R 58:91-2 Jl 1 '40
Revision of the atomic weight of cesium. G. P. Baxter and C. D. Harrington. Am Chem Soc J 62:1834-6 Jl '40
Time-lag analysis of the Townsend discharge in argon with activated caesium electrodes. R. W. Engstrom and W. S. Huxford. bibliog diags Phys R 58:67-77 Jl 1 '40

CESIUM hexachlorogermanate
Chlorogermanic acid and the chlorogermanates; properties and crystal structure of cesium hexachlorogermanate. A. W. Laubengayer, O. B. Billings and A. E. Newkirk. Am Chem Soc J 62:546-8 Mr '40

CESSPOOLS
Cesspool overflow problem inexpensively solved. Coal Age 45:70 Ja '40

CETANE
Catalytic cracking of aliphatic hydrocarbons. G. Egloff and others. bibliog Am Chem Soc J 61:3571-80 D '39

CETENE
Catalytic cracking of aliphatic hydrocarbons. G. Egloff and others. bibliog Am Chem Soc J 61:3571-80 D '39

CETYL alcohol
Liquid dielectrics; electrical and physical properties of systems containing sparingly soluble oxidation products in liquid paraffin. J. D. Piper and others. bibliog il Ind & Eng Chem 32:1510-18 N '40
Variation of the solubility of unimolecular films with surface pressure, and its effect on the measurement of true surface pressure. F. Sebba and H. V. A. Briscoe. Chem Soc J p114-18 F '40

CEYLON
In the wake of a traveling engineer. J. C. Cosgrove. il map Explosives Eng 18:7-8+ Ja '40

See also
Labor and laboring classes—Ceylon

CHABAZITE
Adsorption of nitrous oxide on certain pseudomorphs. A. B. Lamb and C. D. West. bibliog Am Chem Soc J 62:3176-80 N '40
Use of zeolitic membrane electrodes. C. E. Marshall. bibliog J Phys Chem 43:1155-64 D '39

CHAGAS' disease. See Trypanosoma cruzi

CHAIN belt company
Moderate-priced newcomer to the New York stock exchange; thumbnail appraisal. Mag of Wall St 65:752 Mr 23 '40

CHAIN conveyors. See Conveying machinery—Chain conveyors

CHAIN gear
Chain drive calculations. il diags Product Eng 11:2-5 Ja '40; Discussion. E. S. Ault. 11:230 My '40
Discussion of chain action and effects of centrifugal force on chain load. R. C. Binder and H. A. Bolz. il diags Product Eng 11: 118-20 Mr '40
Morse channel lubricated roller chain. il Blast F & Steel Pl 27:1168 N '39
New Morse chain drive. il Paper Tr J 109: 58 N 30 '39
Reversing mechanism for chain-driven table; wire fabricating machine. L. Kasper. diags Mach 46:121-2 Je '40
Roller chain manufacture; Howe mfg. co. F. B. Jacobs. il Steel 107:68-9+ Ag 19 '40
Timing drives; some notes on American and English practice. il Automobile Eng 30:11-13 Ja '40

CHAIN stores
Battle of the brands; report to executives. Business Week p27-30+ O 12 '40
Chain store tells its story. J. P. Nichols. 274p bibliog(p233-65) bds $1 Institute of distribution, 570 7th av, New York '40
Chain stores, pro and con. H. Dallas. 31p bibliog(p31) 10c Public affairs committee, New York '40
Chain stores spent 1¼ millions on modernization program. Heating-Piping 12:67 Ja '40
Chains battling Crisco and Spry; big grocery outfits bring own shortenings. Business Week p36-8 Je 15 '40
Controlled competition; corporate chains, cartels and cooperatives. H. Lazo. 77p Cooperative food distributors of America, 825 Union trust bldg, Washington, D.C. '39
Growth of chain stores hastened by recent political agitation against them. P. M. Carlisle. Annalist 55:518-19 Ap 11 '40
How to sell through department-store chains. E. B. Weiss and J. C. Cumming. il Ptr Ink Mo 41:5-8+ Jl '40
Integrated marketing institutions. W. Girdner. Ann Am Acad 209:55-6 My '40
Modernization costs chains $130,101,332. Am Business 10:44 N '40
Recent retailing trends in Europe. D. R. Craig. il Dun's R 47:5-9 D '39
Revision of seasonally adjusted index of variety-store sales. H. Grieves and R. Osborne. Survey of Cur Business 20:9 Ag '40
Spend $130,101,332 on store modernization in 1940. Comm & Fin Chr 151:2563 N 2 '40
Suits and coats; in one of the nation's most competitive industries, the big trend is to retail chains. il Ptr Ink Mo 40:5-8+ Mr '40
Why Nevins drug company quit ramming private brands down consumers' throats. il Sales Management 45:22-3+ D 1 '39

See also
Five- and ten-cent stores
also Great Atlantic and Pacific tea company
Safeway stores
Western auto supply company, Kansas City
Woolworth, F. W., and company, London
Woolworth, F. W., company

Accounting
Material control for a chain of confectionery stores; Fred Sanders, Detroit. R. F. Brockmiller. il N A C A Bul 21:1305-14 Je 15 '40

Advertising
Consistent advertising theme builds 2,000 store outlets for one-price hats; wholesale broadcasting of Madison Square Garden fights; Adam hat stores. L. S. Goldberg. il Ptr Ink 190:11-13+ Mr 8 '40
Woolworth's ten-year book. Ptr Ink Mo 40: 44 Ja '40

Bibliography
Chain store bibliography as of January 2, 1940. 35p Inst. of distribution, 570 7th av, New York '40

Employees
Chain store strike; butchers walkout closing 1,500 food shops in three states. il Business Week p53 O 26 '40
Chain stores improve policies. J. H. Berger. Personnel J 19:69-72 Je '40
Stores reopened; chain employees go back to work after tieup. Business Week p11 N 16 '40
Stores still shut; butchers agree to terms; balked by demands of clerks. Business Week p40+ N 2 '40

Finance
Brass tacks for the investor; brief analysis; Safeway stores, inc.; Kroger grocery & baking co. Barron's 20:30 Ja 15 '40
SEC issues 1939 supplement for chain variety stores. Comm & Fin Chr 151:2123-4 O 12 '40

Mail order stores
Disabling morbidity among male and female employees in mail order stores, 1930-34, inclusive. H. P. Brinton and E. S. Frasier. bibliog Pub Health Rep 55:1163-78 Je 28 '40
How to sell through department-store chains; retail organization of Sears, Roebuck and Montgomery Ward. E. B. Weiss and J. C. Cumming. il Ptr Ink Mo 41:6-8 Jl '40
Mail order companies go to town. W. P. Black. Barron's 20:3 F 26 '40

Management
Effective pricing and sales promotion; study of stores' clientele will enable manufacturers to help dealers avoid error of featuring companion lines that bear uncompanionable prices. V. Lebow. Ptr Ink Mo 40:12+ F '40

CHAIN stores—Management—*Continued*
Kresge's; second-largest five-and-ten chain. il Fortune 21:70-6+ Je '40
Methods and procedures of the G. C. Murphy company. J. A. Krut. N A C A Bul 21: 1291-1305 Je 15 '40
Safeway stores, inc.; behaves as if it were operated for the benefit of its producers, employees, and consumers. il Fortune 22: 60-4+ O '40

Purchasing
Merchandising chemical specialties to chain stores. il Chem Ind 46:598-600 My '40
What chemical specialties do chain stores buy? il Chem Ind 46:468-71 Ap '40

Securities
Allied Stores 4 1/2s, 1951, yield 4.61%. Barron's 20:19 My 6 '40
Brass tacks for the investor; H. L. Green co. and W. T. Grant co. Barron's 20:13 My 6 '40
Chain store shares; Woolworth and Marks and Spencer; some comparisons. Economist 138:860-1 My 11 '40
Growth through filling basic needs; J. C. Penney. S. Devlin. il Mag of Wall St 65: 346-7+ D 30 '39
Position of leading merchandising stocks. Mag of Wall St 65:604-5; 66:572-3 F 24, Ag 24 '40

Statistics
Chain-store sales for January 1939 and 1940. Ptr Ink 190:82 F 23 '40 [cont monthly]
Chain-store sales, 1938 and 1939. Ptr Ink 190: 146 Ja 26 '40
Chain store statistics. 1940 ed 36p Merrill Lynch, E. A. Pierce & Cassatt, 40 Wall st, New York '40
Chains sales during January. Comm & Fin Chr 150:1052 F 17 '40 [cont monthly]
Index of dollar sales of variety chain stores, 1929-40. Survey of Cur Business 20:10 Ag '40
Modernization sets a $130,000,000 high. il Business Week p28 Ja 6 '40
New York Federal reserve bank reports December chain store sales. Comm & Fin Chr 150:750 F 3 '40 [cont monthly]
Retail trade, chain store sales, 1936-1939. Survey of Cur Business 1940 Sup p27-8 [supplemented in monthly numbers]
Revision of seasonally adjusted index of variety-store sales. H. Grieves and R. Osborne. Survey of Cur Business 20:9 Ag '40

Stock
Effective pricing and sales promotion; study of stores' clientele will enable manufacturers to help dealers avoid error of featuring companion lines that bear uncompanionable prices. V. Lebow. Ptr Ink Mo 40:12+ F '40
We're just out of it; lack of goods on hand loses customers; how to check stocks. W. H. Conant. Barron's 20:7 Jl 22 '40

Taxation
Amended Patman bill. R. Peterson. Ptr Ink 192:12 Ag 9 '40
Chain tax reversal? Supreme court ruling on Minnesota gross receipts law. Business Week p36-7 Mr 30 '40
Colorado bills auto companies for chain tax on dealers. H. E. Agnew. Sales Management 46:62, 64 F 15 '40
Court denies refund of tax on Montana leased stations. Nat Pet N 32:19 F 7 '40
Federal taxation of chain stores, with text of proposed bill. G. H. Brown. J Business 13:74-86 Ja '40
Ford wins in chain tax case. Automotive Ind 82:293 Mr 15 '40
Patman chain store tax hearing. Oil Paint & Drug Rep 137:5 Ap 1; 5+ Ap 8; 5+ Ap 15; 3+ Ap 22; 5 Ap 29 '40
Patman chain tax bill. E. J. Noble. Nat Pet N 32:16 My 22 '40
Recent trends in chain-store tax legislation. M. W. Lee. J Business 13:253-74 Jl '40
Sales contract puts station under chain tax, Texas court holds. Nat Pet N 32:13+ O 9 '40
Secretary of Agriculture Wallace opposes Patman chain store tax bill; Merchants association asks defeat of bill. Comm & Fin Chr 150:2193 Ap 6 '40
Subcommittee of House ways and means committee hearings on Patman bill to tax interstate chain stores. Comm & Fin Chr 150:2510-11, 3285 Ap 20, My 25 '40
Tax victory for chains; Minnesota judges decline to open way for U.S. Supreme court review of receipts levy. Business Week p40 O 5 '40
Tenacity of the nationwide political campaign to destroy chain stores. A. Lesser, jr. Annalist 55:387-8 Mr 14 '40
U.S. Supreme court vacates ruling on Minnesota chain store tax. Comm & Fin Chr 150:2017 Mr 30 '40; Same. Ptr Ink 190:100-1 Mr 29 '40
What's a chain? Colorado ruling on Ford dealers. Business Week p33-4 F 17 '40

CHAINS
How impact loads shorten chain life. H. A. Delano. Factory Management 98:156+ Je '40
Renold jig chain for drilling or marking-off of long rows of evenly-pitched holes. il diag Engineering 150:46 Jl 19 '40
Sling chains. H. A. Delano. il Steel 106:54-6+ F 19 '40
Suspended loads; right type of chain. H. A. Delano. il Nat Safety N 42:16-17+ Jl '40

See also
Chain gear
Conveying machinery
—Chain conveyors
Tire chains

Manufacture
Electric welded chain; operations at Yale & Towne plant A. G. Anderson. il diag Steel 106:70, 72-3+ My 27 '40
Roller chain manufacture; Howe mfg. co. F. B. Jacobs. il Steel 107:68-9+ Ag 19 '40

Testing
Field tests on alloy-steel chains; abstract. L. Lahoussay. Oil & Gas J 39:66 O 17 '40

CHAINS, Chemical
Composite elasticity of rubber. H. Mark. bibliog il diags India Rubber W 102:41-5 Je; 45-9 Ag '40

CHAIR caning
Seat weaving. L. D. Perry. 3d ed 94p pa 90c Manual arts press '40

CHAIR cars
Missouri Pacific rebuilds seven chair cars. il plan Ry Mech Eng 114:118-19 Mr '40
Santa Fe gets seven new cars from Pullman-Standard. Ry Age 108:665+ Ap 13 '40

CHALCONE
Chalkones: production of isooxazoles from some chalkone derivatives. R. B. Shenoi, R. C. Shah and T. S. Wheeler. Chem Soc J p247-51 F '40
Chalkones; reactions of o-hydroxyphenyl 6-methoxy-2': 3-benzostyryl ketone and of some derivatives. B. G. Acharya, R. C. Shah and T. S. Wheeler. Chem Soc J p817-19 Je '40

CHALK (crayons). See Crayons

CHALKBOARD. See Blackboards

CHAMBER of commerce of the United States
Annual meeting, Washington, D.C. Comm & Fin Chr 150:2815-16 My 4 '40; Eng N 124: 627+ My 9 '40; Oil Paint & Drug Rep 137: 5+ My 6 '40
Build America! viewpoints at annual meeting, Washington, D.C. Nation's Business 28:33-64 Je '40
C. of C. is confident; meeting, Washington, D.C. Business Week p15-16 My 4 '40

Insurance department
Annual meeting, Washington, D.C. Comm & Fin Chr 150:2814 My 4 '40
Insurance cabinet appointed. Nat Underw 44: 1+ Jl 25 '40; Same abr. Nat Underw (Life ed) 44:1+ Jl 26 '40; Excerpt. Ins Field (Fire ed) 69:8 Ag 1 '40

CHAMBER of commerce of the United States
—Insurance department—*Continued*
Mutual cast to Chamber of commerce directorate. Spectator (Property ed) 6:7 Ag 8 '40
Raising issue over U.S. Chamber pact regarding stock company and mutual directors in alternating years. Nat Underw 44: 8+ Je 6 '40; Same. Nat Underw (Life ed) 44:3+ Je 7 '40
Why life underwriters should co-operate with the U.S. Chamber of commerce. J. S. Myrick. Ins Field (Life ed) 69:12 Ag 30 '40

CHAMBERS of commerce

Directories

8,000 chambers of commerce throughout the world; listing the cities and towns in which such organizations are located. rev ed 48p pa 15c Foreign commerce dept, Chamber of commerce of the U.S.A, Washington, D.C. '40

CHAMFERING
This cutter chamfers inside holes. G. C. Lawrence. diags Am Mach 84:90 F 21 '40

CHANDLER act. See Bankruptcy

CHANDLER medal
Chandler medal presented to Thomas H. Chilton. Ind & Eng Chem 32:23-31 Ja '40
T. H. Chilton receives Chandler medal. Oil Paint & Drug Rep 136:41 N 20 '39

CHANNELS
Design of an open-channel control section to measure the flow of water. K. R. Kennison. diags Am Soc C E Proc 65:763-70 My '39; Discussion. 65:1283-8, 1447-8; 66:143-9 S-O '39, Ja '40

See also
Canals
Rivers
Stream flow

CHAPELS
Romanesque in inspiration; chapel of the Slovak girls' academy, Danville, Pa. il plans Arch Rec 87:45-8 F '40

See also
Church architecture

CHAPLIN, Charles Spencer, 1889-
Charlie Chaplin, king of tragedy. G. von Ulm. 403p $3.50 Caxton printers, Caldwell, Idaho '40

CHAPMAN, Royal Norton, 1889-1939
Sketch. W. Carter. Science 91:255-6 Mr 15 '40

CHARACTER

See also
Personality

CHARCOAL
Les carburants de remplacement nationaux; bois, charbon de bois, carbonite, tourbe. Génie Civil 116:50-1 Ja 20 '40
Charcoal as a gold precipitant in conjunction with flotation. W. M. von Bernewitz. flow sheets Eng & Min J 141:43-7 Mr '40
Chemical developments linked with charcoal iron project in Pacific Northwest; Ruzicka wood coke briquets. Oil Paint & Drug Rep 137:3+ F 5 '40
Domestic charcoal production; a new wood distillation retort. il Chem Age (Lond) 43: 67-8 Ag 10 '40
Hardwood charcoal price plans hit. Oil Paint & Drug Rep 138:3+ Ag 19 '40
Is coconut-shell charcoal strategic defense material. E. L. Luaces. Oil Paint & Drug Rep 138:3+ S 9 '40
Lignite development in Devon; a new British source of charcoal. Chem Age (Lond) 43: 109-10 S 7 '40
Steam-carbon complex. S. Muller and J. W. Cobb. diag Chem Soc J p177-83 F '40
War-time charcoal-burning; the use of portable kilns. M. Schofield. il Chem Age (Lond) 43:3 Jl 6 '40
Wood coke fires a controversy; Dr Ruzicka's discovery has inspired dreams of a Pittsburgh in the Northwest. Business Week p42-4 F 24 '40

See also
Bone black

CHARCOAL, Activated. See Carbon, Activated

CHARCOAL iron
Char-coal industry; 18th century; abstract and discussion. H. G. Jones. Engineering 148:590-1 N 24 '39

CHARGE accounts (retail trade)
Campaign to revive inactive charge accounts. S. G. Levy, jr. il Ptr Ink Mo 41:58 N '40
How expenses and profits vary with retail credit policies; comparisons of operating ratios for typical retail stores according to the proportion of merchandise sold on cash, charge account, and installment credit terms. W. L. Mitchell, jr. Dun's R 48:26-32+ N '40

CHARGING machines
Incandescent heat co. furnace-charging machines. il Automobile Eng 30:18 Ja '40
Lloyd electric furnace-charging machine. il Elec R (Lond) 126:345 Mr 22 '40

CHARITABLE trusts. See Trusts and trustees—Charitable trusts

CHARITIES
What to do when customers ask contributions to their pet charities. Ptr Ink 191:19-21 My 17 '40

See also
Endowments
New York (city)—Charities
Philanthropy
Public welfare
Social work

CHARLESTON, South Carolina
Prints and impressions of Charleston; forty-eight etchings. E. O. Verner. 16p, 47pls $10 Bostick & Thornley, Columbia, S.C. '39

Rapid transit

Schedules 70% faster, headways 20% shorter. il Transit J 84:226 Jl '40

Water supply

Evaporation at Charleston. J. E. Gibson. Pub Works 71:14 Ja '40

CHARLESTOWN, Indiana
Big business for Charlestown (pop. 950). S. E. Bolly. Business Week p26 N 2 '40.

CHARPY impact test. See Impact

CHARTERED life underwriters
Influence of the movement. E. W. Brailey. Weekly Underw 142:104 Ja 6 '40
National chapter takes new name; becomes American society, C.L.U. Ins Field (Philadelphia Conv Daily ed) 69:4 S 25 '40

CHARTS (calculating)
Belt conveyor discharge points. A. O. Gates. Eng & Min J 141:55 Ja '40
Capacitor discharge chart; reference sheet. L. Hanopol. diags Electronics 13:41-2 Je '40
Chart for computing volumes. T. Davison. Oil & Gas J 39:65 Jl 11 '40
Chart for determining machine production. L. De L. Berg. Mach 47:142-3 S '40
Chart to determine the belt length needed for V-belt drive. Power Pl Eng 44:84 Je '40
Charts for cost of 10-ft. lengths of flat and bar stock; reference book sheet. L. de L. Berg. Am Mach 84:589 Ag 7 '40
Charts show ground rod depth for any resistance, in advance. R. M. Schahfer and W. H. Knutz. Elec W 114:1163-5+ O 19 '40
Charts simplify pipe size selection for industrial water piping systems. E. A. Windham. Heating-Piping 11:747-8 D '39
Charts solve orifice equations. H. S. Winnicki and R. Koch. Chem & Met Eng 47:24 Ja '40
Charts to plot analyses of materials. R. E. Fowle; E. Shaw. Rock Prod 43:45 Je '40
Circulating water, heat transmission, and heat discharge in condensing plants. R. H. Parsons. Engineer 168:499-501 N 17 '39
Contents of cylindrical tanks with flat heads, axis horizontal; chart. Power Pl Eng 43: 740 N '39; Discussion. 44:76-7 Mr '40
Critical flow through nozzles and the gas constant of superheated steam. J. R. Finniecome. Engineering 149:454-5 My 3 '40
Cubic yards in a conical pile. Water Works & Sewerage 86:458 N '39; Same. Can Min J 61:434 Jl '40

CHARTS (calculating)—*Continued*
Cylinder-oil lubrication chart. V. J. Kosmatka. Power 84:125 F '40
Determining pump data aided by chart. P. C. Ziemke. Coal Age 45:86 Je '40
Direct solution for pipe capacity. J. R. Zwickl. Power 84:147-9 Mr '40
Double logarithmic diagram for determining correct production and other quantities. P. Jessen. Advanced Management 5:139-43 Jl-S '40
Drum volume chart. Metal Finishing 38:564 O '40
Economical lamp voltage; data sheet. S. A. Tucker. Power 83:783 D '39
Exposure chart for radiography of steel. H. R. Isenburger. Metal Prog 38:553 O '40
Flow velocity for standard-weight pipe; data sheet. Power 84:469 Jl '40
Gallons in pipes. W. F. Schaphorst. Eng N 124:43 Ja 4 '40
Getting the most out of machines; use of machine loading charts in manufacture of airplane parts by sub-contractors. C. W. S. Parsons. il Aviation 39:54-5+ N '40
Gravity correction chart for emulsified petroleum. Oil & Gas J 38:34 F 1 '40
Guy lead problems solved graphically. S. D. Long. Elec W 112:1474 N 18 '39
Hardenability and quenching; use of charts. M. A. Grossmann and M. Asimow. diags Iron Age 145:25-9 Ap 25; 39-45 My 2 '40
Helical spring selection chart; reference book sheet. A. C. Rasmussen. Product Eng 11: 433-4 S '40
How much safety? graphic presentation details typical methods of working out drive applications. J. N. Smith. Steel 105:70-1+ D 4 '39
How much will any I-beam hold? W. F. Schaphorst. diag Am Gas J 151:35 D '39
Hydraulic power-lift chart. W. F. Schaphorst. Water Works & Sewerage 87:46 Ja '40
I-log P diagram for ammonia solutions. M. Blackstrom. Refrig Eng 39:306 My '40
Ignition in beds of solid fuel. M. A. Mayers and H. G. Landau. bibliog Ind & Eng Chem 32:563-8 Ap '40
Length of anything coiled or rolled up; how to find. W. F. Schaphorst. Am Gas J 153: 49 O '40
New psychrometric chart; with application to chemical dehydrating and solvent recovery. D. F. Othmer. Chem & Met Eng 47: 296-9 My '40
Nomogram for beam-columns. H. P. Liepmann. Aviation 39:62+ N '40
Nomograms for various plant and laboratory computations. L. Shapiro. Am Dyestuff Rep 29:14-18, 97-9 Ja 8, F 19 '40
Nomograph for pipe-line work. A. Bahn. diag Gas Age 85:34-5 Ap 11 '40
Nomographic chart for precise determination of mol fractions from weight percentages. H. S. Winnicki and L. N. Chellis. Chem & Met Eng 47:694-5 O '40
Nomographic chart for temperature correction of aqua ammonia densities, with additional scales for interconversion of physical data. E. Berl. Chem & Met Eng 46:788 D '39
Nomographic chart for the temperature correction of potassium carbonate solution densities, with additional scales for interconversion of physical data. E. Berl. Chem & Met Eng 46:781 N '39
Piping flow problems made easy. W. Goodman. Heating-Piping 12:603-6 O '40
Pressure-temperature chart for refrigerants; data sheet. Power 84:57 Ja '40
Psychrometric chart; its application and theory. W. Goodman. diag Heating-Piping 11:357-60, 421-4, 485-7, 549-51, 613-15+, 671-4, 749-52; 12:6-9, 107-10, 171-3, 239-42, 303-5, 367-9, 431-3, 486-8 Je '39-Ag '40.
Radio frequency power amplifier chart. E. H. Schulz. Electronics 12:33-4 D '39
Reduction chart for the Stormer viscometer. H. T. Byck. Oil & Gas J 38:40 F 8 '40
Section moduli of cut channel stiffeners. W. A. Baker. Marine Eng 45:80-1 S '40
Selection of the most economical pipe and valve size and rate of flow in piping systems; with cost data. S. P. Johnson and F. L. Maker. diags Am Pet Inst Proc 21M(3):7-23 My '40
Short wave inductance chart. F. C. Everett. Electronics 13:33 Mr '40
Shunt-peaking compensation; graphical method of determining shunt inductance in plate circuit of wide-band video amplifier; reference sheet. W. H. Freeman. diag Electronics 13:35-6 Ja '40
Simplified boiler efficiency chart. W. F. Schaphorst. Water Works & Sewerage 86:508 D '39
Simplified method for estimating the thermal efficiency of steam boilers. J. W. Reber. Engineering 149:102-3 Ja 26 '40; Abstract. Blast F & Steel Pl 28:902, 904-7 S '40
Total heat-enthalpy chart for air conditioning work. Yin Cho-lan. Power Pl Eng 44: 100 Ja '40
Turbine vacuum-correction factor; data sheet. G. B. Warren and P. H. Knowlton. Power 84:541 Ag '40
Types of psychrometric charts. Chem & Met Eng 47:293-6 My '40
Use of psychrometric principles. E. J. Barta and H. J. Garber. bibliog il charts Chem & Met Eng 47:287-93 My '40
Vaporization equilibria; new charts which eliminate all but three of preliminary trial calculations. M. Gilbert. Chem & Met Eng 47:234-5+ Ap '40
Viscosity index chart for lubricating oils. E. M. Sims. Power Pl Eng 44:88 My '40
Washing and classifying sand; how to interpret grading charts. E. Shaw. Rock Prod 42:39-41 D '39
Water condensed from compressed air. Power Pl Eng 44:92 Jl '40
Weight of bar stock; reference book sheet. L. deL. Berg. Am Mach 84:341, 343, 387 My 15-29 '40

CHASE national bank of New York
Annual report to stockholders. W. W. Aldrich. Comm & Fin Chr 150:201-2 Ja 13 '40

CHATTANOOGA, Tennessee
Chattanooga finds T.V.A. contract blocking funds. Elec W 113:1373 My 4 '40

CHATTEL mortgages
Chattel mortgages in Colorado. L. A. Hellerstein. 3d ed 122p $5 Hirschfeld press, 1840 California st, Denver '40
How we compete with non-bank lending agencies; Kanabec state bank, Mora, Minn. F. P. Powers. il Bankers Mo 57:300-1 My '40

CHAULMOOGRA oil
Intestinal absorption of chaulmoogra oil. B. E. Abreu, G. A. Emerson and S. A. Peoples. Univ of Calif Pub in Pharmacology v 1, no 21:275-81 bibliog(p281) '40 (pa 25c)

Analysis
Analysis of chaulmoogra oils; hydnocarpus anthelmintica oil; Taraktogenos kurzii (chaulmoogra) oil. H. I. Cole and H. T. Cardoso. bibliog Am Chem Soc J 61:3442-5 D '39

CHECK lists
See also
Advertising copy—Check lists

CHECKS
Bank advertises rubber checks; reduces N.S.F. cases. Bankers Mo 57:229-30 Ap '40
Checks of famous Americans; collection of the Colonial trust company, New York. il Banking 32:31 Ap '40
Special check for bill-payment service; one check to pay all current bills of a customer. J. K. Novins. il Bankers Mo 57:328-9+ Je '40

CHECKS—*Continued*

Advertising uses

Employees' checks adopted to impress local business interests with purchasing power of bank's payrolls. Banking 32:57 Je '40

Collection

New protest practice. Banking 32:53 F '40

Par collection system of the Federal reserve banks. G. B. Vest. map Fed Res Bul 26: 89-96 F '40

Protesting means protection; comment on A.B.A. resolution advocating higher protest limit. C. W. Fishbaugh. Bankers M 139:476-8 D '39

See also
Banks and banking —Transit operations

Indorsement

Endorsement of checks. J Account 69:139-40 F '40

Law

Bank's liability to payee. C. R. Rosenberg, jr. Burroughs Clearing House 24:26+ S '40

Let's co-operate to reduce losses on N.S.F. checks; with analysis of state laws and model statute. E. Boroff and E. M. Goldman. Bankers Mo 57:82-5+ F '40; Discussion. C. W. Fishbaugh. 57:179 Mr '40

Payment of check after death; summary of statutes. Banking 32:32 Mr '40

Printing

Bond of paper. Pulp & Pa of Can 41:499 Jl '40

CHECKS, Fraudulent

Fingerprinting protection for banks. C. W. Fishbaugh. il Bankers M 141:202-5 S '40

Get a good fingerprint; stop check forgery. Bankers Mo 57:173 Mr '40

CHEDSEY, William Reuel, 1887-

Portrait. Min & Met 21:90 F '40

CHEESE

Bacteriological studies on Swiss-type cheese from pasteurized milk; abstract. F. J. Bable. Food Ind 12:93 S '40

Cheese gets bigger. Business Week p26-7 F 24 '40

Cheese output up. Business Week p32-3 N 16 '40

FTC cites cheese companies for alleged price combinations. Comm & Fin Chr 151:2183-4 O 12 '40

Native cheese. Business Week p60 N 9 '40

Theory of ripening in hard cheese; abstract. S. Orla-Jensen. Food Ind 12:98 O '40

Manufacture

Refrigeration in butter and cheese making. L. C. Thomsen. diags Refrig Eng 39:1-6 sec 2 F '40

Statistics

British supplies of cheese, 1938. Economist 138:985 Je 1 '40

Cheese production, revision; monthly, 1923-June, 1940. Fed Res Bul 26:852 Ag '40

Dairy products, 1936-1939. Survey of Cur Business 1940 Sup p102 [supplemented in monthly numbers]

Total cheese production; revision, monthly, 1920-1938. Survey of Cur Business 19:17 N '39

CHEESE cloth

Cheese cloth and butter muslin; British standard specification. Textile Inst J 31: S9-12 Ja '40

CHEESE factories

Changed layout saves $2,500; motion study on a hand-wrapping operation; Kraft Walker cheese co, Melbourne, Australia. E. O. Pelling. il diags Factory Management 98: 64-5+ F '40

Equipment

Kraft cheese company; heating and air conditioning systems co-ordinated with process steam and refrigeration. G. H. Kraft. il diags Heat & Ven 37:29-32 My '40

Refrigeration in butter and cheese making. L. C. Thomsen. diags Refrig Eng 39:1-6 sec 2 F '40

CHELATION

Acidity of aromatic nitro compounds toward amines; the effect of double chelation. G. N. Lewis and G. T. Seaborg. Am Chem Soc J 62:2122-4 Ag '40

Azo-group as a chelating group; the constitution of the arylazo-bis-oximes. M. Elkins and L. Hunter. Chem Soc J p653-5 My '40

Chelation in the potassium compounds of carboxylic and sulphinic acids. W. G. Wright. Chem Soc J p859-62 Jl '40

CHEMICAL abstracts (periodical)

Abstracting and indexing of scientific and technical literature. E. J. Crane. Special Lib 31:260-4 Jl-Ag '40

CHEMICAL affinity

Redistribution reaction; the relative affinity of mercury and lead for methyl and ethyl radicals. G. Calingaert, H. Soroos and G. W. Thomson. Am Chem Soc J 62:1542-5 Je '40

CHEMICAL alliance, Inc.

Officers re-elected. Oil Paint & Drug Rep 136: 3+ D 18 '39

CHEMICAL apparatus

Accelerated flow method for rapid reactions. B. Chance. il diags Franklin Inst J 229: 455-76, 613-40 bibliog(p640), 737-66 Ap-Je '40

American apparatus, instruments, and instrumentation. R. H. Müller. bibliog il diags Ind & Eng Chem Anal ed 12:571-630 O 15 '40

Apparatus for maintaining constant levels in a water bath and a distilling flask. F. E. Holmes. diags Ind & Eng Chem Anal ed 12: 483-5 Ag 15 '40

Ash in organic compounds; determination by microtechnique with automatic combustion. A. R. Norton, G. L. Royer and R. Koegel. il Ind & Eng Chem Anal ed 12:121-3 F 15 '40

British laboratory glassware industry; foreign made products superseded. N. Sheldon. il diag Chem Age (Lond) 42:244-5 Ap 27 '40

Conductivity tests for reactions which go to an end. E. L. Gunn. diags J Chem Educ 17:385-6 Ag '40

Continual observation of changes in weight at oven temperatures; apparatus for use in study of drying rates and in oxidation of oils. A. C. Beckel and A. G. Sharp. diags Ind & Eng Chem Anal ed 12:45-7 Ja 15 '40

Fluorescent lamps for chemical hoods at research laboratory of the American tobacco co. Elec W 113:1914 Je 15 '40

Mercury-sealed vessels for the storage of solutions. F. E. Holmes. bibliog diags Ind & Eng Chem Anal ed 12:425-7 Jl 15 '40

New apparatus for qualitative semimicroanalysis. H. H. Barber. diags Ind & Eng Chem Anal ed 12:58-60 Ja 15 '40

Preparation of microscopic glass spheres. C. R. Bloomquist and A. Clark. il diag Ind & Eng Chem Anal ed 12:61-2 Ja 15 '40

Recent developments in laboratory apparatus. W. B. Warren and H. Draving. il Chem Ind 45:669-73 D '39

Removal of static charges from chemical glassware. Glass Ind 21:403 S '40

Scavengers; gold fish remove scum from constant temperature bath. Sci Am 163:265 N '40

Simple valve for use in laboratory apparatus; all-glass steam-vacuum still, etc. G. P. Gibson. diags Soc Chem Ind J 58:317-19 O '39

Substitute for laboratory oil baths. A. A. Morton. Ind & Eng Chem Anal ed 11:592 N 15 '39

Weighing bottle. W. A. Taebel. diag Ind & Eng Chem Anal ed 12:141 Mr 15 '40

CHEMICAL apparatus—*Continued*

Weighing flask for precision standardization of strong alkalies in the absence of carbon dioxide. P. Nahinsky and H. A. Laitinen. diag Ind & Eng Chem Anal ed 12:417 Jl 15 '40

See also

Absorption apparatus
Bombs (chemical apparatus)
Centrifuges
Chemical engineering—Apparatus and supplies
Chemical laboratories—Equipment
Chemical plants—Equipment
Crucibles
Distillation apparatus
Drying apparatus
Electric furnaces, Laboratory
Evaporators
Extraction apparatus
Filter presses
Filters and filtration (technical chemistry)
Gases—Apparatus
Kjeldahl apparatus
Mixers
Reductors
Stirrers
Viscosimeters
Volumetric analysis—Apparatus

History

Tools of the chemist; their ancestry and American evolution. E. Child. 220p $3.50 Reinhold pub. corp. '40

Manufacture

Chemical plant manufacturer in relation to chemical industry. B. N. Reavell and G. E. Foxwell. Chem & Ind 58:1113-18 D 30 '39; Abstract. Chem Age (Lond) 42:113 F 24 '40; Discussion. Chem & Ind 59:147-8 Mr 2 '40; Chem Age (Lond) 42:113-15 F 24 '40

Patents

Deutsche patentanmeldungen. Published in bi-weekly numbers of Chemische fabrik

Patente. Published in bi-weekly numbers of Chemische fabrik

See also

Chemical patents

CHEMICAL bonds

Conjugated systems and resonance. A. Burawoy. Chem & Ind 59:594-6 Ag 17 '40

Hydrogen bond. H. J. Emeléus. Chem & Ind 59:583-5 Ag 17 '40

Infrared absorption studies; NH-N and NH-O bonds. A. M. Buswell, J. R. Downing and W. H. Rodebush. bibliog Am Chem Soc J 62:2759-65 O '40

New calculation of the C=C bond strength and of certain resonance energies. D. Wrinch. Science 92:79 Jl 26 '40

See also

Double bonds
Mesomerism
Molecular association
Valence

CHEMICAL education

Abridged report of the committee on chemical education of the non-collegiate type. R. E. Bowman. bibliog J Chem Educ 17:119-22 Mr '40

Centennial of the founding of the Department of chemistry at Western reserve university. il Ind & Eng Chem News ed 18: 449-51 My 25 '40

Chemistry in higher education; its contribution to liberal education. J. H. Hildebrand. J Chem Educ 17:414-17 S '40

Graduate work in chemistry at Columbia university. Science 92:304 O 4 '40

Present status of chemistry in Negro colleges. H. W. Woodson. bibliog il J Chem Educ 17:111-16 Mr '40

Progress report of the committee on the professional training of chemists. Ind & Eng Chem News ed 18:845-6 O 10 '40

See also

Chemical engineering—Study and teaching
Chemical laboratories
Chemistry—Study and teaching

Texas

Texas chemical laboratories, then and now. H. Hale. bibliog J Chem Educ 17:165-7 Ap '40

CHEMICAL elements

Artificially radioactive element 85. D. R. Corson, K. R. MacKenzie and E. Segrè. diags Phys R 58:672-8 O 15 '40

Crystallography of the chemical elements as tabulated by W. Hume-Rothery. Metal Prog 38:558, 560, 562 O '40

Helvetium and moldavium, elements 85 and 87? L. S. Foster. J Chem Educ 17:498 O '40

Historical and industrial discovery of the elements. J. N. Friend. Chem & Ind 58: 1104-7; 59:24-6, 227-32 D 23 '39, Ja 13, Ap 6 '40

Liquid state of the elements. W. Hume-Rothery. bibliog J Phys Chem 44:808-24 Je '40

Minute amounts of chemical elements in relation to plant growth. D. R. Hoagland. bibliog Science 91:557-60 Je 14 '40

92 building stones of the universe; history of their discoveries. Metal Finishing 38:577-8 N '40

Radioactive element 93. P. H. Abelson. Phys R 57:1185-6 Je 15 '40

See also

Atomic weights
Atoms
Isotopes
Periodic system
Transmutation (chemistry)

also names of elements, e.g. Arsenic; Carbon; Oxygen; Sulfur

Transuranium elements

Chemical elements heavier than uranium. W. Davis. Science 91:sup8 Je 14 '40

Nonexistence of transuranic elements. L. A. Turner. Phys R 57:157 Ja 15 '40

CHEMICAL engineering

Achievement via group effort; award for chemical engineering achievement won for 1939 by Standard oil development company. Chem & Met Eng 46:750-3 D '39

Advances on many fronts. il Chem & Met Eng 46:679-85 N '39

American institute of chemical engineers 32d semi-annual meeting, Buffalo, May 13-15. Chem & Met Eng 47:342-3+ My '40

Applications of chemical engineering. H. McCormack, ed. 431p $3.75 Van Nostrand '40

Award for chemical engineering achievement to Standard oil development company. Chem & Met Eng 46:668-9 N '39

Chemical engineering advances in soybean processing. G. W. McBride. il diags Chem & Met Eng 47:614-18 S '40; Same cond. Food Ind 12:55-7 O '40

Chemical engineering and industry. C. M. A. Stine. Am Inst Chem Eng Trans 36:417-32 Je '40; Same. Chem Ind 46:699-704 Je '40

Chemical engineering in petroleum exploration and production. P. E. Fitzgerald. bibliog il diag Am Assn Pet Geologists Bul 24:1361-9 Ag '40

Chemical engineering problems, 1940. Am Inst Chem Eng Trans 36:sup1-39 S '40

Chemical industry moves ahead in 1939. il Ind & Eng Chem 32:3-8 Ja '40

Chemical plant lubrication; Chem. & Met. report. bibliog il diags map Chem & Met Eng 47:169-78 Mr '40

Engineering in the service of chemistry. T. H. Chilton. bibliog il Ind & Eng Chem 32: 23-31 Ja '40; Correction. 32:438 Mr '40

Fertilizer practice at Curtis bay; Davison chemical corp. R. S. McBride. il diag Chem & Met Eng 47:4-9 Ja '40

Modern steam power generation; the latest progress in chemical engineering. D. Brownlie. Chem & Ind 59:633-7 S 7 '40

Opportunities in the pulp and paper industry; Chem. & Met. report. il Chem & Met Eng 47:242-8 Ap '40

Philosophy of design. J. C. Lawrence. Am Inst Chem Eng Trans 35:801-6 D '39; Same abr. Chem & Met Eng 46:776-7 D '39; Abstract. Chem Ind 46:50-1 Ja '40

Report on conditioning of gases and air. il diags Chem & Met Eng 47:286-332 My '40

Review of chemical engineering for 1939. W. C. Peck. Chem Age (Lond) 41:435-7 D 30 '39

Some contributions of chemistry and chemical engineering to steam generation. G. W. Hewson and R. L. Rees. bibliog Inst Chem Eng Trans 17:43-69; Discussion. 69-79 '39 [for abstracts see 1939 annual]

CHEMICAL engineering—*Continued*
Strömungs- und wärmeübergangsprobleme in chemischer technik und forschung. G. Damköhler. Chemische Fabrik 12:469-77 O 25 '39
Then and now in plant operation; developments during the past 25 years. D. Gutleben and others. Chem & Met Eng 46:692-721 N '39
Transference of chemical processes from small to large-scale operation. R. Edgeworth-Johnstone. Inst Chem Eng Trans 17:129-36 '39
Triumph of a technology; Standard oil development co. S. D. Kirkpatrick. flow diags il Chem & Met Eng 46:670-8 N '39

See also
Acid handling
Chemical plants
Chemistry, Technical
Distillation
Drying
Evaporation
Extraction processes
Filters and filtration (technical chemistry)
Food factories—Equipment
Metallurgy
Mixing
Petroleum refineries
Refrigeration and refrigerating machinery
Refuse disposal
Sedimentation
Sewage disposal
Unit processes
Water purification

Apparatus and supplies
Chemical industries hold large exposition; equipment of interest to paper industry. Paper Tr J 109:15+ D 7 '39
Corrosion, heat, abrasion-resistant materials for the construction of chemical engineering equipment. il Chem & Met Eng 47: 598-612 S '40
Design and operation of a high temperature Dowtherm system. R. E. Hulme. il diag Chem & Met Eng 47:685-7 O '40
Industrial wastes from the equipment manufacturers' viewpoint; use of chemical, metallurgical, and sanitary engineering equipment. C. L. Knowles. il diag Ind & Eng Chem 31:1338-45 N '39
Materials of construction for chemical engineering equipment; ferrous and nonferrous alloys; physical and mechanical properties; corrosion, heat and abrasion resistance; makers. Chem & Met Eng 47: supp S '40
Progress through research. C. F. Roth. il Chem & Met Eng 46:686-8 N '39
Selecting materials of construction. H. L. Maxwell. Chem & Met Eng 47:471 Jl '40
17th chemical exposition preview. il diags Chem & Met Eng 46:690-722, 778-85 N-D '39
Unit operations laboratory equipment. O. T. Zimmerman and I. Lavine. 2d ed 253p $1.50 Univ. of North Dakota, Grand Forks '40
Vacuum service in the chemical industry. A. E. Williams. il diags Engineering 148:607-9, 612 D 1 '39
Welding for the chemical industry. C. W. Brett. il Chem & Ind 59:695-6 O 12 '40

See also
Absorption apparatus
Acid resisting materials
Centrifuges
Chemical plants—Equipment
Classifiers
Distillation apparatus
Drying apparatus
Evaporators
Extraction apparatus
Mixers
Separators
Thickeners

Bibliography
Manufacturers' latest publications. Published in monthly numbers of Chemical & metallurgical engineering

Bibliography
Minimum list of recommended books for a chemical engineering library. 5p; supp xiip Am. inst. of chemical engineers, Chemists bldg, 50 E. 41st st, New York '39

Study and teaching
Administrative training for the chemical engineer. E. S. Byng. Inst Chem Eng Trans 17:109-18; Discussion. 118-28 '39
Chemical engineering design courses; a survey. F. H. Conrad and W. E. Yates. J Chem Educ 17:85-9 F '40
Completing the engineer's training; safety instruction in a chemical engineering course. J. W. Greene. il Nat Safety N 42:14-15, 64+ S '40
Minutes of the second summer school for chemical engineering teachers, Pennsylvania state college, June 28-30. J Eng Educ 30:256-70 N '39
Service courses in the undergraduate chemical engineering curriculum. L. T. Lawler and W. N. Jones. J Eng Educ 30:270-81 N '39
Teacher qualifications and development. A. B. Newman. J Eng Educ 30:281-91 N '39

Tables, calculations, etc.
Absorption of sulphur dioxide in water; tower packed with one-inch Raschig rings. L. C. Jenness and J. G. L. Caulfield. bibliog diag Paper Tr J 109:37-41 D 28 '39
Calculation of chemical equilibrium at high pressures; with applications to methanol synthesis, hydration of olefins, and reaction of nitrogen and acetylene to give hydrogen cyanide. R. H. Ewell. bibliog Ind & Eng Chem 32:147-53 F '40
Calculation of particle trajectories. C. E. Lapple and C. B. Shepherd. bibliog Ind & Eng Chem 32:605-17 My '40
Nomographic chart for precise determination of mol fractions from weight percentages. H. S. Winnicki and L. N. Chellis. Chem & Met Eng 47:694-5 O '40
Review and summary of developments in heat transfer by conduction and convection. W. H. McAdams. il Am Inst Chem Eng Trans 36:1-20 bibliog(68 references, p 18-20) F '40
Simplified calculation of diffusional processes; general consideration of two-film resistances. A. P. Colburn. bibliog Am Inst Chem Eng Trans 35:211-36 Ap '39; Discussion. 35:587-91; 36:679-82 O '39, O '40
Specific gravity and viscosity of Na_2CO_3 solutions. D. S. Davis. Chem & Met Eng 47: 690-1 O '40
Thickening calcium carbonate slurries. E. W. Comings. flow diag il Ind & Eng Chem 32:663-7 My '40
Typical dryer calculations. O. A. Hougen. il Chem & Met Eng 47:15-17, 160-3 Ja, Mr '40
Use of psychrometric principles. E. J. Barta and H. J. Garber. bibliog il charts Chem & Met Eng 47:287-93 My '40; Correction. 45: 512 Jl '40
Useful empirical equation for correlation of chemical engineering test data. D. S. Davis. Chem & Met Eng 47:249 Ap '40
Vaporization equilibria; new charts which eliminate all but three of preliminary trial calculations. M. Gilbert. Chem & Met Eng 47:234-5+ Ap '40

See also
Distillation—Tables, calculations, etc.

CHEMICAL engineering laboratories
Cottonseed pressure-cooking research; pilot plant at Engineering experiment station, University of Tennessee. R. W. Morton. flow sheet il Mech Eng 62:731-5 O '40
New chemical engineering building at Case school of applied science. E. A. Arnold and D. O. Hubbard. il plans Ind & Eng Chem Anal ed 11:675-7 D 15 '39
New chemical engineering building at the University of North Dakota. I. Lavine and A. M. Cooley, jr. il plan Ind & Eng Chem Anal ed 12:567-70 S 15 '40
Ventilating and heating a chemical lab; chemical engineering building at Case school of applied science. D. O. Hubbard. il Heating-Piping 12:106 F '40

Equipment
Sedimentation in the laboratory; design data from laboratory experimentation. H. T. Ward and K. Kammermeyer. bibliog il Ind & Eng Chem 32:622-6 My '40

CHEMICAL engineers
Administrative training for the chemical engineer. E. S. Byng. Inst Chem Eng Trans 17:109-18; Discussion. 118-28 '39

CHEMICAL engineers—*Continued*
Chem. & Met. report on opportunities in the petroleum industry for chemical engineers. map Chem & Met Eng 47:415-22 Je '40 (Reprint 25c)
Modern pioneers on the chemical engineering frontier. pors Chem & Met Eng 47:194-6 Mr '40
Training and functions of the chemical engineer; lecture delivered March 10th, 1920, at University college, London. J. F. Moulton. Inst Chem Eng Trans 17:186-91 '39
Vocational guidance in chemistry and chemical engineering; A.C.S. committee report. bibliog il Ind & Eng Chem News ed 17:701-6 N 20 '39
Western opportunities for chemical engineers. P. D. V. Manning. Chem & Met Eng 47:613 S '40

See also
Chemical engineering—Study and teaching

CHEMICAL equations
Balancing oxidation-reduction equations. G. Barthauer. J Chem Educ 17:91-2 F '40; Discussion. 17:386-8 Ag '40

CHEMICAL equilibrium
Acid-base equilibria in ethyl alcohol. M. Kilpatrick and W. H. Mears. bibliog Am Chem Soc J 62:3051-4 N '40
Acid-base equilibria in methyl alcohol. M. Kilpatrick and W. H. Mears. bibliog Am Chem Soc J 62:3047-51 N '40
Calculation of chemical equilibrium at high pressures; with applications to methanol synthesis, hydration of olefins, and reaction of nitrogen and acetylene to give hydrogen cyanide. R. H. Ewell. bibliog Ind & Eng Chem 32:147-53 F '40
Chemical equilibria, free energies, and heat contents for gaseous hydrocarbons. K. S. Pitzer. Chem R 27:39-57 bibliog(41 references, p56-7) Ag '40
Equilibria in the systems Na_2O-SiO_2-H_2O and Na_2O-Al_2O_3-H_2O at 25°C. J. W. Sprauer and D. W. Pearce. bibliog il J Phys Chem 44:909-16 O '40
Equilibrium composition of *n*-butylmagnesium chloride solutions in ethyl ether. C. R. Noller and D. C. Raney. Am Chem Soc J 62: 1749-51 Jl '40
Equilibrium constant equation; a concrete solution of a teaching difficulty. W. A. Dow. J Chem Educ 17:439-40 S '40
Equilibrium constants for the systems alkyl formates and alkyl acetates with stearic acid. C. Barkenbus, C. A. Roswell and A. E. Mitts. bibliog Am Chem Soc J 62:1251-3 My '40
Equilibrium in an esterification reaction with perchloric acid as catalyst. H. M. Trimble and E. L. Richardson. Am Chem Soc J 62: 1018-19 My '40
Qualitative analysis and chemical equilibrium. T. R. Hogness and W. C. Johnson. rev ed 538p $2.90 Holt '40
Teaching problems in presenting the law of chemical equilibrium to students in analytical chemistry. C. S. Adams. bibliog J Chem Educ 17:22-9 Ja '40

See also
Donnan equilibrium
Phase rule and equilibrium

CHEMICAL fund, Incorporated
Registers 1,500,000 additional shares. Comm & Fin Chr 151:2796 N 9 '40

CHEMICAL industries
American Cyanamid; fourth-largest U.S. chemical company. il Fortune 22:66-71+ S '40
Chemical engineers and industry; advances in the past decade. C. M. A. Stine. Am Inst Chem Eng Trans 36:417-32 Je '40; Same. Chem Ind 46:699-704 Je '40
Competition among industry's materials; synthetic types gaining. J. V. Sherman. Barron's 20:13 My 13 '40
Defense spurs chemical industry's growth. S. B. Self. il Barron's 20:16-18+ S 16 '40
Developments in industrial chemistry. Chem & Ind 59:253-5 Ap 13 '40
L'économie chimique internationale. Chem & Ind 59:62 Ja 27 '40
Foreign trade. Chem & Met Eng 47:92-4 F '40
Let the big fellows be your smallest worry; story of a comparatively small chemical manufacturer. A. R. Maas as told to J. H. Collins. Nation's Business 28:20-2, 78+ S '40
Merchandising chemical specialties to chain stores. il Chem Ind 46:598-600 My '40
Merck's 3-way market: doctors, druggists, manufacturers. F. Smith. il Adv & Sell 33: 27-9, 42-3 F '40
News by commodities. Published in Foreign commerce weekly
La politique de guerre des produits de remplacement; le rôle de la chimie. C. Berthelot. bibliog Chimie & Ind 43:873-7 My 20 '40
Product development. W. J. S. Naunton. Chem & Ind 59:21-3 Ja 13 '40
Sales development, a new technique; Market development department. L. Grupelli and J. Miskel. il Chem Ind 46:564-5, 693-4; 47: 24-6 My-Jl '40
Some new products of 1939; achievements in industrial and medical chemistry. H. E. Howe. Barron's 19:18 D 4 '39
Three giant defense contributors; du Pont, Union Carbide and Allied Chemical. J. M. Weiss. Barron's 20:21-2 S 16 '40
What chemical specialties do chain stores buy? il Chem Ind 46:468-71 Ap '40
What you can use; guide to materials that are suitable for various purposes in chemical converting, compounding, and processing industries. Published in weekly numbers of Oil, paint and drug reporter

See also
Alcohol industry
Anti-freeze solutions
Bleaching
Brewing industries
Carnauba wax
Ceramic industries
Ceramics
Chemical plants
Chemical research
Chemical workers
Chemicals
Chemistry
Chemistry, Technical
Clay industries
Drug trade
Dye industry
Electrochemistry
Fertilizer industry
Gas industry
Glass
Lime industry
Metallurgy
Oil industries
Paint industry and trade
Paper
Paper chemicals
Paper industry and trade
Plastic industries
Potash
Pottery
Rubber
Rubber industry and trade
Salt
Soap
Soap industry and trade
Solvents
Sugar industry and trade
Tanning materials
Textile industry

also names of chemical companies, e.g. Dow chemical company; Du Pont de Nemours, E. I., and company; Monsanto chemical company

Bibliography
Chemical and allied products. (Business literature v 12, no 5) 2p Business branch, Newark public library, Newark, N.J. Ja '40

Directories
Buyer's guidebook number, 16th annual revision. W. J. Murphy, ed. Chem Ind 47: 1-716 pt 2 O '40 (pa $1.50)
Chemical engineering catalog, 1940. 25th annual ed 1097p $10 Reinhold pub. corp. '40
Chemicals buying section; an alphabetical list of chemicals with their formulas, physical and chemical properties, uses, containers, tariff, shipping regulations, with a buyer's guide of manufacturers and distributors. Chem Ind 47:155-449 pt 2 (Buyer's guidebook) O '40
Company directory; a geographical list of all chemical manufacturers, importers, and recognized distributors. Chem Ind 47:17-47 pt 2 (Buyer's guidebook) O '40
Laboratory equipment and apparatus buyers' guide. Chem & Ind 58:sup21-4 N 25 '39

CHEMICAL Industries—Directories—*Continued*
Raw materials buying section; an alphabetical list of natural raw materials, such as gums, metals, minerals, ores, naval stores, oils, natural pigments, etc. with their physical and chemical properties, uses, containers, tariff, shipping regulations, with a buyer's guide of suppliers. Chem Ind 47:49-154 pt 2 (Buyer's guidebook) O '40
Specialties buying section; an alphabetical list of industrial specialties for textile, leather, paper and pulp, rubber, ceramic, petroleum, coatings, plastics, electroplating, metal refining and working, laundry, drycleaning, for building and plant maintenance, and other chemical processing and agricultural uses, with a buyer's guide of manufacturers. Chem Ind 47:451-600 pt 2 (Buyer's guidebook) O '40

Exhibitions

Chemical exposition planned in Chicago for Dec. 11-15. Oil Paint & Drug Rep 137:3+ Ap 8 '40; Ind & Eng Chem News ed 18:286 Ap 10 '40
Chemical show exhibitors. New York, Dec. 4-9. Oil Paint & Drug Rep 136:32, 32A-32B D 4 '39
Chemistry parades in New York. il Ind & Eng Chem News ed 17:729-33, 747-50 D 10 '39
17th chemical exposition preview. il diags Chem & Met Eng 46:690-722, 778-85 N-D '39
17th exposition of chemical industries; photographs. Chem Ind 46:33-7 Ja '40
Why not a strictly chemical show? Chem Ind 46:165, 310-12 F-Mr '40

Finance

Chemical and petroleum corporation incomes in 1938. Oil Paint & Drug Rep 138:5+ O 7 '40
Chemical bull in the financial china shop; a banker's views. B. H. White. Chem Ind 45:658 D '39
Chemical finances, December 1939. Chem Ind 46:115 pt 2 Ja '40 [cont monthly]
Chemical sales near 1929 levels; profits retarded by high costs and low prices. L. Applegate. Annalist 54:630-1+ N 16 '39
Financial reports, Commercial Solvents, du Pont, Union Carbide & Carbon. Annalist 56: 13 Jl 4 '40
Financial reports, du Pont, Hercules powder co., Mathieson alkali works. Annalist 56: 149 Ag 1 '40
Financial reports, Hercules powder co., Commercial solvents corp., Texas Gulf sulphur co. Annalist 54:637 N 16 '39
Improved profit outlook for Commercial Solvents; new management and new products. W. Gates. il Mag of Wall St 66:584-5+ Ag 24 '40
Progress of plastics, principal producers. J. V. Sherman. Barron's 20:20 My 27 '40
Wall Street of chemistry. Published in semimonthly numbers of Industrial and engineering chemistry news edition

History

Calendar of events, 1940. Chem Ind 46:117-18 pt 2 Ja '40
Chemical chronology, 1939. Chem Ind 46:38-40 Ja '40
Rowland Hazard, 1829-1898, father of the American alkali industry; Solvay process. W. Haynes. il Chem Ind 47:248-53 S '40
Some American and Canadian chemical history. E. A. LeSueur. Can Chem & Process Ind 24:113-14+ Mr '40

Securities

American cyanamid; earning record profits and still growing. H. D. Steinmetz. il Mag of Wall St 65:809-11+ Ap 6 '40
Chemical companies, 1937-39. Mag of Wall St Manual p29 Mr 2 '40
Chemical profits, 1939. L. Applegate. Annalist 55:191 Ja 25 '40
Chemical stocks and bonds. Chem Ind 46:116 pt 2 Ja '40 [cont monthly]
Chemist looks at the investment problem. C. Tyler. Weekly Underw 143:871 O 12 '40
Dow Chemical follows its own cycle. H. F. Travis. il Mag of Wall St 65:612-13+ F 24 '40
Position of leading chemical stocks. Mag of Wall St 65:544; 66:522-3 F 10, Ag 10 '40
Stocks of chemical, metallurgical and process industries. Published in monthly numbers of Canadian chemistry and process industries
Ten leaders in the chemical industry; thumbnail appraisal. Mag of Wall St 65:411-15 Ja 13 '40
Today's opportunities in chemicals. J. J. Hipple. il Mag of Wall St 66:669-73, 698-700 S 21 '40
Union Carbide spreads its gains. G. W. Mathis. il Mag of Wall St 66:408-10 Jl 13 '40
Westvaco chlorine; caustic soda and chlorine enjoy broad and growing markets. G. L. Merton. Mag of Wall St 66:367+ Je 29 '40

Statistics

Chemical consumption in final quarter 25 per cent above 1938 level. Chem & Met Eng 46: 800-1 D '39
Chemical developments abroad, 1939; effect of munitions and preparedness upon chemical production, consumption and foreign trade. C. C. Concannon and A. H. Swift. U S Bur For & Dom Com Trade Promotion Ser 211: 1-183 '40
Chemical economics and markets. Published in monthly numbers of Chemical & metallurgical engineering
Chemical exports and imports in half-year, 1940. Oil Paint & Drug Rep 138:3+ Ag 12 '40
Chemical exports up 50% in nine months. Oil Paint & Drug Rep 138:3+ N 11 '40
Consumption of chemicals gained 22 per cent in volume last year. Chem & Met Eng 47:55 Ja '40
Drugs, fine chemicals. Published in weekly numbers of Oil, paint and drug reporter
Expansion of chemical consumption reflects wartime demand and new uses. S. L. Miller. Annalist 56:267-8 Ag 29 '40
Heavy chemicals. Published in weekly numbers of Oil, paint and drug reporter
1940 exports gain as imports decrease. Ind & Eng Chem News ed 18:728 Ag 25 '40
Production and sales of certain synthetic chemical products, 1939. Chem & Met Eng 47:437-8 Je '40; Excerpt. Oil Paint & Drug Rep 137:31 Je 24 '40
Production of chemicals, revision; monthly, 1923-June, 1940. Fed Res Bul 26:874 Ag '40
Report on chemical raw materials. Chem & Met Eng 47:63-94 F '40
Reporter's nationwide business survey, 1939. Oil Paint & Drug Rep 137:3+ F 19 '40
Reporter's nationwide business survey, first quarter. Oil Paint & Drug Rep 137:3+ My 6 '40
Reporter's nationwide business survey; second quarter. Oil Paint & Drug Rep 138:3, 28, 30-2 Ag 5 '40
Reporter's nationwide business survey, third quarter, 1939. Oil Paint & Drug Rep 136: 3, 26, 28-30 N 20 '39
State of chemical trade; current statistics, Dec. 31, 1939. Chem Ind 46:113-14 pt 2 Ja '40 [cont monthly]
Synthetic chemicals; production and sales, 1938 and 1939. Oil Paint & Drug Rep 137: 3+ Je 3 '40

See also
Coal tar products—Statistics

Belgium

World-wide chemistry (cont). C. Mathy. Ind & Eng Chem News ed 18:79-80 Ja 25 '40

Bermuda

Bermuda as a market for American products. Comm Rep p497 Je 1 '40

Bolivia

Bolivian chemical market during 1939. Comm, Rep p305 Mr 30 '40

CHEMICAL Industries—*Continued*

Brazil

World-wide chemistry (cont). C. E. Nabuco de Araujo, jr. il Ind & Eng Chem News ed 18:106-7, 161-2, 361, 405, 725-6, 893-4 F 10-25, Ap 25-My 10, Ag 25, O 25 '40

Canada

Chemical industry makes new record; 1939 data. W. H. Losee and H. McLeod. Can Chem & Process Ind 24:216-25 My '40

Seigniory club convention; review of general and sectional meetings. Can Chem & Process Ind 24:277-85+ Je '40

Stocks of chemical, metallurgical and process industries. Published in monthly numbers of Canadian chemistry and process industries

World-wide chemistry (cont). S. J. Cook. Ind & Eng Chem News ed 18:162-3, 587 F 25, Jl 10 '40

Chile

Chemical industry and trade in 1938. Comm Rep p82 Ja 27 '40

China

World-wide chemistry. W. H. Adolph. Ind & Eng Chem News ed 18:726-7 Ag 25 '40

Cincinnati region

Chemical industries in the Cincinnati area. il Ind & Eng Chem News ed 18:129-34 F 25 '40

Cuba

Cuban market expanding. Comm Rep p514 Je 8 '40

Detroit

Chemical industry in Detroit. il Ind & Eng Chem News ed 18:649-53 Ag 10 '40

Egypt

Egyptian chemical market in 1939. Comm Rep p638 Jl 20 '40

Europe

Behind locked doors in Europe. H. W. Schulz and H. L. Reichart. Chem & Met Eng 46: 757-9 D '39

Finland

L'industrie chimique en Finlande. I. Spira. Chimie & Ind 43:613-19 Ap 5 '40

France

Chemical industry in France. Chem Age (Lond) 41:448 D 30 '39

Developments in the French industry. Comm Rep p433 My 11 '40

War position of French chemical industry. Can Chem & Process Ind 24:175 Ap '40

Germany

Chemical situation in Germany. Chem Age (Lond) 41:417 D 23 '39

Chemicals; the Polish industry a German asset. Comm Rep p1062 N 18 '39

Critical state of German industry. Chem & Ind 59:403-4 Je 8 '40

Ersatz raw materials for German H_2SO_4. K. Falk. il Chem & Met Eng 47:333 My '40

German chemical industry control. Textile Col 62:34+ Ja '40

German chemical industry under government wartime control. S. B. Redecker. Comm Rep p1155 D 9 '39; Same. Oil Paint & Drug Rep 136:29 D 11 '39

Germany's chemical industry. Economist 138: 786-7 Ap 27 '40

Import statistics for 1938 show importance of Germany as a supplier of chemicals. Chem & Met Eng 46:746 N '39

Industrial research in 1939. W. A. Hamor. il Ind & Eng Chem News ed 18:52-5 Ja 25 '40

Wartime control of German chemical industry. Ind & Eng Chem News ed 17:780 D 20 '39

War-time decrees increase government control of German chemical industry. Chem & Met Eng 47:125 F '40

Great Britain

Association of British chemical manufacturers; extracts from the annual report for the year ended May 31, 1940. Chem & Ind 59:722-6 O 26 '40; Chem Age (Lond) 43: 195-6 O 26 '40

British chemical and dyestuffs traders' association; problems of supply, import and export. Chem Age (Lond) 42:271 My 11 '40

British chemical industry, first quarter of 1940. G. Tait. Comm Rep p498 Je 1 '40

British chemical industry in second quarter of 1940. Comm Rep p768 S 7 '40

British chemist in industry, then and now, 1914-1939. H. Calam. Chem & Ind 59:601-3 Ag 24 '40

British export business gaining. Can Chem & Process Ind 24:346 Jl '40

British industry active in last quarter of 1939. Comm Rep p162 F 17 '40

British industry at war. P. I. Smith. il Chem & Met Eng 47:12-14 Ja '40

Chemical industry and the home front. Chem & Ind 59:121-8 F 24 '40

Chemical raw materials in Great Britain. Can Chem & Process Ind 24:66+ F '40

Chemicals in 1939. Economist 138:sup44 F 17 '40

Conditions in, and some war problems of, the heavy chemical industry in 1939. P. Parrish. il plan Chem Age (Lond) 41:428-32, 450 D 30 '39

Controlling British chemical manufacture under war-time conditions. Can Chem & Process Ind 23:600 D '39

Fuel luncheon club; presidential address. W. A. Bristowe. Chem & Ind 58:1052-5 D 2 '39

Fuel technology and the war. W. A. Bristow. Gas J 228:288-90 N 8 '39; Same. Engineer 168:469-70 N 10 '39; Same cond. Engineering 148:561-2 N 17 '39

Industrial research in 1939. W. A. Hamor. il Ind & Eng Chem News ed 18:49-51 Ja 25 '40

Lignite development in Devon. Chem Age (Lond) 43:97-9, 109-10 Ag 31-S 7 '40

New year outlook in British chemical trade. Can Chem & Process Ind 24:18-19 Ja '40

President's address, Society of chemical industry. J. C. Philip. Chem & Ind 59:494-9 Jl 13 '40

War-time British chemical industry. Can Chem & Process Ind 23:551-2 N '39

World-wide chemistry (cont). G. Abrahamson Ind & Eng Chem News ed 17:756+; 18: 79, 104, 197-8, 313, 405-6, 499, 545, 627 D 10 '39, Ja 25-F 10, Mr 10, Ap 10, My 10, Je 10-25, Jl 25 '40

See also
Imperial chemical industries

Greece

Greek chemical industry. Comm Rep p551 Je 22 '40

Hungary

Chemical situation in Hungary. Chem & Ind 59:71-2 F 3 '40

World-wide chemistry (cont). S. S. de Finály. Ind & Eng Chem News ed 18:198, 587-8, 853 Mr 10, Jl 10, O 10 '40

India

India as a chemical market. Can Chem & Process Ind 24:236 My '40

Industrial chemical developments in India. A. P. Som. Can Chem & Process Ind 24: 174 Ap '40

World-wide chemistry. A. P. Som. Ind & Eng Chem News ed 18:313-14, 455 Ap 10, My 25 '40

Italy

Chemical progress in Italy; Montecatini report. Chem Age (Lond) 42:313 Je 8 '40

Italian autarchy almost achieved. G. Fauser. il Chem & Met Eng 47:10-11 Ja '40

Italian industry during 1939. Comm Rep p608 Jl 13 '40

World-wide chemistry (cont). R. Sansone. Ind & Eng Chem News ed 18:161, 406-7, 659 F 25, My 10, Ag 10 '40

CHEMICAL Industries—*Continued*

Japan

Industrial research in 1939. W. A. Hamor. Ind & Eng Chem News ed 18:58 Ja 25 '40
Japanese chemical industry hampered by lack of equipment. Oil Paint & Drug Rep 136: 50 D 11 '39
Japanese exports show marked changes in 1938. Comm Rep p282 Mr 9 '40
Le marché de l'iode au Japon. L. M. Bernard. map Chimie & Ind 43:439-43 Mr 5 '40
World-wide chemistry (cont). H. Leopold. il Ind & Eng Chem News ed 17:709-10, 779-80; 18:104-6, 257-9, 361-2, 455-6, 500-1, 627-8, 767-8, 853-4, 951-2 N 20, D 20 '39, F 10, Mr 25, Ap 25, My 25, Je 10, Jl 25, S 10, O 10, N 10 '40

Latin America

L'industrie chimique dans les deux Amériques en 1939. R. Seiden. Chimie & Ind 43:521-9 Mr 20 '40
Latin-American chemical trade over four decades. C. C. Concannon. Comm Rep p311 Ap 6 '40

Lithuania

Lithuanian production lower during 1939. Comm Rep p532 Je 15 '40

Netherlands

Netherlands industry during 1939. Comm Rep p254 Mr 16 '40

New England

Chemical tourist visits at the hub of New England chemical trade. W. Haynes. il Chem Ind 46:26-9, 158-62 Ja-F '40

Niagara area

Chemical industry on the Niagara frontier. R. B. MacMullin, F. L. Koethen and C. N. Richardson. map Am Inst Chem Eng Trans 36:295-324 Ap '40; Excerpts. Chem & Met Eng 47:338-41 My '40

Norway

Norwegian trade expanded in 1939. Comm Rep p209 Mr 2 '40

Persia

Iran's imports approximate a value of $2,000,000 annually. Comm Rep p626 Jl 20 '40

Rhode Island

Technical industries. W. L. Morgan. map Am Inst Chem Eng Trans 35:779-87 D '39

Rumania

Chemical industry in Rumania. Chem & Ind 59:274 Ap 20 '40

Scandinavia

World-wide chemistry (cont). C. A. Robak. Ind & Eng Chem News ed 18:545-6 Je 25 '40

South Africa

Chemicals in South Africa; increasing shortage expected. Chem Age (Lond) 43:69 Ag 10 '40
Chemicals in South Africa; local manufacture to be developed. Chem Age (Lond) 42:4 Ja 6 '40
Chemicals in South Africa; new motor fuels; cresol dusts for the locust plague. Chem Age (Lond) 42:258 My 4 '40

Switzerland

Effect of the war on the Swiss chemical industry. P. W. Buhrman. Comm Rep p1225 D 30 '39
Swiss chemical industry reflects war conditions. Oil Paint & Drug Rep 137:4 Ja 1 '40

Tennessee

Kingsport, Tennessee, a mid-southern center of chemical industry. C. H. Penning. il Chem Ind 46:566-71 My '40

United States

Chemical foreign trade exceeded $100,000,000 in first quarter. C. C. Concannon. Comm Rep p438 My 11 '40
Chemical foreign trade in 1939; effect of war conditions. O. Wilson. Ind & Eng Chem 32:421-3 Mr '40
Chemical imports at New York during 1938 analyzed by Tariff board. Oil Paint & Drug Rep 137:5+ Ja 8 '40
Chemical industry moves ahead in 1939. il Ind & Eng Chem 32:3-8 Ja '40
Chemistry's new building blocks; break-down of coal, oil, wood gives raw materials for new synthetic products; leading companies. S. B. Self. Barron's 19:13-16 D 4 '39
Coal tar began it; vast increase in U. S. organic chemicals industry. C. M. Hackett. il Sci Am 163:117-19 S '40
Decade of chemical progress in the United States, 1929-1939; wall chart. Chem & Met Eng 47:supp F '40
Export control for defense affects number of chemicals; with list. Oil Paint & Drug Rep 138:3, 26+ Jl 8 '40
Imports, exports; list by U.S. ports of chemical products with amounts and consigners. Published in weekly numbers of Oil, paint and drug reporter
Industrial research in 1939. W. A. Hamor. Ind & Eng Chem News ed 18:1-13 Ja 10 '40
Is chemical industry ready? il Ind & Eng Chem 32:1151-80 S '40
It's still a chemical war; chemical industry still has rush job in defense program. Business Week p17-18 Jl 13 '40
New census schedules prepared for chemical survey. Ind & Eng Chem News ed 17:785 D 20 '39
1939 versus 1914. W. F. Van Riper. Am Dyestuff Rep 28:722-4 D 11 '39
Organizing for chemical preparedness. Chem & Met Eng 47:460-1 Jl '40
Our chemical industry in the next war. C. S. Robinson. Am Inst Chem Eng Trans 35: 789-96 D '39; Same. Chem & Met Eng 46: 754-6+ D '39; Excerpt. Oil Paint & Drug Rep 136:5+ N 20 '39
Our chemical self-sufficiency; abstract. C. A. Thomas. Chem Ind 47:374-5 O '40
Outlook for chemical industry. L. du Pont. Comm & Fin Chr 150:504+ Ja 27 '40
Reciprocal trade pacts; review of their history and effects. R. Kent. il Chem Ind 46: 695-8 Je '40
Report on chemical raw materials. Chem & Met Eng 47:63-94 F '40
Reporter's nationwide business survey, 1939. Oil Paint & Drug Rep 137:3+ F 19 '40
Reporter's nationwide business survey, first quarter. Oil Paint & Drug Rep 137:3, 26, 28-30 My 6 '40
Reporter's nationwide business survey; second quarter. Oil Paint & Drug Rep 138:3, 28, 30-2 Ag 5 '40
Reporter's nationwide business survey, third quarter, 1939. Oil Paint & Drug Rep 136: 3, 26, 28-30 N 20 '39
Research that pays off; frontiers that are boundless; stability, growth, earnings, dividends; the chemicals. W. Gates. il Mag of Wall St 65:406-10 Ja 13 '40
Rise of the organic chemical industry in the United States. C. M. A. Stine. bibliog il Ind & Eng Chem 32:137-44 F '40; Same. Chem & Ind 59:55-61 Ja 27 '40
Today's opportunities in chemicals. J. J. Hipple. il Mag of Wall St 66:669-73, 698-700 S 21 '40

See also

Du Pont de Nemours, E. I., and company
Manufacturing chemists association of the United States
Synthetic organic chemical manufacturers association

Western states

Western opportunities for chemical engineers. P. D. V. Manning. Chem & Met Eng 47:613 S '40

CHEMICAL industries (periodical)

Chemical industries and the chemical industry, 1914-1939. W. B. Bell. Chem Ind 45: 656-7 D '39

CHEMICAL industry medal
Wilson receives chemical industry medal for 1939. Ind & Eng Chem News ed 17:697-8 N 20 '39; Nat Pet N 31:R541 D 13 '39

CHEMICAL laboratories
Addition doubles size of University of Cincinnati's chemistry building. Ind & Eng Chem News ed 18:312 Ap 10 '40
American Cyanamid research laboratories. il Paper Tr J 110:18, 20-1 Ja 11 '40
Chemical research laboratory of the Ethyl gasoline corporation. H. A. Beatty. il Ind & Eng Chem Anal ed 12:185-6 Mr 15 '40
Experiences in the field of merchandise control; Sears, Roebuck and company. E. S. Weirick. J Chem Educ 16:585-7 D '39
Experimental laboratory of the Cartiere Burgo, Turin. il Chem & Ind 59:130-1 F 24 '40
Laboratory space for chemical microscopy. C. E. Otto. il diags J Chem Educ 17:331-3 Jl '40
Laying out a modern industrial laboratory; Columbia alkali corporation. I. E. Muskat. il Chem Ind 45:531-3 N '39
New chemical and metallurgical engineering building at Purdue university. J. L. Bray. il plan Ind & Eng Chem Anal ed 12:375-8 Je 15 '40
Railroads and chemists; Canadian national railways laboratory handles bio-chemical, general industrial and sanitary control and research. W. E. Kemp. Can Chem & Process Ind 24:33-4+ Ja '40
Significance of the industrial research laboratories for chemistry; Paraffine companies. R. H. Shainwald. il Chem Ind 45:659-60 D '39
Texas chemical laboratories, then and now. H. Hale. bibliog J Chem Educ 17:165-7 Ap '40
Woman chemist in the control laboratory; training and qualifications. E. Hearsey. J Chem Educ 16:587 D '39

See also
Ceramic laboratories
Chemical engineering laboratories
Medical laboratories
Metallurgical laboratories
Paint laboratories
Petroleum refineries—Laboratories

Equipment
American apparatus, instruments, and instrumentation; general laboratory appliances. R. H. Müller. il Ind & Eng Chem Anal ed 12:623-6 O 15 '40
Efficient low-holdup laboratory column. M. L. Selker, R. E. Burk and H. P. Lankelma. bibliog diag Ind & Eng Chem Anal ed 12: 352-5 Je 15 '40
Laboratory electric stirring motor; ball bearing pulley assembly. E. B. Hershberg. il diags Ind & Eng Chem Anal ed 12:293-6 My 15 '40
Laboratory equipment and apparatus buyers' guide. Chem & Ind 58:sup21-4 N 25 '39
New developments in laboratory equipment. W. H. Edwards. il Chem Age (Lond) 42: 249-50 Ap 27 '40
Recent advances in scientific appliances. il diags Chem Age (Lond) 42:246-8 Ap 27 '40
Recent developments in laboratory apparatus. W. B. Warren and H. Draving. il Chem Ind 45:669-73 D '39
Research in organometallic problems; equipment devised and used at Univ. of Maine; photographs. W. L. Gilliland. Ind & Eng Chem Anal ed 12:474-5 Ag 15 '40
Small Büchner funnel for qualitative organic analysis. C. A. Roswell. diag Ind & Eng Chem Anal ed 12:350 Je 15 '40

See also
Chemical apparatus
Crucibles
Electric furnaces, Laboratory

Heating and ventilation
Ventilating and heating a chemical lab; chemical engineering building at Case school of applied science. D. O. Hubbard. il Heating-Piping 12:106 F '40

Safety devices and measures
Completing the engineer's training; safety instruction in a chemical engineering course. J. W. Greene. il Nat Safety N 42:14-15, 64+ S '40
Laboratory precautions. Can Chem & Process Ind 23:628 D '39

CHEMICAL laboratories, Portable
Portable laboratory for the microscopist. G. Weingarten. il J Chem Educ 17:293-5 Je '40

CHEMICAL libraries
Extracts from report of the Joint library committee on library co-operation during twenty years. Chem & Ind 59:721-2 O 26 '40
What the research worker expects of the librarian. J. A. Leighty. Special Lib 31: 264-6 Jl-Ag '40

CHEMICAL literature
Chemical publications; their nature and use. M. G. Mellon. 2d ed 284p $2.75 McGraw-Hill '40

CHEMICAL patents
Chemical research at 150th anniversary of U.S. patent system. P. D. Boone. Ind & Eng Chem News ed 18:365 Ap 25 '40
Documentation. Published in semi-monthly numbers of Chimie & industrie
Foreign chemical patents; Belgian, Canadian, French & English. Chem Ind 46:127-8 pt 2 Ja '40 [cont monthly]
Inventions in the chemical industry. Published in Chemical age
Manufacture of lithopone; advances in processing, composition, particle size, whiteness and light fastness. E. F. MacTaggart. flow sheet Can Chem & Process Ind 24:107-11 Mr '40
New use for an old substance; Weber varnish patent held infringed by Gilbert Spruance co. T. F. Healy. Ind & Eng Chem News ed 18:889 O 25 '40
Patent list. Published in weekly numbers of Chemistry and industry
Patent searching, with special reference to chemical patents. M. O. Price. Special Lib 31:118-28 Ap '40
U.S. chemical patents; off. gaz., vol. 508, nos. 3, 4, vol. 509, nos. 1, 2, 3. Chem Ind 46: 121-6 pt 2 Ja '40 [cont monthly]

See also
Ceramic patents
Dye patents
Lubrication and lubricants—Patents
Paper making—Patents
Petroleum refining—Patents
Resinous products—Patents
Rubber—Patents
Rubber, Artificial—Patents

CHEMICAL plants
Build for permanence. W. J. Austin. il Chem Ind 45:525-7 N '39
Durez starts output of synthetic phenol from benzene; Raschig process. flow sheet il Oil Paint & Drug Rep 138:3+ N 4 '40; Ind & Eng Chem News ed 18:921-2 N 10 '40; Mod Plastics 18:62-4, 100+ N '40
General Atlas opens new plant at Guymon, Okla. il Rubber Age 46:296 F '40
How process industries are meeting their water supply problems. G. L. Montgomery. il maps Chem & Met Eng 47:622-5 S '40
Humidity damage to buildings and means for its prevention. C. R. Downs and J. W. Spiselman. il diag Chem & Met Eng 47:620-1+ S '40
New plant for Church & Dwight at Syracuse. il Chem & Met Eng 47:109 F '40
Wirtschaftliche holzbauten in der kali-industrie; abstract. Trysna. Chemische Fabrik 13:174-5 My 18 '40

See also
Ammonia—Manufacture
Beverages—Manufacture
Canneries
Cement plants
Clay products plants
Dye factories
Fertilizer factories
Food factories
Glass factories
Metallurgical plants
Paint factories
Paper mills
Petroleum refineries
Rubber factories
Sugar factories
Sulfuric acid—Manufacture

CHEMICAL plants—*Continued*

Accidents

Dollars and sense of safety. F. J. Van Antwerpen. bibliog il Ind & Eng Chem 32: 1437-43 N '40

Du Pont plants report many safety records. Nat Safety N 41:72-3 Ap '40

Costs

American institute of chemical engineers 1940 annual student contest problem; doubling production of acetic acid concentrating department, with consideration of economics of solvent extraction; with prize winning paper by H. Campbell. diags Am Inst Chem Eng Trans 36:593-655 Ag '40

Design

Chemical factory, Bucks, England. il plans Arch Rec 87:100-3 F '40

Design and arrangement of chemical plant in modern industry; abstract. J. A. Griffiths. Inst Chem Eng Trans 17:196 '39

Philosophy of design. J. C. Lawrence. Am Inst Chem Eng Trans 35:801-6 D '39; Same abr. Chem & Met Eng 46:776-7 D '39; Abstract. Chem Ind 46:50-1 Ja '40

Electric equipment

Conversion devices for electrochemical loads. C. C. Levy. bibliog il diag Chem & Met Eng 47:344-8 My '40

Electrical equipment trends in the chemical industry. C. C. Levy. il Chem Ind 45:534-7 N '39

Electricity in chemical plants in which processes are dependent chiefly upon steam. K. Pinder. diags Elec Eng 59:77-83 F '40

Electricity in the chemical industry. il Electrician 124:282 Ap 12 '40

Electricity in the manufacture of potash; Searles Lake plant of the American potash and chemical corporation. G. F. Maughmer. il diags Gen Elec R 43:392-8 O '40

Maintenance of electrical equipment; Monsanto chemical company. A. E. Marshall. il Chem Ind 45:558-60 N '39

Employees

See Chemical workers

Equipment

Absorptionskältemaschinen in der chemischen industrie. W. Niebergall. bibliog il diags V D I 84:41-7 Ja 20 '40

Acetic acid from wood distillation; Othmer process; pictured flow sheet. Chem & Met Eng 47:349-52 My '40

Aluminum chemical equipment. F. C. Frary. il Am Inst Chem Eng Trans 36:403-15 Je '40; Same. Chem Ind 46:714-17 Je '40

Arc welding for maintenance in chemical works. R. Butler. il diags Chem Age (Lond) 42:77-9 F 10 '40

Avoiding clogged bin hoppers. C. O. Sandstrom. diags Chem & Met Eng 47:22-3 Ja '40

Chemical plant lubrication; Chem. & Met. report. bibliog il diags map Chem & Met Eng 47:169-78 Mr '40

Chemical plant manufacturer in relation to chemical industry. B. N. Reavell and G. E Foxwell. Chem & Ind 58:1113-18 D 30 '39; Abstract. Chem Age (Lond) 42:113 F 24 '40; Discussion. Chem & Ind 59:147-8 Mr 2 '40; Chem Age (Lond) 42:113-15 F 24 '40

Chemical resistance of sulphur cements. C. R. Payne and W. W. Duecker. bibliog il Am Inst Chem Eng Trans 36:91-110; Discussion. 111 F '40; Same. Chem & Met Eng 46:766-70; 47:20-1 D '39-Ja '40; Discussion. Am Inst Chem Eng Trans 36:111 F '40

Chemical stoneware equipment. P. C. Kingsbury. il Chem Ind 45:564-6 N '39

Chemistry and vitreous enamels. E. P. Poste. bibliog il Ind & Eng Chem 32:9-15 Ja '40

Coal handling, storage; Dow chemical co. il Steel 106:50+ Ap 1 '40; Same. Gas Age 85: 30+ Ap 11 '40; Same. Power 84:289 My '40; Same abr. Heat & Ven 37:46 My '40

Complete control of piping systems eliminates errors at Campana plant. R. D. Frick. il Heating-Piping 12:103-5+ F '40

Corrosion, heat, abrasion-resistant materials for the construction of chemical engineering equipment. il Chem & Met Eng 47:598-612 S '40

Corrosion-resisting alloy industry. F. L. La Que. Ind & Eng Chem 32:1164-5 S '40

Design for distilled water; Eli Lilly & co. A. A. Ross. il Chem & Met Eng 47:100-1 F '40

Development of ceramic ware for the chemical industry. P. C. Kingsbury. bibliog Am Inst Chem Eng Trans 36:433-42 Je '40

Dewey and Almy chemical co. factory; plumbing and heating. il Dom Eng 156:38-9+ Jl '40

Equipment for specialty manufacturing. C. S. Glickman. diags Chem Ind 46:60-2 Ja '40

Fabrication of stainless steel into chemical and process vessels. P. L. Coddington. il Metal Prog 38:39-44 Jl '40

Glass-lined equipment. P. S. Barnes. il Ind & Eng Chem 32:1158-9 S '40

How and how not to treat glass lined equipment. P. S. Barnes. il Chem Ind 45:556-7 N '39

How specialty lubricants are made; Lubri-Zol corp, Cleveland. D. M. Considine. flow diag il Chem & Met Eng 47:230-3 Ap '40

Improved shipping department equipment; Merck & co. R. M. Cooley. il Chem Ind 45:538-40 N '39

Indicators and recorders; their purpose and service. C. H. Butcher. Chem Age (Lond) 43:143-4 S 28 '40

Keep the piping clean; Lydia E. Pinkham medicine co. plant. O. E. Russell and F. A. Westbrook. il Heating-Piping 12:434 Jl '40

Lower-cost handling, more jobs; Bristol-Myers company, Hillside, N.J. E. W. Love. il Factory Management 98:62-4 Je '40

Materials of construction for chemical engineering equipment; ferrous and non-ferrous alloys; physical and mechanical properties; corrosion, heat and abrasion resistance; makers. Chem & Met Eng 47:supp S '40

Mechanical power transmission. il diags Chem & Met Eng 47:482-8 Jl '40

Modern welding practices in the chemical industry; installation and relocation of piping. H. D. Lanterman. il diags Chem Ind 47:42-5 Jl '40

New chemical plant in 1939; continued enterprise of British firms. Chem Age (Lond) 41:445 D 30 '39

Novocol chemical mfg. co. uses silica gel unit to dry air. R. Sanford. il diag plan Heat & Ven 37:43-5 Ap '40

Plant equipment. D H. Killeffer. il Ind & Eng Chem 32:1165-6 S '40

Production of cyanamide; pictured flow sheet. Chem & Eng 47:253-6 Ap '40

Research looks to the future; laboratory of Crane co. J. J. Kanter. il Steel 105:48-50 D 18 '39

Rolling and extruding of lead for chemical equipment. F. P. Peters. il Metals & Alloys 11:112-17 Ap '40

Selection of safe metals for chemical equipment. P. V. Faragher. il Chem Ind 45:682-4 D '39; Same cond. Chem Age (Lond) 42:35-6 Ja 20 '40

17th chemical exposition preview. il diags Chem & Met Eng 46:690-722, 778-85 N-D '39

Synthetic resins for surface coatings; Reichhold chemicals. J. A. Lee. il Chem & Met Eng 47:334-7 My '40

Unit operations in drug manufacture; Norwich pharmacal co. G. W. Rengert. flow sheet il Ind & Eng Chem 32:461-4 Ap '40

Water supply equipment in the process industries; types of pumps. G. L. Montgomery. il diags Chem & Met Eng 47:680-4 O '40

Welding construction; applications to plant in the chemical industry. E. D. Lacy. il Chem Age (Lond) 42:225-6 Ap 20 '40

What price chemical plant modernization? R. L. Murray and A. H. Maude. il Chem Ind 45:528-30 N '39

CHEMICAL plants—Equipment—*Continued*
Wood in the chemical industry; its use for storage purposes; methods of impregnation; abstract. R. Quarendon. il Chem Age (Lond) 42:327 Je 15 '40

See also
Absorption apparatus
Autoclaves
Centrifuges
Crystallizers
Filter presses
Food factories—Equipment
Glass factories—Equipment
Mixers
Screens

Bibliography
Manufacturers' latest publications. Published in monthly numbers of Chemical & metallurgical engineering

Fires and fire protection
CO_2 fire protection for the chemical industry. R. E. Eberhardie. il Chem & Ind 59:541-3 Jl 27 '40
Carbon dioxide gas as a fire prevention aid. A. M. Doxsey. il Chem Ind 47:394-6 O '40
Extinguishing fires in the chemical industry. R. M. L. Russell. Weekly Underw 143:16-19 Jl 6 '40; Same cond. Chem & Met Eng 47: 548-50 Ag '40
Fire prevention in chemical plants. G. A. Shattuck. il Chem Ind 47:274-6 S '40
Report on chemical plant safety and fire protection. il Chem & Met Eng 47:700-6 O '40
Use of gas to smother plant fires. P. W. Eberhardt. il Am Dyestuff Rep 29:575-6 O 14 '40
We fight fire with gas; S. C. Johnson & son, inc. J. Collier. il Factory Management 98: 71-3 S '40

Lighting
Chem. & Met. report on plant lighting. il plan Chem & Met Eng 47:25-32 Ja '40

Maintenance and repair
Plant maintenance. G. F. Metz and others. il diags Chem Ind 45:553-68 N '39

Management
Chemical work simplification program to enlist aid of supervisory, technical and clerical employees in search for new ideas. J. R. Bailey. Chem & Met Eng 47:18-19 Ja '40
Executive and the technologist; a proper understanding between them. W. B. Bell. Ind & Eng Chem News ed 18:185-90 Mr 10 '40; Same. Chem Ind 46:296+ Mr '40; Same abr. Chem & Ind 59:398-401 Je 8 '40; Abstract. Chem & Met Eng 47:156-7 Mr '40
Planning for cost reduction. Chem & Met Eng 47:476 Jl '40
When we expand; first we go after bottlenecks; Monsanto chemical company. C. Belknap. il Factory Management 98:52-3+ My '40
Work simplification in a chemical industry. J. R. Bailey. Am Inst Chem Eng Trans 36:227-32 Ap '40

Power
Electrical and power transmission equipment at chemical exposition. il diag Chem & Met Eng 46:699-700 N '39
Electricity in chemical plants in which processes are dependent chiefly upon steam. K. Pinder. diags Elec Eng 59:77-83 F '40

Safety devices and measures
Chem. & Met. report on plant lighting; hazardous locations (based on National electric code, 1937). plan Chem & Met Eng 47: 29-32 Ja '40
Clean plant is a safe plant. G. C. McCarten. il Chem Ind 45:522-4 N '39
Economics of health in chemical industries. E. R. Hayhurst. il Chem Ind 45:518-21 N '39
Explosions that weren't planned; fires, explosions and death—resulting from carelessness in chemical plants. E. Berl. il Chem & Met Eng 47:236-9 Ap '40
How Carbide tests equipment to prevent accidents. J. J. Duggan. il Chem & Met Eng 47:678-9 O '40
Intelligent use of safety devices. J. Creevey. Chem Age (Lond) 42:324 Je 15 '40
Materials handling, feeding and safety at chemical exposition. il diag Chem & Met Eng 46:714-16 N '39
Notes from works safety jottings. J. Creevey. Chem Age (Lond) 42:227 Ap 20 '40
Notes from works safety jottings; special precautions with unfamiliar products. J. Creevey. Chem Age (Lond) 43:81 Ag 17 '40
Report on chemical plant safety and fire protection. il Chem & Met Eng 47:700-6 O '40
Safety training of undergraduate chemical students. A. S. Zoerb. Can Chem & Process Ind 24:90 F '40
Special precautions for chemical works. J. Creevey. Chem Age (Lond) 43:31 Jl 20 '40

Waste
Waste problems of a chemical company; Dow chemical company, Midland, Mich. I. F. Harlow. flow diag il Ind & Eng Chem 31: 1346-9 N '39

CHEMICAL reaction
Acid-base reactions in non-protonic solvents. J. P. McReynolds. bibliog J Chem Educ 17:116-19 Mr '40
Acid-base reactions; their analogy to oxidation-reduction reactions in solution. T. H. Hazlehurst. J Chem Educ 17:466-8 O '40
Catalyzed cleavage of diacetone alcohol and other ketols and unsaturated ketones. S. H. McAllister, W. A. Bailey, jr. and C. M. Bouton. bibliog Am Chem Soc J 62:3210-15 N '40
Copper sulfate-sodium silicate reaction. H. V. Anderson and F. P. Hochgesang. bibliog il J Phys Chem 44:439-46 Ap '40
Critical increment of ionic reactions; the influence of dielectric constant and ionic strength. L. Rampino and W. J. Svirbely. Am Chem Soc J 61:3534-7 D '39
Critical increment of ionic reactions; the influence of dielectric constant and ionic strength. W. J. Svirbely and J. Lander. Am Chem Soc J 61:3538-42 D '39
Elimination and metathetical reactions and the electronic theory of rearrangements. C. R. Hauser. bibliog Am Chem Soc J 62:933-41 Ap '40
Hydrogen bonds involving the C-H→F link. C. S. Marvel, M. J. Copley and E. Ginsberg. bibliog Am Chem Soc J 62:3263-4 N '40
Hydrogen bonds involving the C-H link; effect of structure on bonding of donor and acceptor molecules. C. S. Marvel, M. J. Copley and E. Ginsberg. bibliog Am Chem Soc J 62:3109-12 N '40
Kinetics of chemical change. C. N. Hinshelwood. 274p $4.50 Oxford '40
Laboratory experiment in general chemistry; chemical reactions involving compounds of halogen, sulfur, and nitrogen families. G. E. MacWood, E. N. Lassettre and G. Breen. J Chem Educ 17:520-1 N '40
Mechanism of aromatic side-chain reactions, with special reference to the polar effects of substituents; depolarization potentials of *p*-substituted benzaldehydes in acid, neutral, and alkaline media at the dropping-mercury cathode. J. W. Baker, W. C. Davies and M. L. Hemming. Chem Soc J p692-702 My '40
Mechanism of elimination reactions; kinetics of olefin elimination from ethyl, *iso*propyl, *tert.*-butyl and α- and β-phenyl-ethyl bromides in acidic and in alkaline alcoholic solution; effects due to, and factors influencing, the two mechanisms of elimination. E. D. Hughes and others. Chem Soc J p899-912 Jl '40
Mechanism of the reaction between arylamines and benzoins. R. M. Cowper and T. S. Stevens. Chem Soc J p347-9 Mr '40
Mechanism of the reaction between phthalic anhydride and an aminodiol; reactions of 2-amino-2-methyl-1,3-propanediol. M. M. Sprung. bibliog Am Chem Soc J 61:3381-5 D '39

CHEMICAL reaction—*Continued*
Méthode d'étude thermique des réactions à température élevée et sous haute pression. A. Léopold. Chimie & Ind 43:795-807 My 20 '40
New chemical reaction with the nitrosyl radical NOH. O. Baudisch. Science 92:336-7 O 11 '40
New reaction in organic chemistry; the redistribution reaction. G. Calingaert. Science 90:430-4 N 10 '39
Oxygen exchange between water and inorganic oxy-anions. G. A. Mills. bibliog diag Am Chem Soc J 62:2833-8 O '40
Pictures of acid-base reactions. T. H. Hazlehurst, jr. il J Chem Educ 17:374-6 Ag '40
Polyhydric alcohol-polybasic acid reaction; the glyceryl succinate and glyceryl maleate polyesters. R. H. Kienle and F. E. Petke. bibliog Am Chem Soc J 62:1053-6 My '40
Reactions and reagents in liquid ammonia. C. A. Kraus. Chem R 26:95-104 F '40
Reactivity of atoms and groups in organic compounds; the effect of substituents on the relative reactivities of the hydroxyl group in derivatives of benzoic acid. J. F. Norris and A. E. Bearse. bibliog diag Am Chem Soc J 62:953-6 Ap '40
Redistribution reaction. R. D. Stiehler and T. L. Gresham. Am Chem Soc J 62:2244 Ag '40
Redistribution reaction; alkyl compounds of mercury, tin, silicon and zinc. G. Calingaert, H. Soroos and H. Hnizda. bibliog Am Chem Soc J 62:1107-10 My '40
Redistribution reaction; alkyl lead halides. G. Calingaert, H. Soroos and H. Shapiro. bibliog Am Chem Soc J 62:1104-7 My '40
Redistribution reaction; interchange between triethyllead chloride and radioactive tetraethyllead. G. Calingaert, H. A. Beatty and L. Hess. Am Chem Soc J 61:3300-1 D '39
Redistribution reaction; R_4Pb compounds. G. Calingaert, H. A. Beatty and H. Soroos. bibliog Am Chem Soc J 62:1099-1104 My '40
Redistribution reaction; redistribution of halides and of esters. G. Calingaert and others. Am Chem Soc J 62:1545-7 Je '40
Redistribution reaction; the relative affinity of mercury and lead for methyl and ethyl radicals. G. Calingaert, H. Soroos and G. W. Thomson. Am Chem Soc J 62:1542-5 Je '40
Redistribution reactions. A. E. Stearn. Am Chem Soc J 62:1630 Je '40
Solvolytic reactions of organic halides. M. P. Balfe and J. Kenyon. bibliog Am Chem Soc J 62:445-6 F '40
Some illustrations of reactions between solids. H. S. van Klooster. bibliog J Chem Educ 17:361-3 Ag '40
Some interconversion reactions of organolithium compounds. H. Gilman, W. Langham and F. W. Moore. diags Am Chem Soc J 62:2327-35 S '40
Sound energy; noise speeds chemical reaction; abstract. W. C. Schumb and E. S. Rittner. Sci Am 163:264-5 N '40
Specific and special reactions for use in qualitative analysis, with particular reference to spot test analysis. F. Feigl. 192p $3.50 Nordeman pub. co, New York '40
Study of some reactions between dry inorganic salts; reactions below the fusion point. H. L. Link and L. J. Wood. Am Chem Soc J 62:766-9 Ap '40
Substitution, addition und abspaltung. W. Hückel. Angew Chemie 53:49-54 F 3 '40
Summary of the reactions of aldehydes with amines. M. M. Sprung. Chem R 26:297-338 bibliog(p335-8) Je '40
Über die zwischenzustände bei modifikationsumwandlungen und die katalytische beeinflussung dieser vorgänge durch fremdgase. G. F. Hüttig. Angew Chemie 53:35-9 Ja 20 '40

See also
Addition compounds
Bart reaction
Bromination
Catalysis
Catalysts
Chlorination
Condensation, Chemical
Decomposition
Depolymerization
Electrolysis
Explosions
Friedel-Crafts reaction
Fries reaction
Gomberg reaction
Grignard reagents
Halogenation
Hydration
Hydrogenation
Hydrolysis
Metalation
Michael reaction
Nitration
Oxidation
Photochemistry
Polymerization
Reduction, Chemical
Substitution (chemistry)
Synthesis
Unit processes

Velocity
Absorption of carbon dioxide in aqueous alkalies. H. J. Welge. bibliog Ind & Eng Chem 32:970-2 Jl '40
Accelerated flow method for rapid reactions. B. Chance. il diags Franklin Inst J 229: 455-76, 613-40 bibliog(p640), 737-66 Ap-Je '40
Acid catalyzed esterification of aliphatic acids. H. A. Smith. bibliog Am Chem Soc J 62:1136-40 My '40
Chemical constitution and reactivity; phenyldiazonium chloride and its mono substituted derivatives. M. L. Crossley, R. H. Kienle and C. H. Benbrook. diag Am Chem Soc J 62:1400-4 Je '40
Chemistry of sulfur dioxide reduction; kinetics. R. Lepsoe. bibliog il Ind & Eng Chem 32:910-18 Jl '40
Comparison of esterification and ester interchange kinetics. P. J. Flory. bibliog Am Chem Soc J 62:2261-4 S '40
Electrostatic influence of substituents on reaction rates. F. H. Westheimer and M. W. Shookhoff. bibliog Am Chem Soc J 62:269-75, 1892-5 F, Ag '40
Energy and entropy of activation of the hydrolysis of ethyl orthoformate in deuterium oxide. R. Brescia and V. K. LaMer. bibliog Am Chem Soc J 62:612-14 Mr '40
Equilibrium and kinetics of the thermal isomerization of dichloroethylene catalyzed by iodine. R. E. Wood and R. G. Dickinson. Am Chem Soc J 61:3259-63 D '39
Hydration of unsaturated compounds; the rate of hydration of β,β-dimethylacrylic acid; the rates of dehydration and decarboxylation of β-hydroxyisovaleric acid. D. Pressman and H. J. Lucas. bibliog Am Chem Soc J 62:2069-80 Ag '40
Induced pyrolysis of methane. W. J. Hessels, D. W. van Krevelen and H. I. Waterman. bibliog diag Soc Chem Ind J 58:323-7 N '39
Influence of alkyl groups upon reaction velocities in solution; the alkaline and acid hydrolyses of the ethyl esters of the lower saturated aliphatic acids in aqueous acetone. G. Davies and D. P. Evans. Chem Soc J p339-45 Mr '40
Kinetic decomposition of ethyl chlorocarbonate; foreign gas effects. A. R. Choppin and G. F. Kirby, jr. bibliog Am Chem Soc J 62:1592-4 Je '40
Kinetics of exchange reactions; *n*-propyl, *iso*propyl, and *iso*butyl bromides. G. A. Elliott and S. Sugden. Chem Soc J p1836-8 D '39
Kinetics of isotopic exchange between carbon dioxide, bicarbonate ion, carbonate ion and water. G. A. Mills and H. C. Urey. bibliog Am Chem Soc J 62:1019-26 My '40
Kinetics of polyesterification; a study of the effects of molecular weight and viscosity on reaction rate. P. J. Flory. bibliog Am Chem Soc J 61:3334-40 D '39
Kinetics of the catalysed polymerisation of styrene; on the mechanism of metal chloride catalysis. G. Williams. Chem Soc J p775-84 Je '40
Kinetics of the esterification of cyclohexanoic acid and of the saponification of its ethyl ester. H. A. Smith and H. S. Levenson. bibliog Am Chem Soc J 62:2733-5 O '40
Kinetics of the esterification of substituted benzoic acids. R. J. Hartman and A. G. Gassmann. bibliog Am Chem Soc J 62:1559-60 Je '40

CHEMICAL reaction—Velocity—*Continued*
Kinetics of the inhibition of the reaction between chlorine and nitric oxide. E. M. Stoddart. diag Chem Soc J p823-31 Jl '40
Kinetics of the reaction of *p*-methoxybenzhydryl chloride with methanol in dilute nitrobenzene solution. P. D. Bartlett and R. W. Nebel. bibliog Am Chem Soc J 62:1345-9 Je '40
Lower limit for the velocities of formation of the tri-halide ions in aqueous solution. R. S. Halford. bibliog Am Chem Soc J 62:3233-6 N '40
Rate and mechanism in the reactions of benzyl chloride with water, hydroxyl ion and acetate ion. G. W. Beste and L. P. Hammett. Am Chem Soc J 62:2481-7 S '40
Rate of nitration of benzene. W. K. Lewis and T. J. Suen. bibliog Ind & Eng Chem 32:1095-1101 Ag '40
Rates of formation of sulfoaliphatic acids. T. F. Murray, jr. and W. O. Kenyon. bibliog Am Chem Soc J 62:1230-3 My '40
Rates of reaction of cyclopropyl ketimines with water. J. B. Cloke. bibliog Am Chem Soc J 62:117-19 Ja '40
Reaction velocities at low temperatures; a convenient low-temperature thermostat; bromination of acetone between —40° and +10°. R. P. Bell and J. K. Thomas. diag Chem Soc J p1573-8 O '39
Reduction by amalgamated zinc; significant factors in efficiency. H. W. Stone and D. N. Hume. bibliog diag Ind & Eng Chem Anal ed 11:598-602 N 15 '39
Relations between electrostatic potentials and reaction velocities. H. O. Jenkins. Chem Soc J p1780-4 N '39
Saponification of ethyl esters of aliphatic acids. H. S. Levenson and H. A. Smith. Am Chem Soc J 62:1556-8 Je '40
Steric inhibition of resonance; rates of reaction of nitro- and cyano-aryl halides. W. C. Spitzer and G. W. Wheland. bibliog Am Chem Soc J 62:2995-3002 N '40
Strength of carbonic acid; the rate of reaction of carbon dioxide with water and hydroxyl ion. A. R. Olson and P. V. Youle. bibliog Am Chem Soc J 62:1027-8 My '40
Study of the kinetics of the reactions in the zinc-hydrogen irreversible cell. J. I. Jolley and H. V. Tartar. diag Electrochem Soc Trans 78 (preprint 10):139-59 O '40
Surface conditions of silver halides and rate of reaction; rate of reduction of precipitated silver chloride. T. H. James. bibliog Am Chem Soc J 62:536-40 Mr '40
Surface conditions of silver halides and the rate of reaction; reduction of nucleated silver chloride. T. H. James. bibliog Am Chem Soc J 62:1649-54 Jl '40
Surface conditions of silver halides and the rate of reaction; reduction of silver chloride by hydrazine. T. H. James. bibliog Am Chem Soc J 62:1654-8 Jl '40

CHEMICAL reagents
Analytical procedures employing Karl Fischer reagent; the determination of acid anhydrides. D. M. Smith, W. M. D. Bryant and J. Mitchell, jr. Am Chem Soc J 62:608-9 Mr '40
Analytical procedures employing Karl Fischer reagent; the determination of alcoholic hydroxyl. W. M. D. Bryant, J. Mitchell, jr. and D. M. Smith. Am Chem Soc J 62:1-3 Ja '40
Analytical procedures employing Karl Fischer reagent; the determination of organic acids. J. Mitchell, jr, D. M. Smith and W. M. D. Bryant. Am Chem Soc J 62:4-6 Ja '40
Field and laboratory microanalysis by means of a portable drop reaction kit. P. W. West and L. Smith. il diags J Chem Educ 17: 139-45 Mr '40
Organic reagents used in quantitative inorganic analysis. W. Prodinger. 203p bibliog(p187-93) $5 Elsevier pub. co, New York; for sale by Nordeman pub. co, 215 4th av, New York '40
Photographic silver-gelatin paper as a reagent in spot analysis. G. Schwarz. Ind & Eng Chem Anal ed 12:369-72 Je 15 '40
Rapid qualitative test for alcoholic hydroxyl group; use of nitrato and perchlorato cerate anions as test reagents. F. R. Duke and G. F. Smith. Ind & Eng Chem Anal ed 12:201-3 Ap 15 '40
Reactions and reagents in liquid ammonia. C. A. Kraus. Chem R 26:95-104 F '40
Starch-iodide method of ozone analysis. C. E. Thorp. bibliog Ind & Eng Chem Anal ed 12:209 Ap 15 '40
Studies of organic reagents and methods involving their use; qualitative reactions of salicylaldoxime and its 5-chloro, 3,5-dibromo, and 5-nitro derivatives with inorganic ions. J. F. Flagg and N. H. Furman. bibliog Ind & Eng Chem Anal ed 12:529-31 S 15 '40

See also
Cerium sulfate
Chemicals
Chlorosulfonic acid
Grignard reagents
Hydrofluoric acid
Nessler's reagent
Potassium iodide
Potassium permanganate
Tetrahydroxyquinone

CHEMICAL research
Air, water, coal=hosiery; nylon. H. T. Rutledge. il Sci Am 162:78-81 F '40
Chemical engineers hear research reports. Oil Paint & Drug Rep 137:3+ My 20 '40
Chemical materials and processes that industry asks of research. Oil Paint & Drug Rep 138:3+ O 28 '40
Chemical research at 150th anniversary of U.S. patent system. P. D. Boone. Ind & Eng Chem News ed 18:365 Ap 25 '40
Chemical society; Advisory research council. Chem & Ind 59:349 My 18 '40
Chemical specialties wanted. Oil Paint & Drug Rep 138:5+ N 11 '40
Chemist and the ship. J. E. Holmstrom. Engineer 169:228-30 Mr 8 '40
Chemist in the coal bin. C. M. Hackett. il Min Cong J 25:22-4 N '39
Chemist looks at the investment problem. C. Tyler. Weekly Underw 143:871 O 12 '40
Cosmetics; a fertile field for chemical research. F. E. Wall. bibliog J Chem Educ 17:77-81 F '40
Executive and the technologist; a proper understanding between them. W. B. Bell. Ind & Eng Chem News ed 18:185-90 Mr 10 '40; Same. Chem Ind 46:296+ Mr '40; Abstract. Chem & Met Eng 47:156-7 Mr '40
Haber memorial lecture. J. E. Coates. Chem Soc J p1642-72 N '39
Industrial research in 1939. W. A. Hamor. il Ind & Eng Chem News ed 18:1-13, 49-58 Ja 10-25 '40
Industrial research; its functions and its demands. W. J. Baeza. Chem Ind 47:140-2 Ag '40
Industry's challenge to research; new products, processes or materials that research might develop. Ind & Eng Chem News ed 18:887-9, 954-6 O 25-N 10 '40 (to be cont)
Ira Remsen and American chemical research literature. F. H. Getman. Science 92:341-4 O 18 '40
Life-work of a great research chemist, Sir Gilbert Morgan. Chem Age (Lond) 42:87 F 10 '40
Progress through research. C. F. Roth. il Chem & Met Eng 46:686-8 N '39
Pure research as an aid to industrial progress. L. W. Bass. il Chem Ind 47:18-20 Jl '40
Significance of the industrial research laboratories for chemistry; Paraffine companies. R. H. Shainwald. il Chem Ind 45:659-60 D '39
Special research conferences on chemistry, under auspices of Section on chemistry of American association for the advancement of science; papers. Science 91:434-5 My 3 '40
Stimulating chemical research in the southeastern states, an experiment; E. Emmet Reid, adviser to colleges. J. R. Sampey. J Chem Educ 17:214-16 My '40
Symposium on X-ray studies of substances of high molecular weight. M. L. Huggins, C. S. Fuller and others. bibliog il Chem R 26:141-255 Ap '40

CHEMICAL research—*Continued*
Utilization of a professor emeritus, an experiment; research adviser to a group of laboratories. E. E. Reid. J Chem Educ 17: 213-14 My '40
Utilization of waste lignin; current chemical research. E. E. Harris. bibliog il Ind & Eng Chem 32:1049-52 Ag '40

See also
Ceramic research
Chemical laboratories
Dye research
Gas research
Lalor foundation
Leather research
Metallurgical research
Paper research
Petroleum research
Rubber research
Textile research

CHEMICAL societies
Co-operation scheme for the three chartered chemical bodies, Great Britain. Chem & Ind 59:576-7 Ag 10 '40

See also
American chemical society
Canadian institute of chemistry
Manufacturing chemists association of the United States

Canada
Early days of electrochemistry at Buckingham, Quebec, and of chemists' organizations in Canada. F. J. Hambly. Chem & Ind 59:585-7 Ag 17 '40

CHEMICAL society, London
Ninety-ninth annual general meeting; with financial statistics. Chem Soc J p479-504 Ap '40

Advisory research council
Advisory research council. Chem & Ind 59: 349 My 18 '40; Same. Science 91:589 Je 21 '40

CHEMICAL stability
Constitution of complex metallic salts; the stability of the 4-covalent auric complex. F. G. Mann and D. Purdie. Chem Soc J p1235-9 S '40
Free radicals and radical stability; fluorotriphenylmethyl and the reactivity of halogen substituents in free radicals. S. T. Bowden and T. F. Watkins. Chem Soc J p1249-57 S '40
Free radicals and radical stability; methyltriphenylmethyls. S. T. Bowden and T. L. Thomas. Chem Soc J p1242-9 S '40
Free radicals and radical stability; the influence of short-lived and long-lived radicals on the reactivity of alcohols. S. T. Bowden. Chem Soc J p880-2 Jl '40
Free radicals and radical stability; the influence of the methyl group on the stability of triphenylmethyl. S. T. Bowden and D. L. Clarke. diags Chem Soc J p883-7 Jl '40
Free radicals and radical stability; the influence of the phenoxyl group on the stability of ketylic derivatives. S. T. Bowden and T. John. Chem Soc J p213-16 F '40
Free radicals and radical stability; the stability of formates and the reduction of triarylcarbinols. S. T. Bowden, D. L. Clarke and W. E. Harris. diags Chem Soc J p874-80 Jl '40

CHEMICAL stoneware. See Stoneware

CHEMICAL warfare
Chemistry in warfare; its strategic importance. F. A. Hessel, M. S. Hessel and W. Martin. 164p bibliog(p161-4) $2 Hastings house, 135 Front st, New York '40
Decontamination of electrical plant; effects of poison gas on equipment. Electrician 125:114 Ag 30 '40
Decontamination of plant; recommended methods. Elec R (Lond) 127:171-2 Ag 30 '40
Les gaz de combat; leur détection. C. Berthelot. Chimie & Ind 43:91-106 Ja 20 '40
Possibilities of gas warfare; abstract. J. C. Kendall. Chem & Ind 59:45-6 Ja 20 '40
La protection des populations contre les gaz de combat; les postes de secours sous abri. H. Doyen. il diags Génie Civil 116:244-7, 264-6 Ap 13-20 '40

See also
Mustard gas

CHEMICAL warfare service. See United States —Chemical warfare service

CHEMICAL workers
Abridged report of the committee on chemical education of the non-collegiate type. R. E. Bowman. bibliog J Chem Educ 17:119-22 Mr '40
Chemical minimum wage in U.S. contracts argued. Oil Paint & Drug Rep 137:3+ Ap 15 '40
Chemical technician, a trade analysis. R. E. Bowman. J Chem Educ 17:36-49 Ja '40
Chemical workers and payrolls gain. Oil Paint & Drug Rep 137:3+ My 27 '40
Chemical workers show decrease. Oil Paint & Drug Rep 137:3+ Ja 29 '40
Chemical workers status defined by draft board. Oil Paint & Drug Rep 138:61 O 7 '40
Dermatitis in chemical industries. Chem & Ind 59:439-40 Je 22 '40
Economics of health in chemical industries. E. R. Hayhurst. il Chem Ind 45:518-21 N '39
How shall we obtain executives for the chemical industry? W. S. Landis. Chem Ind 45: 516-17 N '39
Minimum wages in the chemical industry. Ind & Eng Chem News ed 18:394 My 10 '40
Safety training of undergraduate chemical students. A. S. Zoerb. Can Chem & Process Ind 24:90 F '40
Selecting and training executives for the chemical industry. W. S. Landis. Oil Paint & Drug Rep 137:3+ Ja 29; 5+ F 5; 28-9 F 12 '40
Wages and hours in drugs and medicines and in certain toilet preparations. A. T. Sutherland. U S Women's Bur Bul 171:1-19 '39

See also
Chemists

CHEMICAL writing
Writing about chemistry; chemical writers and chemical secretaries. C. T. Snell. J Chem Educ 16:588 D '39

CHEMICALS
Aliphatic organic chemical industry; recent synthetic chemicals and their industrial uses. H. F. Robertson. Can Chem & Process Ind 24:290-1 Je '40
Automotive chemical specialties; polishes, body cleaners, brake fluids, etc. C. L. Glickman. il Chem Ind 46:196-8 F '40
Chemicals buying section; an alphabetical list of chemicals with their formulas, physical and chemical properties, uses, containers, tariff, shipping regulations, with a buyer's guide of manufacturers and distributors. Chem Ind 47:155-449 pt 2 (Buyer's guidebook) O '40
Chemicals from petroleum fast becoming a reality. W. T. Ziegenhain. il Oil & Gas J 39:22-3+ O 31 '40
Chemicals in drilling and producing operations. W. W. Robinson. il Oil & Gas J 38:190-1+ bibliog(86 references, p 204) Mr 28 '40
Lignin and wood acquire new importance; chemical conversion of non-cellulosic constituents of wood. J. L. McCarthy. Pulp & Pa of Can 41:603-5 Ag '40
Naphthenic acids in specialty formulas; uses in soaps, paints, fungicides. B. Levitt. il Chem Ind 47:166-7 Ag '40; Same. Chem Age (Lond) 43:169-70 O 12 '40
Newer industrial chemicals and manufacturing technique; review of American chemical society papers. Can Chem & Process Ind 24:228 My '40
Nose in the chemistry laboratory. L. A. Ford. J Chem Educ 17:17-19 Ja '40
Packaging the new product; chemicals and chemical products often present difficult problems. R. W. Lahey. il Chem & Met Eng 47:110-13 F '40
Progress in intermediates; coal tar products used in many industries. J. M. Weiss. il Chem Ind 46:686-92 Je '40
Progress in utilization of natural gas. R. H. Cook. Oil & Gas J 39:168-9 S 19 '40

CHEMICALS—*Continued*

Pulse of opinion; outlook in strategic chemicals. Chem Ind 47:30-2 Jl '40

Raw materials buying section; an alphabetical list of natural raw materials, such as gums, metals, minerals, ores, naval stores, oils, natural pigments, etc. with their physical and chemical properties, uses, containers, tariff, shipping regulations, with a buyer's guide of suppliers. Chem Ind 47:49-154 pt 2 (Buyer's guidebook) O '40

Refinery gas; a raw material of growing importance. R. E. Wilson. Chem & Ind 58: 1095-1101 D 23 '39; Same cond. Nat Pet N 31:R541-2+ D 13 '39; Abstract. Ind & Eng Chem News ed 17:697-8 N 20 '39

Synthetic organic chemicals. Chem & Met Eng 47:80-2 F '40

Utilization of natural gas for chemical products. H. M. Smith. U S Bur Mines Information Circ 7108:1-8 bibliog(44 titles, p5-8) '40; Same, without bibliog. Gas Age 86: 31-6 Jl 4 '40

What chemical specialties do chain stores buy? il Chem Ind 46:468-71 Ap '40

Wild fires; flammable chemicals. R. M. L. Russell. il diags Nat Safety N 42:66-7+ O '40

See also

Catalysts
Chemical industries
Chemical reagents
Chemistry, Medical and pharmaceutical
Chemistry, Technical
Cleaning compositions
Drugs
Drying agents
Dyes and dyeing—Chemistry
Emulsifiers
Paper chemicals
Refrigerants
Rubber chemicals
Solvents
Surface active substances
Tanning materials
Textile chemicals
Textile chemistry
Wetting agents

Manufacture

American Cyanamid; fourth-largest U.S. chemical company. il Fortune 22:66-71+ S '40

Blackstrap molasses as raw material for biochemical industries. W. L. Owen. 113p $3.50 Palmer publications, 95 River st, Hoboken, N.J.

Waste problems of a chemical company; Dow chemical company, Midland, Mich. I. F. Harlow. flow diag il Ind & Eng Chem 31: 1346-9 N '39

Prices

Chemical prices, 1900-1935; charts. F. J. Van Antwerpen. Ind & Eng Chem 32:1444-5 N '40

Chemical prices, 1935-1939. Chem Ind 47:9-16 pt 2 (Buyer's guidebook) O '40

Current market quotations (listed alphabetically by name of product). Published in weekly numbers of Oil, paint and drug reporter

Current prices. Published in monthly numbers of Chemical & metallurgical engineering

Market prices; chemicals, solvents, oils and metals. Published in monthly numbers of Canadian chemistry and process industries

Market report. Chem & Ind 59:15-17 Ja 6 '40 [cont monthly with weekly revisions]

Price trends of industrial chemicals in the United States during the last twenty years. M. T. Copeland. Harvard Business R 18 no 4:437-47 [Jl] '40

Prices current. Published in monthly numbers of Chemical industries

Reporter's nationwide business survey, price trends, 1935-39. Oil Paint & Drug Rep 137: 27 F 19 '40

Reporter's nationwide business survey; price trends, 1936-40. Oil Paint & Drug Rep 137: 30 My 6; 138:32 Ag 5 '40

Rubber chemical markets. Published in monthly numbers of Rubber Age

Wartime effects on chemical prices; 1913, war period high, July 3, 1939 and Nov. 17, 1939. Oil Paint & Drug Rep 136:31 N 20 '39

Weekly prices of British chemical products. Published in weekly numbers of Chemical age

Wholesale prices, chemicals and allied products, 1933-1940. Survey of Cur Business 20:18 Ag '40

Transportation

Further improvements in drum construction. il Chem & Met Eng 47:406-9 Je '40

I.C.C. issues order revising regulations for transportation of explosives, dangerous articles. il Chem Ind 47:52 Jl '40

Uses

Industrial uses of chemicals and related materials. Published in weekly numbers of Oil, paint and drug reporter

What you can use; guide to materials that are suitable for various purposes in chemical converting, compounding, and processing industries. Published in weekly numbers of Oil, paint and drug reporter

CHEMIGUM. See Rubber, Artificial

CHEMILUMINESCENCE. See Luminescence

CHEMIST advisory council

Officers and activities. Science 91:258-9 Mr 15 '40

Review of work; 2d annual meeting. Oil Paint & Drug Rep 137:3+ F 5 '40

CHEMISTRY

Abstracts of papers read before the Detroit meeting of the American chemical society. Science 92:sup10, 12-13 S 13 '40

Chemical computations and errors. T. B. Crumpler and J. H. Yoe. 247p bibliog (p227-9) $3 Wiley '40

Chemistry; a textbook for colleges. W. McPherson and others. 762p bibliog(p733-5) $3.75 Ginn '40

Chemistry in crime detection. J. E. Hoover. il Ind & Eng Chem News ed 18:402-3 My 10 '40

Chemistry in use. R. B. Brownlee and others. 662p, 16p $1.80 Allyn & Bacon, New York '39

Columbus meeting of the American association for the advancement of science and associated societies; section on chemistry. Science 91:106-8 F 2 '40

Course in general chemistry. W. C. Bray and W. M. Latimer. 3d ed 206p $1.60 Macmillan '40

Essentials of college chemistry. G. H. Whiteford and R. G. Coffin. 2d ed 534p $4 C. V. Mosby co, St Louis '39

Fundamental chemistry; an elementary textbook for college classes. H. G. Deming. 756p $3.50 Wiley '40

General chemistry; a first course. L. E. Young and C. W. Porter. 644p $3.50 Prentice-Hall '40

General college chemistry. J. A. Babor and A. Lehrman. 2d ed 659p $3.75 Crowell '40

General college chemistry. L. B. Richardson and A. J. Scarlett. 683p $3.75 Holt '40

Introduction to chemical science. W. H. Hatcher. 423p bibliog(p409-10) $3 Wiley '40

Introductory college chemistry. N. E. Gordon and W. E. Trout, jr. 2d ed 753p $3.50 Wiley '40

Midland chemists' dinner; toast of Chemistry by Bishop Barnes. Chem & Ind 59:78-9 F 3 '40

New world of chemistry; science in the service of man. B. Jaffe. rev ed 692p $1.84 Silver Burdett co, 45 E. 17th st, New York '40

Physical sciences. E. J. Cable, R. W. Getchell and W. H. Kadesch. 754p bibliog(p647-71) $5; school ed $3.75 Prentice-Hall '40

Principles of chemistry. J. H. Hildebrand. 4th ed 359p $2.50 Macmillan '40

Principles of chemistry; an introductory textbook of inorganic, organic, and physiological chemistry for nurses and students of home economics and applied chemistry, with laboratory experiments. J. H. Roe. 5th ed 503p $2.75 C. V. Mosby co, St Louis '39

Science in 1939. Science 90:sup14 D 22 '39

CHEMISTRY—*Continued*

Textbook of chemistry. S. Goostray and W. G. Karr. 5th ed rev 812p, 72p bibliog(p296) $2.75 Macmillan '40

See also

Acids
Air
Alchemy
Alkalies
Atomic weights
Atoms
Biological chemistry
Botanical chemistry
Catalysis
Chemical reaction
Chemicals
Chemists
Colloids
Color
Combustion
Condensation, Chemical
Crystallization
Crystallography
Dissociation
Dyes and dyeing—Chemistry
Electrochemistry
Electrolysis
Electrolytes
Electrons
Evaporation
Explosives
Fermentation
Foundry chemistry
Gases
Geochemistry
Halogens
Hydrolysis
Ions
Liquids
Metallurgy
Metals
Mineralogy
Mixtures
Molecules
Oxidation
Photochemistry
Photographic chemistry
Physiological chemistry
Poisons
Poisons, Industrial
Radioactive substances
Reduction, Chemical
Rubber—Chemistry
Salt
Salts
Solids
Solution (chemistry)
Solvents
Spectrum
Stereochemistry
Synthesis
Textile chemistry
Thermochemistry
Waxes

Bibliography

British chemical and physiological abstracts; abstracts B index, 1939. 302p Bur. of chemical abstracts, Clifton House, Euston road, London, N.W. 1 '39

British chemical and physiological abstracts; applied chemistry. Published in monthly numbers of Journal of the Society of chemical industry

Chemical abstracts; subject index, formula index, numerical patent index, 1939. p10243-11330 American chemical society, Charles L. Parsons, sec, Mills bldg, 1709 G st, N.W. Washington, D.C. '39

Chemical publications; their nature and use. M. G. Mellon. 2d ed 284p $2.75 McGraw-Hill '40

Documentation. Published in semi-monthly numbers of Chimie & industrie

Reviews; with list of books reviewed November, 1939, to May, 1940. Chem & Ind 59: 284-93 Ap 27 '40

Dictionaries

Kingzett's chemical encyclopædia; a digest of chemistry and its industrial applications; rev. and ed. by R. K. Strong 6th ed 1088p $14 Van Nostrand '40

New dictionary of chemistry. S. Miall, ed. 575p bibliog(pxi-xiv) $15 Longmans '40

Examinations

Chemistry examination of the College entrance examination board. J Chem Educ 17:443-5 S '40

Neglected types of examinations. G. N. Quam. J Chem Educ 17:363-5 Ag '40

Questions and problems in chemistry for advanced students. N. F. Newbury. 128p 2s George G. Harrap & co, London, WC 1 '39

Exhibitions

Chemistry exhibits of the Chicago museum of science and industry. Science 92:122 Ag 9 '40

Experiments

Experimental chemistry for colleges. J. A. Harris and W. Ure. 2d ed 123p $1.25 McGraw-Hill '40

Freshman experiment; preparation and properties of ethylene. G. H. Stempel, jr. J Chem Educ 17:508 N '40

Laboratory experiment in general chemistry; chemical reactions involving compounds of halogen, sulfur, and nitrogen families. G. E. MacWood, E. N. Lassettre and G. Breen. J Chem Educ 17:520-1 N '40

Laboratory work for the chemistry part of a general course in the physical sciences. E. J. Rosenbaum. J Chem Educ 16:568-70 D '39

Lecture demonstrations in general chemistry. S. B. Arenson. il diags J Chem Educ 17: 434-6, 469-72, 513-15 S-N '40

Lecture demonstrations in general chemistry. P. Arthur. 455p $4 McGraw-Hill '39

Projection of chemical lecture experiments onto the screen. O. W. Richards. il J Chem Educ 17:210-13 My '40

History

Alexander Mikhailovich Butlerov. H. M. Leicester. bibliog J Chem Educ 17:203-9 My '40

Are there rules in the historical development of chemistry? E. Färber. J Chem Educ 17:309-11 Jl '40

Atomic hypothesis of William Higgins. E. R. Atkinson. bibliog il J Chem Educ 17:3-11 Ja '40

Chemical studies of P. J. Macquer. L. J. M. Coleby. 132p bibliog(p125-9) $1.75 Nordemann pub. co, New York '38

Earliest history of capillary chemistry. I. Traube. J Chem Educ 17:324-9 bibliog (50 titles, p328-9) Jl '40

Georges Urbain. G. Champetier and C. H. Boatner. bibliog il J Chem Educ 17:103-9 Mr '40

Henry Carrington Bolton, historian and bibliographer of chemistry. C. A. Browne. il J Chem Educ 17:457-61 O '40

Historical and industrial discovery of the elements. J. N. Friend. Chem & Ind 58: 1104-7; 59:24-6, 227-32 D 23 '39, Ja 13, Ap 6 '40

Historical observations during a recent chemical trip to Europe. C. A. Browne. il J Chem Educ 17:53-63 F '40

Note from Heathfield. B. V. White. Chem & Ind 59:502-4 Jl 13 '40

Laboratory manuals

Chemistry and you in the laboratory. R. E. Davis and others. 236p 88c Lyons & Carnahan, Chicago '39

Experimental general chemistry. J. W. Neckers, T. W. Abbott and K. A. Van Lente. 282p spiral binding pa $1.75 Crowell '40

Laboratory course in general chemistry. R. H. Crist. 219p $1.50 McGraw-Hill '40

Properties and numerical relationships of the common elements and compounds. J. E. Belcher and J. C. Colbert. 3d ed 350p pa $2 Appleton-Century '40

Selective experiments in general chemistry. A. Silverman and A. L. Robinson. 310p loose-leaf $2.50 Van Nostrand '39

Periodicals

Current abstract and index periodicals of interest to chemists; a selected list. T. E. R. Singer. Ind & Eng Chem News ed 18:541-2 Je 25 '40

Ira Remsen and American chemical research literature. F. H. Getman. Science 92:341-4 O 18 '40

Periodica chimica; verzeichnis der im Chemischen zentralblatt referierten zeitschriften mit den entsprechenden genormten titelabkürzungen sowie angaben über den besitz in bibliotheken Grossdeutschlands. M. Pflücke, comp. 208p RM77.25 Verlag chemie, G.M.B.H, Berlin, Germany '40

Problems, exercises, etc.

Outline of mathematics and problems for students of general chemistry. P. R. Frey. rev ed 104p bibliog(pviii) pa $1 Barnes & Noble, 5th av & 18th st, New York '40

Study and teaching

Advantages of the older methods; teaching of acids and bases. W. C. Johnson. J Chem Educ 17:132-6 Mr '40

CHEMISTRY—Study and teaching—*Continued*
Are we teaching our students to distinguish between fact and theory? T. A. Ashford and W. M. Shanner. bibliog J Chem Educ 17:306-9 Jl '40
Atomic weight determination for high-school students. E. L. Gunn. J Chem Educ 17: 122-3 Mr '40
Centennial celebration of the founding of the Department of chemistry of Western reserve university. O. F. Tower. Science 91: 399-400 Ap 26 '40
Chemistry and the college of liberal arts. P. W. Selwood. J Chem Educ 17:176-9 Ap '40
Chemistry class constructs a laboratory apparatus. W. V. Burg. J Chem Educ 17: 341-3 Jl '40
Chemistry in public junior colleges; a comparison of 1938 with 1928-29. M. R. Amsden and S. W. Morse. J Chem Educ 17:31-5 Ja '40
Chemistry in the education of a forester. E. C. Jahn. J Chem Educ 16:570-3 D '39
Concomitant problems that arise with the presentation of the subject matter in secondary chemistry. C. C. Hall. bibliog J Chem Educ 17:240-9 My '40
Consumer aspect of chemistry teaching. E. C. Weaver. J Chem Educ 17:193-5 Ap '40
Effect of the nature of the course on achievement in first-year college chemistry. P. E. Clark. bibliog J Chem Educ 16:510-11 N '39; Discussion. S. A. Peterson. 17:339-40; Reply. 340-1 Jl '40
High school chemistry contest; southern California section. A. N. Prater. Ind & Eng Chem News ed 17:788 D 20 '39
High-school course in chemistry which does not lead to repetition in college. P. M. Glasoe. J Chem Educ 17:11-15 Ja '40; Discussion. 17:336-8 Jl '40
New trends in chemistry courses for teachers' colleges. M. H. Filson. J Chem Educ 17:486 O '40
Physical science general course for grades 11 and 12; replacing high-school physics and high-school chemistry. T. A. Ashford. J Chem Educ 17:157-9 Ap '40
Placement of physics and chemistry in high schools. E. T. Reeves. J Chem Educ 17: 442 S '40
Solution of elementary chemical problems. W. M. Spicer. J Chem Educ 17:382-4 Ag '40
Students appraise the instructor. A. Kowalczyk. J Chem Educ 17:66-9 F '40
Subject matter of a course in unit processes. W. L. Faith. J Chem Educ 17:479-80 O '40
Teaching the new concepts of acids and bases in general chemistry. H. T. Briscoe. J Chem Educ 17:128-30 Mr '40

See also
Chemical education

Bibliography

One hundred high-school chemistry projects. J. O. Derrick. J Chem Educ 17:492-4 O '40

Tables, calculations, etc.

Chemical calculations. J. S. Long and H. V. Anderson. 4th ed 266p $1.75 McGraw-Hill '40
Chemical computations and errors. T. B. Crumpler and J. H. Yoe. 247p $3 Wiley '40
English unit calculations in general chemistry. G. F. Kinney. J Chem Educ 17:89-91 F '40
Intermediate chemical calculations. J. R. Partington and K. Stratton. 239p $1.65 Macmillan '40
Simplification of certain calculations based on the mass law. J. D. Parent J Chem Educ 17:186-7 Ap '40

Terminology

Latin and Greek roots in chemical terminology. G. R. Beezer. J Chem Educ 17:63-6 F '40

Tests and scales

1938-1939 college chemistry testing program. F. D. Martin. J Chem Educ 17:70-6 F '40

Textbooks

Changing conceptions of major topics in college general chemistry textbooks. R. E. Dunbar. J Chem Educ 17:370-3 Ag '40
Changing conceptions of major topics in high-school chemistry textbooks. R. E. Dunbar. J Chem Educ 17:394-7 Ag '40
Study of health materials in high-school chemistry texts. J. O. Frank and C. A. Discher. J Chem Educ 17:236-40 My '40
Zur entwicklung des chemischen lehrbuches; K. A. Hofmann zum 70. geburtstag. R. Schwarz. Angew Chemie 53:133-5 Mr 30 '40

Germany

National standing in Nobel awards in chemistry. H. Hale. Ind & Eng Chem News ed 18:665 Ag 10 '40

Russia

N. N. Zinin, an early Russian chemist. H. M. Leicester. J Chem Educ 17:303-6 Jl '40

CHEMISTRY, Analytic

American apparatus, instruments, and instrumentation; instrumental methods of analysis. R. H. Müller. il diags Ind & Eng Chem Anal ed 12:610-14 O 15 '40
Analysis of the fibrous and carbohydrate constituents of feeding stuffs. E. G. Hallsworth. bibliog Soc Chem Ind J 58:357-63; 59:9-17 D '39-Ja '40
Identification of organic compounds; chlorosulfonic acid as a reagent for the characterization of aromatic ethers. E. H. Huntress and F. H. Carten. Am Chem Soc J 62:603-4 Mr '40
Identification of organic compounds; chlorosulfonic acid as a reagent for the identification of aryl halides. E. H. Huntress and F. H. Carten. Am Chem Soc J 62:511-14 Mr '40
Official and tentative methods of analysis. 5th ed 757p $5 Assn. of official agricultural chemists, Washington, D.C. '40
Oxidative cleavage of α-keto acids and α-keto alcohols by means of lead tetraacetate. E. Baer. Am Chem Soc J 62:1597-1606 Je '40
Principles of inorganic and analytical chemistry; pt. I, Properties of atoms and molecules; pt. II, Theory of reactions. E. J. Baldwin. 506p $3.25 Van Nostrand '40
Railroads and chemists; Canadian national railways laboratory handles bio-chemical, general industrial and sanitary control and research. W. E. Kemp. Can Chem & Process Ind 24:33-4+ Ja '40
Studies on Connecticut lake sediments; chemical analyses of a core from Linsley pond, North Branford. G. E. Hutchinson and A. Wollack. bibliog Am J Sci 238:493-517 Jl '40

See also

Chromatographic analysis
Colorimetric analysis
Dye analysis
Electrochemical analysis
Gas analysis
Gravimetric analysis
Indicators and test papers
Iodometry
Metallurgical analysis
Microanalysis
Mineralogical analysis
Oil analysis
Plants—Chemical analysis
Spectrum analysis
Sugar analysis
Textile analysis
Turbidimetric analysis
Volumetric analysis

also subdivision Analysis under names of substances, e.g.

Air—Analysis
Paper—Analysis
Petroleum—Analysis
Rocks—Analysis
Steel—Analysis
Water—Analysis

Qualitative

Detection and elimination of phosphate in qualitative analysis; by means of zirconium salts. F. K. Pittman. bibliog Ind & Eng Chem Anal ed 12:514-15 S 15 '40
Fundamentals of semimicro qualitative analysis. E. B. Kelsey and H. G. Dietrich. 350p $2.75 Macmillan '40

CHEMISTRY, Analytic—Qualitative—*Continued*

Hydroxamic acids in qualitative organic analysis. D. Davidson. bibliog J Chem Educ 17:81-4 F '40

Microtechnique of organic qualitative analysis; group tests for compounds of carbon, hydrogen, and oxygen. D. G. Foulke and F. Schneider. bibliog diags Ind & Eng Chem Anal ed 12:554-6 S 15 '40

Qualitative analysis and chemical equilibrium. T. R. Hogness and W. C. Johnson. rev ed 538p $2.90 Holt '40

Qualitative semimicro-analysis with reference to Noyes and Bray's system: the gold group. C. C. Miller and A. J. Lowe. Chem Soc J p1263-6 S '40

Qualitative semimicro-analysis with reference to Noyes and Bray's system: the tantalum and the tungsten group. C. C. Miller and A. J. Lowe. Chem Soc J p1258-63 S '40

Qualitative test for ethyl vanillin in vanilla extract. H. W. Chenoweth. Ind & Eng Chem Anal ed 12:98-9 F 15 '40

Qualitative test for oxygen in organic compounds. D. Davidson. bibliog Ind & Eng Chem Anal ed 12:40-1 Ja 15 '40

Rapid qualitative test for alcoholic hydroxyl group; use of nitrato and perchlorato cerate anions as test reagents. F. R. Duke and G. F. Smith. Ind & Eng Chem Anal ed 12:201-3 Ap 15 '40

Revised procedure for the qualitative analysis of group III cations. W. J. Tomsicek and J. J. Carney. J Chem Educ 17:29-31 Ja '40

Scheme for qualitative chemical analysis employing spot tests. W. C. Davies. J Chem Educ 17:231-4 My '40

Semi-micro qualitative analysis. C. J. Engelder, T. H. Dunkelberger and W. J. Schiller. 305p $2.75 Wiley '40

Separation method and qualitative test for cadmium ion involving alkaline tartrate complexes. J. P. McReynolds. J Chem Educ 17:532 N '40

Small Büchner funnel for qualitative organic analysis. C. A. Roswell. diag Ind & Eng Chem Anal ed 12:350 Je 15 '40

Specific and special reactions for use in qualitative analysis, with particular reference to spot test analysis. F. Feigl. 192p $3.50 Nordeman pub. co, New York '40

Spot testing in textile analysis. E. J. Saxl. Am Dyestuff Rep 28:757-8 D 25 '39

Studies of organic reagents and methods involving their use; qualitative reactions of salicylaldoxime and its 5-chloro, 3,5-dibromo, and 5-nitro derivatives with inorganic ions. J. F. Flagg and N. H. Furman. bibliog Ind & Eng Chem Anal ed 12:529-31 S 15 '40

Systematic detection of thiocyanate, iodide, bromide, and chloride. D. Hart and R. Meyrowitz. bibliog Ind & Eng Chem Anal ed 12:318-20 Je 15 '40

Systematic identification of organic compounds; a laboratory manual. R. L. Shriner and R. C. Fuson. 2d ed 312p $2.75 Wiley '40

Systematic qualitative organic microanalysis; determination of the refractive index of liquids. H. K. Alber and J. T. Bryant. bibliog diag Ind & Eng Chem Anal ed 12: 305-7 My 15 '40

Theory and practice of qualitative analysis. G. B. Heisig and M. C. Sneed. 191p bibliog(p158) $2.50 Burgess pub. co, Minneapolis '40

Study and teaching

Aims or objectives of qualitative analysis. R. D. Reed, W. P. Cortelyou and A. Calandra. bibliog J Chem Educ 17:220-5 My '40

Qualitative organic analysis in the elementary organic course. J. S. Pierce. J Chem Educ 17:537-8 N '40

Semi-micro qualitative analysis for college freshmen. J. L. Dalton. bibliog J Chem Educ 17:182-6 Ap '40

Quantitative

Analysis of mixtures of aliphatic acids; simultaneous qualitative and approximate quantitative determination; azeotropic distillation with benzene and toluene. S. T. Schicktanz, W. I. Steele and A. C. Blaisdell. bibliog Ind & Eng Chem Anal ed 12:320-4 Je 15 '40

Analysis of synthetic resins containing maleic acid. E. Sadolin. bibliog Ind & Eng Chem Anal ed 11:608-10 N 15 '39

Analytical procedures employing Karl Fischer reagent; the determination of acid anhydrides. D. M. Smith, W. M. D. Bryant and J. Mitchell, jr. Am Chem Soc J 62:608-9 Mr '40

Analytical procedures employing Karl Fischer reagent; the determination of alcoholic hydroxyl. W. M. D. Bryant, J. Mitchell, jr. and D. M. Smith. Am Chem Soc J 62:1-3 Ja '40

Analytical procedures employing Karl Fischer reagent; the determination of organic acids. J. Mitchell, jr, D. M. Smith and W. M. D. Bryant. Am Chem Soc J 62:4-6 Ja '40

Calculating the solids content of reduced organic finishing materials. W. G. Sheane. Metal Ind 38:176-7 Mr '40

Composition of lithium and potassium salts precipitated by uranyl acetate reagents for sodium. E. R. Caley and W. O. Baker. bibliog Ind & Eng Chem Anal ed 11:604-7 N 15 '39

Coprecipitation of barium ion with hydrous aluminum, chromic and ferric oxides in the presence of ammonium ion. L. Lehrman, J. Been and M. Manes. bibliog Am Chem Soc J 62:1014-18 My '40

Determination of silica and R_2O_3 in portland cement. L. R. Dawson and R. V. Andes. bibliog Ind & Eng Chem Anal ed 12:138-9 Mr 15 '40

Elementary quantitative analysis; theory and practice. H. H. Willard and N. H. Furman. 3d ed 531p bibliog(p480-92) $3.25 Van Nostrand '40

Introductory notes on quantitative chemical analysis. C. W. Foulk, H. V. Moyer and W. MacNevin. rev ed 362p $2.50; pa $2.25 H. L. Hedrick, 254 E. Oakland av, Columbus, Ohio '40

Mechanically operated continuous liquid-extraction apparatus. G. W. Pucher and H. B. Vickery. Ind & Eng Chem Anal ed 11: 656-7 D 15 '39

Eine neue physikalisch-chemische methode zur bestimmung von einzelbestandteilen in gemischen; unter besonderer berücksichtigung ihrer anwendung auf die untersuchung von mineralölen, synthetischen ölen und teerfraktionen. G. Ibing. diag Angew Chemie 53:60-5 F 3 '40; Discussion. L. Ebert. 53:128-9 Mr 16 '40

Organic reagents used in quantitative inorganic analysis. W. Prodinger. 203p bibliog(p187-93) $5 Elsevier pub. co, New York; for sale by Nordeman pub. co, 215 4th av, New York '40

Quantitative absorption spectrophotometry; an internal control method. J. S. Owens. Ind & Eng Chem Anal ed 11:643-6 D 15 '39

Die quantitative analyse der gasförmigen paraffinkohlenwasserstoffe durch adsorption und desorption. E. Ferber and H. Luther. il diag Angew Chemie 53:31-5 Ja 20 '40

Quantitative analysis. H. S. Booth and V. R. Damerell. 246p $2.25 McGraw-Hill '40

Quantitative analysis. W. C. Pierce and E. L. Haenisch. 2d ed 462p $3 Wiley '40

Quantitative analysis and the theory of measurement. F. H. Hurley. bibliog J Chem Educ 17:334-6 Jl '40

Quantitative analysis by X-ray diffraction; the determination of quartz. J. W. Ballard, H. I. Oshry and H. H. Schrenk. pls U S Bur Mines Rep of Invest 3520:1-10 '40

Quantitative analysis of mixtures of polyoxyethylene glycols by fractional distillation. S. Perry and H. Hibbert. Am Chem Soc J 62:2561-2 S '40

CHEMISTRY, Analytic—Quantitative—*Cont.*

Quantitative determination of aromatic hydrocarbons by new method; based on measurement of specific dispersion. A. V. Grosse and R. C. Wackher. bibliog il Ind & Eng Chem Anal ed 11:614-24 N 15 '39

Quantitative determination of certain polyalcohols in the presence of each other. N. Allen, H. Y. Charbonnier and R. M. Coleman. bibliog Ind & Eng Chem Anal ed 12: 384-7 Jl 15 '40

Quantitative spectrochemical analysis by measurement of relative intensities. E. K. Jaycox and A. E. Ruehle. bibliog Ind & Eng Chem Anal ed 12:195-6 Ap 15 '40

Quantitative spectrochemical analysis of dilute solutions; a safe alternating current high-voltage arc circuit. A. E. Ruehle and E. K. Jaycox. bibliog diag Ind & Eng Chem Anal ed 12:260-1 My 15 '40

Quantitative spectrographic analysis. J. T. M. Malpica. Gen Elec R 43:288-97, 333-5 Jl-Ag '40

Quantitative spectrographic analysis with the microphotometer. D. M. Smith. Engineering 149:589 Je 14 '40

Silver phosphate in quantitative analysis. C. R. Johnson and L. G. Nunn, jr. J Chem Educ 17:528-9 N '40

Solution method for spectrographic analysis; utilizing a dropping electrode. R. J. Keirs and D. T. Englis. bibliog diag Ind & Eng Chem Anal ed 12:275-6 My 15 '40

Text-book of quantitative inorganic analysis. A. I. Vogel. 856p bibliog(p783-7) $5 Longmans '39

Theoretical quantitative analysis. L. Waldbauer. 248p $2.75 Blakiston '40

See also

Colorimetric analysis
Electrochemical analysis
Gravimetric analysis
Volumetric analysis

Study and teaching

Teaching problems in presenting the law of chemical equilibrium to students in analytical chemistry. C. S. Adams. bibliog J Chem Educ 17:22-9 Ja '40

Theory of acids and bases in analytical chemistry. L. P. Hammett. J Chem Educ 17: 131-2 Mr '40

CHEMISTRY, Biological. See Biological chemistry

CHEMISTRY, Dental. See Dental chemistry

CHEMISTRY, Industrial. See Chemistry, Technical

CHEMISTRY, Inorganic

College course of inorganic chemistry. J. R. Partington. 658p $2.50 Macmillan '40

Electronic structure and chemical binding; with special reference to inorganic chemistry. O. K. Rice. 511p bibliog(p476-7) $5 McGraw-Hill '40

General and inorganic chemistry. P. J. Durrant. 547p $2.75 Longmans '39

Inorganic chemistry. F. Ephraim. 3d ed by P. C. L. Thorne and A. M. Ward. 911p bibliog(p868-9) $8 Nordemann pub. co, New York '39

Intermediate chemistry, inorganic and physical. F. Prescott. 828p 2s 6d Univ. tutorial press, London '39

Principles of inorganic and analytical chemistry; part I, Properties of atoms and molecules; part II, Theory of reactions. E. J. Baldwin. 506p $3.25 Van Nostrand '40

Reference book of inorganic chemistry. W. M. Latimer and J. H. Hildebrand. rev ed 563p $4 Macmillan '40

Study and teaching

Valence blocks for teaching inorganic chemistry fundamentals. A. H. Bryan. diags J Chem Educ 17:286-8 Je '40

CHEMISTRY, Legal

Oxidation of ferrous iron in iron gall ink; measures age of ink. H. T. F. Rhodes. Chem & Ind 59:143-5 Mr 2 '40

See also

Poisons

CHEMISTRY, Medical and pharmaceutical

Chemistry and medicine; papers presented at the fiftieth anniversary of the founding of the Medical school of the University of Minnesota. M. B. Visscher, ed. 396p $4.50 Univ. of Minnesota press, Minneapolis '40

Chemistry and nature; abstract. R. Adams. Oil Paint & Drug Rep 137:42 My 13 '40

Estimation of traces of lead and thallium in pharmaceutical chemicals; a simple dithizone limit test. K. Bambach. bibliog Ind & Eng Chem Anal ed 12:63-6 F 15 '40

Introduction to physiological and pathological chemistry; with special reference to the needs of schools of nursing. L. E. Arnow. 555p $3.50 C. V. Mosby co, St Louis '39

May's Chemistry of synthetic drugs. P. May and G. M. Dyson. 4th ed rev 370p $6 Longmans '39

Physiologically active amines; secondary and tertiary β-phenylpropylamines and β-phenylisopropylamines. E. H. Woodruff, J. P. Lambooy and W. E. Burt. bibliog Am Chem Soc J 62:922-4 Ap '40

See also

Alkaloids
Anesthetics
Anesthetics, Local
Chemotherapy
Disinfection and disinfectants
Drugs
Hormones
Hypnotics
Immunity
Narcotics
Pharmacology
Pharmacy
Poisons
Vaccines
Vitamins

CHEMISTRY, Organic

Analysis of organic materials for traces of metallic impurities. T. M. Hess, J. S. Owens and L. G. Reinhardt. bibliog Ind & Eng Chem Anal ed 11:646-9 D 15 '39

Brief course in organic chemistry; a combined textbook and laboratory manual. R. C. Fuson and others. 2d ed 164p $3.35 Edwards bros, Ann Arbor, Mich. '39

Coal tar began it; vast increase in U.S. organic chemicals industry. C. M. Hackett. il Sci Am 163:117-19 S '40

Direct synthesis of resolvable biaryls. E. R. Atkinson and H. J. Lawler. bibliog Am Chem Soc J 62:1704-8 Jl '40

Eighth national organic chemistry symposium, St Louis, Mo. Dec. 28-30, 1939. A. C. Cope. Ind & Eng Chem News ed 18:47-8 Ja 25 '40

Electrochemical methods in organic chemistry. J. C. Beltz. bibliog J Chem Educ 17: 516-19 N '40

Introduction to organic chemistry. I. D. Garard. 2d ed 389p $3 Wiley '40

Introduction to organic chemistry. A. Lowy and B. Harrow. 5th ed 400p bibliog(p371-83) $3 Wiley '40

New reaction in organic chemistry; the redistribution reaction. G. Calingaert. Science 90:430-4 N 10 '39

Organic chemistry; a textbook for science and medical students. F. Prescott and D. Ridge. 688p 8s 6d University tutorial press, London '38

Organic substances that cause swelling. J. R. Katz and J. Selberlich. Rayon 21:42-3 Ja '40

Organic syntheses. C. F. H. Allen, ed. v 20 113p $1.75 Wiley '40

Physical organic chemistry; reaction rates, equilibria, and mechanisms. L. P. Hammett. 404p $4 McGraw-Hill '40

Principles of organic chemistry. H. P. Starck. 664p $5 Chemical pub. co. '38

Reactivity of atoms and groups in organic compounds; the effect of substituents on the relative reactivities of the hydroxyl group in derivatives of benzoic acid. J. F. Norris and A. E. Bearse. bibliog diag Am Chem Soc J 62:953-6 Ap '40

Review of the aliphatic organic chemical industry. H. F. Robertson. Chem & Ind 59: 603-7 Ag 24 '40

Rise of the organic chemical industry in the United States. C. M. A. Stine. bibliog il Ind & Eng Chem 32:137-44 F '40; Same. Chem & Ind 59:55-61 Ja 27 '40

Symposium on X-ray studies of substances of high molecular weight. M. L. Huggins, C. S. Fuller and others. bibliog il Chem R 26:141-236 Ap '40

CHEMISTRY, Organic—*Continued*
Synthetic organic chemicals. W. Davis. Science 91:sup10 Ap 26 '40

See also
Acids, Fatty
Acids, Organic
Alcohols
Aldehydes
Alkaloids
Amines
Carbohydrates
Carbon
Cellulose
Condensation, Chemical
Cyclic compounds
Diazo compounds
Essential oils
Esters
Ethers
Glucosides
Hydrocarbons
Ketones
Nylon—Manufacture
Proteins
Radicals (chemistry)
Stereochemistry
Sugars
Terpenes
also Synthetic organic chemical manufacturers association

Experiments
Laboratory experiments for undergraduate organic chemistry; preparation of lysidine, 2,3-dihydro-5,6-diphenylpyrazine and 2,3-diphenylpyrazine. L. H. Amundsen. bibliog J Chem Educ 16:566-7 D '39

Laboratory manuals
Elementary laboratory experiments in organic chemistry. R. Adams and J. R. Johnson. 3d ed 420p $2 Macmillan '40
Experiments in organic and physiological chemistry. F. C. Sargent. rev ed 96p $1.50 The author, Simmons college, Boston '39
Introduction to the practice of organic chemistry in the laboratory. H. Adkins, S. M. McElvain and M. W. Klein. 3d ed 294p $2.50 McGraw-Hill '40
Laboratory guide for organic chemistry. E. Wertheim. 2d ed 560p $2 Blakiston '40
Laboratory manual of elementary organic chemistry. G. H. Richter. 128p bibliog(p112-15) pa $1.25 Wiley '40
Practical organic chemistry. F. G. Mann and B. C. Saunders. 2d ed 418p $2.75 Longmans '39
Systematic identification of organic compounds; a laboratory manual. R. L. Shriner and R. C. Fuson. 2d ed 312p $2.75 Wiley '40

Study and teaching
Objectives of the first course in organic chemistry. R. Q. Brewster. J Chem Educ 16:562-5 D '39
Selection and organization of content in the first course in organic chemistry. H. Gilman. J Chem Educ 16:565-6 D '39

CHEMISTRY, Physical and theoretical
Are there rules in the historical development of chemistry? E. Färber. J Chem Educ 17:309-11 Jl '40
Derivation of the equilibrium conditions in physical chemistry on the basis of the work principle. J. N. Brønsted. bibliog J Phys Chem 44:699-712 Je '40
Electronic structure and chemical binding; with special reference to inorganic chemistry. O. K. Rice. 511p bibliog(p476-7) $5 McGraw-Hill '40
Fundamentals of physical chemistry. E. C. H. Davies. 2d ed 447p $3.50 Blakiston '40
Intermediate chemical calculations. J. R. Partington and K. Stratton. 289p 6s 6d Macmillan '39
Julius Robert Mayers stellung zur chemie. A. Mittasch. bibliog Angew Chemie 53: 113-18 Mr 16 '40
Modern theory of solids. F. Seitz. 698p $7 McGraw-Hill '40
Physical chemistry; a brief course with laboratory experiments. L. J. Bircher. 429p $3 Prentice-Hall '40
Physical organic chemistry; reaction rates, equilibria, and mechanisms. L. P. Hammett. 404p $4 McGraw-Hill '40
Physico-chemical methods. J. Reilly and W. N. Rae. 3d ed 2v 686p; 580p bibliog $17.50 Van Nostrand '39
Principles of inorganic and analytical chemistry. E. J. Baldwin. 506p $3.25 Van Nostrand '40
Soren Peter Lauritz Sörensen, memorial lecture. E. K. Rideal. Chem Soc J p554-61 Ap '40
Systems of acids and bases. N. F. Hall. bibliog diag J Chem Educ 17:124-8 Mr '40
Text-book of physical chemistry. S. Glasstone. 1289p $10 Van Nostrand '40
Theoretical quantitative analysis. L. Waldbauer. 348p $2.75 Blakiston '40

See also
Absorption
Activation
Addition compounds
Adsorption
Atomic weights
Atoms
Boiling points
Catalysis
Catalysts
Chemical bonds
Chemical equilibrium
Chemical reaction
Colloids
Condensation, Chemical
Crystallization
Crystallography
Dissociation
Electrochemistry
Electrolysis
Electrolytes
Electrons
Emulsions
Equation of state
Evaporation
Fluorescence
Freezing points
Ionization, Electrolytic
Ionization, Gaseous
Ions
Isomerism
Isotopes
Melting points
Mesomerism
Mixtures
Molecular rearrangements
Molecular weights
Molecules
Optical rotation
Periodic system
Photochemistry
Quantum theory
Resonance (chemistry)
Solids
Solubility
Solution (chemistry)
Stereochemistry
Stoichiometry
Surface phenomena
Surface tension
Thermochemistry
Thermodynamics
Valence
Vapor pressure
Wave mechanics

Experiments
Freezing point experiments for undergraduates. J. G. Miller and W. W. Lucasse. J Chem Educ 17:522-4 N '40
Some experiments in colloid chemistry. H. L. Davis. bibliog J Chem Educ 17:225-7 My '40

Study and teaching
Improved method of teaching the theory of general chemistry in the special section. L. A. Pasiut and J. S. Kopas. J Chem Educ 17:379-80 Ag '40
Modern chemical concepts and the high-school curriculum. J. F. Castka. J Chem Educ 17:487-92 O '40
Pictures of acid-base reactions. T. H. Hazlehurst, jr. il J Chem Educ 17:374-6 Ag '40
Symposium on theories and teaching of acids and bases. N. F. Hall, H. T. Briscoe and others. bibliog J Chem Educ 17:124-36 Mr '40

Tables, calculations, etc.
Simple test for straight line relationships. D. E. Babcock. J Chem Educ 17:440 S '40

CHEMISTRY, Physiological. See Physiological chemistry

CHEMISTRY, Technical
Achievements of British chemical industry in the last twenty-five years. G. T. Morgan. 59p 3s 6d; pa 2s 6d Royal soc. of arts, London '39
Chemical uses of gas. C. G. Segeler. Ind & Eng Chem News ed 18:437-8 My 25 '40
Chemistry adds new tricks in 1939. H. E. Howe. il Nation's Business 28:20-2+ F '40
Chemistry in the service of man. A. Findlay. 5th ed 398p $2.50 Longmans '40
Chemistry on wheels. il Ind & Eng Chem News ed 18:613-17 Jl 25 '40
Chemistry's new building blocks; breakdown of coal, oil, wood gives raw materials for new synthetic products; leading companies. S. B. Self. Barron's 19:13-16 D 4 '39
Chemists in defense; abstracts of American chemical society papers. Chem Ind 47:374-8 O '40
Developments in industrial chemistry. Chem & Ind 59:253-5 Ap 13 '40
Introduction to industrial rheology. G. W. Scott Blair. 143p $2.25 Blakiston '38

CHEMISTRY, Technical—*Continued*

Modern miracle; gas is chemical agent with unexplored possibilities. C. G. Segeler. Am Gas Assn Mo 21:427-9 D '39

Money making formulas. C. A. Crowley, ed. 480p $4.25 Popular mechanics press, 200 E. Ontario st, Chicago '39

Eine neue entwicklung zur förderung der physikalisch-chemischen betriebskontrolle. P. Wulff. Chemische Fabrik 12:494-5 N 22 '39

Neuere entwicklungen der chemischen technik. F. Ter Meer. Chemische Fabrik 13:1-3 Ja 13 '40

Refrigeration in the chemical industries. D. H. Killeffer. il Refrig Eng 40:145-8+ S '40

Rise of the organic chemical industry in the United States. C. M. A. Stine. bibliog il Ind & Eng Chem 32:137-44 F '40; Same. Chem & Ind 59:55-61 Ja 27 '40

See also

Acetylene
Acid resisting materials
Alcohol
Alcohols
Alkalies
Alloys
Ammonia
Beverages
Blast furnace gas
Bleaching
Cellulose
Cement
Ceramics
Chemical engineering
Chemical industries
Chemical patents
Chemicals
Clay
Clay industries
Coal distillation
Coal tar
Coke-oven gas
Corrosion and anti-corrosives
Cyanide process
Dehydration
Distillation
Dyes and dyeing—Chemistry
Electrochemistry
Essential oils
Explosives
Farm produce—Industrial uses
Fertilizers
Filters and filtration (technical chemistry)
Foundry chemistry
Fuel
Gas
Gas manufacture
Glass manufacture
Lacquer and lacquering
Leather
Metallurgy
Oils and fats
Ore treatment
Paint
Paper
Paper making
Paper making materials
Petroleum—Chemistry
Petroleum distillation
Petroleum refining
Plastic materials
Porcelain
Pottery
Rayon
Refractory materials
Refrigerants
Resinous products
Rubber
Soap
Solvents
Soybeans
Sugar
Sulfuric acid
Synthesis
Tanning materials
Textile chemistry
Varnish and varnishing
Vulcanization
Waste products
Water purification
Wood distillation
Wood preservation

Bibliography

British chemical and physiological abstracts; abstracts B index, 1939. 302p Bur. of chemical abstracts, Clifton House, Euston road, London, N.W. 1 '39

British chemical and physiological abstracts; applied chemistry. Published in Journal of the Society of chemical industry

Documentation. Published in semi-monthly numbers of Chimie & industrie

Reviews; with list of books reviewed November, 1939, to May, 1940. Chem & Ind 59: 284-93 Ap 27 '40

Experiments

Soap boiling on a laboratory scale. W. C. Preston. diag J Chem Educ 17:476-8 O '40

Tables, calculations, etc.

Handbook of chemistry. N. A. Lange, comp. 3d ed rev & enl 1543p, 249p, 34p $6 Handbook publishers, Sandusky, Ohio '39

CHEMISTRY buildings

Addition doubles size of University of Cincinnati's chemistry building. Ind & Eng Chem News ed 18:312 Ap 10 '40

New chemistry-pharmacy building at Montana state university. J. W. Howard. il Ind & Eng Chem Anal ed 12:441-2 Jl 15 '40

Service through chemical change; Purdue university. S. D. Kirkpatrick. il Chem & Met Eng 47:394-5 Je '40

CHEMISTRY teachers

Survey of the training and placement of women chemistry majors in women's and co-educational colleges. E. L. French. J Chem Educ 16:574-7 D '39

William Lash Miller. L. E. Westman. Can Chem & Process Ind 24:476-8 S '40

CHEMISTS

American chemical society candidates for 1941; sketches and portraits. Ind & Eng Chem News ed 18:881-5 O 25 '40

Career of a research chemist. L. H. Baekeland. Franklin Inst J 230:159-61 Ag '40

Chemical centenaries of 1940; discoverers of scandium, thulium and holmium. Chem Age (Lond) 42:111 [127] Mr 2 '40

Jobs for graduates in chemistry. G. R. Robertson. J Chem Educ 17:259-62 Je '40

National standing in Nobel awards in chemistry. H. Hale. Ind & Eng Chem News ed 18:665 Ag 10 '40

Question of ethics. A. J. C. Cosbie. Chem & Ind 59:596-7 Ag 17 '40

Vocational guidance in chemistry and chemical engineering; A.C.S. committee report. bibliog il Ind & Eng Chem News ed 17:701-6 N 20 '39

Wage-hour ruling eliminates overtime pay of many chemists. Ind & Eng Chem News ed 18:886 O 25 '40

Young chemists and great discoveries. J. Kendall. 272p $2.75 Appleton-Century '40

Young man in industry; needs determination to make himself indispensable. W. H. Dow. Oil Paint & Drug Rep 137:3+ Mr 25 '40

See also

Chemical education
Women as chemists

also names of chemists, e.g.

Carveth, Hector Russell
DuBois, Gaston F.
Guthrie, Samuel
Hale, Harrison
Hazard, Rowland G.
Ipatieff, Vladimir N.
Kraus, Charles August
Miner, Carl Shelly
Oenslager, George
Pope, William Jackson
Wilson, Arthur John

Licenses

Report of the sub-committee of the American institute of chemists on licensing of chemists in New York state. Science 92:191 Ag 30 '40

Training

Symposium on training and opportunities for women in chemistry. E. L. French and others. J Chem Educ 16:574-94 D '39

Germany

Germany seeks to relieve shortage of chemists. S. B. Redecker. Ind & Eng Chem News ed 17:699 N 20 '39

Great Britain

British chemist in industry, then and now, 1914-1939. H. Calam. Chem & Ind 59:601-3 Ag 24 '40

CHEMOTHERAPY

2-(*p*-Aminobenzenesulfonamido)-thiazole; a new chemotherapeutic agent. W. A. Lott and F. H. Bergeim. Am Chem Soc J 61: 3593-4 D '39

Chemical cures of disease. Science 91:sup10+ Ja 5 '40

Chemotherapy and serum therapy of pneumonia. F. T. Lord, E. S. Robinson and R. Heffron. 174p $1 Commonwealth fund, New York '40

Chemotherapy in experimental infections caused by streptobacillus moniliformis. F. R. Heilman. Science 91:366-7 Ap 12 '40

Chemotherapy; some sulfanilamido heterocycles. R. O. Roblin, jr. and others. bibliog Am Chem Soc J 62:2002-5 Ag '40

Chemotherapy; substituted sulfanilamidopyridines. R. O. Roblin, jr. and P. S. Winnek. Am Chem Soc J 62:1999-2002 Ag '40

CHEMOTHERAPY—*Continued*
Germ-killing chemical from soil bacilli; abstract. R. B. Little, R. J. Dubos and R. D. Hotchkiss. Science 92:supp8 Jl 26 '40
Germ-killing chemicals; substances produced by bacteria that live in the soil. Science 91: sup10+ Ap 12 '40
National research council committee on chemotherapy. Ind & Eng Chem News ed 18:657-8 Ag 10 '40
Preparation of phenylarsenoxides; derivatives of amino- and hydroxy-phenylarsenoxides. G. O. Doak, H. Eagle and H. G. Steinman. bibliog Am Chem Soc J 62:3010-11 N '40
Preparation of phenylarsenoxides; derivatives of carboxy- and sulfo-phenylarsenoxides. G. O. Doak, H. G. Steinman and H. Eagle. Am Chem Soc J 62:3012-13 N '40
Preparation of phenylarsenoxides in relation to a projected study of their chemotherapeutic activity; monosubstituted derivatives. G. O. Doak, H. Eagle and H. G. Steinman. bibliog Am Chem Soc J 62:168-70 Ja '40
Preparation of some amino sulfonamides. E. Miller and others. bibliog Am Chem Soc J 62:2099-103 Ag '40
Present status and problems of bacterial chemotherapy. E. K. Marshall, jr. Science 91:345-50 Ap 12 '40
Recent advances in chemotherapy. M. L. Crossley. Science 91:369-73 Ap 19 '40
Research work on chemotherapy; committee of National research council to study antimalarials. Science 92:176-8 Ag 23 '40
Researches of Mellon institute 1939-40; chemotherapy of pneumonia. Ind & Eng Chem News ed 18:298 Ap 10 '40
Some aspects of chemotherapy. W. H. Linnell. Chem & Ind 59:359-60 My 25 '40
Some aspects of the chemotherapy of tuberculosis. R. Robinson. Chem Soc J p505-9 Ap '40
Some N^4-diethylaminoalkyl-N^1-dialkylsulphanilamides and related compounds. J. Walker. Chem Soc J p686-92 My '40
Some fluorine and chlorine derivatives of sulfanilamidobenzenesulfonic acids. C. M. Suter and A. W. Weston. bibliog Am Chem Soc J 62:604-6 Mr '40
Structure and chemotherapeutic activities of sulfanilamide derivatives. E. H. Northey. Chem R 27:85-197 bibliog(198 references, p190-7) Ag '40
Studies in chemotherapy; antibacterial action of phosphorus compounds. H. Bauer and S. M. Rosenthal. bibliog Pub Health Rep 54:2093-5 N 24 '39
Substituted sulfanilamides; N^4-acyl-N^1-hydroxy derivatives. M. L. Moore, C. S. Miller and E. Miller. Am Chem Soc J 62:2097-9 Ag '40
Sulfanilamide compounds; N^4-aryl- and N^4-arylidine-N^1-substituted sulfanilamides. H. G. Kolloff and J. H. Hunter. Am Chem Soc J 62:1647-9 Jl '40
Sulfanilamide compounds; N^4-heterocyl derivatives of N^1-substituted sulfanilamides. H. G. Kolloff and J. H. Hunter. bibliog Am Chem Soc J 62:1646-7 Jl '40
Sulfanilamide derivatives; N^1-alkanesulfonylsulfanilamides and related compounds. M. L. Crossley, E. H. Northey and M. E. Hultquist. Am Chem Soc J 62:1415-16 Je '40
Sulfanilamides as chemotherapeutic agents. M. L. Crossley. Ind & Eng Chem News ed 18:385-8 My 10 '40
Sulfides and sulfones of pyridine and quinoline. A. R. Surrey and H. G. Lindwall. bibliog Am Chem Soc J 62:173-4 Ja '40
Synthesis of *ωω'-bis*-2'-amino-4'-thiazolylalkanes and N^4-2'-thiazolylsulphanilamides. J. Walker. Chem Soc J p1304-7 S '40
Synthesis of lipophilic chemotherapeuticals; 4-alkylaminoazobenzene-4'-arsonic acids. S. Adler, L. Haskelberg and F. Bergmann. Chem Soc J p576-8 My '40

CHEMURGY. See Farm produce—Industrial uses

CHERRIES, Frozen
How to quick freeze cherries successfully. A. J. Rogers. il Refrig Eng 40:215-16 O '40

CHERT
Chemical treatment of chert-gravels for use in base-course construction. E. A. Willis and P. C. Smith. il Pub Roads 21:65-8+ Je '40
Detecting unsound chert in aggregates. C. E. Wuerpel. il Eng N 124:652-4 My 9 '40
Influence of cement and aggregate on concrete expansion; destructive action between alkali, chert and shale. T. E. Stanton, jr. il Eng N 124:171-3 F 1 '40

CHESAPEAKE and Ohio railway
Alleghany regains C. & O. control. Business Week p20-1 Ag 17 '40
Asset values behind Alleghany bonds reflect rise in C. & O. and proposed change in indentures. Barron's 20:27-8 S 16 '40; Correction 20:19 S 23 '40
Fracas over C. & O. Business Week p54 Ja 27 '40
Stock issue called violation of law; Senate group says preference was not sanctioned in 1937. Comm & Fin Chr 151:2637-8 N 2 '40
Traffic statistics and income account, 1936-39. Comm & Fin Chr 150:3042 My 11 '40

CHESS
Plastics competition; award to Gallant Knight, inc. il Mod Plastics 18:78, 98 O '40

CHEST
Glimpse of the unknown; chest X-ray. il Safety Eng 80:65-8 O '40

CHESTNUT blight
Chestnut blight and its relation to the principle of disease resistance. A. P. Kelley. Science 91:290-1 Mr 22 '40

CHEWING gum
Advertising
How Wrigley tailors its advertising to fit local markets. P. K. Wrigley. Ptr Ink 193: 15-18 O 25 '40
60,000,000 samples; Wrigley uses free distribution to back up regular advertising. P. K. Wrigley. il Ptr Ink 189:11-13+ D 22 '39
Wrigley mails 58,000,000 sticks of gum in 1939 sampling campaign. P. K. Wrigley. il Sales Management 46:32+ Ja 1 '40

CHI square test
Chi-square test, the Poisson and the binomial. J. Berkson. Am Statis Assn J 35:362-7 Je '40
Detailed proof of the chi-square test of goodness of fit. E. R. Greenhood, jr. 61p bibliog(p59-61) $1.25 Harvard univ. press '40
Further comments on Berkson's problem. B. H. Camp. Am Statis Assn J 35:368-76 Je '40

CHIANG KAI-SHEK, 1888-
Chiang Kai-shek, marshal of China. S. Hedin. 290p $3 Day '40

CHICAGO
Chicago boosted; technique adopted by Association of commerce. Business Week p25-6 N 25 '39
Chicago greets buyers; some 18,000 converge on city to stock midwestern stores with dry goods lines. Business Week p38 F 10 '40
Chicago market. J. D. Ames. Ptg Art 68 no 4: C9 '40
City plan: metro style. A. Lepawsky. J Land & Pub Util Econ 16:137-50 My '40
Saving a neighborhood; Oakland-Kenwood. Business Week p22-3 Ap 27 '40
Why millions in orders are now cleared thru Chicago buying channels; mid-winter and mid-summer markets. L. B. Colby. il Sales Management 47:18-20+ Ag 15 '40

See also
Banks and banking—Chicago
Housing—Chicago
Milk trade—Chicago
Public health—Chicago
Retail trade—Chicago

Bridges
Bridging busy electrified tracks. L. T. Smith and L. C. Riggle. il Eng N 125:210-12 Ag 15 '40

CHICAGO—*Continued*

Galleries and museums

See also
Field museum of natural history
Museum of science and industry, Chicago

History

History of Chicago; v. II, From town to city, 1848-1871. B. L. Pierce. 547p bibliog(p515-47) $5 Knopf '40

Hotels

Statler for Chicago. Business Week p24 F 24 '40

Markets

Transportation and marketing facilities for fresh fruits and vegetables in Chicago; Location of the South Water wholesale fruit and vegetable market. E. A. Duddy and D. A. Revzan. maps plans J Business 12:280-97, 386-412; 13:39-55 Jl '39-Ja '40

Use of transportation facilities in the Chicago fruit and vegetable market. E. A. Duddy and D. A. Revzan. J Business 13:1-86 pt 2 Jl '40

Metropolitan district

Interregional highways from municipal viewpoint; metropolitan Chicago. R. Kingery. il map Roads & Sts 83:45-8 Ja '40

Museum of science and industry

See Museum of science and industry, Chicago

Railroads

Holes pre-bored for underpass falsework; four-lane underpass under tracks of B. & O.C.T. railway. il Eng N 124:654-5 My 9 '40

Milwaukee opens new l.c.l. facilities at Chicago. il diag plan Ry Age 109:542-4 O 19 '40

Use of transportation facilities in the Chicago fruit and vegetable market. E. A. Duddy and D. A. Revzan. J Business 13:1-86 pt 2 Jl '40

Rapid transit

Chicago surface lines cuts accidents. Transit J 84-201 Je '40

Chicago unification approved. Transit J 84: 213 Je '40

Happy birthday; three years of Chicago's P.C.C. cars. il Transit J 83:488 D '39

Moving more people by improving transit facilities; automobile competition; Chicago transit. P. Harrington. il Transit J 84:300-2 S '40

Trolley bus operation in Chicago. J. B. O'Connell. il Mass Transportation 36:125-8 Je '40

Two cities make transit history; New York and Chicago unification plans. Business Week p17 Je 15 '40

Why Chicago likes them; trolley buses. H. E. Fleming. il Transit J 84:47-9 F '40

See also
Chicago—Subways

Sewerage

Disposal of sewage and industrial wastes at Chicago; abstract. F. W. Mohlman. Water Works & Sewerage 87:160-1 Ap '40

History of sanitation in Chicago. R. I. Randolph. maps W Soc E J 44:227-40 O '39

Making waste pay; Chicago packing house waste used for fuel and fertilizer. Can Eng 77:16 D 26 '39

Operating problems at the Southwest plant; symposium. Water Works & Sewerage 86: 494-5 D '39

Review of the sewage treatment program of the sanitary district of Chicago; abstract. W. H. Trinkaus. Water Works & Sewerage 86:493 D '39

Sludge disposal and power generation; Southwest sewage treatment works, Chicago. W. A. Dundas. flow diag il W Soc E J 45:19-30 F '40

World's largest sewage plant steam-powered; Southwest sewage treatment works; special boiler furnaces supply heat for sludge drying, destroy vapors, burn sludge, and generate steam for turbine-driven blowers and pumps, and for auxiliary-power turbine-generators. J. M. Mercer. il diags Power 84:68-71 F '40

Streets

Capacity-providing divisional fins; Lincoln park, Chicago, traffic. O. K. Jelinek. il diags Can Eng R & B 78:57-8+ Ap '40

Chicago builds a convertible roadway; elevating curbs on Lincoln Park express road. O. K. Jelinek. il diags Eng N 124:788-91 Je 6 '40

Interregional highways from municipal viewpoint; metropolitan Chicago. R. Kingery. il map Roads & Sts 83:45-8 Ja '40

Superhighways and subways for Chicago; with cost data. maps Eng N 123:696-7 N 23 '39

Subways

Chicago builds a subway. C. H. Vivian. il diags map Comp Air M 45:6204-12 Ag '40

Distributing and placing concrete on Chicago's subway. il diag Concrete 48:3-4+ Je '40

Hand mining on Chicago subways. il diags map Eng N 125:159-64 Ag 1 '40

Safety under pressure; construction of Chicago's subway. J. M. Roche. il Nat Safety N 42:12-14+ Jl '40

Soil tests check Chicago subway work. R. B. Peck. diag Eng N 123:769-70 D 7 '39

Superhighways and subways for Chicago; with cost data. maps Eng N 123:697-8 N 23 '39

Twin tubes sunk in Chicago river for State St. subway. il Eng N 123:806 D 21 '39

Underpinning beats subway threat to famous Chicago building. il diags Eng N 125:422-6 S 26 '40

Water supply

Chicago's first filtration plant to serve half of city's area. il plan Concrete 48:3-4 Jl '40

Chicago's South District water filtration project. A. E. Gorman. front il diag plans W Soc E J 44:275-305 D '39

Double-deck settling basins. L. D. Gayton. il diags Eng N 124:528-30 Ap 11 '40

Filtered water for Chicago. L. D. Gayton. il diags plan Eng N 123:682-5 N 23 '39

History of sanitation in Chicago. R. I. Randolph. maps W Soc E J 44:227-40 O '39

Men behind filtration in Chicago. A. E. Gorman. Eng N 123:840-1 D 21 '39

World's largest filtration plant. L. D. Gayton. il diag plans map Am Water Works Assn J 32:1359-74; Discussion. 1374-80 Ag '40

CHICAGO and eastern Illinois railway

Builds modern coach shop at Danville. il plan Ry Age 108:122-5+ Ja 13 '40

First major rail reorganization. A. Jansen. Barron's 20:20 Ja 1 '40

First out of 77; Chicago & Eastern Illinois initial railroad to reorganize under simplified bankruptcy clause. Business Week p58 D 9 '39

General statistics and income account for years 1936-39. Comm & Fin Chr 150:2416 Ap 13 '40

Helps old customers find new customers; combustion research department stimulates coal consumption, increases railroad haulage. S. Ware. il Am Business 10:21-2 Ja '40

New company authorized to acquire properties under reorganization. Comm & Fin Chr 151:2638 N 2 '40

Open house on a railway system. il Nation's Business 28:103 Ap '40

Re-organized. map Ry Age 109:81-2 Jl 13 '40

CHICAGO and Illinois midland railway

Securities authorized. Comm & Fin Chr 150: 3968 Je 22 '40

CHICAGO and north western railway

General statistics and earnings for years 1936-39. Comm & Fin Chr 150:2417 Ap 13 '40

I.C.C. wipes out C. & N.W. equities. Ry Age 107:967-8+ D 23 '39

CHICAGO and north western railway—*Cont.*
North Western's potential earning power; reorganization should reveal substantial values for new securities. F. E. Park, jr. Barron's 20:18 Ap 1 '40
Reorganization. Comm & Fin Chr 149:4023-5 D 23 '39

CHICAGO and southern airlines
Chicago & Southern, the valley level route. R. S. Gall. il Aero Digest 36:42-5+ Je '40
Common stock offered. Comm & Fin Chr 150: 4121-2 Je 29 '40

CHICAGO board of trade
Seats down $61,300. Business Week p61 O 26 '40

CHICAGO, Burlington and Quincy railroad
Burlington's declining coal traffic; carrier's credit adversely affected by inroads of eastern fuel. Barron's 20:18 Mr 11 '40
Traffic statistics and income account for years 1936-39. Comm & Fin Chr 150:2872 My 4 '40

CHICAGO daily news
Securities offered. Comm & Fin Chr 150:2567-8 Ap 20 '40

CHICAGO federated advertising club
Chicago Federated, 1939-1940; photographs. Ptg Art 68 no 4:A1-A4 '40

CHICAGO great western railroad
Income accounting for calendar years, 1936-39. Comm & Fin Chr 150:2717 Ap 27 '40

CHICAGO guild of free lance artists
Activities and membership list. Ptg Art 68 no 4:I 14 '40

CHICAGO, Indianapolis and Louisville railway
General statistics and income account for years ended Dec. 31 1936-39. Comm & Fin Chr 150:2717-18 Ap 27 '40

CHICAGO, Memphis and Gulf railroad
Financial adjustment. Comm & Fin Chr 150: 2416-17 Ap 13 '40

CHICAGO, Milwaukee, St Paul and Pacific railroad
Court agrees to reorganization plan of ICC; stockholders wiped out. Comm & Fin Chr 151:2490 O 26 '40
General statistics and income account 1936-39. Comm & Fin Chr 150:2718 Ap 27 '40
ICC issues final reorganization plan; no value found for preferred and common stocks. Comm & Fin Chr 150:1425-6 Mr 2 '40
ICC reorganization plan. A. Jansen. Barron's 20:19 Mr 11 '40
I.C.C. wipes out Milwaukee equities. Ry Age 108:405-6+ Mr 2 '40
Receivership rail speculation; Chicago, Milwaukee & St Paul railroad general mortgage bonds. W. H. Dayton. Barron's 20: 19 S 23 '40

CHICAGO plan commission
New Chicago plan commission. A. Lepawsky. J Land & Pub Util Econ 16:99-101 F '40

CHICAGO pneumatic tool company
Leaders in the machine tool industry; thumbnail appraisal. Mag of Wall St 66:29 Ap 20 '40

CHICAGO public library
Metropolitan library in action; a survey of the Chicago public library. C. B. Joeckel and L. Carnovsky. 466p $3 Univ. of Chicago press '40

CHICAGO river
Chicago River control works. H. P. Ramey. il diags map Am Soc C E Proc 66:71-108 Ja '40; Discussion. 66:1161-83, 1833-5 Je, D '40

CHICAGO, Rock Island & Pacific railway
General statistics and consolidated income account, 1936-39. Comm & Fin Chr 150:3043 My 11 '40
Reorganization plan. Comm & Fin Chr 151: 2796 N 9 '40
TNEC testimony; part played by life companies in Rock Island reorganization. D. S. Beebe. East Underw 41:3+ Mr 8 '40

CHICAGO, St Paul, Minneapolis and Omaha railway
General statistics and income account, 1936-39. Comm & Fin Chr 150:2718 Ap 27 '40

CHICAGO school of printing and lithography
Good design is good business. G. Price. il insert Ptg Art 68 no 3:26-7 [Ja] '40

CHICAGO stock exchange
Additional trading hour justifies itself by its volume in first month's operation. A. M. Betts. Comm & Fin Chr 151:2731 N 9 '40
Appoints new specialists and odd-lot dealers for optional odd-lot system. Comm & Fin Chr 151:1209 Ag 31 '40
Record of prices for 1939. Comm & Fin Chr 150:579-81 Ja 27 '40
Weekly record. Published in weekly numbers of Commercial & financial chronicle

CHICAGO surface lines
Adding one rider per mile; Chicago's 83 P.C.C. cars. il Transit J 84:239 Jl '40

CHICAGO Times
Stock sold. Comm & Fin Chr 150:3350 My 25 '40

CHICAGO union station company
Bonds offered. Comm & Fin Chr 150:1758-9 Mr 16 '40

CHICKAMAUGA dam. See Tennessee Valley project

CHICORY
Pectin substances in chicory; abstract. L. N. Aizenberg. Food Ind 12:95-6 S '40

CHIGGERS
Chigger mites. bibliog Pub Health Rep 55: 1312-14 Jl 19 '40

CHILD labor
Child labor—continued. R. G. Fuller. Ann Am Acad 212.146-52 N '40
Children's bureau rules to protect minors from work on motor vehicles. Ind Stand 11:25 Ja '40
Migratory strawberry pickers of McCracken county, Kentucky, and White county, Arkansas in 1939. R. G. Fuller. Monthly Labor R 50:1416-17 Je '40
Trend of child labor, 1937 to 1939. E. A. Merritt. Monthly Labor R 50:28-42 Ja '40
Welfare of families of sugar-beet laborers; a study of child labor and its relation to family work, income, and living conditions in 1935. E. S. Johnson. pls map U S Children's Bur Pub 247:1-100 '39
Young workers and their jobs in 1936; a survey in six states. H. Wood. U S Children's Bur Pub 249:1-95 '40

Great Britain

Child labour in wartime. Economist 138:414 Mr 9 '40

Korea

Average wages and hours in Korea, 1938. Monthly Labor R 49:1511 D '39

Shanghai

Protection of child workers in Shanghai. Monthly Labor R 49:1103 N '39

CHILD labor laws
Act to bar children from hazardous mine work. Nat Safety N 42:88-9 S '40
New attack on an old problem; wage and hour act emphasizes principle that young workers need special protection. S. W. Homan. Nat Safety N 41:26+ My '40

India

Prohibition of child labor in factories. Monthly Labor R 49:1102 N '39

CHILD placing
Foster home care for children. J. Taft. Ann Am Acad 212:179-85 N '40

CHILD welfare
Child conservation and national defense. Monthly Labor R 51:567-8 S '40
Child-welfare legislation, 1938. U S Children's Bur Pub 251:1-35 '39
Children in a depression decade. J. H. S. Bossard, ed. bibliog Ann Am Acad 212:1-234 N '40
President Roosevelt's address at White House conference on children in a democracy. Comm & Fin Chr 150:618-19 Ja 27 '40
White House child conference; recommendations. E. C. Davis. Science 91:sup8-9 Ja 26 '40

CHILD welfare—*Continued*
White House conference on children in a democracy, January 18-20. Monthly Labor R 50:635 Mr '40

CHILDBIRTH
Studies in childbirth mortality; age and parity as factors in puerperal fatality. J. Yerushalmy, C. E. Palmer and M. Kramer. bibliog Pub Health Rep 55:1195-1220 Jl 5 '40
Studies in childbirth mortality; puerperal fatality and loss of offspring. J. Yerushalmy, M. Kramer and E. M. Gardiner. bibliog Pub Health Rep 55:1010-27 Je 7 '40

CHILDREN
See also
Adoption
Advertising—Children, Appeal to
Child labor
Family

Care and hygiene
Progress in saving maternal and child life. R. A. Bolt. bibliog Ann Am Acad 212:97-104 N '40
See also
School hygiene

Charities, protection, etc.
See also
Child welfare
Family allowances

Clothing
See Clothing and dress—Children

Diseases
Disabling diseases of childhood; their characteristics and medical care as observed in 500,000 children in 83 cities canvassed in the National health survey, 1935-1936. D. F. Holland. bibliog Pub Health Rep 55:135-56, 227-44 Ja 26, F 9 '40

Law
Legislators define childhood. I. G. Carter. Ann Am Acad 212:38-41 N '40

CHILDREN, Crippled. See Cripples

CHILDREN, Wild
Baboon boy of South Africa. J. P. Foley, jr. Science 91:291-2, 618-19 Mr 22, Je 28 '40

CHILDREN'S crusade for children
Children's crusade. D. C. Fisher. il Banking 32:70 Ap '40
Organized to aid war-stricken children abroad. Comm & Fin Chr 150:1869 Mr 23 '40

CHILDREN'S shoes. See Shoes, Children's

CHILE
See also
Contracts, Government—Chile
Income tax—Chile
Labor laws and legislation—Chile

Commerce
Foreign trade, 1939; comparisons with 1938. Comm Rep p261-2 Mr 16 '40
Markets in Chile and Peru. Engineering 150: 123-4 Ag 16 '40
Tariff commission issues report on Chilean commercial policies and trade relations. Comm & Fin Chr 151:1374 S 7 '40

Economic conditions
Business situation, 1939. Comm Rep p1218-19 D 30 '39
Chile; editorial. Comm & Fin Chr 151:301-5 Jl 20 '40
Prospects for Chilean loans. F. M. Stern. Barron's 19:16 D 25 '39
Tabular guide to economic conditions; statistics of production, commerce, foreign exchange, population, etc. Comm Rep p 1102 N 25 '39

Economic policy
Chilean control of manufactures and production. H. P. Crawford. Comm Rep p1139 D 9 '39

CHILTON, Thomas Hamilton, 1899-
Awarded Chandler medal. por Ind & Eng Chem 32:23 Ja '40
Receives Chandler medal. Oil Paint & Drug Rep 136:41 N 20 '39

CHIMES
See also
Carillons

CHIMNEYS
Chimney fires; prevention and extinction. il Safety Eng 80:28 S '40
Control of gases in the wake of smokestacks. R. H. Sherlock and E. A. Stalker. il diag Mech Eng 62:455-8 Je '40
Defining equitable limits of dust emission from stacks. P. H. Hardie. Mech Eng 61: 895-6 D '39; Same. Concrete (mill sec) 48: 137-8 Mr '40; Discussion. Mech Eng 62:557-62 Jl '40
Reduction of fly-ash emission from chimneys. J. F. Barkley, il diags pls U S Bur Mines Rep of Invest 3472:1-10 '39; Excerpts. Power Pl Eng 43:745-7 N '39; 44:78 F '40; Concrete (mill sec) diags 48:108+, 168-9, 185-6 Ja, My-Je '40
Stability of a kiln stack. T. W. Garve. diags Am Cer Soc J 23:152-6 My '40
Static chimney draft; data sheet. Power 84: 613 S '40
Stresses in freely falling chimneys and columns. F. P. Bundy. il diags J Ap Phys 11:112-23 F '40
See also
Flues
Heating
Smoke prevention

Lining
Progress report on the improvement of clay flue liners. P. E. Cox and H. F. Muecke. il diag Am Cer Soc Bul 19:19-22 Ja '40

Wrecking
Demolition of a smokestack. R. A. Trebilcock. il diags plan Explosives Eng 18:234-6 Ag '40
Dynamite in water shatters concrete stack. C. R. Wenz. diag Power 84:457 Jl '40
Simple way to take down steel stack. C. R. Wenz. il Power 84:177 Mr '40

CHIMNEYS, Brick
Repairing cracked chimney. diags Power 83: 772-3 D '39
These principles are important in chimney construction. H. C. Plummer and L. J. Reardon. diags Brick & Clay Rec 97:29-30 Ag '40

CHIMNEYS, Concrete
Concrete of fallen chimney in excellent condition. il Concrete 48:29 S '40
Rebuilding stacks; heat-resistant cement applied with gun to corroded steel stacks. il Steel 105:64-5+ D 18 '39

CHIMNEYS, Steel
Does your mill have a steel chimney? utilization of chimney heat. W. F. Schaphorst. Pulp & Pa of Can 41:660 S '40
Safe painting steel stacks. W. E. Rossnagel. il diags Power 84:292-4 My '40
Safe stack scaffold cuts painting time; how to build and use an articulated steel scaffold. W. E. Rossnagel. il diags Power 84: 418-19 Jl '40
Welded smoke stack costs. S. Barkla. il Power Pl Eng 44:114+ F '40

CHIMPANZEES
Chromosomes of the chimpanzee. C. H. Yeager, T. S. Painter and R. M. Yerkes. diags Science 91:74-5 Ja 19 '40
Laboratory chimpanzees. R. M. Yerkes. Science 91:336-7 Ap 5 '40

CHINA
News is my job; a correspondent in war-torn China. E. L. Booker. 375p $3 Macmillan '40
This is our China. M. S. Chiang. 2d ed 312p Harper '40
Who's who in China; map showing domination of various governments. Business Week p64 Ap 13 '40
See also
Finance—China
Floods—China
Irrigation—China
Labor and laboring classes—China
Land—China
Textile industry—China
Water, Underground—China

CHINA—*Continued*

Commerce

China trade act, 1922, with regulations and forms; edition of 1935, with amendments as of February 26, 1925, and June 25, 1938. 29p U.S. Bur. of foreign and domestic commerce, Washington '40

China's foreign trade; with chart of exports to various countries in 1937, before and after outbreak of Sino-Japanese war. Dun's R 48:36-7 Ap '40

Future of the China trade. W. W. Lockwood. Ann Am Acad 211:130-7 S '40

Lifelines of free China. map Economist 137: 462 D 23 '39

War and Chinese trade. Economist 138:1006-7 Je 8 '40

Commercial policy

Exchange control over all imports in north China. Comm Rep p584, 606 Jl 6-13 '40

Economic conditions

Business situation. Published in Commerce reports [cont as Foreign commerce weekly beginning O 5]

China in 1939. Economist 138:sup27 F 17 '40

Foreign population

Foreign devils in the Flowery Kingdom. C. Crow. 340p $3 Harper '40

Foreign relations

Great Britain

British relations with China: 1931-1939. I. S. Friedman. 255p bibliog(p238-47) $2 Inst. of pacific relations, 129 E. 52d st, New York '40

United States

United States policy toward China; diplomatic and public documents, 1839-1939. P. H. Clyde, ed. 321p $3.50 Duke univ. press, Durham, N.C. '40

Industries and resources

Economic resources of China. C. K. Moser. For Comm W 1:147+ O 26 '40

Japanese occupation

Manchukuo under Japanese domination and its bearing on the future of China. K. Bloch. Annalist 56:37+ Jl 11 '40

New Japanese policy? Dr Chu's statement in Japan review stirs speculation on course in China. Business Week p58 F 10 '40

Occupied China; asset or liability? Economist 138:682 Ap 13 '40

See also
Chinese-Japanese war

CHINA clay. See Kaolin

CHINA wood oil. See Tung oil

CHINATI mountains
Upper paleozoic section of Chinati mountains, Presidio county, Texas. J. W. Skinner. il maps Am Assn Pet Geologists Bul 24:180-8 Ja '40

CHINCH bugs
Chinch bug situation in the western grain area. F. Thone. Science 92:sup6 Jl 12 '40

CHINCHILLAS
Air conditioning serves new industry; raising of chinchillas. A. T. Spangler and F. Pederson. il Heating-Piping 12:298 My '40

CHINESE cabbage
Chinese celery cabbage for calcium; abstract. Food Ind 12:86 N '40

CHINESE in California
Anti-Chinese movement in California. E. C. Sandmeyer. 127p bibliog(p112-24) pa $1.50 Univ. of Illinois press, Urbana '39

CHINESE in New York
Chinese instructed in Chinese; Louie Fong Gee youngest member of Consolidated Edison's home service staff. il Gas Age 86:44 S 26 '40

CHINESE in San Francisco
Angry Chinese colony; San Francisco group says Immigration service is driving off $1,000,000-a-year business. Business Week p26+ My 11 '40

CHINESE-Japanese war
American trade and Japanese aggression. T. A. Bisson. Ann Am Acad 211:123-9 S '40

Deadlock in China. L. K. Rosinger. 32p pa 25c American council, Inst. of Pacific relations, 129 E. 52d st, New York '40

Japanese difficulties; is the Chinese war lost? W. W. Case. Annalist 55:324-5+ F 29 '40

Neutrality in the Chinese-Japanese war. W. R. Castle. Ann Am Acad 210:119-26 Jl '40

Why China cannot and will not give up fight. S. Hu Comm & Fin Chr 151:2582 N 2 '40

Claims

Japanese embassy in Washington announces settlement of American claims in China. Comm & Fin Chr 149:3194 N 18 '39

CHINESE pottery. See Pottery, Chinese

CHINTZ
Attempts to improve the finishing of cotton chintz fabric. Textile Col 62:472 Jl '40

Textiles of tomorrow; glazed chintz. K. H. Barnard. Textile Col 61:845-6 D '39; Same. Am Dyestuff Rep 28:739 D 25 '39

CHIROPODISTS
Incomes of chiropractors and chiropodists in the United States. Monthly Labor R 50: 453 F '40

CHIROPODY
Chiropody quiz compend. C. E. Krausz and J. J. Mueller, eds. 3d ed 289p $4 National assn. of chiropodists, New York '39

CHIROPRACTORS
Incomes of chiropractors and chiropodists in the United States. Monthly Labor R 50:453 F '40

CHISELS
Safe-ending drills and chisels. il diag Can Min J 61:372-3 Je '40; Same abr. Safety Eng 80:29 Jl '40

CHITIN
Chitin xanthate and regenerated chitin. C. J. B. Thor and W. F. Henderson. Am Dyestuff Rep 29:461-4, 489-91 S 16-30 '40

CHITIN xanthate
Chitin xanthate and regenerated chitin. C. J. B. Thor and W. F. Henderson. Am Dyestuff Rep 29:461-4, 489-91 S 16-30 '40

CHLADNI plates
Vibration of circular plates. R. C. Colwell, J. K. Stewart and H. D. Arnett. il Science 92:408-9 N 1 '40

CHLORAMINE
Free ammonia in the presence of chloramine. E. E. Wolfe. bibliog Water Works & Sewerage 86:509-11 D '39

Molecular structures of dimethyl chloramine and methyl dichloramine. D. P. Stevenson and V. Schomaker. Am Chem Soc J 62: 1913-16 Ag '40

CHLORELLA
Photocalorimeter; the quantum efficiency of photosynthesis in algae. J. L. Magee and others. diags Am Chem Soc J 61:3529-33 D '39

Quantum efficiency of photosynthesis in chlorella. H. G. Petering, B. M. Duggar and F. Daniels. Am Chem Soc J 61:3525-9 D '39

CHLORIDES
Effects of certain salt mixtures on the dissociation of glycine and alanine. A. C. Batchelder and C. L. A. Schmidt. bibliog J Phys Chem 43:1121-32 D '39

Effects of certain salts on the dissociation of alanine; experiments on cells without liquid-junction potentials. A. C. Batchelder and C. L. A. Schmidt. bibliog J Phys Chem 44: 880-92 O '40

Effects of certain salts on the dissociation of aspartic acid, arginine, and ornithine. A. C. Batchelder and C. L. A. Schmidt. bibliog J Phys Chem 44:893-909 O '40

CHLORIDES—*Continued*
Lower limit for the velocities of formation of the tri-halide ions in aqueous solution. R. S. Halford. bibliog Am Chem Soc J 62: 3233-6 N '40
Removal of chlorides and sulfates by synthetic resins. M. C. Schwartz, W. R. Edwards, jr. and G. Boudreaux. bibliog(48 references) Ind & Eng Chem 32:1462-6 N '40
See also
Alkali metal chlorides
Alkaline earth chlorides
Halides
Salt

Analysis

Determination of total water-soluble chlorides in petroleum. J. W. Horne and L. F. Christianson. bibliog U S Bur Mines Rep of Invest 3517:1-16 '40
How to test for chlorides. C. A. Noll. il Power 84:324 My '40

CHLORINATES
Chlorinates; temperature-concentration equilibria in the system hydrogen chloride-chlorine; the hydrogen perchlorides. J. A. Wheat, 2d and A. W. Browne. Am Chem Soc J 62:1577-8 Je '40
Chlorinates; temperature-concentration equilibria in the system methylene chloride-chlorine and methyl chloride-chlorine; the perchlorides of methylene and of methyl. J. A. Wheat, 2d and A. W. Browne. diag Am Chem Soc J 62:1575-7 Je '40

CHLORINATION
Chlorides and hydrochlorides from 1-hexyne. G. F. Hennion and C. E. Welsh. Am Chem Soc J 62:1367-8 Je '40
Chlorination and the structure of acetylketene. C. D. Hurd and J. L. Abernethy. Am Chem Soc J 62:1147-8 My '40
Chlorination of butyl trichloroacetates. H. M. Waddle and H. Adkins. bibliog Am Chem Soc J 61:3361-4 D '39
Chlorination of *cis*- and *trans*-diethyl hexahydrophthalates. C. C. Price and M. Schwarcz. bibliog il Am Chem Soc J 62: 2891-6 N '40
Chlorination of 1-hexyne in reactive solvents. R. O. Norris and G. F. Hennion. Am Chem Soc J 62:449-50 F '40
Chlorination of methane for the preparation of carbon tetrachloride. A. I. Kiprianov and T. S. Kusner. bibliog diag Oil & Gas J 38: 49-50 Ja 18 '40
Chlorination of phenyl ether and orientation in 4-chlorophenyl ether. R. Q. Brewster and G. Stevenson. bibliog Am Chem Soc J 62:3144-6 N '40
Chlorination of the acetylenic alcohols derived from acetone. G. F. Hennion and G. M. Wolf. Am Chem Soc J 62:1368-71 Je '40
Chlorinations with sulfuryl chloride; (a) the peroxide-catalyzed chlorination of aliphatic acids and acid chlorides; (b) the photochemical sulfonation of aliphatic acids. M. S. Kharasch and H. C. Brown. Am Chem Soc J 62:925-9 Ap '40
Chlorinations with sulfuryl chloride; the peroxide-catalyzed reaction of sulfuryl chloride with ethylenic compounds. M. S. Kharasch and H. C. Brown. Am Chem Soc J 61:3432-4 D '39
Detergents from kerosene: alkyl sulfates. A. R. Padgett and E. F. Degering. bibliog Ind & Eng Chem 32:204-8 F '40
Halogenation of hydrocarbons; chlorination of olefins containing an unsaturated tertiary carbon atom. J. Burgin and others. bibliog il diag Ind & Eng Chem 31:1413-19 N '39
Halogenation of hydrocarbons; substitution of chlorine and bromine into straight-chain olefins. H. P. A. Groll and G. Hearne. bibliog diags Ind & Eng Chem 31:1530-7 D '39
Phthalocyanines and related compounds; the halogenation of phthalocyanines. P. A. Barrett and others. Chem Soc J p1820-8 D '39
Production of anhydrous magnesium chloride. L. M. Pidgeon and N. W. F. Phillips. bibliog diag Electrochem Soc Trans 78 (preprint 20):273-95 O '40; Same cond. Can Chem & Process Ind 24:502-4 O '40
See also
Paper making—Chlorination
Rubber—Chlorination
Sewage disposal—Chlorination
Water pipes—Sterilization
Water purification—Chlorination
Wool—Chlorination

CHLORINE
Action of chlorine on aryl thiocarbimides and the reactions of aryl *iso*cyanodichlorides. G. M. Dyson and T. Harrington. Chem Soc J p191-4 F '40
Better bleach making and bleaching processes; paper and rayon pulp. S. Wang. Pulp & Pa of Can 41:565-8 Ag '40
Chlorinates; temperature-concentration equilibria in the system hydrogen chloride-chlorine; the hydrogen perchlorides. J. A. Wheat, 2d and A. W. Browne. Am Chem Soc J 62:1577-8 Je '40
Chlorinates; temperature-concentration equilibria in the system methylene chloride-chlorine and methyl chloride-chlorine; the perchlorides of methylene and of methyl. J. A. Wheat, 2d and A. W. Browne. diag Am Chem Soc J 62:1575-7 Je '40
Collisions of alpha-particles with chlorine nuclei. W. Hansen and G. A. Wrenshall. Phys R 57:750 Ap 15 '40
Fine structure of the X-ray absorption limits of bromine and chlorine. T. M. Snyder and C. H. Shaw. bibliog Phys R 57:881-6 My 15 '40
Handling of chlorine at water and sewage plants. J. B. Baty. il diags Can Eng W & S 78:24-5, 66-9 Ap '40
Importance of pH and catalysts in bleachery operations. J. D. Rue. Paper Tr J 110:98-101 Je 27 '40
Kinetics of the inhibition of the reaction between chlorine and nitric oxide. E. M. Stoddart. diag Chem Soc J p823-31 Jl '40
Lime-chlorine system in the preparation of calcium hypochlorite. F. W. O'Neil and J. D. Rue. Paper Tr J 109:39-42 D 7 '39
Magnesium-like spectra of chlorine, potassium, calcium and scandium. W. L. Parker and L. W. Phillips. Phys R 57:140-1 Ja 15 '40
Nuclear spin of Cl^{37}. E. F. Shrader. Phys R 58:475 S 1 '40
Photoexpansion of chlorine; the recombination of chlorine atoms. M. Ritchie and R. L. Smith. Chem Soc J p394-401 Ap '40
Photoreactions sensitized by the halogens. J. W. T. Spinks. Chem R 26:129-35 F '40
Production and half-life of chlorine 33. J. B. Hoag. Phys R 57:937 My 15 '40
See also
Bleaching
Halogens
Milk—Chlorination
Water purification—Chlorination
also Westvaco chlorine products company

Analysis

Bomb for determining organic chlorine by lime-fusion method. W. M. MacNevin and W. H. Baxley. diags Ind & Eng Chem Anal ed 12:299-300 My 15 '40
Detection of chlorine vapours. Can Chem & Process Ind 24:272 My '40
Test for residual chlorine; use of adsorption reaction between iodine and alpha-naphthoflavone. F. J. Hallinan. Ind & Eng Chem Anal ed 12:452-3 Ag 15 '40

Isotopes

Isotopic weights of chlorine, argon and iron by the doublet method. T. Okuda and others. Phys R 58:578-9 S 15 '40

Manufacture

Growth of the electrolytic alkali and chlorine industry in the United States development and importance of the deposited diaphragm cell; with list and location of plants in the United States. R. L. Murray. il diag map Am Inst Chem Eng Trans 36:445-62 Ag '40; Same cond. Chem & Met Eng 47:396-9+ Je '40

CHLORINE—Manufacture—*Continued*
Modern chlorine practice. C. L. Mantell. diags Chem & Met Eng 47:166-8+ Mr '40

Physiological effect

Treatment of casualties from lung irritant gases with particular reference to the use of oxygen and carbon dioxide mixture. A. T. Jones. bibliog il J Ind Hygiene 22:235-42 Je '40

Safety devices and measures

Handling of chlorine at water and sewage plants. J. B. Baty. Can Eng W & S 78: 68-9 Ap '40

Hazards to employees in water works plants. A. A. Soldner. Am Water Works Assn J 32:295-7 F '40

Statistics

Alkalis and chlorine. Chem & Met Eng 47: 70-2 F '40

CHLORINE compounds

Action of fluorine upon some simple aliphatic chlorinated hydrocarbons. W. T. Miller. bibliog diag Am Chem Soc J 62: 341-4 F '40

Dipole moments and structures of chlorine compounds of germanium, chromium, selenium and tellurium. C. P. Smyth, A. J. Grossman and S. R. Ginsburg. Am Chem Soc J 62:192-5 Ja '40

Quantitative hydrogenation of substituted azo compounds with Raney nickel at normal temperature and pressure. W. F. Whitmore and A. J. Revukas. Am Chem Soc J 62:1687-93 Jl '40

Some fluorine and chlorine derivatives of sulfanilamidobenzenesulfonic acids. C. M. Suter and A. W. Weston. bibliog Am Chem Soc J 62:604-6 Mr '40

Study of the fate in the organism of some chlorinated hydrocarbons. H. M. Barrett, J. G. Cunningham and J. H. Johnston. bibliog J Ind Hygiene 21:479-90 D '39

Synthesis of lubricating oils by condensation reactions; the condensation of chlorinated paraffin wax with aromatic hydrocarbons. W. R. Wiggins, T. G. Hunter and A. W. Nash. bibliog Inst Pet J 26:129-45 Mr '40

CHLORINE institute

Officers re-elected. Oil Paint & Drug Rep 137: 5 Ja 29 '40

CHLORINE oxides

Freezing point and solubility data for the system chlorine monoxide-water. C. H. Secoy and G. H. Cady. Am Chem Soc J 62:1036-8 My '40

Relation of lignin content to the strength of paper and boards; preparation of pulps of different lignin content by chlorine dioxide. C. V. Holmberg and E. C. Jahn. bibliog Paper Tr J 111:33-6 Jl 4 '40

Sodium chlorite, properties and reactions. M. C. Taylor and others. bibliog Ind & Eng Chem 32:899-903 Jl '40

CHLORINE water

Design of gas absorption equipment for the production of chlorine water. R. P. Whitney and J. E. Vivian. bibliog diag Paper Tr J 110:29-38 My 16 '40

CHLOROACETANILIDE

Acid catalysis in non-aqueous solvents; the rearrangement of *N*-chloroacetanilide in chlorobenzene solution at 100°. R. P. Bell and P. V. Danckwerts. Chem Soc J p1774-6 N '39

CHLOROACETIC acid

Effect of chlorine substitution on the fungistatic properties of acetic and propionic acids. C. Hoffman, T. R. Schweitzer and G. Dalby. Am Chem Soc J 62:988-9 Ap '40

Mechanism of the esterification of strong organic acids; the esterification of neopentyl alcohol with the chloroacetic acids. O. R. Quayle and H. M. Norton. bibliog Am Chem Soc J 62:1170-1 My '40

Quantum yield in chloroacetic acid. L. B. Thomas. Am Chem Soc J 62:1879-80 Jl '40

CHLOROACETOACETYL chloride

Chlorination and the structure of acetylketene. C. D. Hurd and J. L. Abernethy. Am Chem Soc J 62:1147-8 My '40

CHLOROACETOPROPANOL

Derivatives of γ-acetopropyl alcohol. J. R. Stevens and G. A. Stein. bibliog Am Chem Soc J 62:1045-8 My '40

CHLOROACETYL iodide

Studies on acid iodides; the mechanism of ether cleavage. P. G. Stevens. Am Chem Soc J 62:1801-2 Jl '40

CHLOROANTHRAQUINONE

Dipole moment of 1-chloroanthraquinone. E. Bergmann and A. Weizmann. Am Chem Soc J 61:3583 D '39

CHLOROBENZENE

Acid catalysis in non-aqueous solvents; the mutarotation of α-nitrocamphor in chlorobenzene solution. R. P. Bell and J. A. Sherred. Chem Soc J p1202-5 Ag '40

Acid catalysis in non-aqueous solvents; the rearrangement of *N*-chloroacetanilide in chlorobenzene solution at 100°. R. P. Bell and P. V. Danckwerts. Chem Soc J p1774-6 N '39

Catalytic hydrolysis of chlorobenzene in the vapor phase. A. A. Vernon and F. X. Thompson. bibliog J Phys Chem 44:727-30 Je '40

Condensation of vapors on a horizontal tube; heat transfer coefficient for condensation of vapors of water and nonmiscible organic liquids. E. M. Baker and U. Tsao. bibliog diags Ind & Eng Chem 32:1115-21 Ag '40; Same. Am Inst Chem Eng Trans 36:517-39 Ag '40

Conductance of some salts in chlorobenzene at 25°. R. L. McIntosh, D. J. Mead and R. M. Fuoss. bibliog Am Chem Soc J 62:506-8 Mr '40

Electric moments of some substituted benzoic acids. C. S. Brooks and M. E. Hobbs. bibliog Am Chem Soc J 62:2851-4 O '40

Partial pressure of hydrogen chloride from its solutions in the mono-halobenzenes at 25°. S. J. O'Brien and J. B. Byrne. bibliog Am Chem Soc J 62:2063-5 Ag '40

Viscosities of polyester solutions and the Staudinger equation. P. J. Flory and P. B. Stickney. bibliog Am Chem Soc J 62:3032-8 N '40

CHLOROBENZOHYDRYLAMINE

Optical rotatory powers of some 4-substituted benzhydrylamines. G. R. Clemo, C. Gardner and R. Raper. Chem Soc J p1958-60 D '39

CHLOROBENZOHYDRYL chloride

Mechanism of substitution at a saturated carbon atom; qualitative survey of nucleophilic substitutions of benzhydryl halides in sulphur dioxide solution. L. C. Bateman, E. D. Hughes and C. K. Ingold. Chem Soc J p1011-17 Jl '40

Mechanism of substitution at a saturated carbon atom; unimolecular halogen exchange between an alkyl halide and halide ions in sulphur dioxide solution. L. C. Bateman, E. D. Hughes and C. K. Ingold. Chem Soc J p1017-29 Jl '40

CHLOROBENZOIC acid

Electric moments of some substituted benzoic acids. C. S. Brooks and M. E. Hobbs. bibliog Am Chem Soc J 62:2851-4 O '40

CHLOROBENZYL pseudothiuronium chloride

Identification of organic acids by the use of *p*-chlorobenzyl pseudothiuronium chloride. B. T. Dewey and R. B. Sperry. Am Chem Soc J 61:3251-2 D '39

CHLOROBUTALDEHYDE

Interaction of arylhydrazines with halogenated aldehydes. H. Irving. Chem Soc J p813-17 Je '40

CHLOROBUTANOL

Chlorination of butyl trichloroacetates. H. M. Waddle and H. Adkins. bibliog Am Chem Soc J 61:3361-4 D '39

CHLOROCARVACRYLAMINE

Preparation and properties of 6-halogenated carvacrylamines from *p*-cymene. R. W. Bost and G. C. Kyker. bibliog Am Chem Soc J 62:913-17 Ap '40

CHLOROCROTONALDEHYDE
Interaction of arylhydrazines with halogenated aldehydes. H. Irving. Chem Soc J p813-17 Je '40

CHLOROCYCLOHEPTANONE
Ring enlargement of two cyclic alpha-chloroketones. T. R. Steadman. bibliog Am Chem Soc J 62:1606-9 Je '40

CHLOROCYCLOHEXANONE
Ring enlargement of two cyclic alpha-chloroketones. T. R. Steadman. bibliog Am Chem Soc J 62:1606-9 Je '40

CHLORODIMETHYL propane
Isomerization accompanying alkylation; the alkylation of benzene and neopentyl chloride and neopentyl alcohol. H. Pines, L. Schmerling and V. N. Ipatieff. bibliog Am Chem Soc J 62:2901-2 N '40

CHLORODIPHENYL
Fluid filling-media for electrical apparatus. F. Meyer. diags pl Inst E E J 86:313-20; Discussion. 320-6 Ap '40

CHLOROETHYL ether
Reaction of *bis*-β-chloroethyl ether with ethylenediamine. M. E. Hultquist and E. H. Northey. Am Chem Soc J 62:447-8 F '40

CHLOROFLUOROETHANES
Fluorochloroethanes as solvents for the cryoscopic determination of molecular weights. J. Bernstein and W. T. Miller. bibliog Am Chem Soc J 62:948-9 Ap '40

See also
Trifluorotrichloroethane

CHLOROFLUOROMETHANES
Engineer air conditions his home; gas fired equipment uses Freon 113 for heating and cooling. C. F. Boester. il diag plan Heat & Ven 37:15-18 F '40

How to determine size and cost of freon lines. W. Parkerson. charts Heat & Ven 37:17-21 O; 48-52 N '40 (to be cont)

Hydrogen bonds involving the C-H link; nitriles and dinitriles as solvents for hydrogen containing halogenated methanes. M. J. Copley, G. F. Zellhoefer and C. S. Marvel. Am Chem Soc J 62:227-8 Ja '40

Hydrogen bonds involving the C-H link; the solubilities of completely halogenated methanes in organic solvents. M. J. Copley, G. F. Zellhoefer and C. S. Marvel. Am Chem Soc J 61:3550-2 D '39

Thermodynamic properties of fluorochloromethanes and -ethanes; heat capacity of the liquid and vapor of three fluorochloromethanes and trifluorotrichloroethane. A. F. Benning and others. bibliog diags Ind & Eng Chem 32:976-80 Jl '40

Thermodynamic properties of fluorochloromethanes and -ethanes; orthobaric densities and critical constants of three fluorochloromethanes and trifluorotrichloroethane. A. F. Benning and R. C. McHarness. bibliog il Ind & Eng Chem 32:814-16 Je '40

Thermodynamic properties of fluorochloromethanes and -ethanes; *P-V-T* relations of three fluorochloromethanes and trifluorotrichloroethane. A. F. Benning and R. C. McHarness. bibliog diag Ind & Eng Chem 32:698-701 My '40

Thermodynamic properties of fluorochloromethanes and -ethanes; vapor pressure of three fluorochloromethanes and trifluorotrichloroethane. A. F. Benning and R. C. McHarness. bibliog Ind & Eng Chem 32: 497-9 Ap '40

CHLOROFORM
Action of fluorine upon some simple aliphatic chlorinated hydrocarbons. W. T. Miller. bibliog diag Am Chem Soc J 62:341-4 F '40

Chloroform extract of reclaimed rubber. H. F. Palmer and F. L. Kilbourne, jr. bibliog Ind & Eng Chem 32:512-18 Ap '40

Chromic oxide as an adsorbent. E. H. Harbard and A. King. diag Chem Soc J p19-29 Ja '40

Hydrogen bonds involving the C-H link; effect of structure on bonding of donor and acceptor molecules. C. S. Marvel, M. J. Copley and E. Ginsberg. bibliog Am Chem Soc J 62:3109-12 N '40

Quaternary system acetic acid—chloroform—acetone—water at 25°C. A. V. Brancker, T. G. Hunter and A. W. Nash. diags J Phys Chem 44:683-98 Je '40

Samuel Guthrie, an early American chemist. F. H. Getman. bibliog il map J Chem Educ 17:257-8 Je '40

Simple apparatus for measuring the dielectric constant of non-conducting liquids; dielectric constant of ethyl ether-chloroform mixtures. B. E. Hudson and M. E. Hobbs. bibliog diags J Chem Educ 17:366-70 Ag '40

CHLOROGENIN
Sterols; chlorogenin. R. E. Marker, E. M. Jones and D. L. Turner. bibliog Am Chem Soc J 62:2537-40 S '40

Sterols; reactions of chlorogenin. R. E. Marker and E. Rohrmann. bibliog Am Chem Soc 61:3479-82 D '39

Sterols; sapogenins; the conversion of chlorogenin to tigogenin. R. E. Marker, D. L. Turner and P. R. Ulshafer. Am Chem Soc J 62:3009-10 N '40

Sterols; the position of the hydroxyl groups in chlorogenin. R. E. Marker and others. bibliog Am Chem Soc J 62:3006-9 N '40

CHLOROGERMANE
Dipole moments and structures of chlorine compounds of germanium, chromium, selenium and tellurium. C. P. Smyth, A. J. Grossman and S. R. Ginsburg. Am Chem Soc J 62:192-5 Ja '40

CHLOROGERMANIC acid
Chlorogermanic acid and the chlorogermanates; properties and crystal structure of cesium hexachlorogermanate. A. W. Laubengayer, O. B. Billings and A. E. Newkirk. Am Chem Soc J 62:546-8 Mr '40

CHLOROHYDRINS
Alpha, omega-amino alcohols; N-phenyl-N'-(ω-hydroxyalkyl)-piperazines from α,ω-chlorohydrins; derivatives of piperazine. G. W. Anderson and C. B. Pollard. Am Chem Soc J 61:3439-40 D '39

CHLOROIODOPROPANE
Peroxide effect in the addition of re-agents to unsaturated compounds; the addition of hydrogen iodide to propene, 1-bromopropene, allyl chloride, and allyl bromide. M. S. Kharasch, J. A. Norton and F. R. Mayo. bibliog Am Chem Soc J 62:81-6 Ja '40

CHLOROMETHYL benzodioxane
Proof of structure of 6-chloro-8-chloromethyl-1,3-benzodioxane by oxidation. C. A. Buehler and others. Am Chem Soc J 62:890-4 Ap '40

CHLOROMETHYLATION
Chloromethylation of aryl ketones. R. C. Fuson and C. H. McKeever. bibliog Am Chem Soc J 62:784-5 Ap '40

CHLORONITROPYRIDINE
Reaction of 2-chloro-5-nitropyridine and thiourea. A. R. Surrey and H. G. Lindwall. Am Chem Soc J 62:1697-8 Jl '40

CHLOROPHENOL
Investigation of the complex structure of the O-H harmonic bands of substituted alcohols, and of the effect of temperature on the relative intensities of the multiplet components. L. R. Zumwalt and R. M. Badger. bibliog Am Chem Soc J 62:305-11 F '40

CHLOROPHENYL ether
Chlorination of phenyl ether and orientation in 4-chlorophenyl ether. R. Q. Brewster and G. Stevenson. bibliog Am Chem Soc J 62: 3144-6 N '40

CHLOROPHYL
Chlorophyll as the prosthetic group of a protein in the green leaf. E. L. Smith. bibliog Science 91:199-200 F 23 '40

Color changes in green vegetables; frozen-pack peas and string beans. G. Mackinney and C. A. Weast. Ind & Eng Chem 32: 392-5 Mr '40

Conversion of chlorophyll to pheophytin. G. Mackinney and M. A. Joslyn. Am Chem Soc J 62:231-2 Ja '40

CHLOROPHYL—*Continued*
Determination of chlorophyll and carotene in plant tissue. H. G. Petering, W. Wolman and R. P. Hibbard. bibliog Ind & Eng Chem Anal ed 12:148-51 Mr 15 '40
Solutions of chlorophyll in salt water. J. Shafer, jr. Science 91:580 Je 14 '40

CHLOROPICRIN
Chloropicrin as a prewarning gas in ship fumigation. G. C. Sherrard. Pub Health Rep 54:2297-302, pl 1-2 D 29 '39
Decontamination of foodstuffs affected by poisonous gases. A. P. B. Page. Chem & Ind 58:906-9 O 7 '39; Same. Can Chem & Process Ind 24:6-8 Ja '40
Industrial uses of chemicals and related materials. Oil Paint & Drug Rep 137:63 F 19 '40

CHLOROPRENE
Néoprène, caoutchouc du chloroprène. Ottenhoff. il Soc Ing Civils, Mémoires 92:323-37 Mr '39
Synthetic rubbers: a review of their compositions, properties, and uses. L. A. Wood. India Rubber W 102:33-43, 51 bibliog (232 titles, p41-3, 51) Jl '40

CHLOROPROPANE
Utilisation of polychloropropanes and hexachloroethane; abstract. E. T. McBee and others. Chem Age (Lond) 43:145-6 S 28 '40

CHLOROPROPENE. See Allyl chloride

CHLOROPROPIONIC acid
Effect of chlorine substitution on the fungistatic properties of acetic and propionic acids. C. Hoffman, T. R. Schweitzer and G. Dalby. Am Chem Soc J 62:988-9 Ap '40

CHLOROSILICANE
Thermal and photochemical oxidation of the chlorinated silanes. H. J. Emeléus and A. J. E. Welch. diag Chem Soc J p1928-37 D '39

CHLOROSULFINATES
Decomposition of chlorosulphinic esters. M. P. Balfe and J. Kenyon. Chem Soc J p463-4 Ap '40

CHLOROSULFINIC acid
Studies on the esters of sulphurous, chlorosulphinic, and chlorosulphonic acids. W. Gerrard. Chem Soc J p218-30 F '40

CHLOROSULFONIC acid
Identification of organic compounds; chlorosulfonic acid as a reagent for the characterization of aromatic ethers. E. H. Huntress and F. H. Carten. Am Chem Soc J 62:603-4 Mr '40
Identification of organic compounds; chlorosulfonic acid as a reagent for the identification of aryl halides. E. H. Huntress and F. H. Carten. Am Chem Soc J 62:511-14 Mr '40
Studies on the esters of sulphurous, chlorosulphinic, and chlorosulphonic acids. W. Gerrard. Chem Soc J p218-30 F '40

CHLOROTOLUENE
Rate and mechanism in the reactions of benzyl chloride with water, hydroxyl ion and acetate ion. G. W. Beste and L. P. Hammett. Am Chem Soc J 62:2481-7 S '40
Vapor pressures of some organic compounds. J. M. Stuckey and J. H. Saylor. bibliog diag Am Chem Soc J 62:2922-5 N '40

CHOCOLATE
Air conditioning for chocolate storage. il diag Elec W 113:466+ F 10 '40
Pseudo-plastic properties of molten chocolate. L. E. Campbell. diags Soc Chem Ind J 59: 71-4 Ap '40
Recipe creates new market for old product; candy bar used to make cookies. I. C. Miller. il Food Ind 12:57 My '40
Romance of cocoa and chocolate. G. R. Maybee. Chem & Ind 59:460-1 Je 29 '40; Abstract. Can Chem & Process Ind 24:202 Ap '40

CHOCOLATE milk
Milk product specialties increase consumption; chocolate flavored milk. il Refrig Eng 39:153 Mr '40

CHOLANIC acid
See also
Dihydroxyketocholanic acid

CHOLANTHRENE
7-Cholanthroic acid. L. F. Fieser and G. W. Kilmer. bibliog Am Chem Soc J 62:1354-60 Je '40
20-Methyl-4-azacholanthrene. L. F. Fieser and E. B. Hershberg. bibliog Am Chem Soc J 62:1640-5 Jl '40
New methyl and dimethyl derivatives of cholanthrene. L. F. Fieser and D. M. Bowen. bibliog Am Chem Soc J 62:2103-8 Ag '40
See also
Methyl cholanthrene

CHOLANTHROIC acid
7-Cholanthroic acid. L. F. Fieser and G. W. Kilmer. bibliog Am Chem Soc J 62:1354-60 Je '40

CHOLESTADIENE
Photodehydrogenation of steroids; 2,4-cholestadiene. R. P. Jacobsen and C. Z. Nawrocki. Am Chem Soc J 62:2612-14 O '40

CHOLESTADIENOL
Preparation of $\Delta^{4:6}$-cholestadien-3(β)-ol. V. A. Petrow. Chem Soc J p66-7 Ja '40

CHOLESTANEDIOL
Sterols; oxidation of the diacetate of cholestanediol-3,6. R. E. Marker and others. Am Chem Soc J 62:645-6 Mr '40

CHOLESTANOL
Preparation of cholestanol glucosides with all four possible configurations of the glucoside link. R. P. Linstead. bibliog Am Chem Soc J 62:1766-70 Jl '40

CHOLESTANONE
Collidine treatment of 2-bromocholestanone. R. P. Jacobsen. Am Chem Soc J 62:1620-1 Je '40
Molecular rearrangements in the sterols; the structure of i-cholestanone. K. Ladenburg, P. N. Chakravorty and E. S. Wallis. bibliog Am Chem Soc J 61:3483-7 D '39

CHOLESTENEDIOL
Steroids and related compounds; steroid diosphenols. V. A. Petrow and W. W. Starling. Chem Soc J p60-5 Ja '40

CHOLESTENONE
Stereoisomeric oximes of cholestenone. J. O. Ralls. bibliog Am Chem Soc J 62:2459-64 S '40

CHOLESTEROL
Mercuration of cholesterol. R. H. Levin and M. A. Spielman. bibliog Am Chem Soc J 62:920-1 Ap '40
Sterols; cholesterol and sitosterol derivatives. R. E. Marker and E. Rohrmann. Am Chem Soc J 62:516-17 Mr '40

Analysis
Microdetermination of cholesterol in serum. H. K. Alber and J. T. Bryant. Franklin Inst J 229:118-25 Ja '40

CHOLESTERYL acetate
Studies in the sterol group; the bromination of 7-ketocholesteryl acetate. H. Jackson and E. R. H. Jones. Chem Soc J p659-63 My '40

CHOLINE
Amino-acid and peptide esters of choline as possible analogues of the oxytocic hormone of the posterior lobe of the pituitary gland. J. M. Gulland, M. W. Partridge and S. S. Randall. Chem Soc J p419-25 Ap '40

CHONDRODENDRON
Curare alkaloids; alkaloids of some chondrodendron species and the origin of radix pareirae bravae. H. King. Chem Soc J p737-46 Je '40

CHORIOMENINGITIS. See Meningitis

CHRISTIAN art and symbolism
Christian symbols in a world community. D. J. Fleming. 150p $2 Friendship press, 156 5th av, New York '40
Index to Christian art; a progress report. H. Woodruff. Special Lib 30:347-8 D '39

CHRISTIE, Alexander Graham, 1880-
Portrait. Mech Eng 62:43 Ja '40

CHRISTMAS
Christmas activities; survey of bank participation. J. Farnham. il Burroughs Clearing House 25:20-1+ N '40

CHRISTMAS business
Initial Christmas trade disappointing. Barron's 19:9 D 11 '39
Live-wire Christmas selling idea; how Bayuk educates jobbers and dealers. A. J. Newman. il Ptr Ink 189:15-18 D 8 '39
Sales guide; do's and dont's for Christmas. il Elec West 85:35-8 N '40
Season's headings. Ptr Ink 189:68 D 22 '39

CHRISTMAS clubs
Christmas club savings in 1939. Comm & Fin Chr 149:3189-90, 3795 N 18, D 16 '39
Should banks pay interest on club accounts? W. P. Stevens. Bankers M 140:71-2 Ja '40

CHRISTMAS gifts
Is your product a potential gift? Stanley tools holiday packages. il Mod Packaging 14:68+ S '40

Advertising
Season's headings. Ptr Ink 189:68 D 22 '39
Trade groups key advertising to Christmas. il Business Week p44 D 16 '39

Business gifts
That business Santa Claus; rules to govern the acceptance of presents; abstract. A. Van Vlissingen. Management R 28:418-19 D '39

CHRISTMAS lighting
Community at Christmas; Casper, Wyoming association outdoor Christmas lighting contest. il Elec West 85:52-3 N '40
Utilities show leadership in Christmas lighting; illustrations. Elec W News ed 112: 1820-1 D 23 '39

CHRISTMAS printing
Gay novelties make the best holiday greetings. il Inland Ptr 104:56-9 N '39

CHRISTMAS tree decorations
Xmas tree balls being made at Corning. il Glass Ind 21:21 Ja '40

CHRISTMAS tree holders
Christmas tree metal stand. G. H. Klay. diags Sheet Metal Worker 31:35 Ag '40

CHROMAN
Hydrogenation of coumarin and related compounds. P. L. de Benneville and R. Connor. bibliog Am Chem Soc J 62:283-7, 3067-70 F, N '40

CHROMATES
Chromate salts from domestic ores; abstracts. H. A. Doerner and others. flow sheet Eng & Min J 141:50-1+ My '40; Chem & Met Eng 47:688-9 O '40
Effect of chromate on the purification of sewage by treatment in bacterial filters. S. H. Jenkins and C. H. Hewitt. Soc Chem Ind J 59:41-4 F '40
Progress reports, Metallurgical division; production of chromates from domestic ores. R. S. Dean. flow sheet pl U S Bur Mines Rep of Invest 3480:55-9 '40
Reactions of chromates at high temperatures; decomposition of calcium, strontium, and barium chromates; abstract. V. T. Athavale and S. K. K. Jatkar. Am Cer Soc J 23 (Cer A 19):30-2 Ja '40
See also
Potassium chromate

Analysis
Polarographic study of the reduction of chromate ion at the dropping mercury electrode. J. J. Lingane and I. M. Kolthoff. bibliog Am Chem Soc J 62:852-8 Ap '40

CHROMATOGRAPHIC analysis
Adsorption analysis; relation between adsorption isotherm and position on the adsorption column. H. G. Cassidy. Am Chem Soc J 62:3076-9 N '40
Anorganische chromatographie als hilfsmethode der mikroanalyse. G. M. Schwab and A. N. Ghosh. diag Angew Chemie 53: 39-40 Ja 20 '40
Anorganische chromatographie; anwendung der chromatographie als hilfsmethode der qualitativen analyse. G. M. Schwab and A. N. Ghosh. Angew Chemie 52:666-8 N 11 '39
Theory of chromatography. J. N. Wilson. bibliog Am Chem Soc J 62:1583-91 Je '40

CHROMATOPHORES
Modern conception of the action of the nervous system. G. H. Parker. Science 92:319-23 O 11 '40

CHROME alums. See Alums

CHROMEL
Stability of base-metal thermocouples in air from 800° to 2,200° F; chromelalumel and iron-constantan. A. I. Dahl. J Research Nat Bur Stand 24:205-24 F '40

CHROMIC acid
Dropping tests for measuring the thickness of zinc and cadmium coatings on steel. A. Brenner. diag Metal Ind 38:91-5; Discussion. 95 F '40
Phosphatising; the importance of the chromate rinse. Automobile Eng 29:459-60 D '39

CHROMITE
Chromate salts from domestic ores; abstracts. H. A. Doerner and others. flow sheet Eng & Min J 141:50-1+ My '40; Chem & Met Eng 47:688-9 O '40
Chromite deposits of Grant county, Oregon; a preliminary report. T. P. Thayer. il fold maps U S Geol S Bul 922-D:75-113, pl 12-20 '40
Chromite in the Philippines. R. G. Myers. J Chem Educ 17:406 S '40
Chromite mining in Jojohatu, India. B. S. Bhaduria. Eng & Min J 141:51 O '40
Philippine chromite. D. F. Frasche. il maps Min Cong J 25:22-7 D '39
La production et la consommation de la chromite dans le monde. Génie Civil 116: 300 My 4 '40
Review of the strategic metals. S. H. Dolbear. Metals & Alloys 12:416-18 O '40
Smelting domestic chrome ores in the electric furnace; investigation of high-iron concentrates from Montana and Oregon made to determine chromium recovery, power consumption, and grades of products. Eng & Min J 141:49-51 Jl '40

CHROMITE magnesite brick
All-basic open hearth; development of chrome-magnesite brick, its use in roofs. J. H. Chesters. il Iron Age 146:35-7 Ag 15; 39-41 Ag 22 '40

CHROMIUM
Influence of chromium on the oxidation resistance of cast iron. C. O. Burgess. il Am Soc T M Proc 39:604-22; Discussion. 623-5 '39
Organic chemist's research conserves chromium supply. Refrig Eng 40:326 N '40
Paramagnetic relaxation times for titanium and chrome alum. J. H. Van Vleck. bibliog Phys R 57:426-47 Mr 1 '40
Review of the strategic metals. S. H. Dolbear. Metals & Alloys 12:416-18 O '40
Supplies of chromium (essential to the stainless steels). J. H. Critchett. Metal Prog 38:457 O '40
Theory for the passivity of chromium. Sister M. Aida Ryan and H. Heinrich. bibliog diags Electrochem Soc Trans 77 (preprint 10):121-36 Ap '40

Analysis
Manganese and chromium in steel; modified persulfate-arsenite method. R. P. Forsyth and W. F. Barfoot. Ind & Eng Chem Anal ed 11:625 N 15 '39
Spectrographic determination of trace elements in soils; the variable internal standard method, applied to the determination of chromium in the cathode layer arc. A. M. M. Davidson and R. L. Mitchell. Soc Chem Ind J 59:213-16 S '40

CHROMIUM—*Continued*

Isotopes

K-electron capture and internal conversion in Cr^{51}. H. Walke, F. C. Thompson and J. Holt. il Phys R 57:171-6 F 1 '40

Radio isotopes of chromium. T. Amaki, T. Iimori and A. Sugimoto. Phys R 57:751-2 Ap 15 '40

CHROMIUM alloys

Heat resisting castings, medium nickel type. H. I. Dixon. Metal Prog 38:469+ O '40

Hydrogen and oxygen overvoltages of chromium nickel alloys in 1 molal potassium hydroxide. M. de K. Thompson and G. H. Sistare, jr. diag Electrochem Soc Trans 78 (preprint 4):47-51 O '40

See also

Chromium copper
silicon steel
Chromium steel
Illium
Iron alloys—
Chromium alloys
Stellite

CHROMIUM chlorides

Curing phenol resins with metal chlorides; stannous and chromic chlorides. L. E. Stout and C. R. McAlister, jr. diags Mod Plastics 18:59-61+ N '40

CHROMIUM compounds

Metallic mordants; a review of their use in textile printing. Textile Col 62:128-31, 403-6, F, Je '40

Racemisation of optically active co-ordination compounds; application of the Arrhenius equation. E. Bushra and C. H. Johnson. diags Chem Soc J p1937-45 D '39

Soluble chromium derivatives of dyestuffs. J. L. Boyle. Am Dyestuff Rep 28:741-4 D 25 '39

CHROMIUM copper silicon steel

Cor-Ten hopper cars show low weight loss. Ry Mech Eng 114:149 Ap '40

Service life of Cor-Ten steel in hopper cars; tests made in cars with USS Cor-Ten sheets in one end and copper steel or USS Man-Ten steel in the other. il Ry Age 107: 847-8 D 2 '39; Same. Ry Mech Eng 114:60-1+ F '40

CHROMIUM hydroxide

Influence of sol concentration on flocculation values. E. D. Fisher and C. H. Sorum. bibliog J Phys Chem 44:62-70 Ja '40

CHROMIUM manganese steel

Intercrystalline corrosion of chromium-manganese steels. A. de Sy. Engineer 168:sup [Metallurgist] 79-80 D 29 '39

CHROMIUM metallurgy

Electrometallurgy

Smelting domestic chrome ores in the electric furnace; investigation of high-iron concentrates from Montana and Oregon made to determine chromium recovery, power consumption, and grades of products. Eng & Min J 141:49-51 Jl '40

CHROMIUM molybdenum steel

Creep of some chromium-molybdenum steels. H. D. Newell. il Metals & Alloys 10:342-5 N '39

Erreichbare festigkeitseigenschaften bei chrom-molybdän-baustählen nach härtung oder vergütung. H. Voss and F. Krämer. il diags Stahl & Eisen 59:913-20 Ag 10 '39; Abstract (Chromium-molybdenum steels). Engineer 168:sup[Metallurgist] 84-6 D 29 '39

Examination and tests of welded parts for steam power plant. A. H. Goodger. bibliog diags Inst Mech Eng J & Proc 142:Proc 261-87, pl 1-12 Ja '40

Festigkeitsverhalten von rohrschweissungen bei dauerbelastung. E. Siebel and K. Wellinger. il diag V D I 84:57-9 Ja 27 '40

High temperature creep strength checked for low-alloy steels. R. F. Miller, W. G. Benz and W. E. Unverzagt. Nat Pet N 32:R306, R309-12 Ag 21 '40

Isothermal transformation in steels. E. S. Davenport. il diag Am Soc for Metals Trans 27:837-86 bibliog(73 titles, p881-6) D '39; Same cond. Metal Prog 36:623-9 N '39

Three per cent chromium molybdenum alloy steel. Steel 107:68+ Ag 5 '40

Vergleich der festigkeitseigenschaften von chrom-nickel- und chrom-molybdän-vergütungsstahl. R. Scherer and H. Kiessler. Stahl & Eisen 59:1151-2 O 26 '39

Testing

Effect of phosphorus in 5 per cent Cr, 0.50 Mo steel. H. D. Newell and Z. E. Olzak. il Metals & Alloys 11:106-11 Ap '40

Titanium and some properties of Cr-Mo steel for airplane tubing. G. F. Comstock. il Metals & Alloys 12:21-6 Jl '40

CHROMIUM nickel steel

Balanced 18-8 stainless steel, a metallurgical achievement. W. J. Priestley. Steel 107:176 O 14 '40

Corrosion-resisting steels; properties required in service and their development by proper manufacturing methods. W. B. Thompson. il diag Can Chem & Process Ind 23:596-9 D '39

Effect of temperature of pretreatment on creep characteristics of 18-8 stainless steels; abstract. C. R. Austin and C. H. Samans. Iron Age 145:39-40 F 22 '40

18 and 8 and related stainless steels. W. M. Mitchell. il Metals & Alloys 11:14-18, 60-4, 88-93, 118-22 Ja-Ap '40

18-gage 18-8 stainless welded automatically by smothered arc. T. R. Lichtenwalter. Steel 107:181-2 O 14 '40

Electropolishing. S. Tour. il Metal Finishing 38:308-12 Je '40

Fabricated stainless steel in the rayon and textile industries; with special reference to the Shotweld process. H. B. Vollrath. il Rayon 20:713-15 D '39

Fabrication of stainless steel into chemical and process vessels. P. L. Coddington. il Metal Prog 38:39-44 Jl '40

Fruehauf builds stainless steel trailers using Budd shotweld process. W. F. Sherman. Iron Age 145:60 My 2 '40

Heat and corrosion resistant castings. D. W. Talbott. il Steel 107:40-4 Jl 22; 38-40 Jl 29 '40

Improvements in 18/8 stainless steel obtained by adding silver. Automotive Ind 83:187 Ag 15 '40

Improving stainless by a low-temperature treatment. R. Franks and W. O. Binder. Steel 107:56, 58+ Jl 22 '40; Abstract. Iron Age 145:40-1 F 22 '40

Influence of ferrite on the intercrystalline corrosion of chromium-nickel austenitic steels. Engineer 170:sup[Metallurgist] 124-7 Ag 30 '40

Magnetic permeability of some austenitic iron-chromium-nickel alloys as influenced by heat treatment and cold work. J. B. Austin and D. S. Miller. diag Am Soc for Metals Trans 28:743-55 S '40

Modifications of standard types. H. A. Grove. Metal Prog 38:458 O '40

Properties of the principal Cr-Fe alloys and Cr-Ni-Fe alloys; data sheets. Metal Prog 38:464-5 O '40

Report on metallographic examination of 18 per cent chromium, 8 per cent nickel steels. il Am Soc T M Proc 39:203-9 '39

Schweissen von korrosions- und hitzebeständigen stählen, nach einer schrifttumsübersicht von W. Spraragen u. G. E. Claussen; zusammengestellt von H. Cornelius. V D I 84:132-6, 173-7 bibliog(p176-7) F 24, Mr 9 '40

Silver in stainless steel. Mech Eng 62:238 Mr '40

Silver in stainless steel. R. J. Norton. Metals & Alloys 11:18-19 Ja '40

Silver, in stainless steel and bottle linings. Min & Met 21:60-1 Ja '40

Stainless steel and aircraft trends. M. Watter. il Aero Digest 36:67-8, 71-2, 75+ My '40

Stainless steel for aircraft structures; abstract. H. W. Perry. Metals & Alloys 11: MA282+ My '40

Stainless steel hangars at Municipal airport, Flushing, Long Island. il diags Sheet Metal Worker 31:32-4 O '40

CHROMIUM nickel steel—*Continued*
Stainless steel in a Hollywood film processing laboratory; pictorial presentation. Metals & Alloys 11:45-9 F '40
Stainless steel lumber. il Sheet Metal Worker 31:38 Jl '40
Stainless steels containing silver and molybdenum. Engineering 150:8 Jl 5 '40
Steel aircraft; use of stainless steel. E. J. W. Ragsdale. il Steel 106:70+ My 6 '40
Stout engineering laboratories designs stainless steel plane to be built on quantity basis. il Steel 107:24 Jl 1 '40
Stress corrosion cracking of the austenitic chromium-nickel steels and its industrial implications. J. C. Hodge and J. L. Miller. il diags Am Soc for Metals Trans 28:25-67; Discussion. 67-82 Mr '40
Tensile elastic properties of 18:8 chromium-nickel steel as affected by plastic deformation. D. J. McAdam, jr. and R. W. Mebs. bibliog U S Nat Advisory Com for Aeronautics 1939:539-80 '40
Vergleich der festigkeitseigenschaften von chrom-nickel- und chrom-molybdän-vergütungsstahl. R. Scherer and H. Kiessler. Stahl & Eisen 59:1181-2 O 26 '39
Welding of stainless steel and its alloys. G. H. Tweney. il Aero Digest 35:45+ D '39
Welding waterwheels; also metal spraying. A. P. Newberry. Elec West 85:46-7 Ag '40
Wirkung von vanadin auf den kornzerfall austenitischer chrom-nickel-stähle. G. Riedrich and G. Hoch. Stahl & Eisen 60:30-1 Ja 11 '40

See also
Steel, Stainless

Analysis

Manganese, chromium, and nickel in 18-8 alloy steels; a rapid sequence titration. L. Silverman and O. Gates. bibliog Ind & Eng Chem Anal ed 12:518-19 S 15 '40

CHROMIUM ores

See also
Chromite

CHROMIUM oxides
Catalytic dehydrogenation of representative hydrocarbons. A. G. Oblad, R. F. Marschner and L. Heard. bibliog diag Am Chem Soc J 62:2066-9 Ag '40
Chromic oxide as an adsorbent. E. H. Harbard and A. King. diag Chem Soc J p19-29 Ja '40
Coprecipitation of barium ion with hydrous aluminum, chromic and ferric oxides in the presence of ammonium ion. L. Lehrman, J. Been and M. Manes. bibliog Am Chem Soc J 62:1014-18 My '40
Mixed copper-chromium oxide hydrogenation catalysts. V. N. Ipatieff, B. B. Corson and J. D. Kurbatov. bibliog J Phys Chem 44:670-9 My '40
X-ray investigation of the system Cr_2O_3-NiO^1. L. Thomassen. Am Chem Soc J 62:1134-6 My '40

CHROMIUM plating
Automatic plating of die castings; Alemite die casting & mfg. co. H. Chase. il Iron Age 145:40-2 Je 27 '40
Chrome hardening as an antidote to cylinder wear. Automobile Eng 29:453-4 D '39
Chrome plating cylinder bores. Automotive Ind 81:579, 592 D 1 '39
Chromium plating cylinder bores; abstract. H. van der Horst. S A E J 46:sup30+ Je '40
Chromium plating of motor cylinders. H. Van der Horst. il Metal Ind 38:76-8 F '40
Electrolytic chromium plate thickness tester. S. Anderson and R. W. Manuel. bibliog il diags Electrochem Soc Trans 78 (preprint 3):37-46 O '40
Hard plating of plastic molds. A. W. Logozzo. il Metal Finishing 38:579-84 N '40
Lead anodes for chromium plating. R. Eckhardt. il Metal Finishing 38:313-14 Je '40
Outdoor exposure tests of electroplated nickel and chromium coatings on steel and nonferrous metals. W. Blum and P. W. C. Strausser. J Research Nat Bur Stand 24:443-74 Ap '40
Plating protects plastic molds. E. Smith. il Am Mach 83:1073-3 D 27 '39
Review of technical developments in electroplating during the year 1939. J. B. Kushner. Metal Ind 38:14-15 Ja '40
Saving material; chromium plating as method of conservation. Automobile Eng 30:258 S '40
Suggested basis for specifications of plated coatings of nickel and chromium. A. W. Hothersall. Metal Ind 38:27-30 Ja '40
Theory for the passivity of chromium. Sister M. Aida Ryan and H. Heinrich. bibliog diags Electrochem Soc Trans 77 (preprint 10):121-36 Ap '40

Patents

Decision on suit of United chromium, inc. vs. Great Lakes plating and japanning co. on the Fink patents. Metal Ind 38:95, 100 F '40

Testing

Analyzing chromium plate by X-ray diffraction. J. T. Wilson. il diag Steel 107:38-42, 66+ Ag 26 '40
Spot test for thickness of chromium coatings; abstract. W. Blum and W. A. Olson. Iron Age 145:44 Je 27 '40

Waste

Effect of chromate on the purification of sewage by treatment in bacterial filters. S. H. Jenkins and C. H. Hewitt. Soc Chem Ind J 59:41-4 F '40; Abstract. Eng N 125: 44 Jl 4 '40

CHROMIUM steel
Alloys of iron and chromium; v.2, High-chromium alloys. A. B. Kinzel and R. Franks. 559p bibliog(p489-521) $6 McGraw-Hill '40
Blankglühen von chromhaltigen stählen. O. Dahl and F. Pawlek. il Stahl & Eisen 60: 137-42 F 15 '40
Characteristics of 5.0 and 7.0 per cent chromium steels with varying molybdenum and vanadium content. W. G. Hildorf, C. L. Clark and A. E. White. il Am Soc for Metals Trans 27:1090-1114; Discussion. 1114-17 D '39
Chromium steel castings. E. K. Smith. il Metal Prog 37:49-54 Ja '40
Chromium steel castings; abstract. K. Roesch. Engineer 168:sup[Metallurgist] 77 D 29 '39
Chromium steels from 2 to 16% chromium. H. D. Newell. Metal Prog 38:384-5 O '40
Effect of nitrogen additions and heat treatment on the properties of high-chromium steels. E. W. Colbeck and R. P. Garner. bibliog diags Iron & Steel Inst J 139:99-136, pl 2-5 no 1 '39; Excerpts. Engineering 147: 726-9 Je 16 '39; Discussion. Iron & Steel Inst J 139:137-46, pl 5a no 1 '39
High-temperature creep strength checked for low-alloy steels. R. F. Miller, W. G. Benz and W. E. Unverzagt. Nat Pet N 32:R306, R309-12 Ag 21 '40
How alloying elements affect high alloy steels. P. Payson. il Iron Age 145:35-40 Ap 25 '40
Influence of rate of cooling on the transformations in chromium steel. Engineer 169: sup[Metallurgist] 105-8 Ap 26 '40
Properties of the principal Cr-Fe alloys and Cr-Ni-Fe alloys; data sheets. Metal Prog 38:464-5 O '40
Schweissen von korrosions- und hitzebeständigen stählen, nach einer schrifttumsübersicht von W. Spraragen u. G. E. Claussen; zusammengestellt von H. Cornelius. V D I 84:132-6, 173-7 bibliog (p176-7) F 24, Mr 9 '40
Tensile testing of steels with duplex microstructure. H. Hougardy. Metal Prog 37: 565-6 My '40

See also
Chromium copper
Chromium nickel steel
Chromium molybdenum steel
Steel, Stainless

CHROMIUM vanadium steel
Thermal expansion of some chromium-vanadium steels. P. Hidnert. J Research Nat Bur Stand 24:25-30 Ja '40

CHROMOISOMERISM. See Isomerism

CHROMONE
Chromones of the naphthalene series; synthesis of linear naphthaflavone(6 : 7-benzoflavone). V. V. Virkar and T. S. Wheeler. Chem Soc J p1681-3 N '39
Chromones of the naphthalene series; transformation of *o*-aroyloxyacetoarones into *o*-hydroxydiaroylmethanes. V. V. Virkar and T. S. Wheeler. Chem Soc J p1679-81 N '39

CHROMOSOMES
Anaphase movement in allium cernuum. R. T. Brumfield. Science 91:97-8 Ja 26 '40
Aneuploidy in a hepatic species. G. B. Wolcott. il Science 91:573 Je 14 '40
Chromosomes of the chimpanzee. C. H. Yeager, T. S. Painter and R. M. Yerkes. diags Science 91:74-5 Ja 19 '40
Growth changes resulting from chromosome rearrangement; abstract. D. F. Jones. Science 91:423 My 3 '40
SAT-chromosomes. C. A. Berger. Science 92:380-1 O 25 '40
Super-rabbits; colchicine used to increase number of chromosomes. Science 91:sup5-6 F 9 '40

CHROMYL chloride
Dipole moments and structures of chlorine compounds of germanium, chromium, selenium and tellurium. C. P. Smyth, A. J. Grossman and S. R. Ginsburg. Am Chem Soc J 62:192-5 Ja '40

CHRONICA botanica (periodical)
Difficulties arising from war situation which threatened existence have been solved. D. T. MacDougal, F. E. Lloyd and H. S. Reed. Science 90:566 D 15 '39

CHRONOMETERS
Chronometers for the navy. J. Stokley. Science 92:sup9 Ag 9 '40

CHRONOSCOPE
Chronoscope; electronic interval timer originally developed to test the velocity of rifle bullets. C. I. Bradford. il diags Electronics 13:28-30+ N '40

CHRYSENE
Aromatic cyclodehydration; 6-methyl- and 5-methyl-6-ethylchrysene. C. K. Bradsher and A. S. Burhans. Am Chem Soc J 62:3140-1 N '40
5-Methylchrysene. L. F. Fieser and L. M. Joshel. Am Chem Soc J 62:1211-14 My '40
Synthesis of 4,5-dimethylchrysene. M. S. Newman. bibliog Am Chem Soc J 62:2295-300 S '40
Synthesis of 1'-methyl-1,2-benzanthracene and 5-methylchrysene. W. E. Bachmann and R. O. Edgerton. bibliog Am Chem Soc J 62:2550-3 S '40
Synthesis of 5-methylchrysene and related compounds. M. S. Newman. bibliog Am Chem Soc J 62:870-4 Ap '40

CHRYSLER, Walter Percy, 1875-1940
Sketch. Comm & Fin Chr 151:1081-2 Ag 24 '40; Ptr Ink 192:65 Ag 23 '40; pors Automotive Ind 83:222-3 S 1 '40; S A E J 47: sup22 S '40

CHRYSLER corporation
Annual report for 1939. Comm & Fin Chr 150:1131-2 F 17 '40
Chrysler adds research capacity. il Factory Management 98:57 Jl '40
Chrysler celebrates its 15th anniversary. Iron Age 145:91 Je 6 '40
Fifteen years old, and still growing; Chrysler corp. dedication of two new engineering laboratories. il Business Week p40 Je 8 '40
Statistics of income, capital, stock earnings, etc. 1929-39. Annalist 56:213 Ag 15 '40

CHUCKING machines
Acme-Gridley six-spindle automatic chucking lathe. il Engineering 149:8 Ja 5 '40
Assembling machine tools; National acme co. F. B. Jacobs. il Steel 107:68-9+ Jl 8 '40
Cutting-off tool for use with a hexagon turret. I. F. Yeoman. diag Mach 46:165-6 Ja '40
Goss & deLeeuw two-spindle chucker. il Am Mach 83:1051-2 D 13 '39
Production machinery sales co. Verti-Hydra-Matic chucking machine. il Mach 46:145 Mr '40; Automotive Ind 82:560-1 Je 15 '40

CHUCKS
Adapters for lathe chucks. W. A. Spellman. diag Am Mach 84:176 Mr 20 '40
Adapters for lathe chucks not recommended. A. Silvester. Am Mach 84:338 My 15 '40
Chuck for triple gear. J. R. Whittles. diag Mach 46:116-17 My '40
Hardening small parts by high-frequency electric induction; Jacobs mfg. co. il Steel 107:126+ S 16 '40
Induction hardening of drill chuck bodies. il Iron Age 144:26-7 D 28 '39
Low melting point alloy used in work-holding devices; Cerromatrix alloy. Mach 46: 92 Mr '40
Make universal chuck run true. C. Faust diag Am Mach 84:706 S 18 '40
Safe aids for handling lathe chucks. J. R. Longstreet and W. K. Bailey. il Am Mach 84:288-9 My 1 '40
Schauer speed lathes equipped with vacuum chucks. il Mach 46:141 My '40
Self-adjusting chuck that compensates for variation in work thickness. M. H. Ball. diags Mach 47:161-2 N '40
Turret lathe tooling. J. R. Longstreet and W. K. Bailey. il diags Am Mach 84:79-81, 130-2, 166-8, 334-7, 378-81 F 21-Mr 20, My 15-29 '40
Vacuum chucking used in polishing stainless. il Steel 107:71 Jl 29 '40

CHURCH and state
Catholic church and leviathan (the totalitarian state). Economist 137:241-2 N 18 '39

Mexico
Church and state in Mexico. E. K. James. Ann Am Acad 208:112-20 Mr '40

CHURCH and war
Presbyterian church; Reverend Daniels of Fulton, New York, opposes all wars. il Fortune 20:69-72, 123-4 D '39
War and peace; failure of the church. Fortune 21:26-7 Ja '40

CHURCH architecture
Large thin-shell concrete dome dominates Montreal's skyline; St Joseph's Basilica; abstract. M. Cailloux. il diags Eng N 124: 184-5 F 1 '40
Small church; how to build and furnish it; with some account of the improvement of existing buildings. F. R. Webber. 2d ed rev & enl 324p bibliog(p311-15) $3.50 J. H. Jansen, Cleveland '39

Designs and plans
All religious and social functions combined in one structure; reinforced-concrete chapel and social unit near Salt Lake City, Utah. il plans Arch Rec 86:38-40 D '39
Chapel of Saint Thomas More, New Haven, Conn. il plans Arch Forum 72:306-8 My '40
New church provides multi-use facilities; First Baptist church of Worcester, Mass. il plans Arch Rec 88:33-7 Jl '40
Romanesque in inspiration; chapel of the Slovak girls' academy, Danville, Pa. il plans Arch Rec 87:45-8 F '40
St Peter Claver mission, Montclair, N. J. serves a Negro community; with construction outline. il plans Arch Forum 72:378-82 Je '40

New Mexico
Religious architecture of New Mexico in the colonial period and since the American occupation. G. Kubler. 232p bibliog(p149-59) pa $5 Taylor museum, Colorado Springs fine arts center, Colorado Springs '40

CHURCH lighting
Riverside church, New York. il Illum Eng 35:125 F '40
St Mary's church, Belleville, Ill.; St Joseph's cathedral, Hartford, Conn. il Illum Eng 35:500-1 Je '40

CHURCH offices (architecture)
See also
Diocesan buildings

CHURCH properties fire insurance corporation
Financial record. S. R. Kennedy. Weekly Underw 143:326 Ag 17 '40

CHURCHES
Crimped lead-coated copper replacing 61-year old tin roof on church; Reformed Dutch church of Flatbush. il diag Sheet Metal Worker 31:27-9 Je '40
Interesting use of pine in small chapel. il Am Bld 62:82 O '40
Trusses put under heavy dome to permit removal of walls; increasing seating capacity of Second Baptist church, Houston, Tex. F. J. Niven. il plan Eng N 123:755 D 7 '39

See also
Church architecture

Heating and ventilation
145 years modern; ancient church preserves appearance of antiquity but has automatic heat. il Dom Eng 154:42-3 D '39
Unit heaters provide church comfort. R. A. Maxwell. il Gas Age 85:33 F 15 '40

CHURCHILL, Winston Leonard Spencer, 1874-
Portrait. Fortune 21:84 Mr '40
Winston Churchill; a biography. R. Kraus. 366p $3 Lippincott '40

CHUTES
Chute pulling; accident experience and prevention. R. H. Cleland. diags Can Min J 61:113-16 F '40
Conveyors solve the problem; conveyors connected by spiral chutes sort and handle cartons of paint cans; Sherwin-Williams company. E. O. Merkel. il Factory Management 98:64-5+ S '40
Sectional steel chutes for pulpwood. J. L. Kelly. il diags Pulp & Pa of Can 41:294-6 Mr '40

See also
Ore chutes

CICADAS
Seventeen-year locust. F. Thone. Science 91: sup10-11 My 31 '40

CIDER
Fermentation control of ciders by the centrifuge method; abstract. V. L. S. Charley. Food Ind 12:92 Ap '40

CIGAR factories

Employees
Earnings in cigar and cigarette industry in Manila, 1939. Monthly Labor R 50:1229 My '40

Safety devices and measures
Management insists on safety; Bayuk cigars inc. M. L. Wurman. il Nat Safety N 41: 10-11+ My '40

CIGARET factories

Employees
Earnings in cigar and cigarette industry in Manila, 1939. Monthly Labor R 50:1229 My '40

CIGARETS
Can Philip Morris maintain growth? F. H. McConnell. Barron's 20:13 Ap 15 '40
Chemistry in the service of cigaret technology. Ind & Eng Chem News ed 18:290 Ap 10 '40
Growing success of long cigarette. H. M. Wootten. Barron's 20:9 O 21 '40
He went after the small coins; James A. Thomas believed that in them lay the wealth of a nation. Ptr Ink Mo 41:18 N '40
New impetus for tobacco stocks? R. Lane. il Mag of Wall St 65:288-9+ D 16 '39
Pall Mall finds a difference: 20%; new sales from longer size. il Business Week p38-9 N 11 '39

See also
Smoking

Advertising
Cigarette high cost. M. O'Dea. Ptr Ink 190: 69 Ja 12 '40
Johnnie advertising is pushed hard by Philip Morris men. Sales Management 47:20 O 10 '40

Statistics
Bigger sales sharpen cigarette battle. P. B. B. Andrews. il Adv & Sell 33:35, 50 F '40
Box score of the 1939 cigarette battle; pictograph. Sales Management 46:23 Ap 20 '40
Cigarette production, revision; monthly, 1923-June, 1940. Fed Res Bul 26:860 Ag '40
Record cigarette output; 1939 battle of the brands. H. M. Wootten. Barron's 20:7 Mr 11 '40
Where cigarettes are manufactured; with chart of production, 1920-37. Dun's R 43: 42-3 Ja '40

CIGARS
Live-wire Christmas selling idea; how Bayuk educates jobbers and dealers. A. J. Newman. il Ptr Ink 189:15-18 D 8 '39

Statistics
Cigar production, revision; monthly, 1923-June, 1940. Fed Res Bul 26:859 Ag '40

CINCHONINE
Rates of the thermal reduction of dichromic acid by quinine, hydroquinine, and cinchonine in dilute sulfuric acid at 0 to 60°. L. J. Heidt. diags Am Chem Soc J 61: 3455-8 D '39

CINCINNATI

Bridges
Ohio bridge. H. R. Stevens. 213p Covington & Cincinnati bridge co, 724 Dixie terminal bldg, Cincinnati '39

Industries
Chemical industries in the Cincinnati area. il Ind & Eng Chem News ed 18:129-34 F 25 '40
They built a city; 150 years of industrial Cincinnati. 402p bibliog(p395) 97c Cincinnati post, Cincinnati '38

Rapid transit
Cincinnati moves forward to meet transit needs. il Mass Transportation 36:194-200 S '40

CINCINNATI pottery club
Cincinnati pottery club. C. C. Newton. il Am Cer Soc Bul 19:345-51 S '40

CINCINNATI stock exchange
Monthly range of prices, 1939. Comm & Fin Chr 150:583-4 Ja 27 '40
Weekly record. Published in weekly numbers of Commercial & financial chronicle

CINCINNATI university

Chemistry building
Addition doubles size of chemistry building. Ind & Eng Chem News ed 18:312 Ap 10 '40

CINDER concrete products association, National. See National cinder concrete products association

CINEMA integraph. See Integraphs

CINNABAR
Flotation of mercury ores; recent tests. L. H. Shaffer, J. Newton and A. W. Fahrenwald. bibliog diags Eng & Min J 141:40-3 My '40
Geochemistry of quicksilver mineralization. R. M. Dreyer. bibliog il Econ Geol 35:17-48, 140-57 Ja-Mr '40; Discussion. J. J. Fahey, M. Fleischer and C. P. Ross. 35:465-70 My '40; Reply. R. M. Dreyer. 35:905-9 N '40

CINNAMALANILINE
Reactions of anils; the reactions of benzalaniline and cinnamalaniline with methyl acetylenedicarboxylate. H. R. Snyder, H. Cohen and W. J. Tapp. Am Chem Soc J 61: 3560-1 D '39

CINNAMIC acid
Heat of photobromination of the phenyl methanes and cinnamic acid, and the influence of oxygen. J. L. Magee and F. Daniels. bibliog Am Chem Soc J 62:2825-33 O '40
Oxygen inhibition in the photobromination of cinnamic acid. R. F. Brown and F. Daniels. bibliog Am Chem Soc J 62:2820-5 O '40

CINNAMIC acid—*Continued*
Studies of solutions of hydrocinnamic acid and of lauryl sulfonic acid with the film balance. J. W. McBain and W. V. Spencer. Am Chem Soc J 62:239-44 F '40

CINNAMYL alcohol
Addition of βγ-unsaturated alcohols to the active methylene group; the action of ethyl acetoacetate on cinnamyl alcohol and phenylvinylcarbinol. M. F. Carroll. Chem Soc J p1266-8 S '40

CIRCLES
Drawing isometric circles. J. S. Beggs. diag Mach 46:172-3 Ja '40
Watts circle division tester. il Automobile Eng 30:353 Ag '40

CIRCULARS. See Advertisements—Circulars

CIRCUS
Rebirth of an old sawdust empire; Ringling brothers and Barnum & Bailey circus. W. Hausberg. il Nation's Business 28:30-2+ Ag '40

CITIES and towns
American Main street; Norwalk, Ohio. N. Hansell. il plan map Ptr Ink Mo 40:9-12+ Ap '40
Appraising urban communities; techniques and objectives. W. L. Bailey. J Land & Pub Util Econ 16:1-7 F '40
Differences in family savings between cities of different size and location, whites and Negroes. H. Mendershausen. map R Econ Statis 22:122-37 Ag '40
Statistical study of the drawing power of cities for retail trade. J. A. Pfanner, jr. J Business 13:1-31 pt 2 Ap '40
Urban decentralization; with historical review. H. Hoyt. J Land & Pub Util Econ 16:270-6 Ag '40

See also
Business streets
City life
City planning
Market areas
Metropolitan districts
Municipal government and other headings beginning Municipal
Rapid transit
Villages

Growth
Have cities stopped growing? losses of eight large cities in past decade. E. Whitmore. il Am Business 10:26-8, 48 O '40
How old are our cities? rational approach to estimates of population growth. C. J. Velz and H. F. Eich. map Civil Eng 10: 619-22 O '40
Preliminary 1940 census figures for cities of 100,000 or more population. Pub Health Rep 55:1917-19 O 18 '40
San Bernardino, California; settlement and growth of a pass-site city. H. F. Raup. 5 pls maps Univ of Calif Pub in Geography v 8, no 1:1-68 bibliog(p47-52) '40 (pa 75c)
25 cities; 17 up, 8 down; business studies reasons behind new census figures showing population gains and losses. Business Week p30+ Ag 10 '40

Industries
Defense comes to Main street; Wilmington, Ill. a case study of government-sponsored industry, other defense towns. il Business Week p20, 22-4+ N 2 '40
Demise of Bawi; Mississippi's balance agriculture with industry program dies June 1. Business Week p23-4 Ap 13 '40
Doctor for sick cities; Hetz remodels unneeded plants and sells to young concerns. G. R. Reiss. il Nation's Business 28:27-9+ Ag '40
Haul no empties; fill more seats by inducing manufacturers to locate in empty buildings along your lines. T. Aubuchon. il Transit J 93:448-9 N '39
How one city's industry is helping America; Toledo, Ohio. il Factory Management 98: F1-F8 Ag '40
How one industrial plant is helping America; George A. Hormel and company. il Factory Management 98:G1-G8 Ag '40
Industry's value; worth of a small factory to a town. W. L. Batt. Am Business 10:33 Je '40
Staying in St Louis; Emerson electric manufacturing co. thanks C.I.O. unit for offer of $100,000 loan. Business Week p35-6 Mr 16 '40
Ware, Massachusetts, saves its business life. Nation's Business 28:95 My '40
Weigh your community; economic surveys require clear objectives. T. H. Reed. il Banking 33:25-7 O '40
What an industrial concern means to a community; abstract. W. L. Batt. Mach 46: 101 Mr '40
What price industry? St Louis confronted with necessity of paying bonus or losing Emerson electric mfg. co. plant. Business Week p40-1 Ja 13 '40
York rates a star on defense map; city industrialists work together, sharing machinery and dividing business. Business Week p16+ S 28 '40

See also subdivision Industries under names of cities, e.g. Manchester, New Hampshire—Industries

Moving
Cities move to escape floods; Hill, N.H.; Shawneetown, Ill.; Leavenworth, Ind.; Greenville, Mo. Eng N 124:370 Mr 14 '40

New England
New England community statistical abstracts; social and economic data for 175 New England cities and towns. R. G. Wells and J. S. Perkins, comps. 2d ed 15,[350]p pa $3.50 Bur. of business research, Boston univ., 685 Commonwealth av, Boston '39

Southern states
City problems of the South; the proceedings of the Southern regional conference of the United States conference of mayors, Birmingham, Alabama, March 8-9, 1940. P. V. Betters, ed. 138p $3 U.S. conference of mayors, Washington, D.C. '40

United States
144 smaller cities. E. L. Thorndike. 135p $1.50 Harcourt '40
Politics of integration in metropolitan areas. V. Jones. Ann Am Acad 207:161-7 Ja '40

CITIES service company
Annual report. Comm & Fin Chr 150:2417-18 Ap 13 '40
Improved earnings for Cities Service debentures. Barron's 20:19 S 30 '40

CITIES service power and light company
Assets. J. F. Childs. Barron's 20:19 My 20 '40
Recovery in 5½s; earnings record. Barron's 20:19 Ja 15 '40

CITIZENSHIP
American citizenship and its significance. M. E. Deutsch. J Eng Educ 31:13-17 S '40
American citizenship; high school pupils participated in a state-wide public speaking contest sponsored by California bankers association. il Banking 32:44-6 Je '40
Citizenship in wartime. A. W. Darton, jr. 47p $1 Fortuny's, 67 W. 44th st, New York '40
Citizenship trouble; automobile companies meet difficulties. Business Week p26 Jl 20 '40
Democracy in action; the basic documents of our government and their application as the guardians of our freedom. P. L. Bush. 347p $2.50 Mathis Van Nort & co, Dallas '40
Engineers and citizenship. C. M. White. Min & Met 20:542-4 D '39
Group education for a democracy. W. H. Kilpatrick. 219p $2 Assn. press, 347 Madison av, New York '40
Learning the ways of democracy; a case book of civic education. 486p $1 National education assn. of the U.S., 1201 16th st, N.W, Washington, D.C. '40
President Roosevelt designates May 19 as I am an American day. Comm & Fin Chr 150:3134 My 18 '40
Verifying citizenship. Management R 29:30 Ja '40

CITRAL
Studies in the polyene series. E. Barraclough and others. Chem Soc J p1549-54 O '39

CITRIC acid
Corrosion of different grades of aluminium sheet by weak acid-salt solutions and by an alkaline citrate-phosphate buffer solution in the presence and absence of oxygen. J. M. Bryan and T. N. Morris. bibliog Soc Chem Ind J 59:159-62 Ag '40
Fermentation citric acid; German patent. Food Ind 12:92 Ag '40
Mechanism of the biological citric acid synthesis. N. Hallman and P. E. Simola. bibliog Science 90:594-5 D 22 '39

CITRIN
Isolation of eriodictyol and homoeriodictyol; an improved procedure. T. A. Geissman. bibliog Am Chem Soc J 62:3258-9 N '40

CITRON
Preserving citron; formula. H. D. Poore. Food Ind 12:104 Mr '40

CITRONELLYLIDENE acetic acid
Tetrahydrocitrylidene- and citronellylidene-acetic acids; syntheses of *sec.-iso* octyl*cyclo*pentane derivatives. H. N. Rydon. Chem Soc J p1544-9 O '39

CITRUS araban. See Araban

CITRUS fruit
Citrus drive mapped; government aids efforts to overcome glut. Business Week p36 N 18 '39
Determination of air in citrus juices. H. J. Loeffler. il diag Ind & Eng Chem Anal ed 12:533-4 S 15 '40
Effect of emanations from several species of fungi on respiration and color development of citrus fruits. J. B. Biale. Science 91:458-9 My 10 '40
Florida citrus loss; American of Newark coverage. East Underw 41:1+ Mr 8 '40; Nat Underw 44:19 Mr 7 '40
Manganese deficiency for citrus in California. E. R. Parker, H. D. Chapman and R. W. Southwick. Science 91:169-70 F 16 '40
New Orleans court rules against insurer in freeze policy on fruits. East Underw 41:33 Mr 29 '40
Treatment methods for waste from citrus juice canning plants. C. A. Billings. flow diag il Pub Works 71:7-8 Ag '40
United States Supreme court in 5-3 ruling refuses to pass on constitutionality of Florida law fixing citrus fruit prices; returns case to lower court. Comm & Fin Chr 150:1358-9 Mr 2 '40

See also
Grapefruit
Lemons
Oranges

Advertising
How Sunkist invests 5 cents a family in advertising. P. S. Armstrong. il Ptr Ink 189:17-20 D 22 '39
Mountains of oranges: Sunkist's time-tested point-of-sale technique. R. Eller. il Sales Management 47:36-9 S 1 '40
Sunkist extends its domestic advertising to offset lost foreign markets. R. Z. Eller. Ptr Ink 193:15-18 O 11 '40

By-products
By-products; citrus fruits find uses in industry. Sci Am 163:64-5 Ag '40
New citrus products. Business Week p36-7 D 2 '39

Statistics
Citrus fruits, 1936-1939. Survey of Cur Business 1940 Sup p104 [supplemented in monthly numbers]

CITRUS fruit packers
Wages and hours of citrus fruit packers. Monthly Labor R 50:1483-6 Je '40

CITRYLIDENEACETALDEHYDE
Studies in the polyene series. I. M. Heilbron, W. E. Jones and A. Spinks. Chem Soc J p1554-6 O '39

CITRYLIDENECROTONALDEHYDE
Studies in the polyene series. J. W. Batty, I. M. Heilbron and W. E. Jones. Chem Soc J p1556-60 O '39

CITY halls. See Municipal buildings

CITY life
Company and community relations. C. S. Slocombe. Personnel J 18:203-10 D '39

CITY management. See Municipal government

CITY of Flint (freight ship)
Returns to United States after 116-day voyage. Comm & Fin Chr 150:1205 F 24 '40
Saga of the City of Flint. Economist 137:206-7 N 11 '39

CITY planning
American planning and civic annual, 1939. H. James, ed. 288p $3 Am. planning and civic assn, 901 Union trust bldg, Washington, D.C. '39
Bird's-eye planning: new factor in industrial building design? protection against air raids. il diags plans Arch Rec 88:74-9+ S '40
Changing city; New York and its suburbs. R. Moses. il plan maps Arch Forum 72:142-56 Mr '40
City plan: metro style. A. Lepawsky. J Land & Pub Util Econ 16:137-50 My '40
City planner's responsibility in the preparedness program. J. R. Hartzog. il Civil Eng 10:142-4 Mr '40
Concept of a city planning commission for Toronto. N. D. Wilson. Can Eng R & B 78: 81-2+ Mr '40
Diagnosis and suggested treatment of an urban community's land problem; Flint, Mich. and vacant lot problem. E. N. Bacon. maps J Land & Pub Util Econ 16:72-88 F '40
Economics of housing and town planning; how municipalities should save in war time. H. L. Seymour. Can Eng 77:9-10 D 5 '39
Exhibit of the Washington chapter, AIA; with abstract of the paper which accompanied it. il Arch Rec 86:56-62 D '39
First planning medal awarded George McAneny. Eng N 123:738 D 7 '39
Has Washington a plan? G. G. Gross. Arch Forum 72:52-3 Ja '40
How decentralization affects transit. H. Bartholomew. il Transit J 84:390-1 O '40
Literature of city planning. L. Hilberseimer. Arch Forum 73:100-1 Ag '40
Low-rental housing program and city rebuilding. J. Crane and E. Peets. il Civil Eng 10:227-9 Ap '40
National conference on planning. 166p $2 Am. soc. of planning officials, 1313 E. 60th st, Chicago '39
New Chicago plan commission. A. Lepawsky. J Land & Pub Util Econ 16:99-101 F '40
Old buildings in your town; reconstruction of blighted residential areas thru private enterprise. T. H. Reed. Banking 33:34-5 Ag '40
Planning progress in Decatur and Macon county. A. N. Buck. In Ill U Eng Exp Sta Circ 41:97-104 '40
Rebuilding the cities; report to executives. il maps Business Week p33-40 Jl 6 '40
Replanning our cities for living. E. Goble. il plan Eng N 125:231-3 Ag 15 '40
Saving our blighted downtown areas; investment approach to government-business cooperation in replanning. H. M. Propper. il Nation's Business 28:20-2+ My '40
State legislation on planning, zoning and platting. rev ed 60p National resources planning board, Washington, D.C. '39
Superblock; proposed by Chicago plan commission. diag Business Week p32 O 12 '40
Superblock vs. gridiron; breakdown of site improvement costs. plans Arch Forum 73: 66-7 Jl '40
Traffic jams business out; J. B. Steep charts decentralization in Detroit, prescribes elevated highways. il maps Arch Forum 72: 64-5 Ja '40
Urban decentralization; with historical review. H. Hoyt. J Land & Pub Util Econ 16:270-6 Ag '40

CITY planning—*Continued*
Urban land institute to undertake study of factors affecting losses or growth of downtown areas in 12 or more cities. Comm & Fin Chr 151:1368 S 7 '40
What's ahead for highways and transportation? public transportation is still the greatest public need. E. F. Downs. Pub Util 26:396-405 S 26 '40
Why downtown shopping declines; rehabilitation of blighted areas needed to check movement of business to suburban and crossroad areas. E. Whitmore. il Am Business 10:18-21+ Ag '40
Yardstick of residential lot needs; 22 lots per 100 population. H. C. Monchow. J Land & Pub Util Econ 15:474-7 N '39

See also
Airports
Building laws and regulations
Business districts
Business streets
Housing
Neighborhood planning
Parks
Parkways
Regional planning
Slums
Streets
Suburban development
Telesis (group)

Zone system
Amendments urged to zoning restrictions proposed by New York City planning commission. Comm & Fin Chr 149:3805-6 D 16 '39
New York city revises its zoning ordinance. C. S. Ascher. J Land & Pub Util Econ 16: 345-9 Ag '40
Roadside control through zoning. L. D. Tilton. il Civil Eng 10:11-14 Ja '40
Zoning manual for Maine towns. O. C. Hormell and R. H. Owsley. 89p $1.50; pa $1 Bowdoin college lib, Brunswick, Me. '40
Zoning; the laws, administration, and court decisions during the first twenty years. E. M. Bassett. rev ed 275p bibliog(p221-37) $3 Russell Sage foundation, New York '40

CIVIC organizations
Producing good will on a quantity basis; Knights of Ak-Sar-Ben, Omaha's unique organization of civic boosters. C. R. Smith. il Nation's Business 28:98-105 Mr '40

CIVIL aeronautics authority
CAA civilian pilot training program. Monthly Labor R 51:80-4 Jl '40
CAA radio developments for 1940. H. W. Roberts. il Aero Digest 35:40-1+ D '39
Civil aviation and the federal government; Civil aeronautics authority becomes Civil aeronautics board in Commerce department. R. H. Hinckley. Aero Digest 37:42+ Ag '40
Civilian pilot training program; statistical data. Civil Aero J 1:68 Mr 1 '40
Fourth and final reorganization plan sent to Congress; places Aeronautics authority in Commerce department. Comm & Fin Chr 150:2344-5 Ap 13 '40
Hinckley and Branch report on civil aeronautics; civilian piot training and work of Civil aeronautics board. Civil Aero J 1:421-2+ S 15 '40
Hinckley named assistant secretary of commerce; C.A.A. appointments. Civil Aero J 1:297 Jl 15 '40
House votes against reorganization plan IV. Comm & Fin Chr 150:2974 My 11 '40
How far should our air lines be protected from competition? T. N. Sandifer. Pub Util 25:459-68 Ap 11 '40
New deal seeks to regain political control of aviation. K. K. Hoyt. Annalist 55:561-2 Ap 18 '40
Opinions and abstracts of actions of the Civil aeronautics authority. Published in Civil aeronautics journal
Plans announced for 45,000 new pilots; details of expanded Civilian pilot training program. R. H. Hinckley. Civil Aero J 1: 241-2 Je 15 '40
President Roosevelt attacks misinformation regarding proposed changes. Comm & Fin Chr 150:2808 My 4 '40
Reorganization plans effected July 1. Civil Aero J 1:298+ Jl 15 '40
22 months of CAA. Aviation 39:72+ Ag '40

CIVIL aeronautics board
Civil aeronautics board radio program for 1941. H. W. Roberts. il Aero Digest 37: 71-2+ O '40
Civil aviation in the United States. H. Branch. Civil Aero J 1:422+ S 15 '40
How new CAA works. Aviation 39:88 Ag '40

Safety bureau
First Safety bureau report. Civil Aero J 1:423 S 15 '40
Safety board interprets its regulations on nondisturbance and preservation of wreckage. Air Commerce Bul 11:160 D '39

CIVIL engineering
Advance in field practice, 1939. H. W. Richardson. il Eng N 124:247-8 F 15 '40
American society of civil engineers, annual meeting, New York, Jan. 17-20. Eng N 124:129+, 174-6 Ja 25-F 1 '40
American society of civil engineers summer meeting, Denver, July 24-26. Eng N 125: 133, 138 Ag 1 '40
American society of civil engineers, spring meeting, Kansas City. Eng N 124:561, 566-7 Ap 25 '40
Building bases for our air forces. il Eng N 125:544-55 O 24 '40
Civil engineering and construction in 1939. il map Eng N 124:222-48 F 15 '40
Civil engineering design, types and devices. T. W. Barber. 260p $3 Drake '39
Civil engineering handbook. L. C. Urquhart, ed. 2d ed 877p $5 McGraw-Hill '40
Connecticut society of civil engineers annual meeting, Hartford. Eng N 124:425-6 Mr 28 '40
Construction planning and plant. A. J. Ackerman and C. H. Locher. 381p $4 McGraw-Hill '40
Contractor-engineer relations of a lifetime. F. L. Copeland. il Eng N 125:33-6 Jl 4 '40
Engineer's reminiscences of the Southwest. C. F. Allen. il Civil Eng 10:355-8 Je '40
Major projects of 1939. il Eng N 124:259-74 F 15 '40
Naught but the best; one engineer's philosophy as applied to dams and current doctrines. T. Merriman. Civil Eng 9:701-2 D '39

See also
Airports
Airways
Aqueducts
Blasting
Bridges
Building
Canals
Cofferdams
Dams
Docks
Drainage
Dredging
Drilling and boring (earth and rocks)
Earthwork
Flood control
Foundations
Highway engineering
Hydraulic engineering
Irrigation
Marine engineering
Mining engineering
Municipal engineering
Piers
Piles and pile driving
Pipe laying
Public works
Railroad engineering
Reclamation of land
Regional planning
Rivers—Regulation
Roads
Sanitary engineering
Sewerage
Soil mechanics
Steel construction
Strains and stresses
Strength of materials
Subways
Surveying
Tunnels and tunneling
Underground construction
Water supply engineering
Wharves

Bibliography
Current periodical literature. Published in monthly numbers of Civil engineering

History
Concept of engineering; a development of the eighteenth century. W. E. Howland. il Civil Eng 10:711-14 N '40

Study and teaching
S.P.E.E. conference on civil engineering held at 47th annual meeting, Pennsylvania state college, June 19-23, 1939. J Eng Educ 30: 478-84 Ja '40

CIVIL engineering—Study and teaching—*Cont.*
Survey of the methods of teaching and of the value of undergraduate thesis work. W. M. Lansford. J Eng Educ 30:887-9 Je '40
Training for civil engineering students; proposed curriculum. B. F. Hastings. Civil Eng 10:322; Discussion. S. B. Morris. 322-3 My '40

Tables, calculations, etc.

Simplified design of box culverts by moment distribution. V. W. Sauer. diags Civil Eng 9:741-2 D '39; Discussion. A. W. Fischer. 10:113-14 F '40

Terminology

German-English glossary for civil engineering. A. A. Brielmaier. Ill U Eng Exp Sta Circ 40:1-37 '40 (pa 45c)

CIVIL engineering (periodical)
Time for review; tenth anniversary. T. R. Agg. Civil Eng 10:668-9 O '40

CIVIL engineers
Analysis of civil engineering employment in Nebraska. R. M. Green. Civil Eng 10:377-8 Je '40
Are enough students being trained in civil engineering? R. G. Tyler and R. G. Hennes. Civil Eng 10:604-5 S '40
Census for construction preparedness; listing professional talent for design and supervision of national defense facilities. Civil Eng 10:464-5 Jl '40
Commemorating the civil engineer; plea for greater recognition by naming monumental structures in honor of their creators. W. J. Wilgus. Civil Eng 10:265-6 My '40
Factual survey of members of American society of civil engineers. map Civil Eng 10: 122-4, 252 F, Ap '40
Grading plan and compensation schedule for civil engineering positions, adopted by the American society of civil engineers. Civil Eng 9:566-8 S '39; Excerpts. Mech Eng 61:767-8 O '39; Amendment. Civil Eng 10: 180 Mr '40
Professional status, a British viewpoint; maintenance of technical and ethical standards. C. D. M. Hindley. Civil Eng 9:719-21 D '39

See also
American society of civil engineers
also names of civil engineers, e.g.
Lee, Robert Edward

CIVIL liberty. See Liberty

CIVIL rights
La Follette quiz lacks fireworks; civil liberties inquiry. Business Week p38-9 Ja 13 '40

CIVIL service
Civil service in public welfare; a discussion of effective selection of public social work personnel through the merit system. A. C. Klein. 444p bibliog(p407-27) $2.25 Russell Sage foundation, New York '40
Civil service manual. S. Alten. 164p $2 Foundation books. 105 W. 40th st, New York '40
Position of mobilised public servants in Belgium, France, Germany, and Britain. Int Labour R 40:807-19 D '39
Position of mobilised public servants in Hungary, Italy, Netherlands, Rumania, Switzerland. Int Labour R 41:64-71 Ja '40

See also
Government employees

Examinations

Civil service oral interviews. M. Mandell. Personnel J 18:373-82 Ap '40
Engineers wanted; lack of applicants for civil service examination; problem. Power Pl Eng 44:82 Jl '40; Solutions. 44:90-3 S '40

France

Situation of public servants in France. Int Labour R 42:151 Ag-S '40

Italy

Six-hour day for civil-service employees in Italy. Monthly Labor R 49:1508 D '39

New York (city)

Civil service in the city of New York. E. Baikie. 105p pa 50c Citizens budget commission, 51 E. 42d st, New York '38

United States

Machines in civil service recruitment, with special reference to experiences in Ohio. R. Horchow. 43p fold diags pa 50c Civil service assembly of the U.S. and Canada, Chicago '39
Opportunities in government employment. L. J. O'Rourke. 307p $1 Garden City pub. co, New York '40
Survey of university graduates employed in government service, 1928 to 1936. L. M. Short and G. O. Pehrson. 40p Univ. of Minn, Public administration training center, Minneapolis '39
Widening opportunities of engineering institutions to contribute to public welfare; training and placement of men in normal public service, local, state and national. E. L. Moreland. J Eng Educ 31:43-6 S '40
Your federal civil service. J. C. O'Brien and P. P. Marenberg. 501p $2.50 Funk & Wagnalls co. New York '40

CIVILIAN conservation corps
Our permanent conservation corps; why it costs more than it's worth. J. H. Hull. Nation's Business 28:23-4+ My '40
Six years of CCC operations. Monthly Labor R 49:1409-12 D '39

CIVILIZATION
Electricity and civilization. H. Joseph. Inst E E J 86:59-65 Ja '40
Faith for living. L. Mumford. 333p $2 Harcourt '40
Man in an engineering world. D. C. Jackson. Franklin Inst J 230:1-17 Jl '40
Man is my theme; a study of national and individual conduct. C. M. Scott. 303p $3.50 S. J. Reginald Saunders, 84 Wellington St, W, Toronto '39
Science and civilization. H. L. Samuel. Chem & Ind 59:499-502 Jl 13 '40
Science five thousand years hence. A. F. Blakeslee. Science 92:387-8 N 1 '40

See also
Education
Industry
Inventions
Social problems
Social progress

History

Development of contemporary civilization. W. J. Bossenbrook and others. 805p bibliog(p767-82) $3.75 Heath '40
History of civilization. H. Webster. 1051p bibliog(p991-1016) $4.50 Heath '40
Making of the modern mind. J. H. Randall, jr. rev ed 696p $3.60 Houghton, '40
Mind through the ages; a history of human intelligence. M. Stevers. 521p $3.75 Doubleday '40
Story of civilization. C. L. Becker and F. Duncalf. 863p,xixp $2.40 Silver Burdett co, 45 E. 17th st, New York '40
Story of man's progress across the ages. L. I. Capen. 844p,52p $2.20 Am. book co. '40

Preservation of records

Sealing of the Westinghouse time capsule. Science 92:280-1 S 27 '40
Time capsule. D. S. Youngholm. Science 93:301-3 O 4 '40
Time capsule sealed for future ages. il(p862) Ind & Eng Chem News ed 18:865 O 10 '40
Westinghouse seals capsule at Fair. Elec W News ed 114:927 S 28 '40

CLADOCERA
Studies on the physiology, genetics, and evolution of some cladocera. A. M. Banta and others. 285p pa $2.50 Carnegie inst. of Washington, Washington, D.C. '39

CLAIBORNE (term). See Geology—Nomenclature

CLAIMS
See also
Damages
Insurance—Adjustment of claims

CLAISEN condensation. See Condensation, Chemical

CLAISEN rearrangement. See Molecular rearrangements

CLAMPS
Clamps for holding work of odd shapes. C. W. Hinman. diag Am Mach 84:707 S 18 '40
Clamps that hold work solidly on machine beds. W. Anderson. diag Am Mach 84:470-1 Je 26 '40
Handy clamp for aligning pipe. il diags Water Works & Sewerage 87:259 Je '40
Non-interfering screws for parallel clamps. C. G. Williams. diag Am Mach 84:752 O 2 '40
Offset jaws will increase range of clamps. P. L. Budwitz. diag Am Mach 84:174 Mr 20 '40
Quick-acting jig clamp. V. Rosenlund. diags Mach 46:135 Je '40

CLAPEYRON equation. See Clausius-Clapeyron equation

CLAPOGRAPH
Clapograph details; visible-meter method of indicating applause. diags Radio N 24:23 S '40

CLAPP, E. D., manufacturing company
Maker of drop forgings, celebrates 75th anniversary. Iron Age 145:65-6 F 8 '40

CLAREMONT, California
Streets
Designing flood-proof streets to carry storm water flows. H. H. Edwards. il Pub Works 71:16-18 Ap '40

CLARIFIERS
See also
Filters and filtration (technical chemistry)
Thickeners

CLARK, Charles M. 1873-
New head of New York water supply. por Eng N 124:552 Ap 18 '40

CLARK equipment company
High yield common stocks; thumbnail appraisal. Mag of Wall St 66:418 Jl 13 '40
Twenty acres of automotive manufacturing. J. Geschelin. il Automotive Ind 83:98-107+ Ag 1 '40

CLARKESVILLE, Georgia
Water supply
Modern filter plant treats 100 gals. per minute. il Pub Works 71:24 Je '40

CLARKSON, Coker Fifield, 1870-1930
Coker F. Clarkson memorial fund. por S A E J 45:sup9 D '39

CLASS distinction
Class and American sociology; from Ward to Ross. C. H. Page. 319p bibliog(p255-312) $3.50 Dial press, New York '40
Fortune survey; U.S. is middle class. Fortune 21:14+ F '40
State of the masses; the threat of the classless society. E. Lederer. 245p $2.50 Norton '40

CLASSIFICATION
See also
Files and filing (documents, etc.)
Industry—Classification
Books
Bibliographic classification; extended by systematic auxiliary schedules for composite specification and notation. 4v v1, Introduction, anterior tables and systematic schedules and classes A-G. H. E. Bliss. 615p $10 Wilson, H.W. '40
Problems clinic, Baltimore conference. Special Lib 30:264 O '39
Subject classification for the arrangement of libraries and the organisation of information, with tables indexes, etc, for the subdivision of subjects. J. D. Brown. 3d ed rev & enl 565p 30s Grafton & co, London '39

CLASSIFICATION, Decimal
Library service in international relations. R. Savord. Special Lib 31:46-51 F '40
Revision of decimal classification necessary; man-made textile fibers. Rayon 21:30 Ja '40

CLASSIFIED catalogs. See Catalogs, Classified

CLASSIFIERS
Classifiers for recovering fine sands. il Rock Prod 43:76 Ja '40
Krystal classifying crystallizer. H. Svanoe. il diags Ind & Eng Chem 32:636-9 My '40
Make stone sand a new way; Pittsburgh limestone corp. B. Nordberg. Rock Prod 43:38 Mr '40
New method of dewatering and classifying. R. Dull. diags Rock Prod 43:87-8 F '40
Practical application of the classification of groundwood pulp. B. A. Koskinen. il Pulp & Pa of Can (Convention no) 41:132-8 [F] '40
Progress in milling practice and equipment. A. W. Fahrenwald. il Min Cong J 26:19-20 Ja '40
Simple launder pockets to grade sand; comments on E. Shaw's articles, Washing and classifying sand. diags Rock Prod 43:29-30 Je '40
Sixty years of development in ore dressing; with special attention to the last ten years. C. S. Parsons. il Can Min J 60:695-6 N '39
Suction sluice for classifying sand. diags Rock Prod 43:58 S '40
Washing and classifying sand. E. Shaw. diags Rock Prod 42:43-4 O; 37 N; 39-41 D '39; 43:27-8 Ja; 27-8 F; 39-40 Mr; 51 Ap; 49-50 My; 28-9+ Jl; 73-4 Ag; 27+ S; 41-2 O '40 (to be cont)
What I am trying to do; application of recording instruments to classifiers. H. E. T. Haultain. il Can Min J 61:509-11 Ag '40
See also
Screens
Separators

CLASSROOMS
Analysis of photoelectric classroom lighting control. D. P. Caverly. il diag Illum Eng Soc Trans 34:907-22 S '39; Discussion. Illum Eng 35:257-64 Mr '40
Fluorescent gets trial in schools at Reading. il Elec W News ed 114:774 S 14 '40
Study of chalkboard visibility. W. G. Darley and L. S. Ickis. il diag Illum Eng 35:431-43 My '40

CLAUSIUS-CLAPEYRON equation
Effect of pressure on the Curie point of iron-nickel alloys. J. C. Slater. Phys R 58:54-6 Jl 1 '40
Nomograph for the Clausius-Clapeyron equation. C. L. Crawford. Ind & Eng Chem 32:1280 S '40

CLAY
Chemical treatment of clays; effect of electrolytes; abstract. H. G. Schurecht. diag Brick & Clay Rec 96:29-31 My '40
Colloidal behavior of clays as related to their crystal structure. T. F. Ford, A. G. Loomis and J. F. Fidiam. bibliog J Phys Chem 44:1-12 Ja '40
Colloidal nature of clay with reference to papermaking. B. W. Rowland. bibliog Paper Tr J 111:41-6 O 17 '40
Color reactions between clays and amines. E. A. Hauser and M. B. Leggett. Am Chem Soc J 62:1811-14 Jl '40
Effect of clay characteristics on the calendering of clay-filled handsheets. B. W. Rowland and H. J. Allison, jr. bibliog Paper Tr J 111:25-8 Jl 18 '40
Flow of suspensions through narrow tubes. F. J. Dix and G. W. Scott Blair. bibliog diags J Ap Physics 11:574-81 S '40
Hammer mill for clay grinding. Brick & Clay Rec 97:29 N '40

CLAY—*Continued*
Hydration mechanism of the clay mineral montmorillonite saturated with various cations. S. B. Hendricks, R. A. Nelson and L. T. Alexander. bibliog Am Chem Soc J 62:1457-64 Je '40
Investigation of the effect of heat on the clay minerals illite and montmorillonite. R. E. Grim and W. F. Bradley. bibliog il Am Cer Soc J 23:242-8 Ag '40
Mechanism of the hardening of clay-sodium-silicate mixtures. W. R. Morgan, W. L. Peskin and S. J. Kronman. Am Cer Soc J 23:170-3 Je '40
Proportion clay particle sizes to improve final product. H. G. Schurecht and J. Reid. Brick & Clay Rec 95:18-19 N '39
Shearing resistance of soil; its measurement and practical significance. W. S. Housel. il diags Am Soc T M Proc 39:1084-99 '39
Sulphide inclusions from clay packing. G. K. Manning. il Metal Prog 36:747-8 D '39
Symposium on substitution of American for imported clays in whiteware bodies. A. S. Watts and others. Am Cer Soc Bul 19:281-90 Ag '40
Use of organic dispersing agents in casting slips; effect of clay deflocculant vs. sodium silicate on the physical properties. I. E. Sproat, C. C. Treischel and E. W. Emrich. Am Cer Soc Bul 19:47-58 F '40
Zinc-vapor glazing of clays. C. M. Lampman and H. G. Schurecht. Am Cer Soc J 22:91-5; 23:167-70 Mr '39, Je '40

See also
Bentonite
Bricks
Ceramics
Foundation soils
Fuller's earth
Kaolin
Loess
Porcelain
Pottery
Roads, Earth
Silicates
Soils
Terra cotta

Analysis
Analysis of high-alumina clays by the thermal method. F. H. Norton. Am Cer Soc J 23: 281-2 S '40
Chemical analysis of clays; abstract. M. W. De Keyser and M. E. Pahlavouni. Am Cer Soc J 23 (Cer A 19):29 Ja '40
Determination of quartz (free silica) in refractory clays. L. J. Trostel and D. J. Wynne. Am Cer Soc J 23:18-22 Ja '40
Determination of the pH value of clay by means of the glass electrode. F. W. Selfridge. il Rubber Age 46:287-8 F '40
Staining of clay minerals as a rapid means of identification in natural and beneficiated products; with a general discussion on staining technique. G. T. Faust. bibliog U S Bur Mines Rep of Invest 3522:1-21 '40

Deaeration
Soda-ash treatment aids de-airing, does not replace it; Barker-Troug method. il Brick & Clay Rec 97:20-1 O '40
Vakuumpressen. G. Gerth and E. Schoedel. il diags V D I 83:1254-7 D 2 '39

Moisture content
Effect of exchangeable bases on absorption and transverse strength of clay bodies. R. P. Graham and J. D. Sullivan. Am Cer Soc J 23:52-6 F '40
Some variables in filter clays. L. M. Henderson, C. M. Ridgway and W. B. Ross. Am Pet Inst Proc 21M(3):30-6 My '40; Same. Nat Pet N 32:R193, R195, R197-9 My 29 '40; Discussion. Am Pet Inst Proc 21M(3):36-8 My '40

Permeability
Sealing the lagoon lining at Treasure Island with salt. C. H. Lee. il diag map Am Soc C E Proc 66:247-63 F '40; Discussion. 66: 1187-93, 1521-5, 1825-9 Je, O, D '40

Plasticity
Effect of adsorbed electrolytes on properties of monodisperse clay-water systems. S. Speil. bibliog Am Cer Soc J 23:33-8 F '40

Shrinkage
Length changes of whiteware clays and bodies during initial heating, with supplementary data on mica. R. F. Geller and E. N. Bunting. bibliog diag J Research Nat Bur Stand 25:15-40 Jl '40

Testing
Effect of exchangeable bases on absorption and transverse strength of clay bodies. R. P. Graham and J. D. Sullivan. Am Cer Soc J 23:52-6 F '40
Effect of exchangeable bases on drying of clay bodies. J. D. Sullivan and R. P. Graham. bibliog Am Cer Soc J 23:57-61 F '40
Effect of exchangeable bases on torsion properties of clays. J. D. Sullivan and R. P. Graham. bibliog Am Cer Soc J 23: 39-51 F '40
Eykometer; new device for measurement of the yield point of clay suspensions and oil-well drilling muds. A. G. Stern. il diags U S Bur Mines Rep of Invest 3495:1-20 bibliog(p18-20) '40
Giving your clay the third degree. T. W. Garve. il diags Brick & Clay Rec 96:15-17 F; 21-2 Mr '40
Methods of testing bonding clay. N. J. Dunbeck. Foundry 67:30+ D '39
Portable apparatus for compression tests on clay soils. L. F. Cooling and H. Q. Golder. il diag Engineering 149:56, 57-8 Ja 19 '40
Progress report on the improvement of clay flue liners. P. E. Cox and H. F. Muecke. il diag Am Cer Soc Bul 19:19-22 Ja '40
Some characteristics of Illinois pottery clay. C. G. Harman. Am Cer Soc J 23:26-9 Ja '40
Some investigations of the shearing resistance of cohesionless and cohesive materials. D. M. Burmister. bibliog diag Am Soc T M Proc 39:1071-83 '39
Some practical aspects of soil shear testing. G. P. Tschebotareff. Am Soc T M Proc 39:1023-7 '39
Some variables in filter clays. L. M. Henderson, C. M. Ridgway and W. B. Ross. Am Pet Inst Proc 21M(3):30-6 My '40; Same. Nat Pet N 32:R193, R195, R197-9 My 29 '40; Discussion. Am Pet Inst Proc 21M(3):36-8 My '40

Workability
Effect of exchangeable bases on torsion properties of clays. J. D. Sullivan and R. P. Graham. bibliog Am Cer Soc J 23:39-51 F '40

Algeria
Les gisements de terres décolorantes de France et d'Algérie. Génie Civil 116:172-3 Mr 9 '40

California
Clay deposits of California. W. F. Dietrich. bibliog Am Cer Soc Bul 19:340-4 S '40
Flint clays and flint-clay refractories of southern California. B. M. Burchfiel and H. Mulryan. Am Cer Soc Bul 19:161-3 My '40

France
Les gisements de terres décolorantes de France et d'Algérie. Génie Civil 116:172-3 Mr 9 '40

Illinois
Some characteristics of Illinois pottery clay. C. G. Harman. Am Cer Soc J 23:26-9 Ja '40

Netherlands Guiana
Analysis of high-alumina clays by the thermal method. F. H. Norton. Am Cer Soc J 23: 281-2 S '40

North Carolina
Residual alaskite kaolin deposits of North Carolina. C. E. Hunter. il map Am Cer Soc Bul 19:98-103 Mr '40
Use of North Carolina kaolin in casting bodies. W. H. Earhart. Am Cer Soc Bul 19:163-8 My '40

Ohio
Shales and surface clays of Ohio. R. E. Lamborn, C. R. Austin and D. Schaaf. il 281p fold maps Geol Survey of Ohio, Columbus '39

CLAY—*Continued*

Southern states

Clay investigations in the southern states, 1934-35. W. B. Lang and others. diags plans maps U S Geol S Bul 901:1-346, pl 1-8 '40

Tennessee

Clays of west Tennessee. G. I. Whitlatch. (Bul. 49) 368p fold maps bibliog(p329-33) Tennessee. Division of geology, 426 6th av, N, Nashville '40

CLAY drying

Effect of exchangeable bases on drying of clay bodies. J. D. Sullivan and R. P. Graham. bibliog Am Cer Soc J 23:57-61 F '40

Having drying troubles? L. R. Whitaker. diags Brick & Clay Rec 95:14-16 N; 17-19 D '39; 96:24-6 F; 18-20 Mr; 19-21 Ap; 23-4 My; 30-1 Je; 97-27-8 Jl; 26-8 Ag; 30-2 S; 27-8+ O '40

Influence of internal lubrication on drying and fired characteristics of a plastic clay body. H. R. Straight. il Am Cer Soc Bul 19:168-70 My '40

CLAY guns. See Blast furnaces—Clay guns

CLAY industries

Clay products puts its cards on the dealers' table; relations of clay manufacturer and lumber and building supply dealer. D. Whitlock. Brick & Clay Rec 96:44+ F '40

How do you match up with the dealer of the future? L. H. Brown. Brick & Clay Rec 96:29 Ap '40

Marketing burned-clay products including an analysis of location, importance and development of the industry. A. H. Chute. 374p bibliog(p361-4) $3.50 Ohio state univ, Columbus '39

We expect good business in 1940; industry survey. Brick & Clay Rec 96:15-16 Ja '40

See also

Brick industry and trade
Brickmaking
Clay products
Fire brick
Glazes
Pottery

Statistics

Clay production up; 1939 compared with 1938. Oil Paint & Drug Rep 137:36 Je 17 '40

Clay products, 1936-1939. Survey of Cur Business 1940 Sup p150-1 [supplemented in monthly numbers]

Great Britain

Wings over England! effect of war on British clay industries. il diag Brick & Clay Rec 95:40, 42+ D '39; 96:34+ Ap '40

Ohio

Architects, engineers in Ohio being told about clay products. Brick & Clay Rec 96:13-14 My '40

CLAY mines and mining

New types of earth-movers might solve your clay winning problems. il Brick & Clay Rec 96:17-18, 20-2 Je '40

California

Clay deposits of California. W. F. Dietrich. bibliog Am Cer Soc Bul 19:340-4 S '40

CLAY products

Illinois clay manufacturers discuss large clay units-mortar mix-research program. Brick & Clay Rec 95:33 N '39

Inventory-taking of structural clay products research programs. H. C. Plummer and F. Heath, jr. Am Cer Soc Bul 18:466-7 D '39

Nepheline syenite in ceramic wares. C. J. Koenig. il map Ohio State U Eng Exp Sta Bul 103:1-64 '39 (pa 40c)

Passing the half-century mark, Natco points to second 50 years of progress. il Brick & Clay Rec 95:32-3 D '39

Superiority of clay not emphasized in present fire resistive ratings. Brick & Clay Rec 97:27-8 N '40

Tentative specifications and tests for vitrified clay filter block for trickling filters. Pub Works 71:72+ Ap '40

Use color photographs to sell more clay products. Brick & Clay Rec 96:33 Je; 97:40 Jl; 30 Ag '40

See also

Brickmaking
Bricks
Ceramics
Clay industries
Enamel and enameling
Fire brick
Porcelain
Pottery
Sewer pipes, Vitrified clay
Stoneware
Terra cotta
Tiles

Manufacture

Clay plant operators' conference, 5th, University of Illinois, May 24-25. Brick & Clay Rec 96:28-9 Je '40

Economies of combustion control in industrial ceramics; fuel waste thru excessive use of air or of time in firing. R. C. Hutchison. bibliog Am Cer Soc Bul 19:295-8 Ag '40

Effect of thermal process on physical properties; structural clay products. R. Russell, jr. bibliog il Am Cer Soc Bul 19:1-12 Ja '40

Expansion strains in the initial firing of ceramic ware. G. E. Sievert and J. Moffat, jr. diags Am Cer Soc J 23:122-4 Ap '40

Gas in the ceramic and allied industries. il Gas J (Lond) 231:25 Jl 3 '40

Giving your clay the third degree. T. W. Garve. il diags Brick & Clay Rec 96:15-17 F; 21-2 Mr '40

Having drying troubles? L. R. Whitaker. diags Brick & Clay Rec 95:14-16 N; 17-19 D '39; 96:24-6 F; 18-20 Mr; 19-21 Ap; 23-4 My; 30-1 Je; 97:27-8 Jl; 26-8 Ag; 30-2 S 27-8+ O '40

How to whip die problems. H. H. Mansur il Brick & Clay Rec 95:20-3 N; 24-6; Discussion. 27-8 D '39

Influence of internal lubrication on drying and fired characteristics of a plastic clay body. H. R. Straight. il Am Cer Soc Bul 19:168-70 My '40

Ohio state holds successful conference discussing fundamentals; Ceramic operatives' institute, May 14-16. Brick & Clay Rec 96:22 Je '40

Plant that grew out of cheese; Kraftile co. il plan Brick & Clay Rec 95:20-3 D '39

Practical clay plant problems were chief topics at A.C.S. convention. il diag Brick & Clay Rec 96:28-34 My '40

Proportion clay particle sizes to improve final product. H. G. Schurecht and J. Reid. Brick & Clay Rec 95:18-19 N '39

What draft does in burning practice; updraft and down-draft kilns. T. W. Garve. diags Brick & Clay Rec 97:18-21; Discussion. 21-2 Ag; 28-9 S; 24-5, 54 O '40

See also

Clay products plants
Kilns—Firing

Prices

Current retail prices of clay products. Published in monthly numbers of Brick & clay record

Transportation

Axle weight tickets speed truck deliveries; Sheffield (Ill.) shale products co. il Brick & Clay Rec 96:40 Je '40

CLAY products plants

Combine technology and machinery to make better sewer pipe; plant of W. S. Dickey. il Brick & Clay Rec 97:17-20 S '40

Dust, foe of management, employe and machine. il diags Brick & Clay Rec 96:24-8 Ap '40

Marketing burned-clay products including an analysis of location, importance and development of the industry. A. H. Chute. 374p bibliog(p361-4) $3.50 Ohio state univ. Columbus '39

Plant that grew out of cheese; Kraftile co. il plan Brick & Clay Rec 95:20-3 D '39

See also

Brick works

CLAY products plants—*Continued*

Accounting

How to operate a clay plant cost system from the standpoint of taxes. E. L. Kinney and J. R. Paisley. Brick & Clay Rec 97:40, 42+ N '40

Employees

Ask for 30c and 40c minimum wages for clay products industry. Brick & Clay Rec 96:11-12 Je '40

Equipment

Annual review issue; technical and mechanical development. il diags Brick & Clay Rec 96:23-34, 41-7 Ja '40

Get exactly the die you want by welding. H. H. Mansur. il Brick & Clay Rec 97:23-5 Ag '40

Getting large tonnage of hollow tile in new tunnel kiln; New Jersey clay products co. il diag Brick & Clay Rec 95:14-16 D '39

Getting the best production from a ball or pebble mill. O. F. Redd. Am Cer Soc Bul 19:253-5 Jl '40

Hammer mill for clay grinding. Brick & Clay Rec 97:29 N '40

Laboratory control and flexible operation allow wide variety of refractories; Richard C. Remmey son co. il plan Brick & Clay Rec 97:44-6 Ag '40

Overstrom mud screen. G. W. Jarman, jr. il Am Cer Soc Bul 19:251-3 Jl '40

See also
Auger machines
Kilns
Vacuum presses

Layout

Here's one solution for a long and narrow yard. Brick & Clay Rec 96:42 My '40

Right place for each item cuts costs; warehouse and storage space layout; Acme builders supply & fuel co. il Brick & Clay Rec 95:35 D '39

See also
Brick works—Layout

CLAYTON, John, 1695-1758

Historical observations during a recent chemical trip to Europe. C. A. Browne. J Chem Educ 17:57-63 F '40

CLEANING

Cleaning processes. C. J. Warrington. Can Chem & Process Ind 24:196+ Ap '40

Development of rancidity in Stoddard dry cleaning solvent. A. C. Smith, C. S. Lowe and G. P. Fulton. bibliog il diags Ind & Eng Chem 32:454-60 Ap '40

Dezolvator cleansing apparatus; rapid removal of viscous deposits. K. S. Low. il Chem Age (Lond) 41:399 D 16 '39

Recent developments in textile cleaning and finishing; use of chlorinated hydrocarbons. N. C. Cooper. Textile Col 61:811-13 D '39

Woven dress fabrics; testing and reporting; colorfastness to cleaning, dry and wet. Textile Col 62:264 Ap '40

See also
Automobiles—Cleaning
Bleaching
Car cleaning
Coal cleaning
Dust removal
Dyes and dyeing
Factories—Cleaning
Laundry
Lighting fixtures—Cleaning
Metal cleaning
Milk cans—Cleaning
Motor buses—Cleaning
Power plants—Cleaning
Sewer cleaning
Soap
Steel—Cleaning
Tank cars—Cleaning
Vacuum cleaners
Water pipes—Cleaning

CLEANING compositions

Abrasives for soaps and scouring powders; abstract. R. J. Roley. Can Chem & Process Ind 24:16 Ja '40

Cleaning formula for upholstery. Nat Pet N 32:52 Je 26 '40

Detergents from kerosene; alkyl amine hydrochlorides. A. R. Padgett and E. F. Degering. bibliog Ind & Eng Chem 32:486-8 Ap '40

Detergents from kerosene; alkyl sulfates. A. R. Padgett and E. F. Degering. bibliog Ind & Eng Chem 32:204-8 F '40

Detergents, not soap, may mean a quiet revolution in the soap business. Fortune 22:119-20 N '40

Development of rancidity in Stoddard dry cleaning solvent. A. C. Smith, C. S. Lowe and G. P. Fulton. bibliog il diags Ind & Eng Chem 32:454-60 Ap '40

Efficacité des produits employés pour adoucir l'eau destinée au blanchissage domestique et économiser le savon. Génie Civil 115:368-70 N 18 '39

Evaporation rate of Stoddard dry cleaning solvent. C. S. Lowe and A. C. Lloyd. bibliog il diags Ind & Eng Chem 32:1310-13 O '40

Inhibition of bacterial metabolism by synthetic detergents. B. F. Miller and Z. Baker. bibliog Science 91:624-5 Je 28 '40

Metal surface cleaners. Product Eng 11:359 Ag '40

Physical chemistry of the newer detergent processes. M. Dole. Am Dyestuff Rep 29: 314-21; Discussion. 321-2 Je 24 '40

Properties of detergent solutions; electrophoretic mobility of oil drops in detergent solutions; abstract. J. Powney and L. J. Wood. Soc Dyers & Col J 56:230-1 My '40

Sales jump when Sani-Flush shows dealers how to display and push related products. il Sales Management 47:45 S 1 '40

Significance of suspending power in detergent processes. J. Powney and R. W. Noad. Textile Inst J 30:T157-71 N '39; Abstract. Textile Col 62:186-7 Mr '40

Surface active agents and detergents. Chem & Ind 59:255 Ap 13 '40

See also
Metal cleaning
Soap
Sodium hexametaphosphate
Stoddard solvent
Trichloroethylene

Advertising

Roman Cleanser proves it doesn't take a million to advertise; small space, continuity and consistency in advertising. il Sales Management 46:28, 30 F 1 '40

CLEANING industry

Chicago cleaning and dyeing industry, a case study in controlled competition. M. Handsaker. 66p bibliog(p63-6) Univ. of Chicago libraries, Chicago '39

Cleans flags free to celebrate anniversary; C. G. Howes company, Boston. Am Business 10:38-9 O '40

Dry-cleaning grows up; chemistry stimulates business. il Sci Am 163:252-3 N '40

How the laundry industry is being sold through trade clinics; potent builder of sales to owners of laundries and dry cleaning establishments. R. Rockafellow. il Sales Management 46:68-71 F 15 '40

Advertising

Dry cleaning sale; some 200 Sanitone licensees will plug six-ties-for-25c plan. Business Week p28 Ag 17 '40

CLEANING machinery

Bridge paint is steam-cleaned; San Francisco-Oakland Bay bridge. il Eng N 125: 238-9 Ag 15 '40

See also
Washing apparatus
Washing machines
Washing machines (for metal parts)

CLEANLINESS

Protection marked personal; cleanliness as preventive of dermatoses. G. C. Harrold, J. C. Kerrigan and S. F. Meek. il Safety Eng 79:16, 18 F '40

See also
Factories—Cleanliness

CLEARING houses

Benefits of working together; the regional clearinghouse. W. A. McDonnell. Banking 32:32 Ja '40

New York clearing house association annual meeting, Oct. 1. Comm & Fin Chr 151: 1986 O 5 '40

CLEARING houses—*Continued*
Weekly return of the New York city clearing house. Published in weekly numbers of Commercial & financial chronicle
What makes a regional clearinghouse. W. A. McDonnell. Banking 32:81-2 My '40

See also
Bank clearings
Banks and banking

CLEARING of land
Machine cut costs. G. W. Kelley. il Nation's Business 28:59 N '40
Torch for burning green timber. il diag Eng N 128:715 N 28 '39

Safety measures

Spare the woodman; clearing forests for reservoirs of the Tennessee Valley authority. H. E. Davis. il Nat Safety N 41:18-19, 56+ Je '40

CLEMATIS
Dyes from the species of clematis. Textile Col 61:850 D '39

CLEMENTS, Frank Orvill, 1873-
American contemporaries. T. A. Boyd. por Ind & Eng Chem News ed 17:777-8 D 20 '39

CLEMOW, Bice
Can daily paper be lithographed? Hartford newsdaily. por Business Week p24-6 D 2 '39

CLERGY

Pensions

Annual report of church pension fund of Protestant Episcopal church shows assets of $34,154,000. Comm & Fin Chr 150:3451 Je 1 '40
Church pension fund of the Protestant Episcopal church annual report. Weekly Underw 142:1255 My 25 '40
Operations of the Protestant Episcopal church pension fund in 1939. Comm & Fin Chr 150:51 Ja 6 '40
Pension plans of Protestant churches. Monthly Labor R 50:647-9 Mr '40
Protestant Episcopal church fund paying $1,347,000 a year; has $25,000,000 in force. East Underw 41:6 F 9 '40

CLEVELAND
Origin and development of a continuous real property inventory. H. W. Green. maps J Land & Pub Util Econ 16:325-34 Ag '40

Bridges

Difficult construction in Cleveland's Main Avenue bridge piers. il Concrete 48:5 N '40
Features of Cleveland's Main Avenue bridge. J. O. McWilliams, W. E. Blaser and F. L. Plummer. il diags plans Roads & Sts 82: 25-33 D '39
Three methods for erecting lift bridges. G. B. Sowers. il Eng N 125:166-8 Ag 1 '40
Welded rigid frames, European style. F. L. Plummer. il diags Eng N 125:91-3 Jl 18 '40
West Third Street vertical-lift bridge. W. P. Brown. il Civil Eng 10:429-32 Jl '40

Harbor

Port of Cleveland, Ohio. rev ed 115p U.S. Engineer dept, Board of engineers for rivers and harbors, Washington '39

Industries and resources

Ore, ships, and gentlemen; Cleveland's 99 per cent integrated industry. il Fortune 22: 43-4+ Jl '40

Population

Have cities stopped growing? E. Whitmore. il Am Business 10:26-8, 48 O '40

Rapid transit

2,369,881 more riders at no extra cost; Payne Avenue line. il Transit J 84:236 Jl '40

Sewerage

Experiences in establishing sewer rental charges. F. O. Wallene. Am Water Works Assn J 31:1964-9 N '39

Streets

Lakefront freeway speeds Cleveland traffic. il map Eng N 124:494-7 Ap 11 '40

Water supply

Cleveland's huge screen well completed by WPA workers. il Eng N 125:845 S 12 '40
Nottingham water works plant. Pub Works 71:40 O '40

CLEVELAND-CLIFFS Iron company
Spans 90 years. Steel 106:326 Ja 1 '40

CLEVELAND electric illuminating company
Bonds offered. Comm & Fin Chr 151:408 Jl 20 '40

CLEVELAND graphite bronze company
Brass tacks for the investor; brief analysis. Barron's 20:13 My 27 '40
Small companies with large earnings; thumbnail appraisal. Mag of Wall St 65:490 Ja 27 '40

CLEVELAND school of art
Art school library. G. R. Haskin. Special Lib 31:129-30 Ap '40

CLEVELAND stock exchange
Marked improvement in business activity in 1939. C. B. Whitcomb. Comm & Fin Chr 150:616 Ja 27 '40
Monthly range of prices, 1939. Comm & Fin Chr 150:585-6 Ja 27 '40
Weekly record. Published in weekly numbers of Commercial & financial chronicle

CLEVELAND tractor company
New Cletrac alliances; sales plans. Business Week p36 Ja 27 '40

CLIFTONIA monophylla
Yellow and black dyes from cliftonia monophylla. C. D. Mell. Textile Col 62:414+ Je '40

CLIMATE
Apparent climatic shifts. F. Thone. Science 91:sup8 F 16 '40
Business and changing climates; are slow climatic changes the basic, underlying cause of economic cycles? C. A. Mills. il map Sci Am 163:206-8 O '40
Climate of the South. J. B. Kincer. Manuf Rec Extra no 109:63-5 S '40
Currents of the Pacific ocean and their bearing on the climates of the coasts. H. U. Sverdrup. maps Science 91:273-82 Mr 22 '40
Forecasting by means of climatic cycles. H. P. Gillette. il Water Works & Sewerage 87: 496-501 O '40
History in a bog; forest managers use method of long-range climatic prediction, based on study of fossil pollen grains. W. F. McCulloch. il Sci Am 162:330-1 Je '40
Portentous drought in the making; evidence of climatic cycles. H. P. Gillette. il Water Works & Sewerage 87:38-9 Ja '40
Science confirms changes in our climate. Sheet Metal Worker 31:54 Ap '40
System of harmonic weather and climatic cycles. H. P. Gillette. il Roads & Sts 82: 47-8 N '39
Weather changes; winters are getting shorter and summers longer. Comp Air M 45:6293 N '40

See also
Atmospheric temperature
Rain and rainfall

CLIMATOLOGY, Medical
Medical climatology; climatic and weather influences in health and disease. C. A. Mills. 296p bibliog(p285-90) $4.50 C. C. Thomas, Springfield, Ill. '39; Review, by E. Huntington. Science 90:540-2 D 8 '39
Oncoming reversal of the human growth tide. C. A. Mills. Science 92:401-2 N 1 '40

CLINICAL chemistry. See Chemistry, Medical and pharmaceutical

CLINICAL laboratories. See Medical laboratories

CLINICS
Design decade. il plans Arch Forum 73:282+ O '40
Outpatient department. il plans Arch Rec 86: 105-6 D '39

CLINKERS
Conquering clinkers; experiments in burning low-grade coal. Business Week p40 Mr 16 '40

CLINKERS, Cement. See Cement clinkers

CLIPPER ships
Romance of the clipper ships; an abridged edition of Sail, volumes I, II, and III. B. Lubbock. 85p $3.50 Macmillan '39

CLIPPINGS
Clipping file in an art library. O. B. Le Boutillier. Special Lib 31:131-2 Ap '40

CLIPS, Surgical
Simple artery clip. J. R. DiPalma. diags Science 92:44 Jl 12 '40

CLOCKS
Market for clocks and watches in Cuba. Comm Rep p608 Jl 13 '40
Measurement of velocity with atomic clocks. H. E. Ives. Science 91:79-84 Ja 26 '40
Timepieces of the James Arthur collection at New York university. Science 91:284-5 Mr 22 '40
World clock; time throughout world at a glance. il Sci Am 163:280 N '40

See also
Tower clocks

CLOCKS, Electric
Electric clocks. F. B. Atkinson. diags Inst E E J 87:218-20 Ag '40
Electric clocks measure compressed-air flow. H. P. King. Power 84:42-4 Ja '40

Merchandizing

Clocks; G-E window display contest won by Pasadena department store. il Elec West 84:34 Ap '40

Rating

Electric clocks. il Consumers' Research Bul (Gen bul ser) 10:2-5 O '40

CLOSE corporations. See Corporations—Close corporations

CLOSED shop. See Open and closed shop

CLOSETS
Residential details; storage. il diags Arch Rec 88:61-3 Ag '40
Y.M.C.A. room revamped at low cost. il diag plans Arch Rec 87:55 My '40

CLOSTRIDIUM histolyticum
Experimental pathological changes produced by the toxin of clostridium histolyticum in animals. J. G. Pasternack and I. A. Bengtson. biblog Pub Health Rep 55:775-84 My 3 '40

CLOSTRIDIUM Welchii
Studies on the toxins and antitoxins of clostridium perfringens. S. E. Stewart. Pub Health Rep 55:753-75 bibliog(53 titles, p773-5) My 3 '40

CLOTH cutting machines
Cutting cloth and costs; portable electric cloth cutter; molded motor housing. il Mod Plastics 17:29, 100 Ag '40

CLOTHES closets. See Closets

CLOTHING, Protective
Accidents that did not cause injuries to employees of Jones & Laughlin steel corporation in 1939. Nat Safety N 41:48+ Mr '40
Clothes that protect. Nat Safety N 41:5 Mr '40
Clothing for protection against occupational skin irritants. L. Schwartz, L. H. Warren and F. H. Goldman. diags Pub Health Rep 55:1158-63, pl 1-2 Je 28 '40; Excerpt. Safety Eng 80:38 Ag '40
Dressed for the job; display at Newark museum. il Nat Safety N 41:54 F '40
Dressed for work. H. J. Segrave. il Safety Eng 79:11-13, 14 My '40
Protection marked personal. G. C. Harrold, J. C. Kerrigan and S. F. Meek. il Safety Eng 79:6-10 Ja; 16, 18 F '40
Recommendations for protective clothing; reference book sheet. Am Mach 84:219 Ap 3 '40; Same. Safety Eng 79:41 Mr '40

CLOTHING and dress
Clothing expenditures of wage earners and clerical workers. Monthly Labor R 50:267-85 F '40
Distinctive clothes; how to select and make them. F. H. Consalus and others. 517p $2.40 Ronald press '40
How the Germans buy their clothes; Reich clothing card. il Business Week p52 D 16 '39
Individuality and clothes; the blue book of personal attire. M. Story. rev ed 428p $3.50 Funk & Wagnalls co, New York '40
Mode in dress and home. D. G. Donovan. new ed 460p $1.40 Allyn and Bacon, New York '39
Philosophy in clothing. M. D. C. Crawford. 20p pa 35c Brooklyn inst. of arts and sciences, Brooklyn museum, Brooklyn, N.Y. '40

See also
Clothing, Protective
Collars
Costume
Dress goods
Fashion
Hats
Hosiery
Men's suits
Raincoats
Shirts
Textile fabrics
Underwear
Work clothes

Children

ASA clothing committee to vote on body sizes for junior boys. il Ind Stand 11:257-8 O '40
Bureau of home economics reports on study of children's sizes. Ind Stand 10:284 N '39
Rayons and spun rayons emphasized in children's wear. A. Perkins. il Rayon 21:81 F '40

Dictionaries

Language of fashion; a dictionary and digest of fabric, sewing, and dress. M. B. Picken. 175p $5 Funk and Wagnalls co, New York '40

Hygienic aspects

Hygienic and technical aspects of water repellent clothing. L. Stein. Am Dyestuff Rep 29:353-5 Jl 8 '40
Regain of textiles and humid atmosphere changes; application to hygiene of clothing. A. B. D. Cassie. Textile Inst J 31:T27-30 F '40
Stab at utopia; Harvard school of public health experiment to discover an indoor temperature satisfactory to both men and women; abstracts. C. P. Yaglou. Business Week p4 Je 22 '40; Sci Am 163:127 S '40

CLOTHING stores

See also
Men's stores
Women's apparel shops

CLOTHING trade
How to sell clothes; Goodall co. studies men's summer apparel trade in laboratory at Miami Beach. Business Week p45-6 My 25 '40
Statistical study of the drawing power of cities for retail trade; women's apparel. J. A. Pfanner, jr. J Business 13:1-79 pt 2 Ap '40
Suits and coats; in one of the nation's most competitive industries, the big trend is to retail chains. il Ptr Ink Mo 40:5-8+ Mr '40

See also
Corsets
Dress industry
Men's furnishing goods
Shirts
Underwear
Work clothes

Accounting

Statistical survey of balance sheets; Talon, inc., makers of slide fasteners, makes study in men's clothing industry. Credit & Fin Management 42:10-11+ N '40

Advertising

Arrow men get results with dealer advertising plan. il Sales Management 47:28+ O 10 '40

CLOTHING trade—Advertising—*Continued*
Illustration plays down product; visibility goes up; Hart Schaffner & Marx advertising. il Ptr Ink Mo 40:15+ Ja '40
It's a woman's business. E. Hamburger. 300p $2.50 Vanguard press, New York '39
Mr Adam Average; Hart Schaffner & Marx book, following up salesmen's calls, dramatizes national advertising. A. M. Howe. il Ptr Ink 192:15-17 Ag 30 '40
Small campaign, big selling job; L. Isaacson & sons' catalog. il Ptr Ink Mo 41:13 S '40
We sound reveille for the store clerk who yawns at our product; Hart Schaffner & Marx mailings to salesmen's homes. E. R. Richer. il Sales Management 46:36-7 Ap 20 '40

Finance

Statistical survey of balance sheets; Talon, inc., makers of slide fasteners, makes study in men's clothing industry. Credit & Fin Management 42:10-11+ N '40

Labor conditions

Earnings and hours in men's neckwear industry, 1939. F. M. Jones and G. E. Votava. Monthly Labor R 50:410-31 F '40
Earnings and hours in the men's robe industry, 1938. F. M. Jones and G. E. Votava. Monthly Labor R 50:697-708 Mr '40
Hours and earnings in certain men's-wear industries; caps and cloth hats, neckwear, work and knit gloves, handkerchiefs. U S Women's Bur Bul 163-6:1-22 '39
Hours and earnings in certain men's-wear industries; raincoats, sport jackets. U S Women's Bur Bul 163-5:1-29 '40
Jimmy Walker becomes a Solomon; umpire for New York's cloak-and-suit industry. Business Week p54-6 S 14 '40
62; biography of a union. H. Lang. 222p biblio(p222) $3 Undergarment & negligee workers' union, Local 62, I.L.G.W.U, 873 Broadway, New York '40
State-run hiring hall; employment office set up with civil service staff for sole use of organized dress industry. Business Week p39 Je 1 '40
Study in management prerogatives; Hart Schaffner & Marx and the C.I.O. M. Kestnbaum. Harvard Business R 19 no 1:88-98 [S] '40

See also
Garment workers

California

Los Angeles becomes style center. il Business Week p42+ S 14 '40

Germany

Rationalization in the industry in Germany. Comm Rep p1118 D 2 '39

United States

America is in fashion. H. S. Marcus. il Fortune 22:80-4+ N '40
America, refuge for fashion. M. B. Clark. il Textile World 90:72-3 S '40
Fashionating state of flux; how the fabric maker can fit his plans into America's new fashion role. M. B. Clark. il Textile World 90:58-9 O '40

CLOTHING workers of America. See Amalgamated clothing workers of America

CLOUD chambers
Cloud chamber control circuit. I. A. Getting. diags R Sci Instr 10:323-4 N '39
Cloud-chamber studies of fission fragment tracks. K. J. Brostrøm, J. K. Bøggild and T. Lauritsen. il Phys R 58:651-3 O 1 '40
Collisions of alpha-particles with carbon nuclei. G. A. Wrenshall. bibliog Phys R 57: 1095-1100 Je 15 '40
Composition of mixed vapors in the cloud chamber. T. N. Gautier and A. E. Ruark. Phys R 57:1040-1 Je 1 '40
Evidence against the existence of an excited state of He^5. R. D. Park and J. C. Mouzon. bibliog Phys R 58:43-6 Jl 1 '40
Exhaust valve for pneumatic cloud chambers. L. Fussell, jr. diag R Sci Instr 10:321-2 N '39
Magnet and cloud chamber for cosmic-ray studies. H. Jones and D. Hughes. il diags R Sci Instr 11:79-83 Mr '40
Multiple scattering of fast electrons and alpha-particles, and curvature of cloud tracks due to scattering. E. J. Williams. Phys R 58:292-306 Ag 15 '40
Phenomena in a cloud chamber operated without a sweep field. A. Ruark and E. Pardue. R Sci Instr 11:108-9 Mr '40
Report on Bartol research foundation; cosmic-ray investigations with a large cloud chamber. W. F. G. Swann. il Franklin Inst J 230:329-38 S '40
Thirtieth Kelvin lecture; cosmic rays. P. M. S. Blackett. pl diag Inst E E J 85:681-4 D '39

CLOUDS
Tornado cloud seen in Alaska. W. A. Rockie. Science 91:71 Ja 19 '40
Weather; Norwegians found the third dimension, the airlines commercialized it, and the U.S. Weather bureau eventually caught on. il maps Fortune 21:58-63+ Ap '40

CLUB idea in advertising. See Advertising—Children, Appeal to

CLUBHOUSES
Small yacht clubhouse in Seattle; hillside scheme for Queen city yacht club. il diags plan Arch Rec 87:50-1 My '40
Winner of a competition held under A.I.A.; Dunes club on beach at Narragansett, R.I. il plans Arch Rec 87:49-52 Mr '40

CLUETT, Peabody and company, inc.
Brass tacks for the investor; brief analysis. Barron's 20:13 Ja 29 '40
Glance at the week's reports. H. Lawrence. Barron's 20:13 F 19 '40

CLUTCHES
Adapting rotary rigs to use of internal-combustion engines. T. P. Sanders. il Oil & Gas J 39:77+ O 17 '40
Airflex friction clutch. P. M. Heldt. diag (p142) Automotive Ind 82:165 F 15 '40
Atwood constant-pressure clutch. diags Automotive Ind 82:28 Ja 1 '40
British twin discs and clarifiers, ltd. disc clutches. diags Engineer 168:577 D 8 '39
Carlyle Johnson friction clutches for line shafting. diags Engineering 150:286-7 O 11 '40
Dial clutch of the spring type; machine switching telephone systems. C. F. Wiebusch. il diags Bell System Tech J 18:724-41 O '39
Friction clutches; patent specifications. diags Mech Handling 27:73-4 Mr '40
New clutch has high torque at low slip; eddy current clutch. R. J. Owen. diag Elec W 113:1090+ Ap 6 '40
Rubber clutches. il Steel 105:39-40 D 25 '39
Twin-Disc clutch for industrial applications. diags Engineering 149:8-9 Ja 5 '40

See also
Automobiles—Clutches
Motor buses—Clutches
Tractors—Clutches

Manufacture

Twin Disc products held to rigid specifications; manufacture of clutches and gearing. J. Geschelin. il Automotive Ind 82:310-19+ Ap 1 '40

COAGULATION
Coagulation of rubber latex and its control. D. F. Twiss and P. H. Amphlett. Soc Chem Ind J 59:202-6 S '40

See also
Agglutination
Blood—Coagulation
Colloids
Sewage disposal—Coagulation
Water purification—Coagulation

COAL
Anthracite as a fuel for domestic heating. A. J. Johnson. il Mech Eng 62:208-10 Mr '40

COAL—*Continued*

Anthracite conference of Lehigh university. Coal Age 45:90, 92+ Je '40

Coal characteristics determine furnace performance. A. L. Luke, jr. diags Power Pl Eng 44:44-8 N '40

Coal conference at Ann Arbor, April 22. Power Pl Eng 44:116+ Je '40

Coal; its properties, analysis, classification, geology, extraction, uses and distribution. E. S. Moore. 2d ed 473p $6 Wiley '40

Cost of steam with coal as fuel; chart. I. E. Brooke. Heating-Piping 12:537-8 S '40

Crystallite growth during carbonization. H. E. Blayden, H. L. Riley and A. Taylor. bibliog Am Chem Soc J 62:180-6 Ja '40

Discuss selection and utilization of coal at big fuel conference. Concrete (mill sec) 48: 187-8 Je '40

Effect of coal characteristics on pulverized-coal firing. O. Craig. Mech Eng 62:452-4 Je '40; Same. Engineer 169:512-14 Je 7 '40; Same. Engineering 150:79-80 Jl 26 '40; Discussion. Mech Eng 62:751-2 O '40

Explosibility of semianthracite, low-volatile bituminous-coal, and medium-volatile bituminous-coal dusts. H. P. Greenwald. bibliog U S Bur Mines Rep of Invest 3489:1-11 '40

Extraction of a bituminous coal; influence of the nature of solvents. M. W. Kiebler. il diags Ind & Eng Chem 32:1389-94 O '40; Same. Gas J (Lond) 232:433-6 D 4 '40

Formation of fuels; a new theory of the origin of gas, oil and coal. E. Berl. Am Gas Assn Mo 22:335-6 O '40

Fuel luncheon club; presidential address. W. A. Bristowe. Chem & Ind 58:1052-5 D 2 '39

Heating with bituminous coal in 1939. R. A. Sherman. Heat & Ven 37:41-2 Ja '40

Nature and origin of coal and coal seams. A. Raistrick and C. E. Marshall. 282p bibliog(p257-9) 12s 6d English universities press, London '39

Partly aromatic constitution of artificial carbohydrate coals; error of Fischer's and Bone's viewpoint as to origin of coal. E. Berl and W. Koerber. Ind & Eng Chem 32: 676-7 My '40

Place of coal in the steel plant; past, present, and future. H. V. Flagg. il Min & Met 21: 457-61 O '40

Plastics and coal. N. J. L. Megson and K. W. Pepper. bibliog Chem & Ind 59:247-53 Ap 13 '40

Proceedings of the third annual coal conference, Sept. 28-30, 1939. D. L. McElroy, ed. il diags West Virginia Univ Eng Exp Sta Tech Bul 15:1-234 '39

Processing and carbonization. A. C. Fieldner. il Min & Met 21:33-5 Ja '40

What the purchaser should know about coal. T. A. Marsh. Blast F & Steel Pl 27:1247, 1250-3 D '39

See also

Boilers—Firing
Cannel coal
Coal distillation
Coal liquefaction
Coal mines and mining
Coal preparation
Coal trade
Coke
Fuel
Gas
Lignite
Locomotives—Fuel

also Anthracite conference of Lehigh university

Analysis

Analyse détaillée des produits d'une carbonisation à basse température. A. Gillet and P. Cherstnioff. diags Chimie & Ind 42:944-53 D '39

Carbonizing properties and petrographic composition of Sewell bed coal from Wyoming mine, Wyoming county, W.Va. and the effect of blending this coal with Alma bed coal. A. C. Fieldner and others. il diags U S Bur Mines Tech Pa 601:1-43 '39

Correlation of analysis of coal with the products of carbonization in externally heated retorts. V. F. Parry. U S Bur Mines Rep of Invest 3482:1-87 '39

Plastic properties of bituminous coking coals; effect of oxidation. R. E. Brewer, C. R. Holmes and J. D. Davis. bibliog Ind & Eng Chem 32:930-4 Jl '40; Same. Gas J (Lond) 231:459-61+ S 11 '40

Plastic properties of bituminous coking coals; effect of patrographic composition. R. E. Brewer, C. R. Holmes and J. D. Davis. bibliog il diag Ind & Eng Chem 32:792-7 Je '40

Studies in the composition of coal; extraction of coal with quinoline. R. Belcher and R. V. Wheeler. Chem Soc J p866-9 Jl '40

Study of the equilibration method of determining moisture in coal for classification by rank. O. W. Rees, F. H. Reed and G. W. Land. il diags Ill State Geol S (Urbana) Report of Invest 58:1-34 bibliog(p34) '39 (pa 25c)

Bibliography

Developments in coal research and technology in 1937 and 1938. A. C. Fieldner. U S Bur Mines Tech Pa 613:1-95 '40

Calorific value

Formulas for the heat value of coal. Power Pl Eng 43:804-5 D '39; 44:79-80 F; 77-8 Mr '40

Chemistry

Zur kenntnis des thermischen verhaltens von steinkohle; das verhalten der kohlen beim erhitzen bis zum erweichungsbeginn. H. Brückner. bibliog Angew Chemie 52:671-6 N 18 '39

Classification

Classification of kerogen rocks and kerogen coals, showing their inter-relationships and their gradation into bituminous coals. A. L. Down and G. W. Himus. Inst Pet J 26:334-5 Jl '40

Fourth standard completes classification of coals. A. C. Fieldner. Ind Stand 10:303-6 D '39

Why not a coking index? helps solve practical coal-selection problems. C. E. Pritchard. il Power 84:302-3 My '40

Geology

Classification of kerogen rocks and kerogen coals, showing their inter-relationships and their gradation into bituminous coals. A. L. Down and G. W. Himus. Inst Pet J 26:334-5 Jl '40

Coal in eocene, near Bakersfield, Calif. R. W. Clark. diag Am Assn Pet Geologists Bul 24:1676-9 S '40

Some structural features of the Northern Anthracite coal basin, Pennsylvania. N. H. Darton. fold map U S Geol S Professional Pa 193-D:69-81, pl 10-19 '40

Liquefaction

See Coal liquefaction

Moisture content

How wet is wet coal? T. W. Guy. Min Cong J 26:54-5 F '40

Study of the equilibration method of determining moisture in coal for classification by rank. O. W. Rees, F. H. Reed and G. W. Land. il diags Ill State Geol S (Urbana) Report of Invest 58:1-34 bibliog(p34) '39 (pa 25c)

Oxidation

Atmospheric oxidation of coal at moderate temperatures; rates of the oxidation reaction for representative coking coals. L. D. Schmidt and J. L. Elder. bibliog il diag Ind & Eng Chem 32:249-56 F '40

Plasticity

Plastic properties of bituminous coking coals; effect of oxidation. R. E. Brewer, C. R. Holmes and J. D. Davis. bibliog Ind & Eng Chem 32:930-4 Jl '40; Same. Gas J (Lond) 231:459-61+ S 11 '40

COAL—Plasticity—*Continued*
Plastic properties of bituminous coking coals; effect of petrographic composition. R. E. Brewer, C. R. Holmes and J. D. Davis. bibliog il diag Ind & Eng Chem 32:792-7 Je '40

Prices
Appraisal of the Guffey act and need for its amendment. C. Thompson. Min Cong J 25: 25-8 N '39
Bituminous coal gets pegged; Coal act of 1937 put into effect. il Power 84:728 N '40
Bituminous minimum price-fixing preliminaries enter final stages. Coal Age 45:67-70 My '40
Coal board recommends minimum bituminous coal prices. Comm & Fin Chr 150:2495-6 Ap 20 '40
Coal division price hearings end. Min Cong J 26:68-9 F '40
Coal price minimums due soon; Guffey-Vinson act. Business Week p24+ F 24 '40
Constitutionality of Coal act under fire. Min Cong J 25:54 N '39
Minimum coal price schedule for western area recommended by Department of interior. Comm & Fin Chr 150:2019 Mr 30 '40
National legislation affecting coal mining. J. D. Conover. Min Cong J 26:16-18 My '40
Price-fixed coal. Business Week p16 Ap 20 '40
Retail prices in certain countries in October 1939 in 35 countries (food and heating). Int Labour R 41:428-33 Ap '40
Retail prices of coal as of the 15th of March, June, September, and December. Monthly Labor R 50:1525-7 Je '40
Retail prices of coal in large cities combined, June and March 1939 and June 1938. Monthly Labor R 49:751-2 S '39
Retail prices of coal in large cities combined, December and September 1939 and December 1938, prices 1929 through 1939, and details by cities and kinds of coal, 1938 and 1939. Monthly Labor R 50:1021-4 Ap '40
Retail prices of coal, September and June 1939 and September 1938. Monthly Labor R 49:1544-6 D '39
Soft coal price-fixing due soon. Business Week p17-18 Ap 6 '40
Worked with truckers to recover coal business; De Bardeleben coal corporation. il Ry Age 108:979 Je 1 '40

Purchasing
See Coal purchasing

Records
Methods of recording coal data; Hollerith punched-card system in preparation of structural contour maps based on altitude of key coal beds. G. H. Cady and C. C. Boley. il Econ Geol 35:876-82 N '40

Swelling
Assessment of coking properties of coals. A. Shimomura. bibliog il diag Gas J (Lond) 232:25-6, 31-4 O 2 '40
Coals dangerous to coke ovens. R. A. Mott. Gas J (Lond) 231:194 Jl 31 '40
Controlling swelling of coal during carbonization; patent. Gas J (Lond) 231:236 Ag 14 '40
Measurement of pressures developed during the carbonization of coal. C. C. Russell. bibliog diag Am Gas Assn Mo 22:320-3 S '40

Terminology
Classification of oil shales and cannel coals; confusion in nomenclature and classification of oil-yielding materials. A. L. Down and G. W. Himus. Inst Pet J 26:329-35, pl 1-5; Discussion. 336-48 Jl '40

Testing
Aspects of coal testing. F. Duckworth. Gas J (Lond) 229:583-5 Mr 13 '40; Discussion. 229:633-4+ Mr 20 '40
Assessment of coking properties of coals. A. Shimomura. bibliog il diag Gas J (Lond) 232:25-6, 31-4 O 2 '40
Atmospheric oxidation of coal at moderate temperatures; effect of oxidation on the carbonizing properties of representative coking coals. L. D. Schmidt, J. L. Elder and J. D. Davis. bibliog il Ind & Eng Chem 32:548-55 Ap '40
Carbonizing properties and petrographic composition of Pocahontas no. 3-bed coal from Buckeye No. 3 mine, Wyoming county, W. Va. and of Pocahontas no. 4-bed coal from No. 4 mine, Raleigh county, W. Va. A. C. Fieldner and others. il U S Bur Mines Tech Pa 604:1-65 bibliog(p64-5) '40
Carbonizing properties and petrographic composition of Sewell bed coal from Wyoming mine, Wyoming county, W.Va. and the effect of blending this coal with Alma bed coal. A. C. Fieldner and others. il diags U S Bur Mines Tech Pa 601:1-43 '39
Comparative tests of various fuels when burned in a domestic hot-water boiler, 1935 to 1938. C. E. Baltzer and E. S. Malloch. 23p pa 25c Canada. Dept. of mines and resources, Ottawa '40
Effect of preparation on ash fusibility of selected Illinois coals. L. C. McCabe and O. W. Rees. diags map Ill State Geol S Rep of Invest 55:1-31 '39
Evaluating coal in combustion tests. A. R. Mumford. Min & Met 21:517-18 N '40
Evaluating coal in combustion tests; need for code; committee appointed. Mech Eng 62: 790 N '40
Experiments on strength of small pillars of coal in the Pittsburgh bed. H. P. Greenwald, H. C. Howarth and I. Hartmann. il diags plan U S Bur Mines Tech Pa 605:1-22 '39
Friability, grindability, chemical analyses and high- and low-temperature carbonization assays of Alabama coals. E. S. Hertzog and others. U S Bur Mines Tech Pa 611:1-59, pl 1-4 '40
How wet is wet coal? T. W. Guy. Min Cong J 26:54-5 F '40
Plastic properties of bituminous coking coals; effect of oxidation. R. E. Brewer, C. R. Holmes and J. D. Davis. bibliog Ind & Eng Chem 32:930-4 Jl '40; Same. Gas J (Lond) 231:459-61+ S 11 '40
Plastic properties of bituminous coking coals; effect of petrographic composition. R. E. Brewer, C. R. Holmes and J. D. Davis. bibliog il diag Ind & Eng Chem 32:792-7 Je '40
Survey of gas, coke and by-product making properties of American coals. Am Gas Assn Proc 1939:585-9
Use of Iowa coals in domestic stokers. M. P. Cleghorn and R. J. Helfinstine. enl ed il map Iowa Eng Exp Sta Bul 144:1-40 '39

Transportation
Armco barge plant cuts coal-moving cost 87c.; portable conveyors for loading. il plan Coal Age 45:37-40 My '40
Worked with truckers to recover coal business; De Bardeleben coal corporation. il Ry Age 108:979 Je 1 '40

See also
Coal cars
Coal handling
Colliers

Weighing
See Coal weighing

Alabama
Friability, grindability, chemical analyses and high- and low-temperature carbonization assays of Alabama coals. E. S. Hertzog and others. U S Bur Mines Tech Pa 611:1-59, pl 1-4 '40
Hydrogenation of high-volatile bituminous coals; proximate analysis and characterization of products. L. L. Hirst and others. bibliog diag Ind & Eng Chem 32:864-71 Je '40

California
Coal in eocene, near Bakersfield. R. W. Clark. diag Am Assn Pet Geologists Bul 24:1676-9 S '40

COAL—*Continued*

Canada

Coal reserves of Canada. C. M. Campbell. Econ Geol 35:670-4 Ag '40

Tests on the liquefaction of Canadian coals by hydrogenation. T. E. Warren and K. W. Bowles. 106p pa 25c Canada. Dept. of mines and resources, Ottawa '38

France

Le bassin houiller du Lyonnais. V. Charrin. diags map Chimie & Ind 43:878-80 My 20 '40

Les gisements houillers français de deuxième importance. V. Charrin. diags maps Chimie & Ind 43:435-8 Mr 5 '40

Illinois

Effect of preparation on ash fusibility of selected Illinois coals. L. C. McCabe and O. W. Rees. diags map Ill State Geol S Rep of Invest 55:1-31 '39

Hydrogenation of high-volatile bituminous coals; proximate analysis and characterization of products. L. L. Hirst and others. bibliog diag Ind & Eng Chem 32:864-71 Je '40

Methods of recording coal data; Hollerith punched-card system in preparation of structural contour maps based on altitude of key coal beds. G. H. Cady and C. C. Boley. il Econ Geol 35:876-82 N '40

See also

Coal mines and mining—Illinois

Iowa

Use of Iowa coals in domestic stokers. M. P. Cleghorn and R. J. Helfinstine. enl ed il map Iowa Eng Exp Sta Bul 144:1-40 '39

Kentucky

Hydrogenation of the petrographic constituents of High Splint seam coal. C. C. Wright and G. C. Sprunk. il diags Pennsylvania State College, Mineral Industries Exp Sta Bul 28:1-23 bibliog(p23) '39 (pa 50c)

Montana

Mizpah coal field, Custer county. F. S. Parker and D. A. Andrews. fold maps U S Geol S Bul 906-C:85-133, pl 16-40 '39

North Dakota

Geology and coal resources of the Minot region. D. A. Andrews. diags fold maps U S Geol S Bul 906-B:43-84, pl 11-15 '39

Oklahoma

Geology and fuel resources of the southern part of the Oklahoma coal field; Howe-Wilburton district, Latimer and Le Flore counties. T. A. Hendricks. fold map U S Geol S Bul 874-D:255-300, pl 27-35 '39

Oregon

Analyses and other properties of Oregon coals as related to their utilization. H. F. Yancey and M. R. Geer. bibliog pls Oregon State Dept of Geol and Mineral Industries [Portland] Bul 20:1-38 '40 (35c)

Pennsylvania

Some structural features of the Northern Anthracite coal basin. N. H. Darton. fold map U S Geol S Professional Pa 193-D:69-81, pl 10-19 '40

See also

Coal mines and mining—Pennsylvania

Washington (state)

Hydrogenation of high-volatile bituminous coals; proximate analysis and characterization of products. L. L. Hirst and others. bibliog diag Ind & Eng Chem 32:864-71 Je '40

West Virginia

Carbonizing properties and petrographic composition of Pocahontas no. 3-bed coal from Buckeye No. 3 mine, Wyoming county, W. Va. and of Pocahontas no. 4-bed coal from No. 4 mine, Raleigh county, W. Va. A. C. Fieldner and others. il U S Bur Mines Tech Pa 604:1-65 bibliog(p64-5) '40

Carbonizing properties and petrographic composition of Sewell bed coal from Wyoming mine, Wyoming county, W.Va. and the effect of blending this coal with Alma bed coal. A. C. Fieldner and others. il diags U S Bur Mines Tech Pa 601:1-45 bibliog(p44-5) '39

Fairmont coal field includes four geological series in highly dissected plateau. P. H. Price and J. P. Nolting, jr. bibliog il maps Coal Age 44:48-50 D '39

Fairmont coals show minor long-term shifts. Coal Age 44:114-15 D '39

Western states

Hydrogenation and petrography of some low-rank coals from the western United States. A. Eisner and others. 2 pls map U S Bur Mines Rep of Invest 3498:1-21 bibliog(40 titles p19-21) '40

Hydrogenation and petrography of subbituminous coals and lignites. L. L. Hirst and others. bibliog il diags Ind & Eng Chem 32:1372-9 O '40

COAL, Pulverized

Billet heating; new type of furnace fired with pulverized coal and employs complete automatic control. C. F. Herington. il plan Iron Age 146:26-9 Ag 29 '40

Giant's new direct-firing coal mills. il diag Rock Prod 43:36-7 Ja '40

Milwaukee's contribution to pulverized-coal development. H. Kreisinger and J. Blizard. diags Mech Eng 62:723-6+ O '40

Pulverized coal for steel furnaces. Engineer 169:380 Ap 19 '40

Space requirement for the combustion of pulverized coal. H. C. Hottel and I. M. Stewart. bibliog Ind & Eng Chem 32:719-30 My '40

Wärmeverteilung in der kohlenstaubfeuerung. W. Pauer. V D I 84:68-9 Ja 27 '40

See also

Boilers—Pulverized coal firing

Preparation

Annual report of the nonmetals division, fiscal year 1939; study of pulverized coal and its preparation. O. C. Ralston and others. In U S Bur Mines Rep of Invest 3473:17-20 '39; Same. il Concrete (mill sec) 48:249-50 O '40

Characteristics of cloth filters handling coal dust and air mixtures. A. R. Mumford, A. A. Markson and T. Ravese. diags Concrete (mill sec) 48:152-3 Ap '40

Kraemer firing system makes good showing on Europe's low-grade fuels. M. F. tA. Wulfinghoff. diag Power 84:328 My '40

More efficient kiln firing; Nazareth cement co. il diags Rock Prod 43:43, 45+ Ag '40

COAL as filter medium

Anthrafilt; abstract. H. G. Turner. Coal Age 45:90 Je '40

COAL ash

Extraction of alumina from kaolin and other silicates. K. Kammermeyer and A. H. White. bibliog Am Inst Chem Eng Trans 36:683-700 O '40

Relationship of ash-fusion temperatures of coal and coke. D. A. Reynolds. bibliog U S Bur Mines Rep of Invest 3505:1-6 '40

COAL bins

Flat floor coal bins favored for bin-feed stokers. diag Sheet Metal Worker 31:30 Jl '40

COAL breakers

Hammond's new breaker. il diag Coal Age 45:44-6 Jl '40

Pittston no. 9 breaker gives accurate cleaning of 4,500 tons daily. R. D. Hall. il plans Coal Age 45:54-8 Ja '40

Two 20-ton gunboats deliver all coal mined at Packer no. 4 to belt feeding Weston breaker, Shenandoah. il plan Coal Age 45: 44-6 Ag '40

COAL cars
Service life of Cor-Ten steel in hopper cars; tests made in cars with USS Cor-Ten sheets in one end and copper steel or USS Man-Ten steel in the other. il Ry Age 107:847-8 D 2 '39; Same. Ry Mech Eng 114:60-1+ F '40

Spot coal cars by remote control. il Elec W 113:1908 Je 15 '40

COAL cleaning
Anthracite cleaned by sink-and-float methods; Locust coal co. il diag plan Coal Age 45:37-9 N '40

Anthracite section, A.I.M.E., compares notes on region's cleaning methods. Coal Age 45:64+ My '40

Cleaning Dawson coal; use of hydro-separator combined with diaphragm jig. W. G. Moore. il plan Min Cong J 26:27-9 Jl '40

Cleaning of coal by heavy liquids; Staatsmijnen-loess process. diags Mech Handling 26:334-5 N '39

Coal cleaning plant in Chile. diags Mech Handling 27:111-12 My '40

Coal-cleaning policy. A. A. Hirst. Engineering 150:19-20, 39 Jl 5-12 '40; Abstract. Gas J (Lond) 231:80-1 Jl 10 '40

Coal separation processes; Tromp and Chance processes. H. Vedrenne. diags Mech Handling 27:23-5 Ja '40

Making screenings good locomotive coal; Railway fuel and traveling engineers committee report. Ry Age 109:621-2 N 2 '40; Same. Ry Mech Eng 114:500-1 N '40

Mechanical-cleaning growth in the bituminous industry, 1935-1939; chart. Coal Age 45: supp Ap '40

Pittston no. 9 breaker gives accurate cleaning of 4,500 tons daily. R. D. Hall. il plans Coal Age 45:54-8 Ja '40

Surface preparation; abstracts of papers, American mining congress, Coal division. Min Cong J 26:27-9 My '40

See also
Coal preparation
Coal washing

COAL crushers
Saskatchewan mine. R. D. Hall. Coal Age 45:39 Ja '40

See also
Coal breakers

COAL cutters
Adaptation of cutting bits to mining conditions. J. W. Buch. il diags Min Cong J 26: 23-5 Ja '40

Coal cutting; research in bit design; abstract. J. Buch. Coal Age 44:148+ D '39

Cutter height reduced 7 in. by complete rebuilding. il Coal Age 45:67 S '40

Density of intensive mining; abstract. J. V. Spence. Elec R (Lond) 126:341-2 Mr 22 '40

Face preparation at northern West Virginia mechanical mines. il diags Coal Age 44:68-76 D '39

Gummers for coal cutters; patent specifications. diags Mech Handling 27:186 Ag '40

COAL distillation
Analyse détaillée des produits d'une carbonisation à basse température. A. Gillet and P. Cherstnioff. diags Chimie & Ind 42:944-53 D '39

Atmospheric oxidation of coal at moderate temperatures; effect of oxidation on the carbonizing properties of representative coking coals. L. D. Schmidt, J. L. Elder and J. D. Davis. bibliog il Ind & Eng Chem 32:548-55 Ap '40

By-products of coal carbonization. J. M. Weiss. Ind & Eng Chem 32:1161-2 S '40; Same. Gas J (Lond) 232:250-1 N 6 '40

Carbonisation of coal; rich source of war material at Beckton. Chem Age (Lond) 42:112 F 24 '40

Coal by-products; pseudopolymer and synthetic aromatic oils. W. H. Carmody and H. E. Kelly. Ind & Eng Chem 32:954-7 Jl '40; Same. Gas J (Lond) 231:158, 163 Jl 24 '40

Coal carbonization; gas pressures within the uncarbonized part of a charge. D. A. Reynolds and G. W. Birge. bibliog il Ind & Eng Chem 32:363-7 Mr '40

Correlation of analysis of coal with the products of carbonization in externally heated retorts. V. F. Parry. U S Bur Mines Rep of Invest 3482:1-37 '39

Cracking coal-oil distillates. G. Egloff and others. diags Oil & Gas J 38:36, 39, 52-3 Ja 11 '40

Cracking tars and distillates from coal. G. Egloff and others. bibliog il diags Ind & Eng Chem 32:39-47 Ja '40

Crystallite growth during carbonization. H. E. Blayden, H. L. Riley and A. Taylor. bibliog Am Chem Soc J 62:180-6 Ja '40

Entwicklung und gegenwärtiger stand der spülgasschwelung. A. Thau. bibliog diags V D I 83:1277-82 D 16 '39

Fuel gas generator; a development using electrical energy as a source of heat; estimated costs. H. A. Curtis, R. B. Stitzer and W. J. Darby. il diags Ind & Eng Chem 32:757-62 Je '40

Narrow brick retorts for low-temperature carbonisation. Engineering 148:652 D 8 '39

Processing and carbonization. A. C. Fieldner. il Min & Met 21:33-5 Ja '40

Visit to world's greatest gas and chemical works. il Mech Handling 27:55-7 Mr '40

See also
Coal liquefaction
Coal tar
Coke manufacture
Gas manufacture

Maclaurin process
Technical chemist's claim; tests of low temperature carbonisation process. Chem Age (Lond) 41:386 D 9 '39

Patents
Carbonization with hydrogen under pressure; patent. diags Gas J (Lond) 230:389 My 22 '40

COAL docks
Dumps a car a minute; greatest coal car dumper; Pennsylvania railroad dock at Sandusky, Ohio. L. T. Henderson. il Sci Am 163:268-9 N '40

New coal dumper on the Pennsylvania handles a car a minute. il plan Ry Age 108: 624-9 Ap 6 '40

New steel shanks for old timber piles; coal tipple pier at Pensacola, Fla. C. G. Cappel. il Civil Eng 10:632-3 O '40

COAL drying
Heat drying of coal and ammonium sulphate; Roto-Louvre dryer. N. L. Davis. flow sheet il diags Blast F & Steel Pl 28:253-7+ Mr '40

Mechanical cleaning plus air scrubbing and centrifuging; Ayrdale plant. I. A. Given. il diags Coal Age 45:40-3 Mr '40

New Utah Fuel plant. C. S. Westerberg and I. A. Given. il plan Coal Age 45:36-40 Jl '40

Raymond small-coal dryer. diag Coal Age 45:93 Mr '40

Der tellertrockner in braunkohlenbrikettfabriken. E. Heugel. diag V D I 84:193-4 Mr 16 '40

COAL dust
Characteristics of cloth filters handling coal dust and air mixtures. A. R. Mumford, A. A. Markson and T. Ravese. diags Concrete (mill sec) 48:152-3 Ap '40

Coal dust regulations. Mech Handling 27:19-20 Ja '40

Dust allaying device for coaling plants. diag Ry Age 108:458 Mr 9 '40

Explosibility of semianthracite, low-volatile bituminous-coal, and medium-volatile bituminous-coal dusts. H. P. Greenwald. bibliog U S Bur Mines Rep of Invest 3489:1-11 '40

Methods of sampling and analyzing coal-mine dusts for incombustible content. C. W. Owings, W. A. Selvig and H. P. Greenwald. U S Bur Mines Information Circ 7113:1-12, pl 1-4 '40

COAL dust—*Continued*
Prevention of silicosis; experimental investigations on the action of certain non-siliceous dusts and silica in the origin and development of silicosis. C. Naeslund. J Ind Hygiene 22:1-30 bibliog(p28-30) Ja '40
Tests of salt as a substitute for rock dust in the prevention of coal-dust explosions in mines. H. P. Greenwald, H. C. Howarth and I. Hartmann. pl U S Bur Mines Rep of Invest 3529:1-16 '40
Use of wetting agents for allaying coal dust in mines. I. Hartmann and H. P. Greenwald. bibliog U S Bur Mines Information Circ 7131:1-12 '40
See also
Coal, Pulverized
Coal mines and mining—Rock dusting

COAL handling
Cable care and selection for coal handling. F. L. Spangler. il Power Pl Eng 44:69-71 S '40
Coal and coke handling at Weston-super-Mare gas works. il Mech Handling 27:116-18 My '40
Coal cleaning plant in Chile. diags Mech Handling 27:111-12 My '40
Coal handling at Bryce E. Morrow. H. V. Schiefer. il Power 84:428-9 Jl '40
Coal handling at Chicago's sewage-treatment works. W. G. Hudson. il diag Power 84:507-9 Ag '40
Coal handling plant at Marston Valley brick co. ltd. il diags Mech Handling 27:135-7 Je '40
Coal handling, storage; Dow chemical co. il Steel 106:50+ Ap 1 '40; Same. Gas Age 85:30+ Ap 11 '40; Same. Power 84:289 My '40; Same abr. Heat & Ven 37:46 My '40
Coal storage, its a science. N. E. Coalwell. il Chem Ind 46:178-80 F '40
Conveyors for oil-treated coal; neoprene-covered. il Rubber Age 46:235 Ja '40
Development in design of boilers and boiler house auxiliaries. A. Pollitt. Engineer 169: 425 My 3 '40
Dust-tight conveyors help keep boiler room spotless. il diag Steel 106:55 My 27 '40
Heating coil prevents coal chute from freezing. S. H. Coleman. diag Power Pl Eng 44:78 F '40
New coal dumper on the Pennsylvania handles a car a minute. il plan Ry Age 108: 624-9 Ap 6 '40
Saskatchewan mine; hoisting, handling, crushing methods, etc. R. D. Hall. il Coal Age 45:39-40 Ja '40
Shuttle belt conveyor; unloading coal from self-unloading vessel to barge. il plan Steel 105:42+ D 11 '39
Skip winding for collieries. G. W. Davidson. il Mech Handling 27:67-70 Mr '40
Small-plant coal-handling equipment pays; Eavenson & Levering co. wool-scouring plant. W. A. Lofft. il Power 84:26-7 Ja '40
Stocking and reclaiming of coal and coke; Meco-Moore loader. il diag Mech Handling 27:48-50 F '40
Trans-shipping plant for coal; Three Rivers terminal of Dominion coal co. il Steel 106: 60+ Mr 4 '40
Two 20-ton gunboats deliver all coal mined at Packer no. 4 to belt feeding Weston breaker, Shenandoah. il plan Coal Age 45: 44-6 Ag '40
Underground transportation of coal; progress report. A. L. Toenges and F. A. Jones. pls U S Bur Mines Rep of Invest 3519:1-62 '40
See also
Coal docks
Coaling stations

Cost
Coal storage at pit in wartime; cost of putting coal on prepared stocking ground and re-loading into wagons. G. Mullin. diag plan Mech Handling 27:115-16 My '40

COAL liquefaction
Le développement des applications techniques de l'hydrogénation. E. F. Armstrong and K. A. Williams. Chimie & Ind 42:234-42 Ag '39; Same (Development of the technical applications of hydrogenation). Chem Age (Lond) 41:271-2, 285-8 O 14-21 '39; Same. Chem & Ind 59:3-9 Ja 6 '40
Fuel technology and the war. W. A. Bristow. Gas J 228:288-90 N 8 '39; Same. Engineer 168:469-70 N 10 '39; Same cond. Engineering 148:561-2 N 17 '39
Germany expanding synthetic production. H. S. Norman. il Oil & Gas J 38:14 Ja 18 '40
Hydrogenation and petrography of some low-rank coals from the western United States. A. Eisner and others. 2 pls map U S Bur Mines Rep of Invest 3498:1-21 bibliog(40 titles p19-21) '40
Hydrogenation and petrography of subbituminous coals and lignites. L. L. Hirst and others. bibliog il diags Ind & Eng Chem 32:1372-9 O '40
Hydrogenation of a Pittsburgh seam coal; kinetics of hydrogen consumption, oxygen removal, and liquefaction. H. H. Storch and others. bibliog Ind & Eng Chem 32:346-53 Mr '40
Hydrogenation of high-volatile bituminous coals; proximate analysis and characterization of products. L. L. Hirst and others. bibliog diag Ind & Eng Chem 32:864-71 Je '40
Hydrogenation of typical North American splint coals. A. Eisner and others. bibliog il Ind & Eng Chem 32:73-8 Ja '40
Motor fuels of the present and future. G. Egloff. W Soc E J 45:86-8 Ap '40
Tests on the liquefaction of Canadian coals by hydrogenation. T. E. Warren and K. W. Bowles. 106p pa 25c Canada. Dept. of mines and resources, Ottawa '38

COAL loading machines
Front clutch trouble solved on loading machine. diag Coal Age 45:63 Ja '40
Hoist-operated loaders; Cranberry No. 1 mine. J. H. Edwards. il diags Coal Age 45: 29-32 My '40
Loader efficiency increased by jacks set at angle. il diag Coal Age 45:102 F '40
Loaders and shuttle cars handle coal at Jefferson No. 20. I. A. Given. il diags Coal Age 45:55-8 Ap '40
Loaders in 40-in. coal; Monitor coal & coke co. A. Downing. il Coal Age 45:63-6 Ap '40
Loading equipment, anthracite mines; 1935-1937; chart. Coal Age 45:supp Ap '40
Loading equipment, bituminous mines, 1935-1939; and mechanically loaded bituminous tonnage, 1937-1938; charts. Coal Age 45: supp Ap '40
Loading machines patent specification. diags Mech Handling 26:335-6 N '39
Maintenance of mobile loading machines. Min Cong J 26:48 Ja '40
March of coal mining; engineering studies and cost analyses. G. B. Southward. Min Cong J 26:42-3+ Mr '40
Mechanical loading and conveying; abstracts of papers, American mining congress, Coal division. Min Cong J 26:29-30, 32-3 My '40; Coal Age 45:58-60 Je '40
Mining methods and mechanical loading in northern West Virginia. il diags Coal Age 44:51-67 D '39
Mining methods and mechanical loading; southern Illinois deep mines. il diags plans Coal Age 45:76-88 O '40
Mobile machines at new Borderland mine in Tug River field. il Coal Age 45:33-5 Jl '40
Power lines for mechanical loading. G. B. Southward. diag Min Cong J 26:38-9 Ag '40
Rubber-tired haulage supplements loading machines at new Paradise mine. il plan Coal Age 45:48-51 Mr '40
Sales of mechanical loading equipment for use in coal mines in 1939. T. Fraser and others. map Min Cong J 26:23-7 F '40; Same cond. Coal Age 45:63-5 F '40
Scraper loading. Mech Handling 27:171 Ag '40
Steel roof supports for mechanical loading in western Pennsylvania. G. B. Southward. il diags Min Cong J 25:18-20 D '39

COAL loading machines—*Continued*
Time study summary for mobile loading machines. W. R. Cuthbert. Min Cong J 26: 26-7 Je '40
COAL measurement
Tons of coal in loose piles. W. F. Schaphorst. Ind & Eng Chem News ed 18:497 Je 10 '40
COAL miners
Act to bar children from hazardous mine work. Nat Safety N 42:88-9 S '40
Drawings. W. D. White. Explosives Eng 18: 143-6 My '40
Economic consequences of the seven-hour day and wage changes in the bituminous coal industry. W. E. Fisher. 130p $2 Industrial research dept, Wharton school of finance and commerce, Univ. of Pennsylvania, Philadelphia '39
How management and its policies look to the men who must actually mine and load the coal. G. M. Hellein. il Coal Age 45:40-1 S '40
Mechanization, employment, and output per man in bituminous-coal mining. W. E. Hotchkiss and others. 2v 436p Work projects administration, Washington, D.C. '39; Review. Monthly Labor R 50:341-4 F '40
Mixed screenings; mines in transition state. J. J. Rutledge. Explosives Eng 18:155-7 My '40

Australia

Australian coal-mine strike settlement. E. G. Mathews. Monthly Labor R 51:320-1 Ag '40

Great Britain

Miners' wages. Economist 138:8, 217 Ja 6, F 3 '40

Illinois

Unemployment in a depressed coal-mining area in southern Illinois. J. N. Webb. Monthly Labor R 49:1295-1310 D '39

New South Wales

Health and safety recommendations of New South Wales coal commission. Monthly Labor R 50:910-11 Ap '40

United States

Bituminous coal stoppage, 1939; with text of Appalachian agreement. map Monthly Labor R 49:691-703 S '39
Labor and production in anthracite mines, 1934 to 1938. Monthly Labor R 49:1405 D '39

See also
United mine workers of America

COAL mines and mining
American institute of mining and metallurgical engineers, Coal division, annual meeting, New York, Feb. 12-15. Coal Age 45:68+ Mr '40
American mining congress, Coal division, 17th annual meeting, Cincinnati, April 29-May 3. Coal Age 45:55-62 Je '40; Min Cong J 26: 22-42 My '40
Coal-mining industry; an international study in planning. J. H. Jones, G. Cartwright and P. H. Guénault. 394p $5.40 Pitman '39
Education, research and operating problems, themes at Lowther institute meeting. Coal Age 45:83-5 Mr '40
Hazleton shaft deepened. R. D. Hall. diags Coal Age 45:37-9 Mr '40
How barodynamics knocks guess out of roof control by using small-scale models of mine strata. P. B. Bucky. il Coal Age 45:40-3 Jl '40
Illinois mining institute 47th annual meeting, Springfield, Nov. 10. Coal Age 44:130, 132-4+ D '39
Illinois mining institute summer meeting, June 7-9. Coal Age 45:82, 86-7 Jl '40
Indiana coal mining institute summer meeting, Evansville, May 18. Coal Age 45:88-91 Jl '40
Indiana coal mining institute winter meeting, Terre Haute, Dec. 16. Coal Age 45:74-6, 78+ Ja '40
March of coal mining; ten years of progress. G. B. Southward. Min Cong J 26:48-9 F; 42-3+ Mr '40
Meeting of Coal division, Ohio Valley section, American institute of mining and metallurgical engineers, Charleston, W. Va. May 25. Coal Age 45:78-9+ Jl '40
Mining society of Nova Scotia 53d annual meeting, Sydney and Glace Bay, June 20-21. Coal Age 45:68, 70, 72+ Ag '40
Mixed screenings; mines in transition state. J. J. Rutledge. Explosives Eng 18:155-7 My '40
130 cues to coal-mining profits. Coal Age 45:supp Ap '40
Regulation, safety and mining debated at 27th Mining institute of the 15th bituminous district of Pennsylvania, Nov. 4. Coal Age 44:148+ D '39
Rocky Mountain coal mining institute 38th meeting, Denver, June 6-8. Coal Age 45: 66+ Jl '40
Second grade mine foremen's examination, Pennsylvania, April 3, 1939; questions and answers on drainage, timbering, first aid, costs. Coal Age 45:172 O '40
Student interest in coal mining furthered. N. G. Alford. Min & Met 21:35+ Ja '40
Studies of roof movement in coal mines; Gibson mine of the Hillman coal & coke co. E. R. Maize, E. Thomas and H. P. Greenwald. U S Bur Mines Rep of Invest 3506: 1-9, pl 1-19 '40
Underground transportation of coal; progress report. A. L. Toenges and F. A. Jones. pls U S Bur Mines Rep of Invest 3519:1-62 '40

See also
Coal breakers
Coal handling
Coal miners
Coal mining machinery

Accidents and explosions

Bartley blast probably due to gas ignition of electrical origin, says Mine bureau. Coal Age 45:104+ Ap '40
Black powder shot blamed for explosion at Willow Grove. Coal Age 45:94+ Je '40
Central mine rescue stations. J. J. Forbes and others. il diags plans maps U S Bur Mines Miners' Circ 39:1-55 '39
Coal-mine accidents in the United States, 1937. W. W. Adams, L. E. Geyer and M. G. Parry. U S Bur Mines Bul 430:1-137 '40
Coal-mine explosions and coal- and metal-mine fires in the United States during the fiscal year ended June 30, 1939. D. Harrington and W. J. Fene. U S Bur Mines Information Circ 7092:1-21 '39
Explosibility of semianthracite, low-volatile bituminous-coal, and medium-volatile bituminous-coal dusts. H. P. Greenwald. bibliog U S Bur Mines Rep of Invest 3489:1-11 '40
Fatalities at Indiana coal mines, 1934-38. W. H. Tomlinson. U S Bur Mines Information Circ 7103:1-14 '40
Fatalities caused by electric contacts in Alabama coal mines, 1925-39. F. E. Cash. U S Bur Mines Information Circ 7120:1-20 '40
Gas explosion in Pond Creek Pocahontas mine takes a toll of 91 lives. il Coal Age 45:108+ F '40
Inspection system of West Virginia state department of mines shows discipline determines accident rate. N. P. Rhinehart. il Coal Age 45:37-9 S '40
Tests of salt as a substitute for rock dust in the prevention of coal-dust explosions in mines. H. P. Greenwald, H. C. Howarth and I. Hartmann. pl U S Bur Mines Rep of Invest 3529:1-16 '40
What the 1939 statistics show. W. W. Adams. Coal Age 45:80-2 F '40

See also
Coal mines and mining—Fires and fire protection
Coal mines and mining—Safety measures

Blasting

Cushioned blasting; orienting studies. A. R. T. Denues. diags U S Bur Mines Rep of Invest 3510:1-25 bibliog(90 titles, p21-5) '40
Face preparation at northern West Virginia mechanical mines. il diags Coal Age 44:68-76 D '39

COAL mines and mining—Blasting—*Continued*
Face preparation; southern Illinois deep mines. il diags Coal Age 45:88-96 O '40
Factors influencing blasting. J. L. Romig. Min Cong J 26:30-1 Ja '40; Abstract. Coal Age 44:134+ D '39
Floating shot as applied to the use of permissible explosives in blasting down coal. J. M. Godwin. diags Min Cong J 26:20-2 Ag '40
Powder cost cut by shooting revisions at Talleydale. I. A. Given. il diags Coal Age 45:79-81 Je '40
Shotfirers should never relax efforts to improve safety practice; abstract. K. M. Ed. Coal Age 45:72+ Ag '40
Stray electrical currents create serious blasting hazards when grounding of equipment is inadequate. P. C. Ziemke. il Coal Age 45:46-8 N '40

See also
Coal mines and mining—Explosives

Bootlegging

See Coal mines and mining—Pennsylvania

Costs

Daily cost statements for mechanized mining. G. B. Southward. Min Cong J 26:28-9 Je '40
Determining cost factors affecting mechanical mining. C. V. Beck. il Min Cong J 26:23-5 Je '40
March of coal mining; engineering studies and cost analyses. G. B. Southward. Min Cong J 26:42-3+ Mr '40
March of coal mining; trends in power costs. G. B. Southward. Min Cong J 26:60-1 O '40
1937 bituminous production-cost breakdown by regions and weighted average bituminous production costs (1936 adjusted) by coal-division districts; charts. Coal Age 45:supp Ap '40

Electric equipment

Borehole cable suspended from large sheave; Cannelton coal & coke co. J. F. Dangerfield. il Coal Age 45:40-1 N '40
Centralised control of a coal-washing plant. il Engineering 149:250-1 Mr 8 '40; Elec R (Lond) 126:422 Ap 12 '40; Mech Handling 27:71-2 Mr '40
Chief mine electricians' examination, Pennsylvania, 1939. Coal Age 45:61 N '40
Coal uses more power in 1939. il Coal Age 45:76-9 F '40
Conveyor-control system; Fifth vein coal co. il plan Coal Age 45:80-2 Ap '40
Electricity and coal mining; abstracts. D. M. Rait. Electrician 124:223 Mr 22 '40; Elec R (Lond) 126:341 Mr 22 '40
Electricity and mining; reopening of closed mines means further developments. Electrician 124:433 Je 21 '40
Electricity in mines; report of H.M. electrical inspector of mines for the year 1938. J. A. B. Horsley. Engineering 148:532 N 10 '39
Electrification at northern West Virginia mechanical mines. il Coal Age 44:93-100 D '39
Electrified colliery; South Wales coallite co. il Elec R (Lond) 125:695-8 D 1 '39
Fundamentals of selection and correct application of electrical equipment for coal mines. F. W. Richart. il Coal Age 45:49-51 Jl '40
How to select carbon brushes to withstand shocks encountered in coal-mine locomotive service. C. W. Lange. il Coal Age 45:53-4 N '40
List of permissible mine equipment approved to January 1, 1940. L. C. Ilsley. U S Bur Mines Information Circ 7110:1-27 '40
Mechanical equipment used in coal-mining in Britain; tabulation. Economist 138:349 F 24 '40
Periodic testing of rail-bond return circuits unmasks bad joints. H. P. Chandler. il diag Coal Age 45:51-3 S '40
Permissible electrically operated pumps. L. C. Ilsley, E. J. Gleim and H. B. Brunot. U S Bur Mines Rep of Invest 3497:1-28, pl 1-5 '40
Power and electrification, deep mines in southern Illinois. il diag Coal Age 45:115-23 O '40
Power for mechanical mining service and control. il Coal Age 45:72-5 Je '40
Selection and care of storage batteries for mine haulage; abstract. W. H. Burkey. Coal Age 45:110 F '40
Spool insulator eliminates danger of flashovers. diag Coal Age 45:62 Jl '40
Standardization of trolley wire shapes. A. L. Johnston. diags Min Cong J 26:50-1 My '40
Synchronous-motor fan drive is new package unit. il Coal Age 45:87-8 Ap '40
Tecumseh electrification provides flexibility and safety. F. B. Janeway and W. D. Drummond. il diag Min Cong J 26:52-7 S '40
Up-to-date colliery; electrical equipment at Calverton. il Elec R (Lond) 126:539-40 My 17 '40

See also
Coal mines and mining—Power

Equipment

Aerial ropeways. Mech Handling 27:21-2 Ja '40
Blocton 9 reopened. J. H. Edwards. il Coal Age 45:47-50 My '40
Can small operations modernize as profitably as big ones? Yes, answers Lone Pine truck mine, in Utah. il diag plan Coal Age 45:41-4 Ag '40
Coal preparation at Glass Houghton and Castleford collieries. il Mech Handling 27:45-8 F '40
Coal screening and washing at Holditch colliery. flow sheet diag plans Mech Handling 26:329-32 N '39
Colorado conveyor mine produces 7 to 10 tons per man-shift in thin seam. I. A. Given. il diags Coal Age 45:31-5 Ag '40
Converting Utah coal into custom products at Kingmine. J. Cassano and G. A. Farnsworth. il Min Cong J 26:10-14+ Ag '40
Conveying in thick seams; Huwood conveyor. il Mech Handling 27:91-2 Ap '40
Conveyors and duckbills speed Eagle-mine development. T. E. Jenkins. il diags Coal Age 45:33-6 Mr '40
Dual button-conveyor drive; Red Jacket Coal's Keen Mountain mine. J. H. Edwards and G. H. Riblett. il diags Coal Age 45:45-8 Ja '40
Dust collection underground. diags Mech Handling 27:219-20 S '40
Exposition, Coal division, American mining congress. il Min Cong J 26:51-8 Ap '40
Fairmont coal field. il plans Coal Age 44:51-113 D '39
Kentucky truck bank grows to 460-ton electrified mine in four years of mechanical development. J. H. Edwards. il Coal Age 45:49-52 N '40
Making equipment-maintenance pay dividends. C. C. Ballard and K. F. Humphries. il Min Cong J 26:30-4 Ap '40
Mechanical cleaning plus air scrubbing and centrifuging; Ayrdale plant. I. A. Given. il diags Coal Age 45:40-3 Mr '40
Mechanization sales, loaders and conveyors, 1939. T. Fraser and others. Coal Age 45:63-5 F '40
Meco face belt conveyors. il diags Mech Handling 27:186-8 Ag '40
Mine-track sled 3½ in. high aids conveyor mining. E. E. Evans. il Coal Age 45:67-8 S '40
Miners' exhibit at Cincinnati meeting. il diags Coal Age 45:83-4+ Je '40
Modernization program at Puritan mine in West Virginia. J. H. Edwards. il Coal Age 45:59-61 S '40
Motor ramp obviates much excavation in rebuilding bottom; handling and dumping cars at mine of Island Creek coal co. il plan Coal Age 45:64+ Mr '40
National exposition of coal-mining equipment, Cincinnati, April 29-May 3. il Coal Age 45:63-81 Je '40

COAL mines and mining—Equipment—*Cont.*
New conveyor-pan design smooths flight travel. F. F. MacWilliams. diag Coal Age 45:64+ N '40
North Dakota plant carbonizes lignite at mine mouth and briquets resultant char for shipment. R. D. Hall. il Coal Age 45:47-8 Ag '40
Pneumatic stowing in collieries on the increase. A. M. Hoffmann. il diags Comp Air M 44:6021-2 N '39
Roof drill operation aided by hydraulic jack and arm. R. Andrews. diags Coal Age 45:63 N '40
Rubber-tired haulage, 1939. il Coal Age 45: 60-2 F '40
Rubber-tired haulage supplements loading machines at new Paradise mine. il plan Coal Age 45:48-51 Mr '40
Scooters in thin coal produce 9 tons per man-shift at Gauley Mountain mine. J. H. Edwards. il diags Coal Age 45:47-50 S '40
Shuttle haulage for mechanical loading; review of developments. H. B. Husband. il Min Cong J 26:34-5 Jl '40
Skip winding for collieries. G. W. Davidson. il Mech Handling 27:67-70 Mr '40
Skip winding; patent specifications. diags Mech Handling 27:217-18 S '40
Southern Illinois mines. il diags plans Coal Age 45:74-136+ O '40
Substantial progress, 1939. il Coal Age 45: 54-5 F '40
Tub arrester at Bogworth colliery. diags Mech Handling 27:92-3 Ap '40
2,800 cars in 7 hours delivered with speed and safety by the New Orient transportation system; with cost data. B. K. Wentworth and A. G. Shaffer. il diag Coal Age 45:35-8 Ja '40
Two 20-ton gunboats deliver all coal mined at Packer no. 4 to belt feeding Weston breaker, Shenandoah. il plan Coal Age 45: 44-6 Ag '40
Use of steel timbering in Ellsworth mines. T. R. Johns. il Min Cong J 26:15-17 Mr '40
Washing and dedusting included in preparation at Crescent coal co's. new Paradise mine. il Coal Age 45:51-3 Mr '40
Weighing and recording mine output. G. C. Worthley. il Min Cong J 26:25 Mr '40
What's new in coal-mining equipment. Published in monthly numbers of Coal age

See also
Coal cutters
Coal loading machines
Coal mining machinery

Explosives

Phenomena in the ignition of firedamp by explosives; particles from the detonation. S. L. Gerhard and W. J. Huff. diag pls U S Bur Mines Tech Pa 603:1-17 '40
Twenty years' survey of the use of sheathed explosives in Belgium. A. Breyre. 6 pls U S Bur Mines Rep of Invest 3530:1-10 '40

Fires and fire protection

Annual report of the Explosives division, fiscal year 1939. W. J. Huff. pls U S Bur Mines Rep of Invest 3490:17-21 '40
Diesel locomotives in gassy mine workings of Belgium. A. Breyre and J. Fripiat. pls U S Bur Mines Rep of Invest 3527:1-17 '40
Fire and explosion hazards and control; abstract. C. A. Herbert and A. U. Miller. Coal Age 45:102 Je '40
Mine foremen's examination, Iowa, June 11-12, 1940; questions and answers on mine gases and sealing of mine fires. Coal Age 45:170+ O '40
Phenomena observed during the prolonged oxidation of anthracite. G. S. Scott and G. W. Jones. U S Bur Mines Rep of Invest 3504:1-8 '40
Some information on extinguishing an anthracite refuse-bank fire near Mahanoy City, Pa. R. D. Leitch. pl plan U S Bur Mines Information Circ 7104:1-16 '40

See also
Coal mines and mining—Explosives

Gas generation

Underground gasification of coal in Russia. I. Pavlov. diag Gas Age 84:15-16+ D 7 '39

Lighting

See Mine lighting

Longwall system

Longwall without packwalls; abstract. L. I. Cothern. Coal Age 45:68+ Mr '40
Maintenance of roads in longwall mining; abstract. H. C. M. Gordon. diags Coal Age 45:70+ Ag '40

Management

Coal company purchasing. J. M. Knowles. il Min Cong J 26:17-22 Je '40
Coal-mining industry; an international study in planning. J. H. Jones, G. Cartwright and P. H. Guénault. 394p $5 Pitman '39
Decision! desirable trait in mine foremen. J. J. Rutledge. il Explosives Eng 18:337-8 N '40
Equipment maintenance; abstracts of papers, American mining congress, Coal division. Min Cong J 26:30-2 My '40
How management and its policies look to the men who must actually mine and load the coal. G. M. Hellein. il Coal Age 45:40-1 S '40
Machine maintenance; practices, procedure and records. E. Prudent. il Min Cong J 25:10-14+ N '39
Maintenance and supplies at northern West Virginia mechanical mines. il Coal Age 44: 100-6 D '39
Management's role in southern Illinois mines. il Coal Age 45:74-5 O '40
March of coal mining; engineering studies and cost analyses. G. B. Southward. Min Cong J 26:42-3+ Mr '40
Mine foreman who has energy. J. J. Rutledge. Explosives Eng 17:342-3 N '39
Mine foreman who knows when he is licked. J. J. Rutledge. il Explosives Eng 18:278-9 S '40
Mine foreman who makes the employes keep in step. J. J. Rutledge. Explosives Eng 18: 29-30 Ja '40
Section foreman's conception of efficiency in mine operation; abstract. H. Robertson. Coal Age 45:76, 78+ Ja '40
Slow mine foreman. J. J. Rutledge. Explosives Eng 17:377-8 D '39
Surroundings affect the mine foreman. J. J. Rutledge. Explosives Eng 18:214-15 Jl '40
Why some mine foremen do not advance. J. J. Rutledge. Explosives Eng 18:252-4 Ag '40

Methods

Air picks, steel arches adopted for safety and economy at West Canadian collieries, Alberta. R. D. Hall. diag plan Coal Age 45: 33-6 Je '40
Anthracite ribs skipped and drawn with aid of 12-in. belts running in troughs; Jermyn-Green coal co. E. Read. il plan Coal Age 45: 52-4 Je '40
Bituminous-coal-mine layouts and operating practices. T. F. Downing, jr. diags Mech Eng 62:127-31 F '40
Breaking down coal at the face with new hydraulic mining process. il diag Min Cong J 26:39-41 Ap '40
British and American mining methods compared. A. F. Belding. Coal Age 45:87-8 Jl '40
Can small operations modernize as profitably as big ones? Yes, answers Lone Pine truck mine, in Utah. il diag plan Coal Age 45: 41-4 Ag '40
Coal mining without explosives; new hydraulic process. Barron's 20:5 Ap 15 '40
Colorado conveyor mine produces 7 to 10 tons per man-shift in thin seam. I. A. Given. il diags Coal Age 45:31-5 Ag '40
Committee on conveyor mining; conveyor plans used in various parts of United States under different seam conditions. plans Min Cong J 25:50-1 N '39

COAL mines and mining—Methods—*Continued*
Conveyor-mining efficiency raised by angle faces in angle rooms. E. A. Smith. diag Coal Age 45:59 Ag '40
Conveyors and duckbills speed Eagle-mine development. T. E. Jenkins. il diags Coal Age 45:33-6 Mr '40
Conveyors in 3-ft. coal; Starr mine. il diags Coal Age 45:44-6 Mr '40
Conveyors win out at Beckley Fire Creek's new Penman mine. J. H. Edwards. il plan Coal Age 45:33-6 N '40
Development of conveyor mining. G. B. Southward. diags Min Cong J 26:64-5 Ap '40
Face preparation; abstracts of papers, American mining congress, Coal division. Min Cong J 26:24-5 My '40; Coal Age 45:57-8 Je '40
Face preparation at northern West Virginia mechanical mines. il diags Coal Age 44:68-76 D '39
Face preparation; southern Illinois deep mines. il diags Coal Age 45:88-96 O '40
Gathering systems for conveyor mining. diags Min Cong J 26:58-9 S '40
Hoist-operated loaders; Cranberry No. 1 mine. J. H. Edwards. il diags Coal Age 45:29-32 My '40
Hydraulic breaking unit supplies coal for two loading machines; New Monarch mine of Consolidated coal co, Herrin, Ill. C. H. Lambur, jr. il plan Coal Age 45:67-70 Ap '40
Hydraulic pressure breaks down coal. Steel 107:69 Ag 26 '40; il Sci Am 163:216 O '40
Loaders and shuttle cars handle coal at Jefferson No. 20. I. A. Given. il diags Coal Age 45:55-8 Ap '40
Loaders in 40-in. coal; Monitor coal & coke co. A. Downing. il Coal Age 45:63-6 Ap '40
Mechanization in Logan county. T. A. Stroup. il map Min Cong J 26:9-12 O '40
Mechanized mining at Republic steel co.'s Crescent no. 2 mine. I. A. Given. il diags Coal Age 45:37-40 Je '40
Mining methods and mechanical loading in northern West Virginia. il diags Coal Age 44:51-67 D '39
Mining methods and mechanical loading; southern Illinois deep mines. il diags plans Coal Age 45:76-88 O '40
Mobile machines at new Borderland mine in Tug River field. il Coal Age 45:33-5 Jl '40
Multiple room conveyor units. plans Min Cong J 26:47 Ja '40
Roof action in pillar recovery with mechanized mining. G. B. Southward. diags Min Cong J 26:60-1 S '40
Scooters in thin coal produce 9 tons per man-shift at Gauley Mountain mine. J. H. Edwards. il diags Coal Age 45:47-50 S '40
Service haulage tracks. il plans Min Cong J 26:52-3 F '40
Sliping with pickhammers; entering mine by level rock tunnel at Michel colliery. H. A. White and R. D. Hall. il diags map Coal Age 45:42-6 S '40
Steel roof supports for mechanical loading in western Pennsylvania. G. B. Southward. il diags Min Cong J 25:18-20 D '39
Sub-bituminous mine cuts, shears, loads and hauls by mechanical means; Bair-Collins co. il map Coal Age 45:53-5 S '40
Successful pillar recovery with mobile loaders; abstract. J. M. Connor. Min Cong J 26:33 My '40

See also
Coal mines and mining—Stripping operations

Power

Coal uses more power in 1939. il Coal Age 45:76-9 F '40
Continuous face power assured by load distributors on motor generator sets at Union colliery co. operation. F. W. Richart. il plan Coal Age 45:47-8 Mr '40
Density of intensive mining; abstract. J. V. Spence. Elec R (Lond) 126:341-2 Mr 22 '40
Electrical power in the anthracite industry. W. H. Lesser. il Min Cong J 26:12-16 Ja '40
March of coal mining; trends in power costs. G. B. Southward. Min Cong J 26:60-1 O '40
Mercury-arc rectifiers in the coal-mining industry. D. E. Renshaw. Elec Eng 59:Trans 242-4; Discussion. Trans 244 Ap '40
Modernization program at Puritan mine in West Virginia. J. H. Edwards. il Coal Age 45:59-61 S '40
Power and electrification; deep mines in southern Illinois. il diag Coal Age 45:115-23 O '40
Power and electrification, southern Illinois strip mines. il diags Coal Age 45:124-6 O '40
Power lines for mechanical loading. G. B. Southward. diag Min Cong J 26:38-9 Ag '40
Surface and underground substations. F. L. Stone. Min Cong J 26:44 Mr '40
Tecumseh electrification provides flexibility and safety. F. B. Janeway and W. D. Drummond. il diag Min Cong J 26:52-7 S '40
Underground distribution of power; abstract. K. L. Konnerth. Min Cong J 26:26-7 My '40
When to move a substation or add a new one. F. P. Brightman. il Min Cong J 26: 45-6 Mr '40

Records

Machine maintenance; practices, procedure and records. E. Prudent. il Min Cong J 25:13-14 N '39
Method of keeping detailed cost records of overburden drilling and shooting, preparation and haulage; abstract. C. W. Woosley. Min Cong J 26:31-2 My '40
Methods of keeping detailed cost records on stripping and coal loading shovels; abstract. W. W. Youngblood. Min Cong J 26:31 My '40

Rock dusting

Mine safety board decision 32 (superseding Mine safety board decision 5); prevention of coal-dust explosions by rock dusting. U S Bur Mines Information Circ 7109:1-3 '40

Safety measures

Air picks, steel arches adopted for safety and economy at West Canadian collieries, Alberta. R. D. Hall. diag plan Coal Age 45:33-6 Je '40
British mine practices. R. D. Hall. il Coal Age 45:54-5 Mr '40
Cars for transporting explosives. C. W. Owings. diags 6 pls U S Bur Mines Information Circ 7115:1-6 '40
Coal dust regulations. Mech Handling 27:19-20 Ja '40
Coal mining institute of America 53d annual meeting, Pittsburgh, Dec. 14-15. Coal Age 45:82-4, 86+ Ja '40
Cooling mine air during summer months to prevent roof falls. C. A. Herbert. diags U S Bur Mines Information Circ 7098:1-14 '40
Experiments on strength of small pillars of coal in the Pittsburgh bed. H. P. Greenwald, H. C. Howarth and I. Hartmann. il diags plan U S Bur Mines Tech Pa 605:1-22 '39
Gas detectors in mines. T. R. Barnard. diag Elec R (Lond) 127:49 Jl 19 '40
Getting all the fan's air to working face without leakage; air and water problems closely related. diags plans Coal Age 45:51, 54-5 Ag '40
Health and safety recommendations of New South Wales coal commission. Monthly Labor R 50:910-11 Ap '40
How management and its policies look to the men who must actually mine and load the coal. G. M. Hellein. il Coal Age 45: 40-1 S '40
How water breaks in Wabash River valley operations are checked and sealed off at Saxton mine. il diag Coal Age 45:49-50 Ag '40
Materials for safe operation, ventilating aids. il Coal Age 45:77-8 Je '40

COAL mines and mining—Safety measures—*Continued*
Mining with machines may substitute new hazards for old ones. L. E. Young. il Nat Safety N 42:24-5+ S '40
New slants on miners' safety and health stir interest at National safety congress. Coal Age 45:72+ N '40
Novel safety signal for coal mines. Comp Air M 44:6024 N '39
Return of air to mine should be prevented by providing entrances and exits remote from one another. diags Coal Age 45:46-9 Je '40
Roof, face and rib testing if closely studied will reveal hazards with more certainty. J. E. Jones. diags Coal Age 45:62-4 S; 166+ O; 70 D '40
Safety acceptance by means of Safety key men's organization; Hudson coal co. C. A. Peterson. Coal Age 45:60-3 Ap '40
Safety; American mining congress, Coal division; abstracts of papers. Min Cong J 26: 36-7 My '40; Coal Age 45:62 Je '40
Safety gained in 1939. Coal Age 45:80-5 F '40
Safety in coal mining in 1939. G. MacVean. Min & Met 21:29-30 Ja '40
Safety-mindedness is essential characteristic in successful foreman; abstract. H. C. Knox. Coal Age 45:88 Jl '40
Safety work at mines of Northwestern mining & exchange co. C. H. Maize. il Min Cong J 26:12-14 Mr '40
Second grade mine foremen's examination, Pennsylvania, April 3, 1939; questions and answers. Coal Age 45:64-5 S '40
Sentinels of safety trophies presented. il Explosives Eng 18:297-307 O '40
Shaft-bottom fans still hold replacement advantages; answers to objections. R. Mancha. il diags Coal Age 45:51-3 My '40
Simple as rule of road; shaft signals on mine hoist; with wiring diagrams. E. B. Wagner. il Coal Age 45:40-3 My '40
Skid guards on shortwalls prevent leg accidents. J. Lyons. il Coal Age 45:153 O '40
Some information on timbering bituminous-coal mines. J. J. Forbes and C. W. Owings. il diags pl U S Bur Mines Miners' Circ 40: 1-37 '39
Tentative safety rules. Min Cong J 26:66-7 Ap; 36-7 Ag; 58-9 O '40
They know the answers; safety problems in bituminous coal mines. H. S. Clark. il Nat Safety N 40:12-13+ D '39
Under the surface; safety practices of H. C. Frick coal company. il Safety Eng 80:19-21 S '40
Use of wetting agents for allaying coal dust in mines. I. Hartmann and H. P. Greenwald. bibliog U S Bur Mines Information Circ 7131:1-12 '40
Ventilation at northern West Virginia mechanical mines. il Coal Age 44:107-9 D '39
What safety inspectors at anthracite mines should look for during their visits. C. A. Peterson. Coal Age 45:58-9 N '40
Work of the Bureau of mines safety cars in the Pennsylvania anthracite region from 1934 to 1939. J. J. Forbes and L. L. Naus. bibliog pl map U S Bur Mines Information Circ 7132:1-16 '40

See also
Coal mines and mining—Explosives
Coal mines and mining—Rock dusting

Statistics
Labor and production in anthracite mines, 1934 to 1938. Monthly Labor R 49:1405 D '39
Tons per man-shift by states, 1937-1939; tabulation. Coal Age 45:supp Ap '40
U.S. bituminous production, 1935-1939; by states, 1938; charts. Coal Age 45:supp Ap '40

Stripping operations
Bituminous strippers, 1939. il Coal Age 45: 68-9 F '40
Bituminous stripping, 1937-1938; chart. Coal Age 45:supp Ap '40
Hydraulicking found cheapest aid to stripper in deep overburden spots at Bobolink mine. I. A. Given. il Coal Age 45:41-3 N '40
Indiana strippers; turning worked-out areas into forests and recreation centers. V. Sappenfield. il Coal Age 45:36-8 Ag '40
Open-pit mining methods in 1939. K. R. Bixby. il Min & Met 21:28-9 Ja '40
Power and electrification, southern Illinois strip mines. il diags Coal Age 45:124-6 O '40
Recover 3-ft. seam with 23-yd. shovel at Clemens 22. il Coal Age 45:49-50 Ja '40
Round table stripping session; American mining congress, Coal division; abstracts of papers. Min Cong J 26:34-5 My '40
Shovel and dragline uncover no. 6 seam at Millstadt. il Coal Age 45:47-8 Jl '40
Strip-pit pump requirements for efficient dewatering. F. W. Richart. il Coal Age 45: 87 Je '40
Stripping methods, southern Illinois field. il diags Coal Age 45:108-12 O '40
Tecumseh electrification provides flexibility and safety. F. B. Janeway and W. D. Drummond. il diag Min Cong J 26:52-7 S '40
Transportation, southern Illinois strip mines. il Coal Age 45:112-15 O '40

Study and teaching
See Mining schools and education

Waste
Darkening light-color soils with coal-mine waste. S. J. Broderick. pl U S Bur Mines Rep of Invest 3516:1-6 '40
Mine slate washed in Isabella plant addition to reclaim coal content of 30 per cent. I. A. Given. flow sheet il Coal Age 45:71-3 Ap '40
Pyrite recovery from coal mine refuse; abstract. K. A. Spencer. Min Cong J 26:28 My '40
Seam impurities; problems of removal and reclaiming. G. B. Southward. Min Cong J 26: 48-9 My '40
Some information on extinguishing an anthracite refuse-bank fire near Mahanoy City, Pa. R. D. Leitch. pl plan U S Bur Mines Information Circ 7104:1-16 '40

Waste disposal
Aerial ropeways. Mech Handling 27:22 Ja '40
National legislation affecting coal mining. J. D. Conover. Min Cong J 26:19-20 My '40
New hoisting shaft cuts cost of disposing of mine rock and improves Vesta ventilation efficiency. I. A. Given. il diags Coal Age 45:58-61 Ja '40
Refuse-disposal methods; abstract. A. K. Hert. Coal Age 45:74 Ja '40

Alberta
Air picks, steel arches adopted for safety and economy at West Canadian collieries. R. D. Hall. diag plan Coal Age 45:33-6 Je '40

Belgium
Twenty years' survey of the use of sheathed explosives in Belgium. A. Breyre. 6 pls U S Bur Mines Rep of Invest 3530:1-10 '40

British Columbia
Ship Tory brings first consignment of coal mining machinery to Vancouver Island, 1851; historical note. il(p4) Can Min J 61:38 Ja '40

Canada
Brief history of Canadian mining. W. H. Losee. Can Min J 60:664-6 N '39

Chile
Coal cleaning plant in Chile. diags Mech Handling 27:111-12 My '40

Europe
Panorama de la houillère européenne en août 1939. C. Berthelot. Chimie & Ind 42:741-7 O '39

Great Britain
British and American mining methods compared. A. F. Belding. Coal Age 45:37-8 Jl '40

COAL mines and mining—Great Britain—*Cont.*
British mine practices. R. D. Hall. il Coal Age 45:54-5 Mr '40
Coal-mining industry; annual reports of the secretary for mines and the chief inspector of mines. Engineering 149:355-6 Mr 8 '40

See also
Coal miners—Great Britain
Coal trade—Great Britain

Illinois

Consolidated No. 7 dismantled after picturesque career. F. W. Richart. Coal Age 45:82 S '40
Southern Illinois mines. il diags plans Coal Age 45:74-136+ O '40

Indiana

Fatalities at Indiana coal mines, 1934-38. W. H. Tomlinson. U S Bur Mines Information Circ 7103:1-14 '40
Indiana strippers; turning worked-out areas into forests and recreation centers. V. Sappenfield. il Coal Age 45:36-8 Ag '40

North Dakota

Lignite progresses, future promising. W. B. Pratt. il Min Cong J 26:30-2 S '40

Pennsylvania

Bootleg coal remedy? additional tonnage quotas for operators who re-employ bona fide miners. Business Week p26 S 14 '40
Morrisdale coal mining company. il Explosives Eng 18:135-7 My '40
Pennsylvania anthracite production, 1935-1939; chart. Coal Age 45:supp Ap '40
Recurring anthracite problem not yet solved by output allocation scheme. J. M. Meighan. Coal Age 45:71-2 N '40
Robbing mine supports may have caused Shenandoah subsidence. E. J. Cleary. il plans Eng N 124:358-60 Mr 14 '40
Steel roof supports for mechanical loading in western Pennsylvania. G. B. Southward. il diags Min Cong J 25:18-20 D '39
Tackle bootleg coal. il Business Week p25-6 Mr 23 '40

Russia

Underground gasification of coal in Russia. I. Pavlov. diag Gas Age 84:15-16+ D 7 '39

Saskatchewan

Saskatchewan mine; hoisting, handling, crushing methods, etc. R. D. Hall. il Coal Age 45:39-40 Ja '40

United States

Anthracite in 1939. W. H. Lesser. Min & Met 21:30-1 Ja '40
Anthracite industry, 1939. il Coal Age 45:52-3 F '40
Bituminous coal industry. Power Pl Eng 44: 134+ O '40
Mechanization, employment, and output per man in bituminous-coal mining. W. E. Hotchkiss and others. 2v 436p Work projects administration, Washington, D.C. '39
Mechanization man-power and output measured by federal agencies. Coal Age 45: 51 Ja '40
Monopolistic expectations and shifting control in the anthracite industry. W. R. Pabst, jr. bibliog R Econ Statis 22:45-52 F '40
National legislation affecting coal mining. J. D. Conover. il Min Cong J 26:16-21+ My '40
Production at highest level since 1929, further mechanization and research notable. C. A. Gibbons. il Min & Met 21:27 Ja '40

See also
Coal miners—United States
Coal trade—United States
also American institute of mining and metallurgical engineers—Coal division

Wales

Electrified colliery; South Wales coalite co. il Elec R (Lond) 125:695-8 D 1 '39

West Virginia

Fairmont coal field, bibliog il diags maps Coal Age 44:48-115 D '39
Hoist-operated loaders; Cranberry No. 1 mine. J. H. Edwards. il diags Coal Age 45: 29-32 My '40
Inspection system of State department of mines shows discipline determines accident rate. N. P. Rhinehart. il Coal Age 45: 37-9 S '40
Mechanization in Logan county. T. A. Stroup. il map Min Cong J 26:9-12 O '40
West Virginia coal mining institute summer meeting, Bluefield, June 14-15. Coal Age 45:92-6 Jl '40

COAL mining institute of America
Annual meeting, 53d, Pittsburgh, Dec. 14-15. Coal Age 45:82-4, 86+ Ja '40

COAL mining machinery
Bituminous mechanization, 1939. il Coal Age 45:56-60 F '40
Breaking down coal at the face with new hydraulic mining process. il diag Min Cong J 26:39-41 Ap '40
Determining cost factors affecting mechanical mining. C. V. Beck. il Min Cong J 26:23-5 Je '40
Development of conveyor mining. G. B. Southward. diags Min Cong J 26:64-5 Ap '40
Equipment maintenance; abstracts of papers, American mining congress, Coal division. Min Cong J 26:30-2 My '40
Hydraulic breaking unit supplies coal for two loading machines; New Monarch mine of Consolidated coal co, Herrin, Ill. C. H. Lambur, jr. il plan Coal Age 45:67-70 Ap '40
March of coal mining; ten years of progress. G. B. Southward. Min Cong J 26:48-9 F '40
Mechanization in Logan county. T. A. Stroup. il map Min Cong J 26:9-12 O '40
Mechanized mining at Republic steel co.'s Crescent no. 2 mine. I. A. Given. il diags Coal Age 45:37-40 Je '40
Mining with machines may substitute new hazards for old ones. L. E. Young. il Nat Safety N 42:24-5+ S '40
Sub-bituminous mine cuts, shears, loads and hauls by mechanical means; Bair-Collins co. il map Coal Age 45:53-5 S '40

See also
Coal breakers
Coal cutters
Coal loading machines

Exhibitions

Exposition, Coal division, American mining congress, Cincinnati, April 29-May 3. il Min Cong J 26:51-8 Ap '40; Coal Age 45:63-81 Je '40

Maintenance and repair

Maintenance and supplies, southern Illinois district. il Coal Age 45:127-34 O '40

COAL-oil mixtures. See Fuel, Colloidal

COAL oiling
Conveyors for oil-treated coal; neoprene-covered. il Rubber Age 46:235 Ja '40

COAL preparation
Bituminous preparation, 1939. il Coal Age 45: 69-73 F '40
Coal preparation and treatment utilization developments. il Coal Age 45:70-1 Je '40
Coal preparation at Glass Houghton and Castleford collieries. il Mech Handling 27: 45-8 F '40
Coal preparation at northern West Virginia mechanical mines. il diag Coal Age 44:84-92 D '39
Coal preparation in 1939. C. P. Proctor. Min & Met 21:28 Ja '40
Coal preparation, southern Illinois field. il Coal Age 45:134-6, 141-8 O '40
Coal research and preparation problems feature West Virginia conference. Coal Age 45:80+ N '40
Converting Utah coal into custom products at Kingmine. J. Cassano and G. A. Farnsworth. il Min Cong J 26:10-14+ Ag '40
Fundamentals of modern coal preparation. G. B. Southward. Min Cong J 26:38-9 Jl '40

COAL preparation—*Continued*
Hammond's new breaker. il diag Coal Age 45: 44-6 Jl '40
Mechanical cleaning plus air scrubbing and centrifuging; Ayrdale plant. I. A. Given. il diags Coal Age 45:40-3 Mr '40
Milestones in coal preparation; chronological tabulation. Coal Age 45:74-5 F '40
Modern coal preparation at Pinckneyville. B. H. Schull. il Min Cong J 26:22-4 O '40
New Millstadt preparation plant. H. W. Brentz and I. A. Given. il diags Coal Age 45:54-7 Jl '40
New Utah Fuel plant. C. S. Westerberg and I. A. Given. il diag plan Coal Age 45:41-3 Je; 36-40 Jl '40
Preparation, inspection and utilization of coal; Railway fuel and traveling engineers' association committee report. Ry Mech Eng 113:482-3 N '39
Screenings ash adjusted by re-treating in auxiliary washer at the new Clemens No. 22 preparation plant. il plans Coal Age 45:41-5 Ja '40
Seam impurities; problems of removal and reclaiming. G. B. Southward. Min Cong J 26: 48-9 My '40
Selecting a crusher. W. Gorman. diags Min Cong J 26:68+ Ap '40
Tailored preparation; crushing to 5/16 in. and dedusting everything at Jefferson No. 20. flow sheet il Coal Age 45:44-6 My '40
Washing and dedusting included in preparation at Crescent coal co's. new Paradise mine. il Coal Age 45:51-3 Mr '40

See also
Coal, Pulverized—Preparation
Coal breakers
Coal cleaning
Coal oiling
Coal screening
Coal washing

COAL products
Chemist in the coal bin. C. M. Hackett. il Min Cong J 25:22-4 N '39
Coal by-products; properties of hydrogenated indene-coumarone resins. W. H. Carmody and H. E. Kelly. il Ind & Eng Chem 32:771-5 Je '40
Coal by-products; pseudopolymer and synthetic aromatic oils. W. H. Carmody and H. E. Kelly. Ind & Eng Chem 32:954-7 Jl '40; Same. Gas J (Lond) 231:158, 163 Jl 24 '40
Coal by-products; the hydrogenation of indene-coumarone resins. W. H. Carmody and H. E. Kelly. flow sheet bibliog il diags Ind & Eng Chem 32:684-92 My '40
Gas-works are now war factories. E. L. Burgin. Gas J (Lond) 229:456 F 28 '40
Hydrogenation of high-volatile bituminous coals; proximate analysis and characterization of products. L. L. Hirst and others. bibliog diag Ind & Eng Chem 32:864-71 Je '40
Plastics and coal. N. J. L. Megson and K. W. Pepper. bibliog Chem & Ind 59:247-53 Ap 13 '40
Production of petroleum and coal products, revision; monthly, 1923-June, 1940. Fed Res Bul 26:869, 872-3 Ag '40

See also
Coal distillation
Coal liquefaction
Coal tar
Coke
Gas

COAL pulverizing. See Coal, Pulverized—Preparation

COAL purchasing
Coal purchasing contracts. R. W. Langtry. Power Pl Eng 44:77 Ag '40
Coal requirements for lime. V. J. Azbe. Rock Prod 43:51 My '40
How about low-fusion coal? price difference wiped out extra cost of larger pulverized-coal furnace and produced savings. C. A. Marshall. diag Power 83:736-7 D '39
What the purchaser should know about coal. T. A. Marsh. Blast F & Steel Pl 27:1247, 1250-3 D '39
Why not a coking index? helps solve practical coal-selection problems. C. E. Pritchard. il Power 84:302-3 My '40

COAL research
Annual report of research and technologic work on coal, fiscal year 1939. A. C. Fieldner and R. E. Brewer. bibliog pls U S Bur Mines Information Circ 7105:1-59 '40
Assessment of coking properties of coals. A. Shimomura. bibliog il diag Gas J (Lond) 232:25-6, 31-4 O 2 '40
Atmospheric oxidation of coal at moderate temperatures; rates of the oxidation reaction for representative coking coals. L. D. Schmidt and J. L. Elder. bibliog il diag Ind & Eng Chem 32:249-56 F '40
British coal utilisation research association; scheme of co-operative research. J. G. Bennett. il plan Inst Mech Eng J & Proc 142:42-5 F '40
Chicago and eastern Illinois railway helps old customers find new customers; combustion research department stimulates coal consumption, increases railroad haulage. S. Ware. il Am Business 10:21-2 Ja '40
Coal carbonization; gas pressures within the uncarbonized part of a charge. D. A. Reynolds and G. W. Birge. bibliog il Ind & Eng Chem 32:363-7 Mr '40
Coal research and preparation problems feature West Virginia conference. Coal Age 45:80+ N '40
Conquering clinkers; experiments in burning low-grade coal. Business Week p40 Mr 16 '40
Decade of progress in fuel utilization. R. A. Sherman. il Power Pl Eng 44:77-8 Ja '40
Developments in coal research and technology in 1937 and 1938. A. C. Fieldner. bibliog U S Bur Mines Tech Pa 613:1-95 '40
Hydrogenation and petrography of some low-rank coals from the western United States. A. Eisner and others. 2 pls map U S Bur Mines Rep of Invest 3498:1-21 bibliog(40 titles p19-21) '40
Hydrogenation of high-volatile bituminous coals; proximate analysis and characterization of products. L. L. Hirst and others. bibliog diag Ind & Eng Chem 32:864-71 Je '40
Ignition in beds of solid fuel. M. A. Mayers and H. G. Landau. bibliog Ind & Eng Chem 32:563-8 Ap '40
Improving coal's competitive position through research. C. E. Williams. il Min Cong J 26:35-9 Ap '40
Koppers coal company opens stoker research laboratory; will study stoker coals for house heating. il Heat & Ven 37:59 Mr '40
New research institutions, 1939; research in progress or completed in 1939 or planned for 1940; classified list of projects. il Coal Age 45:87-93 F '40
Phenomena observed during the prolonged oxidation of anthracite. G. S. Scott and G. W. Jones. U S Bur Mines Rep of Invest 3504:1-8 '40
Research in 1939. G. H. Cady. Min & Met 21: 32-3 Ja '40
Space requirement for the combustion of pulverized coal. H. C. Hottel and I. M. Stewart. bibliog Ind & Eng Chem 32:719-30 My '40
X-ray study of carbonization. Gas J (Lond) 231:197-8 Jl 31 '40

COAL sampling
Cut-stream sampler worked from trimming platform. il Coal Age 45:96 F '40
Some contributions of chemistry and chemical engineering to steam generation. G. W. Hewson and R. L. Rees. Inst Chem Eng Trans 17:43-7 '39
Yorkshire, Nottinghamshire and Derbyshire coalfield; analysis of commercial grades of coal. Engineering 148:543 N 10 '39

COAL screening
Coal screening and washing at Holditch colliery. flow sheet diag plans Mech Handling 26:329-32 N '39
Marsden vibrating screen. Engineer 168:599 D 15 '39
Portable screening unit. il Mech Handling 27:183 Ag '40
Screening and washing; patent specifications diags Mech Handling 26:357-8 D '39

COAL screening—*Continued*
Tailored preparation; crushing to 5/16 in. and dedusting everything at Jefferson No. 20. flow sheet il Coal Age 45:44-6 My '40

COAL sizing
Tailored preparation; crushing to 5/16 in. and dedusting everything at Jefferson No. 20. flow sheet il Coal Age 45:44-6 My '40

COAL storage
Coal handling, storage; Dow chemical co. il Steel 106:50+ Ap 1 '40; Same. Gas Age 85:30+ Ap 11 '40; Same. Power 84:289 My '40; Same abr. Heat & Ven 37:46 My '40
Coal storage at pit in wartime; cost of putting coal on prepared stocking ground and reloading into wagons. G. Mullin. diag plan Mech Handling 27:115-16 My '40
Coal storage, it's a science. N. E. Coalwell. il Chem Ind 46:178-80 F '40
Concrete shelf adds to efficiency of coal-storage silo. il diag Concrete 48:5 Je '40
Construction of bins designed for bituminous coal or coke; illustrations. Sheet Metal Worker 31:64, 66, 68 My '40
Remarks on the effect of storage on coal. D. D. Melvin. Gas J (Lond) 230:87-8 Ap 10 '40; Discussion. 230:139-40 Ap 17 '40

COAL strikes
Bituminous coal stoppage, 1939; with text of Appalachian agreement. map Monthly Labor R 49:691-703 S '39

COAL supply
Coal cars cut; no shortage of coal for industry but car supply has been tightened up. Business Week p16 Jl 13 '40

France
L'industrie houillère française. Parent. Soc Ing Civils Mémoires 92:196-217 Mr '39

Germany
La politique allemande du charbon, du fer et de l'énergie électrique. H. Doyen. map Génie Civil 116:325-9 My 18 '40

Great Britain
Coal in war. Economist 138:816-17 My 4 '40

Russia
Fuel supply worrying Russians. Business Week p49 N 18 '39

Sweden
Sweden's coal dilemma. Economist 138:332 F 24 '40

United States
Coal and security. L. Johnson. Min Cong J 26:29-31 Jl '40
Coal for power generation; its availability in the United States, means of production, and cost; hydroelectric and steam plant costs compared. C. Y. Thomas. il map Civil Eng 10:497-500 Ag '40

COAL tar
Cracking tars and distillates from coal. G. Egloff and others. bibliog il diags Ind & Eng Chem 32:39-47 Ja '40
Mischgasgeheizte anwärmvorrichtung der teerkesselwagens einer teeranlage für grossbahnschwellen und zoreseisen. A. Lobeck. il Stahl & Eisen 60:53-4 Ja 18 '40
Protective coating for steel water lines. D. Bronson. Am Water Works Assn J 32: 1385-93 Ag '40
Solvent action of liquid propane on the pentane-soluble fraction of a high-temperature bituminous coal tar. C. S. Kuhn, jr. bibliog diags Ind & Eng Chem Anal ed 12:86-9 F 15 '40
Tentative standard, American water works association; specification for coal-tar enamel protective coatings for steel water pipe of sizes of 4½ inches outside diameter up to but not including 30 inches. Am Water Works Assn J 32:sup7A.6 p 1-28 Ja '40
Tentative standard, American water works association; specification for coal-tar enamel protective coatings for steel water pipe of sizes 30 inches and over. Am Water Works Assn J 32:sup7A.5 p 1-34 Ja '40
Über die ergebnisse der steinkohlenteerforschung der letzten 30 jahre. O. Kruber. bibliog Angew Chemie 53:69-74 F 17 '40

See also
Road tar
Tar distillation

Analysis
Analyse détaillée des produits d'une carbonisation à basse température. A. Gillet and P. Cherstnioff. diags Chimie & Ind 42: 944-53 D '39
Determination of naphthalene in coal tar and its products. W. Kirby. Soc Chem Ind J 59:168-71 Ag '40

Testing
Standard methods for testing tar and its products. 2d ed 434p 21s Standardization of tar products tests committee, London '38

COAL tar colors
Dyeing with coal-tar dyestuffs. C. M. Whittaker and C. C. Wilcock. 3d ed 325p bibliog(p315-16) $5 Van Nostrand '39

See also
Dyes and dyeing

Statistics
United States production and sales of coaltar dyes in 1939; tabulation. Oil Paint & Drug Rep 137:35 Je 17 '40

COAL-tar enamel. See Paint, Protective

COAL tar products
Coal tar began it; vast increase in U. S. organic chemicals industry. C. M. Hackett. il Sci Am 163:117-19 S '40
Hydrogenated coal-tar chemicals. G. R. Lawson. Chem Ind 45:679-81 D '39
Present trend in coal by-products; abstract. F. Denig. Steel 105:75-6 N 20 '39
Progress in intermediates; coal tar products used in many industries. J. M. Weiss. il Chem Ind 46:686-92 Je '40
Über die ergebnisse der steinkohlenteerforschung der letzten 30 jahre. O. Kruber. bibliog Angew Chemie 53:69-74 F 17 '40

See also
Benzene
Benzol (commercial benzene)
Coal distillation
Creosote
Indene
Naphthalene
Phenol
Toluene

Prices
Average monthly quotations in 1939; tabulation. Steel 106:266 Ja 1 '40

Statistics
Coaltar chemicals. Published in weekly numbers of Oil, paint and drug reporter
Coaltar intermediates output: production and sales, 1939. Oil Paint & Drug Rep 138:37-8 Jl 15 '40
Coke by-products, 1939. Oil Paint & Drug Rep 137:43 Je 17 '40
Dyes and other finished coaltar products, production and sales, 1939; tabulation. Oil Paint & Drug Rep 137:33 Je 3 '40

COAL tipples
New steel shanks for old timber piles; coal tipple pier at Pensacola, Fla. C. G. Cappel. il Civil Eng 10:632-3 O '40

COAL trade
Can coal benefit by organized sales promotion based on economy and satisfaction in use? J. F. Scheetz. Coal Age 45:44-5 Je '40
Fairmont coals show minor long-term shifts. Coal Age 44:114-15 D '39
Meeting of Coal division, Ohio Valley section, American institute of mining and metallurgical engineers, Charleston, W. Va. May 25. Coal Age 45:78-9+ Jl '40

Advertising
Coal-burning week; national associations will try it in Muncie. Business Week p45-6 S 7 '40

COAL trade—Advertising—*Continued*
Promotional campaigns in 1939. il Coal Age 45:85-7 F '40
Story of 22 coal men who refused to take the count. A. R. Stock. il Sales Management 47:20-2+ Jl 15 '40

Finance
Coal shares in wartime. Economist 137:292-3 N 25 '39
Status of Glen Alden Coal 4s, 1965. Barron's 20:179 Ap 8 '40

Insurance requirements
Insurance protection for a fuel dealer; check list. Bankers Mo 57:563 O '40

Regulation
Anthracite tries a control plan; operators, union, and commonwealth of Pennsylvania share production supervision. Business Week p18 F 3 '40
Appraisal of the Guffey act and need for its amendment. C. Thompson. Min Cong J 25:25-8 N '39
Bituminous coal act is upheld by United States Supreme court. Comm & Fin Chr 150: 3285-6 My 25 '40
Bituminous coal gets pegged; Coal act of 1937 put into effect. il Power 84:728 N '40
Bituminous minimum prices to take effect Oct. 1; unfair methods of competition which will constitute violations of code defined. Coal Age 45:75-6 S '40
Captive mines refused coal act exemption. Iron Age 145:56 My 30 '40
Coal board recommends minimum bituminous coal prices. Comm & Fin Chr 150:2495-6 Ap 20 '40
Coal division determines discounts for co-operative organizations. Min Cong J 26:66-7 O '40
Constitutionality of Bituminous coal act upheld by Supreme court. Coal Age 45:89 Je '40
Constitutionality of Coal act under fire. Min Cong J 25:54 N '39
King Coal or court fool? R. G. Allen. Min Cong J 26:50-1 F '40
Minimum coal price schedule for western area recommended by Department of interior. Comm & Fin Chr 150:2019 Mr 30 '40
National legislation affecting coal mining. J. D. Conover. Min Cong J 26: 16-18 My '40
Price-fixed coal. Business Week p16 Ap 20 '40
Prices fixed for bituminous coal. Nat City Bank p117-19 O '40
Recurring anthracite problem not yet solved by output allocation scheme. J. M. Meighan. Coal Age 45:71-2 N '40
Soft coal price-fixing due soon. Business Week p17-18 Ap 6 '40
Supreme court rules Coal act constitutional. Min Cong J 26:39 Je '40

Statistics
Anthracite and bituminous coal, 1936-1939. Survey of Cur Business 1940 Sup p116-18 [supplemented in monthly numbers]
Bituminous coal and anthracite production, revision; monthly, 1923-June, 1940. Fed Res Bul 26:878 Ag '40
December anthracite shipments. Comm & Fin Chr 150:349 Ja 20 '40
Die kohlenwirtschaft der welt im jahre 1938. Stahl & Eisen 59:1370-2 D 21 '39
Output and productivity in bituminous-coal mining, 1936-38. Monthly Labor R 49:1086 N '39
Preliminary estimates of production of coal for month of December. Comm & Fin Chr 150:192 Ja 13 '40 [cont monthly]
Weekly coal production. Published in weekly numbers of Commercial & financial chronicle

Canada
Coal statistics for Canada, for the calendar year, 1938. 114p pa 50c Canada. Dominion bur. of statistics, Ottawa '40

Great Britain
Coal companies and the excess profits tax. Economist 138:261-2 F 10 '40
Coal in 1939. Economist 138:sup33 F 17 '40
Coal production and exports. Economist 137: 302 N 25 '39
Coal shares in wartime. Economist 137:292-3 N 25 '39
Colliery earnings. Economist 138:1120; 139:407 Je 29, S 28 '40
Marketing of coal. Economist 138:484 Mr 16 '40
Post-war fuel policy. G. E. Foxwell. Gas J (Lond) 229:28-9 Ja 3 '40
Proposed amalgamations in British coal mining. Monthly Labor R 49:620-1 S '39

Illinois
Coal dealers' crisis; Illinois fuel merchants fighting to recover business lost to gypsy truckers. Business Week p51-2 My 18 '40
Merchandising, southern Illinois tonnage. il Coal Age 45:148-51 O '40

Italy
Italy's coal dilemma. Economist 138:99 Ja 20 '40

St Louis
St Louis coal blues. Business Week p20-1 Ag 31 '40

United States
Anthracite output increases, but prices unfavorable. J. R. Bradley and M. van Siclen. Min Cong J 26:21-3 F '40
Bituminous coal showed wide variation in production levels. H. N. Eavenson. il Min Cong J 26:20-1 F '40
Coal situation and outlook. J. V. Sullivan. il Manuf Rec 109:36+ Ja '40
Domestic sales still open for intensive effort; survey of household fuel users. D. Hartwell. Coal Age 45:78-80 Ap '40
Fuel utilization in 1939. J. E. Tobey. Min & Met 21:31-2 Ja '40
How defense program will affect coal-mining industry. L. Johnson. Coal Age 45:39-40 Ag '40
Manufactured gas and coke afford opportunity for expanding coal production. A. M. Beebee. Min & Met 21:235-9 My '40
Monopolistic expectations and shifting control in the anthracite industry. W. R. Pabst, jr. bibliog R Econ Statis 22:45-52 F '40
Production up; coal drive for share of market. diags Coal Age 45:47-51 F '40
Promotional campaigns in 1939. il Coal Age 45:85-7 F '40

COAL washing
Centralised control of a coal-washing plant. il Engineering 149:250-1 Mr 8 '40; Elec R (Lond) 126:422 Ap 12 '40; Mech Handling 27:71-2 Mr '40
Coal screening and washing at Holditch colliery. flow sheet diag plans Mech Handling 26:329-32 N '39
Coal washing; patent specification. diags Mech Handling 27:138-40 Je '40
Excess ash in coke; effect of reduced ash content on economics of blast furnace operation. J. P. Dovel. Steel 106:70-1 F 19 '40
Flocculation as an aid in the clarification of coal washery water. H. F. Yancey and others. pls U S Bur Mines Rep of Invest 3494:1-13 bibliog(p12-13) '40
Mine slate washed in Isabella plant addition to reclaim coal content of 30 per cent. I. A. Given. flow sheet il Coal Age 45:71-3 Ap '40
Screening and washing; patent specifications. diags Mech Handling 26:357-8 D '39
Screenings ash adjusted by re-treating in auxiliary washer at the new Clemens No. 22 preparation plant. il plans Coal Age 45:41-5 Ja '40

See also
Coal cleaning

COAL waste
See also
Coal mines and mining—Waste
Coal washing

COAL weighing
Coal weighing. diags Power 84:600-1 S '40
Small-plant coal-handling equipment pays; Evenson & Levering co. wool-scouring plant. W. A. Lofft. il Power 84:26-7 Ja '40
Weighing and recording mine output. G. C. Worthley. il Min Cong J 26:25 Mr '40

COALING stations
Dust allaying device for coaling plants. diag Ry Age 108:458 Mr 9 '40

COAST counties gas and electric company
Preferred stock offered. Comm & Fin Chr 151:2039-40 O 5 '40

COAST guard. See United States—Coast guard

COAST patrol
Germany rejects American republics' protest against violation of security zone. Comm & Fin Chr 150:1061 F 17 '40
Great Britain rejects American republics' safety zone. Comm & Fin Chr 150:352-3 Ja 20 '40
State department says no use of force is called for in safety belt provision of Declaration of Panama; Under Secretary of State Welles denies United States will employ force in patrolling neutral zone. Comm & Fin Chr 149:3194 N 18 '39
21 American republics protest to European belligerents on violations of Declaration of Panama. Comm & Fin Chr 149:4097-8 D 30 '39

COASTAL plains
Pleistocene features of the Atlantic coastal plain; review of the literature. R. F. Flint. fold map Am J Sci 238:757-87 bibliog(p785-7) N '40
Status of geological and geophysical investigations on the Atlantic and Gulf coastal plain. L. D. Leet. map Geol Soc Bul 51:873-86 bibliog(p885-6) Je '40

COATES, Charles Edward, 1866-1939
Sketch. por Ind & Eng Chem News ed 18:24 Ja 10 '40

COATING fabrics
Finishing army overcoatings; speed-up of fulling operation. D. Welsh. diags Textile World 90:69-70 S '40
Practical finishing of dress and coating fabrics (cont). G. L. Atkinson. Textile Col 60:821-3; 61:47-50, 244-7, 410-11, 478-81+, 820-3; 62:385-6+ D '38-Ja, Ap, Je-Jl, D '39, Je '40

COATING materials. See Finishing materials

COAXIAL cables. See Radio lines; Telephone cables—Coaxial cables

COBALT
Arc spectrum of cobalt. H. N. Russell, R. B. King and C. E. Moore. bibliog Phys R 58:407-36 S 1 '40
Secondary emission from evaporated nickel and cobalt. D. E. Wooldridge. Phys R 56: 1062-3 N 15 '39
Temperature effects in secondary emission; emission from iron, nickel, cobalt, and molybdenum. D. E. Wooldridge. Phys R 58: 316-21 Ag 15 '40

Analysis

Amperometric titrations; the titration of cobalt with α-nitroso-β-naphthol. I. M. Kolthoff and A. Langer. Am Chem Soc J 62:3172-5 N '40
Colorimetric determination of cobalt with beta-nitroso-alpha-naphthol. J. H. Yoe and C. J. Barton. bibliog Ind & Eng Chem Anal ed 12:405-9 Jl 15 '40
Determination of cobalt in foods. N. D. Sylvester and L. H. Lampitt. bibliog Soc Chem Ind J 59:57-60 Mr '40
Determination of small amounts of cobalt in foods with particular reference to tea; abstract. N. D. Sylvester and L. H. Lampitt. Chem & Ind 58:1121 D 30 '39

COBALT alloys
Cobalt-nickel plating solutions. L. Weisberg. Metal Finishing 38:318-20 Je '40
Recent history of certain cobalt-nickel alloy plating solutions. L. Weisberg. Electrochem Soc Trans 77 (preprint 18):245-51 Ap '40
Vicalloy, a new magnetic alloy. Iron Age 146:51 Ag 1 '40

See also
Stellite

COBALT carbonyl
Preparation of cobalt carbonyl, cobalt nitrosyl carbonyl and cobalt carbonyl hydride by the cyanide method. A. A. Blanchard and P. Gilmont. Am Chem Soc J 62:1192-3 My '40

COBALT compounds
Metal pyridine complex salts; cobaltous and nickelous dipyridine salts of fatty acids. T. L. Davis and A. V. Logan. Am Chem Soc J 62:1276-9 My '40
Optical rotation of aliphatic acid salts of triethylenediamine-cobaltic hydroxide; further evidence for ring structure in aliphatic series. J. P. McReynolds and J. R. Witmeyer. bibliog Am Chem Soc J 62:3148-50 N '40
Racemisation of optically active co-ordination compounds; application of the Arrhenius equation. E. Bushra and C. H. Johnson. diags Chem Soc J p1937-45 D '39
Stereochemistry of complex inorganic compounds; a study of the stereoisomers of the dichloro-diammino-ethylenediamine cobaltic ion. J. C. Bailar, jr. and D. F. Peppard. Am Chem Soc J 62:105-9 Ja '40
Stereochemistry of complex inorganic compounds; the mechanism of the Walden inversion in some reactions leading to the formation of the carbonato-diethylenediamine cobaltic ion. J. C. Bailar, jr. and D. F. Peppard. bibliog Am Chem Soc J 62: 820-3 Ap '40

COBALT disalicylaldehyde
Configuration of some cupric, nickelous and cobaltous complexes by means of magnetic measurements. G. N. Tyson, jr. and S. C. Adams. Am Chem Soc J 62:1228-9 My '40

COBALT nitrosyl carbonyl
Preparation of cobalt carbonyl, cobalt nitrosyl carbonyl and cobalt carbonyl hydride by the cyanide method. A. A. Blanchard and P. Gilmont. Am Chem Soc J 62:1192-3 My '40

COBALT plating
Cobalt-nickel plating solutions. L. Weisberg. Metal Finishing 38:318-20 Je '40
Recent history of certain cobalt-nickel alloy plating solutions. L. Weisberg. Electrochem Soc Trans 77 (preprint 18):245-51 Ap '40

COBALT selenide
Interatomic distances in cobalt diselenide. B. Lewis and N. Elliott. bibliog Am Chem Soc J 62:3180-1 N '40

COBALTICYANIDES
Magnetic susceptibilities of some complex cyanides with transition element cations. J. Richardson and N. Elliott. bibliog diag Am Chem Soc J 62:3182-3 N '40

COBEAN, George G.
George G. Cobean goes with Paper co. Van Reekum (New York) inc. Paper Tr J 111: 40 S 12 '40

COCA-COLA

Advertising

Coca-Cola says it with flowers. C. J. Swan. il Ptr Ink 191:25-6 My 3 '40

COCA-COLA company
Earnings, 1936-39. Comm & Fin Chr 150:3655 Je 8 '40
Millions in nickels. W. E. Kraemer. il Mag of Wall St 65:737-9+ Mr 23 '40
Pause that refreshes; earnings of $29,000,000. Business Week p35-8 Ap 27 '40
Registration of trade marks denied two companies owing to similarity names. Comm & Fin Chr 151:1717 S 21 '40
Statistics of income, capital, stock earnings, etc. 1929-38. Annalist 55:429 Mr 21 '40

COCARBOXYLASE
Biochemistry of brain tissue. R. A. Peters. bibliog Chem & Ind 59:373-8 Je 1 '40

COCKROACHES
Insect life without vitamin A. R. E. Bowers and C. M. McCay. Science 92:291 S 27 '40
Make cockroaches walk the plank. E. Hardy. bibliog il Food Ind 12:47 Jl '40

COCOA
British government's action in purchasing entire West African cocoa crop explained. Comm & Fin Chr 150:1345-6 Mr 2 '40
Implications of British steps to establish control over West African cocoa. B. Ravits. Annalist 55:69+ Ja 18 '40
Listless cocoa. Business Week p50 Ap 6 '40
Meeting the caffein shortage; coffee and cocoa as raw materials. A. L. Davidson. Can Chem & Process Ind 24:493-4 O '40; Same. Oil Paint & Drug Rep 138:5+ N 11 '40
Outstanding feature in cocoa in 1939. I. H. Hirsch. Comm & Fin Chr 150:36 Ja 6 '40
Romance of cocoa and chocolate. G. R. Maybee. Chem & Ind 59:460-1 Je 29 '40; Abstract. Can Chem & Process Ind 24:202 Ap '40
Sweetened cocoa powder soluble in cold milk. Food Ind 12:90 Ja '40

Prices

Cocoa prices 30 per cent higher in 1939. Annalist 55:151-2 Ja 25 '40

Statistics

Cocoa in 1939. Economist 138:sup30 F 17 '40
Cocoa, 1936-1939. Survey of Cur Business 1940 Sup p112 [supplemented in monthly numbers]
Commercial epitome. Published in weekly numbers of Commercial & financial chronicle
Volume of cocoa futures trading on New York cocoa exchange for 1939-40 fiscal year about 10-year average, 1929-39. Comm & Fin Chr 151:2109 O 12 '40

COCONUT fibers
Dyeing and printing coir; stencil printing of coir mats. A. E. Cabell. il diag Textile Col 62:591-5+ S '40

COCONUT oil
Coconut or copra oil, 1936-1939. Survey of Cur Business 1940 Sup p92-3 [supplemented in monthly numbers]

COCONUTS
Philippine Islands coconut products. For Comm W 1:125 O 19 '40

COCOS (island)
Endemic palm on Cocos Island near Panama mistaken for the coconut palm. O. F. Cook. Science 91:140-2 F 9 '40

COD fisheries
Cod fisheries; the history of an international economy. H. A. Innis. 520p $3.50 Yale univ. press '40

COD liver oil
Codliver oil in Norway. A. S. Natvig. Oil Paint & Drug Rep 138:4 S 23 '40
Cod liver oil trade; Canadian supply. Can Chem & Process Ind 24:232 My '40
Ersatz cod-liver oil; abstract. R. W. Rodman. Science 91:sup13 My 10 '40
Outlook for cod liver oil. Can Chem & Process Ind 23:600 D '39
Outlook in strategic chemicals. C. L. Huisking. Chem Ind 47:30 Jl '40
Process may increase output. Oil Paint & Drug Rep 138:5+ Ag 12 '40
Supplies for U.S. curtailed by war in Norway. Oil Paint & Drug Rep 137:3+ Ap 22 '40

CODEINE
Studies on codeine addiction. C. K. Himmelsbach and others. diags U S Pub Health Service, Pub Health Rep Supp 158:1-67 '40

COENZYMES
Coenzyme concentration of tissues. F. Bernheim and A. V. Felsovanyi. Science 91:76 Ja 19 '40
Coenzyme I and riboflavin content of livers of rats fed butter yellow. C. J. Kensler, K. Suguira and C. P. Rhoads. bibliog Science 91:623 Je 28 '40
Possible identity of vitamin H with biotin and coenzyme. R. P. György and others. bibliog Science 91:243-5 Mr 8 '40

COERCIMETERS
Carbon determination; Bureau of mines improves coercimeter. Steel 106:44, 46+ Mr 11 '40

COFFEE
Coffee plant of the General foods corp. at Hoboken, N.J. J. F. Kern, jr. il Heat & Ven 36:18-22 D '39
Coffee roasting by gas. il Gas J (Lond) 229: 24 Ja 3 '40
Emetic substances in coffee and their significance as related to coffee tolerance; abstract. B. Behrens and G. Malorany. Food Ind 12:93-4 Ag '40
General foods corporation; plant at Hoboken, N.J. for Maxwell house coffee, Sanka, and Kaffee Hag. il Factory Management 98: B44-B47+ Ap '40
Meeting the caffein shortage; coffee and cocoa as raw materials. A. L. Davidson. Can Chem & Process Ind 24:493-4 O '40; Same. Oil Paint & Drug Rep 138:5+ N 11 '40
New bag preserves flavor with inert gas; pliofilm lining seals product in carbon dioxide and is impermeable to air and moisture. il Food Ind 12:42-3 Ja '40
Staling vs. rancidity in roasted coffee; antioxygens produced by roasting. L. W. Elder, jr. bibliog il Ind & Eng Chem 32:798-801 Je '40

Prices

Coffee up 25 per cent last year; New York coffee futures, 1939. Annalist 55:152 Ja 25 '40

COFFEE, Substitutes for
Considerations involved in making caffeinized beverages from domestic raw materials; abstract. O. Eichler. Food Ind 12:96 Jl '40

COFFEE brewers
Demonstrations help Silex jump sales 40%. Sales Management 47:63 O 20 '40
Potential revenues from coffee making. P. S. Redford. Elec W 113:2076 Je 29 '40

COFFEE trade
Coffee and sugar markets during 1939. C. A. Mackey. Comm & Fin Chr 150:38-9 Ja 6 '40
Coffee quotas set; third Pan-American coffee conference. Business Week p66-7 N 16 '40
Hills bros.' formula for cracking and holding metropolitan markets. il Sales Management 46:20-2 Je 15 '40
Latin American coffee-producing countries ratify plan of export quotas to United States; third Pan-American coffee conference. Comm & Fin Chr 151:321 Jl 20 '40
News by commodities; foodstuffs. Published in Foreign commerce weekly

Advertising

Brand name promoted by premium; Old Dutch coffee. il Ptr Ink Mo 39:16 D '39
Policy changes that put new life into a depression-shot business; M.J.B. co. P. H. Beuter. il Sales Management 47:56-8 S 15 '40

Directories

Ukers' international tea and coffee buyers' guide. W. H. Ukers, comp. 10th ed 1940-1941 224p pa $2 Tea and coffee trade journal co, 79 Wall st, New York '40

Statistics

Coffee drinking in the United States; relative amounts drunk at different times of day. Dun's R 48:45 F '40
Coffee in 1939. Economist 138:sup30 F 17 '40
Coffee, 1936-1939. Survey of Cur Business 1940 Sup p112 [supplemented in monthly numbers]
Coffee prices and production. Economist 138: 588 Mr 30 '40
Coffee surplus; difficult marketing problems. Economist 139:258-9 Ag 24 '40
Commercial epitome. Published in weekly numbers of Commercial & financial chronicle

COFFEE trade—Statistics—*Continued*
Who, when, where of coffee consumption; pictograph. Sales Management 46:42 Ja 15 '40

Africa, British East
Exports, January-June 1940. For Comm W 1:123 O 19 '40

Brazil
Brazil to establish quota for destruction of 25% of coffee crop. Comm & Fin Chr 150: 3225 My 18 '40
Brazilian coffee planters ask government for action on plan to be indemnified for uprootal of their coffee trees. Comm & Fin Chr 151:766 Ag 10 '40

Netherlands Indies
Exports of coffee. For Comm W 1:220-1 N 2 '40

COFFEE workers
Wages and hours in the Puerto Rican coffee industry. Monthly Labor R 51:446-7 Ag '40

COFFERDAMS
Deer Isle-Sedgwick bridge in Maine. il diags Engineer 168:631-2 D 29 '39
Foundation conditions and treatment at Guntersville dam. V. Gongwer. il diags Am Soc C E Proc 66:431-62 Mr '40
Genissiat dam. il Engineer 168:512, 520 N 24 '39
Launched bracing cuts cofferdams costs; Cooper River dam near Camden, N.J. J. H. Osler, jr. il diags Eng N 125:623-5 N 7 '40
Lowering a 160-ton load. W. H. Mueser. il Eng N 124:151 F 1 '40
New York's latest interborough bridge. N. Deutschman. il diags Eng N 123:707-8 N 23 '39
Substructure for long bridge built in fast time; Jamestown bridge over Narragansett bay. il diag Eng N 124:181-3 F 1 '40
Use of relief pipes to reduce thickness of concrete seal. H. V. McCoy. il diag Civil Eng 10:40-1 Ja '40

See also
Bridges—Foundations and piers

COFFIN foundation
Charles A. Coffin fellowship awards, 1940-41. Gen Elec R 43:180 Ap '40
Washington water power company wins Charles A. Coffin foundation award. Gen Elec R 43:302 Jl '40
Washington water power company wins Coffin award. il Edison Elec Inst Bul 8:271-2 Je '40

COG railway. See Rack railroads

COHESION
Shearing resistance of soil; its measurement and practical significance. W. S. Housel. il diags Am Soc T M Proc 39:1084-99 '39
Some investigations of the shearing resistance of cohesionless and cohesive materials. D. M. Burmister. bibliog diag Am Soc T M Proc 39:1071-83 '39

COILS
Renewed field coils prolong armature rewind life. A. C. Roe. Min Cong J 26:33 Ag '40

See also
Armatures
Electromagnets
Inductance coils
Petersen earth coil
Reactors
Solenoids

Testing
Metrovick tester for detection of short-circuited turns in coils after winding. F. Brailsford. il diag Engineer 169:432-3 My 10 '40

COILS, Pipe
Calculation of coil surface areas for air cooling and dehumidification. J. McElgin and D. C. Wiley. charts Heating-Piping 12: 195-201 Mr '40
Curved flow in conduits of constant cross-section. C. H. Nordell. diags Oil & Gas J 39:117, 119-20, 123-4 My 16 '40
Fin coil; evolution and development. il diags Refrig Eng 38:349-51 D '39
Heating coil selection by the by-pass method. C. O. Mackey and L. T. Wright, jr. Heat & Ven 37:19-21 Ag '40
Pneumatic tools aid tube descaling. il Comp Air M 45:6134 Ap '40
Summer-winter water heating by coil attachments to central gas heating plant; with cost data. G. C. Beck. Am Gas Assn Proc 1939:337-43
Year 'round conditioning system for a store has three-in-one coil. J. M. Aikman. plans Heating-Piping 12:117-18 F '40

COINAGE
Coins of the realm; output of coin from the Royal mint, 1938 and 1939. Economist 139: 74 Jl 20 '40

COINCIDENCE counting
Application of the method of coincidence counting to experiments in nuclear physics. J. V. Dunworth. bibliog R Sci Instr 11:167-80 My '40
Circuit for anticoincidences with Geiger-Müller counters. G. Herzog. diags R Sci Instr 11:84-5 Mr '40

COINS
Burt's United States coin book. A. W. Dellquest. 6th ed rev & enl 75p 50c Blue ribbon books '40
Our American money; a collector's story. J. Coffin. 153p bibliog(p151-3) $1.75 Coward-McCann, 2 W. 45th st, New York '40
Slot machines boost demand for coins; pictograph. Sales Management 47:39 O 20 '40
Small change; fuller use of the farthing as an aid in price control. Economist 138:509-10 Mr 23 '40
Temples of Rome as coin types. D. F. Brown. 52p 9pls pa $1.50 Am. numismatic soc, Broadway at 156th st, New York '40
United States commemorative coins, 1892-1939. S. Mosher. 51p pa 50c Wayte Raymond, 630 5th av, New York '40

COINSURANCE. See Insurance, Fire—Coinsurance

COIR. See Coconut fibers

COKE
Chemistry of sulfur dioxide reduction; kinetics. R. Lepsoe. bibliog il Ind & Eng Chem 32:910-18 Jl '40
Coke for copper blast furnaces; the importance of careful control. A. G. Arend. Chem Age (Lond) 43:11 Jl 6 '40
Comparison of producer fuels. A. A. Mitchell. Gas J (Lond) 229:301-2 F 7 '40
Crystallite growth during carbonization. H. E. Blayden, H. L. Riley and A. Taylor. bibliog Am Chem Soc J 62:180-6 Ja '40
Domestic heating with coke. C. C. Russell. Mech Eng 62:211-12 Mr '40; Same cond. diags Sheet Metal Worker 31:64, 66+ My '40
Ignition in beds of solid fuel. M. A. Mayers and H. G. Landau. bibliog Ind & Eng Chem 32:563-8 Ap '40
Production and utilization of coke. F. M. H. Taylor. 278p 21s W. King, London '39
Smokeless fuel made from Illinois No. 6 coal; Millstadt Solarite plant using Curran-Knowles ovens. I. A. Given. il Coal Age 45:33-5 My '40
Steam-carbon complex. S. Muller and J. W. Cobb. diag Chem Soc J p177-83 F '40; Summary. Gas J (Lond) 230:443 My 29 '40
Utilize coke from cupola drop. R. Leicht. diags Foundry 68:27+ Ag '40
Why not a coking index? helps solve practical coal-selection problems. C. E. Pritchard. il Power 84:302-3 My '40

See also
Coke breeze
Coke ovens
Petroleum coke

Ash content
Excess ash in coke; effect of reduced ash content on economics of blast furnace operation. J. P. Dovel. Steel 106:70-1 F 19 '40
Relationship of ash-fusion temperatures of coal and coke. D. A. Reynolds. bibliog U S Bur Mines Rep of Invest 3505:1-6 '40

COKE—*Continued*

Prices

Beehive coke prices, 1929-1939; tabulation. Steel 106:287 Ja 1 '40
Coke prices. Published in weekly numbers of Iron age
Coke prices, monthly, 1919-1939; tabulation. Iron Age 145:169 Ja 4 '40

Testing

Combustibility of coke in air. R. E. Zane and H. F. Yancey. pl U S Bur Mines Rep of Invest 3499:1-8 '40
Comparative tests of various fuels when burned in a domestic hot-water boiler, 1935 to 1938. C. E. Baltzer and E. S. Malloch. 23p pa 25c Canada. Dept. of mines and resources, Ottawa '40
Physical and chemical properties of cokes made or used in Washington. H. F. Yancey and others. il U S Bur Mines Tech Pa 597:1-44 '39

Transportation

Service life of Cor-Ten steel in hopper cars; tests made in cars with USS Cor-Ten sheets in one end and copper steel or USS Man-Ten steel in the other. il Ry Age 107:847-8 D 2 '39

COKE breeze

Coke breeze and anthracite burned on traveling-grate stokers, supplement blast furnace gas; Bethlehem steel company's Steelton plant. H. K. Miller. Blast F & Steel Pl 28:1002-3 O '40
Economic utilization of unscreened coke breeze; abstract and discussion. S. H. Stokes. Gas J (Lond) 229:639-40 Mr 20 '40
Ten years' development in steam engineering at the Port Kembla steelworks, N.S.W., Australia. H. Escher. diags Iron & Steel Inst J 139:462-7, pl 28-9 no 1 '39; Same, without pls. Blast F & Steel Pl 27:849-50 Ag '39

COKE burning appliances

From food waste to feeding stuffs; a new outlet for gas coke. Gas J (Lond) 230:433 Je 5 '40
Refractories for gas and coke burning appliances; extract from the 30th report of the refractory materials joint committee. L. R. Barrett and A. T. Green. bibliog Gas J (Lond) 228:627, 629-31 D 20 '39

COKE handling

Coal and coke handling at Weston-super-Mare gas works. il Mech Handling 27:116-18 My '40
Coke de-breezing. il Mech Handling 27:183-4 Ag '40
Coke discharge in intermittent verticals; patent. diags Gas J (Lond) 231:542-3 S 25 '40
Coke handling and screening. Mech Handling 27:72-3 Mr '40
Coke handling equipment at blast furnace. H. W. Johnson. plans Mech Handling 27: 174-5 Ag '40
Coke handling plant at Southgate. il Gas J (Lond) 230:442-3 My 29 '40
Electrical equipment of coke oven plant; Stewarts and Lloyds. il Engineer 168:644-5 D 29 '39
Lay-out of coke handling and screening plants. diag Mech Handling 27:159-61, 181-3, 213-15, 237-8, 263-4 Jl-N '40
Ore and coke handling at Staveley coal and iron co. Mech Handling 27:93-4 Ap '40
Stocking and reclaiming of coal and coke; Meco-Moore loader. il diag Mech Handling 27:48-50 F '40

COKE industry

Statistics

Coke and by-products in 1939. Gas Age 86: 28+ S 12 '40
Coke by-products, 1939. Oil Paint & Drug Rep 137:43 Je 17 '40
Coke, 1936-1939. Survey of Cur Business 1940 Sup p118 [supplemented in monthly numbers]
Coke production totals, and byproduct and beehive coke production, revision; monthly, 1923-June, 1940. Fed Res Bul 26:872-3 Ag '40
Gas and coal products. Chem & Met Eng 47: 82-4 F '40

British Columbia

Marketing coke in Vancouver. H. Grace. Gas J (Lond) 231:165-6 Jl 24 '40

Great Britain

Coke-oven development. Engineering 149:486-7 My 10 '40
Co-operative coke sales in the Midlands. A. W. Smith. Gas J (Lond) 230:296 My 8 '40
London and counties coke salesmen's circle; meeting. Gas J (Lond) 229:681-2 Mr 27 '40
Place of coke in utilizing our national fuel resources. W. L. Boon. Gas J (Lond) 229: 141-2 Ja 17 '40
Post-war fuel policy. G. E. Foxwell. Gas J (Lond) 229:28-30 Ja 3 '40
Present coke position and post-war outlook. W. L. Boon. Gas J (Lond) 229:627-8, 631 Mr 20 '40
War and the carbonisation industries. G. E. Foxwell. il Chem Age (Lond) 41:433-5 D 30 '39

India

Bararee coke co., ltd. high-temperature carbonization in by-product ovens. Chem & Ind 59:485-6 Jl 6 '40

United States

Manufactured gas and coke afford opportunity for expanding coal production A. M. Bee-Bee. Min & Met 21:235-9 My '40

COKE manufacture

Assessment of coking properties of coals. A. Shimomura. bibliog il diag Gas J (Lond) 232:25-6, 31-4 O 2 '40
Atmospheric oxidation of coal at moderate temperatures; effect of oxidation on the carbonizing properties of representative coking coals. L. D. Schmidt, J. L. Elder and J. D. Davis. bibliog il Ind & Eng Chem 32:548-55 Ap '40
Atmospheric oxidation of coal at moderate temperatures; rates of the oxidation reaction for representative coking coals. L. D. Schmidt and J. L. Elder. bibliog il diag Ind & Eng Chem 32:249-56 F '40
Carbonization of stock coal; with cost data. J. C. Hogg. Gas J (Lond) 230:440; Discussion. 440-1 My 29 '40
Carbonization under pressure; patent. Gas J (Lond) 231:166+ Jl 24 '40
Carbonization with hydrogen under pressure; patent. diags Gas J (Lond) 230:389 My 22 '40
Carbonizing properties and petrographic composition of Pocahontas no. 3-bed coal from Buckeye No. 3 mine, Wyoming county, W. Va. and of Pocahontas no. 4-bed coal from No. 4 mine, Raleigh county, W. Va. A. C. Fieldner and others. il U S Bur Mines Tech Pa 604:1-65 bibliog(p64-5) '40
Carbonizing properties and petrographic composition of Sewell bed coal from Wyoming mine, Wyoming county, W.Va. and the effect of blending this coal with Alma bed coal. A. C. Fieldner and others. il diags U S Bur Mines Tech Pa 601:1-43 '39
Coal carbonization; gas pressures within the uncarbonized part of a charge. D. A. Reynolds and G. W. Birge. bibliog il Ind & Eng Chem 32:363-7 Mr '40
Coke and by-products manufacture. E. C. Dixon. 176p 6s C. Griffin & co, London '39
Correlation of analysis of coal with the products of carbonization in externally heated retorts. V. F. Parry. U S Bur Mines Rep of Invest 3482:1-37 '39
Influence of carbonising conditions on coke properties; the effect of pressure, temperature, rate of heating and soaking on coke strength. H. E. Blayden, W. Noble and H. L. Riley. diags Iron & Steel Inst J 139:75-91, pl 1; Discussion. 92-8 no 1 '39
Installation de fours à coke chauffés au gaz pauvre de gazogène, aux cokeries de la Seine. C. Berthelot. il diag Génie Civil 116: 129-32 F 24 '40

COKE manufacture—*Continued*
Measurement of pressures developed during the carbonization of coal. C. C. Russell. bibliog diag Am Gas Assn Mo 22:320-3 S '40; Same. Gas J (Lond) 232:424, 427-8 D 4 '40
New Drakes vertical installation. Gas J (Lond) 231:499-500 S 18 '40
Plastic properties of bituminous coking coals; effect of oxidation. R. E. Brewer, C. R. Holmes and J. D. Davis. bibliog Ind & Eng Chem 32:980-4 Jl '40; Same. Gas J (Lond) 231:459-61+ S 11 '40
Plastic properties of bituminous coking coals; effect of petrographic composition. R. E. Brewer, C. R. Holmes and J. D. Davis. bibliog il diag Ind & Eng Chem 32:792-7 Je '40
Processing and carbonization. A. C. Fieldner. il Min & Met 21:33-5 Ja '40
Production of reactive gas coke by alkali activation. H. H. Thomas and P. J. Askey. Gas J (Lond) 230:580-5 Je 12 '40; Excerpt. Chem Age (Lond) 42:335 Je 22 '40; Abstract. Engineering 150:127-8 Ag 16 '40; Discussion. Gas J (Lond) 230:671-2; 231:70+ Je 26, Jl 10 '40
Remarks on the effect of storage on coal. D. D. Melvin. Gas J (Lond) 230:87-8 Ap 10 '40; Discussion. 230:139-40 Ap 17 '40
Smokeless fuel made from Illinois No. 6 coal; Millstadt Solarite plant using Curran-Knowles ovens. I. A. Given. il Coal Age 45:33-5 My '40
Steaming in horizontal retorts. M. Hamshaw. Gas J (Lond) 230:307 My 8 '40
Survey of gas, coke and by-product making properties of American coals. bibliog Am Gas Assn Proc 1939:585-9

See also
Coke-oven gas
Coke ovens
Coke plants
Gas manufacture—By-products

By-products
Dealing with tar and ammoniacal liquor. C. H. E. Collins. Gas J (Lond) 229:632 Mr 20 '40
Gas and coal products. Chem & Met Eng 47: 82-4 F '40
Gewinnung von ammoniumnitrat aus kokereiammoniak. W. Klempt. diags V D I 84: 331-2 My 11 '40
Light oil recovery from coke oven gas. W. Tiddy and M. J. Miller. plans Am Gas J 153:7-10+ S '40
New light oil refining plant of the Wheeling steel corporation. E. Preston and B. J. C. Van Der Hoeven. flow diag il Blast F & Steel Pl 28:455-60 My '40
La récupération du soufre dans les usines de carbonisation de la houille et dans les raffineries de pétrole. C. Berthelot. Génie Civil 116:6-7 Ja 6 '40

See also
Benzol (commercial benzene)
Coke-oven gas
Coke plants, By-product

COKE-oven gas
Carbonization of coal-oil mixtures. C. J. Ramsburg and G. V. McGurl. Am Gas J 153:59-64 N '40
Coke-oven gas found to be source of sulfapyridine. Gas Age 85:42 My 23 '40
Experiences in laying the West Yorkshire gas grid. L. W. Roberts. Gas J (Lond) 230:141-2, 147; Discussion. 147-8 Ap 17 '40
Light oil recovery from coke oven gas. W. Tiddy and M. J. Miller. plans Am Gas J 153:7-10+ S '40
Methane cracking; improved installation in Belgium. il diag Chem Age (Lond) 42:183 Mr 30 '40
Les turbosoufflantes dans les cokeries et usines à gaz. C. Berthelot. diags Génie Civil 116:86-7 F 3 '40
Die umstellung ölgefeuerter schmiedeöfen auf ferngasheizung. W. G. Rathmann. il diags Stahl & Eisen 59:1205-9 N 2 '39

COKE ovens
Coals dangerous to coke ovens. R. A. Mott. Gas J (Lond) 231:194 Jl 31 '40
Coke oven refractories. W. C. Rueckel. diags Am Gas Assn Proc 1939:567-72
Influence of the past upon the coke oven of today. C. Otto. il diags Blast F & Steel Pl 28:53-7, 96-7 Ja '40; Abstract. Steel 105: 75 N 20 '39
Measurement of pressures developed during the carbonization of coal. C. C. Russell. bibliog diag Am Gas Assn Mo 22:320-3 S '40
Smokeless fuel made from Illinois No. 6 coal; Millstadt Solarite plant using Curran-Knowles ovens. I. A. Given. il Coal Age 45:33-5 My '40

See also
Coke manufacture
Coke-oven gas

Charging
Coke oven charge levelling. diag Gas J (Lond) 231:81 Jl 10 '40

COKE plants

Accidents
Coke-oven accidents in the United States during the calendar year 1938. W. W. Adams and V. E. Wrenn. U S Bur Mines Tech Pa 614:1-16 '40

Electric equipment
Coke-oven plant; large motor installation. il Elec R (Lond) 126:153-4 F 9 '40
Electrical equipment of coke oven plant; Stewarts and Lloyds. il Engineer 168:644-5 D 29 '39

Equipment
Coke handling and screening. Mech Handling 27:72-3 Mr '40
Lay-out of coke handling and screening plants. diag Mech Handling 27:159-61, 181-3, 213-15, 237-8, 263-4 Jl-N '40
Smokeless fuel made from Illinois No. 6 coal; Millstadt Solarite plant using Curran-Knowles ovens. I. A. Given. il Coal Age 45:33-5 My '40

See also
Coke handling
Coke ovens

COKE plants, By-product
Bararee coke co., ltd. high-temperature carbonization in by-product ovens. Chem & Ind 59:485-6 Jl 6 '40
Coke-oven development. Engineering 149:486-7 My 10 '40
Influence of the past upon the coke oven of today. C. Otto. il diags Blast F & Steel Pl 28:53-7, 96-7 Ja '40
Installation de fours à coke chauffés au gas pauvre de gazogène, aux cokeries de la Seine. C. Berthelot. il diag Génie Civil 116: 129-32 F 24 '40
Pretoria steel works. Engineer 169:192-3 F 23 '40
Results of some corrosion tests of metals and alloys in the by-product coke industry. O. B. J. Fraser and G. L. Cox. il Am Gas Assn Proc 1939:605-14
Wastes problems of the iron and steel industries; slag, flue dust, spent pickle liquor. W. W. Hodge. flow sheet il Ind & Eng Chem 31:1364-80 bibliog(139 references, p1379-80) N '39

See also
Coke manufacture—By-products

COKE preparation

See also
Coke screening

COKE research
Influence of carbonising conditions on coke properties; the effect of pressure, temperature, rate of heating and soaking on coke strength. H. E. Blayden, W. Noble and H. L. Riley. diags Iron & Steel Inst J 139:75-91, pl 1; Discussion. 92-8 no 1 '39
Midland coke research committee; progress during 1939. Chem & Ind 59:332-3 My 11 '40
Production of reactive gas coke by alkali activation. H. H. Thomas and P. J. Askey. Gas J (Lond) 230:580-5 Je 12 '40; Discussion. 230:671-2 Je 26 '40

COKE research—*Continued*
Some recent investigations of the Northern coke research laboratory; abstract. H. L. Riley. Chem & Ind 59:165-6 Mr 9 '40
X-ray study of carbonization. Gas J (Lond) 231:197-8 Jl 31 '40

COKE screening
Coke handling and screening. Mech Handling 27:72-3 Mr '40
Lay-out of coke handling and screening plants. diag Mech Handling 27:159-61, 181-3, 213-15, 237-8, 263-4 Jl-N '40

COKE storage
Construction of bins designed for bituminous coal or coke; illustrations. Sheet Metal Worker 31:64, 66, 68 My '40

COKER, James L. jr. 1863-
Pioneer producer of pulp and paper from southern pine. H. R. Murdock. por Ind & Eng Chem News ed 18:447-8 My 25 '40

COLA self service company
Preferred stock offered. Comm & Fin Chr 150:1132-3 F 17 '40

COLBY, Alfred E.
Gets Goodrich award. Textile World 90:68 O '40

COLCHICINE
Colchicine and related compounds; some observations on the structure of colchicine. A. Cohen, J. W. Cook and E. M. F. Roe. Chem Soc J p194-7 F '40
Colchicine and related compounds; synthesis of a simple analogue of N-acetylcolchinol methyl ether. J. W. Cook and L. L. Engel. Chem Soc J p198-200 F '40
First colchicine-made flower; tetra marigold. C. F. Greeves-Carpenter. il Sci Am 162: 287-8 My '40
No short-cut horticulture; plant growth chemicals require painstaking care, promise significant results. P. H. Smith. il Sci Am 163:141-2 S '40
Polyploidy in soybean, pea, wheat and rice, induced by colchicine treatment. P. S. Tang and W. S. Loo. Science 91:222 Mr 1 '40
Some results of colchicine injections. E. Higbee. Science 92:80 Jl 26 '40
Super-rabbits; colchicine used to increase number of chromosomes. Science 91:sup5-6 F 9 '40

COLD
Big freeze ravages the South. il Business Week p 17-18 F 3 '40
South counts loss in January freeze. Business Week p16 F 17 '40
See also
Cooling
Temperature—Physiological effect
Temperature, Low

Therapeutic use

Freezing treatment of cancer questioned. Refrig Eng 39:232 Ap '40

COLD (disease)
Air conditioning combats common cold; abstract. A. G. Young. Heating-Piping 12:101 F '40
Catarrh; symptoms, causes and cures. A. Vander. 79p $1.50 Chemical pub. co. '39
Colds love company. R. L. Cecil. il Nat Safety N 42:24-5+ N '40
Cough your head off if you enjoy it or read this book. W. B. Cranston. 119p pa $1.50 W. B. Cranston, 164 W. Ontario st, Chicago '39
Protecting the employee's health. R. C. Heard. Gas Age 86:27 S 26 '40
Trapping the common cold. G. S. Foster. 125p $1.25 Revell '40

COLD light. See Luminescence

COLD storage
Accessory treatments in cold storage preservation of foods; abstract. G. Kaess. Food Ind 12:92 Je '40
Air conditioned apples; control of temperature and humidity with blower coils. F. W. Swan. il diags Refrig Eng 40:78-80+ Ag '40
Cold storage and freezing research; researches with fruit and vegetables at the University of Maryland. A. L. Schrader. bibliog Refrig Eng 40:163 S '40
Cold storage insulating material from forest waste; redwood bark wool. N. C. Jones. Chem & Ind 59:69-70 F 3 '40
Conclusion and summary of detailed progress report no. 2 on the refrigeration of tuna; abstract. H. C. Godsil. Food Ind 12:99 O '40
Concrete walls eliminate condensation in dairy buildings. G. B. Hanson. diags Concrete 48:16+ Ag '40
Ethylene injury to cut flowers in cold storage rooms. D. V. Lumsden and others. bibliog Science 92:243-4 S 13 '40
Modern beef chilling; tenderizing and chill room design, control and operation; Tenderay process. P. B. Christensen. il diags Refrig Eng 39:296-9+ My '40
Modified atmospheres for fruits and vegetables in storage and in transit. C. Brooks. Refrig Eng 40:233-7 bibliog(48 titles, p237) O '40
National cold storage laboratory; United States horticultural station, Beltsville, Md. D. F. Fisher. il Refrig Eng 40:143-4 S '40
Refrigeration aids the Quartermaster corps. J. S. Chambers. Refrig Eng 39:23 Ja '40
Refrigeration in the World war. H. L. Consley. il Refrig Eng 39:15-18 Ja '40
Refrigeration load calculations. S. C. Segal. Refrig Eng 39:1-4 sec 2 Mr; 1-4 sec 2 Ap '40
Refrigeration of lemons and grapefruit. H. M. Hendrickson. diag Refrig Eng 40:1-8 sec 2 O '40
Refrigeration of oranges. H. M. Hendrickson. diags Refrig Eng 40:1-8 sec 2 S '40
Removing excess carbon dioxide from a controlled atmosphere fruit storage. A. Van Doren. il diag Refrig Eng 40:303-4 N '40
Tenderizing of beef. A. W. Ewell. bibliog diag Refrig Eng 39:237-40 Ap '40
See also
Show cases, Refrigerated

COLD storage lockers
America's locker plants a formidable defense. R. Sprague. Refrig Eng 40:81 Ag '40
Below zero safety deposit boxes. V. E. Brink. il Nation's Business 28:23-4+ Mr '40
Cold storage locker plants spread; construction data. il diag plan Am Bld 62:72-3+ Je '40
Construction details for cold storage locker plant of concrete. plan Concrete 48:36 My '40
Gas sales in food storage locker plants; use for lard rendering and meat smoking. J. E. Dare. il plan Gas Age 85:60-2 My 9 '40
Locker plant meats; amount handled, sold, cut and ground determines costs. A. A. Dowell. Refrig Eng 39:235 Ap '40
Locker plants unite; form the National frozen food locker association. Business Week p24 D 16 '39
New Zero-pak locker system. Refrig Eng 39: 54+ Ja '40
Preparation and freezing of certain vegetables in lockers. C. DuBois and D. K. Tressler. Refrig Eng 39:107-8 F '40
Refrigerated locker plant manual. W. E. Guest. 143p bibliog(p138-9) $3 Nickerson & Collins co, Chicago '39
Refrigerated locker plants in the United States as of July 1, 1939. W. M. O'Keefe. Refrig Eng 39:236 Ap '40
Refrigeration, meat and the soil in the South; smaller locker plants advocated. J. P. Ferris. Refrig Eng 40:180+ S '40
They're still freezing; house-to-house delivery and locker plants for quick-frozen foods. il Ptr Ink Mo 41:5-8+ S '40
Wisconsin regulates locker plants. Refrig Eng 40:159 S '40

Costs

Watch locker costs, say college accountants; review of Minnesota agricultural college bulletin 345, Cold storage locker plants. H. H. Slawson. Refrig Eng 40:225 O '40

COLD storage warehouses
Shreveport produce house saves with gas engines. R. M. Scoggins. il Gas Age 86:78-80 O 10 '40
Warehouses and quick frozen foods. J. H. Frederick. Refrig Eng 40:19+ Jl '40
Water in refrigeration insulation; tests, using Fiberglass. T. T. Tucker and G. A. Robertson. il diags plan Refrig Eng 39:364-6 Je '40

Costs
Power plant costs for warehouses. Refrig Eng 39:229 Ap '40

COLD working of metals. See Metals, Cold working of

COLEMAN, Arthur Philemon, 1852-1939
Memorial. F. D. Adams. por(pl 4) Geol Soc Proc 1939:167-80 bibliog(p171-80) Je '40
Sketch. Can Min J 61:47-8 Ja '40

COLEMANITE
Progress reports, Metallurgical division; beneficiation of boron minerals. R. G. Knickerbocker and others. pls U S Bur Mines Rep of Invest 3525:1-18 '40
Progress reports, Metallurgical division; electrometallurgical investigations; electrolytic method for the production of calcium boride. J. Koster, R. G. Knickerbocker and A. L. Fox. bibliog pls U S Bur Mines Rep of Invest 3500:1-21 '40

COLGATE-PALMOLIVE-PEET company
Expands earnings on minor dips in business conditions. H. F. Travis. il Mag of Wall St 65.681-5+ Mr 9 '40
Preferred stock offered. Comm & Fin Chr 150:1929-30 Mr 23 '40
Stages comeback. W. A. Nugent. Barron's 20:13 Jl 29 '40
To create new preferred issue to refund existing issue; income account, 1936-39. Comm & Fin Chr 150:1274 F 24 '40

COLLAGEN
Molecular structure of the collagen fibres. W. T. Astbury and F. O. Bell. bibliog il Soc Dyers & Col J 56:274-5 Je '40

COLLARS
Stiffened wash-resistant fabrics; cellulose parchmentizing processes. Textile Col 62: 258-9 Ap '40

COLLATERAL. See Loans, Bank—Collateral

COLLECTING of accounts
Collection notices. Am Gas Assn Proc 1939: 112-42
Debt-collecting ideas that work. R. McDaniel. Inland Ptr 106:51-2 O '40
Four payment plan and weather chart aid New Orleans collection record. J. E. Hevron. il Am Gas Assn Mo 22:312+ S '40
How to make collections. D. Tomlin. 165p $1.75 McGraw-Hill '40
I'm sorry for you! humorous human interest story told in a collection letter file. J. Willoughby. Credit & Fin Management 42: 21-2+ Ja '40
Joint administration and collection of water and sewer accounts. Am Water Works Assn J 31:1957-63 N '39
Manufacturers' sales and collections on accounts receivable, November 1939. Credit & Fin Management 42:45 Ja '40 [cont monthly thru August 1940]
Recovery plan for charge-offs; centralized handling has cut collection costs and netted better results. D. F. Buechner. il Burroughs Clearing House 25:12-14+ O '40
These collection letters draw in the checks without offending debtors. R. Dorff. Ptr Ink 193:71-4 N 8 '40
These collection letters were unusually successful in bringing in the money. Ptr Ink 192:69-71 Jl 12 '40
Two suave collection letters that have been time-tested. Sales Management 47:50 O 20 '40
Water supply at Akron; collections. W. E. Myers. Am Water Works Assn J 32:1795-6 O '40
Wholesalers' accounts receivable and collections, January 1940. Credit & Fin Management 42:46, 48 Mr '40 [cont monthly]
Your collection letters. F. E. Held. Credit & Fin Management 42:19-20 Ap '40

See also
Billing
Cash on delivery system
Credit
Credit departments
Salesmen and credit

COLLECTIVE bargaining
Collective bargaining, by employers; San Francisco employers' council report to executives. il Business Week p39-46 O 26 '40
Collective bargaining by the American newspaper guild. A. Weiss. Monthly Labor R 50:825-42 Ap '40
Collective bargaining by United rubber workers. H. Cannon. Monthly Labor R 49: 604-17 S '39
Collective bargaining here to stay; abstract. W. L. Batt. S A E J 46:sup 18-20 F '40
Collective bargaining in the United States of America. F. Peterson. Int Labour R 41: 479-505 My '40
Collective labor agreement; how to negotiate and draft the contract. E. Lieberman. 233p bibliog(p220-1) $3 Harper '39; Review, by W. R. Maclaurin. Mech Eng 62:132+ F '40
Cooperation between employers' and workers' organizations in Finland. H. F. A. Schoenfeld. Monthly Labor R 50:855 Ap '40
Do's and don'ts of bargaining with a union. M. A. Pipin. il Food Ind 12:42-4 Je '40
Elections by New York and Massachusetts labor relations boards. Monthly Labor R 50:616-19 Mr '40
Every day is voting day in the plant. W. Williams. il Factory Management 98:52-4 Je '40
Live wire union; utility hits hard demands of Independent brotherhood of Consolidated Edison employees. Business Week p41 Jl 20 '40
Management and organized labor; dialog. M. L. Cooke and P. Murray. Advanced Management 5:31-7 Ja-Mr '40
Management prerogatives. H. B. Bergen. Harvard Business R 18 no 3:275-84 [Ap] '40
National collective bargaining in Great Britain and Sweden; what is ahead of the United States judging from their experience? E. D. Smith. Mech Eng 62:593-8 Ag '40
No signature needed; Inland Steel collective bargaining decision. Business Week p41 Ja 13 '40
Status of labor revealed in survey; abstract. H. Cannon. Rubber Age 46:180 D '39
Study in management prerogatives; Hart Schaffner & Marx and the C.I.O. M. Kestnbaum. Harvard Business R 19 no 1: 88-98 [S] '40
Time and motion study under collective bargaining. M. H. Hedges. Advanced Management 5:89-92 Ap-Je '40
United States Court of appeals rules company must agree to written pact in collective bargaining case; Art metals construction co. of Jamestown, N.Y. Comm & Fin Chr 150:1527 Mr 9 '40
United States Supreme court issues 3 decisions upholding broad powers of NLRB. Comm & Fin Chr 150:47 Ja 6 '40
When foremen joined the C.I.O. I. B. Cross, jr. Personnel J 18:274-83, 346 F-Mr '40
Year of Labor board elections. Management R 28:429-30 D '39

See also
Employees' representation in management
National labor relations board
Trade agreements

COLLECTORS and collecting

See also
Postage stamps

COLLEGE and school journalism
Exercises in high school journalism. E. English. 207p bibliog(p206-7) $1.50 Collegiate press, of Iowa state college, Ames, Ia. '39
Principles of school yearbook production and management. R. M. Benson. 283p $2.50 Yearbook pub. co, San Francisco '39

COLLEGE and school journalism—*Continued*

Bibliography

Bibliography for student publications. K. E. Wheeling and others, eds. 60p pa 50c Columbia scholastic press assn, 202 Fayerweather hall, Columbia univ, New York '40

COLLEGE architecture

Connecticut college auditorium, New London; with views, plans, construction outline. Arch Forum 72:157-60 Mr '40

New college of architecture and fine arts combined with a new art gallery in Los Angeles; University of Southern California. il diags plans Arch Rec 87:39-43 Ap '40

Two new Harvard buildings; Hemenway gymnasium and Littauer center of public administration. il plans Arch Forum 73:55-60 Jl '40

See also
College buildings

COLLEGE buildings

College building maintenance costs. W. W. Randolph. Eng N 124:378 Mr 14 '40

Copper protection for stone and wood; lead-coated copper at New Rochelle college. il Sheet Metal Worker 31:67-9 Ja '40

Inspecting and maintaining building walls and roofs; Yale university. W. W. Randolph. Eng N 124:336 F 29 '40

University of Texas, library tower. il Illum Eng 35:123 F '40

See also
College architecture

Heating and ventilation

Complete air conditioning in an educational building. S. R. Lewis. diags Refrig Eng 39: 95-8 F '40; Abstract. Heating-Piping 11:741 D '39

Harvard makes savings by careful control of its heating systems. G. K. Saurwein. il Heat & Ven 37:24-8 Ap '40

Power

Diesels go to college; combined with back-pressure turbines in Connecticut College's power plant. il diag Power 83:726-8 D '39

Small steam-pressure increase cuts coal cost $15,000 a year; University of Missouri. R. H. Sogard. il diags Power 84:136-9 Mr '40

Triple-duty plant serves Virginia polytechnic institute; furnishes power to both institute and Blacksburg, Va., heats campus and serves as laboratory. J. L. Dilworth. flow diag il Power 84:718-21 N '40

COLLEGE chapels. See Chapels

COLLEGE education

Fortune survey; children to college. Fortune 21:136 F '40

Parental income and college opportunities. H. B. Goetsch. 157p bibliog(p147-51) $1.85 Teachers college '40

COLLEGE finance. See Colleges and universities —Finance

COLLEGE graduates

Fifty Harvard graduates. M. Weiss. Science 92:128 Ag 9 '40

Industrial post-graduates. W. T. Chevalier. Business Week p71 Mr 16 '40

Is a college degree needed for executive success? pictograph. Sales Management 47: 37 S 15 '40

New opportunities in industry for college men and women. Comm & Fin Chr 150:2982-3 My 11 '40

Survey of university graduates employed in government service, 1928 to 1936. L. M. Short and G. O. Pehrson. 40p Univ. of Minnesota, Public administration training center, Minneapolis '39

Youth itself is the problem; experiences of recent college graduate show that jobs are available. O. Stephens. Nation's Business 28:25-6+ S '40

See also
College women
Engineering graduates

COLLEGE libraries

List of books for college libraries, 1931-38. C. B. Shaw, ed. 284p $6 American library assn, 520 N. Michigan av, Chicago '40

Manual of university & college library practice. G. Woledge and B. S. Page, eds. 149p bibliog(p132-40) $2.75 for sale by Wilson, H.W. '40

Teaching with books; a study of college libraries. H. Branscomb. 239p $2.50 Assn. of American colleges; American library assn, Chicago '40

See also
Harvard university—Library
Pennsylvania university—Libraries

COLLEGE presidents

What college presidents say. E. W. Knight. 377p $3.50 Univ. of North Carolina press, Chapel Hill '40

COLLEGE professors and instructors

Institution-faculty relations in the college of integrity. R. W. Bixler. 178p bibliog(p121-9) $2.25 Teachers college '39

Proposed exchange professorships between industries and universities. R. D. Potter. Science 91:sup 10-11 My 3 '40

Survey of the training and placement of women chemistry majors in women's and co-educational colleges. E. L. French. J Chem Educ 16:574-7 D '39

Teachers' insurance and annuity association cites inequity to those not covered by social security. Nat Underw (Life ed) 44:11 Mr 8 '40

Utilization of a professor emeritus, an experiment; research adviser to a group of laboratories. E. E. Reid. J Chem Educ 17:213-14 My '40

Interchange

Promotion of Inter-American cultural relations. Science 92:349 O 18 '40

Salaries, pensions, etc.

College plans for retirement income. R. B. Robbins. 253p $2.75 Columbia univ. press '40

COLLEGE students

How 1,000 college seniors rate selling work as a career. P. Salisbury. Sales Management 46:22-4 F 1 '40; Replies. B. Reinhart, jr; H. D. Doughty. 46:24-6, 46 Mr 1 '40

How to make good in college. R. B. Hamrick. 274p $2.50 Assn. press, 347 Madison av, New York '40

See also
Students, Interchange of

Employment

Liberal arts via hosiery mill; Athens (Ala.) college to furnish jobs for needy students. Textile World 90:58 Ja '40

COLLEGE women

Economic status of university women in the U.S.A. S. M. Kingsbury. map U S Women's Bur Bul 170:1-70 '39; Abstract. Monthly Labor R 50:345-9 F '40

Vassar women; an informal study. A. Rogers. 223p $2.50 Vassar college, Poughkeepsie, New York '40

COLLEGES and universities

University outside Europe; essays on the development of university institutions in fourteen countries. E. Bradby, ed. 332p $3.50 Oxford '40

See also
College buildings
Engineering colleges
Mining schools and education
also names of colleges and universities, e.g. Yale university
Consult Education index for additional material

Accounting

Auditing of colleges and universities. J. H. Cain. 74p bibliog(p69-71) pa 50c Am. council on education, 744 Jackson place, Washington, D.C. '40

Manual of teachers college accounting. E. V. Miles, jr. 190p $2.50 Am. council on education, Washington, D.C. '40

COLLEGES and universities—Accounting—Continued
Theory and procedure for pooled investments in colleges and universities. H. C. Daines. J Account 69:114-30 F '40

Curriculum
Chemistry and the college of liberal arts. P. W. Selwood. J Chem Educ 17:176-9 Ap '40
Science in general education at the college level. L. W. Taylor. Science 91:560-5 Je 14 '40

Dining halls
All-gas cooking cuts food cost 21 per cent; Agricultural and mechanical college of Texas. il Gas Age 86:24-6+ Jl 4 '40
Cheltenham college adopts centralized catering. il Gas J (Lond) 231:117 Jl 17 '40

Finance
Administration of college and university endowments. C. R. Sattgast. 125p bibliog (p102-9) $1.85 Teachers college '40
College endowment fund investment, Harvard, Yale, Princeton. Trusts & Estates 69:594 D '39
Theory and procedure for pooled investments in colleges and universities. H. C. Daines. J Account 69:114-30 F '40
Trends in current receipts and expenditures and in receipts for capital purposes of endowed universities and colleges, and in current receipts of state institutions in the United States from 1927-28 through 1936-37. T. Arnett. 158p General education board, New York '39
Trends in educational finance, 1920-1938; a statistical study with charts. J. P. Jones. 51p pa gratis John Price Jones corp, 150 Nassau st, New York '39
Trust fund investments. Bankers M 141:319-20 O '40
University and college revenues, 1921-39. 13p pa 15c Canada. Dominion bur. of statistics, Ottawa '40

See also
Engineering colleges —Finance

Gifts, legacies, etc.
Gifts and bequests to American colleges and universities. Science 91:332 Ap 5 '40
Will taxation cripple education? D. S. Freeman. Nation's Business 28:21-2+ Ap '40

Insurance requirements
Tuition fee coverage has scarcely been sold. Nat Underw 44:5 O 10 '40

Research
Industrial research in educational institutions; survey by Association of consulting chemists and chemical engineers, inc. Ind & Eng Chem News ed 18:847-9 O 10 '40
Research and invention in engineering colleges; patent policies. A. A. Potter. Science 91:1-7 Ja 5 '40; Same. Mech Eng 62:196-200 Mr '40
Schools and industrial research; abstracts. Mech Eng 62:615-16 Ag '40
Stimulating chemical research in the southeastern states, an experiment; E. Emmet Reid, adviser to colleges. J. R. Sampey. J Chem Educ 17:214-16 My '40

Great Britain
Accessibility of British university thesis literature. L. Newcombe. Assn of Sp Lib & Inf Bur Proc 1939:21-30

United States
Accessibility of thesis literature of the United States. W. Davis. Assn of Sp Lib & Inf Bur Proc 1939:31-4
American colleges and the social order. R. L. Kelly. 380p bibliog(p347-69) $2.50 Macmillan '40
American universities and colleges. C. S. Marsh, ed. 4th ed 1130p $4 Am. council on education, Washington, D.C. '40
1939 college blue book, 1939. H. W. Hurt and H. Hurt, eds. 4th ed 756p $4.75 College blue book, 404 Riverside drive, New York '39
So you're going to college; including the Lovejoy college-rating guide. C. E. Lovejoy. 383p bibliog(p341-51) $2.50 Simon and Schuster, New York '40

COLLEGES for Negroes. See Negroes—Education

COLLETS
Hardinge collet indexing fixtures. il Mach 46:168 Je '40
Turret lathe tooling. J. R. Longstreet and W. K. Bailey. diags Am Mach 84:130-2 Mr 6 '40

COLLIDINE
Collidine treatment of 2-bromocholestanone. R. P. Jacobsen. Am Chem Soc J 62:1620-1 Je '40

COLLIERS
Collier converted to self-unloader. il Marine Eng 45:62-6 My '40

COLLODION
Practical model of the animal cell membranes. H. N. Holmes. J Phys Chem 43:1151-3 D '39

COLLOID mill
Determining emulsifying efficiences. L. H. Cohan and N. Hackerman. il Ind & Eng Chem Anal ed 12:210-13 bibliog(80 references, p213) Ap 15 '40
Mixers, blenders and colloid mills at chemical exposition. il diag Chem & Met Eng 46:716-18 N '39

COLLOIDAL fuel. See Fuel, Colloidal

COLLOIDAL graphite. See Graphite

COLLOIDS
Der anstrichfilm als wissenschaftliches problem. A. V. Blom. bibliog Angew Chemie 53: 40-2 Ja 20 '40
Asphaltic bitumen as colloid system. J. P. Pfeiffer and R. N. J. Saal. bibliog il J Phys Chem 44:139-49 F '40
Chemical preparation of colloidal suspensions in non-aqueous solvents. A. A. Vernon and H. A. Nelson. bibliog J Phys Chem 44:12-25 Ja '40
Colloidal behavior of clays as related to their crystal structure. T. F. Ford, A. G. Loomis and J. F. Fidiam. bibliog J Phys Chem 44: 1-12 Ja '40
Colloidal chemistry in water treatment. E. S. Hopkins. bibliog il diags Ind & Eng Chem 32:263-7 F '40
Colloidal nature of clay with reference to papermaking. B. W. Rowland. bibliog Paper Tr J 111:41-6 O 17 '40
Colloidal structure of rubber in solution; colloidal aspects of vulcanization. S. D. Gehman and J. E. Field. bibliog Ind & Eng Chem 32:282-7 F '40
Constitution of the alleged Thiessen hydrates. H. B. Weiser, W. O. Milligan and W. J. Coppoc. bibliog diag J Phys Chem 43:1109-20 D '39
Davy medal awarded to James William McBain. W. Bragg. Science 90:582 D 22 '39
Discussion on colloids. J. D. Springs. Am Gas J 152:17 Mr '40
Drying oils and resins; constitution of a drying oil gel. T. F. Bradley and H. F. Pfann. bibliog il diags Ind & Eng Chem 32:694-7 My '40
Effect of ions of the lyotropic series on the infrared absorption spectrum of water. A. M. Buswell, R. C. Gore and W. H. Rodebush. bibliog J Phys Chem 43:1181-4 D '39
Electrolyte coagulation process; the influence of dilution of sol on the adsorption of precipitating ions. H. B. Weiser and W. O. Milligan. bibliog Am Chem Soc J 62:1924-30 Ag '40
Experiments in colloid chemistry. E. A. Hauser and J. E. Lynn. 178p $2 McGraw-Hill '40
Gaging adsorption power of colloidal ferric oxide by dye adsorption; development of a standard test. F. H. Dotterweich and W. J. Huff. bibliog diags Ind & Eng Chem Anal ed 12:277-9 My 15 '40

COLLOIDS—*Continued*
Hevea latex; effect of proteins and electrolytes on colloidal behavior. A. R. Kemp and W. G. Straitiff. bibliog diags J Phys Chem 44:788-808 Je '40
pH change in gold sol formation; reduction of alkaline solution of potassium aurate by formaldehyde. C. L. Throckmartin and C. H. Sorum. J Phys Chem 44:247-55 F '40
Interpretation of ferromagnetic colloid patterns on ferromagnetic crystal surfaces. W. C. Elmore. bibliog Phys R 58:640-2 O 1 '40
Ion adsorption by pectin. G. H. Joseph. J Phys Chem 44:409-11 Ap '40
Metallographic identification of ferro magnetic phases; colloid pattern technique. H. S. Avery, V. O. Homerberg and E. Cook. bibliog il diag Metals & Alloys 10:353-5 N '39
Optical properties of colloidal suspensions in relation to the measurement of particle-size frequency. E. G. Richardson. il diag J Ap Phys 11:653-7 O '40
Particle size determination of colloidal systems by the supercentrifuge. E. A. Hauser and H. K. Schachman. bibliog diags J Phys Chem 44:584-91 My '40
Phase rule behavior of concentrated aqueous systems of a typical colloidal electrolyte; sodium oleate. R. D. Vold. bibliog il diag J Phys Chem 43:1213-31 D '39
Rheological properties of asphaltic bitumens. R. N. J. Saal and J. W. A. Labout. bibliog J Phys Chem 44:149-65 F '40
Separation and fractionation of colloidal systems. E. A. Hauser and J. E. Lynn. flow sheet bibliog diag Ind & Eng Chem 32:659-62 My '40
Silicic acid as a protective colloid for manganese dioxide sols. F. Hazel. bibliog J Phys Chem 44:422-7 Ap '40
Simple proof of the thermodynamic stability of materials taken up by solutions containing solubilizers such as soap. J. W. McBain and J. J. O'Connor. diags Am Chem Soc J 62:2855-9 O '40
Solubilizing and detergent action in non-ionizing solvents. J. W. McBain, R. C. Merrill, jr. and J. R. Vinograd. Am Chem Soc J 62:2880-1 O '40
Some experiments in colloid chemistry. H. L. Davis. bibliog J Chem Educ 17:225-7 My '40
Some recent advances in colloids. J. W. McBain. J Chem Educ 17:109-11 Mr '40
Stability of emulsions; emulsions stabilised by hydrophilic colloids. A. King and L. N. Mukherjee. Soc Chem Ind J 59:185-91 S '40
La structure des gels colloïdaux. H. R. Kruyt. il diags Chimie & Ind 42:587-603 O '39
Structure of gelatin sols and gels; the adsorption of water vapor and the electrical conductivity. S. E. Sheppard. R. C. Houck and C. Dittmar. bibliog il diag J Phys Chem 44:185-207 F '40
Surface migration of ions and contact exchange. H. Jenny and R. Overstreet. bibliog diags J Phys Chem 43:1185-96 D '39
Surface tension of aqueous solutions of some paraffin chain colloidal electrolytes, including a comparison of the capillary rise and sessile bubble methods of measurement. H. V. Tartar, V. Sivertz and R. E. Reitmeier. bibliog diag Am Chem Soc J 62: 2375-80 S '40
Über eigenartige magnesiazemente mit hydroxydgelen. A. C. Vournazos. il Angew Chemie 53:136-8 Mr 30 '40
Water softening; sign of the charge on colloidal particles of hydrous alumina, hydrous magnesium, and calcium carbonate. T. E. Larson and A. M. Buswell. bibliog il Ind & Eng Chem 32:132-3 Ja '40

See also
Adsorption
Catalysis
Cellulose
Dialysis
Dispersion
Electrophoresis
Emulsions
Gelatin
Micelles
Proteins
Silica gel
Smoke
Suspensions
Thixotropy

COLLYER, John Lyon, 1893-
Collyer of Goodrich. por Barron's 19:5 N 27 '39
Meet Mr Collyer at the helm of the B. F. Goodrich company. A. St John. por Barron's 20:9 O 7 '40

COLOMBIA

See also
Corporation law—Colombia
Petroleum industry and trade—Colombia

Commerce
Foreign trade in 1937, 1938, and 1939. Comm Rep p312+ Ap 6 '40

Commercial policy
Colombia exchange situation; list of preferred commodities. Comm Rep p159 F 17 '40
Exchange control system modified. Comm Rep p369-70 Ap 20 '40
Exchange situation; list of preferred commodities. Comm Rep p159, 279 F 17, Mr 23 '40

Economic conditions
Business situation, 1939. Comm Rep p1219 D 30 '39
Economic conditions; exchange and finance. For Comm W 1:247-8 N 9 '40
Problems and plans. Economist 139:309-10 S 7 '40

COLOMBO, Ceylon
Port of Colombo. il (cover) Comm Rep p296 Mr 30 '40

COLONIES
Colonial questions and peace; a survey prepared under the direction of E. Moresco. 345p bibliog(p301-30) $2 Columbia univ. press '39
Colonies and raw materials. H. D. Henderson. 31p pa 15c Farrar '39
Inter-American emergency committee to administer European colonies in western hemisphere officially constituted. Comm & Fin Chr 151:2589-90 N 2 '40
Proposal for trusteeship of European colonies in this hemisphere approved at Pan-American conference, Havana; statement by Secretary Hull. Comm & Fin Chr 151:640-1 Ag 3 '40

See also
France—Colonies
Germany—Colonies
Great Britain—Colonies

COLOR
Alkali colour reactions of azoic colours produced from members of the naphthol AS series. W. Bradley. bibliog Soc Dyers & Col J 56:296-302 Jl '40
Color and constitution; halochromism of anhydronium bases related to the cyanine dyes. L. G. S. Brooker and others. bibliog Am Chem Soc J 62:1116-25 My '40
Color phenomena associated with quinquevalent molybdenum solutions; absorption spectra in solutions of various hydrochloric acid concentration. C. F. Hiskey and V. W. Meloche. Am Chem Soc J 62:1819-24 Jl '40
Color reactions between clays and amines. E. A. Hauser and M. B. Leggett. Am Chem Soc J 62:1811-14 Jl '40
Color test for sisal and manila; the Amoa test for the detection of sisal fiber when admixed with manila fiber. A. V. Billinghame. Textile Col 62:466 Jl '40
Color tests for some organolithium compounds. H. Gilman and J. Swiss. bibliog Am Chem Soc J 62:1847-9 Jl '40
Coördinate compounds in the color test for organometallic compounds. H. Gilman and R. G. Jones. bibliog Am Chem Soc J 62: 1243-7 My '40
Deepening of color of sodium nitrophenolate solutions with elevation of temperature. T. L. Davis and J. L. Richmond. bibliog Am Chem Soc J 62:756-61 Ap '40

COLOR—*Continued*

Effects of pressure, temperature and chemical composition on the absorption of light by mixtures of aromatic amines and nitro compounds. R. E. Gibson and O. H. Loeffler. bibliog Am Chem Soc J 62:1324-34 Je 40

Everyday use of color in business; system for selecting colors and of its application, especially in merchandising, to color problems. A. S. Allen. il Dun's R 48:25-30 My '40

Functional color in hospitals. F. Birren. Arch Forum 71:466 D '39

Glory of color. J. H. Archibald. Textile Col 62:191-3 Mr '40

Hue, saturation, and lightness of surface colors with chromatic illumination. D. B. Judd. Opt Soc Am J 30:2-32 bibliog (95 titles, p30-2) Ja '40; Same. J Research Nat Bur Stand 24:293-333 Mr '40

Influence of fluorescent lighting on the colors of decorations and furnishings. A. H. Taylor. Illum Eng 35:625-8 Jl '40

Mrs Homemaker's question: what color goes with what? R. Leigh. il Ptr Ink Mo 41: 14-15 O '40

Observations on the constitution of diazoamino-compounds. A. Mangini. bibliog Soc Chem Ind J 58:327-30 N '39

Optimum efficiency conditions for white luminescent screens in kinescopes; zinc-cadmium sulphide phosphor systems. H. W. Leverenz. bibliog diag Opt Soc Am J 30:309-15 Jl '40

Sichtbarmachen von temperaturfeldern durch temperaturabhängige farbanstriche. F. Penzig. il diags V D I 83:69-74, pl 1-2 Ja 21 '39; Same (Sensitive paints). Automobile Eng 30:47-9 F '40

Temperature-indicating colours; the new Thermindex series. Chem Age (Lond) 42: 257 My 4 '40

Warmth and coolness of colors; abstract. S. M. Newhall. Opt Soc Am J 30:271 Je '40

See also

Automobiles—Color
Colorimeters and colorimetry
Colorimetric analysis
Colors
Concrete—Coloring
Cotton—Color
Dyes and dyeing
Light, Colored
Methyl orange
Motor buses—Color
Motor trucks—Color
Moving pictures, Colored
Paint
Paper—Color
Paper pulp—Color
Pigments
Yellowing

Physiological effect

Psychology of color; effect on eyestrain and fatigue; chromotherapy. I. H. Godlove and E. R. Laughlin. bibliog Paper Tr J 111:41-3 O 24 '40

Psychology

Psychology of color. I. H. Godlove and E. R. Laughlin. bibliog Paper Tr J 111:36-43 O 24 '40; Same abr. Paper Ind 22:278+ Je '40

Sensation of warmth as affected by the color of the environment. F. C. Houghten, H. T. Olson and J. Suciu, jr. il diag Heating-Piping 12:678-81 N '40; Same. Illum Eng 35: 908-14 D '40

There is system in color preferences. J. P. Guilford. Opt Soc Am J 30:455-9 S '40

Standards

Standardization of color names; the ISCC-NBS method. D. Nickerson. il Am Dyestuff Rep 29:392-6 Ag 5 '40

Systematic color designations for paper. D. B. Judd. bibliog diags Paper Tr J 111:35-40 O 17 '40; Excerpts. Paper Ind 22:476+ Ag '40

United States color standards for rosin. B. A. Brice. bibliog Opt Soc Am J 30:152-8 Ap '40

COLOR charts

New tool for the industry; the color atlas. Pulp & Pa of Can 41:283-4 Mr '40

COLOR in advertising

Any color so long as it's red; pictograph. Sales Management 47:47 N 15 '40

Attention value of color in advertising; rate of pull shown in percentages. E. T. Gundlach. Ptr Ink 191:59-62 My 17 '40

Check list for planning newspaper color advertising. Ptr Ink Mo 41:69-70 N '40

Color comes back in magazines; pictograph. Sales Management 47:42 Ag 15 '40

Color newsprint circulars. Adv & Sell 33: 60a+ Ag '40

Newspaper color. Ptr Ink 193:64 O 4 '40

1939 exhibition of advertising photography; photographs for color advertising. Ptg Art 68 no 3:33-44 [Ja] '40

1½-page color spreads; new model Maytag washing machine. Ptr Ink 190:16 Mr 29 '40

There's a rising tide of color in magazine ads; pictograph. Sales Management 46:37 Ja 15 '40

COLOR in architecture

Architectural concrete slabs. il diags Arch Forum 72:101-6 F '40

Color engineering makes the big house small, the white house, whiter. Arch Forum 72: sup34 F '40

COLOR in industry

Everyday use of color in business; system for selecting colors and of its application, especially in merchandising, to color problems. A. S. Allen. il Dun's R 48:25-30 My '40

Marking hot steel; two compounds available in seven colors. V. L. Staley. il Steel 107: 64+ N 4 '40

See also

Automobiles—Color
Concrete—Coloring
Motor buses—Color
Motor trucks—Color
Paper—Color

COLOR in plastic materials

Enamel for plastics developed; Kem Bakolescent and Kem Plastite. Iron Age 145: 52 Ap 18 '40

Firm adhesion in new finishes; Kem Plastite and Kem Bakolescent enamel. G. H. Robertson. il Mod Plastics 17:32-3 F '40

Vending machine glamour. P. M. Munk. il Mod Plastics 17:26-7, 66, 68 F '40

COLOR in the ceramic industries

Zinc-vapor glazing of clays. C. M. Lampman and H. G. Schurecht. Am Cer Soc J 22:91-5; 23:167-70 Mr '39, Je '40

COLOR in the textile industries

See also

Calico printing
Dyes and dyeing
Rayon printing
Textile printing
Woolen and worsted printing

COLOR lighting. See Light, Colored

COLOR matching

Card index and other methods used in controlling the color of beater furnishes. R. N. Griesheimer. Paper Tr J 111:36-41 S 26 '40

Color matching at the Forbes varnish company. R. F. Wysocki and A. K. Gaetjens. il diag Illum Eng 35:343-50 Ap '40

Lighting for the detection of small color-differences; abstract. A. H. Taylor. Opt Soc Am J 30:272 Je '40

Matching porcelain enamels. F. H. Emery. Steel 106:48, 50 My 20 '40

Matching shades in woolens. A. W. France. Textile World 90:94-5 Ap '40

Paint color control; use of the spectrophotometer. E. A. Zahn. Metal Ind 38:172-5 Mr '40

Practical art of color matching. W. H. Peacock. diags chart Rayon 21:627-31, 699-704 O-N '40 (to be cont)

Production color analysis of kinescope screens. T. B. Perkins. diag Opt Soc Am J 30: 295-6 Jl '40

Spectrophotometry on coated papers. W. J. Foote. bibliog Paper Tr J 111:31-8 O 10 '40

TAPPI survey of color instruments used in the pulp and paper industries. Paper Tr J 111:37-8 S 12 '40

Three-phase light sources as applied to accelerated light fastness testing equipment and color matching lamps; sunshine carbon arcs. M. J. Dorcas. il Am Dyestuff Rep 29:110-16 Mr 4 '40

COLOR measurement
Artificial daylighting studies for use in grading agricultural products. D. Nickerson. bibliog il diag Illum Eng Soc Trans 34:1233-50; Discussion. 1250-3 D '39
Color comparison devices. R. H. Park. bibliog il Am Dyestuff Rep 29:272-8 My 27 '40
Colorimetry for paper; advantages of numerical over visual measurements of color. W. E. Rand. Pulp & Pa of Can 41:13-18 Ja '40; Correction. 41:231 F '40
Everyday use of color in business; system for selecting colors and of its application, especially in merchandising, to color problems. A. S. Allen. il Dun's R 43:25-30 My '40
Hue, saturation, and lightness of surface colors with chromatic illumination. D. B. Judd. Opt Soc Am J 30:2-32 bibliog (95 titles, p30-2) Ja '40; Same. J Research Nat Bur Stand 24:293-333 Mr '40
Means of measuring turbidity and fluorescence using the Lovibond tintometer fitted with Rothamsted device. G. S. Fawcett and J. Hewitt. diag Soc Chem Ind J 58:342-4 N '39
Measurement of color of pulps. R. S. Hatch. Paper Tr J 111:35-8 S 19 '40; Excerpts. Paper Ind 22:288+ Je '40
Method of evaluating color variations of baked food products. W. B. Kirk. il diags Am Gas Assn Mo 22:261-4 Jl-Ag '40
Paint color control; use of the spectrophotometer. E. A. Zahn. Metal Ind 38:172-5 Mr '40
Specification of colour; abstract. R. A. Schofield. Chem & Ind 58:1118-19 D 30 '39
Spectrophotometry on coated papers. W. J. Foote. bibliog Paper Tr J 111:31-8 O 10 '40
TAPPI survey of color instruments used in the pulp and paper industries. Paper Tr J 111:37-8 S 12 '40
Use of color measuring instruments in the manufacture of uncoated paper. M. N. Davis. Paper Tr J 111:40-4 O 3 '40

COLOR of animals
See also
Chromatophores

COLOR of plants
See also
Chlorophyl

COLOR photography
Colour cinematography. A. B. Klein. 2d ed rev & enl 463p 30s Chapman & Hall, London '39
Color photo; tapped transformer permits control of color temperature of incandescent light sources. T. W. Fitch. Elec West 85: 45-6 Ag '40
Colour photography; abstract. M. Rosebery. Chem & Ind 59:29 Ja 13 '40
Kodachrome and how to use it. I. Dmitri. 143p $3.95 Simon & Schuster, 386 4th av, New York '40
Natural color film; what it is and how to use it. C. A. Nelson. 2d ed rev & enl 166p $1.75 Galleon publishers, New York '39
Natural color processes. C. E. Dunn. 3d ed 232p $2 Am. photographic pub. co, 353 Newbury st, Boston '40
1939 exhibition of advertising photography; photographs for color advertising. Ptg Art 68 no 3:33-44 [Ja] '40
Photographing in color. P. Outerbridge. 204p $4.95 Random house, New York '40
Physics in color photography. D. L. MacAdam. bibliog J Ap Phys 11:46-55 Ja '40
Reproduction of sight. Electrician 123:332-3, 347-8, 363-4, 391-2, 407-8 O 6-N 3 '39
Separation negatives for color photography. W. G. Houskeeper. Opt Soc Am J 30:365 Ag '40
Theory of subtractive color photography; four-color processes and the black printer. J. A. C. Yule. diags Opt Soc Am J 30: 322-31 Ag '40
Use color photographs to sell more clay products. Brick & Clay Rec 96:33 Je; 97:40 Jl; 30 Ag '40
Use of dyes in photography; abstract. A. Seyewetz. Am Dyestuff Rep 29:48-9 Ja 22 '40

COLOR printing
Advertising's color stage; three illustrations. Adv & Sell 33:32a-32d Jl '40
Color plates are copied by offset. Inland Ptr 106:55 O '40
Colour printing; abstract. L. Wild. Chem & Ind 58:1085 D 16 '39
Colour printing; Geo. C. Caster & co. il Elec R (Lond) 126:127-8 F 2 '40
Copifyer corporation growth is rapid. Inland Ptr 105:30 My '40
How four colors are combined in a set of process engravings; illustration. Ptg Art 68 no 4:K14 '40
How newsprint color is reproduced. J. W. Park. il Ptg Art 68 no 4:C10-C13 '40
Jahrbuch's challenge is lessened; review of Klimsch's Jahrbuch, no. 32, 1939. H. Gugler. Inland Ptr 104:54 N '39
Kidder aniline press. Paper Tr J 109:88 N 30 '39
Misregistered colors. J. Stark. Inland Ptr 104: 51 D '39
New methods for diazotype printing. T. W. A. Borgesius and H. I. Waterman. bibliog Soc Dyers & Col J 56:23-6 Ja '40; Abstract. Am Dyestuff Rep 29:282-3 My 27 '40
New tool for the industry; the color atlas. Pulp & Pa of Can 41:283-4 Mr '40
Small presses produce A1 house-organ. J. N. Cronk. il Inland Ptr 105:48-50 Ap '40
Where four-color offset pays. H. A. Porter. Inland Ptr 105:59-60 Je '40
See also
Calico printing
Textile printing

COLOR research, Association for. See Association for color research, Chicago

COLOR sense
Hue, saturation, and lightness of surface colors with chromatic illumination. D. B. Judd. Opt Soc Am J 30:2-32 bibliog (95 titles, p30-2) Ja '40; Same. J Research Nat Bur Stand 24:293-333 Mr '40
Hue sensibility to dominant wave-length change and the relation between saturation and colorimetric purity. D. Nickerson and W. C. Granville. bibliog Opt Soc Am J 30: 159-62 Ap '40
Psychology of color. I. H. Godlove and E. R. Laughlin. bibliog Paper Tr J 111:36-43 O 24 '40
Spectral sensibility of the long-eared owl; abstract. M. H. Pirenne and S. Hecht. Opt Soc Am J 30:270 Je '40
Vision and colour-vision. F. W. Edridge-Green. pl Chem & Ind 59:567-71 Ag 10 '40

COLOR temperature
Color photo; tapped transformer permits control of color temperature of incandescent light sources. T. W. Fitch. Elec West 85: 45-6 Ag '40
Relates artificial to natural daylight; color temperature chart. Elec W 114:1350+ N 2 '40

COLOUR users' association
Annual meeting; address by N. G. McCulloch. Soc Dyers & Col J 56:402-3 S '40

COLORADO
See also
Mines and mineral resources—Colorado
Paleobotany—Colorado
Taxation—Colorado

Antiquities
Folsom man; evidences of economic ups and downs unearthed in Colorado. Science 92: sup10-11 N 8 '40

COLORADO & southern railway
Operating statistics and income account, 1936-39. Comm & Fin Chr 150:3350-1 My 25 '40

COLORADO museum of natural history
Phipps auditorium. Science 91:163 F 16 '40

COLORADO river
Development of the Colorado river in the upper basin. T. C. Adams. map Am Soc C E Proc 65:1217-37 S '39; Discussion. 66:956-60, 1079-84 My-Je '40

COLORADO river—*Continued*
Grouped reservoirs control floods. C. McDonough. il map Eng N 124:793-6 Je 6 '40
Technical aspects of the silt problem on the Colorado river. C. P. Vetter. il Civil Eng 10:698-701 N '40

See also
Grand canyon of the Colorado

Boulder Dam project
Le barrage Boulder, sur le Colorado (États-Unis); calculs et essais sur modèles. P. Caufourier. il diags Génie Civil 116:321-5 My 18 '40
Boulder's expanding service; financial data. Power Pl Eng 44:124+ Jl '40
Carrier-current losses measured and interference minimized on Boulder-Los Angeles transmission lines. J. D. Laughlin, W. E. Pakala and M. E. Reagan. il diags Elec Eng 59:Trans 4-9; Discussion. Trans 9-10 Ja '40
Improvements in 287.5-kv. disconnects at Boulder dam. il Elec W 114:1352 N 2 '40
Line that doesn't rest; Southern California Edison co.'s transmission line to Boulder. il diag Elec West 84:46-50 Mr '40
Ring bus effects savings at Boulder. T. J. Lovell. il diags Elec W 114:554 Ag 24 '40
Treadmill of debt. W. M. Carpenter. Edison Elec Inst Bul 8:12-13 Ja '40

Power utilization
Parker Dam power project. J. A. Fraps. il diags plan Civil Eng 10:634-7 O '40

COLORADO River aqueduct
Building big pumps better earns a bonus; southern California water supply. il Eng N 125:341-3 S 12 '40

COLORADO school of mines
New building for geology and geophysics. Science 91:517 My 31 '40

COLORADO SPRINGS, Colorado

Water supply
New high pressure steel water supply line. E. L. Mosley. il Am Water Works Assn J 32:1225-41 Ag '40
Pinning a pipeline on Pikes peak. E. L. Mosley. il diags Eng N 124:518-20 Ap 11 '40

COLORIMETERS and colorimetry
Applications and accuracy of three-filter photoelectric colorimetry; abstract. R. S. Hunter. Opt Soc Am J 30:272 Je '40
Colorimetry for paper; advantages of numerical over visual measurements of color. W. E. Rand. Pulp & Pa of Can 41:13-18 Ja '40
Hue sensibility to dominant wave-length change and the relation betwen saturation and colorimetric purity. D. Nickerson and W. C. Granville. bibliog Opt Soc Am J 30: 159-62 Ap '40
Die kritische auswahl colorimetrischer, spektralphotometrischer und spektrographischer methoden zur absorptionsmessung. G. Kortüm and M. Seiler. Angew Chemie 52: 687-93 D 2 '39
Lumetron photo-electric colorimeter. il Paper Tr J 109:113 N 30 '39; Power Pl Eng 44:92 F '40
Spectral luminosity factors. K. S. Gibson. Opt Soc Am J 30:51-61 bibliog(p60-1) F '40
Thermodynamic properties of fluorochloromethanes and -ethanes; heat capacity of the liquid and vapor of three fluorochloromethanes and trifluorotrichloroethane. A. F. Benning and others. bibliog diags Ind & Eng Chem 32:976-80 Jl '40
Thermoelectric absorptiometer for analytical work. H. H. Willard and G. H. Ayres. bibliog il diag Ind & Eng Chem Anal ed 12: 287-91 My 15 '40

See also
Color measurement
Colorimetric analysis
Colorscope
Reflectometers

COLORIMETRIC analysis
Acid-base equilibria in ethyl alcohol. M. Kilpatrick and W. H. Mears. bibliog Am Chem Soc J 62:3051-4 N '40
Acid-base equilibria in methyl alcohol. M. Kilpatrick and W. H. Mears. bibliog Am Chem Soc J 62:3047-51 N '40
Assay of vitamin A with the photoelectric colorimeter. R. B. French. bibliog Ind & Eng Chem Anal ed 12:351-2 Je 15 '40
Base-exchange capacity determination of soils and other materials; using colorimetric manganese method. C. A. Bower and E. Truog. Ind & Eng Chem Anal ed 12:411-13 Jl 15 '40
Color phenomena associated with quinquevalent molybdenum solutions; absorption spectra in solutions of various hydrochloric acid concentration. C. F. Hiskey and V. W. Meloche. Am Chem Soc J 62:1819-24 Jl '40
Color test for elementary sulfur in pyridine and other solvents. H. Sommer. bibliog Ind & Eng Chem Anal ed 12:368-9 Je 15 '40
Colorimetric determination of arsenic in ferrous and nonferrous alloys. C. J. Rodden. bibliog diag J Research Nat Bur Stand 24:7-11 Ja '40
Colorimetric determination of cobalt with beta-nitroso-alpha-naphthol. J. H. Yoe and C. J. Barton. bibliog Ind & Eng Chem Anal ed 12:405-9 Jl 15 '40
Colorimetric determination of copper with triethanolamine. J. H. Yoe and C. J. Barton. Ind & Eng Chem Anal ed 12:456-9 Ag 15 '40
Colorimetric determination of iron with salicylaldoxime; a spectrophotometric study. D. E. Howe and M. G. Mellon. Ind & Eng Chem Anal ed 12:448-50 Ag 15 '40
Colorimetric determination of lead chromate by diphenylcarbazide; application of a new method to analysis of lead in blood, tissues, and excreta. T. V. Letonoff and J. G. Reinhold. bibliog Ind & Eng Chem Anal ed 12: 280-4 My 15 '40
Colorimetric determination of primary mononitroparaffins. E. W. Scott and J. F. Treon. Ind & Eng Chem Anal ed 12:189-90 Ap 15 '40
Colorimetric microdetermination of magnesium. C. P. Sideris. Ind & Eng Chem Anal ed 12:232-3 Ap 15 '40
Determination of aluminum by photometric fluorescence measurement. C. E. White and C. S. Lowe. bibliog Ind & Eng Chem Anal ed 12:229-31 Ap 15 '40
Determination of carbon disulfide in air by means of copper and diethylamine in 2-methoxyethanol. F. F. Morehead. bibliog il Ind & Eng Chem Anal ed 12:373-4 Je 15 '40
Determination of chlorophyll and carotene in plant tissue. H. G. Petering, W. Wolman and R. P. Hibbard. bibliog Ind & Eng Chem Anal ed 12:148-51 Mr 15 '40
Determination of cobalt in foods. N. D. Sylvester and L. H. Lampitt. bibliog Soc Chem Ind J 59:57-60 Mr '40
Determination of small amounts of copper and manganese in dyes and other organic materials. G. F. Palfrey and others. Ind & Eng Chem Anal ed 12:94-6 F 15 '40
Determination of small amounts of cyanide in water. J. E. Fasken. bibliog Am Water Works Assn J 32:487-93 Mr '40
Determination of sodium in biological fluids. M. C. Darnell, jr. and B. S. Walker. bibliog Ind & Eng Chem Anal ed 12:242-4 Ap 15 '40
Emploi de la thiourée pour le dosage du bismuth dans les plombs et les étains affinés. R. Petit and R. Meraux. Chimie & Ind 43: 629-31 Ap 20 '40
Hydrogen ion control in water treatment; tests in the Tugela river. G. W. Bond. Chem Age (Lond) 41:327-8 N 11 '39
Improvement of formaldoxime colorimetric method for manganese. C. P. Sideris. Ind & Eng Chem Anal ed 12:307 My 15 '40
Iron content of bread and bread ingredients. C. Hoffman, T. R. Schweitzer and G. Dalby. bibliog Ind & Eng Chem Anal ed 12: 454-5 Ag 15 '40

COLORIMETRIC analysis—*Continued*
Measurement and control of pH; Chem. & Met. report. Chem & Met Eng 47:556 Ag '40
Method for analysis of boiler scales and sludges; colorimetric and turbidimetric methods in conjunction with a Phototester as compared with gravimetric methods. F. K. Lindsay and R. G. Bielenberg. bibliog il diag Ind & Eng Chem Anal ed 12:460-3 Ag 15 '40
Methods of measuring pH in alkaline cyanide plating baths. M. R. Thompson. J Research Nat Bur Stand 24:423-34 Ap '40
Nitrosolignin colorimetric test for sulphite waste liquor in sea water. I. A. Pearl and H. K. Benson. bibliog Paper Tr J 111:35-6 O 31 '40
Null-type photoelectric spectrophotometer. C. J. Barton and J. H. Yoe. bibliog il diags Ind & Eng Chem Anal ed 12:166-8 Mr 15 '40
Photo-cell control of water chlorination. J. H. Harrington. il plans Can Eng W & S 78:13-17+ Mr '40; Same. bibliog Am Water Works Assn J 32:859-70 My '40
Photocolorimetric determination of furfural. R. A. Stillings and B. L. Browning. bibliog Ind & Eng Chem Anal ed 12:499-502 S 15 '40
Quantitative determination of indole; modification of Ehrlich's reaction. L. H. Chernoff. bibliog Ind & Eng Chem Anal ed 12:273-4 My 15 '40
Quantitative determination of pentoses. R. E. Reeves and J. Munro. bibliog Ind & Eng Chem Anal ed 12:551-3 S 15 '40
Replacing iodine in determining SO_2 and sulphites; abstract. Paper Ind 22:628 S '40
Riboflavin content of yeasts determined photometrically and biologically. A. E. Schumacher and G. F. Heuser. Ind & Eng Chem Anal ed 12:203-4 Ap 15 '40
Silicomolybdate method for silica. H. W. Knudson, C. Juday and V. W. Meloche. bibliog Ind & Eng Chem Anal ed 12:270-3 My 15 '40
Spekker absorptiometer. il Chem Age (Lond) 42:245 Ap 27 '40
Stability of peroxidized titanium solutions. G. H. Ayres and E. M. Vienneau. bibliog Ind & Eng Chem Anal ed 12:96 F 15 '40
Standard method of test for colorimetric determination of small amounts of copper and manganese in textiles. Textile Col 62: 554-5 Ag '40
Thermoelectric absorptiometer for analytical work. H. H. Willard and G. H. Ayres. bibliog il diag Ind & Eng Chem Anal ed 12: 287-91 My 15 '40

See also
Indicators and test papers

Bibliography
Silica in water. M. C. Schwartz. diags Louisiana State Univ and Agricultural and Mechanical College, Univ Bul v 30, new ser no 14:1-46 '38

COLORING matter
See also
Dyes and dyeing
Pigments

COLORING matter in food
Color certification totals issued by Food and drug administration. Oil Paint & Drug Rep 138:5+ S 16 '40
Color manufacturers ask exemption for dilutions. Oil Paint & Drug Rep 137:3 Ap 1; 3 Ap 8 '40
Drug law color rules facilitate home use. Oil Paint & Drug Rep 136:3+ N 27 '39
United States food dyes, 1939. Textile Col 62:521 Ag '40
What to know about food colors; solubility at different temperatures, reactivity with solvents and container materials. W. H. Kretlow. il Food Ind 12:38-9 My '40

COLORS
Color and the black-out. Textile Col 62:106+ F '40
How many colors. J. H. Archibald. diag Textile Col 62:551-3+ Ag '40
Mixing of colors and paints. F. N. Vanderwalker. 292p $2 Drake '39
What paint colors we use, and why; Industrial rayon corp. il Factory Management 98: 94 Mr '40

See also
Black
Blue
Brown
Color
Green
Orange (color)
Pigments
Pink
Red
Salmon shades
Yellow

COLORSCOPE
Color comparison devices. R. H. Park. bibliog il Am Dyestuff Rep 29:272-8 My 27 '40

COLOSSEUM, Rome
Restoring Rome's Colosseum; recent excavations reveal elevator shafts for raising beasts to the combat level. H. T. Rutledge. il Sci Am 162:150-1 Mr '40

COLOSTRUM
Study of blood serum proteins by electrophoresis. E. Jameson and C. Alvarez-Tostado. bibliog J Phys Chem 43:1165-72 D '39

COLT'S patent fire arms manufacturing company
Brass tacks for the investor; brief analysis. Barron's 20:13 Ap 1 '40

COLUMBIA, South Carolina
Family income and expenditure in the southeastern region, 1935-36; v.1, Family income. A. D. H. Kaplan, F. M. Williams and J. S. Bernard. U S Bur Labor Statistics Bul 647:1-520 '39

COLUMBIA alkali corporation
Laying out a modern industrial laboratory. I. E. Muskat. il Chem Ind 45:531-3 N '39

COLUMBIA broadcasting system
High yield common stocks; thumbnail appraisal. Mag of Wall St 66:418 Jl 13 '40
Registration statement filed. Comm & Fin Chr 150:1274-5 F 24 '40
Thumbnail stock appraisal. Mag of Wall St 67:33 O 19 '40

COLUMBIA gas and electric corporation
Annual report. Comm & Fin Chr 150:2089-90 Mr 30 '40
Columbia gas and electric system and paragraph 11. O. Ely. maps Pub Util 26:227-30 Ag 15 '40
Earnings, 1938 and 1939. Comm & Fin Chr 150:1133 F 17 '40
Further argument held before SEC on integration plan. Comm & Fin Chr 151:2491 O 26 '40
Natural gas and electric system; status under Holding company act appears favorable. W. W. Amos. map Barron's 20:8-9 F 26 '40
SEC approves major steps in integration but refuses to approve entire plan. Comm & Fin Chr 151:545 Jl 27 '40

COLUMBIA power administration (proposed)
Seeks powers thus far denied federal agencies. E. R. Abrams. Annalist 56:533-4 O 24 '40
Utility struggle in decisive phase; climax approaching in Pacific Northwest. J. Maguire. Barron's 20:18 O 28 '40

COLUMBIA river
Barges move oil 200 miles up Columbia river for the California oil companies. il map Nat Pet N 31:85-7 D 13 '39

Bonneville dam
Bonneville completes unit of major substation. il Elec W News ed 114:155 Jl 20 '40
Bonneville crosses the Columbia river. A. A. Osipovich and F. W. Farr. il diags Elec W 113:732-3 Mr 9 '40
Bonneville customer; Aluminum co.; more on the list. Business Week p22+ S 14 '40
Bonneville Dam project seeks iron, steel plant for Oregon. Steel 106:18 Ja 22 '40
Bonneville still seeks customers. il map Business Week p45-7 D 9 '39

COLUMBIA river—Bonneville dam—*Continued*
Bonneville's iron mill; Sierra iron co. iron ore reduction plant at Vancouver, Wash. to use Bonneville power. Business Week p16 Mr 2 '40
Cheap Bonneville power should attract electrometallurgical industries. W. W. R. May. il Min & Met 21:327-9 Jl '40
Coast steel industry? Bonneville seeks a steel mill. il Business Week p22-4 Ja 27 '40
What the administrator says about Bonneville; interview with P. J. Raver. G. C. Tenney. map Elec West 84:27-9 Ja '40

Grand Coulee dam

Cleaning Coulee concrete with air, water and sand. il Eng N 123:660 N 16 '39
Cooling the concrete of Grand Coulee dam. C. Rawhouser. diag Mech Eng 62:715-18 O '40
Fabrication of dam penstock and pump inlet linings for Grand Coulee. il Steel 106:44-6+ Je 17 '40
Grand Coulee and electrometallurgical industries. A. E. Drucker. Mech Eng 62:661-2 S '40
Grand Coulee dam and the Columbia Basin reclamation project. S. E. Hutton. il plan map Mech Eng 62:651-60 S '40
Induction heating applied to Coulee drum gates; de-icing system. R. D. Goodrich, jr. il diags Elec West 85:46-8 O '40
Items to be checked in dam construction; clearance card, Grand Coulee dam. il Eng N 124:467 Mr 28 '40
Steam heat aids concreting as winter comes to Coulee. il Eng N 123:795 D 14 '39

COLUMBIA university
Graduate work in chemistry at Columbia university. Science 92:304 O 4 '40
Honorary degrees conferred. Science 91:567 Je 14 '40

Delamar Institute of public health

Degree of doctor of public health established. Science 91:517-18 My 31 '40

School of engineering

Award of the Egleston medals. Science 90: 509 D 1 '39

COLUMBIAN carbon company
Favored by rising profits from natural gas and improvement in carbon black. P. Dobbs. Mag of Wall St 65:360-1, 381-2 D 30 '39
Production, 1931-39, natural gas sales, and consolidated income statements, 1936-39. Comm & Fin Chr 150:1930 Mr 23 '40

COLUMBIUM
Niobium-iron alloys. R. Genders and R. Harrison. Iron & Steel Inst J 140:29-37, pl 1-5 no 2 '39; Same cond. Engineering 148:514-15 N 3 '39
Radioactive zirconium and columbium from uranium fission. A. V. Grosse and E. T. Booth. Phys R 57:664-5 Ap 1 '40
Tubes for oil heaters; titanium or columbium in 5% Cr-Mo-Si steel. H. Habart. il Metal Prog 37:401-5 Ap '40

Analysis

Qualitative semimicro-analysis with reference to Noyes and Bray's system: the tantalum and the tungsten group. C. C. Miller and A. J. Lowe. Chem Soc J p1258-63 S '40

COLUMBUS, Ohio
Family income and expenditure in nine cities of the east central region, 1935-36; v. 1, Family income. A. D. H. Kaplan, F. M. Williams and R. Hellman. map U S Bur Labor Statistics Bul 644:1-538 '39

Railroads

Federal funds build attractive grade separation structures; three on the Chesapeake & Ohio. il plan Ry Age 107:852-4 D 2 '39

COLUMBUS and Southern Ohio electric company
Bonds offered. Comm & Fin Chr 151:2491-2 O 26 '40

COLUMNISTS, Newspaper
Fortune survey; pundits' progress; who is your favorite newspaper columnist? Fortune 21:90+ Ja '40

COLUMNS
Dimensionless coefficients applied to the solution of column problems. K. G. Merriam. J Aeronautical Sci 7:478-80 S '40
Standard pipes make safe columns or struts. W. F. Schaphorst. Am Gas J 152:23 F '40
Stresses in freely falling chimneys and columns. F. P. Bundy. il diags J Ap Phys 11:112-23 F '40

See also
Architecture
Strains and stresses
Strength of materials

Testing

Fixture for obtaining pin-end conditions in column testing. H. W. Barlow. diag J Aeronautical Sci 7:72-4 D '39

COLUMNS, Concrete
Design of reinforced concrete columns under eccentric loads. F. E. Richart. Am Concrete Inst J 11:513-17 Ap '40
Details of plywood form work for walls, columns, slabs and girders. il diags Concrete 48:13+ Je '40

COLUMNS, Steel
Allowable unit stresses for steel columns; charts and formulas. Roads & Sts 83:58, 60 My '40

Testing

Brief review of steel column tests. L. T. Wyly. bibliog il diags W Soc E J 45:99-113; Discussion. 113-16 Je '40

COMBAT area (term)
Definition of a combat area by the President of the United States. map(supp) Comm Rep p548 Je 22 '40

COMBINES. See Threshing machines

COMBINING weights. See Equivalent weights

COMBUSTION
CO_2 and efficient combustion. S. M. Elonka. Marine Eng 45:65-6 Je '40
Combustion calculations. C. W. Messersmith. Power Pl Eng 44:45-7 Je; 44-5+ Jl '40
Combustion calculations for a continuous glass melting furnace. R. L. Shute and R. K. Hursh. Glass Ind 21:357-9+ Ag '40
Combustion characteristics of town gas; the aeration test burner (model B); 44th report of the joint research committee of the Institution of gas engineers and Leeds university. diags Gas J (Lond) 228:504-6, 511-12 D 6 '39; Abstract. Engineering 148:678-9 D 15 '39
Combustion of common gases; data sheet. Metal Prog 38:586 O '40
Combustion of methane; displacements of mixtures giving maximum flame velocities. A. R. T. Denues and W. J. Huff. bibliog Am Chem Soc J 62:3045-7 N '40
Combustion turbulence. W. T. David. il Engineer 169:250-1 Mr 15 '40
Economies of combustion control in industrial ceramics; fuel waste thru excessive use of air or of time in firing. R. C. Hutchison. bibliog Am Cer Soc Bul 19:295-8 Ag '40
Efficient combustion control promises lower fuel costs. O. F. Campbell. diag Nat Pet N 32:11:53-4 F 21 '40
Ignition in beds of solid fuel. M. A. Mayers and H. G. Landau. bibliog Ind & Eng Chem 32:563-8 Ap '40
Recent views on factors affecting flame velocity. D. T. A. Townend and M. MacCormac. bibliog Gas J (Lond) 229:294, 299-301 F 7 '40; Abstract. Engineering 149:45 Ja 12 '40
Some observations on the combustion characteristics of town gas and its constituents. G. H. Fuidge, W. O. Murch and B. Pleasance. Gas J (Lond) 228:571-3, 575-6 D 13 '39; Abstract. Engineering 148:679 D 15 '39; Discussion. Gas J (Lond) 229:32-4, 81-2 Ja 3-10 '40

COMBUSTION—*Continued*
Space requirement for the combustion of pulverised coal. H. C. Hottel and I. M. Stewart. bibliog Ind & Eng Chem 32:719-30 My '40

See also
Boilers—Firing
Flame propagation
Fuel
Gas and oil engines—Combustion research
Gas burners
Ignition
Inflammable mixtures
Kilns—Firing
Oxidation
Smoke prevention
Spontaneous combustion

COMBUSTION, Heat of
α- and β-Monopalmitin, heats of combustion and specific heats at 25°. T. H. Clarke and G. Stegeman. bibliog Am Chem Soc J 62: 1815-17 Jl '40
Thermal data on organic compounds; modern combustion data for some non-volatile compounds containing carbon, hydrogen and oxygen. J. W. Richardson and G. S. Parks. bibliog Am Chem Soc J 61:3543-6 D '39
Thermal data on organic compounds; modern combustion data for two methylnonanes, methyl ethyl ketone, thiophene and six cycloparaffins. G. E. Moore, M. L. Renquist and G. S. Parks. bibliog Am Chem Soc J 62:1505-7 Je '40
Thermal data; the heats of combustion of urea and guanidine carbonate and their standard free energies of formation. H. M. Huffman. Am Chem Soc J 62:1009-11 My '40

COMBUSTION, Submerged
Development of submerged combustion for recarbonation. L. H. Scott. il Am Water Works Assn J 32:93-7 Ja '40; Abstract. Water Works & Sewerage 86:478-9 D '39

COMBUSTION research
See also Gas and oil engines—Combustion research

COMETS
Comets; twelve sighted by astronomers during 1939. R. D. Potter. Science 90:sup10-11 N 17 '39
Cunningham's comet. Science 92:sup10 S 27; sup11 N 8 '40
Okabayatsis comet. Science 92:sup10 O 18 '40

COMIC strip. See Advertisements, Pictorial—Comic strip

COMMAS. See Punctuation

COMMERCE
American trade faces barriers abroad. P. J. Stevenson. Ann Am Acad 211:51-7 S '40
Charting new routes for commerce; science has changed cargoes and sea lanes. C. M. Hackett. il Nation's Business 28:18-20, 116-20 Mr '40
International trade is necessary to world peace, Secretary Hull declares; quotes from address by Prime Minister Chamberlain. Comm & Fin Chr 149:3485-6 D 2 '39
On the world economic front: post-war period, 1920-Sept. 1939 ended; 1939 record and wartime prospects. W. W. Case. Annalist 55:108-9+ Ja 25 '40
Trade warfare in the future. G. C. Cox; C. Davidson, jr. Barron's 20:3+ Jl 1 '40

See also
Accounting
Advertising
Balance of payments
Banks and banking
Business
Canals
Commercial law
Commercial statistics
Competition
Contracts
Credit
Delivery of goods
European war—Commerce
Exchanges
Export trade
Foreign exchange
Harbors
Imports
Insurance, Marine
Interstate commerce
Maritime law
Marketing
Merchandizing
Merchant marine
Money
Ports
Prices
Purchasing
Restraint of trade
Shipment of goods
Shipping
Tariff
Trade marks
Transportation
Warehousing
Waterways

also subdivision Commerce under names of countries, e.g. Great Britain—Commerce; United States—Commerce

COMMERCIAL aeronautics. See Aeronautics, Commercial

COMMERCIAL correspondence
Bank letters; bank employs a correspondence reviewer. T. M. Day. Banking 32:85-6 Ap '40
Business writing; theory and practice. C. C. Parkhurst and R. Davis. 362p bibliog(p353-7) $3.25 Prentice-Hall '40
Carrier's experiences with centralized correspondence; costs cut by use of bonus plan and machine dictation. M. I. Hart. il Am Business 10:22-4+ S '40
Effective business correspondence. R. R. Aurner. 2d ed abr 470p bibliog(p461-2) $1.32 South-western pub. co. '39
Friendly letters; build customer goodwill, increase volume; De Long hook & eye company. C. A. Emley. Ptr Ink 191:33+ My 3 '40
Goodwill letters that build business. W. H. Butterfield. 300p $3.50; school ed $2.65 Prentice-Hall '40
Good-will letters; unexpected communications pay dividends; Waterman's pens. H. Dorff. Ptr Ink 190:21-2 Ja 19 '40
How to write better business letters. E. A. Buckley. 2d ed 201p $2 McGraw-Hill '40
How to write effective business letters. E. J. Kilduff. 49p Harper '40
Improve your business letters. R. Latham. 188p $2 Bruce Humphries, 306 Stuart st, Boston '39
Is correspondence your bugaboo? W. H. Conant. Barron's 20:20 Je 24 '40
Letters turned to good sales account at L. E. Waterman co., correspondence handled by sales department. H. Dorff. Ptr Ink Mo 40: 46+ Ja '40
Plan for correspondence supervision; abstract. V. Young. Management R 29:170-1 My '40
Since clumsy letters can kill business quicker than good selling can build it, here is an inexpensive and effective plan. Ptr Ink 190: 63-4+ F 16 '40
Why we prefer a centralized correspondence department; eight expense-control and time-saving ideas. V. Young. il Am Business 9: 16-17+ D '39

See also
Collecting of accounts
Complaints
Letterheads
Mailing lists
Sales letters
Stenographers

Form letters
Form messages to customers. J. G. Ross. Am Gas Assn Proc 1939:254-6
Vitamins for anemic form letters; Bantam bearings corp. J. K. Crippen. il Sales Management 46:52, 55-7 F 1 '40

Study and teaching
Manual for effective business correspondence. R. R. Aurner. 2d ed 629p $1.68; abr ed 351p $1.32 South-western pub. co. '39

COMMERCIAL credit company
Annual report. Comm & Fin Chr 150:989-90 F 10 '40
Brass tacks for the investor; brief analysis. Barron's 20:13 F 5 '40

COMMERCIAL investment trust corporation
Annual report. Comm & Fin Chr 150:835 F 3 '40
Brass tacks for the investor; brief analysis. Barron's 20:13 F 5 '40
Statistics of income, capital, stock earnings, etc. 1929-38. Annalist 55:13 Ja 4 '40

COMMERCIAL law
Business law. S. D. Hirschl. 493p, 36p $3.50 LaSalle extension univ, Chicago '39
Business law. O. J. Marston. 753p $8 Lymanhouse, 6544 W. Olympic blvd, Los Angeles '39
Business law for everyday use. A. L. Lavine and M. Mandel. 612p $2 John C. Winston co, Philadelphia '40
Cases and materials in the law merchant. P. W. Thayer. 1296p $7.50 Harvard univ. press '39

COMMERCIAL law—*Continued*
Cases and materials on business associations. B. E. Nicholson. 583p $3.75 Westbrook pub. co, 5800 N Marvine st, Philadelphia '39
Commercial law. T. S. Kerr. 392p $1.60 Macmillan '39
Foreign tariffs and trade regulations. H. Chalmers. Published in weekly numbers of Commerce reports [cont in Foreign commerce weekly under names of countries beginning O 5]
Laws affecting foreign commerce. G. Everett. Published in weekly numbers of Commerce reports [cont in Foreign commerce weekly under names of countries beginning O 5]
New Burgess' commercial law. K. F. Burgess, J. A. Lyons and J. H. Cox. 560p bibliog(p553) $1.48 Lyons & Carnahan, Chicago '39
Principles of business law. E. R. Dillavou and C. G. Howard. 2d rev ed 990p $5; school ed $4 Prentice-Hall '40

See also
Advertising—Laws and regulations
Arbitration
Banking law
Bankruptcy
Bills of lading
Collecting of accounts
Competition, Unfair
Contracts
Corporation law
Debtor and creditor
Export declarations
Food laws and legislation
Foreign exchange
Fraud
Government regulation of industry
Insurance law
Maritime law
Mortgages
Origin, Indication of
Partnership
Patent laws and legislation
Payment
Price fixing
Price fixing, Resale
Public utilities—Law
Railroad law
Real property
Restraint of trade
Trade marks
Trust companies
Trusts, Industrial
Trusts and trustees

Bibliography
Index to the teaching of business law, 1929-1939. P. O. Selby, comp. 71p pa 53c Research press, 611 Harrison st, Kirksville, Mo. '39

Study and teaching
American institute of accountants examination in commercial law, May 12, 1939. J Account 69:63-7 Ja '40
American institute of accountants examination in commercial law, Nov. 17, 1939. J Account 69:486-90, 498-9 Je '40
American institute of accountants examination in commercial law, May 17, 1940. J Account 70:470-2 N '40
Business law objective tests. E. M. Kanzer and M. G. Ascher. rev ed 121p pa 52c Prentice-Hall '40

Australia
Australia and the law of negotiable instruments. J. O. Janousek. Comm Rep p227 Mr 9 '40
Trading under the laws of Australia. J. H. Barkmeier. Compar Law Ser 3:411-17 Ag '40

Brazil
Brazil; installment sales provisions of new code. Comm Rep p7 Ja 6 '40
Documentation for commercial travelers in Brazil. Comm Rep p50 Ja 20 '40

California
Business and protective law; also known as The law of common things in California. M. C. Lineman. 4th ed 293p $2.50 H. M. Lineman, 639 S. Spring st, Los Angeles '39

Colombia
Business law of Colombia, including oil, mining, labor and tax legislation. J. W. Raisbeck, jr. 448p $10 Jarrett ptg. co, Charleston, W.Va. '40

Cuba
Conditional sale in Cuba. H. P. Crawford. Compar Law Ser 3:303-9 Je '40
Distribution methods in Cuba. J. P. Hoover. Compar Law Ser 3:295-302 Je '40

Germany
Delivery of possession under straight bills of lading. W. L. Smyser. Compar Law Ser 3:439-47 Ag '40

Great Britain
Pitman's commercial law. J. A. Slater. 12th ed 279p $1.40 Pitman '39

India
India arbitration act of 1940; text. Compar Law Ser 3:419-30 Ag '40

Latin America
Protest of bills of exchange in Latin America; summarized treatment of rights and liabilities of the parties. H. P. Crawford. Compar Law Ser 3:183-96 Ap '40

New York (state)
New York cases on business law. J. V. O'Neill and B. J. O'Connell. 691p $4 Fordham univ. press, New York '40

New Zealand
Moratorium. For Comm W 1:208 N 2 '40

Paraguay
Commercial law digests. For Comm W 1:65 O 12 '40

Peru
Commercial law digests. For Comm W 1:19 O 5 '40

Philippine Islands
Some aspects of the bill of lading and delivery of property in Philippine law. J. O. Janousek. Comm Rep p794 S 21 '40

Puerto Rico
Summary of 1940 acts of legislature of Puerto Rico. For Comm W 1:259-60 N 9 '40

COMMERCIAL paper
Commercial paper and bankers' acceptances outstanding, Sept. 1938-Nov. 1939. Fed Res Bul 26:38 Ja '40 [cont monthly]
Economic changes in the United States, 1856-1939; chart showing commercial paper rates. Annalist 55:144-5 Ja 25 '40
Value of commercial paper outstanding, monthly, Oct. 31, 1937-Dec. 30, 1939. Comm & Fin Chr 150:359 Ja 20 '40 [cont monthly]

See also
Bills of exchange
Due bills

COMMERCIAL policy
Changing pattern of international economic affairs. H. Feis. 132p bibliog(p131-2) $2 Harper '40
Control of international trade. H. Heuser. 282p $3.50 Blakiston '39
Foreign tariffs and commercial policies during 1939. H. Chalmers. Comm Rep p113-18 F 3 '40
Foreign trade blocs. E. B. Dietrich. Ann Am Acad 211:85-91 S '40
Reconstruction of world trade; a survey of international economic relations. J. B. Condliffe. 427p bibliog(p407-12) $3.75 Norton '40
Trading the Americas' surplus. A. A. Berle, jr. Trusts & Estates 71:175-7 Ag '40

See also
Commercial treaties and agreements
Tariff

COMMERCIAL products
Charting new routes for commerce; science has changed cargoes and sea lanes. C. M. Hackett. il Nation's Business 28:18-20, 116-20 Mr '40

See also
Raw materials

COMMERCIAL solvents corporation
Fast moving low price stocks; thumbnail appraisal. Mag of Wall St 65:230 D 2 '39
Improved profit outlook; new management and new solvents. W. Gates. il Mag of Wall St 66:584-5+ Ag 24 '40
Statistics of income, capital, stock earnings, etc. 1929-39. Annalist 56:12 Jl 4 '40

COMMERCIAL statistics
Belligerents' trade in Europe. Economist 137: 373-4 D 9 '39
Business is business. L. B. Ward. 18p Louis B. Ward, 708 Fisher bldg, Detroit '39
Commercial history and review of 1939. Economist 138:sup3-53 F 17 '40
Economist Trade supplement; new series. Economist 138:sup 1-4 Ja 7 '40 [cont monthly]
German victories force new trade lineup; tabulation. Business Week p52 Jl 6 '40
How's business? weekly and monthly indexes of production and trade. Published in weekly numbers of Barron's
International trade in certain raw materials and foodstuffs by countries of origin and consumption, 1938. 178p pa $1.50 Columbia univ. press '39
International trade statistics, 1938. 345p pa $3 Columbia univ. press '39
U.S. share in world production and trade; graphs. Fortune 22:51 S '40
World commerce and industry. Annalist 55:109 Ja 25 '40 [cont monthly]

See also
Balance of payments
Export trade—Statistics
Imports—Statistics
Market statistics

Bibliography
Sources of data. Survey of Cur Business 1940 Sup p239-40

COMMERCIAL treaties and agreements
American labor and the trade agreements. J. W. Terry. 30p pa 10c Economic policy committee, Fleming bldg, Des Moines, Iowa '39
Announcements under the Reciprocal trade agreements act. Published in weekly numbers of Commerce reports [cont as Foreign commerce weekly beginning O 5]
Argentina-Brazil new most-favored-nation commercial treaty. Comm Rep p164 F 17 '40
Argentina explains stand on failure of negotiations with United States for reciprocal trade pact. Comm & Fin Chr 150:362 Ja 20 '40
British-American trade agreement; American viewpoint, by L. de Rycke; British viewpoint, by A. S. Fletcher; Effect on California agriculture, by J. W. Tapp. Special Lib 30:337-47 D '39
Bulgaria—Germany; commercial agreement. Comm Rep p33 Ja 13 '40
Chilean-United States trade agreement hearings. Comm & Fin Chr 149:3484-5 D 2 '39
Colombia-Italy, most-favored-nation commerce and navigation agreement submitted to Colombian Senate for ratification. Comm Rep p1123 D 2 '39
Continuance of reciprocal trade agreements program essential. C. Hull. Comm & Fin Chr 150:212 Ja 13 '40
Cuba-United States supplementary trade agreement. Comm Rep p1233 D 30 '39
Cuba-United States supplementary trade agreement signed. Comm & Fin Chr 149:3950 D 23 '39
Economic nationalism, trade barriers and the war. J. A. Krout, ed. Academy of Political Science Proceedings 19:1-110 My '40 (pa $2.50)
Effect of the trade agreements. T. W. Wilson, jr. Barron's 20:9 Ja 29 '40
Experience under the reciprocal trade agreements. E. B. Brossard. il Min Cong J 25: 36-9; Discussion. H. Huston. 39:41 N '39
Extension of Reciprocal trade act defended. E. P. Thomas. Comm & Fin Chr 150:217 Ja 13 '40
Extension of Reciprocal trade agreements act; statements made before the Ways and means committee, January 24, 1940. J. D. Conover; E. V. Gent; E. Just. Min Cong J 26:26-32+ Mr '40
Foreign trade under the reciprocal trade agreements program. R. L. Kramer, ed. Ann Am Acad 211:50-91 S '40
FDR stymies Mexico on cut-rate imports. Nat Pet N 31:5+ D 20 '39
German-Rumanian and Italian-Rumanian trade agreements. Comm & Fin Chr 149: 3945-6 D 23 '39
German-Russian new trade treaty signed. Comm & Fin Chr 150:1061 F 17 '40
Germany; special commercial agreement with Turkey signed. For Comm W 1:106 O 19 '40
Germany-Yugoslavia, seventh supplementary commercial agreement provisionally effective. Comm Rep p1124 D 2 '39
Hand made glassware and reciprocal treaties. il Glass Ind 21:51-6 F '40
Hearings in Senate on reciprocal trade agreements following adoption of resolution by House. Comm & Fin Chr 150:1356-7 Mr 2 '40
House passes proposal to continue trade agreements program. Comm & Fin Chr 150: 1211 F 24 '40
Institute filed briefs opposing reciprocal trade agreements. Steel 106:17 F 26 '40
International trade is necessary to world peace, Secretary Hull declares; quotes from address by Prime Minister Chamberlain. Comm & Fin Chr 149:3485-6 D 2 '39
Italy-Yugoslavia revised trade and clearing agreement concluded. Comm Rep p1152 D 9 '39
Japanese-American commercial treaty of 1911 expires as result of United States abrogation. Comm & Fin Chr 150:614 Ja 27 '40
National legislation affecting coal mining. J. D. Conover. Min Cong J 26:20-1 My '40
President Roosevelt to ask Congress for extension of trade agreements act; committee of House Republicans to study pacts; Secretary of State Hull defends trade agreements program. Comm & Fin Chr 149:3798-9 D 16 '39
Protection of American export trade. F. B. Sayre. 93p $1.50 Univ. of Chicago press '40
Reciprocal pacts in crucial test; Argentine blowup shows public reluctance to pay price for Pan-Americanism. il Business Week p15-16 Ja 13 '40
Reciprocal trade pacts; review of their history and effects. R. Kent. il Chem Ind 46: 695-8 Je '40
Reference manual of Latin American commercial treaties. 281p U.S. Tariff commission, Washington '40
Results under the reciprocal trade agreements program during 1939. Comm Rep p61-3 Ja 20; 169-70 F 17 '40
Rumania signs new trade agreement with Germany. Comm & Fin Chr 150:2647-8 Ap 27 '40
Russia-United States sign new trade pact. Business Week p53 Ag 10 '40
Russia-United States trade pact extended. Comm & Fin Chr 151:783 Ag 10 '40
Russo-German trade agreement; skepticism in Berlin. Business Week p60-1 F 24 '40
Senate defeats amendments to bill to extend reciprocal trade program. Comm & Fin Chr 150:2189 Ap 6 '40
Senate votes extension of Reciprocal trade agreements act for three years; President Roosevelt signs measure. Comm & Fin Chr 150:2346 Ap 13 '40
Shall we scuttle our reciprocal trade agreement program? No, say these business leaders from various fields. W. F. Gammage; E. A. Emerson; R. L. Bracken. il Am Business 10:14-16+ Ja '40
Soviet trade pact renewed by U.S. Oil Paint & Drug Rep 138:5, 29 Ag 12 '40
State department ends negotiations with Argentina and Uruguay for reciprocal trade pacts. Comm & Fin Chr 150:211-12 Ja 13 '40
Steel leaders favor reciprocal trade treaty act in principle. Steel 106:23-5 F 19 '40
Synthetic organic chemical manufacturers association files protest against tariff bargaining. Oil Paint & Drug Rep 137:3+ Ja 22 '40
Tariff board reports trade pact effects; tabulation by principal countries. Oil Paint & Drug Rep 137:3+ Ja 22 '40
Trade agreements; a study of democratic methods. J. D. Larkin. 135p $1 Columbia univ. press '40
Trade agreements program defended before House ways and means committee. Comm & Fin Chr 150:623-4, 774 Ja 27-F 3 '40

COMMERCIAL treaties and agreements—*Cont.*
Trade agreements program defended by Secretary Wallace. Comm & Fin Chr 150:363 Ja 20 '40
Trade pacts, bane or blessing? O. McKee, jr. il Nation's Business 28:15-17+ Mr '40
United States increases its share in trade of trade-agreement countries. Comm Rep p141-2 F 10 '40
Venezuela trade agreement concluded. O. Wilson. Ind & Eng Chem News ed 17:699 N 20 '39
Venezuela-United States trade agreement. Comm Rep p1071 N 18 '39
Venezuelan trade treaty defended by Hull. H. D. Ralph. Oil & Gas J 38:25 D 7 '39
Yugoslavian-Reich trade agreement signed; Germany expected to receive 60% of exports. Comm & Fin Chr 151:2417 O 26 '40

Bibliography

Reciprocal trade; a current bibliography; a supplement to the third edition. C. Notz and others, comps. 232p U.S. Tariff commission, Washington '40

COMMISSION on standardization of biological stains
Laboratory. Science 92:73 Jl 26 '40

COMMISSIONERS of deeds
New Jersey notaries and commissioners blue book. W. L. Rockwell, ed. 4th ed 200p $2.50 Soney & Sage co, Newark, N.J. '40

COMMISSIONS (compensation)
See also
Advertising agencies—Commissions
Insurance agents—Commissions
Salesmen—Salaries and commissions

COMMISSIONS on interstate cooperation. See Interstate cooperation

COMMITTEE for industrial organization. See Congress of industrial organizations

COMMODITY credit corporation
Fully guaranteed obligations by agencies, monthly, Nov. 1938-Nov. 1939. Fed Res Bul 26:41 Ja '40 [cont monthly]
Offering of $250,000,000 CCC ¾% notes. Comm & Fin Chr 151:484, 629 Jl 27-Ag 3 '40
U.S. Supreme court refuses review of decision banning priority over loan by Commodity credit corporation. Comm & Fin Chr 151:2423 O 26 '40

COMMODITY exchanges. See Exchanges

COMMON trust funds. See Trusts and trustees—Common trust funds

COMMONWEALTH and southern corporation
Annual report. Comm & Fin Chr 150:3351-3 My 25 '40
Challenges authority of SEC death sentence. Comm & Fin Chr 150:2874 My 4 '40
Faces recapitalization problem. J. F. Childs. map Barron's 20:18 Mr 18 '40
Former policy continues. J. R. Whiting. Elec W 114:221 Jl 27 '40
SEC order to integrate; W. L. Willkie's statement. Comm & Fin Chr 150:1528 Mr 9 '40
Wendell L. Willkie denies statement by Senator Norris that Commonwealth and southern corp. evaded spirit of Holding company act in stock sale of Consumers' power co. Comm & Fin Chr 149:3483 D 2 '39

COMMONWEALTH Edison company
Annual report. Comm & Fin Chr 150:1428-9 Mr 2 '40
Safe stocks for income and protection. Mag of Wall St 66:366+ Je 29 '40

COMMONWEALTH fund
Annual report, 21st. Science 91:89 Ja 26 '40

COMMONWEALTH light and power company
SEC rejects plan for reorganization. Comm & Fin Chr 150:2874 My 4 '40

COMMUNICABLE diseases. See Infectious diseases

COMMUNICATION, Military
See also
Radio communication, Military
Television, Military

COMMUNICATION and traffic
Communications if war comes; defense plans. H. Corey. Pub Util 26:323-30 S 12 '40
Defense set-up for the communications industry. Electronics 13:16-17+ N '40
Future of communications; television, radio facsimile and FM broadcasting will compete with established media. J. V. Sherman. il Barron's 20:20 Jl 22 '40
Inter-office communication systems facilitate industry's operations; automobile industry's intercity telegraph, telephone and teletype systems. E. L. Warner, jr. il maps Automotive Ind 83:50-4+ Jl 15 '40
See also
Aeronautics
Aeronautics, Commercial
Air lines
Airways
Canals
Commerce
Electric traction
Harbors
Highway transportation
Motor vehicles
Phototelegraphy
Postal service
Radio communication
Radio facsimile
Railroads
Rapid transit
River traffic
Road traffic
Roads
Shipping
Street railroads
Street traffic
Telegraph
Telephone
Television
Traffic regulations
Transportation
Travel
Waterways

Mexico

Communications and transportation. J. S. Mejorada. maps Ann Am Acad 208:79-93 Mr '40

COMMUNISM
Bolsheviks and the World war; the origin of the Third International. O. H. Gankin and H. H. Fisher. 856p bibliog(p729-70) $6 Stanford univ. press '40
Clash of political ideals. A. R. Chandler, comp. 273p bibliog(p273) $2.50 Appleton-Century '40
Communism unmasked. A. Gordin. 311p $2.50 I. N. Hord, 327 4th av, New York '40
Fortune survey; about the Communists. Fortune 21:162-3 Je '40
From Marx to Stalin; a critique of communism. J. E. LeRossignol. 442p bibliog(p413-30) $3 Crowell '40
I confess; the truth about American communism. B. Gitlow. 611p $3.75 Dutton '40
Marxism; is it science? M. Eastman. 394p bibliog(p351-82) $3 Norton '40
Modern economic and social systems. R. E. Westmeyer. 604p bibliog(p588-96) $3 Farrar '40
To the Finland station; a study in the writing and acting of history. E. Wilson. 509p $4 Harcourt '40
Trojan horse in America. M. Dies. 366p $2.50 Dodd '40
Two systems; socialist economy and capitalist economy. E. Varga. 268p $2.50 International publishers, New York '39
We are many; an autobiography. E. R. Bloor. 319p $2.50 International publishers, New York '40

COMMUNIST party (United States)
C.P. column; fifth column of Stalin. il Fortune 22:88-9+ N '40
Dies report charges communist influence in consumer groups. J. B. Matthews. Ptr Ink 189:15-16+ D 15 '39

COMMUNITY advertising
Cape Cod advertises as area, and vacationist business jumps to new high. J. Searle. Ptr Ink 189:18-20 D 8 '39
Reno woos industry. Business Week p18 My 11 '40
$6 billion tourist business; banking possibilities in travel promotion. M. F. Blouin. Banking 32:21 Mr; 58 Ap '40
Sun battle; California and Texas sun carnival. Ptr Ink 192:57+ S 6 '40
These copy ideas can draw travel dollars; successful appeals used by states, provinces and communities. C. B. Larrabee and J. Lewis. il Ptr Ink 189:11-14+ D 15; 23-6+ D 22 '39
See also
State advertising

COMMUNITY centers
Administration of public recreation. G. Hjelte. 416p $3 Macmillan '40
Brightmoor; a community in action. 75p bibliog(p74-5) pa $1 Brightmoor community center, 14116 Westbrook av, Detroit '40
Civic center building to honor founder of cement company; Theodore G. Dickinson memorial. il Concrete (mill sec) 48:190 Je '40
Community programs modify school design concepts. Arch Rec 88:86-7 O '40

COMMUNITY chests
Negro employees operate a community chest for Negroes; American cast iron pipe company, Birmingham, Ala. il Factory Management 98:60+ Jl '40

COMMUNITY life
Community schools in action. E. R. Clapp. 429p $3.75 Viking press '39

COMMUNITY natural gas company
Serving 300 cities and towns. C. L. May. il Gas Age 86:43-5 N 7 '40

COMMUNITY power and light company
SEC approves proposed plan of simplification. Comm & Fin Chr 149:3551-2 D 2 '38

COMMUNITY property
Community property law in Oklahoma. F. Eagin and C. E. Eagin. 310p bibliog(p215-16) $4.60 Mid-west ptg. co, Tulsa, Okla. '40
Determination of property as community or separate. Trusts & Estates 69:683-4 D '39
Why community property? critical analysis of its theory, taxation and transfer in California. R. W. Smith. Trusts & Estates 69: 607-12 D '39

COMMUTATION
Commutation in a.c. machines. Electrician 123:276, 291, 314, 332 S 15-O 6 '39

COMMUTATORS
High speed commutators. C. Lynn. il diags Power Pl Eng 44:52-5 Ag '40
Jig to fit brushes to commutators and slip rings. E. G. Key and M. M. Jennings. Power Pl Eng 44:80 Jl '40

Repair

Commutator maintenance. il Power Pl Eng 44:72-3 Ap '40
Commutator maintenance on large machines. Power Pl Eng 44:76-7 F '40

COMPANDOR
Radio extension links to the telephone system. R. A. Heising. diags Bell System Tech J 19:627-9 O '40

COMPANY towns
Model community at Port Sulphur; development by the Freeport sulphur co. il Chem & Met Eng 46:762-3 D '39
Old board mill experiences reincarnation; Canadian paperboard property at Frankford converted to shoe production by Bata. G. W. Dickson. il Pulp & Pa of Can 41:326-7 Ap '40
Painting at Callaway; methods employed in mill and village. il Textile World 90:68-70 My '40
Selling mill houses to employees. H. L. Herring. il Textile World 90:54-5+ Je '40
What's ahead for the mill village? D. G. Woolf. Textile World 90:114-15 F '40

COMPANY unions
Independent labor organizations and the National labor relations act. F. T. Bow. 120p $2 Prentice-Hall '40

See also
Employees' representation in management

COMPARATORS
Adjustable gages used as comparators. G. C. Lawrence. diags Am Mach 84:58 F 7 '40
Gaertner versatile projection comparator. il Am Mach 84:639 Ag 21 '40
Gillette abrasive stone comparator. D. H. Harris. il diags Iron Age 146:32-8 Ag 22 '40
Methods of measurement; optical and electrical units for comparison magnifying. C. C. Street. il diags Am Mach 84:612-15 Ag 21 '40
Sigma mechanical comparator. il diag Engineering 150:390 O 11 '40; Automobile Eng 30:274-5 S '40

COMPASS

See also
Radio compass

COMPENSATION (law)

See also
Damages
Workmen's compensation

COMPETITION
Avoid creating more competitors; employees should sign agreement not to engage in printing business. C. R. Rosenberg, jr. Inland Ptr 105:24-5 Jl '40
La concurrence, le profit, les ententes économiques. J. Carlioz. Chimie & Ind 42:919-21 N '39
Monopolistic competition and general equilibrium theory. R. Triffin. 197p $2.50 Harvard univ. press '40
Pattern of competition. W. H. Hamilton. 106p $1.25 Columbia univ. press '40
What is competition? Ry Age 109:134 Jl 27 '40

See also
Chain stores
Monopolies
Price fixing
Products, Secondary
Trusts, Industrial

COMPETITION, International
Competing for Latin American markets. L. B. Clark. Ann Am Acad 211:164-72 S '40

COMPETITION, Unfair
Control of competition in Canada. L. G. Reynolds. 324p bibliog(p313-18) $3.50 Harvard univ. press '40
F.T.C. cites advertising firms; nineteen New York city distributors of ready-made advertising materials. Ptr Ink 192:57 S 13 '40
Trade associations must know antitrust law processes. J. M. F. Donovan, jr. Oil Paint & Drug Rep 138:5+ Ag 19; 3+ Ag 26 '40
Unfair competition and the Cincinnati agreement. H. F. Schaefer. Oil Paint & Drug Rep 138:55-7 N 11 '40
When printers compete unfairly. C. R. Rosenberg, jr. Inland Ptr 105:43-4 My '40

See also
Federal trade commission
Restraint of trade

COMPETITIVE bidding. See Bidding, Competitive

COMPLAINTS
Analysis of customer complaints; abstract. W. J. Pilat. Management R 29:101-2 Mr '40
Expert trouble-shooting can turn customers' complaints into sales opportunities; how ten types of salesmen handle things. D. B. Taylor. Ptr Ink 191:25-6, 30 Ap 12 '40
Letters of apology; Waterman uses 3-point formula in handling misunderstandings with dealers. H. Dorff. Ptr Ink 192:55-6+ Ag 23 '40
When customers complain, slip on the kid gloves. Sales Management 46:88 Je 15 '40

See also
Electric utilities—Complaints
Waterworks—Complaints

COMPLEX salts. See Salts, Complex

COMPOSITION (art)
Design analysis; six posters and advertisements described on the basis of composition and optical construction. H. Bayer. il diags Adv & Sell 33:32a-32d F '40

COMPOUND words
Compound words in scientific nomenclature. A. M. Ball. Science 91:545-6 Je 7 '40
Compounding reduced to system; review of Ball's "Compounding in the English language." E. N. Teall. Inland Ptr 104:68-9 N '39
Mr Hyphen won't wear corsets. E. N. Teall. Inland Ptr 104:65-6 F '40

COMPRESSED air
Air cleaners for clean spraying of organic finishing materials. L. F. Johnston. il diags Metal Ind 38:297-9 My '40
Automatic sheet-metal riveting machine operated by compressed air. P. Grodzinski. diag Mach 46:253-4 D '39
Building a big sewer in bad ground; compressed air tunneling methods; Memphis, Tenn. W. B. Fowler. il diags map Eng N 124:720-3 My 23 '40
Circuit breaker has air blast as interrupting element. il Blast F & Steel Pl 28:498+ My '40
Circuit interruption by air blast. W. S. Edsall and S. R. Stubbs. bibliog il diags Elec Eng 59:Trans 503-9 S '40
Compressed air data; handbook of pneumatic engineering practice. F. W. O'Neil and others, eds. 5th ed 408p $3 Compressed air magazine co, Phillipsburg, N.J. '39
Compressed air empties oil drums. A. Gray. diag Power 84:43 Ja '40
Compressed air in the bottleneck industry; Gisholt machine co. J. Hazlewood. il Comp Air M 45:6280-2 N '40
Compressed air interrupts high-voltage circuits; axial air-blast circuit breaker. H. W. Martin. il diags Power 84:438-9+ Jl '40
Compressed air jets as a means of placing concrete. M. L. Davis. Am Concrete Inst J 11:317-19 Ja '40; Discussion. 11:413-14, 517-18, 685-6 F, Ap, Je '40
Cross-air-blast circuit breaker. D. C. Prince, J. A. Henley and W. K. Rankin. bibliog il Elec Eng 59:Trans 510-17 S '40
Davidson axial-flow compressed-air driven fans. il Engineering 149:561 Je 7 '40
Design and construction of high-capacity air-blast circuit breakers. H. E. Strang and A. C. Boisseau. il diags Elec Eng 59:Trans 522-7 S '40
Electric clocks measure compressed-air flow. H. P. King. Power 84:43-4 Ja '40
Handy men to many industries; R. Steel & sons, operates combined forge and machine shop; use of compressed air. R. G. Skerrett. il Comp Air M 45:6145-6 My '40
Making old tires like new. H. W. Young. il Comp Air M 45:6061-4 Ja '40
New 15-kv pneumatic circuit interrupter. L. R. Ludwig, H. L. Rawlins and B. P. Baker. bibliog il diags Elec Eng 59:Trans 528-33 S '40
Pneumatic blow gun. diags Engineering 150: 78 Jl 26 '40
Pneumatic handling in an asbestos mine; mechanical chute gates. L. Dikansky. diags Mech Handling 27:125-6 Je '40
Problems of compressors and compressed gases in industry. R. L. Quertier. il diags Inst Chem Eng Trans 17:80-105; Discussion. 105-8 '39 [for abstracts see 1939 annual]
Pulling oil-well casing with air pressure. F. R. Cozzens. il Comp Air M 45:6111 Mr '40
Recent developments in compressed air circuit breakers; data taken from various papers. il diags Power Pl Eng 44:78-82 S '40
Removing water from compressed air; Victor Aridifier. il Iron Age 146:36 Ag 22 '40
Shower baths for motor cars; multiple-nozzle washer uses compressed air and water. A. S. Park. il Comp Air M 44:6036-9 D '39
Study of the flow of air in tubes in the pressure range 1 to 300 atmospheres. R. W. Moulton and W. L. Beuschlein. bibliog diag plan Am Inst Chem Eng Trans 36:113-33 F '40
Sudden discharge of air from a pressure vessel. S. J. Davies. il diag Engineering 149: 17-18 Ja 5 '40
Theory of gas compression and circulation. D. M. Newitt. diags Inst Chem Eng Trans 17: 153-68; Discussion. 168-70 '39
Up from forty fathoms; rescuing men from submarine Squalus and raising boat. R. G. Skerrett. il diags map Comp Air M 44:6003-9 N '39
Water condensed from compressed air; chart. Power Pl Eng 44:92 Jl '40
Westinghouse compressed-air breaker tested. il diag Elec West 84:48 Ap '40

See also
Air brakes
Air compressors
Caissons
Pneumatic conveying
Pneumatic tools
Spraying apparatus

Safety devices and measures
Danger in the air hose. D. L. Hartnett. il Nat Safety N 41:179 Mr '40
Don't use compressed air to empty barrels or drums; dangerous practices. G. Edwards. il Power 84:171 Mr '40

COMPRESSED air lines
Broom and Wade air hose coupling. il diags Engineer 168:577 D 8 '39
Hose coupling with automatic cut-off valve. diags Engineering 148:596-7 N 24 '39
Piping change improves valve operation. J. Platt. diags Power 84:454 Jl '40
Prevent pulsations in compressor piping. S. H. Coleman. Power Pl Eng 44:87 S '40

COMPRESSED gases. See Gases, Compressed

COMPRESSIBILITY
Compressibility burble and the effect of compressibility on pressures and forces acting on an airfoil. J. Stack, W. F. Lindsey and R. E. Littell. bibliog il diags U S Nat Advisory Com for Aeronautics 1939:73-96 '40
Compressions to 50,000 kg/cm². P. W. Bridgman. Phys R 57:237-9 F 1 '40
Grüneisen's constant for the incompressible metals. J. C. Slater. bibliog Phys R 57: 744-6 Ap 15 '40
Measurements of compressibility of consolidated oil-bearing sandstones. C. B. Carpenter and G. B. Spencer. U S Bur Mines Rep of Invest 3540:1-20, pl 1-5 '40
Phase equilibria in hydrocarbon systems; methane-*n*-butane system in the gaseous and liquid regions. B. H. Sage, R. A. Budenholzer and W. N. Lacey. bibliog Ind & Eng Chem 32:1262-77 S '40
Pressure-volume-temperature relations for *n*-butane. W. B. Kay. Ind & Eng Chem 32:358-60 Mr '40
Pressure-volume-temperature relations of *n*-hexane and of 2-methylpentane. E. A. Kelso and W. A. Felsing. bibliog Am Chem Soc J 62:3132-4 N '40
P-V-T relations of propylene. W. E. Vaughan and N. R. Graves. bibliog il diag Ind & Eng Chem 32:1252-6 S '40
Theoretical study of the moment on a body in a compressible fluid. C. Kaplan. diags U S Nat Advisory Com for Aeronautics 1939:581-98 '40
Viscosity of gases and vapors at high pressures. E. W. Comings and R. S. Egly. bibliog Ind & Eng Chem 32:714-18 My '40

See also
Compressometers

COMPRESSOMETERS
Compression tests on rayon flock. E. J. Saxl. il Rayon 21:356-8, 429-30 Je-Jl '40

COMPRESSORS
Air conditioning compressors. il diags Refrig Eng 38:346-7 D '39
Determining power requirements for refrigeration compressors. R. J. Panlener. Heating-Piping 12:313-14 My '40
Engine temperature control by recirculation and mixing. T. N. Adlan. diags Power Pl Eng 44:68 S '40
How to line-up duplex machines. H. B. Dieter. diags Power 84:108-9 F '40
New compressors save power and space; air-conditioning installation at the State-Lake theatre, Chicago. il Elec W 113:1546+ My 18 '40
Problems of compressors and compressed gases in industry. R. L. Quertier. il diags Inst Chem Eng Trans 17:80-105; Discussion. 105-8 '39 [for abstracts see 1939 annual]
Review of power and mechanical equipment; compressors. il Power 83:793 Mid-D '39
Theory of gas compression and circulation. D. M. Newitt. diags Inst Chem Eng Trans 17:153-68; Discussion. 168-70 '39

COMPRESSORS—*Continued*
Turbine driven centrifugal machine improves the plant's heat balance. W. S. Bodinus. Heating-Piping 12:534 S '40
Les turbocompresseurs à gaz légers pour les usines d'hydrogénation et les fabriques d'ammoniaque synthétique. diags Génie Civil 116:32-3 Ja 13 '40
Valve designs for small compressors. S. R. Hirsch. il Refrig Eng 39:227-8+ Ap '40
Weber research engineer builds world's smallest working compressor. il Refrig Eng 40: 322 N '40

See also
Air compressors
Gas compressors

Vibration

Vibration control in compressor equipment; Rex Vibra-Sorber. Refrig Eng 38:356 D '39

COMPTON, Arthur Holly, 1892-
Presentation of the Franklin medal. Franklin Inst J 230:257-9 Ag '40

COMPTROLLERS. See Controllers

COMPULSORY labor. See Labor, Compulsory

COMSTOCK lode, Nevada
Propylitization and related types of alteration on the Comstock lode. R. Coats. Econ Geol 35:1-16 Ja '40

CONCENTRATION cells
Electrochemical potential differences at the boundary copper-insulating liquids. A. Gemant. bibliog diags Electrochem Soc Trans 78 (preprint 21):297-309 O '40

CONCHAR, Robert
Sketch. por Soc Dyers & Col J 56:69 F '40

CONCILIUM bibliographicum
Concilium bibliographicum; wishes to dispose of catalogs and biological periodicals. Science 92:122 Ag 9 '40

CONCRETE
Action of alkalis on blast-furnace slag. A. O. Purdon. Soc Chem Ind J 59:191-202 S '40
American concrete institute 36th annual meeting, Chicago. Eng N 124:346-7, 385-8 Mr 7-14 '40
Annual meeting of A.S.T.M. adopts new standards. Concrete 48:8 Ag '40
Antique art of mortar making; nature and properties of Roman concretes; abstract. F. Mueller-Skjold. Am Concrete Inst J 11:327-8 Ja '40
Artificial pozzolanas found fully equal to natural products. Concrete (mill sec) 48: 156-7 Ap '40
Cement and concrete are not what they used to be. R. E. Davis. il Min & Met 20: 537-41 D '39
Concrete control; masonry dams. I. L. Tyler. bibliog il Am Soc C E Proc 66:891-907 My '40; Discussion. 66:1543-53, 1559-61 O '40
Concrete for dams must be of highest quality. il diags Concrete 48:16, 18+ N '40
Concrete for machine tools. H. Kent-Norris. diag Engineer 170:187 S 20 '40
Concrete technology. M. N. Clair. Boston Soc C E J 27:183-206 Jl '40
Properties of concrete mixes. R. F. Blanks and others. Am Concrete Inst J 11:433-75 bibliog(72 titles, p472-5) Ap '40; Discussion. 12:sup476[1]-476[7] S '40
Road protection; bags of green concrete laid as rip-rap. il Sci Am 163:136 S '40
Uses of concrete in transportation; highways, railways, airports. M. D. Catton. il Can Eng R & B 78:22-4 Ag '40
Les valeurs pratiques du module d'élasticité du béton. Génie Civil 116:252-3 Ap 13 '40

See also
Bridges, Concrete
Cement
Concrete, Reinforced
Concrete construction
Concrete lining
Concrete products
Gunite
Oil reservoirs, Concrete
Pavements, Concrete
Pipes, Concrete
Roads—Foundations—Concrete
Roads, Concrete
Ships, Concrete

Aggregate

Application of some of the newer concepts to the design of concrete mixes. W. M. Dunagan. bibliog il diags Am Concrete Inst J 11:649-84 Je '40; Discussion. 12:sup684[1]-684[5] S '40
Blend natural with pulverized sand; Iron City sand and gravel co. il diag Rock Prod 43:24-6 S '40
Concrete aggregate development on the Claytor hydro project. G. W. Hutchinson. il Am Concrete Inst J 11:273-95 Ja '40; Discussion, C. A. G. Weymouth. 12:sup296[1]-296[3] S '40
Concrete for Pensacola dam. M. G. Fuller. il Eng N 124:156-7 F 1 '40
Concrete-making properties of natural aggregates. W. H. Wood. Concrete 48:28 Jl '40
Conveyor to handle aggregate at Shasta dam. Power Pl Eng 44:128 Ja '40
Crushing, sizing, testing and specifying of aggregates (cont). E. T. Nettleton. il Rock Prod 43:25-6 Ja; 29-30+ F; 43-4 Mr; 39-40 Ap, 44-5 My; 31-2 Je; 39-40 Jl; 31-2 Ag; 43-4 O; 44+ N '40 (to be cont)
Detecting unsound chert in aggregates. C. E. Wuerpel. il Eng N 124:652-4 My 9 '40
Four methods for grading cinder aggregates. S. Paturzo. Concrete 48:22+ O '40
Influence of cement and aggregate on concrete expansion; destructive action between alkali, chert and shale. T. E. Stanton, jr. il Eng N 124:171-3 F 1 '40
Iron blast-furnace slag becomes important constructional material. W. H. Caruthers. Min & Met 21:337-40 Jl '40
Long field conveyors and tractors solve transportation problem; Friant Dam aggregates plant. H. K. Herrick. il Rock Prod 43:36-8 N '40
Make stone sand a new way; Pittsburgh limestone corp. R. Nordberg. il diags Rock Prod 43:35-8 Mr '40
Modified procedure for testing concrete aggregate soundness by use of magnesium sulfate. C. E. Wuerpel. Am Soc T M Proc 39:882-9; Discussion. 890-1 '39
Moisture-determination flask. il Can Eng R & B 78:44 Mr '40
New laboratory method for determining the organic matter in washed fine aggregates. I. Paul. il Am Soc T M Proc 39:892-8; Discussion. 899 '39
New method of proportioning of concrete aggregates; abstract. F. Mogensen. Am Concrete Inst J 11:326-7 Ja '40
Obtaining fineness modulus of concrete aggregates. Concrete 48:8 N '40
Pennsylvania Turnpike; fitting plants for increased production. il Rock Prod 43:45-50 S '40
Pennsylvania Turnpike; specifications for aggregates and cement. il Rock Prod 43: 39-42+ S '40
Preparing the aggregate for Shasta concrete. flow sheet il Eng N 125:100-1 Jl 18 '40
Properties of concrete mixes. R. F. Blanks and others. Am Concrete Inst J 11:455-67 Ap '40; Discussion. 12:sup476[1]-476[7] S '40
Recommended practice and standard specifications for concrete and reinforced concrete; materials. Am Soc C E Proc 66:4-9 pt 2 Je '40
Resistance of concrete to freezing and thawing. W. H. Wood. Concrete 48:8 My '40
Revised application of fineness modulus in concrete proportioning. H. L. Kennedy. Am Concrete Inst J 11:597-613 Je '40; Discussion. 12:sup616[1]-616[7] S '40
Screenings plus bank sand make concrete aggregate; Grant-Pacific rock co. il Rock Prod 43:27-8 Je '40
Selection of aggregates for concrete pavement based on service records. C. Cantrill and L. Campbell. il Am Soc T M Proc 39:937-45; Discussion. il 946-9 '39
Tests on concrete masonry units using tamping and vibration molding methods; units made with cinders, Haydite, limestone, Pottsco, sand and gravel, Superock and

CONCRETE—Aggregate—*Continued*
Waylite. K. F. Wendt and P. M. Woodworth. il diags Am Concrete Inst J 11:121-63 N '39; Excerpts. Concrete 47:10, 12+ D '39; Discussion. Am Concrete Inst J 12:sup 164[1]-164[10] S '40
Thermal volume change and elasticity of aggregates and their effect on concrete. T. F. Willis and M. E. De Reus. il diags Am Soc T M Proc 39:919-28; Discussion. 929 '39
Tough requirements and too many specifications for aggregates. B. Nordberg. Rock Prod 43:67+ Ja '40

Bibliography
Current reviews of significant contributions in foreign and domestic publications. Published in American concrete institute journal

Cinder concrete
Four methods for grading cinder aggregates. S. Paturzo. Concrete 48:22+ O '40
How cinder units in floor construction increase your market. L. P. Kooken. il Concrete 48: 20, 23-4 N '40
Volcanic cinder block; Utah concrete pipe co. il Rock Prod 43:57 Jl '40

Cleaning
Cleaning Coulee concrete with air, water and sand. il Eng N 123:660 N 16 '39

Coloring
Architectural concrete slabs; panels with exposed aggregate surface. il Am Bld 62:39-40+ Ja '40
Coloring concrete floors. I. A. Butcher. Eng N 125:300 Ag 29 '40
Red concrete for slow traffic. W. N. Rees. il Eng N 125:212-13 Ag 15 '40

Cooling
Cooling the concrete of Grand Coulee dam. C. Rawhouser. diag Mech Eng 62:715-18 O '40
York refrigerates Marshall Ford dam. Refrig Eng 39:312 My '40

Curing
Automatic device to cure concrete products. il Rock Prod 43:81 Ag '40
Cost of curing concrete pavements with cotton mats. R. A. Marr, jr. il Pub Roads 20:215-16+ Ja '40; Same. Concrete 48:33-4 S '40
Curing and test conditions affect strength of specimens. R. B. B. Moorman and H. D. Comins. Concrete 48:33-4 N '40
Curing joists by electricity; Columbia concrete products co. il Rock Prod 43:55-6 Jl '40
Experiences building and curing cement concrete roads; Suffolk county, New York. H. Tuthill. il Pub Works 71:24+ S '40
Low and high pressure curing; McDearmon concrete products plant. il Rock Prod 43:59-60 Je '40
New type of curing to reduce moisture content of concrete masonry units; abstract. W. E. Barney. Rock Prod 43:70+ Mr '40
Reduce yard storage by steam curing; plant of L. G. Randolph. il Rock Prod 43:87-8 Ag '40
Testing the efficiency of concrete curing methods. H. D. Dewell. Am Concrete Inst J 11:529-30 Ap '40

Cutting
Carrying stock lengths of precast joists is now practical. D. J. Warsaw. Concrete 48: 14+ My '40; Abstract. Rock Prod 43:67-8 Mr '40
Wharf gets 600 new piles through old deck at Long Beach, Calif.; drilling 18-in. holes through reinforced concrete; steel H-beams as replacement piles. il diag Eng N 123:750-2 D 7 '39

Durability
Concrete masonry industry tests its products for strength and durability; abstract. P. M. Woodworth. Rock Prod 43:69-70 Mr '40
Effect of Biot's modulus on transient thermal stresses in concrete cylinders. G. Pickett. Am Soc T M Proc 39:913-18 '39
Effect of variations in method upon the results of freezing and thawing mortars. B. Myers. il Am Soc T M Proc 39:930-6 '39
Lean concrete mixes; a study of the effect of cement content, fineness of compressive strength, durability and volume change of concrete. E. Gruenwald. Am Soc T M Proc 39:810-40; Discussion. 841-50 bibliog(p850) '39
Portable apparatus for determining the relative wear resistance of concrete floors. L. Schuman and J. Tucker, jr. bibliog pls diags J Research Nat Bur Stand 23:549-70 N '39; Abstract. Concrete 48:5-6 Ap '40

Expansion and contraction
Attempts to measure the cracking tendency of concrete. R. W. Carlson. Am Concrete Inst J 11:533-7 Je '40; Discussion. 12:sup 540[1]-540[9] S '40
Influence of cement and aggregate on concrete expansion; destructive action between alkali, chert and shale. T. E. Stanton, jr. il Eng N 124:171-3 F 1 '40
Lean concrete mixes; a study of the effect of cement content, fineness on compressive strength, durability and volume change of concrete. E. Gruenwald. Am Soc T M Proc 39:810-40; Discussion. 841-50 bibliog(p850) '39
Plain and reinforced concrete arches; report of committee 312. Am Concrete Inst J 12: 1-11 S '40
Stress increases in compressive steel under constant load caused by shrinkage. G. A. Maney and M. R. Lagaard. diags Am Concrete Inst J 11:541-52 Je '40; Discussion. 12:sup552[1]-552[11] S '40
Thermal volume change and elasticity of aggregates and their effect on concrete. T. F. Willis and M. E. De Reus. il diags Am Soc T M Proc 39:919-28; Discussion. 929 '39

Failure
Attempts to measure the cracking tendency of concrete. R. W. Carlson. Am Concrete Inst J 11:533-7 Je '40; Discussion. 12:sup 540[1]-540[9] S '40
Concrete control; masonry dams. I. L. Tyler. Am Soc C E Proc 66:902-5 My '40
L'influence de la qualité des ciments et de la répartition des armatures dans la fissuration du béton armé. diags Génie Civil 116:47-9 Ja 20 '40
Pavement spalling causes and a suggested remedy; effect of freezing, thawing and ice control. A. W. Wickesberg. il Pub Works 71:26+ Je '40
Reconstruction of the ice skating rink at the University of Illinois; corrosion of brine pipes cause failure of original floor. J. Doak. il Am Concrete Inst J 11:3-8 S '39; Discussion. 11:sup20[1]-20[6] F '40

Finishing
Recommended practice and standard specifications for concrete and reinforced concrete; surface finishes. Am Soc C E Proc 66:35-42 pt 2 Je '40
Vacuumized concrete and terrazzo finish placed on same day; Rockefeller Center skating pond. il Concrete 48:42 Mr '40

Freezing
Effect of variations in method upon the results of freezing and thawing mortars. B. Myers. il Am Soc T M Proc 39:930-6 '39
Frost resistant concrete. R. B. Young. il Am Concrete Inst J 11:477-90 Ap '40; Excerpts. Eng N 124:385 Mr 14 '40; Discussion. Am Concrete Inst J 12:sup492[1]-492[8] S '40
Pavement spalling causes and a suggested remedy; effect of freezing, thawing and ice control. A. W. Wickesberg. il Pub Works 71:26+ Je '40
Resistance of concrete to freezing and thawing. W. H. Wood. Concrete 48:8 My '40
Tests on concrete masonry units using tamping and vibration molding methods; units made with seven different aggregates. K. F. Wendt and P. M. Woodworth. il diags Am Concrete Inst J 11:121-63 N '39; Excerpts. Concrete 47:10, 12+ D '39

CONCRETE—Freezing—*Continued*
What to expect of frozen concrete. Am Concrete Inst J 11:669-7 Je '40

See also
Concrete construction in winter

Heating

Delivering warm ready-mixed concrete during winter months. il Concrete 48:13+ N '40
Steam heat aids concreting as winter comes to Coulee. il Eng N 123:795 D 14 '39

Mixing

See Concrete mixing

Painting

White concrete paint said to be hard as porcelain. il Concrete 47:18 D '39

Permeability

Methods for measuring the passage of water through concrete. W. M. Dunagan. bibliog il diags Am Soc T M Proc 39:866-80; Discussion. 881 '39
Permeability, acid, and absorption tests of mortars used in dry tamped silo staves. C. A. Hughes. il diag Am Concrete Inst J 11: 553-78 Je '40
Some observations of the water vapor permeability of concrete. H. J. Barre. bibliog il diags Am Soc T M Proc 39:860-5 '39
Tests of the resistance to rain penetration of walls built of masonry and concrete; tests of 101 wall specimens built of concrete masonry, cast-in-place concrete and solid brick faced masonry. R. E. Copeland and C. C. Carlson. il diags Am Concrete Inst J 11:169-92 N '39; Excerpts. Concrete 48:22, 24+ Ap '40; Discussion. Am Concrete Inst J 12:sup 192^{1}-192^{12} S '40

Pre-stressing

Compressed concrete. R. E. Dill. il Eng N 124:633 My 9 '40
Photoelastic analysis of a prestressed beam. F. O. Anderegg, R. Weller and B. Fried. il Am Soc T M Proc 39:979-82; Discussion. 983-6 '39
Prestressed concrete tank features special details; abstract. R. C. Kennedy. Am Concrete Inst J 11:701-2 Je '40
Pre-stressed 108-ft. girders in German bridge. G. N. Brekke. il diag Eng N 124:452 Mr 28 '40

Protection

Armco blast plates for protection of concrete surfaces of bridges or tunnels from locomotive exhaust. diags Ry Age 108:459 Mr 9 '40
Bituminöse schutzanstriche für bauwerke. W. Becker. bibliog Angew Chemie 53:82-8 F 17 '40
Recommended practice and standard specifications for concrete and reinforced concrete; waterproofing and protective treatments. Am Soc C E Proc 66:29-34 pt 2 Je '40

Shrinkage

See Concrete—Expansion and contraction

Specifications

Pennsylvania Turnpike; specifications for aggregates and cement. il Rock Prod 43: 39-42+ S '40
Recommended practice and standard specifications for concrete and reinforced concrete. Am Soc C E Proc 66:1-122 pt 2 Je '40; Discussion. 66:1351-67, 1710-12, 1846-8 S, N-D '40

Strength

Concrete formula based on 6,000 tests. N. M. Finkbiner and G. W. Harra. Eng N 125:357-8 S 12 '40
Concrete masonry industry tests its products for strength and durability; abstract. P. M. Woodworth. Rock Prod 43:69-70 Mr '40
Curing and test conditions affect strength of specimens. R. B. B. Moorman and H. D. Comins. Concrete 48:33-4 N '40
Delayed placing of concrete improves quality. R. H. A. Johnson. Concrete 48:48 Mr '40
Designing concrete mixtures for pavements. W. F. Kellermann. il Pub Roads 21:121-6+ S '40
Effect of variations in method upon the results of freezing and thawing mortars. B. Myers. il Am Soc T M Proc 39:930-6 '39
Lean concrete mixes; a study of the effect of cement content, fineness on compressive strength, durability and volume change of concrete. E. Gruenwald. Am Soc T M Proc 39:810-40; Discussion. 841-50 bibliog(p850) '39
Strength of low-heat cement at 28 days. Am Concrete Inst J 11:687-8 Je '40

Surfaces

Concrete surfaces improved by absorptive form lining for spillways of high dams. il Eng N 124:40-2 Ja 4 '40
Find way to eliminate voids under forms on concrete surface; form lining of absorptive insulating board. C. O. Crane. il Concrete 48:5-6+ Mr '40

Temperature effects

Effect of Biot's modulus on transient thermal stresses in concrete cylinders. G. Pickett. Am Soc T M Proc 39:913-18 '39
Thermal volume change and elasticity of aggregates and their effect on concrete. T. F. Willis and M. E. De Reus. il diags Am Soc T M Proc 39:919-28; Discussion. 929 '39

Testing

American standard specifications for sieves. J. C. Pearson. Am Concrete Inst J 11: sup[news letter] 10, 12 Je '40
Attempts to measure the cracking tendency of concrete. R. W. Carlson. Am Concrete Inst J 11:533-7 Je '40; Discussion. 12:sup 540^{1}-540^{3} S '40
Comparison of the physical and mechanical properties of hand rodded and vibrated concrete made with different cements. G. W. Washa. bibliog Am Concrete Inst J 11:617-45 Je '40; Discussion. 12:sup 648^{1}-648^{4} S '40
Concrete aggregate development on the Claytor hydro project. G. W. Hutchinson. il Am Concrete Inst J 11:273-95 Ja '40
Concrete design for large precast concrete pipe. P. M. Putnam. Boston Soc C E J 27: 33-5 Ja '40
Concrete for hydraulic structures. G. S. Latin. il diags Engineer 168:527-8, 550-1 N 24-D 1 '39
Concrete formula based on 6,000 tests. N. M. Finkbiner and G. W. Harra. Eng N 125:357-8 S 12 '40
Curing and test conditions affect strength of specimens. R. B. B. Moorman and H. D. Comins. Concrete 48:33-4 N '40
Designing concrete mixtures for pavements. W. F. Kellermann. il Pub Roads 21:121-6+ S '40
Effect of Biot's modulus on transient thermal stresses in concrete cylinders. G. Pickett. Am Soc T M Proc 39:913-18 '39
Flow method for the determination of the effects of soluble chemicals on concrete. D. G. Miller, C. F. Rogers and P. W. Manson. il diags Am Soc T M Proc 39:900-7; Discussion. 908-12 '39
Further tests on the use of lime in concrete; abstract. W. C. Voss. Concrete 48:35 Je '40
Methods for measuring the passage of water through concrete. W. M. Dunagan. bibliog il diags Am Soc T M Proc 39:866-80; Discussion. 881 '39
Permeability, acid, and absorption tests of mortars used in dry tamped silo staves. C. A. Hughes. il diag Am Concrete Inst J 11: 553-78 Je '40
Portable apparatus for determining the relative wear resistance of concrete floors. L. Schuman and J. Tucker, jr. bibliog pls diags J Research Nat Bur Stand 23:549-70 N '39
Proposed method of test for volume change. diags Concrete (mill sec) 48:203-4 Jl '40
Relative effects of tamping and vibration; abstract. K. F. Wendt and P. W. Woodworth. Eng N 124:387 Mr 14 '40

CONCRETE—Testing—*Continued*
Revised application of fineness modulus in concrete proportioning. H. L. Kennedy. Am Concrete Inst J 11:597-613 Je '40; Discussion. 12:sup613-616 S '40
Some observations of the water vapor permeability of concrete. H. J. Barre. bibliog il diags Am Soc T M Proc 39:860-5 '39
Sonic method for studying effect of freezing and thawing on concrete. Franklin Inst J 229:107 Ja '40
Sonic method of determining the modulus of elasticity of building materials under pressure. O. Obert. diags Am Soc T M Proc 39:987-95; Discussion. 996-8 '39
Statistical analysis of compression tests on mortar cylinders, cubes and prisms. H. W. Leavitt and H. A. Pratt. bibliog Am Soc T M Proc 39:851-8; Discussion. 859 '39
Vibrated vs. tamped concrete; conclusions. G. W. Washa. Eng N 124:386-7 Mr 14 '40

See also
Concrete, Reinforced—Testing
Concrete blocks—Testing

Vibration

Advantages of vibration. H. E. McKeen. Can Eng R & B 78:81+ O '40
Comparison of the physical and mechanical properties of hand rodded and vibrated concrete made with different cements. G. W. Washa. bibliog Am Concrete Inst J 11:617-45 Je '40; Discussion. 12:sup648-648 S '40
Experiences in placing highway concrete by vibratory methods. F. V. Reagel. Pub Works 71:22 F '40; Same. Can Eng R & B 78:86 Mr '40; Same. Concrete 48:8 Mr '40
Full span concrete slabs for floors and roofs; joist system made from vibrated concrete. R. S. Torgerson. il diag Rock Prod 43:59-60 My '40
Inconvénients de la survibration et de la revibration du béton. Génie Civil 116:332 My 18 '40
Questionnaire on concrete vibration. A. Ruettgers. Am Concrete Inst J 11:265-9 Ja '40
Tests on concrete masonry units using tamping and vibration molding methods; units made with seven different aggregates. K. F. Wendt and P. M. Woodworth. il diags Am Concrete Inst J 11:121-63 N '39; Excerpts. Concrete 47:10, 12+ D '39; Conclusions. Eng N 124:387 Mr 14 '40; Discussion. Am Concrete Inst J 12:sup164-164 S '40
Vibrated vs. tamped concrete; conclusions. G. W. Washa. Eng N 124:386-7 Mr 14 '40

See also
Concrete placing

Waterproofing

See Waterproofing

Workability

Admixture of whipped lime putty improves workability. Concrete 48:18 S '40
Design of concrete mixes. C. T. Kennedy. Am Concrete Inst J 11:373-400 F '40; Discussion. 12:sup400-400 S '40

Wrecking

Pinch-hitting for a contractor; blasting concrete seawall. A. M. Williams. diags Explosives Eng 18:62-3 F '40

CONCRETE, Effect of acids on
Flow method for the determination of the effects of soluble chemicals on concrete. D. G. Miller, C. F. Rogers and P. W. Manson. il diag Am Soc T M Proc 39:900-7; Discussion. 908-12 '39
Laboratory tests of concrete and mortars exposed to weak acids. D. G. Miller, P. W. Manson and C. F. Rogers. Concrete 48: 43+ Ap '40
Permeability, acid, and absorption tests of mortars used in dry tamped silo staves. C. A. Hughes. il diag Am Concrete Inst J 11: 553-78 Je '40

CONCRETE, Effect of chlorides on
Experimental data in connection with chloride salts-resistant concrete pavement. C. C. Ahles. Explosives Eng 18:367-71 S '40
Pavement scaling successfully checked; fish oil stearate and Vinsol resin as chloride resistors. O. L. Moore. il Eng N 125:471-4 O 10 '40
Pavement spalling causes and a suggested remedy; effect of freezing, thawing and ice control. A. W. Wickesberg. il Pub Works 71:26+ Je '40

CONCRETE, Effect of sea water on
Precast concrete sea wall; diatomaceous silica resists action of salt water. H. H. Bierman. il diag Rock Prod 43:59, 61 N '40

CONCRETE, Effect of sulfates on
Modified procedure for testing concrete aggregate soundness by use of magnesium sulfate. C. E. Wuerpel. Am Soc T M Proc 39:882-9; Discussion. 890-1 '39
Performance of portland-pozzolan cements in concrete work. Concrete (mill sec) 48:178 My '40
Sulfate-resistance of commercial cements. P. W. Manson. Concrete (mill sec) 48:171-3 My '40

CONCRETE, Ornamental
Architectural concrete slabs. il diags Arch Forum 72:101-6 F '40
Concrete lace curtains for walls to screen a multifloor parking structure in downtown Washington. il diags Eng N 124:803-4 Je 6 '40

CONCRETE, Porous
Porous pipe is in demand. B. Nordberg. il Rock Prod 43:63-4 F '40

CONCRETE, Ready-mixed. See Concrete mixing—Ready-mixed concrete

CONCRETE, Refractory
Bétons refractaires; influence du mode de préparation des bétons. M. Lepingle. Chimie & Ind 43:713-16 My 5 '40

CONCRETE, Reinforced
Analyzing non-homogeneous sections subjected to bending and direct stress. W. G. S. Saville. Civil Eng 10:170-2 Mr '40
Composite steel and reinforced concrete construction for highway bridges. C. P. Cueni. il diags Roads & Sts 82:48-9 D '39
La construction des cuves et réservoirs à hydrocarbures, en béton armé. Génie Civil 116: 125-6 F 17 '40
Design of hinges and articulations in reinforced concrete structures. G. C. Ernst. diags Am Soc C E Proc 66:589-605 bibliog(p605) Ap '40; Discussion. A. A. Eremin. 66:1527-8 O '40
Dynamic effect of incendiary bombs on roofs. J. D. W. Ball. diags Engineer 169:459-60 My 17 '40
Earthquake-proof structures; concrete masonry units made by the Underdown system and reinforced with steel rods; Pacific coast aggregates, inc. il diag Rock Prod 42:59-60+ D '39
Engineering review; structural steel and reinforced concrete with solutions of structural design problems given in examinations for licensed professional engineers in New York state. C. Kandall. 162p $2.50 Cord publishers, 147 4th av, New York '40
Huge reinforced concrete foundation slab is a feature of big reservoir; Mount Washington reservoir, Cincinnati. il diags Concrete 48: 3-4+ Mr '40
New quake-proof concrete masonry unit provides for reinforcement. W. J. B. Stewart. il Concrete 48:38-9 My '40
Plain and reinforced concrete arches; report of committee 312. Am Concrete Inst J 12: 1-26 bibliog(p25-6) S '40
Pre-stressed 108-ft. girders in German bridge. G. N. Brekke. il diag Eng N 124:452 Mr 28 '40
Reinforced concrete press. C. Von Moltke. diag Am Mach 84:60 F 7 '40
Road over River Mersey at Stockport. E. Rhodes. il diags plan Engineer 169:284-5 Mr 22 '40

CONCRETE, Reinforced—*Continued*
Shear reinforcing for concrete beams; diagonal bars welded to top and bottom steel. D. M. McCain. diags Steel 107:58-9+ Jl 15 '40
Square sections of reinforced concrete under thrust and nonsymmetrical bending. P. Andersen. il diags Univ of Minn Eng Exp Sta Bul 14:1-42 '39
Vault shell materials and layout proportions; trends as to use of concrete or brick in network vaults. J. S. Parsons. diags Elec W 113:886-8+ Mr 23 '40
What do we know about concrete slabs? N. M. Newmark. bibliog diags Civil Eng 10: 559-62 S '40

See also
Bridges, Concrete — Concrete slabs
Concrete construction — Steel, Reinforcing

Fiber reinforcement
Trying out mineral fiber as concrete reinforcement; developed from polyvinyl chloride with hydrochloric acid. S. B. Redecker. Concrete 48:43 My '40

Glass reinforcement
Glass reinforcement for concrete. diag Engineer 170:47-8 Jl 19 '40
Glass-reinforcement for concrete; report of tests. Engineering 150:225, 264-5 S 20, O 4 '40

Standards
Errata, Building regulations for reinforced concrete (A.C.I. 501-36T) of 1936. Am Concrete Inst J 11:261-4 Ja '40
Proposed revisions of building regulations for reinforced concrete (A.C.I. 501-36T). Am Concrete Inst J 11:237-60 Ja '40; Discussion. 12:sup264[1]-264[38] S '40
Recommended practice and standard specifications for concrete and reinforced concrete. Am Soc C E Proc 66:1-122 pt 2 Je '40; Discussion. 66:1351-67, 1710-12, 1846-8 S, N-D '40
Too much regulation in building codes for reinforced concrete. L. J. Mensch. Concrete 48:25 Jl; 25 Ag '40

Testing
Effect of impact on reinforced concrete beams. T. D. Mylrea. il Am Concrete Inst J 11:581-94 Je '40; Discussion. 12:sup596[1]-596[3] S '40
High yield-point steel as tension reinforcement in beams. B. Johnston and K. C. Cox. il diags Am Concrete Inst J 11:65-80 S '39; Discussion. 11:sup80[1]-80[12] Ap '40
L'influence de la qualité des ciments et de la répartition des armatures dans la fissuration du béton armé. diags Génie Civil 116:47-9 Ja 20 '40
Investigation of rigid frame bridges; tests of structural hinges of reinforced concrete. R. W. Kluge. il diags Ill U Eng Exp Sta Bul 322:1-33 '40 (pa 40c); Excerpts. Can Eng R & B 78:49, 58 Ag '40
Stress increases in compressive steel under constant load caused by shrinkage. G. A. Maney and M. B. Lagaard. diags Am Concrete Inst J 11:541-52 Je '40; Discussion. 12:sup552[1]-552[12] S '40

CONCRETE barges. See Barges, Concrete

CONCRETE bins. See Bins, Concrete

CONCRETE blocks
Interlocking concrete block; provides for vertical stud reinforcing but requires no mortar. H. Hillis. il Rock Prod 43:63-4 My '40
New quake-proof concrete masonry unit provides for reinforcement. W. J. B. Stewart. il Concrete 48:38-9 My '40
No vibration from these hammers; mounted on heavy concrete blocks supported by springs. E. G. Grant. il Factory Management 98: 78-9 Je '40
Sash block simplify construction. diags Rock Prod 43:65 Ap '40
Selling blocks with the artichokes; Cinder block, inc. shows pictures. il Concrete 48:22 My '40
Structural properties of two brick-concrete-block wall constructions and a concrete-block wall construction sponsored by the National concrete masonry association. H. L. Whittemore, A. H. Stang and D. E. Parsons. il diags U S Nat Bur Stand Rep BMS32:1-19 '39

Drying
Accelerated drying of stock-piled units with forced-air equipment. W. E. Barney. il Concrete 48:14+ Ap '40; Abstract. Rock Prod 43:70+ Mr '40

Manufacture
Besser's new Master Vibrapac for special units. il Concrete 48:26 O '40
Cut down handling costs; efficient trackage system provides straight line production of brick and block; Southern concrete products co. R. S. Torgerson. il plan Rock Prod 43:63, 65 S '40
Earthquake-proof structures; concrete masonry units made by the Underdown system and reinforced with steel rods; Pacific coast aggregates, inc. il diag Rock Prod 42:59-60+ D '39
Finds radio program a sales builder; Mansfield, Ohio, products plant. il Concrete 48: 18+ O '40
Largest building supply dealers operate new concrete products plant. il Concrete 48:14+ S '40
Low and high pressure curing; McDearmon concrete products plant. il Rock Prod 43:59-60 Je '40
Making 8000 block per day; Spickelmier fuel and supply co. il Rock Prod 42:61 D '39
New Indiana products plant keeps busy with large housing-job order. il Concrete 48:10 Ag '40
New Ohio concrete products plant designed for maximum efficiency. il Concrete 48:14+ N '40
1940 concrete industries exposition in print; block and brick-making machinery. il Concrete 48:53-7 F '40
Rapid curing, more strength with calcium chloride. il Concrete 48:39 F '40
Reduce yard storage by steam curing; plant of L. G. Randolph. il Rock Prod 43:87-8 Ag '40
Tests on concrete masonry units using tamping and vibration molding methods; units made with seven different aggregates. K. F. Wendt and P. M. Woodworth. il diags Am Concrete Inst J 11:121-63 N '39; Discussion. 12:sup164[1]-164[10] S '40
Using ready mix experience to make better blocks; Cleveland builders supply co. il Rock Prod 43:66-7+ S '40
Volcanic cinder block; Utah concrete pipe co. il Rock Prod 43:57 Jl '40
Watching products in use proves aid to improvement. il diag Concrete 48:10+ Je '40

Testing
Concrete masonry industry tests its products for strength and durability; abstract. P. M. Woodworth. Rock Prod 43:69-70 Mr '40
Masonry test data analyzed; University of Wisconsin masonry tests and others discussed before American concrete inst. Rock Prod 43:63+ Ap '40
Tests on concrete masonry units using tamping and vibration molding methods; units made with seven different aggregates. K. F. Wendt and P. M. Woodworth. il diags Am Concrete Inst J 11:121-63 N '39; Excerpts. Concrete 47:10, 12+ D '39; Discussion. Am Concrete Inst J 12:sup164[1]-164[10] S '40

CONCRETE brick
How to introduce a new building product; Dunbrik. G. W. MacNeill. Am Bld 62:49+ My '40

Manufacture
Cut down handling costs; efficient trackage system provides straight line production of brick and block; Southern concrete products co. R. S. Torgerson. il plan Rock Prod 43:63, 65 S '40

CONCRETE brick—Manufacture—*Continued*
1940 concrete industries exposition in print; block and brick-making machinery. il Concrete 48:53-7 F '40

CONCRETE bridges. See Bridges, Concrete

CONCRETE buildings
Aeroplane hangar. il Engineer 169:443 My 10 '40
Architectural concrete found economical for two Indiana schools. il Concrete 48:10+ Ap '40
Architectural concrete slabs. il diags Arch Forum 72:101-6 F '40
Concrete masonry is well adapted to army-navy housing. il diags Concrete 48:10-11 N '40
Southern products manufacturers win institutional market; churches, schools, etc; illustrations. Concrete 48:12-13 Ap '40

See also
Concrete houses
Silos, Concrete

CONCRETE coating
Concrete coating for underground piping. J. H. T. McGee. il Am Water Works Assn J 32:1723-31 O '40

CONCRETE construction
Architectural concrete; its adaptation in water and sewage works construction. W. D. M. Allan. il Water Works & Sewerage 86:427-30 N '39
Batching, mixing and placing concrete on great Santee-Cooper project in South Carolina. il Concrete 48:3-4 O '40
British develop new structural system; Stancon concrete units. il diag Arch Rec 88:114+ S '40
Chicago's first filtration plant to serve half of city's area. il plan Concrete 48:3-4 Jl '40
Close coordination speeds Buffalo housing project; with cost data. il diag Eng N 123: 822-5 D 21 '39
Combined water tower and municipal building; project at Lake, Wis. W. D. Darby. il Civil Eng 10:329-32 Je '40
Concrete brings the band stand up-to-date; illustrations. Concrete 48:20 My '40
Concrete design and construction. W. H. Gibson and W. L. Webb. rev ed 500p $4.75 Am. technical soc, Chicago '40
La construction des cuves et réservoirs à hydrocarbures, en béton armé. Génie Civil 116:125-6 F 17 '40
Construction details for cold storage locker plant of concrete. plan Concrete 48:36 My '40
Contribution of ready-mixed concrete to the building industry. H. F. Thomson. Am Concrete Inst J 11:497-506 Ap '40; Discussion. 12:sup508[1]-508[8] S '40
Difficulties met in the application of impermeable membranes to structures subject to hydrostatic pressure; abstract. H. Klipple. Am Concrete Inst J 11:700-1 Je '40
Facts about concrete masonry; with construction details. 6th ed 64p bibliog(p64) National concrete masonry assn, 33 W. Grand av, Chicago '39
Foundations for gas works equipment. J. Hargreaves. Gas J (Lond) 230:443 My 29 '40
Frost resistant concrete. R. B. Young. il Am Concrete Inst J 11:477-90 Ap '40; Excerpts. Eng N 124:385 Mr 14 '40; Discussion. Am Concrete Inst J 12:sup492[1]-492[3] S '40
Garage has 2-in. concrete walls; Evening Star parking plaza in Washington, D.C. il plans Arch Rec 88:44-6 Jl '40
How concrete is hoisted on house construction. L. J. Pond. il Concrete 48:7-8 F '40
How low-cost housing utilizes concrete. N. Straus. il Concrete 48:16+ Je '40
Ideal raid shelter; abstract. C. P. Munn. Pub Works 71:12 O '40
Movable centring for reinforced-concrete arches. V. Cherre. il diags Engineering 149: 321-2 Mr 29 '40
New staggered-floor garage design cuts cost. V. Lankovsky. il diags plans Eng N 125: 219-20 Ag 15 '40
1939 concrete in review; illustrations. Concrete 48:32-3 F '40
Novel design features of the Lansing water conditioning plant. C. R. Erickson. flow diag il plans Am Water Works Assn J 32:1262-9, 1294-9 Ag '40
Parker Dam power project. J. A. Fraps. il diags plan Civil Eng 10:634-7 O '40
Precast rigid frames are new departure. il Concrete 48:14 Je '40
Rapid expansion of engine plant leaves time for improvements; United aircraft corp.'s plant at East Hartford, Conn. il diags Eng N 125:564-5 O 24 '40
Should new airplane plants be protected? diags Concrete 48:5-6+ Jl '40
Truck-mixers distribute concrete on big housing project; Ida B. Wells low-cost housing project, Chicago. il plan Concrete 48:3-4 Ap '40
Work of the Cement products bureau of the Portland cement association; abstract. W. G. Kaiser. Rock Prod 43:61-2 Mr '40
Zwei weitgespannte eisenbeton-flugzeughallen. A. Mehmel. diags V D I 84:171-2 Mr 9 '40

See also
Bridges, Concrete
Concrete, Reinforced
Concrete blocks
Concrete houses
Concrete lining
Concrete mixing
Concrete placing
Concrete plants
Concrete slabs
Concrete staves
Concrete stone
Dams, Concrete
Floors, Concrete
Railroads—Concrete construction
Reservoirs, Concrete
Roofs, Concrete
Ships, Concrete
Silos, Concrete
Swimming pools, Concrete
Walls, Concrete
Water conduits, Concrete

Bibliography
Current reviews of significant contributions in foreign and domestic publications. Published in American concrete institute journal

Cost
Detailed labor costs in placing concrete by pumping method; construction of reservoir for Duluth. il Concrete 48:17+ Mr '40
Hatchery building, Columbia Basin project, Washington; unit prices. Eng N 124:752 My 23 '40

Design
Automatic design of continuous frames in steel and reinforced concrete. L. E. Grinter. 141p $3 Macmillan '39
Building on soft clay; New England mutual life insurance co. building in Boston's Back Bay district; concrete box substructure. il diags plans Eng N 123:692-5 N 23 '39
Design of concrete structures. L. C. Urquhart and C. E. O'Rourke. 4th ed 564p $4.50 McGraw-Hill '40
Design of hinges and articulations in reinforced concrete structures. G. C. Ernst. diags Am Soc C E Proc 66:589-605 bibliog(p605) Ap '40; Discussion. A. A. Eremin. 66:1527-8 O '40
Design of reinforced concrete columns under eccentric loads. F. E. Richart. Am Concrete Inst J 11:513-17 Ap '40
Eccentric-load formula. D. B. Hall. Eng N 124:18 Ja 4 '40
Essentials of reinforced concrete design. R. F. B. Grundy. 134p 10s 6d Chapman & Hall, London '39
Graphical method of analyzing eccentrically loaded concrete sections. P. Andersen. Civil Eng 10:37-9 Ja '40
High yield-point steel as tension reinforcement in beams. B. Johnston and K. C. Cox. il diags Am Concrete Inst J 11:65-80 S '39; Discussion. 11:sup80[1]-80[12] Ap '40
Investigation of rigid frame bridges; tests of structural hinges of reinforced concrete. R. W. Kluge. il diags Ill U Eng Exp Sta Bul 322:1-33 '40 (pa 40c)
Large thin-shell concrete dome dominates Montreal's skyline; St Joseph's Basilica; abstract. M. Cailloux. il diags Eng N 124: 184-5 F 1 '40
Natural period of vibration of building frames. J. E. Goldberg. diag Am Concrete Inst J 11:81-95 S '39; Discussion. 11:sup96[1]-96[4] F '40

CONCRETE construction—Design—*Continued*
Plain and reinforced concrete arches; report of committee 312. Am Concrete Inst J 12: 1-26 bibliog(p25-6) S '40
Point-supported dome of thin shell type; auditorium at Tulane university. A. Tedesko. il diags Eng N 123:767-8 D 7 '39
Practical examples of reinforced concrete design. C. E. Reynolds. 258p 8s 6d Concrete publications, London '38
Recommended practice and standard specifications for concrete and reinforced concrete. Am Soc C E Proc 66:24-8, 43-81 pt 2 Je '40; Discussion. 66:1351-67, 1710-12, 1846-8 S, N-D '40
Résumé of report by committee 317 on Reinforced concrete design handbook. A. J. Boase. Am Concrete Inst J 11:509-11 Ap '40
Shear reinforcing for concrete beams; diagonal bars welded to top and bottom steel. D. M. McCain. diags Steel 107:58-9+ Jl 15 '40
Simple analysis for eccentrically loaded concrete sections. L. G. Parker and J. J. Scanlon. diags Civil Eng 10:656-7 O '40

Fire resistance

Low-cost and fire-resistive dairy barns; abstract and discussion. S. A. Witsel. diags Concrete 48:22 N '40

Forms

Absorptive form lining specified for Wyoming underpasses. Eng N 125:470 O 10 '40
Careful handling of plywood insures many re-uses. il Concrete 48:6 N '40
Concrete surfaces improved by absorptive form lining for spillways of high dams. il Eng N 124:40-2 Ja 4 '40
Design and erection features mark this bridge job, Jersey City; asbestos cement for concrete forms. il diags Ry Age 109: 476-7 O 5 '40
Details of plywood form work for walls, columns, slabs and girders. il diags Concrete 48:13+ Je '40
Find way to eliminate voids under forms on concrete surface; form lining of absorptive insulating board. C. O. Crane. il Concrete 48:5-6+ Mr '40
Form assembly building for the construction of draft tube form; Hiwasse dam. C. E. Blee. il Eng N 123:714 N 23 '39
Form pressure deflectometer. J. R. Griffith. il Concrete 48:33-4 O '40
Forming and concreting sewage tanks. il diags Eng N 125:461-2 O 10 '40
Forming circular concrete surfaces with plywood. diags Concrete 48:20+ Ap '40
Forms for architectural concrete. A. J. Boase. il diags Am Concrete Inst J 11:193-203 N '39; Discussion. 11:sup204¹-204⁴ Ap '40
Handle and store plywood carefully, it pays. il Concrete 48:16+ Jl '40
Lacquer coating on form work offers advantages. Concrete 48:22 Je '40
Outside rods hold semi-circular concrete form without interior ties; spillway section of Guntersville dam. il diags Eng N 125:489 O 10 '40
Plywood form panels re-used 14 times in deep bridge piers. il Eng N 124:379 Mr 14 '40
Plywood form work is important factor in architectural concrete. il diags Concrete 48:12-13+ My '40
Traveler speeds arch viaduct forms; link in the approach system of the George Washington bridge. K. A. Sheppard. il diags Eng N 125:334-6 S 12 '40
What equipment to lift face forms of dam? Am Concrete Inst J 11:412-13 F '40

Joints

How to keep horizontal construction joints moist while carpenters are at work. il Am Concrete Inst J 11:409-12 F '40

See also
Dams, Concrete—Joints

Pipe embedding

Lifting force of freshly placed concrete; embedding 9 ft. diameter steel pipes in mass concrete. Am Concrete Inst J 11:319-20 Ja '40

Repair

Restoring surface of huge concrete bins spalled by elevator fire. il Concrete 47:3-4 D '39

Standards

Errata, Building regulations for reinforced concrete (A.C.I. 501-36T) of 1936. Am Concrete Inst J 11:261-4 Ja '40
Proposed recommended practice for measuring, mixing, and placing concrete; reported by committee 614. diags Am Concrete Inst J 11:829-51 F '40; Discussion. diags 12: sup352¹-352²⁸ S '40
Proposed revisions of building regulations for reinforced concrete (A.C.I. 501-36T). Am Concrete Inst J 11:237-60 Ja '40; Discussion. 12:sup264¹-264²⁸ S '40
Tolerances in building construction. J. R. Nichols. Am Concrete Inst J 11:493-6 Ap '40; Excerpt (table). Eng N 124:387 Mr 14 '40; Discussion. Am Concrete Inst J 12: sup496¹-496⁴ S '40
Too much regulation in building codes for reinforced concrete. L. J. Mensch. Concrete 48:25 Jl; 25 Ag '40

Tables, calculations, etc.

Analyzing non-homogeneous sections subjected to bending and direct stress. W. G. S. Saville. Civil Eng 10:170-2 Mr '40; Correction. 10:310 My '40
Design of arch dams; with tables to facilitate the computation of forces, moments, and radial deflections. R. S. Lieurance. diags Am Soc C E Proc 66:829-51 My '40
Moment distribution procedure for frames subjected to torsion. S. T. Carpenter. diags Civil Eng 10:364-5 Je '40

Vacuum treatment

Quick concrete; fast-drying vacuum process. Business Week p40-1 S 21 '40
Vacuum concrete. J. J. Creskoff. il diag Can Eng 77:4-8 D 5 '39
Vacuumized concrete and terrazzo finish placed on same day; Rockefeller Center skating pond. il Concrete 48:42 Mr '40

CONCRETE construction, Military

Vacuum concrete; national defense applications. J. J. Creskoff. il diag Can Eng 77:7-8 D 5 '39

CONCRETE construction, Subaqueous

Chicago River control works. H. P. Ramey. il diags map Am Soc C E Proc 66:71-103 Ja '40; Discussion. 66:1161-83 Je '40
Deep piers built in stiff tides; Tacoma Narrows suspension bridge. C. F. A. Mann. il diags Sci Am 161:340-1 D '39
Lake Washington floating bridge; anchoring and assembling the concrete pontoons. C. E. Andrew. il diags Roads & Sts 83:33-6 F '40
Large core drills aid construction at Chickamauga dam. J. L. Lewis, jr. il diags Am Soc C E Proc 65:953-67 Je '39; Discussion. 65:1464; 66:112-14 O '39, Ja '40
Quelques innovations dans le domaine des travaux publics; murs de qual. R. Christiani. il diags Soc Ing Civils Mémoires 92: 421-39 Jl-D '39
Storstrom and Masnedsund bridges, Denmark. G. A. Maunsell and J. F. Pain. il Engineering 149:4-6, 12, pl 1 Ja 5 '40
Tremie concreting scheme simplifies foundation job; bridge-pier foundation given protective concrete armor, W. F. Way. diags Eng N 124:19-20 Ja 4 '40
Unusual problems attend Narrows bridge construction. J. Bashford. il map Comp Air M 44:6033-5 D '39
Use of relief pipes to reduce thickness of concrete seal. H. V. McCoy. il diag Civil Eng 10:40-1 Ja '40

See also
Bridges—Foundations and piers
Dams, Concrete

CONCRETE construction in mines
Construction and equipment of no. 5 shaft at Lake Shore mine, limited; with cost data. J. C. Adamson. il diags Can Min J 61:5-28 Ja '40
Reinforced concrete pit props. Engineer 169: 336 Ap 5 '40
Reinforced-concrete pit props; specification. Engineering 149:514 My 17 '40

CONCRETE construction in winter
Cold weather concreting. Mass Transportation 35:357-8 D '39
Delivering warm ready-mixed concrete during winter months. il Concrete 48:12+ N '40
Heating mixing water and aggregates. il Concrete 47:25 D '39
Keeping freshly placed concrete warm through hardening period. il Concrete 48:14 Ja '40
Proper equipment is key to success in winter concreting. il Concrete 48:14, 16 O '40
Steam heat aids concreting as winter comes to Coulee. il Eng N 123:795 D 14 '39

CONCRETE dams. See Dams, Concrete

CONCRETE finishing. See Concrete—Finishing

CONCRETE floors. See Floors, Concrete

CONCRETE handling
Concrete for Pensacola dam. M. G. Fuller. il Eng N 124:155-6 F 1 '40
Distributing and placing concrete on Chicago's subway. il diag Concrete 48:3-4+ Je '40
Grand Coulee dam and the Columbia Basin reclamation project. S. E. Hutton. il Mech Eng 62:656-60 S '40
How concrete is hoisted on house construction. L. J. Pond. il Concrete 48:7-8 F '40
How Friant dam is being built. il diags Eng N 125:144-8 Ag 1 '40
See also
Concrete placing

CONCRETE houses
America's building homes again and concrete leads the way; illustrations. Concrete 48: 10-11 S '40
Concrete for costs, colonial for sales; subdivider Holmes' low cost houses near Philadelphia. il plans Arch Forum 71:476-7 D '39
Concrete masonry construction captures large-scale housing market. W. G. Kaiser. Concrete 48:26+ F '40
Fair boosts concrete house; Basalite concrete units used. B. Nordberg. il Rock Prod 43: 117+ Ja '40
Houses built to last 60 years; Carmelitos housing project in north Long Beach, Calif. il diags Eng N 125:150-3 Ag 1 '40
How concrete is hoisted on house construction. L. J. Pond. il Concrete 48:7-8 F '40
How low-cost housing utilizes concrete. N. Straus. il Concrete 48:16+ Je '40
Modern concrete masonry home. A. H. Wagner. il Concrete 48:10+ My '40
1940 model home by Life magazine. il plans Concrete 48:28 Je '40
Rigid waterproofing tests required on housing job; Middletown Gardens federal housing project at Muncie, Indiana. il Concrete 48: 27 S '40
Tuckers combine cast stone and concrete in high-type home construction. il Concrete 48: 22+ Mr '40

CONCRETE industry
Forecasts 1940 as year of opportunities for concrete contractors. B. Carey. Concrete 48: 30+ F '40
See also
Concrete products
also American concrete contractors' association

Advertising
Newspaper ads sell ready mix. il Rock Prod 43:53-4 O '40
Radio sells ready mix; Andersen sand and gravel co. il Rock Prod 43:89, 91-2 Ag '40

Philadelphia
Ready-mixed concrete operations in Philadelphia. A. Foster, jr. H. J. Knopel and H. J. Whitten. il Am Concrete Inst J 11:353-71 F '40; Discussion. 12:sup372¹-372⁵ S '40

CONCRETE joists. See Joists, Concrete

CONCRETE lining
Building Baltimore's big tunnel. J. J. Hunt and B. L. Werner. il Eng N 125:467-8 O 10 '40
Concrete linings for irrigation canals. C. W. Wood. il Civil Eng 10:29-32 Ja '40
Delaware aqueduct; designing the aqueduct. il Eng N 124:657-8 My 9 '40
Distributing and placing concrete on Chicago's subway. il diag Concrete 48:3-4+ Je '40
Experimental section built in Contra Costa; asphalt concrete canal lining. il Eng N 123:725 N 30 '39
Fresno County's irrigation canals are lined with concrete. I. H. Tielman. Concrete 48:22 N '40
Hallinger tunnel shield, and Erdélyi and Vajda tunnel lining. K. Hajnal-Kónyi. il diags Engineering 149:575-7 Je 14 '40
Labor cost in lining a small tunnel with a concrete pump. il diags Concrete 48:3-4 My '40
Pennsylvania Turnpike tunnels holed through. W. F. Gould. il diags Roads & Sts 83:39-41 Je '40
Tunnel lining methods for concrete compared. L. H. Tuthill. diags Am Concrete Inst J 12:29-47 S '40
See also
Concrete placing

CONCRETE masonry. See Concrete blocks; Concrete brick; Concrete slabs; Concrete stone

CONCRETE masonry association, National. See National concrete masonry association

CONCRETE mixers
Chain Belt new truck mixer line. il Concrete 48:26 S '40
Dust- and water-proof motors for mixers. G. H. Hall. il Eng N 124:501-3 Ap 11 '40
Jaeger high dump mixers. il Can Eng R & B 78:42 Jl '40
1940 concrete industries exposition in print. il Concrete 48:58-61 F '40

CONCRETE mixing
Addition of bitumen improves quality of concrete. Concrete 48:8 My '40
Application of some of the newer concepts to the design of concrete mixes. W. M. Dunagan. bibliog il diags Am Concrete Inst J 11:649-84 Je '40; Discussion. 12:sup684¹-684⁵ S '40
Automatic liquid meter co. device for controlling water in concrete mixes. il Rock Prod 43:83 Mr '40
Bétons réfractaires; influence du mode de préparation des bétons. M. Lepingle. Chimie & Ind 43:713-16 My 5 '40
Cement and concrete are not what they used to be. R. E. Davis. il Min & Met 20:537-41 D '39
Cement sawdust concrete. R. R. Skelton. Pub Works 70:30-1 D '39
Comparison of mix designs; studies by Oregon state highway commission. N. M. Finkbiner, G. W. Harra and O. A. White. Eng N 124:855-6 Je 20 '40
Concrete aggregate development on the Claytor hydro project. G. W. Hutchinson. il Am Concrete Inst J 11:273-95 Ja '40; Discussion. C. A. G. Weymouth. 12:sup296¹-296⁵ S '40
Concrete control; masonry dams. I. L. Tyler. Am Soc C E Proc 66:896-8 My '40; Discussion. 66:1543-53, 1559-61 O '40
Concrete design for large precast concrete pipe. P. M. Putnam. Boston Soc C E J 27: 28-32 Ja '40
Concrete for hydraulic structures. G. S. Latin. il diags Engineer 168:527-8, 550-1 N 24-D 1 '39
Concrete technology. M. N. Clair. Boston Soc C E J 27:183-206 Jl '40

CONCRETE mixing—*Continued*
Cooling tower in unusual setting; constructing section of Coachella canal. il Comp Air M 45:6292 N '40
Design of concrete mixes. C. T. Kennedy. Am Concrete Inst J 11:373-400 F '40; Excerpts. Rock Prod 43:45 Ap '40; Discussion. Am Concrete Inst J 12:sup400[1]-400[24] S '40
Designing concrete mixtures for pavements. W. F. Kellermann. il Pub Roads 21:121-6+ S '40
Dump-bottom cubic foot. H. D. Hurley. diags Eng N 124:742 My 23 '40
Effect of the addition of finely ground inert material to concrete; abstract. R. Chapman and P. E. Olsen. Am Concrete Inst J 11:422-4 F '40
Frost-resistant concrete. R. B. Young. il Am Concrete Inst J 11:477-90 Ap '40; Discussion. 12:sup492[1]-492[3] S '40
Heating mixing water and aggregates. il Concrete 47:25 D '39
Influence of cement and aggregate on concrete expansion; destructive action between alkali, chert and shale. T. E. Stanton, jr. il Eng N 124:171-3 F 1 '40
Lean concrete mixes; a study of the effect of cement content, fineness on compressive strength, durability and volume change of concrete. E. Gruenwald. Am Soc T M Proc 39:810-40; Discussion. 841-50 bibliog(p850) '39
Louisiana tries low heat cement for piers and roadway slab of the Baton Rouge bridge. H. L. Lehman and E. L. Erickson. il Eng N 125:353-4 S 12 '40
Profitable fly-ash handling; State Line plant uses Redler conveyors and electrostatic precipitators; fly ash used in concrete. N. W. Elmer. il diag Steel 106:64-5+ F 12 '40
Properties of concrete mixes. R. F. Blanks and others. Am Concrete Inst J 11:433-75 bibliog(72 titles, p472-5) Ap '40; Discussion. 12:sup476[1]-476[7] S '40
Proposed recommended practice for measuring, mixing, and placing concrete; reported by committee 614. diags Am Concrete Inst J 11:330-42 F '40; Discussion. diags 12: sup352[1]-352[18] S '40
Revised application of fineness modulus in concrete proportioning. H. L. Kennedy. Am Concrete Inst J 11:597-613 Je '40; Discussion. 12:sup616[1]-616[7] S '40
Sea water for mixing concrete. Am Concrete Inst J 11:313-14 Ja '40
Sodium alginate gaining attention as concrete admixture. Concrete (mill sec) 48: 258 O '40
Truck-mixers distribute concrete on big housing project; Ida B. Wells low-cost housing project, Chicago. il plan Concrete 48:3-4 Ap '40

See also
Concrete—Aggregate
Concrete mixers

Ready-mixed concrete

Continuous dispatching of pre-shrunk concrete; central mixing concrete unit of Pacific coast aggregates, inc. B. Nordberg. il diags Rock Prod 42:63-5+ D '39
Contribution of ready-mixed concrete to the building industry. H. F. Thomson. Am Concrete Inst J 11:497-506 Ap '40; Abstract. Eng N 124:387-8 Mr 14 '40; Discussion. Am Concrete Inst J 12:sup508[1]-508[6] S '40
Convincing user of ready-mix on yardage of concrete. H. J. Whitten. Rock Prod 43:65 O '40
Delivering warm ready-mixed concrete during winter months. il Concrete 48:12+ N '40
Double ready mix capacity; Quinn-Robbins co. I. M. Durnin. il Rock Prod 43:59+ Jl '40
Increasing concrete yardage by reducing the haul; semi-portable batching plants and dry batch transfer conveyor. B. Nordberg. il Rock Prod 43:61-2 My '40
Lid to come off? going to find out why ready-mixed concrete is not used in Chicago. Rock Prod 43:66 Ap '40
Low cost ready mix plant; C. J. Horner co. R. S. Torgerson. il Rock Prod 43:65+ N '40
Move ready-mixed concrete plant to big construction project. il Concrete 48:28 N '40
National ready mixed concrete association annual meeting, St. Louis, Jan. 17-19. Rock Prod 43:46-7+ F '40
Newspaper ads sell ready mix. il Rock Prod 43:53-4 O '40
Old Mother Necessity builds low-cost pavement in ready-mixed plant. il Concrete 48: 12+ Je '40
Personal contacts and job servicing sell ready-mixed concrete; Kokomo ready-mixed concrete corporation. il Concrete 48:10+ Jl '40
Proportioning plant in Houston is well designed. il Concrete 48:14 Ag '40
Radio sells ready mix; Andersen sand and gravel co. il Rock Prod 43:89, 91-2 Ag '40
Reaching ready mix markets. il Rock Prod 43: 61-4 Je '40
Ready-mixed concrete operations in Philadelphia. A. Foster, jr, H. J. Knopel and H. J. Whitten. il Am Concrete Inst J 11:353-71 F '40; Excerpts. Rock Prod 43:45-6 Ap '40; Abstract. Eng N 124:387 Mr 14 '40; Discussion. Am Concrete Inst J 12:sup372[1]-372[5] S '40
Rotating hopper for truck-mix. J. R. Marcy. il Rock Prod 43:94 Ag '40
Trends in ready-mixed concrete. il Rock Prod 43:118 Ja '40

CONCRETE pavements. See Pavements, Concrete

CONCRETE piling
L'emploi d'explosifs pour le fonçage des pieux en béton; abstract. E. Zeevenhooven. diags Génie Civil 116:332 My 18 '40
Pieux vibrés en béton moulé dans le sol, du type Vibro. Génie Civil 116:313-14 My 11 '40
Pre-cast concrete piles for canal walls at Long Beach, Calif. J. W. B. Blackman. il diags Civil Eng 10:719-20 N '40

CONCRETE pipes. See Pipes, Concrete

CONCRETE placing
Analysis of crews required for pumping concrete. il Concrete 48:6 F '40
Bartlett multiple-arch dam, U.S.A. il diags plan Engineer 170:86-8 Ag 9 '40
Comparison of the physical and mechanical properties of hand rodded and vibrated concrete made with different cements. G. W. Washa. bibliog Am Concrete Inst J 11:617-45 Je '40; Discussion. 12:sup648[1]-648[8] S '40
Compressed air jets as a means of placing concrete. M. L. Davis. Am Concrete Inst J 11:317-19 Ja '40; Discussion. 11:413-14, 517-18, 685-6 F, Ap, Je '40
Concrete control; masonry dams. I. L. Tyler. il Am Soc C E Proc 66:899-901 My '40
Delayed placing of concrete improves quality. R. H. A. Johnson. Concrete 48:43 Mr '40
Detailed labor costs in placing concrete by pumping method; construction of reservoir for Duluth. il Concrete 48:17+ Mr '40
Distributing and placing concrete on Chicago's subway. il diag Concrete 48:3-4+ Je '40
Forming and concreting sewage tanks. il diags Eng N 125:462-3 O 10 '40
Henley bridge near St Catharines, Ont. il Can Eng R & B 78:22-4+ Mr '40
Labor cost in lining a small tunnel with a concrete pump. il diags Concrete 48:3-4 My '40
Lifting force of freshly placed concrete; embedding 9 ft. diameter steel pipes in mass concrete. Am Concrete Inst J 11:319-20 Ja '40
Proposed recommended practice for measuring, mixing, and placing concrete; reported by committee 614. diags Am Concrete Inst J 11:342-51 F '40; Discussion. diags 12: sup352[1]-352[18] S '40
Recommended practice and standard specifications for concrete and reinforced concrete; forms and placing. Am Soc C E Proc 66:19-23 pt 2 Je '40
Single or dual operation of cylinders in concrete pump. il diags Product Eng 11:104-5 Mr '40

CONCRETE placing—*Continued*
Use of the screw conveyor in placing pavement concrete. L. Gardiner. il Can Eng R & B 78:25-6 Mr '40

See also
Concrete—Vibration
Concrete construction, Subaqueous
Concrete lining

CONCRETE plants
Concrete for Pensacola dam. M. G. Fuller. il diags Eng N 124:154-8 F 1 '40
Increasing concrete yardage by reducing the haul; semi-portable batching plants and dry batch transfer conveyor. B. Nordberg. il Rock Prod 43:61-2 My '40
Move ready-mixed concrete plant to big construction project. il Concrete 48:28 N '40
Portable plant produces concrete pipe on job site. il Concrete 48:29 My '40
Proportioning plant in Houston is well designed. il Concrete 48:14 Ag '40
Reaching ready mix markets. il Rock Prod 43:61-4 Je '40

See also
Concrete construction
Concrete mixers
Concrete mixing—Ready-mixed concrete
Concrete placing
Concrete products plants
Roads, Concrete—Construction equipment

Employees
Analysis of crews required for pumping concrete. il Concrete 48:6 F '40
Guarding against rheumatism, and care for eyes and ears. Concrete (mill sec) 47:275 D '39

Equipment
Big plant in cramped space: Transit mix concrete co. N. C. Rockwood. il diag Rock Prod 43:59-61 Ap '40
Continuous dispatching of pre-shrunk concrete; central mixing concrete unit of Pacific coast aggregates, inc. B. Nordberg. il diags Rock Prod 42:63-5+ D '39
Double ready mix capacity; Quinn-Robbins co. I. M. Durnin. il Rock Prod 43:59+ Jl '40
Low cost ready mix plant; C. J. Horner co. R. S. Torgerson. il Rock Prod 43:65+ N '40
Shasta Dam construction layout. il diags plan Eng N 125:18-21 Jl 4 '40

Management
Radio sells ready mix; Andersen sand and gravel co. il Rock Prod 43:89, 91-2 Ag '40

CONCRETE posts. See Posts, Concrete

CONCRETE products
Cast concrete door frame. T. N. Haffner. il diags Rock Prod 43:58 Jl '40
Precast concrete units serve many uses; Dallas, Texas, makes concrete posts for street signs, meter boxes, traffic buttons and culvert slabs; with cost data. il Pub Works 70: 25-6 D '39

See also
Concrete blocks
Concrete slabs
Concrete staves
Concrete stone
Concrete tile
Pipes, Concrete
Shingles, Concrete

Manufacture
New design concrete burial vault. il Rock Prod 43:63-4 N '40
New products and equipment. il Rock Prod 43:119 Ja '40
Precast concrete floor units find market in all residential building types. il Concrete 48:14+ Jl '40

See also
Concrete blocks—Manufacture
Concrete products plants

CONCRETE products plants
Colored plaster winning favor; Florida concern operates quarry, lime putty and ready mixed concrete plants; makes concrete products. N. Caudell. il Rock Prod 43:55 O '40
If it's concrete we make it; Southern cast stone co. B. Nordberg. il Rock Prod 43: 57-8 Ap '40
Largest building supply dealers operate new concrete products plant. il Concrete 48:14+ S '40
Push modern equipment in Washington plant to keep up with demand; Hudson supply & equipment co. il Concrete 48:44 F '40
Watching products in use proves aid to improvement. il diag Concrete 48:10+ Je '40

Electric equipment
Curing joists by electricity; Columbia concrete products co. il Rock Prod 43:55-6 Jl '40

Equipment
Accelerated drying of stock-piled units with forced-air equipment. W. E. Barney. il Concrete 48:14+ Ap '40
Automatic device to cure concrete products. il Rock Prod 43:81 Ag '40
Cast masonry units in long mold; Cemenstone company. il Rock Prod 43:56-8 O '40
Cut down handling costs; efficient trackage system provides straight line production of brick and block; Southern concrete products co. R. S. Torgerson. il plan Rock Prod 43:63, 65 S '40
Earthquake-proof structures; concrete masonry units made by the Underdown system and reinforced with steel rods; Pacific coast aggregates, inc. il diag Rock Prod 42:59-60+ D '39
Low and high pressure curing; McDearmon concrete products plant. il Rock Prod 43: 59-60 Je '40
Making 8000 block per day; Spickelmier fuel and supply co. il Rock Prod 42:61 D '39
New Ohio concrete products plant designed for maximum efficiency. il Concrete 48:14+ N '40
1940 concrete industries exposition in print. il Concrete 48:53-68 F '40
Reduce yard storage by steam curing; plant of L. G. Randolph. il Rock Prod 43:87-8 Ag '40
Study of the handling and stockpiling of concrete masonry units in the plant and the yard; abstract. E. W. Clark. Rock Prod 43:72 Mr '40
Tile of lightweight concrete. B. Nordberg. il Rock Prod 43:60-1 F '40
Using ready mix experience to make better blocks; Cleveland builders supply co. il Rock Prod 43:66-7+ S '40
Volcanic cinder block; Utah concrete pipe co. il Rock Prod 43:57 Jl '40

CONCRETE pumping. See Concrete placing

CONCRETE research
Comparison of mix designs; studies by Oregon state highway commission. N. M. Finkbiner, G. W. Harra and O. A. White. Eng N 124:855-6 Je 20 '40
Lean concrete mixes; a study of the effect of cement content, fineness on compressive strength, durability and volume changes of concrete. E. Gruenwald. Am Soc T M Proc 39:810-40; Discussion. 841-50 bibliog(p850) '39

CONCRETE reservoirs. See Reservoirs, Concrete

CONCRETE roads. See Roads, Concrete

CONCRETE roofs. See Roofs, Concrete

CONCRETE shingles. See Shingles, Concrete

CONCRETE ships. See Ships, Concrete

CONCRETE silos. See Silos, Concrete

CONCRETE slabs
Architectural concrete slabs. il diags Arch Forum 72:101-6 F '40
Architectural concrete slabs; panels with exposed aggregate surface. il Am Bld 62:39-40+ Ja '40
Building on soft clay; New England mutual life insurance co. building in Boston's Back Bay district; concrete box substructure. il diags plans Eng N 123:692-5 N 28 '39
Cast masonry units in long mold; Cemenstone company. il Rock Prod 43:56-8 O '40
Composite steel and reinforced concrete construction for highway bridges. C. P. Cueni. il diags Roads & Sts 82:48-9 D '39

CONCRETE slabs—*Continued*
Concrete lace curtains for walls to screen a multifloor parking structure in downtown Washington. il diags Eng N 124:803-4 Je 6 '40
Corridor beam floor; dormitories at the University of Wisconsin. C. A. Willson. diags Am Concrete Inst J 11:165-8 N '39; Discussion. H. M. Hadley. 11:sup168¹-168³ Ap '40
Cracks in exterior masonry bearing walls occurring where concrete roof and floor slabs bear on the walls. A. M. Korsmo and B. M. Thorud. diags Am Concrete Inst J 12:49-54 S '40
Dynamic effect of incendiary bombs on roofs. J. D. W. Ball. diags Engineer 169:459-60 My 17 '40
Experiments with continuous reinforcement in concrete pavements. E. C. Sutherland and S. W. Benham. bibliog il diags Pub Roads 20:205-14, 218-19 Ja '40
Full span concrete slabs for floors and roofs; joist system made from vibrated concrete. R. S. Torgerson. il diag Rock Prod 43: 59-60 My '40
Garage has 2-in. concrete walls; Evening Star parking plaza in Washington, D.C. il plans Arch Rec 88:44-6 Jl '40
Huge reinforced concrete foundation slab is a feature of big reservoir; Mount Washington reservoir, Cincinnati. il diags Concrete 48:3-4+ Mr '40
Illinois jacks up paving; forcing oil, cement, lime dust, loam and water through holes. il diags Eng N 125:605-7 N 7 '40
Open cracks in road slabs; can reinforcement prevent them? Concrete 48:8 Ja '40
Precast concrete slabs face bridge abutments; grade separation bridges on Connecticut's Merritt parkway. L. G. Sumner. il diags Eng N 124:37-9 Ja 4 '40
Precast joist concrete floor systems; report of A. C. I. committee 711. diags Am Concrete Inst J 11:297-312 Ja '40
Pre-cast 135-ton concrete slabs on C.N.R. subway. C. P. Disney. il diags Can Eng R & B 78:13-15, 56 S '40
What do we know about concrete slabs? N. M. Newmark. bibliog diags Civil Eng 10: 559-62 S '40; Abstract. Eng N 124:176 F 1 '40

Testing

Tests of concrete slabs for bridge floors; three series of tests at University of Illinois. Eng N 122:686 N 23 '39
Tests of heating coils used as slab reinforcement; abstract. Schreier. Am Concrete Inst J 11:697 Je '40

CONCRETE staves
Permeability, acid, and absorption tests of mortars used in dry tamped silo staves. C. A. Hughes. il diag Am Concrete Inst J 11:553-78 Je '40
Proposed specifications and methods of testing for concrete staves to be used in farm silo construction; report of committee 714. diags Am Concrete Inst J 11:401-6 F '40

CONCRETE stone
Produce giant cast stone animals for Cleveland playgrounds. il Concrete 48:20 S '40
Tuckers combine cast stone and concrete in high-type home construction. il Concrete 48:22+ Mr '40

CONCRETE tile
How cinder units in floor construction increase your market. L. P. Kooken. il Concrete 48:20, 23-4 N '40
Tile of lightweight concrete. B. Nordberg. il Rock Prod 43:60-1 F '40

CONCRETE water pipes. See Water pipes, Concrete

CONCRETE wharves. See Wharves, Concrete

CONDEMNATION of land. See Eminent domain

CONDENSATION
Condensation by refrigeration. J. W. Hunter. diags Chem & Met Eng 47:200-1 My '40
Condensation of mercury in mercury-arc tubes. J. Slepian and W. M. Brubaker. diags Elec Eng 59:Trans 381-4 Jl '40
Condensation of vapors on a horizontal tube; heat transfer coefficient for condensation of vapors of water and nonmiscible organic liquids. E. M. Baker and U. Tsao. bibliog diags Ind & Eng Chem 32:1115-21 Ag '40; Same. Am Inst Chem Eng Trans 36:517-39 Ag '40
Does condensation cause gas-engine wear? B. Maddock. Power 84:590 S '40
Drop-wise and film condensation of steam. F. L. Shea, jr. and N. W. Krase. bibliog diags Am Inst Chem Eng Trans 36:463-87; Discussion. 487-90 Ag '40
Non-boiling heat transfer coefficients in annuli. A. S. Foust and G. A. Christian. diag Am Inst Chem Eng Trans 36:541-54 Ag '40
Recovery of solvent vapors. A. B. Ray. il Chem & Met Eng 47:329-30 My '40
Retrograde condensation. D. L. Katz and F. Kurata. il diags Ind & Eng Chem 32:817-27 bibliog(54 references, p827) Je '40
Review and summary of developments in heat transfer by conduction and convection. W. H. McAdams. il Am Inst Chem Eng Trans 36:13-16 F '40
Some factors affecting the form of condensation of steam. C. L. Old. il diags Inst Mech Eng J & Proc 142:199-209 D '39
Water condensed from compressed air; chart. Power Pl Eng 44:92 Jl '40

CONDENSATION, Chemical
Aldehyde-nitroparaffin condensation. B. M. Vanderbilt and H. B. Hass. bibliog Ind & Eng Chem 32:34-8 Ja '40
Aldehyde-resorcinol condensations. J. B. Niederl and H. J. Vogel. Am Chem Soc J 62:2512-14 S '40
Alkanolamines; reducing and hydrolyzing action of the ethanolamines on the dichloronitrobenzenes. C. B. Kremer and A. Bendich. Am Chem Soc J 62:1279-81 My '40
Condensation of butyraldehyde and aniline. M. S. Kharasch, I. Richlin and F. R. Mayo. bibliog Am Chem Soc J 62:494-7 Mr '40
Condensation of esters with aromatic hydrocarbons by means of aluminum chloride. J. F. Norris and P. Arthur, jr. Am Chem Soc J 62:874-7 Ap '40
Condensation of α-methoxystyrene with halogen compounds. C. W. Mortenson and M. A. Spielman. bibliog Am Chem Soc J 62: 1609-10 Je '40
Condensation of paraformaldehyde with acetomesitylene. R. C. Fuson and C. H. McKeever. Am Chem Soc J 62:999-1001 My '40
Condensation of phenol and ethylene oxide. R. A. Smith. Am Chem Soc J 62:994 Ap '40
Condensation of sulfanilamide with an enol; N^4-α-bromotetronyl sulfanilamide. W. D. Kumler. Am Chem Soc J 62:2560-1 S '40
Condensation products of phenols and ketones; structure of the dimeric forms of *o-iso*propenylphenols. W. Baker and D. M. Besly. Chem Soc J p1103-6 Ag '40
Condensations; a general theory for certain carbon-carbon condensations effected by acidic and basic reagents. C. R. Hauser and D. S. Breslow. Am Chem Soc J 62:2389-92 S '40
Condensations brought about by bases; the acylation of ethyl isobutyryl-isobutyrate and the cyclization of a 3,5-diketo-ester by means of sodium triphenylmethyl. B. E. Hudson, jr. and C. R. Hauser. bibliog Am Chem Soc J 61:3567-70 D '39
Condensations brought about by bases; the conversion of ethyl benzoyldimethylacetate to ethyl benzoate and ethyl isobutyryl-isobutyrate in the presence of sodium ethoxide and triphenylmethane; the reversibility of the Claisen type of condensation. C. R. Hauser and B. E. Hudson, jr. bibliog Am Chem Soc J 62:62-6 Ja '40
Condensations brought about by bases; the Michael type of condensation with certain esters and α,β-unsaturated keto compounds. C. R. Hauser and B. Abramovitch. bibliog Am Chem Soc J 62:1763-6 Jl '40

CONDENSATION, Chemical—*Continued*
Condensations brought about by bases; the relationship between the Claisen and Perkin types of condensations. C. R. Hauser and D. S. Breslow. bibliog Am Chem Soc J 62:593-7 Mr '40
Condensations by sodium; a study of the possible conversion of amylsodium to amylidenedisodium. A. A. Morton and G. M. Richardson. Am Chem Soc J 62:129-31 Ja '40
Condensations by sodium; comments on the formation of triphenylene. A. A. Morton, J. T. Massengale and G. M. Richardson. bibliog Am Chem Soc J 62:126-9 Ja '40
Condensations by sodium; reactions of disodium compounds with ethylidene and methylene chlorides. A. A. Morton and J. T. Massengale. bibliog Am Chem Soc J 62:120-3 Ja '40
Condensations by sodium; the formation of decane in the Wurtz reaction. A. A. Morton and G. M. Richardson. Am Chem Soc J 62: 123-6 Ja '40
Condensations of carbonyl compounds; a kinetic study of the reaction of acetophenone with benzaldehyde. E. Coombs and D. P. Evans. Chem Soc J p1291-1300 S '40
Condensations of certain active hydrogen compounds effected by boron trifluoride and aluminum chloride. D. S. Breslow and C. R. Hauser. bibliog Am Chem Soc J 62:2385-8 S '40
Condensations; the alkylation of ethyl acetoacetate with isopropyl acetate in the presence of boron trifluoride. D. S. Breslow and C. R. Hauser. bibliog Am Chem Soc J 62:2611-12 O '40
Condensations; the alkylation of ethyl isobutyrate and of certain other esters by means of sodium triphenylmethyl and alkyl halides. B. E. Hudson, jr. and C. R. Hauser. bibliog Am Chem Soc J 62:2457-9 S '40
Drying oils and resins; insolubilization of maleic glycol polyesters by additive polymerization. E. L. Kropa and T. F. Bradley. bibliog il diag Ind & Eng Chem 31:1512-16 D '39
Flavans. J. B. Niederl and A. Ziering. Am Chem Soc J 62:1157-8 My '40
Hydrogen exchange reactions of esters in relation to reactivity in condensation reactions with deuteroalcohol. W. G. Brown and K. Eberly. Am Chem Soc J 62:113-15 Ja '40
Hydrogen fluoride as a condensing agent; reactions of di- and triisobutylene with phenol. J. H. Simons and S. Archer. Am Chem Soc J 62:451 F '40
Hydrogen fluoride as a condensing agent; reactions of methyl, ethyl and phenyl compounds with benzene and its derivatives. J. H. Simons and H. J. Passino. Am Chem Soc J 62:1624 Je '40
Hydrogen fluoride as a condensing agent; rearrangements. J. H. Simons, S. Archer and D. I. Randall. Am Chem Soc J 62: 485-6 Mr '40
Hydrogen fluoride as a condensing agent; the reaction of alcohols and ethers with benzene. J. H. Simons and S. Archer. Am Chem Soc J 62:1623-4 Je '40
Mechanism of the reaction between phthalic anhydride and an aminodiol; reactions of 2-amino-2-methyl-1,3-propanediol. M. M. Sprung. bibliog Am Chem Soc J 61:3381-5 D '39
Production of polycyclic aromatic types through the *cyclo*dehydration of unsaturated ketones. W. S. Rapson and R. G. Shuttleworth. Chem Soc J p636-41 My '40
Racemisation of carboxylic esters by sodium ethoxide and its bearing on Claisen's condensation. J. Kenyon and D. P. Young. Chem Soc J p316-18 F '40
Seminar on polycondensation of the peptide esters of glycine. G. E. Woodward. Franklin Inst J 230:132-4 Jl '40
Some condensation products of *m*-dialkylaminobenzaldehydes with compounds containing reactive methylene groups. W. Cocker and D. G. Turner. Chem Soc J p57-9 Ja '40
Spirochromans. J. B. Niederl and R. H. Nagel. Am Chem Soc J 62:324-5 F '40
Steric hindrance in ketone-naphthol condensations; the condensations of the naphthols with cyclohexanone. J. B. Niederl, V. Niederl and J. Charney. Am Chem Soc J 62: 322-3 F '40
Steric hindrance in ketone-phenol condensations; the condensation of guaiacol with cyclic ketones. J. B. Niederl, V. Niederl and J. Grumer. Am Chem Soc J 62:320-2 F '40
Studies in the polyene series. E. Barraclough and others. Chem Soc J p1549-54 O '39
Synthesis of lubricating oils by condensation reactions; the condensation of chlorinated paraffin wax with aromatic hydrocarbons. W. R. Wiggins, T. G. Hunter and A. W. Nash. bibliog Inst Pet J 26:129-45 Mr '40
Synthesis of lubricating oils by condensation reactions; the engine testing of synthetic lubricating oils. W. R. Wiggins, T. G. Hunter and A. W. Nash. Inst Pet J 26: 225-34 My '40

See also
Michael reaction
Phenol condensation products

CONDENSERS
Air-cooled condenser among novelties in theatre job. D. H. Wyatt. il diags plans Refrig Eng 39:294-5 My '40
Application of heat transfer data to practical design of horizontal shell type refrigerant condensers. H. B. Pownall. Refrig Eng 39: 27-31 Ja '40
Automatic refrigerators. H. L. Jones. diags Inst Mech Eng J & Proc 143:94-9 My '40
Cleaning condenser water tubes. Refrig Eng 39:236 Ap '40
Copper alloys and their application in petroleum refining. J. T. Kemp. Am Pet Inst Proc 21M(3):58-63 My '40; Abstract. Metal Prog 38:326+ S '40
Corrosion of copper and copper-base tubing in oil-refinery heat-transfer equipment. R. A. Wilkins, E. S. Bunn and W. Lynes. il Am Pet Inst Proc 21M(3):46-57 bibliog(104 titles, p54-7) My '40
Heat transmission in evaporative condensers. A. K. G. Thomson. il diags Inst Chem Eng Trans 17:137-52 '39; Summary. Engineering 149:319 Mr 22 '40
How to figure additional capacity for refrigeration condensers. T. L. Scopes. Power 84:327 My '40
Humidification processes. chart Chem & Met Eng 47:315-16 My '40
Phosphorized admiralty metal for dezincification. Oil & Gas J 38:61 Ap 18 '40
Recent evaporative condenser design; supplies air conditioning for Paterson, N.J. store. D. E. Alton. diag Refrig Eng 40:160-1 S '40
Reduce head pressure? fish-freezing and storage plants, condensing pressure. diags Power 83:773-5+ D '39
Regulating condenser water for refrigeration systems. A. B. Newton. diags Heating-Piping 12:95-8 F '40
Results of corrosion tests in oil refineries. N. W. Mitchell. il Am Pet Inst Proc 21M(3): 64-7; Discussion. 85-6, 93-4 My '40
Summer cooling in the Research residence with a condensing unit operated at two capacities. A. P. Kratz and others. il diags Ill U Eng Exp Sta Bul 321:1-69 '40 (pa 70c)
Testing of non-ferrous alloys for condenser-tube service under conditions simulating actual industrial service. R. W. Moore and S. Kleinheksel. il diags Am Pet Inst Proc 21M(3):73-82 My '40; Same. Nat Pet N 32: R186-8, R190, R192 My 29 '40

See also
Ammonia condensers
Distillation apparatus

CONDENSERS (electricity)
Arc-furnace loads on long transmission lines. T. G. LeClair. il diags Elec Eng 59:Trans 234-9; Discussion. Trans 239-42 Ap '40
Automatic control of plant capacitors. il diag Elec W 113:1636+ D 2 '39

CONDENSERS (electricity)—*Continued*
Basis for a program of capacitor additions on a growing distribution system; with cost data. V. G. Rettig. Edison Elec Inst Bul 8:387-94 Ag '40; Same cond. Elec W 114:78-80 Jl 13 '40; Conclusions. Elec Eng 59:502 D '40
Capacitor discharge chart; reference sheet. L. Hanopol. diags Electronics 13:41-2 Je '40
Capacitor program for distribution betterment. T. Seely and P. H. Jeynes. diags Elec W 114:380-2+, 531-3 Ag 10-24 '40
Capacitor relay timing in industrial control. C. Stansbury and T. B. Jochem. il diags Elec Eng 59:Trans 65-9; Discussion. Trans 69-70 F '40
Capacitors aid feeders in textile machinery plant; Whitin machine works improves power factor of own generating plant. F. D. Snyder. il Elec W 114:213-14+ Jl 27 '40
Capacitors correct power factor at Louisville's rock mine. il Concrete (mill sec) 48: 235 S '40
Capacitors improve distribution conditions. J. L. Collins. Elec W 113:912+ Mr 23 '40
Capacitors; voltage correction obtained with static units at savings. H. E. Jung. Elec West 85:44-5 Jl '40
Circuit for the rapid measurement of the power factor of condensers. E. A. Walker. diag R Sci Instr 11:210-11 Jl '40
Condenser type high speed engine indicator. L. C. Roess. bibliog il diags R Sci Instr 11:183-95 Je '40
Correcting on the low side; applications in San Joaquin. H. H. Minor. Elec West 84: 46-7 My '40
Electrical plant and machinery; review of progress. G. A. Juhlin. Inst E E J 86:194, 202 F '40
Experimental condenser for determination of dielectric constants of liquids. D. T. Williams and C. S. Copeland. diags R Sci Instr 11:105-7 Mr '40
Flexibility marks capacitor layout; Rhode Island fabrics company. il Elec W 113:1234 Ap 20 '40
Flexible mounting for capacitor jobs. il Elec W 114:710 S 7 '40
G. E. series-capacitor system improves power factor in welding. Mach 46:100-1 Ag '40
Harmonics and capacitors. C. G. Smith. Elec West 85:40-3 N '40
High-strength steel for condenser rotor; Mayari R. il Elec W 114:1192 O 19 '40
Improved power factor in resistance welding; General Electric series-capacitor system. Gen Elec R 43:220-1 My '40
Improvements in the construction of condenser bushings. A. J. A. Peterson. il diags Elec Eng 58:Trans 646-50; Discussion. Trans 650 D '39
Multiple power-factor correction by combination of synchronous motors and capacitors. Elec W 113:604 F 24 '40
Mustering corrective kva; capacitors returned to irrigation circuits at end of cannery season; Pacific gas and electric co. J. F. Roberts. Elec West 84:47 My '40
New condenser circuits for suppressing d.c. arcs. C. G. Suits and J. A. Van Lund. diags Product Eng 11:206-8 My '40
On a trailer; portable, trailer-mounted capacitor equipment. Gen Elec R 43:220 My '40
Power-factor correction. il Elec R (Lond) 127:125-6 Ag 16 '40
Power factor improvement pays 86 percent return; Hempstead Village water works. W. L. King. il Power Pl Eng 44:60-2 O '40; Abstract. Elec W 114:104+ Jl 13 '40
Railway signal mains; counteracting voltage drop. H. C. Towers. il diags Elec R (Lond) 127:281 O 4 '40
Raise foundry power factor to 97 per cent; Ferro machine & foundry company. il Elec W 114:276 Jl 27 '40
Series capacitor protector control. R. E. Marbury. il diag Elec W 113:1476 N 18 '39
Serving arc furnace loads in suburban areas; comparing synchronous condenser and motor-generator set for correcting voltage disturbance. L. W. Clark. diag Elec W 113: 578-9 F 24 '40
Seventeen systems report smooth capacitor performance. M. C. Miller. Elec W 113:288-9+ Ja 27 '40
Shunt capacitor application problems. J. W. Butler. bibliog il diags Gen Elec R 43:206-12 My '40
Some new uses of capacitors in control circuits. F. H. Winter. il diags Gen Elec R 42:462-5 N '39
Team capacitors and line regulators. diags Elec W 114:1338+ N 2 '40
Transient and steady-state performance of potential devices. E. L. Harder, P. O. Langguth and C. A. Woods, jr. il diags Elec Eng 59:Trans 91-9; Discussion. Trans 99-102 F '40
12 years of hydrogen cooling. P. Sporn and F. M. Porter. il Power 84:161 Mr '40
Use of multiwinding transformers with synchronous condensers for system voltage regulation. H. P. St Clair. bibliog il diags Elec Eng 59:Trans 212-17; Discussion. Trans 217 Ap '40
When you install capacitors for power factor correction. R. E. Marbury. il Factory Management 98:76-8 S '40

See also
Radio condensers

CONDENSERS (steam)
Bronze welding repairs condenser. T. B. Jefferson. diags Power 84:525 Ag '40
Cathodic protection of condensers and coolers utilizing brackish bay water. W. A. S. Wright and J. H. Brooks. diags Am Pet Inst Proc 21M(3):83-5 My '40; Same. Oil & Gas J 39:60+ My 30 '40
Circulating water, heat transmission, and heat discharge in condensing plants. R. H. Parsons. Engineer 168:499-501 N 17 '39
Condensate temperature and condenser design. J. O. Stephens. diag Power Pl Eng 44:48-9 Mr '40
Condenser practice; tube packing; replacing tubes. P. F. Rogers; F. Paul. diags Power Pl Eng 44:74 My '40
Condenser pumping; trend of modern practice. F. J. Taylor. il Elec R (Lond) 126: 616 Je 7 '40
Condenser tube repair avoids replacement; Dresser station of the Public service company of Indiana. diag Elec W 113:1538+ My 18 '40
Corrosion-resisting properties of bronze condenser tubes; electrode potential-time relationships. J. Chapman and J. W. Cuthbertson. diag Soc Chem Ind J 58:330-4 N '39
Economic dimensions of condensers and cooling plants. A. Fonó. diag Engineering 149: 79-82 Ja 26 '40
Fifty years of marine engineering. A. L. Mellanby. il Inst Mech Eng J & Proc 143: Proc 333-4 O '40; Same. Engineer 169:272 Mr 22 '40; Same. Engineering 149:372 Ap 5 '40
Mechanical factors affecting condenser tube life. A. J. German. diags Power Pl Eng 44: 47-9 F '40
Phosphorized admiralty condenser tubes. C. A. Gleason. Power Pl Eng 44:96 Ap '40
Phosphorized metal for condenser tubes. Elec W 113:1092 Ap 6 '40
Richardsons, Westgarth and company's 350-b.h.p. portable geared turbine and condensing plant. il Engineering 148:705 D 22 '39; Engineer 168:623 D 22 '39
Some factors affecting the form of condensation of steam. C. L. Old. il diags Inst Mech Eng J & Proc 142:199-209 D '39
Station K wins battle against condenser scale; uses sodium hexametaphosphate. J. O. Olson. il diags Power 84:164-5 Mr '40
Steam condensers. A. D. Karr. il diags Comp Air M 45:6104-8, 6129-33, 6149-54 Mr-My '40
Steam condensers; design and operation. V. Walker. Elec R (Lond) 127:238 S 20 '40
Steam condensers; relative merits of different alloys. V. Walker. Elec R (Lond) 125:812-13 D 29 '39

CONDENSERS (steam)—*Continued*
Vibration; its effect on heat transfer. W. E. Mason and L. M. K. Boelter. bibliog Power Pl Eng 44:43-4+ Je '40

See also
Steam engines
Steam plants—Equipment
Steam turbines

CONDENSERS, Ammonia. See Ammonia condensers

CONDENSERS, Radio. See Radio condensers

CONDUCTOMETRIC analysis. See Volumetric analysis

CONDUITS
Curved flow in conduits of constant cross-section. C. H. Nordell. diags Oil & Gas J 39:117, 119-20, 123-4 My 16 '40

Improved conduit bends reduce frictional loss. C. H. Nordell. bibliog il diags Oil & Gas J 39:50, 53, 55 Je 13 '40

See also
Aqueducts
Culverts
Electric conduits
Pipe lines
Telephone conduits
Water conduits

CONDUITS, Concrete
Park River conduit, Hartford, Conn.; unit prices. Eng N 125:432 S 26 '40

CONES, Pyrometric. See Pyrometric cones

CONEY ISLAND, New York
Coney Island boardwalk goes for a ride. il Eng N 124:616-17 My 2 '40

CONFECTIONERY
Confectionery production and distribution, 1939. A. S. Nemir. U S Bur For & Dom Com, Domestic Commerce Ser 111:1-26 '40

What to do with "terms chiselers." B. F. Fox. Credit & Fin Management 42:16-17 S '40

See also
Candy
Ice cream

CONFERENCE of state and territorial health officers of North America
Public health in the national defense program. Pub Health Rep 55:1760-76 S 27 '40

CONFERENCES

See also
Business conferences
Conventions
Discussion

CONFERENCES, Business. See Business conferences

CONFERENCES, International. See International conferences

CONFISCATIONS

Germany

German confiscations of American securities. P. L. Weiden. 41p pa $1 New York univ. Law quarterly review, 100 Washington sq. E., New York '40

CONFLICT of laws
Characterization in the conflict of laws. A. and W. H. Hartley. 367p bibliog(p341-50) Harvard univ. press '40

CONGLOMERATE
Carboniferous topography in the vicinity of Boston, Massachusetts. M. P. Billings, F. B. Loomis, jr. and G. W. Stewart. bibliog diags maps Geol Soc Bul 50:1867-84 D '39

Petrology of Whittier conglomerates, southern California. G. J. Bellemin. bibliog il maps Am Assn Pet Geologists Bul 24:649-71 Ap '40

CONGO red
Adsorption at the interface between two fluids; the adsorption of five dyes at a mercury-water interface. C. W. Gibby and C. Argument. diag Chem Soc J p596-600 My '40

Examination of damaged cotton. Textile Col 62:617-18 S '40

Examination of damaged cotton by the Congo red test; further developments and applications. G. G. Clegg. Textile Inst J 31:T49-68, pl 1-11 My '40

CONGO violet
Adsorption at the interface between two fluids; the adsorption of five dyes at a mercury-water interface. C. W. Gibby and C. Argument. diag Chem Soc J p596-600 My '40

CONGOLEUM-NAIRN, Inc.
Brass tacks for the investor; brief analysis. Barron's 20:13 Ja 29 '40

CONGRESS (United States). See United States—Congress

CONGRESS of industrial organizations
A.F. of L. asks President Roosevelt to make public answers to plea for resuming peace negotiations with C.I.O. Comm & Fin Chr 150:928 F 10 '40

Annual conventions of A.F. of L. and C.I.O. Monthly Labor R 49:1130-4 N '39

Can the unions achieve unity? Business Week p14-15 N 16 '40

C.I.O. still labors. J. A. Rowan. il Iron Age 145:62-5 Ja 4 '40

Crisis in C.I.O. Business Week p38-40 N 2 '40

Filene contract; representation by C.I.O. Business Week p42+ N 2 '40

For C.I.O. harmony; new appeals committee. Business Week p48 N 11 '39

Labor fight between A.F.L. and C.I.O. may benefit builders. Business Week p32-3 Mr 30 '40

Lewis now wears uneasy crown. Business Week p26 Jl 6 '40

Mixed fare for C.I.O.; court decisions in Ford and Bethlehem cases. Business Week p53 O 12 '40

Rival unionism in the United States. W. Galenson. 317p bibliog(p305-7) $3.25; pa $2.50 Am. council on public affairs, 1721 Eye st, Washington, D.C. '40

Rupture in C.I.O. over Roosevelt and communism. Business Week p38 S 28 '40

Three old fights, and a new one; C.I.O.'s feuds with Messrs. Girdler, Weir, and Ford, and with the aircraft industry. Business Week p38-41 Jl 20 '40

See also
Bank and brokerage employees union
Construction workers organizing committee
Steel workers organizing committee

CONGRESSMEN
Insurance men members of Congress. pors East Underw 41:3+ Ap 12 '40

CONIFERS
Conifer inflorescence again. G. R. Wieland. Science 91:262-3 Mr 15 '40

See also
Douglas fir
Pine
Spruce

CONJUGATION (chemistry)
Conjugated systems and resonance. A. Burawoy. Chem & Ind 59:594-6 Ag 17 '40

Conjugation of horse serum albumin with 1,2-benzanthryl isocyanates. H. J. Creech and R. N. Jones. bibliog Am Chem Soc J 62:1970-5 Ag '40

CONNECTICUT

See also
Geology—Connecticut

Economic conditions

Connecticut shows better-than-average gains in employment, output and other indices. D. W. Ellsworth. Annalist 55:560-1 Ap 18 '40

CONNECTICUT college for women, New London
Connecticut college auditorium; with views, plans, construction outline. Arch Forum 72:157-60 Mr '40

CONNECTICUT general life insurance company
Background of seventy-five years. East Underw 41:3+ Je 28 '40

CONNECTICUT mutual life insurance company
Annual statement. Weekly Underw 142:325 F 3 '40

CONNECTICUT power company
$4,000,000 bonds offered to stockholders. Comm & Fin Chr 151:2186 O 12 '40

CONNECTING rods
Checking stretch of connecting-rod bolts. diags Power 84:46-8 Ja '40
Connecting rod and crankshaft bearings, 1941 cars; specifications tabulated. Automotive Ind 83:440 O 15 '40
Engine bearings, from design to maintenance. A. B. Willi. il diags S A E J 45:513-24 D '39
Pistons, rings, connecting rods, 1941 cars; specifications tabulated. Automotive Ind 83: 439 O 15 '40
Whip stress in a locomotive main rod. M. W. Davidson. Engineering 150:117-20 Ag 9 '40

Manufacture

Chevrolet connecting-rods made by ultra-modern methods. C. O. Herb. il Mach 46: 122-7 Ap '40
Contour milling of aircraft connecting rods now automatic. il Steel 107:68 Jl 22 '40
Fixture designed for use in sawing off connecting-rod caps. E. L. Peterson. diags Mach 46:131-2 Je '40
Fixture for use in sawing off connecting-rod caps. E. L. Peterson. diags Mach 47: 137-8 O '40
New production equipment for 1940 Pontiacs. il Mach 46:146-9 Ap '40
Operations in Studebaker's modernized plant. il Mach 46:117-19 Ap '40
Production contour milling with automatic duplicator control. il diag Mach 46:167 Je '40

Testing

Correcting automobile connecting-rods for weight and center of gravity. il Mach 46: 168 Je '40

CONNECTORS, Train line
Test rack for steam-heat connectors. il diags Ry Mech Eng 114:196 My '40

CONNELLSVILLE, Pennsylvania
Family income and expenditure in nine cities of the east central region, 1935-36; v. 1, Family income. A. D. H. Kaplan, F. M. Williams and R. Hellman. map U S Bur Labor Statistics Bul 644:1-538 '39

CONNELY, Emmett Francis, 1891-
Sketch. por Inv Banking 10:14-15 N '40

CONNER, Raymond M.
Honored for 15-year service as American gas association laboratories' director. por Am Gas Assn Mo 22:239 Je '40; Am Gas J 152: 49 Je '40

CONNOR, Thomas John
Six managers. por(p55) Fortune 22:94+ Ag '40

CONRAD, Frank, 1874-
Presentation of the gold medal of the American institute of the city of New York. D. Sarnoff. Science 91:129-31 F 9 '40

CONSCIENTIOUS objectors
Fortune survey; conscientious objectors in wartime; what should be done with them? Fortune 21:88 Ja '40
We won't murder. P. C. French. 189p bibliog (p181-9) $1.50 Hastings house, New York '40
What about the conscientious objector? a supplement to the Pacifist handbook. 108p bibliog(p87-96) pa 15c Peace section, Am. Friends service committee, 20 S. 12th st, Philadelphia '40

CONSCRIPTION. See Military service, Compulsory

CONSERVATION of resources
Conservation and citizenship. G. T. Renner and W. H. Hartley. 367p bibliog(p341-50) $1.60 Heath '40
Conservation of mineral resources. R. J. Lund. il Min Cong J 25:35-40 O '39; Same. J Eng Educ 30:232-42 N '39
Conservation requires single viewpoint and unified program; abstract. P. B. Sears. Science 92:supl2 S 27 '40
Conserving our resources. E. E. Keso. 206p bibliog(p197-201) $1.24 School supply & pub. co. 911 N. Hudson, Oklahoma City '40
Energy resources and national policy; report of the National resources committee. Monthly Labor R 49:1082-5 N '39
Pandora's box; the story of conservation. M. E. Baer. 292p bibliog(p285-8) $2 Farrar '39
Resources and national defense. J. P. Ferris and H. Emerson. Mech Eng 62:809-12 N '40

See also
Forest conservation
Gas, Natural—Conservation
Mines and mineral resources
Petroleum—Conservation
Reclamation of land
Regional planning
Water conservation
Water power
Water supply

CONSIDÈRE hinges
Design of hinges and articulations in reinforced concrete structures. G. C. Ernst. diags Am Soc C E Proc 66:589-605 bibliog(p605) Ap '40; Discussion. A. A. Eremin. 66:1527-8 O '40

CONSIGNMENT selling
Antitrust suit hits del credere plan; use of patent privileges in a circumvention of Sherman and Clayton acts, conspiracy to monopolize and restrain trade in hardboard is charged. Oil Paint & Drug Rep 137:3+ Mr 18 '40
Business you might avoid; consignments, cash discounts and job orders usually add little to profits. W. H. Conant. Barron's 20:9 Jl 15 '40
New test for patents; Arnold's suit against hardboard industry. Business Week p19-20 Mr 16 '40

CONSOLIDATED aircraft corporation
Annual report. Comm & Fin Chr 150:1760 Mr 16 '40
Brass tacks for the investor; brief analysis. Barron's 20:13 Je 24 '40

CONSOLIDATED coppermines corporation
Volatile low priced equities; thumbnail appraisal. Mag of Wall St 65:686 Mr 9 '40

CONSOLIDATED Edison company of New York
Annual report. Comm & Fin Chr 150:1429-30 Mr 2 '40

CONSOLIDATED electric and gas company
Earnings, 1937-39. Comm & Fin Chr 150: 2570 Ap 20 '40

CONSOLIDATED gas, electric light and power company of Baltimore
Earnings, 1936-39. Comm & Fin Chr 150:1275 F 24 '40
Preferred stock offered. Comm & Fin Chr 151:983-4 Ag 17 '40

CONSOLIDATED mining and smelting company of Canada, limited
History. il Can Min J 60:sup278-83 N '39

CONSOLIDATED oil corporation
Earnings, 1936-39. Comm & Fin Chr 150: 2720 Ap 27 '40

CONSOLIDATED statements
Consolidated balance-sheet of Associated dry goods corporation. J Account 68:275-6 O '39; Reply. 69:215-16 Mr '40
Consolidation of foreign subsidiaries. J Account 70:272-3 S '40
Mutual stockholdings in consolidated statements. H. S. Benjamin; E. D. Alford. J Account 68:400-1 D '39

CONSTANCE, Lake
Currents in the lake of Constance; abstract. I. M. Auerbach. Am Water Works Assn J 32:1047-8 Je '40

CONSTANTAN
Direct method of calibration of a copper-constantan thermel for measurement of temperature differences at a series of temperatures. J. S. Buriew and R. P. Smith. bibliog Am Chem Soc J 62:701-4 Ap '40
Stability of base-metal thermocouples in air from 800° to 2,200° F; chromel-alumel and iron-constantan. A. I. Dahl. J Research Nat Bur Stand 24:305-24 F '40

CONSTANTINOPLE (Istanbul)
Soviet transit shipments through Istanbul, 1935-39. Comm Rep p231 Mr 9 '40

CONSTIPATION
Laxatives and bowel consciousness, a clinical study. M. Kraemer. Consumers' Research Bul (Gen bul ser) 10:9-11 O '40

CONSTITUTION reinsurance corporation of New York
Licensed on September 4; officers named. Weekly Underw 143:618 S 21 '40

CONSTRUCTION camps
Sanitation of construction areas; abstract. F. A. Marston. Eng N 125:478-9 O 10 '40
Tribute to a construction town; Bartlett Dam. M. Ellis. il Eng N 124:580-2 Ap 25 '40

CONSTRUCTION equipment
Construction planning and plant. A. J. Ackerman and C. H. Locher. 381p $4 McGraw-Hill '40
Einrichtung von baustellen für grosse beton- und steinbrücken. H. Rietli. V D I 83:1299-1300 D 23 '39
Form assembly building for the construction of draft tube form; Hiwassee dam. C. E. Blee. il Eng N 123:714 N 23 '39
How Friant dam is being built. il diags Eng N 125:144-8 Ag 1 '40
Mechanical handling by cableways; application to construction. il diags Mech Handling 27:145-7 Jl '40
New type of rock spreader puts facing on earth dam. il Eng N 125:239 Ag 15 '40
Norris Dam construction cableways; with cost data. R. T. Colburn and L. A. Schmidt, jr. il diags plans Am Soc C E Proc 65:1733-64 D '39; Discussion. 66:584-6, 793-4, 1139-44 Mr-Ap, Je '40
Portable power distribution center. E. N. Banthin. il Eng N 124:337 F 29 '40
Safety pays dividends. J. W. Cowper and H. O. Locher. il Civil Eng 10:551-4 S '40
Shasta Dam construction layout. il diags plan Eng N 125:18-21 Jl 4 '40
Shop hoist in the field. W. H. Banthin. il Eng N 125:115 Jl 18 '40
65,000 yards daily at Hansen dam. il Eng N 124:497-500 Ap 11 '40
Traveler speeds arch viaduct forms; link in the approach system of the George Washington bridge. K. A. Sheppard. il diags Eng N 125:334-6 S 12 '40
Wire rope for construction. il Eng N 124:734-40 My 23 '40

See also
Cableways
Concrete plants
Cranes, derricks, etc.
Excavating machinery
Hoisting machinery
Roads—Construction equipment

Power
Electric drive for ordinary construction jobs. G. H. Hall. il diags Eng N 124:164-6, 326-9, 442-4, 501-3, 659-62, 805-8; 125:235-7 F 1, 29, Mr 28, Ap 11, My 9, Je 6, Ag 15 '40
Switching sled for construction power. K. N. Banthin. il Elec W 113:1546 My 18 '40

Rental prices
Equipment rental prices in five areas. Eng N 124:924, 926 Je 20 '40

CONSTRUCTION schedules. See Building—Rapid construction; Roads, Concrete—Construction schedules

CONSTRUCTION workers organizing committee
C.I.O. sets terms to woo builders. Business Week p46-7 F 17 '40
C.I.O. signs builders; agreement with employers in District of Columbia. Business Week p31-2 D 2 '39
Labor and builders reach agreement; contract signed by Construction workers' organizing committee and Construction industry employers, inc. Eng N 123:721+ N 30 '39
Letter from C.W.O.C.; C.I.O. tells builders in District of Columbia it can lower their costs. Business Week p39 Je 15 '40

CONSUMER credit council. See American bankers association—Consumer credit council

CONSUMER distribution corporation
Co-ops dressing up; grocery stores modernize on advice of Consumer distribution corp. il Business Week p41 S 14 '40

CONSUMER education courses
Teachers not anti-advertising; nor red, or even pink, business-baiters. C. B. Larrabee. Ptr Ink 191:15-16+ My 10 '40

CONSUMERS
Advertisers' poll shows strong interest in consumer movement throughout country. Ind Stand 10:297 D '39
Advertisers warned against flouting or fighting consumer movement; P.I. jury of marketing opinion. D. E. Robinson. Ptr Ink 191:15-18 Je 21 '40
American women are sincere friends of American business. A. S. Richardson. Ptr Ink 191:11-14+ My 31 '40
Business-consumer relations. Sales Management 46:38-40 Ap 20 '40 [cont semi-monthly]
Business-consumer relations; three New York meetings. Sales Management 46:50+ Je 1 '40
Consumer bill hearings start. Ptr Ink 190:22 Ja 26 '40
Consumer conference sponsored by Advertising women of New York. Oil Paint & Drug Rep 137:3+ F 26 '40
Consumer education: why and how; proceedings of a conference on consumer education, George Peabody college for teachers, Nashville, Tennessee, May 17-18, 1940. 60p pa 25c George Peabody college for teachers, Nashville, Tenn '40
Consumer get-together; Women's advertising club of Chicago. Ptr Ink 190:15-16. F 9 '40
Consumer groups gain as advertisers beat bushes for witches. C. B. Larrabee. Ptr Ink 189:11-12, 68, 71-3 N 24 '39
Consumer marches on. E. Freedman. Am Dyestuff Rep 29:32-5; Discussion. 35-7 Ja 22 '40
Consumer movement and the textile industry. F. S. Blanchard. Am Dyestuff Rep 29:322-6 Je 24 '40
Consumer movement linked to U.S. defense program. Oil Paint & Drug Rep 138:5 Ag 12 '40
Consumer representation in the new deal. P. Campbell. 298p $3.25 Columbia univ. press '40
Consumer standards and marketing. D. E. Montgomery. Ann Am Acad 209:141-8 My '40
Consumers all; the problem of consumer protection. J. Gaer. 208p $1.32 Harcourt '40
Consumers are heard; Better business advertising-selling conference. Business Week p53-4 My 18 '40
Consumers confer; second annual National conference on consumer education. Business Week p45-6 Ap 6 '40
Consumers' red network; Dies investigation. Business Week p17-18 D 16 '39
Consumers say they don't want more U.S. control of products; conference of manufacturers and consumers. Sales Management 46:59 Mr 1 '40
Dies vs. consumers; proposed investigation of research groups. Business Week p44 N 11 '39
Fair enough; Boren bill. H. R. Howe. Ptr Ink 190:36 F 23 '40
Friendly consumers; 2,000 women meet with business people in New York. A. Davis. Ptr Ink 190:50-1 Mr 1 '40
Gas industry ahead of its time with consumer movement. A. Forward. Am Gas Assn Mo 22:85 Mr '40
Give us more facts to help us buy. Mrs R. M. Binder. Am Business 10:42-3 Jl '40
Harriet Elliott dodges the isms; consumer adviser on Defense commission. por Business Week p22+ S 7 '40
How advertisers can help in consumer education movement; what buyers want to know. K. Dameron. Ptr Ink 190:13-15+ Mr 29 '40
How Kaufmann's uses research to build business; continuous research at Mellon institute and standard of quality labeling. E. G. Thoman. il Am Business 10:26-7+ My '40

CONSUMERS—*Continued*
Labeling the consumer movement; an analysis from the retailers' point of view of organizations and agencies engaged in consumer activities. W. K. Gabler. 58p pa 50c Am. retail federation, 1627 K st, N.W., Washington, D.C. '39
Looks at consumer and retailer. H. B. Thomas. Oil Paint & Drug Rep 138:68, 68A-68B O 14 '40
Making consumer education effective; proceedings of the second national conference on consumer education held at Stephens college, Columbia, Mo. April 1-3, 1940. K. Blood and H. Dallas, eds. 253p pa $1 Inst. for consumer education, Stephens college, Columbia, Mo. '40
Manufacturers are invited to join new consumer standards institute being organized under the temporary sponsorship of McCall's magazine. Ind Stand 11:206-7 Ag '40
New responsibilities come to copy writer because of consumer movement. H. W. Dickinson. Ptr Ink 190:25-6, 30+ F 23 '40
172 advertisers give 8 main reasons for consumer movement; misleading advertising copy; social discontent, educational influences. D. E. Robinson. Ptr Ink 191:11-13, 70+ Je 14 '40
Product standards and labeling for consumers. A. L. Edwards. 134p $2.50 Ronald press '40; Review, by M. Gertz. Ind Stand 11:68-9 Mr '40
Second conference on business-consumer relations; proceedings, New York, May 13-14, 1940. 134p $2.50 National assn. of better business bureaus '40
Sell the consumer 400 first! I. C. Miller. il Food Ind 12:67-8 Ap '40
Social responsibility of management five years hence; consumer point of view. P. S. Brown. Advanced Management 5:125-7 Jl-S '40
Teachers grab show at Stephens college consumer conference; P. I. observer sets down 24 significant trends important to business men. C. B. Larrabee. Ptr Ink 191:11-13+ Ap 12 '40
Tell your business to your customers. H. Slater. il Food Ind 12:58-60 My '40
324 Indianapolis women pay to hear Business bureau consumer lectures. Ptr Ink 190:69-72 F 23 '40
Town Hall consumer debate keeps things lively at Four-A convention; To what extent should advertising be controlled and by whom? H. L. Stephen. Ptr Ink 191:69-70+ My 24 '40
12-point consumer verdict rendered by P.I. market jurors. D. E. Robinson. Ptr Ink 191:15-17+ Je 28 '40
What do consumers want? Ptr Ink Mo 40:28+ F '40
What the public thinks of food manufacturers; survey of consumer opinion. D. Hartwell. Food Ind 12:39-41+ Je '40
Who is fighting the consumer movement? A. S. Richardson. Adv & Sell 33:38+ O '40
Willis defends consumer. Ptr Ink 189:65 D 22 '39
Women advise; consumer education plan, Los Angeles department stores. Business Week p28+ Ap 20 '40
See also
Consumption (economics)
Institute of standards

CONSUMERS' associations

Directories

Labeling the consumer movement; with separate mimeographed appendix. W. K. Gabler. 58p pa 50c Am. retail federation, 1627 K st, N.W., Washington, D.C. '39

CONSUMERS' book cooperative
Buy your books the cooperative way. G. J. Garrison. Special Lib 31:157-8 My-Je. '40

CONSUMERS' bureau of standards
Consumer's Bureau case resumes. Ptr Ink 190:28+ Mr 15 '40

CONSUMERS mail order co-operative
Nationally advertised brands, at cut prices, form bulk of this co-op's stock. S. Carter. il Ptr Ink 190:25-6+ Mr 22 '40

CONSUMERS power company
Bonds offered. Comm & Fin Chr 150:125-6 Ja 6 '40
Case raises issue of capital set-up of this and other companies. Pub Util 25:160-1 F 1 '40
Consumers' Power adding 85,000 kw. Elec W News ed 114:924 S 28 '40
Financing approved. Comm & Fin Chr 149: 3258 N 18 '39
SEC delays bond action; other developments in connection with proposed financing. Comm & Fin Chr 149:3713 D 9 '39
SEC rules on bond issue. Comm & Fin Chr 149:4170-1 D 30 '39

CONSUMERS' research, Washington, New Jersey
Personally conducted tour of CR. il Consumers' Research Bul (Gen bul ser) 10:13a-13c O '40

CONSUMERS' union of the United States
Consumers' Union takes an ally; support of American association of scientific workers. I. C. Miller. Food Ind 12:33+ Ag '40

CONSUMPTION (economics)
Clothing expenditures of wage earners and clerical workers. Monthly Labor R 50:267-85 F '40
Consumer market; income, expenditure, and savings. W. Alderson. Ann Am Acad 209:1-13 My '40
Consumption, the end result of marketing. R. S. Valle. Ann Am Acad 209:14-21 My '40
Dangers in consumer credit; summary of survey by Russell Sage foundation. R. Nugent. Credit & Fin Management 41:30 D '39
Defeat of poverty. H. Withers. 287p 7s 6d J. Cape, London '39
Expenditure habits of wage earners and clerical workers; data based on actual incomes and expenditures of 14,469 families in 1 year during the period 1934-36. F. M. Williams and A. C. Hanson. Monthly Labor R 49:1311-34 D '39
Future retail spending by zones. H. F. Travis. il map Mag of Wall St 66:618-21+ S 7 '40
Housing, an item of national expense; review of Consumer expenditures in the U.S., by National resources committee. Arch Forum 72:127-30+ F '40
How consumer purchases vary with the seasons in 29 regions. L. D. H. Weld. il map Dun's R 48:15-20 Je '40
Income-expenditure relations. E. W. Gilboy. R Econ Statis 22:115-21 Ag '40
Income, family size, and the economic level of the family. Monthly Labor R 50:115-34 Ja '40
Industry appraises its outlets; consumer buying power vs. production. J. C. Cresswill. il Mag of Wall St 65:204-6+ D 2 '39
Measure of purchasing power inflation and deflation. M. Shields. Am Statis Assn J 35:461-70 S '40
National resources planning board prepares estimates of how Americans spend income. Comm & Fin Chr 149:3202 N 18 '39
Necessities take less than half consumer dollar, according to National industrial conference board. Comm & Fin Chr 149:3647 D 9 '39
Personal and collective budget functions. J. Marschak. bibliog R Econ Statis 21:161-70 N '39
Savings of wage earners and clerical workers, 1934-36. Monthly Labor R 51:119-39 Jl '40
Transportation and recreation expenditures of wage earners and clerical workers. Monthly Labor R 50:556-73 Mr '40
What of consumer buying power? J. C. Cresswill. Mag of Wall St 65:400-1+ Ja 13 '40

CONSUMPTION (economics)—*Continued*
Who buys what on the installment plan? R. A. Young and B. Bernstein. il Dun's R 48: 9-16 F '40

See also
Budget, Household
Buying habits
Consumers
Industry
Market surveys
Prices
Production
Purchasing
Quality of products

Statistics

Consumer expenditures in United States, estimates for 1935-36. (National resources committee) 195p pa 50c Supt. of doc. '39; Abstract. Monthly Labor R 50:377-81 F '40
Expenditures of wage earners and clerical workers for housefurnishings and operation. Monthly Labor R 50:1349-66 Je '40
Family expenditures for medical care, personal care, and miscellaneous items; including gifts and contributions, education, taxes. Monthly Labor R 50:1062-79 My '40
Family expenditures in selected cities, 1935-36; food. map U S Bur Labor Statistics Bul 648 v 2:1-406 '40
Family expenditures in selected cities, 1935-36; travel and transportation. L. A. Epstein; J. R. Wood, jr. map U S Bur Labor Statistics Bul 648:1-165 '40
Family income and expenditure in selected urban communities of the west central-Rocky Mountain region, 1935-36; v.2, Family expenditure. A. D. H. Kaplan, F. M. Williams and L. A. Epstein. map U S Bur Labor Statistics Bul 646:1-313 '40
Family income and expenditures in New York city, 1935-36; v. 2, Family expenditure. A. D. H. Kaplan, F. M. Williams and A. C. Hanson. map U S Bur Labor Statistics Bul 643:1-232 '39
Food expenditures of wage earners and clerical workers. Monthly Labor R 51:250-66 Ag '40
Housing facilities and expenditures of wage earners and clerical workers. Monthly Labor R 50:807-24 Ap '40
Income and expenditures of wage earners' families in Canada, 1938. Monthly Labor R 49:708-11 S '39
International survey of recent family living studies; families of unemployed workers. bibliog Int Labour R 41:645-62 Je '40
Money disbursements of wage earners and clerical workers in eight cities in the east north central region, 1934-36. F. M. Williams and A. C. Hanson. U S Bur Labor Statistics Bul 636:1-443 '40
Money disbursements of wage earners and clerical workers in five cities in the Pacific region, 1934-36. F. M. Williams and A. C. Hanson. maps U S Bur Labor Statistics Bul 639:1-358 '39
Money disbursements of wage earners and clerical workers in the North Atlantic region, 1934-36. F. M. Williams and A. C. Hanson. U S Bur Labor Statistics Bul 637 v1:1-236; v2:1-522 '39

See also
Market statistics

CONTACT angle
Wetting characteristics of solid surfaces covered with adsorbed films. F. E. Bartell and K. E. Bristol. bibliog diags J Phys Chem 44:86-101 Ja '40

CONTAINER corporation of America
Fast-moving low price stocks; thumbnail appraisal. Mag of Wall St 65:555 F 10 '40

CONTAINER industries
Battle of the containers, the can, the bottle, and the carton; earnings of leading container companies. H. F. Travis. il Mag of Wall St 65:744-6 Mr 23 '40
New factors in American Can. G. L. Merton. il Mag of Wall St 65:227+ D 2 '39
SEC issues 1939 supplements for manufacturers of metal and glass containers and clay products. Comm & Fin Chr 151:1822 S 28 '40
What's ahead in 1940? containers. il Steel 106:173-4 Ja 1 '40

CONTAINER system (freight handling)
Demountable milk tank to cut Borden costs 16 per cent. il Food Ind 12:59-61 Ja '40
Money in l.c.l. perishables; Portakold portable ice boxes. il Ry Age 108:816-17 My 11 '40
Motor Terminals shows rail-highway equipment; demountable truck body as container for rail shipments. il Ry Age 107:973-4 D 23 '39
New rail-truck unit. Business Week p28 F 24 '40
Rail-truck tanks; Borden using them in handling bulk milk. Business Week p34-5 Ja 6 '40
Rapid handling of railway containers; Crescent system. Mech Handling 27:12 Ja '40
Stainless steel tanks to haul bulk milk on rail-truck system. il Steel 106:27 F 19 '40

CONTAINERS
Anstrichüberzüge an stelle von metallüberzügen. H. F. Sarx. Angew Chemie 52:715-17 D 23 '39
Bulk quick-freezing package; new latex baglined carton. il Mod Packaging 14:87+ S '40
Freight bills cut by slant-walled carton; Sun Flame Appliances redesign corrugated container for unit packaging of kerosene-heated irons. il Mod Packaging 14:66 S '40
Honored by all-America package competition. il Mod Plastics 17:34-5 Mr '40
New container upsets precedent; catchup and chili sauce sold together in multiple-unit package. il Food Ind 12:53 N '40
New jar, sales increase for honey. J. G. Paton. il Ptr Ink Mo 40:45 F '40
New opal jar meets drug act rules; containers for Edna Wallace Hopper creams have all label information lithographed on closures. il Mod Packaging 14:70 S '40
100 packaging case histories. A. Q. Maisel, comp. 223p $2.50 Breskin pub. corp, 122 E. 42d st, New York '39
Packaging the new product; chemicals and chemical products often present difficult problems. R. W. Lahey. il Chem & Met Eng 47:110-13 F '40
Proper container design speeds liquid filling. F. B. Fairbanks. il diags Food Ind 12:64-6 Je '40
Standardization of packages. U S Nat Bur Stand Misc Pub M165:79-128 '40

See also
Bottles
Container industries
Food containers
Glass containers
Labels
Milk containers
Oil cans
Package goods
Paper bags
Paper containers
Pressure vessels
Tanks
Tin cans
Tubes (containers)

Dual use

Early Americana is theme for merchandising new Cresca gift line of foods. C. J. Swan. il Ptr Ink 193:19-20 O 18 '40

Standards

Conference on weights and measures proposes container size standards. Ind Stand 11:172-4 Jl '40

CONTAINERS (for shipping)
A.S.T.M. testing program; corrugated shipping containers; abstract. D. L. Quinn. Paper Ind 22:61+ Ap '40
Bulged head drum solves problem of packing liquids which solidify in container. R. W. Lahey. il Chem Ind 46:460 Ap '40
Bulk packaging for export. R. W. Lahey. il Chem Ind 46:21-5 Ja '40
Cartons vs. crates; shipments of furniture in paperboard. Business Week p44-5 Ap 13 '40
Container sealing survey. K. Stevenson. Management R 29:15-16 Ja '40
Evaluation of strength characteristics of corrugated boxes. D. M. Hawley. Paper Tr J 111:27-8 Jl 11 '40; Abstract. Chem Ind 47: 543+ N '40
I.C.C. issues order revising regulations for transportation of explosives, dangerous articles. il Chem Ind 47:52 Jl '40
Modern export packing. J. Leeming. il diags U S Bur For & Dom Com Trade Promotion Ser 207:1-530 '40

CONTAINERS (for shipping)—*Continued*
Naval stores exchange approves metal drums. il Chem Ind 46:591 My '40
Shipping and container; Interstate commerce commission issues order. R. W. Lahey. Chem Ind 46:357 Mr '40
War on weight. J. L. Walsh. Mech Eng 62: 133 F '40

See also
Barrels
Cement bags
Container system (freight handling)
Food containers

Testing

Testing shipping containers for resistance to transmission of water vapor. R. W. Lahey. il Chem Ind 46:724 Je '40

CONTAINERS, Returnable
Returned bottles again issue. Food Ind 12:55 Ag '40

Accounting

Returnable containers. J Account 68:402-3 D '39

CONTAINERS, Steel
Further improvements in drum construction. il Chem & Met Eng 47:406-9 Je '40

See also
Tanks, Steel

Manufacture

Finishing metal containers. C. Cleveland. il Metal Finishing 38:619+ N '40

CONTI, Piero Ginori-. See Ginori-Conti, Piero

CONTINENTAL American life insurance company
Annual statement, 1939. East Underw 41:15 Ja 26 '40

CONTINENTAL aviation and engineering corporation
Common stock offered. Comm & Fin Chr 150: 3970 Je 22 '40
New aircraft motor company plans initial public financing. Comm & Fin Chr 150: 3353 My 25 '40

CONTINENTAL baking company
Annual report. Comm & Fin Chr 150:990 F 10 '40
Fast-moving low price stocks; thumbnail appraisal. Mag of Wall St 65:555 F 10 '40

CONTINENTAL can company
Earnings, 1936-39. Comm & Fin Chr 150:1275 F 24 '40
Will a tin shortage blackout can companies? H. D. Steinmetz. il Mag of Wall St 66: 356-8+ Je 29 '40

CONTINENTAL gas and electric corporation
Assets valued. J. F. Childs. Barron's 20:19 Je 10 '40
Earnings, 1937-39. Comm & Fin Chr 150:3817 Je 15 '40

CONTINENTAL motors corporation
Refinancing program. Comm & Fin Chr 149: 3406 N 25 '39
Stocks in the low-price range; thumbnail appraisal. Mag of Wall St 65:356 D 30 '39

CONTINENTAL oil company
Continental's Ville Platte operations. E. O. Bennett. flow diag il map Oil & Gas J 39: 50-2+ O 10 '40
Earnings, 1936-39. Comm & Fin Chr 150: 2420 Ap 13 '40

CONTINENTAL shelf
Submarine valleys and related geologic problems of the North Atlantic. W. H. Bucher. Geol Soc Bul 51:489-511 bibliog (p509-11) Ap '40

CONTINENTAL steel corporation
Brass tacks for the investor; brief analysis. Barron's 19:13 N 27 '39
High yield common stocks; thumbnail appraisal. Mag of Wall St 66:419 Jl 13 '40

CONTRABAND of war
Allied system of import guaranties. H. P. Crawford. Comm Rep p25 Ja 13 '40
Britain plans to examine United States shipments to neutrals before export; would reintroduce navicert system. Comm & Fin Chr 149:3338 N 25 '39
List of commodities declared to be contraband of war by Italy. Comm Rep p570 Je 29 '40
Lord Lothian says navicert system will facilitate United States shipping; rules issued by British consulate general at New York. Comm & Fin Chr 149:3484 D 2 '39
United States protests to Great Britain on delaying American ships in the Mediterranean area. Comm & Fin Chr 150:612-13 Ja 27 '40
United States warns Great Britain on diverting American vessels into combat area for contraband search. Comm & Fin Chr 150:196-7 Ja 13 '40

CONTRACT bonds. See Insurance, Surety and fidelity—Contract bonds

CONTRACTORS
Caution in contracting is war's warning. R. F. Proctor. Eng N 124:808 Je 6 '40
Contractor-engineer relations of a lifetime. F. L. Copeland. il Eng N 125:33-6 Jl 4 '40
Overhead man-hours in PWA non-federal construction. J. A. Ball and B. H. Topkis. Monthly Labor R 50:334-7 F '40
Private contractors may assist WPA. Eng N 125:409 S 26 '40
Weak spot in the contractor's business; responsibility for employees' conduct. C. R. Rosenberg, jr. Heat & Ven 36:16 D '39

See also
Construction equipment
Electric contractors

Accounting

Payroll accounting for construction contractors. W. B. Pinson. J Account 70:321-3 O '40

Directories

Contractors; roads, bridges, airports, Canada. Can Eng R & B 78:88+ Je '40

CONTRACTORS' equipment. See Construction equipment

CONTRACTS
Avoid legal losses, and points to observe. L. T. Parker. Am Gas J 153:13-15 Jl '40
Cases and materials on the law of contracts. F. A. Whitney. 2d ed 1376p $7 St John's univ. press, 96 Schermerhorn st, Brooklyn, N.Y. '39
Consideration in the law of simple contract. J. Wicks. 78p 5s Stevens & sons, London '39
Contracts for the benefit of third persons. A. M. Finlay. 150p 10s 6d Sweet & Maxwell, London '39
Gordon's Employment and agency agreements. S. Gordon. 548p $6 Prentice-Hall '40
Gordon's Modern annotated forms of agreement. S. Gordon. 1598p $10 Prentice-Hall '40
Law of contract during and after war, with leading cases, statutes, and statutory rules and orders. W. F. Trotter. 4th ed 727p 52s 6d Butterworth & co, London '40
Law of gas supply contracts. L. T. Parker. Am Gas J 151:18, 21 D '39
Liability for inducing breach of contract; digest of recent cases. J. L. Roesch. Spectator (Property ed) 6:32-3 S 19 '40
Outline of the law of contracts. P. R. Conway. 2d ed 416p $4 Harmon publications, Brooklyn, N.Y. '39
Story of contracts. H. W. Humble. 97 numb l pa $1.50 Harmon publications, Brooklyn, N.Y. '39
When the contractor signs an order. C. R. Rosenberg, jr. Heat & Ven 37:42 Mr '40

See also
Advertising agencies—Contracts
Arbitration
Building contracts
Engineering contracts
Labor contracts
Mortgages
Radio advertising—Contracts
Restraint of trade
Roads—Contracts
Sales

CONTRACTS, Government
Accounting problems on government contracts. F. Klein; R. M. Woodham; E. O. Lothrop. N A C A Bul 21:1361-82 Jl 1 '40
Aircraft orders in Calif. requiring large bonds. East Underw 41:52+ S 27 '40

CONTRACTS, Government—*Continued*
Army and navy fee construction contracts. Eng N 125:229-30 Ag 15 '40
Army lays ground work for fast start on construction. R. Colborn. Eng N 125:199 Ag 15 '40
Ask separation of contracts; heating and plumbing contractors call attention to the cost-plus-fee contracts on government jobs which do not provide for work by sub-contractors. Dom Eng 156:36-7, 56+ Ag '40
Awarding of army contracts for defense plants begins. Eng N 125:247-8 Ag 22 '40
Can NLRB veto defense contract? Business Week p15 O 12 '40
Clarification of government cost-plus-fixed-fee contract procedure. Civil Eng 10:602-3 S '40
Conserving man power in the defense industries. il map Nat Safety N 42:20-1+ S '40
Construction contracts for defense. L. B. Wehle. Eng N 125:155-8 Ag 1 '40
Contract information men discuss bureau service. Nat Underw 44:39 O 31 '40
Contract upheld by Court of claims; rules against MWAK, builder of Grand Coulee low dam. Eng N 124:75 Ja 18 '40
Court upholds wage rules on federal contracts. Mech Eng 62:509 Je '40
Damages awarded to contractors for forced idleness on highway project in Mount Rainier national park. Eng N 123:809 D 21 '39
Defense commission offers plan to expedite contracts; contractors would finance expanded facilities through use of own funds or the granting of credit from private sources. Automotive Ind 83:226-7+ S 1 '40
Defense contracts, placed from July 1, 1939, to Sept. 14, 1940 and unfinished to that date. Am Mach 84:879-88 O 30 '40
Defense menaced by amendments to Vinson-Trammel act. K. K. Hoyt and C. W. Page. Annalist 56:5 Jl 4 '40
Defense program awards in the South; list. Manuf Rec 109:37+ Ag; 36-7+ S; 40-2+ O; 38-40 N '40
Efficient this time; army and navy working together, using same designs and testing for each other. Business Week p44-5 N 16 '40
Emergency plant facilities contracts. Nat City Bank p126-7 N '40
Gleanings from the capital; excess profits tax may mean end of special profits limitations. E. Duffield. Barron's 20:4 Jl 8 '40
House passes bill to permit use of government contracts as bank collateral. Comm & Fin Chr 151:1818-19 S 28 '40
How to bid for government jobs. Dom Eng 156:38+ O '40
How to finance your plant expansion for completion of government aircraft contracts. R. Colborn. il Aviation 39:46-7 Ag '40
Miss Perkins' word is the law; Walsh-Healey decision holds Congress gave final authority to fix terms for government business. Business Week p15 My 4 '40
Mobilizing sub-contracting facilities; experience of the Connecticut aeronautical development commission. H. L. Williams. Aviation 39:50-1+ Ag '40
National defense appropriation bill watched by surety men who fear effect on bond lines. Ins Field (Fire ed) 69:7 Ag 15 '40
Navy awards fee contract for Corpus Christi airbase. Eng N 124:835+ Je 20 '40
Navy explains its position on sub-contract awards. Heat & Ven 37:59-61 S '40
Not all bonds waived in 5 billion defense act. East Underw 41:47 S 20 '40
President Roosevelt sends to Congress Defense commission's general principles on letting contracts and labor requirements. Comm & Fin Chr 151:1653-4 S 21 '40
Provisions in defense contracts. D. P. Perry. N A C A Bul 22:217-38 N 1 '40
Restrictions upon the interest of municipal and other public officials in governmental contracts. A. Fuller. 41p pa $1 Am. municipal assn, 1313 E. 60th st, Chicago '40
Ruling of Internal revenue bureau affecting Vinson-Trammell act as applied to contracts under national defense program. Comm & Fin Chr 151:783-4 Ag 10 '40
Steel companies lose wage appeal in U.S. Supreme court. Comm & Fin Chr 150:2810-11 My 4 '40
Steel institute committee deplores waiver of suretyship in cost-plus contracts. Nat Underw 44:24 O 24 '40
Steel wage determination sustained. Monthly Labor R 51:114-15 Jl '40
Sub-contracting, what and when. P. N. Jansen. il Aviation 39:48-9+ Ag '40
Timing armament profits; what mounting national defense orders mean to leading companies. C. Davidson, jr. il Mag of Wall St 67:76-9 N 2 '40
Torpedoed boats; navy's contract for British-type mosquito craft. Business Week p16 Ja 13 '40
U.S. Treasury permits charging off tool cost as indirect factory expense. Iron Age 144: 50C D 28 '39
Walsh-Healey public contracts act. 51p U.S. Dept. of labor, Division of public contracts, Washington; pa 10c Supt. of doc. '39
What's happening to performance bonds under the defense program. V. W. Gallagher. East Underw 41:26+ Ag 23 '40
When and how to protest. J. W. Gaskins. Eng N 124:373-5 Mr 14 '40
Where are those profits? financial study of two companies making military aircraft. maps Aviation 39:32-3+ O '40
Work of Bureau of reclamation; relationship between the Bureau and the contracting industry. J. C. Page. Comm & Fin Chr 150: 1365 Mr 2 '40

See also
Priorities, Industrial
Purchasing, Government

Accounting

Accounting problems of government war contracts. P. Sinclair. J Account 70:417-30 N '40
Accounting problems on government contracts; Vinson act and aircraft contracts. R. M. Woodham. N A C A Bul 21:1361-70 Jl 1 '40; Same. Credit & Fin Management 42:17-19 Ag '40
Some observations, from the accountant's viewpoint on various laws relating to government contracts; aircraft and naval vessels. E. O. Lothrop. N A C A Bul 21: 1371-82 Jl 1 '40

Canada

Canadian government contract requirements. O. B. North. Compar Law Ser 3:139-46 Mr '40

Chile

Government contract requirements in Chile. M. L. Bohan. Compar Law Ser 3:371-4 Jl '40

Guatemala

Government contract requirements in Guatemala. H. H. Tewksbury. Compar Law Ser 3:221-5 Ap '40

New Zealand

Government contract requirements in New Zealand. G. Curtis, jr. Compar Law Ser 3: 17-25 Ja '40

CONTRACTS, Letting of
Associated general contractors of America New Orleans chapter indicted on bid fees. Eng N 123:737 D 7 '39
Placing a plating contract. il Iron Age 146: 36-7 Jl 4 '40
Question on contract adjustment; plumbing, heating and ventilating. Sheet Metal Worker 31:66 Mr '40

See also
Contractors
Roads—Contracts

History

Bidding "By inch of candle." R. S. Kirby. il Civil Eng 10:240 Ap '40

CONTRACTS, Municipal
Hoopeston, Ill. builds sewage treatment works; constructed under new WPA; contract procedure; with cost data. K. V. Hill. il diag Water Works & Sewerage 86: 423-8 N '39

CONTROL, Electric. See Electric control

CONTROL, Radio. See Radio control

CONTROL boards
Told at a glance; control chart up-to-date; Speed products co. il Am Mach 84:495 Jl 10 '40

CONTROL equipment
Air conditioning controls. H. E. Shugars. diags Refrig Eng 40:221-5 O '40
American apparatus, instruments, and instrumentation; automatic recorders and controllers. R. H. Müller. il diags Ind & Eng Chem Anal ed 12:604-10 O 15 '40
Application of automatic control instruments to Diesel engines; using exhaust temperature for control purposes. G. B. Bailey. il diag Instruments 13:209-11 Ag '40
Automatic control of acid or alkaline baths. S. R. Waters. il diag Rayon 21:632-3 O '40
Bright annealing; gas from producer sampled continuously and maintained at desired analysis by reversing motor which alters ratio of air to gas as required. il diags Steel 107:76+ Ag 12 '40
Combustion control specifications. R. H. Morris. diags Power Pl Eng 43:430-3, 509-11, 572-4, 659-62, 716-20, 776-91 Jl-D '39
Control equipment for handling nylon. il Rayon 21:645-6 O '40
Control innovations, test kits feature 1939; heating and air conditioning. il Heat & Ven 37:113-16+ Ja '40
Controller maintains density of pulp in grinding ore. diag Comp Air M 45:6292 N '40
Controls soaking pit temperature and atmosphere automatically; Rayotubes. il Steel 107:49+ Ag 12 '40
Electrical developments of 1939. G. Bartlett. il Gen Elec R 43:23-5 Ja '40
Ending the instrument dilemma; Rochester athenaeum and mechanics institute trains men to design, install, adjust and maintain automatic controls. C. A. Little. il Power 84:395-6 Je '40
Ingot soaking pits feature complete automatic control; Edgar Thompson works of Carnegie-Illinois steel corp. Steel 107:54 Ag 26 '40
Instrumentation of power plant and mill. il diags Rayon 21:49-52 Ja '40
Instrumentation of the continuous strip mill at Ebbw Vale. Blast F & Steel Pl 28:271-2+ Mr '40
Instrumentation pays; benefits of automatic process control. il Rayon 21:433-6 Jl '40
Instruments. il diags Metal Prog 38:549-69 O '40
Instruments and control equipment at chemical exposition. il diags Chem & Met Eng 46:705-10, 780-1 N-D '39
Instruments pay us a good profit; Caterpillar tractor company. C. E. Armstrong. il Factory Management 98:78-9 O '40
Instruments safeguard progress; power plant instruments during past ten years. il diags Power Pl Eng 44:68-70 Ja '40
Kiln and mill controls to make seven cements; Yosemite portland cement co. B. Nordberg. il diag Rock Prod 42:26-8 D '39
Look-boxes losing as means of control in refineries; large-scale, automatic control refinery of Imperial oil, ltd. il Oil & Gas J 39:50+ Ag 29 '40
Meters, the watch dogs of plant operation. R. R. Frederick. il Power 84:14-15 Ja '40
Meyers consistency controller and volumetric stock meter. S. E. Meyers. diags Paper Tr J 110:13-16 F 1 '40
Eine neue entwicklung zur förderung der physikalisch-chemischen betriebskontrolle. P. Wulff. Chemische Fabrik 12:494-5 N 22 '39
New equipment; heat treatment and process control. il Iron Age 146:65-8 N 7 '40
Remote control for 1,500-ton power press. il Engineering 150:127 Ag 16 '40
Remote-control instrumentation; plant for processing sea-water. F. Rooney and C. Romano. diag Instruments 13:215-16 Ag '40
Selecting automatic-control equipment for continuous processes. H. H. Gorrie. diags Instruments 13:100-2+ Ap '40
Simple open-hearth control. R. Trautschold. il plan Steel 106:44+ Ap 1 '40
Taylor time cycle controller. il India Rubber W 102:55 Ag '40
What's new in heat-treating and process control apparatus. F. J. Oliver. il Iron Age 144:54-8 D 7 '39; 145:45-9 Mr 28 '40

See also
Electric controllers
Pneumatic control
Pressure regulators
Temperature—Regulation
Temperature regulators
also subdivision Control under special subjects, e.g.
Airplanes—Control
Boilers—Control
Electric motors—Control
Steam turbines—Control

CONTROLLED circulation audit
C.C.A. plans new audit form. Ptr Ink 193:64 N 8 '40

CONTROLLERS
Controller's job, what is it and why? F. J. Brett. Edison Elec Inst Bul 7:517-19+ N '39
Internal control; the place of the controller. N A C A Bul 21:1520-2 Ag 15 '40

CONVENTIONS
A.S.M.E. today; planning and conducting meetings. Mech Eng 62:138-42 F '40
Convention delegate takes the floor. G. E. Trulock. Nation's Business 28:23-5+ N '40
Convention paper; London assurance group attracts extra attention at yearly trade exhibit by daily paper. Ptr Ink 192:62-3 Jl 5 '40
Conventions. Published in weekly numbers of Printers' ink
How convention visitors spend. Am Business 10:39 N '40
Next month in business; a calendar of coming events. Published in monthly numbers of American business
Time to de-bunk conventions. Ptr Ink Mo 41:32 O '40

See also
Sales conventions

CONVERTERS
Electric Tropenas process of steel manufacture. Engineering 149:59 Ja 19 '40

See also
Bessemer process

CONVERTERS, Electric. See Electric converters

CONVERTIBLE bonds. See Bonds, Convertible

CONVERTIBLE stocks. See Stocks, Preferred—Convertible stocks

CONVEYANCES, Fraudulent. See Fraudulent conveyances

CONVEYANCING
Conveyancing precedents under the Property statutes of 1925; with explanatory notes and appendices. H. A. Rose. 3d ed 663p 25s Waterlow and sons, London '39
Graduated farm land transfer stamp tax for checking speculative booms in land values. J. A. Baker. J Land & Pub Util Econ 16:21-9 F '40
Hood & Challis's Property, Settled land, Trustee and Administration acts, and other recent acts affecting conveyancing, with commentaries. H. J. Hood, ed. 8th ed 980p 30s Stevens and sons, London '38
Law relating to conveyancing in a nutshell. M. de la P. Garsia. 160p bds 5s Sweet & Maxwell, London '39
Ohio forms and precedents, annotated. H. A. Couse. 4th ed 1731p $20 W. H. Anderson co, Cincinnati '40
Real estate titles and conveyancing. N. L. North and D. Van Buren. rev ed 719p $4.50 Prentice-Hall '40

See also
Land titles
Stamp tax

CONVEYING machinery
Blending ten aggregate sizes on long tunnel conveyor. F. M. Welch. il diag map Rock Prod 43:24-7 O '40
Built-in conveyor for welding machine. il Steel 105:62+ N 20 '39

CONVEYING machinery—*Continued*
Coal handling at Chicago's sewage-treatment works. W. G. Hudson. il diag Power 84:507-9 Ag '40
Collier converted to self-unloader. il Marine Eng 45:62-6 My '40
Colorado conveyor mine produces 7 to 10 tons per man-shift in thin seam. I. A. Given. il diags Coal Age 45:31-5 Ag '40
Continuous pig casting; handling facilities; Canadian furnace limited. R. Trautschold. il Steel 107:50+ S 9 '40
Conveying in thick seams; Huwood conveyor. il Mech Handling 27:91-2 Ap '40
Conveyor tables for continuous furnace doing both normalizing and annealing; Irvin works, Carnegie-Illinois steel corp. il Steel 107:56+ Ag 26 '40
Conveyors and duckbills speed Eagle-mine development. T. E. Jenkins. il diags Coal Age 45:33-6 Mr '40
Conveyors in 3-ft. coal; Starr mine. il diags Coal Age 45:44-6 Mr '40
Conveyors win out at Beckley Fire Creek's new Penman mine. J. H. Edwards. il plan Coal Age 45:33-6 N '40
Cost control in conveyor production. M. D. Jarvis. Mech Handling 27:169-71 Ag '40
Development of conveyor mining. G. B. Southward. diags Min Cong J 26:64-5 Ap '40
Dust-tight conveyors help keep boiler room spotless. il diag Steel 106:55 My 27 '40
Finished ware conveying system sustains production at Carr-Lowrey. il Glass Ind 21:437-40 O '40
Flash baking oven; making electric motor laminations; synchronized sheet slitter, varnish applicator and conveyorized flash-baking oven at Reliance electric & engineering co. K. H. Meyer. il diag Steel 105:54+ D 4 '39
Gathering systems for conveyor mining. diags Min Cong J 26:58-9 S '40
Intermittent conveyor for handling strip steel in coils. R. Trautschold. il Steel 107:52+ O 28 '40
Jeffrey elevator-conveyor for granular materials. il Rock Prod 43:83 Mr '40
Kennecott's Ray mines experiment with shaker conveyor. R. W. Thomas. il diag Min Cong J 26:62-3 Ap '40
Loudspeakers keep us all in step; S. C. Johnson & son, Racine. J. Collier. il Factory Management 98:88, 90 Jl '40
Mass production; importance of handling methods; motors. D. D. Rayner. Elec R (Lond) 126:499 My 3 '40
Mechanical handling, business evacuation and war damage. F. E. Sugden. Mech Handling 27:209-10 S '40
Mechanical handling in army truck production. il Mech Handling 27:3-6 Ja '40
Mechanical handling methods in mineral water plants. C. C. Downie. il diags Mech Handling 27:81-5 Ap '40
Mechanical loading and conveying; abstracts of papers, American mining congress, Coal division. Min Cong J 26:29-30 My '40
Mechanization sales, loaders and conveyors, 1939. T. Fraser and others. Coal Age 45: 63-5 F '40
Metal finishing; modern units fit into assembly line methods of manufacture; transformer containers produced at Allis Chalmers co. plant, Pittsburgh. W. F. Sherman. il diags plans Iron Age 146:32-6 Jl 25 '40
New conveyor-pan design smooths flight travel. F. F. MacWilliams. diag Coal Age 45: 64+ N '40
New porcelain-enameling plant; Tappan stove co. il plan Steel 107:54, 56, 59+ Ag 12 '40
Ore and coke handling at Staveley coal and iron co. Mech Handling 27:93-4 Ap '40
Plant economies engineered with modern conveyors; Sucrest corporation. G. L. Montgomery. il diag Food Ind 12:38-40 S '40
Plastics for mechanical handling; a wartime development in conveyor construction. J. S. Trevor. Mech Handling 27:155-7 Jl '40
Producing sand for glass; Silica co. of California. il Rock Prod 42:29-30+ D '39
Production of oil pans is geared for continuous conveyors; hydraulic press work, Ford plant. il Steel 106:62+ F 26 '40
Profitable fly-ash handling; State Line plant uses Redler conveyors and electrostatic precipitators; fly ash used in concrete. N. W. Elmer. il diag Steel 106:64-5+ F 12 '40
Refuse reclamation; electricity's aid. il Elec R (Lond) 126:363-5 Mr 29 '40
Shaw conveyor for assembly of small units. diag Electrician 124:29 Ja 12 '40
Shaw factory conveyor. diags Engineer 168: 529 N 24 '39
Speeding shipments; unique conveyor layout is combined with dispatching system; Westinghouse electric & mfg. co. O. J. Greenway. il diag Steel 106:50, 52+ Ap 8; 50, 52+ Ap 15 '40
Straight-line sheet galvanizing; Wheeling steel corp. D. A. McArthur and R. A. Geuder. il plans Iron Age 145:38-41 Ap 11 '40
Tomorrow's mining methods. M. A. Smith. diags Eng & Min J 141:33-7 Mr '40
Trans-shipping plant for coal; Three Rivers terminal of Dominion coal co. il Steel 106: 60+ Mr 4 '40
Vibratory equipment. F. J. Van Antwerpen. il Ind & Eng Chem 32:769-70 Je '40
Weighing stock automatically while in motion; can be done on floor tracks, overhead monorails or roller conveyors. B. T. Connolly. il Steel 107:118, 121, 141-2 O 14 '40
Welding on a conveyor; Servel Electrolux plant. R. G. Rodgers and W. R. Campbell. il Steel 106:54+ My 6 '40

See also
Cableways
Coal handling
Cranes, derricks, etc.
Electric driving—
Conveying machinery
Freight handling
Hoisting machinery
Loading and unloading
Mechanical handling
Mine haulage
Mine hoisting
Monorail conveyors
Ore handling
Pneumatic conveying
Sheet metal handling

Belt conveyors
Anthracite ribs skipped and drawn with aid of 12-in. belts running in troughs; Jermyn-Green coal co. E. Read. il plan Coal Age 45:52-4 Je '40
Belt conveyor discharge points. A. O. Gates. chart Eng & Min J 141:55 Ja '40
Belt takes aggregate to Shasta. il map Eng N 125:102-4 Jl 18 '40
Can change layout in an hour; making automobile seat covers; National automotive fibers, inc. H. M. Ratley. il Factory Management 98:48-9 S '40
Check data for conveyor belts; data sheet. C. W. Staacke. Power 84:686 O '40
Coal handling at Bryce E. Morrow. H. V. Schiefer. il Power 84:428-9 Jl '40
Considerations in selection of mechanical loaders loading broken rock in mines or tunnels. P. M. Sheriger. il Min Cong J 26: 37-8 Ja '40
Conveyor to handle aggregate at Shasta dam. Power Pl Eng 44:128 Ja '40
Conveyors for oil-treated coal; neoprene-covered. il Rubber Age 46:235 Ja '40
Conveyors solve the problem; conveyors connected by spiral chutes sort and handle cartons of paint cans; Sherwin-Williams company. E. O. Merkel. il Factory Management 98:64-5+ S '40
How Friant dam is being built. il diags Eng N 125:144-6 Ag 1 '40
Largest conveyor system for Shasta dam. R. H. Rogers. Steel 106:57 Ja 15 '40; Same cond. Concrete 48:8 F '40
Long field conveyors and tractors solve transportation problem; Friant Dam aggregates plant. H. K. Herrick. il Rock Prod 43:36-8 N '40
Low-cost ore loading; conveyor system to transfer iron ore from railroad cars to ore boats at Michipicoten Harbor. il plan Steel 107:64, 66+ S 16 '40
Measuring cost of conveyor belt inspection. G. Lowe. Mech Handling 26:319-21 N '39
Mechanical handling in refuse disposal works. il Mech Handling 27:77-9 Ap '40
Meco face belt conveyors. il diags Mech Handling 27:186-8 Ag '40

CONVEYING machinery—Belt conveyors—*Cont.*
Multiple room conveyor units. plans Min Cong J 26:47 Ja '40
New die-casting plant; Alemite die casting and mfg. division of Electric auto-lite co. H. Chase. il Steel 106:70-1+ My 20 '40
Placer mining for Shasta dam; world's longest conveyor system will carry gravel washed for gold. il Eng & Min J 141:52-3 Jl '40
Random remarks on belt conveyors. E. Ingham. Mech Handling 27:107-8 My '40
Relieving conveyor by adding crusher. L. D. H. Anderson. il diags Rock Prod 43:29-30+ O '40
Shasta Dam conveyor-belt system. H. W. Young. il map Comp Air M 45:6249-53 O '40
Shock-impact mountings reduce conveyor belt wear. P. W. Van Orden. il diag Coal Age 45:98+ F '40
Shuttle belt conveyor; unloading coal from self-unloading vessel to barge. il plan Steel 106:42+ D 11 '39
Splicing conveyor belts aided by proper choice of methods. M. Berman. Coal Age 45:56 My '40
Telegram-form conveying systems; General post office. il Engineering 149:375-8, 429-31, pl 21, 23 Ap 12, 26 '40
Ten miles of belt conveyors supply Shasta dam. il Concrete 48:37 Je '40
World's longest belt conveyor will bring aggregates to Shasta Dam site. il maps Eng N 123:736 D 7 '39; Sci Am 162:96 F '40
World's longest conveyor; twenty mile rubber belt used in Shasta Dam construction. il map Mech Handling 27:101-2 My '40

Chain conveyors

Mechanical handling in a garment factory. il Mech Handling 26:339-41+ D '39
Overhead chain conveyor; U.S. porcelain enamel co. il Steel 106:80+ My 13 '40

Control

Adjustable intermittent rotary movement; conveyor belt used on an assembling table. diag Mach 47:122 S '40
Conveyor-control system; Fifth vein coal co. il plan Coal Age 45:80-2 Ap '40
Co-ordinated electrical control saves foundry space; correlates mold production lines with sand-conditioning towers; International harvester company's motor truck engine factory. H. W. Parthemer. il diags Elec W 113: 2041-3+ Je 29 '40
Dual button-conveyor drive; Red Jacket Coal's Keen Mountain mine. J. H. Edwards and G. H. Riblett. il diags Coal Age 45:45-8 Ja '40
Electric eye maintains steady work flow on conveyor. diag Mech Handling 27:148 Jl '40
Electrical operation of tread-cutting conveyer system. C. W. Drake. il India Rubber W 101:57 D '39
Handling and storage of grain; electric control of elevators and transporters. il Mech Handling 27:201-3 S '40
Trip switches control automatic conveyor; Pepsi-Cola bottling company. il Elec W 112:1628 D 2 '39

Lighting

Lighting on a conveyor system; Morris motors, ltd. il Mech Handling 27:177-8 Ag '40
Ore conveyor lighting in South Africa. il Mech Handling 27:204 S '40
Use aisle fixture as conveyor light. il Elec W 113:464+ F 10 '40

Lubrication

Better conveyor lubrication stopped inspectors' headaches. il Factory Management 98: 110+ F '40
Conveyor lubrication with colloidal graphite; Champion spark plug co. il Steel 106:70+ Ap 22 '40
Grease the conveyor on the move. W. F. Jones. il Factory Management 98:79 My '40
Hot conveyor lubrication. Chem & Met Eng 47:431 Je '40
Obtaining smooth operation of heavily loaded conveyors. Automotive Ind 82:347-8 Mr 1 '40

Screw conveyors

Use of the screw conveyor in placing pavement concrete. L. Gardiner. il Can Eng R & B 78:35-6 Mr '40

CONVEYING machinery, Portable

Armco barge plant cuts coal-moving cost 87c.; portable conveyors for loading. il plan Coal Age 45:37-40 My '40
Increasing concrete yardage by reducing the haul; semi-portable batching plants and dry batch transfer conveyor. B. Nordberg. il Rock Prod 43:61-2 My '40

CONVICT labor

Prison-labor legislation, as of June 1, 1940. Monthly Labor R 50:1422-9 Je '40

COOK books and recipes. See Advertisements—Cook books and recipes

COOK county, Illinois

Cook county amends rural subdivision regulations. R. Kingery. J Land & Pub Util Econ 16:218-19 My '40

COOKERY

Effect of cooking on eggs. M. Andross. Chem & Ind 59:449-54 Je 29 '40

See also
Bakers and bakeries
Baking
Bread
Cake
Electric cooking
Frying
Gas cooking
Leavening agents
Shortening (cookery)

Terminology

Serving of language à la menu; culinary French. E. N. Teall. Inland Ptr 104:52 Ja '40

COOKERY for institutions, etc.

Quantity food service recipes. A. Wood, ed. 436p $4 Lippincott '40

COOKIES

Air conditioning as applied to foods and industry; cookies present problems. H. B. Matzen. Refrig Eng 40:330+ N '40
Recipe creates new market for old product; candy bar used to make cookies. I. C. Miller. il Food Ind 12:57 My '40

COOLIDGE, William David, 1873-

American contemporaries. *L. A. Hawkins.* por Ind & Eng Chem News ed 18:445-6 My 25 '40
Portrait. Iron Age 145:79 F 29 '40; Steel 106: 21 Mr 4 '40

COOLING

Air conditioned cafe in mountain country. Refrig Eng 38:353 D '39
Air conditioning boosts draftsmen's efficiency 51%. il Heat & Ven 36:50 N '39; Same. Power Pl Eng 44:122+ Ja '40; Same abr. Refrig Eng 38:234 O '39
Air conditioning for beauty salons; better selling methods and better financed business would increase market. il plan Refrig Eng 39:287-9 My '40
Air conditioning in the tropics. C. P. Mom. il Heating-Piping 12:633-6 O '40
Air conditioning speeds up electrical transcription; studios of the World broadcasting system. A. V. Osier. Refrig Eng 39:200 Mr '40
Air conditioning vital to precision in manufacture of aircraft engines; Allison div. of General motors corp. il Heating-Piping 12: 151-4 Mr '40
All-fresh air at 20° F.; technicolor snow scenes impose difficult requirements. N. Rosberg. il diag plan Refrig Eng 39:219-20 Ap '40
Analysis of zoning. W. A. Grant. diags Refrig Eng 39:370-3+ Je '40
Bank modernizes old ventilating system into complete air conditioning plant; Camden trust company. C. W. Coward. il Heat & Ven 37:27-8 My '40
Case histories; gas summer air conditioning on the delta. G. E. May, R. E. Judd and J. M. Guillory. il diag Am Gas Assn Mo 22:337-42 O '40
Case study of gas summer air conditioning; results of installations in Florida. C. D. Littlefield. Sheet Metal Worker 31:99+ Ag '40

COOLING—*Continued*
Chemical conditioning for customers' comfort; restaurant cooling. L. T. Avery. il diags Heat & Ven 37:23-4 Mr '40
Circular duct system for Perisphere air conditioning. il diags plans Sheet Metal Worker 31:77+ Ja '40
Company program for the sale of summer air conditioning. C. R. Bellamy. Am Gas J 152:12-15 Je '40; Excerpt. Heat & Ven 37: 60 Je '40
Complete air conditioning in an educational building. S. R. Lewis. diags Refrig Eng 39:95-8 F '40; Abstract. Heating-Piping 11: 740-1 D '39
Cooling by gas; abstract. J. W. Hill. Am Gas J 153:78 O '40
Cooling mine air during summer months to prevent roof falls. C. A. Herbert. diags U S Bur Mines Information Circ 7098:1-14 '40
Direct evaporative cooling for homes in the Southwest. A. J. Rummel. il diags plan Heating-Piping 12:621-6 O '40; Excerpts. Sheet Metal Worker 31:50+ N '40
Evaporative coolers; Edison builds real business on well planned campaign. il Elec West 85:32 Ag '40
Evaporative cooling for comfort. il Sheet Metal Worker 31:40, 42+ Je '40
Flooded-type roofs; reduce cooling load and lower construction and maintenance costs. S. H. Coleman. Textile World 90:106 O '40
Heat gain through glass blocks by solar radiation and transmittance. F. C. Houghten and others. il diags Heating-Piping 12: 264-70 Ap '40
Heating and cooling the world's largest airport; New York's new LaGuardia field. M. C. Hamje. il diags plan Heat & Ven 37: 17-22 Mr '40
Hotel air conditioning; Hotel New Yorker. W. D. Lewis. il Heating-Piping 12:343-7 Je '40
Hotel guest room air conditioning. J. Hertzler. il diags plan Refrig Eng 39:83-8 F '40; Abstract. Heating-Piping 11:740-1 D '39
Hotel guest room air conditioning requires good engineering design. W. D. Lewis. il Heating-Piping 12:417-20 Jl '40
How to reduce sun heat through windows. C. Strock. tables Heat & Ven 36:35-40 D '39
Inexpensive solution of a tricky air-conditioning problem; mortuary. D. R. Nordwall. plans Heat & Ven 37:48-9 Mr '40
Installation problems in air conditioning. G. O. Weddell. Refrig Eng 40:114 Ag '40
Large cooling system for new river boat. Refrig Eng 39:111 F '40
Large or small temperature rise through water type cooling coils? F. F. Stevenson. il Heating-Piping 12:600-2 O '40
Market trends toward smaller capacity jobs in commercial buildings; sales up slightly. diag Heat & Ven 37:69-80 Ja '40
More air conditioning for gold mines; Robinson Deep mine, Johannesburg, South Africa. J. A. Bentley. Heating-Piping 12:347 Je '40
No summer vacation for unit heaters. R. C. Clock. diags Factory Management 98:64 Ap '40
Panel warming and cooling; installation in school. E. L. Weber. il plan Heating-Piping 12:281-4 My '40; Excerpt. Mech Eng 62:687 S '40
Power consumption and operating data for storage air conditioning presented. J. M. Dean. il diag Heating-Piping 12:163-8 Mr '40
Progress report on radiant heating and cooling. il diags Arch Rec 88:67-73 S '40
Radiant heating and cooling. F. E. Giesecke. il diags Heating-Piping 12:357-61, 421-4, 484-5, 527-8, 589-90 Je-O '40
Reactions of 745 clerks to summer air conditioning. W. J. McConnell and M. Spiegelman. Heating-Piping 12:317-22 My '40
Report of A.G.A. joint committee on industrial and commercial summer air conditioning. il Am Gas J 153:66-9 N '40
Review of thermal air-conditioning processes. J. deB. Shepard. Am Gas Assn Proc 1939: 430-5
Study of certain factors that affect the droop characteristics of thermostats. B. E. Shaw and L. Lyon. il diags Heating-Piping 11: 761-5 D '39
Summer cooling in the Research residence with a condensing unit operated at two capacities. A. P. Kratz and others. il diags Ill U Eng Exp Sta Bul 321:1-69 '40 (pa 70c)
Summer cooling load as affected by heat gain through dry, sprinkled and water covered roofs. F. C. Houghten, H. T. Olson and C. Gutberlet. il diags Heating-Piping 12:451-8 Jl '40
Sunshine is wonderful, outdoors; reducing solar heat through windows; sun screen made of fine mesh bronze. L. Avery. plan Heating-Piping 12:477-9 Ag '40
Underground cooling at the Magma mine. C. B. Foraker. il Min Cong J 26:49-50 S '40

See also
Air conditioning
Airplane engines—Cooling
Automobile engines—Cooling
Car cooling
Cold storage
Condensers
Cooling of water
Refrigeration and refrigerating machinery

Cost

Shades and awnings cut cooling costs. il Sheet Metal Worker 31:94+ Ja '40

Tables, calculations, etc.

Calculation of coil surface areas for air cooling and dehumidification. J. McElgin and D. C. Wiley. charts Heating-Piping 12: 195-201 Mr '40
Estimating heat flow through sunlit walls. C. O. Mackey and L. T. Wright, jr. Heat & Ven 37:43-7 Mr; 29-32 Ap; 23-6 My '40
Heat flow through sunlit walls of one material, reference data. Heat & Ven 37:58a-58b Je '40
How much refrigeration is required to cool air? W. F. Schaphorst. chart Ind & Eng Chem News ed 18:214 Mr 10 '40
How to determine size and cost of freon lines. W. Parkerson. charts Heat & Ven 37:17-21 O; 48-52 N '40 (to be cont)
How to estimate building insulation requirements; abstracts. R. K. Thulman. maps Sheet Metal Worker 31:62-4 Jl '40; Heat & Ven 37:34-6 Ag '40

COOLING, Industrial
Add secondary advantages to fuel savings by recovering clinker heat. il diag Concrete (mill sec) 48:198-9+ Jl '40
Clinker cooling, no mystery. A. W. Catlin. Rock Prod 43:31-2 F '40
Clinker heat recovery. il diag Rock Prod 43: 38 Ja '40
Cold analysis of southern industry; refrigeration used in numerous industries. T. H. Eakle, jr. il Refrig Eng 40:112-13 Ag '40
Cooling cement and clinker. il Rock Prod 43: 40-1 Ja '40
Cooling foam rubber in process. W. S. Bodinus. il plan India Rubber W 103:47 N '40
Cooling for high speed bread mixing. E. B. Derr. il diag Refrig Eng 39:375-6 Je '40
Cooling system for quenching oil. il diag Iron Age 146:31 My 30 '40
Investigates problem of cooling sand. F. H. Amos. diag Foundry 68:34-5+ Ag '40
Progress with Bryant gas-operated silica gel dehumidifiers. C. F. Cushing. flow diags il diag Am Gas Assn Proc 1939:448-58
Refrigeration in the chemical industries. D. H. Killeffer. il Refrig Eng 40:145-8+ S '40
Temperature control in the meat industry. H. D. Tefft. il Ind & Eng Chem News ed 18: 195-6 Mr 10 '40

See also
Cold storage
Cooling of fruit and vegetables
Cooling water
Crystallizers
Electric machinery—Cooling
Lubrication and lubricants (cutting and grinding)
Steel, Quenching of

COOLING equipment
Absorption refrigeration used for air conditioning. W. F. Friend. il Heating-Piping 12:551-2 S '40
Air-conditioned buses; Missouri Pacific Trailways' fleet. G. A. Erickson. Mass Transportation 36:175 Ag '40
Air conditioning struggles toward maturity; Oklahoma natural gas company. C. Dean. il Gas Age 84:50-1 D 21 '39
Air-cooled condenser among novelties in theatre job. D. H. Wyatt. il diags plans Refrig Eng 39:294-5 My '40
Characteristics of the steam jet system. R. H. Stevens. il Refrig Eng 40:149-51 S '40
Cooled apartments, St Louis, Mo. il Heat & Ven 37:46 Jl '40
Cooling manufacturers look to furnace dealers. il Sheet Metal Worker 30:40, 42 N '39
Famous Famous-Barr building job. il Dom Eng 156:42-4+ S '40
Humidification processes. chart Chem & Met Eng 47:315-16 My '40
Ice refrigerated precoolers. H. L. Lincoln. il plans Refrig Eng 40:217-20 O '40
Industrial rayon corporation; air conditioned Painesville plant. il diags Heat & Ven 37:34-8 Ap '40
Market possibilities and equipment available for summer air conditioning by gas. A. W. Lundstrum. il diags Am Gas Assn Proc 1939:270-80
New refrigerating methods for old; unit coolers applied to ice-cream hardening rooms. C. T. Baker. diags Power 84:364-5 Je '40
Novel industrial application of direct expansion coils; removing moisture in controlled atmosphere furnaces. F. Pederson. il Heat & Ven 37:38 Ap '40
Old cooling and ventilating system converted to up-to-date air conditioning; Busse & Borgmann funeral home. H. W. Moore. plan Heating-Piping 12:306-7 My '40
Pointers on installing comfort cooling systems. il diags Sheet Metal Worker 31:50-2+ My '40
Progress in 1939 summer equipment. il diag Heat & Ven 37:31-4 Ja '40
Progress with Bryant gas-operated silica gel dehumidifiers. C. F. Cushing. flow diags il diag Am Gas Assn Proc 1939:448-58
Recent evaporative condenser design; supplies air conditioning for Paterson, N.J. store. D. E. Alton. diag Refrig Eng 40:160-1 S '40
Report of the industrial and commercial air conditioning committee. il Am Gas Assn Proc 1939:426-58
Sales helps for comfort cooling fan dealers. il Sheet Metal Worker 31:42+ Ap '40
Self-contained units and electrically-driven compressors. W. B. Henderson. Heat & Ven 37:30 Ja '40
Universal cooler corp.'s hermetically sealed unit. il Refrig Eng 40:170 S '40

Design
Some factors in air conditioning design for a federal office building; cooling equipment of Social security building, Washington. W. A. Brown. diags plans Heating-Piping 12:682-91 N '40

COOLING from central stations
Absorption refrigeration used for air conditioning. W. F. Friend. il Heating-Piping 12:551-2 S '40
Metering air conditioning. Refrig Eng 39:305 My '40

COOLING of fruits and vegetables
Ice refrigerated precoolers. H. L. Lincoln. il plans Refrig Eng 40:217-20 O '40
Precooling carloads of fruit. T. A. Hienton and K. I. Fawcett. Refrig Eng 39:25 Ja '40
Refrigeration of fruits and berries. H. J. Reed. il Refrig Eng 39:303 My '40

COOLING of meat
Precooling poultry; abstract. W. H. Cook. Refrig Eng 39:173 Mr '40

COOLING of water
Fairbanks-Morse cooler for Diesel engine jacket water. il Water Works & Sewerage 87:sup94 O '40
Flooded water coolers; new designs are used for Freon. R. M. Armstrong. il diag Refrig Eng 38:343-5 D '39
Humidification processes. chart Chem & Met Eng 47:315-16 My '40
Water chilled, but not for air conditioning. M. Ingels. Refrig Eng 38:342+ D '39

COOLING towers
Cooling tower in unusual setting; constructing section of Coachella canal. il Comp Air M 45:6292 N '40
Cooling water by cooling towers. C. H. Fielding. Engineering 149:598-9 Je 21 '40
Dynamic and thermal behavior of water drops in evaporative cooling processes. H. B. Nottage and L. M. K. Boelter. Heating-Piping 12:326-32 My '40
Ordinance creating demand for cooling towers. il diags Sheet Metal Worker 31:54, 56+ S '40
Pneumatic tools aid tube descaling. il Comp Air M 45:6134 Ap '40

COOLING water
Cooling water troubles. diags Power Pl Eng 44:75 Ap '40
Economic dimensions of condensers and cooling plants. A. Fonó. diag Engineering 149: 79-82 Ja 26 '40
Regulating condenser water for refrigeration systems. A. B. Newton. diags Heating-Piping 12:95-8 F '40

COOPER river, South Carolina
Developing the Santee and Cooper rivers; combined power and navigation project in South Carolina. il diags map Eng N 124: 706-11 My 23 '40

COOPER union
Cooper union engineering camp. Science 91:64 Ja 19 '40
Department of humanities at Cooper union. W. S. Lynch. J Eng Educ 30:812-16 My '40

COOPERATION
ABC of cooperatives; a handbook for consumers and producers. G. Richardson. 264p $2 Longmans '40
Can we co-operate? R. C. Brown. 232p $1.75 Roving eye press, Pleasant Plains, Staten Island, N.Y. '40
Co-op expansion predicted; abstract. H. A. Cowden. Nat Pet N 32:16 O 23 '40
Co-ops dressing up. il Business Week p41 S 14 '40
Greenbelt takes over co-op stores. Business Week p35 F 3 '40
$600,000,000 business with 2,000,000 owners. R. Giles. il Ptr Ink Mo 41:5-8+ N '40
What attracts members to the cooperative store movement? good quality; better brand grading and labeling. il Sales Management 46:18-19, 67-8 My 15 '40
Year book, 1940; Central co-operative wholesale. 80p pa 10c Central co-operative wholesale, Superior, Wis. '40

See also
Advertising, Co-operative
Benefit societies
Building and loan associations
Cooperative associations
Credit unions
Employees as stockholders
Housing, Cooperative
Marketing, Cooperative
Medical service—Group plan
Petroleum refineries, Cooperative
Profit sharing
Purchasing, Cooperative
Trade unions

California
Setback for co-ops; extension of production-for-use store system in California is blocked by relief slash. Business Week p28 Mr 16 '40

District of Columbia
Consumers' cooperative law of the District of Columbia. Monthly Labor R 51:365-6 Ag '40

Finland
Cooperation to the Finnish. H. H. Bakken. 220p $2.50 Mimir, box 2002, Madison, Wis. '39

COOPERATION—*Continued*

Great Britain

British co-ops hit; war order by Petroleum board bans distribution of dividends from sale of oil products. Business Week p50 F 3 '40

Nova Scotia

Story of Tompkinsville. M. E. Arnold. 102p bibliog(p73) $1; pa 65c Cooperative league, New York '40

Palestine

Cooperative credit movement in Palestine. M. L. Bialik. 128p bibliog(p121-4) pa $2 Manoah Levanon Bialik, 559 Sheffield av, Brooklyn, N.Y. '40

Philadelphia

When labor tries to manage; worker-owned company has labor trouble; trips over union wage scale; Hancock knitting mills and other cooperatives. C. B. Coates. il Factory Management 98:48-51+ My '40

United States

Consumers' cooperatives in 1938. Monthly Labor R 49:640-54 S '39

Controlled competition; corporate chains, cartels and cooperatives. H. Lazo. 77p Cooperative food distributors of America, 825 Union trust bldg, Washington, D.C. '39

Co-ops organize financing unit. Business Week p36-8 O 12 '40

Developments in consumers' cooperation in 1939. Monthly Labor R 50:657-65 Mr '40

Recent legislation relating to consumers' cooperatives. Monthly Labor R 50:94-6 Ja '40

Self-help cooperative housing; Penn-Craft community and Iona self-help cooperative. Monthly Labor R 49:566-77 S '39

Self-help organizations in the United States, 1938. bibliog Monthly Labor R 49:1335-47 D '39

Union of church and economics is dramatized as co-ops reveal rapid progress. P. H. Erbes, jr. Ptr Ink 193:133-4+ O 25 '40

COOPERATION (ethics)

Studies in cooperation. S. A. Courtis. Personnel J 18:314-34 Mr '40

COOPERATION, International. See International cooperation

COOPERATION, Interstate. See Interstate cooperation

COOPERATIVE advertising. See Advertising, Cooperative

COOPERATIVE associations

Coal division determines discounts for cooperative organizations. Min Cong J 26:66-7 O '40

Developments in consumers' cooperation in 1939. Monthly Labor R 50:657-65 Mr '40

Manager's manual for consumer cooperative food stores. [155p] $1.25 Consumer distribution corp, 420 Lexington av, New York '40

Nationally advertised brands, at cut prices, form bulk of this co-op's stock; Consumers mail order co-operative. S. Carter. il Ptr Ink 190:25-6+ Mr 22 '40

Recent legislation relating to consumers' cooperatives. Monthly Labor R 50:94-6 Ja '40

Rift over co-op; A.&P.'s "super" assailed by competitors as lever to gain price control throughout fruit and vegetable market. Business Week p30+ N 2 '40

See also

Consumers' book cooperative
Credit unions
Farmers' cooperative associations
Power alcohol cooperative association

Employees

Co-op on the rocks; Philadelphia hosiery mill faces receivership because union won't let worker-owners cut their own pay. Business Week p38 S 21 '40

When labor tries to manage; worker-owned company has labor trouble; trips over union wage scale; Hancock knitting mills and other cooperatives. C. B. Coates. il Factory Management 98:48-51+ My '40

Finance

Co-ops organize financing unit. Business Week p36-8 O 12 '40

Law

Abstracts of federal, state and territorial laws affecting cooperatives contained in report issued by WPA. Comm & Fin Chr 151: 2589 N 2 '40

Statistics

Consumers' cooperatives in 1938. Monthly Labor R 49:640-54 S '39

Self-help organizations in the United States, 1938. bibliog Monthly Labor R 49:1335-47 D '39

Taxation

Taxation of cooperatives. Monthly Labor R 50:97-100 Ja '40

COOPERATIVE credit. See Credit unions

COOPERATIVE housing. See Housing, Cooperative

COOPERATIVE league of the United States of America

Biennial congress, 12th. Ptr Ink 193:133-4+ O 25 '40

COOPERATIVE marketing. See Marketing, Cooperative

COOPERATIVE purchasing. See Purchasing, Cooperative

COOPERATIVE stores. See Cooperation

COORDINATING committee on corrosion, American. See American coordinating committee on corrosion

COPAL

Copal designations. Oil Paint & Drug Rep 138:4+ N 11 '40

COPELAND, Frederic Lucius, 1883-

Contractor-engineer relations of a lifetime. F. L. Copeland. por Eng N 125:33-6 Jl 4 '40

COPENHAGEN

See also

Housing—Copenhagen

COPIFYER lithograph corporation

Copifyer corporation growth is rapid. Inland Ptr 105:30 My '40

COPPER

Accelerating effect of certain metallic elements on graphitization. H. A. Schwartz and others. bibliog Am Soc for Metals Trans 28:143-53; Discussion. 153-6 Mr '40

Adsorption of hydrogen by copper dispersed in calcium oxide. J. R. Lewis, L. J. E. Hofer and H. Whitehead. Am Chem Soc J 61:3580-3 D '39

Annealing copper for automobile radiators; Harrison radiator co, Division of General Motors. E. F. Cone. il Metals & Alloys 11: 141-4 My '40

As it was in 1915 and as it is in 1940. W. R. Webster. Metal Prog 37:295 Mr '40

Better copper; Phelps Dodge process. il Sci Am 163:64 Ag '40

Black copper of Yunnan. H. B. Collier. il J Chem Educ 17:19-21 Ja '40

Blue gelatine-copper; reprinted from volume 22, Transactions of the American electrochemical society (now the Electrochemical society). W. D. Bancroft and T. R. Briggs. Metal Finishing 38:537-8 O '40

Cathodic treatment of copper in a solution of beryllium sulphate to prevent tarnishing; abstract. D. T. Ewing and G. W. Jernstedt. il Iron Age 146:43 Jl 4 '40

Classification of commercial coppers. Engineering 149:25 Ja 5 '40

Coalescence process for producing semi-fabricated oxygen-free copper; abstract. J. Tyssowski. Metals & Alloys 12:78 Jl '40

Copper and nickel X-ray $K\beta_2$- and $K\beta_5$-emission lines and K-absorption limits in Cu-Ni alloys. H. Friedman and W. W. Beeman. Phys R 58:400-6 S 1 '40

COPPER—Continued

Copper-copper sulfate half-cell for measuring potentials in the earth. S. Ewing. diags Am Gas Assn Proc 1939:624-34

Copper for electricity, for industry and for decoration. A. Bregman. il Iron Age 144: 38-41+ N 23 '39

Copper in cast iron. T. Barlow. il Iron Age 145:19-22 Ja 25; 40-3+ F 1 '40

Copper industry; casting problems, oxygen-free copper, electro-formed sheet. Metal Prog 38:537-9 O '40

Corrosion of copper by sodium halide solutions. F. J. Asselin and F. A. Rohrman. Ind & Eng Chem 32:1015-16 Jl '40

Cuprous-cupric oxide films on copper. C. G. Cruzan and H. A. Miley. J Ap Phys 11:631-4 O '40

Determination of carbon disulfide in air by means of copper and diethylamine in 2-methoxyethanol. F. F. Morehead. bibliog il Ind & Eng Chem Anal ed 12:373-4 Je 15 '40

Direct method of calibration of a copper-constantan thermel for measurement of temperature differences at a series of temperatures. J. S. Burlew and R. P. Smith. bibliog Am Chem Soc J 62:701-4 Ap '40

Dustless and sliverless copper developed by Phelps Dodge copper products corp. Ind & Eng Chem News ed 18:311 Ap 10 '40; Power Pl Eng 44:128+ Ap '40; Steel 106:74 Ap 15 '40

Electrochemical potential differences at the boundary copper-insulating liquids. A. Gemant. bibliog diags Electrochem Soc Trans 78 (preprint 21):297-309 O '40

Electrolytic stripping of copper from zinc base die castings. W. B. Stoddard, jr. Electrochem Soc Trans 77 (preprint 22): 271-3 Ap '40

Fundamental relation between lattice constants and density. F. Foote and E. R. Jette. bibliog Phys R 58:81-6 Jl 1 '40

Growth, orientation, and preparation of the surface of single crystals of copper. A. T. Gwathmey and A. F. Benton. diags J Phys Chem 44:35-42 Ja '40

Internal friction of single metal crystals. T. A. Read. bibliog diags Phys R 58:371-80 Ag 15 '40

Mechanical properties of copper and its alloys at low temperatures; a review. C. S. Smith. bibliog Am Soc T M Proc 39:642-8 '39

Metallic materials in the telephone system. E. E. Schumacher and W. C. Ellis. il Metal Prog 36:619-20 N '39; Same. Bell System Tech J 19:145-6 Ja '40

Mixed copper-chromium oxide hydrogenation catalysts. V. N. Ipatieff, B. B. Corson and J. D. Kurbatov. bibliog J Phys Chem 44:670-9 My '40

New classification of commercial coppers. Gas J (Lond) 229:45 Ja 3 '40; Electrician 123: 538 D 22 '39

New copper perfected by Phelps Dodge copper products corp. to meet need of electrical industry. Metals & Alloys 11:MA232 Ap '40; il Eng & Min J 141:89-90 Ap '40

Outdoor exposure tests of electroplated nickel and chromium coatings on steel and non-ferrous metals. W. Blum and P. W. C. Strausser. J Research Nat Bur Stand 24:443-74 Ap '40

Oxidation of ascorbic acid by oxygen with cupric ion as catalyst. A. O. Dekker and R. G. Dickinson. bibliog Am Chem Soc J 62:2165-71 Ag '40

Preliminary experimental study of new diffraction maxima in X-ray photographs. S. Siegel and W. H. Zachariasen. Phys R 57: 795-7 My 1 '40

Properties of commercial copper; data sheet. Metal Prog 38:536 O '40

Properties of commercial copper; table. Metal Prog 36:749 D '39

(*d*, 2*s*) Reaction in copper. R. S. Livingston and B. T. Wright. Phys R 58:656 O 1 '40

Reaction of copper with benzaldehyde. T. L. Davis and W. P. Green, jr. bibliog Am Chem Soc J 62:3614-15 N '40

Relativistic self-consistent field for Cu^+. A. O. Williams, jr. bibliog Phys R 58:723-6 O 15 '40

Rolling world's largest copper circles. il Metals & Alloys 12:149 Ag '40

Simple determination of the equivalent weights of mercury, copper, and zinc. W. Seager. J Chem Educ 16:595 D '39

Some experiments showing the directional reactivities of single crystals of copper. A. T. Gwathmey and A. F. Benton. il Electrochem Soc Trans 77 (preprint 9):113-20 Ap '40

Steel versus copper fire-boxes. Engineer 170: 175-6 S 13 '40

Study of the protons from V, Cu, Mn, and Sc under bombardment by deuterons. W. L. Davidson, jr. bibliog Phys R 56:1062 N 15 '39

Tinning copper and brass by immersion. J. D. Sullivan and A. E. Pavlish. il Metals & Alloys 11:131-4 My '40

Trends in application of atmospheres to heat treatment of copper and copper alloys. Am Gas Assn Proc 1939:367-70; Same. Blast F & Steel Pl 27:1277-9 D '39

Use of refractories in melting copper and copper alloys in an Ajax-Wyatt induction furnace. S. H. Booth. Am Cer Soc Bul 19:171-2 My '40

Welding of copper; abstract. A. P. Young. Metals & Alloys 11:MA338+ Je '40

X-ray dispersion in copper crystals. E. M. McNatt. bibliog Phys R 57:621-4 Ap 1 '40

X-ray $K\beta_{1,3}$-emission lines and K-absorption limits of Cu-Zn alloys. J. A. Bearden and H. Friedman. bibliog Phys R 58:387-95 S 1 '40

See also

Brass
Bronze
Copper alloys
Copper industry and trade
Copper metallurgy
Copper mines and mining
Cotton fabrics—Copper content
Pipes, Copper
Steel—Copper content
Tariff—United States—Copper
Tubes, Copper
Water pipes, Copper
Wire, Copper

Analysis

Colorimetric determination of copper with triethanolamine. J. H. Yoe and C. J. Barton. Ind & Eng Chem Anal ed 12:456-9 Ag 15 '40

Determination of small amounts of copper and manganese in dyes and other organic materials. G. F. Palfrey and others. Ind & Eng Chem Anal ed 12:94-6 F 15 '40

Determination of traces of copper in fabrics; abstract. G. Lugaz-Mornet. Am Dyestuff Rep 29:158 Ap 1 '40

Estimation of small amounts of arsenic in copper. B. Park. bibliog Ind & Eng Chem Anal ed 12:97-8 F 15 '40

Iodofluoride method for the determination of copper; effects of antimony, aluminum, and calcium. W. R. Crowell and A. T. Spiher. Ind & Eng Chem Anal ed 12:147 Mr 15 '40

Metallic contamination of foods. J. T. Janson and C. E. Allen. bibliog Can Chem & Process Ind 24:389-91+ Ag '40

New applications of the silver reductor; determination of uranium and copper. N. Birnbaum and S. M. Edmonds. bibliog Ind & Eng Chem Anal ed 12:155-7 Mr 15 '40

Precision of the microelectrolytic determination of copper. W. M. MacNevin and R. A. Bournique. bibliog Ind & Eng Chem Anal ed 12:431-3 Jl 15 '40

Rapid determination of copper by α-benzoin oxime in ferromolybdenum, calcium molybdate, etc. L. Silverman. bibliog Ind & Eng Chem Anal ed 12:343-4 Je 15 '40

Standard method of test for colorimetric determination of small amounts of copper and manganese in textiles. Textile Col 62:554-5 Ag '40

Metallography

Influence of alloying elements on the crystallisation of copper; large additions and the part played by the constitution; abstract and discussion. L. Northcott. Engineering 149:547-8 My 31 '40

COPPER—Metallography—*Continued*
Long grained or short? M. Seyt. Metal Prog 37:411 Ap '40
Metallographic study of internal oxidation in the alpha solutions of copper; abstract. F. N. Rhines. Iron Age 145:42-3 F 22 '40
Structural changes in copper effected by cold rolling and annealing; abstract and discussion. M. Cook and T. L. Richards. Engineering 149:548 My 31 '40

Patents

Recent patents on copper. T. F. Healy. Ind & Eng Chem News ed 18:448 My 25 '40

Phosphorus content

Some oxygen-free coppers; annealing and drawing characteristics. S. Rolle and H. M. Schleicher. bibliog Metals & Alloys 11: 82-7 Mr '40

Prices

Electrolytic copper at New York, cents a pound, monthly, 1922-1939; tabulation. Iron Age 145:175 Ja 4 '40
Ten-year price comparison of copper products and metal. J. J. Hipple. Mag of Wall St 66:528 Ag 10 '40

Terminology

New classification of commercial copper. Chem Age (Lond) 42:sup3 Ja 6 '40; Same. Gas J (Lond) 229:45 Ja 3 '40; Same. Engineer 169:98 Ja 26 '40

Testing

Resistance of copper to soil corrosion. H. G. Taylor. il diags Engineer 169:156-8, 176-8 bibliog(p178) F 16-23 '40
Some oxygen-free coppers; annealing and drawing characteristics. S. Rolle and H. M. Schleicher. bibliog Metals & Alloys 11: 82-7 Mr '40

COPPER, Powdered

Powder metallurgy of copper. C. G. Goetzel. bibliog il chart Metals & Alloys 12:30-5, 154-7 Jl-Ag '40

COPPER acetate

Aldehyde complexes of copper salts. T. L. Davis and W. P. Green, jr. Am Chem Soc J 62:1272-4 My '40
Blue gelatine-copper; reprinted from volume 22, Transactions of the American electrochemical society (now the Electrochemical society). W. D. Bancroft and T. R. Briggs. Metal Finishing 38:537-8 O '40
Investigation of antitarnish paper. H. W. Rowe and O. Kress. bibliog Paper Tr J 110: 33-6 Ja 11 '40

COPPER alloys

Ageing of high-purity 4 per cent. copper-aluminium alloy; abstract. M. L. V. Gayler and R. Parkhouse. Engineering 149:548 My 31 '40
Beryllium and beryllium copper. L. L. Stott. Metal Prog 38:539-40 O '40
Beryllium-copper alloys; working, treating, finishing. E. E. Halls. Metals & Alloys 12:337+ S '40
Contribution à l'étude du module d'élasticité des alliages métalliques. L. Guillet, fils. Génie Civil 116:29-32 Ja 13 '40
Copper alloy corrosion unstopped by dezincification inhibitors; symposium at mid-year meeting of American petroleum institute. Nat Pet N 32:R204-5 My 29 '40
Copper alloys and their application in petroleum refining. J. T. Kemp. Am Pet Inst Proc 21M(3):58-63 My '40; Same abr. Can Chem & Process Ind 24:444-6 S '40; Abstract. Metal Prog 38:336+ S '40
Copper for electricity, for industry and for decoration. A. Bregman. il Iron Age 144: 38-41+ N 28 '39
Copper-rich alloys of the copper-nickel-phosphorus system; abstract. D. K. Crampton, H. L. Burghoff and J. T. Stacy. Iron Age 145:42 F 22 '40
Copper-zirconium-cadmium bronze. F. R. Hensel, E. I. Larsen, and A. S. Doty. Metals & Alloys 10:372-80 D '39
Corrosion of copper and copper-base tubing in oil-refinery heat-transfer equipment. R. A. Wilkins, E. S. Bunn and W. Lynes. il Am Pet Inst Proc 21M(3):46-57 bibliog (104 titles, p54-7) My '40
Debutante metal; beryllium. P. H. Smith. il Sci Am 162:142-3 Mr '40
Electric furnace cast irons containing copper. T. E. Barlow. il Metals & Alloys 12:36-9, 158-65 Jl-Ag '40
Electric salt bath; efficient in performing solution treatments on precipitation hardening copper-base alloys. W. F. Aylard and E. J. Dunn. il Steel 107:70, 72-3 Jl 8 '40
Hardenable copper-base alloys; abstract. D. K. Crampton. Steel 105:63 N 27 '39
How minute amounts of beryllium improve copper characteristics; abstract. R. H. Harrington. Mach 46:138-9 Mr '40
Influence of alloying elements on the crystallisation of copper; large additions and the part played by the constitution; abstract and discussion. L. Northcott. Engineering 149:547-8 My 31 '40
Long grained or short? M. Seyt. Metal Prog 37:411 Ap '40
Machining of copper and its alloys. 108p bibliog(p103) gratis Copper development assn, London '39
Magnetic studies of solid solutions; methods of observations and preliminary results on the precipitation of iron from copper. F. Bitter and A. R. Kaufmann. diag Phys R 56:1044-51 N 15 '39
Mechanical properties of copper and its alloys at low temperatures; a review. C. S. Smith. bibliog Am Soc T M Proc 39:642-8 '39
Metallic materials in the telephone system. E. E. Schumacher and W. C. Ellis. il Metal Prog 36:619-20 N '39; Same. Bell System Tech J 19:145-6 Ja '40
Metallographic study of internal oxidation in the alpha solutions of copper; abstract. F. N. Rhines. Iron Age 145:42-3 F 22 '40
New alloy of manganese and copper; abstract. R. S. Dean. Science 91:sup12 Ap 5 '40
Nomenclature and classification of cast copper and copper-base alloys. S. Tour. Am Soc T M Proc 39:271-6 '39
Non-ferrous foundry practice. J. Laing and R. T. Rolfe. 336p $6 Van Nostrand '40
Non-ferrous metals in the defense program. C. F. Lindsay. il Metals & Alloys 12:410-13 O '40
Paramagnetic susceptibility of copper-nickel and zinc-nickel alloys. M. A. Wheeler. Phys R 56:1137-45 D 1 '39
Properties of commercial copper; data sheet. Metal Prog 38:536 O '40
Properties of commercial copper; table. Metal Prog 36:749 D '39
Steam condensers; relative merits of different alloys. V. Walker. Elec R (Lond) 125:812 D 29 '39
Structure and ferromagnetism of cold-worked copper containing iron. C. S. Smith. Phys R 57:337 F 15 '40
Tellurium coppers having unusual combination of properties. Mach 46:132 F '40
Tellurium, selenium and sulphur in copper alloys. H. L. Burghoff. il Iron Age 144:35-9 D 7 '39
Thermal conductivities of some industrial alloys of copper and of nickel. J. W. Donaldson. Engineering 148:539-40 N 10 '39
Trends in application of atmospheres to heat treatment of copper and copper alloys. Am Gas Assn Proc 1939:367-70; Same. Blast F & Steel Pl 27:1277-9 D '39
Use of refractories in melting copper and copper alloys in an Ajax-Wyatt induction furnace. S. H. Booth. Am Cer Soc Bul 19:171-2 My '40
Variation of the principal elastic moduli of Cu_3Au with temperature. S. Siegel. bibliog diag Phys R 57:537-45 Mr 15 '40

See also
Aluminum bronze
Brass
Brazing
Bronze
Monel metal
Nickel silver
Speculum metal

COPPER alloys—*Continued*

Testing

Der einfluss von betriebspausen auf die zeit- und dauerfestigkeit metallischer werkstoffe. F. Bollenrath and H. Cornelius. il diags V D I 84:295-9 My 4 '40

Proportional limit tests on copper alloys; abstract. C. S. Smith. Iron Age 146:45-6 Jl 4 '40

Results of corrosion tests in oil refineries. N. W. Mitchell. il Am Pet Inst Proc 21M(3): 64-7; Discussion. 85-6, 93-4 My '40

Testing of non-ferrous alloys for condenser-tube service under conditions simulating actual industrial service. R. W. Moore and S. Kleinheksel. il diags Am Pet Inst Proc 21M(3):73-82 My '40; Same. Nat Pet N 32: R186-8, R190, R192 My 29 '40

COPPER ammonium sulfate

Ternary systems; solid solutions of some picromerites at 25°. A. E. Hill, G. S. Durham and J. E. Ricci. bibliog Am Chem Soc J 62:1031-6 My '40

COPPER chlorides

Exothermic decomposition temperature of sawdust; effect of mineral salts. J. L. McCarthy and E. C. Jahn. bibliog Ind & Eng Chem 32:1257-8 S '40

100 refineries now converting mercaptans with copper salts; Perco processes. M. G. Van Voorhis. il Nat Pet N 32:R122-3, R126, R129 Ap 17 '40

Slurry-type copper chloride treater is used by Kanotex. F. A. Deering. flow chart il Oil & Gas J 39:43-4 S 5 '40

COPPER citrate

Reducing powers of various sugars with alkaline copper-citrate reagent. H. S. Isbell, W. W. Pigman and H. L. Frush. bibliog J Research Nat Bur Stand 24:241-6 Mr '40

COPPER coating

Colored silvering of glass; lead sulfide, gold and copper processes. B. Schweig. Glass Ind 21:353-6 Ag '40

COPPER compounds

Aldehyde complexes of copper salts. T. L. Davis and W. P. Green, jr. Am Chem Soc J 62:1272-4 My '40

Copper lakes of azo-dyes; some further types. W. F. Beech and H. D. K. Drew. Chem Soc J p608-12 My '40

Inner complex salts of the 8-hydroxyquinoline-5-sulfonic acid. J. Molland. Am Chem Soc J 62:541-2 Mr '40

Studies on inner complexes; ortho-hydroxy azo dye inner complexes. H. M. Haendler and G. M. Smith. bibliog Am Chem Soc J 62:1669-72 Jl '40

COPPER cyanide

Study of the electrolysis of the sodium cuprocyanide solution. J. V. Petrocelli. bibliog Electrochem Soc Trans 77 (preprint 4):49-57 Ap '40

Analysis

Methods of measuring pH in alkaline cyanide plating baths. M. R. Thompson. J Research Nat Bur Stand 24:423-34 Ap '40

COPPER diethylamine

Field determinations of carbon disulfide in air. F. J. Viles. bibliog diags J Ind Hygiene 22:188-96 My '40

COPPER disalicylaldehyde

Configuration of some cupric, nickelous and cobaltous complexes by means of magnetic measurements. G. N. Tyson, jr. and S. C. Adams. Am Chem Soc J 62:1228-9 My '40

COPPER ferrocyanide

Electrolyte coagulation process; the influence of dilution of sol on the adsorption of precipitating ions. H. B. Weiser and W. O. Milligan. bibliog Am Chem Soc J 62:1924-30 Ag '40

COPPER hydroxide

Additive compounds formed in the desulfurization of thioureas by copper hydroxide. W. M. Dehn. Am Chem Soc J 62:3189-90 N '40

COPPER industry and trade

Boom demand for copper fabricators? J. J. Hipple. il Mag of Wall St 66:528-30+ Ag 10 '40

Copper enjoys good year. W. C. Bennett. il Min Cong J 26:30-1 F '40

Copper use exceeds output. Barron's 20:6 O 21 '40

See also

Anaconda copper mining company
Copper range company
Granby consolidated mining, smelting and power company

Finance

Chile copper co. earnings, 1936-39. Comm & Fin Chr 150:2719 Ap 27 '40

Copper companies, 1937-39. Mag of Wall St Manual p28 Mr 2 '40

Copper situation; profits increased by inflated silver and gold prices. L. Applegate. Annalist 54:726+ D 7 '39

Diversification helps Anaconda. J. C. Clifford. il Mag of Wall St 67:26-7+ O 19 '40

Glance at the week's reports; Kennecott copper corp. H. Lawrence. Barron's 20:9 Mr 25 '40

Mufulira and Rhodesian selection trust results, years to June 30, 1937-39. Economist 137:180 N 4 '39

Phelps Dodge rounding out best year in a decade. J. C. Clifford. il Mag of Wall St 66:728-9+ O 5 '40

War and Cerro de Pasco. E. A. Barnes. Mag of Wall St 66:411+ Jl 13 '40

Securities

For the coppers; outlook encouraging. G. W. Mathis. il Mag of Wall St 65:734-6+ Mr 23 '40

Statistics

Copper deliveries, revision; monthly, 1923-June, 1940. Fed Res Bul 26:833 Ag '40

Copper drops further. Barron's 20:6 Ja 29 '40

Copper in 1939. Economist 138:sup36 F 17 '40

Copper industry of the United States. Engineering 149:111 F 2 '40

Copper, 1936-1939. Survey of Cur Business 1940 Sup p135 [supplemented in monthly numbers]

Copper, 1939. H. H. Wanders. Eng & Min J 141:45+ F '40

Copper production, revision; monthly, 1923-June, 1940. Fed Res Bul 26:880 Ag '40

Copper sales higher; stability in price contrary to World war experience. L. Applegate. Annalist 55:884+ Je 27 '40

Copper smelting, revision; monthly, 1923-June, 1940. Fed Res Bul 26:833 Ag '40

For the coppers; outlook encouraging. G. W. Mathis. il Mag of Wall St 65:734-6+ Mr 23 '40

Metals in demand. Barron's 20:6 Je 10 '40

Summary of copper statistics reported by the Copper institute, monthly, Jan.-July 1939; yearly, 1935-39. Comm & Fin Chr 150:610 Ja 27 '40

Summary of copper statistics reported by the Copper institute, yearly 1935-39; monthly Jan. 1939-March 1940. Comm & Fin Chr 150:2496 Ap 20 '40

War boomlet turned depression into prosperity for the nonferrous metals. P. E. Barbour. Annalist 55:124-5+ Ja 25 '40

World copper production, 1938 and 1939. Comm & Fin Chr 150:2007 Mr 30 '40

Germany

Scarcity of copper and zinc in Germany. D. D. Howat. Chem Age (Lond) 42:sup5-6 F 3 '40

Great Britain

Copper supplies; reduction for electrical industry. Elec R (Lond) 126:639 Je 14 '40

Licences for the use of copper and copper alloys. Engineering 149:582 Je 14 '40

Rhodesia

Rhodesian copper group prospects. Economist 137:256-7 N 18 '39

COPPER Industry and trade—Rhodesia—*Cont.*
Rhokana corporation report, years to June 30, 1937-39 and 17th annual ordinary meeting. Economist 137:179-80, 268 N 4, 18 '39

United States

Buying wave in copper. Barron's 20:6 Ag 5 '40
Copper awaits new impetus. Barron's 20:6 Jl 22 '40
Copper output soars. Business Week p41 Ag 17 '40
Copper price dips; export outlook turns unfavorable. Business Week p54-5 Ja 27 '40
Copper price weakens; preliminary report on the industry for 1939. Barron's 20:6 Ja 22 '40
Copper sales higher; stability in price contrary to World war experience. L. Applegate. Annalist 55:884+ Je 27 '40
Copper supply of United States enough to meet war-time needs for one year. C. D. Dallas. Comm & Fin Chr 150:3742-3 Je 15 '40
Copper surprise. Business Week p43 Ag 3 '40
T.N.E.C. studies copper. Eng & Min J 141: 110+ F '40
Uses of copper in the United States; a decade of significant changes. W. R. Ingalls. Annalist 56:366-7 S 19 '40

COPPER Iodides
Aldehyde complexes of copper salts. T. L. Davis and W. P. Green, jr. Am Chem Soc J 62:1272-4 My '40
Iodides of some polyvalent metals. H. W. Foote and M. Fleischer. bibliog J Phys Chem 44:647-52 My '40

COPPER metallurgy
Coke for copper blast furnaces; the importance of careful control. A. G. Arend. Chem Age (Lond) 43:11 Jl 6 '40
Copper industry; casting problems, oxygen-free copper, electro-formed sheet. Metal Prog 38:537-9 O '40
Copper metallurgy, 1939. W. B. Boggs. Eng & Min J 141:87-8 F '40
Copper mining and milling at the Chino mine. L. A. Roe. il Explosives Eng 18:54-5 F '40
Copper refining; blister copper, electrolytic refining and separation of by-product metals. R. H. Waddington. il Can Chem & Process Ind 24:164-8 Ap '40
Copper smelting in Central Urals. Can Min J 61:676 O '40
Crushing and grinding practice, Tennessee copper co; abstract. J. F. Myers and F. M. Lewis. flow sheets Rock Prod 43:46-7, 48 Mr '40
Development in base metal smelting and refining in Canada in the last sixty years. il Can Min J 60:713-20 N '39
Metallurgy of copper in 1939. P. D. I. Honeyman. il Min & Met 21:16 Ja '40
Powder metallurgy of copper. C. G. Goetzel. bibliog il chart Metals & Alloys 12:30-5, 154-7 Jl-Ag '40
Refining scrap copper. A. G. Arend. Chem Age (Lond) 43:161-2 O 5 '40
Refractories at Noranda smelter. W. B. Boggs. diags Am Cer Soc Bul 19:338-40 S '40
Unique small-scale smelter; Philippine smelting company. C. A. Weekley and S. W. Norton. flow sheet il diags Eng & Min J 141:77-80 Ag '40

Electrometallurgy

Progress reports, Metallurgical division; electrometallurgical investigations; recovery of nickel, copper, and precious metals by combined electrothermal and electrolytic method. J. Koster and others. bibliog flow sheets pls U S Bur Mines Rep of Invest 3483:1-28 '39
Pure copper products; PDCP patented process said to eliminate oxide and silver imperfections. Barron's 20:5 Mr 11 '40

COPPER miners
Technology, employment, and output per man in copper mining. Y. S. Leong and others. 260p Work projects administration, Washington, D.C. '40; Review. Monthly Labor R 51:50-3 Jl '40

COPPER mines and mining
Scarcity of copper and zinc in Germany. D. D. Howat. Chem Age (Lond) 42:sup5-6 F 3 '40
Technology, employment, and output per man in copper mining. Y. S. Leong and others. 260p Work projects administration, Washington, D.C. '40; Review. Monthly Labor R 51:50-3 Jl '40
World's greatest mine; Bingham led the way in development of low-grade copper ores. J. Calhoun. Barron's 20:20 S 30 '40

See also
Anaconda copper mining company

Arizona

Calyx core drilling at United Verde mine. C. E. Mills. il diags Comp Air M 45:6258-61 O '40
Development of Morenci pit proceeds on schedule. J. B. Huttl. il Eng & Min J 141: 46-7 My '40
Development of the Morenci open pit. H. M. Lavender. il Min Cong J 25:12-17 D '39
Kennecott's Ray mines experiment with shaker conveyor. R. W. Thomas. il diag Min Cong J 26:62-3 Ap '40
New Cornelia today; porphyry copper enterprise. J. B. Huttl. flow sheet il Eng & Min J 141:44-8 S '40
Preliminary engineering at Morenci open pit. W. C. Lawson. il Civil Eng 10:510-13 Ag '40
Underground cooling at the Magma mine. C. B. Foraker. il Min Cong J 26:49-50 S '40

Canada

Brief history of Canadian mining. W. H. Losee. il Can Min J 60:654-8 N '39

Chile

World's greatest mine; Chuquicamata. J. Calhoun. Barron's 20:20 S 30 '40

Cuba

Mining copper in Cuba. T. G. Murdock. bibliog il map Comp Air M 45:6233-6 S '40

France

La zone plombifère et cuprifère des Alpes-Maritimes. map Génie Civil 115:327-8 O 28 '39

Montana

Amazing experiences of a judge; with an autobiography and tribute to Marcus Daly. J. Lindsay. 117p $1.50 Dorrance and co, Philadelphia '39

Nevada

Oil-well rotary drills used for copper exploration; mining methods of Consolidated coppermines corp. J. A. Richards. Min & Met 20:541 D '39
Tomorrow's mining methods as suggested by slusher mining practice at Consolidated Coppermines. M. A. Smith. il diags Eng & Min J 141:33-7 O '40

New Mexico

Copper mining and milling at the Chino mine. L. A. Roe. il map Explosives Eng 18:52-5 F '40

Sweden

Historical observations during a recent chemical trip to Europe; Kopparberg mine, Falun. C. A. Browne. il J Chem Educ 17: 54-5+ F '40

Utah

Bingham Canyon operations of Utah copper company; photographs by W. M. Rittase. Explosives Eng 18:9-24 Ja '40
Role of electricity in the Utah Copper enterprise. R. J. Corfield. il Min Cong J 26:12-15 My '40

COPPER naphthenate
New industrial applications for metallic naphthenates. J. S. Trevor. Chem Ind 45: 661 D '39

COPPER ores
Bornite-klaprotholite relations at Concepcion del Oro, Mexico. P. Krieger. il Econ Geol 35:687-97 S '40

COPPER ores—*Continued*
Copper in the Red Beds of Oklahoma. C. A. Marritt. Oklahoma geological survey, Norman '40

COPPER oxides
Assay for platinum metals in ore concentrates. J. Seath and F. E. Beamish. bibliog Ind & Eng Chem Anal ed 12:169-71 Mr 15 '40
Cuprous-cupric oxide films on copper. C. G. Cruzan and H. A. Miley. J Ap Phys 11:681-4 O '40
Investigation of antitarnish paper. H. W. Rowe and O. Kress. bibliog Paper Tr J 110: 35-6 Ja 11 '40
Isotopic composition of cuprite oxygen. W. H. Hall and C. Hochanadel. Am Chem Soc J 62:3259-60 N '40
Kupferoxydul-trockengleichrichter für stromversorgungszwecke. H. Hoffmann. bibliog il diags V D I 84:61-8 Ja 27 '40
Tissue reaction to some carbon arc dusts. E. L. MacQuiddy and others. il J Ind Hygiene 21:498-513 bibliog(p511-13) D '39

COPPER pipes. See Pipes, Copper; Tubes, Copper

COPPER plating
Bright copper solution; patent. Metal Ind 38:274 My '40
Determination of tartrates in cyanide copper solutions. W. B. Stoddard, jr. Metal Ind 37:580-1 D '39
Electrodeposition of bright copper. L. Greenspan. Electrochem Soc Trans 78 (preprint 13):175-8 O '40; Abstract. Iron Age 146:35 N 28 '40
Electrolyte films in acid copper plating baths. H. J. Read and A. K. Graham. diags Electrochem Soc Trans 78 (preprint 1):1-23 O '40
Electrolytic degreasing with simultaneous formation of a metallic copper coating; abstract. V. P. Sacchi. Metals & Alloys 11: MA23-4 Ja '40
Die herstellung von kupfer- und tombakplattierten tiefziehstahl-blechen und ihre verarbeitung. C. Rademacher. diags Stahl & Eisen 59:1379-82 D 28 '39
Methods of measuring pH in alkaline cyanide plating baths. M. R. Thompson. J Research Nat Bur Stand 24:423-34 Ap '40
Stress in electrodeposited copper as determined by X-rays. E. M. Mahla. il Electrochem Soc Trans 77 (preprint 16):207-17 Ap '40
Structure of heavy electrodeposits of copper and nickel. J. W. Cuthbertson. bibliog il diag Electrochem Soc Trans 77 (preprint 8): 93-111 Ap '40

COPPER potassium sulfate
Ternary systems; solid solutions of some picromites at 25°. A. E. Hill, G. S. Durham and J. E. Ricci. bibliog Am Chem Soc J 62:1031-6 My '40

COPPER pyrophosphate
Sohio polymerization unit first using new catalyst; copper pyrophosphate. M. G. Van Voorhis. flow chart il Nat Pet N 32:R230-1, R233 Je 26 '40

COPPER range company
Earnings, 1936-39. Comm & Fin Chr 150:3354 My 25 '40

COPPER roofing. See Roofing, Copper

COPPER stearate
X-ray and optical properties of built-up films. S. Bernstein. bibliog il Am Chem Soc J 62:374-8 F '40

COPPER sulfate
Algae control. J. B. Baty. il Can Eng W & S 73:36+ Je '40
Characteristics of greening in canned vegetables; abstract. E. Vollhase. Food Ind 12:92 S '40
Chemical control of water weeds; algae and larvae in Wisconsin streams and lakes. Eng N 124:34 Ja 4 '40
Chemical treatment for the control of algae and weeds. Pub Works 71:41 S '40
Copper-copper sulfate half-cell for measuring potentials in the earth. S. Ewing. diags Am Gas Assn Proc 1939:624-34
Copper sulfate-sodium silicate reaction. H. V. Anderson and F. P. Hochgesang. bibliog il J Phys Chem 44:439-46 Ap '40
Electrolyte films in acid copper plating baths. H. J. Read and A. K. Graham. diags Electrochem Soc Trans 78 (preprint 1):1-23 O '40
Fish in reservoir resist chemical poisoning effects. Eng N 124:522 Ap 11 '40
100 refineries now converting mercaptans with copper salts; Perco processes. M. G. Van Voorhis. il Nat Pet N 32:R122-3, R126, R129 Ap 17 '40
Protection of watershed for Syracuse supply; copper sulfate for algae control. A. F. Gregory. il Am Water Works Assn J 32: 566-8 Ap '40
Successful taste and odor control in El Dorado, Kan. A. E. French. il diag Pub Works 71:23-4 Ja '40
Sun ray counts save sulphate; effect of ultra-violet rays on algae growth. R. F. Goudey. il Eng N 124:525-7 Ap 11 '40
Treatment with copper sulfate, chlorine and ammonia. C. K. Calvert. bibliog Am Water Works Assn J 32:1155-64 Jl '40
Use of copper sulphate in control of microscopic organisms. F. E. Hale. 1939 ed rev & enl 43p Phelps Dodge refining corp, 40 Wall st, New York '39

See also
Fehling's solution

Physiological effect

Acute poisoning in animals after intraperitoneal and intratracheal administration of dusts. J. P. Tollman, E. L. MacQuiddy and L. W. La Towsky. J Ind Hygiene 21:514-16 D '39

COPPER thioacetate
Aldehyde complexes of copper salts. T. L. Davis and W. P. Green, jr. Am Chem Soc J 62:1272-4 My '40

COPPER tubes. See Tubes, Copper

COPPER wire. See Wire, Copper

COPPERWELD steel company
Common stock offered. Comm & Fin Chr 151:410 Jl 20 '40
Copperweld's new alloy steel plant. J. D. Knox. il plan Steel 106:91-4+ Je 3 '40
Executives of the Warren organization. Blast F & Steel Pl 28:676-7 Jl '40
New records. E. H. Barnes. il Mag of Wall St 66:626-7+ S 7 '40
Officers and executives. pors Steel 106:87-8 Je 3 '40
Preferred stock offered. Comm & Fin Chr 149: 3869 D 16 '39
Thumbnail stock appraisal. Mag of Wall St 66:169 My 18 '40

COPPERWORK
Bearbeiten von kupfer mit spanabhebenden werkzeugen. K. Engelhard. V D I 84:162-3 Mr 2 '40

COPPERWORK, Architectural
Copper covering of hands on clock on Metropolitan life insurance building. il (cover) Sheet Metal Worker 31:32 F '40
Copper protection for stone and wood; lead-coated copper at New Rochelle college. il Sheet Metal Worker 31:67-9 Ja '40
Correct and incorrect copper application methods. H. H. Doe. il diags Sheet Metal Worker 30:29-30 N; 34 D '39; 31:55 Ja; 25-6 F; 31-2 Mr; 32-4 Ap; 35-6 My '40
Information on copper gutter construction. diags Sheet Metal Worker 31:37 Jl '40
Striking cast lead and lead coated copper work on large residence. il Sheet Metal Worker 31:56-8 Ja '40

See also
Roofing, Copper

COPRA
Copra, 1936-1939. Survey of Cur Business 1940 Sup p92 [supplemented in monthly numbers]
Philippine coconut products. For Comm W 1:270-1 N 9 '40

COPRECIPITATION. See Precipitation

COPROSTANEDIOL
Sterols; the oxidation of pregnanetriol-3,4,20 (α) and of coprostanediol-3,4. R. E. Marker and others. bibliog Am Chem Soc J 61:3317-20 D '39

COPY preparation. See Printing, Practical—Copy preparation

COPY writers. See Advertising copy writers

COPYING processes
See also
Blueprints

COPYRIGHT
Affirmation: decision establishing new principle for computing profits in suits for copyright infringement. Sci Am 163:47 Jl '40
Apportionment; court awarded 20 percent of profits received from moving-picture play to copyright proprietor. Sci Am 162:63 Ja '40
Copyright; proposed revision of law. W. G. Leland. Science 91:215-16 Mr 1 '40
Copyrighted articles and materials. J. L. Brown. Comm Rep p1113 D 2 '39
Second copyright law symposium; the second annual Nathan Burkan memorial competition. 167p American society of composers, authors & publishers, 30 Rockefeller plaza, New York '40
See also
Patent laws and legislation
Trade marks

Maps
Maps in advertising; copyright trouble. J. M. Votava. Ptr Ink 190:33, 36, 40 F 9 '40

Music
See also American society of composers, authors and publishers

Phonograph records
RCA loses phonograph case; copyright bans on broadcasting phonograph records lifted. Ptr Ink 192:111 Ag 2 '40

Mexico
Mexico; copyright regulations effective November 1, 1939. Compar Law Ser 3:342-7 Je '40

CORALS, Fossil
Ecology of modern marine organisms with reference to paleography. T. W. Vaughan. Geol Soc Bul 51:458-64 Mr '40

CORBETT, Lee Cleveland, 1867-1940
Sketch. H. P. Gould. Science 92:164-5 Ag 23 '40

CORDUROY
Staple cotton fabrics; corduroy fabrics. J. Hoye. il Textile World 90:93 Ag '40

CORE ovens
Modern core ovens. H. M. Lane. il diags Iron Age 146:42-5 O 17 '40

CORES
Avoiding defects in the nonferrous foundry. N. K. B. Patch. Foundry 68:29+ F '40
Changes methods to reduce cylinder casting loss. J. E. Olson. diags Foundry 68:88-9+ My '40
Core behavior at elevated temperatures. H. W. Dietert. il Foundry 68:52+ O '40
Eliminate variables in core testing. H. S. Austin and C. E. Schubert. il Foundry 68: 42-3+ Je '40
Foundry cores and molds; composite of abstracts. Metals & Alloys 12:183+ Ag '40
Fundamentals of core blowing. R. F. Lincoln. il diags Foundry 68:22-4+ F; 34-6, 94, 97-8 Mr '40
Metal penetrated core in long iron roller; question and answer. diag Foundry 68:80+ S '40
Mighty little man-handling; on core-making job things move mechanically. A. Van Vlissingen. il Factory Management 98:54-5+ Mr '40
New foundry builds truck engines; International harvester co. P. Dwyer. il plan Foundry 68:24-7, 84+ Mr '40

COREY, Charlie
Airline mechanic, one of 11,000 licensed by the CAA. pors Fortune 22:45-7+ Ag '40

CORIOLIS acceleration. See Acceleration

CORK
Floating foundations for quiet fan operation; use of vibracork. il diag Sheet Metal Worker 30:31-2 D '39
Up, down and sideways; use of cork, felt, and springs for isolation of vibratory air conditioning machinery. il diags Dom Eng 155: 44-5+ Je '40

CORN
Exports and other statistics, 1936-1939. Survey of Cur Business 1940 Sup p105 [supplemented in monthly numbers]
1940 corn acreage allotment of 36,638,000 acres announced by Secretary Wallace. Comm & Fin Chr 149:3470-1 D 2 '39
No corn quota referendum this year. Comm & Fin Chr 151:1641 S 21 '40
Radioactive isotope study of the absorption of phosphorus and sodium by corn seedlings. A. K. Brewer and A. Bramley. Science 91:269-70 Mr 15 '40
Rate of 57c per bushel for loans on 1939 corn announced; crop estimated at 2,591,000,000 bushels. Comm & Fin Chr 149:3344 N 25 '39
Saccharification of starchy grain mashes for the alcoholic fermentation industry; comparison of several saccharifying agents; malt, moldy bran, and soybean meal. L. Schoene, E. I. Fulmer and L. A. Underkofler. bibliog Ind & Eng Chem 32:544-7 Ap '40
Some farm aid problems; corn loan stocks accumulating. Barron's 20:6 Mr 25 '40
Steam required for corn canning. S. H. Coleman. Power Pl Eng 44:54 Ap '40

Diseases and pests
Strain susceptibility to the European cornborer and the corn-leaf aphid in maize. L. L. Huber and G. H. Stringfield. Science 92:172 Ag 23 '40

Prices
Argentina will pay farmers 36 cents a bushel for corn. Comm & Fin Chr 151:1641 S 21 '40
Chicago corn futures, 1939. Annalist 55:149 Ja 26 '40
Wholesale price of corn, no. 3, yellow, Chicago, monthly, 1913-1939. Survey of Cur Business 20:18 Ap '40

CORN oil
Corn-olive oil; new infused product. Business Week p45-6 N 16 '40
Makes olive oil from corn; infusion of olive meat in colloidal form into corn oil. Food Ind 12:49 N '40

CORN products
Corn products corps. financially analyzed. Oil Paint & Drug Rep 138:37 N 11 '40
Industrial uses of corn; abstract. H. G. Knight. Science 91:sup12 Ap 5 '40
Vitamin content of distillers' by-products. C. S. Boruff, A. F. Langlykke and S. Black. bibliog il Ind & Eng Chem 32:1287-9 S '40
Wet milling of corn; recovery and utilization of process losses; Corn products refining company, Argo, Ill. A. L. Pulfrey, R. W. Kerr and H. R. Reintjes. bibliog diag Ind & Eng Chem 32:1483-7 N '40
See also
Corn oil
Cornstarch
Zein

CORN products refining company
Brass tacks for the investor; brief analysis. Barron's 20:20 Ja 22 '40

CORN sirup
F.T.C. order hits marketing of glucose. Oil Paint & Drug Rep 138:3+ O 7 '40
High conversion corn sirup in jellies, jams, fruit butters; abstract. D. K. Tressler. Food Ind 12:97-8 Mr '40

CORN starch. See Cornstarch

CORN sugar. See Dextrose

CORNELL university
Extension courses in aeronautical engineering. Science 92:395-6 N 1 '40
Gifts for scientific research at Cornell university. Science 91:163-4 F 16 '40
New federal nutritions laboratory. Science 91: 57-8 Ja 12 '40
Thurston centennial. R. G. Irish. Cornell Eng 5:11 N '39

College of engineering
College of engineering of Cornell university; program of cooperation with American industry to train promising young employees as engineers. Science 92:191-2 Ag 30 '40

Sibley college
Dr Robert Henry Thurston's eighteen years at Cornell. W. F. Durand. Science 90: 547-52 D 15 '39

CORNICES
New era in metal cornice. N. W. Brownyard. il diags Sheet Metal Worker 31:22-3+ Ap '40

CORNSTALKS
Analysis
Determination of cellulose in fibrous agricultural wastes; a rapid method using monoethanolamine. J. D. Reid, G. H. Nelson and S. I. Aronovsky. bibliog diag Ind & Eng Chem Anal ed 12:255-9 My 15 '40

CORNSTARCH
Gelatinization and retrogradation changes in corn and wheat starches shown by photomicrographs. S. Woodruff and M. M. MacMasters. il diags Ill U Agric Exp Sta Bul 445:1-43 bibliog(p42-3) '38
Improved sweetening agent developed from corn starch. il Food Ind 12:62 Ja '40
Pasting and identification of starches. W. L. Morgan. il diag Ind & Eng Chem Anal ed 12:313-17 Je 15 '40
Relative reducing potential of starch. R. W. Kerr. bibliog Am Chem Soc J 62:2735-8 O '40
Rigidity of starch pastes used in sizing and printing. diag Textile Col 62:332-3 My '40

CORONA (electricity)
Pole riser cables with corona-resisting compound. T. J. Brosnan. il Elec W 113:568-70 F 24 '40
Positive point-to-plane corona in pure A, H_2 and N_2. G. L. Weissler. Phys R 57:340-1 F 15 '40

CORONAVISER. See Sun—Corona

CORONENE
New synthesis of coronene. M. S. Newman. bibliog Am Chem Soc J 62:1683-7 Jl '40

CORPORATION law
Are you licensed to do business? can you collect legally in another state? G. B. Sturtz. Credit & Fin Management 42:28 N '40
Cases and materials on business associations. B. E. Nicholson. 583p $3.75 Westbrook pub. co, 5800 N Marvine st, Philadelphia '39
Cases on the law of private corporations selected from decisions of English and American courts. H. S. Richards. 3d ed rev 1068p bibliog(pxxxv-xliii) $6 West '40
Corporation law for officers and directors; a guide to correct procedure. W. J. Grange. rev ed 904p $6 Ronald press '40
Dangers lurking in spot stocks; conflict with state corporation laws. Credit & Fin Management 41:23-4 D '39
Encyclopedia of corporate forms; an exhaustive compilation of forms used in corporate practice, with explanations and annotations. v 4 1269p $12.50; set $38 Prentice-Hall '40
Residence and domicil of corporations. A. Farnsworth. 370p 21s Butterworth & co, London '39
Syllabus and materials on the law of business corporations. W. G. Katz. 2d ed 622p bibliog(p621-2) pa $4.25 Univ. of Chicago bookstore, Chicago '39

See also
Banking law
Commercial law
Corporations—Reorganization
Dividends
Proxies
Public utilities—Law
Railroad law
Securities—Law
Trusts, Industrial

Belgium
Belgian company law in wartime. H. P. Crawford. Comm Rep p294 Mr 30 '40

Brazil
Conversion of Brazilian corporate stock into preference shares. H. P. Crawford. Comm Rep p365-6 Ap 20 '40
Corporations, law revised. For Comm W 1:242 N 9 '40

Colombia
Colombian superintendency of corporations. H. P. Crawford. Comm Rep p7 Ja 6 '40
Superintendent of corporations in Colombia. R. C. Backus. Compar Law Ser 3:197-9 Ap '40

Cuba
Corporations, registration. For Comm W 1:198 N 2 '40

Delaware
Delaware corporations and receiverships. J. Marvel. 6th ed 538p $5 Corporation service co, Wilmington, Del. '39
Digest of the Delaware corporation law. 24th ed 39p gratis Corporation service co, Wilmington, Del. '39

Great Britain
Company law in a nutshell. J. A. Balfour. 2d ed 116p 4s Sweet & Maxwell, London '39
Converting a business into a private company. H. W. Jordan. 12th ed 52p pa 1s 6d Jordan & sons, London '38
Questions and answers on company law. R. Millner. 122p 5s Sweet & Maxwell, London '39
Voluntary liquidation. A. C. Hooper. 2d ed 247p 12s 6d Gee & co, London '39

Michigan
General corporation laws. 241p Michigan, Dept. of state, Lansing '39

New York (state)
Corporation laws of New York, incl. all amendments enacted by the New York Legislature at the 1940 regular session which adjourned March 30, 1940. rev ed 335p pa $1 Commerce clearing house '40
New York laws affecting business corporations, rev. to April 30, 1940. J. B. R. Smith, ed. 21st ed 552p pa $2 United States corp. co, 150 Broadway, New York '40

Ohio
Ohio corporation law, practice and forms, annotated; a complete manual. W. L. Townsend. $25 Banks-Baldwin law pub. co, 3730 Euclid av, Cleveland '40

Pennsylvania
Corporate taxation and procedure in Pennsylvania. L. P. Stradley and others. 469p $10 Commerce clearing house '40

Switzerland
Swiss company law in wartime. H. P. Crawford. Comm Rep p457 My 18 '40

Washington (state)
Preference liabilities in Washington; state law on corporate liquidations has unusual angles. C. P. King and C. E. Croson. Credit & Fin Management 42:21-2 F '40

CORPORATIONS
Corporate organization and management. M. H. Robinson. enl ed 294p $2.50 LaSalle extension univ, Chicago '39
Economics of corporate enterprise. N. S. Buchanan. 483p bibliog(p463-72) $3.25 Holt '40
Memorandum on the problem of big business, submitted to the Temporary national economic committee by the Corporation survey committee. 35p 25c Twentieth century fund, New York '39

CORPORATIONS—*Continued*

Servicemen's legal advice; partnership vs. corporation. T. J. Healy. Radio N 24:24+ O '40

War, and no proxies; firms with European stockholders. Business Week p48-9 Jl 6 '40

See also

Banks and banking
Building and loan associations
Corporation law
Electric utilities
Gas companies
Government ownership
Insurance companies
Insurance trusts
Investment trusts
Oil companies
Proxies
Public utilities
Railroads
Securities—Law
Stocks
Street railroads
Trust companies
Trusts, Industrial
Water companies

Accounting

Accountancy of tomorrow. C. B. Couchman. Edison Elec Inst Bul 7:552-4 N '39

Accounting problems of government war contracts. P. Sinclair. J Account 70:417-30 N '40

Accounting regulation S-X. J Account 69: 319-21 Ap '40

Accounting requirements of the Securities and exchange commission for the preparation of financial statements by independent public accountants. B. B. Greidinger. 631p bibliog(p615-25) $5 Ronald press '39

Accounting research bulletin no. 5; depreciation on appreciation. J Account 69:461-7 Je '40

Amended requirements for financial statements prescribed by the Securities and exchange commission in regulation S-X. H. N. Sweet. J Account 69:167-74 Mr '40

Anlagenutzung und zins in der kostenrechnung. H. Kreis. Stahl & Eisen 60:2-9; Discussion. 10-12 Ja 4 '40

British accounting practices and the profession. T. H. Sanders. Harvard Business R 18 no 2:161-76 [Ja] '40

Comments on An introduction to corporate accounting standards, by W. A. Paton and A. C. Littleton. A. W. Hanson; R. B. Kester. J Account 69:440-5 Je '40

Discussion of management's responsibilities to the public for accounting reports. P. L. West. Comm & Fin Chr 151:1660 S 21 '40

Get more exact credit information; balance sheet or financial statement. R. M. Swisher. Bankers Mo 57:3-5 Ja '40

Get more exact credit information: the circulation principle. R. M. Swisher. Bankers Mo 57:76-8, 158, 160-1, 280-1, 341+, 463, 505+ F-Mr, My-Je, Ag-S '40

Indexes of company performance; charting results against quotas monthly to provide dynamic picture; interview with Wallace Clark. B. Brougham. Barron's 20:9-10 Ap 8 '40

Integration of income and surplus statements. A. C. Littleton. J Account 69:30-40 Ja '40

Introduction to corporate accounting standards. W. A. Paton and A. C. Littleton. 156p bibliog(p143-54) $1 Am. accounting assn, Chicago '40

Monthly account-aging report system. M. Hill. Credit & Fin Management 42:46-8 Ap '40

Mutual stockholdings in consolidated statements. H. S. Benjamin; E. D. Alford. J Account 68:400-1 D '39

Nature of the gain on treasury stock. D. P. Musselman. J Account 70:104-16 Ag '40; Discussion. R. W. Snyder. 70:268 S '40

Need for single-purpose statements. V. Z. Brink. J Account 69:284-92 Ap '40

New concepts in accounting and auditing. C. B. Couchman and others. 34p American management assn, 330 W. 42d st, New York '40

Proper practice for the handling of income from business insurance. J Account 69:211-12 Mr '40

Recent gains in accounting and auditing methods of companies listed on stock exchange should be consolidated. J. Haskell. Comm & Fin Chr 150:3288-9 My 25 '40

Recent pronouncements of the Securities and exchange commission on accounting subjects. W. H. Bell. J Account 69:430-7 Je '40

Relation of depreciation provisions to replacement; testimony of O. L. Altman and A. H. Hansen before the Temporary national economic committee. G. O. May. J Account 69:341-7 My '40

SEC issues three opinions in its accounting series. Comm & Fin Chr 150:2020 Mr 30 '40

Single-purpose statements; suggested by J. N. Frank; discussion. J Account 69:186-9 Mr '40

Trends in accounting procedure. V. H. Stempf. J Account 69:451-60 Je '40

Unamortized discount and premium on bonds refunded. H. C. Freeman. J Account 68:397-9 D '39

Uniform set of accounting requirements to apply to majority of SEC's registration and report forms adopted. Comm & Fin Chr 150:1352 Mr 2 '40

United States of America before the Securities and exchange commission in the matter of McKesson & Robbins, inc. 638p U.S. Securities and exchange commission, Washington; 65c Supt. of doc. '39

Valuation or historical cost; some recent developments. G. O. May. J Account 69:14-21 Ja '40; Same abr. Dun's R 48:17-20+ My '40

Watch the inventory dollars. W. H. Conant. Barron's 20:7+ My 13 '40

See also

Bank accounting
Cost accounting
Financial statements
Profit
Public utilities—Accounting
Surplus

Close corporations

Should trustees manage close corporations? some cautions on accepting unnecessary responsibilities; abstracts. A. I. Johnson. Trusts & Estates 70:627-8 Je '40; Bankers M 141:85-6 Jl '40

Directors

Board of directors. G. E. Bates. Harvard Business R 19 no 1:72-87 [S] '40

Director's job in management. R. W. Lea. Management R 29:164-8 My '40

New jobs for directors. J. G. Frederick. Management R 29:45-6 F '40

Responsibilities of directors. R. C. Patterson, jr. Advanced Management 5:57-62 Ap-Je '40

Directors, Junior

Democracy in management; how Williamson makes it work; all junior executives share in formulating general management policies and in administering them. W. L. McGrath and L. B. Murphy. Sales Management 47: 18-20+ Ag 1 '40

Junior advisory board of the Equitable trust company of Baltimore. W. A. Koerber. Trusts & Estates 70:523-5 My '40; Same abr. Banking 32:85 My '40

Junior boards of directors succeed for some companies. Iron Age 145:72 Ap 4 '40

Finance

Behavior of industrial earnings; stability and growth trends. R. L. Johnson. Banking 32: 25-6 Mr '40

Business (corporate) profits during third quarter of 1939. Comm & Fin Chr 149:3931 D 23 '39

Business (corporate) profits during fourth quarter of 1939. Comm & Fin Chr 150: 1999-2000 Mr 30 '40

Business (corporate) profits during first quarter of 1940. Comm & Fin Chr 150:3731-2 Je 15 '40

Capital issues. Bankers M 139:531 D '39

Changing profit perspective in new industrial outlook. W. Gates. Mag of Wall St 66: 454-6+ Jl 27 '40

Comeback! P.I. annual review of 300 advertisers' earnings; statistics, 1933-1939. J. Lewis. Ptr Ink 191:25-6, 30+ Ap 19 '40

CORPORATIONS—Finance—*Continued*

Companies likely to pay extra year-end dividends; distribution to shareholders should exceed that of year ago despite higher taxes. J. S. Williams. Mag of Wall St 67: 80-1 N 2 '40

Company backlogs and profits; mid-year unfilled orders assure earnings for certain leaders. C. G. V. White. Mag of Wall St 66:570-1 Ag 24 '40

Company earnings swing up; 150 corporations (rails and utilities excluded) show nine-month gain of about 40% over 1939 period. Business Week p15-16 N 2 '40

Company finance. W. C. Brooks. 104p bibliog(p101) 6s P. S. King & son, London '39

Corporate financial policy. H. G. Guthmann and H. E. Dougall. 795p bibliog(p751-74) $5.35; school ed $4 Prentice-Hall '40

Corporate net earnings; industrials, railroads, utilities. Published in weekly numbers of Annalist

Corporate size and earning power. W. L. Crum. 418p $4 Harvard univ. press '39

Corporation profits, Federal reserve bank of New York figures; revision, quarterly, 1928-38. Survey of Cur Business 20:12 Mr '40

Corporation profits, 1936-1939. Survey of Cur Business 1940 Sup p60-1 [supplemented in monthly numbers]

Course of profits of first quarter companies, 1935-1940. Economist 138:936-7, 963 My 25 '40

Earnings of industrial companies in fourth quarter highest since September, 1929. L. Applegate. Annalist 55:295 F 22 '40

Effects of new tax bill; how excess profits levies will influence corporate earnings. G. E. Shea, jr. Barron's 20:8-9 S 2 '40

Excess profits tax likely to discourage expansion; its effects on particular industries. E. W. Axe. Annalist 56:461-2 O 10 '40

Financial statements for investors. W. W. Werntz. J Account 69:22-9 Ja '40

First quarter industrial earnings; quarterly net income of sixty-two industrial companies. L. Applegate. Annalist 55:652 My 9 '40

First quarter profits, 1940. Nat City Bank p57-9 My '40

Half year's profits. Nat City Bank p88-90 Ag '40

How corporate earnings are affected by taxes; latest income statements reveal that new rates weigh less heavily on some industries. Barron's 20:7 N 4 '40

How's business? earnings tell. Business Week p42 Jl 27 '40

Impact of new taxes on third quarter earnings. J. S. Williams. il Mag of Wall St 67:136-9+ N 16 '40

Increased taxes for Canadian companies; results for 22 companies on basis of 1939 earnings. A. T. Christie. Barron's 20:18 Jl 22 '40

Industrial bond and preferred stock refundings, 1933-1937. J. B. Hubbard. R Econ Statis 20:161-84; 22:17-44, 182 N '38, F, N '40

Industrial mobilization; business reserves and the flow of money into war preparations, by J. W. Lewis as told to H. M. Hitchcock. Trusts & Estates 71:147-50 Ag '40

Industrial profits in 1939. Economist 138: sup5-6 F 17 '39

Industry reports on the war boom; nature of the gain in the fourth quarter. Business Week p55 F 10; 51 F 17 '40

Is excessive depreciation a capitalistic Frankenstein? Stuart Chase's article in Harper's magazine and New York Times comment. Pub Util 25:359-63 Mr 14 '40

Nature of acquired surplus. T. York. J Account 69:363-8 My '40

Net income to expense ratio; a new yardstick of investment stability. A. M. Bernstein. Annalist 55:719 My 23 '40

New deal profits are not so bad. P. Dobbs. Mag of Wall St 65:730-1+ Mr 23 '40

New profits measure; quarterly earnings of 30 stocks in Dow-Jones industrial average down sharply since 1929. L. C. Duncan. Barron's 20:3 Mr 11 '40

1939 crop of record profits. L. C. Duncan. Barron's 20:7 Ja 22; 3 Ja 29 '40

1939 earnings reports; tabulation. Mag of Wall St 65:565 F 10 '40

Plight of the medium-size business; no financial market for such securities. R. A. Foulke. il Nation's Business 28:27-8+ F '40

Problems in financing the modern corporation. D. C. Backus and others. 42p Am. management assn, 330 W. 42d st, New York '40

Profits and dividends; big business vs. small. E. B. George and R. L. Tebeau. bibliog il Dun's R 48:11-22 Ja '40

Profits down 15% from fourth quarter. Barron's 20:20 Ap 1 '40

Profits jump 32.3%; semi-annual compilation of earnings of 190 leading advertisers. Ptr Ink 192:17-18, 70-1 S 6 '40

Profits of leading corporations for the years 1936-1939. Nat City Bank p101 S '40

Profits of leading corporations, 1938-39. Nat City Bank p40-4 Ap '40

Profits of leading manufacturing companies in 1938-39. Nat City Bank p31-5 Mr '40

Projecting 1940 earnings trends. J. J. Hipple. Mag of Wall St 66:22-3+ Ap 20 '40

Quarterly net income of 62 industrial companies. L. Applegate. Annalist 56:270 Ag 29 '40; Discussion. H. D. Comer. 56:334 S 12 '40

SEC issues new series of reports on survey of American listed corporations. Comm & Fin Chr 150:763 F 3 '40

SEC submits study to TNEC on ownership of non-financial corporations; shows small group controls power. Comm & Fin Chr 151:2285-6 O 19 '40

Sources of capital; supplement to Financial management, by J. O. McKinsey. A. R. Burnstan. p81-192 pa $1 American technical soc, Chicago '40

Statistics disprove assertion that giant companies squeeze out small rivals; income tax evidence. S. N. Whitney. bibliog Annalist 54: 819-20 D 28 '39

Stock options for executives. J. C. Baker. Harvard Business R 19 no 1:106-22 [S] '40; Abstract. Management R 29:410-12 N '40

Survey of American listed corporations; reported information on selected industry groups; registrants under the Securities exchange act of 1934 at June 30, 1939. v 2, reports 10-18. 375p Work projects administration, Washington, D.C. '40

Survey of American listed corporations; reported information on selected manufacturing groups; registrants under the Securities exchange act of 1934 at June 30, 1939. v 1, reports 1-9. 291p Work projects administration, Washington, D.C. '40

Taxation and fourth quarter's net profits. Economist 138:69, 82 Ja 13 '40

Taxes on American industry more than double amount paid in common dividends; study of 163 typical business corporations; tabulation. Steel 105:supp N 20 '39

Taxes on industry equal $3.05 per common share; $329 per common stockholder; $611 per employe; study of 183 typical business corporations; tabulation. Steel 107:sup Jl 15 '40

Third-quarter earnings outrunning taxes. Business Week p56 O 19 '40

Third quarter profits. Nat City Bank p123-5 N '40

Travelers added to billionaire club; private business organizations in the United States having $1,000,000,000 or more in assets. Nat Underw (Life ed) 44:4 Ag 23 '40

Week's company results. Published in weekly numbers of the Economist

CORPORATIONS—Finance—*Continued*

Where new taxes hit hardest; estimated profit of leading companies; tabulation. L. C. Duncan. Barron's 20:3 O 14 '40

See also

Dividends
Government loans to industry
Profit
Public utilities—Finance
Railroads—Finance
Stockholders
Stocks
Surplus

Reorganization

Bill containing recommendations on bankruptcy and reorganization is filed with House judiciary committee by Representative Chandler. Comm & Fin Chr 149:4103 D 30 '39

Companies entering into reorganization proceedings in first half of 1940 numbered 132, involving assets of $871,400,000 and indebtedness of $446,400,000. Comm & Fin Chr 151:1074-5 Ag 24 '40

Corporate trust reorganization; court may find plan not fair and equitable although required percentages of security holders have approved it. Trusts & Estates 69:684-5 D '39

Investor protection in reorganization. J. A. Panuch. Harvard Business R 19 no 1:21-32 [S] '40

Modern corporate reorganization. A. E. Throop. Trusts & Estates 71:42 Jl '40

Modification provisions of corporate mortgages and trust indentures. C. H. Haines, jr. Trusts & Estates 69:677-9 D '39

Reorganizations under Chandler act; with case citations. J. Gerdes. Credit & Fin Management 42:11-14+ Ag; 18-21+ S '40

Ruling by U.S. Supreme court in Lumber products co. case upholds priority of bondholders before participation by stockholders in reorganization of corporations under Bankruptcy act; ruling in case of Kansas City terminal railway co. Comm & Fin Chr 149:3481-2 D 2 '39

SEC upheld by United States Supreme court in matter of participation in reorganizations under Chandler bankruptcy act. Comm & Fin Chr 150:3442-3 Je 1 '40

Supreme court rules on stockholders' rights in reorganization. Pub Util 24:759 D 7 '39

See also

Railroads—Receiverships

Reports and yearbooks

Annual reports take on new jobs; relations with public and employees. il Business Week p 17-18+ Ap 13 '40

Check up on annual reports as an opportunity for more business; with specimens of covers, sample pages, etc. Inland Ptr 104:28-34 Mr '40

Financial statements for investors. W. W. Werntz. J Account 69:22-9 Ja '40

Gross revenue figures should not be exacted from all corporations; public accountant's responsibility to investors. J. M. Hancock. Comm & Fin Chr 150:2812-13 My 4 '40

Illustrated charts and animated statistics for annual report of finances. il Ptr Ink Mo 41:14-15 S '40

Indexes of company performance; charting results against quotas monthly to provide dynamic picture; interview with Wallace Clark. B. Brougham. Barron's 20:9-10 Ap 8 '40

Planning of future earnings; formulation of operating program a year ahead fixes responsibility and improves management. W. Clark. Barron's 20:7 F 5 '40

Putting life into your audits; use of progress-and-performance records; interview with Wallace Clark. B. Brougham. Barron's 20:3 Ja 22 '40

Report to stockholders; what should it contain? Printers' ink monthly special study. A. M. Howe. il maps Ptr Ink Mo 40:19-22+ Ja '40

This report to stockholders, reversing usual order, features advertising: United wall paper factories, inc., Chicago. H. M. Andrews. Ptr Ink 193:69-70 O 18 '40

See also

Employees, Reports to

Bibliography

Corporation reports. Cleveland Pub Lib Business Information Bur v 11, no 1:1-4; sup 1-2 Mr '40

Size

Big corporation bugaboo. A. W. Atwood. Pub Util 25:26-30 Ja 4 '40

Profits and dividends; big business vs. small. E. B. George and R. L. Tebeau. bibliog il Dun's R 48:11-22 Ja '40

Statistics disprove assertion that giant companies squeeze out small rivals; income tax evidence. S. N. Whitney. bibliog Annalist 54:819-20 D 22 '39

Taxation

Accumulated earnings; special punitive surtaxes. Banking 32:32 F '40

Advertising and the new tax law; with tables showing amount of taxes for specified profit totals. J. K. Lasser. Adv & Sell 33:28, 52, 54, 56 N '40

Canadian industry's tax burden. A. T. Christie. Barron's 19:18 D 18 '39

Corporate taxation and procedure in Pennsylvania. L. P. Stradley and others. 469p $10 Commerce clearing house '40

Corporation income and excess-profits tax returns for 1938. Comm & Fin Chr 151: 2420 O 26 '40

Dividends and the penalty tax; imposition depends on accumulation of surplus beyond reasonable needs of business. J. B. Lowe and J. D. Wright. Barron's 19:7 N 20 '39

Impact of taxes on credit; how social levies, especially, affect working capital. C. Weisberg. Credit & Fin Management 42:18-20 My '40

Increased taxes for Canadian companies; results for 22 companies on basis of 1939 earnings. A. T. Christie. Barron's 20:18 Jl 22 '40

Minimizing the excess profits tax; methods by which corporations can ease the load. J. B. Lowe and J. D. Wright. Barron's 20:7 N 11 '40

No tax concessions on munitions; closing agreement offers the taxpayer certainty of treatment, not special treatment. Business Week p13-14 D 30 '39

Profit sharing and pension plans (their creation and tax effect). C. M. Wigslow and K. R. Clark. 192p $2 Commerce clearing house '39

70%; distribution of profits under Treasury decision 4914, section 102, Internal revenue code. J. J. Leahy. 69p $1 Commerce clearing house '39

Survey of the tax burden of American industry by American federation of investors. Pub Util 26:368-70 S 12 '40

Tax burden on business in 1939. Bankers M 141:78-9 Jl '40

Tax collector frequently gets more than the stockholder; dividend and tax payments per share for a representative group of companies in 1939. Mag of Wall St 65:751 Mr 23 '40

Taxes on American industry more than double amount paid in common dividends; study of 163 typical business corporations; tabulation. Steel 105:supp N 20 '39

Taxes on industry equal $3.05 per common share; $329 per common stockholder; $611 per employe; study of 183 typical business corporations; tabulation. Steel 107:sup Jl 15 '40

Taxes, profits, and prices. Business Week p61 N 16 '40

Text of excess-profits tax-plant amortization bill; Second revenue act of 1940. Comm & Fin Chr 151:2251-61 O 19 '40

CORPORATIONS—Taxation—*Continued*
What war taxes mean to investors. H. D. Steinmetz. Mag of Wall St 66:400-2+ Jl 13 '40

See also
Excess profits tax
Mine taxation
Public utilities—Taxation

Valuation
Valuation by capitalization of earnings. R. B. Goode. Kentucky Univ Bul of the Bur of Business Research College of Commerce v 2, no 2:1-18 '39 (50c)

CORPULENCE
Obesity and leanness. H. R. Rony. 300p $3.75 Lea & Febiger, Philadelphia '40

CORRELATION (geology)
Age of the Schooley peneplain. G. W. Stose. bibliog diags maps Am J Sci 238:461-76, pl 1 Jl '40
Correlation of Pennsylvanian rocks of New Mexico. C. E. Needham. bibliog Am Assn Pet Geologists Bul 24:173-9 Ja '40
New zone in Cook Mountain formation, the crassatella texalta Harris, turritella cortezi Bowles zone. H. B. Stenzel. il Am Assn Pet Geologists Bul 24:1663-75 S '40
Type Permian; its classification and correlation. C. O. Dunbar. bibliog diags maps Am Assn Pet Geologists Bul 24:237-81 F '40

CORRELATION (statistics)
Bartels technique for time-series analysis, and its relation to the analysis of variance. L. R. Hafstad. bibliog Am Statis Assn J 35:347-61 Je '40
Cluster analysis; correlation profile and orthometric (factor) analysis for the isolation of unities in mind and personality. R. C. Tryon. 122p bibliog(p109) pa $2.25 Edwards bros, Ann Arbor, Mich. '39
Eliminating changing seasonals by multiple regression analysis. H. Mendershausen. R Econ Statis 21:171-7 N '39
Interdependence in a series. L. F. Knudlen. bibliog Am Statis Assn J 35:507-14 S '40
Probability and frequency. H. C. Plummer. 277p $3 Macmillan '40

CORRESPONDENCE schools and courses
Little education; don't spurn the correspondence course and evening classes; university extension service. R. H. Morris. Power Pl Eng 44:70-2 Je '40; Discussion. 44:95-6 O '40
Poll of opinion on air conditioning schools. Refrig Eng 40:82-6+ Ag '40
Private correspondence school enrollee. R. B. Kennan. 107p bibliog(p105-7) $1.75 Teachers college '40
Supervised correspondence study for individual pupil needs. S. C. Mitchell. 303p $2.50 International textbook co, Scranton, Pa. '39

CORRESPONDING states, Law of
Law of corresponding states as applied in refrigeration. J. S. Doolittle. bibliog Refrig Eng 40:165-7 S '40

CORROSION and anti-corrosives
Bond strength of rusted deformed bars. B. Johnston and K. C. Cox. il Am Concrete Inst J 12:57-72 S '40
Carbon monoxide as an inhibitor for stainless steel. H. H. Uhlig. bibliog Ind & Eng Chem 32:1490-4 N '40
Corrosion; A.W.W.A. Kansas City convention, Plant management division; abstracts of papers. Water Works & Sewerage 87:330-2 Jl '40
Corrosion and corrosion processes. F. L. Laque. il diag Can Chem & Process Ind 24:370, 372+ Jl '40
Corrosion control and stabilization by threshold treatment. O. Rice. il Water Works & Sewerage 87:sup103-4 Ap '40
Corrosion cracking; also data on residual stresses and various types of stress relief; correlated abstract. G. Sachs. il Iron Age 146:21-9 bibliog(p28-9) O 3 '40
Corrosion in steam heating systems. L. F. Collins and E. L. Henderson. diags Heating-Piping 11:539-42, 620-2, 675-7, 735-8; 12: 24-7, 99-101, 159-62, 243-6, 299-301 S '39-My '40
Corrosion is problem in Kansas oil fields. Oil & Gas J 39:101 Je 27 '40
Corrosion of copper by sodium halide solutions. F. J. Asselin and F. A. Rohrman. Ind & Eng Chem 32:1015-16 Jl '40
Corrosion of iron and steel. J. C. Hudson. 319p $5.75 Van Nostrand '40
Corrosion of metals used in aircraft. W. Mutchler. bibliog J Research Nat Bur Stand 25:75-82, pl 1-12 Jl '40
Corrosion of pipes. F. N. Speller. il Blast F & Steel Pl 28:885-8+ S '40
Corrosion prevention by sodium hexametaphosphate. E. C. Trax. Am Water Works Assn J 32:1495-7 S '40; Abstract and discussion. Water Works & Sewerage 87:272-3 Je '40
Corrosion protection by rust inhibitors. E. P. Partridge. Metal Prog 38:382 O '40
Corrosion, the structural common cold. E. R. Needles. il Civil Eng 10:405-7 Jl '40
Effect of gases containing hydrogen sulphide on iron and some iron alloys; abstract. W. Baukloh and E. Spetzler. Metals & Alloys 12:344+ S '40
18 and 8 and related stainless steels; carbide precipitation and pitting corrosion. W. M. Mitchell. il Metals & Alloys 11:88-93 Mr '40
Electrode potential measurements as a means of studying the corrosion characteristics of wrought aluminum alloys of the duralumin type. H. L. Logan. pls diags J Research Nat Bur Stand 25:315-25 S '40
Facing the corrosion problem in air conditioning equipment. L. L. Lewis. Refrig Eng 40:292 N '40
Failures in admiralty metal condenser tubes, with and without arsenic; with photomicrographs. J. T. Kemp. Am Pet Inst Proc 21M(3):87-92 My '40
Few facts about pH. A. S. Park. il Comp Air M 44:6016-20 N '39
Influence of cyclic stress on corrosion pitting of steels in fresh water, and influence of stress corrosion on fatigue limit. D. J. McAdam, jr. and G. W. Geil. 29 pls J Research Nat Bur Stand 24:685-722 bibliog(p715) Je '40
Influence of the steel-base composition on the rate of formation of hydrogen-swells in canned-fruit tinplate containers. T. P. Hoar, T. N. Morris and W. B. Adam. bibliog diags Iron & Steel Inst J 140:55-92, pl 9; Discussion. 93-4 no 2 '39
Intercrystalline corrosion; report of American railway engineering association. Ry Age 108:855-6+ My 18 '40
Keeping iron in or out of solution; abstract and discussion. L. R. Caplan. Water Works & Sewerage 87:279-80 Je '40
Korrosion in warmwasserbereitungs-anlagen und ihre verhütung. H. Klas. il Stahl & Eisen 60:41-8 Ja 18 '40
Maintenance of multicylinder engines in sour gas areas. D. H. Stormont. il Oil & Gas J 39:48-9 Je 13 '40
Mechanical factors affecting condenser tube life. A. J. German. diags Power Pl Eng 44:47-9 F '40
Messung angreifender oder schwierig zu behandelnder gase und flüssigkeiten. F. Kretzschmer. il diags V D I 84:25-33 Ja 13 '40
Microbiological anaerobic corrosion. H. J. Bunker. Chem & Ind 59:412-14 Je 15 '40
Microbiology and corrosion; discussion of papers by H. J. Bunker and T. H. Rogers. Chem & Ind 59:257-8 Ap 13 '40
More sulphide contaminations. L. R. van Wert. il Metal Prog 37:66 Ja '40
Organic sulphur. bibliog il Am Gas Assn Proc 1939:517-42; Same cond. Am Gas J 151:27-33 D '39; Discussion. Am Gas Assn Proc 1939:557-8
Outline of the corrosion problem in water works. G. D. Norcom. Am Water Works Assn J 32:401-7 Mr '40
Phosphorized admiralty condenser tubes. C. A. Gleason. Marine Eng 45:81-2 S '40
Plastics versus corrosion. C. G. Munger. il Mod Plastics 18:124-5+ O '40

CORROSION and anti-corrosives—*Continued*

Rapid steel erosion caused by salt water seepage in Turkish bath building at Coney Island. W. Eipel and H. Eipel. il Eng N 124:741 My 23 '40

Reaction between iron and water in the absence of oxygen. M. deK. Thompson. bibliog diag Electrochem Soc Trans 78 (preprint 24):337-41 O '40

Reconstruction of the ice skating rink at the University of Illinois; corrosion of brine pipes cause failure of original floor. J. Doak. il diags Am Concrete Inst J 11:1-20 S '39; Discussion. 11:sup20[1]-20[6] F '40

Rust problems. R. W. Baker. diags Steel 107: 62-4 Jl 1 '40

Sodium hexametaphosphate as an aid in the control of corrosion. O. Rice. diag N E Water Works Assn J 54:25-33 Mr '40

Steel corrosion by molten nitrates; abstract. P. Lloyd and E. A. C. Chamberlain. Iron Age 146:45 N 7 '40

Steel corrosion; its nature and prevention. C. F. Rassweiler. il Civil Eng 10:407-10 Jl '40

Stress corrosion of wrought aluminum-magnesium alloys; abstract. A. Mühlenbruch and H. J. Seemann. Metals & Alloys 11: MA99 F '40

Study of internal corrosion in horizontal gas engines. W. H. Davidson. il diag Oil & Gas J 39:89+ S 19 '40

Use of lecithin in gasoline. H. V. Rees, W. S. Quimby and J. C. D. Oosterhout. il Oil & Gas J 39:182+ N 14 '40; Abstract. Nat Pet N 32:R416 N 13 '40

Versuche zur verringerung des bleiverschleisses beim schwefelsäure-turm- und kammerverfahren. H. Lohfert. il Chemische Fabrik 12:499-502 D 6 '39

See also

Acid handling
Acid resisting materials
Boilers—Corrosion
Corrosion resisting materials
Electrolytic corrosion
Galvanizing
Gas pipes—Corrosion
Metal coating
Metal protection
Paint, Protective
Passivity
Pipe coating
Pipe lines—Protection
Steel—Protection
Tarnishing of metals
Water pipes—Corrosion
Water pipes—Protection

Testing

Accelerated spray test for the corrodibility of ferrous materials. T. Swinden and W. W. Stevenson. diag Engineer 170:216-17 O 4 '40

Action of water on copper pipes. L. Tronstad and R. Veimo. Engineering 149:260-1 Mr 8 '40

American society for testing materials meeting; corrosion discussed. Metal Finishing 38:440 Ag '40

Antimony in mild steel. B. Jones and J. D. D. Morgan. Iron & Steel Inst J 140:128-35 no 2 '39

Atmospheric corrosion of non-ferrous metals and alloys. C. W. Borgmann. bibliog Am Soc T M Proc 39:674-84; Discussion. diag 685-90 '39

Causes of corrosion of fine copper wires carrying a potential. H. N. Stephens and G. B. Gehrenbeck. Elec Eng 59:Trans 357-60; Discussion. Trans 360 Je '40

Chemical removal of corrosion products in the determination of the corrosion rate of zinc. E. A. Anderson and C. E. Reinhard. il Am Soc T M Proc 39:691-6; Discussion. 697 '39

Comparison of methods for estimating soil corrosivity. K. H. Logan and E. A. Koenig. bibliog Oil & Gas J 38:130, 133-4+ N 17 '39

Copper steels; results of tests to determine effect of copper on corrosion resistance. C. T. Greenidge and C. H. Lorig. bibliog diag Iron Age 145:21-5 F 15 '40

Correlation between the carbon dioxide and mineral content of water and its corrosivity. W. Rudolfs and T. T. Wong. Am Water Works Assn J 31:1909-24; Discussion. S. Shenker. 1924-5 N '39

Corrosion of metals and alloys by flue gases. L. Schnidman and J. S. Yeaw. Am Gas Assn Proc 1939:542-52

Corrosion testing; as it was in 1915 and as it is in 1940. R. M. Burns. Metal Prog 37:290 Mr '40

Effect of continuous weathering on light metal alloys used in aircraft. W. Mutchler. bibliog il diags U S Nat Advisory Com for Aeronautics 1939:395-421 '40; Excerpt (Conclusions). Engineer 169:sup[Metallurgist] 90-1 F 23 '40

Effect of sulfur and sulfur compounds in naphtha upon certain corrosion tests; sensitivity of the doctor test. L. M. Henderson, M. S. Agruss and G. W. Ayers, jr. bibliog Ind & Eng Chem Anal ed 12:1-3 Ja 15 '40

Influence of chromium on the oxidation resistance of cast iron. C. O. Burgess. il Am Soc T M Proc 39:604-22; Discussion. 623-5 '39

Influence of ferrite on the inter-crystalline corrosion of chromium-nickel austenitic steels. Engineer 170:sup[Metallurgist] 124-7 Ag 30 '40

Internal corrosion of gasoline pipe lines. L. C. Morris and W. A. Schulze. il diags Oil & Gas J 38:205-10+ N 17 '39

Laboratory and field endurance values of sucker-rod materials. D. R. Dale and D. O. Johnson. Metal Prog 37:680+ Je '40

Laboratory corrosion tests. Goldowsky. Engineer 169:sup[Metallurgist] 91-3 F 23 '40

Materials artificially aged by salt spray. Mach 46:128 Mr '40

Micrographs and characteristics of specimens of unfabricated wire, farm field fence, and barbed wire. il Am Soc T M Proc 39:103-55 '39

Nickel-molybdenum-iron and related alloys; their physical and corrosion-resistant properties. F. T. McCurdy. bibliog Am Soc T M Proc 39:698-709; Discussion. 710 '39

Report of subcommittee VIII on galvanic and electrolytic corrosion. il diag Am Soc T M Proc 39:247-55, pl 2-5 '39

Report on corrosion of metals and alloys by flue gases. E. J. Murphy. il Am Gas Assn Proc 1939:553-7

Results of corrosion tests in oil refineries. N. W. Mitchell. il Am Pet Inst Proc 21M(3):64-7; Discussion. 85-6, 93-4 My '40

Results of some corrosion tests of metals and alloys in the by-product coke industry. O. B. J. Fraser and G. L. Cox. il Am Gas Assn Proc 1939:605-14

Stress corrosion cracking of the austenitic chromium-nickel steels and its industrial implications. J. C. Hodge and J. L. Miller. il diags Am Soc for Metals Trans 28:26-67; Discussion. 67-82 Mr '40

Surface coatings found to affect properties of steel; combination corrosion-fatigue tests. il Steel 107:80-2 N 4 '40

Testing of brass alloys for dezincification resistance. F. M. Barry. bibliog il Am Pet Inst Proc 21M(3):68-72 My '40

Testing of non-ferrous alloys for condenser-tube service under conditions simulating actual industrial service. R. W. Moore and S. Kleinheksel. il diags Am Pet Inst Proc 21M(3):73-82 My '40; Same. Nat Pet N 32:R186-8, R190, R192 My 29 '40

Tests of corrosion inhibitors for water treatment in air-conditioning equipment. J. H. Wilson and E. C. Groesbeck. pl diags J Research Nat Bur Stand 24:665-76 Je '40

See also

Steel, Corrosion resisting—Testing

Underground corrosion

Cable sheath corrosion; abstracts of Edison electric institute papers. Elec W 113:1509-10 My 18 '40

Cadmium-cadmium sulfate half-cell for measuring potentials in the earth. S. Ewing. Am Gas Assn Proc 1939:635-40

Cathodic protection on domestic distribution system at Treasure Island. C. H. Lee. il plans Am Water Works Assn J 32:305-38 F '40

CORROSION and anti-corrosives—Underground corrosion—*Continued*
Comparison of methods for estimating soil corrosivity. K. H. Logan and E. A. Koenig. bibliog Oil & Gas J 38:130, 133-4+ N 17 '39
Concrete coating for underground piping. J. H. T. McGee. il Am Water Works Assn J 32:1723-31 O '40
Cooperative problems involved in cathodic protection. L. F. Scherer. il Oil & Gas J 38: 179+ N 17 '39
Copper-copper sulfate half-cell for measuring potentials in the earth. S. Ewing. diags Am Gas Assn Proc 1939:624-34
Corrosion of lead and copper water pipes in the soil; abstract. C. A. H. Von Wolzogen Kuhr. Am Water Works Assn J 32:355-8 F '40
Corrosion of underground cables. W. G. Radley and C. E. Richards. diags Inst E E J 85:685-704, pl 1-2 bibliog(p703) D '39; Discussion. 85:704-12; 86:496-500 D '39, My '40
Eliminating underground corrosion; cathodic protection on Treasure Island. C. W. Geiger. il diag Power Pl Eng 44:65-6 F '40; Abstract. Mech Eng 62:238-9 Mr '40
Microbiological anaerobic corrosion. H. J. Bunker. Chem & Ind 59:412-14 Je 15 '40
Pipe-line corrosion caused by anaerobic bacteria. P. Ganser. il Gas Age 86:25-8+ Jl 18 '40; Same. Gas J (Lond) 231:371-3 Ag 28 '40
Resistance of copper to soil corrosion. H. G. Taylor. il diags Engineer 169:156-8, 176-8 bibliog(p178) F 16-23 '40
Stand der bodenkorrosionsforschung. K. F. Mewes. Stahl & Eisen 59:1383-4 D 28 '39
Studies in microbiological anaerobic corrosion; abstract. R. Hadley. Oil & Gas J 39: 153 My 16 '40
What about cathode protection? W. T. Smith and T. C. Marshall. il Gas Age 85: 49-52+ My 9 '40

CORROSION research
American coordinating committee on corrosion 2d annual meeting. Science 92:100 Ag 2 '40
Combating corrosion through metallurgical research. H. J. Bartlett. il Chem Ind 47: 154-5 Ag '40
Corrosion by the products of combustion of town gas. F. Taylor and J. W. Wood. Engineering 149:58-9 Ja 19 '40; Abstract. Chem Age (Lond) 41:385-6 D 9 '39
Corrosion of different grades of aluminium sheet by weak acid-salt solutions and by an alkaline citrate-phosphate buffer solution in the presence and absence of oxygen. J. M. Bryan and T. N. Morris. bibliog Soc Chem Ind J 59:159-62 Ag '40
Corrosion of metals used in aircraft. W. Mutchler. bibliog J Research Nat Bur Stand 25:75-82, pl 1-12 Jl '40
Deterioration of structures in sea water. Engineering 150:177-8 Ag 30 '40
Galvanic series in sea water; abstract. F. L. LaQue and G. L. Cox. Chem & Met Eng 47: 691 O '40
pH, dissolved iron concentration and solid product resulting from the reaction between iron and pure water at room temperature. R. C. Corey and T. J. Finnegan. il diags Am Soc T M Proc 39:1242-53 bibliog(p1252-3); Discussion. 1254-60 '39
Inhibition of sulphate-reducing bacteria by dyestuffs. T. H. Rogers. Soc Chem Ind J 59:34-9 F '40
Investigation of the fretting corrosion of closely fitting surfaces. G. A. Tomlinson, P. L. Thorpe and H. J. Gough. diags Inst Mech Eng J & Proc 141:Proc 223-37, pl 1-8 My '39; Discussion. 141:Proc 238-49; 142:Proc 401-6, pl 9-10 My '39, Mr '40
Lochfrass bei säuerbeständigen stählen. E. F. Baerlecken and H. Hougardy. il diags Stahl & Eisen 60:210-13 Mr 7 '40
Pinhole corrosion in galvanized watering tanks; relation to tin content. W. M. Peirce and G. C. Bartells. il Metals & Alloys 11:42-4 F '40
Pipe-line corrosion caused by anaerobic bacteria. P. Ganser. il Gas Age 86:25-8+ Jl 18 '40
Report on corrosion research work at Cambridge university interrupted by the outbreak of war. U. R. Evans. diags Iron & Steel Inst J 141:219-34 no 1 '40; Summary. Engineering 149:508 My 17 '40; Discussion. Iron & Steel Inst J 141:235-42 no 1 '40
Resistance of aluminum-magnesium alloys to attack by sodium carbonate solutions. R. B. Mears and L. J. Benson. bibliog Ind & Eng Chem 32:1343-7 O '40
Some aspects of fundamental research on the corrosion of metals. W. H. J. Vernon. diag Inst Chem Eng Trans 17:171-82 bibliog(45 titles, p181-2) '39
Stand der bodenkorrosionsforschung. K. F. Mewes. Stahl & Eisen 59:1383-4 D 28 '39
Test of corrosion inhibitors for water treatment in air-conditioning equipment. J. H. Wilson and E. C. Groesbeck. pl diags J Research Nat Bur Stand 24:665-76 Je '40; Same cond. Heat & Ven 37:55-7 N '40
X-ray analysis of corrosion products from galvanized sheets. F. R. Morral. bibliog Electrochem Soc Trans 77 (preprint 12):147-54 Ap '40

CORROSION resisting materials
Chemical resistance of sulphur cements. C. R. Payne and W. W. Duecker. bibliog il Am Inst Chem Eng Trans 36:91-110 F '40; Same. Chem & Met Eng 46:766-70; 47:20-1 D '39-Ja '40; Discussion. Am Inst Chem Eng Trans 36:111 F '40
Colonial light-weight, rust-proof alloy of high strength; No. 301 alloy. Automotive Ind 82:467 My 15 '40
Copper alloys and their application in petroleum refining. J. T. Kemp. Am Pet Inst Proc 21M(3):58-63 My '40; Same abr. Can Chem & Process Ind 24:444-6 S '40
Corrosion, heat, abrasion-resistant materials for the construction of chemical engineering equipment. il Chem & Met Eng 47:598-612 S '40
Corrosion of different grades of aluminium sheet by weak acid-salt solutions and by an alkaline citrate-phosphate buffer solution in the presence and absence of oxygen. J. M. Bryan and T. N. Morris. bibliog Soc Chem Ind J 59:159-62 Ag '40
Corrosion protection of magnesium and its alloys; abstract. B. Wullhorst. Metals & Alloys 11:MA41 Ja '40
Corrosion-resisting alloy industry. F. L. La Que. Ind & Eng Chem 32:1164-5 S '40
Corrosion resisting alloy lined vessels in the paper industry. M. A. Scheil. il Paper Tr J 110:36-42 Ap 18 '40
Corrosion-resisting properties of bronze condenser tubes; electrode potential-time relationships. J. Chapman and J. W. Cuthbertson. diag Soc Chem Ind J 58:330-4 N '39
Ductile zirconium and titanium; corrosion resistance; removal of gases from vacuum tubes, other properties and uses. il Steel 107:54-6, 58+ S 16 '40
Heat and corrosion resistant castings; variety of chrome-nickel-iron alloys. D. W. Talbott. il Steel 107:40-4 Jl 22; 38-40 Jl 29 '40
Heat and corrosion resistant metals. Metal Prog 38:457-71+ O '40
Heating solutions for pickling, plating, etc.; external heat exchangers. D. Augsburger. Steel 106:48-9 Ap 22 '40
Improved heat-hardenable coatings and new methods of applying them. A. J. Weith. il Ind & Eng Chem News ed 18:241-5 Mr 25 '40
Materials of construction for chemical engineering equipment; ferrous and non-ferrous alloys; physical and mechanical properties; corrosion, heat and abrasion resistance; makers. Chem & Met Eng 47: supp S '40
Non-corrosive metals. R. Trautschold. il Rayon 21:485-7 Ag '40
Non-corrosive, non-metallic materials; brick and cements. il Rayon 21:373-4 Je '40
Non-corrosive, non-metallic materials; ceramics, rubbers, synthetics. il Rayon 21: 317-20 My '40

CORROSION resisting materials—*Continued*
Pipes and fittings of carbon and graphite; Karbate materials. il Iron Age 146:43 S 5 '40
Pumps and fittings for rayon plant. il diags Rayon 21:375-7 Je '40
Resistance of copper to soil corrosion. H. G. Taylor. il diags Engineer 169:156-8, 176-8 bibliog(p178) F 16-23 '40
Rustproof handles for manhole covers; copper handles. diags Elec W 113:1230 Ap 20 '40
Seaworthy pump; molded phenolic protects the housing from salt water corrosion and electrolytic action; Fleming electric bilge pump. il Mod Plastics 17:39+ Jl '40
Selection of safe metals for chemical equipment. P. V. Faragher. il Chem Ind 45:682-4 D '39; Same cond. Chem Age (Lond) 42: 35-6 Ja 20 '40
Tanks for cleaning and plating. C. C. Helmle. il diags Metal Ind 38:263-8 My '40
Why some ancient irons were corrosion-resistant. F. Hodson. Min & Met 21:293-4 Je '40

See also
Acid resisting materials
Bakelite
Chemical plants—Equipment
Chromium nickel steel
Chromium steel
Corrosion and anti-corrosives
Glass lining
Monel metal
Paint, Protective
Rubber
Rubber coating
Rubber lining
Steel, Corrosion resisting
Steel, Stainless
Stoneware
Terra cotta

CORRUGATED board. See Paper board, Corrugated

CORRUGATED sheet metal. See Sheet metal, Corrugated

CORRUPTION in politics
Rascals in democracy. W. G. Clugston. 336p $2.50 Richard R. Smith, 120 E. 39th st, New York '40

CORSET fabrics
Staple cotton fabrics; corset fabrics. J. Hoye. il Textile World 90:145 F; 94 Mr '40

CORSETS
Reliable rules for winning display space in fashion outlets; American lady corset co. il Sales Management 47:49-50 S 1 '40
Spirella sells corsets intimately. F. Smith. il Adv & Sell 33:28-30, 53 Mr '40
Training clinics stimulate sales for American lady corset co. il Sales Management 47:54 S 15 '40
You can make more money, theme gives portfolios oomph; American lady corset co. il Sales Management 47:54-5 O 20 '40

CORTELYOU, George Bruce, 1862-1940
Sketch. Comm & Fin Chr 151:2433-4 O 26 '40; por Am Gas Assn Mo 22:381-2 N '40; por Elec W 114:1372+ N 2 '40; por Gas Age 86:78 N 7 '40

COR-TEN steel. See Chromium copper silicon steel

CORTICOSTERONE
Studies on the partial synthesis of corticosterone. P. N. Chakravorty and E. S. Wallis. bibliog Am Chem Soc J 26:318-20 F '40

See also
Desoxycorticosterone

COSMETIC shops
Tourneur make up salon, New York city. il diag plans Arch Forum 73:89-91 Ag '40

COSMETICS
Cosmetic labeling rests on manufacturer. Oil Paint & Drug Rep 137:3+ Ja 15 '40
Cosmetic weapon; science to support selling claims against government and consumer attacks. Business Week p47-8 My 25 '40
Cosmetics: a fertile field for chemical research. F. E. Wall. bibliog J Chem Educ 17: 77-81 F '40
Cosmetics; the industry in Britain. Economist 137:513-14 D 30 '39
Displays that sell cosmetics. 96p $2 Drug and cosmetic industry, New York '40
Eyes have it; salesman who uses cosmetics. P. H. Erbes, jr. Ptr Ink 190:23-5 F 2 '40
Face powder boxes must not be slack. Oil Paint & Drug Rep 137:5+ Ja 29 '40
F.T.C. awards 10c cosmetics to all types of retailers. Oil Paint & Drug Rep 138:3+ Ag 12 '40
Lead in cosmetic pigments not officially proscribed. Oil Paint & Drug Rep 137:3+ Ja 22 '40
Modern cosmeticology; the principles and practice of modern cosmetics. R. G. Harry. 288p $5 Chemical pub. co. '40
New opal jar meets drug act rules; containers for Edna Wallace Hopper creams have all label information lithographed on closures. il Mod Packaging 14:70 S '40
Perfumes and spices, including an account of soaps and cosmetics. A. H. Verrill. 304p $3 L. C. Page & co, Boston '40
Sulphonated oils and fatty alcohols; some industrial applications. G. S. Collingridge. Chem Age (Lond) 42:17-19 Ja 13 '40
10th survey of beauty; a study of cosmetic buying trends. 64p Modern magazines, 149 Madison av, New York '40
War and the cosmetics industry. H. S. Redgrove. Chem & Ind 59:293-5 Ap 27 '40
Who buys cosmetics? Adv & Sell 33:32 Ag '40

See also
Toilet goods association

Manufacture
Complete control of piping systems eliminates errors at Campana plant. R. D. Frick. il Heating-Piping 12:103-5+ F '40
Electric drying oven for drying rouge; industrial data sheet. W. J. Collins. il Elec West 85:54 O '40

COSMIC dust
Dust clouds of space. H. N. Russell. Sci Am 162:12-13 Ja '40

COSMIC rays
Absorption of cosmic rays in lead at a depth of 1000 m water equivalent. J. Barnóthy and M. Forró. Phys R 58:844 N 1 '40
Allowed directions of cosmic rays as an existence problem of mathematical analysis. I. Opatowski. Science 90:463-4 N 17 '39
Anomalous absorption of the hard component of cosmic rays in air. M. Ageno and others. bibliog diags Phys R 57:945-50 Je 1 '40
Circuit for anticoincidences with Geiger-Müller counters. G. Herzog. diags R Sci Instr 11:84-5 Mr '40
Cloud-chamber photographs of cosmic rays up to an altitude of 29,300 feet. G. Herzog. il Phys R 57:337 F 15 '40
Cosmic-ray observations in the stratosphere with high-speed counters. L. F. Curtiss and others. pls diags J Research Nat Bur Stand 23:585-95 N '39
Cosmic rays; studies in India. Science 91:sup 10 Ap 19 '40
Cosmic rays; three lectures. R. A. Millikan. 134p $2.50 Macmillan '39
Difference in the absorption of cosmic rays in air and water and the instability of the barytron. T. H. Johnson and M. A. Pomerantz. bibliog Phys R 55:104-5 Ja 1 '39; Same. Franklin Inst J 229:112-15 Ja '40
East-west asymmetry of the cosmic radiation at very high elevations near the equator. T. H. Johnson and J. G. Barry. Phys R 55:503 Mr 1 '39; Same. Franklin Inst J 229:115-17 Ja '40
Electro-physics; review of progress, 1936-1939. N. Campbell. Inst E E J 86:215-16 F '40
Interpretation of neutron measurements in cosmic radiation. H. A. Bethe, S. A. Korff and G. Placzek. bibliog Phys R 57:573-87 Ap 1 '40
Magnet and cloud chamber for cosmic-ray studies. H. Jones and D. Hughes. il diags R Sci Instr 11:79-83 Mr '40
Nature of the primary cosmic radiation. T. H. Johnson. bibliog Phys R 54:385-7 S 1 '38; Same. Franklin Inst J 228:792-6 D '39
Neher-Stever experiment. E. Nelson. bibliog Phys R 58:771-3 N 1 '40
Origin of cosmic radiation. H. Alfvén. Phys R 56:1060 N 15 '39

COSMIC rays—*Continued*
Positive excess and electron component in the cosmic-ray spectrum. D. J. Hughes. diag Phys R 57:592-7 Ap 1 '40
Production of mesotrons by penetrating non-ionizing rays. B. Rossi and V. H. Regener. diag Phys R 58:837-8 N 1 '40
Production of secondary ionizing particles by non-ionizing agents in cosmic radiation. B. Rossi and others. bibliog il diags Phys R 58:761-6 N 1 '40
Recent advances in the investigation of cosmic rays. T. H. Johnson. Franklin Inst J 229:256-7 F '40
Recent experiments on cosmic rays at high altitudes; abstract. W. P. Jesse. Science 91:418 My 3 '40
Report of cosmic ray observations made on the U.S. Antarctic expedition in coöperation with the Bartol research foundation. S. A. Korff and E. T. Clarke. bibliog il diags Franklin Inst J 230:567-81 N '40
Report on the work of the Bartol research foundation, 1938-39. W. F. G. Swann. il diags Franklin Inst J 229:281-335 bibliog (p333-5) Mr '40
Report on the work of the Bartol research foundation, 1939-40. W. F. G. Swann. il diags Franklin Inst J 230:281-354 bibliog(p350-4) S '40
Symposium on cosmic rays held at the University of Chicago, June, 1939. bibliog il diags Rs Mod Phys 11:121-303 Jl-O '39
System of units for nuclear and cosmic-ray phenomena. B. Rossi. Phys R 57:660 Ap 1 '40
Thirtieth Kelvin lecture; cosmic rays. P. M. S. Blackett. pl diag Inst E E J 85:681-4 D '39
Upward radiation produced by cosmic rays at high altitudes. S. A. Korff and E. T. Clarke. Phys R 56:704 O 1 '39; Abstract. Franklin Inst J 229:525-7 Ap '40

Bibliography

Publications of the Bartol research foundation from April 19, 1939 to April 17, 1940. Franklin Inst J 230:350-4 S '40

Components

Composition of cosmic rays. S. H. Neddermeyer and others. bibliog il diags Rs Mod Phys 11:191-240 Jl-O '39
Direct evidence of a proton component of the cosmic radiation. T. H. Johnson, J. G. Barry and R. P. Shutt. il Phys R 57:1047-8 Je 1 '40
Electrons arising from the disintegration of cosmic-ray mesotrons. B. Rossi. Phys R 57:469-71 Mr 15 '40
Equilibrium of the components of cosmic radiation at sea level. G. Cocconi and V. Tongiorgi. Phys R 57:1180-1 Je 15 '40
Evidence that protons are the primary particles of the hard component. T. H. Johnson. bibliog Rs Mod Phys 11:208-10 Jl-O '39; Abstract. Franklin Inst J 229:668-70 My '40
Meson particles of cosmic rays; abstract. H. A. Bethe. Science 91:sup8 Ja 19 '40
Production of soft secondaries by mesotrons. J. R. Oppenheimer, H. Snyder and R. Serber. bibliog Phys R 57:75-81 Ja 15 '40
Variation of the hard component of cosmic rays with height and the disintegration of mesotrons. B. Rossi, N. Hilberry and J. B. Hoag. diags Phys R 57:461-9 Mr 15 '40

Intensity

Air mass effect on cosmic-ray intensity. D. H. Loughridge and P. Gast. Phys R 56: 1169-70 D 1 '39
Air mass effect on cosmic-ray intensity. Y. Nishina and others. Phys R 57:1050-1 Je 1 '40
Correlation between cosmic-ray intensity and upper air pressures and temperatures. N. F. Beardsley. Phys R 57:336-7 F 15 '40
Cosmic-ray intensities and air masses. Y. Nishina and others. Phys R 57:663 Ap 1 '40
Experimental test of Schremp's theory of cosmic-ray fine structure. H. S. Ribner. diag Phys R 56:1069-73 D 1 '39
Fine structure in the directional intensity of cosmic rays. D. Cooper. bibliog diag Phys R 58:288-92 Ag 15 '40
Fine structure pattern of cosmic rays at Mexico City. E. J. Schremp and A. Baños, jr. Phys R 58:662-3 O 1 '40
Further investigations of the air mass effect on cosmic-ray intensity. D. H. Loughridge and P. F. Gast. Phys R 58:583-5 O 1 '40
Intensity of cosmic rays. J. Clay and others. bibliog diags Rs Mod Phys 11:123-90 Jl-O '39
Magnetic storm effect on cosmic rays at high latitudes. D. H. Loughridge and P. F. Gast. Phys R 57:938 My 15 '40
Recent studies at high elevations. S. A. Korff. diag Rs Mod Phys 11:211-19; Discussion. J. C. Stearns and D. K. Froman. 220-1 Jl-O '39
Report on Bartol research foundation; latitude variation of the cosmic-ray intensity in high southern latitudes; further cosmic-ray measurements at high altitudes. W. F. G. Swann. Franklin Inst J 230:345-9 S '40
Solar influences on the cosmic ray intensity at high elevations. S. A. Korff. bibliog Franklin Inst J 229:21-7 Ja '40
Solid angle subtended by the main and shadow cones of cosmic radiation. H. P. Koenig. bibliog Phys R 58:385-6 S 1 '40
Study of time-variations in cosmic-ray intensity at high altitudes. W. P. Jesse. bibliog Phys R 58:281-7 Ag 15 '40
World-wide variations of the earth's magnetic field and the intensity of cosmic radiation. O. Godart. bibliog diag Phys R 56:1074-7 D 1 '39

Ionization effects

Absolute value of cosmic-ray ionization at sea level in different gases; comparison with gamma rays. J. Clay. Rs Mod Phys 11:123-7 Jl-O '39
Ionization loss of energy in gases and in condensed materials. E. Fermi. bibliog Phys R 57:485-93 Mr 15 '40
Ionization measurements of the radiations from radioactive substances. C. G. Montgomery and D. D. Montgomery. diags Franklin Inst J 229:585-611 bibliog(p609-11) My '40
Portable apparatus for recording bursts of cosmic-ray ionization. C. G. Montgomery and D. D. Montgomery. bibliog il diags R Sci Instr 10:350-2 N '39; Same cond. Franklin Inst J 230:122-4 Jl '40
Specific ionization of high speed particles. R. B. Brode. bibliog il diags Rs Mod Phys 11:222-9 Jl-O '39

Latitude effect

Latitude effect in cosmic rays at far southern latitudes. E. T. Clarke and S. A. Korff. bibliog Phys R 58:179-80 Jl 15 '40

Orbits

Stable periodic orbits in the theory of primary cosmic radiation. A. Baños, jr, H. Uribe and J. Lifshitz. bibliog Rs Mod Phys 11:137-48 Jl-O '39

Penetrating particles

Analysis of deep rays in underground laboratories. P. Auger and T. Grivet. Rs Mod Phys 11:232-4 Jl-O '39
Nature of cosmic rays below ground. V. C. Wilson. Rs Mod Phys 11:230-1 Jl-O '39

Showers

Analysis of deep rays in underground laboratories. P. Auger and T. Grivet. Rs Mod Phys 11:232-4 Jl-O '39
Attempt to measure the latitude effect of extensive cosmic-ray showers. H. V. Neher and W. H. Pickering. Phys R 58:665-6 O 15 '40
Behavior of high energy electrons in the cosmic radiation. C. G. Montgomery and D. D. Montgomery. bibliog Rs Mod Phys 11:255-64 Jl-O '39; Abstract. Franklin Inst J 229:665-6 My '40; Discussion. Rs Mod Phys 11:264-6 Jl-O '39; Franklin Inst J 229:666-7 My '40

COSMIC rays—Showers—*Continued*
Contributions of showers to the coincidences recorded at high elevations. T. H. Johnson and J. G. Barry. Phys R 57:245-6 F 1 '40; Same. Franklin Inst J 229:799-802 Je '40
Explosion showers. G. Wataghin. Phys R 56:1245 D 15 '39
Further evidence for the existence of mesotron showers. W. F. G. Swann and W. E. Ramsey. Phys R 57:1051 Je 1 '40
Nuclear electron showers. A. W. Stern. Phys R 57:339-40 F 15 '40
Production of secondary radiation. W. Heisenberg and others. bibliog il diags Rs Mod Phys 11:241-303 Jl-O '39
Report on Bartol research foundation; mesotrons and cosmic-ray showers. W. F. G. Swann. il diags Franklin Inst J 230:315-38 S '40
Secondary peak in the Rossi curve for tin. W. F. G. Swann and W. E. Ramsey. Phys R 58:477 S 1 '40
Shower production by mesotrons in different materials. W. F. G. Swann and W. E. Ramsey. Phys R 57:749 Ap 15 '40; Same. Franklin Inst J 230:511-13 O '40
Showers produced by penetrating rays and allied phenomena. W. F. G. Swann. il diags Rs Mod Phys 11:242-54 Jl-O '39; Abstract. Franklin Inst J 229:670-6 My '40
Simultaneous penetrating particles in the cosmic radiation. G. Wataghin, M. D. de Souza Santos and P. A. Pompeia. diags Phys R 57:61, 339 Ja 1, F 15 '40
Simultaneous penetrating rays from the atmosphere. V. Josephson, D. K. Froman and J. C. Stearns. diags Phys R 57:335 F 15 '40

Temperature effects

Seasonal and the atmospheric temperature effect in cosmic radiation. V. F. Hess. bibliog Phys R 57:781-5 My 1 '40

Time variations

Time variations of cosmic rays. V. F. Hess and others. bibliog diags Rs Mod Phys 11: 153-90 Jl-O '39

COSMOGONY
Origin of the earth; astrophysicists still unable to solve problem. H. N. Russell. Sci Am 163:266-7 N '40

COSMOLOGY
Quantization of mass. B. Podolsky and H. Branson. Phys R 57:494-500 Mr 15 '40

See also
Astronomy
Earth

COST
Cost element in pricing. C. B. Nickerson. bibliog Harvard Business R 18 no 4:417-28 [Jl] '40
Developments affecting cost under the unfair practices acts. R. Tannenbaum. bibliog J Business 13:118-35 Ap '40
Profit margins for 1941. J. Lloyd. il Mag of Wall St 66:714-16 O 5 '40
Relationship between cost and selling price indices as a business forecaster. G. M. Ule. Annalist 55:229 F 8 '40
Relationship of costs to prices. P. M. Atkins. N A C A Bul 21:859-76 Mr 15 '40

See also
Cost accounting
Cost of living
Factory costs
Foundry costs
Labor cost
Mining costs
Power cost
Prices
Sales costs
also subdivision Cost, Cost of operation and Costs under special subjects, e.g. Building—Cost; Automobiles—Cost of operation; Railroads—Costs

COST accountants, National association of. See National association of cost accountants

COST accounting
A B C of cost figuring for the paint, varnish and lacquer industry. W. R. Sieplein. 41p Sherwin-Williams co, 601 Canal road, Cleveland '39
ABC of the variable budget; uses of the profitgraph. A. A. Merrill. Factory Management 98:40-1 Ap '40
Accounting problems of government war contracts. P. Sinclair. J Account 70:417-30 N '40
Alachusetts cotton mills; a cost case study. C. W. Bennett. il N A C A Bul 21:1459-99 Ag 1 '40
Analysis and control of distribution costs, for sales executives and accountants. J. B. Heckert. 420p $5 Ronald press '40
Anlagenutzung und zins in der kostenrechnung. H. Kreis. Stahl & Eisen 60:2-9; Discussion. 10-12 Ja 4 '40
Budgeting for the smaller company; Seidlitz paint and varnish co. W. P. Marsh. N A C A Bul 21:1233-43 Je 1 '40
Case study in budgetary control; Manville-Jenckes corp, Manville, R.I. W. A. Haskins, jr. and F. F. Gilmore. il N A C A Bul 21:1011-36 Ap 15 '40
Case study of a standard cost system; designed primarily for full process textile plant. W. E. Perry. N A C A Bul 22:1-25 S 1 '40
Controlling tool costs. S. R. Catsiff. diags N A C A Bul 21:1149-76 My 15 '40
Cost accounting. J. G. Blocker. 705p bibliog (p689-91) $4 McGraw-Hill '40
Cost accounting practices in federal government departments. H. S. Bennion. Edison Elec Inst Bul 7:555-8+ N '39
Daily cost statements for mechanized mining. G. B. Southward. Min Cong J 26:28-9 Je '40
Developments affecting cost under the unfair practices acts. R. Tannenbaum. bibliog J Business 13:118-35 Ap '40
Disposition of amounts in acquisition adjustments and plant adjustments accounts. C. F. MacRae. Edison Elec Inst Bul 8:24-6 Ja '40
Distribution and control of steam costs. W. P. Fiske and R. W. Arentson. Am Inst Chem Eng Trans 36:245-65; Discussion. 265-8 Ap '40
Distribution costs; present methods of cost analysis. D. R. Longman. bibliog J Account 70:431-43 N '40
Economical handling methods in war-time production; statistical control which will reveal the cost and efficiency of each belt. Mech Handling 26:347-8 D '39
Fifth column tactics in original cost and depreciation accounting. S. Ferguson. Edison Elec Inst Bul 8:281-4+ Je '40; Excerpts. Elec W 113:1879-80 Je 15 '40
Finished goods inventory practice; comp. by the Research and technical service department. N A C A Bul 21:927-56 sec 3 Mr 15 '40
Function of costs in a joint-products industry. I. W. Keller. N A C A Bul 21:359-72 N 15 '39
Further thoughts on the management aspect of accounting control. S. A. Peck. N A C A Bul 21:549-68 Ja 1 '40
Governmental cost accounting. C. W. Tiller. 78p,xiip bibliog(piii-xii) pa $1 Municipal finance officers' assn. of the United States and Canada, 1313 E. 60th st, Chicago '40
How cost accounting increases profits. E. Caldwell. il Iron Age 145:32-5 Je 27 '40
How to operate a clay plant cost system from the standpoint of taxes. E. L. Kinney and J. R. Paisley. Brick & Clay Rec 97:40, 42+ N '40
Last-in, first-out. W. A. Paton. J Account 69:354-60 My '40: Discussion. V. Z. Brink. 70:71-2 Jl '40
Last-in, first-out once more; a discussion of certain points raised by Professor Paton. M. E. Peloubet. J Account 69:446-50 Je '40
Managing a small plant. W. F. Dester. il Factory Management 98:68-70 Ja '40
Measuring the unit cost of municipal services. F. W. Herring. Eng N 123:710-11 N 23 '39
Mills and miles; cost accounting and how it has helped a transportation company to lower cost; United electric railways. C. O. Sparhawk. Bus Transportation 15:596-8 D '39
More effective cost control is needed. W. H. Hemann. Factory Management 98:148+ Je '40

COST accounting—*Continued*

Newer fields in cost application. C. Raitell. N A C A Bul 21:849-58 Mr 15 '40

One way street; what is original cost? B. S. Rodey, jr. Edison Elec Inst Bul 8:294+ Je '40

Original cost; the regulatory viewpoint. C. W. Smith. Am Gas Assn Mo 22:185-7 My '40

Recent developments in accounting principles. C. G. Blough. Gas Age 85:27-8+ Je 20 '40

Relationship of costs to prices. P. M. Atkins. N A C A Bul 21:859-76 Mr 15 '40

Role of the accountant in the control of distribution costs. A. C. Brett. N A C A Bul 21:957-72 Ap 1 '40

Some practical aspects of original cost determinations. B. S. Rodey, jr. Am Gas Assn Proc 1939:228-36

System of accounts for the small enterprise. M. E. Peloubet. Eng & Min J 141:81-3 Ag '40

Things to do about idle plant; survey shows what 24 concerns in different industries do to keep track of idle equipment. W. P. Fiske. Factory Management 98:57+ Je '40

Valuation or historical cost; some recent developments. G. O. May. Dun's R 48:17-20+ My '40

See also

Accounting
Budget, Business
Contracts, Government—Accounting
Depreciation
Factories—Accounting
Foundry accounting
Labor cost—Accounting
Machinery, Replacement of
Obsolescence
Overhead expense
Payrolls—Accounting
Sales costs—Accounting

Bibliography

Current cost literature. N A C A Bul 21:582-6 sec 2 Ja 1 '40 [cont monthly]

Standard costs

Approaches to budgetary control in the dairy industry. A. Herrick. J Account 70:43-9 Jl '40

Basic standard cost accounting employing the use of cost ratios. J. A. Hill. il N A C A Bul 21:693-703 F 1 '40

Can standard costs be standardized? J. W. McEachren. N A C A Bul 21:681-92 F 1 '40

Standard cost procedure; application to steel mill operation. F. Ryder. bibliog Blast F & Steel Pl 28:896-9+, 996-9 S-O '40 (to be cont)

COST of living

More than mere living. H. T. Rich. 213p $1.75 McGraw-Hill '40

Today's dollar goes farther; pictograph. Sales Management 46:35 Mr 15 '40

See also

Budget, Household
Food—Prices
Prices
Rent
Saving

Statistics

Bureau of labor statistics' new index of cost of living. Monthly Labor R 51:367-404 Ag '40

Changes in cost of living in the United States. Monthly Labor R 49:1153-64; 50:135-46; 51:139-46 N '39, Ja, Jl '40

Changes in cost of living in the United States, December 15, 1939, and year 1939. Monthly Labor R 50:912-23 Ap '40

Clothing expenditures of wage earners and clerical workers. Monthly Labor R 50:267-85 F '40

Conference Board reports wage earner's cost of living in November. Comm & Fin Chr 150:35-6 Ja 6 '40 [cont monthly]

Cost of living in foreign countries. Monthly Labor R 50:930-3 Ap '40

Cost of living, United States, United Kingdom, France, Germany, Netherlands, Switzerland, 1926, 1929-1938 and monthly, Oct. 1938-Nov. 1939. Fed Res Bul 26:76 Ja '40 [cont monthly]

Estimated intercity differences in cost of living, June 15, 1939. Monthly Labor R 49:1164-7 N '39

Estimated intercity differences in cost of living, Sept. 15, 1939. Monthly Labor R 50:147-9 Ja '40

Estimated intercity differences in cost of living, December 15, 1939. Monthly Labor R 50:923-5 Ap '40

Expenditure habits of wage earners and clerical workers; data based on actual incomes and expenditures of 14,469 families in 1 year, during the period 1934-36. F. M. Williams and A. C. Hanson. Monthly Labor R 49:1311-34 D '39

Expenditures of wage earners and clerical workers for housefurnishings and operation. Monthly Labor R 50:1349-66 Je '40

Factors to be considered in measuring intercity and interregional differences in living costs. F. M. Williams. Am Statis Assn J 35:471-82 S '40

Family expenditures for medical care, personal care, and miscellaneous items; including gifts and contributions, education, taxes. Monthly Labor R 50:1062-79 My '40

Family expenditures in selected cities, 1935-36; food. map U S Bur Labor Statistics Bul 648 v 2:1-406 '40

Family expenditures in selected cities, 1935-36; travel and transportation. L. A. Epstein; J. R. Wood, jr. map U S Bur Labor Statistics Bul 648:1-165 '40

Family income and expenditure in New York city, 1935-36; v. 2, Family expenditure. A. D. H. Kaplan, F. M. Williams and A. C. Hanson. map U S Bur Labor Statistics Bul 643:1-232 '39

Family income and expenditure in selected urban communities of the west central-Rocky Mountain region, 1935-36; v.2, Family expenditure. A. D. H. Kaplan, F. M. Williams and L. A. Epstein. map U S Bur Labor Statistics Bul 646:1-313 '40

Food expenditures of wage earners and clerical workers. Monthly Labor R 51:250-66 Ag '40

Housing facilities and expenditures of wage earners and clerical workers. Monthly Labor R 50:807-24 Ap '40

How well America lives today; comparison with other countries. il Factory Management 98:A6-A10 Ag '40

Index numbers of cost of living and food prices in various countries. Int Labour R 41:99-103, 398-403; 42:77-8 Ja, Ap, Jl '40

Indexes of cost of living in the United States and certain foreign countries. Monthly Labor R 49:1167-70 N '39

Living costs in United States declined 0.6% between Sept. 15 and Dec. 15, 1939. Comm & Fin Chr 150:1509 Mr 9 '40

Living costs X-rayed in ten-city survey by Bureau of labor statistics. Arch Forum 71:478 D '39

Money disbursements of wage earners and clerical workers in eight cities in the east north central region, 1934-36. F. M. Williams and A. C. Hanson. U S Bur Labor Statistics Bul 636:1-443 '40

Money disbursements of wage earners and clerical workers in the North Atlantic region, 1934-36; v. 2, Eleven cities. F. M. Williams and A. C. Hanson. U S Bur Labor Statistics Bul 637:1-522 '39

Savings of wage earners and clerical workers, 1934-36. Monthly Labor R 51:119-39 Jl '40

Secretary of Labor Perkins reports increase of 1.2% in cost of living between June 15 and Sept. 15. Comm & Fin Chr 149:3783-4 D 16 '39

Secretary of Labor Perkins reports little change in cost of living from Dec. 15, 1939, to March 15, 1940. Comm & Fin Chr 151:29-30 Jl 6 '40

Transportation and recreation expenditures of wage earners and clerical workers. Monthly Labor R 50:556-73 Mr '40

Wholesale prices, world prices, foodstuffs and raw materials and purchasing power of the dollar, 1936-1939. Survey of Cur Business 1940 Sup p15 [supplemented in monthly numbers]

COST of living—*Continued*

Canada

Income and expenditures of wage earners' families in Canada, 1938. Monthly Labor R 49:708-11 S '39

Czechoslovakia

Regulation of wages and prices in Bohemia and Moravia. Monthly Labor R 50:1230-1 My '40

France

Cost of living in France; per cent of increase since end of August, 1939. Economist 138:466 Mr 16 '40

New York (city)

Family income and expenditure in New York city, 1935-36; v. 2, Family expenditure. A. D. H. Kaplan, F. M. Williams and A. C. Hanson. map U S Bur Labor Statistics Bul 643:1-232 '39

Norway

Trend of cost of living in Norway, 1938-40. Monthly Labor R 51:405 Ag '40

Philippine Islands

Cost of living in Manila, 1938. Monthly Labor R 50:381-3 F '40

San Francisco

Clothing budgets, prices for San Francisco, March 1939 (supplement to Quantity and cost budgets for four income levels). 34 numb l Univ. of California press, Berkeley '39

Quantity and cost budget for a single working woman; prices for San Francisco, March 1939. 10 numb l pa 15c Univ. of California press, Berkeley '39

Quantity and cost budgets for four income levels; I, Family of an executive; II, Family of a clerk; III, Family of a wage earner; IV, Dependent families or children; prices for San Francisco, March 1939. 96 numb l Univ. of California press, Berkeley '39

United States

Bureau of labor statistics' new index of cost of living. Monthly Labor R 51:367-404 Ag '40

Changes in cost of living in the United States. Monthly Labor R 49:1153-64; 50:135-46; 51: 139-46 N '39, Ja, Jl '40

Changes in cost of living in the United States, December 15, 1939, and year 1939. Monthly Labor R 50:912-23 Ap '40

Cost of living and prices received by farmers, 1936-1939. Survey of Cur Business 1940 Sup p11 [supplemented in monthly numbers]

Estimated intercity differences in cost of living, June 15, 1939. Monthly Labor R 49: 1164-7 N '39

Estimated intercity differences in cost of living, Sept. 15, 1939. Monthly Labor R 50: 147-9 Ja '40

Estimated intercity differences in cost of living, December 15, 1939. Monthly Labor R 50:923-5 Ap '40

Keeping the lid on inflation. P. C. Hatmaker. Barron's 20:18 N 4 '40

Wages and living costs survey, 1939. Bankers M 141:269 S '40

Washington, D.C.

Changes in cost of living of federal employees in Washington, D.C., December, 1938-December, 1939. Monthly Labor R 50:926-9 Ap '40

COST standards. See Cost accounting—Standard costs

COSTA RICA

Business situation. Comm Rep p46, 249, 405, 477, 601, 720, 771 Ja 20, Mr 16, My 4, 25, Jl 13, Ag 24, S 14 '40

Industrial activity. S. R. Tyler. Comm Rep p881 Ap 20 '40

See also

Trade unions—Costa Rica

Commerce

Port of Port Limon. il(cover) Comm Rep p432 My 11 '40

Commercial policy

Exchange control regulations modified. Comm Rep p206 Mr 2 '40

COSTER, Frank Donald, 1884-

McKesson & Robbins; its fall and rise. il Fortune 21:72-5+ Mr '40

COSTS (law)

Handy book of solicitors' costs. A. C. Dayes. 7th ed 248p 15s Sweet and Maxwell, London '38

COSTUME

Akron holds its second annual rubber ball. il Rubber Age 46:177 D '39; India Rubber W 101:59 Ja '40

Costume design; an introductory outline. C. G. Bradley. 2d ed 169p $2 International textbook co, Scranton, Pa. '40

Costumes and textiles of the Aztec Indians of the Cuetzalán region, Puebla, Mexico. D. B. Cordry and D. M. Cordry. 60p pa $1 Southwest museum, Highland park, Los Angeles '40

French costumes, designed by Lepage-Medvey. A. Gloeckner, ed. 23p, 40pls $4 French & European publications, Maison française, Rockefeller center, 610 5th av, New York '39

Scandinavian peasant costume. K. Primmer. 103p bibliog(p6) $4 Macmillan '39

Western European costume; seventeenth to mid-nineteenth century, and its relation to the theatre. I. Brooke. v2 144p $5 Macmillan '40

See also

Clothing, Protective
Clothing and dress
Uniforms, Military

History

Dress; the evolution of cut and its effect on modern design. R. K. Evans. 111p bibliog(p105-7) $1.25 Ryerson press '39

Illustrated history of those frills and furbelows of fashion which have come to be known as: accessories of dress. K. M. Lester and B. V. Oerke. 587p bibliog(p577-9) $10 Manual arts press '40

Medieval costume in England & France, the 13th, 14th and 15th centuries. M. G. Houston. 228p bibliog(p227-8) $4.25 Macmillan '40

Three centuries of women's dress fashions. J. Richardson and A. L. Kroeber. p111-153 pa 50c Univ. of Calif. press, Berkeley '40

COTTAGES

Breezeway cottage, West Hartford, Conn.; views and plans. Am Bld 62:56-7 Je '40

California 4-in-1 design; with TruCost figures. il plan Am Bld 62:55, 118 My '40

FHA approved houses at the Fair; two low-cost cottages. il plans Am Bld 62:45-7+ Je '40

Five-room cottage on wooded site in Texas. il plans Am Bld 62:61 Jl '40

House for Mrs James B. Ayer, Long Beach, Wareham, Mass.; views, plans, construction outline. Arch Forum 72:38-9 Ja '40

House planned for one occupant, compact Los Angeles home. il diag plan Arch Rec 87:62-4 F '40

Houses for occasional occupancy. il plans Arch Rec 87:61-80 Mr '40

Insulation board for summer cottages, cabins and camps. il diags Am Bld 61:70-1 D '39

Low-cost plank wall and roof system developed by California builders; cottage sold for $2,650. il plan Am Bld 62:56 S '40

100 cottages sold on 100 by 100 foot plots by Rorech of Hempstead, L.I. il plan Am Bld 62:90-1 Ap '40

Package houses attract Miami buyers. il plans Am Bld 62:53-5 Je '40

Rambling frame summer cottage; views and plan. Am Bld 62:56-7 Jl '40

Summer house for Mrs Clara Fargo Thomas, overlooking Somes Sound, Maine. il diags plans Arch Forum 71:446-54 D '39

COTTAGES—*Continued*
Swedish design with living space (kitchen-dining room) in basement. il plans Arch Forum 71:479-80 D '39
Three distinctive Kansas City homes; with specifications. il plans Am Bld 62:52-3+ Ag '40
Try shop-built sections for title I homes at $2,650 in Richmond, Va. il plan Am Bld 62:64-5 Je '40
$25-a-month house has 27 by 28 foot basic plan by McGowan of Central Islip. il plans Am Bld 62:94-5+ Ap '40

See also
Country houses
Week-end houses

COTTON
Action of alkylene oxides on cellulose. L. G. Lawrie, R. J. W. Reynolds and D. Ward. bibliog il Soc Dyers & Col J 56:6-17 Ja '40
Electrophoretic studies of cotton as related to its acidic properties; abstract. M. Harris and A. Sookne. Am Dyestuff Rep 29:491 S 30 '40
Enemies of covered-rubber yarn; combatted by correct methods of manufacture and finishing. C. E. Bergamini. il Textile World 90:67 Ja '40
Fineness and maturity of cotton. F. T. Peirce and E. Lord. bibliog diags Textile Inst J 30:T173-210 D '39
Fluidity of cotton in dimethyl dibenzyl ammonium hydroxide; measure of cotton degradation. W. W. Russell and N. T. Woodberry. bibliog diag Ind & Eng Chem Anal ed 12:151-4 Mr 15 '40; Abstract. Textile Col 62:472-3 Jl '40
I want a cotton dress. M. E. Turner. il Textile World 90:49 Mr '40
Machine for the fine cutting of linen and cotton materials preparatory to the determination of solubility number or of the fluidity of their cuprammonium solutions. D. A. Derrett-Smith and R. J. B. Keig. diags Textile Inst J 31:T197-200 Ag '40
Microscopic examination of cotton fibers in cuprammonium hydroxide solutions. C. W. Hock and M. Harris. bibliog 6 pls J Research Nat Bur Stand 24:743-8 Je '40; Same. Am Dyestuff Rep 29:287-92 Je 10 '40
Properties of the oxycelluloses formed in the early stages of the oxidation of cotton cellulose by periodic acid and metaperiodate. G. F. Davidson. bibliog Textile Inst J 31: T81-96 Jl '40
Relation of cation exchange to the acidic properties of cotton. A. M. Sookne and M. Harris. bibliog Am Dyestuff Rep 29:357-60, 383-6 Jl 22 '40; Same. J Research Nat Bur Stand 25:47-60 Jl '40
Separation of viscose and cotton by solvent action. J. H. Levin and R. A. Martinell. Textile Col 62:462-3 Jl '40
When cotton goes to market; growing, harvesting, shipping. B. J. Kane. Am Dyestuff Rep 29:338-42 Jl 8 '40

See also
Bleaching—Cotton
Cellulose
Cotton fabrics
Cotton fibers
Cotton manufacture
Cotton mills
Cotton trade
Cottonseed
Cottonseed oil
Dyes and dyeing—Cotton
Rayon yarn—Cotton mixtures

Analysis
Cotton fibers; constitution, structure, and mechanical properties. R. F. Nickerson. il diag Ind & Eng Chem 32:1454-62 bibliog(133 references, p1461-2) N '40
Determination of uronic acids in cellulosic materials; based on estimation of amount of carbon dioxide evolved. R. L. Whistler, A. R. Martin and M. Harris. bibliog diag J Research Nat Bur Stand 24:13-23 Ja '40; Same. Am Dyestuff Rep 26:1-6 Ja 8 '40
Eine einfache und rasch auszuführende methode zur quantitativen trennung von kunstfasern aus hydratcellulose und fasern aus nativer cellulose. Schwertassek. Angew Chemie 52:700-1 D 9 '39
Electrodialytic estimation of ash and of acidic and basic groups in textile fibers. A. M. Sookne, C. H. Fugitt and J. Steinhardt. bibliog diag Am Dyestuff Rep 29:333-6, 355-6 Jl 8 '40; Same. J Research Nat Bur Stand 25:61-9 Jl '40
Pectic substance in cotton and its relation to the properties of the fiber. R. L. Whistler, A. R. Martin and M. Harris. bibliog Am Dyestuff Rep 29:244, 253-8 My 13 '40; Same. J Research Nat Bur Stand 24: 555-65 My '40
Pectic substance of cotton fibers in relation to growth. R. L. Whistler, A. R. Martin and C. M. Conrad. bibliog Am Dyestuff Rep 29:435-6 S 2 '40; Same. J Research Nat Bur Stand 25:305-8 S '40
Relation of cation exchange to the acidic properties of cotton. A. M. Sookne and M. Harris. bibliog Am Dyestuff Rep 29:357-60, 383-6 Jl 22 '40; Same. J Research Nat Bur Stand 25:47-60 Jl '40

Ash content
Electrodialytic estimation of ash and of acidic and basic groups in textile fibers. A. M. Sookne, C. H. Fugitt and J. Steinhardt. bibliog diag Am Dyestuff Rep 29:333-6, 355-6 Jl 8 '40; Same. J Research Nat Bur Stand 25:61-9 Jl '40
Relation of cation exchange to the acidic properties of cotton. A. M. Sookne and M. Harris. bibliog Am Dyestuff Rep 29:357-60, 383-6 Jl 22 '40; Same. J Research Nat Bur Stand 25:47-60 Jl '40

Bibliography
Cotton fibers; constitution, structure, and mechanical properties. R. F. Nickerson. il diag Ind & Eng Chem 32:1454-62 bibliog(133 references, p1461-2) N '40

Color
Artificial daylighting studies for use in grading agricultural products. D. Nickerson. bibliog il diag Illum Eng Soc Trans 34: 1233-50; Discussion. 1250-3 D '39

Diseases and pests
Cotton foe on warpath; pink bollworm. Business Week p20+ Ja 27 '40

Moisture content
Electrical conductance measurements of water extracts of textile. A. C. Walker. diag Am Soc T M Proc 39:1233-9; Discussion. il 1240-1 '39

Prices
Cotton prices in spot and futures markets. L. D. Howell. diags maps U S Agric Tech Bul 685:1-72 bibliog(p70-1) '39
Fairchild cotton and cottongoods index prices; weekly statistics, Aug. 4, 1939-Sept. 20, 1940. Comm & Fin Chr 151:1791 S 28 '40
New York cotton futures, 1939. Annalist 55: 148 Ja 25 '40

Statistics
Census report of cotton consumed, on hand, imported and exported, and active cotton spindles, December. Comm & Fin Chr 150: 456 Ja 20 '40 [cont monthly]
Cotton movement and crop of 1939-40. Comm & Fin Chr 151:1781-96 S 28 '40

See also
Cotton trade—Statistics

Testing
Examination of damaged cotton. Textile Col 62:617-18 S '40
Examination of damaged cotton by the Congo red test; further developments and applications. G. G. Clegg. Textile Inst J 31:T49-68, pl 1-11 My '40

See also
Cotton fibers—Testing

Uses
Cotton hose, for somebody else! woman's viewpoint of experimental work by U.S. Department of agriculture. il Textile World 90: 62-3 My '40

COTTON—Uses—*Continued*
New hose raise cotton hopes; many important research and merchandising ventures. il Business Week p20-2 Mr 23 '40

See also
Cotton fabrics—Uses

Alabama

Cotton kingdom in Alabama. C. S. Davis. 233p bibliog(p201-25) $2.50 Alabama. Dept. of archives and history, Montgomery '39

Argentina

Textiles in Argentina. W. G. Ashmore. il Textile World 90:60-1 Ja '40

Egypt

Cottons of Egypt. H. A. Hancock. Textile Inst J 30:P412-28 bibliog(P426-8) O '39

Bibliography

Sources of statistics on Egyptian cotton; selection of technical and scientific service bulletins applying to cotton, issued 1929-1939 by Ministry of agriculture, Egypt. Textile Inst J 30:P426-8 O '39

Turkey

Turkey's cotton industry, first half of 1940. Textile Col 62:740 N '40

United States

Cotton farmers vote to continue marketing quotas next year. Comm & Fin Chr 149: 3801 D 16 '39

COTTON, Insulating
Electrical conductance measurements of water extracts of textiles. A. C. Walker. diag Am Soc T M Proc 39:1233-9; Discussion. il 1240-1 '39

COTTON cake. See Cottonseed cake

COTTON carding
Card-room fever; strict control of dust. M. F. Trice. il Textile World 90:68 Mr '40
Saco-Lowell air stripper for cotton cards. il Textile World 90:127 F '40
Textile operating executives of Georgia discuss carding and spinning problems at Atlanta meeting. Textile World 90:58 Ap '40

COTTON-cement shingles. See Shingles, Cotton-cement

COTTON fabrics
Cotton hose, for somebody else! woman's viewpoint of experimental work by U.S. Department of agriculture. il Textile World 90:62-3 My '40
Cotton scores in dress fabric war. il Business Week p27-8 Je 1 '40
Cutters want wider fabrics. A. C. Abrahams. Textile World 90:74 Ja '40
Designing dobby fabrics; producing the chain draft and slasher layout; calculating yarn requirements; rayon stripe shirting. M. P. Fox. il Textile World 90:58-9 Jl '40
Developments in mold and mildew prevention. W. A. Stringfellow. diags Am Dyestuff Rep 29:266-9 My 27 '40
Fabrics for national defense; two cotton fabrics for work clothing and field use by army. J. Hoye. il Textile World 90:68 S '40
Faults in gray goods may offer serious problems to finisher. W. F. Robinson. Textile World 90:72 Je '40
Fiberdown; electrically embossing fabrics with short-cut fibers. Textile Col 62:754+ N '40
Hygienic and technical aspects of water repellent clothing. L. Stein. Am Dyestuff Rep 29:352-5 Jl 8 '40
Influence of varying warp tension on some physical properties of plain cotton cloth. W. E. Morton and R. Williamson. Textile Inst J 30:T137-56 O '39
Pacific factag answers the consumer's questions. il Textile World 90:122 My '40
Significance of suspending power in detergent processes. J. Powney and R. W. Noad. Textile Inst J 30:T157-71 N '39; Abstract. Textile Col 62:186-7 Mr '40
Staple cotton fabrics (cont). J. Hoye. il Textile World 89:91 D '39; 90:101 Ja; 145 F; 94 Mr; 100 Ap; 104 My; 102 Je; 97 Jl; 93 Ag; 114 O '40
Textiles used in the fabrication of naval uniforms. L. Smith. Am Dyestuff Rep 29:568-9 O 14 '40; Same. Textile Col 62:751+ N '40
Too much twist in warp and filling yarns means trouble in pre-shrinking cotton fabrics. W. H. Harriss. il Textile World 89:66-7 D '39
Use of resins and plastics for the modification of textile fabrics; abstract. D. H. Powers. Am Dyestuff Rep 29:492 S 30 '40; Same. Textile Col 62:697 O '40
Woven dress fabrics; testing and reporting; colorfastness to laundering of cotton and linen dress fabrics. Textile Col 62:265 Ap '40

See also
Butter muslin
Calico printing
Cheese cloth
Chintz
Cotton finishing
Cotton weaving
Coverlets
Duck (textile)
Dyes and dyeing—Cotton
Mercerizing
Seersucker
Sheets
Shirts

Copper content

Source of metals in dyed cottons to be rubberized; amount of copper permissible. C. A. Seibert. Am Dyestuff Rep 29:136-9 Mr 18 '40

Inspection

Records decrease defects in cotton fabrics. il Textile World 90:84-5 My '40

Shrinkage

Fundamental principles that govern the shrinkage of cotton goods by washing. G. E. Collins. il diags Textile Inst J 30:P46-61 Mr '39; Abstract. Textile Col 62:257-8 Ap '40
Standard method of test for shrinkage in laundering of woven cotton cloth; A.S.T.M. designation: D 437-36. Textile Col 62:632-3 S '40
This is cotton shrinkage; Rigmel finish. G. F. Young. Textile Inst J 31:P50-2 Ap '40

See also
Sanforizing

Stamp plan

Cotton stamp experiment starts in Memphis, Tenn. Textile World 90:110 My '40
Cotton stamps hailed; merchants are enthusiastic after FSCC launches latest plan in Memphis. Business Week p34-6 My 25 '40
Cotton stamps next; new plan patterned after food program. Business Week p17-18 F 10 '40
First year of the food stamp plan. G. R. Taylor. il Dun's R 48:24 Jl '40
Memphis selected as first test city for cotton stamp program. Comm & Fin Chr 150:x Ap 6 '40
Stamp plan for distributing cotton goods to relief families announced by Secretary of Agriculture Wallace. Comm & Fin Chr 150: 1014 F 10 '40

Standards

Standard specifications and methods of test for cotton goods for rubber and pyroxylin coating. Textile Col 62:480-2+ Jl '40

Stiffening

Stiffened wash-resistant fabrics; cellulose parchmentizing processes. Textile Col 62: 258-9 Ap '40

Testing

Analysis of frequency charts to determine quality and performance of textile fabrics. J. E. Gill, Jr. Rayon 21:111-13, 153-4 F-Mr '40
Examination of damaged cotton. Textile Col 62:617-18 S '40
Examination of damaged cotton by the Congo red test; further developments and applications. G. G. Clegg. Textile Inst J 31:T49-68, pl 1-11 My '40

COTTON fabrics—Testing—*Continued*
Standard specifications and methods of test for cotton goods for rubber and pyroxylin coating. Textile Col 62:480-2+ Jl '40
Technical evaluation of textile finishing treatments; a comparison of certain methods of measuring stiffness in fabrics. L. J. Winn and E. R. Schwarz. bibliog il Am Dyestuff Rep 29:469-76 S 16 '40
Technical evaluation of textile finishing treatments; flexibility and drape as measurable properties of fabric. L. J. Winn and E. R. Schwarz. il diag Am Dyestuff Rep 28:688-94 N 27 '39; Same. Rayon 20:571-2, 652-3, 710-12 O-D '39
Technical evaluation of textile finishing treatments; use of rank correlation for comparison of data. L. J. Winn and E. R. Schwarz. Am Dyestuff Rep 29:400-4 Ag 5 '40

Uses

Beating the bombs; fabrics for masking and shatterproofing windows, for sandbags, etc. il Textile World 90:62 Ja '40
Cotton cement shingle. G. Holcomb. il Manuf Rec 109:32 S '40
Cotton flunks a test in asphalt roads, but other new uses successful. Business Week p20+ F 24 '40
Cotton's uses in relation to housing and construction. C. K. Everett. il Manuf Rec 108: 19+ D '39
Textiles of tomorrow; buffing wheel cloths. K. H. Barnard. Textile Col 61:845 D '39; Same. Am Dyestuff Rep 28:738 D 25 '39

COTTON fibers
Conception of cotton fiber structure upheld. H. R. Mauersberger. bibliog il Rayon 21: 413-15 Jl '40
Cotton fibers; constitution, structure, and mechanical properties. R. F. Nickerson. il diag Ind & Eng Chem 32:1454-62 bibliog(133 references, p1461-2) N '40
Examination of damaged cotton. Textile Col 62:617-18 S '40
Examination of damaged cotton by the Congo red test; further developments and applications. G. G. Clegg. Textile Inst J 31:T49-68, pl 1-11 My '40
Microscopic examination of cotton fibers in cuprammonium hydroxide solutions. C. W. Hock and M. Harris. bibliog 6 pls J Research Nat Bur Stand 24:743-8 Je '40; Same. Am Dyestuff Rep 29:287-92 Je 10 '40
Pectic substance in cotton and its relation to the properties of the fiber. R. L. Whistler, A. R. Martin and M. Harris. bibliog Am Dyestuff Rep 29:244, 253-8 My 13 '40; Same. J Research Nat Bur Stand 24:555-65 My '40
Pectic substance of cotton fibers in relation to growth. R. L. Whistler, A. R. Martin and C. M. Conrad. bibliog Am Dyestuff Rep 29:435-6 S 2 '40; Same. J Research Nat Bur Stand 25:305-8 S '40
Relation of cation exchange to the acidic properties of cotton. A. M. Sookne and M. Harris. bibliog Am Dyestuff Rep 29:357-60, 383-6 Jl 22 '40; Same. J Research Nat Bur Stand 25:47-60 Jl '40
Textile fiber atlas; cotton and minor seed hairs. W. von Bergen and W. Krauss. il Rayon 21:409-12 Jl '40

Testing

Fineness and maturity of cotton. F. T. Peirce and E. Lord. bibliog diags Textile Inst J 30:T173-210 D '39

COTTON finishing
Action of alkylene oxides on cellulose. L. G. Lawrie, R. J. W. Reynolds and D. Ward. bibliog il Soc Dyers & Col J 56:6-17 Ja '40; Abstracts. Chem Age (Lond) 42:145 Mr 9 '40; Textile Col 62:330-1 My '40; Textile World 90:61 Je '40; Discussion. Soc Dyers & Col J 56:221-2 My '40
Attempts to improve the finishing of cotton chintz fabric. Textile Col 62:472 Jl '40
Cellulose ether finishes for textiles. J. A. Clark. Am Dyestuff Rep 29:549-50 O 14 '40
Cellulose ether finishes on cotton fabrics improved by application of urea-formaldehyde resins. Textile Col 62:617 S '40
Enzyme desizing efficiency; quantitative evaluation. W. M. Scott. bibliog il Ind & Eng Chem 32:784-7 Je '40
Faults in gray goods may offer serious problems to finisher. W. F. Robinson. Textile World 90:72 Je '40
Finishing treatments applied to cotton hose. M. S. Furry and L. E. Weidenhammer. bibliog il Am Dyestuff Rep 29:203-5, 229-34 bibliog(p234) Ap 15-29 '40
Increasing use of urea in textile manufacturing. K. Wardle. Textile Col 62:629-30 S '40
Latest developments in textile processing and finishing. N. L. Deutsch. Rayon 21:239-40, 310-11 Ap-My '40
New sheeting finish with alkali-soluble cellulose ethers is permanent after repeated launderings; Ceglin. M. A. Golrick, jr. il diags Textile World 90:55-7 Mr '40
Permanent finishing of cellulosic fabrics. C. L. Wall. Textile Col 61:44-6, 814-16+ Ja, D '39
Process (E.P. 503,670) in which resin formation (from dicyandiamide) can be carried out with alkaline conditions in both stages. A. J. Hall. Textile Col 62:760 N '40
Recent trends in cotton finishing. S. Lenher. Textile Col 62:519-21 Ag '40; Same cond. Oil Paint & Drug Rep 138:3+ Jl 1 '40; Same. Rayon 21:482-3 Ag '40
Semi-resin finishes. W. W. Trowell. Am Dyestuff Rep 29:248-50 My 13 '40
Stiffened wash-resistant fabrics; cellulose parchmentizing processes. Textile Col 62: 258-9 Ap '40
Sulfated ester of fatty acid; Onyx oil & chemical co. presents Phi-Φ-Sol. Textile Col 62:533-4 Ag '40
Technical evaluation of textile finishing treatments; a comparison of certain methods of measuring stiffness in fabrics. L. J. Winn and E. R. Schwarz. bibliog il Am Dyestuff Rep 29:469-76 S 16 '40
Technical evaluation of textile finishing treatments; flexibility and drape as measurable properties of fabric. L. J. Winn and E. R. Schwarz. il diag Am Dyestuff Rep 28:688-94 N 27 '39; Same. Rayon 20:571-2, 652-3, 710-12 O-D '39
Technical evaluation of textile finishing treatments; use of rank correlation for comparison of data. L. J. Winn and E. R. Schwarz. Am Dyestuff Rep 29:400-4 Ag 5 '40
This is cotton shrinkage; Rigmel finish. G. F. Young. Textile Inst J 31:P50-2 Ap '40
Use of resins and plastics for the modification of textile fabrics; abstract. D. H. Powers. Am Dyestuff Rep 29:492 S 30 '40; Same. Textile Col 62:697 O '40
Water repellency of cotton hose. M. S. Furry and L. E. Weidenhammer. Rayon 21:370-1, 431-2 Je-Jl '40

See also
Cotton fabrics — Mercerizing
Cotton sizing — Sanforizing

COTTON gins
Oil and gas power; cotton gin. il Power 84: 348-9 Je '40

COTTON insurance. See Insurance, Cotton

COTTON linters
Cellulose sheet swelling; effect of temperature and concentration of sodium hydroxide solutions. G. A. Richter and K. E. Glidden. bibliog il Ind & Eng Chem 32:480-6 Ap '40
Delinting cottonseed. G. W. Buhrman. Textile Col 62:704-5 O '40

COTTON machinery
Action of the beaters in a one-process picker; abstract. J. L. Brannan. Textile World 90:91 Ja '40
Blends on cotton equipment. H. A. Franklin. il Textile World 90:94-7 S '40
Cleaning schedule for Super-draft speeders; abstract. C. L. Carrow, jr. Textile World 89:84 D '39
Increase slasher production. il Textile World 90:82-3 My '40

COTTON machinery—*Continued*
Technical developments; cotton. H. L. Pratt. Textile World 90:83-4 F '40

See also
Carding machines
Looms
Spinning machinery
Textile machinery

COTTON manufacture
Cotton textiles today and tomorrow. J. A. McPherson. il Textile World 90:72-5 My '40
Highlights of S.T.A. meetings; spinning, weaving, and finishing problems. Textile World 90:93-5 Je '40
Technical developments; cotton. H. L. Pratt. Textile World 90:83-4 F '40

See also
Cotton carding
Cotton finishing
Cotton machinery
Cotton mills
Cotton sizing
Cotton spinning
Cotton weaving
Cotton yarn

New England
Cotton mill costs in New England, 1875 to 1939. Textile World 90:50 Ag '40

COTTON manufacturers association of Alabama
Annual meeting, Mobile. Textile World 90:57 My '40

COTTON manufacturers association of Georgia
Annual meeting, 40th, Sea Island, May 16-17. Textile World 90:56-7 Je '40

COTTON mats
Cost of curing concrete pavements with cotton mats. R. A. Marr, jr. il Pub Roads 20:215-16+ Ja '40; Same. Concrete 48:33-4 S '40

COTTON mills
Avondale Mills inspection. J. C. Norman. il Textile World 90:113-14 Je '40
Cotton textiles today and tomorrow. J. A. McPherson. il Textile World 90:72-5 My '40
Joanna grows up; Joanna textile mills co., Goldville, S.C., makers of shade cloth. il Textile World 90:52-3 Ap '40
Long Island (N.C.) mill reaches age of 100. M. G. Barnwell. il Textile World 90:126+ My '40
Painting at Callaway; methods employed in mill and village. il Textile World 90:68-70 My '40
Pequot mills; illustrations. Textile World 89: 49 D '39
Springs mills at half-century mark. il Textile World 90:158 F '40

See also
Cotton manufacture

Accounting
Alachusetts cotton mills; a cost case study. C. W. Bennett. il N A C A Bul 21:1459-99 Ag 1 '40
Case study in budgetary control; Manville-Jenckes corp, Manville, R.I. W. A. Haskins, jr. and F. F. Gilmore. il N A C A Bul 21:1011-36 Ap 15 '40
Statements showing inventories and cost of materials consumed on the cost or market basis for the six years 1933 to 1938 inclusive, based upon an actual case in the cotton industry, compared with inventories and cost of materials consumed using the last-in, first-out basis; actual profit and loss; average inventory prices at end of each year. G. A. Wilson. N A C A Bul 21:462-3, 465, 467 sec 2 D 1 '39

Costs
Cotton mill costs in New England, 1875 to 1939. Textile World 90:50 Ag '40

Electric equipment
Short-center drives with tension-control motor bases adopted by Lydia cotton mills. F. A. Westbrook. il Textile World 90:69 Mr '40

Employees
Card-room fever; strict control of dust. M. F. Trice. il Textile World 90:68 Mr '40
Essie Lane teaches spinning, Bibb mfg. co. A. M. Daughtry. il Textile World 90:54-5 Ja '40
First legal attack on wage-hour law filed by Opp (Ala.) cotton mills; effect of law on southern mills. Textile World 89:66-7 N '39
Future of technical training and the cotton industry. J. Read. Textile Inst J 31:P47-50 Ap '40
Joins school and mill training; cooperative course at Georgia Tech. J. E. McDaniel. il Textile World 90:50 Mr '40
Meet Jesse Clark, of Bibb mfg. co. por Textile World 90:100 My '40
Mill-worker looks at the South; progress of the human element. B. J. Bland. Textile World 90:72-3 O '40
Mill worker takes on farming; voluntary exodus to adjacent rural district from West Point mfg. co. towns. F. Tillery. il Textile World 90:51 Ag '40
Minimum wage for cotton industry under Wage and hour act. Monthly Labor R 49: 1446-7 D '39
National agreement in cotton-textile industry in Mexico, 1939. Monthly Labor R 50:1140-6 My '40
Personnel program, American plan; Continental mills. A. White. Textile World 90:69 O '40
Sale of cotton mill houses to employees. H. L. Herring. il Textile World 90:78-9 My; 54-5+ Je '40
Testing the abilities of textile workers. W. Harrell. (State eng. exp. sta. bul. 5) 14p bibliog(p14) pa 25c Georgia school of technology, Atlanta '40
West Point mfg. co. night school. H. L. Pratt. il Textile World 89:68 D '39
What are you crying about? achievements of N. Hammett infantile paralysis victim. Textile World 90:105-6 O '40
What's ahead for the mill village? D. G. Woolf. Textile World 90:114-15 F '40

See also
Cotton weavers

Equipment
From opener room to cloth room; Dwight mfg. co. modernization program. il Textile World 90:74-6 O '40
Humidity held to close limits; Naumkeag steam cotton co. il Textile World 89:94 N '39
Installation is self-liquidating; Lockwood co. electric steam generator or boiler. Textile World 89:97-8 N '39
Modernized stockroom; Swift mfg. co. F. J. Mills. il Textile World 89:53 D '39
New Callaway towel mill. il Textile World 90:54-5 Ag '40
90,000 new spindles; Pacific Mills' program of modernization. il Textile World 90:62-3 Je '40
Pays for itself in three months; Riverside & Dan River cotton mills automatic combustion control on seven boilers. il Textile World 89:94-5 N '39
Standard-Coosa-Thatcher: modernization at Piedmont shows way company keeps equipment up-to-date. il Textile World 90:52-4 Jl '40
Streamlining the mill; American spinning co. il plans Textile World 90:60-2 Mr '40

Fires and fire protection
Cotton mill fires. W. F. Farley. il Textile World 90:64-5 Je '40

Layout
Clothroom layout hints. plans Textile World 90:70 Mr '40
Streamlining the mill; American spinning co. il plans Textile World 90:60-2 Mr '40

Management
Records decrease defects in cotton fabrics. il Textile World 90:84-5 My '40
Roving frame time studies. E. H. Helliwell. il Textile World 90:70-1 Ja '40

Power
Characteristics and power requirements of spinning frames. E. A. Untersee. Elec Eng 59:Trans 1-4, 836-8 Ja, Je '40

COTTON mills—Power—*Continued*
5520 tons of coal per year saved; modernization at southern bleachery and print works. il Power 84:653 O '40
For emergency service Boott mills has installed Diesel-powered electric generating unit in engine room. F. A. Westbrook. il Textile World 90:57 Jl '40
Gas engines save cotton mill $9000 in year; with cost data. P. K. Giffin and E. W. McIntosh. il Gas Age 85:29-30 F 1 '40
System provides 60-cycle power; Riverside & Dan River cotton mills. Textile World 89:95-6 N '39

Records
Keeping cloth-room and weave-room records; abstract. C. W. Howell. Textile World 89: 84-5 D '39
Records decrease defects in cotton fabrics. il Textile World 90:84-5 My '40

COTTON-MOUTON effect
Dispersion of magnetic double refraction in the short infra-red spectrum. F. J. Davis. bibliog diag Opt Soc Am J 30:488-94 O '40

COTTON pickers
Migratory cotton pickers in Arizona. Monthly Labor R 50:62-5 Ja '40

COTTON research
Plea for the cotton textile industry to make possible the continuation of the research of the Textile foundation; abstract. R. E. Rose. Am Dyestuff Rep 29:260 My 13 '40
Recent trends in cotton finishing. S. Lenher. Textile Col 62:519-21 Ag '40
Regional government research on cotton linters, chemical cotton, cellulose, wood-pulp, etc. Rayon 21:134-5, 240-1, 347-8 Mr-Ap, Je '40
Relation of cation exchange to the acidic properties of cotton. A. M. Sookne and M. Harris. bibliog Am Dyestuff Rep 29:357-60, 383-6 Jl 22 '40; Same. J Research Nat Bur Stand 25:47-60 Jl '40
Researches of Mellon institute 1939-40; Cotton foundation fellowship has productive year. Ind & Eng Chem News ed 18:290-1 Ap 10 '40

COTTON sizing
Increase slasher production. il Textile World 90:82-3 My '40
Saves starch, eliminates errors; Jackson mills automatic starch-weighing-conveying system. il Textile World 89:102-3 N '39
20% increase in production; control of moisture in sized cotton yarns leaving the slasher; Moist-O-Graph. il Textile World 89:99 N '39
Weaving and slashing discussed by Georgia operating executives at Atlanta. Textile World 90:106-7+ O '40

COTTON spinning
Causes of slubs and gouts. Textile World 90: 106 Jl '40
Essie Lane teaches spinning, Bibb mfg. co. A. M. Daughtry. il Textile World 90:54-5 Ja '40
Long-drafting practice in cotton mills. il Textile World 90:80-1 My '40
Roving frame time studies. E. H. Helliwell. il Textile World 90:70-1 Ja '40
Standard-Coosa-Thatcher; modernization at Piedmont shows way company keeps equipment up-to-date. il Textile World 90:52-4 Jl '40
Textile operating executives of Georgia discuss carding and spinning problems at Atlanta meeting. Textile World 90:58 Ap '40
See also
Cotton yarn

Tables, calculations, etc.
Nomograph for cotton spinning. S. V. Mehn. Textile World 90:57 Ag '40

COTTON textile institute
Annual meeting. Textile World 89:62-3 N '39

COTTON thread
Silk and cotton sewing thread constructions. H. Miedendorp, jr. Rayon 21:236-7 Ap '40

Advertising
Booklet circulates more than a million; Brief story about Sea Island cotton. il Ptr Ink Mo 41:40 Ag '40
Spool cotton sells 3,500,000 books as part of effort to sell more thread. C. J. Swan. il Ptr Ink 189:15-18 D 29 '39

COTTON trade
Cotton comeback? Business Week p54 Je 22 '40
Cotton industry progress report; special section. D. G. Woolf and others. il Textile World 90:71-86 My '40
News by commodities; textiles. Published in Foreign commerce weekly
See also
Cotton—Prices
Cotton yarn

Advertising
Spool cotton sells 3,500,000 books as part of effort to sell more thread. C. J. Swan. il Ptr Ink 189:15-18 D 29 '39

Finance
Activities of the federal government and its agencies. Comm & Fin Chr 151:1784-7 S 28 '40
What cotton loan means. Barron's 20:6 Ag 12 '40

Statistics
Activity in the cotton spinning industry for December, 1939. Comm & Fin Chr 150:713 Ja 27 '40 [cont monthly]
Cotton and cotton manufactures, 1936-1939. Survey of Cur Business 1940 Sup p153-5 [supplemented in monthly numbers]
Cotton cloth mill margins, monthly, Aug. 1925-Sept. 1939. Survey of Cur Business 19:18 N '39
Cotton consumption, revision; monthly, 1923-June, 1940. Fed Res Bul 26:842 Ag '40
Cotton in 1939. Economist 138:sup38 F 17 '40
Cotton movement and crop of 1939-40. Comm & Fin Chr 151:1781-96 S 28 '40
Cotton textiles in 1939. Economist 138:sup44-6 F 17 '40
Cotton year book of the New York cotton exchange, 1939. 249p $2 New York cotton exchange, New York '39
Downward trend in United States raw cotton exports reversed in 1939; exports to principal markets, 1930-39. R. Skliar. Comm Rep p146+ F 10 '40
Exports of cotton cloth; revision, monthly, 1913-Sept. 1939. Survey of Cur Business 19:17 N '39
Increased domestic consumption and exports help to raise cotton prices. Comm & Fin Chr 150:188-9 Ja 13 '40
Movement of the crop, sales, etc. Published in weekly numbers of Commercial & financial chronicle
Record domestic consumption and large exports push cotton prices up 30%. Annalist 55:147-8 Ja 25 '40
Ten years of cotton textiles; 1939 distribution at all-time peak. Textile World 90:44 Mr '40
United States exports of cotton cloth increased in 1939; comparisons with 1937 and 1938. E. A. Mann. table Comm Rep p538 Je 15 '40; Excerpt. Textile Col 62:444 Jl '40

Brazil
Textiles in Brazil. W. G. Ashmore. il Textile World 89:44-5 D '39

Bulgaria
Bulgaria's cotton industry. Textile Col 62:52 Ja '40

Canada
Canadian production and imports of cotton manufactures. Comm Rep p520 Je 8 '40; Same. Textile Col 62:483 Jl '40
Cotton manufactures; value of Canada's production increased in 1937. Comm Rep p1146 D 9 '39

Egypt
Sudan plantations syndicate results, years to June 30th, 1937-39 and 32d ordinary general meeting, London. Economist 137:385, 439-40 D 9-16 '39

COTTON trade—*Continued*

Great Britain

Boom in cotton shares? Economist 138:18-20 Ja 6 '40
British cotton-industry reorganization act, 1939. Monthly Labor R 49:1086-9 N '39
Cotton export drive. Economist 139:55-6 Jl 13 '40
Cotton reorganisation postponed. Economist 137:184 N 4 '39
Cotton trade in Great Britain. Comm & Fin Chr 151:1791-3 S 28 '40
Fine cotton spinners' recovery; report for year ended March 31, 1940. Economist 138: 981 Je 1 '40
Lancashire cotton corporation profits. Economist 137:474 D 23 '39
Lancashire cotton reaps the reward; earnings, years to October 31, 1937-39. Economist 138:28 Ja 6 '40
Tootal Broadhurst Lee, 1939-40 profits and outlook for other cotton companies. Economist 139:194 Ag 10 '40

Greece

U.S. cotton in Greece. Textile Col 62:229 Ap '40

Jamaica

Jamaican cotton imports, first half of 1940. Textile Col 62:740 N '40

Japan

Japanese competition in British cotton piecegoods; Japan's exports by principal markets, 1938 and 1939. Economist 139:258 Ag 24 '40
Japan's cotton import trade reduced by restrictions. R. Skliar. Comm Rep p415 My 4 '40
Japan's exports of cotton piece goods, 1938 and 1939. Comm Rep p380 Ap 20 '40

North Carolina

Gastonia goes to town for cotton; third annual festival. il Textile World 90:47 Jl '40

Philippine Islands

Philippine Islands were largest export outlet from 1937 to 1939 for cotton piece goods manufactured in the United States. For Comm W 1:136 O 19 '40
Philippine trade in cotton and rayon piece goods. Comm Rep p263 Mr 16 '40

Southern states

Greenville gives another party; first annual National cotton festival. il Textile World 89:69 N '39
Mill-worker looks at the South; progress of the human element. B. J. Bland. Textile World 90:72-3 O '40

United States

Address before members of Commodity club of New York. A. H. Garside. Comm & Fin Chr 150:3292 My 25 '40
Cotton and cotton waste; report to the President under section 22 of the Agricultural adjustment act of 1933 as amended. 51p U.S. Tariff commission; pa 10c Supt. of doc. '39
Cotton growers gain $35,000,000. Business Week p62-3 S 14 '40
Cotton movement and crop of 1939-40. Comm & Fin Chr 151:1781-96 S 28 '40
Cotton strength; slowness with which new bales show up in loan total. Business Week p56 N 9 '40
Cotton textile outlook. P. B. Halstead. Manuf Rec 109:40+ Ja '40
Current outlook for textiles. A. E. Colby. Comm & Fin Chr 150:494 Ja 27 '40
Government payments and losses on cotton. Textile Col 62:535 Ag '40
Increased world demand for cotton. Fed Res Bul 26:186-7 Mr '40
National cotton council rejects resolution proposing weight trading; resolutions adopted. Comm & Fin Chr 150:1220 F 24 '40
Odds against certificate plan. P. Wooton. Textile World 90:42 Mr '40
Review of cotton trade in 1939. F. J. Knell. Comm & Fin Chr 150:144 Ja 6 '40
Some farm aid problems; reduction in cotton loan stocks may not continue. Barron's 20:6 Mr 25 '40
Survey of cotton textile industry, 1939 by Association of cotton textile merchants of New York. Comm & Fin Chr 150:1198-9 F 24 '40
Trouble for cotton; export outlook for 1940-41. Business Week p50 My 11 '40
United States cotton export trade. R. Skliar. Comm Rep p759-60 S 7 '40
United States cotton exports, 1939. Textile Col 62:175 Mr '40
World cotton situation; U.S. preparedness and international relations. W. L. Clayton. Credit & Fin Management 42:22-4 S '40

See also
Cotton fabrics—
Stamp plan

National cotton week

National cotton week runs nine days this year. Textile World 90:86 My '40

COTTON waste

Cotton and cotton waste; report to the President under section 22 of the Agricultural adjustment act of 1933 as amended. 51p U.S. Tariff commission; pa 10c Supt. of doc. '39

COTTON weavers

No seconds made while learning to weave at Pacolet's New Holland plant. il diag Textile World 90:52 Mr '40

COTTON weaving

Buttonhole webbings. E. J. Gibbons. il diags Textile World 90:64-5 Ag '40
Designing dobby fabrics; producing the chain draft and slasher layout; calculating yarn requirements; rayon stripe shirting. M. P. Fox. il Textile World 90:58-9 Jl '40
Influence of varying warp tension on some physical properties of plain cotton cloth. W. E. Morton and R. Williamson. Textile Inst J 30:T137-56 O '39
Knowledge of dobby designing will assist weavers and loomfixers; rayon-stripe shirting. M. P. Fox. il Textile World 90:64-5 Mr '40
Loom trouble on pillow tubing. Textile World 89:86-7 D '39
Loomfixers' manual; cotton (cont). I. Moberg. il diags Textile World 89:89-90 D '39; 90:98-9 Ja; 147 F; 91-3 Mr; 98-9 Ap; 107-8 My; 99-101 Je; 95-6 Jl; 91-2 Ag; 126 S; 111-12 O; 137 N '40
Records decrease defects in cotton fabrics. il Textile World 90:84-5 My '40
Warp preparation and weaving analyzed at Northern North Carolina-Virginia meeting of S.T.A. Textile World 90:90-1 Jl '40
Weaving and slashing discussed by Georgia operating executives at Atlanta. Textile World 90:106-7+ O '40

See also
Cotton fabrics

COTTON workers

Wage workers and sharecroppers on Mississippi plantations. E. L. Langsford and B. H. Thibodeaux. Monthly Labor R 49:1104-6 N '39

See also
Cotton mills—Employees
Cotton pickers
Cotton weavers

COTTON yarn

Cordura; a new rayon yarn for tire cords; comparison with cotton. W. H. Bradshaw. il diag Ind & Eng Chem News ed 18:814-17 S 25 '40
Cotton-yarn diameters; microscopic and cross-section area measurements. E. H. Helliwell. il Textile World 90:60 Ap '40
Doubling and cabling of cotton yarns. J. Dyson. Textile Inst J 30:P431-8; Discussion. P438-40 N '39
For determining yarn diameters. J. F. Cahill. diags Textile World 90:86 O '40
Heat-resistant process for making cotton tire cords adapted to textiles for aeronautical use; parachute harness, etc. il Textile World 90:123 O '40

COTTON yarn—*Continued*
Increase slasher production. il Textile World 90:82-3 My '40
Processing yarn for ingrain knitting. T. R. Smith. il Am Dyestuff Rep 29:180-2 Ap 15 '40
Rayon covered cotton threads. R. Sansone. diags Rayon 21:551-2 S '40
Too much twist in warp and filling yarns means trouble in pre-shrinking cotton fabrics. W. H. Harriss. il Textile World 89: 66-7 D '39
20% increase in production; control of moisture in sized cotton yarns leaving the slasher; Moist-O-Graph. il Textile World 89:99 N '39
See also
Cotton spinning

Testing
Uniformity of cotton yarns. R. Burgess. il Textile World 90:95 Ap '40

Wool mixtures
Analyzing novelty yarn; test of a ratine burette cotton-woolen yarn. Textile World 90:56 Ag '40

COTTONSEED
Chemistry of allergens; isolation and properties of an active protein component of cottonseed. J. R. Spies and others. Am Chem Soc J 62:1420-3 Je '40
Chemistry of allergens; the solubility behavior of an active protein picrate from cottonseed. J. R. Spies, H. S. Bernton and H. Stevens. Am Chem Soc J 62:2793-9 O '40
Chronology of cottonseed technology. L. W. Bass and H. S. Olcott. bibliog il Ind & Eng Chem News ed 18:139-42 F 25 '40
Composition of cottonseeds; solubility of proteins in alkaline solutions of neutral salts. H. S. Olcott and T. D. Fontaine. Am Chem Soc J 62:1334-9 Je '40
Cottonseed association discusses causes for consumption loss. Oil Paint & Drug Rep 137: 5+ My 27 '40
Cottonseed industry 1939. S. M. Harmon. il Manuf Rec 109:46+ Ja '40
Cottonseed plastic. il Business Week p51-2 O 19 '40
Cottonseed pressure-cooking research; pilot plant at Engineering experiment station, University of Tennessee. R. W. Morton. flow sheet il Mech Eng 62:731-5 O '40
Delinting cottonseed. G. W. Buhrman. Textile Col 62:704-5 O '40

Statistics
Cottonseed statistics: Aug. 1 to Dec. 31, 1938 and 1939. Oil Paint & Drug Rep 137:59 Ja 22 '40 [cont monthly]
Oils, fats and waxes. Published in weekly numbers of Oil, paint and drug reporter
Vegetable oils and products, 1936-1939. Survey of Cur Business 1940 Sup p93 [supplemented in monthly numbers]

COTTONSEED cake
Analysis of the fibrous and carbohydrate constituents of feeding stuffs; the determination of cellulose. E. G. Hallsworth. bibliog Soc Chem Ind J 59:9-17 Ja '40

COTTONSEED oil
Cottonseed pressure-cooking research; pilot plant at Engineering experiment station, University of Tennessee. R. W. Morton. flow sheet il Mech Eng 62:731-5 O '40
Mixed unsaturated glycerides of liquid seed fats; low-temperature crystallisation of cottonseed oil. T. P. Hilditch and L. Maddison. Soc Chem Ind J 59:162-8 Ag '40

Statistics
Census report on cottonseed oil production, five months ending December 1938 and 1939. Comm & Fin Chr 150:456-7 Ja 20 '40 [cont monthly]
Oils, fats and waxes. Published in weekly numbers of Oil, paint and drug reporter
Vegetable oils and products, 1936-1939. Survey of Cur Business 1940 Sup p93-4 [supplemented in monthly numbers]

COTTRELL, Frederick Gardner, 1877-
Portrait. Iron Age 145:79 F 29 '40; Steel 106: 21 Mr 4 '40

COULOMB law
Deviation from the Coulomb law for a proton. W. E. Lamb, jr. Phys R 57:458 Mr 1 '40

COUMARAN. See Dihydrobenzofuran

COUMARIN
Chemistry of vitamin E; the reaction between Grignard reagents and coumarins and hydrocoumarins. L. I. Smith and P. M. Ruoff. bibliog Am Chem Soc J 62:145-8 Ja '40
Hydrogenation of coumarin and related compounds. P. L. de Benneville and R. Connor. bibliog Am Chem Soc J 62:283-7 F '40
Hydrogenation of some substituted coumarins. P. L. de Benneville and R. Connor. bibliog Am Chem Soc J 62:3067-70 N '40

COUMARONE resins. See Resinous products

COUNCIL of national defense
Order establishing the Health and medical committee in the Council of national defense. Pub Health Rep 55:1759 S 27 '40
President Roosevelt appoints Advisory defense commission as adjunct to revived Council of national defense. Comm & Fin Chr 150:3439 Je 1 '40

COUNCIL on foreign relations

Library
Library service in international relations. R. Savord. Special Lib 31:46-51 F '40

COUNCILS, Economic. See Economic councils

COUNTER display. See Display of merchandize

COUNTERBORES
Counterbore for inaccessible work. M. H. Ball. il Am Mach 84:508 Jl 10 '40

COUNTERFEITS and counterfeiting
Catching counterfeiters; pictures from Secret service film, Know your money. Banking 32:32-3 My '40
Counterfeiting in colonial Pennsylvania. H. E. Gillingham. 52p pa $1 American numismatic soc, New York '39
Know your money; pictures of counterfeit detection. Banking 32:45-6 F '40
Know your money; U.S. Secret service campaign. E. L. Irey. Banking 33:98+ S '40
Know your money; U.S. Secret service educational campaign. F. J. Wilson. diag Bankers M 140:378-81 My '40

COUNTERPOISES
Lightning investigation on transmission lines. W. W. Lewis and C. M. Foust. Elec Eng 59:Trans 230-2 Ap '40

COUNTERS (electrons, ions, etc.)
Direct-reading counting rate ratio meter. R. D. Evans and R. E. Meagher. diag R Sci Instr 10:339-44 N '39
Efficiency of γ-ray counters. F. Norling. bibliog Phys R 58:277 Ag 1 '40
Fast neutron measurements with recoil counters. S. A. Korff. Phys R 56:1241-2 D 15 '39; Same. Franklin Inst J 229:802-4 Je '40
Improved counting rate meter. R. D. Evans and R. L. Alder. diags R Sci Instr 10: 332-6 N '39
Interval meter and its application to studies of Geiger counter statistics. R. L. Driscoll, M. W. Hodge and A. Ruark. bibliog diags R Sci Instr 11:241-50 Ag '40
Paralysis of sub-threshold counters. C. G. Montgomery and D. D. Montgomery. R Sci Instr 11:237-8 Jl '40; Same. Franklin Inst J 230:509-11 O '40
See also
Geiger-Müller counters

COUNTING machines and devices
Electrical device allows remote control of pump; use of an electric light for counting the revolutions of a pump. W. T. Ziegenhain. diag Oil & Gas J 39:50 Ag 29 '40
Electronic method for determining distribution curves. L. A. Ware. diags Electronics 13:36-7 O '40
Machine traffic counts in North Carolina; with cost data. J. S. Burch. il Roads & Sts 82:74 N '39

COUNTING machines and devices—*Continued*
Modified Cenco impulse counter. A. A. Petrauskas and D. L. Northrup. il diag R Sci Instr 11:298 S '40
Record counter aids in seismograph computations. P. M. Honnell. il diag Oil & Gas J 38:44 Ja 18 '40
Simple accumulating-type traffic counter. O. K. Normann. il diags Pub Roads 20:195-6+ D '39

COUNTING rate meters
Direct-reading counting rate ratio meter. R. D. Evans and R. E. Meagher. diag R Sci Instr 10:339-44 N '39
Improved counting rate meter. R. D. Evans and R. L. Alder. diags R Sci Instr 10:332-6 N '39

COUNTRY banks. See Banks and banking—Country banks

COUNTRY houses
House tops a hillside with a view; Portland, Ore. il diag plan Arch Rec 87:56-8 F '40
Texas house on stilts exhibits unique features adaptable for summer home purposes. il plan Am Bld 62:61 Mr '40
Your house in the country; a practical handbook for city dwellers. H. Mins and E. Mins. 424p bibliog(p411-15) $1.96 Simon and Schuster, New York '40
See also
Farmhouses

Mechanical equipment
Private utilities for rural homes. il diags Arch Forum 71:469-72 D '39

COUNTRY life
Company and community relations. C. S. Slocombe. Personnel J 18:203-10 D '39

COUNTRY stores
Crossroads merchant goes modern. E. Whitmore. il Am Business 10:18-21+ Je '40
Rural retailing trends in Illinois, 1926-1938. R. V. Mitchell. il Dun's R 48:16-22 S '40
See also
Retail trade

COUNTWAY, Francis
Mr Countway takes the job of building Lever Bros.' U.S. business. por Fortune 22:94-100+ N '40

COUNTY buildings
County plans for its future; first unit of Stanislaus County offices, Modesto, Calif. il plans Arch Rec 88:42-5 Ag '40
See also
Courthouses

COUNTY engineering
Organization and procedure for maintaining six hundred bridges; Douglas county, Oregon. F. C. Frear. il Pub Works 71:36-7 O '40
See also
Roads, County

COUNTY finance
State auditor and fiscal control in Missouri counties. V. D. Brannon. Mo U Studies v 14, no 4:1-107 bibliog(p107) '39
Tax control in east Texas. J. Capers, jr. Manuf Rec 109:33+ S '40

COUNTY government
County consolidation. J. B. Shannon. Ann Am Acad 207:168-75 Ja '40
County consolidation. State planning board project, 230 West Jefferson st, Louisville, Ky. '39
Ever-normal county; government and politics of De Witt county, Illinois. il map Fortune 21:82-9+ Je '40

COUNTY officials
Fee system as a method of compensating county officials. 71p,xxiv,xxviii,vp State planning board project, 230 West Jefferson st, Louisville, Ky. '39

COUNTY planning
Colorado planning and zoning enabling act. G. S. Wehrwein. J Land & Pub Util Econ 15:483-5 N '39
Cook county amends rural subdivision regulations. R. Kingery. J Land & Pub Util Econ 16:218-19 My '40
County zoning and roadside improvement. R. Kingery. In Ill U Eng Exp Sta Circ 41: 105-6 '40
County zoning by indirection. H. K. Menhinick. J Land & Pub Util Econ 15:482-3 N '39
Planning progress in Decatur and Macon county. A. N. Buck. In Ill U Eng Exp Sta Circ 41:97-104 '40
Rural zoning in Minnesota. W. F. Musbach and M. C. Williams. bibliog J Land & Pub Util Econ 16:105-9 F '40

COUNTY roads. See Roads, County

COUPLINGS
Bonded-rubber flexible coupling. il diag Engineering 149:356 Ap 5 '40
Electric couplings. M. R. Lory, L. A. Kilgore and R. A. Baudry. il diag Elec Eng 59:Trans 423-8 Ag '40
Electric couplings in marine service. J. A. Wasmund. il Marine Eng 45:83-4 My '40
Electric-slip couplings for use with Diesel engines; abstract. A. D. Andriola. diag Automotive Ind 83:61-3 Jl 15 '40
Flexible coupling for light and medium drives. J. A. Honegger. diag Mach 47:128 O '40
Lubricator eliminates coupling troubles. W. Devaughn. il diag Power 84:316-17 My '40
Metals in production. W. L. Nelson. bibliog il Oil & Gas J 38:52+ My 2 '40
Mormacpenn, motor ship; electromagnetic couplings. Marine Eng 45:73 Mr '40; Excerpt. Mach 46:101 My '40
Quick-detachable control coupling. il Aero Digest 37:182+ O '40
See also
Clutches
Joints

COURTAULDS, limited
Courtaulds and British Celanese; profits, production prices, share prices and yields. Economist 138:1012-13 Je 8 '40
Report of earnings, 1937-39. Economist 138: 428+ Mr 9 '40

COURTHOUSES
Court-house of the District of Columbia. F. R. Noel. 2d ed 210p $2 Law reporter ptg. co, Washington '39
Features of ventilation in a new court house; Nassau County court house, Mineola, L.I. il diags Sheet Metal Worker 30:23-6+ N '39
25-ton lead-coated copper roof; County court house, Jamaica, Long Island, N.Y. il diags Sheet Metal Worker 30:23-4+ D '39

COURTS
House overrules President's veto of bill permitting states to intervene in certain federal court proceedings. Comm & Fin Chr 151: 780 Ag 10 '40
Modernizing a probate court; Denver's county court. C. E. Kettering. Trusts & Estates 71:11-16 Jl '40
Organization of courts. R. Pound. 322p bibliog(p295-304) $5 Little '40
See also
United States—Supreme court

Mexico
Law and justice. J. Almaráz. Ann Am Acad 208:39-47 Mr '40

COURTS, Motor. See Tourist camps, hostels, etc.

COURTS, Small claims
Benefits, functions, and procedures of small-claims courts. J. S. Bradway. bibliog Monthly Labor R 50:16-27 Ja '40

COVERLETS
Bedspread fabrics. J. Hoye. il Textile World 90:100 Ap; 104 My; 102 Je; 97 Jl '40
Historic quilts. F. Peto. 210p $3.50 Am. historical co, 80 8th av, New York '39

COVERS (printing)
Distinctive Swedish samples; book jackets and covers by Iwan Fischerström. il Inland Ptr 105:46-7 Ap '40
Here's what they said about the cover sketches; round-up of opinions of July cover of Inland printer. il Inland Ptr 104: 27-8 F '40

CRABS
Canned Atlantic crab meat; a new American food. C. R. Fellers and S. G. Harris. bibliog il Ind & Eng Chem 32:592-4 Ap '40; Abstract. Food Ind 11:564 O '39
Fat of land crabs (Seychelles islands). T. P. Hilditch and K. S. Murti. bibliog Soc Chem Ind J 58:351-3 D '39

CRABTREE effect
Interdependence of respiration and glycolysis. O. Rosenthal, M. A. Bowie and G. Wagoner. bibliog Science 92:382-3 O 25 '40

CRACOW university. See Krakow university

CRAMP, William, 1807-1879
Sea calls Cramp's again; historic Philadelphia shipyard may reopen. Business Week p17-18 Ag 17 '40

CRAMP shipbuilding company
Exchange offer made for old Cramp bonds; subscription warrants. Comm & Fin Chr 151:1889-90 S 28 '40

CRANE company
Debentures offered. Comm & Fin Chr 151: 2493 O 26 '40
Shares heavy industry revival. R. Cummin. Barron's 20:20 S 23 '40
Volatile low-price stock; thumbnail appraisal. Mag of Wall St 65:817 Ap 6 '40

CRANE hooks
Crane hook with automatic safety closing arm. W. M. Halliday. diags Mech Handling 27:33-4 F '40

CRANES, Floating
Navy receives first all-welded floating crane. G. F. Wolf. il Marine Eng 45:75-7 S '40

CRANES, derricks, etc.
Carriage body lifting cranes. il plan Engineer 169:350 Ap 12 '40
Caterpillar carriages for cranes and excavators. E. G. Fiegehen. diags Engineering 148:599-602, pl 23 D 1 '39
Derrick casse-fonte de 8 tonnes des usines sidérurgiques Prénat, á Givors (Rhône). il diags Génie Civil 115:424-5 D 9 '39
Digesters cleverly installed; moving and handling operations; Bathurst power and paper co. R. Gagnon. il diag plan Pulp & Pa of Can 41:225-8 F '40
Grue de relevage de la Société nationale des chemins de fer français d'une force de 130 tonnes. il Génie Civil 116:104-5 F 10 '40
Handling for welding. H. Lawrence. il Steel 107:48+ Ag 5 '40
Handling limestone at low cost. R. C. Hill. il Rock Prod 43:48-9 O '40
How Friant dam is being built. diags Eng N 125:147-8 Ag 1 '40
Jib cranes improve the handling picture. D. Berg. Factory Management 98:66 N '40
Lastsenkvorrichtung für krane mit mechanischer bremse und hilfsmotor. H. Ernst. diags V D I 84:157-9 Mr 2 '40
Mechanical handling appliances on the Manchester ship canal. R. Parker. Mech Handling 27:35-9 F '40
Monorails for aircraft; plant 2 of Boeing aircraft co. il Steel 106:56, 58+ Mr 11 '40
New crane has telescoping jib boom; Silent hoist winch & crane co. il Ry Age 108:459-60 Mr 9 '40
No. 1 traveling gantry for assembling, inspecting and repairing transformers. C. M. Allen. il Power 84:705 N '40
Shipyard handling units; screw luffing, full revolving, tower type cranes. il Steel 106: 43-4+ Ja 29 '40; Same cond. Marine Eng 45:70+ F '40
Thew moto-crane. il Eng N 124:sup108+ My 23 '40
Transportation of pipe; truck mounted crane. D. R. Taylor. il Water Works & Sewerage 87:59 F '40

Electric equipment
Electric drive for ordinary construction jobs; special motors and controls for cranes. G. H. Hall. il Eng N 124:805-8 Je 6 '40
Holds crane ropes from bridge conductors. F. L. Spangler. Foundry 68:59 S '40
Improve dock crane power supply at the Mystic docks, Charlestown, Mass. il diag Elec W 114:708 S 7 '40
Iron, steel engineers discuss crane bridge drive problems. Steel 106:58+ My 6 '40

Failures
Gland irons of derrick cranes; example of failure. E. Ingham. diags Mech Handling 26:343-4 D '39

Maintenance and repair
Crane inspection; a maintenance must. F. L. Spangler. il Steel 107:102, 104 O 14 '40

Safety devices and measures
Crane hook with automatic safety closing arm. W. M. Halliday. diags Mech Handling 27:33-4 F '40

Statistics
Electric overhead cranes, 1936-1939. Survey of Cur Business 1940 Sup p138 [supplemented in monthly numbers]

CRANKCASES

Manufacture
Sunbeam machine for boring and facing crankcase bell housing. il Automobile Eng 30:273 S '40

CRANKPINS
Research program covering axles, crank pins and bearings; A.A.R. sub-committee report. Ry Age 109:37-9 Jl 6 '40; Same. Ry Mech Eng 114:274-6 Jl '40
Wear of crankshafts with lead-bronze bearings; crankpin steels tested. C. G. Williams and H. Ludicke. il diags S A E J 46:93-9 Mr '40

CRANKSHAFTS
Connecting rod and crankshaft bearings, 1941 cars; specifications tabulated. Automotive Ind 83:440 O 15 '40
Dampers and suppressors for controlling torsional vibrations in crankshafts. D. Gerdan. diags Product Eng 11:25-7, 57-9 Ja-F '40
Equations of finite differences applied to torsional oscillations of crankshafts. M. A. Biot. diags J Ap Phys 11:530-7 Ag '40
Geared engines for light airplanes; crankshaft torsional vibration dampers. C. H. Wiegman. diags S A E J 47:303-4 Jl '40
New dynamic vibration damper for crankshafts. H. Bosse. Automotive Ind 82:289 Mr 15 '40
Vibration of crankshaft-propeller systems; new method of calculation. M. A. Biot. diags J Aeronautical Sci 7:107-12 Ja '40

Manufacture
Balance becomes electric; balancing machine for tractor crankshafts; International harvester co. il Am Mach 84:87 F 21 '40
Crankshaft hardening; oxyacetylene flames and water quenching jets. il Steel 106:50, 52+ Ap 29 '40
Dynamite in an automobile plant; a method of blasting drill bits from crankshaft oil holes. O. J. Otto. diags Explosives Eng 17: 376 D '39; Same cond. Coal Age 45:64 Jl '40
Ford cast steel crankshafts now poured continuously. E. F. Cone. il Metals & Alloys 12:267-70 S '40
Forging crankshafts; patent. diag Automobile Eng 30:225 Jl '40
Making ring-weights for balancing radial aircraft engine crankshafts. W. I. Senger. il diags Mach 47:130-4 O '40
Snyder station-type machine drills, reams and taps crankshafts. il Am Mach 83:1092 D 27 '39

Repair
Three years' use proves success of repair job on crankshaft. W. R. Reed. il diags Oil & Gas J 39:163-4 S 19 '40

Testing
Damping capacity of cast iron with special reference to cast crankshafts; abstract. J. Geiger. Metals & Alloys 11:MA222 Ap '40

CRANKSHAFTS—Testing—*Continued*
Fifteen thousand inspections per hour on Ford crankshafts. il diag Mach 46:128-32 Ap '40
New method of determining damping coefficients. J. Geiger. diags Automotive Ind 82:252-5+ Mr 1 '40
Verdreh-dauerhaltbarkeit von einsatzgehärteten, hohlen kurbelwellenzapfen mit innenverstärkung an der ölbohrung. H. Cornelius and F. Bollenrath. il V D I 83:1257-8 D 2 '39
Wear of crankshafts with lead-bronze bearings. C. G. Williams and H. Ludicke. il diags S A E J 46:93-9 Mr '40; Abstracts. Automotive Ind 81:24-6 Jl 1 '39; Iron Age 144:54 Ag 3 '39

CRATER, Joseph Force
Interest in case of missing Judge Crater revived. Ins Field (Fire ed) 69:10 Ag 15 '40

CRATERS of the moon national monument, Idaho
Grooved lava in the cross-section of Big Craters, Idaho. R. L. Nichols and C. E. Stearns. diags map Am J Sci 238:22-31, pl 1-3 Ja '40

CRAYONS
Colored chalk: a further report on its health hazard to school children. Consumers' Research Bul (Gen bul ser) 9:16 Ja; 5 Je; 10:26 O '40

Manufacture
Standard costs for the Pioneer crayon manufacturing company. A. C. Chubbuck and C. B. Nickerson. plans N A C A Bul 21: 423-56 D 1 '39

CRAZING. See Glazes

CREAM, Frozen
How quick freezing affects keeping quality of milk and cream. C. L. Roadhouse and J. L. Henderson. il Food Ind 12:54-5 Je '40

CREAMERIES
Refrigeration in butter and cheese making. L. C. Thomsen. diags Refrig Eng 39:1-6 sec 2 F '40

Accounting
Cooperative creamery accounting. D. D. Brubaker. (Bul. no. 39) 99p Farm credit administration, Cooperative research and service division, Washington, D.C. '40

CREAMERIES, Cooperative
Cooperative creameries in the United States. F. Robotka and F. Shefrin. 34 l Pan American union, Division of agricultural cooperation, Washington, D.C. '40

CREASING of textiles
Crease resisting textiles; Tootal patent. A. D. J. Piesse. Textile Col 62:484-5 Jl '40; Same. Rayon 21:478-9 Ag '40; Same. Am Dyestuff Rep 29:464-5 S 16 '40
Development of crease-resistance; Tootal and other patents. Textile Col 62:87-90+ F '40
Explaining anti-creasing. Textile Col 62:630 S '40
Process (E P. 503,670) in which resin formation (from dicyandiamide) can be carried out with alkaline conditions in both stages. A. J. Hall. Textile Col 62:760 N '40

CREATINE
Synthesis of glycocyamine in rat kidney and a mechanism of creatine synthesis in vivo. H. Borsook and J. W. Dubnoff. Science 91: 551-2 Je 7 '40

CREATIVE ability
Encouraging creative ability in mechanical engineering and designing. A. R. Stevenson, jr. and J. E. Ryan. Mech Eng 62: 673-4 S '40
Selection of men with creative ability. F. A. Magoun. Mech Eng 62:670-2 S '40

CREDIT
As a banker views wholesale credit; close tie-in with retail collections. H. L. Wuerth. Credit & Fin Management 42:42-4 Ap '40
Auditing procedure affecting credits. A. Siegel. Credit & Fin Management 42:30-1+ F '40
Bad-debt loss survey, 1939, wholesalers and manufacturers; comparisons with 1938. A. L. Skinner, W. N. Lawrence and G. R. Smith. Survey of Cur Business 20:8-26 Jl '40; Same abr. Credit & Fin Management 42:22-5+ Ag; 12-15, 40-4 S '40
Beware of dead dollars! overloaded inventories. J. E. Bullard. Credit & Fin Management 42:16-18 Ja '40
Community credit policies; first prize, class B, Tregoe essay contest. F. W. Clark. Credit & Fin Management 42:30+ Je '40
Conscription and retail credit. Management R 29:372-3 O '40
Consumer credit; estimated receivables of consumer credit agencies at the close of each year, 1923 to 1937; tabulation. Business Week p34 N 25 '39
Consumer credit; proceedings of a conference, Ann Arbor, January 17-19, 1940. R. W. Kelso, ed. 137p pa $1 Univ. of Michigan, School of business administration, Bur. of business research, Ann Arbor '40
Credit administration. C. R. Davis. 446p $3.50 Am. inst. of banking, Am. bankers assn, New York '40
Credit from a woman's point of view; first prize, class A, Tregoe essay contest. D. M. Weir. Credit & Fin Management 42:28-9 Je '40
Credit men, continuing debate, differ about taking risks to promote sales. Ptr Ink 190: 71-2, 74 Mr 15 '40
Credit: symbol of civilization; keynote address at 45th NACM credit congress. H. H. Heimann. Credit & Fin Management 42:10-13+ Je '40
Dangers in consumer credit; summary of survey by Russell Sage foundation. R. Nugent. Credit & Fin Management 41:30 D '39
Dealer pays for money he doesn't borrow; feed manufacturer tells dealers to send credit customers to the bank. J. V. Tuttle. Bankers Mo 57:290+ My '40
Distribution problems affecting credit. H. S. Almy. Credit & Fin Management 42:6-7+ Ag '40
Distribution problems that affect credit; some legislation that adds to selling costs. H. S. Almy. Credit & Fin Management 42:16-17 N '40
Does added volume gained by easier credit mean more net profit? Ptr Ink 190:25-6, 29+ Ja 19 '40
Does easier credit boost profits? E. A. Zilmer. Credit & Fin Management 42:15-17 My '40
Does F.O.B. mean favor of buyer? how the credit executive figures in freight problems. E. Rusch. Credit & Fin Management 42:22-5 N '40
Easy to buy. il Ptr Ink Mo 41:40 Jl '40
Expect credit men's assn. to approve revised fact finder plan; abstract. F. B. Heller. East Underw 41:34 S 20 '40
Extensions of auditing procedure affecting credit analysis. A. Siegel. Credit & Fin Management 41:41-4 D '39
Financial problem of small business; summary of TNEC report. J. C. O'Mahoney. Bankers M 141:349-51 O '40; Same. Fed Res Bul 26: 1055-6 O '40
Get more exact credit information; balance sheet or financial statement. R. M. Swisher. Bankers Mo 57:3-5 Ja '40
Get more exact credit information; the circulation principle. R. M. Swisher. Bankers Mo 57:76-8, 158, 160-1, 280-1, 341+ F-Mr, My-Je '40
Hotel credit cards for business travelers. Am Business 10:43 O '40
Hotel credit service; Continental hotel service co., San Francisco. Business Week p28+ My 18 '40
How expenses and profits vary with retail credit policies; comparisons of operating ratios for typical retail stores according to the proportion of merchandise sold on cash, charge account, and installment credit terms. W. L. Mitchell, jr. Dun's R 48:26-32+ N '40
Impact of taxes on credit; how social levies, especially, affect working capital. C. Weisberg. Credit & Fin Management 42:18-20 My '40

CREDIT—*Continued*
Is the inventory too high? how can a credit executive tell from the financial statement. E. S. Benjamin. Credit & Fin Management 42:6-9 F '40
It's not what a man owes but his ability to make a profit. J. E. Bullard. Credit & Fin Management 42:48-51 My '40
Labor turnover and credit; how loyalty of employees affects stability. J. E. Bullard. Credit & Fin Management 42:19-20 Jl '40
Plight of the medium-size business; no financial market for such securities. R. A. Foulke. il Nation's Business 28:27-8+ F '40
Proposals for making loans to small business contained in report prepared for TNEC by group of SEC. Comm & Fin Chr 151: 1507-8 S 14 '40
Shows retailers how to keep credit losses low. S. W. Ellingson. Credit & Fin Management 42:36 Ag '40
Stories from the credit files; how to play the great game of buck-passing. J. Willoughby. Credit & Fin Management 42:18-20 F '40
What to seek in financial statements. W. M. Davis. Credit & Fin Management 42:9-12+ Mr '40

See also
Accounts receivable
Agricultural credit
Banks and banking
Billing
Business failures
Cash on delivery system
Collecting of accounts
Credit departments
Credit unions
Debtor and creditor
Discount, Cash
Factors
Federal reserve banks—Credit policy
Finance companies
Financial statements
Government loans and grants
Government loans to industry
Instalment plan
Insurance—Credit aspects
Oil companies—Credit problems
Salesmen and credit
Securities
Travelers credit corporation
Warehouse receipts
also National association of credit men

Latin America

Hemisphere bank; Inter-American bank. E. H. Collins; H. M. Bratter. Banking 32:37 My '40
Inter-American bank; statement by the Department of state and relevant documents. Fed Res Bul 26:517-25 Je '40
Latin American credits improve; 23d semi-annual survey on market conditions. K. H. Campbell. Credit & Fin Management 42: 10-11 F '40
Latin American survey, first half of 1940. K. H. Campbell. Credit & Fin Management 42:20-1 Ag '40
Trade and credit problems. Bankers M 140: 69-70 Ja '40

CREDIT (economics)
Economics of money, credit and banking. F. C. James. 3d ed rev & enl 745p $4 Ronald press '40
History of monetary and credit theory from John Law to the present day. C. Rist. 442p $4.90 Macmillan '40
Money in motion; the social function of banking. A. C. Holden. 242p biblio(p218-38) $2.50 Harper '40

See also
Agricultural credit
Banks and banking
Inflation (finance)
Money

CREDIT, Bank
Bank credit available for defense needs; commercial banks ready to loan $8,000,000,000. Fed Res Bul 26:1050-1 O '40
Bank credit in defense plans. Bankers M 141: 271-2 S '40
Banks and idle money; improving credit facilities for small business. W. Thomas. Fed Res Bul 26:192-200 Mr '40; Excerpts. Comm & Fin Chr 150:1698-9 Mr 16 '40
Bank's interest in borrowers' insurance. K. C. Bell. Bankers M 141:297-300 O '40
Business success and failure. H. V. Prochnow. Bankers M 141:69 Jl '40
Credit administration. C. R. Davis. 387p $3.50 Am. inst. of banking, New York '39
How to get along with your banker. W. Webb. il Am Business 10:16-18 Ap '40
Insurance needed by a home owner. Bankers Mo 57:599 N '40
Interpreting financial statements; banker's views on credit. T. F. Regan. Credit & Fin Management 42:9-11+ My '40
Labor relations are not revealed by financial statements; bank loses money. Bankers Mo 57:521 S '40
Management policies by industries; hotels. H. E. Holt and N. D. Stone. il Bankers Mo 57:356, 358-60+ Je '40
Management policies by industries; job printers. E. T. Miller. Bankers Mo 57:285-7+ My '40
Management policies by industries; plumbing and heating contractors as credit risks. N. D. Stone. il Bankers Mo 57:509-13+ S '40
Management policies by industries; soft drinks bottlers. W. B. Leonard and N. D. Stone. il Bankers Mo 57:152-7+ Mr '40
Management policies by industries; steel castings industry. O. E. Mount. il Bankers Mo 57:95-6, 98, 100 F '40
Preferred risk card to be used by other bankers. il Bankers Mo 56:746-7 D '39
Problems in small business credit. A. L. M. Wiggins. Bankers M 141:219-21 S '40
RFC will aid small business unless private banks furnish needed credits. E. Schram. Comm & Fin Chr 149:3346-7 N 25 '39
Small borrower becomes a large borrower; encouraging a farmer to develop his business. J. V. Tuttle. Bankers Mo 57:347+ Je '40
Successful management may not be inherited; loan risks. Bankers Mo 57:524 S '40
These policies make good credit risks of paper manufacturers; with insurance check list. Bankers Mo 57:30-2+ Ja '40
Use existing system for small business credit. W. Netherland. Bankers M 140:488-9 Je '40
Wanted: new banking system for small business. P. R. Nehemkis, jr. Bankers M 140: 484-7 Je '40
War effects on banking credits. P. M. Atkins. Bankers M 141:378-84 N '40
When your banker says, "no"; the problem of financing in business. W. Webb. il Am Business 10:16-17+ Je '40

See also
Agricultural credit
Banks and banking—Credit departments
Insurance—Credit aspects
Loans, Bank

CREDIT, Foreign
Credit losses in foreign trade, 1937. E. Van Cleef and P. H. Burris. diags Ohio State Univ, Bur of Business Research, Research Monograph 25:1-35 '39
Geolexigraph of the Neutrality act of 1939. S. E. Perkins. Comm Rep p1195-6 D 23 '39

See also
Credit—Latin America

CREDIT, International

See also
Finance, International

CREDIT, Social
Alberta votes on social credit again. J. Montagnes. Barron's 20:13 Mr 18 '40
Formation of Alberta provincial bank planned; bills passed setting up credit houses and authorizing building associations. J. Montagnes. Burroughs Clearing House 24:25 Ap '40

CREDIT associations
Manual of industry credit group operation as authenticated by National committee on credit methods and practices. Credit & Fin Management 42:25-8 S '40

See also
Credit unions

Adjustment bureaus

What do adjustment bureaus do? summary of some of the services. E. H. Lothian. Credit & Fin Management 42:26-8 F '40

CREDIT departments
As management views credits; mutual responsibilities of the sales and credit departments. G. W. Birrell. Credit & Fin Management 41:10-12 D '39
Autopoint credit department saves time and money by abolishing rigmarole. C. Beecher. Ptr Ink 191:25-6, 30, 33 Je 7 '40
Cooperation with sales department; how credit department can boost profits. C. Barton. Credit & Fin Management 42:15-17 O '40
Credit man as service salesman. P. W. McDermand. Credit & Fin Management 42: 22-4 Ap '40
Credit men, continuing debate, differ about taking risks to promote sales. Ptr Ink 190: 71-2, 74 Mr 15 '40
Credit's place in the business set-up. F. S. Miller. Credit & Fin Management 42:8-10 Ag '40
Importance of credit personnel in credit contacts. A. G. Symonds. Credit & Fin Management 42:42-3 Ja '40
Monthly account-aging report system. M. Hill. Credit & Fin Management 42:46-8 Ap '40
Reserve for ageing receivables; drug wholesalers' association offers suggestions. E. P. Ellis. Credit & Fin Management 42:12-15 F '40
Selling the credit department; to sales managers, salesmen and customers. H. Kerr. Credit & Fin Management 41:6-9+ D '39
Traffic problems in credit; claims and C.O.D. collections. E. Rusch. Credit & Fin Management 42:11-13+ Jl '40
What does management expect? place of credit department in company plans. A. W. Howe. Credit & Fin Management 42:6-7 Ap '40

See also
Banks and banking— Credit managers
Credit departments Salesmen and credit

Records

Credit history on cards. L. A. Brabender. Credit & Fin Management 42:20-2+ Mr '40
Straight line speed in credits; simplified records hasten shipment of orders; John B. Stetson company. H. Wilkinson. il Credit & Fin Management 42:18-19+ N '40
Streamlining record keeping; check-up frequently on useless reports and forms. J. S. Seidman. Credit & Fin Management 42: 20-1 N '40
What does the card show? an information system for credit control. J. E. Hurst. il Credit & Fin Management 42:9-11+ O '40

Service

Budgeting your customer's business. I. J. Gale. Credit & Fin Management 42:17-18+ Jl '40
Service that helps the dealer; credit executives tell of plans. P. W. McDermand. Credit & Fin Management 42:26, 28-30 My '40
Your customer, to have and to hold; Cluett, Peabody's survey of customers' sales and inventory. L. A. Ernst. Credit & Fin Management 42:6-8 S '40

CREDIT education
Why inspectors study credit methods; Hooper-Holmes bureau. J. C. King. Credit & Fin Management 42:28-30 Mr '40

CREDIT fraternity fund, New York
Credit men are good neighbors; employment and welfare work of New York group. E. F. Addiss. Credit & Fin Management 42:8-9 Je '40

CREDIT interchange bureaus
Coarse paper merchants favor credit plan; division of Philadelphia paper trade association considering setting up credit protective bureau. Paper Tr J 111:10 Ag 22 '40
Credit executive speaks to insurance men; insurance companies should furnish coverage information to credit interchange bureaus. G. C. Klippel. Credit & Fin Management 41:13-15 D '39; Excerpts. Nat Underw 43:28+ N 16 '39

CREDIT managers
Credit from a woman's point of view; first prize, class A, Tregoe essay contest. D. M. Weir. Credit & Fin Management 42:28-9 Je '40
Director-credit manager; a doubly beneficial combination. E. Kant. Bankers Mo 57:138-9 Mr '40
Efficient credit executive; six signs. P. M. Millians. Credit & Fin Management 42: 14-16 Jl '40
Others sell him, he must be good! J. A. Ritchie. Credit & Fin Management 42:18-19 O '40
Two kinds of credit men; Mr Balance-Wheel and Mr Sourpuss. H. C. Perry. Credit & Fin Management 42:16-17+ F '40

CREDIT men
Credit men are good neighbors; employment and welfare work of New York group. E. F. Addiss. Credit & Fin Management 42:8-9 Je '40

CREDIT men, National association of. See National association of credit men

CREDIT unions
Another credit union success; Youngstown municipal railway. Mass Transportation 35: 365 D '39
City employees pool thrift. Nation's Business 28:96 Ap '40
Cooperative credit movement in Palestine. M. L. Bialik. 128p bibliog(p121-4) pa $2 Manoah Levanon Bialik, 559 Sheffield av, Brooklyn, N.Y. '40
Credit union a constructive force; textile cases. Textile World 90:53 Ag '40
Credit union competition; scientific appraisal based on two recent studies. D. Henderson. Bankers Mo 57:387-9+ Jl '40
Operations of credit unions, 1939. Monthly Labor R 51:654-62 S '40
Statistical study of credit unions in New York. F. E. Wilcox. J Business 13:1-91 pt 2 Ja '40; Abstract. Monthly Labor R 50:666-7 Mr '40

See also
Loans, Small

CREEP of materials
Phenomenon of creep and its relation to hardness measurements. S. R. Williams. il Rubber Age 47:175-6 Je '40
Physical processes which occur at the point where a hardness test is made. S. R. Williams. il Instruments 13:79-83, 134-7 Mr, My '40

CREEP of metals
Creep at high temperatures. H. J. Tapsell. Engineering 149:287-8 Mr 15 '40; Abstract. Metals & Alloys 11:MA348 Je '40
Creep of some chromium-molybdenum steels. H. D. Newell. il Metals & Alloys 10:342-5 N '39
Creep rates from tests of short duration. J. J. Kanter and E. A. Sticha. bibliog il Am Soc for Metals Trans 28:257-71; Discussion. 271-7 Je '40
Creep under combined tension and torsion. H. J. Tapsell and A. E. Johnson. il diags Engineering 150:24-5, 61-3, 104-5, 134, 164-6 Jl 12, 26, Ag 9-16, 30 '40
Definition of creep resistance of aluminum alloys; abstract. F. von Göler and W. Jung-König. Metals & Alloys 11:MA154 Mr '40
Effect of temperature of pretreatment on creep characteristics of 18-8 stainless steels; abstract. C. R. Austin and C. H. Samans. Iron Age 145:39-40 F 22 '40
High-temperature creep strength checked for low-alloy steels used in fabrication of still tubes. R. F. Miller, W. G. Benz and W. E. Unverzagt. Nat Pet N 32:R306, R309-12 Ag 21 '40
Irregularities in creep tests possibly due to tremors. D. E. Babcock. Metal Prog 37: 436 Ap '40; Discussion. J. J. Kanter. 37: 562-3 My '40
Reducing creep in alloy steel bolting materials. J. J. Kanter. il Steel 106:44-8, 72 Mr 4 '40
Relation of grain size to creep strength of carbon-molybdenum steel. S. H. Weaver. il Gen Elec R 43:357-64 S '40

CREEP of metals—*Continued*
Report on torsion creep tests for comparison with tension creep tests on a carbon-molybdenum steel. F. L. Everett and C. L. Clark. il diags Am Soc T M Proc 39:215-24 '39

CREMATION

Bibliography

List of books, pamphlets and articles on cremation, including the collection of the Cremation association of America. H. E. Mose, ed. 65p John Crerar library, Chicago '40

CREMATORIES
Electric cremation furnaces. Elec R (Lond) 125:586 N 3 '39

CREOLE petroleum corporation
Brass tacks for the investor; brief analysis. Barron's 20:13 My 27 '40

CREOSOTE
Rotproofing sandbags; creosote distillate emulsions. Chem Age (Lond) 41:332 N 11 '39; Engineering 148:579-80 N 24 '39
Wood preservation in the service of the British Post office; abstract. R. G. Bennett. Chem & Ind 59:221-2 Mr 30 '40

CREPE
Roller printing of acetate rayon crepes. il Rayon 21:559-600, 634-5 S-O '40

CRESOL
Comparison of the activities of tyrosinase toward phenol and *p*-cresol. D. C. Gregg and J. M. Nelson. Am Chem Soc J 62: 2506-9 S '40
Cracking tars and distillates from coal. G. Egloff and others. bibliog il diags Ind & Eng Chem 32:39-47 Ja '40
Phenolic compounds from petroleum sources; comparison with coal tar sources. E. Field, F. H. Dempster and G. E. Tilson. bibliog il Ind & Eng Chem 32:489-96 Ap '40
Rearrangement of the triphenylmethyl ether of ortho cresol: direct synthesis of 3-methyl-4-methoxyphenyltriphenylmethane. H. A. Iddles and H. L. Minckler. bibliog Am Chem Soc J 62:2757-9 O '40
Rearrangement of the triphenylmethyl ethers of ortho cresol and brominated ortho cresols. H. A. Iddles, W. H. Miller and W. H. Powers. Am Chem Soc J 62:71-3 Ja '40

CRESOLSULFONIC acid
Pickling inhibitor; cresolsulphonic acid added to stannous chloride. Steel 107:70-1 O 28 '40

CRESTON, Iowa

Water supply

Improvements triple fire fighting flow and improve domestic supply service. il Pub Works 71:11-12 O '40

CRESYLIC acid. See Cresol

CRIEGEE reaction
Action of lead tetraacetate upon hydroxylated fat acids and related compounds; hydroxylated oleic acid, ethyl oleate and oleyl alcohol. J. T. Scanlan and D. Swern. bibliog Am Chem Soc J 62:2305-9 S '40

CRIME and criminals
Camera, take the stand! A. S. Herzog and A. J. Ezickson. 195p $3 Prentice-Hall '40
Chemistry in crime detection. J. E. Hoover. il Ind & Eng Chem News ed 18:402-3 My 10 '40
Criminal behavior. W. C. Reckless. 532p $3.75 McGraw-Hill '40
Criminal in society. H. T. F. Rhodes. 280p bibliog(p267-73) 7s 6d L. Drummond, London '39
Gang rule in New York; the story of a lawless era. C. Thompson and A. Raymond. 406p $3.50 Dial press, New York '40
Gem of the prairie; an informal history of the Chicago underworld. H. Asbury. 377p bibliog(p375-7) $3.50 Knopf '40
How criminals are caught. A. Miles. 128p 60c Macmillan '39
Insurance men told of daily watch on crime; Citizens committee in New York. East Underw 41:34 Mr 22 '40
Juvenile delinquents grown up. S. Glueck and E. Glueck. 330p $2.50 Commonwealth fund, 41 E. 57th st, New York '40
Men at their worst. L. L. Stanley and E. Wells. 322p $3 Appleton-Century '40
Photography in crime detection. J. E. Hoover. il Sci Am 162:71-4 F '40
Police methods for today and tomorrow. G. D. Callan and R. Stephenson. 361p bibliog(p354) $3.50 Duncan press, box 534, Newark, N.J. '39
Principles of criminology. E. H. Sutherland. 3d ed rev 651p $4.50 Lippincott '39
Trends in crime treatment; yearbook, 1939. M. Bell, ed. 372p bds $1.75; pa $1.25 Nat. probation assn, 50 W. 50th st, New York '39

See also
Fraud
Police

Bibliography

Bibliography of crime and criminal justice, 1932-1937. D. C. Culver, comp. 391p Wilson, H.W. '39

Statistics

F.B.I. crime statistics for 1939. East Underw 41:41 Ap 19 '40

CRIMINAL law
Crime control; state laws, 1935-1938, inclusive. E. A. Banks, comp. (State law digest report, no. 3) 76p pa 10c Supt. of doc. '40

See also
Legal responsibility

CRIMINAL procedure
President Roosevelt signs bill granting Supreme court power to regulate criminal procedure in federal courts. Comm & Fin Chr 151:41 Jl 6 '40

CRINOIDEA, Fossil
Anartiocrinus, a new crinoid genus from the Mississippian. E. Kirk. Am J Sci 238:47-55, pl 1 Ja '40
Redescription of lageniocrinus de Koninck. E. Kirk. bibliog diags Am J Sci 238:129-39 F '40

CRIPPLE CREEK, Colorado
Cripple Creek digs for comeback; $2,000,000 tunnel system to drain off underground streams. il Business Week p21-2 D 23 '39

CRIPPLES
Child cripples of the United States. Science 92:sup7 Ag 23 '40
What are you crying about? achievements of N. Hammett infantile paralysis victim. Textile World 90:105-6 O '40

CRISTOBALITE
Abundance and significance of cristobalite in bentonites and fuller's earths. J. W. Gruner. bibliog Econ Geol 35:867-75 N '40

CRITICAL constants
P-V-T relations of propylene. W. E. Vaughan and N. R. Graves. bibliog il diag Ind & Eng Chem 32:1252-6 S '40
Thermodynamic properties of fluorochloromethanes and -ethanes; orthobaric densities and critical constants of three fluorochloromethanes and trifluorotrichloroethane. A. F. Benning and R. C. McHarness. bibliog il Ind & Eng Chem 32:814-16 Je '40

CRITICAL solution temperature
Critical solution temperatures and aniline points of some butane hydrocarbons. C. G. Ludeman. bibliog diag Ind & Eng Chem Anal ed 12:446-8 Ag 15 '40

See also
Aniline point

CROCKER, Herbert Samuel, 1867-
Sketch. por Civil Eng 10:58-9 Ja '40

CROFT, Huber Ogilvie, 1896-
Sketch. por(p640) Mech Eng 62:639 Ag '40

CROMPTON, Rookes Evelyn Bell, 1845-1940
Sketch. por Engineer 169:187-8 F 23 '40; Engineering 149:204-5 F 23 '40; Elec R (Lond) 126:210 F 23 '40

CROMWELL, James Henry Roberts
Portrait. Business Week p46 Ja 13 '40
Speech brings warning from Secretary of State Hull regarding discussion of controversial policies of other governments. Comm & Fin Chr 150:1857 Mr 23 '40

CROP insurance. See Insurance, Agricultural

CROPS
Agricultural department report on winter wheat, rye, etc. Comm & Fin Chr 150:2455 Ap 13 '40 [cont monthly]
Agricultural department's report on the 1939 production of grain and other crops. Comm & Fin Chr 149:4057-9 D 23 '39
Big freeze ravages the South. il Business Week p 17-18 F 3 '40
Surpluses boosted; loan programs support prices. Barron's 20:6 S 16 '40

See also
Alfalfa
Corn
Cotton
Droughts
Flax
Grain
Insurance, Agricultural
Jute
Rice
Rye
Tobacco
Wheat

Statistics
Crop report, by Federal reserve districts. Published in Federal reserve bulletin
Second official Argentine crop report of the 1939-40 season. Comm & Fin Chr 150:1199 F 24 '40

CROQUET
Making croquet tough; pyroxylin patented coating process. il Mod Plastics 17:34+ My '40
Modern croquet and croquet sets; rating, diag Consumers' Research Bul (Gen bul ser) 9:14-15 Je '40

CROSLEY corporation
Statistics of income, capital, stock earnings, etc. 1929-39. Annalist 55:629 My 2 '40

CROSS connections. See Water distribution—Cross connections

CROSSWORD puzzles
How crossword is machine-set. L. Warren. il Inland Ptr 105:73 My '40

CROTALIC acid
Structure of monocrotaline; monocrotalic acid. R. Adams, E. F. Rogers and R. S. Long. Am Chem Soc J 61:2822-4; 62:2289-94 O '39, S '40

CROTALINE
Structure of monocrotaline; monocrotalic acid. R. Adams, E. F. Rogers and R. S. Long. Am Chem Soc J 61:2822-4; 62:2289-94 O '39, S '40

CROTONALDEHYDE
Production of polycyclic aromatic types through the *cyclo*dehydration of unsaturated ketones. W. S. Rapson and R. G. Shuttleworth. Chem Soc J p636-41 My '40
Studies in the polyene series. E. Barraclough and others. Chem Soc J p1549-54 O '39

CROTONIC acid
Addition of hydrogen bromide to non-terminal double bonds: the *iso*propylidene group; crotonic acid. D. C. Grimshaw, J. B. Guy and J. C. Smith. Chem Soc J p68-71 Ja '40

CROTONOSIDE
Constitution of purine nucleosides; crotonoside. R. Falconer, J. M. Gulland and L. F. Story. Chem Soc J p1784-7 N '39

CROWLEY, Leo Thomas, 1889-
FDIC head to become utility chairman. por Barron's 19:4 D 18 '39

CROWN cork and seal company
$15,000,000 debentures placed privately; $4,000,000 notes also sold. Comm & Fin Chr 151:2798 N 9 '40
Progress. H. Lawrence. Barron's 20:20 Ap 22 '40

CROWN cork international corporation
Report to stockholders. Comm & Fin Chr 151:695 Ag 3 '40

CROWN quality control. See Rayon fabrics—Testing

CROWN ZELLERBACH corporation
Earnings, years ended April 30, 1938-40. Comm & Fin Chr 151:695 Ag 3 '40
Low price, active leverage stocks; thumbnail appraisal. Mag of Wall St 65:619 F 24 '40

CRUCIBLE steel company of America
Profitable era; '40 earnings approach '37 level with backlog still growing. P. Dobbs. il Mag of Wall St 67:30-1+ O 19 '40
Selected war beneficiaries. il Mag of Wall St 66:302 Je 15 '40
To simplify capital structure. Comm & Fin Chr 151:842-3 Ag 10 '40

CRUCIBLES
Crucible steel made in America; with photographs by Van Fisher; LaBelle works, Crucible steel co. of America. Metal Prog 37:543-51 My '40
Improved magnesite crucible. W. J. Crook, J. R. Cunningham and J. R. Cady. bibliog il diag Ind & Eng Chem Anal ed 12: 48-51 Ja 15 '40

CRUSHED stone. See Stone, Crushed

CRUSHED stone association, National. See National crushed stone association

CRUSHING
Crushing resistance of surface-treatment aggregates. T. E. Shelburne. il diags Purdue Univ Eng Exp Sta, Research Ser 76:1-67 bibliog(p54-5) '40 (pa 35c)
Differential grinding of Alabama iron ores for gravity concentration. W. H. Coghill and P. H. Delano. bibliog U S Bur Mines Rep of Invest 3523:1-6 '40; Same cond. Eng & Min J 141:113-14 D '40
Grinding and flotation; abstracts of papers of interest to rock products operators at meeting of A.I.M.M.E. reported by N. C. Rockwood. diags Rock Prod 43:46-8 Mr '40
Grinding, for high surface; Nazareth cement co. B. Nordberg. il plan Rock Prod 43: 22-4 Je '40
Interpretation of sizing analyses. A. O. Gates. Eng & Min J 141:51-4 Je '40
Lacquer paste grinding on 3-roller mill. Oil Paint & Drug Rep 138:51 N 4 '40
Progress in milling practice and equipment. A. W. Fahrenwald. Min Cong J 26:18-19 Ja '40

See also
Coal, Pulverized—Preparation
Ore treatment
Pulverizing
Stone, Crushed

CRUSHING machinery
Arc welding used to repair huge 25,000-pound stone crusher jaw. il Steel 106:76 Je 10 '40
Better Allegheny River gravel; J. K. Davison and bro. B. Nordberg. il Rock Prod 43:33-5 N '40
Breakage and porosity decreased by crusher-mixer combination; making fire brick. il Brick & Clay Rec 97:56+ S '40
Care and maintenance of grinding and pulverizing equipment. G. F. Metz. Chem Ind 45:554-5 N '39
Crusher mounted on rails to salvage boulders. B. Nordberg. il Rock Prod 43:29-30+ Ap '40
Crushing and grinding operations must be watched. il Concrete (mill sec) 48:246-7 O '40
Crushing operations get much attention in cement manufacture. il Concrete (mill sec) 48:166-7 My '40
Disintegrators, sifting, separating and dust collection at chemical exposition. il Chem & Met Eng 46:693-4 N '39
Grading of material. W. F. Carey. diags Gas J (Lond) 231:164-5 Jl 24 '40
Hammer mill for clay grinding. Brick & Clay Rec 97:29 N '40
Impact crusher on modernized dredge. B. Nordberg. flow sheet il Rock Prod 43:36-8 Ap '40
Das kräftespiel im walzenstuhl. O. Moog. diags V D I 83:1301-5 D 23 '39
Der mahlvorgang im walzenstuhl; getreidemüllerei, zement- und zuckerindustrie usw. O. Moog. diag V D I 83:1317-20 D 30 '39
Manganese steel in heavy-duty crusher parts; illustration and diagrams. Product Eng 11: 11 Ja '40
New flux stone plant makes 300 tons per hour. il Rock Prod 43:34-5 O '40
Nickel's role in milling equipment. J. E. Kerr. il Eng & Min J 140:54-7 D '39

CRUSHING machinery—*Continued*
Ore and coke handling at Staveley coal and iron co. Mech Handling 27:98-4 Ap '40
Pioneer primary jaw crusher. il Can Eng R & B 78:47 F '40
Power units where they are needed. il Rock Prod 43:80-1 Ja '40
Producing crushed gravel to Ohio specifications. J. J. Gorman. il Rock Prod 43:47 Ap '40
Push-over for sand and gravel; plant of Graham brothers. B. Nordberg. il Rock Prod 42:32-4 D '39
Relieving conveyor by adding crusher. L. D. H. Anderson. il diags Rock Prod 43:29-30+ O '40
Repairing movable linings of crushers. Rock Prod 43:53 Ap '40
Rock crushers; patent specifications. Mech Handling 27:218-19 S '40
Selecting a crusher. W. Gorman. diags Min Cong J 26:68+ Ap '40
Sixty years of development in ore dressing; with special attention to the last ten years. C. S. Parsons. Can Min J 60:693-5 N '39
Small crushing plant designed for peak demands. B. Nordberg. il Rock Prod 43:34-5 Ap '40
Sullivan concentrator; the development of crushing and grinding practice. A. L. Irwin. flow sheets il plan Can Min J 61: 493-508 Ag '40
Three years of operation with a Hadsel mill; Demonstration gold mines, in the Philippines. G. A. Bell. flow sheet diag Eng & Min J 141:32-3 Ja '40
Traylor multi-stage reduction crusher. diag Eng & Min J 141:87 Ja '40
Unique screen and crusher applications. il Rock Prod 43:78-9 Ja '40
Water-hyacinth destructor, Kenny. il Engineering 149:520-1, 524, pl 27-8 My 24 '40
Wear resisting metals. W. A. Gibson. il Rock Prod 43:28 Ag '40

See also
Ball mills
Coal breakers
Coal crushers
Pulverizers
Tube mills
Wood grinders

Design
Thrust balanced hydraulically, Allis-Chalmers all-steel type R reduction crusher. il diags Product Eng 11:252-3 Je '40; Correction. 11:375 Ag '40

CRUSTACEA
Larvae and crustacea; problem in water purification and corrective measures. R. A. Thuma. Water Works & Sewerage 87: 214-15 My '40

CRYOGENIC research. See Temperature, Low

CRYOLITE
Synthetic cryolite. Can Chem & Process Ind 24:294 Je '40

CRYOSTATS
Precision cryostat for the range 35° to +25° C. E. E. Roper. diags Ind & Eng Chem Anal ed 12:113-17 F 15 '40

CRYPTOCAVINE
Alkaloids of fumariaceous plants; the constitution of cryptocavine. R. H. F. Manske and L. Marion. Am Chem Soc J 62:2042-4 Ag '40

CRYPTOL
Reactions of αβ-unsaturated cyclic aldehydes and ketones; *dl*-cryptone and *cis*- and *trans-dl*-cryptol. D. T. C. Gillespie and A. K. Macbeth. Chem Soc J p1531-4 O '39

CRYPTONE
Reactions of αβ-unsaturated cyclic aldehydes and ketones; *dl*-cryptone and *cis*- and *trans-dl*-cryptol. D. T. C. Gillespie and A. K. Macbeth. Chem Soc J p1531-4 O '39

CRYSTAL oil
Viscosity of hydrocarbon solutions; methane—ethane—crystal oil system. B. H. Sage and W. N. Lacey. bibliog Ind & Eng Chem 32:587-9 Ap '40

CRYSTAL oscillators. See Oscillators, Crystal

CRYSTALLITES
Arrangement of the cellulose crystallites in ray cells of white oak as determined by X-rays. S. T. Gross, G. L. Clark and G. J. Ritter. il Paper Tr J 109:37-8 D 7 '39
Crystallite growth during carbonization. H. E. Blayden, H. L. Riley and A. Taylor. Am Chem Soc J 62:180-6 Ja '40
X-ray studies of crystallite orientation in cellulose fibers: fiber structures from coagulated cellulose. W. A. Sisson. bibliog il diags J Phys Chem 44:513-29 Ap '40

CRYSTALLIZATION
Composite elasticity of rubber; equilibrium between amorphous and crystallized phase. H. Mark. bibliog diags India Rubber W 102:45-9 Ag '40
Composition of commercial palm oils; partial separation of palm oils by crystallisation as an aid to the determination of the component glycerides. T. P. Hilditch and L. Maddison. Soc Chem Ind J 59:67-71 Ap '40
Cristallisation d'un corps, notamment à partir de l'état fondu, quand une addition y a été faite d'un second corps cristallisé coloré. J. Seigle. il diags Chimie & Ind 42: 607-28 O '39
Disintegration of face brick by crystallization of soluble salt. J. M. Hardesty. bibliog il Am Soc T M Proc 39:971-5; Discussion. il 976-8 '39
Effect of various additions on the crystallization of eutectic aluminum-silicon alloys; abstract. G. Gürtler and B. Schulz. Metals & Alloys 11:MA258+ My '40
Growth, orientation, and preparation of the surface of single crystals of copper. A. T. Gwathmey and A. F. Benton. diags J Phys Chem 44:35-42 Ja '40
Hysteresis in crystallization of stretched vulcanized rubber from X-ray data; correlation with stress-strain behavior and resilience. G. L. Clark and others. il Ind & Eng Chem 32:1474-7 N '40
Influence of alloying elements on the crystallisation of copper; large additions and the part played by the constitution; abstract and discussion. L. Northcott. Engineering 149:547-8 My 31 '40
Inhibiting action of minute amounts of sodium hexametaphosphate on the precipitation of calcium carbonate from ammoniacal solutions; mechanism of the process, with special reference to the formation of calcium carbonate crystals. T. F. Buehrer and R. F. Reitemeier. bibliog il J Phys Chem 44: 552-74 My '40
Institute of metals focuses its attention on recrystallization. Steel 106:60-1 F 26 '40; Min & Met 21:152-3 Mr '40
Method for obtaining powders of uniform sodium chloride crystals in various size ranges, and the effect of size upon the intensity of X-ray reflection. F. Marshall. il Phys R 58:642-50 O 1 '40
Les méthodes de préparation des cristaux uniques métalliques. L. Guillet, fils. bibliog diags Chimie & Ind 43:283-6 F 20 '40
Mixed unsaturated glycerides of liquid seed fats; low-temperature crystallisation of cottonseed oil. T. P. Hilditch and L. Maddison. Soc Chem Ind J 59:162-8 Ag '40
Problem of primary crystallisation in steel; the undercooling capacity and the formation of nuclei in the liquid state; abstract. P. Bardenheuer and R. Bleckmann. Engineer 169:sup[Metallurgist] 102-4 Ap 26 '40
Recovery and recrystallization; abstract. R. F. Mehl. il Metal Prog 37:158+ F '40
Simple hot filtrations and crystallizations. J. W. Dawson and W. M. Dehn. il Ind & Eng Chem Anal ed 12:317 Je 15 '40
Studies in polymorphism; the linear rate of transformation of monoclinic into rhombic sulphur. P. G. Elias, N. H. Hartshorne and J. E. D. James. diags Chem Soc J p588-95 My '40

CRYSTALLIZATION—*Continued*
Studies on the chemistry of the fatty acids; the preparation of methyl ricinoleate and ricinoleic acid by fractional crystallization procedures. J. B. Brown and N. D. Green. bibliog Am Chem Soc J 62:735-40 Ap '40

See also
Crystallizers
Crystallography
Crystals
Solutions, Solid

CRYSTALLIZERS
Krystal classifying crystallizer. H. Svanoe. il diags Ind & Eng Chem 32:636-9 My '40
Vacuum and mechanical crystallizers; a comparison. G. E. Seavoy and H. B. Caldwell. flow sheets bibliog il diags Ind & Eng Chem 36:627-36 My '40

CRYSTALLOGRAPHY
Adsorption of nitrous oxide on certain pseudomorphs. A. B. Lamb and C. D. West. bibliog Am Chem Soc J 62:3176-80 N '40
Chlorogermanic acid and the chlorogermanates; properties and crystal structure of cesium hexachlorogermanate. A. W. Laubengayer, O. B. Billings and A. E. Newkirk. Am Chem Soc J 62:546-8 Mr '40
Crystal structure of dicyandiamide. E. W. Hughes. bibliog Am Chem Soc J 62:1258-67 My '40
Crystal structure of potassium fluoroiodate KIO_2F_2. L. Helmholz and M. T. Rogers. diags Am Chem Soc J 62:1537-42 Je '40
Crystal structure of potassium sulphamate. C. J. Brown and E. G. Cox. diags Chem Soc J p 1-10 Ja '40
Crystal structure of rhombohedral acetamide. F. Senti and D. Harker. bibliog il diags Am Chem Soc J 62:2008-19 Ag '40
Crystal structure of sodium formate, $NaHCO_2$. W. H. Zachariasen. Am Chem Soc J 62: 1011-13 My '40
Crystallography of the chemical elements as tabulated by W. Hume-Rothery. Metal Prog 38:558, 560, 562 O '40
Cyanamide, dicyandiamide, and melamine; optical and crystallographic properties. T. G. Rochow and others. il Ind & Eng Chem 32:1187-8 S '40
Fundamental relation between lattice constants and density. F. Foote and E. R. Jette. bibliog Phys R 58:81-6 Jl 1 '40
Graphical method for selecting suitable targets for precision determination of cubic lattice constants and for solving cubic powder patterns. L. A. Carapella. bibliog diags J Ap Phys 11:510-14 Ag '40
Interatomic distances in cobalt diselenide. B. Lewis and N. Elliott. bibliog Am Chem Soc J 62:3180-1 N '40
Lattice defects in silver halide crystals. F. Seitz. Phys R 56:1063-4 N 15 '39
Nature of the chemical bond and the structure of molecules and crystals. L. C. Pauling. 2d ed 450p $4.50 Cornell univ. press, Ithaca, N.Y. '40
Redetermination of the parameters in ammonium bifluoride. M. T. Rogers and L. Helmholz. Am Chem Soc J 62:1533-6 Je '40
Right- and left-handedness of quartz and its relation to elastic and other properties. K. S. Van Dyke. bibliog il diags Inst Radio Eng Proc 28:399-406; Discussion. 428-9 S '40

See also
Crystallization
Mineralogy
Solutions, Solid
also names of minerals, e.g. Feldspar; Quartz

Models

Crystal-structure models for close-packed systems. D. B. Langmuir and R. B. Nelson. il R Sci Instr 11:295-7 S '40

X ray studies

Address of the president of the Royal society. W. Bragg. Science 92:95-7 Ag 2 '40
Apparatus for determining the orientation of crystals by X-rays. F. E. Haworth. il diags R Sci Instr 11:88-91 Mr '40
Application of X-ray crystal analysis to chemical problems; abstract and discussion. J. D. Bernal. Chem & Ind 59:76 F 3 '40
Arrangement of the cellulose crystallites in ray cells of white oak as determined by X-rays. S. T. Gross, G. L. Clark and G. J. Ritter. il Paper Tr J 109:37-8 D 7 '39
Atomic distribution in aluminum-silver alloys during aging. C. S. Barrett and A. H. Geisler. bibliog il diags J Ap Phys 11:733-9 N '40
Crystal-chemical studies of the alums; further solid solution studies. H. P. Klug and L. Alexander. bibliog Am Chem Soc J 62:2992-5 N '40
Crystal-chemical studies of the alums; solid solutions of potassium aluminum alum and ammonium aluminum alum. H. P. Klug and L. Alexander. bibliog Am Chem Soc J 62: 1492-3 Je '40
Crystal-chemical studies of the alums; the purple chrome alums. H. P. Klug. bibliog Am Chem Soc J 62:2992-3 N '40
Improved technique for mounting powdered samples for X-ray diffraction. J. S. Lukesh. diags R Sci Instr 11:200-1 Je '40
Method for obtaining powders of uniform sodium chloride crystals in various size ranges, and the effect of size upon the intensity of X-ray reflection. F. Marshall. il Phys R 58:642-50 O 1 '40
Nomographic solution of a stress problem; determining stress in surface of metal by means of precision crystal lattice measurements made with X-rays. D. E. Thomas. Engineer 170:120 Ag 23 '40
Structures of complex fluorides; barium fluosilicate and barium fluogermanate. J. L. Hoard and W. B. Vincent. bibliog Am Chem Soc J 62:3126-9 N '40
Study of the recrystallization of magnesia. H. G. Schurecht and V. D. Fréchette. bibliog il Am Cer Soc J 23:134-6 My '40
Symposium on X-ray studies of substances of high molecular weight. M. L. Huggins, C. S. Fuller and others. bibliog il Chem R 26:141-255 Ap '40
Tests for the validity of the X-ray crystal method for determining *N* and *e* with aluminum, silver and quartz. P. H. Miller, jr. and J. W. M. DuMond. bibliog Phys R 57:198-206 F 1 '40
Thin quartz crystals as used in the Cauchois focusing X-ray spectrograph. F. R. Hirsh, jr. il diags Phys R 58:78-81 Jl 1 '40
Variable structures and continuous scattering of X-rays from layer silicate lattices. S. B. Hendricks. bibliog il Phys R 57:448-54 Mr 1 '40
X-ray determination of the crystal structure of tetraphenylarsonium iodide, $(C_6H_5)_4AsI$. R. C. L. Mooney. Am Chem Soc J 62:2955-9 N '40
X-ray examination of polyisobutylene. C. S. Fuller, C. J. Frosch and N. R. Pape. bibliog 2pls diags Am Chem Soc J 62:1905-13 Ag '40
X-ray studies of the porphins. I. Woodward. Chem Soc J p601-3 My '40
X-ray study of carbonization. Gas J (Lond) 231:197-8 Jl 31 '40
X-ray study of the phthalocyanines; direct quantitative analysis of the platinum compound. J. M. Robertson and I. Woodward. diags Chem Soc J p36-48 Ja '40

CRYSTALS
Acceleration of electrons in a crystal lattice. W. V. Houston. Phys R 57:184-6 F 1 '40
Breaking theory of detonation. L. R. Carl. bibliog Franklin Inst J 230:207-27, 355-74 Ag-S '40
Concave spherical crystals of barium-copper-stearate for use in long wave-length X-ray spectrometers. C. L. Andrews. il diag R Sci Instr 11:111-14 Ap '40
Contributions to the shear constants of hexagonal crystals. H. B. Huntington. Phys R 57:60 Ja 1 '40
Dependence of ferromagnetic anisotropy on the field strength. L. P. Tarasov. Phys R 56:1224-30 D 15 '39
Determination of crystal densities by the temperature of flotation method; density and lattice constant of lithium fluoride. C. A. Hutchison and H. L. Johnston. bibliog Am Chem Soc J 62:3165-8 N '40

CRYSTALS—*Continued*

p-Dichlorobenzene as a vapor fumigant; effect of crystal size. F. R. Darkis, H. E. Vermillion and P. M. Gross. bibliog il Ind & Eng Chem 32:946-9 Jl '40

Dielectric evidence of molecular rotation in the crystals of certain benzene derivatives. A. H. White, B. S. Biggs and S. O. Morgan. bibliog Am Chem Soc J 62:16-25 Ja '40

Dielectric evidence of molecular rotation in the crystals of certain non-aromatic compounds. A. H. White and W. S. Bishop. bibliog diag Am Chem Soc J 62:8-16 Ja '40

Diffraction of X-rays by small crystalline particles. A. L. Patterson. bibliog Phys R 56:972-7 N 15 '39

Direct comparison on a crystal of calcite of the X-ray and optical interferometer methods of determining linear thermal expansion; evidence of differences among calcite crystals. J. B. Austin and others. bibliog Phys R 57:931-3 My 15 '40

Directional dependence of electrical conductivity. E. M. Baroody. Phys R 58:793-804 N 1 '40

Effect of valence electrons and electron cloud distortion upon intensities in electron and X-ray scattering, applied to zinc oxide. V. A. Johnson. bibliog Phys R 57:613-21 Ap 1 '40

Elastic, dielectric and piezoelectric constants of heavy-water Rochelle salt. A. N. Holden and W. P. Mason. bibliog Phys R 57:54-6 Ja 1 '40

Electrical wave filters employing crystals with normal and divided electrodes. W. P. Mason and R. A. Sykes. diags Bell System Tech J 19:221-48 Ap '40

Growth conditions for single and optically mosaic crystals of zinc. C. A. Cinnamon and A. B. Martin. bibliog J Ap Phys 11: 487-90 Jl '40

Growth, orientation, and preparation of the surface of single crystals of copper. A. T. Gwathmey and A. F. Benton. diags J Phys Chem 44:35-42 Ja '40

Influence of electrostatic fields on the elastic properties of Rochelle salt. H. Mueller. Phys R 57:842-3 My 1 '40

Intensity distribution in X-ray and electron diffraction patterns; X-ray atom factors of zinc in zinc oxide and chemical binding. C. H. Ehrhardt and K. Lark-Horovitz. bibliog Phys R 57:603-13 Ap 1 '40

Interference phenomena in the scattering of slow neutrons. H. G. Beyer and M. D. Whitaker. bibliog diags Phys R 57:976-81 Je 1 '40

Internal friction of single metal crystals. T. A. Read. bibliog diags Phys R 58:371-80 Ag 15 '40

Interpretation of ferromagnetic colloid patterns on ferromagnetic crystal surfaces. W. C. Elmore. bibliog Phys R 58:640-2 O 1 '40

Law of magnus in single-crystal aluminum wires. W. Y. Ma and W. Band. Phys R 58:479-80 S 1 '40

Location of hysteresis phenomena in Rochelle salt crystals. W. P. Mason. bibliog diags Phys R 58:744-56 O 15 '40

Magnetic energy constants of dipolar lattices. J. A. Sauer. Phys R 57:142-6 Ja 15 '40

Manufacture of quartz crystal filters. G. K. Burns. il diags Bell System Tech J 19:516-32 O '40

Les méthodes de préparation des cristaux uniques métalliques. L. Guillet, fils. bibliog diags Chimie & Ind 43:283-6 F 20 '40

Model to illustrate isogyres in interference figures. C. A. Chapman. Am J Sci 238:805-10 N '40

New method for calculating wave functions in crystals. C. Herring. bibliog Phys R 57: 1169-77 Je 15 '40

New quartz-crystal plate, designated the GT, which produces a very constant frequency over a wide temperature range. W. P. Mason. bibliog il Inst Radio Eng Proc 28:220-3 My '40

Observations on the dark current of a willemite crystal. R. C. Herman and R. Hofstadter. Phys R 57:936 My 15 '40

Optical and magnetic properties of magnetite suspensions; surface magnetization in ferromagnetic crystals. L. W. McKeehan. bibliog Phys R 57:1177-8 Je 15 '40

Photoelectric work functions of (100) and (111) faces of silver single crystals and their contact potential difference. H. E. Farnsworth and R. P. Winch. bibliog diags Phys R 58:812-19 N 1 '40

Preliminary experimental study of new diffraction maxima in X-ray photographs. S. Siegel and W. H. Zachariasen. Phys R 57:795-7 My 1 '40

Propagation of electron waves in ionic single crystals. A. von Hippel and J. W. Davisson. Phys R 57:156-7 Ja 15 '40

Properties of Rochelle salt. H. Mueller. bibliog Phys R 57:829-39; 58:565-73, 805-11 My 1, S 15, N 1 '40

Quantum physics of solids; the energies of electrons in crystals. W. Shockley. il diags Bell System Tech J 18:645-723 O '39

Quartz crystals; their piezoelectric properties and use in control of high frequencies. C. F. Baldwin. Gen Elec R 43:188-94, 237-43 My-Je '40

Quartz, from raw stock to finished crystal; laboratory of the General electric company; illustrations. Electronics 13:26-7 N '40

Recent experiments on the thermionic properties of different crystal directions of the same metal. il J Ap Phys 11:337-8 My '40

Scattering of thermal neutrons by crystals. F. Rasetti. bibliog diag Phys R 58:321-5 Ag 15 '40

Scherrer formula for X-ray particle size determination. A. L. Patterson. bibliog Phys R 56:978-82 N 15 '39

Some experiments showing the directional reactivities of single crystals of copper. A. T. Gwathmey and A. F. Benton. il Electrochem Soc Trans 77 (preprint 9):113-20 Ap '40

Symposium on optical methods for study of molecular structure; the X-ray diffraction method. B. E. Warren. il Opt Soc Am J 30:370-3 S '40

Synthetic crystals. R. D. Potter. Science 91: sup12 My 10 '40

Synthetic optical crystals. H. C. Kremers. bibliog il Ind & Eng Chem 32:1478-83 N '40

System of large-screen television reception based on certain electron phenomena in crystals; possibility of color television by use of alkali halide crystals. A. H. Rosenthal. bibliog il diags Inst Radio Eng Proc 28:203-12 My '40; Abstract. Electronics 13: 75-6 N '40

Temperature dependence of Young's modulus of beta-brass single crystals. J. S. Rinehart. bibliog Phys R 58:365-71 Ag 15 '40

Theoretical study of the diffuse scattering of X-rays by crystals. W. H. Zachariasen. bibliog Phys R 57:597-602 Ap 1 '40

Theory on cathode luminescence. U. Fano. Phys R 58:544-53 S 15 '40

Thermal conductivity of rocks and its dependence upon temperature and composition. F. Birch and H. Clark. bibliog diags Am J Sci 238:529-58, 613-35 Ag-S '40

Thermionic constants of tungsten as a function of crystallographic direction. M. H. Nichols. bibliog il diags Phys R 57:297-306 F 15 '40

Thin quartz crystals as used in the Cauchois focusing X-ray spectrograph. F. R. Hirsh, jr. il diags Phys R 58:78-81 Jl 1 '40

Transmission of neutrons of different energies through quartz crystals. M. D. Whitaker, W. C. Bright and E. J. Murphy. Phys R 57:551 Mr 15 '40

Variable structures and continuous scattering of X-rays from layer silicate lattices. S. B. Hendricks. bibliog il Phys R 57:448-54 Mr 1 '40

Variation of the principal elastic moduli of Cu_3Au with temperatures. S. Siegel. bibliog diag Phys R 57:537-45 Mr 15 '40

Wechselbeanspruchung und kristallzustand. H. Möller and M. Hempel. il V D I 83: 1183-4 N 4 '39

CRYSTALS—*Continued*
Work functions of different faces of silver single crystals. H. E. Farnsworth and R. P. Winch. Phys R 56:1067 N 15 '39
X-ray dispersion in copper crystals. E. M. McNatt. bibliog Phys R 57:621-4 Ap 1 '40

See also
Crystallites
Oscillators, Crystal
Piezoelectricity
Polymorphism
Quartz
Radio frequency—Crystal control

CRYSTALS, Liquid. See Liquid crystals

CUBA
Isle of a hundred harbors. O. G. Gibson. 287p bibliog(p285-7) $2.50 Bruce Humphries, 30 Winchester st, Boston '40

See also
Commercial law—Cuba
Electric apparatus industry—Cuba
Taxation—Cuba
Wages—Cuba

Commerce
Cuba-U.S. supplementary trade agreement. Comm Rep p1233 D 30 '39
Effect on Cuban trade of hostilities in Scandinavia. Comm Rep p446 My 18 '40
Foreign trade, 1939; comparison with 1938. Comm Rep p299 Mr 30 '40

Commercial policy
Exchange and finance; tariffs and trade controls; commercial law digests. For Comm W 1:11 O 5 '40
Use of exchange stabilization fund. Comm Rep p133 F 10 '40

Constitution
Cuba's constitution. Business Week p63-4 O 12 '40

Economic conditions
Business activity. For Comm W 1:103-4 O 19 '40
Business situation, 1939. Comm Rep p1-2 Ja 6 '40

Economic policy
Exclusive industrial privileges in Cuba; text of constitutional provision. J. L. Brown. Comm Rep p703-4 Ag 17 '40; Same. Oil Paint & Drug Rep 138:3+ Ag 26 '40
Monopolies for Cuba; exclusive manufacturing rights will be granted. Business Week p49-50 Ag 24 '40

Foreign relations
United States
Criticisms of Soviet Premier Molotov anent United States and Cuban relations answered by Under Secretary of State Welles at dinner of Cuban Chamber of commerce in New York. Comm & Fin Chr 149:3952 D 23 '39

CUBA Northern railways
Listing; New York stock exchange authorizes the listing of deposit receipts. Comm & Fin Chr 151:2494 O 26 '40

CUBAN-AMERICAN sugar company
General statistics for years ended Sept. 30, 1936-39. Comm & Fin Chr 149:4171 D 30 '39
To submit recapitalization plan to shareholders. Comm & Fin Chr 150:3354 My 25 '40

CUBÉ
Analysis
Method for determining deguelin in derris and cubé. L. D. Goodhue and H. L. Haller. bibliog Ind & Eng Chem Anal ed 11: 640-2 D 15 '39

CUCUMBERS
Salting of cucumbers; influence of brine salinity on acid formation. I. D. Jones. bibliog Ind & Eng Chem 32:858-61 Je '40

CUDAHY, John, 1887-
Exonerated by State department. Comm & Fin Chr 151:928 Ag 17 '40

CUDAHY packing company
Annual report. Comm & Fin Chr 149:4026 D 23 '39

CULTIVATORS
Warring on weeds in Washington; electric hoe, or small garden cultivator developed by Puget Sound power & light co. J. C. Scott. il diags Elec West 83:47 D '39

CULTURE
Culture of democracy. il Fortune 21:76-87 F '40
Irresponsibles; a declaration. A. MacLeish. 34p $1 Duell, Sloan & Pearce, 270 Madison av, New York '40
Shall we teach culture? N. W. Dougherty. Civil Eng 10:135-6 Mr '40
This culture. J. C. Parker. Elec Eng 59: 229-31 Je '40

See also
Acculturation
Civilization

CULTURE mediums
Cultivation of rickettsia diaporica in tissue culture and in the tissues of developing chick embryos. H. R. Cox and E. J. Bell. Pub Health Rep 54:2171-8 D 8 '39

See also
Bacteriology—Culture mediums
Tissues—Culture

CULTURED pearls. See Pearls

CULVERTS
Culvert layout system and check. C. L. Rodgers. il Eng N 124:605 Ap 25 '40
Culverts for mosquito control; drainage structures in Memphis. il diags Eng N 124:602-3 Ap 25 '40
Cutting culvert cost under high fills; Moffat railway. il diag Eng N 125:632-3 N 7 '40
Jacking 72-inch culvert pipe under outfall sewer. R. Shepherd. il diag Am Water Works Assn J 32:414-22 Mr '40
Manufacture of corrugated-steel culverts. il Engineering 149:435, 438 Ap 26 '40
Method of installing 15-ft. multiplate culvert; U.S. route 10 in Montana. S. C. Bonesteele. il Roads & Sts 83:84, 92 Je '40
Pressure culvert, Pennsylvania; unit prices. Eng N 123:670 N 16 '39
Setting corrugated culverts in soft ground. Pub Works 71:14 Ag '40
Simplified design of box culverts by moment distribution. V. W. Sauer. diags Civil Eng 9:741-2 D '39; Discussion. A. W. Fischer. 10:113-14 F '40

CULVERTS, Concrete
Duties of a concrete inspector. C. R. Kendall. Can Eng R & B 78:60+ Ap '40
Precast concrete units serve many uses; Dallas, Texas, makes culvert slabs. il Pub Works 70:25-6 D '39
WPA bridge and culvert construction projects in a Nebraska county. R. S. Clark. il diags plans Pub Works 71:10-13 Ag '40

CUNEO press, Inc.
Moderate-priced newcomer to the New York stock exchange; thumbnail appraisal. Mag of Wall St 65:753 Mr 23 '40
Newcomer on the stock exchange. L. Applegate. Annalist 54:732 D 7 '39

CUPOLA furnaces
Cupola possibilities and limitations for making high-strength iron; use of Fer X; cost data. H. W. Gillett and C. H. Lorig. bibliog il Iron Age 144:17-23+ D 28 '39
Ford cast steel crankshafts now poured continuously. E. F. Cone. il Metals & Alloys 12:267-70 S '40
Fundamentals of cupola practice. D. J. Reese. il Foundry 68:30-2+ Ap '40
Gray iron foundry practice moves forward; review of technical literature, 1938-1939. C. H. Lorig and V. H. Schnee. il Foundry 68:90-1, 161, 164, 166 bibliog(89 titles, p164, 166) My '40
Operation of cupola features course; abstracts of American foundrymen's association meeting. Foundry 68:70+ Jl '40
Practical cupola practice; abstract. H. A. Deane. Foundry 68:132 My '40
Utilize coke from cupola drop. R. Leicht. diags Foundry 68:27+ Ag '40

CUPOLA furnaces—*Continued*

Air supply

Moisture control of cupola air; Muskegon piston ring co. J. L. Brooks. flow diag diag Foundry 68:38-9+ S '40

Lining

Comparison of refractory costs of naturally-formed refractory material and ordinary fire brick; abstract. J. A. Bowers and J. T. MacKenzie. tables(p88, 89) Iron Age 145: 51 My 16 '40

Practical application of monolithic lining in cupolas; abstract. F. Oldershaw. Metals & Alloys 11:MA188 Ap '40

CUPRAMMONIUM solution

Effect of mechanical gelatinization on the solubility of wood in cuprammonium solution. J. Levy and E. C. Jahn. bibliog Paper Tr J 109:45-9 D 7 '39

Existence and nature of fiber membranes. H. F. Lewis, F. E. Brauns and M. A. Buchanan. Paper Tr J 110:36-8 F 1 '40

Microscopic examination of cotton fibers in cuprammonium hydroxide solutions. C. W. Hock and M. Harris. bibliog 6 pls J Research Nat Bur Stand 24:743-8 Je '40; Same. Am Dyestuff Rep 29:287-92 Je 10 '40

Pectic substance in cotton and its relation to the properties of the fiber. R. L. Whistler, A. R. Martin and M. Harris. bibliog Am Dyestuff Rep 29:244, 258-8 My 13 '40; Same. J Research Nat Bur Stand 24:555-65 My '40

CURARE

Curare alkaloids; alkaloids of some chondrodendron species and the origin of radix pareirae bravae. H. King. Chem Soc J p737-46 Je '40

CURB exchange. See New York curb exchange

CURBS

Chicago builds a convertible roadway; elevating curbs on Lincoln Park express road. O. K. Jelinek. il diags Eng N 124:788-91 Je 6 '40

Divided highway design; new principles of curb design. il diags Eng N 124:380-4 Mr 14 '40

Reflecting curbs assist the motorist to read the road he travels. W. Van Breemen. il diags Roads & Sts 83:48-50, 52, 54 My '40

Ribbons of light; New Jersey curbs designed to reflect like a mirror, especially in the rain. il diags Eng N 124:712-15 My 23 '40

CURCUMENE

Constituents of some Indian essential oils; a synthesis of *dl*-α-curcumene. F. D. Carter, J. L. Simonsen and H. O. Williams. Chem Soc J p 451-3 Ap '40

CURIE point. See Magnetism

CURME, George Oliver, jr. 1888-

Portrait. Iron Age 145:78 F 29 '40; Steel 106:22 Mr 4 '40

CURRENT events

Chronology of 1939. Mag of Wall St Manual p14 Mr 2 '40

Headlining America; 100 of the best news and feature stories of 1938-1939. F. L. Mott and others, eds. 244p $1.50 Dryden press, 103 Park av, New York '40

CURTAINS

Obscuration value for textile material for curtains and method of testing. Textile Inst J 31:S6-7 Ja '40

War and blackout curtains. R. Hamilton. Textile Col 62:745-9, 813-16+ N-D '40

See also
Street cars—Curtains

CURTIS publishing company

Listing. Comm & Fin Chr 151:1276-7 Ag 31 '40

May revise capital structure; income accounts for calendar years 1938-39. Comm & Fin Chr 150:2093 Mr 30 '40

New recapitalization plan. Comm & Fin Chr 150:3045 My 11 '40

CURTISS-WRIGHT corporation

Atlas—Curtiss-Wright merger. Mag of Wall St 65:612 Ap 6 '40

Brass tacks for the investor; brief analysis. Barron's 20:13 Je 24 '40

Curtiss-Wright's ship comes in. S. Devlin. il Mag of Wall St 65:747-9+ Mr 23 '40

Earnings, 1936-39. Comm & Fin Chr 150: 2420 Ap 13 '40

Financial report. Annalist 56:278 Ag 29 '40

Merger with Atlas corp.; Curtiss-Wright to be continuing corporation. Comm & Fin Chr 150:1931 Mr 23 '40

Move to clip Atlas' wings; opposition to Floyd Odlum's plan for merger with Curtiss-Wright. Business Week p17-18 Ap 27 '40

Plan of merger opposed. Comm & Fin Chr 150:2571 Ap 20 '40

Statistics of income, capital, stock earnings, etc. 1929-39. Annalist 55:725 My 23 '40

CURTISS-WRIGHT technical institute

Training military personnel. il Aero Digest 37:96, 98 Jl '40

CURVE plotting

Electronic method for determining distribution curves. L. A. Ware. diags Electronics 13:36-7 O '40

How to determine economic project size; by statistical analysis lowest average unit costs are determined. J. M. Doyle. Roads & Sts 83:66+ O '40

Rack co-ordinates relay selectivity. C. L. Betts, jr. Elec W 114:996-8+ O 5 '40

CURVES

Analysis of compound exponential curves. R. T. Hancock. Engineer 168:492 N 17 '39

Automatic curve tracer. il diag Electronics 13:65 F '40

New method of constructing French curves. B. Hague. diags Engineering 149:215-17 Mr 1 '40

Template for measuring curved arcs. B. Hague. il Engineering 150:263-4 O 4 '40

CURVES, Plane

Properties of the witch of Agnesi; application to fitting the shapes of spectral lines. R. C. Spencer. bibliog Opt Soc Am J 30:415-19 S '40

CURVES in engineering

Length of parabolic curve; simplified formula. A. Tiggelbeck. Eng N 124:632 My 9 '40

See also
Railroads—Curves
and turnouts
Roads—Curves

CUSHING, Harvey Williams, 1869-1939

Harvey (Williams) Cushing. E. C. Cutler. Science 90:475-82 N 24 '39

CUSHIONS, Rubber

Latex cushions. il Arch Forum 73:195-6 S '40

CUSTOMER relations

Before you go home tonight; keep in touch with people. Am Business 9:23 D '39

Evolution of management attitudes as applied to the employe, the customer, the stockholder, to government and the public. C. C. Conway. Advanced Management 4 no5:141-4 '39

Human relations in business. Published in monthly numbers of American business

Research aim is customer-manufacturer harmony; abstract. H. G. Weaver. S A E J 46:sup25 My '40

See also
Banks and banking—
Customer relations
Complaints

CUSTOMERS' suggestions. See Suggestions, Customers'

CUTLER-HAMMER, Incorporated

Dynamic specialties; thumbnail appraisal. Mag of Wall St 66:236 Je 1 '40

CUTTING

See also
Coal cutters
Concrete—Cutting
Gear cutting
Metal cutting
Milling
Oxyacetylene cutting
Oxygen cutting
Steel cutting
Thread cutting

CUTTING lubricants. See Lubrication and lubricants (cutting and grinding)

CUTTING machines

See also
Broaching machines
Cloth cutting machines
Cutting tools
Gear cutting machines
Metal cutting
Milling cutters
Oxyacetylene cutting
Reamers
Saws
Screw machines
Shears (machines)
Threading machines

CUTTING of metals. See Metal cutting

CUTTING-OFF machines

Polymatic high-speed wire-forming and cutting-off machine. il Mach 46:142 Ag '40

See also
Saws, Metal working

CUTTING oils. See Lubrication and lubricants (cutting and grinding)

CUTTING tools

Better finishing methods produce improved cutter efficiency. V. H. Ericson. il Steel 107:80+ Ag 12 '40

Cutting-off tool for use with a hexagon turret. I. F. Yeoman. diag Mach 46:165-6 Ja '40

Diamonds at work. R. Le Grand. diags Am Mach 83:1071 D 27 '39

Diamonds in finding and fabricating metals. E. D. Lucas, jr. il Metals & Alloys 10:358-61 D '39

For tool grinding only; Packard motor car company's new centralized department. il layout Am Mach 84:238-9 Ap 17 '40

Grooving operations performed with Haynes stellite tools. il Mach 46:100-1 F '40

Improvised boring and threading tools. E. Wittmann. diags Am Mach 84:871 O 30 '40

Increasing the life of cutting tools by an improved method of grinding. L. J. St Clair. Mach 46:267-71 D '39

Machining with single point tools. M. Kronenberg. bibliog Am Soc for Metals Trans 28: 725-42 S '40; Abstract. Engineering 150:259-60 S 27 '40

New alloys produced; 1939 developments show trend toward standardization. Blast F & Steel Pl 28:84+ Ja '40

New cutting tools will speed up old machines. D. G. Clark. Metal Prog 38:182-3 Ag '40

New tungsten-chromium-cobalt alloy cutters resist chipping. W. R. Frazer. Steel 107: 166+ O 14 '40

Radius-forming attachment for cutter grinder used in slotting aluminum pistons. J. W. Gerdel. diags Mach 46:198-200 Jl '40

Roller type tool for shell trimming machine. J. A. Honegger. diags Mach 46:132-4 Je '40

Salvaging taper-shank tools with broken tangs. E. N. Olson. diag Am Mach 84:21-2 Ja 10 '40

Some results obtained by machining with Rexalloy tools. L. J. St Clair. Mach 47:174 O '40

Tools and speeds for machining aluminum alloys. W. A. Dean. il diags Metal Prog 37: 553-8 My '40

Turret lathe tooling. J. R. Longstreet and W. K. Bailey. il diags Am Mach 84:79-81, 202-5, 242-5, 284-7 F 21, Ap 3-My 1 '40

Unusual tooling for screw machine product; Rollator plant of Borg-Warner corp., Detroit. H. Chase. il diags Iron Age 146:46-8 O 17 '40

What tools for turning? D. W. Mellor. il Am Mach 84:496-7 Jl 10 '40

What's new in cutters. il Iron Age 145:38-41 Mr 14 '40

What's new in small tools and cutters. F. J. Oliver. il Iron Age 146:50-4 Jl 11 '40

See also
Machine tools
Milling cutters
Saws
Tool steel

Standards

Standard tools are breaking production bottlenecks. W. J. Burger. il Mach 46:110-11 F '40

Terminology

Single-point cutting tools; data sheets. diags Mach 46:95 F; 97 Mr '40

CUTTING tools, Carbide

Application of carbide tools in a machine tool plant; Bullard co. B. Merwin. il Mach 46: 105-7 Ag; 47:111-15 S '40

Bowen and company grinding and lapping machine for sintered-carbide tools. il diags Engineering 149:435 Ap 26 '40

Breaker grooves for carbide tools. P. M. McKenna. il Am Mach 84:413 Je 12 '40

Carbide cutting tools: a composite of abstracts. Metals & Alloys 12:542 O '40

Carbide-tipped tools for turning brass. C. G. Williams. diags Am Mach 84:245 Ap 17 '40

Carbide tool prices; economic consequences of the recent reductions. P. M. McKenna. il Iron Age 146:60-2 N 14 '40

Carbide tools; control and use in the shop. G. G. Thompson. diags Iron Age 145:48-54+ My 9 '40

Carbide tools for machining small lots. F. S. Blackall, jr. il Steel 107:54-6 Jl 29 '40

Carbides for cutting steel. P. M. McKenna. diags Am Mach 84:917-19 N 13 '40

Carbides for small-lot work; Monarch machine tool co. P. A. Abe. il Iron Age 146:44-5+ Jl 18 '40

Carbides work on small lots; Warner & Swasey company. W. J. Burger. il Am Mach 84:53-4 F 7 '40

Carboloy cutting tools standardized. il diags Ry Mech Eng 114:420 O '40

Carboloy gives more details on new lower priced carbide tools. il Iron Age 146:74 S 12 '40

Carboloy machine for grinding chip-breakers in carbide tools. il(p459) Automotive Ind 83:460 O 15 '40

Carboloy makes sixth price cut since 1929; standardizes tools; denies secret covenants with Krupp's. Steel 107:33 S 9 '40

Cemented carbide tools now standardized cover most uses. K. R. Beardslee. Steel 107:187+ O 14 '40

Cemented carbides for shells and other war materials. A. H. Alexander. il Iron Age 145:55 My 23 '40

Chip curlers for carbide tools. G. G. Thompson. diags Iron Age 146:25-8 Jl 4 '40

Cutting steel with carbides on older machines. J. R. Longwell. Iron Age 146:40 S 12 '40; Same. Aero Digest 37:125 O '40; Same. Steel 107:49+ S 23 '40

Fixture for holding carbide tools while brazing. S. M. White. diags Mach 46:117-18 My '40

Grinding carbide cutters. F. W. Lucht. il diags Am Mach 84:603-5, 658-61 Ag 21-S 4 '40

Increasing the life of cutting tools by an improved method of grinding. L. J. St Clair. Mach 46:270-1 D '39

Industrial application of electrically cleaned air; use of the Precipitron has reduced rejections in making carbide tools; Firth-Sterling steel co. W. J. Loach. il Mach 46:89-90 Ag '40

Many uses covered by low-priced tools. Steel 107:137 O 14 '40

More metal per grind; proper use of carbide-tipped cutting tools. F. Deak. diags Am Mach 83:1041-3 D 13 '39

Parting tool design. C. G. Williams. diag Am Mach 83:1083 D 27 '39; Discussion. 84: 385-6 My 29 '40

Performance of Carboloy on railroad work. il Ry Mech Eng 114:368-70 S '40

Steel gear blanks cut with carbides; Nuttall works of the Westinghouse gearing division. il Iron Age 146:48 S 5 '40

Tool crib control of carbide tools. G. G. Thompson. il diags Iron Age 146:29-34 S 12 '40

Tungsten-carbide tools for heavy turning; Nuttall works of the Westinghouse gearing division. il Automotive Ind 83:38 Jl 1 '40

CUTTING tools, Carbide—*Continued*
Turning costs halved; experimental program with tungsten carbide tools at Nuttal works of Westinghouse electric & mfg. co. il Steel 107:41 O 21 '40
Van Dorn grinding machine for carbide-tipped tools. il Engineering 149:21 Ja 5 '40
Wesson standard carbide-tipped tools. il Mach 46:164 Ap '40
Wirtschaftliche fertigung von hartmetall-werkzeugen. K. Becker. V D I 83:1265-6 N 11 '39

Specifications

Specifications for carbide tools. G. G. Thompson. diags Iron Age 146:28-33 O 24 '40

CUYAHOGA river
Something new in bulkhead anchorages; sheetpile bulkhead along rectified Cuyahoga River channel. G. B. Sowers. il diags Eng N 125:355-6 S 12 '40
Straightening will cut ore unloading time; with cost data. Iron Age 145:34B F 8 '40

CYAMELURIC acid
Ionization constants and hydrolytic degradations of cyameluric and hydromelonic acids. C. E. Redemann and H. J. Lucas. bibliog Am Chem Soc J 61:3420-5 D '39
Some derivatives of cyameluric acid and probable structures of melam, melem and melon. C. E. Redemann and H. J. Lucas. bibliog Am Chem Soc J 62:842-6 Ap '40

CYANAMIDE
Chemistry of cyanamide. G. Barsky. bibliog il Ind & Eng Chem News ed 18:759-62 S 10 '40
Cyanamide, dicyandiamide, and melamine; optical and crystallographic properties. T. G. Rochow and others. il Ind & Eng Chem 32:1187-8 S '40

CYANIC acid
Molecular structures of methyl isocyanate and cyanic acid by the electron diffraction method; the structural chemistry of cyanic acid and its derivatives. E. H. Eyster, R. H. Gillette and L. O. Brockway. bibliog Am Chem Soc J 62:3236-43 N '40

CYANIDE poisoning
Publish pamphlet on cyanide compounds. Nat Safety N 42:82-3 Jl '40

CYANIDE process
Arsenical gold ores; some tests on the cyanidation of a calcined arsenical gold ore at the hard rock gold mine, H. M. Howard. flow sheet il Can Min J 61:421-8 Jl '40
Charcoal as a gold precipitant in conjunction with flotation. M. W. von Bernewitz. diags Eng & Min J 141:43-7 Mr '40
Chronic arsine poisoning among workers employed in the cyanide extraction of gold; a report of fourteen cases. F. M. R. Bulmer and others. bibliog J Ind Hygiene 22: 111-24 Ap '40
Diatomite an aid in filtering cyanide precipitate. E. C. Bitzer. diag Eng & Min J 141:52-3 O '40
Gold extraction by cyanide; variations in the process as applied by Canadian mills. N. Munro. bibliog flow sheets Can Chem & Process Ind 24:439-42 S '40
In the small cyanide plant; questions of management or organization. C. E. Rodgers. Eng & Min J 141:74-6 Ag '40
Sixty years of development in ore dressing with special attention to the last ten years. C. S. Parsons. Can Min J 60:698-9 N '39

CYANIDE process of hardening. See Case hardening

CYANIDES
Magnetic susceptibilities of some complex cyanides with transition element cations. J. Richardson and N. Elliott. bibliog diag Am Chem Soc J 62:3182-3 N '40

See also
Diazocyanides
Nitriles
Potassium cyanide

Analysis

Determination of small amounts of cyanide in water. J. E. Fasken. bibliog Am Water Works Assn J 32:487-98 Mr '40
Methods of measuring pH in alkaline cyanide plating baths. M. R. Thompson. J Research Nat Bur Stand 24:423-34 Ap '40

CYANINES
Bases of which methincyanines are the quaternary salts. F. M. Hamer. Chem Soc J p799-808 Je '40
Color and constitution; halochromism of anhydronium bases related to the cyanine dyes. L. G. S. Brooker and others. bibliog Am Chem Soc J 62:1116-25 My '40

See also
Phthalocyanines

CYANITE
Kyanite as a glass stone. W. R. Lester. il Glass Ind 21:395-6 S '40
Rate of decomposition of kyanite at various temperatures; North Carolina kyanite of various grain sizes decomposes into mullite and glass in the range 1350° to 1600°C. H. B. Barlett. Am Cer Soc J 23:249-51 S '40

CYANOACETIC acid
Ionization constants of weak acids at 25° from conductance measurements; a method of extrapolating the data. B. Saxton and L. S. Darken. bibliog Am Chem Soc J 62: 846-52 Ap '40

CYANO compounds
Steric inhibition of resonance; rates of reaction of nitro- and cyano-aryl halides. W. C. Spitzer and G. W. Wheland. bibliog Am Chem Soc J 62:2995-3002 N '40

CYANOCOUMARIN
Reaction between quinones and metallic enolates; duroquinone and the enolates of cyanoacetic ester and of β-diketones. L. I. Smith and E. W. Kaiser. bibliog Am Chem Soc J 62:138-40 Ja '40

CYANOGEN
Two new constituents of meteoritic gases. J. D. Buddhue. Am J Sci 238:569-72 Ag '40

See also
Gas purification—
Cyanogen removal

CYANOGUANIDINE
Crystal structure of dicyandiamide. E. W. Hughes. bibliog Am Chem Soc J 62:1258-67 My '40
Cyanamide, dicyandiamide, and melamine; optical and crystallographic properties. T. G. Rochow and others. il Ind & Eng Chem 32:1187-8 S '40
Industrial uses of chemicals and related materials: dicyanodiamide. Oil Paint & Drug Rep 136:53 D 25 '39; 137:34 Ja 1 '40
Process (E.P. 503,670) in which resin formation (from dicyandiamide) can be carried out with alkaline conditions in both stages. A. J. Hall. Textile Col 62:760 N '40

CYANOPHENYLPYRUVIC ester
Alkylation of cyanophenylpyruvic ester. G. S. Skinner and A. J. Green. Am Chem Soc J 62:2882 O '40

CYCLIC compounds
Aromatic cyclodehydration; 6-methyl- and 5-methyl-6-ethylchrysene. C. K. Bradsher and A. S. Burhans. Am Chem Soc J 62: 3140-1 N '40
Aromatic cyclodehydration; phenanthrene. C. K. Bradsher and R. W. Wert. bibliog Am Chem Soc J 62:2806-7 O '40
Bicyclic structures prohibiting the Walden inversion; some bicyclo[2,2,2]octane derivatives with substituents at the bridge-head. P. D. Bartlett and S. G. Cohen. bibliog Am Chem Soc J 62:1183-9 My '40
Catalytic cyclization of aliphatic hydrocarbons to aromatics. A. V. Grosse, J. C. Morrell and W. J. Mattox. bibliog il diag Ind & Eng Chem 32:528-31 Ap '40
Cyclization of dienynes; ring closures with alpha and beta cyclohexenylacetylene derivatives of octalin. C. S. Marvel, D. E. Pearson and L. A. Patterson. bibliog Am Chem Soc J 62:2659-65 O '40
Cyclization of dienynes; the dodecahydrophenanthrone obtained from dicyclohexenylacetylene. C. S. Marvel, D. E. Pearson and R. V. White. bibliog Am Chem Soc J 62: 2741-3 O '40

CYCLIC compounds—*Continued*
Direct introduction of the angular-methyl group. R. B. Woodward. bibliog Am Chem Soc J 62:1208-11 My '40
Experiments on the synthesis of substances related to the sterols; tetracyclic ketones. R. Robinson and J. M. C. Thompson. Chem Soc J p1739-42 N '39
Fused carbon rings; experiments on the synthesis of tetracyclic compounds of the sexual hormone type. V. C. E. Burnop, G. H. Elliott and R. P. Linstead. Chem Soc J p727-35 Je '40
Fused carbon rings; further investigations of model substances of the sexual hormone type. V. C. E. Burnop and R. P. Linstead. Chem Soc J p720-7 Je '40
New chemical proof of the cyclic structure of glucosaminides. A. Neuberger. Chem Soc J p29-32 Ja '40
New route to 9-alkyl- and 9-arylanthracenes. C. K. Bradsher. bibliog Am Chem Soc J 62:486-8 Mr '40
Polycyclic aromatic hydrocarbons; 1- and 2-alkyl derivatives of 3:4-benzphenanthrene. J. L. Everett and C. L. Hewett. Chem Soc J p1159-62 Ag '40
Production of polycyclic aromatic types through the *cyclo*dehydration of unsaturated ketones. W. S. Rapson and R. G. Shuttleworth. Chem Soc J p636-41 My '40
Ring enlargement of two cyclic alpha-chloroketones. T. R. Steadman. bibliog Am Chem Soc J 62:1606-9 Je '40
Synthesis of a new perhydro-9-phenanthrone. C. S. Marvel and R. V. White. bibliog Am Chem Soc J 62:2739-40 O '40
Über die durch pervanadinsäure katalysierte wasserstoffperoxyd-oxydation cyclischer verbindungen. W. Treibs. bibliog Angew Chemie 52:698-700 D 9 '39

CYCLING
Bicycling as a hobby. R. C. Geist. 163p bibliog(p151-4) $2 Harper '40

CYCLOBUTANE
Action of radon on polymethylenes; cyclobutane and cyclobutene. G. B. Heisig. bibliog J Phys Chem 43:1207-12 D '39

CYCLOBUTENE
Action of radon on polymethylenes; cyclobutane and cyclobutene. G. B. Heisig. bibliog J Phys Chem 43:1207-12 D '39

CYCLODEHYDRATION. See Dehydration

CYCLOHEXADIENE
Spectrographic study of the formation of 1,3-cyclohexadiene from cyclohexene. H. Stücklen, H. Thayer and P. Willis. bibliog Am Chem Soc J 62:1717-19 Jl '40

CYCLOHEXANE
Acetylenic cyclohexane derivatives. C. S. Marvel, R. Mozingo and R. White. Am Chem Soc J 62:1880-1 Jl '40
Dehydration of some tertiary alcohols containing the cyclohexane ring. W. A. Mosher. bibliog Am Chem Soc J 62:552-4 Mr '40
Determination of saturated hydrocarbons; aliphatic, aromatic, and hydroaromatic hydrocarbons of the cyclohexane series. E. Berl and W. Koerber. diags Ind & Eng Chem Anal ed 12:175-6 Mr 15 '40
Epimeric alcohols of the *cyclo*hexane series; glucoside formation. D. T. C. Gillespie, A. K. Macbeth and J. A. Mills. Chem Soc J p243-5 F '40
Epimeric alcohols of the *cyclo*hexane series; the parachor as a criterion for *cis-trans*-isomerism. D. T. C. Gillespie, A. K. Macbeth and J. A. Mills. Chem Soc J p280-2 Mr '40
Hydrogenated coal-tar chemicals. G. R. Lawson. Chem Ind 45:679-81 D '39
Photochemical reactions of oxalyl chloride and phosgene with cyclohexane. M. S. Kharasch and H. C. Brown. Am Chem Soc J 62:454 F '40
Solubility of methane in cyclohexane. E. P. Schoch, A. E. Hoffmann and F. D. Mayfield. bibliog diag Ind & Eng Chem 32:1351-3 O '40
Vapor-liquid equilibrium; carbon tetrachloride-benzene mixtures. G. Scatchard, S. E. Wood and J. M. Mochel. bibliog Am Chem Soc J 62:712-16 Ap '40

CYCLOHEXANOIC acid
Kinetics of the esterification of cyclohexanoic acid and of the saponification of its ethyl ester. H. A. Smith and H. S. Levenson. bibliog Am Chem Soc J 62:2733-5 O '40

CYCLOHEXANONE
Preparation and pyrolysis of cyclohexanone. C. D. Hurd, H. Greengard and A. S. Roe. Am Chem Soc J 61:3359-60 D '39
Steric hindrance in ketone-naphthol condensations; the condensations of the naphthols with cyclohexanone. J. B. Niederl, V. Niederl and J. Charney. Am Chem Soc J 62:322-3 F '40

CYCLOHEXENE
Decomposition reactions of the aromatic diazo-compounds; a note on oxidation mechanisms. W. A. Waters. Chem Soc J p1805-7 N '39
Spectrographic study of the formation of 1,3-cyclohexadiene from cyclohexene. H. Stücklen, H. Thayer and P. Willis. bibliog Am Chem Soc J 62:1717-19 Jl '40
Ternary systems involving cyclohexene, water, and methyl, ethyl, and isopropyl alcohols. E. R. Washburn and others. Am Chem Soc J 62:1454-7 Je '40

CYCLOHEXENONE
Some reactions of Δ^2-cyclohexenone, including the synthesis of bicyclo(2,2,2)-octanedione-2,6. P. D. Bartlett and G. F. Woods. bibliog Am Chem Soc J 62:2933-8 N '40

CYCLOHEXYLAMINE
Hydrogenation of aniline. C. F. Winans. bibliog Ind & Eng Chem 32:1215-16 S '40

CYCLOHEXYL compounds
Hexa-*p*-alkylphenylethanes; *p*-cyclohexyl derivatives of hexaphenylethane. C. S. Marvel and C. M. Himel. Am Chem Soc J 62:1550-3 Je '40

CYCLOHEXYLIDENEACETALDEHYDE
Synthesis of compounds related to the antirachitic vitamins. J. B. Aldersley and others. Chem Soc J p10-16 Ja '40

CYCLOHEXYLMETHYLCARBINOL
Hydrogenation of acetophenone to cyclohexylmethylcarbinol in the presence of solvent. V. N. Ipatieff and B. B. Corson. Am Chem Soc J 61:3292 D '39

CYCLONE dust collectors. See Dust collectors

CYCLOÖCTATETRAENE
Attempt to synthesize a substituted cyclooctatetraene. S. Wawzonek. bibliog Am Chem Soc J 62:745-9 Ap '40

CYCLOPARAFFINS
Thermal data on organic compounds; modern combustion data for two methylnonanes, methyl ethyl ketone, thiophene and six cycloparaffins. G. E. Moore, M. L. Renquist and G. S. Parks. bibliog Am Chem Soc J 62:1505-7 Je '40

CYCLOPENTADIENE
Catalytic dehydrogenation of monoolefins to diolefins; source materials for synthetic rubber and resins A. V. Grosse, J. C. Morrell and J. M. Mavity. bibliog diag Ind & Eng Chem 32:309-11 Mr '40
Diene addition products to diaroylethylenes and their transformation products. R. Adams and R. B. Wearn. Am Chem Soc J 62:1233-7 My '40
Hydroxylation of unsaturated substances; the catalytic hydroxylation of cyclopentadiene. N. A. Milas and L. S. Maloney. bibliog Am Chem Soc J 62:1841-3 Jl '40
Kinetics of a diene association under constant volume conditions. D. M. Newitt and A. Wassermann. Chem Soc J p735-7 Je '40
Liquid-phase reactions at high pressures; the explosive decomposition of cyclopentadiene. B. Ralstrick, R. H. Sapiro and D. M. Newitt. Chem Soc J p1770-3 N '39
Liquid-phase reactions at high pressures; the polymerisation of *cyclo*pentadiene and α-di-*cyclo*pentadiene. B. Ralstrick, R. H. Sapiro and D. M. Newitt. diag Chem Soc J p1761-9 N '39

CYCLOPENTADIENE—*Continued*
Synthesis of 1,3-diphenyldihydroisobenzofurans, 1,3-diphenylisobenzofurans and o-dibenzoylbenzenes from the diene addition products to dibenzoylethylene. R. Adams and M. H. Gold. bibliog Am Chem Soc J 62:56-61 Ja '40

CYCLOPENTANE
Dehydrogenation and nitration of hydrocarbons of the cyclopentane series. E. Berl and R. Raab. Ind & Eng Chem Anal ed 12: 177 Mr 15 '40

CYCLOPROPANE
Cyclopropane anesthesia. B. H. Robbins. 175p bibliog(p155-65) $3 Wood '40
Explosive properties of cyclopropane; prevention of explosions by dilution with inert gases; hazards of gases and vapors used in anesthesia. G. W. Jones, R. E. Kennedy and G. J. Thomas. bibliog pl U S Bur Mines Rep of Invest 3511:1-17 '40

CYCLOPROPYL compounds
Rates of reaction of cyclopropyl ketimines with water. J. B. Cloke. bibliog Am Chem Soc J 62:117-19 Ja '40

CYCLOTRON
Cyclotron. W. B. Mann. 92p bibliog(p89-90) $1.50 Chemical pub. co. '40
Cyclotron for the University of Illinois. Science 91:sup9 Je 21 '40
Cyclotron radiofrequency power unit. N. I. Adams, jr. and H. L. Schultz. diag R Sci Instr 11:303-5 O '40
Design and construction of a mercury vapor rectifier tube for use in oscillator plate supply of cyclotron. A. J. Allen and A. G. Nester. diag R Sci Instr 11:43-4 Ja '40
Giant cyclotron to be built for University of California. J Ap Phys 11:339 My '40
Maestro of the atom, Lawrence. L. A. Schuler. il Sci Am 163:68-71 Ag '40
More about the cyclotron. diags Sci Am 163: 71-2 Ag '40
New cyclotron of the University of California. Science 91:sup 10+ Ap 19 '40
Personalities in science; E. O. Lawrence. Sci Am 162:259 My '40
Presentation of the Nobel prize to Professor Ernest O. Lawrence; with response. R. T. Birge. Science 91:323-30 Ap 5 '40
Remote control foil changer. E. Pollard and W. L. Davidson, jr. diags R Sci Instr 11: 345 O '40
Why smash atoms? A. K. Solomon. 174p bibliog(p166-8) $2.50 Harvard univ. press '40

CYLINDERS
Air flow in the boundary layer of an elliptic cylinder. G. B. Schubauer. bibliog il diag U S Nat Advisory Com for Aeronautics 1939:207-26 '40
Area of cylindrical objects; chart. W. F. Schaphorst. Water Works & Sewerage 87: 77 F '40
Rockwell hardness of cylindrical specimens. W. E. Ingerson. Am Soc T M Proc 39: 1281-8; Discussion. 1289-91 '39

CYLINDERS (engines, etc.)
Chromium plating cylinder bores; abstract. H. van der Horst. S A E J 46:sup30+ Je '40
Cylinder lubrication of high-speed Diesel engines as influenced by temperature and the combustion process. A. T. McDonald and L. A. Blanc. Am Pet Inst Proc 20(3):25-32 '39
Induction heating, followed by water-spray quench; newly developed method for hardening inside wearing surfaces of cylinders, etc. il Steel 105:54+ N 27 '39; Same cond. Iron Age 144:40 N 30 '39; Excerpt. Mach 46:296 D '39
Study of air flow in an engine cylinder. D. W. Lee. il diags U S Nat Advisory Com for Aeronautics 1939:227-39 '40
Surface heat-transfer coefficients of finned cylinders. H. H. Ellerbrock, jr. and A. E. Biermann. bibliog diags U S Nat Advisory Com for Aeronautics 1939:651-64 '40

Lining
Cracking of Diesel cylinder liners. H. J. Vander Eb. il diag Locomotive 43:46-8 Ap '40

Manufacture
Casting aluminum cylinder heads for aircraft; Wright aeronautical corp. il Foundry 68:46-9+ N '40
Changes methods to reduce cylinder casting loss. J. E. Olson. diags Foundry 68:88-9+ My '40
Chrome plating cylinder bores. Automotive Ind 81:579, 592 D 1 '39
Chromium plating of motor cylinders. H. Van der Horst. il Metal Ind 38:76-8 F '40
Enamels for aircraft engine cylinders. M. A. Coler. il Aero Digest 36:46-8+ Ap '40
Machine heats and quenches inner walls of metal cylinders. il Comp Air M 45:6244 S '40
Moulding and casting aluminum alloy cylinder heads; Wright aeronautical corp. il Aero Digest 37:114-15 N '40

Wear
Chrome hardening as an antidote to cylinder wear. Automobile Eng 29:453 D '39
Chrome plating cylinder bores. Automotive Ind 81:579, 592 D 1 '39
Cylinder liner wear in gas engines. Engineering 150:216-17 S 13 '40
Does condensation cause gas-engine wear? B. Maddock. Power 84:590 S '40
Mechanics of wear in cylinder bores; abstract. P. S. Lane. Steel 106:46 F 26 '40
Piston-ring coatings and their effect on ring and bore wear. M. M. Roensch. il S A E J 46:221-8 My '40
Wear related to structure; abstracts. E. K. Smith. Foundry 68:57 Ja '40; il Steel 106: 44+ F 26 '40

CYMENE
p-Cymene studies; mononitration of 2-amino-*p*-cymene; preparation of 3-amino-*p*-cymene and *o*- and *p*-cymylenediamine. T. F. Doumani and K. A. Kobe. Am Chem Soc J 62: 562-5 Mr '40
Liquid-phase hydrogenation of *p*-cymene. K. A. Kobe and A. Vittone. bibliog Ind & Eng Chem 32:775-7 Je '40
Preparation and properties of 6-halogenated carvacrylamines from *p*-cymene. R. W. Bost and G. C. Kyker. bibliog Am Chem Soc J 62:913-17 Ap '40

CYMYLENEDIAMINE
p-Cymene studies; mononitration of 2-amino-*p*-cymene; preparation of 3-amino-*p*-cymene and *o*- and *p*-cymylenediamine. T. F. Doumani and K. A. Kobe. Am Chem Soc J 62. 562-5 Mr '40

CYPRESS
Tidewater red cypress. Am Bld 62:82 Ja '40

CYPRUS
See also
Railroads—Cyprus

CYSTAMINE
Synthesis of some new pyrimidines and uric acids from cystamine. E. J. Mills, jr. and M. T. Bogert. bibliog Am Chem Soc J 62: 1173-80 My '40

CYSTEINE
Anodic reaction and waves of cysteine at the dropping mercury electrode and at the platinum micro wire electrode. I. M. Kolthoff and C. Barnum. bibliog Am Chem Soc J 62:3061-5 N '40
Effect of thiol compounds on gonadotrophins. H. L. Fraenkel-Conrat, M. E. Simpson and H. M. Evans. bibliog Science 91:363-5 Ap 12 '40
Sulfhydryl and cysteine derivatives of 1,2-benzanthracene, 10-methyl-1,2-benzanthracene and 3,4-benzpyrene. J. L. Wood and L. F. Fieser. bibliog Am Chem Soc J 62: 2674-81 O '40

CYSTINE
Photochemical decomposition of the cystine in wool. H. A. Rutherford and M. Harris. bibliog J Research Nat Bur Stand 23:597-601 N '39; Same. Am Dyestuff Rep 28:655-6+ N 13 '39

CZECHOSLOVAKIA
Great Britain recognizes Czecho-Slovak committee as representing nation. Comm & Fin Chr 149:4098 D 30 '39
Hitler's protectorate; passive and active resistance to Nazi occupation. Economist 137: 276-7 N 25 '39
Ten million prisoners (protectorate Bohemia and Moravia). V. Beneš and R. A. Ginsburg. 180p pa 60c Czech-American national alliance, 4047 W. 26th st, Chicago '40
See also
Debts, Public—Czechoslovakia

Industries and resources
Austrian and Czech industry in the war. Economist 138:375-6 Mr 2 '40

Partition
German labor measures in Bohemia-Moravia. Monthly Labor R 49:1406-8 D '39

Politics and government
Czech national committee. Economist 137:505 D 30 '39

D

DAIREN, Manchuria
Port of Darien. il(cover) Comm Rep p497-8 Je 1 '40

DAIRIES
Prize-winning designs in the Insulux glass block competition no. 3; dairy with milk bar. il diags plans Arch Forum 72:sup 15-21 Ja '40
See also
Milk plants

Accounting
Approaches to budgetary control in the dairy industry. A. Herrick. J Account 70:43-9 Jl '40

Cleaning
Application of wetter water to dairy and milk plant use; abstract. F. M. Scales and M. Kemp. Food Ind 11:710 D '39

Power
No Btu's lost in Dieselized dairy; heat recovery from Diesel and steam engines working together supplies hot-water; Borden's Willow Brook plant. il diag Power 84:22-4 Ja '40

DAIRY products
See also
Butter
Butter fat
Casein
Cheese
Lactic acid
Milk
Milk trade

Advertising
Dairy cooperative program. Ptr Ink 193:22 O 25 '40

Statistics
Dairy produce in 1939. Economist 138:sup 31-2 F 17 '40
Production of manufactured dairy products, revision; monthly, 1923-June, 1940. Fed Res Bul 26:851 Ag '40

DAIRY research
Chemurgy and the dairy industry. F. C. Atwood. Oil Paint & Drug Rep 138:5+ S 30; 61 O 7 '40

DAIRY waste
How dairy wastes affect cement mortar. F. M. Lea and G. E. Bessey. Concrete 48: 41-2 Ap '40
Installation and operation of a small dairy waste treatment plant; abstract. C. M. Nichols. Water Works & Sewerage 87:158-9 Ap '40
Methods and results of activated sludge treatment of dairy wastes. S. D. Montagna. Pub Works 70:27-8 D '39
Milk waste in sewage disposal. Eng N 124: 810 Je 6 '40
Milk waste; three treatment processes (trickling filter, Guggenheim and activated sludge); abstract. Hatch and Bass. Eng N 125:410 S 26 '40
New developments in treatment of milk wastes. L. F. Warrick. bibliog flow diag il Food Ind 12:46-8, 99 S '40
Oxidation of lactose by activated sludge. S. H. Jenkins and R. Wilkinson. Soc Chem Ind J 59:125-8 Je '40
Trickling filters. M. Levine. Can Eng W & S 78:10-11, 42-7 Jl '40

DAIRYING
Americas to pool advances in dairy industry technology. Food Ind 12:64 N '40
Beatrice Creamery holds uptrend. E. A. Barnes. il Mag of Wall St 66:232-3+ Je 1 '40
Dairy profit. W. J. Fraser. 270p $1.80 The Interstate, 19 N. Jackson st, Danville, Ill. '40
Greener pastures for dairy companies. F. H. McConnell. Barron's 20:8 Ja 1 '40
See also
Milk
Milk trade
National dairy products corporation
Western dairies, inc.

Finance
SEC issues 1939 supplement covering financial operations of listed corporations producing and distributing dairy products. Comm & Fin Chr 151:2735 N 9 '40

Great Britain
Maypole dairy company 42d ordinary general meeting, London. Economist 138:658 Ap 6 '40

DAIRYING, Cooperative
Cooperative dairying. V. J. Tereshtenko and others. 212 l Work projects administration, Washington, D.C. '40

DALLAS, Texas

Architecture
Record poll in Dallas produces wide variety of choices. il map Arch Rec 88:16, 18 Ag '40

Politics and government
City manager government in Dallas (Texas). H. A. Stone, D. K. Price and K. H. Stone. 93p pa 60c Public administration service, Chicago '39

Sewerage
New sewage treatment plant. R. M. Dixon. il plans Water Works & Sewerage 87:245-55 Je '40

Water supply
Taste and odor control at Dallas. L. C. Billings. Am Water Works Assn J 32:613-20 Ap '40

DALLAS gas company
Gas lines and sky lines. R. G. Soper and W. F. Wright. il Gas Age 86:46-8 N 7 '40

DALTON, Henry George, 1862-1939
Sketch. por Steel 106:318-19 Ja 1 '40

DAMAGES
Action to recover damages for trichinosis. Pub Health Rep 55:1282-3 Jl 12 '40
Cases on the law of damages. R. S. Bauer, ed. 3d 6d 646p $5.50 Callaghan '40
Cases on the law of damages. J. A. Crane. 2d ed 521p $5 West '40
Collisions—who will pay the bill? summary of recent court decisions. L. T. Parker. Bus Transportation 19:170-1 Ap '40
Customer is sometimes right; defective merchandise and foreign objects in food responsible for many claims for damages. F. E. Morris. il Nat Safety N 41:12-13, 62+ Je '40
Damages awarded to contractors for forced idleness on highway project in Mount Rainier national park. Eng N 123:809 D 21 '39
I'll be suing you; how the courts determine company liability in cases of injuries. L. T. Parker. Bus Transportation 19:370-1 Ag '40

DAMAGES—*Continued*
Recent court cases. W. Summerfield. Engineering 149:55-7, 120-1, 148-9, 338-9 Ja 19, F 2-9, Mr 29 '40
Recent court cases; emergency street lighting; claims for damages in respect of traffic accidents. W. Summerfield. Engineering 150:84-5 Ag 2 '40
See also
Accidents, Industrial
Employers' liability
Negligence
Workmen's compensation

DAMASK
Staple cotton fabrics; table-cover and napkin fabrics. J. Hoye. il Textile World 90:101 Ja '40

DAMPERS
Damper specialty promotes contractor's heating business; L. H. Bingham, Bayside, N.Y. il Sheet Metal Worker 31:56+ My '40

DAMPING capacity. See Hysteresis (mechanics)

DAMPNESS in buildings
Basement condensation and a remedy. Sheet Metal Worker 31:26 Mr '40
Concrete walls eliminate condensation in dairy buildings. G. B. Hanson. diags Concrete 48:16+ Ag '40
Current problems in wall condensation. L. V. Teesdale. Heat & Ven 37:46-7 N '40
Heaters prevent condensation on hydro station generators. J. E. Housley. il Elec W 113:1054-6 Ap 6 '40
Humidity damage to buildings and means for its prevention. C. R. Downs and J. W. Spiselman. il diag Chem & Met Eng 47: 620-1+ S '40
Novel design features of the Lansing water conditioning plant; air-conditioning. C. R. Erickson. diag Am Water Works Assn J 32:1270-3 Ag '40
Permissible relative humidities in humidified buildings. P. D. Close. diag Heating-Piping 11:766-8 D '39
Solution for ceiling sweat problems. Water Works & Sewerage 87:492 O '40
Water in refrigeration insulation; tests, using Fiberglass. T. T. Tucker and G. A. Robertson. il diags plan Refrig Eng 39:364-6 Je '40

DAMS
Construction planning and plant. A. J. Ackerman and C. H. Locher. 381p $4 McGraw-Hill '40
Core control and cutoff construction at Kingsley dam. W. J. Turnbull; G. N. Carter. il Civil Eng 10:623-7 O '40
Delaware aqueduct, New York; Merriam dam. il diags Engineer 170:101-2 Ag 16 '40
Denison dam; abstract. L. D. Clay. Water Works & Sewerage 86:472 D '39
Denison dam work gets under way. il map Eng N 125:376-7 S 19 '40
Developing the Santee and Cooper rivers; combined power and navigation project in South Carolina. il diags map Eng N 124: 706-11 My 23 '40
Dispositif d'aiguilles métalliques et de tôles, remplaçant les aiguilles en bois dans les barrages à fermettes. diags Génie Civil 115: 457 D 23 '39
Dredging the Tennessee river. C. H. Vivian. il map Comp Air M 45:6138-42 My '40
Green Mountain dam ready for fill. il Eng N 125:190-1 Ag 8 '40
Grouped reservoirs control floods on the Colorado river. C. McDonough. il map Eng N 124:793-6 Je 6 '40
Hydraulic filling ended at Fort Peck. il Eng N 123:659 N 16 '39
Influence of the mechanical mind on the development of irrigation through the ages. E. B. Ball. il diag Inst Mech Eng J & Proc 142:Proc 407-11, pl 1-8 Mr '40; Same. Engineer 169:179-81 F 23 '40; Same. Engineering 149:235-7, pl 11 Mr 1 '40
Items to be checked in dam construction; clearance card, Grand Coulee dam. il Eng N 124:467 Mr 28 '40
Ladybower reservoir, Derbyshire. il diags Engineer 168:440-2, 448 N 3 '39
Major projects of 1939. il Eng N 124:264-5, 268-70, 272 F 15 '40
Modern construction methods on earth dams. O. N. Floyd. il Civil Eng 10:487-90, 586-9 Ag-S '40
Mountain water for Bethlehem. il map Eng N 125:36-8 Jl 4 '40
Naught but the best; one engineer's philosophy as applied to dams and current doctrines. T. Merriman. Civil Eng 9:701-2 D '39
New hydro plant at Swinging Bridge. L. G. Raper and A. L. Mixer. Power Pl Eng 44:44 Ag '40
New type of rock spreader puts facing on earth dam. il Eng N 125:239 Ag 15 '40
Oklahoma files against giant Denison project; questions right of government to construct dam on Red river without compensation to state. Elec W 112:1754 D 16 '39
Pittsburg conservation reservoir development of the New Hampshire water resources board. R. S. Holmgren. il diags plan maps Boston Soc C E J 27:110-35 Ap '40
Prado dam to control floods on the Santa Ana river. Eng N 124:500 Ap 11 '40
Recreational use of forest waters; designing dams to improve the recreational advantages. C. A. Betts. il diags Eng N 125:297-9 Ag 29 '40
Regulation of the upper Mississippi. il diags map Engineering 150:41-3, pl 4-5 Jl 19 '40
Report of subcommittee on cores, cutoffs, and impermeazation. Civil Eng 10:673-4 O '40
River control and water storage in 1939. il diag plan map Engineer 169:10-12, supp 5, 33-4 Ja 5-12 '40
Shell material in dams of Miami conservancy district. C. H. Eiffert. il Eng N 124:863 Je 20 '40
65,000 yards daily at Hansen dam. il Eng N 124:497-500 Ap 11 '40
Small, antiquated hydro salvaged for modest outlay; High Falls plant of the Central New York power corporation. W. G. Fielder. il plans Elec W 114:687-9 S 7 '40
Story of a dam. G. Le May. 66p $1.50 Longmans '40
Two dams in Mexico; Salinillas lake and Madero. il Engineer 169:54, 64 Ja 19 '40
Water supply system of San Francisco. N. A. Eckart. il plan map Am Water Works Assn J 32:751-94 My '40
Whitney Point dam. S. E. Hunkin. il Cornell Eng 5:8-11 F '40
See also
Cofferdams
Colorado river—Boulder Dam project
Columbia river—Bonneville dam
Columbia river—Grand Coulee dam
Dikes (engineering)
Earth pressure
Hydroelectric plants
Irrigation
Reservoirs
Rivers—Regulation
Spillways

Cost
Arkabutla dam, Mississippi; unit prices. Eng N 125:316 S 5 '40
Birch Hill dam, Massachusetts; unit prices. Eng N 125:132 Jl 25 '40
Blackwater dam, New Hampshire; unit prices. Eng N 124:752 My 23 '40
Contract unit bid prices; list of projects showing how contractors bid in 1939-1940. Eng N 124:sup153-60 Je 20 '40
Cottage Grove dam, Oregon; unit prices. Eng N 125:178 Ag 1 '40
Denison dam, Texas and Oklahoma; unit prices. Eng N 124:812 Je 6 '40
Fern Ridge dam, Oregon; unit prices. Eng N 124:470 Mr 28 '40
Fort Supply dam, Oklahoma; unit prices. Eng N 125:258 Ag 22 '40
Franklin Falls dam, New Hampshire; unit prices. Eng N 123:733 N 30 '39
Fullerton dam, California; unit prices. Eng N 124:693 My 16 '40
Indian Rock dam, Pennsylvania; unit prices. Eng N 124:141 Ja 25 '40
Kanopolis Dam tunnel, Kansas; unit prices. Eng N 125:48 Jl 4 '40
Marshall Ford dam completion, Texas; unit prices. Eng N 125:246 Ag 15 '40

DAMS—Cost—*Continued*
Outlet works, Blue Mountain dam, Arkansas; unit prices. Eng N 124:834 Je 13 '40
Sepulveda dam, California; unit prices. Eng N 124:188 F 1 '40
See also
Dams, Concrete—
Cost

Design

Bartlett multiple-arch dam, U.S.A. il diags plan Engineer 170:70-2, 86-8 Ag 2-9 '40
Basic design assumptions. I. E. Houk and K. B. Keener. Am Soc C E Proc 66:813-28 bibliog(38 titles, p827-8) My '40; Discussion. 66:1540-3, 1702-5 O-N '40
Construction joints. B. W. Steele. bibliog il diags Am Soc C E Proc 66:908-43 My '40
Design of arch dams; with tables to facilitate the computation of forces, moments, and radial deflections. R. S. Lieurance. diags Am Soc C E Proc 66:829-51 My '40
Design of Hiwassee dam. C. E. Pearce. il diags plan map Civil Eng 10:340-3, 433-6 Je-Jl '40
Fitting rolled earth dams to local materials. B. K. Hough, jr. il diags Civil Eng 10: 689-92 N '40
Foundation conditions and treatment at Guntersville dam. V. Gongwer. il diags Am Soc C E Proc 66:431-62 Mr '40
Genissiat dam. il diags Engineer 168:510 N 24 '39
Haweswater dam. D. G. Davies. diags Engineer 169:141-3 F 9 '40
John Martin reservoir project for flood control and water conservation in the Great Plains area. il diags map Eng N 125:614-17 N 7 '40
Model study of Green Mountain Dam spillway. J. H. Douma. il diags Civil Eng 10: 153-6 Mr '40
Mono Basin project; plan, sections and details of the Long Valley dam. Engineer 169:566 Je 28 '40
Novel construction method for curtain wall; abutment of Kingsley dam. G. N. Carter. il Civil Eng 10:626-7 O '40
Probable maximum flood flow from a small watershed. J. K. Bartlett and T. G. Pfiffner. Civil Eng 10:233-5 Ap '40
St Saviour's dam, Guernsey. il diags plan Engineer 169:300-1, 304 Mr 29 '40
Small dam for a big job; Cranston Pond project in Rhode Island; inclusion of fish ladder. C. A. Frye. il diags Eng N 124:726-8 My 23 '40
Soil mechanics; abstract. A. W. F. McQueen and R. C. McMordie. Can Eng R & B 78: 76-7 F '40
Water-power dam in Sweden formed of concrete monoliths. diags Eng N 123:703-4 N 23 '39
Water supply of Rangoon, Burma. il diags Engineer 169:488-9, 496 My 31 '40; Abstract. Eng N 125:279 Ag 29 '40

Fish problem

Making a water tunnel entrance 165 ft. below lake surface; new fish hatchery at Leavenworth, Wash. diags Eng N 124:371 Mr 14 '40
Small dam for a big job; Cranston Pond project in Rhode Island; inclusion of fish ladder. C. A. Frye. il diags Eng N 124: 726-8 My 23 '40

Flashboards

Flash-board pins; formulas and stress values for the design of pipe supports. C. A. Wright and C. A. Betts. bibliog il diags plan Am Soc C E Proc 65:771-803 My '39; Discussion. 65:1628-34, 1803-4; 66:185-90, 671-2, 1213-16 N '39-Ja, Ap, Je '40

Foundations

Basic design assumptions. I. E. Houk and K. B. Keener. Am Soc C E Proc 66:813-16 My '40
Compaction of soils by explosives; Franklin Falls Dam site. A. K. B. Lyman. il Civil Eng 10:205-7 Ap '40
Consolidation of embankment and foundation materials; progress report of subcommittee of the soil mechanics and foundations division on earth dams and embankments. diags Am Soc C E Proc 66:1491-1509 O '40
Damsite surveying by seismograph. A. E. Wood. map Eng N 124:438-41 Mr 28 '40
Design of Hiwassee dam. C. E. Pearce. il Civil Eng 10:340-1 Je '40
Field tests of a shale foundation; Possum Kingdom dam. A. E. Niederhoff. il diags Am Soc C E Proc 65:1239-54 S '39; Discussion. 66:117-20, 321-2, 1217-24 Ja-F, Je '40
Foundation experiences, Tennessee Valley authority; symposium. il diags plan maps Am Soc C E Proc 66:384-499 Mr '40; Discussion. 66:980-3, 1139-1209, 1341-6 My-Je, S '40
Foundation exploration at Kentucky dam. A. V. Lynn and R. F. Rhoades. il diags Eng N 125:480-3 O 10 '40
Geologic conditions at Pittsburg, N.H. dam site. I. B. Crosby. Boston Soc C E J 27:136-8 Ap '40
Geological problems of dams. I. B. Crosby. bibliog Am Soc C E Proc 66:869-90 My '40; Discussion. 66:1529-34, 1697-1700 O-N '40
Improved sampler and sampling technique for cohesionless materials; equipment and methods used on Denison dam and reservoir project. H. L. Johnson. il diags Civil Eng 10:346-8 Je '40
Large core drills aid construction at Chickamauga dam. J. L. Lewis, jr. il diags Am Soc C E Proc 65:953-67 Je '39; Discussion. 65:1464; 66:112-14, 301-2 O '39, Ja-F '40
Large peg model reproduces damsite borings. A. V. Lynn and R. F. Rhoades. il Eng N 124:372 Mr 14 '40
Launched bracing cuts cofferdam costs; Cooper River dam near Camden, N.J. J. H. Osler, jr. il diags Eng N 125:623-5 N 7 '40
Miniature system of first-order alinement and triangulation control; measuring horizontal movements of Tygart dam. F. W. Hough. il diags Am Soc C E Proc 65:1707-17 D '39; Discussion. 66:1133-8 Je '40
Pile bearing increased by close driving. W. Z. Lidicker. diag Eng N 125:172-4 Ag 1 '40
Preparation of foundations. C. H. Paul and J. Jacobs. il diags Am Soc C E Proc 66: 852-68 My '40
Shasta will harness the Sacramento; illustrations. Explosives Eng 18:237-44 Ag '40
Technique of triaxial compression tests. J. D. Watson. diags Civil Eng 9:731-3 D '39
Two TVA core-drill jobs. P. H. Kline. il diags Comp Air M 45:6083-7 F '40

Ice problem

Defrosters ready for Grand Coulee dam. Iron Age 146:76 N 7 '40
Induction heating applied to Coulee drum gates; de-iceing system. R. D. Goodrich, jr. il diags Elec West 85:46-8 O '40

Location

Damsite surveying by seismograph. A. E. Wood. map Eng N 124:438-41 Mr 28 '40
Foundation exploration and geologic studies at Chickamauga dam. P. P. Fox. il diags map Am Soc C E Proc 66:463-77 Mr '40
Foundation exploration and geologic studies at Guntersville dam. R. M. Ross. il diags maps Am Soc C E Proc 66:420-30 Mr '40
Geological problems of dams. I. B. Crosby. bibliog Am Soc C E Proc 66:869-90 My '40

Model testing

Model studies of overflow spillway sections. A. S. Offitzeroff. Civil Eng 10:523-6 Ag '40

Models

Le barrage Boulder, sur le Colorado (États-Unis); calculs et essais sur modèles. P. Caufourier. il diags Génie Civil 116:321-5 My 18 '40
Large peg model reproduces damsite borings. A. V. Lynn and R. F. Rhoades. il Eng N 124:372 Mr 14 '40
Model study of Green Mountain Dam spillway. J. H. Douma. il diags Civil Eng 10:153-6 Mr '40

DAMS—Models—*Continued*
Two hydraulic models; spillways of Idanha and Pego do Altar dams. il diags plan Engineer 170:212-14 O 4 '40

Movement

Miniature system of first-order alinement and triangulation control; measuring horizontal movements of Tygart dam. F. W. Hough. il diags Am Soc C E Proc 65:1707-17 D '39; Discussion. 66:1133-8 Je '40

Protection

Surface protection added to old dams at high altitudes. il Eng N 124:826-7 Je 13 '40

Reconstruction

Historic Austin dam rebuilt. C. McDonough. il diags Eng N 124:844-7 Je 20 '40

Waterproofing

Rubber waterstops for dams. C. P. Vetter. il diags Eng N 124:159-61 F 1 '40

DAMS, Concrete
L'aménagement de la Skagit river pour la fourniture de l'électricité à la ville de Seattle (Washington, É.-U.); le barrage Ross. P. Caufourier. il plan map Génie Civil 116:177-9 Mr 16 '40
Bartlett multiple-arch dam, U.S.A. il diags plan Engineer 170:70-2, 86-8 Ag 2-9 '40
Batching, mixing and placing concrete on great Santee-Cooper project in South Carolina. il Concrete 48:3-4 O '40
Belt takes aggregate to Shasta. il map Eng N 125:102-4 Jl 18 '40
Cherokee dam started by the TVA. Eng N 125:189 Ag 8 '40
Concrete aggregate development on the Claytor hydro project. G. W. Hutchinson. il Am Concrete Inst J 11:273-95 Ja '40; Discussion. C. A. G. Weymouth. 12:sup 296¹-296² S '40
Concrete for dams must be of highest quality. il diags Concrete 48:16, 18+ N '40
Concrete for hydraulic structures. G. S. Latin. il diags Engineer 168:527-8, 550-1 N 24-D 1 '39
Concrete for Pensacola dam. M. G. Fuller. il diags Eng N 124:154-8 F 1 '40
Concrete surfaces improved by absorptive form lining for spillways of high dams. il Eng N 124:40-2 Ja 4 '40
Conveyor to handle aggregate at Shasta dam. Power Pl Eng 44:128 Ja '40
Cooling the concrete of Grand Coulee dam. C. Rawhouser. diag Mech Eng 62:715-18 O '40
Design of Hiwassee dam. C. E. Pearce. il diags plan map Civil Eng 10:340-3, 433-6 Je-Jl '40
Effect of Shasta dam on the Sacramento river. F. M. S. Johnson. maps Civil Eng 10: 108-10 F '40
Find way to eliminate voids under forms on concrete surface; form lining of absorptive insulating board. C. O. Crane. il Concrete 48:5-6+ Mr '40
Foundation conditions and treatment at Guntersville dam. V. Gongwer. il diags Am Soc C E Proc 66:431-62 Mr '40
Foundation treatment and reservoir rim tightening at Norris dam. J. S. Lewis, jr. il diags Am Soc C E Proc 66:385-419 Mr '40
Friant dam. H. W. Young. il diags Explosives Eng 18:272-5 S '40
Genissiat dam. il diags plan Engineer 168: 510-12, 520 N 24 '39
Getting set for Shasta concreting; illustrations. Eng N 124:684-5 My 16 '40
Grand Coulee dam and the Columbia Basin reclamation project. S. E. Hutton. il plan map Mech Eng 62:651-60 S '40
Haweswater dam. D. G. Davies. diags Engineer 169:141-3 F 9 '40
Historic Austin dam rebuilt. C. McDonough. il diags Eng N 124:844-7 Je 20 '40
How Friant dam is being built. il diags Eng N 125:144-8 Ag 1 '40
Largest conveyor system for Shasta dam. R. H. Rogers. Steel 106:57 Ja 15 '40; Same cond. Concrete 48:8 F '40
Launched bracing cuts cofferdam costs; Cooper River dam near Camden, N.J. J. H. Osler, jr. il diags Eng N 125:623-5 N 7 '40
Masonry dams; symposium. il diags Am Soc C E Proc 66:811-943 My '40; Discussion. 66:1379-1409, 1529-61, 1697-1709, 1839-45 S-D '40
Miniature system of first-order alinement and triangulation control; measuring horizontal movements of Tygart dam. F. W. Hough. il diags Am Soc C E Proc 65:1707-17 D '39
Norris Dam construction cableways; with cost data. R. T. Colburn and L. A. Schmidt, jr. il diags plans Am Soc C E Proc 65:1733-64 D '39; Discussion. 66:584-6, 793-4, 1139-44 Mr-Ap, Je '40
Outside rods hold semi-circular concrete form without interior ties; spillway section of Guntersville dam. il diags Eng N 125:489 O 10 '40
Placer mining for Shasta dam; world's longest conveyor system will carry gravel washed for gold. il Eng & Min J 141:52-3 Jl '40
Preparing the aggregate for Shasta concrete. flow sheet il Eng N 125:100-1 Jl 18 '40
St Saviour's dam, Guernsey. il diags plan Engineer 169:300-1, 304 Mr 29 '40
Shasta Dam construction layout. il diags plan Eng N 125:18-21 Jl 4 '40
Shasta Dam conveyor-belt system. H. W. Young. il map Comp Air M 45:6249-53 O '40
Silica dust control at Hiwassee dam. L. P. Hatch and D. F. Shaw. il diag plan Civil Eng 10:582-5 S '40
Surface protection added to old dams at high altitudes. il Eng N 124:826-7 Je 13 '40
Ten miles of belt conveyors supply Shasta dam. il Concrete 48:37 Je '40
Testing the solubility of cements; performance in concrete under water pressure on one side only. Concrete (mill sec) 48:251-2 O '40
Water-power dam in Sweden formed of concrete monoliths. diags Eng N 123:703-4 N 23 '39
What equipment to lift face forms of dam? Am Concrete Inst J 11:412-13 F '40
World's longest belt conveyor will bring aggregates to Shasta Dam site. il maps Eng N 123:736 D 7 '39; Sci Am 162:96 F '40
York refrigerates Marshall Ford dam. Refrig Eng 39:312 My '40

Cost

Friant dam, California; unit prices. Eng N 123:669 N 16 '39
Nimrod dam, Arkansas; unit prices. Eng N 124:482 Ap 4 '40

Joints

Construction joints. B. W. Steele. bibliog il diags Am Soc C E Proc 66:908-43 My '40; Discussion. 66:1534-7, 1553-8, 1700-2, 1707-9 O-N '40
How to keep horizontal construction joints moist while carpenters are at work. il Am Concrete Inst J 11:409-12 F '40
Rubber waterstops for dams. C. P. Vetter. il diags Eng N 124:159-61 F 1 '40

Repair

Repairing damaged concrete on the face of Spaulding dam; shotcrete coating. il Eng N 123:844-5 D 21 '39

DAMS, Movable

Vibration

Über schwingungen von wehren. R. Seifert. bibliog il diags V D I 84:105-10 F 17 '40

DANA, John Cotton, 1856-1929
John Cotton Dana; a life. F. Kingdon. 175p $3 Newark public library and museum, Newark '40

DANBURY (Connecticut) and Bethel gas and electric light company
To sell securities. Comm & Fin Chr 151:2494 O 26 '40

DANDRUFF
Dandruff germ; pityrosporum ovale. Science 92:sup9 Ag 9 '40

DANDRUFF—*Continued*
Isolation and pathogenicity of pityrosporum ovale associated with seborrhea capitis or dandruff. C. W. Emmons. bibliog diags Pub Health Rep 55:1306-12, pl 1 Jl 19 '40
Listerine beleaguered; FTC launches new action. Business Week p39-40 Ag 24 '40

DANIELS, Edwin
Presbyterian church; Reverend Daniels of Fulton, New York, opposes all wars. por Fortune 20:69-72, 123-4 D '39

DANUBIAN countries

Commerce
Transport in Danubia; barrier to trade with Germany. map Economist 137:456-7 D 23 '39

DARKROOMS. See Photography—Studios and darkrooms

DARTMOUTH college
Entomology; Henry Clinton Fall fund. Science 91:184 F 23 '40

DATURA
White-flowered race of datura from aged seed which is genetically distinct from similar white races in nature; abstract. A. F. Blakeslee and A. G. Avery. Science 92: 415 N 8 '40

DAVENPORT, Iowa

Schools
Six new community schools for one city. il plans Arch Rec 88:100-2 O '40

DAVIDSON, Clinton
President of Estate planning corporation has a party. pors East Underw 41:3+ Ag 23 '40

DAVIS, Ewin Lamar, 1876-
FTC in unofficial profile; sketch. S. Rippey. por Adv & Sell 33:21 F '40
Portrait. Business Week p35 Ja 6 '40

DAWSON, Harry Medforth, 1876-1939
Sketch. R. W. Gray and G. F. Smith. Chem Soc J p564-8 Ap '40

DAWSON, Wilfred Thomas, 1895-1939
Sketch. C. H. Taft, jr. Science 91:538-9 Je 7 '40

DAYLIGHT
Black-out and day-time conditions; wartime factory lighting during daylight working. il Electrician 125:110 Ag 30 '40
Calculation of illumination from sun and sky. E. Elvegård and G. Sjöstedt. bibliog Illum Eng 35:333-42 Ap '40
Combining natural and electric lighting. J. F. Springer. Rayon 21:178-9, 314-15 Mr, My '40
Design for daylight. il diags Arch Forum 73:43-8 Jl '40
Relates artificial to natural daylight; color temperature chart. Elec W 114:1350+ N 2 '40

See also
Windows

DAYLIGHT, Artificial
Artificial daylighting studies for use in grading agricultural products. D. Nickerson. bibliog il diag Illum Eng Soc Trans 34: 1233-50; Discussion. 1250-3 D '39
Color matching at the Forbes varnish company. R. F. Wysocki and A. K. Gaetjens. il diag Illum Eng 35:343-50 Ap '40
Cooler footcandles for air conditioning. W. G. Darley. bibliog il diags Heating-Piping 12: 495-500 Ag '40
Fluorescent lamps and their applications. A. B. Oday and R. F. Cissell. il Illum Eng Soc Trans 34:1165-80; Discussion. 1180-8 D '39
Luminous ceiling gives 100 ft.-candles for drafting; Commonwealth Edison company's drafting rooms. E. D. Tillson. il diags Elec W 113:729-31+ Mr 9 '40
Man-made sunlight for miners; Boliden gold mine in Swedish Lapland, solarium equipped with ultra-violet and infra-red lamps. H. Lundbergh. Sci Am 162:234-5 Ap '40
Relates artificial to natural daylight; color temperature chart. Elec W 114:1350+ N 2 '40
Three-phase light sources as applied to accelerated light fastness testing equipment and color matching lamps; sunshine carbon arcs. M. J. Dorcas. il Am Dyestuff Rep 29: 110-16 Mr 4 '40

DAYLIGHT saving
Daylight saving cuts auto deaths; abstracts. Nat Underw 44:21+ My 23 '40; Ins Field (Fire ed) 69:32 My 23 '40
Radio and d.s.t.; broadcasters should not cater to daylight saving. W. E. Heuermann. Ptr Ink 193:30, 32-3 O 18 '40
L'usage périodique d'une heure d'hiver et d'une heure d'été. E. Esclangon. Génie Civil 116:52-3 Ja 20 '40

DAYTON power and light company
$25,000,000 bonds offered. Comm & Fin Chr 150:991-2 F 10 '40

DEAERATION
Determination of air in citrus juices. H. J. Loeffler. il diag Ind & Eng Chem Anal ed 12:533-4 S 15 '40

DEAF
Deaf people more acceptable to employers than other job-seekers with handicap; abstract. I. W. Booth. Science 92:sup14 S 27 '40
Education of the deaf; American association to promote the teaching of speech to the deaf, will honor Dr Alexander Graham Bell. Science 91:sup8-9 Je 21 '40
Employment of the deaf in the United Kingdom; abstract. M. L. Clark and G. P. Crowden. J Ind Hygiene 22:sup3-4 Ja '40

DEAF, Instruments for
Handbook of hearing aids. A. F. Niemoeller. 155p $3 Harvest house, New York '40
Hearing aid tubes. il Electronics 13:66 S '40
Receiver testing with an artificial ear. S. Ballantine. bibliog il diags Electronics 13:34-5+ Je '40

DEAFNESS
Care of the ears and prevention of deafness. Pub Health Rep 55:1501-4 Ag 16 '40
Complete guide for the deafened. A. F. Niemoeller. 256p bibliog(p250-1) $3 Harvest house, New York '40
How to help your hearing. L. M. Neuschutz. 179p bibliog(p164-8) $2.50 Harper '40

DEALER helps
American home in review; Sherwin-Williams company s paint and color style guide for paint dealers, builders and architects. il Ptr Ink Mo 40:38 Ap '40
Car manufacturers aid their dealers in fight for lubrication business. il Nat Pet N 32:30+ Jl 24 '40
Film trains Alemite dealers in how of modern merchandising. F. R. Cross. il Sales Management 46:48+ Je 1 '40
Gadgets as sales aids; helping the dealer make more profit; Bristol-Myers. Adv & Sell 33:70 My '40
Helping dealers with adjustments; how to tell whether or not a returned hammer is defective. il Ptr Ink Mo 40:27 F '40
Lee urges dealers to canvass, and tells them how to do it; work clothing. C. A. Reynolds. Sales Management 47:44-5 S 15 '40
Live-wire Christmas selling idea; how Bayuk educates jobbers and dealers. A. J. Newman. il Ptr Ink 189:15-18 D 8 '39
More effective use of sales helps. E. Hall. Elec West 84:88-9 Je '40
Ozite's eye-opener for dealers who suffer from a price complex; film presentation. L. H. Regensburg. il Sales Management 46:24-6 My 15 '40
Packaged themes; American Bemberg instruction bulletins for retail sales people and information on new products for dealers. A. H. Little. il Ptr Ink 189:17-20 D 1 '39
Retail fraternity; General Electric is welding appliance dealers into one training group. E. Peterson. Ptr Ink 192:69-70+ Jl 26 '40
Retailer suggests: a bachelor of science in hardware line speaks out about sales aids and things. A. H. Little. Ptr Ink 191:75-8 My 10 '40

DEALER helps—*Continued*
Sales jump when Sani-Flush shows dealers how to display and push related products. il Sales Management 47:45 S 1 '40
Schick inventory seemed big as a mountain, but smart merchandising moved it; helping retailer sell it. R. J. Cordiner. il Ptr Ink 189:9-12+ D 8 '39
Service men go to school; Coca-Cola company's service training school. il Ptr Ink Mo 40:10-11 My '40
What Elgin is doing to level out a camel's back sales curve; giving dealers specific sales plans and backing them up with magazine advertising. H. D. Schaeffer. il Sales Management 47:36+ Jl 1 '40

See also
Advertising—Dealer cooperation
Advertising—Dealer helps
Display of merchandize
Salesmen, Retail—Training
Show windows

DEALER identification. See Advertising, Mail—Dealer identification

DEALER premiums. See Premiums (merchandizing—Dealer premiums

DEALER relations
Backbone of industry; middleman in refractories. J. D. Ramsay. Brick & Clay Rec 97:50+ O '40
Brown takes the gamble out of retailing for 340 shoe merchants; management set up is parallel to that of many voluntary chains. C. R. Gamble. il Sales Management 47:22-4 S 1 '40
Bulova spends $2,000,000 in 1940 to build customers for dealers. il Sales Management 46:24-6 F 15 '40
Chicago druggists vote on brands they like to sell most, and least. Sales Management 47:31-4 Jl 1 '40
Good-will letters; unexpected communications pay dividends; Waterman's pens. H. Dorff. Ptr Ink 190:21-2 Ja 19 '40
How Chicago Venetian blind co. survived a blitzkrieg of mushroom competition; reorganized sales force, price maintenance, resale plan for dealers, and advertising. D. L. Jacobson. il Sales Management 47:30, 32 S 15 '40
How to keep out of hot water on 50-50 advertising with dealers; splitting cost of consumer advertising with department stores. J. C. Cumming. Sales Management 46:52-4+ Ja 15 '40
How to win dealers to influence sales. G. Bijur. il Adv & Sell 33:22-3, 38+ Ag '40
Leading sales films of 1939-40 and the results attained; motion pictures; industrial films dealing with retailer and jobber relations. il Sales Management 47:58+ O 10 '40
Learning as it grows, Universal Camera builds volume by good advertising. F. G. Klock. Ptr Ink 193:17-20 N 1 '40
Letters of apology; Waterman uses 3-point formula in handling misunderstandings with dealers. H. Dorff. Ptr Ink 192:55-6+ Ag 23 '40
N.Y. grocers (again) tell brands they like to sell most, and least. il Sales Management 47:40, 44-5+ O 1 '40
Retail fraternity; General Electric is welding appliance dealers into one training group. E. Peterson. Ptr Ink 192:69-70+ Jl 26 '40
Slide films; dealer and jobber relations problems. il Sales Management 47:73-6 O 10 '40
Success story; Harvey-Whipple oil burners. C. B. Larrabee. Ptr Ink 193:27, 30, 32-3 N 8 '40
What a dealer profit-sharing plan is doing for Baxter bros. B. H. M. White. il Sales Management 47:40-1 Jl 15 '40
What happens when Bill Holler puts on his seven league boots. W. E. Holler. il map Sales Management 47:30, 32+ N 15 '40
What your dealers think of premiums and deals. il Adv & Sell 33:17-20+ O '40
Why 165,000 repair men fix flats the Shaler way. W. S. Coles. il Sales Management 46: 22-3+ Ja 1 '40

See also
Dealer helps
Discount, Cash
Gas companies—Appliance selling
Gas industry and the plumbing trade
Premiums (merchandizing)—Dealer premiums
Price discrimination
Sales policies

DEALER schools
Sales seminar; two Armstrong trucks travel 20,000 miles on tour to educate retailers. B. McClure. il Ptr Ink 193:13-16 N 1 '40
Success story; Harvey-Whipple oil burners. C. B. Larrabee. Ptr Ink 193:27, 30, 32-3 N 8 '40
Wholesaler builds customers for tomorrow; Higginbotham-Bailey-Logan company, wholesale dry goods firm of Dallas, Texas, trains merchants and salespeople. J. K. Novins. il Am Business 10:24-6 Je '40

DEALERS' signs. See Signs, Dealers'

DEANS of women
Trends in student personnel work. S. M. Sturtevant, R. Strang and M. McKim. 110p $1.85 Teachers college '40

DEARBORN national insurance company, Detroit, Michigan
Company analysis. Spectator (Property ed) 5:26-7 D 28 '39

DEATH
Life's debt to death; nature's attempts to circumvent death may suggest conscious purpose. E. R. Bogusch. il Sci Am 163: 271-3 N '40
What is death? B. M. Newman. il Sci Am 162:336-7 Je '40

See also
Mortality

Causes
Physiological alterations as the cause of senile debility and senile mortality. H. S. Simms. Science 91:7-9 Ja 5 '40

DEATH, Presumption of
Interest in case of missing Judge Crater revived. Ins Field (Fire ed) 69:10 Ag 15 '40

DEATH rates. See Mortality—Statistics

DEATH VALLEY
Here's Death Valley. C. B. Glasscock. 329p $3 Bobbs '40

DEBATES and debating
Intercollegiate debates. E. R. Nichols, ed. v21 411p $2.50 Noble & Noble, 100 5th av, New York '40
World's greatest debate. G. Clark, ed. 214p $2.75 Macalester Park pub. co, Macalester college, St Paul '40

See also
Argumentation
Discussion

DEBT
Bad-debt loss survey, 1939, wholesalers and manufacturers; comparisons with 1938. A. L. Skinner, W. N. Lawrence and G. R. Smith. Survey of Cur Business 20:8-26 Jl '40; Same abr. Credit & Fin Management 42:22-5+ Ag; 12-15, 40-4 S '40
Consumer credit; instalment and other debts; charts. Banking 33:52-3 S '40
Debt burden hampers credit expansion. Bankers M 141:267-8 S '40
Debts, good or bad? M. S. Stewart. 32p 10c Public affairs committee, New York '39
Facts about instalment credit; who uses it; for what; where; charts and tables, 1929-38. Business Week p34-5 S 14 '40
Home mortgage structure in transition; urban one-family to four-family dwellings. L. Grebler. Harvard Business R 18 no 3:357-71 [Ap] '40
Indebtedness in the United States, 1929-39. J. W. Sternberg. Survey of Cur Business 20:12-18 Je '40
It's not what a man owes but his ability to make a profit. J. E. Bullard. Credit & Fin Management 42:48-51 My '40

DEBT—*Continued*

Pattern of consumer debt; a statistical analysis. B. Bernstein. 238p $2.50 Nat. bur. econ. research '40; Review, by R. Nugent. Banking 33:34 O '40

Private long-term debt has declined sharply since reaching peak in 1930, according to Conference board. Comm & Fin Chr 149: 3647-8 D 9 '39

Who buys what on the installment plan? R. A. Young and B. Bernstein. il Dun's R 48:9-16 F '40

See also

Bankruptcy
Collecting of accounts
Credit
Debtor and creditor
Income tax—Bad debt deductions

DEBTOR and creditor

Cases and materials on creditors' rights. J. Hanna and J. A. McLaughlin. 3d ed 1144p $7 Foundation press, Chicago '39

Debtor and creditor in war-time. Engineering 150:204 S 13 '40

Hire purchase and mechanical handling; decisions under the Courts (emergency powers) act, 1939. F. E. Sugden. Mech Handling 27:130-1 Je '40

Lien of unpaid federal income taxes superior to right of prior attaching creditor. Trusts & Estates 70:452-3 Ap '40

Preference liabilities in Washington; state law on corporate liquidations has unusual angles. C. P. King and C. E. Croson. Credit & Fin Management 42:21-2 F '40

Ruling of Appellate division of New York Supreme court affects debts to former Austrians, Czechs, Polish creditors. Comm & Fin Chr 149:3482 D 2 '39

See also

Bankruptcy
Courts, Small claims
Payment

DEBTS, Public

Responsibility of states for acts of unsuccessful insurgent governments. H. Silvanie. 223p bibliog(p220) $2.75 Columbia univ. press '39

See also

Bonds, Government
Municipal bonds
State bonds

Baltic states

Baltic bonds; interests of British holders. Economist 139:254 Ag 24 '40

Brazil

Brazil to resume payments on foreign debt on April 1. Comm & Fin Chr 150:1683 Mr 16 '40

Brazilian debt agreement. Economist 138:470-2 Mr 16 '40

Brazil's debt position. Economist 138:161 Ja 27 '40

Bulgaria

Bulgarian government's arrangements for current service of League of nations loans and various pre-war loans. Comm & Fin Chr 150:2009-10 Mr 30 '40

Canada

Canada's ability to service U.S. debts; unfavorable balance of trade necessitates sharp curtailment of non-essential imports. L. Jack. Barron's 20:19 Ag 19 '40

Public debt of Canada at new record on eve of war. Annalist 55:11-12 Ja 4 '40

Public debt of Canada; dominion and provincial governments, 1938, and municipalities, 1937. 16p pa 25c Canada. Dominion bur. of statistics, Ottawa '39

Chile

Holders of Chilean consolidated municipal loan and two City of Santiago loans advised to present bonds for stamping under debt readjustment plan. Comm & Fin Chr 150:3745 Je 15 '40

Prospects for Chilean loans. F. M. Stern. Barron's 19:16 D 25 '39

Republic of Chile has $9,446,203 available for its debt service. Comm & Fin Chr 149:4099 D 30 '39

Republic of Chile to make interest payment of $15.22½ per $1,000 bond on all outstanding dollar obligations on Feb. 1. Comm & Fin Chr 150:354 Ja 20 '40

Colombia

Colombia to pay interest on coupons maturing in 1940 on its 6% external gold bonds due in 1961. Comm & Fin Chr 150:1206 F 24 '40

SEC orders New York curb exchange to delist deposit certificates issued by Bondholders committee for Republic of Colombia dollar bonds. Comm & Fin Chr 150:3131 My 18 '40

Cuba

Cuban Senate approves bill to liquidate gold obligations owed to American and Cuban contractors. Comm & Fin Chr 151:1364 S 7 '40

Czechoslovakia

Disposal of Czech funds in Britain and Czech financial claims. Economist 138:110, 158 Ja 20-27 '40

Finland

Finland, Rumania, and Hungary are only European nations to make payment on June 15 war-debt instalments. Comm & Fin Chr 150:3894 Je 22 '40

Germany

Comments on German obligations. H. D. Gibson. Comm & Fin Chr 150:203-4 Ja 13 '40

Great Britain

National debt. Economist 138:sup7-8 Ap 13 '40

Greece

Greek debt offer to pay 43 per cent. of coupons on its external debt, for the duration. Economist 138:211 F 3 '40

Greek government revenues pledged to the service of the foreign public debt decline in 1939. Comm Rep p297 Mr 30 '40

Hungary

Finland, Rumania, and Hungary are only European nations to make payment on June 15 war-debt instalments. Comm & Fin Chr 150:3894 Je 22 '40

Panama

Plan of Republic of Panama for readjustment of $18,000,000 external debt; two refunding issues proposed in statement filed with SEC. Comm & Fin Chr 150:614-15 Ja 27 '40

Poland

Will Mussolini pay Hitler's bill? O. Zausmer. Barron's 19:4 D 25 '39

Rumania

Finland, Rumania, and Hungary are only European nations to make payment on June 15 war-debt instalments. Comm & Fin Chr 150:3894 Je 22 '40

United States

Agencies involved in the administration's hopes to avoid raising debt limit; recapturing excess capital funds of government corporations. S. L. Miller. Annalist 55:651-2+ My 9 '40

Complete public debt of the United States as of Sept. 30, 1939. Comm & Fin Chr 150:383 Ja 20 '40 [cont monthly]

Dangers of mounting national debt discussed by First national bank of Boston. Comm & Fin Chr 150:2185 Ap 6 '40

Debt burden hampers credit expansion. Bankers M 141:267-8 S '40

Debts, deficits and defense; fiscal policy and the preparedness load. H. F. Byrd. Trusts & Estates 71:131-4 Ag '40

Federal debt now and in 1914. R. Magill. Comm & Fin Chr 149:3196 N 18 '39

Federal spending aggregated $9,537,000,000 in past fiscal year. Comm & Fin Chr 151:38-9 Jl 6 '40

Gross debt, end of month, 1936-1939. Survey of Cur Business 1940 Sup p61 [supplemented in monthly numbers]

DEBTS, Public—United States—*Continued*
How government will finance the armament spending; its impact on business and investment values. W. Gates. Mag of Wall St 66:722-3+ O 5 '40
Increasing debt termed greatest menace to nation. O. W. Adams. Comm & Fin Chr 150: 2982 My 11 '40
Indebtedness in the United States, 1929-39. J. W. Sternberg. Survey of Cur Business 20:12-18 Je '40
Morgenthau to ask for increase in debt limit. Comm & Fin Chr 151:2733 N 9 '40
Not quite up to our ears. A. W. Atwood. Banking 32:20-1 F '40
Preliminary debt statement of the United States, Dec. 31, 1939. Comm & Fin Chr 150: 382 Ja 20 '40 [cont monthly]
President Roosevelt cites statistics to justify rise in federal debt. Comm & Fin Chr 150: 918 F 10 '40
President Roosevelt's reported remarks on government debts examined. D. W. Ellsworth. Annalist 55:225-6 F 8 '40
Public debt; excerpt from President Roosevelt's budget message to Congress. Banking 32:104 F '40
Realities of our situation. W. Lippmann. Trusts & Estates 71:192-3 Ag '40
Shall we raise the debt limit? Bankers M 140: 167 F '40
Someone always pays for the national debt; will only excess profits be taxed more? Barron's 20:10 Ag 19 '40
Support for the government bond market; resources of Treasury and Federal reserve system adequate to redeem entire public debt. F. H. Richardson and S. Merriman. Barron's 20:9 Ag 19 '40
Treasury explains outstanding debt subject to debt limitation of $45,000,000,000. Comm & Fin Chr 150:917, 1522-3, 2342, 3750-1, 3897; 151:180-1, 2732 F 10, Mr 9, Ap 13, Je 15-22, Jl 13, N 9 '40
United States government debt, June 1932-1938 and Nov. 1938-Nov. 1939. Fed Res Bul 26:41 Ja '40 [cont monthly]
Wealth, debt and taxes in the United States. Edison Elec Inst Bul 8:248 My '40

Uruguay

Uruguay; additional public-debt bonds to be unified. For Comm W 1:118 O 19 '40

DEBYE, Peter Joseph Wilhelm, 1884-
1940 recipient of the Mendel medal. Ind & Eng Chem News ed 18:401 My 10 '40

DEBYE-HUCKEL theory
Calculation of equilibria in dilute water solutions. D. S. McKinney. bibliog Am Soc T M Proc 39:1191-1203; Discussion. 1218-20 '39
Effects of certain salt mixtures on the dissociation of glycine and alanine. A. C. Batchelder and C. L. A. Schmidt. bibliog J Phys Chem 43:1121-32 D '39
Theoretical limits of the lime-soda method of water softening. T. E. Larson and A. M. Buswell. bibliog il Ind & Eng Chem 32:130-2 Ja '40

DECALCOMANIA
Decalcomania; proposed development. A. S. Watts. Am Cer Soc J 23:341-2 N '40

DECAMETHYLENE glycol
Comparison of esterification and ester interchange kinetics. P. J. Flory. bibliog Am Chem Soc J 62:2261-4 S '40
Kinetics of the degradation of polyesters by alcohols. P. J. Flory. Am Chem Soc J 62: 2255-61 S '40

DECANE
Condensations by sodium; the formation of decane in the Wurtz reaction. A. A. Morton and G. M. Richardson. Am Chem Soc J 62:123-6 Ja '40
Gas-liquid equilibrium constants; methane-decane system. H. M. Lavender, B. H. Sage and W. N. Lacey. bibliog diag Oil & Gas J 39:48-9 Jl 11 '40
Phase equilibria in hydrocarbon systems; methane-decane system. B. H. Sage, H. M. Lavender and W. N. Lacey. bibliog Ind & Eng Chem 32:743-7 My '40

DECANEDIONE
β-Diketones; synthesis, structure and bactericidal properties. C. D. Hurd and C. D. Kelso. bibliog Am Chem Soc J 62:2184-7 Ag '40

DECARBOXYLATION
Hydration of unsaturated compounds; the rate of hydration of β,β-dimethylacrylic acid; the rates of dehydration and decarboxylation of β-hydroxyisovaleric acid. D. Pressman and H. J. Lucas. bibliog Am Chem Soc J 62:2069-80 Ag '40

DECATUR, Illinois
Planning progress in Decatur and Macon county. A. N. Buck. In Ill U Eng Exp Sta Circ 41:97-104 '40

Sewerage

Revamping a 50-year-old sewer system. W. D. P. Warren. il diags Eng N 125:475-6 O 10 '40

DECELOSTAT
Advancements in the braking of high-speed trains; with description of Decelostat for decreasing wheel slip. C. D. Stewart. Ry Age 108:861-4 My 18 '40

DECENEDICARBOXYLIC acid
Wound hormones of plants; structure and synthesis of a traumatin. J. English, jr, J. Bonner and A. J. Haagen-Smit. Am Chem Soc J 61:3434-6 D '39

DECENTRALIZATION of industry. See Industry—Decentralization

DECIMAL classification. See Classification, Decimal

DECIMALS
Let's use decimals in aeronautic engineering and design. C. L. Bates. il Aviation 39:58 Ap '40

DECLARATION of war. See War, Declaration of

DECLARATORY judgments
Court sustains verdict in auto case; Minnesota tribunal discusses use of declaratory judgments act. Weekly Underw 143: 1038 N 2 '40

DECOLORIZATION
Adsorption as a means of separation. J. W. Hassler. il Ind & Eng Chem 32:640-4 bibliog(41 references, p644) My '40

See also
Bleaching
Bone black
Fuller's earth
Petroleum refining

DECOMPOSITION
Activated carbon as a catalyst in certain oxidation-reduction reactions; decomposition of hydrogen peroxide; autoxidation of stannous chloride and potassium urate. E. C. Larsen and J. H. Walton. bibliog J Phys Chem 44:70-85 Ja '40
Apparatus for continuous automatic measurement of evolved gas; nitrogen evolution from diazo compounds. M. L. Crossley, R. H. Kienle and C. H. Benbrook. il diags Ind & Eng Chem Anal ed 12:216-17 Ap 15 '40
Calculation of weight average molecular weights during the course of decomposition of homogeneous linear polymers. W. H. Durfee and Z. I. Kertesz. bibliog Am Chem Soc J 62:1196-8 My '40
Catalytic cracking of aliphatic hydrocarbons. G. Egloff and others. bibliog Am Chem Soc J 61:3571-80 D '39
Catalytic decomposition of azodicarbonate ion. C. V. King. bibliog Am Chem Soc J 62: 379-85 F '40
Decomposition of chlorosulphinic esters. M. P. Balfe and J. Kenyon. Chem Soc J p463-4 Ap '40
Decomposition of *p*-hydroxybenzenediazonium salts by alcohols. H. H. Hodgson and C. K. Foster. Chem Soc J p1150-3 Ag '40
Decomposition of rocks and ceramic materials with a small amount of sodium carbonate. J. I. Hoffman. J Research Nat Bur Stand 25:379-83 S '40

DECOMPOSITION—*Continued*
Decomposition reactions of the aromatic diazo-compounds; a note on oxidation mechanisms. W. A. Waters. Chem Soc J p1805-7 N '39
Decomposition reactions of the aromatic diazo-compounds; some reactions of diazonium chlorides with esters and nitriles. W. E. Hanby and W. A. Waters. Chem Soc J p1792-5 N '39
Decomposition reactions of the aromatic diazo-compounds; the diazocyanides. O. Stephenson and W. A. Waters. Chem Soc J p1796-1804 N '39
Dissociation catalytique et synthèse du méthanol. O. Kostelitz and G. Hensinger. Chimie & Ind 42:757-73 N '39
Exothermic decomposition temperature of sawdust; effect of mineral salts. J. L. McCarthy and E. C. Jahn. bibliog Ind & Eng Chem 32:1257-8 S '40
Induced pyrolysis of methane. W. J. Hessels, D. W. van Krevelen and H. I. Waterman. bibliog diag Soc Chem Ind J 58:323-7 N '39
Iodine-sensitized decomposition of methyl alcohol. G. K. Rollefson and W. Garrison. Am Chem Soc J 62:588-90 Mr '40
Kinetic decomposition of ethyl chlorocarbonate; foreign gas effects. A. R. Choppin and G. F. Kirby, jr. bibliog Am Chem Soc J 62:1592-4 Je '40
Kinetic studies on iodine derivatives; the thermal decomposition of acetyl iodide. J. L. Jones. bibliog Am Chem Soc J 61:3284-8 D '39
Die kinetik des thermischen zerfalls von calciumcarbonat. G. F. Hüttig and H. Kappel. diags Angew Chemie 53:57-9 F 3 '40
Liquid-phase reactions at high pressures; the explosive decomposition of *cyclo*pentadiene. B. Raistrick, R. H. Sapiro and D. M. Newitt. Chem Soc J p1770-3 N '39
Photochemical decomposition of solid hydrogen compounds at low temperatures. L. Farkas, Y. Hirshberg and L. Sandler. bibliog diag Am Chem Soc J 61:3393-6 D '39
Photochemical investigations; the photolysis and iodine sensitized decomposition of gaseous ethylene iodide. W. H. Janneck and E. O. Wiig. Am Chem Soc J 62:1877-8 Jl '40
Photochemical studies; a systematic study of the near ultraviolet photochemical decomposition of acetone. D. S. Herr and W. A. Noyes, jr. bibliog Am Chem Soc J 62: 2052-9 Ag '40
Photoreactions sensitized by the halogens. J. W. T. Spinks. bibliog Chem R 26:129-39 F '40
Rate of decomposition of kyanite at various temperatures; North Carolina kyanite of various grain sizes decomposes into mullite and glass in the range 1350° to 1600° C. H. B. Barlett. Am Cer Soc J 23:249-51 S '40
Replacement of the diazo-group by hydrogen. H. H. Hodgson and E. Marsden. Chem Soc J p207-8 F '40
Studies in the diphenyl series; the preparation of asymmetrical diaryl derivatives; diazonium salts, stabilised by naphthalene-1-sulphonic acid, naphthalene-1:5-disulphonic acid, or zinc chloride, decomposed in hydrocarbon and nitrobenzene suspensions. H. H. Hodgson and E. Marsden. Chem Soc J p208-11 F '40
Thermal decomposition of benzoyl peroxide. D. J. Brown. Am Chem Soc J 62:2657-9 O '40
Thermal decomposition of diacetyl. W. D. Walters. bibliog Am Chem Soc J 62:880-6 Ap '40
Thermal decomposition of the acetate of 2,2-dimethyl-3-pentanol. P. L. Cramer and V. A. Miller. Am Chem Soc J 62:1452-4 Je '40

See also
Electrolysis
Hydrolysis

DECORATION and ornament
See also
Calico printing
Carpets
Cars—Decoration
Christmas tree decorations
Design
Design, Decorative
Enamel and enameling
Furniture
Glassware—Decoration
House decoration
Interior decoration
Pottery
Ship decoration
Show windows
Stencil work
Terra cotta
Textile design
Textile printing

DECORATION and ornament, Architectural
See also
Interior decoration
Mural painting and decoration
Sculpture, Architectural
Sheet metal work, Architectural
Terra cotta

DECORATIVE design. See Design, Decorative

DEEDS
Construction of deeds and statutes. C. B. Odgers. 330p 15s Sweet & Maxwell, London '39

DEEDS of trust
Executive officer of a corporation may not act as trustee in a trust instrument given to secure an indebtedness to the corporation. Trusts & Estates 70:224-5 F '40

DEEP rock oil corporation
Amended reorganization plan. Comm & Fin Chr 149:4172; 150:3817-18 D 30 '39, Je 15 '40
SEC issues report on proposed reorganization plans. Comm & Fin Chr 150:2876-7 My 4 '40

DEER ISLE, Maine
Deer Isle-Sedgwick bridge in Maine. il diags Engineer 168:630-2, 640 D 29 '39

DEER mice
Susceptibility and resistance of certain species of American deer mice, genus peromyscus, and other rodents to leptospira icterohaemorrhagiae A. Packchanian. bibliog Pub Health Rep 55:1389-1402, pl 1-2 Ag 2 '40

DEERING, Milliken and company
New offices, New York. il Textile World 90: 126 F '40

DEFECTIVE and delinquent classes
Psychological aspect of delinquency. G. de M. Rudolf, ed. 64p bibliog(p64) pa 1s 6d Baillière, Tindall & Cox, London '39

See also
Handicapped

DEFENSE communications board
To coordinate all branches of communications to national defense. Comm & Fin Chr 151: 1816-17 S 28 '40

DEFENSE conference, Midwest. See Midwest defense conference

DEFENSE homes corporation
Incorporation of Defense homes corporation. Comm & Fin Chr 151:2580 N 2 '40

DEFENSE housing. See Housing—United States—War workers

DEFENSE plant corporation
RFC forms two more government corporations to store aviation gasoline and to lend on plant equipment. Comm & Fin Chr 151: 1075 Ag 24 '40

DEFENSE supplies corporation
RFC forms two more government corporations to store aviation gasoline and to lend on plant equipment. Comm & Fin Chr 151:1075 Ag 24 '40

DEFICIENCY diseases
Deficiency disease of foxes. R. G. Green and C. A. Evans. Science 92:154-5 Ag 16 '40
Effect of administration of pantothenic acid on the histopathology of the filtrate factor deficiency state in rats. L. L. Ashburn. bibliog Pub Health Rep 55:1337-46, pl 1-2 Jl 26 '40
Effect of synthetic pantothenic acid on adrenal hemorrhage, atrophy, and necrosis in rats. F. S. Daft and others. bibliog Pub Health Rep 55:1333-7 Jl 26 '40

DEFICIENCY diseases—*Continued*
Health of the nation and deficiency diseases. J. Maberly. 118p bibliog(p113-14) 5s Ballière, Tindall & Cox, London '38
Hemorrhagic adrenal necrosis in rats on deficient diets. F. S. Daft and W. H. Sebrell. Pub Health Rep 54:2247-50 D 22 '39
Hemorrhagic cortical necrosis of adrenals in rats on deficient diets. A. A. Nelson. bibliog Pub Health Rep 54:2250-6, pl 1-2 D 22 '39
Nature of the anti-alopecia factor. D. W. Woolley. Science 92:384-5 O 25 '40
Ocular manifestations of ariboflavinosis. H. D. Kruse and others. bibliog Pub Health Rep 55:157-69 Ja 26 '40
Pantothenic acid and nutritional achromotrichia in rats. P. György and C. E. Poling. bibliog Science 92:202-3 Ag 30 '40
Relative overgrowth of the central nervous system in vitamin A deficiency in young rats. S. B. Wolbach and O. A. Bessey. Science 91:599-600 Je 21 '40
Riboflavin deficiency in man (ariboflavinosis). W. H. Sebrell and R. E. Butler. bibliog Pub Health Rep 54:2121-31 D 1 '39

DEFICIENCY judgment. See Mortgages—Foreclosure

DEFLECTION of beams. See Beams

DEFLOCCULATION
Complex phosphates for deflocculation of drilling mud. C. F. Bonnet. Oil & Gas J 38: 39+ F 1 '40; Correction. 38:76 F 29 '40

DE FLOREZ furnace
Design and operation of De Florez furnaces. F. L. Maker. Mech Eng 62:161-3 F '40

DEFOLIATION
Defoliation of rose plants with ethylene gas. J. A. Milbrath, E. Hansen and H. Hartman. Science 91:100 Ja 26 '40
Holly defoliation prevented by a-naphthaleneacetic acid. J. A. Milbrath and H. Hartman. Science 92:401 N 1 '40

DE FOREST, Lee, 1873-
History of the radio tube, 1900-1916. por Radio N 24:8+ D '40
Portrait. Business Week p20 S 7 '40
Portrait. Iron Age 145:78 F 29 '40; Steel 106: 23 Mr 4 '40

DEFORMATION of rocks. See Rocks—Deformation

DEFORMATIONS (mechanics)
Deformation and fracture of mild steel under cyclic stresses in relation to crystalline structure. H. J. Gough and W. A. Wood. diags Inst Mech Eng J & Proc 141:Proc 175-85, pl 1-4 Ap '39; Discussion. 142:Proc 175-83, pl 5-6 D '39
Deformation of turbo-alternator rotor windings, due to temperature rise. G. A. Juhlin. Inst E E J 85:544-52 O '39; Discussion. 86: 430-1 My '40
Dimension changes of tool steels during quenching and tempering. E. Ameen. bibliog diags Am Soc for Metals Trans 28:472-512 Je '40
Flow of metals. G. Sachs. diags Iron Age 145: 34-7 F 1; 36-7 F 8 '40
Initial stage of plastic deformation in lead under compression. W. J. Lyons. J Ap Phys 11:514-21 Ag '40
Non-uniform yielding in metals during a tensile test. C. F. Elam. diags Engineering 149:325-7, pl 17 Mr 29 '40
Plastic deformation; abstract. M. Gensamer. Metal Prog 37:156-7 F '40
Rheological properties of asphaltic bitumens. R. N. J. Saal and J. W. A. Labout. bibliog J Phys Chem 44:149-65 F '40
Scientific method in metallurgy. S. L. Hoyt. diags Iron Age 146:48-51 O 31 '40
Stress increases in compressive steel under constant load caused by shrinkage. G. A. Maney and M. B. Lagaard. diags Am Concrete Inst J 11:541-52 Je '40; Discussion. 12:sup552¹-552ᵘ S '40
Tensile elastic properties of 18:8 chromium-nickel steel as affected by plastic deformation. D. J. McAdam, jr. and R. W. Mebs. bibliog U S Nat Advisory Com for Aeronautics 1939:539-80 '40
Theory of large elastic deformation. M. Mooney. J Ap Phys 11:582-92 S '40
Triaxial compression apparatus for the determination of the stress-deformation characteristics of soils. J. D. Watson. il diags Am Soc T M Proc 39:1046-57 '39
See also
Elasticity
Plasticity
Strains and stresses

DEGOLYER, Everette Lee, 1886-
Awarded Lucas gold medal. por Min & Met 20:557 D '39
Sketch. por Nat Pet N 31:4 D 6 '39

DEGRADATION (chemistry)
Kinetics of the degradation of polyesters by alcohols. P. J. Flory. Am Chem Soc J 62: 2255-61 S '40
Modified starches; degradation of starches by acidic and alkaline oxidising agents, acids, etc. G. B. Jambuserwala and K. R. Kanitkar. Textile Inst J 31:T1-16 Ja '40
Preparation and degradation of lithocholic acid. W. M. Hoehn and H. L. Mason. bibliog Am Chem Soc J 62:569-70 Mr '40

DEGREASING
Cleaning and degreasing; composite of abstracts. Metals & Alloys 11:MA197 Ap '40
Electrolytic degreasing with simultaneous formation of a metallic copper coating; abstract. V. P. Sacchi. Metals & Alloys 11: MA23-4 Ja '40
Gas-heated degreasing tanks save time. il Factory Management 98:60 My '40
Industrial cleaning methods and materials as related to the automotive industry; abstract. V. Gephart. S A E J 47:290 Jl '40
New degreaser installations in southern California. F. Herr. il Metal Finishing 38: 465-6 Ag '40
Parts cleaned with vapor; degreaser for cleaning bus engine parts. il Transit J 84:62 F '40
Portable degreasers cut cleaning costs as much as 60 per cent. il Steel 106:51+ Mr 11 '40
Safe operation of degreasers. Metal Finishing 38:625 N '40
Systematizing degreasing at Toronto repair shop. il Mass Transportation 36:109-10 My '40
Ventilation of a trichlorethylene degreaser. W. N. Witheridge and H. T. Walworth. il diags J Ind Hygiene 22:175-87 My '40

DEGREES, Honorary
Honorary degrees conferred by New York university and Columbia university. Science 91: 565-7 Je 14 '40

DEGUELIN
Analysis
Method for determining deguelin in derris and cubé. L. D. Goodhue and H. L. Haller. bibliog Ind & Eng Chem Anal ed 11:640-2 D 15 '39

DEGUMMING (textiles)
Method for degumming and bleaching decorticated ramie fiber. M. P. Ramiro. bibliog Textile Col 62:271-4 Ap '40

DEHALOGENATION
Quantitative hydrogenation of substituted azo compounds with Raney nickel at normal temperature and pressure. W. F. Whitmore and A. J. Revukas. Am Chem Soc J 62: 1687-93 Jl '40

DEHUMIDIFIERS
Applications of gas to air conditioning. G. E. May. diags Heating-Piping 12:395-8 Je '40
Bryant silica gel dehumidifier. diag Chem & Met Eng 46:789 D '39
Calculation of coil surface areas for air cooling and dehumidification. J. McElgin and D. C. Wiley. charts Heating-Piping 12:195-201 Mr '40
Chemical conditioning for customers' comfort; restaurant cooling. L. T. Avery. il diags Heat & Ven 37:23-4 Mr '40
Chemical dehumidification agents. F. R. Bichowsky. il diags Heating-Piping 12:627-32 O '40

DEHUMIDIFIERS—*Continued*
Edgar P. Lewis & sons; manufacturer of candy; use of ten Bryant silica-gel type air dehumidifiers. D. R. McNally. il Heat & Ven 37:37-40 Ag '40
Liquid-gas contactors. H. F. Johnstone. il diags Chem & Met Eng 47:322-4 My '40
Market possibilities and equipment available for summer air conditioning by gas. A. W. Lundstrum. il diags Am Gas Assn Proc 1939:274-7
Moisture control of cupola air; Muskegon piston ring co. J. L. Brooks. flow diag diag Foundry 68:38-9+ S '40
Moisture removal from blast furnace air. L. L. Lewis. il diags Refrig Eng 39:89-92, 157-60 F-Mr '40; Same cond. Steel 105:54+ N 20; 42+ N 27 '39; Abstract. Iron Age 144:46 N 23 '39; Same. Blast F & Steel Pl 27:1269+ D '39; Same. Heating-Piping 11: 739-40 D '39
Novocol chemical mfg. co. uses silica gel unit to dry air. R. Sanford. il diag plan Heat & Ven 37:43-5 Ap '40
Profits in dehumidifying. il diags Sheet Metal Worker 30:42+ D '39
Progress with Bryant gas-operated silica gel dehumidifiers. C. F. Cushing. flow diags il diag Am Gas Assn Proc 1939:448-58
W. B. Coon shoe company dehumidifies shoe drying shed. il diag Heat & Ven 37:25-6 O '40
Woodward iron co. operating first air conditioned blast furnace. il Heat & Ven 36: 27-9 D '39

DEHYDRASES. See Dehydrogenases

DEHYDRATION
Aromatic cyclodehydration; 6-methyl- and 5-methyl-6-ethylchrysene. C. K. Bradsher and A. S. Burhans. Am Chem Soc J 62:3140-1 N '40
Aromatic cyclodehydration; phenanthrene. C. K. Bradsher and R. W. Wert. Am Chem Soc J 62:2806-7 O '40
Catalytic methods for increasing the unsaturation of long-chain fatty compounds; dehydration of castor oil. W. C. Forbes and H. A. Neville. bibliog Ind & Eng Chem 32:555-8 Ap '40
Choice of dehydration methods. J. C. Patterson. il Chem & Met Eng 47:313-15 My '40
Composition and analysis of dehydrated castor oil. G. W. Priest and J. D. von Mikusch. bibliog il diags Ind & Eng Chem 32:1314-19 O '40
Constitution of the alleged Thiessen hydrates. H. B. Weiser, W. O. Milligan and W. J. Coppoc. bibliog diag J Phys Chem 43:1109-20 D '39
Dehydration equipment as applied to food processing. F. Rosseau. il diags Food Ind 11:687-702 D '39
Dehydration methods. il Chem & Met Eng 47:312 My '40
Dehydration of *cis*- and *trans*-2-phenylcyclohexanols. C. C. Price and J. V. Karabinos. bibliog Am Chem Soc J 62:1159-61 My '40
Dehydration of 9-fluorenylcarbinol; a new synthesis of phenanthrene. W. G. Brown and B. Bluestein. bibliog Am Chem Soc J 62:3256-7 N '40
Dehydration of some tertiary alcohols containing the cyclohexane ring. W. A. Mosher. bibliog Am Chem Soc J 62:552-4 Mr '40
Hydration of unsaturated compounds; the rate of hydration of β,β-dimethylacrylic acid; the rates of dehydration and decarboxylation of β-hydroxyisovaleric acid. D. Pressman and H. J. Lucas. bibliog Am Chem Soc J 62:2069-80 Ag '40
Keeping goods dry in transit; silica gel proposed for dehydration in addition to accepted packaging and sealing methods. R. L. Hockley. Chem & Met Eng 46:775-6 D '39; Abstract. Chem Age (Lond) 42:20 Ja 13 '40
New psychrometric chart; with application to chemical dehydrating and solvent recovery. D. F. Othmer. Chem & Met Eng 47:296-9 My '40
Oil dehydration of North American lignites, pt 1. E. P. Schoch. il diags Ind & Eng Chem 31:1489-96 D '39; Pt 2, Plant design. flow sheets diags Am Inst Chem Eng Trans 35:541-59; Discussion. 560-1 Ag '39
Production of polycyclic aromatic types through the *cyclo*dehydration of unsaturated ketones. W. S. Rapson and R. G. Shuttleworth. Chem Soc J p636-41 My '40
Rearrangement of unsaturated 1,4-glycols; *cis* and *trans* forms of 2,5-dimethyl-3-hexene-2,5-diol. J. R. Johnson and O. H. Johnson. bibliog Am Chem Soc J 62:2615-20 O '40
Wijs iodine numbers for conjugated double bonds; influence of sample-reagent ratio. W. C. Forbes and H. A. Neville. Ind & Eng Chem Anal ed 12:72-4 F 15 '40

See also
Drying
Drying agents
Gas—Dehydration
Petroleum—Dehydration

DEHYDROABIETIC acid
Identity of resin acids. T. Hasselstrom, J. D. McPherson and S. Hopkins, jr. bibliog Paper Tr J 110:41-3 Ja 25 '40

DEHYDROCHOLESTEROL
Relative efficiency of active wave lengths of ultraviolet in activation of 7-dehydrocholesterol. J. W. M. Bunker, R. S. Harris and L. M. Mosher. Am Chem Soc J 62:508-11 Mr '40

DEHYDROGENASES
Zur isolierung von bakteriendehydrasen. W. Franke and B. Banerjee. bibliog Angew Chemie 53:162-3 Ap 13 '40

DEHYDROGENATION
Acid-polymerized dipinene; dehydrogenation. J. J. Ritter and J. G. Sharefkin. bibliog Am Chem Soc J 62:1508-9 Je '40
Acid-polymerized dipinene; identification of the dehydrogenate. J. J. Ritter and V. Bogert. Am Chem Soc J 62:1509-11 Je '40
Action of selenium at high temperatures on *gem*-methylethyl groups. R. L. Barker and G. R. Clemo. Chem Soc J p1277-9 S '40
Catalytic dehydrogenation field is surveyed; abstract. A. G. Oblad, R. F. Marschner and L. Heard. Nat Pet N 32:R157 My 1 '40
Catalytic dehydrogenation of alcohols in the liquid phase using ethylene as a hydrogen acceptor. W. Reeve and H. Adkins. Am Chem Soc J 62:2874-6 O '40
Catalytic dehydrogenation of gaseous paraffins. A. V. Grosse and V. N. Ipatieff. bibliog il Ind & Eng Chem 32:268-72 F '40
Catalytic dehydrogenation of monoolefins to diolefins; source materials for synthetic rubber and resins. A. V. Grosse, J. C. Morrell and J. M. Mavity. bibliog diag Ind & Eng Chem 32:309-11 Mr '40
Catalytic dehydrogenation of representative hydrocarbons. A. G. Oblad, R. F. Marschner and L. Heard. bibliog diag Am Chem Soc J 62:2066-9 Ag '40
Catalytic dehydrogenation process (gaseous paraffins to olefins). A. V. Grosse and others. flow diags il Am Pet Inst Proc 20(3):110-20 '39; Same. Oil & Gas J 38:53, 55-6 N 23 '39; Same cond. Nat Pet N 31: R520-1 N 29 '39
Dehydrogenation and nitration of hydrocarbons of the cyclopentane series. E. Berl and R. Raab. Ind & Eng Chem Anal ed 12:177 Mr 15 '40
Dehydrogenation; catalytic disproportionation and dehydrogenation of some terpenes and terpene ketones. R. P. Linstead, K. O. A. Michaelis and S. L. S. Thomas. Chem Soc J p1139-47 Ag '40
Dehydrogenation; elimination and migration of methyl groups from quaternary carbon atoms during catalytic dehydrogenation. R. P. Linstead and S. L. S. Thomas. Chem Soc J p1127-34 Ag '40
Dehydrogenation; the formation of naphthols from alcohols and ketones of the hydronaphthalene group. R. P. Linstead and K. O. A. Michaelis. Chem Soc J p1134-9 Ag '40

DEHYDROGENATION—*Continued*
Low temperature dehydrogenations. R. T. Arnold, C. Collins and W. Zenk. bibliog Am Chem Soc J 62:983-4 Ap '40
Photodehydrogenation of steroids; 2,4-cholestadiene. R. P. Jacobsen and C. Z. Nawrocki. Am Chem Soc J 62:2612-14 O '40

DE-INKING. See Waste paper

DEL credere system. See Consignment selling

DELAMAR institute of public health. See Columbia university—Delamar institute of public health

DELAWARE

Economic conditions

Consumer incomes and family budgetary expenditures; Printers' Ink market explorations. Ptr Ink 192:sup3-55 S 27 '40

DELAWARE and Hudson railroad
Traffic statistics, 1936-38 and comparative income account, years 1938-39. Comm & Fin Chr 150:2094 Mr 30 '40

DELAWARE aqueduct. See Aqueducts

DELAWARE, Lackawanna and western railroad
Annual report. Ry Age 108:565-6 Mr 23 '40
Earnings best since 1937. A. Jansen. Barron's 20:19 S 9 '40
Statistics of operation and income account, years ended Dec. 31, 1936-39. Comm & Fin Chr 150:1276 F 24 '40

DELAWARE river
The Delaware. H. E. Wildes. 398p bibliog (p369-81) $2.50 Farrar '40
Delaware River basin flood volumes. R. E. Horton and R. VanVliet. 38p Interstate commission on the Delaware River basin, Broad Street Station bldg, Philadelphia '40
See also Interstate commission on the Delaware River basin

DELAWARE River basin, Interstate commission on the. See Interstate commission on the Delaware River basin

DELICATESSEN stores

Advertising

Mr Lapides' gross; a few dollars in direct mail, and delicatessen sales jumped 150 per cent against tough competition. R. Dickinson. Ptr Ink 193:33, 36 O 25 '40
Salami copy for Mr Lapides. il Adv & Sell 33:22 N '40

DELIGNIFICATION. See Lignin

DELINQUENTS. See Juvenile delinquency

DELIVERY of goods
Cuts oven-to-table time with fast, light trucks; house-to-house baker also has effective preventive-maintenance system. il Food Ind 12:58-9 N '40
How we meet the bugaboo of "we're satisfied, why change?" Divco salesmen sell new type of delivery truck. J. Nicol. il Sales Management 46:74-5 Je 1 '40
See also
Oil delivery

Delivery to dealers

Attractive trucks build business; George E. Drake baking company, Pittsburgh. il diags Food Ind 11:682-3 D '39
Twelve executives answer the driver-owner question. Food Ind 12:44-5 N '40

DEL MONTE properties company
Del Monte offers some of the world's best scenery and food, golf, and glamour. il map Fortune 21:58-67+ Ja '40

DELUSTERING. See Rayon—Delustering

DEMAND. See Supply and demand

DEMAND factor
Diversified demand method of estimating residential distribution transformer loads. C. E. Arvidson. Edison Elec Inst Bul 8: 469-73+ O '40

DEMAND meters
Demand control reduces power costs. W. B. Skinkle. il Instruments 13:3-5 Ja '40
Demand totalized for housing project; impulse wiring for both residential and commercial rates, terminating in single demand meter; Parkchester housing development of the Metropolitan life insurance company. C. V. Morey. il diags plan Elec W 114:838-40 S 21 '40
Demand totalizer has dual function. L. A. Pagano. il Elec W 114:880 S 21 '40
Graphic-type demand meter installation. R. L. Haase. il Elec W 112:1621 D 2 '39
Sliding-rate meter. M. Unz. diags Inst E E J 86:85-95 Ja '40; Discussion. 86:600-1 Je '40

DEMOCRACY
American citizenship and its significance. M. E. Deutsch. J Eng Educ 31:13-17 S '40
Capital in a democracy; economic lessons for America of European capitalism's collapse. A. F. Schlomann. Trusts & Estates 71:119-24 Ag '40
Clash of political ideals; a source book on democracy, communism and the totalitarian state. A. R. Chandler, comp. 273p bibliog(p273) $2.50; student ed $2 Appleton-Century '40
Defence of democracy. J. M. Murry. 315p $3 Nelson (Toronto) '39
Democracy. R. C. A. Goslin and O. P. Goslin. 59p $1.50 Harcourt '40
Democracy in America. W. M. Muthard, S. M. Hastings and C. B. Gosnell. 623p bibliog(p607-8) $1.68 Nelson '40
Democracy in the dock. G. Clark. 182p 75c Nelson '39
Democracy up-to-date; some practical suggestions for the reorganization of the political and parliamentary system. S. Cripps. 108p 75c Norton '39
Education for democracy in our time. J. H. Newlon. 238p $2.50 McGraw-Hill '39
Education for democracy; the proceedings of the Congress on education for democracy held at Teachers college, Columbia university, August 15, 16, 17, 1939. 466p $2.50 Teachers college '39
Four pillars of democracy. E. J. Goodspeed. 148p $1.75 Harper '40
Learning the ways of democracy; a case book of civic education. 486p $1 National education assn. of the U.S., Educational policies commission, 1201 16th st, N.W, Washington, D.C. '40
Legislative way of life. T. V. Smith. 101p $1.50 Univ. of Chicago press '40
Lest freedom fail. N. A. Smyth. 138p $1.75 Dodd '40
Leviathan and the people. R. M. MacIver. 182p $2 Louisiana state univ. press, University, La. '39
Life, liberty and pursuit of happiness; 30,000,000 people have come here since 1787. J. A. Woodburn. East Underw 41:18+ pt 2 O 4 '40
Life within reason. I. J. C. Brown. 256p $1 S. J. Reginald Saunders, 84 Wellington st, W. Toronto '39
Moral basis of democracy. E. Roosevelt. 82p $1.50 Howell, Soskin & co, 17 E. 45th st, New York '40
New World challenge to imperialism. M. E. Tracy. 395p bibliog(p375-9) $3.50 Coward-McCann, New York '40
Pattern of politics; the folkways of a democratic people. J. T. Salter. 246p $2.25 Macmillan '40
Phases of democracy. W. Lewis. Special Lib 30:288-91 N '39
Positive democracy. J. Feibleman. 256p $2.50 Univ. of North Carolina press, Chapel Hill '40
Preface to an educational philosophy. I. B. Berkson. 250p bibliog(p231-8) $2.50 Columbia univ. press '40
President Roosevelt calls for renewal of faith in Democratic system. Comm & Fin Chr 151:2421-2 O 26 '40
Reason, social myths, and democracy. S. Hook. 302p $3 Day '40
Shall not perish from the earth. R. B. Perry. 159p bibliog(p157-9) $1.50 Vanguard press, inc, New York '40
Smaller democracies. E. D. Simon. 191p pa 6s V. Gollancz, London '39

DEMOCRACY—*Continued*
What's democracy to you? J. Gollomb. 118p $1.75 Macmillan '40
Where do we go from here? H. J. Laski. 192p $1.75 Viking press '40
Which way, democracy? W. Parsons. 295p $2 Macmillan '39
Why I am a democrat; a symposium. R. Acland, ed. 160p 2s 6d Lawrence and Wishart, London '39
Zero hour; a summons to the free. S. V. Benét and others. 244p $2 Farrar '40

Bibliography
Democracy: a reading list. B. Y. Landis, comp. Am Lib Assn Bul 34:54-68 sec2 Ja '40
Democracy in America. 7p Carnegie endowment '40

DEMOCRATIC party
Address at Jackson Day dinner in Washington. F. D. Roosevelt. Comm & Fin Chr 150:207-9 Ja 13 '40
Democratic national committee chooses Chicago for 1940 convention. Comm & Fin Chr 150:928-9 F 10 '40
Democratic national convention; President Roosevelt nominated. Comm & Fin Chr 151: 334-6 Jl 20 '40
President Roosevelt addresses young Democratic clubs. Comm & Fin Chr 150:2660-1 Ap 27 '40

Platform
See Platforms, Political

DEMONSTRATION houses. See Houses, Model

DEMONSTRATIONS. See Salesmanship—Demonstrations; Salesmanship, Retail—Demonstrations

DENATURATION. See Methemoglobin

DENATURED alcohol. See Alcohol, Denatured

DENIGÈS reagent
Determination of methylpropene by means of a modified Denigès reagent. A. Newton and E. J. Buckler. bibliog diags Ind & Eng Chem Anal ed 12:251-4 My 15 '40

DENMARK
Executive order and regulation on transfers of Danish and Norwegian property. Fed Res Bul 26:390-3, 509-13 My-Je '40
I chose Denmark. F. Hackett. 291p $2.50 Doubleday '40

Commerce
Danish foreign trade in 1938 and 1939. Comm Rep p379 Ap 20 '40

Economic conditions
Business situation. Published in Commerce reports [cont as Foreign commerce weekly beginning O 5]
Danish economic adaptation. Economist 138: 292-3 F 17 '40
Denmark's position as a neutral, with comments on her economic condition. Comm & Fin Chr 150:1181-4 F 24 '40

German occupation
Camouflaged exploitation of Denmark. Economist 139:369 S 21 '40
Denmark after the occupation. Economist 138: 1109 Je 29 '40

DENNISON manufacturing company
Earnings, 1938 and 1939. Comm & Fin Chr 151:844 Ag 10 '40

DENSITOMETERS
American apparatus, instruments, and instrumentation; optical instruments. R. H. Müller. il Ind & Eng Chem Anal ed 12: 594-5 O 15 '40
Push-pull photoelectric photodensitometer for determining fine structure in ultraviolet absorption spectra. J. R. Loofbourow. bibliog diag Opt Soc Am J 29:535-7 D '39
Simple photoelectric microdensitometer. M. Spiegel-Adolf and R. H. Peckham. bibliog il diag Ind & Eng Chem Anal ed 12:182-4 Mr 15 '40

DENSITY. See Specific gravity

DENTAL chemistry
Chemistry in dental science. D. A. Wallace and H. L. Hansen. bibliog J Chem Educ 17:425-6 S '40

DENTAL colleges
Harvard school of dental medicine. Science 92:53-4 Jl 19 '40

DENTAL education
See also
Dental colleges

DENTAL jurisprudence
Dental jurisprudence. R. E. Nimmo. 435 numb l College of dentistry, Univ. of Southern California, Los Angeles '40

DENTAL lamps. See Electric lamps, Dental

DENTAL materials
Engineering in dentistry. A. W. Jessup. il Sci Am 162:90-1 F '40

See also
Teeth, Artificial

DENTAL metallurgy
Ney gold handbook. 53p gratis J. M. Ney co, 71 Elm st, Hartford, Conn. '39

DENTAL research
Biological research after a century of dentistry. T. Rosebury. Science 92:247-52 S 20 '40
Chemistry in dental science. D. A. Wallace and H. L. Hansen. bibliog J Chem Educ 17:425-6 S '40
Research grants of the American college of dentists. Science 91:443 My 10 '40
William John Gies award, research fellowships and grants-in-aid of the American college of dentists. A. L. Midgley. Science 92:151-2 Ag 16 '40

DENTAL service
Dental health organization in state departments of health of the United States. U S Pub Health Service, Pub Health Bul 251: 1-86 '39

DENTAL surveys
Community economic status and the dental problem of school children. H. Klein and C. E. Palmer. bibliog Pub Health Rep 55: 187-205 F 2 '40
Studies on dental caries; prevalence and incidence of dental caries experience, dental care, and carious defects requiring treatment in high school children. H. Klein and C. E. Palmer. Pub Health Rep 55:1258-68 Jl 12 '40

DENTAL symbols
Revision of dental symbols. B. Oetteking. Science 90:464-5 N 17 '39

DENTIFRICES
Is your pet dentifrice safe? A. G. Ingalls. Sci Am 163:82 Ag '40

Manufacture
Tubes and toothpaste, a case history; Bristol-Myers factory. C. Walsh. il diag Electronics 13:16-19 O '40

Testing
Machine for testing dentifrice abrasion. R. W. Smith. bibliog il diags Ind & Eng Chem Anal ed 12:419-23 Jl 15 '40

DENTINE. See Teeth

DENTISTRY
Dental health organizations in state departments of health of the United States. F. C. Cady. (Public Health Bul 251) 86p U.S. Public health service; pa 15c Supt. of doc. '39
Root canal therapy. L. I. Grossman. 237p $4 Lea & Febiger, Philadelphia '40

DENTISTS
Dentist's own problem. A. A. Campbell. 215p $3.50 B-C pub. co, box 962, Portland, Ore. '39

DENTISTS' offices
Dental office and apartment combined, Clayton, Mo. il diag plans Arch Rec 88:54-5 O '40
Dental office has unique fenestration. il diag plan Arch Rec 88:38-9 Jl '40

DENTISTS' offices—*Continued*

Lighting

Triple threat to molars; three-in-one dental unit uses plastics for improved lighting and appearance. il Mod Plastics 18:44+ N '40

DENVER, Colorado

Family income and expenditure in selected urban communities of the west central-Rocky Mountain region, 1935-36; v. 2, Family expenditure. A. D. H. Kaplan, F. M. Williams and L. A. Epstein. map U S Bur Labor Statistics Bul 646:1-313 '40

Architecture

Denverites nominate outstanding buildings. il map Arch Rec 86:10, 12 D '39

Libraries

Cooperation, a concrete example; Denver public library and Denver office library of Bureau of reclamation. D. L. Brechner. Mech Eng 62:800 N '40

Railroads

Five roads join in building modern produce facilities. il plan Ry Age 108:584-7+ Mr 30 '40

I.C.C. report on terminals. Ry Age 108:177-8 Ja 20 '40

Union Pacific gives Denver modern produce terminal. il plan Ry Age 108:401-5 Mr 2 '40

Water supply

Use of activated carbon in purification plants. O. J. Ripple. bibliog Am Water Works Assn J 32:609-12 Ap '40

DENVER, Pennsylvania

Water supply

Ozone goes to work; taste and odor control. F. H. Dechant. il Eng N 124:516-17 Ap 11 '40

DENVER & Rio Grande western railroad

D. & R.G. still an embattled road; ICC reorganization plan. map Business Week p28-30 Ag 24 '40

DENVER & Salt Lake railway

Income account for 1936-39. Comm & Fin Chr 150:3355 My 25 '40

DEODORIZERS

Dorex squirrel cage odor adsorber. il Rayon 21:182-3 Mr '40

Portable device de-odorizes air. il Sci Am 162:287 My '40

DEPARTMENT stores

Department store for the May department stores co, Los Angeles; views, plans and construction outline. Arch Forum 72:353-7 My '40

How same product can be sold successfully in more than one store department. Ptr Ink 192:53-4, 56 Ag 9 '40

How to sell through department-store chains. E. B. Weiss and J. C. Cumming. il Ptr Ink Mo 41:5-8+ Jl '40

Operating results of department and specialty stores in 1939. M. P. McNair. Harvard Univ Graduate School of Business Administration, Bur of Business Research Bul 111:1-34 '40 (pa $2.50)

Studying department store profits; Retail research association meeting, San Francisco. il Business Week p34 My 4 '40

See also

Macy, R. H., and company
Marketing—Department store outlets
Marshall Field and company
Store buildings

Accounting

Inventories and receivables of department stores, instalment houses, chain stores, and other retailers; a statement by the committee on auditing procedure of the American institute of accountants. J Account 69:88-90 F '40

Advertising

Copy idea from Euclid; Bloomingdale executive says new telegraphic advertising style gets results. I. A. Hirschmann. il Ptr Ink 191:14-15 Ap 12 '40

How to keep out of hot water on 50-50 advertising with dealers; splitting cost of consumer advertising with department stores. J. C. Cumming. Sales Management 46:52-4+ Ja 15 '40

Newspaper advertising volume as influenced by sales of department stores. L. D. H. Weld. Ptr Ink 192:19-22 Jl 26 '40

Relationship between sales and advertising of department stores. G. H. Brown and F. A. Mancina. J Business 13:1-16 Ja '40; Correction. 13:205 Ap '40

Simplified sales promotion for retailers. E. Kaylin and A. A. Wells. 176p $2.50; to members $1.50 National retail dry goods assn, New York '40

Telegraphic copy; Bloomingdale's new advertising could be strengthened by better layouts. G. I. Bushfield. il Ptr Ink 190:15-16 Mr 15 '40

Air conditioning

Air conditioning design for future requirements; May co. department store. il Heating-Piping 12:653-5 N '40

Famous Famous-Barr building job. il Dom Eng 156:42-4+ S '40

G. Fox store sets a new standard; steam plant for heating, air conditioning and other power services. flow diag il plans Power Pl Eng 44:40-6 Ap '40

Modernize department store with zoned heating, air conditioning; James McCreery & co. A. E. Elgar. il Heating-Piping 12:175-6 Mr '40

Piping does double duty; same circuits serve twelve zones of department store air conditioning system; Meyer bros. D. E. Alton. plan Heating-Piping 12:535-6 S '40

Recent evaporative condenser design; supplies air conditioning for Paterson, N.J. store. D. E. Alton. diag Refrig Eng 40: 160-1 S '40

Unit air conditioning solves store problem. il Elec W 114:112 Jl 13 '40

Zoning in air conditioning; Meyer brothers department store, Paterson, N.J. D. E. Alton. il diag Refrig Eng 39:151-3 Mr '40

Employees

Department store as a vocation for college trained men. D. P. Bent. 51p pa 25c Dartmouth college, Bur. of personnel research, Hanover, N.H. '40

How to sell more goods to department store employes. J. C. Cumming. il Sales Management 47:22-4 O 1 '40

Job security in the retail field; executives in department stores. Management R 29:18-19 Ja '40

Marshall Field stabilizes jobs; extras are classified. Business Week p48 S 14 '40

Retail personnel primer. 165p bibliog(p161-5) $2.50; to members $1.50 National retail dry goods assn, Bur. of smaller stores, New York '40

Finance

Department store in its community. E. A. Burnham. bibliog Harvard Business R 18 no 4:455-71 [Jl] '40

Gift wrapping

Gift packaging, force or fad? il Mod Packaging 14:62, 64 S '40

Management

Analysis of customer complaints; abstract. W. J. Pilat. Management R 29:101-2 Mr '40

How Kaufmann's uses research to build business; continuous research at Mellon institute and standard of quality labeling. E. G. Thoman. il Am Business 10:26-7+ My '40

Let the customer fight. Ptr Ink Mo 39:26 D '39

Store experiments; Bamberger expands informative labeling, tries out radio-advertised cash-and-carry basement. Business Week p46 S 28 '40

They tell the boss; Saks-Fifth Avenue finds employee directors have ideas. Business Week p36-7 Mr 16 '40

DEPARTMENT stores—*Continued*

Parking garages

Store building for Sears, Roebuck and co. Los Angeles; with construction outline. il diags plans Arch Forum 72:70-6 F '40

Power

G. Fox store sets a new standard; steam plant for heating, air conditioning and other power services. flow diag il plans Power Pl Eng 44:40-6 Ap '40

Purchasing

What department stores think of manufacturers' salesmen. E. B. Weiss. il Sales Management 47:18-20+ N 15 '40

Why so much western merchandise is breaking into eastern markets; the Hollywood influence in clothes, furniture, gift wares and novelties. H. W. Wright. il Sales Management 47:16-18+ Jl 1 '40

Securities

Allied Stores 4 1/2s, 1951, yield 4.61%. Barron's 20:19 My 6 '40; Correction. 20:19 My 13 '40

Growth through filling basic needs; J. C. Penney. S. Devlin. il Mag of Wall St 65: 346-7+ D 30 '39

R. H. Macy and Marshall Field; contrasting trends. P. Dobbs. il Mag of Wall St 65: 814-15+ Ap 6 '40

Statistics

Department store gains. Business Week p36-7 Ag 31 '40

Department store sales, Cleveland Federal reserve district, monthly, 1929-Nov. 1939; revision. Survey of Cur Business 20:18 Ja '40

Department store sales in December in New York Reserve district. Comm & Fin Chr 150:749 F 3 '40 [cont monthly]

Department store sales in metropolitan areas, 1938; Printers' Ink market explorations. map Ptr Ink Mo 40:30-1, 33-5 My '40

Department store sales, Minneapolis Federal reserve district, monthly, 1934-Nov. 1939; revision. Survey of Cur Business 20:18 Ja '40

Department store sales, Philadelphia Federal reserve district; revision, 1923-39. Survey of Cur Business 20:10 Mr '40

Department store sales, San Francisco Federal reserve district, monthly, 1919-Nov. 1939; revision. Survey of Cur Business 20:18 Ja '40

Index of department store sales by Federal reserve districts, December. Comm & Fin Chr 150:183 Ja 13 '40 [cont monthly]

Relationship between sales and advertising of department stores. G. H. Brown and F. A. Mancina. J Business 13:1-16 Ja '40; Correction. 13:205 Ap '40

Retail trade, department store sales by Federal reserve districts, 1936-1939. Survey of Cur Business 1940 Sup p28-9 [supplemented in monthly numbers]

Sales and stocks, monthly, Jan. 1938-Nov. 1939. Fed Res Bul 26:53 Ja '40 [cont monthly]

Stock

Effective pricing and sales promotion; study of stores' clientele will enable manufacturers to help dealers avoid error of featuring companion lines that bear uncompanionable prices. V. Lebow. Ptr Ink Mo 40:12+ F '40

Taxicab and free parking service

Parking lot, store taxi service for employees of downtown stores. Transit J 83:490 D '39

DEPOLARIZATION, Electrolytic

Mechanism of aromatic side-chain reactions, with special reference to the polar effects of substituents; depolarisation potentials of *p*-substituted benzaldehydes in acid, neutral, and alkaline media at the dropping-mercury cathode. J. W. Baker, W. C. Davies and M. L. Hemming. Chem Soc J p692-702 My '40

DEPOLYMERIZATION

Acid-base catalysis in the depolymerisation of dimeric glycollaldehyde. R. P. Bell and J. P. H. Hirst. diag Chem Soc J p1777-80 N '39

DEPOSIT insurance. See Banks and banking —Guaranty of deposits

DEPRECIATION

Accounting research bulletin no. 5; depreciation on appreciation. J Account 69:461-7 Je '40

Asymptotic method of determining annual and accrued depreciation. J. Jeming. Edison Elec Inst Bul 8:27-32 Ja '40

Benefits of sound depreciation practices. A. R. Colbert. Edison Elec Inst Bul 7:549-51 N '39

Depreciation and replacement of machinery. H. Gutteridge. Mech Handling 27:32 F '40

Depreciation in relation to income taxes. Am Gas Assn Mo 22:225-7+ Je '40

Depreciation of cast-iron water mains related to actual service lives. R. Newsom and E. H. Aldrich. Am Water Works Assn J 32:795-818 My '40

Depreciation of public utility property; a collection of papers. M. R. Scharff, F. J. Leerburger and J. Jeming. 136p, 89p bibliog(p87-9) $3 M. R. Scharff, 285 Madison av, New York '40; Review. Pub Util 26: 112-13 Jl 18 '40

Depreciation on appreciation. J. S. Seidman. J Account 70:162-3 Ag '40

Depreciation; present regulatory trends. Pub Util 26:38-40 Jl 4 '40

Depreciation, science or philosophy? B. S. Rodey, jr. Edison Elec Inst Bul 8:383-5+ Ag '40; Same. Pub Util 26:272-80 Ag 29 '40

Dividends v. depreciation; proposed SEC ruling for holding companies. Pub Util 25:479-80 Ap 11 '40

Fifth column tactics in original cost and depreciation accounting. S. Ferguson. Edison Elec Inst Bul 8:281-4+ Je '40; Excerpts. Elec W 113:1879-80 Je 15 '40

Financial aspects of depreciation. H. R. Hatfield. J Account 69:48-9 Ja '40

Here's a new depreciation ruling in Pittsburgh brewery case; decision dealing with excessive depreciation which had been deducted during loss years. Am Business 10: 39-40 Ja '40

How we keep equipment up to standard; method of determining depreciation. L. C. Phillips. il Bankers Mo 57:428-9 Jl '40

Is excessive depreciation a capitalistic Frankenstein? Stuart Chase's article in Harper's magazine and New York Times comment. Pub Util 25:359-63 Mr 14 '40

Neighborhood trends and building depreciation are measurable. il maps Arch Rec 87: 90-1 My '40

Physical depreciation and insurable values; abstract. F. H. Dow. Management R 29: 108-9 Mr '40

Progress rides the coat-tails of obsolescence; Internal revenue bureau should encourage highest supportable depreciation rates for income tax purposes. E. C. Clarke. il Iron Age 145:32-5 My 30 '40

Relation of depreciation provisions to replacement; testimony of O. L. Altman and A. H. Hansen before the Temporary national economic committee. G. O. May. J Account 69: 341-7; 70:69-70 My, Jl '40

Sinking-fund v. straight-line depreciation accounting. L. S. Ready. Pub Util 26:570-82 O 24 '40

So depreciation is a technical problem! C. E. Kohlhepp. Edison Elec Inst Bul 8:288-90 Je '40; Excerpts. Elec W 113:1880-1 Je 15 '40

Transition to depreciation accounting; how Public service commission and Wisconsin utilities have met this problem. A. R. Colbert. J Land & Pub Util Econ 16:129-36 My '40

Trends in accounting procedure. V. H. Stempf. J Account 69:451-60 Je '40

Unamortized values in replacement studies. E. P. De Garmo. J Eng Educ 30:65-6 S '39; Discussion. W. E. Goetz. 30:716-18 Ap '40

Use and abuse of depreciation. J. H. Murdoch, jr. Am Water Works Assn J 32:1647-65 O '40

See also
Cost accounting
Obsolescence

DERAILMENTS. See Railroads—Accidents

DERBY gas and electric corporation
Hearings on amended plan. Comm & Fin Chr 150:3505-6 Je 1 '40

DERMACENTOR andersoni
Cultivation of rickettsia diaporica in tissue culture and in the tissues of developing chick embryos. H. R. Cox and E. J. Bell. Pub Health Rep 54:2171-8 D 8 '39
Rickettsia diaporica; recovery of three strains from dermacentor andersoni collected in southeastern Wyoming; their identity with Montana strain 1. G. E. Davis. Pub Health Rep 54:2219-27 D 15 '39

DERMATITIS. See Skin—Diseases

DERRICKS, etc. See Cranes, derricks, etc.

DERRICKS, Oil well
Equipment under derrick floor important. il Oil & Gas J 38:60 F 8 '40
Improved type Emsco derrick permits racking more pipe. diags Oil & Gas J 38:108 F 8 '40
Mast-type derrick used on deep coastal test. N. Williams. il Oil & Gas J 39:46-7 S 12 '40
New portable rig uses torque converter and 90-ft. folding mast. T. P. Sanders. il Oil & Gas J 39:53 Jl 11 '40
New telescopic portable derrick. il Oil & Gas J 38:45 Ja 4 '40
Reports of A.P.I. subcommittees of the committee on the standardization of standard rigs and derricks. il diags Am Pet Inst Proc 21M(4):169-80 My '40
Rotary-rig foundations in Gulf Coast marshes. N. Williams. il plan Oil & Gas J 39:42-3 Ag 8 '40

DERRIS
Active principles of leguminous fish-poison plants; derris malaccensis and tephrosia toxicaria. S. H. Harper. Chem Soc J p1178-84 Ag '40
Active principles of leguminous fish-poison plants; the isolation of malaccol from derris malaccensis. S. H. Harper. Chem Soc J p309-14 Mr '40

Analysis

Determination of rotenone in derris root. T. M. Meijer and D. R. Koolhaas. bibliog Ind & Eng Chem Anal ed 12:205-9 Ap 15 '40
Method for determining deguelin in derris and cubé. L. D. Goodhue and H. L. Haller. bibliog Ind & Eng Chem Anal ed 11:640-2 D 15 '39

DESICCATION. See Drying

DESIGN
American industrial art; fifteenth exhibition. H. Josephs. il Mod Plastics 17:46-8+ Je '40
Business consults the industrial designer; Raymond Loewy's work. C. M. Macko. il Barron's 20:20 Jl 15 '40
Ceramic design and the market. J. A. Foster. Am Cer Soc Bul 18:457-8 D '39
Contemporary American industrial art; 1940 exhibit, Metropolitan museum of art in New York. il plan Arch Forum 72:sup9-12, 14 Je '40
Coordination in design; excerpts from conference at University of Michigan, Feb. 2-3. Arch Forum 72:187-8 Mr '40
Design and the idea. A. Tucker. 40p $1 Am. federation of arts, Washington, D.C.; for sale by Oxford '39
Design decade. il diags plans Arch Forum 73:217-320 O '40
Design for industry suggests a broader horizon for the architect; two exhibits now current in New York city. D. Haskell. Arch Rec 87:87+ Je '40
Design this day; the technique of order in the machine age. W. D. Teague. 291p bibliog(p278-84) $6 Harcourt '40
Designed for today's living; Contemporary American industrial art at the Metropolitan museum of art in New York city. il Ptr Ink Mo 40:10-11 Je '40
Ideas, the essence of development. C. M. Ashley. il Product Eng 11:511-12 N '40
Industrial design. H. Van Doren. 388p, 32pls bibliog(p373-5) $4.50 McGraw-Hill '40
Institutional design; Pennsylvania central airlines. H. S. Pack, jr. il Bus Transportation 19:440-2 S '40; Same cond. Aero Digest 36:112, 115 My '40
Lord & Taylor picks four winners. Business Week p41 My 4 '40
Manual of elementary design and color. R. M. Doolittle. 53p Santa Barbara state college press, Santa Barbara, Calif. '40
Materials and design; twin keys to profit. G. T. Trundle, jr. il Product Eng 11:354-6 Ag '40
Philosophy of design. C. M. Ashley. Product Eng 11:443-4 O '40
Philosophy of design. J. C. Lawrence. Am Inst Chem Eng Trans 35:801-6 D '39; Same abr. Chem & Met Eng 46:776-7 D '39
Plastics and design. W. D. Teague. Arch Forum 72:93-4 F '40
Problems of designing for industry. E. W. Enthof. Am Cer Soc Bul 18:459-60 D '39
Purpose in design. A. D. Defries. 238p bibliog(p233-7) $7.50 S. J. Reginald Saunders, 84 Wellington st, W. Toronto '38
Redesigning for furnace brazing. H. M. Webber and T. L. Swansen. il diags Product Eng 11:448-9, 518-19 O-N '40
Significance of tension test; background of proposed symposium to discuss relation to design. J. M. Lessells. bibliog Mech Eng 62:311-14 Ap '40
Student design. il diags Mod Plastics 17:37+ My '40

See also
Airplanes—Design
Automobiles—Design
Bridge design
Composition (art)
Concrete construction—Design
Locomotives—Design
Machinery—Design
Printing—Design
Steel construction—Design
Structures, Theory of

Competitions

Industrial design competitions for the 21 American republics announced by Museum of modern art. Arch Forum 73:sup27-30 O '40

Protection

Design piracy; legal, social, and economic aspects. K. D. Hutchinson. Harvard Business R 18 no 2:191-8 [Ja] '40; Abstract. Management R 29:47-8 F '40
St Louis puts the pulmotor on its dying dress industry; problem of style piracy. L. B. Colby. il Sales Management 47:22-4 S 15 '40

See also
Patent laws and legislation

DESIGN, Architectural. See Architecture, Domestic—Designs and plans; Church architecture—Designs and plans

DESIGN, Decorative
Design from peasant art. K. Mann. 100p $4 Macmillan (Toronto) '39
Glass: artist, designer, artisan; Steuben Glass exhibition of twenty-seven engravings on crystal. A. Silverman. il Glass Ind 21:316-22 Jl '40
1000 designs and ideas for decorations of all kinds. D. M. Campana. 126p 65c D. M. Campana art co, 442 N. Wells st, Chicago '40

See also
Textile design
Textile printing

DESIGNERS
Business consults the industrial designer; Raymond Loewy's work. C. M. Macko. il Barron's 20:20 Jl 15 '40

DESILVER, Albert, 1888-1924
Liberal in wartime; the education of Albert DeSilver. W. Nelles. 221p $2.50 Norton '40

DESIZING (textiles)
Enzyme desizing efficiency; quantitative evaluation. W. M. Scott. bibliog il Ind & Eng Chem 32:784-7 Je '40

DESKS
Advertising man's desk. il diags Adv & Sell 32:29 D '39
New space-saving desk to cut office costs. il Am Business 10:30-1 N '40

DESKS—*Continued*
Standard Accident desks designed for underwriting efficiency. Weekly Underw 142:925 Ap 13 '40

DESKS, Steel
Hidden handles (Beetle) for steel desks. il Mod Plastics 17:32+ Mr '40

DES MOINES, Iowa

Architecture
Once in a great while; Bankers life company new home office. il diags plans Arch Rec 87:47-68 Je '40

DESORPTION
Analyse von gasgemischen durch die desorptions-wärmeleitfähigkeitsmethode. R. Edse and P. Harteck. diags Angew Chemie 52: 32-3; 53:210-13 Ja 7 '39, My 11 '40
Performance of packed towers; experimental studies of absorption and desorption. T. K. Sherwood and F. A. L. Holloway. bibliog Am Inst Chem Eng Trans 36:21-36; Discussion. 36-7 F '40
Performance of packed towers; liquid film data for several packings. T. K. Sherwood and F. A. L. Holloway. bibliog diag Am Inst Chem Eng Trans 36:39-69; Discussion. 69-70 F '40

DESOXOTESTOSTERONE
Sterols; desoxotestosterone and its conversion to testosterone. R. E. Marker, E. L. Wittle and B. F. Tullar. Am Chem Soc J 62:223-6 Ja '40

DESOXYCHOLAMINE
Desoxycholamine. W. T. Caldwell. Am Chem Soc J 61:3584-5 D '39

DESOXYCORTICOSTERONE
Toxic effects of desoxycorticosterone esters in dogs. D. Kuhlmann and others. Science 90: 496 N 24 '39

DESOXYCORTICOSTERONE acetate
Treatment of muscular weakness with hormones; abstract. R. C. Moehlig. Science 92:sup8 Jl 19 '40
Treatment of shock in surgical operations. D. Perla. Science 91:sup12 Mr 15 '40

DESULFURIZATION
Additive compounds formed in the desulfurization of thioureas by copper hydroxide. W. M. Dehn. Am Chem Soc J 62:3189-90 N '40

DETERGENCE. See Cleaning

DETERGENTS. See Cleaning compositions

DETERMINANTS
Determinants and matrices. A. C. Aitken. 135p 4s 6d Oliver and Boyd, Edinburgh '39

DETINNING. See Tin metallurgy

DETONATION
Breaking theory of detonation. L. R. Carl. bibliog Franklin Inst J 230:75-94, 207-27, 355-74 Jl-S '40
Étude de la détonation. Libessart, Culmann and Penciolelli. il Chimie & Ind 42:774-8 N '39
See also
Automobile engines—Detonation
Explosives
Gas and oil engines—Detonation

DETONATORS
Modern detonators. W. Taylor. Chem & Ind 58:1065-9 D 9 '39

DETONATORS, Electric
Electrical hazards presented by static electricity and earth currents; requirements for shot-firing underground. P. C. Ziemke. diag Eng & Min J 141:42-5 Je '40
Lightning and the premature firing of electrical blasts. plan Eng & Min J 141:52-3 Mr '40
Parallel electric blasting circuits in shafts and tunnels. D. P. Ryan. il diags Explosives Eng 18:230-3 Ag '40

DETROIT
Detroit, city of the straits. il Ind & Eng Chem News ed 18:433-6 My 25 '40
Detroit, dynamic city. A. Pound. 398p bibliog(p373-8) $5 Appleton-Century '40
Detroit; education, technology, culture. il Ind & Eng Chem News ed 18:575-8 Jl 10 '40
See also
Chemical industries—Detroit
Printing trade—Detroit

Harbor
Port of Detroit, Michigan. rev ed 156p U.S. Engineer dept, Board of engineers for rivers and harbors, Washington '40

Rapid transit
Trolley bus on stilts; new type of elevated structure suggested for Detroit. il Transit J 84:129 Ap '40

Sewerage
Detroit's disposal plant; abstract. C. W. Hubbell. Eng N 125:626-7 N 7 '40
Hydraulic model studies solve backwater gate design. G. E. Hubbell. il diags Eng N 124: 645-6 My 9 '40

Streets
Traffic jams business out. il maps Arch Forum 72:64-5 Ja '40

Water supply
Handling and feeding activated carbon at Detroit. N. Powers. Am Water Works Assn J 32:621-4 Ap '40

DETROIT Edison company
Earnings, 1936-39. Comm & Fin Chr 150:686 Ja 27 '40

DETROIT free press
Knight buys Detroit free press. Ptr Ink 191: 20 My 10 '40

DETROIT stock exchange
Monthly range of prices, 1939. Comm & Fin Chr 150:581-3 Ja 27 '40
Weekly record. Published in weekly numbers of Commercial & financial chronicle

DEUTERIUM. See Hydrogen—Isotopes

DEUTERIUM compounds
Nuclear isotope shift in the spectra of HgH^+ and HgD^+. S. Mrozowski. bibliog diags Phys R 58:332-40 Ag 15 '40
Salt hydrates and deuterates; correlation of heats of dissociation and structure. J. Bell. Chem Soc J p72-4 Ja '40
Temperature dependence of the dissociation constant of deuteroacetic acid. F. Brescia, V. K. LaMer and F. C. Nachod. bibliog Am Chem Soc J 62:614-17 Mr '40

DEUTERIUM oxide. See Water—Heavy water

DEUTERONS
Alpha-particle groups from the disintegration of beryllium by deuterons. S. K. Allison, E. R. Graves and L. S. Skaggs. Phys R 57:158-9 Ja 15 '40
Deuteron-deuteron, proton-helium, and deuteron-helium scattering. N. P. Heydenburg and R. B. Roberts. Phys R 56:1092-5 D 1 '39
Distribution in angle of protons from the deuteron-deuteron reaction. R. D. Huntoon and others. diags Phys R 58:97-102 Jl 15 '40
Electrical quadrupole moment of the deuteron· the radiofrequency spectra of HD and D_2 molecules in a magnetic field. J. M. B. Kellogg and others. bibliog Phys R 57:677-95 Ap 15 '40
Gamma-radiation from nitrogen bombarded by deuterons. E. R. Gaerttner and L. A. Pardue. bibliog Phys R 57:386-9 Mr 1 '40
Gamma-ray resonances from the bombardment of carbon by deuterons. W. E. Bennett and T. W. Bonner. Phys R 58:183-5 Jl 15 '40
Gamma-rays from beryllium and nitrogen bombarded with deuterons. H. R. Crane, J. Halpern and N. L. Oleson. bibliog Phys R 57:13-15 Ja 1 '40
Meson theory of nuclear forces; theory of the deuteron. H. A. Bethe. bibliog Phys R 57:390-413 Mr 1 '40
Neutron-deuteron scattering cross section. L. Motz and J. Schwinger. Phys R 57:161-2 Ja 15 '40
Oppenheimer-Phillips process. G. M. Volkoff. bibliog Phys R 57:866-76 My 15 '40

DEUTERONS—*Continued*
Proton-deuteron transformation as a source of energy in dense stars. W. A. Wildhack. Phys R 57:81-6 Ja 15 '40
Protons from the transmutation of boron by deuterons. E. Pollard, W. L. Davidson, jr. and H. L. Schultz. Phys R 57:1117-20 Je 15 '40
Relative probability for the loss of neutrons and alpha-particles from an excited nucleus. J. M. Cork and J. Halpern. Phys R 57: 667-8 Ap 15 '40
Relativistic magnetic moment of a charged particle. H. Margenau. Phys R 57:383-6 Mr 1 '40
Scattering of thermal neutrons by deuterons. L. Motz and J. Schwinger. Phys R 58:26-36 Jl 1 '40
Search for a neutron-deuteron reaction. L. B. Borst and W. D. Harkins. Phys R 57:659 Ap 1 '40
Search for a short range group of protons in the D-D reaction. F. E. Myers and others. bibliog diag Phys R 56:1104-6 D 1 '39
Study of the protons from V, Cu, Mn, and Sc under bombardment by deuterons. W. L. Davidson, jr. bibliog Phys R 56:1062 N 15 '39
Transmutation of the separated isotopes of neon by deuterons. E. Pollard and W. W. Watson. bibliog diag Phys R 58:12-18 Jl 1 '40
Value of the electric quadrupole moment of the deuteron. A. Nordsieck. bibliog Phys R 58:310-15 Ag 15 '40

DE VERE, Edward, 17th earl of Oxford. See Oxford, E. De V.

DEVIL RIDGE area, Texas
Stratigraphy and structure of the Devil Ridge area. J. F. Smith, jr. bibliog diag maps Geol Soc Bul 51:597-637, pl 1-6 Ap '40

DEVIL'S shoestring. See Tephrosia virginiana

DEVITRIFICATION. See Glass—Devitrification

DEW
Formation of dew on insulators of high tension lines. Electrician 123:519 D 15 '39

DEWAXING of petroleum. See Petroleum refining—Wax removal

DEWEY, Thomas Edmund, 1902-
Attorney for the people; the story of Thomas E. Dewey. R. Hughes. 361p $2.75 Houghton '40
What I would do as president; Thomas E. Dewey lists remedial measures. A. R. Pinci. por Barron's 20:20 Je 10 '40

DEWEY and Almy chemical company
Chemical tourist visits at the hub of New England chemical trade. W. Haynes. il Chem Ind 46:158-60 F '40

DE WITT county, Illinois
Ever-normal county; government and politics of De Witt county. il map Fortune 21:82-9+ Je '40

DEXTRINS
Potato products industry; starch preparation; dextrine manufacture. il Chem Age (Lond) 42:279-81 My 18 '40

DEXTROSE
Asymmetric reduction of β-methylcinnamic acid by *d*-glucose in the presence of Raney nickel. T. D. Stewart and D. Lipkin. Am Chem Soc J 61:3297-300 D '39
Corn sugar status in food to be argued on Sept. 16. Oil Paint & Drug Rep 138:5+ S 9 '40
Corn vs. cane sugar; dextrose interests seek to annul Food & Drug regulation. Business Week p33-4+ Jl 13 '40
Dextrose in commercial ice-cream manufacture. W. J. Corbett and P. H. Tracy. ill U Agric Exp Sta Bul 452:347-80 bibliog (p378-9) '39
d-Glucose S-ethyl O-methyl monothioacetal. M. L. Wolfrom, D. I. Weisblat and A. R. Hanze. bibliog Am Chem Soc J 62:3246-50 N '40
How to use dextrose in canning. E. W. Eickelberg. il Food Ind 12:33-5 Ja; 50-1 F '40
Mutarotation of alpha-*d*-glucose in ethanol-water mixtures at 25°. H. H. Rowley. bibliog Am Chem Soc J 62:2563-5 S '40
Mutarotation of *d*-glucose in absolute methanol. H. H. Rowley and S. D. Bailey. bibliog Am Chem Soc J 62:2562-3 S '40
Relative reducing potential of starch. R. W. Kerr. bibliog Am Chem Soc J 62:2735-8 O '40
See also
Glucose

DIABASE
Differentiation of the Palisade diabase, New Jersey. F. Walker. bibliog diags map Geol Soc Bul 51:1059-1105, pl 1-2 Jl '40
Rock series in diabase sills at Duluth, Minnesota. G. M. Schwartz and A. E. Sandberg. bibliog maps Geol Soc Bul 51:1135-71, pl 1-6 Ag '40

DIABETES
Clinical diabetes mellitus and hyperinsulinism. R. M. Wilder. 459p $6 Saunders '40
Diabetes mortality; a statistical analysis. C. W. Altshuler. Am Statis Assn J 35:341-6 Je '40
Manual for diabetic patients. W. D. Sansum, A. E. Koehler and R. Bowden. 227p $3.25 Macmillan '39
Modern diabetic care; including instructions in the diet and the use of the old and new insulins. H. Pollack. 216p $2 Harcourt '40
Morphological and functional recovery of the pancreatic islands in diabetic cats treated with insulin. F. D. W. Lukens and F. C. Dohan. Science 92:222-3 S 6 '40
Pituitary extract and diabetes; abstract. J. B. Collip. Science 91:sup9 F 16 '40
Pleasant food for diabetics. A. Sanders. 138p $1.25 Ryerson press '39
Prevention of diabetes in dogs; abstract. H. F. Root. Science 91:sup10 Je 21 '40
Simplified diabetic management. J. T. Beardwood, jr. and H. T. Kelly. 3d ed rev 221p $1.50 Lippincott '39
Simplified diabetic manual; with 163 international recipes (American, Jewish, French, German, Italian, Armenian, etc). A. Rudy. 2d ed 216p $2 M. Barrows & co, 286 5th av, New York '40

DIACETONE alcohol
Catalyzed cleavage of diacetone alcohol and other ketols and unsaturated ketones. S. H. McAllister, W. A. Bailey, jr. and C. M. Bouton. bibliog Am Chem Soc J 62:3210-15 N '40
Esters of diacetone alcohol. R. C. Huston and H. E. Ungnade. Am Chem Soc J 62: 2885 O '40
Freezing points and low temperature viscosities of diacetone alcohol-acetone mixtures. V. Lantz. Am Chem Soc J 62:3260 N '40
Solvents in industry. Metal Ind 38:183 Mr '40

DIACETOXYBUTANE
Dielectric constants of some pairs of diastereomers. S. Winstein and R. E. Wood. bibliog Am Chem Soc J 62:548-51 Mr '40

DIACETYL
Photochemical studies; the fluorescence of biacetyl; some general considerations governing the study of fluorescence. F. C. Henriques, jr. and W. A. Noyes, jr. bibliog Am Chem Soc J 62:1038-43 My '40
Thermal decomposition of diacetyl. W. D. Walters. bibliog Am Chem Soc J 62:880-6 Ap '40

DIAGNOSIS
Diagnostic signs, reflexes and syndromes, standardized. W. E. Robertson and H. F. Robertson. 309p $3.50 Davis '39
Essentials of the diagnostic examination. J. B. Youmans. 417p bibliog(p379-84) lea'tte $3 Commonwealth fund, New York '40
High-speed centrifuges and the diagnosis of disease. Science 91:sup10+ Mr 15 '40
Physical diagnosis. R. H. Major. 2d ed rev 464p $5 Saunders '40
Physical diagnosis. W. N. Anderson. 424p Lea & Febiger, Philadelphia '40

DIAGNOSIS—*Continued*
Practical bedside diagnosis and treatment. H. Joachim. 828p $7.50 C. C. Thomas, Springfield, Ill. '40
Textbook of laboratory diagnosis. E. E. Osgood. 3d ed 676p $6 Blakiston '40
Uses of electricity in medicine. O. R. Langworthy. bibliog il Elec Eng 59:389-94 O '40

DIAGNOSIS, Radioscopic
Atlas of cardioroentgenology. H. Roesler. 124p $8.50 C. C. Thomas, 220 E. Monroe st, Springfield, Ill. '40
Head and neck in Roentgen diagnosis. H. K. Pancoast, E. P. Pendergrass and J. P. Schaeffer. 976p $12.50 C. C. Thomas, Springfield, Ill. '40

DIAGNOSIS, Surgical
Demonstrations of physical signs in clinical surgery. H. Bailey. 7th ed rev 310p $6.50 Wood '40

DIALKYLAMINOBENZALDEHYDES
Some condensation products of *m*-dialkylaminobenzaldehydes with compounds containing reactive methylene groups. W. Cocker and D. G. Turner. Chem Soc J p57-9 Ja '40

DIALS
Indexing fixture speeds calibration of dials. A. Aghazarian. diag Am Mach 84:584 Ag 7 '40

DIALYSIS
Dialysis of latex; abstract. G. E. van Gils. India Rubber W 103:69 O '40
Electrodialytic estimation of ash and of acidic and basic groups in textile fibers. A. M. Sookne, C. H. Fugitt and J. Steinhardt. bibliog diag Am Dyestuff Rep 29:333-6, 355-6 Jl 8 '40; Same. J Research Nat Bur Stand 25:61-9 Jl '40
Equivalent weights of salts of organic acids; microdetermination by electrodialysis. K. H. Dittmer and R. G. Gustavson. diags Ind & Eng Chem Anal ed 12:297-9 My 15 '40
New cell for electrodialysis especially of soils. A. W. Marsden. bibliog diag Soc Chem Ind J 59:60-2 Mr '40

DIALYZERS
Plastics competition; award to Colgate-Palmolive Peet co. il Mod Plastics 18:74, 97 O '40
Rapid circulating dialyzer. A. R. Taylor, A. K. Parpart and R. Ballentine. diag Ind & Eng Chem Anal ed 11:659 D 15 '39

DIAMINES. See Amines

DIAMINOPYRIDINE
Amination in the heterocyclic series by sodium amide. R. N. Shreve and others. bibliog flow sheet il diags Ind & Eng Chem 32:173-8 F '40

DIAMOND match company
Safe stocks for income and protection. il Mag of Wall St 66:364-5 Je 29 '40

DIAMOND T motor car company
Volatile low priced equities; thumbnail appraisal. Mag of Wall St 65:687 Mr 9 '40

DIAMOND workers protective union of America
Diamond strike mars war gains. Business Week p30-1 D 2 '39

DIAMONDS
Book of diamonds; their curious lore, properties, tests and synthetic manufacture. J. W. Hershey. 142p $2 Chemical pub. co. '40
De Beers report; profits, 1937-39. Economist 138:634 Ap 6 '40
Diamond industry. Economist 139:197-8 Ag 10 '40
Diamond strike mars war gains. Business Week p30-1 D 2 '39
Transvaal alluvial diamonds. Can Min J 61: 459 Jl '40

Advertising
Diamonds get their first national advertising to expand shrunken market. il Adv & Sell 32:20 D '39

DIAMONDS, Industrial
Advance in diamond drill core bits. il Eng & Min J 141:89-90 O '40
Bits reconditioned by sandblasting; Sinta-set core bits impregnated with industrial bort diamonds. il Coal Age 45:96+ N '40
Diamond drilling today. H. J. Longmore. il Min & Met 21:335-6 Jl '40
Diamonds at work. R. Le Grand. diags Am Mach 83:1071 D 27 '39
Diamonds for truing grinding wheels; reference book sheet. L. Gluck. Am Mach 84:587 Ag 7 '40
Diamonds in finding and fabricating metals. E. D. Lucas, jr. il Metals & Alloys 10: 358-61 D '39
Metals in drilling; hard-facing materials. W. L. Nelson. il Oil & Gas J 38:50+ F 8 '40

DIAPHRAGMS
Sensitive aneroid diaphragm capsule with no deflection above a selected pressure. W. G. Brombacher, V. H. Goerke and F. Cordero. pl diag J Research Nat Bur Stand 24:31-2 Ja '40

DIARRHEA
Outbreaks of water-borne diseases in the New England states, 1920 to 1936. A. E. Gorman. N E Water Works Assn J 53:473-96; Discussion. 497-504 D '39
Proctoscopic examination and diagnosis and treatment of diarrheas. M. H. Streicher. 149p bibliog(p131-5) $3 C. C. Thomas, Springfield, Ill. '40

See also
Dysentery

DIATHERMY machines
Diathermy pad electrodes. il India Rubber W 101:53 Ja '40
Frequency bands for diathermy apparatus; abstract. E. K. Jett. Science 92:sup12 S 6 '40

DIATOMACEOUS earth
Diatomite an aid in filtering cyanide precipitate. E. C. Bitzer. diag Eng & Min J 141:52-3 O '40
Precast concrete sea wall; diatomaceous silica resists action of salt water. H. H. Bierman. il diag Rock Prod 43:59, 61 N '40
Story of diatomaceous earth; abstract. J. C. Honey. Chem & Ind 59:129 F 24 '40

DIATOMS
Photomicrographs of diatoms present in filter aids. Metal Ind 38:78 F '40

DIAZO compounds
Apparatus for continuous automatic measurement of evolved gas; nitrogen evolution from diazo compounds. M. L. Crossley, R. H. Kienle and C. H. Benbrook. il diags Ind & Eng Chem Anal ed 12:216-17 Ap 15 '40
Chemical constitution and reactivity; phenyldiazonium chloride and its mono substituted derivatives. M. L. Crossley, R. H. Kienle and C. H. Benbrook. diag Am Chem Soc J 62:1400-4 Je '40
Decomposition reactions of the aromatic diazo-compounds; a note on oxidation mechanisms. W. A. Waters. Chem Soc J p1805-7 N '39
Decomposition reactions of the aromatic diazo-compounds; some reactions of diazonium chlorides with esters and nitriles. W. E. Hanby and W. A. Waters. Chem Soc J p1792-5 N '39
Decomposition reactions of the aromatic diazo-compounds; the diazocyanides. O. Stephenson and W. A. Waters. Chem Soc J p1796-1804 N '39
Replacement of the diazo-group by hydrogen. H. H. Hodgson and E. Marsden. Chem Soc J p207-8 F '40
Studies in the naphtol AS series; estimation of members of the naphtol AS series; titrations with diazo-salt solutions in presence of a mixture of alcohol and pyridine. T. N. Mehta and V. B. Thosar. Soc Dyers & Col J 56:160-5 Ap '40

DIAZOAMINO compounds
Observations on the constitution of diazoamino-compounds. A. Mangini. bibliog Soc Chem Ind J 58:327-30 N '39

DIAZOCYANIDES
Decomposition reactions of the aromatic diazo-compounds; the diazocyanides. O. Stephenson and W. A. Waters. Chem Soc J p1796-1804 N '39

DIAZOMETHANE
Reaction of fluorenone and diazomethane; a new route to 9-phenanthrol derivatives. R. F. Schultz, E. D. Schultz and J. Cochran. Am Chem Soc J 62:2902-4 N '40

Reactions of certain aldoximes with diazomethane. A. F. Thompson, jr. and M. Baer. bibliog Am Chem Soc J 62:2094-6 Ag '40

Ring enlargement of two cyclic alpha-chloroketones. T. R. Steadman. bibliog Am Chem Soc J 62:1606-9 Je '40

DIAZONIUM chlorides
Decomposition reactions of the aromatic diazo-compounds; some reactions of diazonium chlorides with esters and nitriles. W. E. Hanby and W. A. Waters. Chem Soc J p1792-5 N '39

DIAZONIUM compounds
Arylpyridines; anisyl- and nitroanisylpyridines. J. W. Haworth, I. M. Heilbron and D. H. Hey. Chem Soc J p358-61 Mr '40

Arylpyridines; some substituted phenylpyridines. E. C. Butterworth, I. M. Heilbron and D. H. Hey. Chem Soc J p355-8 Mr '40

Studies in the diphenyl series; the preparation of asymmetrical diaryl derivatives; diazonium salts, stabilised by naphthalene-1-sulphonic acid, naphthalene-1:5-disulphonic acid, or zinc chloride, decomposed in hydrocarbon and nitrobenzene suspensions. H. H. Hodgson and E. Marsden. Chem Soc J p208-11 F '40

Union of aryl nuclei; a modification of the Gomberg reaction. J. Elks, J. W. Haworth and D. H. Hey. Chem Soc J p1284-6 S '40

DIAZOTIZATION
New methods for diazotype printing. T. W. A. Borgesius and H. I. Waterman. bibliog Soc Dyers & Col J 56:23-6 Ja '40; Abstract. Am Dyestuff Rep 29:282-3 My 27 '40

DIBENZANTHRACENE
Production of tumors by injection of a carcinogen into the amniotic fluid of mice. L. W. Law. Science 91:96-7 Ja 26 '40

Synthesis of 4',8'-dihydroxy-1,2,5,6-dibenzanthracene and its relation to products of metabolism of the hydrocarbon. J. Cason and L. F. Fieser. bibliog Am Chem Soc J 62:2681-7 O '40

DIBENZOCYCLOÖCTATETRAENE
Attempt to synthesize a substituted cycloöctatetraene. S. Wawzonek. bibliog Am Chem Soc J 62:745-9 Ap '40

DIBENZOFURAN
Dibenzofuran; derivatives of 2,2'-dihydroxybiphenyl. H. Gilman, J. Swiss and L. C. Cheney. bibliog Am Chem Soc J 62:1963-7 Ag '40

Dibenzofuran; isomeric metalation products of some phenols and their methyl ethers. H. Gilman and others. Am Chem Soc J 62:667-9 Mr '40

Dibenzofuran; the reaction of bromo-ethers with *n*-butyllithium. H. Gilman, J. Swislowsky and G. E. Brown. bibliog Am Chem Soc J 62:348-50 F '40

Dibenzofuran; the two-stage metalation of 2-bromodibenzofuran. H. Gilman, W. Langham and H. B. Willis. bibliog Am Chem Soc J 62:346-8 F '40

Heterocyclic local anesthetics; carbazole dibenzofuran and dibenzothiophene derivatives. R. R. Burtner and G. Lehmann. bibliog Am Chem Soc J 62:527-32 Mr '40

DIBENZOPYRAN
Cannabis indica; the synthesis of dibenzopyran derivatives, including an isomer of cannabinol. R. Ghosh, D. C. S. Pascall and A. R. Todd. Chem Soc J p1118-21 Ag '40

Cannabis indica; the synthesis of some tetrahydrodibenzopyran derivatives. R. Ghosh, A. R. Todd and S. Wilkinson. Chem Soc J p1121-5 Ag '40

Structure of cannabinol; preparation of an isomer, 3-hydroxy-1-*n*-amyl-6,6,9-trimethyl-6-dibenzopyran. R. Adams and others. Am Chem Soc J 62:2197-200 Ag '40

Structure of cannabinol; synthesis of cannabinol, 1-hydroxy-3-*n*-amyl-6,6,9-trimethyl-6-dibenzopyran. R. Adams, B. R. Baker and R. B. Wearn. Am Chem Soc J 62:2204-7 Ag '40

Structure of cannabinol; synthesis of two new isomers, 3-hydroxy-4-*n*-amyl- and 3-hydroxy-2-*n*-amyl 6,6,9-trimethyl-6-dibenzopyrans. R. Adams, C. K. Cain and B. R. Baker. Am Chem Soc J 62:2201-4 Ag '40

DIBENZOTHIOPHENE
Heterocyclic local anesthetics; carbazole dibenzofuran and dibenzothiophene derivatives. R. R. Burtner and G. Lehmann. bibliog Am Chem Soc J 62:527-32 Mr '40

DIBENZOYLBENZENE
Synthesis of 1,3-diphenyldihydroisobenzofurans, 1,3-diphenylisobenzofurans and *o*-dibenzoylbenzenes from the diene addition products to dibenzoylethylene. R. Adams and M. H. Gold. bibliog Am Chem Soc J 62:56-61 Ja '40

DIBENZOYLETHYLENE
Synthesis of 1,3-diphenyldihydroisobenzofurans, 1,3-diphenylisobenzofurans and *o*-dibenzoylbenzenes from the diene addition products to dibenzoylethylene. R. Adams and M. H. Gold. bibliog Am Chem Soc J 62:56-61 Ja '40

DIBENZOYLMETHANE
Chalkones: production of *iso*oxazoles from some chalkone derivatives. R. B. Shenoi, R. C. Shah and T. S. Wheeler. Chem Soc J p247-51 F '40

DIBENZYLANILINE
Complexes of polynitro-compounds; compounds of polynitro-substances with derivatives of carbostyril, etc. A. Kent, D. McNeil and R. M. Cowper. Chem Soc J p1858-62 D '39

DIBENZYLANILINE hydrochloride
Molecular rearrangement of tertiary aryl alkyl anilines. P. J. Drumm, W. F. O'Connor and J. Reilly. Am Chem Soc J 62:1241-3 My '40

DIBENZYL disulfide
Reaction between dibenzyl disulphide and sulphuryl chloride. G. H. Elliott and J. B. Speakman. Chem Soc J p641-9 My '40

DIBORANE. See Boron hydrides

DIBROMIDES
Bromine-bromine distance in the dibromides of *cis*- and *trans*-stilbene. J. D. McCullough. bibliog Am Chem Soc J 62:480-2 Mr '40

DIBROMOBARBITURIC acid
Reaction of thiourea with 5,5-dibromoxyhydrouracil and 5,5-dibromobarbituric acid. T. B. Johnson. Am Chem Soc J 62:2269-71 S '40

DIBROMOBUTANE
Dielectric constants of some pairs of diastereomers. S. Winstein and R. E. Wood. bibliog Am Chem Soc J 62:548-51 Mr '40

DIBROMODIBENZOYLBUTANE
Keto-cyclol tautomerism of 1,6-diketones; 1,4-dibromo-1,4-dibenzoylbutane. T. Kao. Am Chem Soc J 62:356-8 F '40

DIBROMODIPIVALYLBUTANE
1,4-Dibromo-1,4-dipivalylbutane. R. C. Fuson and J. W. Robinson, jr. Am Chem Soc J 62:358-60 F '40

DIBROMOETHANE. See Ethylene bromide

DIBROMOPROPANE
Electron diffraction investigation of the structure of propylene bromide. V. Schomaker and D. P. Stevenson. bibliog Am Chem Soc J 62:2423-5 S '40

DIBROMOXYHYDROURACIL
Reaction of thiourea with 5,5-dibromoxyhydrouracil and 5,5-dibromobarbituric acid. T. B. Johnson. Am Chem Soc J 62:2269-71 S '40

DICARBOXYLIC acids
Dicarboxylic acids; industrial uses of the saturated series. Chem Age (Lond) 43:33 Jl 20 '40

Extent of dissociation of salts in water; calcium and barium salts of dicarboxylic acids. N. E. Topp and C. W. Davies. Chem Soc J p87-93 Ja '40

DICHLOROBENZENE
p-Dichlorobenzene as a vapor fumigant; effect of crystal size on rate of evaporation, estimation of *p*-dichlorobenzene in atmosphere, and determination of vapor pressure of crystalline solid. F. R. Darkis, H. E. Vermillion and P. M. Gross. bibliog il Ind & Eng Chem 32:946-9 Jl '40

DICHLOROBENZOYLETHYLENE
Diene addition products to diaroylethylenes and their transformation products. R. Adams and R. B. Wearn. Am Chem Soc J 62:1233-7 My '40

DICHLORODIETHYL sulfide. See Mustard gas

DICHLORODIFLUOROMETHANE
Effect of superheat on compressor performance; using Freon 12. E. R. Wolfert. il diag Refrig Eng 39:379-81 Je '40

Flooded water coolers; new designs are used for Freon. R. M. Armstrong. il diag Refrig Eng 38:343-5 D '39

Frigen als kältemittel. R. Plank. bibliog diags V D I 84:165-9 Mr 9 '40

Hydrogen bonds involving the C-H link; the solubilities of completely halogenated methanes in organic solvents. M. J. Copley, G. F. Zellhoefer and C. S. Marvel. Am Chem Soc J 61:3550-2 D '39

Liquid controls for flooded operation with Freon. H. A. Phillips. diags Refrig Eng 38:340-2 D '39

Pressure drop in refrigerant liquid lines. E. Gygax and K. S. Willson. Refrig Eng 39: 103-6 F '40

DICHLOROETHYL ether
Extraction of ferric iron from hydrochloric acid solutions by dichloroethyl ether and the formula of the iron compound in the ether. J. Axelrod and E. H. Swift. Am Chem Soc J 62:33-6 Ja '40

DICHLOROETHYLENE
Equilibrium and kinetics of the thermal isomerization of dichloroethylene catalyzed by iodine. R. E. Wood and R. G. Dickinson. Am Chem Soc J 61:3259-63 D '39

DICHLOROFLUOROMETHANE
Thermodynamic properties of fluorochloromethanes and -ethanes; heat capacity of the liquid and vapor of three fluorochloromethanes and trifluorotrichloroethane. A. F. Benning and others. bibliog diags Ind & Eng Chem 32:976-80 Jl '40

Thermodynamic properties of fluorochloromethanes and -ethanes; orthobaric densities and critical constants of three fluorochloromethanes and trifluorotrichloroethane. A. F. Benning and R. C. McHarness. bibliog il Ind & Eng Chem 32:814-16 Je '40

Thermodynamic properties of fluorochloromethanes and -ethanes; *P-V-T* relations of three fluorochloromethanes and trifluorotrichloroethane. A. F. Benning and R. C. McHarness. bibliog diag Ind & Eng Chem 32:698-701 My '40

Thermodynamic properties of fluorochloromethanes and -ethanes; vapor pressure of three fluorochloromethanes and trifluorotrichloroethane. A. F. Benning and R. C. McHarness. bibliog Ind & Eng Chem 32: 497-9 Ap '40

DICHLOROGERMANE
Dipole moments and structures of chlorine compounds of germanium, chromium, selenium and tellurium. C. P. Smyth, A. J. Grossman and S. R. Ginsburg. Am Chem Soc J 62:192-5 Ja '40

DICHLOROHYDROXYPROPANE
Industrial uses of chemicals and related materials; glyceroldichlorhydrin. Oil Paint & Drug Rep 137:52 Ap 22; 50 Ap 29 '40

DICHLORONITROBENZENE
Alkanolamines; reducing and hydrolyzing action of the ethanolamines on the dichloronitrobenzenes. C. B. Kremer and A. Bendich. Am Chem Soc J 62:1279-81 My '40

DICHLOROPROPANE
Molecular rotation and polymorphism in the methyl chloromethanes. A. Turkevich and C. P. Smyth. bibliog Am Chem Soc J 62: 2468-74 S '40

DICHLOROSILICANE
Thermal and photochemical oxidation of the chlorinated silanes. H. J. Emeléus and A. J. E. Welch. diag Chem Soc J p1928-37 D '39

DICHROISM
Optical activity, circular dichroism, and absorption of crystalline nickel sulphate. L. R. Ingersoll and others. bibliog diags Phys R 57:1145-53 Je 15 '40

Rotatory dispersion and circular dichroism of *l*-menthyl *d*-β-chloro-β-nitrosobutyrate. S. Mitchell and G. K. Simpson. Chem Soc J p784-7 Je '40

DICHROMATES

See also
Potassium dichromate

DICHROMIC acid
Rates of the thermal reduction of dichromic acid by quinine, hydroquinine, and cinchonine in dilute sulfuric acid at 0 to 60°. L. J. Heidt. diags Am Chem Soc J 61:3455-8 D '39

DICHTER, Ernest
Getchell's Dr Dichter. por Sales Management 46:42 Ap 1 '40

DICKERMAN, William Carter, 1874-
Chairman, American locomotive co. por Ry Age 108:445+ Mr 9 '40

DICKINSON, Charles C. 1876-
Sketch. por Explosives Eng 18:196-7 Jl '40

DICKINSON, Theodore G.
Civic center building to honor founder of cement company. Concrete (mill sec) 48: 190 Je '40

DICTATING machines
Carrier's experiences with centralized correspondence; costs cut by use of bonus plan and machine dictation. M. I. Hart. il Am Business 10:22-4+ S '40

Machine dictation saves time for both the president and the secretary. J. V. Tuttle. il Bankers Mo 57:602, 604 N '40

DICTATION
Ellis dictation. J. B. Sardiga. 194p pa 75c Ellis pub. co, Battle Creek, Mich. '40

DICTATORS
Clash of political ideals. A. R. Chandler, comp. 273p bibliog(p273) $2.50 Appleton-Century '40

Men of power; a book of dictators. A. Carr. 272p $2.50 Viking press '40

Rape of the masses; the psychology of totalitarian political propaganda. S. Chakotin. 310p bibliog(p301-3) $3 Alliance book corp, 212 5th av, New York '40

DICTIONARIES

Punctuation
Mystery of superfluous comma following "as" in dictionaries. E. N. Teall. Inland Ptr 105:33-4 Ap '40

DICTIONARIES, Polyglot
Dictionary of terms and expressions of industrial psychology (psychotechnics) in German, English, French, Hungarian. M. Erdélyi and F. Grossman. 98p $2.75 Pitman '39

DICYANDIAMIDE. See Cyanoguanidine

DICYANODIPHENYL
Preparation of 4,4'-dicyano-diphenyl and certain diketones of diphenyl. C. de Milt and M. Sartor. Am Chem Soc J 62:1954-5 Ag '40

DICYCLOHEXENYLACETYLENE
Cyclization of dienynes; the dodecahydrophenanthrone obtained from dicyclohexenylacetylene. C. S. Marvel, D. E. Pearson and R. V. White. bibliog Am Chem Soc J 62: 2741-3 O '40

DICYCLOHEXYLAMINE
Addition of compounds of dicyclohexylamine. C. F. Winans. Am Chem Soc J 61:3591-2 D '39

DICYCLOPENTADIENE
Fatty-acyl-modified resins; dicyclopentadiene, coumarone, and indene types. A. W. Ralston and others. bibliog il Ind & Eng Chem 32:99-101 Ja '40
Liquid-phase reactions at high pressures; the polymerisation of *cyclo*pentadiene and α-di*cyclo*pentadiene. B. Ralstrick, R. H. Sapiro and D. M. Newitt. diag Chem Soc J p1761-9 N '39

DIE casting
Aluminium-bronze gravity die casting. A. Street. il Engineering 149:159-61, 190-1 F 16-23 '40
Automatic plating of die castings; Alemite die casting & mfg. co. H. Chase. il Iron Age 145:40-2 Je 27 '40
Automotive die castings. il Steel 106:36-7 Ja 8 '40
Cleaning and finishing zinc-base die castings; composite of abstracts. Metals & Alloys 11:MA338 Je '40
Cold-formed die castings offer unusual advantages. il Steel 105:63 N 20 '39
Complicated one-piece parts made by die casting. il Steel 106:42-3+ Mr 11 '40
Cutting production costs by die casting. H. Chase. il Aviation 39:56-7+ N '40
Designing for die castings; composite of abstracts. Metals & Alloys 12:214 Ag '40
Die cast or sand cast. H. Chase. il diags Product Eng 11:53-6, 165-8 F, Ap '40
Die casting as a production aid. D. L. Colwell. Metal Prog 38:532-3 O '40
Die casting; developments in 1939. Steel 106: 242+ Ja 1 '40
Die casting; manufacture of a projector frame; with photographs by Van Fisher. Metal Prog 38:275-83 S '40
Die casting practice; composite of abstracts. Metals & Alloys 11:MA20+ Ja '40
Die castings; new repairing alloy, Alumend. il Automobile Eng 30:280 S '40
Die-castings; a manual for the user, buyer and designer. A. Street. 160p bibliog(p149-57) 4s 6d Emmott & co, London '39
Electrolytic stripping of copper from zinc base die castings. W. B. Stoddard, jr. Electrochem Soc Trans 77 (preprint 22): 271-3 Ap '40
Engineering design for die casting. H. L. Harvill. il Aero Digest 37:39-40, 43+ Jl '40
Fastenings for die-cast parts. diags Mach 46:125-7 Ag '40
Fixtures for final machining of die castings. H. Chase. il Am Mach 84:454-5 Je 26 '40
4,000 die castings daily; fuel pump brackets; Stewart-Warner corp. il Am Mach 84:382-3 My 29 '40
Increasing the utility of die-castings by inserts. diags Mach 46:110-13 My '40
Knockout flash removal; problem in producing die cast automobile radiator grilles. H. Chase. il Am Mach 84:616 Ag 21 '40
Magnesium alloy die castings. A. W. Winston. il diags Am Soc T M Proc 39:284-96 '39
Making over one hundred tons of die-castings a day; Ternstedt manufacturing division of the General motors corporation. H. Chase. il Mach 47:101-5 S '40
Modern die castings for modern cars. R. L. Wilcox. il Metal Prog 37:150-5 F '40
Multiple die castings vs. stampings for thin rings. R. L. Wilcox. il Metals & Alloys 12: 588 O '40
New die-casting plant; Alemite die casting and mfg. division of Electric auto-lite co. H. Chase. il Steel 106:70-1+ My 20 '40
Plating and heating of zinc base die castings; abstract. F. F. Oplinger. Iron Age 146:41-2 Jl 4 '40
Protect-O-Metal, a compound for use in welding and die-casting. Mach 46:274 D '39
Removing flash from die castings. C. R. Maxon. Metals & Alloys 12:110 Jl '40
Report of committee B-6 on die-cast metals and alloys. Am Soc T M Proc 39:277-81 '39
Selection of die-casting alloys. W. T. Savage, jr. Am Mach 84:389 My 29 '40
Special tooling for machining die castings; Alemite die castings & mfg. division of the Electric auto-lite co. H. Chase. il Iron Age 145:46-9 Je 6 '40
Stamped or die cast; which, when and why! H. Chase. il diags Iron Age 145:36-9+ Ja 18 '40
Three ways of obtaining louvres shown, production cost reduced; automobile heater. diags Steel 107:73 Ag 12 '40
Trimmed and drilled at once; machining die castings. H. Chase. il Am Mach 84:907 N 13 '40
Trimming flash from die castings; Stewart die casting division of Stewart-Warner corporation. H. Chase. il Am Mach 84:420-2 Je 12 '40
When to use die castings; composite of abstracts. Metals & Alloys 11:MA218+ Ap '40

DIE casting machines
All-welded diecasting machine. A. E. Abbott. il diag Steel 107:42-4 O 7 '40
E.M.B. die casting machine. il Automobile Eng 30:144 My '40
G & M die casting machines. il Steel 106:78 Ap 22 '40; Am Mach 84:347-8 My 15 '40; Mach 46:141 My '40; Metals & Alloys 11: MA242 My '40
Kippcaster die-casting machine. il Am Mach 84:893 O 30 '40; Mach 47:167 O '40; Automotive Ind 83:542 N 15 '40
Making over one hundred tons of die-castings a day; Ternstedt manufacturing division of the General motors corporation. H. Chase. il Mach 47:101-5 S '40
Phoenix-Lester die casting machines. il Am Mach 84:478-9 Je 26 '40; Mach 46:218 Jl '40

DIE sinking machines
Electromagnetic feeler-gage control; how die-sinking operations may be controlled automatically. il diags Mach 47:116-17 S '40
Reed-Prentice vertical miller and die sinker. il Am Mach 84:261 Ap 17 '40

DIE strippers
Die design for low maintenance; which stripper mechanism? J. I. Karash. diags Am Mach 84:466-9, 500-2, 534-6 Je 26-Jl 24 '40
Stripper screws of variable length. H. R. Hageman. diags Am Mach 84:754 O 2 '40

DIELECTRIC constants
Anomalous dispersion and absorption of electric waves in solutions of amino-acids and dipeptides. J. B. Bateman and G. Potapenko. bibliog Phys R 57:1185 Je 15 '40
Critical increment of ionic reactions; the influence of dielectric constant and ionic strength. L. Rampino and W. J. Svirbely. Am Chem Soc J 61:3534-7 D '39
Critical increment of ionic reactions; the influence of dielectric constant and ionic strength. W. J. Svirbely and J. Lander. Am Chem Soc J 61:3538-42 D '39
Dielectric characteristics of a chemically pure synthetic resin. C. G. Garton. diags Inst E E J 85:625-38 bibliog(p635) N '39
Dielectric constant of water vapor at a frequency of 42 megacycles. A. C. Tregidga. diags Phys R 57:294-7 F 15 '40
Dielectric constant, power factor, and resistivity of marble. A. H. Scott. J Research Nat Bur Stand 24:235-40 Mr '40
Dielectric constants of ammonia, nitrogen, and carbon dioxide at ultra-high frequency. G. W. Fox and A. H. Ryan. bibliog Phys R 56:1132-6 D 1 '39
Dielectric constants of polar liquids. J. N. Wilson. bibliog Chem R 25:377-406 D '39
Dielectric constants of some pairs of diastereomers. S. Winstein and R. E. Wood. bibliog Am Chem Soc J 62:548-51 Mr '40
Dielectric evidence of molecular rotation in the crystals of certain benzene derivatives. A. H. White, B. S. Biggs and S. O. Morgan. bibliog Am Chem Soc J 62:16-25 Ja '40
Dielectric evidence of molecular rotation in the crystals of certain non-aromatic compounds. A. H. White and W. S. Bishop. bibliog diag Am Chem Soc J 62:8-16 Ja '40
Dielectric properties of organic compounds; relation to chemical composition and physical structure. S. O. Morgan and W. A. Yager. bibliog Ind & Eng Chem 32:1519-28 N '40

DIELECTRIC constants—*Continued*

Dielectric properties of the system gelatin—water; polarization process in range of high gelatin concentrations. H. Fricke and E. Parker. J Phys Chem 44:716-26 Je '40

Dipole moments and structures of certain compounds of sulfur, selenium and phosphorus. C. P. Smyth and others. bibliog Am Chem Soc J 62:1219-23 My '40

Dipole moments and structures of the esters of some fatty and some inorganic acids. G. L. Lewis and C. P. Smyth. bibliog Am Chem Soc J 62:1529-33 Je '40

Elastic, dielectric and piezoelectric constants of heavy-water Rochelle salt. A. N. Holden and W. P. Mason. bibliog Phys R 57:54-6 Ja 1 '40

Electrical properties of thermoplastics; five phenolics and one benzyl alcohol resin investigated. L. Hartshorn, N. J. L. Megson and E. Rushton. Soc Chem Ind J 59:129-33 Jl '40

Empirical relation between solubility of slightly soluble electrolytes and dielectric constant of the solvent. J. E. Ricci and T. W. Davis. bibliog Am Chem Soc J 62:407-13 F '40

Experimental condenser for determination of dielectric constants of liquids. D. T. Williams and C. S. Copeland. diags R Sci Instr 11:105-7 Mr '40

Molecular rotation and polymorphism in the methyl chloromethanes. A. Turkevich and C. P. Smyth. bibliog Am Chem Soc J 62: 2468-74 S '40

Polarisations and related data of optically active and racemic β-octanol. J. B. M. Coppock and F. R. Goss. Chem Soc J p1789-92 N '39

Simple apparatus for measuring the dielectric constant of non-conducting liquids. B. E. Hudson and M. E. Hobbs. bibliog diags J Chem Educ 17:366-70 Ag '40

Volumbestimmung durch dielektrische messung. H. Ulich and H. van den Berge. diag Chemische Fabrik 12:512-13 D 27 '39

DIELECTRIC losses

Dielectric loss of glass at high frequencies. H. Thurnauer and A. E. Badger. diag Am Cer Soc J 23:9-12 Ja '40

Dielectric losses in radio circuits. A. G. Bogle. Wireless Eng 17:198-202 My '40

Physical constants of asphaltic bitumens. R. N. J. Saal, K. Meinema and P. C. Blokker. diags Inst Pet J 26:246-55 My '40

DIELECTRIC polarization. See Polarization, Dielectric

DIELECTRIC power factor. See Power factor, Dielectric

DIELECTRICS

After-effects in solid dielectrics. B. Gross. Phys R 57:57-9 Ja 1 '40

Conductivity of insulating oils under alternating stress. J. B. Whitehead and Dun Po Kang. diag J Ap Physics 11:596-603 S '40

Dielectric properties of organic compounds; relation to chemical composition and physical structure. S. O. Morgan and W. A. Yager. bibliog Ind & Eng Chem 32:1519-28 N '40

Dielectric properties of the rutile form of TiO_2. L. J. Berberich and M. E. Bell. bibliog J Ap Phys 11:681-92 O '40

Dielectric strength of porcelain. P. L. Bellaschi and M. L. Manning. bibliog il Elec Eng 58:Trans 651-5 D '39

Effect of small projections on breakdown in air. H. H. Race. diags Gen Elec R 43:365-9 S '40

Electric breakdown of alkali halides. R. J. Seeger and E. Teller. Phys R 58:279-80 Ag 1 '40

Electrical conduction and related phenomena in solid dielectrics. M. F. Manning and M. E. Bell. il diags Rs Mod Phys 12:215-56 bibliog (176 references, p254-6) Jl '40

Electrical conduction in dielectric liquids. R. W. Dornte. bibliog diags Ind & Eng Chem 32:1529-34 N '40

Electron emission into dielectric liquids. W. R. LePage and L. A. DuBridge. diag Phys R 58:61-6 Jl 1 '40

Experimental dielectrics. E. W. Jones. il diag Cornell Eng 5:8-10+ My '40

Liquid dielectrics; electrical and physical properties of systems containing sparingly soluble oxidation products in liquid paraffin. J. D. Piper and others. bibliog il Ind & Eng Chem 32:1510-18 N '40

Molecular nature of a dielectric. E. B. Moullin. bibliog diags Inst E E J 86:113-28 F '40

Physical constants of asphaltic bitumens. R. N. J. Saal, K. Meinema and P. C. Blokker. diags Inst Pet J 26:246-55 My '40

Progress in engineering knowledge during 1939; gaseous, liquid and solid dielectrics. P. L. Alger. bibliog il Gen Elec R 43:66-7 F '40

Propagation of electron waves in ionic single crystals. A. von Hippel and J. W. Davisson. Phys R 57:156-7 Ja 15 '40

Properties of Rochelle salt. H. Mueller. bibliog Phys R 57:829-39; 58:565-73 My 1, S 15 '40

Radio-frequency spark-over in air. P. A. Ekstrand. diags Inst Radio Eng Proc 28: 262-6 Je '40

Theoretical determination of breakdown voltage for sphere-gaps. J. M. Meek. Franklin Inst J 230:229-42 Ag '40

Theory of spark discharge. J. M. Meek. bibliog Phys R 57:722-8 Ap 15 '40

Transformer with non-inflammable liquid dielectric; Permitol. il Engineer 169:424 My 3 '40; Engineering 149:490 My 10 '40

Triple alliance in electrical insulation; review of progress achieved by physicists, chemists, and electrical engineers. L. J. Berberich. bibliog Elec Eng 59:23-32 Ja '40

Water solution in high-voltage dielectric liquids. F. M. Clark. bibliog Elec Eng 59:Trans 433-41 Ag '40

See also

Electrets
Insulation (electric)
Power factor, Dielectric

DIELS-ALDER reaction

Experiments on the synthesis of oestrone; the 2-(β-phenylethyl)-furans as components in the diene synthesis. R. B. Woodward. bibliog Am Chem Soc J 62:1478-82 Je '40

Reactions of anils; a new type of Diels-Alder reaction. H. R. Snyder, R. B. Hasbrouck and J. F. Richardson. Am Chem Soc J 61: 3558-60 D '39

DIENE synthesis. See Synthesis

DIENOLS. See Enols

DIES

Adjustable tension guides for blanking dies. D. A. Baker. diags Mach 46:134 Je '40

Bending press dies for airplane manufacture. C. J. Bath. il diags Mach 47:152-5 N '40

Cast-to-form dies and punches made from Meehanite. Mach 46:170-1 Ap '40

Close-quarter knockout for progressive dies. J. N. Peterson. diag Am Mach 84:288 My 1 '40

Design and construction of metal stamping tools. C. L. Szalanczy. il Iron Age 144:48-51 D 14 '39

Die design for inclinable presses. J. I. Karash. il diags Mach 46:106-9 My; 126-8 Je '40

Die design for low maintenance. J. I. Karash. il diags Am Mach 84:423-5, 466-9, 500-2, 534-6 Je 10-Jl 24 '40

Die design manual; cutting dies. C. R. Cory. 2d ed 127p pa $1.25 Charles R. Cory, 133 Cambridge blvd, Pleasant Ridge, Mich. '39

Die design manual; forming dies. C. R. Cory. 79p pa $1 Charles R. Cory, 133 Cambridge blvd, Pleasant Ridge, Mich. '38

Die designing and estimating; advanced series. G. Dannes. 47p pa $1.55 National tool and die journal, 2460 Fairmount blvd, Cleveland '40

Die for framing notched U-shaped piece from flat strip stock. V. Waitkus. diags Mach 47:136-7 O '40

Die for producing clamp for spot-light lamp. M. J. Goldstein. il Mach 46:118 My '40

Die steel with high wear resistance and minimum distortion; Sparta steel. il Mach 46:137-8 Je '40

DIES—*Continued*
Die that pierces three holes and cuts the stock. W. B. Greener. diags Am Mach 84: 429 Je 12 '40
Dies for bending brass channels to rectangular and hexagonal shapes. W. Richards. diags Mach 47:145-7 S '40
Dies for producing radiator inlet pipe with angular flange. H. R. Wentzell. diags Mach 46:119-20 F '40
Dies for producing tapered tubes from sheet brass. M. J. Goldstein. il diags Mach 46: 265-6 D '39
Double die speeds riveting of thin sheets. L. Kasper. diags Am Mach 84:752 O 2 '40
Drawing and forming deep tapered shells. M. J. Goldstein. il diags Mach 46:95-6 Mr '40
Experimental press and die. V. Waitkus. diags Mach 46:129-31 Je '40
Finger feed for blanking dies. H. W. Falstrom. diag Am Mach 84:664 S 4 '40
Forming aircraft sheet; a composite of abstracts. Metals & Alloys 12:542+ O '40
Forming die operated by inside and outside cams. C. R. Cory. diags Mach 46:115 My '40
Gas content vs steel behavior; Republic's vacuum extraction technique. G. T. Motok. il Iron Age 144:25-8 N 30 '39
Gravity-fed piercing and cutting-off die. J. I. Karash. diags Mach 47:160-1 N '40
Hemming dies for folding over edge of metal to form reinforcement. C. R. Cory. diags Mach 46:98-9 My '40
How to whip die problems. H. H. Mansur. Brick & Clay Rec 95:20-3 N; 24-6 D '39
Improved alloy developed for metal stamping dies; Kirksite A. Aero Digest 36:100 My '40
Improved die steels. H. E. Replogle. Metal Prog 38:513 O '40
Improved technique triples die life; nail heading dies; Wilson steel & wire co. il diags Iron Age 146:41 Ag 29 '40
New die steel developed for short-run work. il Steel 106:48+ F 12 '40
Producing aircraft stampings in the Douglas plant. H. Chase. il Metals & Alloys 12: 436-41 O '40
Right and wrong of die design. A. Keane. diags Am Mach 84:376-7 My 29 '40
Rubber dies for metal stamping. il Rubber Age 47:392 S '40
Rules governing forging machine dies. E. R. Frost. diags Metal Prog 38:509 O '40
Steel-faced cast iron dies for drop hammer work. J. H. Engel. il Iron Age 145:46-8 Mr 21 '40
Successful makeshift increases die life. H. R. Hageman. diag Am Mach 83:1086-7 D 27 '39
Three-stage piercing and forming die. G. Wilson. diag Mach 46:113 Ag '40
Tools of cast bronze; jigs, fixtures, punches, dies, etc. use of plaster molds; making ornamental lamps. M. Golden. il Am Mach 84:574-6 Ag 7 '40
Universal cut-off die. H. B. Faught. diags Am Mach 83:1005 N 29 '39
Universal self-aligning two-hole piercing die. W. Wells. diags Mach 46:113-14 Mr '40
Using one set of dies for two different shells. M. J. Goldstein. il diags Mach 46:115-17 Je '40

See also
Die casting

Manufacture

Developing maximum physicals in aircraft parts. A. G. Cordy. il Steel 106:72-3 Je 24 '40
Developments in drop hammer dies; use of Kirksite A. W. W. Broughton. il Aero Digest 37:56, 59-60+ Jl '40
Die making in the modern manner; tool and die shop; J. C. Ulmer co. F. B. Jacobs. il Steel 106:50-1 My 27 '40
Dies of cast iron. R. Bredenbeck. il Iron Age 145:38-9 My 16 '40
Finishing dies and molds. H. J. Wills. il Iron Age 146:54-5 S 19 '40
Ford operates the world's largest tool and die shop at River Rouge. il Mach 46:108-11 Ag '40
Get exactly the die you want by welding. H. H. Mansur. il Brick & Clay Rec 97:23-5 Ag '40
Heat treatment in the Ford new tool and die shop. E. F. Cone. il Metals & Alloys 10: 326-31 N '39
Molds and dies electroformed; EKKO process. Elec W 112:1766+ D 16 '39
New air-hardening die steel is developed. il Steel 106:66-7 F 26 '40; Same cond. Iron Age 145:53 Mr 7 '40; Same cond. Mach 46: 136-7 Mr '40; Same cond. Automotive Ind 82:274-6 Mr 15 '40; Excerpts. Am Mach 84: 188 Mr 20 '40
New die alloy aids drop-hammer work; contains zinc, aluminum, copper and magnesium; Kirksite A. W. W. Broughton. il Steel 107:52-3 Ag 26 '40
New die-milling method; abstract. F. J. Trecker. diags Mech Eng 62:740-1 O '40
Novel hook-up eliminates necessity for skilled workers; combined boring and duplicating machine for die making. il Steel 107:58 S 23 '40
One method of quenching curved dies. F. H. Colvin. il Am Mach 84:429-30 Je 12 '40
Operations involved in shaping up some of the larger dies for automobile bodies. A. H. Allen. il Steel 106:37-8 My 13 '40
Press forming a casting; holding edges of die stocks are beveled with press tools. H. M. Darling. diags Am Mach 83:1074-5 D 27 '39
Punching instrument panels; Hickok electrical instrument co.; die making. B. Thompson. il Iron Age 145:44-7 F 8 '40
Questions for the diemaker; reference book sheet. H. B. Faught. Am Mach 84:179 Mr 20 '40
Welded dies, their design and fabrication; with tool steel analyses and recommended heat treatment. A. R. Butler. il Steel 107: 106, 108+ O 14; 62-3, 66 O 21; 66, 68-9 O 28 '40
Welding tool steels. H. A. Gonser. il Steel 106:66+ F 5 '40
Zinc-alloy dies for drop hammer work. W. W. Broughton. il Iron Age 145:29-32 F 8 '40

DIES committee. See Government investigations

DIESEL-electric locomotives. See Locomotives, Diesel-electric

DIESEL engine stations. See Electric plants (central stations)—Diesel engine stations; Power plants—Diesel engine plants

DIESEL engines
ASME Oil and gas power meeting, Asbury Park, N.J. June 19-22. Power 84:537-8 Ag '40
Advances in power equipment in past ten years. Power Pl Eng 44:62-3 Ja '40
Aircraft Diesels. P. H. Wilkinson. 275p $6 Pitman '40
Akroyd engine. O. F. Allen. Mech Eng 62: 319-20 Ap '40
Aufladungsversuche an einem Dieselmotor. H. Heep. diag V D I 83:1185-7 N 4 '39
Beaver hats of tomorrow; Diesel power. L. H. Morrison. Ptr Ink 191:65-6 Je 7 '40
Buda-Guiberson Diesel engine. il Aero Digest 36:53 Je '40
Buying a Diesel? G. C. Boyer. il Power 84: 141-2 Mr '40
Caterpillar offers Diesel-type truck engine. il Automotive Ind 82:76 Ja 15 '40
Checking stretch of connecting-rod bolts. diags Power 84:46-8 Ja '40
Compression pressures in Diesel engines. Automotive Ind 82:271 Mr 15 '40
Cooper-Bessemer type JS Diesel engine. il Refrig Eng 39:176 Mr '40; Water Works & Sewerage 87:sup72 Mr '40
Developments in the application of the internal combustion engine to railway traction in Europe and North America; with transmission types and cost data. F. T. Barwell. il diags Inst Mech Eng J & Proc 142:11-23 Ja '40
Diesel engine users association; papers and discussions on work of H. A. Stuart. diags Engineering 149:67-8, 69, 94-5 Ja 19-26 '40
Diesel engine users' association; report on development. Engineer 169:395-6 Ap 26 '40

DIESEL engines—*Continued*
Diesel engineering handbook, 1939-1940. L. H. Morrison, ed. 972p $6 Diesel publications, New York '39
Diesel engines provide power economy for many food industries plants. il Food Ind 11: 680-1 D '39
Diesel fuels and lubricants. L. C. Welch. il Nat Pet N 32:38-43 My 15 '40
Diesel monitor. J. Rosbloom. 528p $5 Diesel engineering inst, 576 Newark av, Jersey City, N.J. '40
Diesel power; widening utilization. Index 20 no 1:16-21 [Mr] '40
Diesel powered Alfa Romeo. diag Automotive Ind 83:27+ Jl 1 '40
Diesels clinch place on highways. il Business Week p34+ S 7 '40
Everybody's pleased; Chicago motor coach company first year's results with Diesel-hydraulics. il Transit J 84:198-9 Je '40
Fairbanks, Morse likely to set new earnings record this year. S. Devlin. il Mag of Wall St 66:91-3+ My 4 '40
For the Diesel operator; cooling water; bearing failures. diag Power Pl Eng 43:796-7 D '39
Gas-oil Diesel; abstract. H. W. Dow. Power 84:331 My '40
Groupes Diesel-électriques de secours, notamment pour abris collectifs de défense passive. diag Génie Civil 115:394 N 25 '39
Herbert Akroyd Stuart and the heavy-oil engine. T. Hornbuckle and A. K. Bruce. Engineering 149:70-1, 101-2 Ja 19-26 '40; Excerpts. Engineer 169:72 Ja 19 '40; Discussion. G. E. Windeler. Engineer 169:306 Mr 29 '40
Hercules Diesel line expanded. il Automotive Ind 81:640-1 D 15 '39
High-speed Diesel engines for automotive, aeronautical, marine, railroad and industrial use. P. M. Heldt. 3d ed 475p $4 Peter Martin Heldt, Nyack, N.Y. '40
International harvester co. 100-h.p. Diesel power unit. il Roads & Sts 83:82 Ap '40
International Harvester Diesel power units. il Roads & Sts 83:89 My '40
Leaders in march of mechanization; output of machine tools and Diesel engines at record-breaking levels. J. V. Sherman. Barron's 20:9 Jl 1 '40
Lincoln Diesel driven arc welder. il Marine Eng 44:580 D '39
Malays applied the Diesel engine principle a thousand years ago; fire-lighting device. Mach 46:101 My '40
Modern Diesel. 5th ed rev 254p 3s 6d Iliffe & sons, London '39
More Diesels by Hercules. il Bus Transportation 19:467 S '40
Oil and gas power; special section with tabulated data on Diesel and gas engine installations since April 1, 1939. il Power 84:341-56 Je '40
Perkins 6-cylinder industrial oil engine. il Engineer 168:553 D 1 '39
Quelques constructions récentes de l'industrie mécanique. R. Sulzer. il diags Soc Ing Civils Mémoires 91:873-91 N '38
Review of power and mechanical equipment; Diesels, gas engines and accessories. il diags Power 83:799-801 Mid-D '39
S.A.E. annual meeting; abstracts of papers. Oil & Gas J 38:205-6+ Ja 25 '40
SAE annual meeting; Diesel-engine sessions. S A E J 46:sup46-8 F '40
SAE summer meeting; Diesel-engine sessions; abstracts and discussions. S A E J 47:sup53-7 Jl '40
Sulzer 1,200-b.h.p. engine for Diesel-electric locomotive. il Engineering 148:597 N 24 '39
Test indicates potentialities of Diesel-electric rig for deep drilling. H. F. Simons. il Oil & Gas J 38:32-3+ N 30 '39
Who will make the money in record Diesel year? R. Colston. il Mag of Wall St 66:412-13+ Jl 13 '40

See also
Electric plants (central stations)—Diesel engine stations
Locomotives, Diesel
Power plants—Diesel engine plants

Air supply
Oxygen boosting of airplane Diesel engines. P. H. Schweitzer. bibliog il diags Mech Eng 62:719-22 O '40

Control
Application of automatic control instruments to Diesel engines; using exhaust temperature for control purposes. G. B. Bailey. il diag Instruments 13:209-11 Ag '40
Governing of Diesel engines. O. F. Zahn, jr. diags Automotive Ind 82:456-65 My 15 '40

Cooling
Dorman direct-injection air-cooled Diesel. il diags Automobile Eng 30:15-16 Ja '40
Fairbanks-Morse cooler for Diesel engine jacket water. il Water Works & Sewerage 87:sup94 O '40
Fundamentals of Diesel heat recovery. G. C. Boyer. Power 84:640-1 O '40
Units using Diesel cooling water heat plant; Rockford screw products co. F. A. Westbrook. Heating-Piping 12:664 N '40

Cost of operation
Diesel costs; analysis of Diesel engine users assn. cost report. P. Beatty. Power Pl Eng 44:94-5 Ap '40
Diesel engine operating and outage data; five-year data for 84 units in 27 plants. L. Schneitter. Elec W 114:993-5+ O 5 '40
Diesel engine operating costs; report by the Diesel engine users' association. Elec R (Lond) 126:342 Mr 22 '40
Diesel ice plant costs; Springdale ice & coal co. il Power Pl Eng 44:67-8 Mr '40

Design
Aluminum in high speed engines; abstract. F. Jardine. diag Automotive Ind 82:565-6 Je 15 '40
Application of the two-stroke heavy-oil engine to aircraft propulsion. W. S. Burn. diags Automobile Eng 30:153-5 My '40
Diesel engine frames; advantages of welding. M. Essl. il Steel 106:72, 74+ My 20 '40
Dorman direct-injection air-cooled Diesel. il diags Automobile Eng 30:15-16 Ja '40
Gardner four-cylinder oil engine model LK; longitudinal and transverse sections. diags Automotive Ind 82:521-2 Je 1 '40
Guiberson aircraft-type Diesel engine for army tanks and other equipment. diags Automotive Ind 83:411-12 O 1 '40
Guiberson Diesel. P. H. Wilkinson. diags Aviation 39:59, 112 Jl '40
Internal-combustion-engine design in Europe. M. Bochet. il diags Mech Eng 61:525-9 Jl '39; Discussion. 62:246-9 Mr '40
Junkers Jumo 211 being used in the Stuka dive-bombers. P. H. Wilkinson. il diags Aviation 39:52-3+ S '40
London bus type A.E.C. Diesel engine; longitudinal and transverse sections. diags Automotive Ind 83:25-6 Jl 1 '40
New Swedish oil engines. il diag Engineer 168:645-6 D 29 '39
Perkins type P.6 Diesel engine; longitudinal and transverse sections. diags Automotive Ind 81:577-8 D 1 '39

Efficiency
Atmospheric conditions and engine performance; abstract. Automotive Ind 83:65 Jl 15 '40
Characteristics of Diesel fuels influencing power and economy. A. J. Blackwood and G. H. Cloud. S A E J 46:49-53 F '40
Diesel fuel characteristics influencing engine output. A. J. Blackwood and G. H. Cloud. bibliog Inst Pet J 25:684-94 O '39
Fuels savings worth change to Diesel bus operation; abstract. W. A. Taussig. Nat Pet N 32:R419-20 N 13 '40
Improved results from a Petter superscavenge engine. S. J. Davies. Engineering 149:43-4 Ja 12 '40; Discussion. 149:96-7, 149 Ja 26, F 9 '40
Oxygen boosting of airplane Diesel engines. P. H. Schweitzer. bibliog il diags Mech Eng 62:719-22 O '40

DIESEL engines—Efficiency—*Continued*
Performance of modern aircraft Diesels. P. H. Wilkinson. il S A E J 47:474-9 N '40; Abstracts. Nat Pet N 32:R31-2 Ja 24 '40; Oil & Gas J 38:206+ Ja 25 '40; Discussion. S A E J 47:479-81 N '40

Exhaust

Control of smoke in the automotive Diesel. W. W. Manville and others. S A E J 47:397-406 O '40; Abstracts. Nat Pet N 32:R26, R28+ Ja 24 '40; Automotive Ind 82:118 F 1 '40; Mech Eng 62:321 Ap '40; Discussion. S A E J 47:406-8+ O '40
Diesel engines underground; composition of exhaust gas from engines in proper mechanical condition. J. C. Holtz and others. bibliog diags U S Bur Mines Rep of Invest 3508:1-48 '40
Diesel-exhaust constituents; abstracts. J. C. Holtz and M. A. Elliott. Automotive Ind 83:65-7 Jl 15 '40; Min Cong J 26:46 Ag '40
Fundamentals of Diesel heat recovery. G. C. Boyer. Power 84:640-1 O '40
Öl und öldartige bestandteile in der luft. H. Cauer. Angew Chemie 53:171-2 Ap 13 '40

Failures

Cracking of Diesel cylinder liners. H. J. Vander Eb. il diag Locomotive 43:46-8 Ap '40
Diesel engine insurance and experience. H. J. Vander Eb. il Locomotive 43:7-11 Ja '40; Same abr. Ry Mech Eng 114:232 Je '40
Diesel rings break. diags Power 84:528-9 Ag '40

Fuel

Application of graphical and statistical methods of hydrocarbon analysis to Diesel fuels. J. C. Vlugter, H. I. Waterman and H. A. van Westen. bibliog Inst Pet J 25:678-83 O '39
Characteristics of Diesel fuels influencing power and economy. A. J. Blackwood and G. H. Cloud. S A E J 46:49-53 F '40
Control of smoke in the automotive Diesel. W. W. Manville and others. S A E J 47:397-406 O '40; Abstract. Nat Pet N 32: R26, R28+ Ja 24 '40; Discussion. S A E J 47:406-8+ O '40
Diesel dopes ineffective; abstract. C. S. Moore and H. H. Foster. Nat Pet N 31:R480 N 15 '39
Diesel fuel characteristics influencing engine output. A. J. Blackwood and G. H. Cloud. bibliog Inst Pet J 25:684-94 O '39
Diesel fuel in Houdry distillate close to straight-run quality. W. S. Mount and E. T. Scafe. Nat Pet N 32:R246-9 Jl 10 '40; Abstract. Automotive Ind 83:60-1 Jl 15 '40
Diesel fuel specifications discussed in S.A.E. report. Nat Pet N 32:16 Je 19 '40
Diesel fuel tests show need for clean noncorrosive oil; abstracts of SAE fuels and lubricants meeting. Nat Pet N 32:22-3 N 13 '40
Diesel fuels; abstract. O. Roelen. Automobile Eng 30:72 Mr '40
Diesel fuels and lubricants. L. C. Welch. il Nat Pet N 32:38-43 My 15 '40
Effect of the viscosity of the fuel oil on the injection equipment for oil engines; abstracts. G. W. Baierlein. Oil & Gas J 38: 205 Ja 25 '40; Automotive Ind 82:117 F 1 '40
Efficient burning of fuel in high-speed oil engines with particular reference to a clean exhaust. A. T. Willford. pls Inst Pet J 25: 649-56 O '39
Evaluation of certain normal alkylated benzenes as Diesel fuels. G. Shen, C. E. Wood and F. H. Garner. Inst Pet J 25:695-703 O '39
Experiments with doped fuels for high-speed Diesel engines. J. J. Broeze and J. O. Hinze. bibliog Inst Pet J 25:657-77 O '39; Abstract. Nat Pet N 31:R230+ My 31 '39; Discussion. Inst Pet J 25:704-7 O '39
Fuel dopes and alcohol mixtures. C. S. Moore and H. H. Foster. Power Pl Eng 44:72 Ag '40
Fuel specifications for high-speed Diesel engines. G. C. Wilson. Am Pet Inst Proc 20(3):33-40; Discussion. 40-1 '39
Fuel stations for Diesels have interesting features; six installations on Southern. il plan Ry Age 108:782-3 My 4 '40
Hydrogenation of petroleum. E. V. Murphree, C. L. Brown and E. J. Gohr. flow sheets bibliog il Ind & Eng Chem 32:1203-12 S '40
Ignition characteristics of Diesel fuels. R. F. Selden. Power Pl Eng 44:63 Ag '40
Mischdieselkraftstoffe aus steinkohlenteeröl. bibliog V D I 83:1240-1 N 25 '39
Rating of Diesel fuels; a study of their ignition quality. P. H. Schweitzer and J. S. Chandler. il diags Automobile Eng 30:135-41 My '40
Relation of Diesel fuel properties to their engine performance. W. S. Mount and G. A. Hope. S A E J 46:100-5+ Mr '40; Conclusions. Nat Pet N 31:R256+ Je 14 '39
Soya-bean oil. A. B. d'Ollivier. Automobile Eng 30:126 Ap '40
Über die zündwilligkeit von braunkohlen-Dieselkraftstoffen. R. E. Heinze. V D I 84:363-4 My 25 '40
What diet for your Diesel? S. S. Hansen. il diags Power 84:500-3 Ag '40

Fuel feeding

Deco hand pump tests injectors on the engine. il diag Automotive Ind 81:641 D 15 '39
Experiments on jerk-pump injection. K. J. DeJuhasz. il diags Penn. State College, Eng Exp Sta Bul 51:1-57 '40 (pa 75c)
Fuel injection in oil engines in relation to combustion. G. W. A. Green. diags Inst Mech Eng J & Proc 144:Proc 2-20 N '40; Same cond. Engineering 149:592-3, 631-3 Je 14, 28 '40; Excerpts. Automobile Eng 30: 185-8 Je '40; Abstract. Engineer 169:423-4 My 3 '40; Discussion. Inst Mech Eng J & Proc 144:Proc 21-32 N '40; Engineering 149: 466-7 My 3 '40
Performance test; lubricants, fuel feeding, etc.: Diesel-electric buses in New York; abstract. W. C. Cumming and C. Brettell. il diag Automotive Ind 82:332-4+ Ap 1 '40
Study of injection requirements of high speed Diesels. L. E. Johnson. il diags Automotive Ind 81:580-7 D 1 '39
Velocity of compressional waves in petroleum fractions at atmospheric and elevated pressures. R. Matteson and C. J. Vogt. bibliog diag J Ap Phys 11:658-65 O '40
Which fuel system? Power Pl Eng 44:73 Mr '40

Ignition

Diesel-engine ignition lag; abstract. H. H. Wolfer. Mech Eng 62:146-7 F '40
Rating of Diesel fuels; a study of their ignition quality. P. H. Schweitzer and J. S. Chandler. il diags Automobile Eng 30:135-41 My '40
Study of injection requirements of high speed Diesels. L. E. Johnson. il diags Automotive Ind 81:580-7 D 1 '39

Lubrication

Catalytic effect of metals on the ageing of lubricating oil for Diesel engines. H. L. Matthijsen. pl diags Inst Pet J 26:72-90 bibliog(43 references, p89-90) F '40
Cylinder lubrication of high-speed Diesel engines as influenced by temperature and the combustion process. A. T. McDonald and L. A. Blanc. il diags Am Pet Inst Proc 20 (3):25-32 '39; Abstract. Nat Pet N 31: R494+ N 15 '39
Deterioration factors in Diesel lubricants. C. G. A. Rosen. Nat Pet N 32:R152, R154-5 My 1 '40
Diesel fuel tests show need for clean noncorrosive oil; abstracts of SAE fuels and lubricants meeting. Nat Pet N 32:22-3 N 13 '40
Diesel fuels and lubricants. L. C. Welch. Nat Pet N 32:40 My 15 '40
Diesel lube oil; decreasing consumption. diags Power 84:251 Ap '40
For the Diesel operator. diag Power Pl Eng 43:796-7 D '39
Longer life for Diesel lube oils. S. S. Hansen. diag Power 84:588-9+ S '40
Oil and fuel for heavy duty engines; abstract. C. M. Larson. Automotive Ind 82: 571-2 Je 15 '40

DIESEL engines—Lubrication—*Continued*
Performance test; lubricants, fuel feeding, etc.; Diesel-electric buses in New York; abstract. W. C. Cumming and C. Brettell. il diag Automotive Ind 82:332-4+ Ap 1 '40
Piston and piston-ring temperatures. P. V. Keyser, jr. and E. F. Miller. diags Inst Pet J 25:779-90 D '39; Excerpts. Automobile Eng 30:68 Mr '40
What diet for your Diesel? S. S. Hansen. il diags Power 84:500-3 Ag '40

Maintenance and repair

Another Diesel piston repair. L. Bradley. diags Power 84:107 F '40
Automotive Diesel maintenance. W. J. Cumming. 106p $1.75 Pitman '40
Diesel piston repair. H. D. Tompkins. diags Power Pl Eng 44:74-5 Ap '40
Hints for healthy Diesels. S. S. Hansen. diags Power 84:420-2 Jl '40
How to repair cracked Diesel-piston heads. V. Tompkins. diags Power 83:766 D '39
Three years' use proves success of repair job on crankshaft. W. R. Reed. il diags Oil & Gas J 39:163-4 S 19 '40

Manufacture

Chromium plating of motor cylinders. H. Van der Horst. il Metal Ind 38:76-8 F '40
Cummins engine company; vapor-laden air from injector tests exhausted through oil separator which reclaims 90% of fuel; heating system. C. Strock. il diags Heat & Ven 37:33-5 My '40
Diesel engine frames; advantages of welding. M. Essl. il Steel 106:72, 74+ My 20 '40
Diesel tank engines and motorized earth drills; Buda company. il Mach 47:122-9 N '40
Different Diesels from one line; interchangeable tooling for machines in International Harvester plant. il Am Mach 84:910-13 N 13 '40
New Diesel plant; International harvester co. il Steel 107:50-5 N 4 '40
Wear resisting coatings; abstract. J. E. Jackson. Automotive Ind 82:566 Je 15 '40
Windowless plant for Diesel engines; Buda company. il plans Eng N 125:602-4 N 7 '40

Mufflers

Engine mufflers. diags Power Pl Eng 44:91 Ja '40

Patents

Diesel combustion chamber facilitates starting; patent issued in Great Britain. diag Automotive Ind 83:266 S 15 '40

Performance

Effect of atmospheric conditions on Diesel-engine performance. J. S. Doolittle. diag Oil & Gas J 39:42, 44+ Ag 1 '40
Relation of Diesel fuel properties to their engine performance. W. S. Mount and G. A. Hope. S A E J 46:100-5+ Mr '40

Scavenging

Application of the two-stroke heavy-oil engine to aircraft propulsion. W. S. Burn. diag Automobile Eng 30:154-5 My '40
Improved results from a Petter super-scavenge engine. S. J. Davies. Engineering 149:43-4 Ja 12 '40; Discussion. 149:96-7, 149 Ja 26, F 9 '40

Solid injection

Ship Diesels burn heavy oil by solid injection. G. C. Boyer. il diag Power 84:72-3 F '40

Specifications

Automotive Diesel and other heavy oil engines; tabulation. Automotive Ind 82:218-19 Mr 1 '40

Starting

Diesel arc welder equipped with gasoline engine starting. il Marine Eng 45:84 O '40
Diesel cranking batteries. L. E. Lighton and H. C. Riggs. Power Pl Eng 44:86-8 Je '40; Abstracts. Oil & Gas J 38:206 Ja 2 '40; Automotive Ind 82:92+ F 1 '40
Famo-Werke petrol-starting device for Diesel engines. diag Engineering 148:569 N 17 '39

Statistics

Diesel engine sales about 37% higher; six months unfilled orders reported. L. Applegate. Annalist 55:3-4 Ja 4 '40
Some power problems for solution; sales statistics of Diesel engines in the U.S. C. H. Purdy. Edison Elec Inst Bul 8:168-9 Ap '40

Superchargers

Roots-blower type commercial superchargers. il Automotive Ind 82:292 Mr 15 '40
Supercharging high-speed, four-cycle Diesel engines; abstracts. R. P. Ramsey. Oil & Gas J 38:205 Ja 25 '40; Automotive Ind 82: 117 F 1 '40

Temperature

Continuous measurement of piston temperatures; abstracts. A. F. Underwood and A. A. Catlin. diags Automotive Ind 82:572-4 Je 15 '40; Nat Pet N 32:R250, R252 Jl 10 '40
Cylinder lubrication of high-speed Diesel engines as influenced by temperature and the combustion process. A. T. McDonald and L. A. Blanc. il diags Am Pet Inst Proc 20 (3):25-32 '39; Abstract. Nat Pet N 31: R494+ N 15 '39
Piston and piston-ring temperatures. P. V. Keyser, jr. and E. F. Miller. diags Inst Pet J 25:779-90 D '39; Excerpts. Automobile Eng 30:68 Mr '40

Testing

Admiralty cathode ray oscillograph engine indicator. F. D. Smith, E. H. Lakey and H. Morgan. diags Inst Mech Eng J & Proc 143:Proc 39-47, pl 1-5 Ap '40
Diesel engines underground; composition of exhaust gas from engines in proper mechanical condition. J. C. Holtz and others. bibliog diags U S Bur Mines Rep of Invest 3508:1-48 '40
New research building for Cummins. il Automotive Ind 83:316+ O 1 '40
Study of injection requirements of high speed Diesels. L. E. Johnson. il diags Automotive Ind 81:580-7 D 1 '39

Vibration

Equations of finite differences applied to torsional oscillations of crankshafts. M. A. Biot. diags J Ap Phys 11:530-7 Ag '40

DIESEL engines, Marine

Electric-slip couplings for use with Diesel engines; abstract. A. D. Andriola. diag Automotive Ind 83:61-3 Jl 15 '40
Fairbanks-Morse builds small V-type marine Diesel. il Marine Eng 44:593 D '39
Fairbanks-Morse eight-cylinder two-cycle marine Diesel. il Marine Eng 45:78 O '40
Fifty years of marine engineering. A. L. Mellanby. Inst Mech Eng J & Proc 143:Proc 345-7 O '40; Same cond. Engineering 149: 420 Ap 19 '40; Same cond. Engineer 169: 309-10 Mr 29 '40
Kingsbury Diesel-engine propeller thrust bearing. il Marine Eng 45:68 O '40
Marine applications of Diesel engines. L. R. Ford. Marine Eng 45:70, 72 Ap '40; Abstract. Nat Pet N 32:R260 Jl 10 '40
Marine Diesel engine standards. M. J. Reed and O. A. Sibley, eds. 141p $2 Diesel engine manufacturers' assn, 205 E. 42d st, New York '40
Marine Diesel manual. L. R. Ford, ed. 207p 50c Diesel publications, New York '39
Mormacpenn, motor ship. il Marine Eng 45: 70-3 Mr '40
Perkins lightweight marine oil engines. il diag Engineer 168:504 N 17 '39
Running and maintenance of the marine Diesel engine. J. Lamb. 5th ed rev & enl 860p $7.50 G. E. Stechert & co, New York '39
Schiffsdieselanlage mit pneumatischer kraftübertragung. A. Pischinger. V D I 84:195-6 Mr 16 '40
South polar Diesel performance; U.S.S. Bear in the Antarctic. O. A. Sibley. il Marine Eng 45:63-5 O '40
Two marine Diesels developed by Mack. il Automotive Ind 82:27 Ja 1 '40

DIESEL engines, Marine—*Continued*

Design

Ship Diesels burn heavy oil by solid injection. G. C. Boyer. il diag Power 84:72-3 F '40

Fuel

Fuels for marine Diesel engines. W. F. Joachim and H. V. Nutt. Marine Eng 45: 85-6+ My '40

Gearing

Geared Diesel marine application. W. D. Leggett, jr. diags Marine Eng 44:572-5; Discussion. 592-3 D '39

Lubrication

Hilco oil reclaimers for use with Diesel installations. il Marine Eng 45:78-9 Mr '40

Repair

Diesel engine repairs on the Javanese Prince. il Marine Eng 44:576 D '39

DIESEL locomotives. See Locomotives, Diesel

DIET

Analysis of the vitamin-B_1 status of the population of Great Britain. T. Moran and R. G. Booth. bibliog Chem & Ind 59:533-7 Jl 27 '40

Business man's health plight. W. R. P. Emerson. il Nation's Business 27:19-21 D '39

Composition of optimal and marginal diets. A. L. Bacharach and J. C. Drummond. bibliog Chem & Ind 59:37-40 Ja 20 '40

Diet of golf players; effect of increasing blood sugar; abstract. P. Michael. Science 92:sup10 Ag 2 '40

Dietary of health and disease. G. I. Thomas. 3d ed rev 317p $3.50 Lea & Febiger, Philadelphia '40

Eat, and reduce! V. H. Lindlahr. 194p $2.50 Prentice-Hall '39

Effect of the basal diet on the biological assay of vitamin-*A*. N. T. Gridgman, H. Lees and H. Wilkinson. Soc Chem Ind J 59: 120-5 Je '40

Englishman's food; a history of five centuries of English diet. J. C. Drummond and A. Wilbraham. 574p $3.75 Nelson (Toronto) '39

Feeding the family. M. S. Rose. 4th ed 421p $3.75 Macmillan '40

My life began after 50. B. Sussman. 104p $1.50 Lujen pub. co, 159 W. 103d st, New York '39

Nutrition of indigenous workers. bibliog Int Labour R 41:307-17 Mr '40

Pandora's box, our invisible foes and how to conquer them. J. Empringham. 290p $2 Health education soc, 530 S. Alexandria av, Los Angeles '39

Practical dietetics, with reference to diet in health and disease. A. F. Pattee. 22d ed 380p $3 Alida Frances Pattee, Mount Vernon, N.Y. '40

Science influences food habits; canning, quick freezing and new processes help change our diets. J. V. Sherman. Barron's 20:7 Je 17 '40

You and your food. G. M. Bishop. 45p pa 1s C. W. Daniel co, London '39

See also
Food
Nutrition
Vitamins

DIET in disease

Simplified diabetic management. J. T. Beardwood, jr, and H. T. Kelly. 3d ed rev 221p $1.50 Lippincott '39

Simplified diabetic manual. A. Rudy. 2d ed 216p $2 M. Barrows & co, 286 5th av, New York '40

DIETERT, Harry Walter

American foundrymen's association gold medallist. por Foundry 68:87 My '40

DIETHYLACETAL

Ketene acetals; polymers of ketene diethylacetal. P. R. Johnson, H. M. Barnes and S. M. McElvain. bibliog diag Am Chem Soc J 62:964-72 Ap '40

Ketene acetals; the reaction of ketene diethylacetal with various compounds containing an active hydrogen. H. M. Barnes, D. Kundiger and S. M. McElvain. Am Chem Soc J 62:1281-7 My '40

DIETHYLAMINE

Determination of carbon disulfide in air by means of copper and diethylamine in 2-methoxyethanol. F. F. Morehead. bibliog il Ind & Eng Chem Anal ed 12:373-4 Je 15 '40

DIETHYL ether. See Ethyl ether

DIETHYL hexahydrophthalates

Chlorination of *cis-* and *trans-*diethyl hexahydrophthalates. C. C. Price and M. Schwarcz. bibliog il Am Chem Soc J 62: 2891-6 N '40

DIETHYLMERCURY

Redistribution reaction; the relative affinity of mercury and lead for methyl and ethyl radicals. G. Calingaert, H. Soroos and G. W. Thomson. Am Chem Soc J 62:1542-5 Je '40

DIETHYLSTILBESTROL

Bibliography

Diethylstilbestrol; annotated bibliography. 13p Merck & co, Rahway, N.J. '39

DIETHYL succinate

Viscosities of polyester solutions and the Staudinger equation. P. J. Flory and P. B. Stickney. bibliog Am Chem Soc J 62: 3032-8 N '40

DIETHYLENE glycol

Complete dehydration facilities at Continental's K.M.A. plants. D. H. Stormont. flow diag il Oil & Gas J 39:34-6 Je 6 '40

Gas dehumidification prevents hydrate freezing troubles. E. G. Hammerschmidt. bibliog Nat Pet N 32:R162-3, R167-8 My 15 '40; Same. Oil & Gas J 39:61, 64+ My 23 '40

3-Nitrophthalates of the mono ethers of ethylene and diethylene glycol. A. J. Veraguth and H. Diehl. Am Chem Soc J 62:233 Ja '40

DIETHYLENE glycol laurate

Latest developments in textile processing and finishing. N. L. Deutsch. Rayon 21:239-40, 310-11 Ap-My '40

DIETHYLENE glycol stearate

Latest developments in textile processing and finishing. N. L. Deutsch. Rayon 21:239-40 Ap '40

DIFFERENTIAL analyzers

Some effects of variable excitation on synchronous motor oscillation. J. G. Barry. bibliog Franklin Inst J 229:491-512 Ap '40

DIFFERENTIAL density process. See Sink-and-float process

DIFFERENTIAL equations

Integration of ordinary differential equations. E. L. Ince. 148p $1.50 Interscience publishers, 215 4th av, New York '39

Modulation circuit theory. D. L. Jaffe. Franklin Inst J 229:779-82 Je '40

DIFFERENTIAL geometry. See Geometry, Differential

DIFFUSION

Absolute rates of solid reactions; diffusion. A. E. Stearn and H. Eyring. J Phys Chem 44:955-80 bibliog(72 references, p979-80) N '40

Admission of pure gases to vacuum systems. E. L. Jossem. bibliog diag R Sci Instr 11: 164-6 My '40

Coefficient of thermal diffusion of methane. A. O. Nier. bibliog Phys R 56:1009-13 N 15 '39

Coefficient of thermal diffusion of neon and its variation with temperature. A. O. Nier. Phys R 57:338 F 15 '40

Concentration of carbon 13 by thermal diffusion. A. O. Nier. bibliog diag Phys R 57: 30-4 Ja 1 '40

Concentration of isotopes by thermal diffusion; rate of approach to equilibrium. J. Bardeen. bibliog Phys R 57:35-41; 58:94-5 Ja 1, Jl 1 '40

DIFFUSION—*Continued*
Diffusion; a composite of abstracts. Metals & Alloys 12:96 Jl '40
Diffusion, Brownian movement, Loschmidt-Avogadro's number and light. F. Ehrenhaft. bibliog Phys R 57:1050 Je 1 '40
Diffusion of helium through several glasses. P. L. Smith and N. W. Taylor. bibliog diag Am Cer Soc J 23:139-46 My '40
Diffusion of hydrogen from water through steel. F. J. Norton. diags J Ap Phys 11:262-7 Ap '40
Diffusion of hydrogen in iron. A. Günther-schulze and H. Betz. Engineer 169:sup [Metallurgist] 89-90 F 23 '40
Diffusion of sulfur in rubber; relation to vulcanization. A. R. Kemp and others. bibliog il diags Ind & Eng Chem 32:1075-84 Ag '40
Elementary derivation of thermal diffusion. S. P. Frankel. Phys R 57:661 Ap 1 '40
Generalized theory of diffusion. E. J. Hellund. Phys R 57:319-33 F 15 '40
Isotope separation by transient pressure diffusion. E. J. Hellund. Phys R 57:743-4 Ap 15 '40
Limitations of diffusion equations in drying. O. A. Hougen, H. J. McCauley and W. R. Marshall, jr. bibliog Am Inst Chem Eng Trans 36:183-206; Discussion. 207-9 Ap '40
Osmotic diffusion in gases. E. J. Hellund. Phys R 57:737-42 Ap 15 '40
Physical chemistry of secalin; electrophoresis and diffusion constant studies of the prolamine of rye. A. C. Andrews. bibliog Am Chem Soc J 62:942-8 Ap '40
Simplified calculation of diffusional processes; general consideration of two-film resistances. A. P. Colburn. bibliog Am Inst Chem Eng Trans 35:211-36 Ap '39; Discussion. 36:679-82 O '40
Steady-state diffusion under conditions of generalized source and incident current distributions. E. A. Schuchard and E. A. Uehling. Phys R 58:611-23 O 1 '40
Study of diffusion processes by electrolysis with microelectrodes. H. A. Laitinen and I. M. Kolthoff. Am Chem Soc J 61:3344-9 D '39
Temperature assignments of experimental thermal diffusion coefficients. H. Brown. bibliog Phys R 58:661-2 O 1 '40
Theory of diffusion in liquids. A. E. Stearn, E. M. Irish and H. Eyring. bibliog J Phys Chem 44:981-95 N '40
Theory of the thermal diffusion coefficient for isotopes. R. C. Jones. bibliog Phys R 58: 111-22 Jl 15 '40
Thermal separation of isotopes. W. W. Watson. diags Phys R 57:899-902 My 15 '40
Trennung von flüssigkeitsgemischen durch thermodiffusion. Chemische Fabrik 13:156-7 My 4 '40
X-ray method of determining rates of diffusion in the solid state. J. DuMond and J. P. Youtz. diags J Ap Phys 11:357-65 My '40

See also
Colloids
Gases

DIFLUOROCHLOROMETHANE
Thermodynamic properties of fluorochloromethanes and -ethanes; heat capacity of the liquid and vapor of three fluorochloromethanes and trifluorotrichloroethane. A. F. Benning and others. bibliog diags Ind & Eng Chem 32:976-80 Jl '40
Thermodynamic properties of fluorochloromethanes and -ethanes; orthobaric densities and critical constants of three fluorochloromethanes and trifluorotrichloroethane. A. F. Benning and R. C. McHarness. bibliog il Ind & Eng Chem 32:814-16 Je '40
Thermodynamic properties of fluorochloromethanes and -ethanes; *P-V-T* relations of three fluorochloromethanes and trifluorotrichloroethane. A. F. Benning and R. C. McHarness. bibliog diag Ind & Eng Chem 32:698-701 My '40
Thermodynamic properties of fluorochloromethanes and -ethanes; vapor pressure of three fluorochloromethanes and trifluorotrichloroethane. A. F. Benning and R. C. McHarness. bibliog Ind & Eng Chem 32:497-9 Ap '40

DIFLUOROTETRACHLOROETHANE
Fluorochloroethanes as solvents for the cryoscopic determination of molecular weights. J. Bernstein and W. T. Miller. bibliog Am Chem Soc J 62:948-9 Ap '40
Preparation of *unsym*-difluorotetrachloroethane. W. T. Miller. Am Chem Soc J 62: 993 Ap '40

DIGESTERS (paper making)
Digesters cleverly installed; moving and handling operations; Bathurst power and paper co. R. Gagnon. il diag plan Pulp & Pa of Can 41:225-8 F '40
Forced digester circulation and chip packing. L. C. Kelley. Pulp & Pa of Can (Convention no) 41:113-16+ [F] '40
Skinner chip packing process. Paper Tr J 110:15 Je 13 '40
Time-temperature control for sulphite digesters; recording and controlling potentiometer instrument. J. F. Inderdohnen. il diags Paper Tr J 111:31-4 Ag 8 '40
Wallin and Svensson circulating system. S. Fahlgren. diag Paper Tr J 110:42-4 Ap 18 '40

DIGESTION
Introduction to gastro-enterology, being the third edition of the Mechanics of the digestive tract. W. C. Alvarez. 778p bibliog(p657-770) $10 Harper '40

DIGESTIVE organs

Diseases
Broadway stomach. J. F. Montague. 356p $2 Simon & Schuster, New York '40
Diseases of the digestive system and food allergy. J. S. Smul. 219p $3.50 Medical library co, 232 E. 15th st, New York '40

DIGITALIN
Cortin-like effects of steroid glycosides on potassium. R. L. Zwemer and B. E. Lowenstein. bibliog Science 91:75-6 Ja 19 '40

DIGITALIS
Digitalis. 53 numb l bibliog (l 52-3) Work projects administration, New York '39

DIGLYCERIDES. See Glycerides

DIGLYCOLIC anhydride
Pyrolysis of diglycolic anhydride. C. D. Hurd and H. G. Glass. Am Chem Soc J 61:3490-1 D '39

DIHYDROANDROSTERONE
Sterols; the preparation of dihydroandrosterone and related compounds from diosgenin and tigogenin. R. E. Marker. Am Chem Soc J 62:2621-5 O '40

DIHYDROBENZOFURAN
Chemistry of vitamin E; a new synthesis of 2,4,6,7-tetramethyl-5-hydroxycoumaran and of 2-methyl-5-hydroxycoumaran; oxidation products of the tetramethylcoumaran. L. I. Smith, H. H. Hoehn and A. G. Whitney. bibliog Am Chem Soc J 62:1863-9 Jl '40

DIHYDRODIETHYLSTILBESTROL
Synthesis of dihydrodiethylstilbestrol. A. M. Docken and M. A. Spielman. Am Chem Soc J 62:2163-4 Ag '40

DIHYDRODIPHENYLPYRAZINE
Laboratory experiments for undergraduate organic chemistry; preparation of lysidine, 2,3-dihydro-5,6-diphenylpyrazine and 2,3-diphenylpyrazine. L. H. Amundsen. bibliog J Chem Educ 16:566-7 D '39

DIHYDROISOANDROSTERONE
Sterols; sapogenins; the preparation of dihydro-isoandrosterone from diosgenin. R. E. Marker and D. L. Turner. Am Chem Soc J 62:3003-5 N '40

DIHYDROISOBENZOFURAN
Absorption and fluorescence spectra of certain dihydroisobenzofurans and isobenzofurans. R. Adams and M. H. Gold. Am Chem Soc J 62:2038-42 Ag '40

DIHYDRONAPHTHALENE
Dihydronaphthalene polymers. N. D. Scott and J. F. Walker. bibliog il Ind & Eng Chem 32:312-15 Mr '40; Same abr. Chem Age (Lond) 42:197-8 Ap 6 '40

DIHYDROPHENANTHRENE
Studies in the phenanthrene series; phenolic amino alcohols and naphthisoquinolines derived from 9,10-dihydrophenanthrene. A. H. Stuart and E. Mosettig. bibliog Am Chem Soc J 62:1110-16 My '40
Synthesis of 6-hydroxy-3,4-benzpyrene and 8-isopropyl-1,2-benzanthracene from 9,10-dihydrophenanthrene. L. F. Fieser and W. S. Johnson. Am Chem Soc J 62:575-7 Mr '40

DIHYDROSARSASAPOGENIN
Sterols; oxidation products of dihydrosarsasapogenin. R. E. Marker and E. Rohrmann. bibliog Am Chem Soc J 61:3477-9 D '39

DIHYDROXYBIPHENYL
Dibenzofuran; derivatives of 2,2'-dihydroxybiphenyl. H. Gilman, J. Swiss and L. C. Cheney. bibliog Am Chem Soc J 62:1963-7 Ag '40

DIHYDROXYDIBENZANTHRACENE
Synthesis of 4',8'-dihydroxy-1,2,5,6-dibenzanthracene and its relation to products of metabolism of the hydrocarbon. J. Cason and L. F. Fieser. bibliog Am Chem Soc J 62:2681-7 O '40

DIHYDROXYFLAVONE. See Primetin

DIHYDROXYKETOCHOLANIC acid
Preparation and properties of 3(α),11-dihydroxy-12-ketocholanic acid. B. B. Longwell and O. Wintersteiner. bibliog Am Chem Soc J 62:200-3 Ja '40

DIIODOACETYLENE
Photochemistry of diiodoacetylene and tetraiodoethylene. J. W. Tamblyn and G. S. Forbes. bibliog Am Chem Soc J 62:99-104 Ja '40

DIISOBUTYLENE
Hydrogen fluoride as a condensing agent; reactions of di- and triisobutylene with phenol. J. H. Simons and S. Archer. Am Chem Soc J 62:451 F '40

Analysis
Determination of unsaturation in aliphatic hydrocarbon mixtures by bromine absorption. J. B. Lewis and R. B. Bradstreet. Ind & Eng Chem Anal ed 12:387-90 Jl 15 '40

DIKES (engineering)
Dikes and diversion canal, South Carolina; unit prices. Eng N 124:70-1 Ja 11 '40
River dikes, Missouri; unit prices. Eng N 125:515 O 17 '40
Robert E. Lee, civil engineer; regulating works preserved St Louis as a river port. R. B. Brooks. il map Civil Eng 10:167-9 Mr '40

See also
Dams — Jetties
Earthwork — Reclamation of land

Cost
Dikes and pilot canal, Missouri; unit prices. Eng N 123:782 D 7 '39

DIKETENE
Chlorination and the structure of acetylketene. C. D. Hurd and J. L. Abernethy. Am Chem Soc J 62:1147-8 My '40
Diketene, a new industrial chemical. A. B. Boese, jr. bibliog il Ind & Eng Chem 32:16-22 Ja '40

DIKETONES. See Ketones

DILAPIDATIONS
Law relating to dilapidations and waste. W. T. Creswell and N. P. Greig. 2d ed 191p 8s 6d Builder, 4 Catherine st, Aldwych, London W.C. 2 '39

DILATANCY
Dispersion of pigments in aqueous medium; induced dilatancy and its relation to dispersion. F. K. Daniel. India Rubber W 101:33-7 Ja '40

DILATOMETERS
Acid-base catalysis in the depolymerisation of dimeric glycollaldehyde. R. P. Bell and J. P. H. Hirst. diag Chem Soc J p1777-80 N '39
Dilatometer studies of pigment-rubber systems. H. C. Jones and H. A. Yiengst. bibliog il diag Ind & Eng Chem 32:1354-9 O '40
Hardenability of molybdenum S.A.E. steels. R. M. Parke and A. J. Herzig. bibliog il Metals & Alloys 11:6-13 Ja '40
Measurement of the heat capacity of a small volume of liquid by the piezo-thermometric method; coefficient of thermal expansion of benzene and of toluene measured with a new type of weight dilatometer. J. S. Burlew. bibliog diag Am Chem Soc J 62:690-5 Ap '40
Microdetermination of organic carbon by the wet method. E. F. Degering and T. Z. Ball. bibliog diags Ind & Eng Chem Anal ed 12:124-5 F 15 '40
Plastic properties of bituminous coking coals; effect of petrographic composition. R. E. Brewer, C. R. Holmes and J. D. Davis. bibliog il diag Ind & Eng Chem 32:792-7 Je '40
Rockwell-Bristol dilatometer for thermal analyses of materials. il Instruments 13:70 Mr '40
Steel tested with Bristol dilatometer. il Am Mach 83:1091 D 27 '39
What heat for treating? dilatometer readings help secure best results. S. P. Rockwell. Am Mach 84:12-14 Ja 10 '40

DILITURATES. See Nitrobarbiturates

DILL pickles. See Pickles—Manufacture

DILUTION
Separation processes; the principle of minimum dilution in design of new or unusual processes. M. Randall and B. Longtin. bibliog diags Ind & Eng Chem 32:125-9 Ja '40

DILUTION, Heat of
Correlating vapor pressure and latent heat data; a new plot. D. F. Othmer. bibliog Ind & Eng Chem 32:848-9 Je '40
Heat of dilution of aqueous hydrochloric acid at 25°. J. M. Sturtevant. Am Chem Soc J 62:584-7, 3265-6 Mr, N '40
Heat of dilution of aqueous sodium hydroxide solutions at 25°. J. M. Sturtevant. Am Chem Soc J 62:2276-80 S '40
Heats of dilution, heat capacities, and activities of urea in aqueous solutions from the freezing points to 40°. F. T. Gucker, jr. and H. B. Pickard. bibliog Am Chem Soc J 62:1464-72 Je '40
Heats of dilution of aqueous solutions of glycine and glycolamide, and other thermodynamic properties of glycine at 25°. F. T. Gucker, jr, H. B. Pickard and W. L. Ford. bibliog Am Chem Soc J 62:2698-704 O '40
Heats of dilution of aqueous solutions of glycine at 25°. J. M. Sturtevant. Am Chem Soc J 62:1879 Jl '40

DIMENSIONAL analysis
Application of dimensional analysis to stresses in railway tracks. M. Daniloff. Engineering 148:660-1 D 15 '39
English engineering units and their dimensions. E. W. Comings. bibliog Ind & Eng Chem 32:984-7 Jl '40

DIMESITYLPROPENOL
Stable vinyl alcohol, 1,2-dimesityl-1-propen-1-ol. R. C. Fuson, J. Corse and C. H. McKeever. bibliog Am Chem Soc J 62:3250-1 N '40

DIMETHOXYDIETHYLSTILBENE
New synthesis of 4 : 4'-dimethoxy-αα'-diethylstilbene. E. Péteri. Chem Soc J p833-5 Jl '40

DIMETHOXYPHENETHYLAMINE
Amines related to 2,5-dimethoxyphenethylamine. R. Baltzly and J. S. Buck. bibliog Am Chem Soc J 62:161-7 Ja '40

DIMETHYLACETAL
Glycofuranosides and thioglycofuranosides; crystalline alkyl furanosides and dimethylacetal of *d*-mannose. A. Scattergood and E. Pacsu. bibliog diags Am Chem Soc J 62:903-10 Ap '40

DIMETHYLACRYLIC acid
Hydration of unsaturated compounds; the rate of hydration of β,β-dimethylacrylic acid; the rates of dehydration and decarboxylation of β-hydroxyisovaleric acid. D. Pressman and H. J. Lucas. bibliog Am Chem Soc J 62:2069-80 Ag '40

DIMETHYLACRYLIC acid—*Continued*
Polymethylbenzenes; the reaction between dimethylacrylic acid and the trimethylbenzenes. L. I. Smith and W. W. Prichard. bibliog Am Chem Soc J 62:771-7 Ap '40

DIMETHYLALLYL chloride
Mechanism of the hydrolysis of αγ-dimethylallyl chloride. C. L. Arcus and J. W. Smith. Chem Soc J p1748-9 N '39

DIMETHYLAMINOBENZALDEHYDE
Quantitative determination of indole; modification of Ehrlich's reaction. L. H. Chernoff. bibliog Ind & Eng Chem Anal ed 12:273-4 My 15 '40

DIMETHYLBENZANTHRACENE
Synthesis of 9,10-dimethyl-1,2-benzanthracene and of a thiophene isolog. R. B. Sandin and L. F. Fieser. bibliog Am Chem Soc J 62: 3098-105 N '40
Synthesis of growth-inhibitory polycyclic compounds. G. M. Badger and J. W. Cook. Chem Soc J p802-6 My '39; p409-12 Ap '40

DIMETHYLBENZOHYDRYL chloride
Mechanism of substitution at a saturated carbon atom; a kinetic demonstration of the unimolecular solvolysis of alkyl halides; kinetics of, and salt effects in, the hydrolysis of *pp'*-dimethylbenzhydryl chloride in aqueous acetone. L. C. Bateman, E. D. Hughes and C. K. Ingold. Chem Soc J p974-8 Jl '40

DIMETHYLBUTADIENE
Absorption and fluorescence spectra of certain dihydroisobenzofurans and isobenzofurans. R. Adams and M. H. Gold. Am Chem Soc J 62:2038-42 Ag '40
Diene addition products to diaroylethylenes and their transformation products. R. Adams and R. B. Wearn. Am Chem Soc J 62:1233-7 My '40
Mechanism of polymerisation; experiments relating to the constitution of the solid dimeride and the liquid trimeride of βγ-dimethylbutadiene, and to the separation of the higher polymerides. E. H. Farmer and J. F. Martin. Chem Soc J p1169-76 Ag '40
Synthesis of 1,3-diphenyldihydroisobenzofurans, 1,3-diphenylisobenzofurans and *o*-dibenzoylbenzenes from the diene addition products to dibenzoylethylene. R. Adams and M. H. Gold. bibliog Am Chem Soc J 62:56-61 Ja '40

DIMETHYLBUTANE
Neohexane for 100-octane plus; new synthetic hydrocarbon made by thermal alkylation surpasses iso-octane. M. E. Clark. flow diag il Chem & Met Eng 47:225-7 Ap '40
Neohexane plant operating at record high pressures. R. C. Alden. flow diag il Nat Pet N 32:R234, R236-8+ Je 26 '40
Physical properties of some purified aliphatic hydrocarbons. D. B. Brooks, F. L. Howard and H. C. Crafton, jr. bibliog J Research Nat Bur Stand 24:33-45 Ja '40
Thermal alkylation and neohexane. G. G. Oberfell and F. E. Frey. bibliog il diag Am Pet Inst Proc 20(3):78-88 '39; Same. Oil & Gas J 38:50-1 N 23; 70, 73-4+ N 30 '39; Same cond. Nat Pet N 31:R502-3+ N 29 '39

DIMETHYLBUTANOL
Thermodynamic properties of the hexylalcohols; 2,2-dimethylbutanol-1 and 2-ethylbutanol-1. F. Hovorka, H. P. Lankelma and W. R. Smith. Am Chem Soc J 62:2372-4 S '40

DIMETHYLBUTENE
Physical properties of some purified aliphatic hydrocarbons. D. B. Brooks, F. L. Howard and H. C. Crafton, jr. bibliog J Research Nat Bur Stand 24:33-45 Ja '40

DIMETHYL butylquinoline
Nitrogen compounds in petroleum distillates; isolation, ozonization and synthesis of 2,4-dimethyl-8-*s*-butylquinoline. L. M. Schenck and J. R. Bailey. Am Chem Soc J 62:1967-9 Ag '40

DIMETHYL chloramine
Molecular structures of dimethyl chloramine and methyl dichloramine. D. P. Stevenson and V. Schomaker. Am Chem Soc J 62:1913-16 Ag '40

DIMETHYLCHRYSENE
Synthesis of 4,5-dimethylchrysene. M. S. Newman. bibliog Am Chem Soc J 62: 2295-300 S '40

DIMETHYLCYCLOHEXYLACETIC acid
Experiments on the synthesis of 1:2-dimethyl-*cyclo*hexylacetic acid. F. C. Copp and J. L. Simonsen. Chem Soc J p415-18 Ap '40

DIMETHYLCYCLOPENTANE
Isolation of 3-methylhexane, *trans*-1, 2-dimethylcyclopentane, and *trans*-1,3-dimethylcyclopentane from petroleum. A. R. Glasgow, jr. bibliog J Research Nat Bur Stand 24:509-29 F '40

DIMETHYL dibenzyl ammonium hydroxide
Fluidity of cotton in dimethyl dibenzyl ammonium hydroxide; measure of cotton degradation. W. W. Russell and N. T. Woodberry. bibliog diag Ind & Eng Chem Anal ed 12:151-4 Mr 15 '40; Abstract. Textile Col 62:472-3 Jl '40

DIMETHYLETHYLBENZENE
Certain trialkylated benzenes and their compounds with aluminum chloride and with aluminum bromide. J. F. Norris and G. N. Ingraham. Am Chem Soc J 62:1298-1301 My '40

DIMETHYLETHYNYLCARBINOL
Chlorination of the acetylenic alcohols derived from acetone. G. F. Hennion and G. M. Wolf. Am Chem Soc J 62:1368-71 Je '40

DIMETHYLGALACTOSE
3 : 4-Dimethyl galactose. J. S. D. Bacon and D. J. Bell. Chem Soc J p1869-71 D '39
Use of the benzyl radical in syntheses of methylated sugars; 4: 6-dimethyl galactose. J. S. D. Bacon, D. J. Bell and J. Lorber. Chem Soc J p1147-50 Ag '40

DIMETHYLGLUCOSE
Synthesis of a new dimethyl-β-methylglucoside. R. E. Reeves, M. H. Adams and W. F. Goebel. Am Chem Soc J 62:2881-2 O '40
Synthesis of 5,6-dimethylglucose. M. R. Salmon and G. Powell. bibliog Am Chem Soc J 61:3507-10 D '39
Use of the benzyl radical in syntheses of methylated sugars; 4:6-dimethyl glucose. D. J. Bell and J. Lorber. Chem Soc J p453-5 Ap '40

DIMETHYLGLYOXAL
Molecular structures of glyoxal and dimethylglyoxal by the electron diffraction method. J. E. LuValle and V. Schomaker. bibliog Am Chem Soc J 61:3520-5 D '39

DIMETHYLGLYOXIME
Amperometric titrations; the titration of nickel with dimethylglyoxime using the dropping mercury electrode as indicator electrode. I. M. Kolthoff and A. Langer. diag Am Chem Soc J 62:211-18 Ja '40

DIMETHYLHEXATRIENE
Synthesis of polyenes; reactions of β-methylallyl chloride with sodamide in liquid ammonia. M. S. Kharasch, W. Nudenberg and E. Sternfeld. Am Chem Soc J 62:2034-6 Ag '40

DIMETHYLHEXENEDIOL
Rearrangement of unsaturated 1,4-glycols; *cis* and *trans* forms of 2,5-dimethyl-3-hexene-2,5-diol. J. R. Johnson and O. H. Johnson. bibliog Am Chem Soc J 62:2615-20 O '40

DIMETHYLHEXYNEDIOL
Chlorination of the acetylenic alcohols derived from acetone. G. F. Hennion and G. M. Wolf. Am Chem Soc J 62:1368-71 Je '40

DIMETHYLHYDANTOINS
5,5-Dimethylhydantoins containing a -NRR' substituent. H. R. Henze and J. W. Magee. bibliog Am Chem Soc J 62:912-13 Ap '40

DIMETHYLLEVULINIC acid. See Crotalic acid

DIMETHYLMALEIC anhydride
Action of organometallic compounds on dimethylmaleic anhydride. D. S. Tarbell and C. Weaver. bibliog Am Chem Soc J 62:2747-50 O '40

DIMETHYLMERCURY
Redistribution reaction; the relative affinity of mercury and lead for methyl and ethyl radicals. G. Calingaert, H. Soroos and G. W. Thomson. Am Chem Soc J 62:1542-5 Je '40

DIMETHYLNAPHTHALENE
Interaction of β-ionone with halides in the presence of lithium, and a synthesis of 1 : 6-dimethylnaphthalene. F. B. Kipping and F. Wild. Chem Soc J p1239-42 S '40

Polymethyl aromatic hydrocarbons; synthesis of 1,2,4-trimethylnaphthalene and 1,2-, 1,3- and 1,4-dimethylnaphthalene. M. C. Kloetzel. bibliog Am Chem Soc J 62:1708-13 Jl '40

Preparation of 1,5-dimethylnaphthalene. E. W. J. Butz. Am Chem Soc J 62:2557 S '40

DIMETHYLNAPHTHOQUINONE
Reaction between 2,3-dimethyl-1,4-naphthoquinone and phenylmagnesium bromide. H. M. Crawford. Am Chem Soc J 61:3810-14 D '39

DIMETHYLPENTANOL
Thermal decomposition of the acetate of 2,2-dimethyl-3-pentanol. P. L. Cramer and V. A. Miller. Am Chem Soc J 62:1452-4 Je '40

DIMETHYLPHENYL ether
Claisen rearrangement; a kinetic study of the rearrangement of allyl 2,6-dimethylphenyl ether in diphenyl ether solution. D. S. Tarbell and J. F. Kincaid. bibliog Am Chem Soc J 62:728-31 Ap '40

DIMETHYLPROPANE
Some observations on the thermodynamics of hydrocarbons and related compounds. J. G. Aston. il Chem R 27:59-73 bibliog(p72-3) Ag '40

DIMETHYLPROPANOL
Isomerization accompanying alkylation; the alkylation of benzene with neopentyl chloride and neopentyl alcohol. H. Pines, L. Schmerling and V. N. Ipatieff. bibliog Am Chem Soc J 62:2901-2 N '40

Mechanism of the esterification of strong organic acids; the esterification of neopentyl alcohol with the chloroacetic acids. O. R. Quayle and H. M. Norton. bibliog Am Chem Soc J 62:1170-1 My '40

DIMETHYLPROPYLBENZENE
Action of aluminum chloride on aromatic hydrocarbons; the 1,3-dimethyl-4-propylbenzenes. D. Nightingale and B. Carton, jr. bibliog Am Chem Soc J 62:280-3 F '40

DINAPHTHYLINE
Octahydrodinaphthyline and octahydronaphthidine. G. D. Parkes and G. N. Walton Chem Soc J p201-2 F '40

DINICOTINYL peroxide
Studies in organic peroxides; dinicotinyl peroxide. N. A. Milas and P. C. Panagiotakos. Am Chem Soc J 62:1878 Jl '40

DINING alcoves
Apartment planning provisions; plans. Arch Rec 88:88 Ag '40

DINING cars
D. & H. rebuilds diner-lounge for Albany-Montreal service. il plan Ry Age 109:305-6 Ag 31 '40

Santa Fe gets seven new cars from Pullman-Standard. il Ry Age 108:664 Ap 13 '40

See also
Railroads—Commissaries

DINING halls

See also
Colleges and universities—Dining halls

DINITRILES
Hydrogen bonds involving the C-H link; nitriles and dinitriles as solvents for hydrogen containing halogenated methanes. M. J. Copley, G. F. Zellhoefer and C. S. Marvel. Am Chem Soc J 62:227-8 Ja '40

DINITRODIPHENIC acid
Question of intramolecular asymmetric induction. A. McKenzie and A. D. Wood. Chem Soc J p1536-44 O '39

DINITRODIPYRIDYLSULFIDE
Reaction of 2-chloro-5-nitropyridine and thiourea. A. R. Surrey and H. G. Lindwall. Am Chem Soc J 62:1697-8 Jl '40

DINITROTOLUIDINE
Orientation problems; 4:6-dinitro-o-toluidine. A. McGookin, S. R. Swift and E. Tittensor. Soc Chem Ind J 59:92-4 My '40

DINNERWARE. See Tableware

DIOCESAN buildings
Seattle Catholic diocese headquarters. il plans Arch Rec 87:53-5 Ap '40

DIOLEFINS. See Olefins

DIONNE quintuplets
Bakery promotion for Dionne quintuplet bread offered to independent bakers by the Bakers research bureau. il Ptr Ink 189:19-20 D 29 '39

DIOSCOREA villosa
Sterols; diosgenin from certain American plants. R. E. Marker, D. L. Turner and P. R. Ulshafer. Am Chem Soc J 62:2542-3 S '40

DIOSGENIN
Sterols; diosgenin. R. E. Marker, T. Tsukamoto and D. L. Turner. bibliog Am Chem Soc J 62:2525-32 S '40

Sterols; diosgenin from certain American plants. R. E. Marker, D. L. Turner and P. R. Ulshafer. Am Chem Soc J 62:2542-3 S '40

Sterols; sapogenins; the preparation of dihydro-isoandrosterone from diosgenin. R. E. Marker and D. L. Turner. Am Chem Soc J 62:3003-5 N '40

Sterols; sapogenins; the supposed trillarigenin identified as a mixture of diosgenin and trillin. R. E. Marker and J. Krueger. Am Chem Soc J 62:2548-9 S '40

Sterols; steroidal sapogenins of aletris, asparagus and lilium. R. E. Marker and others. Am Chem Soc J 62:2620-1 O '40

Sterols; the preparation of dihydroandrosterone and related compounds from diosgenin and tigogenin. R. E. Marker. Am Chem Soc J 62:2621-5 O '40

Sterols; the preparation of testosterone and related compounds from sarsasapogenin and diosgenin. R. E. Marker. Am Chem Soc J 62:2543-7 S '40

DIOSPHENOL
Steroids and related compounds; steroid diosphenols. V. A. Petrow and W. W. Starling. Chem Soc J p60-5 Ja '40

DIOXANE
Chemical preparation of colloidal suspensions in non-aqueous solvents; ether, dioxane, and acetone. A. A. Vernon and H. A. Nelson. J Phys Chem 44:21-5 Ja '40

Critical increment of ionic reactions; the influence of dielectric constant and ionic strength. W. J. Svirbely and J. Lander. Am Chem Soc J 61:3538-42 D '39

Increases in the acid strength of hydrogen chloride in dioxane brought about by phenols and alcohols. P. D. Bartlett and H. J. Dauben, jr. bibliog Am Chem Soc J 62:1339-44 Je '40

Rate and mechanism in the reactions of benzyl chloride with water, hydroxyl ion and acetate ion. G. W. Beste and L. P. Hammett. Am Chem Soc J 62:2481-7 S '40

Reaction of bromine with anthracene in dioxane. C. C. Price and C. Weaver. Am Chem Soc J 61:3360-1 D '39

Solubilities of salts in dioxane-water solvents. T. W. Davis, J. E. Ricci and C. G. Sauter. bibliog Am Chem Soc J 61:3274-84 D '39

Stable 2,6-dichlorobenzenoneindophenol solutions. I. Stone. bibliog Ind & Eng Chem Anal ed 12:415 Jl 15 '40

Ternary systems ethylene glycol-potassium carbonate-water and dioxane-potassium carbonate-water. K. A. Kobe and J. P. Stong, jr. bibliog J Phys Chem 44:629-33 My '40

DIOXIMES. See Oximes

DIPHENYL
Arylpyridines; 3- and 4-pyridyldiphenyls. I. M. Heilbron, D. H. Hey and A. Lambert. Chem Soc J p1279-84 S '40

DIPHENYL—*Continued*
Organic compounds for industrial heating; characteristics of diphenyl and triphenyl systems. H. Seymour. Chem Age (Lond) 43:43-4 Jl 27 '40
Oxidation of the hydroxybiphenyls. J. C. Colbert and C. L. Hensley. bibliog Am Chem Soc J 62:3257 N '40
Preparation of 4,4'-dicyano-diphenyl and certain diketones of diphenyl. C. de Milt and M. Sartor. Am Chem Soc J 62:1954-5 Ag '40
Preparation of 2-phenylnaphthalene from diphenyl. D. H. Hey and R. Wilkinson. Chem Soc J p1030 Jl '40
Stereochemistry of biphenyls; comparison of the interference of a methoxyl and an hydroxyl group. R. Adams and H. M. Teeter. bibliog Am Chem Soc J 62:2188-90 Ag '40
Studies in the biphenyl series; some *o*-biphenyl derivatives of phosphorus, arsenic and antimony. D. E. Worrall. Am Chem Soc J 62:2514-15 S '40
Studies in the diphenyl series; the preparation of asymmetrical diaryl derivatives; diazonium salts, stabilised by naphthalene-1-sulphonic acid, naphthalene-1:5-disulphonic acid, or zinc chloride, decomposed in hydrocarbon and nitrobenzene suspensions. H. H. Hodgson and E. Marsden. Chem Soc J p208-11 F '40
See also
Bromodiphenyl

DIPHENYLACENAPHTHENEDIOL
Pinacol rearrangement of *cis-* and *trans-*7,8-diphenylacenaphthenediols-7,8. P. D. Bartlett and R. F. Brown. bibliog Am Chem Soc J 62:2927-32 N '40

DIPHENYL boilers. See Boilers, Diphenyl

DIPHENYLBUTYRIC acid
Synthesis of 5-methylchrysene and related compounds. M. S. Newman. bibliog Am Chem Soc J 62:870-4 Ap '40

DIPHENYLCARBAZIDE
Colorimetric determination of lead chromate by diphenylcarbazide; application of a new method to analysis of lead in blood, tissues, and excreta. T. V. Letonoff and J. G. Reinhold. bibliog Ind & Eng Chem Anal ed 12:280-4 My 15 '40

DIPHENYLCARBOMETHOXYNAPHTHYLALLENE
Optically active α,γ-diphenyl-α-carbomethoxy-γ-naphthylallene. E. P. Kohler and W. J. Whitcher. Am Chem Soc J 62:1489-90 Je '40

DIPHENYLDIHYDROISOBENZOFURAN
Synthesis of 1,3-diphenyldihydroisobenzofurans, 1,3-diphenylisobenzofurans and *o*-dibenzoylbenzenes from the diene addition products to dibenzoylethylene. R. Adams and M. H. Gold. bibliog Am Chem Soc J 62:56-61 Ja '40

DIPHENYLETHANE
Halogenation of unsymmetrical diphenylethane. F. E. Sheibley and C. F. Prutton. bibliog Am Chem Soc J 62:840-1 Ap '40

DIPHENYL ether. See Phenyl ether

DIPHENYLHEXADIENE
Metabolism of the parent hydrocarbons of some of the simpler synthetic oestrogenic phenols; abstract. S. W. Stroud. Chem & Ind 58:1087 D 16 '39

DIPHENYLISOBENZOFURAN
Absorption and fluorescence spectra of certain dihydroisobenzofurans and isobenzofurans. R. Adams and M. H. Gold. Am Chem Soc J 62:2038-42 Ag '40
Synthesis of 1,3-diphenyldihydroisobenzofurans, 1,3-diphenylisobenzofurans and *o*-dibenzoylbenzenes from the diene addition products to dibenzoylethylene. R. Adams and M. H. Gold. bibliog Am Chem Soc J 62:56-61 Ja '40

DIPHENYLMETHANE
Heat of photobromination of the phenyl methanes and cinnamic acid, and the influence of oxygen. J. L. Magee and F. Daniels. bibliog Am Chem Soc J 62:2825-33 O '40

DIPHENYLPHTHALIN
Hydroxy- and methoxyphenylanthrones. F. F. Blicke and R. J. Warzynski. bibliog Am Chem Soc J 62:3191-4 N '40

DIPHENYLPYRAZINE
Laboratory experiments for undergraduate organic chemistry; the preparation of lysidine, 2,3-dihydro-5,6-diphenylpyrazine and 2,3-diphenylpyrazine. L. H. Amundsen. bibliog J Chem Educ 16:566-7 D '39

DIPHENYLSELENIUM dichloride
Dipole moments and structures of chlorine compounds of germanium, chromium, selenium and tellurium. C. P. Smyth, A. J. Grossman and S. R. Ginsburg. Am Chem Soc J 62:192-5 Ja '40

DIPHENYLTHIOCARBAZONE. See Dithizone

DIPHENYL urea
Identification of alcohols by means of the optical properties of the esters of carbanilic acid. B. T. Dewey and N. F. Witt. Ind & Eng Chem Anal ed 12:459-60 Ag 15 '40

DIPHENYLENE oxide. See Dibenzofuran

DIPHENYLENE sulfide. See Dibenzothiophene

DIPHTHERIA
Diphtheria and diphtheria immunization in England and Wales. Pub Health Rep 55: 848-9 My 10 '40
Diphtheria; its prevention and control. il diags 21p U.S. Pub. health service; pa 5c Supt. of doc. '39
Geographical distribution of diphtheria mortality in the United States. C. C. Dauer. maps Pub Health Rep 55:622-8 Ap 12 '40
Susceptibility of chicks to diphtheria bacilli and toxin. M. Frobisher, jr. bibliog Science 92:88-9 Jl 26 '40

DIPINENE
Acid-polymerized dipinene; dehydrogenation. J. J. Ritter and J. G. Sharefkin. bibliog Am Chem Soc J 62:1508-9 Je '40
Acid-polymerized dipinene; identification of the dehydrogenate. J. J. Ritter and V. Bogert. Am Chem Soc J 62:1509-11 Je '40

DIPIVALYLBUTANE
1,4-Dibromo-1,4-dipivalylbutane. R. C. Fuson and J. W. Robinson, jr. Am Chem Soc J 62:358-60 F '40

DIPLOMACY
Publicity and diplomacy; with special reference to England and Germany, 1890-1914. O. J. Hale. 481p $4 Appleton-Century '40

DIPOLE moment. See Electric moment

DIPYRRYLMETHENE
Studies in the pyrrole series; a dipyrrylmethene which is a true intermediate in its own formation. J. H. Paden, A. H. Corwin and W. A. Bailey, jr. Am Chem Soc J 62:418-24 F '40

DIRAC, Paul Adrien Maurice
Royal medal award. W. Bragg. Science 90:581 D 22 '39

DIRAC'S equation
Eigenvalue problem of the Dirac electron. A. Landé. Phys R 57:1183-4 Je 15 '40
Quantization of mass. B. Podolsky and H. Branson. Phys R 57:494-500 Mr 15 '40
Relativistic self-consistent field for Cu^+. A. O. Williams, jr. bibliog Phys R 58:723-6 O 15 '40
Solutions of equations for particles of spin zero or one when no field is present. A. H. Taub. bibliog Phys R 57:807-14 My 1 '40

DIRECT mail advertising association
Annual convention, Atlantic City. Ptr Ink 193:63-4+ O 11 '40

DIRECTION finding apparatus
Bendix automatic radio direction finder. il Aero Digest 37:175 S '40
Direction finding at 1.67-meter waves. L. C. L. Yuan. Science 91:524 My 31 '40
Electronic telescope control; device for tracking aircraft in flight. A. L. Rubenstein. il diags Electronics 13:54+ Ag '40
Increasing loop sensitivity; can be used as direction finder. C. Thoman. diags Radio N 23:37+ Je '40

DIRECTION finding apparatus—*Continued*
Lear direction finder, model ADF-8. il Aero Digest 36:149 Je '40
Lear direction finder, model ADF-7. il Aero Digest 36:144 F '40
Lear gyromatic navigator. il Aero Digest 37:153 Ag '40
Marine receiver; the loop, and how to improve it. R. P. Adams. il diags Radio N 24:36-7+ Ag '40
Performance and limitations of the compensated loop direction-finder. R. H. Barfield. diags Inst E E J 86:396-8 Ap '40
Radio direction-finding on wavelengths between 2 and 3 metres (100 to 150 Mc./s.). R. L. Smith-Rose and H. G. Hopkins. Inst E E J 87:154-8 Ag '40; Excerpt. Elec R (Lond) 126:399 Ap 5 '40; Discussion. Inst E E J 87:159-62 Ag '40
Radio in the European war. H. W. Roberts. il Aero Digest 36:51-2 Je '40
Ultra-high frequency superheterodyne receiver for direction finding. L. C. L. Yuan and C. E. Miller. il diags R Sci Instr 11:273-6 S '40; Abstract. Electronics 13:75 O '40

See also
Radio beacons
Radio compass

DIRECTIONAL antennas. See Radio antennas—Directional antennas

DIRECTORIES

See also
Aeronautics—Directories
Air conditioning industries—Directories
Education—New England—Directories
Engineers—Directories
Machine tool industry—Directories
Machinery industry—Directories
Trade directories

Consult Public affairs information service for list of directories

DIRECTORS. See Bank directors; Corporations—Directors

DIRIGIBLES. See Airships

DISABILITY insurance. See Insurance, Disability; Insurance, Life—Disability provisions

DISABLED

Rehabilitation

Cooperation of workmen's compensation administrations with rehabilitation agencies. M. Dawson. U S Bur Labor Statistics Bul 672:167-78 '40
Vocational rehabilitation. U S Office of Educ Misc 2110:1-22 '38
Vocational rehabilitation, 1938-39. R. E. Thomas. Monthly Labor R 50:1414-15 Je '40
Workmen's compensation laws in relation to the employment of the physically handicapped; vocational rehabilitation, February 1939. L. A. Robinson. U S Office of Educ Misc 2152:1-62 '39

See also
Blind

DISACHARIDES

See also
Gentiobiose

DISARMAMENT

See also
Peace

DISASTERS
Organizing for community defense. H. E. Jordan. bibliog Am Water Works Assn J 32:1732-6 O '40
When disaster strikes. E. S. Miner. il Nat Safety N 41:22-3+ F '40

DISCOLORATION. See Yellowing

DISCOUNT

See also
Interest

Rates

Discount rates of central banks. Published in monthly numbers of Federal reserve bulletin
Discount rates of foreign central banks. Published in weekly numbers of Commercial & financial chronicle
Federal reserve bank discount rates. Published in monthly numbers of Federal reserve bulletin
Treasury bill and money rates at par; short-loan rate and tighter money discussions. Economist 138:154, 156 Ja 27 '40

DISCOUNT, Cash
Are you an easy mark for terms chiselers? C. A. Cartier. Credit & Fin Management 42:14-15 Ja '40
Business you might avoid; consignments, cash discounts and job orders usually add little to profits. W. H. Conant. Barron's 20:9 Jl 15 '40; Excerpt. Credit & Fin Management 42:17+ S '40
Is cash discount on way out? C. Beecher. Credit & Fin Management 42:6-8 Mr '40
What to do with "terms chiselers"; a confectioner reviews types. B. F. Fox. Credit & Fin Management 42:16-17 S '40

DISCOUNT, Trade
Coal division determines discounts for cooperative organizations. Min Cong J 26: 66-7 O '40

See also
Price cutting
Price discrimination
Price policies

DISCOUNT companies
Discount market portfolios; comparison of 1938 and 1939 figures. Economist 138:106 Ja 20 '40
Discount market's year. Economist 138:65-6 Ja 13 '40
London discount companies. Economist 138: sup27-8 My 18 '40

See also
Alexanders discount company
National discount company
Union discount company of London

DISCOUNT corporation of New York
Capital reduction voted. Comm & Fin Chr 151:2641 N 2 '40

DISCOVERIES in science. See Scientific research

DISCOVERY (periodical)
End of Discovery. Science 91:358-9 Ap 12 '40

DISCUSSION
Conference leadership method at the S.L.A. convention. J. B. Hollingsworth. Special Lib 31:77-9 Mr '40

See also
Argumentation
Debates and debating

DISEASES

See also
Cancer
Diabetes
Epidemics
Fever
Heart—Diseases
Infantile paralysis
Infectious diseases
Influenza
Leprosy
Lungs—Diseases
Malaria
Meningitis
Mental diseases
Mortality
Phlebitis
Pneumonia
Public health
Rheumatic fever
Sickness
Skin—Diseases
Sprue
Tuberculosis
Typhoid fever
Undulant fever
Venereal diseases
Worms, Intestinal and parasitic

Classification

Classification of hospital morbidity; experience in a study of hospital discharges in New York city. M. Fraenkel. Am Statis Assn J 35:489-97 S '40
Diagnosis code for use in tabulating morbidity statistics. T. Parran and W. L. Austin. Pub Health Rep 55:1558-75 Ag 30 '40

Statistics

Diagnosis code for use in tabulating morbidity statistics. T. Parran and W. L. Austin. Pub Health Rep 55:1558-75 Ag 30 '40
Disabling diseases of childhood; their characteristics and medical care as observed in 500,000 children in 83 cities canvassed in the National health survey, 1935-1936. D. F. Holland. bibliog Pub Health Rep 55:135-56, 227-44 Ja 26, F 9 '40

DISEASES—Statistics—*Continued*

Disabling morbidity among male and female employees in mail order stores, 1930-34, inclusive. H. P. Brinton and E. S. Frasier. bibliog Pub Health Rep 55:1163-78 Je 28 '40

Disabling morbidity among male and female industrial workers during 1938 and 1939, and among males during the first quarter of 1940, with an inquiry into the occurrence of multiple attacks of disabling sickness and non-industrial injuries, 1939. W. M. Gafafer. bibliog Pub Health Rep 55:1402-6 Ag 2 '40

Duration of illness with specific diseases among 9,000 families, based on nation-wide periodic canvasses, 1928-31. S. D. Collins. bibliog Pub Health Rep 55:861-93 My 17 '40

Frequency and volume of doctors' calls among males and females in 9,000 families, based on nation-wide periodic canvasses, 1928-31. S. D. Collins. Pub Health Rep 55:1977-2020 bibliog(p2012) N 1 '40

Major causes of death, increase in life expectancy, and population changes in the United States. Pub Health Rep 54:2054-64 N 17 '39

National health survey; some general findings as to disease, accidents, and impairments in urban areas. R. H. Britten, S. D. Collins and J. S. Fitzgerald. Pub Health Rep 55:444-70 Mr 15 '40

Outbreaks of water-borne diseases in the New England states, 1920 to 1936. A. E. Gorman. N E Water Works Assn J 53: 473-96; Discussion, 497-504 D '39

Prevalence of disease; current weekly state and city reports. Published in weekly numbers of Public health reports

Provisional mortality rates for the first 9 months of 1939. Pub Health Rep 55:245-53 F 9 '40

Rheumatic fever in New Haven, Conn.; a survey of recent hospital admissions. L. R. Farquhar and J. R. Paul. bibliog Pub Health Rep 55:1903-13 O 18 '40

Rheumatic heart disease in Philadelphia hospitals; distribution by locality of rheumatic conditions in Philadelphia. O. F. Hedley. bibliog pls maps Pub Health Rep 55:1845-62 O 11 40

Rheumatic heart disease in Philadelphia hospitals; influence of season and certain meteorological conditions. O. F. Hedley. Pub Health Rep 55:1809-31 bibliog(p1830-1) O 4 '40

Trend of morbidity and mortality during 1939 and recent preceding years. Pub Health Rep 55:801-21 My 10 '40

See also

Cancer—Statistics
Infectious diseases—Statistics
Mortality—Statistics

DISEASES, Chronic

Unseen plague: chronic disease. E. P. Boas. 121p $2 J. J. Augustin, New York '40

DISEASES, Industrial

Critical review of occupational disease legislation. T. C. Waters. Min Cong J 25:32-6 D '39

Dermatitis from cashew nut shell oil. J. G. Downing and S. W. Gurney. il J Ind Hygiene 22:169-74 My '40

Disabling morbidity, and mortality from cancer among the male employees of an oil refining company with reference to age, site, and duration, 1933-38, inclusive. W. M. Gafafer and R. Sitgreaves. bibliog Pub Health Rep 55:1517-26 Ag 23 '40

Diseases of workers; the Latin text of 1713 revised, with translation and notes, by W. C. Wright. B. Ramazzini. 549p bibliog(p523-34) $5 Univ. of Chicago press '40

Industrial diseases. J. G. Cunningham. Can Chem & Process Ind 23:549+ N '39

Industrial diseases in British factories, 1938. Monthly Labor R 49:1121-2 N '39

Occupational disease coverage; a summary of current trends in legislation. R. C. Starr. map Nat Safety N 41:17, 58 Ja '40

Survey of industrial diseases. W. J. Connell. Safety Eng 78:37-8 D '39

Text-book of occupational diseases of the skin. L. Schwartz and L. Tulipan. 799p $10 Lea & Febiger, Philadelphia '39

When is he cured? L. J. Goldwater. Nat Safety N 42:36, 38 S '40

See also

Heat cramps
Lead poisoning
Lungs—Dust diseases
Miners—Diseases and hygiene
Poisons, Industrial
Sickness
Silicosis
Skin—Diseases
Vitiligo
Workmen's compensation

DISHWASHING machines

Fair exhibit features gas water heating for sanitization. Am Gas Assn Mo 22:318 S '40

One dish in a washer is worth two in a sink. I. S. Gray. Elec West 84:32 Ja '40

Sales guide. Elec West 84:35-7 My '40

Surgex portable electric dishwasher. il Ry Age 108:673 Ap 13 '40

DISINFECTION and disinfectants

Agent, isolated from a soil bacillus, which inhibits encapsulation of Friedländer's bacterium and is highly bactericidal for gram-positive microörganisms. J. C. Hoogerheide. Franklin Inst J 229:677-80 My '40

Bactericidal filtrates from a mold culture; aspergillus flavus. E. C. White. Science 92:127 Ag 9 '40

Bactericidal irradiation of air; physical factors. W. F. Wells. il Franklin Inst J 229:347-72 Mr '40

Bactericidal properties of commercial antiseptics; further study of the effect of pH. W. A. Bittenbender and others. bibliog Ind & Eng Chem 32:996-8 Jl '40

Cetylpyridinium chloride presented as germicide. Oil Paint & Drug Rep 137:42 Ap 15 '40

Cresylic acids from petroleum available. Oil Paint & Drug Rep 137:5+ Ap 1 '40

β-Diketones; synthesis, structure and bactericidal properties. C. D. Hurd and C. D. Kelso. bibliog Am Chem Soc J 62:2184-7 Ag '40

Disinfecting tunnel muck. il plan Comp Air M 45:6110 Mr '40

Evaluation of germicides by the manometric method. J. O. Ely. Franklin Inst J 228:814-16 D '39

Further studies on the bactericidal agents obtained from soil bacilli. E. McDonald. il Franklin Inst J 229:805-15 Je '40

Germicidal mercury derivatives of pyridine. M. W. Swaney, M. J. Skeeters and R. N. Shreve. Ind & Eng Chem 32:360-3 Mr '40

Germicidal properties of hot paraffin. F. W. Tanner and H. F. Lewis. bibliog Food Ind 12:60-2 Mr; 57-8 Ap '40

Inhibition of bacterial metabolism by synthetic detergents. B. F. Miller and Z. Baker. bibliog Science 91:624-5 Je 28 '40

Insecticide, disinfectant makers discuss raw materials supply. Oil Paint & Drug Rep 136:3+ D 11 '39

Killing of bacteria with ultra-violet light. J. F. Downie Smith. Franklin Inst J 229: 775-8 Je '40

Kolbe synthesis with alkyl-o-xenols. S. Harris and J. S. Pierce. Am Chem Soc J 62:2223-5 Ag '40

National association of insecticide and disinfectant manufacturers mid-year meeting, Lake Wawasee, Ind. June 17-19. Oil Paint & Drug Rep 137:5+ Je 24 '40

Production tips on disinfectants, antiseptics, germicides. B. Levitt. il Chem Ind 46:334-5 Mr '40

Sterilamp, its electrical and radiation characteristics. D. D. Knowles and E. Reuter. bibliog il diag Electrochem Soc Trans 78 (preprint 27):361-72 O '40

Ultraviolet finds new applications; bactericidal irradiation in meat, baking, dairy, fish and fresh fruit and vegetable industries. T. R. Porter. il Food Ind 12:51-3 Jl '40

See also

Antiseptics
Chlorine
Dyes as antiseptics and disinfectants
Formaldehyde
Fumigation
Fungicides
Insecticides

DISKS, Rotating
Näherungsverfahren zur berechnung umlaufender scheiben. H. Baer. bibliog diag V D I 84:359-61 My 25 '40
Theory of the double Fizeau toothed wheel. H. E. Ives. diags Opt Soc Am J 29:472-8 N '39

DISMISSAL of employees. See Employees, Dismissal of

DISMISSAL wage. See Wages—Dismissal wage

DISNEY, Walt, 1901-
How a wise showman uses brick; Walt Disney studios. por Brick & Clay Rec 97:20-2 N '40
Pinocchio is alive! electric equipment at Walt Disney studios. pors Elec West 85:22-5 Jl '40

DISODIUM amylidene
Condensations by sodium; a study of the possible conversion of amylsodium to amylidenedisodium. A. A. Morton and G. M. Richardson. Am Chem Soc J 62:129-31 Ja '40

DISODIUM compounds
Condensations by sodium; reactions of disodium compounds with ethylidene and methylene chlorides. A. A. Morton and J. T. Massengale. bibliog Am Chem Soc J 62: 120-3 Ja '40

DISPENSARIES
New dispensaries in New York city. Science 92:327 O 11 '40

DISPERSING agents
Dispersing agents used in making paper. Oil Paint & Drug Rep 137:42 Je 10; 50 Je 17; 39 Je 24; 138:41 Jl 1 '40
Dispersion of pigments in aqueous medium. F. K. Daniel. India Rubber W 101:50-2 D '39; 33-7 Ja '40
Use of organic dispersing agents in casting slips; effect of clay deflocculant vs. sodium silicate on the physical properties. I. E. Sproat, C. C. Treischel and E. W. Emrich. Am Cer Soc Bul 19:47-58 F '40

DISPERSION
Dispersion of pigments in aqueous medium. F. K. Daniel. India Rubber W 101:50-2 D '39; 33-7 Ja '40
Flocculation and dispersion of papermaking fibers. A. Erspamer. bibliog Paper Tr J 110: 33-8 Je 13 '40
Soybean protein dispersions in formaldehyde solutions; preparation and application. A. K. Smith and H. J. Max. Ind & Eng Chem 32:411-15 Mr '40

See also
Emulsification
Particles
Wetting agents

DISPERSION of rays
Mutarotation and rotatory dispersion of derivatives of aldehydo-*d*-galacturonic acid. R. J. Dimler and K. P. Link. bibliog Am Chem Soc J 62:1216-19 My '40
Optical dispersion and molar refraction at zero frequency for compressed nitrogen, argon, and carbon dioxide measured as functions of density. C. E. Bennett. Phys R 58:263-6 Ag 1 '40
Quantitative determination of aromatic hydrocarbons by new method; based on measurement of specific dispersion. A. V. Grosse and R. C. Wackher. bibliog il Ind & Eng Chem Anal ed 11:614-24 N 15 '39
Rotatory dispersion and circular dichroism of *l*-menthyl *d*-β-chloro-β-nitrosobutyrate. S. Mitchell and G. K. Simpson. Chem Soc J p784-7 Je '40
Study of the configuration of the nickel salt of formyl camphor. H. S. French and G. Corbett. bibliog Am Chem Soc J 62:3219-22 N '40

DISPLAY of merchandize
Add sales to dealers, after sales season; Plumb display stands. il Ptr Ink Mo 40:24 Ja '40
Clever use of dog appeal gets Sergeant's into many windows. il Sales Management 47:53 S 1 '40
Co-operative store displays. il Ptr Ink Mo 40:13-15 Je '40
Counter-top selling; ten types of open display fixtures used by manufacturers. il Ptr Ink 192:19-22 Ag 9 '40
Displays that demonstrate product. il Ptr Ink Mo 41:16-17 S '40
Flagging store and street traffic with a premium offer. F. H. Waggoner. il Sales Management 46:62-3 Ja 1 '40
How La Choy draws contracts with dealers to insure good display; allows 5% of purchases, payable in cash, for advertising and merchandising cooperation. il Sales Management 47:39 S 1 '40
Mountains of oranges: Sunkist's time-tested point-of-sale technique. R. Eller. il Sales Management 47:36-9 S 1 '40
Planning plastic displays. J. G. Lippincott. il Mod Packaging 14:75-6+ S '40
Point-of-sale displays through dealers' eyes; Printers' Ink Monthly special study. A. M. Howe. il Ptr Ink Mo 39:20-2+ D '39
Product a part of display. il Ptr Ink Mo 40: 38 F '40
Relato can-topper store units treble promotions for Spam; Hormel's four-color displays. il Sales Management 47:47-8 S 1 '40
Sales jump when Sani-Flush shows dealers how to display and push related products. il Sales Management 47:45 S 1 '40
Set-up shipper counter displays; tiered units. il Mod Packaging 14:80+ S '40
Showcase packages bring this product from under counters; bolts of ruffles, ribbons and tapes; Wm. E. Wright & sons co. J. T. Wright. il Sales Management 46:54-6 Mr 15 '40
Store and the package; display and the package. il Mod Packaging 14:40-1+ S '40
Store and the package; the shortening distance between package and consumer. il Mod Packaging 14:36-7 S '40

See also
Exhibits, Traveling
Models, Miniature
Show windows
Showrooms

DISSERTATIONS, Academic
Abstracts of theses; faculty bibliography and research in progress. 446p pa $2 Univ. of Washington, Seattle '39
Accessibility of British university thesis literature. L. Newcombe. Assn of Sp Lib & Inf Bur Proc 1939:21-30
Accessibility of thesis literature of the United States. W. Davis. Assn of Sp Lib & Inf Bur Proc 1939:31-4
Summaries of doctoral dissertations, University of Wisconsin; July, 1938-June, 1939. v 4 284p $2 Univ. of Wisconsin press, Madison '40
Survey of the methods of teaching and of the value of undergraduate thesis work. W. M. Lansford. J Eng Educ 30:887-9 Je '40
Thesis literature in France. J. Cain. Assn of Sp Lib & Inf Bur Proc 1939:35

Bibliography
Annotated bibliography of dissertations accepted for the master of science degree, Kansas State teachers college of Emporia (1929-1939). E. J. Brown, H. E. Schrammel and I. Niles. Kansas State Teachers College of Emporia Bul of Information v 19, no 9:1-61 '39
Doctoral dissertations accepted by American universities, 1939-1940. E. A. Henry, ed. 126p pa $2 Wilson, H.W. '40
List of American doctoral dissertations printed in 1938; received in the Catalog division from January 1938 to September 1939, with supplement to earlier lists. M. W. MacNair and M. N. Karr. 420p pa 50c Supt. of doc. '40
Register of Ph.D. degrees conferred by the University of Minnesota, 1888 through June 1938. Univ of Minnesota Bul v 42, no 31: 1-276 '39

DISSOCIATION
Dissociation of hexaphenyldiplumbane. R. Preckel and P. W. Selwood. bibliog Am Chem Soc J 62:2765-6 O '40
Divalent nitrogen; the rate of dissociation of tetraphenylhydrazine. C. K. Cain and F. Y. Wiselogle. bibliog diag Am Chem Soc J 62:1163-9 My '40

DISSOCIATION—*Continued*
Influence of a solvent on the strength of the hydrogen bridge. E. A. Moelwyn-Hughes. Chem Soc J p850-5 Jl '40
Ionization and dissociation of water vapor and ammonia by electron impact. M. M. Mann, A. Hustrulid and J. T. Tate. bibliog diags Phys R 58:340-7 Ag 15 '40

DISSOCIATION, Electrolytic. See Ionization, Electrolytic

DISSOCIATION, Heat of
Salt hydrates and deuterates; correlation of heats of dissociation and structure. J. Bell. Chem Soc J p72-4 Ja '40

DISSTON, Henry, and sons, Inc.
Century of fine tool manufacture is celebrated this year. Iron Age 146:42-3 Ag 8 '40

DISTANCES
Distance meter aids rural line design. il Elec W 113:144+ Ja 13 '40

Tables, calculations, etc.
Computation of great circle azimuths and distances for air flights. D. L. Reaburn. Civil Eng 10:237-8 Ap '40
Graphic solution of great circle track. J. R. Griffith. Aero Digest 36:49+ My '40

DISTILLATE wells. See Gas, Natural—Distillate wells

DISTILLATION
American institute of chemical engineers 1940 annual student contest problem; doubling production of acetic acid concentrating department, with consideration of economics of solvent extraction; with prize winning paper by H. Campbell. diags Am Inst Chem Eng Trans 36:593-655 Ag '40
Attempted separation of isomeric hexenes by fractional distillation. F. C. Whitmore and others. bibliog Am Chem Soc J 62:795-800 Ap '40
Azeotropic system alcohol-water-benzene. W. D. Bonner and M. B. Williams. J Phys Chem 44:404-8 Ap '40
Destillation und rektifikation mit wasserdampf. K. Thormann. Chemische Fabrik 13: 3-9 Ja 13 '40
Destructive distillation of agricultural wastes. P. B. Jacobs. bibliog il diags Ind & Eng Chem 32:214-26 F '40
Distillation of formaldehyde solutions. J. F. Walker. bibliog Ind & Eng Chem 32:1016-18 Jl '40
Distillation problems. Am Inst Chem Eng Trans 36:sup25-36 S '40
Effect of glycerol on distillation method for water. R. B. Trusler. Ind & Eng Chem Anal ed 12:509-10 S 15 '40
Graphic determination of batch distillation curves for binary mixtures. E. H. Smoker and A. Rose. bibliog Am Inst Chem Eng Trans 36:285-93 Ap '40; Discussion. 36: 675-7 O '40
High-vacuum distillation of the steroids. K. C. D. Hickman. bibliog il Ind & Eng Chem 32:1451-3 N '40
Lecture demonstrations in general chemistry. S. B. Arenson. diags J Chem Educ 17:434-5 S '40
Liquid-vapor equilibria of furan systems; system furfural-furfuryl alcohol. A. P. Dunlop and F. Trimble. bibliog diag Ind & Eng Chem 32:1000-2 Jl '40
Liquid-vapor equilibrium of aniline-water. J. Griswold and others. bibliog il diag Ind & Eng Chem 32:878-80 Je '40
Molecular weight by isothermic distillation. J. B. Niederl and A. M. Levy. diag Science 92:225-6 S 6 '40
Physical chemistry of gas liquor distillation. F. H. Peakin. Soc Chem Ind J 59: 81-7 My '40; Same. Gas J (Lond) 230:629-30, 672-4 Je 19-26 '40
Preparation of drying oils; recent developments. D. V. Stingley. bibliog il Ind & Eng Chem 32:1217-20 S '40
Quantitative analysis of mixtures of polyoxyethylene glycols by fractional distillation. S. Perry and H. Hibbert. Am Chem Soc J 62:2561-2 S '40
Separation of the isomeric hexenes by batch fractionation. A. Rose. bibliog Am Chem Soc J 62:793-5 Ap '40
Separation processes; the principle of minimum dilution in design of new or unusual processes. M. Randall and B. Longtin. bibliog diags Ind & Eng Chem 32:125-9 Ja '40
Surface tension of ethyl alcohol-water mixtures. W. S. Bonnell, L. Byman and D. B. Keyes. bibliog diag Ind & Eng Chem 32:532-4 Ap '40

See also
Alcohol
Azeotropy
Coal distillation
Coal tar
Distilleries
Essential oils
Evaporation
Oil distillation
Petroleum distillation
Petroleum refining
Tar distillation

Tables, calculations, etc.
Benzene and toluene isopiestic liquid-vapor equilibrium data. F. Todd. bibliog Ind & Eng Chem 32:287-8 F '40
Distillation in packed columns. C. C. Furnas and M. L. Taylor. bibliog il diags plan Am Inst Chem Eng Trans 36:135-69; Discussion. 169-71 F '40
General equation for a batch fractionation curve. A. Rose. bibliog Ind & Eng Chem 32:675-6 My '40
Multicomponent distillation problems; single equilibrium line solution. H. J. Hibshman. bibliog Ind & Eng Chem 32:988-91 Jl '40
Multicomponent rectification; estimation of the number of theoretical plates as a function of the reflux ratio. E. R. Gilliland. bibliog Ind & Eng Chem 32:1220-3 S '40
Sharpness of separation in batch fractionation; calculation of maximum sharpness of separation when holdup is appreciable. A. Rose, L. M. Welshans and H. H. Long. Ind & Eng Chem 32:673-5 My '40
Sharpness of separation in batch fractionation; calculation of maximum sharpness of separation when holdup is negligible. A. Rose and L. M. Welshans. bibliog Ind & Eng Chem 32:668-72 My '40

DISTILLATION apparatus
All-glass still with automatic float feed. G. F. Liebig, jr. diag Ind & Eng Chem Anal ed 12:174 Mr 15 '40
Design and operation of a high temperature Dowtherm system. R. E. Hulme. il diag Chem & Met Eng 47:685-7 O '40
Design and operation of De Florez furnaces. F. L. Maker. Mech Eng 62:161-3 F '40
Destructive distillation of agricultural wastes. P. B. Jacobs. bibliog il diags Ind & Eng Chem 32:214-26 F '40
Distillation in packed columns. C. C. Furnas and M. L. Taylor. bibliog il diags plan Am Inst Chem Eng Trans 36:135-69; Discussion. 169-71 F '40
Efficiency of gas recycling speeds plant construction plans. E. E. DeBack. il Nat Pet N 32:R171-2+ My 15 '40
Efficient low-holdup laboratory column. M. L. Selker, R. E. Burk and H. P. Lankelma. bibliog diag Ind & Eng Chem Anal ed 12: 352-5 Je 15 '40
Laboratory-type molecular or short-path still for vegetable and animal fats and oils. S. B. Detwiler, jr. and K. S. Markley. bibliog il diags Ind & Eng Chem Anal ed 12: 348-50 Je 15 '40
Large spinning-band fractionating column for use with small quantities of liquids. R. H. Baker, C. Barkenbus and C. A. Roswell. bibliog diags Ind & Eng Chem Anal ed 12: 468-71 Ag 15 '40
Measurement of metal temperatures of cracking still tubes. O. G. Kaasa. Nat Pet N 31:R478+ N 15 '39
Measuring internal diameter of still tubes. W. A. Howard. il diag Oil & Gas J 38: 78-80 Mr 28 '40
New laboratory column packing makes record in efficiency; abstract. H. S. Lecky and R. H. Ewell. diag Nat Pet N 32:R134 Ap 17 '40

DISTILLATION apparatus—*Continued*
New light oil refining plant of the Wheeling steel corporation. E. Preston and B. J. C. Van Der Hoeven. flow diag il Blast F & Steel Pl 28:455-60 My '40
Pressure regulator for vacuum distillation. M. S. Newman. diag Ind & Eng Chem Anal ed 12:274 My 15 '40
Reaction chambers; all-welded molybdenum-bearing steel fabrications permit shell thickness to be reduced; Babcock & Wilcox co. il Steel 105:51-2 D 18 '39
Review of the literature on the construction, testing, and operation of laboratory fractionating columns. C. C. Ward. U S Bur Mines Tech Pa 600:1-36 bibliog(86 titles, p33-6) '39
Simple valve for use in laboratory apparatus; all-glass steam-vacuum still, etc. G. P. Gibson. diags Soc Chem Ind J 58:317-19 O '39
Sinclair's new plant in Nueces county is model of efficiency. H. F. Simons. il Oil & Gas J 38:178+ Ap 25 '40
Spiral screen packing for efficient laboratory fractionating columns. H. S. Lecky and R. H. Ewell. bibliog il diag Ind & Eng Chem Anal ed 12:544-7 S 15 '40
Still for producing metal-free distilled water. J. S. McHargue and E. B. Offutt. il diag Ind & Eng Chem Anal ed 12:157-9 Mr 15 '40
Unconfined distribution of liquid in tower packing. R. S. Tour and F. Lerman. Am Inst Chem Eng Trans 35:719-42 O '39; Discussion. 36:177-9 Ap '40

See also
Kjeldahl apparatus

Design
Distillation curves of blends. W. L. Nelson. Oil & Gas J 38:64 F 29 '40
Multicomponent rectification; estimation of the number of theoretical plates as a function of the reflux ratio. E. R. Gilliland. bibliog Ind & Eng Chem 32:1220-3 S '40
Multicomponent rectification; minimum reflux ratio. E. R. Gilliland. bibliog Ind & Eng Chem 32:1101-6 Ag '40
Multicomponent rectification; optimum feed-plate composition. E. R. Gilliland. diag Ind & Eng Chem 32:918-20 Jl '40
Sharpness of separation in batch fractionation; calculation of maximum sharpness of separation when holdup is negligible. A. Rose and L. M Welshans. bibliog Ind & Eng Chem 32:668-72 My '40
Trends in design of fractionating pumps. K. C. D. Hickman. bibliog il diags J Ap Phys 11:302-13 My '40
Wahl der dampfgeschwindigkeit in rektifiziersäulen. E. Kirschbaum. diag Chemische Fabrik 13:181-5 Je 1 '40

Patents
Hardesty upheld in suit on fatty acid patents. Oil Paint & Drug Rep 136:5+ D 4 '39

DISTILLERIES
Annexation fight; Louisville effort to absorb little Shively's big distilleries balked. Business Week p28+ N 16 '40
Old art in a new plant; Heublein's traditional pot stills. il Mod Packaging 14:85-6+ S '40

Equipment
Meeting increased steam needs in distillery plant. H. G. Burrill. il diags Power Pl Eng 44:62-4 Ap '40

Power
Modern distillery uses Diesel power. H. C. Blankmeyer. il Comp Air M 45:6240-1 S '40

Waste
Vitamin content of distillers' by-products. C. S. Boruff, A. F. Langlykke and S. Black. bibliog il Ind & Eng Chem 32:1237-9 S '40
Waste problems in the fermentation industry. C. S. Boruff. bibliog il Ind & Eng Chem 31:1335-7 N '39

DISTILLERS company, limited
Annual general meeting, 63d, Edinburgh. Economist 139:136-7 Jl 27 '40

DISTILLING industries
Bottling for profit; a treatise on liquor and allied industries. M. V. Rosenbloom and A. B. Greenleaf, eds. 192p $3 American industries surveys, New York '40
Distillers' earnings; financial reports of Schenley, Distillers corp.-Seagrams, and National distillers products corp. Annalist 54:765 D 14 '39
Rectifiers worried; rapid absorption of small distilleries. Business Week p17 Je 1 '40
Whiskey production, other distilled spirits, and rectified spirits; revision, monthly, 1934-June, 1940. Fed Res Bul 26:857-8 Ag '40

See also
National distillers products corporation
Schenley distillers corporation
Whisky

Securities
Another look at the liquor stocks. P. Dobbs. il Mag of Wall St 67:92-3+ N 2 '40
Leading liquor companies, 1937-39. Mag of Wall St Manual p33 Mr 2 '40
Position of leading liquor stocks. Mag of Wall St 65:544; 66:523 F 10, Ag 10 '40

DISTRESS (law)
Eddy on the law of distress; being a guide to the law relating to distress for rent, distress for rates, distress for tithe rent-charges. J. P. Eddy. 2d ed 188p 7s 6d Sweet & Maxwell, London '39

DISTRIBUTION (economics)
Advertising and selling process. H. R. Tosdal. Ann Am Acad 209:62-70 My '40
Basic theories of distribution. B. F. Catherwood. 262p bibliog(p260-2) $2.50 Barnes & Noble, New York '39
Case for distribution. il Nation's Business 28:33-64 Ap '40
Competitive struggle for market control. D. R. Craig and W. K. Gabler. Ann Am Acad 209:84-107 My '40
Influences of environmental changes on distribution problems; passing of economy based on territorial expansion; new basis for expanding economy must be found. H. S. Person. Advanced Management 4 no5: 137-40 '39
Markets and middlemen; the total organisation of a large part of distribution. Economist 139:177-8 Ag 10 '40
605,000,000 dinner-pail dollars for new utility construction; how money is spent by workers. Elec W 113:1693-1704 Je 1 '40

See also
Chain stores
Cooperation
Market surveys
Marketing

Census
Marketing data from 1940 business census will be ready by early fall. V. D. Reed. Ptr Ink 190:36 F 16 '40

Cost
Can we do without the wholesalers? review of Twentieth century fund's survey Does distribution cost too much. T. R. Carskadon. Credit & Fin Management 42:9-11 S '40
Well, it's here! F.T.C. gets appropriation for national advertising inquiry. Ptr Ink 190: 113-14 Ja 26 '40

DISTRICT bank, limited
Annual meeting of shareholders, 110th, Manchester. Economist 138:173-5 Ja 27 '40

DISTRICT of Columbia

Economic conditions
Consumer incomes and family budgetary expenditures; Printers' Ink market explorations. Ptr Ink 192:sup3-55 S 27 '40

DISULFIDES
Formation of sulfonium compounds from benzyl iodide and organic disulfides. O. Haas and G. Dougherty. Am Chem Soc J 62:1004-5 My '40

DITHIOCATECHOL
Tin derivative of dithiocatechol. H. P. Brown and J. A. Austin. Am Chem Soc J 62:673 Mr '40

DITHIZONE
Estimation of traces of lead and thallium in pharmaceutical chemicals; a simple dithizone limit test. K. Bambach. bibliog Ind & Eng Chem Anal ed 12:63-6 F 15 '40
Photelometric study of the lead-dithizone system at 610 millimicrons. C. L. Guettel. Ind & Eng Chem Anal ed 11:639-40 D 15 '39

DITOLUYLETHYLENE
Diene addition products to diaroylethylenes and their transformation products. R. Adams and R. B. Wearn. Am Chem Soc J 62:1233-7 My '40

DIVERSIFICATION in industry
More volume; problems in trying to expand sales through added new lines. W. H. Conant. Barron's 20:9 My 27 '40
One or many lines? harder for business to base growth on single product. W. H. Conant. Barron's 20:7 Jl 8 '40
Simple business is best; single basic idea better than diversification. J. A. Murphy. Barron's 20:7 Ja 8 '40
Union Carbide spreads its gains. G. W. Mathis. il Mag of Wall St 66:408-10 Jl 13 '40

See also
Products, New

DIVERSIFIED farming
100,000 farmers at Wichita's big tractor and equipment show see bright 1940. A. M. Howe. il Ptr Ink 190:17-19 Mr 1 '40

DIVIDENDS
Annual dividend forecast, 1940. Mag of Wall St 65:466-71, 541-7, 604-9 Ja 27-F 24 '40
Cash dividend payments and rates, 1936-1939. Survey of Cur Business 1940 Sup p73-4 [supplemented in monthly numbers]
Companies likely to pay extra year-end dividends; distribution to shareholders should exceed that of year ago despite higher taxes. J. S. Williams. Mag of Wall St 67:80-1 N 2 '40
Dealers balk at surprise dividends by Thompson Arms. Business Week p56 S 28 '40
Dividend announcements. Published in weekly numbers of the Economist
Dividend calendar. Published in weekly numbers of Barron's
Dividend changes in 1939 in common stocks listed on the New York stock exchange. Mag of Wall St Manual p11-13 Mr 2 '40
Dividend limitation abandoned. Economist 138:1015 Je 8 '40
Dividends. Published in weekly numbers of Commercial & financial chronicle
Dividends and the penalty tax; imposition depends on accumulation of surplus beyond reasonable needs of business. J. B. Lowe and J. D. Wright. Barron's 19:7 N 20 '39
Dividends declared and awaiting payment. Published in weekly numbers of Annalist
Dividends v. depreciation; proposed SEC ruling for holding companies. Pub Util 25: 479-80 Ap 11 '40
Fortune survey; dividends, limited? Fortune 21:98 Mr '40; Excerpt. Bankers M 140:356 Ap '40
Investment clinic; speculating in dividends. J. S. Williams. Mag of Wall St 655:614-15 F 24 '40
It certainly pays to advertise! 75 New York stock exchange dividend payers, 1929-1939, spend in excess of $100,000 a year each in consumer advertising. Sales Management 46:26 Mr 15 '40
Limited dividends and equities; a British war measure. Economist 138:774-5 Ap 27 '40
Listed preferred stocks with dividend accumulations. Mag of Wall St 66:737 O 5 '40
Mid-year security appraisal and forecast. Mag of Wall St 66:465-71+, 519-27, 572-3 Jl 27-Ag 24 '40
Nature of acquired surplus. T. York. J Account 69:363-8 My '40
Profits and dividends; big business vs. small. E. B. George and R. L. Tebeau. bibliog il Dun's R 48:11-22 Ja '40
Regulation of dividend distribution under the Holding company act. Pub Util 25:237-40 F 15 '40.
Sending dividend checks; by issuing company or outside agency. Management R 28:446-7 D '39
Stock market at a glance; New York stock and curb exchanges. Published in weekly numbers of Barron's
Study of dividends received by corporations, 1926-37. Comm & Fin Chr 151:119 Jl 6 '40

See also
Corporations—Finance
Securities
Stocks

DIVING, Submarine
American self-contained diving suit. il Rubber Age 46:316 F '40
Blow all ballast! the story of the Squalus. N. A. Barrows. 298p $2.75 Dodd '40
Salvage of H.M.S. Thetis. G. R. Critchley. il diags Engineer 169:559-61, 568-70 Je 21-28 '40; Same cond. Engineering 150:50, 56-60 Jl 19 '40
Salvage of U.S. submarine Squalus. il diags Engineer 168:584-6, 606-8 D 15-22 '39
Scaffold for divers. il Eng N 123:777 D 7 '39
Under sea with helmet and camera; experiences of an amateur. A. F. du Pont. 87p $2.50 Dodd '40
Up for air; diving for a living. F. Meier. 287p $2.75 Dutton '40
Up from forty fathoms; rescuing men from submarine Squalus and raising boat. R. G. Skerrett. il diags map Comp Air M 44:6003-9 N '39

DIVINING rod
Physics of the divining rod. J. C. Maby and T. B. Franklin. 452p 21s G. Bell & sons, London '39; Review. Elec R (Lond) 126: 152 F 9 '40

DIVISION
Quick computations. W. R. G. Duane. J Account 70:241-4 S '40

DIVISION of words. See Word division

DIXENYLISOBENZOFURAN
Absorption and fluorescence spectra of certain dihydroisobenzofurans and isobenzofurans. R. Adams and M. H. Gold. Am Chem Soc J 62:2038-42 Ag '40

DOCK workers. See Longshoremen

DOCKS
Port of London. A. Binns. il Engineering 150:325-8 O 25 '40; Same. Engineer 170: 261-3 O 25 '40
Port of New York; Bayonne terminal. M. Garsaud. il diags map Civil Eng 10:425-8 Jl '40
Port of New York; improvement by the city. J. A. Mechan. il map Civil Eng 10:281-4 My '40

See also
Coal docks
Harbors
Piers
Terminals
Wharves

Electric equipment
Improve dock crane power supply at the Mystic docks, Charlestown, Mass. il diag Elec W 114:708 S 7 '40

Equipment
Alabama state docks expands bulkhandling plant. J. B. Converse. il Manuf Rec 109: 34+ My '40
Car ramp at Larne harbour. il diags Engineer 168:524-5 N 24 '39
Mechanical handling appliances on the Manchester ship canal. R. Parker. Mech Handling 27:35-9 F '40

See also
Cargo handling
Loading and unloading—Ships

DOCOSANOL
New ageing phenomenon in unimolecular films on water. F. Sebba and H. V. A. Briscoe. Chem Soc J p128-31 F '40

DOCTOR solution
Effect of sulfur and sulfur compounds in naphtha upon certain corrosion tests; sensitivity of the doctor test. L. M. Henderson, M. S. Agruss and G. W. Ayers, jr. bibliog Ind & Eng Chem Anal ed 12:1-3 Ja 15 '40

See also
Gasoline—Testing

DOCUMENTATION
Authors abstracts as an aid to documentation. G. S. Fulcher. Assn of Sp Lib & Inf Bur Proc 1939:41-5
Efficiency in documentation. S. C. Bradford. Engineering 149:217-18 Mr 1 '40

See also
European war, 1939
—Documentation

Standards
New ASA committee starts work on standards for libraries. il Ind Stand 11:119-20 My '40

DOCUMENTS

See also
Files and filing (documents, etc.)
Government publications

Examination
Oxidation of ferrous iron in iron gall ink; measures age of ink. H. T. F. Rhodes. Chem & Ind 59:143-5 Mr 2 '40

DOCUMENTS, Legal. See Legal documents

DODD, William E. 1869-1940
Sketch. Comm & Fin Chr 150:1080 F 17 '40

DODECAHYDROPHENANTHRONE
Cyclization of dienynes; the dodecahydrophenanthrone obtained from dicyclohexenylacetylene. C. S. Marvel, D. E. Pearson and R. V. White. bibliog Am Chem Soc J 62: 2741-3 O '40

DODECANE
Separation of the aromatic hydrocarbons, and the isolation of *n*-dodecane, naphthalene, 1-methylnaphthalene, and 2-methylnaphthalene, from the kerosene fraction of petroleum. B. J. Mair and A. J. Streiff. bibliog diags J Research Nat Bur Stand 24: 395-414 Ap '40

DODECENEDIONE
β-Diketones; synthesis, structure and bactericidal properties. C. D. Hurd and C. D. Kelso. bibliog Am Chem Soc J 62:2184-7 Ag '40

DODECYL alcohol
Detergents from kerosene; alkyl sulfates. A. R. Padgett and E. F. Degering. bibliog Ind & Eng Chem 32:204-8 F '40
Nuclear alkylation of aromatic bases; the action of *n*-dodecyl alcohol on the hydrochlorides of α- and β-naphthylamine. E. C. Butterworth and D. H. Hey. Chem Soc J p388-90 Mr '40

DODECYLSULFONAMIDE
Industrial uses of chemicals and related materials. Oil Paint & Drug Rep 137:34 Ja 1 '40

DODECYL sulfonic acid
Observations of surface tension in the Pockels-Langmuir-Adam-Wilson-McBain trough. J. W. McBain, J. R. Vinograd and D. A. Wilson. bibliog Am Chem Soc J 62:244-8 F '40
Studies of solutions of hydrocinnamic acid and of lauryl sulfonic acid with the film balance. J. W. McBain and W. V. Spencer. Am Chem Soc J 62:239-44 F '40

DODGE, Frank
Mr Dodge's dilemma; Mountain View house, Whitefield, New Hampshire. por Fortune 22:70-6, 78, 80 Jl '40

DOEHLER die casting company
Small companies with large earnings; thumbnail appraisal. Mag of Wall St 65:491 Ja 27 '40

DOG food
Prepared dog food, fresh daily. Ptr Ink Mo 40:26 Ja '40
Tomato pomace in the diet. C. M. McCay and S. E. Smith. Science 91:388-9 Ap 19 '40

Advertising
Guest towels and dog food. il Ptr Ink 192:60 S 6 '40
Radio pet exchange speeds sales for Calo dog food in California. il Sales Management 45:64 D 15 '39

Manufacture
How Rival packing company's new plant speeds production. il Am Business 10:33-40 Ap '40

DOG medicine
Clever use of dog appeal gets Sergeant's into many windows. il Sales Management 47:53 S 1 '40

DOGS
Dogs as camera subjects. il Sci Am 162:304-5 My '40
Liability for dog bites; digest of recent cases. J. L. Roesch. Spectator (Property ed) 6: 26-7 O 31 '40

DOHERTY, Henry Latham, 1870-1939
Appreciation. V. R. Garfias. por Min & Met 21:122 F '40
Appreciation. F. W. Parsons. por Gas Age 85:14-16 Ja 4 '40
Contribution to oil conservation is monument to Doherty, engineer. por Nat Pet N 32:6-7 Ja 3 '40
Ex-newsboy and oil man; appreciation. Nat Pet N 32:10 Ja 3 '40
Sketch. Comm & Fin Chr 149:4112-13 D 30 '39; por Elec W 112:1872 D 30 '39; Oil & Gas J 38:60 D 28 '39; Am Gas Assn Mo 22:13 Ja '40; Am Gas J 152:40-1 Ja '40; Edison Elec Inst Bul 8:34 Ja '40

DOLLS
Dolls; injection molded of cellulose acetate. il Mod Plastics 18:47 N '40

DOLOMITE
Blaw-Knox offers new dolomite thrower for making up open-hearth banks. il Iron Age 146:39 S 5 '40; Steel 107:48 S 23 '40
Distinction between calcite and dolomite on polished surfaces. J. Rodgers. bibliog Am J Sci 238:788-98 N '40
Dolomite and brucite-marble in the Scottish Highlands; abstract. W. Q. Kennedy. Chem & Ind 59:558-9 Ag 3 '40
Dolomite and magnesium limestone. J. O. Beach and S. G. English, comps. Oklahoma geological survey, Norman '40
Dolomite in 1938. Blast F & Steel Pl 27: 1276 D '39

DOMES
Large thin-shell concrete dome dominates Montreal's skyline; St Joseph's Basilica; abstract. M. Cailloux. il diags Eng N 124: 184-5 F 1 '40
Point-supported dome of thin shell type; auditorium at Tulane university. A. Tedesko. il diags Eng N 123:767-8 D 7 '39
Reinforced concrete shell on steel ribs in McAlister auditorium dome. il Concrete 48: 28 Ja '40
Thin-shell dome. Z. Witkin. Eng N 125:8 Jl 4 '40
Trusses put under heavy dome to permit removal of walls; increasing seating capacity of Second Baptist church, Houston, Tex. F. J. Niven. il plan Eng N 123:755 D 7 '39

DOMESTIC animals

See also
Horses
Live stock
Poultry

Law
Liability for animals [Great Britain]. G. L. Williams. lxvip. 409p bibliog(pxi-xv) $7 Macmillan '39

DOMESTIC appliances
Home appliances are pretty well dated: average age of refrigerators, vacuum cleaners, gas ranges, washers; pictograph. Sales Management 47:40 S 15 '40
Household equipment. L. J. Peet and L. E. Sater. 2d ed 391p $3 Wiley '40
Laboratory manual of household equipment. D. Davis and R. M. Beard. 122p pa $2 Wiley '40

See also
Electric apparatus and appliances, Domestic
Electric cooking
Gas appliances, Domestic
Gas cooking
Kitchens—Equipment
Refrigerators
Vacuum cleaners
Washing machines

DOMESTIC engineering
See also
Heating
Hot water supply
Lighting
Plumbing
Sanitary engineering
Ventilation

DOMESTIC finance
Expenditures of wage earners and clerical workers for housefurnishings and operation. Monthly Labor R 50:1349-66 Je '40
Family expenditures for medical care, personal care, and miscellaneous items; including gifts and contributions, education, taxes. Monthly Labor R 50:1062-79 My '40
Family income and expenditure in selected urban communities of the west central-Rocky Mountain region, 1935-36; v. 2, Family expenditure. A. D. H. Kaplan, F. M. Williams and L. A. Epstein. map U S Bur Labor Statistics Bul 646:1-313 '40
Money disbursements of wage earners and clerical workers in the North Atlantic region, 1934-36. F. M. Williams and A. C. Hanson. U S Bur Labor Statistics Bul 637 v 1:1-236; v2:1-522 '39
Savings of wage earners and clerical workers, 1934-36. Monthly Labor R 51:119-39 Jl '40
See also
Budget, Household

DOMESTIC workers. See Servants

DOMICILE
Compilation of settlement laws of all states in the United States (rev. as of September 1939). H. M. Hirsch, comp. 6th ed rev 47p pa 50c Am. public welfare assn, 1313 E. 60th st, Chicago '39
Death and taxes are certain, but what of domicile. H. Tweed and C. S. Sargent. Trusts & Estates 69:568-71 N '39
Residence and domicil of corporations. A. Farnsworth. 370p 21s Butterworth & co, London '39

DOMINICAN REPUBLIC
Ports of the Dominican Republic. Comm Rep p282 Mr 23 '40
United States relinquishes control of Dominican customs. Comm & Fin Chr 151:1821 S 28 '40
Economic conditions
Economic conditions. Published in Foreign commerce weekly

DONNAN equilibrium
Agaric acid and the Donnan theory of membrane equilibrium. R. J. Hartman, E. W. Kanning and J. E. Weber. Am Chem Soc J 62:1302-3 My '40

DOOLEY, Channing Rice, 1878-
Portrait. Business Week p32 Ag 31 '40

DOOR frames
Cast concrete door frame. T. N. Haffner. il diags Rock Prod 43:58 Jl '40

DOOR knobs
Plastics competition; award to Keystone brass & rubber co. il Mod Plastics 18:47, 91 O '40

DOORS, Mechanically operated
New automatic doorman; Yale door closer equipped with electrically-operated hydraulic controls. il Ry Age 107:851 D 2 '39

DOORS, Rolling
Trolley runner for overhead doors. R. L. Kincade. il Transit J 84:29-30 Ja '40

DOORWAYS
New England doorways; photographs and comment. S. Chamberlain. 101p $2 Hastings house, New York '39

DOPPLER effect
Doppler effect from moving mirrors. H. E. Ives. Opt Soc Am J 30:255-7 Je '40
Measurement of velocity with atomic clocks. H. E. Ives. Science 91:79-81 Ja 26 '40

DORE, Stanley Milburn, 1898-
Sketch. por(p55) Civil Eng 10:56 Ja '40

DORIOT, Georges F. 1899-
Sketch. por Barron's 20:5 S 30 '40

DORMAN, Long and company
Ordinary general meeting, 50th, London. Economist 137:441 D 16 '39

DORMITORIES
Corridor beam floor; dormitories at the University of Wisconsin. C. A. Willson. diags Am Concrete Inst J 11:165-8 N '39; Discussion. H. M. Hadley. 11:sup168^1-168^3 Ap '40
Lincoln hall, Lincolndale, N. Y.; rural boarding school and farm for rehabilitation of boys; views, plans and construction outlines. Arch Forum 73:127-32 Ag '40

DORN effect
Study in electrokinetics. J. D. Quist and E. R. Washburn. bibliog diag Am Chem Soc J 62:3169-72 N '40

DORR, John Van Nostrand, 1872-
American contemporaries. H. C. Parmelee. por Ind & Eng Chem News ed 18:891-2 O 25 '40
Modern pioneers cited for achievements in advancing the art of water purification and sewage treatment. por Water Works & Sewerage 87:124 Mr '40
Portrait. Iron Age 145:78 F 29 '40; Steel 106: 23 Mr 4 '40

DORR company
Work and scope of the Dorr company in Canada. il Can Min J 60:sup284-8 N '39

DOUBLE bonds
Addition of hydrogen bromide to non-terminal double bonds; the isopropylidene group; crotonic acid. D. C. Grimshaw, J. B. Guy and J. C. Smith. Chem Soc J p68-71 Ja '40
Aromatic stabilized double bonds; Mills-Nixon problem. R. T. Arnold and R. L. Evans. bibliog Am Chem Soc J 62:556-8 Mr '40
Behavior of certain substituted allenes toward the Meinel color test. F. B. LaForge and F. Acree, jr. Am Chem Soc J 62:1621-2 Je '40
Observations on the reactivities of dienes, especially toward maleic anhydride. F. Bergmann and E. Bergmann. bibliog Am Chem Soc J 62:1699-1704 Jl '40
Peroxide effect in the addition of reagents to unsaturated compounds; the addition of hydrogen iodide to propene, 1-bromopropene, allyl chloride, and allyl bromide. M. S. Kharasch, J. A. Norton and F. R. Mayo. bibliog Am Chem Soc J 62:81-6 Ja '40
Structure of cannabidiol; position of the alicyclic double bonds. R. Adams and others. bibliog Am Chem Soc J 62:2215-19 Ag '40
Structure of cannabidiol; position of the double bonds in cannabidiol; marihuana activity of tetrahydrocannabinols. R. Adams and others. Am Chem Soc J 62:2566-7 S '40
Wijs iodine numbers for conjugated double bonds; influence of sample-reagent ratio. W. C. Forbes and H. A. Neville. Ind & Eng Chem Anal ed 12:72-4 F 15 '40
See also
Conjugation (chemistry)

DOUBLE cloth. See Textile fabrics—Double cloth

DOUBLE taxation. See Taxation, Double

DOUGH
Cooling for high speed bread mixing. E. B. Derr. il diag Refrig Eng 39:375-6 Je '40
Effect of temperature on dough properties; abstract. J. C. Baker and M. D. Mize. Food Ind 12:88 Ja '40
Medium rich basic sweet dough; formula. Food Ind 11:712+ D '39
Retarded doughs and refrigeration. Refrig Eng 39:124 F '40

DOUGLAS, Donald Wills, 1892-
Awarded 1939 Guggenheim medal. por Mech Eng 62:82 Ja '40
Personalities in industry. por Sci Am 163:3 Jl '40
Presentation of the Daniel Guggenheim medal. por J Aeronautical Sci 7:157-9 F '40

DOUGLAS aircraft company
Brass tacks for the investor; brief analysis. Barron's 20:13 Je 17 '40

DOUGLAS aircraft company—*Continued*
Income account for years ended Nov. 30, 1937-39. Comm & Fin Chr 150:3355-6 My 25 '40
Record orders, with more to come, point to record profits. H. L. Travis. il Mag of Wall St 65:418-21+ Ja 13 '40
Statistics of income, capital, stock earnings, etc. 1929-39. Annalist 55:493 Ap 4 '40

DOUGLAS fir
Chemical nature of Douglas fir lignin. E. B. Brookbank and F. E. Brauns. bibliog Paper Tr J 110:33-5 F 1 '40
Douglas fir as a pulpwood; a modified sodium sulphite process. L. C. Haffner and K. A. Kobe. bibliog il Paper Tr J 111:93-8 Ag 29 '40
Douglas fir, 1936-1939. Survey of Cur Business 1940 Sup p126 [supplemented in monthly numbers]
Effect of acid concentration and temperature schedule in pulping resinous woods. G. H. Chidester and J. N. McGovern. Paper Tr J 110:39-42 Mr 7 '40
Ethanolysis of western red cedar, Douglas fir and western hemlock. J. S. Brawn, R. D. Heddle and J. A. F. Gardner. Am Chem Soc J 62:3251-2 N '40
Interdependence of the West Coast log family. W. G. Tilton. Paper Ind 22:604+ S '40
Portfolio of architectural plates of Douglas fir plywood paneling. C. F. Gould. il diags Am Bld 62:84-5 Mr; 72-3 My; 76-7 Je; 62-3 N '40
Pulping of Douglas fir with ammonium bisulphite. H. K. Benson and J. E. Lucas. Paper Tr J 111:32-4 Ag 15 '40
Pulping of Douglas fir with nitric acid. H. K. Benson and A. T. Walton. bibliog diags Paper Tr J 111:27-30 S 5 '40
Rooting of fir cuttings; hormone method. B. G. Griffiths. Pulp & Pa of Can 41:38 Ja '40
Sulphate pulping of Douglas fir; effect of growth variables on yield and pulp quality; abstract. M. W. Bray, S. L. Schwartz and J. S. Martin. Paper Ind 22:72 Ap '40
West Coast woods of the Douglas fir region. diags Am Bld 62:78-80 Ja '40

DOULTON and company
Doulton & co., ltd.; new office building. il Chem & Ind 59:421 Je 15 '40

DOVETAILING
Robinson two-operator dovetailing machine. il Engineering 148:621-2 D 1 '39; Engineer 168:552-3 D 1 '39

DOW chemical company
Balanced portfolio of stocks. J. S. Williams. Mag of Wall St 66:458 Jl 27 '40
Debentures offered. Comm & Fin Chr 151: 1569-70 S 14 '40
Dow Chemical follows its own cycle. H. F. Travis. il Mag of Wall St 65:612-13+ F 24 '40
Leaders in the chemical industry; thumbnail appraisal. Mag of Wall St 65:412 Ja 13 '40
Sea water, but pay dirt for Dow; wide variety of strategic minerals from the ocean. Business Week p20, 22-3 S 21 '40

DOW theory
Are we in a bear market? H. M. Gartley. Barron's 20:3 My 20 '40
As the trader sees today's market; anticipating Dow signals. F. K. Dodge. Mag of Wall St 65:290-1+ D 16 '39
Dow theory and a mathematical strait-jacket. G. Wood. Barron's 20:10 Ag 19 '40
Dow theory applied to the London stock exchange. C. B. Ormerod. 92p bibliog(pxiv) $3 Pitman '39
Dow theory successful in only two out of eight bull markets since 1910. H. G. Lyttle. Annalist 56:7 Jl 4 '40; Discussion. 56:38, 108 Jl 11, 25 '40
Further evidence as to validity of Dow theory; earlier attack defended. H. G. Lyttle. Annalist 56:142 Ag 1 '40
Market's long-term trend; major movements can go sideways as well as up or down. Barron's 20:13 O 7 '40
Study in the price movement; bear market signaled. Barron's 20:17 My 20 '40

DOWEL pins
Design of dowels in transverse joints of concrete pavements. B. F. Friberg. diags Am Soc C E Proc 64:1809-28 N '38; Discussion. 65:529-35, 1053-63; 66:945-50 Mr, Je '39, My '40

DOWMETAL See Magnesium alloys

DOWNS, Lawrence A. 1872-1940
Sketch. por Ry Age 109:249+ Ag 17 '40

DOWSON, Joseph Emerson, 1844-1940
Sketch. Engineer 169:97 Ja 19 '40

DOWTHERM
Design and operation of a high temperature Dowtherm system. R. E. Hulme. il diag Chem & Met Eng 47:685-7 O '40
Dowtherm heating systems. P. W. Foster, jr. diags Paper Tr J 111:29-32 Jl 25 '40

DOYLE machine and tool corporation
Stock offered. Comm & Fin Chr 151:2494-5 O 26 '40

DRAFT
ABC's of draft. W. H. Pugsley. diags Power 84:522-3 Ag '40
Draft for boilers; tests of stoker-fired boiler operation. W. Knox. Dom Eng 156:54+ N '40; Abstract. Heat & Ven 37:37 N '40
How and why of draft measurement. W. H. Pugsley. diags Power 84:594-5 S '40
Static chimney draft; data sheet. Power 84:613 S '40
What draft does in burning practice; updraft and down-draft kilns. T. W. Garve. diags Brick & Clay Rec 97:18-21; Discussion. 21-2 Ag; 28-9 S; 24-5, 54 O '40

See also
Blowers
Combustion
Ventilation

DRAFT, Mechanical. See Mechanical draft

DRAFT, Military. See Military service, Compulsory

DRAFT gages
Draft gage makes effective tachometer. H. A. Kleinman. il Elec W 113:1084 Ap 6 '40
How and why of draft measurement. W. H. Pugsley. diags Power 84:594-5 S '40
How many draft gages and where? W. H. Pugsley. diag Power 84:668-9 O '40

DRAFT gears
Draft gears, their relation to riding comfort of cars. il Ry Age 108:619-23+ Ap 6 '40; Ry Mech Eng 114:94-9 Mr '40
Freight car specialities for speed. il Ry Age 108:924-5 My 25 '40
Report of A.A.R. committee on couplers and draft gears. il diags Ry Mech Eng 114:257-9 Jl '40; Same abr. Ry Age 109:14-17 Jl 6 '40

DRAFTING room practice
Aeronautical engineering drawing practice. W. L. Lewis. il Aero Digest 36:95-6, 180 My '40
Camera aids new lofting technique. il Aero Digest 37:64, 67 Jl '40; Sheet Metal Worker 31:35-6 Jl '40
Determination of true angle between dihedral planes. G. E. Mellin and M. Guralnick. diags Marine Eng 45:90+ My '40
Drafting by camera; engineering drawings directly reproduced photographically by Glenn L. Martin co. il Steel 107:44-6 Jl 1 '40; Excerpt. Sci Am 163:152-3 S '40
Drafting in the waterworks office. Eng N 124:451 Mr 28 '40
Engineering drawing problems. F. G. Higbee and J. M. Russ. 22p, 90pl $2.25 Wiley '40
Engineering records; drafting room methods; use of photography; Pneumatic scale corporation. G. F. Burton. il Product Eng 11: 220-2 My '40
How to get out the lines of a ship. N. B. Webster. Marine Eng 45:67-9 My; 68-70+ Je '40
Let's use decimals in aeronautic engineering and design. C. L. Bates. il Aviation 39:58 Ap '40

DRAFTING room practice—*Continued*
Lofting speeds production for Consolidated aircraft corporation; adopts old ship-yard technique. T. J. Coughlin. il Aviation 39: 34-5+ Ja '40
Multiple duplication of assembly fixtures by the Taber-Van Dusen method; reflection printing process. P. Taber and L. W. Van Dusen. il Aviation 39:53+ N '40
New method of constructing French curves. B. Hague. diags Engineering 149:215-17 Mr 1 '40
Power piping drafting today requires skill and knowledge. A. Jorgensen. flow diags diags Heating-Piping 12:225-30, 285-8, 351-5 Ap-Je '40
Rear wings; method of establishing contours. diags Automobile Eng 30:191-2 Je '40
Sensitized metal; new method of laying out designs speeds armament manufacture. R. W. Carter. il Iron Age 146:61-4 O 10 '40
Transcribing method for drawings. Iron Age 145:45 Ja 11 '40
Wing design; a method of laying out and developing contours of automobile bodies. diags Automobile Eng 30:63-4, 95-6 F-Mr '40

See also
Engineering drawing

DRAFTING rooms
Air conditioning boosts draftsmen's efficiency 51%. il Heat & Ven 36:50 N '39; Same. Power Pl Eng 44:122+ Ja '40; Same abr. Refrig Eng 38:234 O '39

Lighting

Drafting room lighting design employs ceiling barriers; Pullman building. R. W. Wilbraham. il diags Elec W 113:1050-1+ Ap 6 '40
85 ft.-candle drafting room lighting; Pittsfield plant of the General electric company. W. J. Leemhuis. il Elec W 114:682-3 S 7 '40
Luminous ceiling gives 100 ft.-candles for drafting; Commonwealth Edison company's drafting rooms. E. D. Tillson. il diags Elec W 113:729-31+ Mr 9 '40
New indirect luminaire improves drafting-room illumination; Consolidated Edison company of New York. F. P. Kuhl. il diags Elec Eng 59:68-9 F '40; Discussion. V. L. Dzwonczyk. 59:167-8 Ap '40
Polaroid fixtures help in drafting room. G. A. Kane. il Elec W 113:920 Mr 23 '40
65 ft.-candles for drafting room; Heald machine company. il Elec W 113:1548 My 18 '40

DRAIN tile
How to prevent drain tile failures. F. F. Shafer. Brick & Clay Rec 97:32 O '40

DRAINAGE
Building bases for our air forces; landing field drainage practice. il diags Eng N 125: 547-8 O 24 '40
Culverts for mosquito control; drainage structures in Memphis. il diags Eng N 124:602-3 Ap 25 '40
Drainage of agricultural land. Engineering 150:52 Jl 19 '40
Ground water presented problem at this street subway. il diags Ry Age 109:366-8+ S 14 '40
Land drainage and flood protection. B. A. Etcheverry. 327p $3 Stanford univ. press '40
This track depression imposed severe drainage problem; High Point, N.C. il plans Ry Age 107:882-7 D 9 '39

See also
Dredging
Irrigation
Mine drainage
Reclamation of land
Roads—Drainage
Sewerage

France

Draining of the Isere valley at Grenoble; water table lowered to permit conduit construction. il diags plans Engineer 169:150-2, 160 F 16 '40

North Dakota

Slope area drainage basin, North Dakota. 142p, 27p North Dakota. State planning board, Bismarck '39

Ontario

Drainage pump; Pomona Niagara propeller pump. W. G. McGeorge. il diag Can Eng W & S 78:17-18+ F '40

DRAINAGE, House

See also
Plumbing
Sewerage

DRAVO corporation
Dravo encourages employe participation in Lincoln Foundation program; docking float built in record breaking time. il Marine Eng 45:57-8 Je '40

DRAWING

See also
Design, Decorative
Drafting room practice
Engineering drawing
Graphic methods
Maps
Mechanical drawing

DRAWING, Anatomical. See Anatomical drawing

DRAWING instruments

See also
Straightedges

DRAWING room practice. See Drafting room practice

DRAWINGS
Patterns on maps and drawings by the carbon transfer process. C. W. Thornthwaite and C. F. S. Sharpe. diag map Science 91:367-8 Ap 12 '40

DREDGES
Impact crusher on modernized dredge. B. Nordberg. flow sheet il Rock Prod 43:36-8 Ap '40
Improved efficiency of dredger pumps. il Engineer 169:502 My 31 '40
Increasing efficiency of dredges. il Rock Prod 43:82 Ja '40
Prolonging life of dredge pipe. il Rock Prod 43:56 F '40
Turbine drive reduces operating costs of dredge Geo. A. McWilliams. J. M. Allen. il Marine Eng 44:566-8 D '39
William L. Guthrie, army dredge. il Marine Eng 45:111+ N '40

Electric equipment

Reducing hydraulic dredge operation cost; use of speed control for main pump drive; two systems, Kraemer and Scherbius. B. M. Mills. il diags Eng N 124:598-601 Ap 25 '40

DREDGING
Building bases for our air forces; preparing the airfield site. il Eng N 125:546-7 O 24 '40
Dredging the Tennessee river. C. H. Vivian. il map Comp Air M 45:6138-42 My '40
How dredging and jetting operations sink huge concrete piers; use of Flexicore tubes, Wax Lake Outlet bridge in Louisiana. il diag Concrete 48:3-4 S '40
Larger levees for Lake Okeechobee. il Eng N 124:637-8 My 9 '40
Measuring velocities in dredge pipes; salt-velocity method applied to pipe lines transporting solids. G. W. Howard. diags Mech Eng 62:287-8 Ap '40
More profit from suction dredges. R. L. Vaughn. Eng N 124:322-4 F 29 '40
Port of New York; organization and control; navigation projects. C. L. Hall. il Civil Eng 10:159-60 Mr '40
Reducing hydraulic dredge operation cost; use of speed control for main pump drive; two systems, Kraemer and Scherbius. B. M. Mills. il diags Eng N 124:598-601 Ap 25 '40

See also
Dredges
Gold dredging
Waterways—Weed removal

DREDGING—*Continued*

Cost

Dredging and bridge construction, Michigan; unit prices. Eng N 124:352 Mr 7 '40
Dredging Erie barge canal, New York; unit prices. Eng N 124:282 F 15 '40

Safety devices and measures

Get it up; safety in dredging operations of U. S. Engineer department. L. D. Shuman. il Safety Eng 80:6-8, 12 S '40

DRESS goods

Cotton scores in dress fabric war. il Business Week p27-8 Je 1 '40
Manufacture of dress velvets; yesterday and today. W. J. McKinney. diags Rayon 20: 704-6; 21:36-7, 98-100, 234-5, 305-6, 421-2, 549-51, 625-6, 752-4 D '39-F, Ap-My, Jl, S-O, D '40 (to be cont)
Practical finishing of dress and coating fabrics (cont). G. L. Atkinson. Textile Col 60:321-3; 61:47-50, 244-7, 410-11, 478-81+, 820-3; 62:385-6+ D '38-Ja, Ap, Je-Jl, D '39, Je '40
Rayon and silk dress fabric performances; piece goods market for spring season. Rayon 21:10-11 Ja '40
Woven dress fabrics; testing and reporting; strength, color fastness, etc. Textile Col 62:263-5, 316-19, 379-81 Ap-Je '40

DRESS industry

Lane Bryant slenderizing idea goes on national basis; department stores licensed to sell. Sales Management 46:57 Ja 1 '40
St Louis puts the pulmotor on its dying dress industry; problem of style piracy. L. B. Colby. il Sales Management 47:22-4 S 15 '40

DRESS shops

Dress shop exploits small frontage; specialty shop, Berkeley, Calif. il plans Arch Rec 87:49-40 F '40

DRESSER, S. R., manufacturing company

Stock priced at five to eight times earnings; thumbnail appraisal. Mag of Wall St 66: 741 O 5 '40

DRESSMAKING

Modern dressmaking made easy. M. B. Picken. $3.50 Funk and Wagnalls co, New York '40
Pattern and costume designing. 74p, 102p lea'tte $1.50 Woman's inst. of domestic arts and sciences, Scranton, Pa. '40
Practical dress design; principles of fitting and pattern making. M. D. Erwin. 470p $3.50 Macmillan '40

DRIED milk. See Milk, Dried

DRIED prunes. See Prunes, Dried

DRIERS

Dichlorostearates as driers; abstract. W. H. Gardner and R. B. Waddell. Oil Paint & Drug Rep 138:37 S 23 '40
Interaction of litharge with carboxylic esters and with linseed oil. M. P. Balfe and H. W. Chatfield. Soc Chem Ind J 59:31-4 F '40
What you can use; anti-fouling agents, driers, and other materials. Oil Paint & Drug Rep 137:40 F 19; 46 F 26; 54 Mr 4; 43 Mr 11; 36 Mr 18; 44 Mr 25; 36 Ap 1 '40

DRIFT

Elongate drift hills of southern Illinois. J. R. Ball. bibliog diag maps Geol Soc Bul 51: 951-70, pl 1 Jl '40
Fossil wood in the glacial drift of Connecticut. C. O. Dunbar and R. F. Flint. bibliog map Am J Sci 237:885-9, pl 1 D '39
New evidence for an Illinoian glacial boundary in northeastern Ohio. H. A. Ireland. bibliog diags maps Geol Soc Bul 51: 1327-57, pl 1 S '40
Weathering of the Jerseyan till. P. Mac Clintock. bibliog map Geol Soc Bul 51: 103-15, pl 1-2 Ja '40

DRILLING and boring (earth and rocks)

Accidents caused by the breaking of drill steel. R. H. Cleland. Can Min J 61:453-4 Jl '40
Better mine ventilation; boring circular shafts by means of Calyx core drill. Comp Air M 45:6242 S '40
Calyx core drilling at United Verde mine. C. E. Mills. il diags Comp Air M 45:6258-61 O '40
Cutting down on pavement cuts. il Eng N 125:98-9 Jl 18 '40
Diamond drilling today. H. J. Longmore. il Min & Met 21:335-6 Jl '40
Diesel tank engines and motorized earth drills; Buda company. il Mach 47:122-9 N '40
Dust produced by drilling when water is sprayed on the outside of the drill steel. J. A. Johnson and W. G. Agnew. U S Bur Mines Rep of Invest 3478:1-6 '39; Same. Eng & Min J 141:111-12 Ja '40; Same. Can Min J 61:147-9 Mr '40
Foundation conditions and treatment at Guntersville dam. V. Gongwer. il diags Am Soc C E Proc 66:431-62 Mr '40
Foundation exploration and geologic studies at Chickamauga dam P. P. Fox. il diags map Am Soc C E Proc 66:463-77 Mr '40
Foundation exploration at Kentucky dam. A. V. Lynn and R. F. Rhoades. il diags Eng N 125:480-3 O 10 '40
Foundation treatment and reservoir rim tightening at Norris dam. J. S. Lewis, jr. il diags Am Soc C E Proc 66:385-419 Mr '40
Foundation treatment at Chickamauga dam. J. B. Hays. il diags plan Am Soc C E Proc 66:478-99 Mr '40
Highway crossings for pipe lines. P. Reed. il Oil & Gas J 38:59+ D 14 '39
Holes pre-bored for underpass falsework; four-lane underpass under tracks of B. & O.C.T. railway in Chicago. il Eng N 124: 654-5 My 9 '40
Large core drills aid construction at Chickamauga dam. J. L. Lewis, jr. il diags Am Soc C E Proc 65:953-67 Je '39; Discussion. 65:1464; 66:112-14, 301-2 O '39, Ja-F '40
Mineral technology and output per man studies; rock drilling. C. E. Nighman and O. E. Kiessling. 158p Work projects administration, Washington, D.C. '40
Old West lives again; rock-drilling competition. il Comp Air M 45:6283-4 N '40
Pipe installation by drilling; main placed under a seven track railroad embankment D. McKnight. il Roads & Sts 83:54 Ap '40
Preparation of foundations; masonry dams. C. H. Paul and J. Jacobs. il diag Am Soc C E Proc 66:856-8 My '40
Sampling the Picacho with drill and vacuum collector. L. W. Dupuy. il diags Eng & Min J 141:29-31 Ja '40
Testing of placer deposits by drilling. J. H. Robertson. diags Can Min J 61:355-8 Je '40
Time study analyses; progress report no. 3; quarry drilling. J. R. Thoenen and E. J. Lintner. U S Bur Mines Rep of Invest 3502:1-19 '40; Excerpts. Concrete (mill sec) 48:189+ Je '40; Rock Prod 43:24-5 Jl '40
Two TVA core-drill jobs. P. H. Kline. il diags Comp Air M 45:6083-7 F '40
Welded drill barge has demountable legs. I. B. Yates. il Marine Eng 45:63-4 Je '40

See also

Drills, Oil well
Excavation
Mining methods
Petroleum—Well drilling
Quarries and quarrying
Rock drills
Shaft sinking
Tunnels and tunneling
Wells

DRILLING and boring (metal working, etc.)

Accurate contour boring with an indicator. G. Wilson. diag Am Mach 84:289 My 1 '40
Automatic step drilling of deep holes. E. Hirvonen. il diags Mech Eng 62:375-9 My '40; Abstract. Engineering 150:445-7, pl 31 D 6 '40
Boring fixture designed to accommodate three different parts. F. Server. diag Mach 46: 115-16 Ag '40
Deep holes in hot plates; forming and curing presses for plywood. il Am Mach 84:212-13 Ap 3 '40
Diamonds in finding and fabricating metals. E. D. Lucas, jr. il Metals & Alloys 10: 358-61 D '39
Drilled tappets cost less; Buick practice. il diags Am Mach 84:16-17 Ja 10 '40
51-in. hole bored on a 27-in. lathe. D. L. Wheeler. il Am Mach 84:339-40 My 15 '40

DRILLING and boring (metal working, etc.) —*Continued*
Hole circle layouts; reference book sheet. W. J. Woodworth and J. D. Woodworth. Am Mach 84:257, 259, 303, 305 Ap 17-My 1 '40
Jig for drilling ninety-six evenly spaced angular holes in ring. H. Kaffine. diags Mach 46:114 Ag '40
Measuring the radius of a half-bore. G. Belbes. diag Am Mach 84:472 Je 26 '40; Discussion. W. S. Rowell. 84:923 N 13 '40
Methods of measurement; indicating bore gages. C. C. Street. il diags Am Mach 84: 748-50 O 2 '40
One method for reducing oversize holes. J. E. Corrigan. diag Am Mach 84:216 Ap 3 '40
Precision broaching, stamping and milling; Toledo scale co. D. R. James. il Iron Age 145:42 My 16 '40
Rapid drilling of crossholes. J. E. Hyler. diag Am Mach 83:1088 D 27 '39
Renold jig chain for drilling or marking-off of long rows of evenly-pitched holes. il diag Engineering 150:46 Jl 19 '40
Resistance of high-silicon malleable iron to drilling. H. A. Schwartz, R. C. Kasper and N. E. Mertz. Am Soc T M Proc 39:586-7; Discussion. 588 '39
Spherical seats assured; boring pedestals for motor-generator sets. J. H. Yeager. il diag Am Mach 84:84 F 21 '40
Suggested feeds and speeds for drilling monel, nickel, and inconel; recommended feeds and speeds for machining R-monel; data sheets. Mach 46:201 Jl '40
Trimmed and drilled at once; machining die castings. H. Chase. il Am Mach 84:907 N 13 '40
Turret lathe tooling; varied set-ups with standard tools. J. R. Longstreet and W. K. Bailey. diags Am Mach 84:203-4 Ap 3 '40

See also
Broaching
Cuttings tools
Drilling and boring machinery
Machine shop practice
Metal cutting

DRILLING and boring machinery
Automatic step drilling of deep holes. E. Hirvonen. il diags Mech Eng 62:375-9 My '40; Abstract. Engineering 150:445-7, pl 31 D 6 '40
Boring machine remotored. il Elec W 113: 2068 Je 29 '40
Buffalo drilling machines. il Mach 47:177-8 N '40
Castellini high-speed drilling machine for small holes. il Engineering 148:478 O 27 '39; Abstract. Mech Eng 62:25-6 Ja '40
Climax Wodack electric drill. il diag Engineering 149:178 F 16 '40
Combination drill jig and drilling head. J. A. Honegger. diag Am Mach 84:430 Je 12 '40
Converting a planer into a boring mill. C. C. Hermann. il Am Mach 84:870-1 O 30 '40
Design of universal drill jigs. J. I. Karash. il diags Mach 46:161-7, 243-7 N-D '39
Diamonds at work. R. Le Grand. diags Am Mach 83:1071 D 27 '39
Different Diesels from one line; interchangeable tooling for machines in International Harvester plant. il Am Mach 84:910-13 N 13 '40
Drill points for deep-hole drilling. F. O. Hoagland. il diags Mach 47:120-1 O '40
Ex-Cell-O precision borers. il Am Mach 84: 28-9 Ja 10 '40; Mach 46:184 Ja '40
Geometric jig borer. il Engineer 169:166 F 16 '40
Geometric jig-boring machine. il Engineering 149:541-2 My 31 '40
Hannifin combined lathe, milling machine and drilling machine. il Engineering 149:600-1 Je 21 '40
Kent duplex horizontal drilling machine. il Mach 46:140 My '40; Am Mach 84:346 My 15 '40
Meyer geometric jig boring machine. il Automobile Eng 30:89-90 Mr '40
Moline four-spindle precision boring machine. il Am Mach 84:147 Mr 6 '40; Mach 46:186 Ja '40
Moline single-spindle boring machine. il Am Mach 84:639 Ag 21 '40
National Acme 4½-in. vertical boring and tapping machine. il Engineering 149:61-2 Ja 19 '40
New machines for old; parts of obsolete machine used in new one. E. J. Stone. il Steel 107:66 Jl 8 '40
Pivot-type adjustable boring head. J. A. Honegger. diags Am Mach 83:1004 N 29 '39
Precision-boring master rods and articulating rods; Heald bore-matic. il Mach 47:123 S '40
Quick methods of applying large shanks to small drills, using Easy-Flo silver brazing alloy. il Mach 46:169 Ap '40
Radius turning tool for machining recess in aluminum casting. diag Mach 46:273 D '39
Rebuilding worn cast iron surfaces; cams and roller trippers for a button drilling machine. il Steel 107:76-7 N 11 '40
Revolving table in horizontal boring machine; illustrations. Product Eng 11:6-7 Ja '40
Snyder station-type machine drills, reams and taps crankshafts. il Am Mach 83:1092 D 27 '39
Sunbeam machine for boring and facing crankcase bell housing. il Automobile Eng 30:273 S '40
Taper-roller bearings for 36-in. centre, tube-boring lathe. il diag Engineering 150:106-7 Ag 9 '40
Tauco pillar-type sensitive drilling machines. il Engineering 150:38-9 Jl 12 '40
Taylor Hi-Eff drilling machines. il(p171) Automotive Ind 83:184-5 Ag 15 '40
Vernon vertical miller and borer. il Engineer 169:576 Je 28 '40
Wadkin radial-arm routing and drilling machines. il Engineering 150:267-8, pl 19 O 4 '40
Wolf lightweight electric drilling machines. il Engineer 168:553 D 1 '39

See also
Broaching machines
Machine tools
Reamers

Standards
ASA approval completes twist drill standard. C. R. Harte. il Ind Stand 11:193-5 Ag '40
Straight-shank drill standards; reference book sheet. Am Mach 84:889, 891 O 30 '40

DRILLS. See Drilling and boring machinery

DRILLS, Oil well
Amerada develops special rotary drill stem for simultaneous electrical logging and drilling. P. Reed. il Oil & Gas J 38:93+ N 17 '39
Development of rock-bit efficiency and study of tool-joint life, Louden, Ill. V. V. Horner. Oil & Gas J 39:171-2+ Jl 25 '40
Field application of tool joints. H. F. Simons. il Oil & Gas J 39:46-7 O 17 '40
Metals in drilling; rotary drilling bits. W. L. Nelson. il Oil & Gas J 38:45+ Ja 18 '40
New portable rig uses torque converter and 90-ft. folding mast. T. P. Sanders. il Oil & Gas J 39:53 Jl 11 '40
Oversize joints reduce drilling costs in Illinois basin. H. F. Simons. il Oil & Gas J 38:197 Mr 28 '40
Reports of A.P.I. subcommittees of the committee on the standardization of rotary-drilling equipment. diags Am Pet Inst Proc 21M(4):211-20 My '40
Tool-joint-wear data kept on simplified records. H. F. Simons. Oil & Gas J 38:39 My 2 '40

DRILLS. Rock. See Rock drills

DRINKING fountains
Combined water tap and drinking fountain. diags Engineering 149:373 Ap 5 '40
Drinking fountains for employees; tabulation. S. A. Peck. Am Business 10:4 My '40
First aid for thirst. il Nat Safety N 41:29 Ap '40

DRINKING water systems
Drinking water. il Nat Safety N 41:145+ Mr '40

DRIVERS, Automobile. See Automobile drivers

DRIVERS, Motor bus. See Motor bus drivers

DRIVERS, Motor truck. See Motor truck drivers

DRIVING
Jerk line; pioneer mining; wagons drawn by sixteen to twenty horses. C. J. Hutchinson. il diags Eng & Min J 141:35-9 Ja '40

DROP forging. See Forging

DROP hammers. See Hammers, Drop

DROP reaction. See Microanalysis

DROPPING mercury electrode. See Polarography

DROPS
Drop-wise and film condensation of steam. F. L. Shea, jr. and N. W. Krase. bibliog diags Am Inst Chem Eng Trans 36:463-87; Discussion. 487-90 Ag '40
Dynamic and thermal behavior of water drops in evaporative cooling processes. H. B. Nottage and L. M. K. Boelter. Heating-Piping 12:326-32 My '40
Some factors affecting the form of condensation of steam. C. L. Old. il diags Inst Mech Eng J & Proc 142:199-209 D '39

DROSOPHILA
Artificial mixing of incompatible germ-plasms in drosophila; abstract. H. J. Muller. Science 92:418 N 8 '40

DROUGHTS
Driest fall of record from Appalachian to Rocky mountains reports United States Weather bureau. Comm & Fin Chr 149:3630-1 D 9 '39
Drought general over nation. map Eng N 123:811 D 21 '39
Drought has not changed TVA water power estimates. T. B. Parker. Eng N 123:839-40 D 21 '39
Drought still grips the greater part of the United States. Science 91:sup9-10 F 23 '40
Drought strikes the Plains again; repercussions on farm program. map Business Week p16+ N 18 '39
Empire of dust. L. Svobida. 203p $3 Caxton printers, ltd, Caldwell, Idaho '40
How drought affects business. R. P. Stewart. map Barron's 19:13 D 11 '39
Portentous drought in the making; evidence of climatic cycles. H. P. Gillette. il Water Works & Sewerage 87:38-9 Ja '40
Water service men fight drought on many fronts. Ry Age 108:160-2 Ja 20 '40
Winter wheat; drought creates serious situation. Science 91:sup6+ Ja 12 '40

DRUG habit
Kolb classification of drug addicts. M. J. Pescor. U S Pub Health Service, Pub Health Rep Sup 155:1-10 bibliog(p 10) '39
Relation of body build to drug addiction. R. R. Brown. Pub Health Rep 55:1954-63 bibliog(p1962-3) O 25 '40
Studies on codeine addiction. C. K. Himmelsbach and others. diags U S Pub Health Service, Pub Health Rep Supp 158:1-67 '40

DRUG stores
Corner drug store of tomorrow. il Am Bld 62:43 Ag '40
Drug & suit trade; chain to introduce department-store merchandise. Business Week p53-4 N 16 '40
Drug store installs gas air-conditioning plant. il Gas Age 86:46 S 12 '40
Looks at consumer and retailer. H. B. Thomas. Oil Paint & Drug Rep 138:68, 68A-68B O 14 '40
Planning units for retail stores. plan Arch Rec 87:109 Je '40
Self-serve druggist; Katz chain of Kansas City adds two more cafeteria units. il Business Week p33-4 Ag 10 '40

DRUG trade
Abbott laboratories, an ethical drug house. il Fortune 22:62-9+ Ag '40
Battle over vitamins; drug industry will fight food trade for exclusive right to sell concentrates. Business Week p42 My 11 '40
Bell-ringer displays of 1940 in drug, food and hardware stores; inventory study of 1,250 windows in 11 large cities. Sales Management 47:18-20, 80-2 S 1 '40
Chicago druggists vote on brands they like to sell most, and least. Sales Management 47:31-4 Jl 1 '40
Display material statistics. Ptr Ink 191:14 Je 7 '40
Fair trade threat; druggists aroused over handling of Macy's private brands by Baltimore supermarket. il Business Week p36, 37 F 10 '40
Fair trade, with especial reference to cut-rate drug prices in Michigan. E. H. Gault. Michigan U Bur of Business Research, Business Studies v 9, no 2:1-56 '39 (pa $1)
How can a small company break in against big-time competition? C. E. Jamieson & co. C. E. Jamieson. Sales Management 47:48-50 N 1 '40
Is fair trade fair? druggists, who are sure it is, report survey data. Business Week p42-4 Jl 20 '40
Macy goods in super-market. Ptr Ink 190:20 F 2 '40
Marketing of drug products. P. C. Olsen. 309p bibliog(p295-301) $3 Harper '40
National wholesale druggists association, 66th annual meeting. Oil Paint & Drug Rep 138: 51-2, 54, 56+ O 14 '40
News by commodities; medicinals and crude drugs. Published in Foreign commerce weekly
Prices and cosmetics. Ptr Ink Mo 41:24 Ag '40
Throat light as premium outpulls all previous deals for Listerine. il Sales Management 47:38+ N 15 '40
Weco products knows its windows pull; tests prove it. il Sales Management 47:46-7 S 1 '40
Why Nevins drug company quit ramming private brands down consumers' throats. il Sales Management 45:22-3+ D 1 '39

See also
Chemistry, Medical and pharmaceutical — McKesson and Robbins, inc.
also American drug manufacturers association; American pharmaceutical manufacturers association; Federal wholesale druggists association

Accounting
Reserve for ageing receivables; drug wholesalers' association offers suggestions. E. P. Ellis. Credit & Fin Management 42:12-15 F '40

Advertising
Headline study; Pinkham tests reveal how small newspaper space can be made more effective. C. H. Pinkham. Ptr Ink 192:59, 62 Ag 23 '40
How drug newspaper copy is tested and proved before schedules are released; effect of size, shape, etc. C. H. Pinkham. Ptr Ink 191:19-21 Je 28 '40
How Pot o' gold promotion puts Tums on nation's tongue; Lewis-Howe co. il Sales Management 47:16-18 Jl 15 '40
How to solve media problems in testing advertisements addressed to women. C. H. Pinkham. Ptr Ink 193:19-22 O 11 '40
What the public thinks about advertising and loss-leaders. D. Hartwell. il Food Ind 12:56-7 S '40

Finance
Improving position of United Drug 5s; size of issue, due in 1953, mitigated by large working capital. Barron's 20:19 S 2 '40
Offering attractive income at a large discount; Bristol-Myers. E. A. Barnes. Mag of Wall St 66:300-1+ Je 15 '40

Regulation
Drug distribution methods probed for trade restraint. Oil Paint & Drug Rep 137:3 Je 17 '40
Drug trust investigation covers fair trade practices. Oil Paint & Drug Rep 138:5 Jl 1 '40
Fair trade lowdown; FTC's version is coming soon and druggists have theirs ready. Business Week p42-3 Ap 13 '40
Probe drug prices; Arnold studies returns on 150 subpoenas to check anti-trust violations born of fair trade laws. Business Week p44 Jl 20 '40

DRUG trade—Regulation—*Continued*
Vitamins get a book of rules; FDA prepares to regulate them. il Business Week p40-3 Ap 6 '40

See also
Drugs—Laws and legislation

Securities

Double-barrelled war babies; leading pharmaceutical companies. H. L. Travis. Mag of Wall St 65:484-5+ Ja 27 '40
Drug companies increase profits. F. B. Dezendorf. Barron's 20:9 F 12 '40

Statistics

Botanical drugs, spices, and gums. Published in weekly numbers of Oil, paint and drug reporter
Drugs, fine chemicals. Published in weekly numbers of Oil, paint and drug reporter
1938 retail sales in metropolitan area drug stores; Printers' Ink market explorations. map Ptr Ink Mo 39:34-5, 37-9 D '39
United States production and sales of certain synthetic medicinals in 1939. Oil Paint & Drug Rep 137:47 Je 24 '40

California

Drug & suit trade; chain to introduce department-store merchandise. Business Week p53-4 N 16 '40

Great Britain

See also
Boots pure drug company

Michigan

Fair trade, with especial reference to cut-rate drug prices in Michigan. E. H. Gault. Michigan U Bur of Business Research, Business Studies v 9, no 2:1-56 '39 (pa $1)

New York (state)

New York drug, chemical corporations dissolved for failure to pay corporation taxes. Oil Paint & Drug Rep 137:5+ Ja 1 '40

See also New York board of trade—Drug, chemical and allied trades section

United States

American pharmaceutical manufacturers association 33d annual meeting, Colorado Springs, June 9-13. Oil Paint & Drug Rep 137:49-51 Je 24 '40
Facing a new decade. G. V. Doerr. Oil Paint & Drug Rep 138:52+ O 14 '40
Federal wholesale druggists association 25th annual meeting, Hot Springs, Va. Oil Paint & Drug Rep 138:3+ S 16 '40
Measures progress. H. L. Brooks. Oil Paint & Drug Rep 138:64-6 O 14 '40
Medicinal exports to Latin America may exceed $15,000,000 this year. C. C. Concannon. Comm Rep p467 My 18 '40

See also
Lilly, Eli, and company

DRUG trade conference, National. See National drug trade conference

DRUGS
Changes in medical prescribing in Great Britain; drugs for which substitutes may be used. Science 92:373 O 25 '40
Protective packet for Alka-Seltzer; Miles laboratories, Inc. adopts single tablet packet. il Mod Packaging 14:58+ S '40
Textbook of materia medica, pharmacology and therapeutics. H. N. G. Wright and M. Montag. 566p $2.75 Saunders '39

See also
Bromoseltzer
Chemistry, Medical and pharmaceutical
Drug trade
Hypnotics
Marihuana
Morphine
Narcotics
Neoarsphenamine
Pharmacology
Pharmacy
Poisons
Sedatives

Laws and legislation

American pharmaceutical manufacturers assn. discusses drug act. Oil Paint & Drug Rep 136:30A D 11 '39
Drug act enforcement report filed by Department of justice. Oil Paint & Drug Rep 137:5+ Ja 8 '40
Drug act label warnings supplied to F.D.A. offices. Oil Paint & Drug Rep 137:3+ Ja 8 '40
Drug act labeling applies to retail repackaging. Oil Paint & Drug Rep 137:5 Ja 29 '40
Drug directions-on-label exemption may be revoked. Oil Paint & Drug Rep 137:3+ Ja 15 '40
Drug dosage exemption may bring suits for misuse. Oil Paint & Drug Rep 137:5+ Ap 15 '40
Drug ingredients must be adequately shown on label. Oil Paint & Drug Rep 137:3+ Ap 8 '40
Drug label rules apply to dispensing physician. Oil Paint & Drug Rep 137:3 Mr 18 '40
Drug law activities. H. A. Wallace. Oil Paint & Drug Rep 137:5+ Ja 8 '40
Drug law application interpreted by Food and drug administration. Oil Paint & Drug Rep 138:3+ S 16 '40
Drug law bulk labeling explained; other drug labeling points cleared up by F.D.A. Oil Paint & Drug Rep 137:4+, 5+ F 26 '40
Drug law enforcement reviewed. W. G. Campbell. Oil Paint & Drug Rep 136:3+ D 25 '39
Drug law points cleared. Oil Paint & Drug Rep 137:5+ My 6; 3+ Je 17 '40
Drug manufacturer responsible for adequacy of warnings on labels; therapeutic devices classified under federal law. Oil Paint & Drug Rep 137:5+ Mr 11 '40
Drug warning statements must be legally adequate. Oil Paint & Drug Rep 137:5+ Ja 22 '40
F.T.C. puzzles over warnings in drug ads. Oil Paint & Drug Rep 137:4+ F 5 '40
F.T.C. reviews Patman act and ad control activities; annual report, year ended June 30, 1939. Oil Paint & Drug Rep 137:3+ Ja 1 '40
F.W.D.A. discusses labeling under new drug law. Oil Paint & Drug Rep 137:5+ F 12 '40
Food and drug administration active against slack-filled cartons. Oil Paint & Drug Rep 136:5+ N 20 '39
Food and drug administration truce called; toilet goods makers repackaging products seized in drive on deceptive containers. Business Week p37-8 D 2 '39
Law of drugs and druggists. W. R. Arthur. 2d ed 577p $3 West '40
N.W.D.A. discourages returning of drugs or cosmetics by retailers or wholesalers for relabeling. Oil Paint & Drug Rep 136:5+ D 4 '39
New drug act in full effect July 1. il Business Week p28-30 Je 29 '40
Progress in public protection. il Ind & Eng Chem News ed 18:95-6 F 10 '40
Proprietary association reviews regulations of medicinal field. Oil Paint & Drug Rep 137:3, 47 My 27 '40
Proprietary association section studies labeling problems. Oil Paint & Drug Rep 136:5+ D 11 '39
Restrictions on pharmaceutical preparations in Spain. J. L. Brown. Comm Rep p684 Ag 10 '40

Manufacture

Abbott laboratories, an ethical drug house. il Fortune 22:62-9+ Ag '40
Air conditioning serves mankind; pharmaceutical manufacture; Parke, Davis laboratories. E. P. Heckel. il diag Heating-Piping 12:593-4 O '40
Design for distilled water; Eli Lilly & co. A. A. Ross. il Chem & Met Eng 47:100-1 F '40
Is chemical industry ready? pharmaceutical manufacture. E. H. Volwiler. Ind & Eng Chem 32:1179 S '40
Keep the piping clean; Lydia E. Pinkham medicine co. plant. O. E. Russell and F. A. Westbrook. il Heating-Piping 12:434 Jl '40
Unit operations in drug manufacture; Norwich pharmacal co. G. W. Bengert. flow sheet il Ind & Eng Chem 32:461-4 Ap '40

DRY cleaning. See Cleaning

DRY docks
Report on a drydock at the port of New York adequate for the largest naval and mercantile ships. 41p Port of New York authority, 111 8th av, New York '40

DRY goods
Dry goods trade. Published in weekly numbers of Commercial & financial chronicle

See also
Department stores
Dress goods
Hosiery
Knit goods
Textile fabrics

DRY ice. See Carbon dioxide, Solid

DRY-PRESS process. See Brickmaking

DRYING
Application of gas to the quick drying of printing ink. R. P. Wilson. Am Gas Assn Proc 1939:370-1; Discussion. 371-2
Continual observation of changes in weight at oven temperatures; apparatus for use in study of drying rates and in oxidation of oils. A. C. Beckel and A. G. Sharp. diags Ind & Eng Chem Anal ed 12:45-7 Ja 15 '40
Drying and baking with radiant energy. il diags Steel 107:48-51 O 28; 68-9+ N 4; 48-50 N 11 '40
Drying and curing bright leaf tobacco with conditioned air. A. H. Cooper, C. D. Delamar and H. B. Smith. bibliog il Ind & Eng Chem 32:194-8 F '40
Drying characteristics of regenerated cellulose cylinders. A. W. Hawkins and W. L. Beuschlein. bibliog Ind & Eng Chem 32:944-6 Jl '40
Drying method changes composition of grapefruit byproduct. G. N. Pulley and H. W. von Loesecke. bibliog il Food Ind 12:62-3+ Je '40
Drying methods in electroplating. P. J. Lo-Presti. il Metal Ind 38:87-90 F '40
Drying of fibrous material; vegetable-tanned leather. J. W. Moore and F. C. Vilbrandt. bibliog diags Am Inst Chem Eng Trans 36: 579-91 Ag '40
Drying problems. Am Inst Chem Eng Trans 36:sup36-7 S '40
Drying psychrometry. Chem & Met Eng 47: 332 My '40
Easy way to tell when to stop drying process; gage quickly measures moisture content of product; canning plant of Atlantic coast fisheries co. H. E. Rue. diags Food Ind 12: 40-1 Ag '40
From food waste to feeding stuffs; a new outlet for gas coke. Gas J (Lond) 230:488 Je 5 '40
Infra-red lamp banks for drying finishes and materials. il Product Eng 11:307-10 Jl '40
Laboratory spray-drying machine. R. Waite. diags Chem & Ind 59:659-61 S 21 '40
Radiant energy drying with heat lamps. T. P. Brown and L. S. Ickis, jr. il diag Metal Ind 37:607-8 D '39
Scientific approach to textile problems. A. C. Walker. Am Dyestuff Rep 29:217-20 Ap 29 '40
Symposium considers drying of air and gases by dehumidification methods. il Chem & Met Eng 47:228-9 Ap '40
Use of psychrometric principles. E. J. Barta and H. J. Garber. bibliog il charts Chem & Met Eng 47:287-93 My '40; Correction. 47:512 Jl '40

See also
Bricks—Drying
Clay drying
Coal drying
Concrete blocks—Drying
Core ovens
Dehydration
Drying agents
Drying apparatus
Electric machinery—Drying
Electric transformers—Drying
Paint—Drying
Paper drying

Tables, calculations, etc.

Improved method of calculation of drying time. J. C. Brier and A. S. Foust. bibliog Am Inst Chem Eng Trans 35:797-800 D '39
Limitations of diffusion equations in drying. O. A. Hougen, H. J. McCauley and W. R. Marshall, jr. bibliog Am Inst Chem Eng Trans 36:183-206; Discussion. 207-9 Ap '40
Typical dryer calculations. O. A. Hougen. il Chem & Met Eng 47:15-17, 160-3 Ja, Mr '40

DRYING (crops)
Crop drying; increasing use of electrical methods in Norfolk. il Elec R (Lond) 127: 145-6 Ag 23 '40
Temperature effects in grass drying. A. W. Scott. Engineering 150:7 Jl 5 '40

DRYING agents
Absorbent solutions. F. R. Bichowsky. Chem & Met Eng 47:302 My '40
Activated Al; does great work for aluminum. R. T. Griebling. il Ptr Ink 191:17-19 My 10 '40
Applications of activated alumina for the drying of air and other gases; abstract. G. L. Simpson. il Chem & Met Eng 47: 229 Ap '40
Calcium chloride for dehydrating air and other gases. diag Chem & Met Eng 47:304 My '40
Chemical dehumidification agents. F. R. Bichowsky. il diags Heating-Piping 12:627-32 O '40
Evaluation of drying agents. L. S. Dunn. Refrig Eng 39:66 Ja '40
Gas dehumidification prevents hydrate freezing troubles. E. G. Hammerschmidt. bibliog Nat Pet N 32:R162-3, R167-8 My 15 '40; Same. Oil & Gas J 39:61, 64+ My 23 '40
Gypsum specialty for drying solids, liquids and gases; Drierite. Rock Prod 43:46 Ja '40
Lead-sodium alloy as a drying agent. H. Soroos. diag Ind & Eng Chem Anal ed 11: 657-8 D 15 '39; Same. Chem Age (Lond) 42:21 Ja 13 '40
Lead-sodium master alloy available. Iron Age 145:52 Je 6 '40
Lithium chloride for absorbing moisture from air. diag Chem & Met Eng 47:302-4 My '40
Moisture in refrigerating systems; abstract. E. W. McGovern. Refrig Eng 39:102 F '40
Portable cabinet for desiccants. il Automotive Ind 82:455+ My 15 '40

See also
Driers
Drying oils
Silica gel

DRYING apparatus
Accelerated drying of stock-piled units with forced-air equipment. W. E. Barney. il Concrete 48:14+ Ap '40
Applications of activated alumina for the drying of air and other gases; abstract. G. L. Simpson. il Chem & Met Eng 47:229 Ap '40
Convert rock dryers from gas to coal; Dewey portland cement co. il plan Rock Prod 43: 33-4 Je '40
Data on evaporation and drying in a jacketed kettle. H. G. Laughlin. bibliog il Am Inst Chem Eng Trans 36:345-55; Discussion. 356-7 Je '40
Dehydration equipment as applied to food processing. F. Rosseau. il diags Food Ind 11:687-702 D '39
Drying equipment for the process industries. L. A. Mitchell. il Chem Age (Lond) 41:383-5 D 9 '39
Drying, heating and heat transfer at chemical exposition. il diag Chem & Met Eng 46: 696-7, 778 N-D '39
Drying method changes composition of grapefruit byproduct. G. N. Pulley and H. W. von Loesecke. bibliog il Food Ind 12:62-3+ Je '40
Drying of welding rods. il Engineer 168:528-9 N 24 '39
Drying with infra-red radiation; comparing industrial heating by gas and by electricity. H. A. Clark. Am Gas J 152:43-5+ My '40
Easy way to tell when to stop drying process; gage quickly measures moisture content of product; canning plant of Atlantic coast fisheries co. H. E. Rue. diags Food Ind 12:40-1 Ag '40
Electrical drying of telephone cable. L. G. Wade. il Bell System Tech J 19:209-20 Ap '40
For us, infra-red drying; Lonergan manufacturing company. C. H. Newton. il Factory Management 98:58-9+ N '40

DRYING apparatus—*Continued*
Gas-fired galvanizing equipment; using flue gas heat for after-pickle drying tables. F. M. Carlson. il diags Metal Ind 37:578-9 D '39
Heat drying of coal and ammonium sulphate; Roto-Louvre dryer. N. L. Davis. flow sheet il diags Blast F & Steel Pl 28:253-7+ Mr '40
Infra-red halves glue drying time; manufacture of radio loud speakers. il Elec W 113:1556 My 18 '40
Laboratory spray-drying machine. R. Waite. diags Chem & Ind 59:659-61 S 21 '40
Maintenance of evaporators and driers. B. N. Reavell. Chem Age (Lond) 42:79-80 F 10 '40
Operator designed his own tunnel kiln and dryer! Fayette brick & tile co. il diags Brick & Clay Rec 97:15-16 O '40
Recirculating radiated waste-heat drier operated under controlled humidity and temperature. H. R. Straight. diags Am Cer Soc Bul 18:427-9 N '39
Report of United engineers & constructors inc.; U.G.I. tar dehydration apparatus. C. A. Schlegel. diag Am Gas Assn Proc 1939: 596-7
Seventeen fans line top flue of unique tunnel dryer; Brookhaven pressed brick & mfg. co. il diag Brick & Clay Rec 97:26-7 N '40
Typical dryer calculations. O. A. Hougen. il Chem & Met Eng 47:15-17, 160-3 Ja, Mr '40
Use of lithium chloride solutions for humidity control; abstract. E. A. Windham. diag Chem & Met Eng 47:228, 229 Ap '40
Using lamps for industrial heating. H. Haynes. il Iron Age 145:52-3 Ap 4 '40
Vacuum desiccators. H. J. Barber. Chem & Ind 59:457 Je 29 '40
Vibratory equipment. F. J. Van Antwerpen. il Ind & Eng Chem 32:770 Je '40

See also
Centrifuges
Electric transformers —Drying
Evaporators
Hair dryers
Kilns
Paper drying

Clothes
Electric dryer developed for farm homes; diagrams. Elec West 84:51 Ap '40

Textiles
Drying costs are lower; Artloom corp. il Textile World 89:95 N '39
Equipment for conditioning materials at constant humidities and at elevated temperatures. J. G. Wiegerink. diag J Research Nat Bur Stand 24:639-44, pl 1-3 Je '40
Modern textile finishing machinery; dryers and stenters. K. S. Laurie. il diags Soc Dyers & Col J 56:289-95 Jl '40
Motor drive automatically takes up belt slack. W. A. Spellman. diag Factory Management 98:98-9 Mr '40

DRYING oils
Agriculture and paint; domestic drying oils needed. W. McMillen. Oil Paint & Drug Rep 138:53-4 N 11 '40
Behavior of certain oil-resin combinations. Oil Paint & Drug Rep 138:50-1 N 4 '40
Bodying of dehydrated castor oil. J. D. von Mikusch. bibliog il Ind & Eng Chem 32: 1061-9 Ag '40
Continual observation of changes in weight at oven temperatures; apparatus for use in study of drying rates and in oxidation of oils. A. C. Beckel and A. G. Sharp. diags Ind & Eng Chem Anal ed 12:45-7 Ja 15 '40
Dehydrated castor oil. J. C. Weaver. Oil Paint & Drug Rep 138:5+ S 30 '40
Dehydrated castor oil; an economic study. D. H. Killeffer. bibliog Ind & Eng Chem 32: 1466-8 N '40
Developments in domestic paint oils. L. J. Reizenstein. Oil Paint & Drug Rep 137:5+ F 26; 5+ Mr 4 '40
Drying oil situation in America; abstract. H. A. Gardner. Ind & Eng Chem News ed 18:358 Ap 25 '40
Drying oils and resins; constitution of a drying oil gel. T. F. Bradley and H. F. Pfann. bibliog il diags Ind & Eng Chem 32:694-7 My '40
Drying oils and resins; insolubilization of maleic glycol polyesters by additive polymerization. E. L. Kropa and T. F. Bradley. bibliog il diag Ind & Eng Chem 31:1512-16 D '39
Drying oils and resins; reactions involving the carbon-to-carbon unsaturation during the thermal treatment of some esters of unsaturated C_{18} fatty acids. T. F. Bradley and W. B. Johnston. bibliog il diag Ind & Eng Chem 32:802-9 Je '40
Drying oils and resins; ultraviolet absorption study of esters of the acids of drying oils. T. F. Bradley and D. Richardson. bibliog il diag Ind & Eng Chem 32:963-9 Jl '40
Formation and deterioration of paint films; changes in films of glycol esters of several unsaturated fatty acids under exposure to ultraviolet light. J. L. Overholt and A. C. Elm. Ind & Eng Chem 32:1348-51 O '40
Formation and deterioration of paint films; changes in films of methyl esters of several unsaturated fatty acids under exposure to ultraviolet light. J. L. Overholt and A. C. Elm. bibliog Ind & Eng Chem 32:378-83 Mr '40
Influence of resins on the heat bodying of oils. R. C. Shuey. bibliog Ind & Eng Chem 32:921-30 Jl '40
Infrared absorption spectra of drying oils. D. L. Gamble and C. E. Barnett. bibliog Ind & Eng Chem 32:375-8 Mr '40
Manufactured drying oils; products suitable for tung oil replacement from Canadian oils. O. M. Behr. Can Chem & Process Ind 24: 345+ Jl '40
New synthetic drying oils from domestic sources. M. L. Sheely and D. V. Stingley. il Oil Paint & Drug Rep 138:3+ Jl 22 '40
Paint industry revamps formulas. Business Week p30+ Jl 13 '40
Preparation of drying oils; recent developments. D. V. Stingley. bibliog il Ind & Eng Chem 32:1217-20 S '40; Abstract. Chem Age (Lond) 43:185 O 19 '40
Studies in the oxidation of drying oils and cognate substances; the properties of the peroxide, ketol, and oxido-groupings, including those of some resins. R. S. Morrell and E. O. Phillips. Soc Chem Ind J 59:144-8 Jl '40

See also
Linseed oil

DUAL use containers. See Containers—Dual use

DUBOIS, Gaston F. 1880-
Personalities in chemistry. A. D. McFadyen. por Chem Ind 47:139 Ag '40

DUBOISIA myoporoides
Minor alkaloids of duboisia myoporoides; valeroidine. W. F. Martin and W. Mitchell. Chem Soc J p1155-7 Ag '40

DUBRUNFAUT, Augustin Pierre, 1797-1881
Early sugar chemist. H. G. Fletcher, jr. bibliog por J Chem Educ 17:153-6 Ap '40

DUCK (textile)
Cotton duck (dyed) for cases and travelling bags for parachutes; British standard specification for aircraft purposes. Textile Inst J 31:S7-9 Ja '40

DUCKS

Diseases
Selenium and duck sickness. A. C. Twomey, S. J. Twomey and L. R. Williams. Science 90:573-3 D 15 '39

DUCKS, Frozen
Distribution problem solved by common carrier trucks; provide quicker, cheaper and better seasonal service than railroad; Farmers' commission house, Eastport, N.Y. il diags Food Ind 12:68-9 F '40

DUE bills
Money to lend without interest; due bill banking service. T. Pratt. Nation's Business 28: 25-6+ Mr '40

DUGAN, Raymond Smith, 1878-1940
Sketch. H. N. Russell. Science 92:231 S 13 '40

DUKE university
Seats for nine thousand fans; new gymnasium. A. C. Lee. il diag Eng N 124:376-8 Mr 14 '40

DULUTH
Harbor
Port of Duluth-Superior, Minn. and Wis. rev ed 153p U.S. Engineer dept, Board of engineers for rivers and harbors, Washington '40

DUMAS method. See Nitrogen—Analysis

DUMP cars
Two-way dump car for large-scale operations. il Comp Air M 45:6136 Ap '40

DUMPING appliances
See also
Car dumpers

DUNES. See Sand dunes

DUNLOP rubber company
Report of profits, 1937-39, and ordinary general meeting, London. Economist 138:740, 788-9 Ap 20-27 '40

DUNN, Gano, 1870-
Honorary degrees conferred by New York university. Science 91:566 Je 14 '40
1939 Hoover medalist. J. C. Parker. por Elec Eng 59:95-7 Mr '40

DUNNELLS, Clifford G. 1875-
Sketch. por Civil Eng 9:751 D '39

DUNNIONE
Dunnione. J. R. Price and R. Robinson. Chem Soc J p1522-9 O '39

DUPLEX houses. See Architecture, Domestic—Two family houses

DUPLICATING machines
Duplicators; mimeograph photochemical printer. il Sci Am 163:150-1 S '40
Finale on duplicators question. F. H. Branham; M. Middleton. il Inland Ptr 105:34-5 My '40

DUPLICATING methods
Some applications of duplicating methods in the preparation of payroll records. R. R. Haskell and R. H. Robnett. N A C A Bul 21:1399-1424 Jl 15 '40

DU PONT, Eleuthère Irénée, 1771-1834
Chemical pioneers; the founder of du Pont. W. Haynes. por Chem Ind 46:427-34 Ap '40

DU PONT de Nemours, E. I., and company
Annual report. Comm & Fin Chr 150:992-3 F 10 '40
Balanced portfolio of stocks. J. S. Williams. Mag of Wall St 66:491-2 Jl 27 '40
Brass tacks for the investor; brief analysis. Barron's 20:13 F 19 '40
Chemical pioneers; the founder of du Pont. W. Haynes. il Chem Ind 46:427-34 Ap '40
Executive officers shifted. Oil Paint & Drug Rep 137:5+ My 27 '40
Leaders in the chemical industry; thumbnail appraisal. Mag of Wall St 65:413 Ja 13 '40
Nylon. il diag Fortune 22:56-60+ Jl '40
Statistics of income, capital, stock earnings, etc. 1929-39. Annalist 56:149 Ag 1 '40
Three giant defense contributors. J. M. Weiss. Barron's 20:21-2 S 16 '40
Younger men head du Pont. pors Ind & Eng Chem News ed 18:495 Je 10 '40

DURABLE goods
Durable goods expenditures in 1937-1939; producers' and consumers' expenditures for plant and equipment. G. Terborgh. Fed Res Bul 26:116 F '40
National industrial conference board finds 40% of durable goods production can be diverted to defense needs. Comm & Fin Chr 151:2288 O 19 '40
Present position of the durable goods inventory. G. Terborgh. Fed Res Bul 26:1040-4 O '40
Reverse recovery; durable goods leadership. J. D. C. Weldon. il Mag of Wall St 67:131-3+ N 16 '40

DURALUMIN
Age-hardening of duralumin. F. H. Clark. Min & Met 21:19 Ja '40
Electrode potential measurements as a means of studying the corrosion characteristics of wrought aluminum alloys of the duralumin type. H. L. Logan. pls diags J Research Nat Bur Stand 25:315-25 S '40
Farrel-Birmingham hydraulic press forms duralumin aircraft parts. il Am Mach 84:550 Jl 24 '40; Mach 46:217 Jl '40
Refrigeration for duralumin rivets for retarding age hardening. il Engineer 170:81 Ag 2 '40
Use of the hydraulic press. H. O. Thweatt. il Aero Digest 36:36-7+ Ja '40

DURAMOLD
Improved resin-bonded wood structures. G. R. Meyercord. il Manuf Rec 109:33+ Ap '40
Low-density structural material; Duramold. V. E. Clark. il Aero Digest 35:101-2, 105 Jl '39; Same. Roy Aeronautical Soc J 44:433-8 My '40; Same. Engineer 169:483-4 My 24 '40
Molded airplanes; Duramold process. Sci Am 163:122-3 S '40

DURBAN, Natal
Port of Durban. il(cover) Comm Rep p765 S 7 '40
See also
Electric plants
(central stations)
—Durban, Natal

DURHAM, North Carolina
Sewerage
Development and utilization of power from sewage gas at Durham, N.C.; abstract. R. S. Phillips. Water Works & Sewerage 87:158 Ap '40
Water supply
Durham's new tank largest in North Carolina. D. Becker. il Water Works & Sewerage 86:489 D '39

DUROMETERS. See Hardness—Testing

DUROQUINONE
Reaction between quinones and metallic enolates; duroquinone and the enolates of cyanoacetic ester and of β-diketones. L. I. Smith and E. W. Kaiser. bibliog Am Chem Soc J 62:138-40 Ja '40

DUST
Acute poisoning in animals after intraperitoneal and intratracheal administration of dusts. J. P. Tollman, E. L. MacQuiddy and L. W. La Towsky. bibliog J Ind Hygiene 21:514-16 D '39
Air hazards in industry. Heat & Ven 37: 89-92 Ja '40
Atmospheric pollution; types of contaminants with methods for estimating and controlling them. P. Drinker. Ind & Eng Chem 31: 1318-19 N '39
Calculation of particle trajectories. C. E. Lapple and C. B. Shepherd. bibliog Ind & Eng Chem 32:605-17 My '40
Can dust and fumes be controlled? abstracts. H. B. Meller and F. S. Mallette. il Safety Eng 79:53-4, 57-8 Ap '40; Nat Safety N 41: 18-19+ My '40
Card-room fever; strict control of dust. M. F. Trice. il Textile World 90:68 Mr '40
Constant dust feeding device for laboratory use. C. E. Williams and W. P. Battista. diag J Ind Hygiene 22:152-3 Ap '40
Dirt patterns on walls. R. A. Nielsen. bibliog il Heating-Piping 12:389-94 Je '40
Dust and disease; organic dusts not factor in tuberculosis. H. J. Spector. Safety Eng 79: 33 Mr '40
Dust control in industry. F. F. Kravath. Heat & Ven 37:38-41 Mr; 39-42 Ap; 36-8 My '40
Dust control in the granite cutting industry. W. C. L. Hemeon. bibliog il diags Heat & Ven 37:41-5 Je; 64-8 Jl; 41-5 Ag '40
Dust, foe of management, employe and machine. il diags Brick & Clay Rec 96:24-8 Ap '40
Dust produced by drilling when water is sprayed on the outside of the drill steel. J. A. Johnson and W. G. Agnew. U S Bur Mines Rep of Invest 3478:1-6 '39; Same. Eng & Min J 141:111-12 Ja '40; Same. Can Min J 61:147-9 Mr '40

DUST—*Continued*
Dust-tight rooms for corn mill controls. il Elec W 113:768 Mr 9 '40
Effect of lint on air filter performance. F. B. Rowley and R. C. Jordan. il Heating-Piping 12:61-7 Ja '40
Good housekeeping standards of atmospheric dusts. il Concrete (mill sec) 48:236-8 S '40
Health in the cement industry. A. J. R. Curtis. il Rock Prod 42:35-6+ N; 37-8 D '39; 43:49-50 Mr '40
Identification of the source of deposited matter. J. S. Owens. Inst Mech Eng J & Proc 141:Proc 187:91 Ap '39; Same. Engineering 148:115, 151-2 Jl 28-Ag 4 '39; Discussion. diag Inst Mech Eng J & Proc 142:Proc 185-91 D '39
Lichtelektrisches verfahren zur bestimmung der kornverteilung in staubluft. K. Gösele. diag V D I 84:138-9 F 24 '40
Making progress in control of industrial dusts. Concrete (mill sec) 48:192 Je '40
Manual of industrial health hazards. J. B. Ficklen. 176p $4 Service to industry, West Hartford, Conn. '40
Percentage of particles of different sizes removed from dust-laden air by breathing. A. M. van Wijk and H. S. Patterson. diag J Ind Hygiene 22:31-5 Ja '40
Poisonous dusts. A. Hamilton. il Safety Eng 79:31-2, 36 Ja '40
Preparation of purified house-dust extracts. C. H. Boatner, B. G. Efron and R. I. Dorfman. Science 91:389-90 Ap 19 '40
Prevention of silicosis; experimental investigations on the action of certain non-siliceous dusts and silica in the origin and development of silicosis. C. Naeslund. J Ind Hygiene 22:1-30 bibliog(p28-30) Ja '40
Procedures in the prevention of dust. D. Harrington. Concrete (mill sec) 48:109 Ja '40
Sanitary and physiological aspects of flooring materials. J. M. DallaValle. Pub Health Rep 55:1885-7 O 18 '40
Settling characteristics of various inorganic dusts. L. H. Berkelhamer. bibliog diag J Ind Hygiene 22:276-87 S '40
Tissue reaction to some carbon arc dusts. E. L. MacQuiddy and others. il J Ind Hygiene 21:498-513 bibliog(p511-13) D '39

See also
Cement dust
Coal dust
Dust removal
Flue dust
Lungs—Dust diseases
Mine dust
Respiratory apparatus

Analysis

Microscopic method for portland cement in dust samples. I. A. Pearl. il Ind & Eng Chem Anal ed 12:492-3 Ag 15 '40

DUST, Cosmic. See Cosmic dust

DUST collectors
Adjustable louvers increase ventilating hood efficiency. diags Steel 105:69 D 4 '39
Brassert dust collector. il Foundry 68:102 Ja '40
Characteristics of cloth filters handling coal dust and air mixtures. A. R. Mumford, A. A. Markson and T. Ravese. diags Concrete (mill sec) 48:152-3 Ap '40
Cincinnati self-contained dust collector unit. il Ry Mech Eng 114:156-7 Ap '40
Controlling dust in rubber factories. F. C. Morey. il Rubber Age 46:362 Mr '40
Dust and fly ash removal from boilers. R. Lincoln. Heat & Ven 37:50-1 Ag '40
Dust collecting becomes a major problem in engineering. il Concrete (mill sec) 48:230-1+ S '40
Dust collection needs correct hood design. J. G. Liskow. diag Nat Safety N 42:52 Ag '40
Dust collection; standard round filter. diags Mech Handling 27:113-15 My '40
Dust collection underground. diags Mech Handling 27:219-20 S '40
Dust collector for tool grinder. il Iron Age 145:55 My 23 '40
Dust control in the granite industry. W. C. L. Hemeon. Heat & Ven 37:41-5 Ag '40
Dust extractors; patent specification. diags Mech Handling 27:94-5 Ap '40
Dust sampling methods to determine dust collection efficiency. diags Rock Prod 43:29-30+ Ja '40
Flow pattern and pressure drop in cyclone dust collectors; cyclone without inlet vane. C. B. Shepherd and C. E. Lapple. diags Ind & Eng Chem 32:1246-8 S '40
Ford motor company; tool and die shop exhaust systems. C. Strock. il diags plans Heat & Ven 37:32-8 Je '40
Jones dust extractor unit. il Engineer 168: 624 D 22 '39
Lessons taught by mistakes in blow pipe work. E. W. Favalora. diags Sheet Metal Worker 30:33+ D '39; 31:62-4 Ja '40
Make profitable use of dust; new applications found for dust collectors in cement mills. R. S. Torgerson. il diag Rock Prod 43: 55, 57+ Ag '40
New dust collectors at Petoskey. il Rock Prod 43:46 Ja '40
Recent developments in dust collection; illustrations. Rock Prod 43:44-5 Ja '40
Recent progress in dust collecting equipment. il diags Sheet Metal Worker 31:51-4 Ja; 22-4 F; 29-31 My; 24-5+ Je; 30-2 Ag '40
Reduction of fly-ash emission from chimneys. J. F. Barkley. il diags pls U S Bur Mines Rep of Invest 3472:1-10 '39; Excerpts. Power Pl Eng 43:745-7 N '39; Concrete (mill sec) 48:108+, 168-9, 185-6 Ja, My-Je '40
Sampling the Picacho with drill and vacuum collector. L. W. Dupuy. il diags Eng & Min J 141:29-31 Ja '40
Schneible dust collector. il Foundry 68:70 F '40; Metal Ind 38:221-2 Ap '40
Small cyclonic collectors for stack dust; Peerless cement corp. plant. B. Nordberg. il plan Rock Prod 43:31-2 Jl '40
Vacuum extractor for light machine swarf. il Engineering 148:511 N 3 '39

Testing

Measuring dust collector performance. G. L. Kirp and R. B. Foley. flow diag il Rock Prod 43:41-3+ Ap '40

DUST diseases. See Lungs—Dust diseases; Silicosis

DUST explosions
Dust explosion codes now in single volume published by N.F.P.A. East Underw 41:25 Mr 1 '40
Dust explosion hazards in industrial plants. D. J. Price. Weekly Underw 142:1090-2 My 4 '40
Dust explosion prevention in grain elevators. D. J. Price. Weekly Underw 142:52-7 Ja 6 '40
Dust explosion prevention in woodworking. D. J. Price. Weekly Underw 142:304-5 F 3 '40
Dust explosions avoided by use of boiler flue gas; Quaker oats co. R. O. Kirn. il plans Food Ind 12:52-4+ O '40
Explosibility of aluminum powder-silica dust clouds. R. B. Mason and C. S. Taylor. Ind & Eng Chem 32:67-8 Ja '40
Explosion hazards of wood dust; abstract. D. J. Price. Safety Eng 79:38 Mr '40
Grain elevator explosion offers data for study by ASA committee. D. J. Price and H. R. Brown. Ind Stand 10:309 D '39
National fire codes for the prevention of dust explosions. 135p pa 75c National fire protection assn, International, 60 Batterymarch st, Boston '40
Research gives data for standards to prevent dust explosions. D. J. Price and H. R. Brown. il diag Ind Stand 11:29-32 F '40
What goes up. D. J. Price. il Safety Eng 80: 48, 50-1 O '40

See also
Coal dust

DUST removal
Air dilution in industrial ventilation. W. C. L. Hemeon. il Heat & Ven 37:39-43 N '40
Cleanliness pays in foundries. il Safety Eng 78:41-2 N '39
Controlling dust in rubber factories. F. C. Morey. il Rubber Age 46:361-3 Mr '40
Le dépoussiérage. Hayert. Soc Ing Civils Mémoires 92:389-401 My '39

DUST removal —*Continued*
Determination of cloth area for industrial air filters. C. E. Williams, T. Hatch and L. Greenburg. il diag Heating-Piping 12:259-63 Ap '40
Down draft gets the dust; Monarch machine tool company's plant. il Nat Safety N 42: 73 O '40
Dust control comments from rubber manufacturers. il Rubber Age 46:364+ Mr '40
Dust control; glass wool filters to the rescue; Oklahoma natural gas company. E. J. McConnell. il diag Gas Age 84:35-6 D 21 '39
Dust control in industry. F. F. Kravath. il diags Heat & Ven 37:39-42 Ap; 86-8 My '40
Dust, foe of management, employe and machine. il diags Brick & Clay Rec 96:26-8 Ap '40
Dust laboratory studies fan-abrasion problem. R. L. Lincoln. il diag Power 84:734-5 N '40
Economical dust control with low resistance exhaust systems. F. F. Kravath. diags Heat & Ven 37:40-2 O; 27-9 N '40
N.Y. factories installed nearly 2,000 ventilating systems in '39. T. Hatch. Heat & Ven 37:55 My '40
Pneumatic blow gun. diags Engineering 150: 78 Jl 26 '40
Silica dust control at Hiwassee dam. L. P. Hatch and D. F. Shaw. il diag plan Civil Eng 10:582-5 S '40
They get the dust before it gets them; Edison-Emark battery division. B. F. Morris. il Factory Management 98:82-3 Mr '40
Vacuum cleaning equipment for rubber factories. Rubber Age 46:363-4 Mr '40
Woodworking plants use exhaust ventilation. T. Hatch and R. B. Northrup. diags plans Heat & Ven 37:33-8 F '40
Wrote finis to lead poisoning; Briggs manufacturing company, Detroit. H. J. Roesch. il Factory Management 98:60-2+ N '40
See also
Air filters
Dust collectors
Electric precipitation
Exhaust systems
Flue dust

DUST sampling
Dust count technique in Tri-state mines. H. C. Chellson. il Eng & Min J 140:29-33 D '39
Dust, foe of management, employe and machine. il Brick & Clay Rec 96:25-6 Ap '40
Dust sampling; device for adjusting nozzle distance in Devers circular konimeter. W. S. Weeks. il diag Can Min J 61:29 Ja '40
Dust sampling methods to determine dust collection efficiency. diags Rock Prod 43: 29-30+ Ja '40
Low-cost flue-dust sampler. plan chart Power 84:216-18 Ap '40
Methods of sampling and analyzing coal-mine dusts for incombustible content. C. W. Owings, W. A. Selvig and H. P. Greenwald. U S Bur Mines Information Circ 7113:1-12, pl 1-4 '40
Mine safety appliance co.'s microprojector for examining dust samples. il Rubber Age 46:237 Ja '40
Sampling and determination of dusts. H. H. Schrenk. diags Concrete (mill sec) 48:154-5 Ap '40
Simpler operation for this flue-dust sampler. P. H. Hardie. diag Power 84:369 Je '40

DUST separators. See Dust collectors

DUTCH EAST INDIES. See Netherlands Indies

DWELLINGS. See Architecture, Domestic; Houses

DYE analysis
Determination of small amounts of copper and manganese in dyes and other organic materials. G. F. Palfrey and others. Ind & Eng Chem Anal ed 12:94-6 F 15 '40
Identification of vat dyes on linen and cotton materials (including the determination of the dyeing class of all dyes commonly found on such materials); tabulations, index of dyes. H. B. Bradley and D. A. Derrett-Smith. Soc Dyers & Col J 56:97-121 Mr '40; Abstract. Textile Col 62:474, 545 Jl-Ag '40
Reduction of 2-naphthol-azoxylene. W. Seaman, A. R. Norton and J. Hugonet. Ind & Eng Chem Anal ed 12:464-5 Ag 15 '40
Some recent advances in fluorescence analysis as an aid to the textile colorist. J. Grant. bibliog Textile Col 62:9-11 Ja '40
Studies in the naphtol AS series; estimation of members of the naphtol AS series; titrations with diazo-salt solutions in presence of a mixture of alcohol and pyridine. T. N. Mehta and V. B. Thosar. Soc Dyers & Col J 56:160-5 Ap '40

DYE industry

History
Achievements in colors; a collaboration. il Chem Ind 47:134-8 Ag '40

Statistics
Dyestuffs, textile and leather chemicals. Published in weekly numbers of Oil, paint and drug reporter
Organic lakes and colors output, 1939. Oil Paint & Drug Rep 138:38 Jl 15 '40
Production and sales, classified dyes, 1939. Oil Paint & Drug Rep 137:30 Je 24; 138:54 Jl 8 '40
United States dye imports 1939. J. N. Taylor. Textile Col 62:262 Ap '40
United States production and sales of coaltar dyes in 1939; tabulation. Oil Paint & Drug Rep 137:35 Je 17 '40

Great Britain
Address before Colour users' association. N. G. McCulloch. Soc Dyers & Col J 56:402-3 S '40
United Kingdom dye situation. Textile Col 62: 749+ N '40

South America
Opportunities for the sale of dyes and textile chemicals in South America. C. C. Concannon. Textile Col 62:96-7 F '40

DYE intermediates
Hydrolysis of certain arylamides used as dye intermediates. I. V. Hopper, J. H. MacGregor and F. J. Wilson. bibliog Soc Dyers & Col J 55:449-53 S '39; Abstract. Am Dyestuff Rep 29:169 Ap 1 '40
Progress in intermediates; coal tar products used in many industries. J. M. Weiss. il Chem Ind 46:686-92 Je '40

DYE manufacture
Retrospect; dye-making days of the Great war. Soc Dyers & Col J 56:265-8 Je '40

DYE patents
Abstracts from British and foreign journals and patents. Published in monthly numbers of Society of dyers and colourists journal
Acetate rayon animalized with protein; patent. Textile Col 61:834 D '39
Acridine oranges. A. E. Karr. Textile Col 62: 604-7+, 676-9, 763-7, 836-7, 852 bibliog(p837, 852) S-D '40
Azoic dyes. J. A. Wallwork. bibliog Soc Dyers & Col J 55:477-80 O '39
Cyanamide for improving dyeing. Textile Col 62:690 O '40
Increasing the washing fastness of direct dyeings on cotton, viscose rayon, and other cellulose fibers with urea derivative formaldehyde resins. Textile Col 61:831 D '39
Vat dye progress. A. J. Hall. Am Dyestuff Rep 29:58-60, 68-71 F 5 '40

Bibliography
Recent patents. Soc Dyers & Col J 56:94-6 F '40
United States patents. Published in monthly numbers of Textile colorist

DYE plants. See Dyes and dyeing—Natural dyes

DYE research
Additions to our knowledge of dyeing; research by E. Valko. F. G. Brown. Textile Col 62:659-60+ O '40
Research activities for 1939-1940. B. A. Ryberg. Am Dyestuff Rep 29:552-3 O 14 '40

DYE research—*Continued*
Significance of temperature in wool dyeing; a study of the acid combining capacity of wool. F. L. Goodall and C. Hobday. Soc Dyers & Col J 55:529-49 N '39

DYE testing
Accelerated light fastness test in use at the Shirley institute; high intensity arc. H. Hunter. Soc Dyers & Col J 56:64-7 F '40; Abstract. Am Dyestuff Rep 29:456-7 S 2 '40
Application of vat dyes to viscose rayon. J. Boulton and T. H. Morton. bibliog il diag Soc Dyers & Col J 55:481-97 O '39; Excerpt. Textile Col 62:187 Mr '40
Color comparison devices. R. H. Park. bibliog il Am Dyestuff Rep 29:272-8 My 27 '40
Factors affecting the fading of dyed textiles by radiant energy; tests with daylight, tungsten and fluorescent lamps. M. Luckiesh and A. H. Taylor. il Am Dyestuff Rep 29: 543-6+ O 14 '40
Fading of dyed textiles by radiant energy. M. Luckiesh and A. H. Taylor. Illum Eng 35: 169-72 F '40
Machine for testing the fastness to rubbing of dyed materials. D. A. Derrett-Smith and H. B. Bradley. bibliog il diags Soc Dyers & Col J 56:261-5 Je '40
Report of the sub-committee on gas fading of acetate dyes. W. H. Cady, J. R. Bonnar and C. A. Seibert. Am Dyestuff Rep 29: 143-4 Mr 18 '40
Standard method for testing the fastness to light of coloured textile materials. A. Lantz. Soc Dyers & Col J 56:273-4 Je '40; Same. Textile Inst J 31:S13-14 Je '40
Standard method of test for fastness of colored textile fabrics to light; A.S.T.M. designation: D 506—39 adopted, 1939. Textile Col 62:538 Ag '40
Standard method of test for fastness of dyed or printed cotton fabrics to laundering or domestic washing; A.S.T.M. designation: D 435-37. Textile Col 62:610 S '40
Three-phase light sources as applied to accelerated light fastness testing equipment and color matching lamps; sunshine carbon arcs. M. J. Dorcas. il Am Dyestuff Rep 29:110-16 Mr 4 '40
Ultra-violet tests on fabrics and dyestuffs. C. H. S. Tupholme. Textile Col 62:515-18, 598-600+ Ag-S '40

See also
Dyes, Fastness of

DYEHOUSES
Chicago cleaning and dyeing industry, a case study in controlled competition. M. Handsaker. 66p bibliog(p63-6) Univ. of Chicago libraries, Chicago '39
Civil war baby; Globe dye works celebrating its diamond jubilee. il Textile World 90:66 Ag '40
Organizing a dyeing and finishing plant for synthetic piece goods. P. J. Wood. Am Dyestuff Rep 28:746-51 D 25 '39

Costs

Dyehouse costs reduced $3,475; installation of Uxbridge (Mass.) worsted co. of an automatic process for making brine. il Textile World 89:108-9 N '39

Employees

Processing plant held subject to National labor relations act. Monthly Labor R 51:117 Jl '40

Equipment

Alphabetical list of new products developed since Sept. 1939. il Am Dyestuff Rep 29:526-9 O 14 '40
$15,000 annual saving; Swift mfg. co.; modernization of the dyehouse. Textile World 89:99-100 N '39
Management and operation of a hosiery dye house. A. G. Alexander and C. Wille. Am Dyestuff Rep 28:716-21 D 11 '39
Modern dyehouses; Georgia-Kincaid mills. il Textile World 90:66-7 My '40
Non-corrosive metals. R. Trautschold. il Rayon 21:485-7 Ag '40
Saves inter-plant transportation; towel-yarn dyeing plant at Georgia-Kincaid mills. Textile World 89:91 N '39
Use of stainless steels in the dyeing and finishing industry. J. W. Grayson. il Soc Dyers & Col J 56:209-16; Discussion. 216-17 My '40

See also
Dyeing machines

Layout

Modern dyehouse; Georgia-Kincaid mills. il plans Textile World 90:67 My '40

Power

Cheap power and heat for dyeing plants. C. H. S. Tupholme. Am Dyestuff Rep 28: 744, 755-7 D 25 '39
Light load Diesel pays; Bradford dyeing assn. il Power Pl Eng 44:81 O '40

DYEING machines
American Obermaier rayon cake dyeing machine. il Rayon 21:587-8 S '40
Application of fast dyes on cellulosic fibers; the innate nature of the fast dyes and the chemistry of their application as it effects machine design. O. W. Clark. Textile Col 62:344-7, 377-8 My-Je '40
Dyeing improved; costs lowered; Anchor thread co. stainless-steel package-dyeing machine. il Textile World 89:88 N '39
Facilitates color changes; H. F. Morris co. stock-dyeing machines. il Textile World 89:102 N '39
Pneumatic loading on dye-padders. R. Hayden, jr. il Rayon 21:557-8 S '40
Push-button dyeing novel; Gaston county beam and package dyeing machines. il Rayon 21:643-5 O '40
Tub dyeing and package dyeing; the advent of steam in the dyehouse. N. D. White. Am Dyestuff Rep 29:184, 205-6 Ap 15 '40
Use of stainless steels in the dyeing and finishing industry. J. W. Grayson. il Soc Dyers & Col J 56:209-16; Discussion. 216-17 My '40

Control

Instrumentation pays; benefits of automatic process control. il Rayon 21:433-6 Jl '40
New dyeing machine control; Gaston county dyeing machines operated by push-button control. il Rayon 21:120 F '40

DYES, Fastness of
Accelerated light fastness test in use at the Shirley institute; high intensity arc. H. Hunter. Soc Dyers & Col J 56:64-7 F '40; Abstract. Am Dyestuff Rep 29:456-7 S 2 '40
Acid or gas or atmospheric color fading on dyed acetate rayon goods. H. R. Mauersberger. Rayon 21:109-11 F '40
Application of chemicals 199 and 200; inhibitors to prevent gas fading. Rayon 21:115 F '40
Application of fast dyes on cellulosic fibers; the innate nature of the fast dyes and the chemistry of their application as it effects machine design. O. W. Clark. Textile Col 62:344-7, 377-8 My-Je '40
Atmospheric (gas) fading of colored cellulose acetate. C. A. Seibert. bibliog il diags Am Dyestuff Rep 29:363-70; Discussion. 370-4 Jl 22 '40
Azoic colours; improved fastness to rubbing on piece goods. E. R. Wiltshire. Soc Dyers & Col J 56:245-9 Je '40; Excerpts. Textile World 90:76 O '40; Abstract. Textile Col 62:760-1 N '40; Discussion. Soc Dyers & Col J 56:249-52 Je '40
Dyeing properties of animalised fibres and casein wool. J. G. Grundy. Soc Dyers & Col J 55:345-50 Jl '39; Abstracts. Textile Col 61:618-20 S '39; Am Dyestuff Rep 29:29-30+ Ja 22 '40
Factors affecting the fading of dyed textiles by radiant energy; tests with daylight, tungsten and fluorescent lamps. M. Luckiesh and A. H. Taylor. il Am Dyestuff Rep 29: 543-6+ O 14 '40
Fading of dyed textiles by radiant energy. M. Luckiesh and A. H. Taylor. Illum Eng 35:169-72 F '40
Faster dyes for wool. J. Wakelin. Textile Col 62:250+ Ap '40
Improvement of substantive dyeings in fastness to water and to washing; abstract. J. Rière. Am Dyestuff Rep 29:481-2 S 16 '40

DYES, Fastness of—*Continued*
Increasing the washing fastness of direct dyeings on cotton, viscose rayon, and other cellulose fibers with urea derivative formaldehyde resins. Textile Col 61:831 D '39
Machine for testing the fastness to rubbing of dyed materials. D. A. Derrett-Smith and H. B. Bradley. bibliog il diags Soc Dyers & Col J 56:261-5 Je '40
Present importance of fast browns in dyeing and printing. R. Sansone. il Textile Col 62:448-51+, 522-4 Jl-Ag '40
Quaternary ammonium salts; α-pyridinium compounds of higher fatty acids and their amides. T. N. Mehta and D. M. Trivedi. bibliog Soc Dyers & Col J 56:343-51 Ag '40
Report of the sub-committee on gas fading of acetate dyes. W. H. Cady, J. R. Bonnar and C. A. Seibert. Am Dyestuff Rep 29:143-4 Mr 18 '40
Some fading and dyeing effects of vat dyes on cellulose. J. Brear. Textile Col 62:486-7 Jl '40
Standard method for testing the fastness to light of coloured textile materials. L. A. Lantz. Soc Dyers & Col J 56:273-4 Je '40; Same. Textile Inst J 31:S13-14 Je '40
Standard method of test for fastness of colored textile fabrics to light; A.S.T.M. designation: D 506—39 adopted, 1939. Textile Col 62:538 Ag '40
Standard method of test for fastness of dyed or printed cotton fabrics to laundering or domestic washing; A.S.T.M. designation: D 435-37. Textile Col 62:610 S '40
Studies in the naphtol AS series; synthetical experiments. R. V. Bhat, R. B. Forster and K. Venkataraman. bibliog Soc Dyers & Col J 56:166-78 Ap '40
Three-phase light sources as applied to accelerated light fastness testing equipment and color matching lamps; sunshine carbon arcs. M. J. Dorcas. il Am Dyestuff Rep 29:110-16 Mr 4 '40
Die ursachen der säure- und alkaliunechtheit der organischen farbstoffe und deren behebung. H. Eichler. Angew Chemie 53:234-5 My 25 '40
Woven dress fabrics; testing and reporting; strength, color fastness etc. Textile Col 62:263-5, 316-19, 379-81 Ap-Je '40

DYES, Natural. See Dyes and dyeing—Natural dyes

DYES and dyeing
Achievements in colors; a collaboration. il Chem Ind 47:134-8 Ag '40
Additions to our knowledge of dyeing; research by E. Valko. F. G. Brown. Textile Col 62:659-60+ O '40
Alphabetical list of new products developed since Sept. 1939. Am Dyestuff Rep 29:511-18 O 14 '40
Azoic colours; improved fastness to rubbing on piece goods. E. R. Wiltshire. Soc Dyers & Col J 56:245-9; Discussion. 249-52 Je '40
Colorcade. W. D. Baird. Am Dyestuff Rep 29:80-2, 95-7 F 19 '40
Developments in the printing of chrome reds. R. Sansone. Textile Col 62:240-3 Ap '40
How to dye textiles with Calconese colors. L. I. Fidell. Rayon 21:237-8, 309-10 Ap-My '40
Important chemical developments in the textile industry. E. W. K. Schwarz. Am Dyestuff Rep 29:6-8, 19-21 Ja 8 '40; Same. Textile Col 62:25-9 Ja '40
Modern methods of dyeing. E. W. Pierce. 114p 85c Ciba co, 627 Greenwich st, New York '40
New dyes and chemicals. Published in monthly numbers of Textile world
Newer textile fibers. F. G. Brown. Textile Col 62:155-8, 234-6+ Mr-Ap '40
Practical art of color matching. W. H. Peacock. diags chart Rayon 21:627-31, 699-704 O-N '40 (to be cont)
Research review on direct dyeing. C. F. Goldthwait. Rayon 21:307-8+ My '40
Salmon shades and their importance in dyeing and printing. R. Sansone. il Textile Col 62:300-3+ My '40
Structure of the aluminum lakes of some azo-dyes and of alizarin. W. F. Beech and H. D. K. Drew. Chem Soc J p603-7 My '40
Superior fast umbrella fabrics. R. Sansone. Textile Col 62:20-4 Ja '40
Tracing underground water by means of dyes. F. R. Cozzens. Am Dyestuff Rep 29:169-70 Ap 1 '40
Weaving and dyeing in North Africa; dyeing of wool and silk in Morocco. J. Gallotti. Textile Col 62:237 Ap '40

See also

Black	Malachite green
Bleaching	Methylene blue
Blue	Methylene green
Calico printing	Pigments
Color matching	Red
Color printing	Stains and staining (microscopy)
Dye industry	Textile printing
Dye patents	Uranin
Dyeing machines	Wetting agents
Dyes, Fastness of	Yellow
Green	

Bibliography
Abstracts from British and foreign journals and patents. Published in monthly numbers of Society of dyers and colourists journal
Foreign publications. Published in monthly numbers of Textile colorist

Cellophane
Absorption of substantive dyes by cellulose from solutions of very high dye and salt concentrations. S. M. Neale and W. A. Stringfellow. bibliog Soc Dyers & Col J 56:19-21 Ja '40

Chemistry
Absorption of substantive dyes by cellulose from solutions of very high dye and salt concentrations. S. M. Neale and W. A. Stringfellow. bibliog Soc Dyers & Col J 56:19-21 Ja '40; Abstract. Am Dyestuff Rep 29:281 My 27 '40
Absorption of substantive dyes by oxycelluloses of the acidic type. S. M. Neale and W. A. Stringfellow. Soc Dyers & Col J 56:17-18 Ja '40; Abstract. Am Dyestuff Rep 29:283 My 27 '40
Absorption of the substantive dye, sky blue FF, by cotton cloth dyed with the vat dye, cibanone orange R. S. M. Neale and W. A. Stringfellow. bibliog Soc Dyers & Col J 56:21-3 Ja '40; Abstract. Am Dyestuff Rep 29:281-2 My 27 '40
Absorption spectra of *N*-substituted auramine dyes. G. Breuer and J. Schnitzer. Chem Soc J p461-3 Ap '40
Acridine oranges. A. E. Karr. Textile Col 62:604-7+, 676-9, 763-7, 836-7, 852 bibliog(p837, 852) S-D '40
Alkali colour reactions of azoic colours produced from members of the naphtol AS series. W. Bradley. bibliog Soc Dyers & Col J 56:296-302 Jl '40
Application of chemicals 199 and 200; inhibitors to prevent gas fading. Rayon 21:115 F '40
Azoic dyes. J. A. Wallwork. bibliog Soc Dyers & Col J 55:477-80 O '39
Bases of which methincyanines are the quaternary salts. F. M. Hamer. Chem Soc J p799-808 Je '40
Chemical structure of metal-complex wool dyes. Textile Col 62:690-1 O '40
Color and constitution; halochromism of anhydronium bases related to the cyanine dyes. L. G. S. Brooker and others. bibliog Am Chem Soc J 62:1116-25 My '40
Condensation products improve dyeing qualities of fabrics. C. H. S. Tupholme. Textile Col 62:663-4 O '40
Copper lakes of azo-dyes; some further types. W. F. Beech and H. D. K. Drew. Chem Soc J p608-12 My '40
Destruction and formation of dyestuffs by action of light; abstract. A. Seyewetz. Am Dyestuff Rep 29:430 Ag 19 '40
Dissociation of ammonium salts in contact with wool. H. Briggs, F. L. Goodall and others. bibliog Soc Dyers & Col J 55:354-60; 56:218-21, 384-97 Jl '39, My, S '40

DYES and dyeing—Chemistry—*Continued*

Dyeing of cellulosic materials; a review of the physics and chemistry of the dyeing process. J. Boulton and T. H. Morton. il Soc Dyers & Col J 56:145-59 bibliog(67 references, p158-9) Ap '40; Abstract. Am Dyestuff Rep 29:502-4 S 30 '40

Glycerine in dye preparations and processes. G. Leffingwell and M. A. Lesser. bibliog Textile Col 62:743-4+ N '40

Interesting use for abnormal coupling methods in producing fast shades on wool with azoic dyes. A. J. Hall. Am Dyestuff Rep 29:236-8 Ap 29 '40

Lecture experiment on dyeing. G. Cook. J Chem Educ 17:330-1 Jl '40

Oak colors. A. E. Karr. Textile Col 61:591-4, 667-70, 736-8, 838-41; 62:115-19, 132 bibliog(p 118-19, 132) S-D '39, F '40

Organic mercury derivatives of basic triphenylmethane dyes. L. Chalkley. Science 91:300 Mr 22 '40

Particle size in wool dyeing. E. Valko. bibliog Soc Dyers & Col J 55:173-80 Ap '39; Abstract. Textile Col 62:259-60 Ap '40; Discussion. Soc Dyers & Col J 55:180-2 Ap '39

Preparation and properties of 6-halogenated carvacrylamines from *p*-cymene. R. W. Bost and G. C. Kyker. bibliog Am Chem Soc J 62:913-17 Ap '40

Prevention of dull shades due to the presence of iron in the dyebath, when dyeing with chrome dyes; iron in the water supply; effect on eriochrome verdone S and solochrome dark blue. C. L. Bird and E. Molloy. bibliog Soc Dyers & Col J 55:560-4 N '39; Abstract. Am Dyestuff Rep 29:108 Mr 4 '40

Quadrivalent vanadium lakes of azo-dyes. H. D. K. Drew and F. G. Dunton. Chem Soc J p1064-70 Ag '40

Quantum yields of some dye-sensitized photooxidations. F. Hurd and R. Livingston. bibliog J Phys Chem 44:865-73 O '40

Quaternary ammonium salts; α-pyridinium compounds of higher fatty acids and their amides. T. N. Mehta and D. M. Trivedi. bibliog Soc Dyers & Col J 56:343-51 Ag '40

Quaternary compounds: textile auxiliaries with far-reaching possibilities. J. Wakelin. Textile Col 62:83-6 F '40

Reactions of sulfur and vapors of organic compounds at different temperatures. G. D. Palmer and others. Am Chem Soc J 62: 1005-6 My '40

Semiquinone radicals of the thiazines. L. Michaelis, M. P. Schubert and S. Granick. diags Am Chem Soc J 62:204-11 Ja '40

Semiquinones of oxazines, thiazines and selenazines. S. Granick, L. Michaelis and M. P. Schubert. bibliog Am Chem Soc J 62:1802-10 Jl '40

Significance of temperature in wool dyeing; a study of the acid combining capacity of wool; experiments with acid orange GG and polar yellow R. F. L. Goodall and C. Hobday. Soc Dyers & Col J 55:529-49 N '39

Soluble chromium derivatives of dyestuffs. J. L. Boyle. Am Dyestuff Rep 28:741-4 D 25 '39

Some condensation products of *m*-dialkylaminobenzaldehydes with compounds containing reactive methylene groups. W. Cocker and D. G. Turner. Chem Soc J p57-9 Ja '40

Studies in the naphtol AS series; synthetical experiments. R. V. Bhat, R. B. Forster and K. Venkataraman. bibliog Soc Dyers & Col J 56:166-78 Ap '40

Studies on inner complexes; ortho-hydroxy azo dye inner complexes. H. M. Haendler and G. M. Smith. bibliog Am Chem Soc J 62:1669-72 Jl '40

Studies on the reactions of the leucocyanides of the triphenylmethane dyes; the mechanism of the dark reaction following the photolysis of malachite green leucocyanide. F. E. E. Germann and C. L. Gibson. Am Chem Soc J 62:110-12 Ja '40

Teinture de la rayonne à l'acétate avec les teintures acides et directes. P. M. Heertjes, C. Vogelesang and H. I. Waterman. Chimie & Ind 42:933-43 D '39

Textile uses of titanium compounds; satisfactory properties of dioxide and salts. G. S. Ranshaw. Chem Age (Lond) 43:79-80 Ag 17 '40

Coconut fibers

Dyeing and printing coir; stencil printing of coir mats. A. E. Cabell. il diag Textile Col 62:591-5+ S '40

Cotton

Absorption of substantive dyes by cellulose from solutions of very high dye and salt concentrations. S. M. Neale and W. A. Stringfellow. bibliog Soc Dyers & Col J 56: 19-21 Ja '40; Abstract. Am Dyestuff Rep 29:281 My 27 '40

Absorption of substantive dyes by oxycelluloses of the acidic type. S. M. Neale and W. A. Stringfellow. Soc Dyers & Col J 56:17-18 Ja '40; Abstract. Am Dyestuff Rep 29:283 My 27 '40

Absorption of the substantive dye, sky blue FF, by cotton cloth dyed with the vat dye, cibanone orange R. S. M. Neale and W. A. Stringfellow. bibliog Soc Dyers & Col J 56:21-3 Ja '40; Abstracts. Am Dyestuff Rep 29:281-2 My 27 '40; Textile Col 62:402 Je '40

Application of fast dyes on cellulosic fibers; the innate nature of the fast dyes and the chemistry of their application as it effects machine design. O. W. Clark. Textile Col 62:344-7, 377-8 My-Je '40

Azoic colours; improved fastness to rubbing on piece goods. E. R. Wiltshire. Soc Dyers & Col J 56:245-9 Je '40; Excerpts. Textile World 90:76 O '40; Abstract. Textile Col 62:760-1 N '40; Discussion. Soc Dyers & Col J 56:249-52 Je '40

Bright fast pinks. R. Sansone. Textile Col 61:817-19 D '39

Condensation products improve dyeing qualities of fabrics. C. H. S. Tupholme. Textile Col 62:663-4 O '40

Dyeing and printing fast olive greens on cotton and rayon. R. Sansone. il Textile Col 62:168-70+ Mr '40

Dyeing cotton, linen and wool goods with indigo. diags Textile Col 62:101-3, 194-6 F-Mr '40

Dyeing of cellulosic materials; a review of the physics and chemistry of the dyeing process. J. Boulton and T. H. Morton. il Soc Dyers & Col J 56:145-59 bibliog(67 references, p158-9) Ap '40; Abstract. Am Dyestuff Rep 29:502-4 S 30 '40

Dyeing of cotton with direct dyes in the presence of salt. Textile Col 62:546-7 Ag '40

Dyeing with pigments; two methods employed in production of bookcloth, awnings, and similar fabrics. J. T. Gibbons. il Textile World 90:68 Jl '40

Identification of vat dyes on linen and cotton materials. H. B. Bradley and D. A. Derrett-Smith. Soc Dyers & Col J 56:97-121 Mr '40; Abstract. Am Dyestuff Rep 29:501-2 S 30 '40

Improved indigosol dyeing process. Textile Col 62:40-1 Ja '40

Increasing the washing fastness of direct dyeings on cotton, viscose rayon, and other cellulose fibers with urea derivative formaldehyde resins. Textile Col 61:831 D '39

Level dyeing of cotton and rayon materials; a consideration of the function of dyeing assistants. Textile Col 62:665-6 O '40

Modern dyehouse; Georgia-Kincaid mills. il plans Textile World 90:66-7 My '40

Natural dyes from ipil, narra, and tangile sawdust. F. Agcaoili, M. Alde and R. J. Cochico. Textile Col 62:342-3 My '40

Pigment dyeing method for raw stock and yarn. il Textile World 90:74 Mr '40

Some fading and dyeing effects of vat dyes on cellulose. J. Brear. Textile Col 62:486-7 Jl '40

Source of metals in dyed cottons to be rubberized; amount of copper permissible. C. A. Seibert. Am Dyestuff Rep 29:136-9 Mr 18 '40

DYES and dyeing—Cotton—*Continued*
Standard method of test for fastness of dyed or printed cotton fabrics to laundering or domestic washing; A.S.T.M. designation: D 435-37. Textile Col 62:610 S '40
Studies in the naphtol AS series; estimation of members of the naphtol AS series; titrations with diazo-salt solutions in presence of a mixture of alcohol and pyridine. T. N. Mehta and V. B. Thosar. Soc Dyers & Col J 56:160-5 Ap '40
Studies in the naphtol AS series; synthetical experiments. R. V. Bhat, R. B. Forster and K. Venkataraman. bibliog Soc Dyers & Col J 56:166-78 Ap '40
Surface of cellulose and its dyeing properties; based on paper by Broda and Mark. F. G. Brown. Textile Col 62:739-40 N '40
Thirty-three years' experience in raw stock and package dyeing. A. Fisher. Am Dyestuff Rep 29:454-5 S 2 '40
Trouble in uneven package dyeing of several lots of mercerized yarns. Am Dyestuff Rep 28:753-4 D 25 '39
Vat dyeing by the Calcoloid pigment method. O. W. Clark. il Textile Col 62:244-5 Ap '40
War and blackout curtains. R. Hamilton. Textile Col 62:745-9, 813-16+ N-D '40
See also
Calico printing

Cotton—wool
Protection of wool in mercerizing for dyeing. Textile Col 62:387-8 Je '40

Food
See Coloring matter in food

Fugitive dyes
Process for tinting rayon staple fibers; Tintinols. H. L. Siever. Rayon 21:690 N '40
Tinting of staple fibers with Cumol tints. A. J. Kellner. il diag Rayon 21:540-1 S '40
Tinting rayon. Textile Col 61:831 D '39

Fur
Chemical processing in the production of furs. C. F. Mason. il Chem Ind 47:260-3 S '40

History
Tub dyeing and package dyeing; the advent of steam in the dyehouse. N. D. White. Am Dyestuff Rep 29:184, 205-6 Ap 15 '40

Hosiery
Dyeing and finishing of nylon hose. N. D. White. il Rayon 21:555-7 S '40
Dyeing and finishing of nylon hosiery. V. Taurey. Am Dyestuff Rep 29:541-2+ O 14 '40
Management and operation of a hosiery dye house. A. G. Alexander and C. Wille. Am Dyestuff Rep 28:716-21 D 11 '39

Jute
Bleaching and dyeing jute. M. R. Fox. Textile Col 62:475-7+ Jl '40
Dyeing of jute. D. Carter. bibliog Textile Inst J 30:P328-39 S '39; Excerpts. Textile Col 62:30-1+ Ja '40
Dyeing pale shades on jute with neutral acid colors. S. Wouble. Textile Col 62:58 Ja '40
Processing of jute rags. S. Wouble. Textile Col 62:297-9 My '40

Knit goods
Consideration of the practical aspects of the dyeing and processing of tubular knit goods; wool, cotton, and rayon. L. Gieklen. il Am Dyestuff Rep 29:182-3, 201-2 Ap 15 '40
Finishing warp-knit fabrics. E. S. Dunlap. il Textile World 90:77 Ap '40

Leather
Colorcade. W. D. Baird. Am Dyestuff Rep 29:95-7 F 19 '40

Linen
Azoic colours; improved fastness to rubbing on piece goods. E. R. Wiltshire. Soc Dyers & Col J 56:245-9; Discussion. 249-52 Je '40
Dyeing cotton, linen and wool goods with indigo. diags Textile Col 62:101-3, 194-6 F-Mr '40
Identification of vat dyes on linen and cotton materials. H. B. Bradley and D. A. Derrett-Smith. Soc Dyers & Col J 56:97-121 Mr '40; Abstract. Am Dyestuff Rep 29:501-2 S 30 '40
Processing of linen piece goods in the United States. O. W. Clark. Am Dyestuff Rep 28: 709-14, 727-9 D 11 '39

Metachrome process
New developments in metachrome dyeing. E. I. Noble. Textile Col 62:692-7 O '40

Mohair
Dyeing pile fabrics. J. C. Kopasz. il Textile World 90:68-9 Ja '40

Mordants
Chemical structure of metal-complex wool dyes. Textile Col 62:690-1 O '40
Metallic mordants; a review of their use in textile printing. Textile Col 60:807-9; 61: 86-8+, 236-8, 389-91, 529-30+, 601-4; 62: 128-31, 403-6 D '38, F, Ap, Je, Ag-S '39, F, Je '40
Soluble chromium derivatives of dyestuffs. J. L. Boyle. Am Dyestuff Rep 28:741-4 D 25 '39

Natural dyes
Blue and purple dyes from aquilegia vulgaris. C. D. Mell. Textile Col 62:633 S '40
Chemistry of the insoluble red woods; pterocarpin and homopterocarpin. A. McGookin, A. Robertson and W. B. Whalley. Chem Soc J p787-95 Je '40
Dyes and tans from Buchanania latifolia. C. D. Mell. Textile Col 62:201 Mr '40
Dyes and tans in the species of statice. C. D. Mell. Textile Col 62:59-60 Ja '40
Dyes from members of the olive family. Textile Col 62:201-2 Mr '40
Dyes from the species of clematis. Textile Col 61:850 D '39
Interesting sources of natural dyestuffs; echium vulgare, geum, asperula. C. D. Mell. Textile Col 62:412-14+ Je '40
Manufacture of industrial extracts for textiles and leathers. K. Campbell. Chem & Ind 59:145-6 Mr 2 '40
Natural dyes from ipil, narra, and tangile sawdust. F. Agcaoili, M. Alde and R. J. Cochico. Textile Col 62:342-3 My '40
Oak colors. A. E. Karr. Textile Col 61:591-4, 667-70, 736-8, 838-41; 62:115-19, 132 bibliog(p 118-19, 132) S-D '39, F '40
Outlook in strategic chemicals. H. R. Tisdale. Chem Ind 47:30 Jl '40
Weaving and dyeing in North Africa; dyeing of wool and silk in Morocco. J. Gallotti. Textile Col 62:237 Ap '40
See also
Logwood
Woad

Nylon
Control equipment for handling nylon. il Rayon 21:645 O '40
Dyeing and finishing of nylon hose. N. D. White. il Rayon 21:555-7 S '40
How to dye textiles with Calconese colors. L. I. Fidell. Rayon 21:309-10 My '40

Package dyeing
Dyeing improved; costs lowered; Anchor thread co. stainless-steel package-dyeing machine. il Textile World 89:88 N '39
Trouble in uneven package dyeing of several lots of mercerized yarns. Am Dyestuff Rep 28:753-4 D 25 '39
Tub dyeing and package dyeing; the advent of steam in the dyehouse. N. D. White. Am Dyestuff Rep 29:184, 205-6 Ap 15 '40

Paper
Bleaching dyed paper. E. R. Laughlin and H. A. Lips. Paper Ind 22:557-62 S '40
Card index and other methods used in controlling the color of beater furnishes. R. N. Griesheimer. Paper Tr J 111:36-41 S 26 '40
Chemicals, fillers, size and dyes. C. R. Hasen. Pulp & Pa of Can 41:581 Ag '40

DYES and dyeing—Paper—*Continued*
Colorcade. W. D. Baird. Am Dyestuff Rep 29:82+ F 19 '40
Influence of dyestuffs on the opacity of paper. E. R. Laughlin. bibliog Textile Col 62:667-73 O '40
Investigation of the fundamental scattering and absorption coefficients of dyed handsheets. W. J. Foote. bibliog Paper Tr J 109: 31-8 D 21 '39
Spectrophotometry on coated papers. W. J. Foote. bibliog Paper Tr J 111:31-3 O 10 '40
Use of dyes in the beater. W. H. Birchard. Paper Ind 22:362-3 Jl '40

Pile fabrics

Coloring and shower-proofing llama pile fabrics. A. E. Cabell. Textile Col 62:559-62 Ag '40
Dyeing and finishing of pile fabrics. B. Fisher. Am Dyestuff Rep 29:246-7 My 13 '40
Dyeing pile fabrics. J. C. Kopasz. il Textile World 90:68-9 Ja '40
Patterned acetate rayon pile fabrics. A. J. Hall. Textile Col 62:113 F '40
Pretreatment of pile fabrics to give uniform and even dyeings. J. C. Kopasz. Textile World 90:92 Jl '40
Processing of astrakhan fabric. S. Wouble. Textile Col 62:441-4, 525-7+ Jl-Ag '40
Processing of shingle fabric. S. Wouble. Textile Col 62:371-2 Je '40

Rayon

Acetate rayon animalized with protein; patent. Textile Col 61:834 D '39
Acid or gas or atmospheric color fading on dyed acetate rayon goods. H. R. Mauersberger. Rayon 21:109-11 F '40
American Obermaier rayon cake dyeing machine. il Rayon 21:587-8 S '40
Aniline black padding liquor for rayon. Textile Col 62:40 Ja '40
Application of chemicals 199 and 200; inhibitors to prevent gas fading. Rayon 21:115 F '40
Application of fast dyes on cellulosic fibers; the innate nature of the fast dyes and the chemistry of their application as it effects machine design. O. W. Clark. Textile Col 62:344-7, 377-8 My-Je '40
Application of vat dyes to viscose rayon. J. Boulton and T. H. Morton. bibliog il diag Soc Dyers & Col J 55:481-97 O '39; Abstracts. Textile Col 62:12-13, 42+, 187 Ja, Mr '40; Am Dyestuff Rep 29:108+ Mr 4 '40
Atmospheric (gas) fading of colored cellulose acetate. C. A. Seibert. bibliog il diags Am Dyestuff Rep 29:363-70; Discussion. 370-4 Jl 22 '40
Azoic dyes. J. A. Wallwork. bibliog Soc Dyers & Col J 55:479-80 O '39
Bright fast pinks. R. Sansone. Textile Col 61:817-19 D '39
Condensation products improve dyeing qualities of fabrics. C. H. S. Tupholme. Textile Col 62:663-4 O '40
Control in spun rayon piece goods processing. P. J. Choquette. bibliog Am Dyestuff Rep 29:222-5; Discussion. 225-6 Ap 29 '40
Cross-dyeing checks; precautions in handling viscose-acetate fabrics. P. LeBrun. il Textile World 90:62 Ap '40
Cyanamide for improving dyeing. Textile Col 62:690 O '40
Dispersing acetate rayon dyestuffs. J. Warwicke. Textile Col 62:389-91 Je '40
Dyeing and finishing of fabrics containing rayon staple fibres. H. DeW. Smith. bibliog Rayon 21:44-5, 107-8, 147-8 Ja-Mr '40; Same. Mech Eng 62:588-92 Ag '40; Same abr. Textile Col 62:230-3 Ap '40
Dyeing and finishing of rayon fabrics. B. S. Hillman. Textile Col 62:768-70 N '40
Dyeing and printing fast olive greens on cotton and rayon. R. Sansone. il Textile Col 62:168-70+ Mr '40
Dyeing of acetate rayon with vat dyes; E.P. 517751. A. J. Hall. Textile Col 62:761-2 N '40
Dyeing of artificial fibers; viscose, Bemberg and acetate rayon. J. E. Melli. Am Dyestuff Rep 29:241-4 My 13 '40; Same. Textile Col 62:338-40 My '40; Same. Rayon 21:368-9, 427-8 Je-Jl '40; Abstract. Textile World 90:102+ Ag '40
Dyeing of cellulosic materials; a review of the physics and chemistry of the dyeing process. J. Boulton and T. H. Morton. il Soc Dyers & Col J 56:145-59 bibliog(67 references, p158-9) Ap '40; Abstract. Am Dyestuff Rep 29:502-4 S 30 '40
Dyeing properties of animalised fibres and casein wool. J. G. Grundy. Soc Dyers & Col J 55:345-50 Jl '39; Abstracts. Textile Col 61:618-20 S '39; Am Dyestuff Rep 29:29-30+ Ja 22 '40
Dyeing rayon taffeta without scouring. R. Joerger. Textile Col 62:178+ Mr '40
Handle of rayon fabrics; effect of dyeing processes. Textile Col 62:627-8 S '40
How to dye textiles with Calconese colors. L. I. Fidell. Rayon 21:237-8, 309-10 Ap-My '40
Imparting affinity for acid wool dyes to regenerated cellulose fibres by incorporating synthetic resins in the spinning solution. T. Crebert. Soc Dyers & Col J 55:517-18 O '39
Level dyeing of cotton and rayon materials; a consideration of the function of dyeing assistants. Textile Col 62:665-6 O '40
New assistant for vat dyeing of rayon; polyvinyl alcohol. Textile Col 62:114 F '40
Organizing a dyeing and finishing plant for synthetic piece goods. P. J. Wood. Am Dyestuff Rep 28:746-51 D 25 '39
Patterned acetate rayon pile fabrics; patent. Textile Col 62:113 F '40
Penetration and levelling in dyeing; abstract. G. Schwen. Textile Col 62:400 Je '40
Process for tinting rayon staple fibers; Tintinols. H. L. Siever. Rayon 21:690 N '40
Progress in rayon manufacture and handling; notes from papers which were to be presented at symposium before Society of dyers and colourists. C. F. Goldthwait. Rayon 21:534-5 S '40
Rapid methods for bleaching and dyeing knitted rayon fabric. Textile Col 62:596-7 S '40
Report of the sub-committee on gas fading of acetate dyes. W. H. Cady, J. R. Bonnar and C. A. Seibert. Am Dyestuff Rep 29:143-4 Mr 18 '40
Research review on direct dyeing. C. F. Goldthwait. Rayon 21:307-8+ My '40
Some fading and dyeing effects of vat dyes on cellulose. J. Brear. Textile Col 62:486-7 Jl '40
Spun-rayon finishing. H. DeW. Smith. Textile World 89:58-9 D '39
Superior fast umbrella fabrics. R. Sansone. Textile Col 62:20-4 Ja '40
Surface of cellulose and its dyeing properties; based on paper by Broda and Mark. F. G. Brown. Textile Col 62:739-40 N '40
Teinture de la rayonne à l'acétate avec les teintures acides et directes. P. M. Heertjes, C. Vogelesang and H. I. Waterman. Chimie & Ind 42:933-43 D '39
Tinting rayon. Textile Col 61:831 D '39
Tone-in-tone style. H. P. Baumann. Textile Col 62:49-50+ Ja '40
Treatment of spun rayons with textone. G. P. Vincent, A. L. Dubeau and J. W. Ivey. Am Dyestuff Rep 29:296-9 Je 10 '40
Trend of progress in the cellulosic textile industry. H. A. Thomas. Chem & Ind 58: 621-3 Jl 1 '39; Same. Rayon 20:695-6; 21:23 D '39-Ja '40

See also
Dyes and dyeing—Wool—rayon
Rayon printing

Silk

Bacteria in soaking bath found to affect tinting. A. J. Kellner. Textile Col 62:266 Ap '40
Lousiness in silk. T. Hayashi. Rayon 21:688-9 N '40
Tone-in-tone style. H. P. Baumann. Textile Col 62:49-50+ Ja '40

DYES and dyeing—*Continued*

Soap

Dyeing of soaps; abstract. W. Richter. Am Dyestuff Rep 29:455-6 S 2 '40

Standards

Coaltar dyes strength standards issued. Oil Paint & Drug Rep 136:42 N 20 '39

Stripping

Chemical notes on the stripping of dyed textile materials. K. Wardle. Textile Col 62: 311-13 My '40

Hydrosulphites and their derivatives; structure, development and use in the textile industry. G. S. Ranshaw. Chem Age (Lond) 41:359-60 N 25 '39

Quaternary ammonium salts; α-pyridinium compounds of higher fatty acids and their amides. T. N. Mehta and D. M. Trivedi. bibliog Soc Dyers & Col J 56:343-51 Ag '40

Vat dyes

Absorption of the substantive dye, sky blue FF, by cotton cloth dyed with the vat dye, cibanone orange R. S. M. Neale and W. A. Stringfellow. bibliog Soc Dyers & Col J 56: 21-3 Ja '40; Abstracts. Am Dyestuff Rep 29:281-2 My 27 '40; Textile Col 62:402 Je '40

Application of vat dyes to viscose rayon. J. Boulton and T. H. Morton. bibliog il diag Soc Dyers & Col J 55:481-97 O '39; Abstracts. Textile Col 62:12-13, 42+, 187 Ja, Mr '40; Am Dyestuff Rep 29:108+ Mr 4 '40

Dyeing cotton, linen and wool goods with indigo. diag Textile Col 62:304-6 My '40

Dyeing of acetate rayon with vat dyes; E.P. 517751. A. J. Hall. Textile Col 62:761-2 N '40

Identification of vat dyes on linen and cotton materials (including the determination of the dyeing class of all dyes commonly found on such materials); tabulations, index of dyes. H. B. Bradley and D. A. Derrett-Smith. Soc Dyers & Col J 56:97-121 Mr '40; Abstracts. Textile Col 62:474 Jl '40; Am Dyestuff Rep 29:501-2 S 30 '40

Identification of vat dyes on linen and cotton materials; vat dyes of French manufacture. Soc Dyers & Col J 56:302-3 Jl '40

New assistant for vat dyeing of rayon; polyvinyl alcohol. Textile Col 62:114 F '40

New idea in printing; Stentite process for vat dyes. il Textile World 89:67 D '39

Observations on screen printing. Textile Col 61:739-42+, 835-7; 62:46-8, 120-1, 267-8 N '39-F, Ap '40

Some fading and dyeing effects of vat dyes on cellulose. J. Brear. Textile Col 62:486-7 Jl '40

Vat dye progress. A. J. Hall. Am Dyestuff Rep 29:58-60, 68-71 F 5 '40

Vat dyeing by the Calcoloid pigment method. O. W. Clark. il Textile Col 62:244-5 Ap '40

Vat dyes as pigments; use in wall paper, cold-water paints, printing ink, etc. C. K. Black. Ind & Eng Chem 32:1304-6 O '40

Vat dyes may improve automotive finishes. C. K. Black. Automotive Ind 82:466-7 My 15 '40

Wool

Additions to our knowledge of dyeing; research by E. Valko. F. G. Brown. Textile Col 62:659-60+ O '40

Chemical structure of metal-complex wool dyes. Textile Col 62:690-1 O '40

Coloring and shower-proofing llama pile fabrics. A. E. Cabell. Textile Col 62:559-62 Ag '40

Dissociation of ammonium salts in contact with wool. H. Briggs, F. L. Goodall and others. Soc Dyers & Col J 55:354-60; 56: 218-21, 384-97 Jl '39, My, S '40; Abstract (pt.1). Textile Col 61:689 O '39

Dyeing cotton, linen and wool goods with indigo. diag Textile Col 62:195-6, 304-6 Mr, My '40

Faster dyes for wool. J. Wakelin. Textile Col 62:250+ Ap '40

Fluorescent carpet acts as guide in the dark. il Textile World 90:46 Jl '40

How acid dyes color wool; review of an extensive published research and its practical applications. C. F. Goldthwait. Textile Col 62:373-6+ Je '40

Interesting use for abnormal coupling methods in producing fast shades on wool with azoic dyes. A. J. Hall. Am Dyestuff Rep 29:236-8 Ap 29 '40

Matching shades in woolens. A. W. France. Textile World 90:94-5 Ap '40

New developments in metachrome dyeing. E. I. Noble. Textile Col 62:692-7 O '40

Oxidation of oil and dyed and undyed tops. J. B. Speakman and C. N. K. Murthy. Soc Dyers & Col J 56:252-8 Je '40

Particle size in wool dyeing. E. Valko. bibliog Soc Dyers & Col J 55:173-80 Ap '39; Abstract. Textile Col 62:259-60 Ap '40; Discussion. Soc Dyers & Col J 55:180-2 Ap '39

Penetration and levelling in dyeing; abstract. G. Schwen. Textile Col 62:400 Je '40

Prevention of dull shades due to the presence of iron in the dyebath, when dyeing with chrome dyes; iron in the water supply; effect on eriochrome verdone S and solochrome dark blue. C. L. Bird and E. Molloy. bibliog Soc Dyers & Col J 55:560-4 N '39; Abstracts. Textile Col 62:112-13 F '40; Am Dyestuff Rep 29:108 Mr 4 '40

Protection of wool in mercerizing for dyeing. Textile Col 62:387-8 Je '40

Significance of temperature in wool dyeing; a study of the acid combining capacity of wool; experiments with acid orange GG and polar yellow R. F. L. Goodall and C. Hobday. Soc Dyers & Col J 55:529-49 N '39; Abstract. Am Dyestuff Rep 29:158, 168-9 Ap 1 '40

Some factors which affect the dyeing properties of wool. J. Warwicke. Textile Col 62: 528-30+ Ag '40

Some new trends in the dyeing and finishing of wool. J. Wakelin. Textile Col 62:227-9 Ap '40

Water supply in wool dyeing. Textile Col 62:55-7 Ja '40

Wool—artificial wool

New problems in dyeing; abstract. L. Bonnet. Am Dyestuff Rep 29:431-2 Ag 19 '40

Wool—rayon

Control in spun rayon piece goods processing. P. J. Choquette. bibliog Am Dyestuff Rep 29:222-5; Discussion. 225-6 Ap 29 '40

Wool, Artificial

Dyeing casein fibres. C. H. S. Tupholme. Textile Col 61:803-6+ D '39

Dyeing properties of animalised fibres and casein wool. J. G. Grundy. Soc Dyers & Col J 55:345-50 Jl '39; Abstracts. Textile Col 61:618-20 S '39; Am Dyestuff Rep 29:29-30+ Ja 22 '40

Färberei und ausrüstung schwerer damen- und herrenbekleidungsstoffe aus zellwolle und reisswolle; abstract. L. Jackel. Angew Chemie 53:215 My 11 '40

Yarn

Dyeing cotton, linen and wool goods with indigo. diag Textile Col 62:194-6, 304-6 Mr, My '40

DYES and dyeing, Photographic

Coloring snapshots with organic dyes. E. E. Murray and M. P. Hanson. J Chem Educ 17:430-1 S '40

Photovoltaic cells with silver-silver bromide electrodes; optical sensitizing by dyes. S. E. Sheppard, W. Vanselow and G. P. Happ. bibliog il diag J Phys Chem 44:411-21 Ap '40

DYES as antiseptics and disinfectants

Inhibition of sulphate-reducing bacteria by dyestuffs. T. H. Rogers. Soc Chem Ind J 59:34-9 F '40

DYEWOOD

Manufacture of industrial extracts for textiles and leathers. K. Campbell. Chem & Ind 59:145-6 Mr 2 '40

DYKSTRA, Clarence Addison, 1883-

Portrait. Business Week p7 O 19 '40

DYNAMICS
Dynamic effect of incendiary bombs on roofs. J. D. W. Ball. diags Engineer 169:459-60 My 17 '40
Dynamic model of Tacoma Narrows bridge. F. B. Farquharson. il diags Civil Eng 10: 445-7 Jl '40

See also
Aerodynamics
Electrodynamics
Hydrodynamics
Mechanics
Thermodynamics

DYNAMICS of a particle
Calculation of particle trajectories. C. E. Lapple and C. B. Shepherd. bibliog Ind & Eng Chem 32:605-17 My '40

DYNAMITE
Dynamite in an automobile plant; a method of blasting drill bits from crankshaft oil holes. O. J. Otto. diags Explosives Eng 17:376 D '39; Same cond. Coal Age 45:64 Jl '40
Gaseous products from explosives. J. C. Holtz. U S Bur Mines Rep of Invest 3507:1-14 '40

See also
Blasting

DYNAMOMETER cars
Neuer messwagen zur untersuchung elektrischer fahrzeuge für hohe geschwindigkeiten. E. W. Curtius. il V D I 83:1221-3 N 18 '39

DYNAMOMETERS
Chassis dynamometers; experiences of various companies. Transit J 84:176-7 My '40
Dynamometer for measuring ground pressures. W. H. Evans. il diags Engineering 149:433-4 Ap 26 '40; Abstract. Can Eng R & B 78:114 O '40
Load and power needs of east Texas wells; as shown by dynamometer tests. G. Weber. il Oil & Gas J 38:52+ Mr 21 '40
Taking the pulse of the pumping well. D. O. Johnson. Oil & Gas J 38:46, 48+ Mr 21 '40
Test laboratory has unique control; regulation of equipment effected from seat of car being tested; automotive laboratory of Atlantic refining company. il Automotive Ind 81:574-6+ D 1 '39
Water-cooled design for electro-dynamometer. E. Bernard. diag Elec W 112:1632 D 2 '39

DYNAMOS. See Electric generators, Direct current

DYSENTERY
Effect of nicotinamide on respiration of dysentery bacilli. A. Dorfman, S. A. Koser and F. Saunders. Science 90:544-5 D 8 '39

E

EAR

See also
Hearing

Care and hygiene

Care of the ears and prevention of deafness. Pub Health Rep 55:1501-4 Ag 16 '40
Your hearing and your health. 43p $1.50 Better living foundation, 19 W. 44th st, New York '40

Diseases

Diseases of the ear, nose and throat. F. L. Lederer. 2d rev ed 840p $10 Davis '39
Helium-oxygen mixtures for alleviation of tubal and sinus block in compressed air workers. J. W. Crosson, R. R. Jones and R. R. Sayers. bibliog Pub Health Rep 55:1487-96 Ag 16 '40

EAR block. See Ear—Diseases

EARLE, Samuel Broadus, 1878-
Sketch. por Mech Eng 62:638 Ag '40

EARNSHAW'S theorem
Earnshaw's theorem. L. Tonks. Elec Eng 59: 118-19 Mr '40

EARTH
Gravity anomaly an important factor in earth science. W. Bowie. Science 91:158-60 F 16 '40
Man's earthly future. K. F. Mather. il Sci Am 162:210-12, 274-6 Ap-My '40
Origin of the earth; astrophysicists still unable to solve problem. H. N. Russell. Sci Am 163:266-7 N '40
Science in 1939. Science 90:sup16 D 22 '39

See also
Folds (geology)
Geochemistry
Geography, Economic
Geology
Geophysics
Glacial geology
Magnetism, Terrestrial
Meteorology
Mines and mineral resources
Ore deposits
Paleontology
Physical geography
Water, Underground

Internal structure

Iron at the earth's core. Min & Met 21:299 Je '40

Rotation

Earth as a clock. H. S. Jones. 32p pa 75c Oxford '39
Earth's rotational effect on the bubble sextant. P. V. H. Weems and T. L. Thurlow. diags Aero Digest 37:54+ N '40
Even the earth errs. H. N. Russell. Sci Am 162:272-3 My '40

Surface

Origin of the earth's land formations. C. D. Perrine. Science 92:210-12 S 6 '40
Periodicity in terrestrial processes. J. H. F. Umbgrove. bibliog Am J Sci 238:573-6 Ag '40
Sierra Nevada tectonic pattern. A. Locke, P. Billingsley and E. B. Mayo. map Geol Soc Bul 51:513-39 bibliog(p535-8) pl 1-2 Ap '40

EARTH construction

See also
Adobe

EARTH currents
Cadmium-cadmium sulfate half-cell for measuring potentials in the earth. S. Ewing. Am Gas Assn Proc 1939:635-40
Copper-copper sulfate half-cell for measuring potentials in the earth. S. Ewing. diags Am Gas Assn Proc 1939:624-34
Electrical hazards presented by static electricity and earth currents; requirements for shot-firing underground. P. C. Ziemke. diag Eng & Min J 141:42-5 Je '40
Some effects of short-circuits on three-phase transmission lines. T. F. Wall. Engineering 149:478-9, 539-40, 578-80 My 10, 31, Je 14 '40

EARTH movements
Measurements of compressibility of consolidated oil-bearing sandstones. C. B. Carpenter and G. B. Spencer. U S Bur Mines Rep of Invest 3540:1-20, pl 1-5 '40
Miniature system of first-order alinement and triangulation control; measuring horizontal movements of Tygart dam. F. W. Hough. il diags Am Soc C E Proc 65:1707-17 D '39; Discussion. 66:1133-8 Je '40

See also
Earthquakes
Mine subsidences

EARTH pressure
Dynamometer for measuring ground pressures. W. H. Evans. il diags Engineering 149:433-4 Ap 26 '40; Abstract. Can Eng R & B 78:114 O '40
Earth pressure on wall of varying height. C. E. Sharp, jr. Eng N 125:165 Ag 1 '40
Essential features of triaxial shear tests; use of stabilometer and other apparatus. C. A. Hogentogler and E. S. Barber. il diags Am Soc T M Proc 39:1028-45 bibliog(36 titles, p1044-5) '39; Same. Pub Roads 20:133-44, 153-4 S '39
General wedge theory of earth pressure. K. Terzaghi. bibliog il diags Am Soc C E Proc 65:1327-39 O '39; Discussion. 66:155-8, 349-51, 707-8, 1210-12, 1511-18 Ja-F, Ap, Je, O '40
Graphical analyses of the stability of soil. E. S. Barber and C. E. Mershon. bibliog diags Pub Roads 21:147-57 O '40
Measurement of earth pressure. H. T. Hildage. diags Engineer 169:556 Je 21 '40

EARTH pressure—*Continued*
Measurement of earth pressure. I. F. Morrison and W. E. Cornish. diags Engineer 169:504 My 31 '40
Stabilising effect of passive resistance on underground arches. J. D. W. Ball. diags Engineer 170:119-20 Ag 23 '40

See also
Dams
Earthwork
Retaining walls

EARTHING. See Electric distribution—Grounding

EARTHQUAKES
Earthquake analyzer. Science 91:sup12 Je 7 '40
Effect of foundation on earthquake motion. R. R. Martel. Civil Eng 10:7-10 Ja '40
Irregularities in creep tests possibly due to tremors. D. E. Babcock. Metal Prog 37: 436 Ap '40; Discussion. J. J. Kanter. 37: 562-3 My '40
Our trembling earth. J. Lynch. 202p bibliog(p201-2) $3 Dodd '40
Possible explanation of deep-focus quakes. J. Lynch. Science 92:10-11 Jl 5 '40
Structure of the Pacific basin as indicated by earthquakes. B. Gutenberg. Science 90:456-8 N 17 '39

See also
Seismographs

California

Earthquake damage not exaggerated; Alamo canal wrecked. il Eng N 124:759+ My 30 '40
Earthquake in the Imperial valley. Science 91:sup8 My 31 '40
Earthquakes in northern California and the registration of earthquakes at Berkeley, Mount Hamilton, Palo Alto, San Francisco, Ferndale, Fresno, from January 1 to June 30, 1938. P. Byerly and H. Miller. (Bul. of seismographic stations, v. 8, nos. 1-2) 39p; 40-86p map 2v ea pa 50c Univ. of California press '40
Imperial Valley quake ranks fifth in severity. il Eng N 124:695+ My 23 '40
Well-built schools not harmed by western quake. D. C. Willett. Eng N 124:932-3 Je 27 '40

Mexico

Earthquake damage not exaggerated; Alamo canal wrecked. il Eng N 124:759+ My 30 '40
Imperial Valley quake ranks fifth in severity. il Eng N 124:695+ My 23 '40

Montserrat

Volcano-seismic crisis at Montserrat, 1933-1937. F. A. Perret. 76p $3; pa $2.50 Carnegie inst. of Washington, Washington, D.C. '39

Pacific coast

Seismicity of the northern Pacific coast of the United States. P. Byerly. map Geol Soc Bul 51:255-60, pl 1 F '40

Turkey

Earthquake in Asia Minor. R. D. Potter. Science 91:sup10 Ja 5 '40

EARTHQUAKES and building
Earthquake-proof structures; concrete masonry units made by the Underdown system and reinforced with steel rods; Pacific coast aggregates, inc. il diag Rock Prod 42:59-60+ D '39
Earthquake stresses in the San Francisco-Oakland Bay bridge. N. C. Raab and H. C. Wood. diags map Am Soc C E Proc 66: 1447-68 O '40
Earthquakes and structures. D. L. Thornton. Engineering 149:528-9 My 24 '40
Effect of foundation on earthquake motion. R. R. Martel. Civil Eng 10:7-10 Ja '40
Natural period of vibration of building frames. J. E. Goldberg. diag Am Concrete Inst J 11:81-95 S '39; Discussion. 11:sup96¹-96⁶ F '40
New quake-proof concrete masonry unit provides for reinforcement. W. J. B. Stewart. il Concrete 48:38-9 My '40
Provision for seismic forces in design of Golden Gate bridge. L. S. Moisseiff. il diags Civil Eng 10:23-5 Ja '40
Shock proofing a bulk plant; Shell Oil's new depot in San Francisco. il Nat Pet N 32: 25-8 Ap 17 '40
Special earthquake designs survived recent shock. Eng N 124:837 Je 20 '40
Well-built schools not harmed by western quake. D. C. Willett. Eng N 124:932-3 Je 27 '40

EARTHS, Rare. See Rare earth metals

EARTHWORK
Application of flow figures to computation of seepage through earth fills; tr. by I. F. Morrison and H. R. Webb. R. Muller. diags Can Eng W & S 78:14-20+ Jl '40
Building bases for our air forces; preparing the airfield site. il Eng N 125:545-7 O 24 '40
Earth-moving equipment and the engineer; abstract. F. A. Nikirk. Automotive Ind 83: 454 O 15 '40
Fitting rolled earth dams to local materials. B. K. Hough, jr. il diags Civil Eng 10:689-92 N '40
Heavy automotive haulage; abstract. H. K. Church. il Automotive Ind 83:432-3, 453-4 O 15 '40
Modern construction methods on earth dams. O. N. Floyd. il Civil Eng 10:487-90, 586-9 Ag-S '40
Technical specification for earthworks for German motor roads. C. Schnell and K. H. Hartmann. Pub Works 71:18 Ja '40
Terracing of deep cuts; rerouting of highway no. 127, Iowa. il Can Eng R & I 78:22+ S '40

See also
Dams
Dikes (engineering)
Drainage
Dredging
Drilling and boring (earth and rocks)
Earth pressure
Embankments
Excavation
Filling
Foundation soils
Foundations
Hydraulic filling
Irrigation canals
Levees
Retaining walls
Roads—Grading
Roads—Subgrades
Soil conservation
Soil mechanics
Tunnels and tunneling

Cost

Earthwork, Louisiana; unit prices. Eng N 124:470 Mr 28 '40
Earthwork, Texas; unit prices. Eng N 123: 804 D 14 '39

EAST INDIES

See also
Netherlands Indies

EAST Tennessee light and power company
Reorganization. Comm & Fin Chr 150:1762 Mr 16 '40

EASTER
Unusual Easter dates. A. Pogo. Science 91: 292 Mr 22 '40

EASTERN air lines
Listing; offering, &c. Comm & Fin Chr 150: 3199-200 My 18 '40

EASTERN light and power company, Halifax, Nova Scotia
Bonds offered. Comm & Fin Chr 149:3870 D 16 '39

EASTERN Massachusetts street railway company
Eastern Massachusetts wins Bus Transportation maintenance award; with cost data. il Bus Transportation 18:542-5, 574-6 N '39

EASTMAN kodak company
Eastman and Agfa Ansco form new ASA photographic group. Ind Stand 11:26 Ja '40
Eastman Kodak's growth. Barron's 20:18 S 2 '40

EASTMAN report. See Transportation—United States

EATON, Paul Burns, 1888-
Sketch. por Mech Eng 62:640 Ag '40

EATON manufacturing company
Glance at the week's reports; earnings record, 1936-39. H. Lawrence. Barron's 20:13 Mr 4 '40

EATON manufacturing company—*Continued*
High yield common stocks; thumbnail appraisal. Mag of Wall St 66:419 Jl 13 '40

EBASCO services, Incorporated
Findings and opinion of the SEC. Comm & Fin Chr 151:1278-9 Ag 31 '40

EBONITE
Uses of natural and synthetic rubbers in the wet processing of textiles. R. A. Hodgson. Soc Dyers & Col J 56:377-83; Discussion. 383-4 S '40

EBULLIOSCOPY. See Boiling points

ECCLES, Marriner Stoddard, 1890-
Reappointment of Marriner Eccles as chairman of the Federal reserve board; his banking philosophy. J. Farnham. Bankers M 140:410-12 My '40

ECHINOCYSTIC acid
Sapogenins; the structure of quillaic acid and its relation to echinocystic acid. D. F. Elliott, G. A. R. Kon and H. R. Soper. Chem Soc J p612-17 My '40
Saponins and sapogenins; the interrelationship of echinocystic acid and oleanolic acid. D. Todd, G. H. Harris and C. R. Noller. Am Chem Soc J 62:1624-5 Je '40

ECHIUM
Green and yellow dyes from echium vulgare. C. D. Mell. Textile Col 62:412 Je '40

ECHO
Answer, echo, answer. A. Carr. diags Sci Am 161:342-4 D '39
Synthetic reverberation; recording fugitive sound pattern of original program signal on rotating phosphor-coated disk by means of modulated light source and simple optical system. P. C. Goldmark and P. S. Hendricks. il diags Inst Radio Eng Proc 27:747-52 D '39

ECKFELDT, Howard, 1873-
Sketch. por Explosives Eng 17:320-1 N '39

ECKHARDT, Englehardt August, 1888-
Sketch. por Explosives Eng 18:100-1 Ap '40

ECLIPSES, Lunar
Rate of cooling at a lunar eclipse; abstract. E. Pettit. Science 91:sup6 Je 28 '40

ECLIPSES, Solar
Composition of the sun. Science 91:sup10 Mr 15 '40
Eclipse of the sun. R. D. Potter. Science 91: sup10 Mr 29 '40
Infra-red records of the eclipse made in Texas. Science 91:sup 12 Ap 19 '40
Predictions of normal radio critical frequencies related to solar eclipses in 1940. N. Smith. bibliog J Research Nat Bur Stand 24:225-8 F '40
Solar eclipse. Franklin Inst J 230:647-8 N '40
Solar eclipse. Science 92:sup8 O 11 '40
Total solar eclipse of October 1; expedition to Brazil under the joint auspices of the National geographic society and the National bureau of standards. Science 92:166-7 Ag 23 '40

ECLIPSES, Stellar
Algol's eclipses. H. N. Russell. Sci Am 162: 86-7 F '40

ECOLOGY
Ecology of modern marine organisms with reference to paleogeography. T. W. Vaughan. maps Geol Soc Bul 51:433-68 bibliog(p466-8) Mr '40

See also
Paleoecology

ECONOMIC conditions
Annual report of World, inc.; imaginary holding company with nations as subsidiaries. C. R. Harrower. Barron's 20:34+ Ja 15 '40
Annual report, 10th, of the Bank for international settlements, year ending March 31, 1940. Fed Res Bul 26:1057-96 O '40
Annual review and forecast number. Annalist 55:97-191 Ja 26 '40
Bread and butter economics. F. B. Kirkbride. Trusts & Estates 69:643-4 D '39
Business abroad. Published in weekly numbers of Business week
Financial situation abroad. Published in monthly numbers of Bankers magazine
Funds unlimited; rates easy. A. M. Pope. Inv Banking 10:22-8 Mr '40
On the world economic front: post-war period, 1920-Sept. 1939 ended; 1939 record and wartime prospects. W. W. Case. Annalist 55: 108-9+ Ja 25 '40

See also
Business conditions
Business depression
Economic statistics
also subdivision Economic conditions under names of countries and regions, e.g. France—Economic conditions; Germany—Economic conditions; Poland—Economic conditions; United States—Economic conditions

ECONOMIC councils
Collaboration between public authorities and organizations of workers and employers. Monthly Labor R 51:617-20 S '40

ECONOMIC geography. See Geography, Economic

ECONOMIC history
Growth of rigidities. N. S. B. Gras. Harvard Business R 18 no 3:322-36 [Ap] '40
Introduction to world economic history since the Great war. J. P. Day. 161p $1.15 Macmillan '39

See also
Greece, Ancient—Economic conditions
United States—Economic history

ECONOMIC planning
Dr Kirk's comments on his remarks at Cedar Rapids. Annalist 55:717-18 My 23 '40
Less rigid control of economic machinery by government is advocated. B. M. Anderson, jr. Comm & Fin Chr 149:4108 D 30 '39
U.S. price program seen as beating back revival in business; effects of controlled money and planned economy. R. C. Leffingwell. Ptr Ink 190:11-14, 139-40+ Ja 26 '40
World wheat planning and economic planning in general. P. de Hevesy. 912p bibliog (p871-83) $12 Oxford '40

See also
Economic councils
Economic policy
Land utilization
Stabilization in industry

Bibliography

NESPA guide. Published monthly by the National economic and social planning association, 1721 Eye st, N.W., Washington, D.C.

ECONOMIC planning, International
Economic defense of the Americas. W. S. Culbertson. Ann Am Acad 211:186-96 S '40
Foundations of peace. A. E. Bunge. Ann Am Acad 210:14-18 Jl '40
Peace and sound economics. G. S. Patterson. Ann Am Acad 210:68-72 Jl '40

ECONOMIC policy
American free enterprise and the future. P. D. Reed. Edison Elec Inst Bul 8:321-4 Jl '40; Same. Dun's R 48:5-9+ Jl '40
Business recovery remains United States problem, regardless of European war, economists tell Pennsylvania bankers. Comm & Fin Chr 150:3449 Je 1 '40
Capital in a democracy; economic lessons for America of European capitalism's collapse. A. F. Schlomann. Trusts & Estates 71:119-24 Ag '40
Capital is needed; saturation-point theory of savings and investment refuted by Economic policy commission of the American bankers association. Inv Banking 10:24-6 My '40
Changing pattern of international economic affairs. H. Feis. 132p bibliog(p131-2) $2 Harper '40
Contemporary economic systems; their analysis and historical background. E. R. Sikes. 690p $3 Holt '40
Dynamics of war and revolution. L. Dennis. 259p $3 Weekly foreign letter, 515 Madison av, New York '40

ECONOMIC policy—*Continued*
Economic balance and a balanced budget; public papers of Marriner S. Eccles. R. L. Weissman, ed. 299p $3.50 Harper '40
Economic bases of peace. E. M. Patterson. 264p $2.50 McGraw-Hill '39
Economic self-sufficiency. A. G. B. Fisher. 32p pa 15c Farrar '39
Financial interests urged to prepare for economic changes following war. M. W. Pask. Comm & Fin Chr 151:187 Jl 13 '40
Fiscal policies and taxation. M. S. Eccles. Trusts & Estates 69:665-6 D '39
Foreign trade blocs. E. B. Dietrich. Ann Am Acad 211:85-91 S '40
Government and economic life. L. S. Lyon and others. 2v v 1 519p $3; v 2 791p $3.50 Brookings institution, Washington, D.C. '39-'40; Review, by B. A. Thresher. Mech Eng 62:736-7 O '40
Government and economic life [interpretative summary of 2 volumes with this title]. L. S. Lyon and V. Abramson. 66p pa 25c Brookings institution, Washington, D.C. '40
Idle men, machines and money; review of Brookings Institution study, Capital expansion, employment and economic stability. E. H. Collins. Banking 33:37-8 Jl '40
Influences of environmental changes on distribution problems; passing of economy based on territorial expansion; new basis for expanding economy must be found. H. S. Person. Advanced Management 4 no5:137-40 '39
Is industrial self-government possible? O. Tead. Advanced Management 5:21-5+ Ja-Mr '40
Liberalism denotes freedom for all. W. L. Willkie. Comm & Fin Chr 150:2660 Ap 27 '40
Look at our economic future. R. Moley. Bankers M 141:112-16 Ag '40
Meeting in New York acts to form committee to study effect of European war on American markets in line with proposal of M. W. Pask. Comm & Fin Chr 151:489-90 Jl 27 '40
Modern economic and social systems. R. E. Westmeyer. 604p bibliog(p588-96) $3 Farrar '40
New directions in the New World. A. A. Berle, jr. 141p $2 Harper '40
Organized scarcity and public policy; monopoly and its implications. H. D. Gideonse. 53p bibliog(p52-3) pa 25c Univ. of Chicago press '39
Our changed economy. L. Stern. Mag of Wall St 65:278-80+ D 16 '39
Our national destiny; how to preserve benefits of enterprise system. W. L. Crum. Barron's 19:3 N 27 '39
Prepare for economic war! abstract. D. S. Freeman. Bankers M 141:156 Ag '40
Private enterprise and democracy. C. E. Carpenter. 217p $2.50 Longmans '40
Problem of unemployment. Nat City Bank p8-11 Ja '40
Programme for progress. J. Strachey. 303p $3 Random house, 20 E. 57th st, New York '40
Pump priming friction between labor and industry aggravated by Wagner act and excessive taxation. R. W. Lawrence. Comm & Fin Chr 150:366-7 Ja 20 '40
Reconstruction of nation's economy based on sound economic law and full knowledge of existing realities urged. A. P. Sloan. Comm & Fin Chr 151:1825-6 S 28 '40
Reconstruction of world trade; a survey of international economic relations. J. B. Condliffe. 427p bibliog(p407-12) $3.75 Norton '40
Reflections on postwar reconstruction. G. Cassel. Ann Am Acad 210:24-7 Jl '40
Replace lost markets; finance European immigration to Canada out of excessive gold holdings of the United States. J. V. Walters. Bankers M 141:147-8 Ag '40
Restore thrift and free enterprise. W. S. McLucas. Bankers M 140:165-6 F '40
Structure of society and peace. M. J. Bonn. Ann Am Acad 210:7-13 Jl '40
This unbalanced world. E. C. Bratt. 220p $2.50 Harper '40
Vain search for security; progress made in periods of great uncertainty when rewards were attractive. J. T. Adams. Barron's 20:3 Ja 15 '40
War of systems; economic socialization as component part of national defense. G. Myers. Trusts & Estates 70:581-5 Je '40
What of private enterprise? S. Chase. Trusts & Estates 71:386-8 O '40
World cotton situation; U.S. preparedness and international relations. W. L. Clayton. Credit & Fin Management 42:22-4 S '40

See also
Capitalism
Commercial policy
Communism
Economic planning
Fascism
Government loans to industry
Government ownership
Government regulation of industry
Industry and state
Money
Socialism
Tariff

also subdivision Commercial policy and Economic policy under names of countries, e.g. Japan—Economic policy; United States—Economic policy

ECONOMIC statistics
Analysis of economic time series. G. Tintner. bibliog Am Statis Assn J 35:93-100 Mr '40
Comparison of occupational class and physicians' estimate of economic status. J. C. Goddard. Pub Health Rep 54:2159-65 D 8 '39
Economic changes in the United States 1854-1908; monthly indexes of business activity; prices, commercial paper rates, bond yields, stock prices. Annalist 55:900 Je 27 '40
Economic changes in the United States, 1856-1939; chart showing business activity, prices, commercial paper rates, bond yields. Annalist 55:144-5 Ja 25 '40
Graphical survey of economic developments. R Econ Statis 21:149-52; 22:13-16, 74-7, 112-14, 161-4 N '39-N '40
Illinois segment of the nation's economy for 1935; a bookkeeping picture. F. G. Dickinson and F. Eakin. Ill U Bur Business Research Bul 60:1-132 '40 (pa $1)

See also
Business statistics
Cost of living—Statistics
Employment—Statistics
Income—Statistics
Index numbers (economics)
Industrial statistics
Labor and laboring classes—Statistics
Production—Statistics
Wages—Statistics

ECONOMICS
A B C of economics. E. Pound. 128p $2 New directions, Norfolk, Conn. '40
Citizens at work. J. S. Young, E. M. Barton and L. E. Johnston. 402p bibliog(p387-90) $1.32 McGraw-Hill '40
Conditions of economic progress. C. Clark. 504p $5 Macmillan '40
Consumer economic problems. H. G. Shields and W. H. Wilson. 767p $1.88 South-western pub. co. '40
Economic life of primitive peoples. M. J. Herskovits. 492p, 23p bibliog(p471-92) $4.50 Knopf '40
Economic principles and problems. W. E. Spahr, ed. 4th ed 2v 572p; 660p ea $2.50; also in 1v $4.50 Farrar '40
Economic problems and cases. C. C. Thomason and A. L. Davis. 5th ed 114p $1.75 Rochester anthenaeum and mechanics inst, 55 Plymouth av, S. Rochester, N.Y. '40
Economics. N. B. Dearle. 522p $2.50 Longmans '39
Economics. F. R. Fairchild, E. S. Furniss and N. S. Buck. rev ed 828p bibliog(p809-18) $3 Macmillan '40
Economics for the millions. H. P. Fairchild. 262p $2.50 Modern age books, 432 4th av, New York '40
Economics with applications to agriculture. E. F. Dummeier and R. B. Heflebower. 2d ed 752p $3.75 McGraw-Hill '40
Elements of modern economics. A. L. Meyers. 259p $1.75 Prentice-Hall '40
Getting a living; the foundations of economic society. H. L. Lutz, E. W. Foote and B. F. Stanton. 687p $1.80 Row, Peterson and co, Evanston, Ill. '40

ECONOMICS—*Continued*

Getting and spending; the ABC of economics. M. Adams. 125p 60c Macmillan '39

High points of economics. A. L. Wilbert. 345p $1.05; pa 67c Lincoln pub. co, New York '38

Introductory economics. J. H. Dodd. rev ed 596p bibliog(pix-x) $1.60 South-western pub. co. '40

Modern economics. J. H. Moore and others. 486p $2.75 Nelson '40

Our mature economy; arguments against this doctrine. Nat City Bank p44-7 Ap '40

Outline of economic principles and problems. F. A. Linville. 217p bibliog(p217) pa 75c Saga press, New York '39

Principles of economics. L. A. Froman. 2v v 1 702p $2.50 Richard D. Irwin, inc, Chicago '40

Proceedings of the eighteenth annual conference of the Pacific coast economic association at the State college of Washington, Pullman, Washington and the University of Idaho, Moscow, Idaho, December, 1939. C. Crumbaker, ed. 123p pa $2 C. Crumbaker, Pacific coast econ. assn, Eugene, Ore. '40

Social approach to economics. H. A. Logan and M. K. Inman. 659p bibliog(p641-6) $3.75 Univ. of Toronto press, Toronto '39

Steps in economic progress. F. A. Neff. 167p $2 McGuin pub. co, 210 S. Emporia st, Wichita, Kan. '39

Theory of idle resources. W. H. Hutt. 193p $1.75 Thomas Nelson & sons, 91 Wellington st, W, Toronto '39

See also

Advertising—Economic aspects
Agriculture—Economic aspects
Balance of payments
Banks and banking
Business
Capital
Capitalism
Commerce
Communism
Competition
Consumption (economics)
Cooperation
Cost of living
Credit
Debt
Debts, Public
Depreciation
Distribution (economics)
Economic conditions
Economic policy
Education—Economic aspects
European war, 1939—Economic aspects
Finance
Government ownership
Government regulation of industry
Housing
Income
Index numbers (economics)
Industrial relations
Industry
Interest
Labor and laboring classes
Land
Liquidity (economics)
Manufactures
Money
Population
Prices
Production
Profit
Profit sharing
Rent
Saving
Socialism
Speculation
Statistics
Strikes
Tariff
Taxation
Trade unions
Transportation
Trusts, Industrial
Wages
War—Economic aspects

Bibliography

Bibliography of economic and social study material available through the National association of manufacturers. 20p Nat. assn. of manufacturers, 14 W. 49th st, New York '40

Bibliography on war and wealth. Trusts & Estates 71:206-8 Ag '40

Book reviews. Published in bi-monthly numbers of Annals of the American academy of political and social science

Kress library of business and economics; catalogue covering material published through 1776 with data upon cognate items in other Harvard libraries. 414p pa $5 Baker library, Harvard graduate school of business administration, Boston '40

Dictionaries

Everyday terms in economics. C. C. Janzen. 75p pa 50c Thiessen ptg. corp, Chicago '38

History

Basic theories of distribution. B. F. Catherwood. 262p bibliog(p260-2) 12s P. S. King & son, London '39

History of economic ideas. E. Whittaker. 766p bibliog(p747-54) $4 Longmans '40

History of monetary and credit theory from John Law to the present day. C. Rist. 442p $4.90 Macmillan '40

Inquiry into physiocracy. M. Beer. 196p $2 Macmillan '39

ECONOMICS, Mathematical

Notes on United States manufacturing; I, The balance ratio. C. W. Cobb. 20p Amherst college '40

Study on the pure theory of production. S. Carlson. 128p bibliog(p127-8) 8s 6d P. S. King & son, London '39

ECONOMIZERS, Fuel. See Fuel economizers

ECONOMY auto insurance company, Freeport, Illinois

Company analysis. Spectator (Property ed) 5:28-9 N 16 '39

ECUADOR

Ecuador, the unknown. V. W. Von Hagen. 296p $3.50 Oxford '40

See also

Labor laws and legislation—Ecuador
Plastic industries—Ecuador

Commerce

Foreign trade during 1939; comparisons with 1937 and 1938. Comm Rep p251 Mr 16 '40

Recent statistics of Ecuador's foreign trade. 7p Pan American union, Washington, D.C. '40

Commercial policy

New exchange regulations. Comm Rep p625 Jl 20 '40

EDESTIN

Substitute for edestin needed. H. B. Vickery, E. L. Smith and L. S. Nolan. bibliog Science 92:317-18 O 4 '40

EDISON, Charles, 1890-

Portrait. Aviation 38:28 D '39; Aero Digest 36: 33 F '40

Resigns as Secretary of navy. Comm & Fin Chr 150:3599 Je 8 '40

EDISON, Thomas Alva, 1847-1931

Edison; an anecdote. A. E. Smith. por Sci Am 163:145 S '40

Edison; his life, his work, his genius. W. A. Simonds. 364p bibliog(p345-9) $1 Blue ribbon books '40

"Edison the man" dramatizes electric light; M-G-M motion-picture biography. Edison Elec Inst Bul 8:240 My '40

Mr Davidson goes to the movie at Port Huron; impressions of the film Young Tom Edison. J. E. Davidson. por Edison Elec Inst Bul 8:97-9 Mr '40

EDISON brothers stores, inc.

Moderate-priced newcomer to the New York stock exchange; thumbnail appraisal. Mag of Wall St 65:753 Mr 23 '40

EDISON electric institute

Annual meeting, 8th, Atlantic City, June 3-6. Edison Elec Inst Bul 8:249-54+ Je '40; Elec W News ed 113:1813-17 Je 8 '40; Comm & Fin Chr 150:3593-4 Je 8 '40; Power Pl Eng 44:93-4, 96, 98 Jl '40; Pub Util 25:806-15 Je 20 '40

Annual sales conference, 7th, Chicago. Elec W 113:905 Mr 23 '40; Edison Elec Inst Bul 8:121-3 Ap '40

Committees are ready for new problems; with portraits and sketches of chairmen. Edison Elec Inst Bul 8:445-8 S '40

Engineering committees, annual meeting, Chicago, May 6-8. A. Maxwell and others. Edison Elec Inst Bul 8:221-6 My '40

Engineering committees meeting, Chicago, May 6-9. Elec W 113:1508-11+ My 18 '40

Keeping the pace; promotion work. C. E. Greenwood. Edison Elec Inst Bul 7:584-6 D '39

Personnel of committees for 1940-1941. Edison Elec Inst Bul 8:410-14 Ag '40

Program of 8th annual meeting; with portraits of speakers. Edison Elec Inst Bul 8:185-91 My '40

EDISON electric institute—*Continued*
Report of the prize awards committee. H. P. Liversidge. Edison Elec Inst Bul 8:273-6+ Je '40

Third national accounting conference, Chicago, Nov. 13-15. Edison Elec Inst Bul 7: 505-59 N '39

Time to win 1941 prizes is now; description of awards administered by the Edison electric institute. Edison Elec Inst Bul 8:403-4 Ag '40

EDISON electric institute medal
Twelve resuscitation medals awarded last year. M. B. Woods. il Edison Elec Inst Bul 8:69-72+ F '40

EDISON medal
A.I.E.E. awards Edison medal to Philip Torchio. Elec W News ed 112:1824 D 23 '39

Philip Torchio; 1939 Edison medalist; addresses by R. H. Tapscott and by P. Torchio. il Elec Eng 59:99-102 Mr '40

EDUCATION
Fundamentals first; necessity of general education. R. M. Hutchins. Trusts & Estates 70:475-9 My '40

New aims in education. G. Hambidge. 226p $2 McGraw-Hill '40

See also
Business education
Chemical education
Colleges and universities
Education of workers
Employees, Training of
Engineering education
Health education
High schools
Industrial education
Learning, Psychology of
Libraries
Medical education
Mining schools and education
Moving pictures in education
Public schools
Radio in education
Schools
Teachers
Teaching
Technical education
Trade schools
Vocational education

Consult Education Index for additional references

Economic aspects

Education and economic well-being in American democracy. 227p 50c Educational policies commission, 1201 16th st, NW, Washington, D.C. '40

Philosophy

Living philosophy of education. C. Washburne. 585p $4 Day '40

Statistics

Statistics applied to education and psychology. C. T. Gray and D. F. Votaw. 278p $3.25 Ronald press '39

Great Britain

Education at a price; cost of English schooling is a bar to democracy. Economist 138: 926-7 My 25 '40

See also
Technical education—Great Britain

Mexico

Education. G. I. Sánchez. Ann Am Acad 208: 144-52 Mr '40

New England

Directories

Educational institutions of New England. D. Dewart, ed. 486p $5 Bellman pub. co, 6 Park st, Boston '40

United States

Public education; cost and effectiveness of primary and secondary schooling. D. L. Parsons. il Dun's R 48:10-15 Jl '40

EDUCATION, Higher
See also
Colleges and universities

EDUCATION, Secondary
See also
High schools

EDUCATION and state
European policies of national aid for education. F. H. Swift. 18p Univ. of Calif. press, Berkeley '40

EDUCATION of adults
Adult education councils. R. Kotinsky. 172p $1.25 Am. assn. for adult education, 60 E. 42d st, New York '40

Church and adult education. B. E. Meland. 114p $1 American assn. for adult education, New York '39

Cinema and the information services. T. Baird. Assn of Sp Lib & Inf Bur Proc 1939: 50-61

Creative adult; self-education in the art of living. H. Mearns. 300p $3 Doubleday '40

Salvaging the lost generation; Williamsport, Pa. plan. A. T. Winecoff. Nation's Business 28:108-9 Mr '40

Toward a safe democracy. A. Johnson. Special Lib 31:149-50 My-Je '40

See also
Education of workers
Prison schools

Bibliography

Selected bibliographies for commercial education, homemaking, forums, recreation, general education, vocational, workers' education; adult education; in service training. Rochester, N.Y. 106 numb l Bd. of education, Rochester, N.Y. '38

EDUCATION of prisoners. See Prison schools

EDUCATION of workers
College in a factory; labor relations studied in Oakland plant of the Paraffine companies, San Francisco. il Business Week p37-8 Mr 16 '40

Government support of workers' education, with special reference to a study of the relation of private and public agencies in the field of workers' education in Denmark and Sweden. E. G. Coit. 72p bibliog(p67-72) pa 50c Am. labor education service, New York '40

Job histories of women workers at the summer schools 1931-34 and 1938. E. M. Snyder. U S Women's Bur Bul 174:1-25 '39

Monthly educational programs, institution of Ark.-La. assn. Nat Pet N 32:R324 S 4 '40

To get ahead, they learn to talk; Timken roller bearing company's Rock bit division. Factory Management 98:66+ S '40

Workers' education; today's challenge. R. M. Stein. Harvard Business R 18 no 2:207-14 [Ja] '40

Worker's road to learning. T. R. Adam. 162p $1.25 Am. assn. for adult education, New York '40

See also
Employees, Training of
Industrial education
Vocational education

EDUCATIONAL advertising. See Advertising, Educational

EDUCATIONAL measurements
See also
Chemistry—Tests and scales

EDUCATIONAL psychology
Leta S. Hollingworth; authority on the psychology and education of exceptional children. A. I. Gates. Science 91:9-11 Ja 5 '40

Mental hygiene; a manual for teachers. J. D. M. Griffin, S. R. Laycock and W. Line. 291p $1.75 Am. book co. '40

Psychology in education. H. Sorenson. 489p $2.75 McGraw-Hill '40

EFFICIENCY, Industrial
Artificial lighting in industry; how eyestrain and fatigue affect works' output. G. V. Downer. Electrician 125:31 Jl 19 '40

Chemical work simplification; program to enlist aid of supervisory, technical and clerical employees in search for new ideas. J. R. Bailey. Chem & Met Eng 47:18-19 Ja '40

Criteria of marketing efficiency. T. N. Beckman. Ann Am Acad 209:133-40 My '40

EFFICIENCY, Industrial—*Continued*
Economic effects of cost reductions; impact of technological change upon labor; efficiencies and improvements from joint management-union research of production problems. C. S. Golden. Advanced Management 5:104-9 Jl-S '40
Economical handling methods in war-time production; some problems of conveyor assembly. Mech Handling 26:317-18 N '39
Economical handling methods in war-time production; statistical control which will reveal the cost and efficiency of each belt. Mech Handling 26:347-8 D '39
Four typists do the work of 35; office efficiency system developed by TVA. il Business Week p26-7 D 30 '39
Getting efficiency from WPA labor; job report giving unit cost and other data. Eng N 123:756 D 7 '39
Instrumentation in arc welding; studies in operator behavior prove valuable. R. E. Kinkead. il Steel 107:60-1+ Jl 22 '40
Is industrial self-government possible? O. Tead. Advanced Management 5:21-5+ Ja-Mr '40
Leistungssteigerung in betrieben durch grosszahlforschung. E. Franke. V D I 83:1179-83 N 4 '39
Management counsel profession. J. Dean. 89p pa 75c Indiana univ, Bloomington '40
Top management goes to school. C. A. Drake. Factory Management 98:140+ Je '40
Work simplification increases output; Glenn L. Martin plant. il Aero Digest 37:55+ S '40

See also
Ability tests
Business management
Employees—Rating
Employment management
Executives
Factory management
Fatigue
Foremen
Idleness, Industrial
Industrial engineering
Industrial management
Labor productivity
Machine shop management
Machine shops—Lighting
Machinery, Replacement of
Machinery in industry
Mine management
Motion study
Office management
Planning
Schedules
Standardization
Time study

EFFLORESCENCE
Disintegration of face brick by crystallization of soluble salt. J. M. Hardesty. bibliog il Am Soc T M Proc 39:971-5; Discussion. il 976-8 '39
How to control scumming and efflorescence. H. G. Schurecht. Brick & Clay Rec 95:28 N '39
Rôle of sulphates in the decay of building stones, mortars, and bricks. T. McLachlan. il Soc Chem Ind J 59:133-8 Jl '40

EFFORT rating. See Time study

EFFUSIOMETERS
Automatic effusiometer for determination of specific gravity of gases. G. V. Feskov. il diag Ind & Eng Chem Anal ed 11:653-4 D 15 '39

EGG white. See Albumin

EGGS
Behavior of ovomucin in the liquefaction of egg white. A. K. Balls and S. R. Hoover. bibliog Ind & Eng Chem 32:594-6 Ap '40
Bio-electric potentials of the hen's egg; possibility of detection of vital activity of the blastoderm of fertile eggs. A. L. Romanoff and C. L. Cottrell. Science 90:471-2 N 17 '39
Biological position of birds' eggs. J. Needham. Chem & Ind 59:484 Jl 6 '40
Chemical composition of the egg. E. M. Cruickshank. bibliog Chem & Ind 59:415-19 Je 15 '40
Effect of cooking on eggs. M. Andross. Chem & Ind 59:449-54 Je 29 '40
Eggs. il Consumers' Research Bul (Gen bul ser) 9:20-4 Ap '40
Food value of the egg; discussion. Chem & Ind 59:312-13 My 4 '40
Nutritive value of the egg. S. K. Kon. bibliog Chem & Ind 59:360-3 My 25 '40

Preservation
Preservation of eggs. R. B. Haines. bibliog il Chem & Ind 59:391-6 Je 8 '40

Statistics
Poultry and eggs, 1936-1939. Survey of Cur Business 1940 Sup p112 [supplemented in monthly numbers]

Storage
Egg storage; abstract. Food Ind 12:96-7 Ap '40
Preservation of eggs. R. B. Haines. bibliog il Chem & Ind 59:391-6 Je 8 '40

EGLESTON medals
Award of the Egleston medals of the School of engineering of Columbia university. Science 90:509 D 1 '39

EGLOFF, Gustav, 1886-
Receives medal from chemists' institute. por Oil Paint & Drug Rep 137:3+ My 27 '40

EGYPT
Battle of Egypt may decide war. M. Palyi. il Am Business 10:30-2 O '40

See also
Cotton—Egypt
Libraries—Egypt
Petroleum industry and trade—Egypt

Economic conditions
Business situation. Comm Rep p46 Ja 20 '40 [cont monthly] [cont as For Comm W O 5]
Economic conditions during 1939. Comm Rep p220-1 Mr 9 '40
Egypt in 1939. Economist 138:sup27 F 17 '40
War speculation in Egypt. Economist 138:333 F 24 '40

Social conditions
Social and economic condition of the Egyptian population. R. A. Hare. Monthly Labor R 51:43-5 Jl '40
Tomorrow's Egypt. D. Finney. 213p bibliog (p211-13) $1; pa 50c Women's general missionary soc, 904 Publication bldg, Pittsburgh '39

EGYPTIAN calendar. See Calendar, Egyptian

EGYPTIAN SUDAN. See Sudan, Egyptian

EHRLICH'S solution

See also
Indole—Analysis

EITINGON Schild company
Delisting recommended. Comm & Fin Chr 150:2723 Ap 27 '40

EJECTORS
Factor *C* in the performance of ejectors as a function of molecular weights of vapors. L. T. Work and A. Miller. diags Ind & Eng Chem 32:1241-3 S '40

See also
Air ejectors
Steam jets

EKKO process. See Electrodeposition of metals

ELAIDIC acid
Wijs iodine method. J. W. McCutcheon. Ind & Eng Chem Anal ed 12:465 Ag 15 '40

ELASTIC fabrics
Elastic-yarn uses increase. H. P. Galloway. il Textile World 90:71-2 Ap '40
Enemies of covered-rubber yarn; combatted by correct methods of manufacture and finishing. C. E. Bergamini. il Textile World 90:67 Ja '40; Same abr. Rubber Age 47:28 Ap '40
Lastex and elastic knitted fabrics. il Rayon 21:221-2 Ap '40
Plastics competition; award to S. Buchsbaum & co. for Elasti-glass. il Mod Plastics 18:80, 99 O '40
Pluralastic shugor; production of shoe goring. il Rubber Age 46:168 D '39

See also
Rubber thread

ELASTIC limit
Theory of limit design. J. A. Van den Broek. diags Am Soc C E Proc 65:193-216 F '39; Discussion. diags 65:923-46, 1130-52, 1369-76, 1431-4, 1795-6; 66:121-4, 287-300 My-Je, S-O, D '39-F '40

ELASTIC limit—*Continued*
Theory of limit design. J. A. Van den Broek. diags W Soc E J 44:245-58 O '39

ELASTIC thread. See Rubber thread

ELASTICITY
Composite elasticity of rubber. H. Mark. bibliog il diags India Rubber W 102:41-5 Je; 45-9 Ag '40
Contribution à l'étude du module d'élasticité des alliages métalliques. L. Guillet, fils. Génie Civil 116:29-32 Ja 13 '40
Elastic equation for beams. I. F. Morrison. Can Eng R & B 78:48+ S '40
Elasticity of phenolic compounds. A. F. Shepard and L. A. Sontag. Mod Plastics 17:48+ F '40
Influence of curvature on the buckling characteristics of structures. T. von Kármán, L. G. Dunn and H. Tsien. bibliog il J Aeronautical Sci 7:276-89 My '40
Influence of initial stress on elastic waves. M. A. Biot. bibliog J Ap Phys 11:522-30 Ag '40
Internal friction of single metal crystals. T. A. Read. bibliog diags Phys R 58:371-80 Ag 15 '40
Modulus of elasticity of metallic alloys; abstracts. L. Guillet, jr. Engineer 170:sup [Metallurgist]129-30 O 25 '40; Metals & Alloys 11:MA344 Je '40
New method for measuring Young's modulus. A. King. bibliog diags R Sci Instr 11:114-16 Ap '40
Right- and left-handedness of quartz and its relation to elastic and other properties. K. S. Van Dyke. bibliog il diags Inst Radio Eng Proc 28:399-406; Discussion. 428-9 S '40
Sonic method of determining the modulus of elasticity of building materials under pressure. L. Obert. diags Am Soc T M Proc 39:987-95; Discussion. 996-8 '39
Stress distribution around a tunnel. R. D. Mindlin. diags Am Soc C E Proc 65:619-42 Ap '39; Discussion. 65:1465-8; 66:323-31, 1063-4 O '39, F, Je '40
Temperature dependence of Young's modulus of beta-brass single crystals. J. S. Rinehart. bibliog Phys R 58:365-71 Ag 15 '40
Tensile elastic properties of 18:8 chromium-nickel steel as affected by plastic deformation. D. J. McAdam, jr. and R. W. Mebs. bibliog U S Nat Advisory Com for Aeronautics 1939:539-80 '40
Theory of elastic stability applied to structural design. L. S. Moisseiff and F. Lienhard. Am Soc C E Proc 66:31-70 bibliog(52 titles, p67-70) Ja '40
Theory of large elastic deformation. M. Mooney. J Ap Phys 11:582-92 S '40
Thermal volume change and elasticity of aggregates and their effect on concrete. T. F. Willis and M. E. De Reus. il diags Am Soc T M Proc 39:919-28; Discussion. 929 '39
Das Thyssen-elastometer. G. Haupt. il Stahl & Eisen 60:434-5 My 16 '40
Les valeurs pratiques du module d'élasticité du béton. Génie Civil 116:252-3 Ap 13 '40
Variation of the adiabatic and isothermal elastic moduli and coefficient of thermal expansion with temperature through the λ-point transition in ammonium chloride. A. W. Lawson. bibliog diags Phys R 57:417-26 Mr 1 '40
Variation of the principal elastic moduli of Cu_3Au with temperatures. S. Siegel. bibliog diag Phys R 57:537-45 Mr 15 '40

See also
Bending moment
Deformations (mechanics)
Fatigue in metals
Photoelasticity
Plasticity
Strains and stresses
Strength of materials

ELBS reaction
New methyl and dimethyl derivatives of cholanthrene. L. F. Fieser and D. M. Bowen. bibliog Am Chem Soc J 62:2103-8 Ag '40

EL DORADO, Kansas
El Dorado prepares for 25th anniversary of oil discovery. D. Dalrymple. il Oil & Gas J 39:25+ S 26 '40

Water supply
Successful taste and odor control in El Dorado. A. E. French. il diag Pub Works 71:23-4 Ja '40

ELDRED, Byron E. 1873-
Continuous casting. T. W. Lippert. Iron Age 145:37-9 Ap 4 '40

ELECTIONS
Attorney General Jackson warns Republicans on limitations of Hatch law. Comm & Fin Chr 151:785-6 Ag 10 '40
Facts about your job as a voting citizen. H. M. Dorr and E. H. Litchfield. 31p bibliog (p27) Bur. of government, Univ. of Michigan, Ann Arbor '40
House judiciary committee tables Hatch bill to extend anti-politics provisions to state employees paid with federal funds. Comm & Fin Chr 150:2810 My 4 '40
President Roosevelt signs Hatch bill extending political activity ban to state and municipal employees receiving pay from federal funds. Comm & Fin Chr 151:486 Jl 27 '40
Senate committee vote to extend Hatch law to state employees receiving pay from fedral funds. Comm & Fin Chr 150:1357 Mr 2 '40
Senate passes Hatch act amendments. Comm & Fin Chr 150:1858 Mr 23 '40
Text of so-called Hatch bill extending political activity ban to state and municipal employees receiving pay from federal funds. Comm & Fin Chr 151:1819-20 S 28 '40
U.S. Senate votes $5,000 limit on political gifts in provision amending Hatch act. Comm & Fin Chr 150:1689 Mr 16 '40
Warnings on violations of Hatch act issued by Civil service commission and Attorney General Jackson. Comm & Fin Chr 151:928-9 Ag 17 '40

See also
Campaign funds
Presidental campaigns
Presidents (United States)—Election

ELECTIONS and business. See Presidential campaigns

ELECTRETS
Use of electrets in electrical instruments. A. Gemant. diags R Sci Instr 11:65-71 F '40

ELECTRIC accidents. See Electricity, Accidents from; Electricity, Injuries from

ELECTRIC alarms
Alarm system for hot bearings. diags Power 84:601-2+ S '40
Alarm to indicate air in natural gas. F. M. Orelup and J. R. Cowles. il diag Gas Age 86:73-4 O 10 '40
Liquid level alarm. diag Engineer 169:385 Ap 19 '40; il Engineering 149:581 Je 14 '40
Monitor pressure and temperature alarms for lubricating-oil or cooling-water system of an internal-combustion engine. il diags Engineering 149:444-5 Ap 26 '40
New pressure alarm in cooling water and lubricating oil circuits of an oil engine. diag Engineer 169:192 F 23 '40
Simple chlorine deficiency alarm. H. O. Johnson and F. M. Jablon. diags Water Works & Sewerage 87:135 Mr '40
Warning sirens; prevention of trouble from snow and ice. P. d'E. Stowell. diag Elec R (Lond) 126:65 Ja 19 '40

ELECTRIC apparatus and appliances
British plant for overseas; recent noteworthy developments. il Elec R (Lond) 126:309-11 Mr 15 '40
Electrical equipment trends in the chemical industry. C. C. Levy. il Chem Ind 45:534-7 N '39
Electrical plant and machinery; review of progress. G. A. Juhlin. Inst E E J 86:193-202 F '40
Improving air-raid shelters; how electricity can make them inhabitable. il Elec R (Lond) 127:305 O 11 '40
New equipment and appliances. Published irregularly in Electrician
Pointers to progress; recent technical developments. Elec R (Lond) 126:39-40 Ja 12 '40

ELECTRIC apparatus and appliances—*Cont.*

Sealed glass bushings for electrical apparatus. A. W. Hull, R. W. Moore and O. H. Doll. il diag Gen Elec R 42:525-8 D '39

Temperature rise by solar radiation. C. W. Penney. Elec W 114:564 Ag 24 '40

Trends in electrical-apparatus development; for generation, transmission, and distribution. A. C. Monteith. il Elec Eng 59:221-6 Je '40

What EEI is studying in apparatus and design. G. L. Lane. Elec West 84:48-9 My '40

See also

Armatures
Automobiles—Electric equipment
Clocks, Electric
Coils
Commutators
Condensers (electricity)
Electric cables
Electric circuit breakers
Electric controllers
Electric furnaces
Electric generators
Electric instruments
Electric inverters
Electric machinery
Electric meters
Electric motors
Electric protective apparatus
Electric rectifiers
Electric transformers
Electricity in mining
Ironing machines, Electric
Photoelectric cells
Potentiometers
Radio apparatus
Reactors
Refrigerators, Electric
Relays
Storage batteries
Voltage regulators

Exhibitions

Appliance show proves its worth; sponsored by the Indiana & Michigan electric company. Elec W 113:1396+ My 4 '40

Installation

Meeting obstacles in promotion of electric cooking and water heating. S. Stites. Edison Elec Inst Bul 8:171-4 Ap '40

Manufacture

Infra-red oven is adaptable; Canadian Westinghouse plant, Hamilton. D. P. Brown. il Elec W 113:310+ Ja 27 '40

Manufacturing methods; considerations in large-scale production. il Elec R (Lond) 126:561-3 My 24 '40

Product surface finishing. G. Klinkenstein. il Mech Eng 62:323-4 Ap '40

Solders for electrical work. il Electrician 123: 464-5 N 24 '39

Switchgear manufacture; Berry's electric, ltd. il Elec R (Lond) 127:110 Ag 9 '40

Merchandizing

Bottle neck in distribution; cooperative sales program of Pennsylvania power and light company. C. M. Randel. Edison Elec Inst Bul 8:131-6 Ap '40

Commercial cooking program yields 4,000 kw. of new load; Georgia power company. W. A. Tadlock. il Elec W 114:526-7+ Ag 24 '40

Coöperation with dealers as an aid to appliance sales. J. E. Bullard. Pub Util 26: 459-65 O 10 '40

Customer research pays. G. McCrary. Edison Elec Inst Bul 8:395-7+ Ag '40

Electric cooking council maps national program. Elec W 114:1175 O 19 '40

Informed dealers build utility load. P. C. Tucker. il Elec W 112:1636 D 2 '39

Markets and forecasts. A. H. Jaeger. Elec West 84:75-6 Je '40

New dealers build new loads for Portland General Electric; cooperative dealer-utility load building program. J. A. Polhemus. il Elec West 84:30-4 Mr '40

Organized promotion for commercial sales; Ohio Edison company, Akron. T. J. James. il Elec W 113:2037-8+ Je 29 '40

Pool of sales experience; sales training conferences; Electric appliance society of northern California. il Elec West 83:30-1 D '39

Revenues increase 45 per cent under commercial cooking plan; Puget Sound power & light company. C. T. Bakeman. il Elec W 113:1368-9+ My 4 '40

Sales assistance for retail dealers; Puget Sound power & light co. inaugurates cooperation program. H. R. Kruse. il Elec West 85:28-9 Jl '40

Sales training for dealers. L. F. Dickman. Elec West 84:87-8 Je '40

Selling tool in the new PCEB kit; testing apparatus demonstrates effect of inadequate wiring. il diag Elec West 84:48-9 Ja '40

Up go sales; appliance industry in the West. il Elec West 84:53-66, 71-3 F '40

Water heaters, ranges, refrigerators; major appliance field in the West; viewpoints of experts. Elec West 84:26-8 Mr '40

Westinghouse sales auditions end. Elec West 85:52 S '40

What's next for 1940? C. E. Greenwood. Edison Elec Inst Bul 8:53-5 F '40

See also

Electric apparatus and appliances, Domestic—Merchandizing
Electric apparatus industry
Electric industries
Electric utilities—Appliance selling

Patents

New patents. Published in weekly numbers of Electrical review (London)

Testing

Proving repair work. R. A. Joseph. diags Elec R (Lond) 126:395-6 Ap 5 '40

ELECTRIC apparatus and appliances, Domestic

Appliances determine amount of electricity used; growth of consumer's investment in appliances since 1924. W. M. Carpenter. Edison Elec Inst Bul 8:52 F '40

Distribution outlays to limit lamp flicker; appliance motor-starting currents create flicker limitations to transformer and wire loading. D. K. Blake. Elec W 114:854-6 S 21 '40

Efficiencies of new appliances cut use. C. McLean. Elec West 84:125; Discussion. 126 Je '40

Electrical developments of 1939. G. Bartlett. il Gen Elec R 43:38, 48-9 Ja '40

GE's bureau for new products. Barron's 20:5 My 13 '40

Questionnaire; appliance saturation sampling undertaken by Southern California Edison. Elec West 85:31 Ag '40

See also

Electric cooking
Electric heaters
Electric irons
Electric roasters
Electric stoves
Electric water heaters
Electricity in the home
Ironing machines, Electric
Refrigerators, Electric
Washing machines, Electric

Advertising

Forty four states and D.C. line up in Modern kitchen bureau's spring campaign. il Edison Elec Inst Bul 8:178 Ap '40

Exhibitions

Denver jubilee builds new sales peaks in Rocky mountains. il Elec West 84:30 Ja '40

Major appliances inspected by 3,000. W. E. Schubert. il Elec W 113:776+ Mr 9 '40

Merchandizing

Compensation on the Schoss-Read plan. Elec West 85:30-1 Ag '40

Dealer sales development plan. L. S. Cheetham. Elec West 84:84-5 Je '40

Electric kitchens move into stores. W. A. Cyr. il Elec West 84:32-3 My '40

Electrical West sales guide; electric kitchens. il Elec West 85:33-6 Jl '40

Faster in 'forty is the watchword. H. E. Dexter. Edison Elec Inst Bul 8:124-5 Ap '40

Four Oklahoma roaster campaigns analyzed. B. C. Spencer. Elec W 112:1770+ D 16 '39

Home service. J. B. Buman and others. Elec West 84:89-97 Je '40

Home service value to the utility. R. E. Gale. Elec West 84:76-7 Je '40

Lighting the way for customers and dealers. Mrs B. E. Marsh. Edison Elec Inst Bul 8: 156-8 Ap '40

ELECTRIC apparatus and appliances, Domestic —Merchandizing—*Continued*
Living electrically. C. E. Greenwood. il Edison Elec Inst Bul 8:15-17 Ja '40
Revenue building and load building in 1939; utility and dealer sales of household appliances and lighting; based upon reports from 116 utility companies. H. G. Dooley. Elec W 113:737-44 Mr 9 '40
Sales guide; automatic irons. il Elec West 83: 33-6 D '39
Sales plans seek appliance volume; salesmen's compensation plans. Elec W 114: 85+ Jl 13 '40
Sales to music; Colorado Springs store pairs electrical and musical goods. il Elec West 83:38 D '39
Sel. A. Watt; switch-box sales character helps sell small appliances. il Elec West 85:32 N '40
Small appliances are on parade; sales rise in PG and E territory with cooperative dealer demonstrations. il Elec West 83:29 D '39
Treasure hunt; southern California sales stunt. il Elec West 84:37 Ja '40

See also
Electric roasters—Merchandizing
Electric shops (retail trade)
Electric utilities—Appliance selling

ELECTRIC apparatus industry
Effective co-ordination of utility-manufacturers selling. C. E. Swartzbaugh. Edison Elec Inst Bul 8:148-50+ Ap '40
G-E announces comprehensive program for retail training. Sales Management 46:59 Mr 15 '40
G-E trains 14,000 men for selling. il Ptr Ink Mo 39:14-15 D '39
Manufacturers' price control; some possible disadvantages. Elec R (Lond) 126:542 My 17 '40
News by commodities. Published in Foreign commerce weekly
Nudes have it; laissez faire in household-refrigerator business. il Fortune 21:73-5+ My '40
On closing the sale; 24 tested methods, as used by General Electric appliance dealers and salesmen. W. D. Galpin. Ptr Ink 191: 23-6, 30 Je 21 '40
Proving selling points; testimonial and demonstration method as successfully worked out by General Electric. W. D. Galpin. Ptr Ink 192:59-60 Jl 12 '40
Research multiplies electricity's uses. J. V. Sherman. Barron's 20:7 Jl 15 '40
Retail fraternity; General Electric is welding appliance dealers into one training group. E. Peterson. Ptr Ink 192:69-70+ Jl 26 '40
Wholesale distribution; the choice before manufacturers. J. Whitehead. Elec R (Lond) 126:38 Ja 12 '40

See also
Electric apparatus and appliances—Merchandizing
Electric apparatus and appliances, Domestic—Merchandizing
Electric industries

Advertising
Electrical romance; ambitious motion picture, keynotes Hotpoint's expanded advertising activities. il Ptr Ink 190:21-2 F 2 '40
How G-E collects installation pictures. il Ptr Ink Mo 41:41-2+ N '40
Knapp-Monarch men use ads long before they are printed. il Sales Management 47: 26-7 O 10 '40

Directories
Manufacturers' directory; with list of western offices and western representatives. Elec West 84:94, 96-107 Ap '40

Finance
Appliance sales slightly lower; heavy demand for motors, generators, etc. L. Applegate. Annalist 55:786-7 Je 6 '40
Electrical equipments in strong recovery trend. R. Lane. il Mag of Wall St 65:214-16+ D 2 '39
Financial reports; General Electric, Westinghouse, Crosley. Annalist 56:246 Ag 22 '40
Investing in industrial leadership; General Electric draws income from widely diversified fields. F. B. Dezendorf. Barron's 20: 20 N 11 '40

Securities
Brightening future for the electrical equipments; twenty-four companies compared. H. D. Steinmetz. il Mag of Wall St 66: 294-6+ Je 15 '40

Statistics
All gas appliance sales up sharply at half-year; gas and electric appliance shipments compared. Gas Age 86:14-15 Ag 29 '40
Appliance sales report, 1940; tabulation. Elec West 84:39 Ja; 40 Mr '40 [cont monthly]
Electrical equipment, 1936-1939. Survey of Cur Business 1940 Sup p140-1 [supplemented in monthly numbers]
Electrical manufacturing, 1939. Elec W 113: 120-1 Ja 13 '40
Gas appliance sales gained rapidly in 1939; statistics of gas and electric equipment. Gas Age 85:28-9 Ap 11 '40
Revenue building and load building in 1939; utility and dealer sales of household appliances and lighting; based upon reports from 116 utility companies. H. G. Dooley. Elec W 113:737-44 Mr 9 '40
Survey of world markets; electrical trade figures and prospects. il Elec R (Lond) 126:301-8 Mr 15 '40

Africa
Smaller African markets, 1937 and 1938 compared. Elec R (Lond) 125:738 D 8 '39

Argentina
Argentine electrical imports, 1937 and 1938 compared. Elec R (Lond) 126:163 F 9 '40
Conditions in Argentina. Electrician 123:362 O 20 '39
Export markets. Electrician 124:261, 283 Ap 5-12 '40
Situation in Argentina. W. N. Storey. Elec R (Lond) 125:620 N 10 '39

Australia
Australian electrical trade; 1937-38 compared with 1938-39. Elec R (Lond) 127:178 Ag 30 '40
Australian industries; important new outlets for electrical equipment. il Electrician 123: 419 N 10 '39
Electrical manufacturing in Australia. Electrician 125:98 Ag 23 '40
Export markets. Electrician 124:435 Je 21 '40

Balkan states
Export markets; the Balkan countries. Electrician 124:355 My 10 '40

Belgium
Belgian electrical trade, 1937 and 1938 compared. Elec R (Lond) 125:621 N 10 '39

Brazil
Export markets. Electrician 124:300+ Ap 19 '40

Canada
Canadian electrical trade, 1938 and 1939 compared. Elec R (Lond) 127:112 Ag 9 '40
Canadian industry and trade. A. R. Bruce. Elec R (Lond) 125:653 N 17 '39
Canadian trade. Electrician 123:466 N 24 '39
Electrical machinery and equipment. For Comm W 1:269 N 9 '40

Ceylon
Electrical imports of Ceylon; 1938 and 1939 compared. Elec R (Lond) 126:627 Je 7 '40

Chile
Chilean electrical imports, 1937 and 1938 compared. Elec R (Lond) 126:482 Ap 26 '40
Export markets. Electrician 125:16 Jl 12 '40

Cuba
Million-dollar electrical export markets. B. I. Feig. Comm Rep p1145+ D 9 '39

ELECTRIC apparatus industry—*Continued*

Egypt

Conditions in Egypt. Elec R (Lond) 125:711 D 1 '39
Egypt's electrical imports, 1938 and 1939 compared. Elec R (Lond) 127:102 Ag 2 '40

Germany

Non-ferrous metals; restrictions on their use by the German electrical industry. Electrician 124:21 Ja 12 '40

Great Britain

Associated electrical industries report and annual general meeting. Economist 138:580, 648 Mr 30-Ap 6 '40
Cooking and heating; influence of the war on public demand. Electrician 123:423 N 10 '39
Electrical engineering in 1939. il Engineer 169:6-10, 14, supp 3, 48-50 Ja 5-12 '40
Electrical equipment shares. Economist 138: 520-1 Mr 23 '40
Electrical manufacturing in 1939; annual report of British electrical and allied manufacturers' association. Elec R (Lond) 126: 453 Ap 19 '40; Engineering 149:444 Ap 26 '40
Engineering outlook; electrical engineering. Engineering 149:192-4, 218-20 F 23-Mr 1 '40
Exporting domestic appliances. Elec R (Lond) 127:303-4 O 11 '40
Exports; electrical industry's part. R. S. Hudson and others. il Elec R (Lond) 126:297-312 Mr 15 '40
Home consumption restricted; rationing of electrical appliances. Elec R (Lond) 126: 638 Je 14 '40
Manufacturers' activities. il Elec R (Lond) 126:11-13, 40-1 Ja 5-12 '40
Manufacturing activities in 1939. il Electrician 124:26, 49, 81, 100 Ja 12-F 2 '40
Pointers to progress; recent technical developments. Elec R (Lond) 126:39-40 Ja 12 '40
Purchase tax; date announced; commissioners' rulings. Elec R (Lond) 127:318 O 11 '40

India

Export markets. Electrician 125:177 O 4 '40
Indian electrical imports, April 1st, 1938-March 31st, 1939. Elec R (Lond) 126:222 F 23 '40
Million-dollar electrical export markets, India. B. I. Feig. Comm Rep p111+ F 3 '40
Specifications for India; reference ambient temperature as applicable to British standard specification limits of permissible rise. B. B. Ray. Electrician 124:447-8 Je 28 '40

Japan

Japanese electrical trade, 1937 and 1938 compared. Elec R (Lond) 126:198 F 16 '40
Japanese electrical trade, 1938 and 1939 compared. Elec R (Lond) 126:680 Je 28 '40

Malaya, British

Electrical imports of Malaya; 1938 and 1939 compared. Elec R (Lond) 126:680 Je 28 '40
Export markets. Electrician 125:86 Ag 16 '40

Mexico

Export markets; Peru and Mexico. Electrician 124:377 My 24 '40

Netherlands Indies

Dutch East Indies trade; 1938 and 1939 compared. Elec R (Lond) 127:212 S 6 '40

New Zealand

New Zealand's electrical imports, 1937 and 1938 compared. Elec R (Lond) 126:482 Ap 26 '40

Peru

Export markets; Peru and Mexico. Electrician 124:377 My 24 '40
Peru's electrical imports, 1937 and 1938 compared. Elec R (Lond) 126:75 Ja 19 '40
Peru's electrical imports; 1938 and 1939 compared. Elec R (Lond) 127:290 O 4 '40

Philippine Islands

U.S. million-dollar electrical export markets. B. I. Feig. Comm Rep p188-9 F 24 '40

Rhodesia

Report on conditions. A. W. H. Hall. Electrician 123:368 O 20 '39

Russia

Export markets; U.S.S.R. Electrician 124:337 My 3 '40

South Africa

Export markets. Electrician 125:150 S 20 '40
South African electrical imports, 1938 and 1939 compared. Elec R (Lond) 127:81 Jl 26 '40

Spain

Export markets; Spain. Electrician 124:316 Ap 26 '40

Sweden

Swedish electrical trade. S. Tennander. Elec R (Lond) 126:273 Mr 8 '40

Turkey

Export markets. Electrician 124:409-10 Je 7 '40

United States

Appliances determine amount of electricity used; growth of consumer's investment in appliances since 1924. W. M. Carpenter. Edison Elec Inst Bul 8:52 F '40
Electric utilities aid in upturn; large orders for equipment being placed. Business Week p20+ D 2 '39
Gains in electric appliance sales cushion recession in equipment orders. L. Applegate. Annalist 55:483-4 Ap 4 '40
Manufacturers see good year in 1940. C. E. Swartzbaugh. Elec W 113:130-1 Ja 13 '40
U.S. million-dollar electrical export markets; Uruguay. B. I. Feig. Comm Rep p90+ Ja 27 '40

Uruguay

Export markets. Electrician 125:44-5 Jl 26 '40
U.S. million-dollar electrical export markets. B. I. Feig. Comm Rep p90+ Ja 27 '40

Western states

Up go sales; appliance industry in the West. il Elec West 84:53-66, 71-3 F '40
Water heaters, ranges, refrigerators; major appliance field in the West; viewpoints of experts. Elec West 84:26-8 Mr '40

ELECTRIC arc

Arcing phenomena in mercury switches. C. G. Suits. il diags Gen Elec R 43:120-5 Mr '40
Arcs; their operation and light output. W. E. Forsythe. il Illum Eng 35:127-41 F '40
Carbon arc as a radiation standard. H. G. MacPherson. Opt Soc Am J 30:189-94 My '40
Contact phenomena in telephone switching circuits. A. M. Curtis. pls diag Bell System Tech J 19:40-62 Ja '40; Same. Elec Eng 59:Trans 360-8; Discussion. Trans 368 Je '40
Force on the cathode of an arc. R. Risch. Phys R 57:1181-2 Je 15 '40
Hydrogen arc for absorption spectroscopy. A. J. Allen and R. G. Franklin. bibliog il diag Opt Soc Am J 29:453-5 O '39; Abstract. Franklin Inst J 229:125-7 Ja '40
Initial reignition voltage measurements. M. Garbuny and L. H. Matthias. Phys R 58: 182-3 Jl 15 '40
Iron arc as a standard source for spectrochemical analysis. M. Slavin. bibliog diags Ind & Eng Chem Anal ed 12:131-3 Mr 15 '40
Der lichtbogen als heizquelle im elektroofen. H. Siegel. il Stahl & Eisen 59:1261-7; Discussion. 1267-8 N 23 '39
Overhead line protection; Petersen arc suppression coils. il diags Elec R (Lond) 126: 615-16 Je 7 '40
Phase occurrence of arc-backs in high-current mercury-arc rectifiers. W. E. Pakala and W. B. Batten. Elec Eng 59:Trans 345-7 Je '40

ELECTRIC arc—*Continued*
Positive column of the nitrogen arc at atmospheric pressure. E. S. Lamar, A. M. Stone and K. T. Compton. bibliog Phys R 55: 1235-44; 57:212-20 Je 15 '39, F 1 '40
Progress in engineering knowledge during 1939; arcs. P. L. Alger. bibliog Gen Elec R 43:64-6 F '40
Qualitative spectrographic analysis in the arc, with graphite electrodes. W. C. Pierce, O. R. Torres and W. W. Marshall. il diag Ind & Eng Chem Anal ed 12:41-5 Ja 15 '40
Quantitative spectrochemical analysis of dilute solutions; a safe alternating current high-voltage arc circuit. A. E. Ruehle and E. K. Jaycox. bibliog diag Ind & Eng Chem Anal ed 12:260-1 My 15 '40
Relation of residual ionization to arc-back in thyratrons. K. H. Kingdon and E. J. Lawton. diags Gen Elec R 42:474-8 N '39
Residual currents in a.c. discharges. J. D. Cobine and H. Klemperer. il diag Franklin Inst J 229:477-89 Ap '40
Small high intensity stroboscopic source. D. Sinclair. bibliog diag R Sci Instr 11:109 Mr '40
Some experimental work on the carbon arc as a standard of light. J. T. MacGregor-Morris. Electrician 125:189 O 11 '40
Timing discharge of open arc stroboscope. A. C. Herweh. il diag Elec W 114:1032+ O 5 '40
Tissue reaction to some carbon arc dusts. E. L. MacQuiddy and others. il J Ind Hygiene 21:498-513 bibliog(p511-13) D '39

See also
Electric lamps, Arc
Electric lamps, Mercury vapor
Electric welding, Arc

ELECTRIC associations
Electrical trade groups attend joint convention. Elec W 113:587 F 24 '40

Great Britain
Societies and associations, 1939. Electrician 124:64-70 Ja 26 '40

ELECTRIC auto-lite company
Brass tacks for the investor. Barron's 20:20 My 13 '40

ELECTRIC automobiles. See Electric vehicles

ELECTRIC batteries
Disused torch batteries; reclamation process. C. C. Downie. Elec R (Lond) 126:66 Ja 19 '40
Quasi-reversible conduction and galvanic cells with liquid-liquid junctions. F. O. Koenig. bibliog J Phys Chem 44:101-35 Ja '40
Theory of galvanic cells subject to fields of force; the gravitational field. F. O. Koenig and S. G. Grinnell. bibliog J Phys Chem 44:463-82 Ap '40

See also
Photoelectric cells
Storage batteries

Manufacture
Herstellung von trockenbatterien. C. Drotschmann. bibliog il diags V D I 84:181-9 Mr 16 '40

ELECTRIC boat company
Better days for Electric Boat; facilities of private submarine builder taxed to capacity. G. W. Mathis. il Mag of Wall St 67: 94-5+ N 2 '40
Fast moving low price stocks; thumbnail appraisal. Mag of Wall St 65:231 D 2 '39

ELECTRIC bond and share company
Assets appraised. J. F. Childs. Barron's 20: 20 My 6 '40
Earnings, period ended Sept. 30; surplus for the 12 months ended Sept. 30, 1940; balance sheet Sept. 30. Comm & Fin Chr 151:2190-1 O 12 '40
Files answer with SEC; disputes legality of integration. Comm & Fin Chr 150:3046 My 11 '40
Regrouping plan offered by company. Comm & Fin Chr 151:1571 S 14 '40
SEC denies request to delay integration hearings. Comm & Fin Chr 150:2723, 2879 Ap 27-My 4 '40
SEC issues order for public hearing on simplification of capital structure. Comm & Fin Chr 150:3200 My 18 '40
Value of investments. Pub Util 25:415-19 Mr 28 '40

ELECTRIC brazing. See Brazing

ELECTRIC broilers
Double-fire horizontal broiler; utilization data sheet. D. Brown. il Elec West 84:49 Ap '40
Horizontal broiler designed by utility. il Elec W 114:884 S 21 '40

Rating
Electric table broilers. il Consumers' Research Bul (Gen bul ser) 9:10 Je '40

ELECTRIC buses
Electric brake for electric drive buses. F. M. Turner. diag Transit J 84:246-7 Jl '40

See also
Trolley buses

ELECTRIC cable reels
Pay-out reel has novel features. R. E. Wenk. il diag Elec W 114:274 Jl 27 '40

ELECTRIC cables
Borehole cable suspended from large sheave; Cannelton coal & coke co. J. F. Dangerfield. il Coal Age 45:40-1 N '40
Cable life can be increased by proper use of data. F. W. Richart. Coal Age 45:86-7 Je '40
Covered neutral cable still helps sell adequate wiring. Edison Elec Inst Bul 8:352 Jl '40
Current distribution improved weld quality. H. Lawrence. il Steel 107:56+ Jl 8 '40
Economical wiring for street lighting. il Elec W 112:1760-1 D 16 '39
Electric cable development; abstract. F. W. Main. Elec R (Lond) 125:646 N 17 '39
Electrical developments of 1939. G. Bartlett. il Gen Elec R 43:14-15 Ja '40
Electricity as an aid to gardening; soil heating. il Electrician 124:335 My 3 '40
High voltage transmission in Holland; 150-kV underground cable. Elec R (Lond) 126:36 Ja 12 '40
How to solder cable lugs; illustrations. Power 84:606 S '40
Important developments in electrical cable. C. Cleveland. il Metal Prog 37:59-63 Ja '40
Improved city distribution; use of multi-conductor cable. D. A. Hord. Elec West 85:42-3 Jl '40
Power cables, 1939. P. V. Hunter. Electrician 124:61 Ja 26 '40
Power factor testing of long lengths of cables. E. A. Walker. bibliog J Ap Phys 11:717-20 N '40
Simplex manual, containing tables and data for electrical engineers, contractors and wiremen. 270p gratis Simplex wire & cable co, 79 Sidney st, Cambridge, Mass. '40
Standardising distribution; cables and network accessories. S. W. Melsom. Elec R (Lond) 126:609-10 Je 7 '40
Unskilled labour and flexible conduit systems; development of non-metallic materials. Electrician 125:124 S 6 '40
Use of pressure-type cable increasing in Europe. Elec Eng 59:76 F '40
What about these new wires? their development, characteristics, uses, limitations. H. H. Weber. Elec West 85:29-31 O '40

See also
Electric conductors
Electric conduits
Electric lines
Electric wire
Insulation (electric)
Telephone cables
also British insulated cables, limited; General cable corporation

Coaxial cable
See Telephone cables—Coaxial cables

Detection
Buried conductor detector. K. J. Granbois. il Instruments 13:133 My '40
Locating buried cables and pipes. H. C. Marcroft. il diags Instruments 13:132-3 My '40

ELECTRIC cables—Detection—*Continued*
Locating buried conductors; method employing ground tester as signal generator. G. J. Gross. il Instruments 13:131 My '40
Swedish instrument for locating cables. H. Lundbergh. Sci Am 162:166 Mr '40

Failures

Cable operation in 1938. Power Pl Eng 44: 132+ Ap '40
Joint corrosion committee for electrolysis mitigation. M. W. Ghen. diags Edison Elec Inst Bul 8:231-3 My '40

Installation

Cable installation truck and trailer. M. W. Ghen. il Elec W 114:100 Jl 13 '40
Economical loading of high-voltage cables installed in underground subway systems. E. R. Thomas. Elec Eng 58:Trans 611-15; Discussion. Trans 615-18 D '39
Factory feeder goes through roof. il diags Elec W 114:418 Ag 10 '40
Flexible guard for cable pulling. diags Elec W 114:552 Ag 24 '40
110-kv. cable tie for high continuity service. H. E. Carson. il diags Elec W 114:988-90+ O 5 '40
Run 26.4-kv. cable down steep slope. H. Sorenson. il Elec W 113:911 Mr 23 '40

See also
Electric conduits

Joints

Cable joints; directions for making. diag Power Pl Eng 44:72 Ap '40
Emergency cable vulcanizing. Power Pl Eng 44:76 My '40
How cable training affects sheath life. M. C. Hedges. Elec W 112:1768 D 16 '39

Manufacture

A.c.-d.c. drive is used for cable wrapping. il Elec W 112:1764 D 16 '39
New technique for lead cable sheathing. B. B. Reinitz and R. J. Wiseman. bibliog il diags Elec Eng 59:Trans 165-71; Discussion. Trans 171-8 Mr '40
Reliance adjustable-speed drive speeds cable making. il Steel 106:49 Ja 22 '40

Protection

Electric cables and fire risks. S. W. Melsom. il Engineering 149:360, 369-70 Ap 5 '40; Abstract. Electrician 124:204 Mr 15 '40
Fire-fighting equipment for electrical installations. diags plans Inst E E J 85:719-34 D '39; Abstract. Engineering 149:139-41, pl 8 F 9 '40; Discussion. il diags Inst E E J 87: 251-81 S '40; Electrician 124:92-3 F 2 '40
Install limiters on secondary networks. P. Xenis and E. Williams. diags Elec W 112: 1466, 1624, 1761, 1882 N 18-D 30 '39
Philadelphia a-c network; operating results. P. W. Crosby. diags Elec Eng 58:517-21 D '39
Pole riser cables with corona-resisting compound. T. J. Brosnan. il Elec W 113:568-70 F 24 '40
Standard improves weather resistance of coverings for aerial wire and cable. L. L. Carter and A. Bellis. il Ind Stand 11:16-18 Ja '40
Ventilate cable ducts in hot mill area; Campbell works of the Youngstown sheet and tube company. C. M. Myers. diag Elec W 113:1234 Ap 20 '40

See also
Electric cables—Sheathing

Sheathing

Cable sheath corrosion; abstracts of Edison electric institute papers. Elec W 113:1509-10 My 18 '40
Corrosion of underground cables. W. G. Radley and C. E. Richards. diags Inst E E J 85:685-704, pl 1-2 bibliog(p703) D '39; Discussion. 85:704-12; 86:496-500 D '39, My '40
How cable training affects sheath life. M. C. Hedges. Elec W 112:1768 D 16 '39
Microtome for lead cable sheath. H. P. Nielsen. il Metal Prog 38:178-9 Ag '40
New technique for lead cable sheathing. B. B. Reinitz and R. J. Wiseman. bibliog il diags Elec Eng 59:Trans 165-71 Mr '40; Abstract. Metals & Alloys 11:MA274+ My '40; Discussion. Elec Eng 59:Trans 171-8 Mr '40
Process improves lead cable sheath. C. A. Piercy. il diag Elec W 114:108 Jl 13 '40

Tables, calculations, etc.

Economical loading of high-voltage cables installed in underground subway systems. E. R. Thomas. Elec Eng 58:Trans 611-15; Discussion. Trans 615-18 D '39
Some effects of short-circuits on three-phase transmission lines. T. F. Wall. diags Engineering 149:539-40 My 31 '40

Terminals

Terminating cable without potheads. R. B. McKinley. diag Elec W 113:1542 My 18 '40

Testing

Accurately locates accidental grounds; electromagnetic ground locator used by Consumers power company, Jackson, Mich. diag Elec W 114:564 Ag 24 '40
Develop bridge for Kenetron set. diag Elec W 113:1910 Je 15 '40
Faults on power cables and overhead lines; their causes and some methods of localization. M. Cline. Inst E E J 86:74-7 Ja '40
Impulse strength of cable insulation. E. W. Davis and W. N. Eddy. bibliog il diags Elec Eng 59:Trans 394-9; Discussion. Trans 399-402 Jl '40
Impulse tests on various kinds of 4800- and 24,000-volt cable. G. B. McCabe. Edison Elec Inst Bul 8:474-8 O '40
Photo-electric potentiometer is versatile performer. il diag Elec W 113:1053+ Ap 6 '40
Refrigeration for the low-temperature testing of electric cables. Engineering 150:178 Ag 30 '40
Some impulse-voltage breakdown tests on oil-treated paper-insulated cables. C. M. Foust and J. A. Scott. bibliog il diag Elec Eng 59:Trans 389-91; Discussion. Trans 391-4, 399-402 Jl '40
Tracer impulses locate cable faults. P. L. Weir. il diags Elec W 114:81-3 Jl 13 '40

ELECTRIC capacitors. See Condensers (electricity)

ELECTRIC capacity
Input capacitance of a triode oscillator. J. van Slooten. diags Wireless Eng 17:13-15 Ja '40

ELECTRIC cells. See Electric batteries; Electrolytic cells; Photoelectric cells; Storage batteries

ELECTRIC charges
Anode effect as a function of temperature. P. L. Copeland. diags Phys R 57:625-34 Ap 1 '40
Cross section for change of charge and ionization by high velocity metallic ions in hydrogen and helium. C. W. Sherwin. bibliog diags Phys R 57:814-21 My 1 '40
Tests for the validity of the X-ray crystal method for determining *N* and *e* with aluminum, silver and quartz. P. H. Miller, jr. and J. W. M. DuMond. bibliog Phys R 57:198-206 F 1 '40
Theory of the electrostatic beta-particle energy spectrograph. F. T. Rogers, jr. bibliog diags R Sci Instr 11:19-22 Ja '40

See also
Space charge

ELECTRIC circuit breakers
Air circuit-breaker contacts. L. B. Hunt. il Elec R (Lond) 126:656 Je 21 '40
Allis-Chalmers novel air circuit breaker. F. J. Oliver. il Iron Age 145:49 F 1 '40
Application of circuit breakers for low voltage a.c. systems. C. P. West. il diag Power Pl Eng 44:58-61 My '40
Breaker control outside station fence. il Elec W 114:560 Ag 24 '40
Breaker inspection and maintenance schedules. R. H. Johnson. Elec West 84:134-5 Je '40

ELECTRIC circuit breakers—*Continued*
Brown, Boveri re-closing air blast high-speed circuit breakers. diag Engineer 170:62-3 Jl 26 '40
Carrier-current losses measured and interference minimized on Boulder-Los Angeles transmission lines. J. D. Laughlin, W. E. Pakala and M. E. Reagan. il diags Elec Eng 59:Trans 4-9; Discussion. Trans 9-10 Ja '40
Design and construction of high-capacity air-blast circuit breakers. H. E. Strang and A. C. Boisseau. il diags Elec Eng 59:Trans 522-7 S '40
Electrical developments of 1939. G. Bartlett. il diags Gen Elec R 43:2, 11-14 Ja '40
Electrical engineering in 1939. il Engineer 169:9-10 Ja 5 '40
Electricity's safety valves. M. A. Gimbel. il Nat Safety N 41:22-3 My '40
Experience with ultrahigh-speed reclosing of high-voltage transmission lines. P. Sporn and C. A. Muller. il diags Elec Eng 58:Trans 625-31 D '39; Abstract. Engineering 148:593-4 N 24 '39; Discussion. Elec Eng 58:Trans 631-6 D '39
Fault clearing with rapid-closing circuit breakers. O. Mayr. diags Engineering 148: 635-6 D 8 '39
Fire danger of oil circuit breakers. G. Meiners. diags Engineering 148:688-9 D 22 '39
Fire protection in electrical installations. M. Laborde. Engineering 148:729-30 D 29 '39
Giant arc quenched by compressed air blast; Westinghouse air circuit breaker. Sci Am 163:212-13 O '40
Inertia relay anticipates to facilitate reclosure; functions on rate of frequency or speed dip. J. T. Logan and J. H. Miles. il diags Elec W 113:1061-4 Ap 6 '40
Installation matters; I.E.E. requirements for earth leakage circuit breakers. Electrician 124:40 Ja 19 '40
Metal-clad switchgear for us; illustrations. Factory Management 98:84-5 Mr '40
Metropolitan-Vickers rural oil circuit-breaker. il Engineer 169:73 Ja 19 '40; Engineering 149:73 Ja 19 '40; Elec R (Lond) 126:74 Ja 19 '40
Performance justifies selection of air-blast breakers; Beauharnois light, heat & power company. H. W. Haberl. il Elec W 114:841+ S 21 '40
Philadelphia story on Delon air breakers. il Elec W 114:552+ Ag 24 '40
Progress in engineering knowledge during 1939; protective devices. P. L. Alger. diags Gen Elec R 43:72-3 F '40
Relay and circuit-breaker protection for d-c machines. H. Bany. il Gen Elec R 43:312-19 Ag '40
Researches on the clearing of short-circuits on overhead networks by means of ultra-rapid pneumatic circuit breakers. H. Thommen. il diags Engineering 148:522-4 N 10 '39
Restriking-voltage characteristics under various fault conditions at typical points on the network of a large city supply authority. L. Gosland. diags Inst E E J 86:248-74, pl 1-2 bibliog(p270) Mr '40
Restriking voltage in service and on test. H. Trencham. bibliog Engineering 148:521-2 N 10 '39
Selection of low voltage switchgear. R. T. Lythall. Electrician 123:536 D 22 '39
Surge-voltage breakdown characteristics for electrical gaps in oil. R. W. Sorensen. il diag Elec Eng 59:Trans 78-81; Discussion. Trans 81-4 F '40
Switchgear contacts. G. Windred. diags Engineer 169:558, 567-8 Je 21-28 '40
Switchgear layout; problems for the works electrical engineer. R. T. Lythall. Elec R (Lond) 125:810-11 D 29 '39
Switchgear layout; special arrangements to meet war conditions. A. J. Nicholas. diags plans Elec R (Lond) 127:219-20 S 13 '40
Switchgear maintenance. R. T. Lythall. Elec R (Lond) 126:101 Ja 26 '40
Switchgear, 1939. C. C. Garrard. il Electrician 124:55-6 Ja 26 '40
What EEI is studying in apparatus and design. G. L. Lane. Elec West 84:48-9 My '40

See also
Electric fuses
Electric switches

Design
Air-break equipments; Allis-Chalmers, General Electric and Westinghouse systems. H. W. Martin and K. B. Seely; L. S. Hobson. il diags Elec West 85:45-7 S '40
Circuit breaker has air blast as interrupting element. il Blast F & Steel Pl 28:498+ My '40
Circuit breakers with little or no oil content. F. Kesselring. diags Engineering 148: 670-2 D 15 '39
Circuit breaking; further knowledge needed. C. J. O. Garrard. diags Elec R (Lond) 126: 336-8 Mr 22 '40
Circuit interruption by air blast. W. S. Edsall and S. R. Stubbs. bibliog il diags Elec Eng 59:Trans 503-9 S '40
Compressed air interrupts high-voltage circuits; axial air-blast circuit breaker. H. W. Martin. il diags Power 84:438-9+ Jl '40
Cross-air-blast circuit breaker. D. C. Prince, J. A. Henley and W. K. Rankin. bibliog il Elec Eng 59:Trans 510-17 S '40
Developments in air-break circuit breakers. il diags Engineer 170:124-6, 132-4 Ag 23-30 '40
High-capacity hydro-blast circuit breaker for central-station service. W. F. Skeats and W. R. Saylor. il diags Elec Eng 59:Trans 111-14; Discussion. Trans 114-16 F '40
Magne-Blast air circuit breaker for 5000-volt service. E. W. Boehne and L. J. Linde. il diags Gen Elec R 42:401-8 S '39; Same. bibliog Elec Eng 59:Trans 202-8 Ap '40; Discussion. C. G. Suits. Gen Elec R 42:375 S '39; Elec Eng 59:Trans 208-12 Ap '40
Magnetic De-ion air breaker for 2,500—5,000 volts. L. R. Ludwig and R. H. Nau. il diags Elec Eng 59:Trans 518-22 S '40
Mechanical integrity in the design of electrical circuit-breakers. M. C. Hunter. Engineering 149:524 My 24 '40
Modern trends of low-voltage air circuit breakers. J. W. Seaman. il Elec Eng 59: Trans 24-9; Discussion. Trans 29-30 Ja '40
New 15-kv pneumatic circuit interrupter. L. R. Ludwig, H. L. Rawlins and B. P. Baker. bibliog il diags Elec Eng 59:Trans 528-33 S '40
Oil-less metal-clad switchgear for medium voltage alternating current circuits up to 660 volts three-phase. H. E. Cox and L. Drucquer. il diags Engineering 149:383-6, 388 Ap 12 '40; Discussion. Electrician 124: 207 Mr 15 '40; Elec R (Lond) 126:313 Mr 15 '40
Recent developments in compressed air circuit breakers; data taken from various papers. il diags Power Pl Eng 44:78-82 S '40
Westinghouse compressed-air breaker tested. il diag Elec West 84:48 Ap '40

Failures
Circuit-breaker contacts; discovering a remedy for failures. J. Anderson. Elec R (Lond) 126:124 F 2 '40

Manufacture
Metal-clad switchgear; Whitehead switchgear & inventions co. il Elec R (Lond) 126: 213-14 F 23 '40
Oil-less switchgear; the position of the small manufacturer. E. B. Watton. Elec R (Lond) 127:48 Jl 19 '40
Switchgear factory extensions; J. G. Statter & co. il Elec R (Lond) 127:247 S 20 '40

Protection
Relays save $$$; protection of bus-sectionizing breaker. R. Rader. diags Elec West 85:43-4 S '40

Testing
Circuit-breaker testing; how it has developed. E. E. I. Pilcher and I. M. L. Ward. Elec R (Lond) 125:701 D 1 '39

ELECTRIC circuit breakers—Testing—*Cont.*
Short-circuit testing station; Crompton Parkinson plant. il Elec R (Lond) 127:3-4 Jl 5 '40
Westinghouse tests new circuit breaker. il Elec W News ed 113:834 Mr 16 '40

Tripping
Earth-leakage trips; a review of British standard specification no. 842. E. A. Reynolds. Elec R (Lond) 125:577-8 N 3 '39
Quick-acting release latches. C. Thumim. il diags Mech Eng 61:807-12 N '39; Discussion. diags 62:481-3 Je '40
Trip free mechanisms for operation of circuit breakers. C. Thumim. il diags Power Pl Eng 43:767-72 D '39

ELECTRIC circuits
Brief summary of bridge networks. W. J. Seeley. diags Elec Eng 59:108-13 bibliog(71 titles, p 111-13) Mr '40
Circuit constants for the production of impulse test waves. J. R. Eaton and J. P. Gebelein. Gen Elec R 43:322-32 Ag '40
Circuit for the rapid measurement of the power factor of condensers. E. A. Walker. diag R Sci Instr 11:210-11 Jl '40
Cloud chamber control circuit. I. A. Getting. diags R Sci Instr 10:323-4 N '39
Constant current sources. L. C. Green and J. B. H. Kuper. diags R Sci Instr 11:250-6 Ag '40
Direct-reading counting rate ratio meter. R. D. Evans and R. E. Meagher. diag R Sci Instr 10:339-44 N '39
Dyadic circuit analysis. A. P. Sah. 415p $4.50 International textbook co, Scranton, Pa. '39
Electric circuit and machine experiments. F. W. Hehre and J. A. Balmford. 279p bibliog (pxvi) pa $2 Wiley '40
Electric circuits. 782p bibliog(p757-67) $7.50 Wiley '40
Electrical circuits and machinery. v.1, Direct currents. F. W. Hehre and G. T. Harness. 513p $4.50 Wiley '40
Electrical energy in balance; short circuit on one branch of transmission circuit directs energy thru parallel branch. J. K. Masten. diags Power Pl Eng 44:54-5 F '40
Equivalent circuit of the auto-transformer; equations for prediction of regulation. G. H. Rawcliffe. diags Electrician 124:203-4 Mr 15 '40
Fundamental principles of electric and magnetic circuits. F. A. Fish. 3d ed 229p $3 McGraw-Hill '40
Improved counting rate meter. R. D. Evans and R. L. Alder. diags R Sci Instr 10:332-6 N '39
Introduction to circuit analysis. A. R. Knight and G. H. Fett. 144 numb l $4.50 Stipes pub. co, Champaign, Ill. '39
Ionization gauge circuit. R. M. Bowie. bibliog diags R Sci Instr 11:265-7 Ag '40
Matrix generalization of Heaviside's expansion theorem. L. A. Pipes. bibliog Franklin Inst J 230:483-99 O '40
Modulation circuit theory. D. L. Jaffe. Franklin Inst J 229:779-82 Je '40
Natural oscillations of electrical cavity resonators. W. L. Barrow and W. W. Mieher. bibliog diags Inst Radio Eng Proc 28:184-91 Ap '40
New condenser circuits for suppressing d.c. arcs. C. G. Suits and J. A. Van Lund. diags Product Eng 11:206-8 My '40
New ignitron firing circuit; application of direct as well as alternating current to a saturable-core reactor. H. Klemperer. bibliog il diags Electronics 12:12-15 D '39
Power in a.c. circuits. Electrician 124:208-9, 226, 248-9 Mr 15-29 '40
Practical stroboscope circuit. C. C. Street. il Electronics 13:36-7 Ap '40
Progress in engineering knowledge during 1939; circuit analysis. P. L. Alger. diags Gen Elec R 43:70-1 F '40
Quantitative spectrochemical analysis of dilute solutions; a safe alternating current high-voltage arc circuit. A. E. Ruehle and E. K. Jaycox. bibliog diags Ind & Eng Chem Anal ed 12:260-1 My 15 '40
Secondary circuits of synchronous induction motors. G. H. Rawcliffe. bibliog diags Inst E E J 87:282-98 S '40
Self-induction. A. O'Rahilly. diags Inst E E J 86:179-87 F '40
Simple circuit change prolongs lamp life. il diag Elec W 113:604 F 24 '40
Stabilized bridge circuit. H. P. Kalmus. diag Electronics 12:30-1+ D '39
Standards for circuit arrangement. Elec W 114:1183 O 19 '40
Synchronous machine circle diagrams; network theory as applied to the synchronous motor. H. Rissik. bibliog Electrician 125:111-12 Ag 30 '40
Transformation theory of general static polyphase networks. L. A. Pipes. bibliog Elec Eng 59:Trans 123-8; Discussion. Trans 128 F '40
Two-phase co-ordinates of a three-phase circuit; discussion of paper by Kimbark. A. P. Sah. Elec Eng 59:478-9 N '40
Unstable nonlinear circuit. C. M. Summers. il diags Elec Eng 59:Trans 273-6 My '40
Vacuum tube circuit to measure the logarithm of a direct current. R. E. Meagher and E. P. Bentley. bibliog diags R Sci Instr 10:336-9 N '39
Voltage regulation on low voltage electrical circuits. P. E. Benner. il diags Power Pl Eng 44:78-80 O '40
Zero-phase-sequence characteristics of transformers. A. N. Garin. bibliog diags Gen Elec R 43:131-6, 174-9 Mr-Ap '40

See also
Electric conductors
Electric distribution
Electric lines
Electric rectifiers
Electric transmission
Impedance
Radio circuits
Rail bonds
Short circuits

ELECTRIC clocks. See Clocks, Electric

ELECTRIC codes
Electricity in ships; revised I.E.E. regulations. A. Regnauld. Elec R (Lond) 125:784 D 22 '39
Installation matters; an error in the new I.E.E. wiring regulations. Electrician 123:359 O 20 '39
I.E.E. wiring regulations; comments on section 10 of the eleventh edition. T. C. Gilbert. diags Elec R (Lond) 127:147-8 Ag 23 '40
I.E.E. wiring rules; a guide to the principal alterations contained in the eleventh edition. Electrician 123:468-9 N 24 '39
Wiring specifications; government departments and temporary building installations. Electrician 125:74 Ag 9 '40

See also
Electric wiring—Safety devices and measures
National electrical code
National electrical safety code

ELECTRIC communication
Electrical communication. A. L. Albert. 2d ed 534p $5 Wiley '40

See also
Radio communication
Telegraph
Telephone
Television
Western union telegraph company

ELECTRIC condensers. See Condensers (electricity)

ELECTRIC conductivity
Conductive rubber; Dunlop introduces substance which eliminates danger spots by absorbing static electricity. Business Week p38-9 My 25 '40
Conductivity and mobility of thin lead films. M. G. Foster. bibliog il diags Phys R 57:42-6 Ja 1 '40
Conductivity measurements on potassium halides. C. G. Brennecke. bibliog diags J Ap Phys 11:202-7 Mr '40
Conductivity of insulating oils under alternating stress. J. B. Whitehead and Bun Po Kang. diag J Ap Phys 11:596-603 S '40
Conductivity tests for reactions which go to an end. E. L. Gunn. diags J Chem Educ 17:385-6 Ag '40
Dependence of conductance on field strength; tetrabutylammonium bromide in diphenyl ether at 50°. D. J. Mead and R. M. Fuoss. Am Chem Soc J 62:1720-3 Jl '40

ELECTRIC conductivity—*Continued*
Determination of mobilities and dissociation constants by means of conductivity titrations. J. P. Philpot, E. C. Rhodes and C. W. Davies. Chem Soc J p84-7 Ja '40
Deviations from Ohm's law at high current densities. E. Guth and J. Mayerhöfer. bibliog Phys R 57:908-15 My 15 '40
Directional dependence of electrical conductivity. E. M. Baroody. Phys R 58:793-804 N 1 '40
Electrical conductance measurements of water extracts of textiles. A. C. Walker. diag Am Soc T M Proc 39:1233-9; Discussion. il 1240-1 '39
Electrical conduction and related phenomena in solid dielectrics. M. F. Manning and M. E. Bell. il diags Rs Mod Phys 12:215-56 bibliog (176 references, p254-6) Jl '40
Electrical conduction in dielectric liquids. R. W. Dornte. bibliog diags Ind & Eng Chem 32:1529-34 N '40
Electrical conductivity of metals. J. Bardeen. diags J Ap Phys 11:88-111 bibliog(p110-11) F '40
Electrically conductive rubber. H. E. Elden. Rubber Age 47:308+ Ag '40
Improved conductivity apparatus. W. S. McGuire. diags J Chem Educ 17:381-2 Ag '40
Ionization constants of weak acids at 25° from conductance measurements; a method of extrapolating the data. B. Saxton and L. S. Darken. bibliog Am Chem Soc J 62: 846-52 Ap '40
Phenomenological theory of superconductors. E. Cook. bibliog Phys R 58:357-61 Ag 15 '40
Precision conductivity bridge assembly. W. F. Luder. bibliog diags Am Chem Soc J 62:89-95 Ja '40
Relation of electrical conductivity to chemical composition of glass; soda-lime-silica system measured at 400°C. A. E. Badger and J. F. White. diags Am Cer Soc J 23: 271-4 S '40
Semi-conductors & metals; an introduction to the electron theory of metals. A. H. Wilson. 119p pa $2 Macmillan '39
Structure of gelatin sols and gels; the adsorption of water vapor and the electrical conductivity. S. E. Sheppard, R. C. Houck and C. Dittmar. bibliog il diag J Phys Chem
Use and limitations of conductivity measurements of well water quality. K. W. Brown. il Am Water Works Assn J 32:675-87; Discussion. 687-91 Ap '40

See also
Dielectric constants
Dielectrics
Electric conductors
Electric resistance
Electrolytes—Conductivity

ELECTRIC conductors
Aluminium. Electrician 123:455 N 24 '39
Aluminum replaces copper conductors in Italy and Germany. F. Giolitti. Metal Prog 37: 658-9 Je '40
Cinema integraph; current density distribution. H. L. Hazen, G. S. Brown and W. R. Hedeman, Jr. Franklin Inst J 230:194-201 Ag '40
Complete data and boundary conditions for a superconductor. E. Cook. Phys R 58:361-4 Ag 15 '40
Copper conductor defects; origin in various process stages. J. E. Deering. il diags Elec R (Lond) 125:576 N 3 '39
Crosstalk between coaxial conductors in cable. R. P. Booth and T. M. Odarenko. diags Bell System Tech J 19:358-84 Jl '40
Electric and magnetic fields of a linear radiator carrying a progressive wave. F. M. Colebrook. bibliog diags Inst E E J 86:169-78 F '40; Discussion. 86:484 My '40
Electrical stability of tubular inductance coils with deposited conductors. H. A. Thomas. Inst E E J 86:471-2 My '40
High-voltage conductors; considerations affecting their arrangement. J. McCombe. il diags Elec R (Lond) 125:785-6 D 22 '39
Inductance of hollow rectangular conductors. T. J. Higgins. Franklin Inst J 230:375-80 S '40
Large conductors; abstracts and discussion. C. Dannatt. Electrician 124:247 Mr 29 '40; Elec R (Lond) 126:371 Mr 29 '40
Rubber binding sleeves. il Elec R (Lond) 126:162 F 9 '40
Vibration of overhead line conductors. E. W. W. Double and W. D. Tuck. il diags Inst E E J 86:129-50 bibliog(44 titles, p149-50) F '40; Excerpts. Electrician 122:468-9 Ap 14 '39; Discussion. Inst E E J 86:150-60 F '40
What, where and how of the new building wires. E. A. Brand. Elec W 113:1517-20+ My 18 '40

See also
Busbars
Electric cables
Electric transmission
Electric wire
Insulation (electric)
Radio conductors

Testing
Conductor properties tested in production line. il diag Elec W 112:1604-5 D 2 '39

ELECTRIC conduits
Conduits and outlets in solid partitions of metal lath and cement plaster. il diags Concrete 48:12+ Ja '40
Economical loading of high-voltage cables installed in underground subway systems. E. R. Thomas. Elec Eng 58:Trans 611-15; Discussion. Trans 615-18 D '39
Extruding holes; sheet steel motor conduit base; Reliance electric & engineering co. il diags Steel 106:48-9 Ja 15 '40
French conduit connectors. il Elec R (Lond) 125:578 N 3 '39
Installing pipes, ducts and conduits in concrete walls and floors. il diags Concrete 48:17-18 My; 12 Ag '40
Lower conduit with hoists and blocks. E. F. Nuezel. il Elec W 113:758 Mr 9 '40
Measuring conduit bends. E. G. Key and F. E. Saari. diags Power Pl Eng 44:76-7 N '40
Non-metallic conduit wiring. T. C. Gilbert. il diag Elec R (Lond) 126:211-12 F 23 '40
Precision conduit bending. J. Boas. 92p pa $1.50 Juan Boas, 2054 E. 47th st, Brooklyn, N.Y. '40
Too many bends in the conduit system. K. B. Humphrey. diag Power 84:743 N '40
Unskilled labour and flexible conduit systems; development of non-metallic materials. Electrician 125:124 S 6 '40

ELECTRIC connectors
French conduit connectors. il Elec R (Lond) 125:578 N 3 '39

ELECTRIC contactors
British Thomson-Houston ignitron contactor for the control of spot welders. il diag Engineering 149:275 Mr 15 '40; Electrician 124:190 Mr 8 '40
Ignitron contactor control of resistance welding. W. C. Hutchins. il diags Gen Elec R 42:544-7 D '39
Magnetic contactor refinements. J. F. Frese. diags Power Pl Eng 44:73 Ap '40
Plastics competition; award to General electric co. il Mod Plastics 18:67, 95-6 O '40

ELECTRIC contacts
Air circuit-breaker contacts. L. B. Hunt. il Elec R (Lond) 126:656 Je 21 '40
Bimetal mount aids contact maintenance. C. C. Whitaker. il Elec W 113:1918 Je 15 '40
Circuit-breaker contacts; discovering a remedy for failures. J. Anderson. Elec R (Lond) 126:124 F 2 '40
Contact materials. E. E. Halls. Electrician 123:454-5 N 24 '39
Contact phenomena in telephone switching circuits. A. M. Curtis. pls diag Bell System Tech J 19:40-62 Ja '40; Same. Elec Eng 59:Trans 360-8; Discussion. Trans 368 Je '40
Switchgear contacts. G. Windred. diags Engineer 169:558, 567-8 Je 21-28 '40

ELECTRIC contractors
Contractors hear of new plan to sell home wiring jobs. Elec West 85:40 S '40
Electrical contractors assn. of northern California annual meeting, Stockton, April 20. Elec West 84:64 My '40

ELECTRIC contractors—*Continued*
National Register; a contractor criticises its methods, membership and rules. Electrician 124:434 Je 21 '40
You sell, I'll install; J. Tennent sells wiring and lighting fixtures. il Elec West 84:52-3 Mr '40

ELECTRIC control
Amplidyne. diags Power Pl Eng 44:58-61 Ap '40
Amplidyne generator. diags Mech Eng 62:320-1 Ap '40; Electronics 13:54+ Ap '40
Amplidyne generator, a dynamoelectric amplifier for power control. E. F. W. Alexanderson, M. A. Edwards and K. K. Bowman. il diag Gen Elec R 43:104-6 Mr '40
Automatic and remote station control. J. A. Beyhan. diag map Oil & Gas J 39:122 S 19 '40
Automatic preset control for electric heat treating and quenching equipment; South Works plant of Carnegie-Illinois steel corp. il Steel 107:50, 54+ S 2 '40; Same. Blast F & Steel Pl 28:893-5 S '40
Cathedral carillon; electro-pneumatic operation. il Elec R (Lond) 125:729 D 8 '39
Centralised control of a coal-washing plant. il Engineering 149:250-1 Mr 8 '40; Mech Handling 27:71-2 Mr '40
Conveyor-control system; Fifth vein coal co. il plan Coal Age 45:80-2 Ap '40
Co-ordinated electrical control saves foundry space; correlates mold production lines with sand-conditioning towers; International harvester company's motor truck engine factory. H. W. Parthemer. il diags Elec W 113:2041-3+ Je 29 '40
Design characteristics of amplidyne generators. A. Fisher. il diags Gen Elec R 43: 107-13 Mr '40
Double feature for school plays; Santa Rosa junior college auditorium has remote control lighting system combining light and ventilation. il diag Elec West 85:50-1 N '40
Effects of voltage variation on motor and control operation. C. B. House. Factory Management 98:92, 94 S '40
Electric cycle control. il diags Product Eng 11:154-5 Ap '40
Electric motors and controls for sewage treatment plants. J. O. Kammerman. Pub Works 71:38+ Jl '40
Electrical control troubles and their causes; data sheets. J. H. Hopper. Factory Management 98:94, 96 O; 90, 92 N '40 (to be cont)
Electrical developments of 1939. G. Bartlett. il Gen Elec R 43:23-5 Ja '40
Electrical operation of tread-cutting conveyer system. C. W. Drake. il India Rubber W 101:57 D '39
Industrial applications of amplidyne generators. D. R. Shoults, M. A. Edwards and F. E. Crever. il diags Gen Elec R 43:114-19 Mr '40
Instantaneous forging control. il diag Steel 106:73-4 Ap 8 '40
Means of providing controlled acceleration and deceleration and also controlled regenerative emergency braking on Ward-Leonard mine hoists. H. Freeman. diags Inst E E J 85:713-18 D '39; Discussion. 86:501-5 My '40
New automatic doorman; Yale door closer equipped with electrically-operated hydraulic controls. il Ry Age 107:851 D 2 '39
New industrial control device; amplidyne generator. diag Electrician 124:363 My 17 '40
Progress in engineering knowledge during 1939. P. L. Alger. bibliog diag Gen Elec R 43:82-3 F '40
Quick starting turbines. J. T. Moffett. il diags Power Pl Eng 44:93-4, 96 My '40
Railcars for the Great Western railway; electro-pneumatic driving controls. il diags Engineer 169:473-4 My 24 '40
Remote control foil changer. E. Pollard and W. L. Davidson, jr. diags R Sci Instr 11: 345 O '40
Safety and ease in pushbutton control; illustrations. Factory Management 97:72-3 D '39
Some new uses of capacitors in control circuits. F. H. Winter. il diags Gen Elec R 42:462-5 N '39
Spot coal cars by remote control. il Elec W 113:1908 Je 15 '40
Sugar boiling by instrument control. W. E. Smith. diag Instruments 13:220-1 Ag '40
Time switches never forget; illustrations. Factory Management 98:82-3 Jl '40
Trip switches control automatic conveyor; Pepsi-Cola bottling company. il Elec W 112: 1628 D 2 '39
Tube railway protection; electrically operated floodgates safeguarding the London underground railways. il Elec R (Lond) 126: 333-5 Mr 22 '40
Two ways to cut control upkeep; selection and installation of equipment. C. E. Armstrong. il Factory Management 98:53-4 Ap '40
What's new in motors and controllers. F. J. Oliver. il Iron Age 145:48-52 F 1 '40

See also
Carrier current control
Electric controllers
Electric motors—Control
Electric switches
Photoelectric cells—Control uses
Valves—Electric control
Voltage regulation

ELECTRIC controllers
Eleco tap for control of heating circuits. il diags Electrician 123:446 N 17 '39
Electric motor and controller inspection. F. Oakhill. Power Pl Eng 44:88 Ja '40
Sunvic energy regulator. diags Chem Age (Lond) 43:142 S 28 '40
Theory and design of NEMA resistors for motor starting and speed control. G. C. Armstrong. diag Elec Eng 59:Trans 277-81 My '40

ELECTRIC converters
Converter for low frequency sinusoidal voltages and a source of sinusoidal radiation intensity. L. Harris and A. C. Scholp. diags R Sci Instr 11:23-5 Ja '40

See also
Electric rectifiers
Frequency changers

ELECTRIC converters, Synchronous
Conversion devices for electrochemical loads. C. C. Levy. bibliog il diag Chem & Met Eng 47:344-8 My '40
Relay and circuit-breaker protection for d-c machines. H. Bany. il Gen Elec R 43:312-19 Ag '40
Synchronous converters for the New York Board of transportation. G. R. McDonald. il Mass Transportation 36:107-9 My '40

ELECTRIC cooking
Commercial cooking program yields 4,000 kw. of new load; Georgia power company. W. A. Tadlock. il Elec W 114:526-7+ Ag 24 '40
Domestic load; new light on its characteristics. G. O. McLean. Elec R (Lond) 127:127-8 Ag 16 '40
Electric cookery sold against gas competition; Appalachian electric power company. H. M. Kemmer. il Elec W 114:848-50+ S 21 '40
Electric cooking council maps national program. Elec W 114:1175 O 19 '40
Electric range oven temperature measurement. T. H. Swisher. il Edison Elec Inst Bul 8:113-14+ Mr '40
Fryers pave way for 48 kw. of new load. il Elec W 113:780 Mr 9 '40
Lower cost electric cookery; Central Hudson develops equipment for low-income customers. H. E. Dexter. il Elec W 113:745+ Mr 9 '40
Market survey as a tool of management; study of electric competition. L. Ginsburg. Gas Age 86:30-4+ Ag 15; 22-5+ Ag 29 '40
Organized promotion for commercial sales; Ohio Edison company, Akron. T. J. James. il Elec W 113:2037-8+ Je 29 '40
Portland, Ore. chefs to cook electrically. il Elec W 112:1896 D 30 '39
Potato cooker for rural customers served by the Utah power & light co. il Elec West 84:53 Ja '40

ELECTRIC cooking—*Continued*
Revenues increase 45 per cent under commercial cooking plan; Puget Sound power & light company. C. T. Bakeman. il Elec W 113:1368-9+ My 4 '40
School canteens. F. M. Evans. Elec R (Lond) 125:728 D 8 '39
Statistics prove electric cooking gains limited to non-gas territory. E. R. Martin. Am Gas Assn Mo 22:305-6 S '40
Two-burner electric table stoves, electric table broilers, and electric casserole. il Consumers' Research Bul (Gen bul ser) 9: 9-11 Je '40
Utah Power develops low cost rural cooker. K. W. Browning. il Elec W 113:160 Ja 13 '40
Vigorous promotion builds commercial cooking load; Potomac Edison system. W. C. Conley, jr. il Elec W 113:892-4+ Mr 23 '40
See also
Electric broilers
Electric roasters
Electric stoves

Bibliography
Bibliography on commercial electric cooking, 1933-1939 inclusive; listed in chronological order. Edison Elec Inst Bul 7:606-7 D '39

ELECTRIC cords
Deadly extension cords. G. E. Kimball. il Safety Eng 79:9-10 F '40

ELECTRIC current inverters. See Electric inverters

ELECTRIC current limiters
Demand control reduces power costs. W. B. Skinkle. il Instruments 13:3-5 Ja '40
Install limiters on secondary networks. C. P. Xenis and E. Williams. diags Elec W 112: 1466, 1624, 1761, 1882 N 18-D 30 '39
Peak limiter made of meter parts. il diag Elec W 112:1766 D 16 '39
Servicing the Delco-Remy model 5620 five-unit regulator. W. H. Crouse. diags Bus Transportation 19:190-1 Ap '40
Wagner constant-current regulator. Mach 47: 161-2 O '40

ELECTRIC current rectifiers. See Electric rectifiers

ELECTRIC currents
Compensating for circulating current. B. E. Ellsworth. diag Elec W 114:409 Ag 10 '40
Constant current sources. L. C. Green and J. B. H. Kuper. diags R Sci Instr 11:250-6 Ag '40
Determination of ground-fault current and voltages on transmission systems. E. M. Hunter, E. Pragst and P. H. Light. Gen Elec R 42:353-6, 479-85 Ag, N '39
Determination of short-circuit currents in low-voltage industrial feeders. E. F. Kubler. Gen Elec R 43:459-66 N '40
Determination of sudden changes in flow of a direct current feeding a number of electrolytic cells. Power Pl Eng 43:733 N '39; Solutions. diags 44:96-9 Ja; 77 F '40
Fluctuations in space-charge-limited currents at moderately high frequencies. B. J. Thompson, D. O. North and W. A. Harris. diags RCA R 5:106-24, 244-60 Jl-O '40 (to be cont)
Harmonic current generation in polyphase rectifier circuits. H. Rissik. Electrician 124: 37-9 Ja 19 '40
Lightning currents in arresters at stations. I. W. Gross and W. A. McMorris. il diag Elec Eng 59:Trans 417-22 Ag '40
Measurement of spot-welding current. W. F. Hess, R. A. Wyant and A. Muller. il diags Elec Eng 59:Trans 349-53; Discussion. Trans 353-4 Je '40
Shunt capacitor application problems; excess circuit or capacitor current. J. W. Butler. il diags Gen Elec R 43:207-12 My '40
Wave shapes of successive lightning current peaks. K. B. McEachron. il Elec W 113: 428-31+ F 10 '40
See also
Electric measurements
Electric transformers
Electric transient phenomena
Electric waves

ELECTRIC currents, Alternating
Alternating-current circuits. K. Y. Tang. 438p $4 International textbook co, Scranton, Pa. '40
A.c. welding aids metal fabricator; with cost data. L. D. Jennings. il Iron Age 146:40-1 Ag 8 '40
Application of circuit breakers for low voltage a.c. systems. C. P. West. il diag Power Pl Eng 44:58-61 My '40
Automatic protection of A.C. circuits. G. W. Stubbings. 2d ed rev 311p bibliog(p299-300) 15s Chapman & Hall, London '38
Distribution of electric current in the animal body; an experimental investigation of 60 cycle alternating current. A. W. Weeks, L. Alexander and R. M. Dennis. il diags J Ind Hygiene 21:517-25 D '39
Elementary vectors for electrical engineers. G. W. Stubbings. 110p $2 Pitman '39
Measuring the frequency of alternating-current power supplies; abstracts. F. O. Morrell and G. R. Oman. Engineering 149:319 Mr 22 '40; Electrician 124:183-4 Mr 8 '40
New a-c. standard measurement method. H. R. Adams. diag Instruments 13:274 S '40
No evidence of damage to water pipes by alternating current found by grounding committee. Edison Elec Inst Bul 8:451-2 S '40; Same. Power Pl Eng 44:62-4 N '40; Same. Am Water Works Assn J 32:1946-50 N '40
Power in a,c. circuits. Electrician 124:208-9, 226, 248-9 Mr 15-29 '40
Three-phase vector matrix operators. S. A. Stigant. Electrician 125:75-6, 88-9 Ag 9-16 '40
Where to use a. c. welding. H. Lawrence. diags Steel 107:121+ S 16 '40

ELECTRIC cutouts
Crypton automatic battery cut-out. il Engineer 169:263 Mr 15 '40; Elec R (Lond) 126:458 Ap 19 '40
Grounded cutouts improve street-lighting service. W. H. McKinley. il diags Elec W 114:534 Ag 24 '40
Single fuse link fits many cutouts. E. Boothe. Elec W 113:2072 Je 29 '40
Vulcanized-fiber-phenolic tubes in high voltage engineering. G. A. Albert. il diags Mod Plastics 17:45-7+ D '39
See also
Electric fuses

ELECTRIC cutting
Thor UIN portable nibbler. il diag Product Eng 11:204 My '40
Underwater cutting, arc cutting, the oxygen lance, and oxygen de-seaming and machining; a review of the literature to Jan. 1, 1939; abstract. W. Spraragen and G. E. Claussen. Metals & Alloys 11:MA262 My '40
See also
Saws, Electric

ELECTRIC discharges
Breakdown potentials of gases under alternating voltages. G. W. Fox and D. O. McCoy. diag J Ap Phys 11:592-5 S '40
Capacitor discharge chart; reference sheet. L. Hanopol. diags Electronics 13:41-2 Je '40
Characteristics and function of anode spots in glow discharges. S. M. Rubens and J. E. Henderson. bibliog il diags Phys R 58:446-57 S 1 '40
Contact phenomena in telephone switching circuits. A. M. Curtis. pls diag Bell System Tech J 19:40-62 Ja '40; Same. Elec Eng 59:Trans 360-8; Discussion. Trans 368 Je '40
Discharge mechanism of Geiger-Mueller counters. C. G. Montgomery and D. D. Montgomery. diags Phys R 57:1030-40 Je 1 '40
Electrical characteristics of low pressure discharges. J. W. Marden and G. Meister. il Illum Eng Soc Trans 34:1095-1107 N '39
Fundamental processes of electrical discharge in gases. L. B. Loeb. 717p $7 Wiley '39
Influence of discharge chamber structure upon the initiating mechanism of the high frequency discharge. S. Githens, jr. bibliog il diag Phys R 57:822-8 My 1 '40

ELECTRIC discharges—*Continued*
Measurements of discharge characteristics of Geiger-Mueller counters. W. E. Ramsey. diag Phys R 57:1022-9 Je 1 '40
Mechanism of electrical discharges in gases of low pressure. M. J. Druyvesteyn and F. M. Penning. bibliog il diags Rs Mod Phys 12:87-174 Ap '40
Mechanism of spark discharge in air at atmospheric pressure. L. B. Loeb and J. M. Meek. bibliog il diags J Ap Phys 11:438-47, 459-74 Je-Jl '40
New afterglow phenomenon. J. Kaplan. il Phys R 57:662 Ap 1 '40
Oxidation of nitrogen in an ozonizer discharge at high temperatures. J. F. Shultz and O. R. Wulf. diag Am Chem Soc J 62: 2980-7 N '40
Polarization of light emitted by electrically exploded wires. W. M. Cohn. bibliog il Phys R 58:50-1 Jl 1 '40
Positive column of the nitrogen arc at atmospheric pressure. E. S. Lamar, A. M. Stone and K. T. Compton. bibliog Phys R 55:1235-44; 57:212-20 Je 15 '39, F 1 '40
Report on Bartol research foundation; investigations concerning the properties of Geiger-Mueller counters. W. F. G. Swann. il Franklin Inst J 230:285-307 S '40
Residual currents in a.c. discharges. J. D. Cobine and H. Klemperer. il diag Franklin Inst J 229:477-89 Ap '40
Silent electrical discharges on rubber solutions. L. Hock and H. Leber. India Rubber W 102:71 Je '40
Testing insulators; substitution of vacuum glow-discharge for water as interior electrode. W. Subak. diags Elec R (Lond) 127: 217-18 S 13 '40
Theoretical determination of breakdown voltage for sphere-gaps. J. M. Meek. Franklin Inst J 230:229-42 Ag '40
Theory of spark discharge. J. M. Meek. bibliog Phys R 57:722-8 Ap 15 '40
Time-lag analysis of the Townsend discharge in argon with activated caesium electrodes. R. W. Engstrom and W. S. Huxford. bibliog diags Phys R 58:67-77 Jl 1 '40
Townsend ionization coefficients for Ni and Al cathodes in an atmosphere of hydrogen. D. H. Hale. bibliog diag Phys R 56:1199-1202 D 15 '39

See also
Corona (electricity)
Electrons—Emission from metals
Ionization, Gaseous
Lightning
Vacuum tubes
X rays

ELECTRIC distribution
Banked secondaries and secondary networks. P. E. Benner. diags Gen Elec R 43:285-7 Jl '40
Benefits of check routines for transformer loading; relative costs of various methods. F. Sanford. Elec W 114:204-6+ Jl 27 '40
Capacitors aid feeders in textile machinery plant; Whitin machine works improves power factor of own generating plant. F. D. Snyder. il Elec W 114:213-14+ Jl 27 '40
Capacitors improve distribution conditions. J. L. Collins. Elec W 113:912+ Mr 23 '40
Construction and operation of the grid. J. Wright. map Inst E E J 86:1-17, pl 1 Ja '40; Same cond. Engineering 148:568-9, 577-9 N 17-24 '39; Same cond. Engineer 168:492-4 N 17 '39; Abstracts. Elec R (Lond) 125:581-2 N 3 '39; Electrician 123:401-2 N 3 '39
Co-ordination of electrical equipment with basic insulation levels. J. H. Foote and J. R. North. bibliog Elec Eng 59:Trans 585-9 O '40
Current distribution improved weld quality. H. Lawrence. il Steel 107:56+ Jl 8 '40
Demand totalized for housing project; impulse wiring for both residential and commercial rates, terminating in single demand meter; Parkchester housing development of the Metropolitan life insurance company. C. V. Morey. il diags plan Elec W 114:838-40 S 21 '40
Determines economic transformer size. A. G. Pergande. Elec W 113:306 Ja 27 '40
Distribution in factories; single-winding static apparatus on four-wire systems. A. L. Morris. diags Elec R (Lond) 127:129 Ag 16 '40
Distribution meets its responsibilities. H. P. Seelye. il diag Edison Elec Inst Bul 8:335-42 Jl '40; Abstract. Elec W 113:1894-5+ Je 15 '40
Distribution performance data given at Pennsylvania electric association meeting. Elec W News ed 113:835 Mr 16 '40
Distribution planning; transformer-secondary design for service. C. E. Arvidson. Elec W 112:1581-2+ D 2 '39
Distribution transformer benefits by standardization. il diags Elec W 113:734-6+ Mr 9 '40
Economic study determines best network arrangement; with cost data. E. E. Forrest and L. B. Wickersham, jr. diags Elec W 113:1358-60+ My 4 '40
Electric distribution fundamentals. F. Sanford. 242p $2.50 McGraw-Hill '40
Electric distribution systems in buildings. L. W. Moxey, 3d. Elec Eng 59:104-6 Mr '40
Electrical distribution de luxe; new press shop at the Rouge plant of the Ford motor company. G. A. Van Brunt. il diags Factory Management 98:88, 90, 92 Mr '40
Electrifying oil properties and service restoration systems. O. Dowzer. diag Oil & Gas J 39:41, 43+ Jl 18 '40
Expansion of hydro service in northern Ontario mining districts. T. C. James. il map Can Min J 60:811-16 D '39
Factory distribution; critical survey of electrical installation practice. il Elec R (Lond) 127:23-4 Jl 12 '40
Farm supplies; reducing distribution costs. A. Stewart. Elec R (Lond) 127:265-6 S 27 '40
High pressure reduces power costs in industrial plant; National vulcanized fibre co. sells surplus power and steam to Marshall bros. il diags Power Pl Eng 44:56-8+ Je '40
High-voltage distribution in rural areas. K. L. May. il diags Inst E E J 87:33-54; Discussion. 54-61 Jl '40
Industrial power system based on co-operative design; supply system for rubber products plant. T. F. Offenbacker, R. Patrick and H. T. Fox. il diag Elec W 113:282-5 Ja 27 '40
Interlaced bus design solves space problem. G. E. Tennant. il diags Elec W 114:991-2+ O 5 '40
Junction box scheme for tapping sub-feeder; Minneapolis-Honeywell regulator company. il Elec W 114:1348 N 2 '40
Large store installation; problems associated with distribution. il diag Elec R (Lond) 126:149-52 F 9 '40
Loading limits for distribution transformers. E. N. Nelson and J. E. Davies. Elec W 114:1154-8 O 19 '40
New ammeter speeds distribution studies. Elec W 113:460 F 10 '40
New substation serves underground bus. K. R. Birge. il diags Elec W 112:1442-5 N 18 '39
Philadelphia a-c network; operating results. P. W. Crosby. diags Elec Eng 58:517-21 D '39
Portable power distribution center. E. N. Banthin. il Eng N 124:337 F 29 '40
Power-factor correction. il Elec R (Lond) 127:125-6 Ag 16 '40
Power lines for mechanical loading. G. B. Southward. diag Min Cong J 26:38-9 Ag '40
Power supply for suburban areas. R. A. Hentz and J. A. Thielman. il diag Elec Eng 59: 234-8 Je '40
Practical distribution economies. H. S. St John. Elec W 114:672-4+ S 7 '40
Progress in Durban. E. Poole. il Elec R (Lond) 125:573-5 N 3 '39
Progress in engineering knowledge during 1939; transmission and distribution. P. L. Alger. bibliog diags Gen Elec R 43:79-82 F '40
Progress report on rural planning. D. F. Misz. Elec West 84:131-3 Je '40

ELECTRIC distribution—*Continued*
Protection and operation of rural lines in Southeast. L. C. Flournoy. Elec W 113: 575-6 F 24 '40
Reenforcing rural lines; eight methods for increasing the capacity. J. F. Emery. Elec West 85:39-41 Jl '40
Selecting distribution-transformer size. M. F. Beavers. bibliog Elec Eng 59:407-12 O '40
Simulated network checks actual system. C. T. Nicholson. il Elec W 114:670-1 S 7 '40
Standardising distribution; cables and network accessories. S. W. Melsom. Elec R (Lond) 126:609-10 Je 7 '40
Supplies to small holdings; combined high and low tension distribution system. il Electrician 123:410 N 3 '39
Supply in the Leicester area. il Electrician 124:406 Je 7 '40
Switchgear layout; problems for the works electrical engineer. R. T. Lythall. Elec R (Lond) 125:810-11 D 29 '39
Switchgear layout; special arrangements to meet war conditions. A. J. Nicholas. diags plans Elec R (Lond) 127:219-20 S 13 '40
Transmission and distribution committee of Edison electric institute meets in St Louis. Elec W News ed 113:510-11 F 17 '40
Trends in electrical-apparatus development. A. C. Monteith. il Elec Eng 59:221-6 Je '40
Vaults for a.c. secondary networks. J. S. Parsons. diags Elec W 113:886-8+, 1201-3+, 1512-13+ Mr 23, Ap 20, My 18 '40
Where unit stations fit into Pacific Gas and Electric's distribution plant. R. B. Kellogg. il Elec West 84:46-7 Ap '40

See also
Busbars
Electric cables
Electric conductors
Electric conduits
Electric currents
Electric lines
Electric plants—Interconnection
Electric power
Electric rectifiers
Electric service, Rural
Electric substations
Electric transformers
Electric transmission
Electric wiring
Electric wiring, Interior
Street lighting
Voltage regulation

Change-over
Adapting 3-wire lighting to network service. C. S. Wickstrom. il diag Elec W 114:384-6+ Ag 10 '40
London voltage change. Elec R (Lond) 127:7 Jl 5 '40
Uses rubber protective equipment on 13.2 kv.; safety practices and insulator changing technique as result of rush changeover job; Potomac Edison company. M. J. Urner. il Elec W 114:383 Ag 10 '40

Cost
Economical loading of high-voltage cables installed in underground subway systems. E. R. Thomas. Elec Eng 58:Trans 611-15; Discussion. Trans 615-18 D '39
Is 4-wire isolated service less costly? abstract. J. A. Potts. Elec W 113:146+ Ja 13 '40

Grounding
Charts show ground rod depth for any resistance, in advance. R. M. Schahfer and W. H. Knutz. Elec W 114:1163-5+ O 19 '40
Common data on neutral operation. R. A. Switzer. Elec W 113:596+ F 24 '40
Design of liquid earthing resistances. C. J. O. Garrard. il diags Engineering 150:124-6 Ag 16 '40
Earthing problem. Electrician 125:164 S 27 '40
Electrical grounding subcommittee reports need for more research. C. F. Meyerherm. Ind Stand 11:259-60 O '40
Grounding of electric circuits on water pipes. J. B. Downer. diags Am Water Works Assn J 32:115-20 Ja '40
Grounding practice in electric systems with particular reference to protection from shock. W. P. Dobson. Engineering 150:45-6, 66-7 Jl 19-26 '40
Modern wiring problems; a review of the earth leakage position. E. A. Reynolds. Electrician 124:237-8 Mr 29 '40; Discussion. 124:376 My 24 '40
Neutral earthing. diags Electrician 123:539, 557; 124:8, 24, 43, 77 D 22 '39-Ja 26 '40
No evidence of damage to water pipes by alternating current found by grounding committee. Edison Elec Inst Bul 8:451-2 S '40; Same. Power Pl Eng 44:62-4 N '40; Same. Am Water Works Assn J 32:1946-50 N '40
Practical aspects of earthing. E. Fawssett and others. Engineer 169:182 F 23 '40
Reduce ground resistances for better service. F. M. Horth. il diags Elec W 114:106-7+ O 5 '40
Revolt against indiscriminate earthing. Electrician 123:522 D 15 '39
Some effects of short-circuits on three-phase transmission lines. T. F. Wall. diags Engineering 149:578-80 Je 14 '40
Stray electrical currents create serious blasting hazards when grounding of equipment is inadequate. P. C. Ziemke. il Coal Age 45:46-8 N '40

Grounds and faults
Accurately locates accidental grounds; electromagnetic ground locator used by Consumers power company, Jackson, Mich. diag Elec W 114:564 Ag 24 '40
Analysis of bushing-current-transformer performance. J. P. Gebelein and J. A. Elzi. diags Elec Eng 59:Trans 541-6 S '40
Application of circuit breakers for low voltage a.c. systems. C. P. West. il diag Power Pl Eng 44:58-61 My '40
Applications and limitations of the inverse-time overload relay to the protection of an 11-kV network. J. W. Gallop and R. H. Bousfield. diags Inst E E J 87:113-22; Discussion. 122-34 Ag '40
Auxiliary equipment for ground-fault neutralizers. E. M. Hunter and S. B. Farnham. il diags Gen Elec R 43:352-6 S '40
Carrier control is faster than hunt fault procedure. H. W. Coffin. il map Elec W 113: 290-1+ Ja 27 '40
Carrier-current relaying improved. S. L. Goldsborough. Elec W 113:156 Ja 13 '40
Circuit breaking; further knowledge needed. C. J. O. Garrard. diags Elec R (Lond) 126: 336-8 Mr 22 '40
Compact high-voltage fault-locating truck. M. W. Ghen. il Elec W 113:148 Ja 13 '40
Condensation of the theory of relays. A. R. van C. Warrington. il diags Gen Elec R 43:370-3 S '40
Co-ordination of power and communication circuits for low-frequency induction. J. O. Coleman and H. M. Trueblood. il diags Elec Eng 59:Trans 403-12 bibliog(52 titles, p411-12); Discussion. Trans 412 Jl '40
Design and operation of a metropolitan electrical system from the viewpoint of possible major shutdowns; bulk power system of the Detroit Edison company. S. M. Dean. diags Elec Eng 59:Trans 575-9 O '40
Detecting electric furnace grounds. E. B. Ankenman. diag Elec W 113:1086+ Ap 6 '40
Determination of ground-fault current and voltages on transmission systems. E. M. Hunter, E. Pragst and P. H. Light. Gen Elec R 42:353-6, 479-85 Ag, N '39
Discriminative-overcurrent and earth-leakage protection for electrical circuits. Engineering 150:15-16 Jl 5 '40; Engineer 170:45-6 Jl 19 '40
Earth-leakage trips; a review of British standard specification no.842. E. A. Reynolds. Elec R (Lond) 125:577-8 N 3 '39
Experience with ultrahigh-speed reclosing of high-voltage transmission lines. P. Sporn and C. A. Muller. il diags Elec Eng 58: Trans 625-31 D '39; Abstract. Engineering 148:593-4 N 24 '39; Discussion. Elec Eng 58:Trans 631-6 D '39
Fault clearing with rapid-closing circuit breakers. O. Mayr. diags Engineering 148: 635-6 D 8 '39
Faults on power cables and overhead lines; their causes and some methods of localization. M. Cline. Inst E E J 86:74-7 Ja '40
General Electric biased differential relays for feeder protection. il diags Engineering 149: 125-6 F 2 '40
Grounded cutouts improve street-lighting service. W. H. McKinley. il diags Elec W 114:534 Ag 24 '40

ELECTRIC distribution—Grounds and faults— *Continued*
Inertia relay anticipates to facilitate reclosure; functions on rate of frequency or speed dip. J. T. Logan and J. H. Miles. il diags Elec W 113:1061-4 Ap 6 '40
Lightning and lightning protection on distribution systems. R. C. Bergvall and E. Beck. il diag Elec Eng 59:Trans 442-9 Ag '40
New method for determining relay selectivity and coordination. C. L. Betts, jr. diags Edison Elec Inst Bul 8:437-41 S '40
Operating experience with high-voltage alternators. W. D. Horsley. bibliog diags pl Inst E E J 86:345-54; Discussion. 354-68 Ap '40
Out-of-step blocking and selective tripping with impedance relays. H. R. Vaughan and E. C. Sawyer. bibliog il diags map Elec Eng 58:Trans 637-45; Discussion. Trans 645-6 D '39
Petersen coil protection equals lightning-proofing. R. E Neidig. Elec W 113:1211+ Ap 20 '40
Provisions for re-energizing the electric system of the Consolidated Edison company of New York, inc. G. R. Milne and H. C. Otten. diags map Elec Eng 59:Trans 579-85 O '40
Rack co-ordinates relay selectivity. C. L. Betts, jr. Elec W 114:996-8+ O 5 '40
Reclosers; service restorers, Colorado Springs. il Elec West 84:47 Ja '40
Restoration of service from large metropolitan system after complete shutdown; Philadelphia electric company. H. A. Dryar and R. Bailey. diags Elec Eng 59:Trans 571-4 O '40
Restoration of service on a metropolitan power system; Duquesne light company system. W. C. Bryson and A. P. Hayward. diags Elec Eng 59:Trans 563-70 O '40
Restorers improve urban distribution. F. H. Wiley. il Elec W 113:448+ F 10 '40
Restriking-voltage characteristics under various fault conditions at typical points on the network of a large city supply authority. L. Gosland. diags Inst E E J 86: 248-74, pl 1-2 bibliog(p270) Mr '40
Safeguards against interruptions of supply. H. W. Clothier, B. H. Leeson and H. Leyburn. pl diags Inst E E J 82:445-73 My '38; Discussion. 82:473-502; 85:735-59 My '38, D '39
Sensitive ground protection for radial distribution feeders. L. F. Hunt and J. H. Vivian. il diags Elec Eng 59:Trans 84-7; Discussion. Trans 87-90 F '40
Simple control sectionalizes important industrial loop; telephone lines leased for air-break switch operation. H. A. P. Langstaff and K. N. Reardon. il diags Elec W 113:1065-7 Ap 6 '40
Solution for faults at two locations in three-phase power systems. E. F. Vaage. bibliog diags Bell System Tech J 19:290-305 Ap '40
Test identifies arc circuit faults. diags Elec W 113:304-5 Ja 27 '40
Testing of distribution arresters. H. Halperin. Elec Eng 59:Trans 142-8; Discussion. Trans 148-9 Mr '40
Tracer impulses locate cable faults. P. L. Weir. il diags Elec W 114:81-3 Jl 13 '40

See also
Short circuits

Stability

Arc-furnace loads on long transmission lines. T. G. LeClair. il diags Elec Eng 59:Trans 234-9; Discussion. Trans 239-42 Ap '40
Automatic control of plant capacitors. il diag Elec W 112:1626+ D 2 '39
Automatic switches improve reliability. il Elec W 114:1342 N 2 '40
Basis for a program of capacitor additions on a growing distribution system; with cost data. V. G. Rettig. Edison Elec Inst Bul 8:387-94 Ag '40; Same cond. Elec W 114:78-80 Jl 13 '40; Conclusions. Elec Eng 59:502 D '40
Capacitor program for distribution betterment. T. Seely and P. H. Jeynes. diags Elec W 114:380-2+, 531-3 Ag 10-24 '40
Capacitors; voltage correction obtained with static units at savings. H. E. Jung. Elec West 85:44-5 Jl '40
Continuity of service as related to its cost and value. H. R. Woodrow. Edison Elec Inst Bul 8:305-8 Je '40; Same cond. Power Pl Eng 44:60-2 Ag '40; Excerpts. Elec W 113:1892-3 Je 15 '40
Controlling power flow; how phase angle, other factors, affect load balance. J. F. Spease. Elec West 84:50-1 My '40
Correcting on the low side; applications in San Joaquin. H. H. Minor. Elec West 84: 46-7 My '40
Distribution outlays to limit lamp flicker. D. K. Blake. Elec W 114:854-6, 1004-5+ S 21-O 5 '40
Distribution planning; fixing regulator settings. C. E. Arvidson. Elec W 112:1436-8+ N 18 '39
Graphical solution of transient stability. H. H. Skilling and M. H. Yamakawa. il Elec Eng 59:462-5 N '40
Harmonics and capacitors. C. G. Smith. Elec West 85:40-3 N '40
Improved reliability for city substation; step-type regulators on transformers. F. R. Ford. il Elec W 114:857 S 21 '40
Inertia relay anticipates to facilitate reclosure; functions on rate of frequency or speed dip. J. T. Logan and J. H. Miles. il diags Elec W 113:1061-4 Ap 6 '40
Keeping down costs for service continuity. W. J. Lyman. diags Elec W 114:74-7+ Jl 13 '40
Load-balancing transformers for a-c secondary network systems. F. M. Starr and D. L. Beeman. il diags Gen Elec R 43: 452-8 N '40
Long distance power transmission; new solution of stability problem; dual compensation system. H. Rissik. diags Electrician 124: 317-19 Ap 26 '40
Primary limits; application of feeder voltage regulators. R. O. Loomis. Elec W 114:1300-2 N 2 '40
Sectionalized buses; various arrangements with respect to short-circuit current, regulation, and stability. W. M. Hanna. Gen Elec R 43:399-402 O '40
Serving arc furnace loads in suburban areas; comparing synchronous condenser and motor-generator set for correcting voltage disturbance. L. W. Clark. diag Elec W 113: 578-9 F 24 '40
Seventeen systems report smooth capacitor performance. M. C. Miller. Elec W 113: 288-9+ Ja 27 '40
Shunt capacitor application problems. J. W. Butler. bibliog il diags Gen Elec R 43:206-12 My '40
Step regulators for transmission control; Iowa-Nebraska light & power company. G. C. Moomaw. diags Elec W 114:387-9+ Ag 10 '40
Team capacitors and line regulators. diags Elec W 114:1338+ N 2 '40
Transient and steady-state performance of potential devices. E. L. Harder, P. O. Langguth and C. A. Woods, jr. il diags Elec Eng 59:Trans 91-9; Discussion. Trans 99-102 F '40
Use of multiwinding transformers with synchronous condensers for system voltage regulation. H. P. St Clair. bibliog il diags Elec Eng 59:Trans 212-17; Discussion. Trans 217 Ap '40
Voltage regulation on low voltage electrical circuits. P. E. Benner. il diags Power Pl Eng 44:78-80 O '40
Voltage stabilisation; use of static apparatus to maintain constant values in transmission systems. T. F. Wall. diags Elec R (Lond) 126:367-9 Mr 29 '40

Tables, calculations, etc.

Aufbau und verwendung von netznachbildern. R. Jiretz. il V D I 84:96 F 10 '40
Calculations on the three-wire system. E. G. Key. il diags Power Pl Eng 44:63-5 Je '40; Correction. 44:55 Ag '40
Compensating for circulating current. B. E. Ellsworth. diag Elec W 114:409 Ag 10 '40

ELECTRIC distribution—Tables, calculations, etc—*Continued*
Determination of short-circuit currents in low-voltage industrial feeders. E. F. Kubler. Gen Elec R 43:459-66 N '40
Distribution planning; checking transformer and secondary conditions. C. E. Arvidson. il Elec W 112:1740-2 D 16 '39
Diversified demand method of estimating residential distribution transformer loads. C. E. Arvidson. Edison Elec Inst Bul 8: 469-73+ O '40
Economical loading of high-voltage cables installed in underground subway systems. E. R. Thomas. Elec Eng 58:Trans 611-15; Discussion. Trans 615-18 D '39
Oscillographic technique for measurements in a network analyser. D. M. Myers and W. K. Clothier. diags Inst E E J 85:639-45 N '39
Sequence components and the wye-delta transformation. W. A. Curry. diag Elec Eng 58:535 D '39
Solution for faults at two locations in three-phase power systems. E. F. Vaage. bibliog diags Bell System Tech J 19:290-305 Ap '40
Symmetrical components; graphical construction methods. G. W. O. Howe. Elec R (Lond) 127:7 Jl 5 '40
Thevenin's theorem. Electrician 123:347, 363, 391 O 13-27 '39

ELECTRIC double layer
Surface migration of ions and contact exchange. H. Jenny and R. Overstreet. bibliog diags J Phys Chem 43:1185-96 D '39

ELECTRIC driving
A.c.-d.c. drive is used for cable wrapping. il Elec W 112:1764 D 16 '39
Ammeter cuts costs for Tulsa feed mill. C. A. Bradford. Elec W 114:1354 N 2 '40
Applications; alternating current motors. F. A. Annett. Power 84:233-4 Ap '40
Auto-Klean motor-driven strainers. il diags Engineer 169:168 F 16 '40
Capacitor motors for single-phase systems. Electrician 124:187 Mr 8 '40
Consumption of electrical energy for industrial purposes. S. J. R. Allwood. Inst E E J 86:82-4 Ja '40
Crop drying; increasing use of electrical methods in Norfolk. il Elec R (Lond) 127: 145-6 Ag 23 '40
Der drehstrom-kurzschlussläufermotor in der industrie. F. Oertel. il diag V D I 83: 1261-6 D 9 '39
Electric drive for ordinary construction jobs. G. H. Hall. il diags Eng N 124:164-6, 326-9, 442-4, 501-3, 659-62, 805-8; 125:235-7 F 1, 29, Mr 28, Ap 11, My 9, Je 6, Ag 15 '40
Electric drive of an Indian ropeway; Bhupendra cement works. il Engineer 170:104-5 Ag 16 '40
Electric-tie transmissions; new power or motion transmitting system ties movement at two or more points without mechanical connection. C. W. Drake. diags Steel 106: 47-8+ Je 17 '40
Elektrischer vorschubantrieb im drehbankbau. F. Twelsiek. il diag V D I 84:155-6 Mr 2 '40
Flexibility plus with d.c. motors. N. L. Rose. il diags Factory Management 98:77-9 Mr '40
How much safety? graphic presentation details typical methods of working out drive applications. J. N. Smith. Steel 105:70-1+ D 4 '39
Industrial applications of amplidyne generators. D. R. Shoults, M. A. Edwards and F. E. Crever. il diags Gen Elec R 43:114-19 Mr '40
Industrial applications of electricity. H. G. Weaver. Inst E E J 86:279-82 Mr '40
Modernized belt drives cut costs, increase production. L. H. Skougor. il Power 84:535 Ag '40
Motor-drive methods in average factory; power factor, efficiency, connected horsepower and costs; tabulation. Elec W 113:454 F 10 '40
Motor drives for vertical shafts; diagrams. Product Eng 11:82-3 Ja '40
New clutch has high torque at low slip; eddy current clutch. R. J. Owen. diag Elec W 113:1090+ Ap 6 '40
New drives, 15% more production; changing from an old lineshaft drive to combination of unit and small group drives; Dover stamping and manufacturing company. R. Whitney. il Factory Management 98:82-3 O '40
Our power drives, what and why; group drives for batteries of light machines running continuously; unit drives for heavy equipment and for machines in intermittent operation. F. K. Kilian. il Factory Management 98:77-8 Jl '40
Over-motoring the load; conditions affecting selection of motor. C. C. Hermann. Power Pl Eng 44:89-90 Mr '40
Proper motoring first step in power factor correction. J. L. Merrill. Elec W 112:1858-60+ D 30 '39
Provender mill plant; conversion of a 600-year-old establishment. il Elec R (Lond) 126:33-4 Ja 12 '40
Room to spare, with gearmotors; illustrations. Factory Management 98:74-5 S '40
Synchronized drives; features and applications of synchrotie systems. C. W. Drake. il diags Product Eng 11:303-6 Jl '40
They didn't pick the right motor. J. V. Hunt. il Factory Management 98:91-3 F '40

See also
Airplanes—Electric equipment
Electric motors
Electric tools, Portable
Electricity in mining
Electricity in the petroleum industry
Elevators, Electric
Machine tools—Electric driving
Mine hoisting, Electric
Pumping machinery, Electric
Ship propulsion, Electric

Cement plants
Electric drives in cement works. Electrician 123:258 S 8 '39
Tube mill for cement grinding. il Engineer 169:141 F 9 '40

Conveying machinery
Dual button-conveyor drive; Red Jacket Coal's Keen Mountain mine. J. H. Edwards and G. H. Riblett. il diags Coal Age 45:45-8 Ja '40
Producing 11,000 treads a day at the Ford tire plant. R. L. Findley. il diag Rubber Age 47:305-7 Ag '40
Refuse reclamation; electricity's aid. il Elec R (Lond) 126:363-5 Mr 29 '40

Cost
See also
Power cost

Laundry machinery
Electrified laundry. il Elec R (Lond) 126:419-21 Ap 12 '40

Machine tools
See Machine tools—Electric driving

Paper mills
Drive modernization raises paper production; West Point, Va. mill of the Albemarle Chesapeake company. A. V. Burbage. il Elec W 113:1366-7+ My 4 '40
Electrical developments during the last 25 years. H. L. Sanborn. il Pulp & Pa of Can 41:591-5 Ag '40
Electrical developments of 1939. G. Bartlett. il Gen Elec R 43:31-2 Ja '40
Modernization of sectional drive speeds paper production 32 per cent. A. V. Burbage. il Paper Tr J 110:18-20+ Ja 25 '40
Paper manufacture; sectional unit drive at Dartford mills. il Elec R (Lond) 125: 787-8 D 22 '39; Electrician 123:428 N 10 '39
Paper mill conversion; Cromptons (Stubbins), ltd. il Elec R (Lond) 126:517-18 My 10 '40
Paper mill electrification; Darwen paper mill co. il Electrician 123:350 O 13 '39
Paper mills electrification. il Elec R (Lond) 125:614 N 10 '39

ELECTRIC driving—*Continued*

Power plant auxiliaries

Boiler auxiliary drives; Metrovic unified boiler control. il diags Power Pl Eng 44:54-6 O '40
Reducing fan speed. Power 84:318 My '40

Printing offices

BTA motor best for gravure press. il Elec W 113:456 F 10 '40
Colour printing; Geo. C. Caster & co. il Elec R (Lond) 126:127-8 F 2 '40
High-speed printing; dc unit drives for large newspaper presses. il Elec R (Lond) 126: 447-9 Ap 19 '40
Printing works drive; James Cond, ltd. il Elec R (Lond) 127:165-7 Ag 30 '40

Rolling mills

Electrical engineering in 1939. il Engineering 169:40, 49-50 Ja 12 '40
General Electric direct-coupled roller motors. il Engineer 169:372-3 Ap 19 '40; Electrician 124:271 Ap 5 '40; Engineering 149:458-9 My 3 '40
New slabber-edger setup at East works of American rolling mill co. il diags plan Steel 106:48-9, 76-7+ Mr 18 '40
1939 electrical developments. L. A. Umansky. il Steel 106:48-9 Ja 22 '40
Power factor and voltage controlled automatically; American rolling mill company. E. G. Schlup. il diag Elec W 114:842-4 S 21 '40
Some recent steel-mill installations. A. F. Kenyon. il diag Elec Eng 59:70-6 F '40
Steel strip manufacture; continuous cold rolling, Whitehead iron & steel co. il Elec R (Lond) 126:121-3 F 2 '40
Straight-line sheet galvanizing; Wheeling steel corp. D. A. McArthur and R. A. Geuder. il plans Iron Age 145:38-41 Ap 11 '40

Ships' auxiliaries

ABC's of electricity. J. A. Wasmund. il diags Marine Eng 45:58-62 O '40

Textile mills

Characteristics and power requirements of spinning frames. E. A. Untersee. Elec Eng 59:Trans 1-4, 336-8 Ja, Je '40
Drives for full-fashioned machines. L. H. Stark. il Textile World 90:75-6 Ap '40
Electrification of New Pralhad mills, Bombay. il Engineer 170:23-4 Jl 12 '40; Engineering 150:67-8 Jl 26 '40
Flexibility marks capacitor layout; Rhode Island fabrics company. il Elec W 113:1234 Ap 20 '40
Indian mills electrified; New Pralhad mills in Bombay. il Electrician 125:36 Jl 19 '40
Mill engineer develops drive. D. Adams. Textile World 89:106-7 N '39
Motor drive automatically takes up belt slack. W. A. Spellman. diag Factory Management 98:98-9 Mr '40
Short-center drives with tension-control motor bases adopted by Lydia cotton mills. F. A. Westbrook. il Textile World 90:69 Mr '40
Textile mill conversion from steam to electric drive; Morley cloth mills of Humphrey Bradley. il Elec R (Lond) 125:753-6 D 15 '39
Turbine-electric textile-range drives. E. L. Richardson. il diags Elec Eng 59:Trans 57-60 Ja '40
Turbine mechanical-electric drive. il Textile World 90:71 Mr '40
Variable speed drives for textile finishing operations. C. H. S. Tupholme. Textile Col 62:334-7 My '40

ELECTRIC elevators. See Elevators, Electric

ELECTRIC engineering

American institute of electrical engineers annual winter meeting, New York. Elec W 113:418-25+ F 10 '40; Power Pl Eng 44:61-3+ Mr '40
American institute of electrical engineers summer meeting; reports of technical conferences. Elec Eng 59:337-40 Ag '40
Applied electricity; a general reference work. rev ed 10v $29.80 American technical soc, Chicago '40
Edison electric institute; engineering committees meeting, Chicago, May 6-9. Elec W 113:1508-11+ My 18 '40
Electric power engineers' handbook; a manual devoted to the operation and maintenance of motors, generators, converters, and rectifiers in theory and practice. W. W. S. Ibbetson. 241p $5 Chemical pub. co. '39
Electrical developments of 1939. G. Bartlett. il diags Gen Elec R 43:2-54 Ja '40
Electrical engineering and the petroleum refiner. G. R. Weeks, H. W. Giesecke and C. M. Lathrop. Elec Eng 59:Trans 106-9; Discussion. Trans 109-10 F '40
Electrical engineering in 1939. il Engineer 169:6-10, 14, supp 3, 40, 48-50 Ja 5-12 '40
Electrical engineering laboratory experiments. C. W. Ricker and C. E. Tucker. 4th ed 458p $3 McGraw-Hill '40
Electrical engineering science; a second-year course. A. Morley and E. Hughes. 256p $1.75 Longmans '40
Electrical shop mathematics. H. D. Harper. 145p $1.50 Van Nostrand '40
Engineer in the power industry. P. Torchio. Elec Eng 59:101-2 Mr '40
Engineering enterprise needed by electric utilities. E. C. Stone. Elec W 113:286-7 Ja 27 '40
Introduction to electrical engineering. G. V. Mueller. 306p $2.75 McGraw-Hill '40
Mathematics applied to electrical engineering. A. G. Warren. 384p bibliog(p379) $4.50 Van Nostrand '40
More and more for less and less; developments of the decade and future trends. H. L. Wallau. Edison Elec Inst Bul 8: 327-34 Jl '40
New York utility engineers air operating practices; annual meeting of electric operating group of Empire state gas and electric association. Elec W News ed 113:1592 My 25 '40
Practical electricity. T. Croft. 4th ed 701p $3 McGraw-Hill '40
Principles and practice of electrical engineering. A. Gray. 5th ed rev 586p $4 McGraw-Hill '40
Principles of electrical engineering. W. H. Timbie and V. Bush. 3d ed rewritten 540p $4.50 Wiley '40
Progress in engineering knowledge during 1939. P. L. Alger. il diags Gen Elec R 43:60-88 bibliog(221 titles) F '40
Recent progress in electrical technology. M. Heins. Engineering 149:611-12 Je 21 '40
Some electrical developments in 1939. il Power Pl Eng 44:56-7 F '40
Some unsolved problems in transportation. J. A. Noertker. Elec Eng 59:113-17 Mr '40
Statistics and engineering practice. B. P. Dudding and W. J. Jennett. bibliog Inst E E J 87:1-15; Discussion. 15-21 Jl '40
Technological security stressed at A.I.E.E. forum. Elec W 114:86-9+ Jl 13 '40

See also

Armatures
Automobiles—Electric equipment
Commutators
Electric apparatus and appliances and other headings beginning Electric
Electricity
Electricity in mining
Electricity in the petroleum industry
Electricity on the farm
Electricity supply
Hydroelectric plants
Radio communication and other headings beginning Radio
Railroads—Electric equipment
Railroads—Electrification
Ship propulsion, Electric
Ships—Electric equipment
Telegraph
Telephone
Voltage regulation
Watt hour meters

Bibliography

Accessions to the reference library. Inst E E J 85:655-6, 767-8; 86:111-12 N '39-Ja '40
Library section; recent articles and new books of interest to industry. Published in monthly numbers of General electric review
Publications of the Institute. Edison Elec Inst Bul 8:386 Ag '40

ELECTRIC engineering—*Continued*

Examinations

Accuracies of different types of examination questions. A. G. Conrad and R. J. W. Koopman. J Eng Educ 30:860-9 Je '40
Comprehensive examinations in electrical engineering at the Ohio state university. H. W. Bibber. J Eng Educ 30:848-54 Je '40

History

Early electrical pioneers; Sören Hjorth and Ányos Jedlik. G. Windred. Engineering 149: 274-5 Mr 15 '40
Electrical invention and re-invention; abstract. W. T. O'Dea. Engineering 149:314 Mr 22 '40
History of the I.E.E.; Commander Appleyard's account of its foundation and achievements. Electrician 123:505 D 8 '39
I.E.E.'s history; a review of Rollo Appleyard's interesting narrative. A. Russell. Elec R (Lond) 125:671-2 N 24 '39

Safety devices and measures

See also
Electric equipment—Safety devices and measures
Electric protective apparatus
Electric utilities—Safety devices and measures
Electric wiring—Safety devices and measures
Insulation (electric)
National electrical code
National electrical safety code
also subdivision Protection under special headings, e.g. Electric lines—Protection; Electric motors—Protection

Study and teaching

Design and construction of experimental vacuum tubes in engineering school laboratories. T. S. Gray. bibliog J Eng Educ 30: 372-8; Discussion. 378-81 D '39
Electrical engineering courses for mechanical engineering students. L. E. Beck. J Eng Educ 30:382-8; Discussion. 388-91 D '39
Electricity and magnetism; need for more direct method of teaching; discussion of book by E. G. Cullwick; Fundamentals of electromagnetism. R. O. Kapp. Elec R (Lond) 126:475-6 Ap 26 '40
Engineering education and professional institutions. S. P. Smith. Inst E E J 86:51-8 Ja '40; Same cond. Engineer 168:574-5 D 8 '39; Abstract. Elec R (Lond) 125:675 N 24 '39
New postgraduate course in industry in high-frequency engineering. A. R. Stevenson, jr. and S. Ramo. Elec Eng 59:Trans 374-8; Discussion. Trans 378-80 Jl '40
Practice and teaching of electrical design. T. C. Lloyd. J Eng Educ 30:354-64; Discussion. 364-71 D '39
Technical training; is it sufficiently practical? E. B. Watton. Elec R (Lond) 127:287 O 4 '40

Tables, calculations, etc.

Circuit constants for the production of impulse test waves. J. R. Eaton and J. P. Gebelein. Gen Elec R 43:322-32 Ag '40
Condensation of the theory of relays. A. R. van C. Warrington. il diags Gen Elec R 43:370-3 S '40
Currents and voltages of a three-phase unbalanced load. W. H. Huggins. Elec Eng 59:86-7 F '40; Discussion. 59:166-7 Ap '40
Determination of power; supply to or absorption from a network. L. P. Dudley. Electrician 124:449 Je 28 '40
Equivalent circuit of the auto-transformer; equations for prediction of regulation. G. H. Rawcliffe. diags Electrician 124:203-4 Mr 15 '40
Harmonic current generation in polyphase rectifier circuits. H. Rissik. Electrician 124: 37-9 Ja 19 '40
Harmonic power consumption of polyphase rectifier systems. H. Rissik. Inst E E J 86:568-74 Je '40
Matrices and dyadics. A. P. Sah. diag Elec Eng 59:329-30 Ag '40
Matrix generalization of Heaviside's expansion theorem. L. A. Pipes. bibliog Franklin Inst J 230:483-99 O '40
Reciprocal addition; making calculations for parallel resistors or series capacitors. E. Blade. Elec Eng 59:246 Je '40
Technical problems; solution by approximate methods. F. Peasgood. Elec R (Lond) 126: 585 My 31 '40
Three-phase vector matrix operators. S. A. Stigant. Electrician 125:75-6, 88-9 Ag 9-16 '40
Transformation extending the use of Heaviside's operational calculus. A. J. Meyerhoff and M. B. Reed. Elec Eng 59:386 S '40
Transformation theory of general static polyphase networks. L. A. Pipes. bibliog Elec Eng 59:Trans 123-8; Discussion. Trans 128 F '40
Transient analysis of symmetrical networks by the method of symmetrical components. L. A. Pipes. Elec Eng 59:Trans 457-9 Ag '40
Vector diagrams; sign and other conventions. D. Robertson. Elec R (Lond) 126:35-6 Ja 12 '40

See also
Electric distribution—Tables, calculations, etc.
Electric transmission—Tables, calculations, etc.
Inductance

Terminology

Utilization voltage terms and definitions. Edison Elec Inst Bul 8:462 O '40

ELECTRIC engineers

Electric engineers' responsibility in wartime. F. S. Naylor. Inst E E J 86:71-3 Ja '40
Mentality of the engineer. W. Holttum. Inst E E J 86:27-30 Ja '40; Excerpts. Elec R (Lond) 125:559 O 27 '39
Nation-wide system of state employment services; electrical engineer: a definition. Illum Eng 35:582-3 Jl '40
What tomorrow's engineers must do. il Elec West 84:62-3 Je '40

See also
American institute of electrical engineers
Illuminating engineering society
also names of engineers, e.g. Thomson, Elihu

ELECTRIC equipment

A.R.P. equipment. il Elec R (Lond) 125: 652, 710 N 17, D 1 '39
Co-ordination of electrical equipment with basic insulation levels. J. H. Foote and J. R. North. bibliog Elec Eng 59:Trans 585-9 O '40
Decontamination of electrical plant; effects of poison gas on equipment. Electrician 125:114 Ag 30 '40
Decontamination of plant; recommended methods. Elec R (Lond) 127:171-2 Ag 30 '40
Electrical control troubles and their causes; data sheets. J. H. Hopper. Factory Management 98:94, 96 O; 90, 92 N '40 (to be cont)
Electrical developments of 1939. G. Bartlett. il diags Gen Elec R 43:2-54 Ja '40
Electricity in the Maginot line. il Elec R (Lond) 126:394 Ap 5 '40; Electrician 124: 389 My 31 '40
Installation components; wiring, lighting, and power accessories. il diags Electrician 124: 241-5 Mr 29 '40
Research in industry. E. S. Lee. il Paper Tr J 110:101-4 Je 27 '40
Review of power and mechanical equipment; motors, switches and other electrical equipment. il diags Power 83:815-21 Mid-D '39
Some electrical developments in 1939. il Power Pl Eng 44:56-7 F '40

See also
Automobiles—Electric equipment
Chemical plants—Electric equipment
Coal mines and mining—Electric equipment
Electric apparatus and appliances
Electric cables
Electric control
Electric driving
Electric instruments
Electric lighting
Electric plants (central stations)—Equipment
Electric power

ELECTRIC equipment—See also—*Continued*
Electric wire
Electricity in mining
Factories—Electric equipment
Quarries and quarrying—Electric equipment
Railroads—Electric equipment
Rolling mills—Electric equipment
Ships—Electric equipment
Switchboards
Waterworks—Electric equipment

Drying

See also
Electric machinery—Drying
Electric transformers—Drying

Maintenance and repair

Good electrical maintenance cuts fire hazards. G. S. Lawler. il Factory Management 98: 79-81 Jl '40
Lord helps those; employment opportunities in electric equipment maintenance. E. L. Richards. Power Pl Eng 44:70-1 My '40
Maintenance of electrical equipment in water works. C. J. Schoeninger. Am Water Works Assn J 31:2085-97 D '39
Not by paint alone; electrical maintenance; Golden Gate bridge. il Elec West 84:56-7 My '40
Troubles of electrical equipment; their symptoms, causes, and remedy. H. E. Stafford. 2d ed 373p $3 McGraw-Hill '40

Manufacture

Statistical methods and factors of safety: an argument for the revision of existing standards. W. T. O'Dea. bibliog Inst E E J 87:22-31; Discussion. 31-2 Jl '40
Statistics and engineering practice. B. P. Dudding and W. J. Jennett. bibliog Inst E E J 87:1-15; Discussion. 15-21 Jl '40

Safety devices and measures

Avoiding shock with electrically-operated quarry shovels. E. L. Nicolson. plan Concrete (mill sec) 48:232-3 S '40
Dust-tight rooms for corn mill controls. il Elec W 113:768 Mr 9 '40
Electric equipment. il Nat Safety N 41:99-100 Mr '40
Electricity's safety valves. M. A. Gimbel. il Nat Safety N 41:22-3 My '40
Grounding practice in electric systems with particular reference to protection from shock. W. P. Dobson. Engineering 150:45-6, 66-7 Jl 19-26 '40
National electric code; based on article 500—hazardous locations, 1937 code; lighting equipment. plan Chem & Met Eng 47:29-32 Ja '40
Part of the REA program; campaign to safeguard employees and consumers. D. A. Fleming. il Nat Safety N 42:12-13+ Ag '40
Protection of miscellaneous electrical equipment. Locomotive 43:4-6 Ja '40
Quarry regulations governing the use of electricity. C. H. Smith. Elec R (Lond) 125: 699-700 D 1 '39
We chose twelve volts for portable lamps in conductive locations. V. Thiemann. il Nat Safety N 42:23+ Jl '40

See also
Insulation (electric)

Specifications

Specifications suggestions for transmission and distribution materials; list of publications. Edison Elec Inst Bul 8:466 O '40

Standards

Canadian engineering standards association announces plans for labeling electrical appliances. Ind Stand 11:126-7 My '40
Electrical committees report many new standards under way. Ind Stand 11:21-4 Ja '40
Proposed standards for outdoor bushings. Elec Eng 59:Trans 590-1 O '40
Standard improves weather resistance of coverings for aerial wire and cable. L. L. Carter and A. Bellis. il Ind Stand 11:16-18 Ja '40
Standardising distribution; cables and network accessories. S. W. Melsom. Elec R (Lond) 126:609-10 Je 7 '40
Standards for services attached to buildings. diag Elec W 114:1342 N 2 '40
Statistical methods and factors of safety: an argument for the revision of existing standards. W. T. O'Dea. bibliog Inst E E J 87:22-31; Discussion. 31-2 Jl '40
Statistics and engineering practice. B. P. Dudding and W. J. Jennett. bibliog Inst E E J 87:1-15; Discussion. 15-21 Jl '40

ELECTRIC eye. See Photoelectric cells—Control uses

ELECTRIC fans, Ventilating

Autovent special fans with protective Heresite coatings. il Refrig Eng 39:126 F '40
Electric fan-ventilation. il Electrician 125: 188-9 O 11 '40
Floating foundations for quiet fan operation; use of vibracork. il diag Sheet Metal Worker 30:31-2 D '39
New bulletin on attic fans issued by the School of engineering of the Texas engineering experiment station. W. H. Badgett. Sheet Metal Worker 31:65 Ag '40
Pointers on installing comfort cooling systems. il diags Sheet Metal Worker 31:50-2+ My '40
Profit opportunities in large-volume air movers. il diags plan Sheet Metal Worker 31: 27-30 Mr '40
Sales helps for comfort cooling fan dealers. il Sheet Metal Worker 31:42+ Ap '40
Take it from a trouble shooter; troubles can be avoided. L. G. Humphrey, jr. il Power 84:39-40 Ja '40
Ventilation in the black-out; attic fan system. Electrician 124:284 Ap 12 '40
Ventilation of air raid shelters. T. C. Angus. il Heating-Piping 12:356+ Je '40

ELECTRIC fences. See Fences, Electrified

ELECTRIC field

Determination of the axial potential distribution in axially symmetric electrostatic fields. S. Bertram. diags Inst Radio Eng Proc 28:418-20 S '40
Deviations from Ohm's law at high current densities. E. Guth and J. Mayerhöfer. bibliog Phys R 57:908-15 My 15 '40
Differential field control; simple method applicable to two coupled machines. H. D. Einhorn. diag Electrician 125:176 O 4 '40
Electric and magnetic fields of a linear radiator carrying a progressive wave. F. M. Colebrook. bibliog diags Inst E E J 86:169-78 F '40; Discussion. 86:484 My '40
Electron optics of cylindrical electric and magnetic fields. A. Rose. bibliog il diags Inst Radio Eng Proc 28:30-40 Ja '40
Electrostatic separations of solids. F. Fraas and O. C. Ralston. bibliog il diags Ind & Eng Chem 32:600-4 My '40
Molecular nature of a dielectric. E. B. Moullin. bibliog diags Inst E E J 86:113-28 F '40

See also
Earnshaw's theorem

ELECTRIC filters

E.R.A. surge filter. diags Engineer 169:320 Ap 5 '40
Electrical wave filters employing crystals with normal and divided electrodes. W. P. Mason and R. A. Sykes. diags Bell System Tech J 19:221-48 Ap '40
Methods of controlling radio interference. C. V. Aggers. il diags Elec Eng 59:Trans 195-8 Ap '40
Simplified filter design. J. E. Smith. 57p bds $1 RCA institutes tech. press, New York '39

See also
Radio filters

ELECTRIC fires

Electric cables and fire risks. S. W. Melsom. il Engineering 149:360, 369-70 Ap 5 '40; Abstract. Electrician 124:204 Mr 15 '40
Extinguishing electrical fires. Elec R (Lond) 126:69 Ja 19 '40
Fire danger of oil circuit breakers. G. Meiners. diags Engineering 148:688-9 D 22 '39

ELECTRIC fires—*Continued*
Fire-fighting equipment for electrical installations. diags plans Inst E E J 85:719-34 D '39; Abstract. Engineering 149:139-41, pl 8 F 9 '40; Discussion. il diags Inst E E J 87:251-81 S '40; Elec R (Lond) 126:129 F 2 '40; Electrician 124:92-3 F 2 '40
Fire prevention film on electrical safety. Safety Eng 79:35 My '40
Preventing electrical fires in factories. Elec W 114:1028+ O 5 '40

See also
Electric transformers —Fires and fire protection

ELECTRIC fishes. See Electric organs in fishes

ELECTRIC fittings
Installation components; wiring, lighting, and power accessories. il diags Electrician 124: 241-5 Mr 29 '40

ELECTRIC flashlights
Arrow beam flashlight. il Mod Plastics 18:45 N '40
Disused torch batteries; reclamation process. C. C. Downie. Elec R (Lond) 126:66 Ja 19 '40
Rod-lights for industry; light transmitting uses of Lucite. il Sci Am 163:24 Jl '40
Safe lighting for boiler interiors. H. M. Spring. il Power 84:683 O '40

ELECTRIC furnaces
Electric cremation furnaces. Elec R (Lond) 125:586 N 3 '39
Electric furnace brazing by Kelvinator. E. W. Cunningham. il Metals & Alloys 11:125-30 My '40
Electrical developments of 1939. G. Bartlett. il Gen Elec R 43:20, 28-9 Ja '40
Electrically heated hot-dip tinning furnaces. W. G. Imhoff. il Metal Ind 38:201-2 Ap '40
Multi-purpose furnace serves engine plant. il Elec W 114:114 Jl 13 '40
1939 developments in industrial heating. C. L. Ipsen. il Steel 106:40-2 Ja 29 '40
Present status of the electric arc furnace in industry. W. E. Moore. Electrochem Soc Trans 77 (preprint 27):355-62 Ap '40
Serving arc furnace loads in suburban areas; comparing synchronous condenser and motor-generator set for correcting voltage disturbance. L. W. Clark. diag Elec W 113: 578-9 F 24 '40

See also
Electric heating
Electric heating, Industrial

Atmosphere control

Novel industrial application of direct expansion coils; removing moisture in controlled atmosphere furnaces. F. Pederson. il Heat & Ven 37:38 Ap '40
Operations in Studebaker's modernized plant; brazing furnace. il Mach 46:116-17 Ap '40
Saving with brazing; air conditioning and refrigerator parts; Westinghouse electric & mfg. co. A. K. Phillippi. il Am Mach 84: 903-6 N 13 '40

Control

Tube contactors offer means of improving process control. C. F. Wittlinger. Steel 107:171+ O 14 '40

ELECTRIC furnaces, Annealing
Annealing furnace has rotary retort. il Elec W 114:280 Jl 27 '40
Anneals 1500 pounds of coiled wire hourly; Ajax furnace. il Steel 107:46 Jl 1 '40
Modern wire drawing; Spencer wire co. il Elec R (Lond) 126:391 Ap 5 '40
Stress relief by electric furnace treatment. M. V. Healey and F. H. Miller. il Gen Elec R 43:170-3 Ap '40

Atmosphere control

Annealing copper for automobile radiators; Harrison radiator co, Division of General Motors. E. F. Cone. il Metals & Alloys 11: 141-4 My '40
Electric annealing forged steel unions; Rockwood sprinkler company. il Elec W 113:774 Mr 9 '40
Short cycle annealing of malleable iron; continuous roller hearth and pusher tray furnaces. R. M. Cherry. il diags Iron Age 146:34-7 S 26 '40
Strand heat treating cold strip. N. P. Goss and C. H. Vaughan. il Steel 107:52, 54, 56-7+ S 9 '40

ELECTRIC furnaces, Carburizing
Automatic batch carburizing. il Steel 106:72, 74+ My 13 '40

ELECTRIC furnaces, Foundry
Electric-arc furnace for melting steel scrap. il Engineering 149:330-2 Mr 29 '40
Electric furnace in the steel foundry. F. A. Melmoth. Electrochem Soc Trans 77 (preprint 19):253-8 Ap '40; Same cond. Engineer 169:404 Ap 26 '40
Steel foundry; Crane co. H. W. Maack. il Steel 106:38, 40-1 Ja 8 '40

See also
Electric furnaces, Iron founding

ELECTRIC furnaces, Heat treating
Aluminum alloy heat-treatment; Ajax-Hultgren furnaces. Aero Digest 37:172 Jl '40
Carnegie-Illinois expands heat treating facilities. il Iron Age 146:38-9 Ag 8 '40
Detecting electric furnace grounds. E. B. Ankenman. diag Elec W 113:1086+ Ap 6 '40
Developing maximum physicals in aircraft parts. A. G. Cordy. il plan Steel 106:44-6, 72-3 Je 24 '40
Electric heat-treatment furnaces at the Redditch works of Messrs High duty alloys, limited. il diags Engineering 148:636-7 D 8 '39
Electric salt bath; efficient in performing solution treatments on precipitation hardening copper-base alloys. W. F. Aylard and E. J. Dunn. il Steel 107:70, 72-3 Jl 8 '40
Electric salt baths; a composite of abstracts. Metals & Alloys 12:544+ O '40
Electricity as applied to metallurgy. A. P. M. Fleming. diags Engineer 169:323-4 Ap 5 '40; Same. Engineering 149:394-5 Ap 12 '40
Furnaces for tool hardening. A. H. d'Arcambal. Metal Prog 38:592 O '40
Globar furnace for high-speed steel. il Elec W 114:1196 O 19 '40
Modernizing a heat treating department; Jones & Lamson machine company plant. J. V. Dempsey. il Elec W 114:878 S 21 '40
Razor cutter heads hardened electrically; Schick dry shaver company. il Elec W 113: 602+ F 24 '40
Salt bath heat treating. W. F. Sherman. il diags Iron Age 146:43-7 N 14 '40

Atmosphere control

Automatic control of furnace atmospheres. H. M. Webber. il diags Instruments 13:73-6 Mr '40
Bright hardening of tool steels without decarburization or distortion. J. R. Gier and H. Scott. il Am Soc for Metals Trans 28:671-84; Discussion. 685-6 S '40

Control

Automatic preset control for electric heat treating and quenching equipment; South Works plant of Carnegie-Illinois steel corp. il Steel 107:50, 54+ S 2 '40; Same. Blast F & Steel Pl 28:893-5 S '40

ELECTRIC furnaces, High frequency
Refractories used in high-frequency electric melting of steel and alloys. B. W. Magalis. diags Am Cer Soc Bul 19:298-301 Ag '40

ELECTRIC furnaces, Iron founding
Electric furnace gray iron in Germany. G. Sper. Iron Age 144:39 D 7 '39

ELECTRIC furnaces, Laboratory
Controlled melting, pouring; vacuum melting and pouring furnace facilitates study of pure metals. il Steel 106:64+ Je 3 '40
Electrical phenomena in a high-temperature laboratory furnace. H. E. Stauss. Ind & Eng Chem 32:446 Mr '40
Furnace for micro-Carius determination. J. A. Kuck and M. Griffel. il diags Ind & Eng Chem Anal ed 12:125-6 F 15 '40

ELECTRIC furnaces, Laboratory—*Continued*
High-temperature resistance-type electric laboratory furnaces. W. M. Hazel and W. J. O'Leary. bibliog diags Ind & Eng Chem Anal ed 12:109-12 F 15 '40
Overcoming thermocouple errors in high-temperature induction furnaces. F. Day, jr. and H. W. Safford. Ind & Eng Chem 32: 445-6 Mr '40

ELECTRIC furnaces, Metallurgical
Air force targets in Germany; Bitterfeld aluminum works. il Engineer 170:263-5 O 25 '40
Le chauffage électrique industriel. Clergeot. Génie Civil 115:332 O 28 '39
Electric furnaces; development and application for the melting of metals. G. R. Bashforth. il Iron Age 144:40-5 D 14 '39
Electric furnaces, 1939. H. A. Sieveking. Electrician 124:59 Ja 26 '40
Electric pig-iron furnaces in war time. C. C. Downie. Chem Age (Lond) 42:sup 1 Ja 6 '40
Der elektroschmelzofen in der grauguesserei. T. Klingenstein and H. Kopp. diag Stahl & Eisen 59:1288-91 N 30 '39
Fortschritte der schmelztechnik im kernlosen induktionsofen. O. Dörrenberg and W. Bottenberg. il diags Stahl & Eisen 60: 116-19 F 8 '40; Abstract (Coreless induction furnaces). Iron Age 146:28 Ag 22 '40
Smelting domestic chrome ores in the electric furnace; investigation of high-iron concentrates from Montana and Oregon made to determine chromium recovery, power consumption, and grades of products. Eng & Min J 141:49-51 Jl '40

See also
Electric furnaces, Heat treating
Electric furnaces, Steel making

ELECTRIC furnaces, Non-ferrous melting
Electric furnace for melting economy; with cost data. Elec W 113:1398 My 4 '40
Induction melting and soldering in the optical industry. W. J. Wrighton and T. C. Jarrett. il Metals & Alloys 11:185-7 Je '40

Lining
Use of refractories in melting copper and copper alloys in an Ajax-Wyatt induction furnace. S. H. Booth. Am Cer Soc Bul 19: 171-2 My '40

ELECTRIC furnaces, Steel making
Die abbrandverhältnisse im kernlosen induktionsofen. H. Weitzer. Stahl & Eisen 59:1353-6; Discussion. 1357-8 D 21 '40
Arc-furnace loads on long transmission lines. T. G. LeClair. il diags Elec Eng 59:Trans 234-9; Discussion. Trans 239-42 Ap '40
Arc melting furnace for South Africa. il diags Engineer 169:328, 333-4 Ap 5 '40
As it was in 1915 and as it is in 1940. E. C. Smith. Metal Prog 37:301 Mr '40
Connections for electric steel furnaces. A. G. Arend. diags Electrician 125:123 S 6 '40
Copperweld goes alloy; works at Warren, Ohio. T. C. Campbell. plan Iron Age 145:30-1 Je 13 '40
Earth leakage protection for high-frequency furnaces. P. G. H. Burbridge. il diags Engineer 168:207-8 Ag 25 '39; Excerpts. Elec W 113:150 Ja 13 '40
Electric arc furnaces; composite of abstracts. Metals & Alloys 12:75 Jl '40
Electric furnace alloy steels for forgings. H. P. Rassbach. Electrochem Soc Trans 77 (preprint 29):383-94 Ap '40
Electric furnaces: development and application for the melting of metals. G. R. Bashforth. il Iron Age 144:40-5 D 14 '39
Electrically manufactured steels. H. A. Sieveking. il diags Inst E E J 86:401-23 My '40; Abstracts. Engineering 148:686-7 D 22 '39; Elec R (Lond) 125:704-5 D 1 '39; Discussion. Inst E E J 86:423-30 My '40
Electricity as applied to metallurgy. A. P. M. Fleming. diags Engineer 169:328-4 Ap 5 '40; Same. Engineering 149:394-5 Ap 12 '40
Improvement in arc furnaces and accessories. W. M. Farnsworth. Metal Prog 38:587 O '40
Der lichtbogen als heizquelle im elektroofen. H. Siegel. il Stahl & Eisen 59:1261-7; Discussion. 1267-8 N 28 '39
Modern alloy steel manufacture; Copperweld plant at Warren, Ohio. W. C. Kernahan. il Blast F & Steel Pl 28:671-3 Jl '40
Quality electric alloy steels produced at new Warren plant; Copperweld steel company. il diag plan Elec W 114:678-80+ S 7 '40
Recent French installations. il Electrician 123:487-8 N 17 '39
Steel melting in South Africa. il Elec R (Lond) 126:392 Ap 5 '40
Steel production, arc furnace installed; Brymbo steel co. il Elec R (Lond) 127: 45-6 Jl 19 '40
Top-charge rapid type furnaces in the manufacture of plain carbon steels; abstract. H. H. Watson. Metals & Alloys 11:MA128+ Mr '40

Lining
Lining a small induction furnace. G. F. Comstock. Metal Prog 36.759-60 D '39
Refractories used in high-frequency electric melting of steel and alloys. B. W. Magalis. diags Am Cer Soc Bul 19:298-301 Ag '40

ELECTRIC fuses
He collects fuses. G. E. Hawkins. il Power Pl Eng 44:55 N '40
High-rupturing-capacity fuses; abstract. J. W. Gibson. Elec R (Lond) 126:426 Ap 12 '40; Discussion. 126:454 Ap 19 '40; Electrician 124:322 Ap 26 '40
Interlock oil fuses for industrial feed. W. B. Kenyon. il Elec W 114:702 S 7 '40
Secondary fuse on strain insulator. il Elec W 113:924 Mr 23 '40
Secondary fusing of banked transformers. A. Benson. il diags Elec W 113:2044-5 Je 29 '40
Switchgear manufacture; Berry's electric, ltd. il Elec R (Lond) 127:110 Ag 9 '40

ELECTRIC generator sets
Blackstone mobile oil engine alternator set. il Engineer 168:457 N 3 '39; Engineering 148:591 N 24 '39
Bradby light portable generating sets. il Engineer 168:576-7 D 8 '39
Bradby 300-watt portable electric generating set. il Engineering 150:16 Jl 5 '40
Bradby's portable generating plant. il Engineering 149:25 Ja 5 '40
Brightest spot in town, lighted by its own generating plant; with cost data. il plan Nat Pet N 32:25-6, 28, 30 My 15 '40
Dozen duties for a generator set; portable power equipment, Portland General electric co. il Elec West 83:27-8 D '39
Groupes Diesel-électriques de secours, notamment pour abris collectifs de défense passive. diag Génie Civil 115:394 N 25 '39
Lincoln oil engine driven arc welder. il Engineer 169:336 Ap 5 '40
Natural gas engine for Trinidad. W. A. Tookey. il diags Engineer 169:551-2, 554, 575-6 Je 21-28 '40
Nunn portable generator. il Electrician 124: 46 Ja 19 '40; Engineer 169:167 F 16 '40
150-kw portable Diesel-engine generating set for standby pumping equipment. il Engineering 150:47-8 Jl 19 '40; Engineer 170:12 Jl 5 '40
Small generating plant supplies pumping power in Illinois pool. H. F. Simons. il Oil & Gas J 39:65-6 S 12 '40
Small generating sets for A.R.P. lighting. il Electrician 123:464 N 24 '39
Tomorrow it may freeze; welding generator for frozen pipe. il diags Dom Eng 154:38-9 D '39
Unattended electric power plant. il diag Engineering 149:86-7 Ja 26 '40; Engineer 169: 130-1 F 9 '40

Testing
Load tests of a 4,000-kW. combustion-turbine set. A. Stodola. il diags Engineering 149:1-4 Ja 5 '40

ELECTRIC generators
Big gun of science; Brasch and Lange apparatus, old-timer in splitting atomic nucleus, faces revival in generating artificial lightning. C. W. Sheppard. il Sci Am 162:342-3 Je '40

ELECTRIC generators—*Continued*

Electric power for airplanes. W. J. Clardy. il Elec Eng 59:Trans 385-8; Discussion. Trans 388-9 Jl '40

Electrical developments of 1939; power generation. G. Bartlett. il Gen Elec R 43: 5-7 Ja '40

Electrical engineering in 1939. il Engineer 169:6-7, 14, supp 3 Ja 5 '40

Heaters prevent condensation on hydro station generators. J. E. Housley. il Elec W 113:1054-6 Ap 6 '40

Holmes drooping-characteristic welding generator. il Engineering 149:181 F 16 '40

Letters from a turbine specialist; generator overloads. F. S. Kohl and L. P. Shildneck. diag Power 83:729 D '39

See also

Amplidyne generator
Armatures
Electric machinery
Electric plants
Hydroelectric plants

Control

Automatic load control for turbo-generator. diag Elec W 113:1090 Ap 6 '40

Cooling

Generator cooling; heat-recovery system. diag Elec R (Lond) 127:266 S 27 '40

Letters from a turbine specialist; generator air coolers. F. S. Kohl and D. P. Hesler. diag Power 84:143 Mr '40

Design

Some factors in the mechanical design of high-speed turbogenerators. S. H. Mortensen and J. J. Ryan. bibliog il diags Elec Eng 59:Trans 51-6; Discussion. Trans 56 Ja '40

Special problems of two-pole turbine generators. C. M. Laffoon and B. A. Rose. il Elec Eng 59:Trans 30-3; Discussion. Trans 33-4 Ja '40

Parallel operation

Parallel operation problems; abstract and discussion. T. B. Somerville. Elec R (Lond) 126:244-5 Mr 1 '40

Protection

Generator relays protect exciter. G. I. Smith. diag Elec W 114:1021 O 5 '40

High-speed differential relay for generator protection. W. K. Sonnemann. il diags Elec Eng 59:Trans 608-12 N '40

Relays protect underexcited generators. diag Elec W 113:1228+ Ap 20 '40

Repair

Large hydro-generator shaft repaired in place. W. H. Mitchell. il diags Power 84:416-17 Jl '40

Metal spraying saves expensive replacement; repair of direct current generator. J. E. Hubel. Power Pl Eng 44:89 S '40

Repair generator shaft in place. J. H. Siegfried. il Elec W 113:1208-9 Ap 20 '40

Small lathe saves big expense on turbine-generator repair. N. D. Jackson. il diag Power 84:739 N '40

ELECTRIC generators, Alternating current

Electrical plant and machinery; review of progress. G. A. Juhlin. Inst E E J 86:193-4 F '40

Generator housed to reduce 3,600-r.p.m. noise; also housings about boiler gage boards and high-pressure steam reducing valves. F. E. Hertel. il Elec W 113:2046-8+ Je 29 '40; Same abr. Electrician 125:59-60 Ag 2 '40

Operating experience with high-voltage alternators. W. D. Horsley. bibliog diags pl Inst E E J 86:345-54 Ap '40; Abstracts. Elec R (Lond) 125:761-2 D 15 '39; Engineering 149: 40-1 Ja 12 '40; Discussion. Inst E E J 86:354-68 Ap '40

Rebuilt turbo-unit trims production costs; 25-cycle unit converted to 60-cycle; Riverton station of the Empire district electric company. G. W. Irey and E. J. Drewelow. il diag Elec W 113:889-91+ Mr 23 '40

Restriking-voltage characteristics under various fault conditions at typical points on the network of a large city supply authority. L. Gosland. diags Inst E E J 86:248-74, pl 1-2 bibliog(p270) Mr '40

Short-circuit testing station; Crompton Parkinson plant. il Elec R (Lond) 127:3-4 Jl 5 '40

Turbo-generators. diags Electrician 124:286, 302-3, 325-6 Ap 12-26 '40

Why the conductors of large alternators or other machines are laminated and the laminations transposed. Electrician 125:49 Jl 26 '40

Cleaning

Cleaning generators for improved cooling; Canadian companies report. Elec W 114: 535-6 Ag 24 '40

Control

Direct-acting generator voltage regulator. W. K. Boice and others. il diags Elec Eng 59:Trans 149-56; Discussion. Trans 156-7 Mr '40

Relay scheme stops synchronizing errors. E. F. Miller. diag Elec W 113:314+ Ja 27 '40

Synchronizing transients and synchronizers for large machines. R. D. Evans, F. H. Gulliksen and C. B. Myhre. diags Electronics 13:71-5 Mr '40

Cooling

Cleaning generators for improved cooling; Canadian companies report. Elec W 114:535-6 Ag 24 '40

L'emploi de l'hydrogène pour la ventilation des alternateurs, aux États-Unis. il diags Génie Civil 116:161-4 Mr 9 '40

Ford installs 110,000-kilowatt hydrogen-cooled generator. D. S. Snell. il plans Power 84: 29-31 Ja '40

Hydrogen-cooled generators. diags Power Pl Eng 44:93 Ap '40

Hydrogen-cooled turbine generator. D. S. Snell. bibliog il diags Elec Eng 59:Trans 35-45; Discussion. Trans 45-50 Ja '40

Hydrogen-cooled turbine generators. M. D. Ross and C. C. Sterrett. bibliog il diags Elec Eng 59:Trans 11-16; Discussion. Trans 16-17, 48-9 Ja '40

Millers Ford; three years of high temperature operation. R. D. Gillespie. il diags layout Power Pl Eng 44:38-42, 52-3 Je '40 (to be cont)

New power station dedicated; John C. Weadock station at Bay City, Mich.; hydrogen cooled generator. il Gen Elec R 43:344-5 Ag '40

Turbo-generators; hydrogen cooling. Electrician 124:302-3 Ap 19 '40

Lubrication

Lubrication of steam-turbine driven electric generators. F. J. Cowlin. bibliog il diags Inst Mech Eng J & Proc 143:Proc 83-100 My '40

Parallel operation

Ac generator hunting corrected. T. Sheehan. Power 84:112-13 F '40

Parallel operation of alternators with cross current compensation. H. C. Martin, jr. Power Pl Eng 44:65-7 Ap '40

Temperature

Deformation of turbo-alternator rotor windings, due to temperature rise. G. A. Juhlin. Inst E E J 85:544-52 O '39; Discussion. 86: 430-1 My '40

Windings

Deformation of turbo-alternator rotor windings, due to temperature rise. G. A. Juhlin. Inst E E J 85:544-52 O '39; Discussion. 86: 430-1 My '40

ELECTRIC generators, Direct current

High-voltage, d.c. X-ray outfit. H. S. Hubbard. il diag Elec W 114:562+ Ag 24 '40

1,400,000-volt constant-potential X-ray equipment. E. E. Charlton and H. S. Hubbard. il diags Gen Elec R 43:272-9 Jl '40

Reversed polarity in d.c. generators. C. Egerter. Power Pl Eng 44:55 N '40

ELECTRIC generators, Direct current—*Cont.*

Control

Silver buttons control generator voltage. C. E. Valentine. il diag Elec W 113:1392+ My 4 '40

Protection

Relay and circuit-breaker protection for d-c machines. H. Bany. il Gen Elec R 43:312-19 Ag '40

Windings

Frog-leg windings for direct-current generators and motors. C. S. Siskind. il diags Purdue Univ Eng Exp Sta, Research Ser 70:1-32 '40 (pa 25c)

Graphical solution of an old problem; direct method of determining the number of series turns required on a compound-wound d.c. generator. E. G. Cullwick. diags Electrician 123:327-8 O 6 '39

ELECTRIC generators, Electrostatic

Atom smasher. il Power 84:237 Ap '40

Design and preliminary performance tests of the Westinghouse electrostatic generator. W. H. Wells and others. il diags Phys R 58:162-73 Jl 15 '40

Electrostatic generator with concentric electrodes. R. G. Herb and others. diag Phys R 58:579-80 S 15 '40

Generating voltmeter for pressure-insulated high voltage sources. J. G. Trump, F. J. Safford and R. J. Van de Graaff. bibliog diags R Sci Instr 11:54-6 F '40

Some features of an electrostatic generator and ion source for high voltage research. I. A. Getting, J. B. Fisk and H. G. Vogt. il diags Phys R 56:1098-1104 D 1 '39

Synthephone. C. A. Culver and D. T. Williams. il diags R Sci Instr 10:319-21 N '39

ELECTRIC generators, Synchronous

Power-angle indicator and recorder for synchronous machines. E. B. Kurtz. il diags Gen Elec R 43:406-9 O '40

Tables, calculations, etc.

Amplitudes of magnetomotive-force harmonics for fractional-slot windings of three-phase machines. J. F. Calvert. diags Iowa Eng Exp Sta Bul 142:1-76 bibliog(p35) '39

Effect of sequential switching on short-circuit currents in synchronous machines. F. Von Roeschlaub. il Gen Elec R 43:256-61 Je '40

Graphical solution of transient stability. H. H. Skilling and M. H. Yamakawa. il Elec Eng 59:462-5 N '40

ELECTRIC hammers

New product via telephone; Thornado electric hammer. Ptr Ink 190:85 F 23 '40

Rawlplug electric hammer. il diag Engineering 149:347 Mr 29 '40

Thor-nado U 100 portable electric hammer. il diags Product Eng 11:204 My '40

Wodack electric hammer. il Sci Am 163:270 N '40

ELECTRIC heaters

Convection reflector heater. J. L. Gaved. diags Elec R (Lond) 127:264 S 27 '40

Cookers and fires, 1939. S. F. Bickell. Electrician 124:60 Ja 26 '40

Electric unit heaters. E. Eaves. il Elec R (Lond) 126:277 Mr 8 '40

Heaters prevent condensation on hydro station generators. J. E. Housley. il Elec W 113:1054-6 Ap 6 '40

Some heating and cooking developments. il Electrician 123:306-10 S 29 '39

See also

Electric furnaces
Electric stoves
Electric water heaters

Testing

Electric radiant heat vs. steam convection. D. Dow. il Elec W 114:395-6 Ag 10 '40

ELECTRIC heating

All-electric French school. il Elec R (Lond) 126:365 Mr 29 '40

Domestic load; new light on its characteristics. G. O. McLean. Elec R (Lond) 127:127-8 Ag 16 '40

Dracker apartments, West Los Angeles, Calif. il Heat & Ven 37:32 Jl '40

Electric elements well adapted to the air conditioning heating cycle; office building of Appalachian electric power co., Beckley, W.Va. L. P. Hynes. il Heating-Piping 12:29-30 Ja '40

Electric heat for Boston's new Concertorium. Heat & Ven 37:43 N '40

Electric heat for the bathroom floor. il Heat & Ven 36:41 D '39

Electric heat spreads in sunny climes. H. S. Kahm. Barron's 20:5 Ja 8 '40

Electric heating for Los Angeles building; General Electric building. il Heat & Ven 37:50-1 Je '40

Electric thermal storage; a means of coal conservation in the national interest. W. L. Shand. Elec R (Lond) 125:757-8 D 15 '39

Savings from insulation in low-cost housing; Tennessee Valley studies. W. H. Purnell. il Heat & Ven 37:31-3 O '40

See also

Boilers, Heating—Electric heating
Electric heaters
Electric heating elements
Electrohorticulture

ELECTRIC heating, Industrial

Arc-torch for welding and heating. F. W. Scott. il Metal Prog 37:659-60 Je '40

Commercial and industrial data sheets for Northwest; contest to create data sheets on commercial and industrial electric heating applications. il Elec W 113:577+ F 24 '40

Curing joists by electricity; Columbia concrete products co. il Rock Prod 43:55-6 Jl '40

Defrosters ready for Grand Coulee dam. Iron Age 146:76 N 7 '40

Drying and baking with radiant energy. il Steel 107:48-51 O 28; 68-9+ N 4 '40

Drying out flooded electrical machinery. il diag Engineer 169:78-80, 88 Ja 26 '40

Drying with infra-red radiation; comparing industrial heating by gas and by electricity. H. A. Clark. Am Gas J 152:43-5+ My '40

Electric enameling cuts wire costs. Elec W 113:322 Ja 27 '40

Electric heat aids electrotyping. il Elec W 114:1038 O 5 '40

Electric heat for paraffin coating; production paper cartons by the Boothby fiber can company. il Elec W 114:1198 O 19 '40

Electric heat for protection and preventative maintenance. C. T. Elder. diag Steel 106: 52-3 Je 10 '40

Electric heat maintains free flow of asphalt. J. Schneider. il Heating-Piping 12:436 Jl '40

Electric sealing uses 943 watts. il Elec W 113:158 Ja 13 '40

Electrical drying of telephone cable. L. G. Wade. il Bell System Tech J 19:209-20 Ap '40

Electrically heated asphalt plant. R. Johnson. il Eng N 125:149 Ag 1 '40

Electrically heated hot-dip tinning furnaces. W. G. Imhoff. il Metal Ind 38:201-2 Ap '40

Electrically heated strand-dipping tank for manufacturing wire rope; tar lubricant. F. J. Mahr. il Gen Elec R 43:320-1 Ag '40

Elektrisches lötgerät. P. Buhl. il V D I 83: 1275-6 D 9 '39

Fuel gas generator; a development using electrical energy as a source of heat; estimated costs. H. A. Curtis, R. B. Stitzer and W. J. Darby. il diags Ind & Eng Chem 32:757-62 Je '40

Hardened by induction; Chevrolet valve-mechanism parts. il Am Mach 84:82-3 F 21 '40

Hardening small parts by high-frequency electric induction; Jacobs mfg. co. il Steel 107:126+ S 16 '40

Hardening tappets for Chevrolet engines. il Steel 106:54+ Ja 22 '40

Heat treating metals by electrical induction. il Automotive Ind 81:624-5 D 15 '39

Heat treatment of steel by high-frequency currents. G. Babat and M. Losinsky. diags Inst E E J 86:161-8, pl 1-2 F '40; Excerpts. Engineering 149:251-2 Mr 8 '40

ELECTRIC heating, Industrial—*Continued*
Heaters prevent condensation on hydro station generators. J. E. Housley. il Elec W 113:1054-6 Ap 6 '40
Holding for hardening. F. W. Curtis. il diags Am Mach 84:697-9 S 18 '40
I'll take electric heat; illustrations. Factory Management 98:98-9 F '40
Induction currents for surface hardening. Elec W 113:316 Ja 27 '40
Induction hardening of drill chuck bodies. il Iron Age 144:26-7 D 28 '39
Induction heating. M. Seyt. Metal Prog 38: 420 O '40
Induction heating applied to Coulee drum gates; de-icing system. R. D. Goodrich, jr. il diags Elec West 85:46-8 O '40
Induction heating, followed by water-spray quench; newly developed method for hardening inside wearing surfaces of cylinders, etc. il Steel 105:54+ N 27 '39; Same cond. Iron Age 144:40 N 30 '39; Excerpt. Mach 46:296 D '39
Induction heating for inside bores. il Elec W 114:1350 N 2 '40
Induction heating progresses. Elec W 114:110 Jl 13 '40
Induction melting and soldering in the optical industry. W. J. Wrighton and T. C. Jarrett. il Metals & Alloys 11:185-7 Je '40
Industrial data sheets. il Elec West 84:41-3 Mr '40
Infra red drying oven. Can Min J 60:845-6 D '39
Infra-red in industry. J. Sasso. il diags Am Mach 84:741-4, 867-9 O 2, 30 '40
Infra-red lamps replace heaters for warming bakelite preparatory to punching. il Elec W 113:1242 Ap 20 '40
Infra-red lamps speed up drying operations. il Automotive Ind 82:376-7 Ap 15 '40
Infra-red oven is adaptable; Canadian Westinghouse plant, Hamilton. D. P. Brown. il Elec W 113:310+ Ja 27 '40
Jones & Laughlin produces spring wire by an electric direct resistance method. il Automotive Ind 83:264 S 15 '40; Iron Age 146:84+ S 19 '40; Am Mach 84:789-90 O 2 '40; Steel 107:56 S 2 '40; Blast F & Steel Pl 28:1006 O '40
Machine heats and quenches inner walls of metal cylinders. il Comp Air M 45:6244 S '40
Making turbine shafts run true; Weaver process. il Power Pl Eng 44:38 My '40
Novel heating system in chemical plant in Switzerland, employing superheated hot water from electric boiler. C. H. S. Tupholme. diag Ind & Eng Chem News ed 18: 549 Je 25 '40
Paints 400 wheel disks hourly; equipment degreases, dip paints, drains, dries and bakes; Geneva metal wheel co. il diag Steel 107: 48+ Ag 26 '40
Photo-bath temperature control; utilization data sheet. H. Van Wyk. il Elec West 85:37 Jl '40
Plastic syrup heating; utilization data sheet. H. Van Wyk. il Elec West 85:55 O '40
Power oscillators; circuit for surface hardening of steel. G. Babat and M. Losinsky. il diags Wireless Eng 17:16-18 Ja '40
Precise control possible gives induction hardening big boost. J. F. Wyzalek. Steel 107:171 O 14 '40
Prevent condensation on switchgear. Elec W 113:312 Ja 27 '40
Process heating uses oil for heat transfer; insulation board production; Fir-Tex insulating board company use Gilsonite as covering. R. M. Hermann. il diag Elec W 114:1319-20 N 2 '40
Promote infra-red with trial lamp bank. il Elec W 112:1478 N 18 '39
Radiant energy drying and baking for organic finishing. D. J. Stedtefeld. il Metal Ind 38:294-6 My '40
Radiant energy drying with heat lamps. T. P. Brown and L. S. Ickis, jr. il diag Metal Ind 37:607-8 D '39
Radiant heat drying of paperboard. R. W. K. Ulm. Paper Tr J 111:25-7 O 31 '40
Resistance heating units; their selection and application. M. M. Greer. il Product Eng 11:351-3, 414-16 Ag-S '40
Save $25 a year in valve room heating. K. N. Banthin. Elec W 113:1912 Je 15 '40
Simply constructed electric heating bath for leather washers; Cleveland tractor co. R. W. Wyman. Mach 46:157 Ap '40
Static elimination and ink drying; utilization data sheet. J. W. Cromer. il Elec West 85: 39 Ag '40
Steam generator for small-scale operations. il diag Comp Air M 44:6044 D '39
Stereo plate casting; industrial electric heating development. il Elec R (Lond) 126:267-70 Mr 8 '40
Stereotype pot, utilization data sheet. E. E. Haroldsen. il Elec West 85:48 N '40
Temperature control in precision grinding. G. E. Hersam. il Elec W 114:434 Ag 10 '40
Thermal efficiency in injection molding. L. K. Merrill. il diag Mod Plastics 18:65-7 N '40
Throwsters use electric heat. G. T. Perley. il Textile World 90:64-5 My '40
Tocco Junior hardening machine. il Mach 47:174 N '40; Automotive Ind 83:459-60 O 15 '40
Tocco Junior heat-treating unit surface-hardens small parts. il Am Mach 83:1095 D 27 '39
Using lamps for industrial heating. H. Haynes. il Iron Age 145:52-3 Ap 4 '40
Utilization data sheet; lead-pot heating; electrotype & engraving plates. H. Van Wyk. il Elec West 84:42 My '40
Westinghouse oil immersion heaters. il Transit J 84:139 Ap '40

See also
Electric furnaces
Electric furnaces, Heat treating
Electric water heaters
Electric welding

Control

Eleco tap for control of heating circuits. il diags Electrician 123:446 N 17 '39
General electric co. automatic control for electric heaters. il Rock Prod 43:83 Mr '40
Sunvic heat regulation device for industrial processes. diag Electrician 124:82 Ja 26 '40

ELECTRIC heating elements
Heating element materials. E. Fetz. Metal Prog 38:467 O '40
High-temperature resistance-type electric laboratory furnaces. W. M. Hazel and W. J. O'Leary. bibliog diags Ind & Eng Chem Anal ed 12:109-12 F 15 '40
How to cast-in Calrod heating units. H. M. Chatto. il diags Gen Elec R 43:217-19 My '40
How to form Calrod heating units. H. M. Chatto. il diags Gen Elec R 43:165-6 Ap '40
Life expectancy of electrical heating elements; Nichrome. F. E. Bash. Metal Prog 37:39-42 Ja '40
Life testing electrical heating alloys; composite of abstracts. Metals & Alloys 12:216 Ag '40
Progress reports from the Electrotechnical laboratory, Bureau of mines, at Norris, Tenn. H. Wilson, M. S. Nelson and others. Am Cer Soc Bul 19:93-4 Mr '40
Resistance heating units; their selection and application. M. M. Greer. il Product Eng 11:351-3, 414-16 Ag-S '40
Spectral emissivity (at 0.65μ) of some alloys for electrical heating elements. W. F. Roeser. Am Soc T M Proc 39:780-7 '39

ELECTRIC hoists. See Hoisting machinery, Electric; Mine hoisting, Electric

ELECTRIC hotbeds. See Hotbeds, Electric

ELECTRIC ignition
Electric ignition for gas-fired heating equipment. B. A. Johnson. Am Gas Assn Proc 1939:334-7
Some factors controlling the development of electrical ignition of aero engines. G. E. Bairsto. bibliog il diags Roy Aeronautical Soc J 44:119-62; Discussion. 162-75 F '40

ELECTRIC inductance. See Inductance

ELECTRIC industries

Role of science in the electrical industry. M. W. Smith. il Elec Eng 59:63-7 F '40

See also
Electric apparatus and appliances—Merchandizing
Electric apparatus industry
Electric contractors
Electric utilities
Electrometallurgy
Electroplating
General cable corporation
Radio apparatus industry

Advertising

Wiring makes the headlines; advertising program; nineteen cities in Washington and Idaho cooperate. H. C. Bender. il Elec West 85:40-1 O '40

See also
Electric utilities—Advertising

Electric home exhibitions

Matchless home; Los Angeles model house. Elec West 84:31 Ja '40

Finance

What war means to Westinghouse. J. C. Clifford. il Mag of Wall St 66:516-18+ Ag 10 '40

See also
Electric utilities—Finance

Materials

Aluminium; conductors, machinery and equipment. Electrician 123:455 N 24 '39

Ceramic materials; physical and electrical properties. diags Electrician 125:137-8 S 13 '40

Complete shockproofing; the use of plastics. G. E. Moore. Elec R (Lond) 127:107-8 Ag 9 '40

Contact materials. E. E. Halls. Electrician 123:454-5 N 24 '39

Cost data on electrical materials; supply items involved in power plant improvement; tabulation. Elec W 114:1184 O 19 '40

Dielectric characteristics of a chemically pure synthetic resin. C. G. Garton. diags Inst E E J 85:625-38 bibliog(p635) N '39

Electrical materials in 1939. Elec R (Lond) 126:14-15 Ja 5 '40

Increasing intricacy of electrical mouldings. Electrician 123:261 S 8 '39

New copper perfected by Phelps Dodge copper products corp. to meet need of electrical industry. Metals & Alloys 11:MA232 Ap '40

Non-ferrous metals; restrictions on their use by the German electrical industry. Electrician 124:21 Ja 12 '40

Plastic materials. Electrician 124:23, 108 Ja 12, F 9 '40

Plastic materials; some new mouldings. Electrician 124:365 My 17 '40

Plastics and metals; developments resulting from war-time requirements. Electrician 125:109 Ag 30 '40

Switchgear contacts. G. Windred. diags Engineer 169:567-8 Je 28 '40

Unskilled labour and flexible conduit systems; development of non-metallic materials. Electrician 125:124 S 6 '40

Vulcanized-fiber-phenolic tubes in high voltage engineering. G. A. Albert. il diags Mod Plastics 17:45-7+ D '39

See also
Aluminum—Electrotechnical uses
Electric conductors
Electric wire
Insulating materials

Statistics

Development of electric power and appliance industries, 1923-38. In U S Bur Labor Statistics Bul 664:72-7 '39

Highlights, 1939. Elec W 113:93-124 Ja 13 '40

Revenue building and load building in 1939; utility and dealer sales of household appliances and lighting; based upon reports from 116 utility companies. H. G. Dooley. Elec W 113:737-44 Mr 9 '40

Australia

Australian progress. il Electrician 123:266 S 8 '39

Australian review. Electrician 124:39 Ja 19 '40

Canada

See also
Electric apparatus industry—Canada

France

Recent French installations. il Electrician 123:437-8 N 17 '39

Germany

State regulation of electricity supply tariffs; recent German legislation compared with British tendencies. J. W. Beauchamp and R. Kauffmann. Inst E E J 85:569-80; Discussion. 581-9 N '39

Great Britain

British electrical development association, annual meeting and luncheon, London, March 15. Electrician 124:221-2 Mr 22 '40; Elec R (Lond) 126:339-40 Mr 22 '40

Contractors' association; president's report for 1939-40; abstract. W. Riggs. Elec R (Lond) 127:29 Jl 12 '40

Current development. T. E. Alger. Inst E E J 86:23-6 Ja '40

Electric engineers' responsibility in wartime. F. S. Naylor. Inst E E J 86:71-3 Ja '40

Electrical development; past, present and future. F. W. Purse. Elec R (Lond) 126: 605-6 Je 7 '40

Electricity-gas truce; recommendations of joint committee. Elec R (Lond) 126:343 Mr 22 '40

Electricity in relation to national affairs. A. A. B. Martin. Inst E E J 86:78-81 Ja '40

Electricity in wartime. J. W. Simpson. Elec R (Lond) 127:301-2 O 11 '40

Electricity-supply industry; relations between user and manufacturer. O. Howarth. Inst E E J 86:45-50 Ja '40; Excerpts. Electrician 123:421-2 N 10 '39; Abstract. Elec R (Lond) 125:583-4 N 3 '39

I.M.E.A.; forty-fifth annual report. Elec R (Lond) 126:613 Je 7 '40

Joint gas and electricity committee; report submitted for approval by the two industries. Gas J (Lond) 229:683-4 Mr 27 '40

National Register; a contractor criticises its methods, membership and rules. Electrician 124:434 Je 21 '40

Progress and costs. W. Dundas. Elec R (Lond) 125:584 N 3 '39

Sales policy now; what the supply industry should do. W. E. Swale. Elec R (Lond) 126:607-8 Je 7 '40

War regulations; summary of official orders affecting the electrical and allied industries. Electrician 123:253-4 S 8 '39

See also
Electric apparatus industry—Great Britain
Electric plants (central stations)—Great Britain
Electric utilities—Great Britain
Electricity supply—Great Britain

Hartford, Connecticut

Electrical industry in Hartford unites in Cavalcade of electricity celebration. D. Parry. il Edison Elec Inst Bul 8:175, 177 Ap '40

India

Prospects in Madras. il Elec R (Lond) 126: 47 Ja 12 '40

Japan

Electricity in Japan; growth of power and manufacturing industries. Elec R (Lond) 125:737-8 D 8 '39

Los Angeles

See also Los Angeles—Bureau of power and light

Malaya, British

Activity in Malaya. il Elec R (Lond) 127: 269-70 S 27 '40

ELECTRIC industries—*Continued*

South Africa

New South African wiremen and contractors act. Electrician 123:274 S 15 '39

Switzerland

Aperçu sur l'état actuel de développement de l'industrie Suisse des machines électriques et de l'appareillage. Schiesser. il diags plans Soc Ing Civils Mémoires 91:811-54 N '38

United States

Chronology of 1939. Elec W 113:125-6 Ja 13 '40

Highlights, 1939. Elec W 113:93-124 Ja 13 '40

How the electric industry enriches American life. C. M. Withington. Pub Util 25:149-53 F 1 '40

Individual in our industry. W. W. Glosser. Elec West 84:48-9 Je '40

Looking backward; 1939 activities. S. B. Williams. Elec W 113:127-9 Ja 13 '40

Progress by co-operation. R. Kelly. Elec W 113:1891 Je 15 '40

Some power problems for solution. C. H. Purdy. Edison Elec Inst Bul 8:167-70+ Ap '40

What's next for 1940? C. E. Greenwood. Edison Elec Inst Bul 8:53-5 F '40

See also

Edison electric institute
Electric apparatus industry—United States
Electric utilities—United States
Electricity supply—United States

Western states

Electrical West annual review number. il Elec West 84:35-73 F '40

Rocky Mountain electrical league, annual meeting, Albuquerque, Sept. 9-11. Elec West 85:58-9 O '40

ELECTRIC inspection

Installation inspectors; their place in the electrical scheme. A. Brammer. Elec R (Lond) 125:730-1 D 8 '39

Re-inspection can be done. Elec West 85:44 O '40

See also

National electrical safety code

ELECTRIC instruments

American apparatus, instruments, and instrumentation; electrical and electronic instruments. R. H. Müller. il Ind & Eng Chem Anal ed 12:584-91 O 15 '40

Brief summary of bridge networks. W. J. Seeley. diags Elec Eng 59:108-13 bibliog(71 titles, p111-13) Mr '40

British association at Dundee; proceedings in Sections A, G and L. Electrician 123: 255-7 S 8 '39

Don't get rough with instruments. J. H. Miller. diag Factory Management 98:90, 92 My '40

Electrical developments of 1939. G. Bartlett. il Gen Elec R 43:4, 17-19 Ja '40

Electrical instruments; first aid for maintenance and production. W. H. Ruehlin. il Factory Management 97:63-5 D '39

Electrical instruments; recent development and improvements. G. F. Shotter. il diags Elec R (Lond) 126:96-9 Ja 26 '40

Electrical integrator for action currents. G. L. Freeman and E. L. Hoffman. diags R Sci Instr 11:283-4 S '40

Electrical method for compounding sine functions; application to structure determinations of gas molecules by electron diffraction. L. R. Maxwell. bibliog diags R Sci Instr 11:47-54 F '40

General Electric meter for measuring shaft horsepower. Mach 46:106 Mr '40

Grassot fluxmeter as a quantity meter. H. K. Dunn. R Sci Instr 10:368-70 D '39

Instruments for logging and sampling oil and gas wells while drilling; Baroid well logging service. J. T. Hayward and L. M. Swift. Instruments 13:155-6+ Je '40

Measures torque of instrument springs. diag Elec W 114:422 Ag 10 '40

Measuring instruments; noteworthy developments of the past year. R. M. Archer. il Electrician 123:377-9 O 27 '39

Meters and instruments; some new developments. il Electrician 123:380-7 O 27 '39

Mobile frequency set built for $200. il Elec W 113:598 F 24 '40

Optical devices used by, or of interest to, the meter and measuring instrument engineer. F. E. J. Ockenden. diags Inst E E J 86:452-9, pl 1-2 My '40

Plug-in devices promise easier maintenance, lower cost. G. S. Van Antwerp. il Elec W 113:580-1+ F 24 '40

Scientific instruments and apparatus that would have been shown at Physical society's exhibition. il diags Engineer 169: 297-300, 320-2, 355-7, 368-71, 402-4, 421-2, 432-3, 450-2, 471-3 Mr 29-My 24 '40

Simulated network checks actual system. C. T. Nicholson. il Elec W 114:670-1 S 7 '40

Study in electrokinetics. J. D. Quist and E. R. Washburn. bibliog diag Am Chem Soc J 62:3169-72 N '40

Thermal-conductivity-type gas analyzers. C. A. Hansen, jr. il diags Gen Elec R 43:166-9 Ap '40

Use, care and maintenance of electric laboratory instruments. H. N. Hayward. J Eng Educ 30:506-10 Ja '40

Use of electrets in electrical instruments. A. Gemant. diags R Sci Instr 11:65-71 F '40

Weston circuit tester. il Steel 106:63 Ja 22 '40

See also

Bolometers
Electric apparatus and appliances
Electric measurements
Electric meters
Electric resistors
Electric testing
Galvanometers
Oscillators
Photoelectric cells
Potentiometers
Radio instruments
Radio measurements
Recording instruments, Electric
Telemetering
Vacuum tubes—Measurement uses
Voltmeters
Wheatstone bridge

Manufacture

Engineering administration in a small manufacturing company. C. T. Burke. Inst Radio Eng Proc 28:17-22 Ja '40

Punching instrument panels; Hickok electrical instrument co.; die making. B. Thompson. il Iron Age 145:44-7 F 8 '40

Unit a second at King-Seeley; manufacture of automotive equipment and panel instruments. J. Geschelin. il Automotive Ind 82: 510-15+ Je 1 '40

Testing

Co-ordinated power supply and control equipment for instrument and meter testing. C. T. Weller and R. M. Giroux. il diags Gen Elec R 43:420-4 O '40

Electrical-instrument calibrator. L. E. Kulberg. il diag Instruments 13:186-7+ Jl '40

Instrument test kit has many advantages. il diag Elec W 113:2064+ Je 29 '40

ELECTRIC insulation. See Insulation (electric)

ELECTRIC inverters

Inverter avoids contact-sparking. O. Kiltie. il diag Elec W 113:314 Ja 27 '40

New type of d-c to a-c vibrator inverter. O. Kiltie. diags Elec Eng 59:Trans 245-7 Ap '40; Abstract, Engineer 170:12-13 Jl 5 '40; Discussion. B. D. Bedford. Elec Eng 59: Trans 247-8 Ap '40

Operation of a self-excited inverter. F. N. Tompkins. diags Electronics 13:36-9+ S '40

ELECTRIC ironing machines. See Ironing machines, Electric

ELECTRIC irons

Sales guide; automatic irons. il Elec West 83:33-6 D '39

Steps in a modern design. J. C. Fagan. il diags Product Eng 11:404-6 S '40

ELECTRIC laboratories

Dutch testing laboratory; high-voltage investigations; Kema association. il Elec R (Lond) 125:700 D 1 '39

ELECTRIC laboratories—*Continued*
Electric laboratory in a public utility; carrying on farm electrification program. C. W. Wildebour. Elec West 84:108-9 Je '40
Farm electrification development laboratory, Puget Sound power and light co. Sales Management 47:42-3 Jl 1 '40
New high-voltage laboratory of the Bureau of standards. F. B. Silsbee. diag plan Elec Eng 59:238-40 Je '40
Puget Power has farm lab. il Elec West 85:61 O '40
Short-circuit testing station; Crompton Parkinson plant. il Elec R (Lond) 127:3-4 Jl 5 '40
Use, care and maintenance of electric laboratory instruments. H. N. Hayward. J Eng Educ 30:506-10 Ja '40

Safety devices and measures
Safe practices in college laboratories. M. S. Coover. J Eng Educ 30:789-800 My '40

ELECTRIC lamps
Compact bi-post lamps aid office relighting. Elec W 114:114 Jl 13 '40
Electric illumination; review of progress. C. C. Paterson. Inst E E J 86:188-92 bibliog(43 titles, p191-2) F '40; Same. Engineering 149:276-7 Mr 15 '40
Electrical characteristics of low pressure discharges. J. W. Marden and G. Meister. il Illum Eng Soc Trans 34:1095-1107 N '39
Electrical developments of 1939. G. Bartlett. il Gen Elec R 43:38-42 Ja '40
Illumination values calculated for various lamp sizes in various equipment types; table. D. Warren. Power 84:299 My '40
Industrial illumination. D. M. Warren and A. R. Finley. il Steel 106:39-40+ Ja 22 '40
Investigation into the gettering powers of various metals for the gases hydrogen, oxygen, nitrogen, carbon dioxide and air. L. F. Ehrke and C. M. Slack. diag J Ap Phys 11:129-37 F '40
Lamp performance improved; proper protection from vibration. J. D. Hall. il diags Textile World 90:79 O '40
Life of headlight bulbs; experiences of various companies. Transit J 84:176 My '40
Luminous discharge lamps, 1939. C. C. Paterson. il Electrician 124:63 Ja 26 '40
New line of R-40 reflector lamps for spot and floodlighting indoors. Illum Eng Soc Trans 34:983-4 N '39
Progress in engineering knowledge during 1939; lamps. P. L. Alger. Gen Elec R 43: 77-8 F '40
Progress in the production and application of light. A. L. Powell. bibliog il Elec Eng 58:497-508 D '39
Spectral distribution of radiation from lamps of various types. B. T. Barnes, W. E. Forsythe and W. J. Karash. bibliog Gen Elec R 42:540-3 D '39
What lamps, where; table. Elec W 114:886 S 21 '40
Year's progress in illumination, 1938-1939. il Illum Eng 35:33-71 Ja '40

See also
Automobiles—Lighting
Daylight, Artificial
Electric flashlights
Electric lighting
Electric signs
Safety lamps, Electric
Ultra-violet rays —Lamps

Advertising
Advertising display tie-in ups sales; General Electric current magazine advertisement added to dealer counter display. H. F. Barnes. il Adv & Sell 33:27 Jl '40
Electric lamp publicity. il Elec R (Lond) 127:174-5, 203 Ag 30-S 6 '40
Lamp publicity campaigns. il Electrician 125: 113, 139-40 Ag 30, S 13 '40
We went after more readers; lamp department, General electric co., Cleveland. L. P. Moyer. il Adv & Sell 33:34-5 Ap '40

Flashing
Directional flashing for motor vehicle signals. P. H. Chase. il diags Illum Eng 35:417-30 My '40

Heat radiation
Cooler footcandles for air conditioning. W. G. Darley. bibliog il diags Heating-Piping 12:495-500 Ag '40
Design of built-in luminaire constructions for safe thermal operation. W. Rosebraugh. il Illum Eng 35:203-17 Mr '40
Lighting and air conditioning; abstract. H. M. Sharp. Heating-Piping 12:140-2 Mr '40
Lighting in air conditioning; abstract. R. B. Brown, jr. Heat & Ven 37:61+ Jl '40
Reflector steps reduce lamp-stem temperature. S. B. Gaylord. il Gen Elec R 42:478 N '39

Merchandizing
Central Arizona light & power co. uses new sales slant on lamps. Elec West 84:34 My '40
Complete customer coverage sells lamps to 51 per cent; Georgia power & light co. D. B. Hyer, jr. Elec W 112:1739+ D 16 '39
Conditioning service boosts lamp wattages. W. S. Strong. il Elec W 114:1036+ O 5 '40
Demonstration order spurs lighting sales. L. E. Tayler. il Elec W 113:160+ Ja 13 '40
Fall lighting campaign builds load for middle west companies. Edison Elec Inst Bul 8:484 O '40
Home lighting; light conditioning. W. E. Potter. Elec West 84:90-1 Je '40
Lighting sales studies. il Elec W 114:229-44 Jl 27 '40
Restore revenue for $0.42 per $1 E.A.R.; house-to-house sale of wall-type lighting units. B. F. Muldown. Elec W 113:466 F 10 '40
Sales guide. il Elec West 85:35-8 O '40
Sales guide; IES lamp. il Elec West 85:35-8 Ag '40
Selective selling reclaims revenue. H. G. Clum. il Elec W 112:1772 D 16 '39
Sells better light across the tracks; West Texas utilities company. Elec W 112:1478+ N 18 '39
What a house-by-house lamp survey showed; charts. Edison Elec Inst Bul 8:485 O '40
Who's afraid of fluorescent? merchandizing activities of Public service co. of Colorado. il Elec West 84:54-5 My '40

Patents
Internally frosted lamp patent; B.T.H. co. v. Tungstalite. Elec R (Lond) 126:186 F 16 '40

ELECTRIC lamps, Arc
Arcs; their operation and light output. W. E. Forsythe. il Illum Eng 35:127-41 F '40
Three-phase light sources as applied to accelerated light fastness testing equipment and color matching lamps; sunshine carbon arcs. M. J. Dorcas. il Am Dyestuff Rep 29: 110-16 Mr 4 '40

See also
Electric lamps, Mercury vapor

Temperature
Operating temperatures of vapor lamps. J. W. Marden, N. C. Beese and G. Meister. bibliog il Opt Soc Am J 30:184-8 My '40

ELECTRICAL lamps, Dental
Triple threat to molars; three-in-one dental unit uses plastics for improved lighting and appearance. il Mod Plastics 18:44+ N '40

ELECTRIC lamps, Fluorescent
Apparent splitting of light from fluorescent lamps by reflection from thin plates. C. W. Scull. Science 92:236-7 S 13 '40
Apparent splitting of light from fluorescent lamps into component parts by moving objects. C. W. Scull, C. G. Grosscup and E. G. Witting. Science 91:357-8 Ap 12 '40
Better lighting from fluorescent lamps; hosiery mills. R. A. Palmer. il Elec W 113: 318+ Ja 27 '40
Chicago pioneers permanent fluorescent floodlighting; method of floodlighting buildings without setbacks; Commonwealth Edison company's Northern service building tower. E. D. Tillson and C. Kohler. il diag Elec W 114:1303-4 N 2 '40

ELECTRIC lamps, Fluorescent—*Continued*
Chicago Tribune tests fluorescent lights. E. E. Price. Inland Ptr 105:48-4 Jl '40
Color effects observable from fluorescent lamps. G. R. Fonda. Science 91:476 My 17 '40
Color flicker in fluorescent lamps. R. N. Thayer. Science 91:524-5 My 31 '40
Color matching at the Forbes varnish company. R. F. Wysocki and A. K. Gaetjens. il diag Illum Eng 35:343-50 Ap '40
Concentrated light for the rubber mill. il Rubber Age 48:26 O '40
Construction and operation of fluorescent lamps. D. M. Warren. il diag Power 84: 712-14 N '40
Cool light; fluorescent Mazda lamps. M. Luckiesh and A. H. Taylor. Gen Elec R 43: 410-11 O '40
Cooler footcandles for air conditioning. W. G. Darley. bibliog il diags Heating-Piping 12:495-500 Ag '40
Cooler foot-candles; Mazda F and RF fluorescent lamps. D. M. Warren. il Nat Safety N 42:62-3, 104 O '40
85 ft.-candle drafting room lighting; Pittsfield plant of the General electric company. W. J. Leemhuis. il Elec W 114:682-3 S 7 '40
Electronic relay for initiating vapor discharges. E. C. Dench. diag Elec Eng 59:461 N '40
Electronic switch for fluorescent lamps. R. F. Hays. il diag Electronics 13:14-15 My '40
Facts of fluorescent lighting. R. G. Slauer. il Factory Management 98:71-4 Je '40
Facts to guide the use of fluorescence. C. N. Everett. il diags Inland Ptr 105:37-9 S '40
Fading of dyed textiles by radiant energy. M. Luckiesh and A. H. Taylor. Illum Eng 35:169-72 F '40
Finger print eye comfort; California Dept. of criminal identification installs fluorescent light in its file room. il Elec West 85:33 S '40
Fluorescence comes to the industry; spectacular printing effects expected from development of inks that glow; plant will benefit from fluorescent lamps. D. M. MacMaster. Inland Ptr 105:31-2 My '40
Fluorescent ceiling for pineapple cannery. il diag Elec W 114:1186+ O 19 '40
Fluorescent floodlighting for Commonwealth Edison building. il Illum Eng 35:655-6 S '40
Fluorescent gets trial in schools at Reading. il Elec W News ed 114:774 S 14 '40; Same. Electrician 125:201 O 18 '40
Fluorescent interest high in New York. E. F. Jeffe. Elec W 114:243-4 Jl 27 '40
Fluorescent lamp applications in the home. M. Fahsbender and R. G. Slauer. il diags Illum Eng 35:669-91 S '40
Fluorescent lamp voltage stabilizer. M. H. Sweet. il diags Electronics 13:60+ Ag '40
Fluorescent lamps and their applications. A. B. Oday and R. F. Cissell. il Illum Eng Soc Trans 34:1165-80; Discussion. 1180-8 D '39
Fluorescent lamps for chemical hoods at research laboratory of the American tobacco co. Elec W 113:1914 Je 15 '40
Fluorescent lamps illuminate windowless factory; Simonds saw & steel co. G. K. Simonds. il Elec W 112:1744-5+ D 16 '39
Fluorescent lamps; rating. Consumers' Research Bul (Gen bul ser) 9:11-12 Je '40
Fluorescent lighting after two years. O. P. Cleaver. il diags Elec Eng 59:261-6 Jl '40
Fluorescent lighting and air conditioning; abstract. P. N. Clerke. Heat & Ven 37:56 Ag '40
Fluorescent lighting brings new load building problems. J. E. Mueller. Edison Elec Inst Bul 8:443-4+ S '40
Fluorescent lighting for accuracy; Cleveland graphite bronze co. W. H. Kahler. il Iron Age 146:53 S 19 '40
Fluorescent lighting for the rubber industry. O. P. Cleaver. il India Rubber W 102:33-6 S '40
Fluorescent lighting helps sell rugs; John C. Macfarlane company, Worcester. R. G. McPhail. il Elec W 112:1894+ D 30 '39
Fluorescent lighting situation. M. N. Waterman. Edison Elec Inst Bul 8:213-15 My '40
Fluorescent lighting situation clarified; principles adopted by E.E.I. general sales committee. Elec W News ed 113:974 Mr 30 '40
Fluorescent mercury-vapor lamp as a light source for a single-point check on optical pyrometers. C. F. Lucks and H. W. Russell. bibliog il Opt Soc Am J 30:163-7 Ap '40
Fluorescent vs. incandescent costs; to facilitate rapid comparisons; Sell-o-graph. il Elec W 114:420+ Ag 10 '40
Fluorescents speed asparagus grading by color. A. N. Nilsson. il Elec W 113:610+ F 24 '40
Improved light source; Mazda fluorescent lamp. il Engineer 170:160 S 6 '40
Industrial illumination. D. M. Warren and A. R. Finley. il Steel 106:39-40 Ja 22; 56 Ja 29 '40
Industry's newest tool, the fluorescent lamp. C. L. Amick. il Manuf Rec 109:38-9+ My '40
Influence of fluorescent lighting on the colors of decorations and furnishings. A. H. Taylor. Illum Eng 35:625-8 Jl '40
Instrument panel lighting installation. diag Aero Digest 36:138 Je '40
Investigation of methods for testing diffusing materials, with particular reference to their use in the reduction and redistribution of the brightnesses of tubular sources. il Illum Eng 35:708-13 S '40
Lighting in air conditioning; abstract. R. B. Brown, jr. Heat & Ven 37:61+ Jl '40
Luminous ceiling gives 100 ft.-candles for drafting; Commonwealth Edison company's drafting rooms. E. D. Tillson. il diags Elec W 113:729-31+ Mr 9 '40
Luminous discharge lamps, 1939. C. C. Paterson. il Electrician 124:63 Ja 26 '40
Merits of the new lamp. il Electrician 124: 240 Mr 29 '40; Light & Lighting 33:51 Mr '40
Metals are important in fluorescent tube; chart. Steel 106:75 Mr 4 '40
Modern industrial plant lighting. Mach 46: 133 Mr '40
Modernizing the markup booths. H. N. Weinert. il Inland Ptr 105:72 My '40
More light for less expense; offices, stores, display rooms, and work areas. E. M. Shanks. il Am Business 10:23-6, 45-6 N '40
New starting device for fluorescents. Elec W 112:1630+ D 2 '39
Power factor as applied to fluorescent lighting. C. R. Benson. diags Elec West 84:32-3 Ap '40
Power factor correction for fluorescent lamps; commissions require users to install equipment at their own expense. Elec W News ed 112:1517 N 25 '39
Printers praise fluorescent lighting. L. W. Sagers. il Inland Ptr 105:33-5 Je '40
Progress in the production and application of light. A. L. Powell. Elec Eng 58:501 D '39
Pullman lounge-bedroom cars with plastic lens-controlled fluorescent lighting. il Ry Age 108:859-60 My 18 '40
Resolutions adopted on fluorescent lighting at E.E.I. sales conference. Illum Eng 35: 404 My '40
Revival of building floodlighting with better load factor; fluorescent floodlights. A. F. Dickerson. il Gen Elec R 43:139 Mr '40
Simple graphical method of finding illumination values from tubular, ribbon, and surface sources. E. H. Wakefield. diags Illum Eng 35:142-50 F '40
Simplified fluorescent lighting; New York Central coach. il Ry Age 108:666-7 Ap 13 '40
Soft light minimizes glare; fluorescent lighting, Huffman full-fashioned mills. il Textile World 89:99 N '39
Spectral distribution of radiation from lamps of various types. B. T. Barnes, W. E. Forsythe and W. J. Karash. bibliog Gen Elec R 42:540-3 D '39
Streamlined lighting for the streamliners; downtown ticket office of Union Pacific, San Francisco. il Elec West 85:38 S '40

ELECTRIC lamps, Fluorescent—*Continued*
Technique developed for fluorescent lighting of offices. W. G. Darley. il diags Elec W 113:1514-16 My 18 '40
This matter of fluorescent power factor. W. Harrison. Elec W 112:1747 D 16 '39
Today's situation re fluorescent light. F. H. Murphy. Elec West 84:119-21 Je '40
Triple the light with same load; fluorescent lighting; delicatessen and liquor store. il Elec W 112:1896 D 30 '39
Uses fluorescent for load building; Security national bank of Greensboro, N.C. W. J. Burton. il Elec W 114:884+ S 21 '40
Utilities get behind application development of fluorescent; survey of company policies tabulated. F. R. Innes. Elec W 114:210-12 Jl 27 '40
Who's afraid of fluorescent? merchandizing activities of Public service co. of Colorado. il Elec West 84:54-5 My '40
Year's progress in illumination, 1938-1939. il Illum Eng 35:34-7, 50-3 Ja '40

ELECTRIC lamps, Incandescent
Economical lamp voltage; chart. S. A. Tucker. Power 83:783 D '39
Mazda lamps and the spectrum; chart. Gen Elec R 43:64-5 F '40
Modern industrial plant lighting. Mach 46: 132-3 Mr '40
Paint reflection tests with mercury and incandescent lighting. Elec Eng 59:62 F '40
Progress in the production and application of light. A. L. Powell. il Elec Eng 58:497-500 D '39
Simple circuit change prolongs lamp life. il diag Elec W 113:604 F 24 '40
Stop vibration, add to lamp life. J. D. Hall. il diags Factory Management 98:75-7 O '40
Street lighting much increased; negligible increase in bill; Niagara Falls replaces magnetite arcs with incandescents; photo-electric control. C. H. Anderson. il diags Elec W 113:1363-5 My 4 '40
Voltage control with a non-linear Wheatstone bridge; incandescent lamp forms basis of circuit. W. Richter. diags Electronics 13:20-1+ Je '40

See also
Electric lamps, Tungsten

Patents
Tubular lamp patent action; Evenlite co Elec R (Lond) 126:315 Mr 15 '40

ELECTRIC lamps, Mercury vapor
Arcs; their operation and light output. W. E. Forsythe. il Illum Eng 35:136-41 F '40
Capillary mercury lamp as an oscillograph light source. H. H. Skilling. Elec Eng 59: 157-9 Ap '40
Development of water-cooled quartz mercury lamps. E. B. Noel. bibliog il diags J Ap Phys 11:325-36 My '40
Fluorescent mercury-vapor lamp as a light source for a single-point check on optical pyrometers. C. F. Lucks and H. W. Russell. bibliog il Opt Soc Am J 30:163-7 Ap '40
Fundus photography without cycloplegics. K. L. Stone and M. L. Pool. il diags Opt Soc Am J 29:463-5 N '39
High wattage mercury arcs. J. W. Marden, N. C. Beese and G. Meister. il Illum Eng 35:458-62 My '40
Lighting on a conveyor system; Morris motors, ltd. il Mech Handling 27:177-8 Ag '40
Mercury lighting for billet chipping; Youngstown sheet & tube company. il Elec W 113:1390 My 4 '40
Mercury-vapour lamps; abstract. J. N. Aldington. Elec R (Lond) 126:159 F 9 '40
New searchlight uses capillary lamps. il Elec W 113:1736 Je 1 '40
Operating temperatures of vapor lamps. J. W. Marden, N. C. Beese and G. Meister. bibliog il Opt Soc Am J 30:184-8 My '40
Paint reflection tests with mercury and incandescent lighting. Elec Eng 59:62 F '40
Principles and application of electric discharge lighting; with cost data. R. O. Ackerley. Electrician 124:206 Mr 15 '40
Progress in the production and application of light. A. L. Powell. il Elec Eng 58:500-2 D '39
Safety-light; mercury vapor luminaire for marking the entrance points of divided highways. F. M. Carter. il diags Elec West 83:45 D '39
65 ft.-candles for drafting room; Heald machine company. il Elec W 113:1548 My 18 '40
Synthetic reverberation; recording fugitive sound pattern of original program signal on rotating phosphor-coated disk by means of modulated light source and simple optical system. P. C. Goldmark and P. S. Hendricks. il diags Inst Radio Eng Proc 27:747-52 D '39
Trends in high-intensity mercury lamps. G. A. Freeman. bibliog il diag Elec Eng 59: 444-7 N '40
Year's progress in illumination, 1938-1939. il Illum Eng 35:37-40 Ja '40

ELECTRIC lamps, Neon
Induction-motor brushes; testing under load conditions. G. H. Rawcliffe. il diag Elec R (Lond) 125:613-14 N 10 '39
Neon lamp guides frequency control. C. H. Herr. il Power 84:455-6 Jl '40
Neon lamps check ac motor speed. D. M. Charles. il Power 84:110 F '40
Neon lamps simplify slip-speed checks. il Textile World 90:90 Ja '40; Sci Am 162:95 F '40; Elec W 112:1887 D 30 '39; Factory Management 98:65 Ap '40
Neon tube practice. W. L. Schallreuter. 2d ed rev 255p $4.25 Chemical pub. co. '39

ELECTRIC lamps, Portable
Ceag portable battery lamps. il Engineer 168: 505 N 17 '39
Plastic tip is aid to new trouble lamp; use of piped light principle of Lucite. R. Blain. il Elec W 112:1759 D 16 '39
Portable extension lamps; safety rules. Safety Eng 80:34 Ag '40
Portable lamps for A.R.P. purposes. il Engineering 148:541 N 10 '39
Safe lighting for boiler interiors. H. M. Spring. il Power 84:683 O '40
Some novel operations in making a spotlight lamp. M. J. Goldstein. il diags Mach 46:112-15 F; 118 My '40
Survey and analysis of the present lighting condition in homes. E. W. Commery. il Illum Eng Soc Trans 34:1010-17 N '39
Tools of cast bronze; jigs, fixtures, punches, dies, etc. use of plaster molds; making ornamental lamps. M. Golden. il Am Mach 84:574-6 Ag 7 '40
We chose twelve volts for portable lamps in conductive locations. V. Thiemann. il Nat Safety N 42:23+ Jl '40

ELECTRIC lamps, Sodium vapor
Amber lights for runways. W. C. Norvell. il Aviation 39:54, 116 Ap '40
Developments in lighting vehicular tunnels. R. M. Swetland. il Gen Elec R 43:158-64 Ap '40
Los Angeles streets made safer by sodium vapor lighting. il Eng N 125:426 S 26 '40
New York parkway gets sodium lights. il Elec W 114:95 Jl 13 '40; Gen Elec R 43:303 Jl '40
Operating temperatures of vapor lamps. J. W. Marden, N. C. Beese and G. Meister. bibliog il Opt Soc Am J 30:184-8 My '40
Proof of the pudding; safety highway lighting in the state of Washington. P. L. Marble. Elec West 84:117-19 Je '40
Sodium lighting goes to town. F. D. Crowther. il Roads & Sts 83:50-1 F '40
Sodium lights the New York City Belt parkway; world's largest sodium-lighted highway installation. N. J. Kelly. il map Gen Elec R 43:488-41 N '40
World's longest floating bridge to be sodium-lighted. Can Eng 77:15 D 19 '39; Same abr. Illum Eng 35:9 Ja '40

ELECTRIC lamps, Surgical
Over-running medical lamps; possibility of causing explosion of anesthetics; temperature measurement. C. T. A. Harper. il Elec R (Lond) 126:519 My 10 '40

ELECTRIC lamps, Tellurium vapor
New electric lamp using tellurium. J. Stokley. Science 92:sup8+ O 4 '40
Tellurium-vapor lamp produces continuous spectrum. Electronics 13:58+ Je '40

ELECTRIC lamps, Tungsten
Fading of dyed textiles by radiant energy. M. Luckiesh and A. H. Taylor. Illum Eng 35:169-72 F '40
High power tungsten light source. H. Beutler and N. Metropolis. diags Opt Soc Am J 30: 115-17 Mr '40
65 ft.-candles for drafting room; Heald machine company. il Elec W 113:1548 My 18 '40
Spectral distribution of radiation from lamps of various types. B. T. Barnes, W. E. Forsythe and W. J. Karash. bibliog Gen Elec R 42:540-8 D '39

ELECTRIC lamps, Tungsten mercury
Sieray electric lamps. il Engineer 170:144-5 Ag 30 '40

ELECTRIC leakage
Finding current leakage; trolley coaches of the Delaware electric power company. R. S. Beers. il Transit J 84:202-3 Je '40

ELECTRIC light fixtures. See Lighting fixtures; Reflectors; Street lighting fixtures

ELECTRIC lighting
Adapter lighting units to low users. M. R. Lund. Elec West 84:98+ Je '40
Adapting 3-wire lighting to network service. C. S. Wickstrom. il diag Elec W 114:384-6+ Ag 10 '40
Dawn of a new day for illuminating engineering. D. W. Atwater. Illum Eng Soc Trans 34:993-1001 N '39
Electric illumination; review of progress. C. C. Paterson. Inst E E J 86:188-92 bibliog(43 titles, p191-2) F '40; Same. Engineering 149:276-7 Mr 15 '40
Electrical developments of 1939. G. Bartlett. il Gen Elec R 43:38-42 Ja '40
Fluorescent lamps and their applications. A. B. Oday and R. F. Cissell. il Illum Eng Soc Trans 34:1165-80; Discussion. 1180-8 D '39
Four-year record of lighting promotion; Buffalo Niagara & Eastern power corporation. M. E. Skinner. Elec W 114:1321 N 2 '40
Institution lighting; modern practice as applied to renaissance architecture; building occupied by the Institution of civil engineers. il Electrician 125:22 Jl 12 '40
Lighting sales studies. il Elec W 114:229-44 Jl 27 '40
Lighting the way for customers and dealers. Mrs B. E. Marsh. Edison Elec Inst Bul 8: 156-8 Ap '40
Long-pull results of lighting activity; lighting service department, Consolidated gas, electric light & power company of Baltimore. Elec W 113:774+ Mr 9 '40
New lamps for old. M. R. Kynaston. Pub Util 25:142-8 F 1 '40
Progress in the production and application of light. A. L. Powell. bibliog il Elec Eng 58:497-508 D '39
Redemption of darkness. W. E. Wickenden. Edison Elec Inst Bul 8:153-5 Ap '40
Revenue building and load building in 1939; utility and dealer sales of household appliances and lighting; based upon reports from 116 utility companies. H. G. Dooley. Elec W 113:737-44 Mr 9 '40
Selling industrial lighting. R. A. Palmer. Edison Elec Inst Bul 8:210-12 My '40
Survey and analysis of the present lighting condition in homes. E. W. Commery. il Illum Eng Soc Trans 34:1003-23; Discussion. 1023-4 N '39
Transformers increase capacity of lighting circuit; American furniture mart in Chicago. il Power Pl Eng 44:77 S '40
Two case histories of lighting technique. J. H. Rich. il Elec W 113:432-3 F 10 '40
Year-round interest in light conditioning. J. M. Stedman. il Elec W 114:426 Ag 10 '40

See also
Airports—Lighting
Automobiles—Lighting
Buildings—Exterior lighting
Church lighting
Daylight, Artificial
Electric lamps
Electric plants
Electric signs
Electric wiring
Electricity on the farm
Factories—Lighting
Light projection
Lighting
New York (city)—World's fair, 1940—lighting
Office lighting
Photometry
Roads—Lighting
Street lighting

Control
Analysis of photoelectric classroom lighting control. D. P. Caverly. il diag Illum Eng Soc Trans 34:907-22 S '39; Discussion. Illum Eng 35:257-64 Mr '40

Cost
Fluorescent lighting situation. M. N. Waterman. Edison Elec Inst Bul 8:213-15 My '40
Fluorescent vs. incandescent costs; to facilitate rapid comparisons; Sell-o-graph. il Elec W 114:420+ Ag 10 '40

Laws and regulations
Power factor correction ruled for fluorescent; Wisconsin public service commission prescribes uniform requirements for all types of gaseous tube lighting. Elec W 114:696 S 7 '40

Stabilization
Distribution outlays to limit lamp flicker. D. K. Blake. Elec W 114:854-6, 1004-5+ S 21-O 5 '40
Serving arc furnace loads in suburban areas; comparing synchronous condenser and motor-generator set for correcting voltage disturbance. L. W. Clark. diag Elec W 113:578-9 F 24 '40

Tables, calculations, etc.
Simple graphical method of finding illumination values from tubular, ribbon, and surface sources. E. H. Wakefield. diags Illum Eng 35:142-50 F '40

ELECTRIC lines
Bonneville's twin-circuit backbone; Los Angeles' third Boulder circuit. il Elec West 83: 22-3 D '39
Carrier-current losses measured and interference minimized on Boulder-Los Angeles transmission lines. J. D. Laughlin, W. E. Pakala and M. E. Reagan. il diags Elec Eng 59:Trans 4-9; Discussion. Trans 9-10 Ja '40
Magnetic storm of March 24, 1940; effects in the power system; transformer tripping; reactive power surges; voltage dips. W. F. Davidson. Edison Elec Inst Bul 8:365-6+ Jl '40
New line put in service by Commonwealth Edison; line from Powerton to Crawford stations. il map Elec W News ed 114:1396 N 9 '40
1,050-ft. joint telephone-power span serves radio station. E. R. Peterson. il Elec W 113:1082 Ap 6 '40
Practical distribution economies. H. S. St John. Elec W 114:672-4+ S 7 '40
Reenforcing rural lines; eight methods for increasing the capacity. J. F. Emery. Elec West 85:39-41 Jl '40
Van Rye, etcher of the electric utility industry. il Edison Elec Inst Bul 8:43, 56-60 F '40

See also
Electric cables
Electric circuits
Electric conduits
Electric plants—Interconnection
Electric protective apparatus
Electric railroads
Electric service, Rural
Electric substations
Electric transmission
Electric utilities
Electric wire
Electric wiring
Hydroelectric plants
Radio lines
Telephone lines
Trolley buses
Vaults (electric installation)

ELECTRIC lines—*Continued*

Bridge crossing

Viaduct cable crossing of British Columbia electric railway co. Elec R (Lond) 127:261 S 27 '40

Construction

Yankee ingenuity eases jobs in Dixie; construction aids developed by Dallas power & light company construction employees. il diags Elec W 114:202-3 Jl 27 '40

See also
Electric lines—
Overhead construction

Cost of construction

Cost data of 110-kv. line. Elec W 113:1227-8 Ap 20 '40

Damage from air raids

Overhead lives and bombs; lessons from recent experiences. Elec R (Lond) 127:255-6 S 27 '40; Same abr. Elec W News ed 114: 1236 O 26 '40

Damage from storms

Electric systems benefit from modern weather forecasting. I. P. Krick. diag maps Elec W 112:1852-4 D 30 '39

Ice storm causes severe damage to utility lines. il Elec W 113:749-50 Mr 9 '40

Restoration of service on a metropolitan power system; Duquesne light company system. W. C. Bryson and A. P. Hayward. diags Elec Eng 59:Trans 563-70 O '40

Design

Distribution planning; transformer-secondary design for service. C. E. Arvidson. Elec W 112:1581-2+ D 2 '39

Ice problem

Dancing conductors. R. N. Conwell. Edison Elec Inst Bul 8:227-30 My '40

See also
Electric lines—
Sleet problem

Inductive interference

Control of inductive interference to telegraph systems. J. W. Milnor. il diags Elec Eng 59:Trans 469-74 Ag '40

Co-ordination of power and communication circuits for low-frequency induction. J. O. Coleman and H. M. Trueblood. il diags Elec Eng 59:Trans 403-12 bibliog(52 titles, p411-12); Discussion. Trans 412 Jl '40

Low-impedance coils block interference. H. E. Overacker. il diag Elec W 113:1236+ Ap 20 '40

Prevention easier than cure of radio interference; construction rules in designing and erecting distribution lines. L. V. Blake. diags Elec W 114:851-3 S 21 '40

Radio-proof 24-kv. urban line. R. D. Iden. il Elec W 114:1182 O 19 '40

Seventeen systems report smooth capacitor performance. M. C. Miller. Elec W 113:288-9+ Ja 27 '40

Shunt capacitor application problems. J. W. Butler. bibliog Gen Elec R 43:212 My '40

Some effects of short-circuits on three-phase transmission lines. T. F. Wall. diag Engineering 149:608-10 Je 21 '40

Transmission line interference cures. J. C. Fear. Elec W 113:450+, 598+ F 10-24 '40

Wave shape of 30- and 60-phase rectifier groups. O. K. Marti and T. A. Taylor. bibliog il diags Elec Eng 59:Trans 218-24; Discussion. Trans 224-6 Ap '40

Interconnection

See Electric plants—Interconnection

Maintenance and repair

Alabama develops three-purpose truck. W. P. Postell. il Elec W 112:1880+ D 30 '39

Electric systems benefit from modern weather forecasting. I. P. Krick. diag maps Elec W 112:1852-4+ D 30 '39

Emergency splice for aerial cable. C. H. Le Vee. il diags Elec W 114:874-5 S 21 '40

Mobile transformer unit lessens interruptions. C. F. Sheakley. il Elec W 113:435+ F 10 '40

Temporary joints; quick and efficient method with high-voltage conductors. il Elec R (Lond) 126:124 F 2 '40

Transmission line maintenance tools. Elec W 112:1622 D 2 '39

Trucks geared to specific utility duty. G. H. Kieburtz. il Elec W 112:1578-80+ D 2 '39

Weather and the power companies; forecasts in maintenance, service and load conditions. Edison Elec Inst Bul 8:18+ Ja '40

Moving

Eleven-circuit structure moved with lines hot. C. T. Malloy. il Elec W 114:1322-3 N 2 '40

Tower moved without dismantling. il Eng N 123:794 D 14 '39

Transmission move; 12-circuit structure placed in new position while lines remain energized. il Elec West 85:41-2 Jl '40

Overhead construction

Building the world's highest voltage transmission lines; Boulder Dam-Los Angeles lines. il Power Pl Eng 44:68-71 N '40

Graphic-type demand meter installation. R. L. Haase. il Elec W 112:1621 D 2 '39

High-voltage conductors; considerations affecting their arrangement. J. McCombe. il diags Elec R (Lond) 125:785-6 D 22 '39

High-voltage distribution in rural areas. K. L. May. il diags Inst E E J 87:33-54; Discussion. 54-61 Jl '40

Important developments in electrical cable. C. Cleveland. il Metal Prog 37:60-1 Ja '40

Improved city distribution; use of multi-conductor cable. D. A. Hord. Elec West 85:42-3 Jl '40

Line cost cut; high crane speeds job. C. M. Allen. Elec West 85:44 N '40

Line that doesn't rest; Southern California Edison co.'s transmission line to Boulder. il diag Elec West 84:46-50 Mr '40

Material minimized at highway crossing. il Elec W 112:1464+ N 18 '39

Modified requirements up for overhead lines; National electrical safety code recommendations. map Elec W 113:441-2 F 10 '40

Pole riser cables with corona-resisting compound. T. J. Brosnan. il Elec W 113:568-70 F 24 '40

Prevention easier than cure of radio interference; construction rules in designing and erecting distribution lines. L. V. Blake. diags Elec W 114:851-3 S 21 '40

Procedure facilitates line sagging. H. R. Lee. il diags Elec W 113:1080+ Ap 6 '40

66-kv. loop avoids capacity addition. il maps Elec W 112:1884 D 30 '39

Step voltage down to work line hot. Elec W 113:1384 My 4 '40

Strain clamps. A. E. L. Jervis. diags Elec R (Lond) 126:100-1 Ja 26 '40; Abstract. Elec W 114:410 Ag 10 '40

Tests on wood poles; determining shock and fire risks. G. T. Garwood. il Elec R (Lond) 126:423-5 Ap 12 '40

Transformer gin lightens line work. il Elec W 114:409-10 Ag 10 '40

Wire puller pays cost on first job. G. Hausman. il Elec W 113:1540+ My 18 '40

Wood for hot line protection. R. M. Ruth. il diags Elec W 112:1856-7+ D 30 '39

See also
Electric railroads—Overhead construction
Trolley buses—Overhead construction

Poles and towers

Bonneville crosses the Columbia river. A. A. Osipovich and F. W. Farr. il diags Elec W 113:732-3 Mr 9 '40

Canadian group tests pole preservatives. Elec W News ed 114:605 Ag 31 '40

Greenheart poles over lowland gullies. H. B. Sargent. Elec W 113:762 Mr 9 '40

Lightning investigation on transmission lines. W. W. Lewis and C. M. Foust. bibliog Elec Eng 59:Trans 227-32; Discussion. Trans 232-3 Ap '40

ELECTRIC lines—Poles and towers—*Continued*
Lightning protection of wood-pole lines. H. K. Sels and A. W. Gothberg. diags Elec Eng 59:Trans 328-31; Discussion. il Trans 331-5 Je '40
Perfect lightning record on 154-kv. spar-arm line. L. Evans and H. C. Daniels. il diag Elec W 112:1434-5 N 18 '39
Pole bracing standards; diagrams. Elec W 114:706 S 7 '40
Pole-pulling method for those rush jobs. R. Davis. Elec W 114:100 Jl 13 '40
La réimprégnation sur place des poteaux de bois, au moyen de produits antiseptiques injectés par piqûres. Génie Civil 116:348 My 25 '40
Setting long poles by bull rope method. R. Blain. il Elec W 114:413 Ag 10 '40
Steerable trailer cuts hauling costs; transporting poles through mountains. R. L. Taylor. il Elec W 113:450 F 10 '40
Support power banks from steel channel. il Elec W 113:1080 Ap 6 '40
Tests on wood poles; determining shock and fire risks. G. T. Garwood. il Elec R (Lond) 126:423-5 Ap 12 '40
Theory of limit design. J. A. Van den Broek. il diags Am Soc C E Proc 66:292-8 F '40
To evaluate pole test data; calculator. V. W. Palen. il Elec W 113:1550 My 18 '40
Tower moved without dismantling. il Eng N 123:794 D 14 '39
Transmission line interference cures. J. C. Fear. Elec W 113:598+ F 24 '40
Transmission tower earth gradients. Elec R (Lond) 125:788 D 22 '39
Use safety devices for unloading poles. diags Elec W 112:1760 D 16 '39
What wood may add to primary insulation for withstanding lightning. J. T. Lusignan, jr. and C. J. Miller, jr. diags Elec Eng 59:Trans 534-40 S '40
Wide-base tower foundations. J. L. Gaved. il Elec R (Lond) 126:184 F 16 '40
X-ray pole inspection a new engineering tool. M. Zucker. il Elec W 113:882-5+ Mr 23 '40

Protection

Applications and limitations of the inverse-time overload relay to the protection of an 11-kV network. J. W. Gallop and R. H. Bousfield. diags Inst E E J 87:113-22; Discussion. 122-34 Ag '40
Cost of relays for a 15-kv. feeder. Elec W 114:277 Jl 27 '40
Experience with ultrahigh-speed reclosing of high-voltage transmission lines. P. Sporn and C. A. Muller. il diags Elec Eng 58:Trans 625-31; Discussion. Trans 631-6 D '39
General Electric biased differential relays for feeder protection. il diags Engineering 149: 125-6 F 2 '40
Lightning and lightning protection on distribution systems. R. C. Bergvall and E. Beck. il diag Elec Eng 59:Trans 442-9 Ag '40
Lightning investigation on transmission lines. W. W. Lewis and C. M. Foust. bibliog Elec Eng 59:Trans 227-32; Discussion. Trans 232-3 Ap '40
Lightning outage rate reduced 80 per cent; combination of shielding and grounding coordinated with insulation flashover. R. M. Schahfer and W. H. Kuntz. il Elec W 113: 2049-50 Je 29 '40
Lightning protection of wood-pole lines. H. K. Sels and A. W. Gothberg. diags Elec Eng 59:Trans 328-31; Discussion. il Trans 331-5 Je '40
Modern insulators; five years' developments in high-voltage outdoor type. J. S. Forrest. diags Elec R (Lond) 126:473-4 Ap 26 '40
Overhead line protection; Petersen arc suppression coils. il diags Elec R (Lond) 126: 615-16 Je 7 '40
Perfect lightning record on 154-kv. spar-arm line. L. Evans and H. C. Daniels. il diag Elec W 112:1434-5 N 18 '39
Petersen coil protection equals lightning-proofing. R. E. Neidig. Elec W 113:1211+ Ap 20 '40
Protection and operation of rural lines in Southeast. L. C. Flournoy. Elec W 113: 575-6 F 24 '40
Protection by lightning discharges; abstract. Bodin. Electrician 123:275 S 15 '39
Protector tubes for power systems. H. A. Peterson and others. bibliog diag Elec Eng 59:Trans 282-8; Discussion. Trans 288-91 My '40
Rationalization of transmission-system insulation strength; margins between basic insulation levels and protectable levels. P. Sporn and I. W. Gross. bibliog Elec Eng 59:Trans 591-5 O '40
Relay protection of a-c rotating machines, transformers, buses, and lines. C. R. Mason. diags Gen Elec R 42:529-39 D '39
Safeguards against interruptions of supply. H. W. Clothier, B. H. Leeson and H. Leyburn. pl diags Inst E E J 82:445-73 My '38; Discussion. 82:473-502; 85:735-59 My '38, D '39
Secondary fuse on strain insulator. il Elec W 113:924 Mr 23 '40
Sensitive ground protection for radial distribution feeders. L. F. Hunt and J. H. Vivian. il diags Elec Eng 59:Trans 84-7; Discussion. Trans 87-90 F '40
Testing of transmission-line insulators under deposit conditions. W. J. John and C. H. W. Clark. bibliog diags Inst E E J 85:590-609, pl 1-3 N '39; Excerpts. Electrician 122:202 F 17 '39; Abstract. Elec R (Lond) 124:247 F 17 '39; Discussion. Inst E E J 85:609-24 N '39
Transient and steady-state performance of potential devices. E. L. Harder, P. O. Langguth and C. A. Woods, jr. il diags Elec Eng 59:Trans 91-9; Discussion. Trans 99-102 F '40
Trends in electrical-apparatus development. A. C. Monteith. il Elec Eng 59:223-4 Je '40
Vibration of overhead line conductors. E. W. W. Double and W. D. Tuck. diags Inst E E J 86:138-47 F '40
What wood may add to primary insulation for withstanding lightning. J. T. Lusignan, jr. and C. J. Miller, jr. diags Elec Eng 59:Trans 534-40 S '40

See also
Lightning arresters

River crossing

Bonneville crosses the Columbia river. A. A. Osipovich and F. W. Farr. il diags Elec W 113:732-3 Mr 9 '40
Special hardware for river crossings. il Elec W 113:1228 Ap 20 '40

Safety devices and measures

Larger safety clamp holds line blankets. il Elec W 112:1882+ D 30 '39
Part of the REA program; campaign to safeguard employees and consumers. D. A. Fleming. il Nat Safety N 42:12-13+ Ag '40
Use safety devices for unloading poles. diags Elec W 112:1760 D 16 '39
Uses rubber protective equipment on 13.2 kv.; safety practices and insulator changing technique as result of rush changeover job; Potomac Edison company. M. J. Urner. il Elec W 111:383 Ag 10 '40
Wood for hot line protection. R. M. Ruth. il diags Elec W 112:1856-7+ D 30 '39

Salt and soot deposits

Testing of transmission-line insulators under deposit conditions. W. J. John and C. H. W. Clark. bibliog diags Inst E E J 85:590-609, pl 1-3; Discussion. 609-24 N '39

Sleet problem

Electric systems benefit from modern weather forecasting. I. P. Krick. maps Elec W 112: 1853-4 D 30 '39
Sleet problem in Algiers; abstract. Haour. il Electrician 123:259 S 8 '39

Tables, calculations, etc.

Calculator determines pole class and guy size. il Elec W 114:720 S 7 '40

ELECTRIC lines—Tables, calculations, etc— *Continued*
Charts show ground rod depth for any resistance, in advance. R. M. Schahfer and W. H. Knutz. Elec W 114:1163-5+ O 19 '40
Circle diagram for three-phase transmission lines. T. F. Wall. Electrician 124:119-21 F 16 '40; Discussion. H. Rissik. 124:379-80 My 24 '40
Guy lead problems solved graphically. S. D. Long. Elec W 112:1474 N 18 '39
Industrial single-phase loads. G. W. Stubblings. diags Elec R (Lond) 126:422 Ap 12 '40
Some effects of short-circuits on three-phase transmission lines. T. F. Wall. diags Engineering 149:352-6, 405-7, 478-9, 539-40, 578-80, 608-10 Ap 5, 19, My 10, 31, Je 14-21 '40

Testing

Faults on power cables and overhead lines; their causes and some methods of localization. M. Cline. Inst E E J 86:74-7 Ja '40
For hot hi-lines; split-core ammeter can be manipulated with hot-sticks. il Elec West 84:45 Ja '40
Formation of dew on insulators of high tension lines. Electrician 123:519 D 15 '39
Hot lines tested by hot-stick device. il Elec W 113:922+ Mr 23 '40
Lightning investigation on transmission lines. W. W. Lewis and C. M. Foust. bibliog Elec Eng 59:Trans 227-32; Discussion. Trans 232-3 Ap '40
Recording voltage surges; abstract. J. L. Chandler. Elec R (Lond) 126:427 Ap 12 '40
Short circuit tests on high tension overhead lines. Electrician 123:483 D 1 '39
Tests on wood poles; determining shock and fire risks. G. T. Garwood. il Elec R (Lond) 126:423-5 Ap 12 '40

Tree problem

Revised standard for tree wire, promises wider popular use. R. H. Titley and D. S. MacCorkle. Ind Stand 11:208-9 Ag '40

Vibration

Dancing conductors. R. N. Conwell. Edison Elec Inst Bul 8:227-30 My '40
Vibration of overhead line conductors. E. W. W. Double and W. D. Tuck. il diags Inst E E J 86:129-50 bibliog(44 titles, p149-50) F '40; Excerpts. Electrician 122:468-9 Ap 14 '39; Discussion. Inst E E J 86:150-60 F '40

Indiana

Indiana utility builds new 66,000-volt line. il Elec W News ed 114:1085 O 12 '40

Malaya, British

Problems in the tropics. H. R. Sparrow. il Elec R (Lond) 125:673 N 24 '39

Netherlands

High-voltage transmission in Holland; 150-kV underground cable. Elec R (Lond) 126:86 Ja 12 '40

Ontario

Expansion of hydro service in northern Ontario mining districts. T. C. James. il map Can Min J 60:811-16 D '39

ELECTRIC locomotives
Application of traction motors. F. E. Wynne and G. M. Woods. Elec Eng 59:Trans 373-4 Jl '40
Electric locomotives. diags Electrician 123: 470-1, 489, 507, 523 N 24-D 15 '39
High-speed streamlined electric locomotives of the Paulista railway, Brazil. F. Guillot. il diags plan Gen Elec R 43:151-7 Ap '40; Same cond. Ry Age 108:438-41 Mr 9 '40
Shipping large electric locomotives to Brazil. T. F. Perkinson. il Marine Eng 45:75-7 My '40
Trends in railroad motive power. S. Withington. Elec Eng 59:146-8 Ap '40
12 000 h.p. electric locomotive; new unit in service in Switzerland. il Electrician 125: 97-8 Ag 23 '40

See also
Locomotives, Diesel-electric
Railroads—Electrification

Design

550-h.p. electric battery shunting locomotive. il diags Engineering 149:85-6, 90, pl 6 Ja 26 '40
12,000-h.p. electric locomotive for the St Gotthard railway, Switzerland. il diags Engineering 149:105-8, 109, 116, pl 7 F 2 '40

Testing

Neuer messwagen zur untersuchung elektrischer fahrzeuge für hohe geschwindigkeiten. E. W. Curtius. il V D I 83:1221-3 N 18 '39

ELECTRIC locomotives, Mine
Eliminating nitrous oxide from mine-locomotive controls. C. C. Whittaker. il diag Coal Age 45:55, 58 S '40
How to select carbon brushes to withstand shocks encountered in coal-mine locomotive service. C. W. Lange. il Coal Age 45:53-4 N '40
Installing locomotive cables facilitated by special reel. E. C. Hitchcock. diag Coal Age 45:59 Jl '40
Locomotive auxiliaries available to cut maintenance cost. F. W. Richart. Coal Age 45:96 F '40
Selection and care of storage batteries for mine haulage; abstract. W. H. Burkey. Coal Age 45:110 F '40
Transportation at northern West Virginia mechanical mines. il Coal Age 44:77-83 D '39

ELECTRIC locomotives, Storage battery
Battery loco's for London transport. il Electrician 123:561 D 29 '39
550-h.p. electric battery shunting locomotive. il diags Engineering 149:85-6, 90, pl 6 Ja 26 '40; Abstract. Génie Civil 116:311-13 My 11 '40
Spot coal cars by remote control. il Elec W 113:1908 Je 15 '40

ELECTRIC losses
Capacitor program for distribution betterment. T. Seely and P. H. Jeynes. il Elec W 114:531-3 Ag 24 '40
Carrier-current losses measured and interference minimized on Boulder-Los Angeles transmission lines. J. D. Laughlin, W. E. Pakala and M. E. Reagan. il diags Elec Eng 59:Trans 4-9; Discussion. Trans 9-10 Ja '40
Influence of various factors upon the leakage reactance of transformers. A. L. Morris. bibliog diags Inst E E J 86:485-95 My '40
Magnetism; loss measurements on iron. Electrician 124:451 Je 28 '40
Overcurrent performance of bushing-type current transformers. C. A. Woods, jr. and S. A. Bottonari. diags Elec Eng 59:Trans 554-60 S '40
Proposed method for the determination of current-transformer errors. G. Camilli and R. L. Ten Broeck. diags Elec Eng 59:Trans 547-50 S '40

ELECTRIC machinery
British plant for overseas; recent noteworthy developments. il Elec R (Lond) 126:309-11 Mr 15 '40
Early electrical pioneers; Sören Hjorth and Ányos Jedlik. G. Windred. Engineering 149: 274-5 Mr 15 '40
Electric circuit and machine experiments. F. W. Hehre and J. A. Balmford. 279p bibliog(pxvi) pa $2 Wiley '40
Electric power engineers' handbook; a manual devoted to the operation and maintenance of motors, generators, converters, and rectifiers in theory and practice. W. S. Ibbetson. 241p $5 Chemical pub. co. '39
Electrical circuits and machinery. v. 1, Direct currents. F. W. Hehre and G. T. Harness. 513p $4.50 Wiley '40
Electrical plant and machinery; review of progress. G. A. Juhlin. Inst E E J 86:193-202 F '40
Faults and failures in electrical plant. R. Spieser and others. 408p $8.50 Pitman '39
Forty eight million horses. H. B. Neill. 241p $2.50 Lippincott '40
Principles of alternating-current machinery. R. R. Lawrence. 3d ed 678p $5.50 McGraw-Hill '40

ELECTRIC machinery—*Continued*

Principles of direct-current machines. A. S. Langsdorf. 5th ed 746p $5.50 McGraw-Hill '40

Progress of the art in electrical machinery, 1934-39. Elec Eng 59:Trans 103-6 F '40

See also

Commutators
Electric apparatus and appliances
Electric converters
Electric driving
Electric engineering
Electric generators
Electric locomotives
Electric motors
Electric plants
Electric protective apparatus
Electric transformers
Electricity in mining
Electricity on the farm
Elevators, Electric
Hydroelectric plants
Phase advancers
Pumping machinery, Electric
Refrigerators, Electric
Ship propulsion, Electric
Voltage regulators

Control

Differential field control; simple method applicable to two coupled machines. H. D. Einhorn. diag Electrician 125:176 O 4 '40

Cooling

12 years of hydrogen cooling. P. Sporn and F. M. Porter. il Power 84:161 Mr '40

Water-cooled design for electro-dynamometer. E. Bernard. diag Elec W 112:1632 D 2 '39

Welded piping system; supplies water for cooling electric machinery; Edgar Thomson works of Carnegie-Illinois steel co. H. Weiss. Steel 105:64+ N 20 '39

Design

Amplidyne generator, a dynamoelectric amplifier for power control. E. F. W. Alexanderson, M. A. Edwards and K. K. Bowman. il diag Gen Elec R 43:104-6 Mr '40

Amplitudes of magnetomotive-force harmonics for fractional-slot windings of three-phase machines. J. F. Calvert. diags Iowa Eng Exp Sta Bul 142:1-76 bibliog(p35) '39

Design characteristics of amplidyne generators. A. Fisher. il diags Gen Elec R 43:107-13 Mr '40

Design of electrical apparatus. J. H. Kuhlmann. 2d ed 506p $5 Wiley '40

Frog-leg windings for direct-current generators and motors. C. S. Siskind. il diags Purdue Univ Eng Exp Sta, Research Ser 70:1-32 '40 (pa 25c)

How to make working diagram models illustrating electrical principles. H. R. Langman. 73p 3s 6d Technical press, London '39

Practice and teaching of electrical design. T. C. Lloyd. J Eng Educ 30:354-64; Discussion. 364-71 D '39

Water-cooled design for electro-dynamometer. E. Bernard. diag Elec W 112:1632 D 2 '39

Drawing

Electrical drafting. S. E. Kocher. 117p, 67p $2.30 International textbook co, Scranton, Pa. '39

Drying

Drying-out chart; data sheet. Power 84:189 Mr '40

Drying out flooded electrical machinery. il diag Engineer 169:78-80, 88 Ja 26 '40

Heat and welders reclaim salt-flooded equipment; Hell Gate station. C. M. Gilt. il diag Elec W 112:1736-8 D 16 '39

Rapid and successful method of drying flooded motors. il Water Works & Sewerage 87:61 F '40

Installation

Connections, direct current motors. F. A. Annett. diags Power 84:92-3 F '40

Maintenance and repair

Commutator maintenance on large machines. Power Pl Eng 44:76-7 F '40

Diseases of electrical machinery. G. W. Stubbings. 219p $3 Chemical pub. co. '39

Manufacture

Spherical seats assured; boring pedestals for motor-generator sets. J. H. Yeager. il diag Am Mach 84:84 F 21 '40

See also

Electric motors—Manufacture

Noise

Generator housed to reduce 3,600-r.p.m. noise; also housings about boiler gage boards and high-pressure steam reducing valves. F. E. Hertel. il Elec W 113:2046-8+ Je 29 '40; Same abr. Electrician 125: 59-60 Ag 2 '40

Harmonic theory of noise in induction motors. W. J. Morrill. bibliog il diags Elec Eng 59:Trans 474-80 Ag '40

Motor noise as influenced by the design of rotor. C. E. Johnson. il Product Eng 11:446-7 O '40

Motor noise finder; recording frequency analyzer. Sci Am 162:100-1 F '40

When motors make too much noise. A. A. Currie. il diags Factory Management 98: 69-71 N '40

Temperature

Specifications for India; reference ambient temperature as applicable to British standard specification limits of permissible rise. B. B. Ray. Electrician 124:447-8 Je 28 '40

Temperature rise of electrical apparatus as affected by radiation. G. W. Penney. bibliog diag Elec Eng 59:Trans 338-42; Discussion. Trans 342-5 Je '40

Vibration

Reduce vibrations of two-pole machines. il Elec W 114:882 S 21 '40; Same. Power Pl Eng 44:64 O '40

Windings

Electric oscillations and surges in subdivided windings. R. Rüdenberg. diags J Ap Phys 11:665-80 O '40

ELECTRIC machinery, Portable

Cutting cloth and costs; portable electric cloth cutter; molded motor housing. il Mod Plastics 17:29, 100 Ag '40

ELECTRIC measurements

Autotransformer connections for varhour metering. E. J. Boland. diags Gen Elec R 43:298-301 Jl '40

Calculation and experiment on transformer reactance in relation to transients of restriking voltage. L. Gosland and W. F. M. Dunne. bibliog diags Inst E E J 87:163-77, pl 1-2 Ag '40

Circuit for the rapid measurement of the power factor of condensers. E. A. Walker. diag R Sci Instr 11:210-11 Jl '40

Co-ordinated power supply and control equipment for instrument and meter testing. C. T. Weller and R. M. Giroux. il diags Gen Elec R 43:420-4 O '40

Determination of ground-fault current and voltages on transmission systems. E. M. Hunter, E. Pragst and P. H. Light. Gen Elec R 42:353-6, 479-85 Ag, N '39

Dielectric characteristics of a chemically pure synthetic resin. C. G. Garton. diags Inst E E J 85:625-38 bibliog(p635) N '39

Drying process in paper, as determined by electrical methods. C. G. Garton. bibliog diags Inst E E J 86:369-78 Ap '40

Dual bridge for the measurement of self inductance in terms of resistance and time. H. L. Curtis and L. W. Hartman. diags J Research Nat Bur Stand 25:1-13 Jl '40

Electrical conductance measurements of water extracts of textiles. A. C. Walker. diag Am Soc T M Proc 39:1233-9; Discussion. il 1240-1 '39

Electrometer tube for laboratory and industrial use. L. Sutherlin and R. H. Cherry. il diags Electrochem Soc Trans 78 (preprint 26):351-60 O '40

Experimental dielectrics. E. W. Jones. il diag Cornell Eng 5:8-10+ My '40

ELECTRIC measurements—*Continued*

Flexible student conductivity bridge assembly. W. F. Luder and A. A. Vernon. il diags J Chem Educ 17:229-31 My '40

Impedance of the magnetron in different regions of the frequency spectrum. A. F. Harvey. bibliog Inst E E J 86:297-306 Mr '40

Low resistance measurements. G. R. Patterson. bibliog Instruments 13:52-4+ F '40

Low-voltage d-c measurements on electrical insulating oils. J. L. Oncley and W. C. Hollibaugh. diags Elec Eng 59:Trans 625-8 N '40

Measurement of spot-welding current. W. F. Hess, R. A. Wyant and A. Muller. il diags Elec Eng 59:Trans 349-53; Discussion. Trans 353-4 Je '40

Method of measuring and recording the frequency error of a.c. power supplies. F. O. Morrell and G. R. Oman. diag Electrician 124:183-4 Mr 8 '40

Methods, apparatus, and procedures for the comparison of precision standard resistors. F. Wenner. 2 pls diags J Research Nat Bur Stand 25:229-93 bibliog (124 titles, p290-2) Ag '40

New a-c. standard measurement method. H. R. Adams. diag Instruments 13:274 S '40

Oscillographic technique for measurements in a network analyser. D. M. Myers and W. K. Clothier. diags Inst E E J 85:639-45 N '39

Potentiometer circuit for portable optical pyrometer. R. C. Machler. il diag R Sci Instr 10:386-8 D '39

Radio-frequency high-voltage phenomena. A. Alford and S. Pickles. diags Elec Eng 59: Trans 129-36; Discussion. Trans 136-7 Mr '40

Reactive measurements; modifications in wattmeter connections. G. W. Stubbings. diags Electrician 125:151 S 20 '40

Reactive volt-amperes. Electrician 124:339-40, 353, 367 My 3-17 '40

Report on wave form in dielectric power-factor measurements. Elec Eng 59:255-6 Je '40

Resistors in parallel; reference book sheet. C. P. Nachod. Product Eng 11:385 Ag '40

Resolving power and efficiency of moving coil galvanometers. C. H. Cartwright. R Sci Instr 11:31-6 Ja '40

Science of balancing an impedance bridge. G. B. Hoadley. diags Franklin Inst J 228:733-54 D '39

Sensitivity and resolution of moving coil galvanometers. C. H. Cartwright. R Sci Instr 11:25-30 Ja '40

Stabilized bridge circuit. H. P. Kalmus. diag Electronics 12:30-1+ D '39

Theory of a single-layer, bifilar, absolute standard of mutual inductance. C. Snow. J Research Nat Bur Stand 24:597-638 Je '40

Use of thermocouple and fluxmeter for measurement of average power of irregular waves. H. K. Dunn. diags R Sci Instr 10: 362-7 D '39

Use simple scheme to measure 60 kv. Elec W 113:772 Mr 9 '40

Vacuum-tube alternating-voltage compensator. I. L. Cooter, F. Wenner and C. Peterson. diags J Research Nat Bur Stand 25:41-5 Jl '40

Vacuum tube circuit to measure the logarithm of a direct current. R. E. Meagher and E. P. Bentley. bibliog diags R Sci Instr 10:336-9 N '39

Variable oscillator for ultra-high frequency measurements. R. King. diags R Sci Instr 10:325-31 N '39

Vector-type impedance analyzer. S. Godet and H. R. Meahl. il diags Gen Elec R 42:548-51 D '39

Work's method for balancing the Kelvin double bridge. G. R. Patterson. diags R Sci Instr 11:217-19 Jl '40

See also

Dielectric constants
Dielectrics
Electric engineering —Tables, calculations, etc.
Electric instruments
Electric meters
Electric resistance
Electric testing
Electric units
Electric waves
Electrometers
Galvanometers
Magnetic measurements
Oscillographs
Photoelectric cells— Measurement uses
Potential, Electric
Potentiometers
Radio measurements
Vacuum tubes— Measurement uses
Voltmeters
Watt hour meters
Wattmeters

ELECTRIC meters

Better meters and periodic tests. K. G. Finley. Elec West 84:129-31 Je '40

Centralized metering for industrial plant. plan Elec W 113:1388 My 4 '40

Critical survey of American metering practice. G. F. Shotter. il diags plans Inst E E J 87:195-207, pl 1-4 Ag '40; Abstracts. Electrician 122:505-6 Ap 21 '39; Elec R (Lond) 124:573 Ap 21 '39; Discussion. Inst E E J 87:208-17 Ag '40

Electric bill warning; new meter for USHA homes. Business Week p27-8 Ap 13 '40

Electrical developments of 1939. G. Bartlett. il Gen Elec R 43:16-18 Ja '40

Electricity meters and meter testing. G. W. Stubbings. 216p bibliog(p212-13) 12s 6d Chapman & Hall, London '39

Magnetic flux; a convenient direct-reading meter. G. S. Smith. il diags Electrician 123: 375-6 O 27 '39

Measurement of spot-welding current. W. F. Hess, R. A. Wyant and A. Muller. il diags Elec Eng 59:Trans 349-53; Discussion. Trans 353-4 Je '40

Measuring instruments; noteworthy developments of the past year. R. M. Archer. il Electrician 123:377-9 O 27 '39

Meeting of meter and service committee; Edison electric institute. Edison Elec Inst Bul 7:564-5 N '39

Meter design. O. Howarth. il Elec R (Lond) 126:89-91 Ja 26 '40

Meter saving; 120-volt coils adapted to 240 volts by closing air gap. L. R. Spaulding. Elec West 84:44-5 Ja '40

Metering for two-rate two-way power. H. G. Brown. il diag Elec W 114:1024 O 5 '40

Meters and instruments; some new developments. il Electrician 123:380-7 O 27 '39

New plan of rewriting meter reading sheets. L. A. Mayo. il Edison Elec Inst Bul 7: 587-90 D '39

Novel sub-standard meter. H. E. Parker. diags Elec R (Lond) 125:643 N 17 '39; Abstract. Elec W 113:1236 Ap 20 '40

Optical devices used by, or of interest to, the meter and measuring instrument engineer. F. E. J. Ockenden. diags Inst E E J 86:452-9, pl 1-2 My '40

Peak limiter made of meter parts. il diag Elec W 112:1766 D 16 '39

Practical electric metering. M. F. Smalley and others. 228p $2.75 Wiley '40

Retire old meters by plan. M. B. Hurd. Elec W 114:537-8+ Ag 24 '40

Rewriting meter reading sheets by alphabetic tabulating cards. J. O. Hill. il Edison Elec Inst Bul 7:591-3 D '39

Sliding-rate meter. M. Unz. diags Inst E E J 86:85-95 Ja '40; Discussion. 86:600-1 Je '40

See also

Ammeters
Demand meters
Electric measurements
Electric testing
Frequency meters
Voltmeters
Watt hour meters
Wattmeters

Bearings

Measure meter jewels before assembly; Ames dial-type thickness gauge. il Elec W 114: 272-3 Jl 27 '40

Cleaning

Devise home-made meter jewel cleaner. il diag Elec W 114:551 Ag 24 '40

Electric washer cleans meter parts. A. C. Morrison. il Elec W 113:596 F 24 '40

For cleaning meter registers and jewels. H. D. Floyd and E. L. Lundy. Elec W 113: 2067 Je 29 '40

No fumes from this meter jewel cleaner; inclosed carbontetrachloride spray device. il diags Elec W 114:1182-3 O 19 '40

ELECTRIC meters—*Continued*

Installation

Company provides and owns meter inclosure. diags Elec W 113:1731 Je 1 '40

Manufacture

Carbon arc welding of meter magnets. il Elec W 114:718 S 7 '40
G.E. tests and trains meter makers. il Factory Management 98:51-4 Jl '40
Making meter parts; Sangamo electric mfg. co. G. Ralph. il Steel 106:64-5 Je 17; 64+ Je 24 '40
Making meter shafts; Westinghouse electric & mfg. co. U. Jelinek. il diag Steel 105:40-1 D 11 '39
Meter assembly; shadow projector checks gear alignment and mesh, stethoscope tests bearing assemblies, color system assures proper selection of parts; Sangamo electric mfg. co. G. Ralph. il Steel 107:46-7+ Jl 29 '40

Standards

Certification of meters. S. H. Richards. il diag plan Elec R (Lond) 126:92-5 Ja 26 '40

Testing

Adjustable d.c. for meter testing. il diag Elec W 113:1538 My 18 '40
Certification of meters. S. H. Richards. il diag plan Elec R (Lond) 126:92-5 Ja 26 '40
Check seven registers instead of one. J. W. Cuddohy. il Elec W 113:304 Ja 27 '40
Co-ordinated power supply and control equipment for instrument and meter testing. C. T. Weller and R. M. Giroux. il diags Gen Elec R 43:420-4 O '40
Group removal meter testing works well. J. W. Cuddohy. il Elec W 114:704+ S 7 '40
Meter testing; problems arising with heavy-current AC types. G. W. Stubbings. diag Elec R (Lond) 125:580 N 3 '39
Meter testing; verification at 0.5 power factor. G. W. Stubbings. diags Elec R (Lond) 127:108 Ag 9 '40
Meter tests. W. H. Talbott. Elec West 85: 52 O '40
New artificial load for meter testing. J. E. Burney. Elec W 113:915 Mr 23 '40
Socket-meter tests simplified. H. H. Tureman and L. F. Hayworth. il diag Elec W 113: 146 Ja 13 '40
Three-phase meter testing; method of checking with wattmeter at zero reading. G. W. Stubbings. diag Electrician 125:43 Jl 26 '40

ELECTRIC moment

Apparatus for the determination of the electric moment of molecules. M. E. Hobbs, J. W. Jacokes and P. M. Gross. bibliog diags R Sci Instr 11:126-33 Ap '40
Dielectric constants of some pairs of diastereomers. S. Winstein and R. E. Wood. bibliog Am Chem Soc J 62:548-51 Mr '40
Dipole moment, induction and resonance in tetra-, penta- and hexa-substituted benzenes. C. P. Smyth and G. L. Lewis. bibliog Am Chem Soc J 62:721-7 Ap '40
Dipole moment of 1-chloroanthraquinone. E. Bergmann and A. Weizmann. Am Chem Soc J 61:3583 D '39
Dipole moments and structures of certain compounds of sulfur, selenium and phosphorus. C. P. Smyth and others. bibliog Am Chem Soc J 62:1219-23 My '40
Dipole moments and structures of chlorine compounds of germanium, chromium, selenium and tellurium. C. P. Smyth, A. J. Grossman and S. R. Ginsburg. Am Chem Soc J 62:192-5 Ja '40
Dipole moments and structures of the esters of some fatty and some inorganic acids. G. L. Lewis and C. P. Smyth. bibliog Am Chem Soc J 62:1529-33 Je '40
Dipole moments of alkyl and phenyl lead halides. G. L. Lewis, P. F. Oesper and C. P. Smyth. bibliog Am Chem Soc J 62:3243-6 N '40
Dipole moments of amine oxides. E. P. Linton. bibliog Am Chem Soc J 62:1945-8 Ag '40
Electric moments of morpholine and some halogenated toluenes. A. A. Maryott, M. E. Hobbs and P. M. Gross. bibliog Am Chem Soc J 62:2320-4 S '40
Electric moments of some substituted benzoic acids. C. S. Brooks and M. E. Hobbs. bibliog Am Chem Soc J 62:2851-4 O '40
Electric quadrupole and magnetic dipole moments of Li^6 and N^{14}. M. E. Rose. bibliog Phys R 56:1064 N 15 '39
Electric quadrupole moments of Ga^{69} and Ga^{71}; an atomic beam study of the hyperfine structures of the $^2P_{1/2}$ and $^2P_{3/2}$ states. N. A. Renzetti. bibliog diags Phys R 57: 753-65 My 1 '40
Electrical quadrupole moment of the deuteron; the radiofrequency spectra of HD and D_2 molecules in a magnetic field. J. M. B. Kellogg and others. bibliog Phys R 57:677-95 Ap 15 '40
Evidence for a nuclear electric quadrupole moment for Sb^{123}. D. H. Tomboulian and R. F. Bacher. Phys R 58:52-4 Jl 1 '40
Index of refraction of methane in the infrared and the dipole moment of the CH bond. R. Rollefson and R. Havens. bibliog diag Phys R 57:710-17 Ap 15 '40
Ionic character and dipole moments. F. T. Wall. Am Chem Soc J 62:800-3 Ap '40
Magnitude of the solvent effect in dipole-moment measurements; polarisation and association of alcohols in the liquid phase. F. R. Goss. Chem Soc J p888-94 Jl '40
Magnitude of the solvent effect in dipole-moment measurement; resolution of the solvent effect into its contributory factors. F. R. Goss. Chem Soc J p752-8 Je '40
Molecular nature of a dielectric. E. B. Moullin. bibliog diags Inst E E J 86:113-28 F '40
Polar structure of some benzein indicators. M. A. Elliott and S. F. Acree. bibliog J Research Nat Bur Stand 23:675-81 D '39
Polarisations and related data of optically active and racemic β-octanol. J. B. M. Coppock and F. R. Goss. Chem Soc J p1789-92 N '39
Relations between electrostatic potentials and reaction velocities. H. O. Jenkins. Chem Soc J p1780-4 N '39
Simple apparatus for measuring the dielectric constant of non-conducting liquids. B. E. Hudson and M. E. Hobbs. bibliog diags J Chem Educ 17:366-70 Ag '40
Value of the electric quadrupole moment of the deuteron. A. Nordsieck. bibliog Phys R 58:310-15 Ag 15 '40

ELECTRIC motor generators

Continuous face power assured by load distributors on motor generator sets at Union colliery co. operation. F. W. Richart. il plan Coal Age 45:47-8 Mr '40
Unique low voltage generator installation. il Metal Finishing 38:336-7 Je '40

ELECTRIC motors

ABC's of electricity. J. A. Wasmund. il diags Marine Eng 45:40-8 Ap; 58-62 O '40
Coke-oven plant; large motor installation. il Elec R (Lond) 126:153-4 F 9 '40
Effects of voltage variation on motor and control operation. C. B. House. Factory Management 98:92, 94 S '40
Electric equipment for mines. il Can Min J 60:744-8 N '39
Electric motors and controls for sewage treatment plants. J. O. Kammerman. Pub Works 71:36-7 Je; 38+ Jl '40
Electric motors and their users. Electrician 124:263-4 Ap 5 '40
Electric power for airplanes. W. J. Clardy. il Elec Eng 59:Trans 385-8; Discussion. Trans 388-9 Jl '40
Electrical developments of 1939. G. Bartlett. il diag Gen Elec R 43:20-3 Ja '40
Electrical plant and machinery; review of progress. G. A. Juhlin. Inst E E J 86:196-9 F '40
Fiberglas-insulated motor much smaller than standard type. il Mach 46:274 D '39
Glass insulation; advantages and limitations. Elec R (Lond) 126:9 Ja 5 '40

ELECTRIC motors—*Continued*
Industrial uses of flameproof electric motors. il Engineering 150:85-6, 90, 109-11 Ag 2, 16 '40
Motor capacity boosted 100 per cent; fiber glass insulations. il Rayon 20:724 D '39
Motor modernization badly needed. F. Merish. il Steel 106:34-5+ Ja 8 '40
Motor operation on off-standard voltages. C. B. House, jr. Elec W 113:1088 Ap 6 '40
Motor performance in a laundry. R. Wages and R. Edmond. Elec W 114:1038 O 5 '40
Motors and controllers. il Iron Age 146:49-52 O 17 '40
Over-motoring the load; conditions affecting selection of motor. C. C. Hermann. Power Pl Eng 44:89-90 Mr '40
Power factor costs; correcting power factor offers means of cutting welding costs. S. B. Vinson. il Steel 106:42-4 Ja 8 '40
Progress in engineering knowledge during 1939. P. L. Alger. Gen Elec R 43:73-4 F '40
Some recent steel-mill installations. A. F. Kenyon. il diag Elec Eng 59:70-6 F '40
Types and characteristics of electric motors; tabulation. Power Pl Eng 43:808 D '39
What's new in motors. F. J. Oliver. il Iron Age 145:36-7 My 30 '40

See also
Armatures
Commutators
Electric driving
Electric locomotives
Electric machinery
Electric motors, Railway
Electric transformers
Electricity in mining
Pumping machinery, Electric

Bearings
Coussinets pour paliers de moteurs électriques et bagues pour galets de roulement, confectionnés en graphite ou en charbon de cornue. diags Génie Civil 116:170 Mr 9 '40
Freeing seized bearings with minimum time loss; abstract. P. C. Ziemke. Coal Age 45:60 Ag '40
Keeping frozen bearings in service. F. E. Saari and E. G. Key. Power Pl Eng 44:73-4 Mr '40

Care
Care and upkeep of motors in textile mills; abstract. C. K. Bryant. Textile World 90:64 Ap '40
Electric motor and controller inspection. F. Oakhill. Power Pl Eng 44:88 Ja '40
Inspection and maintenance, direct current motors. F. A. Annett. Power 84:98 F '40
Motor failures minimized by proper maintenance; abstract. H. J. Seibert. Textile World 90:64 Ap '40

Control
Capacitor relay timing in industrial control. C. Stansbury and T. B. Jochem. il diags Elec Eng 59:Trans 65-9; Discussion. Trans 69-70 F '40
Control of d.c. and a.c. motors; reference book sheet. Product Eng 11:288-90 Je '40
Dry cleaning vs. washing of crushed stone; automatic electric controls. R. E. Fowle. il diags plans Rock Prod 43:22-3 Ag '40
Electrical equipment on machine tools. B. P. Graves. il Elec Eng 59:Trans 18-22; Discussion. Trans 22-4 Ja '40
Interlocked motors save regrets. L. E. Markle. diags Factory Management 98:84-6 Jl '40
Relays prevent unneeded shutdowns; General foods company corn mill. il Elec W 113:918 Mr 23 '40
Theory and design of NEMA resistors for motor starting and speed control. G. C. Armstrong. diag Elec Eng 59:Trans 277-81 My '40
Variable speed through electronic control; Rivett 1020 cabinet lathe. il diags Product Eng 11:244-7 Je '40

Cooling
Ventilation of electrical machinery at a steel rolling mill. il Engineer 169:376, 380 Ap 19 '40

Design
Glass insulation aids motor design. J. S. Askey. Elec W 113:924 Mr 23 '40
Refrigerator motors. S. F. Philpott. il diags Elec R (Lond) 127:65-6 Jl 26 '40
Small motor design progress for the refrigeration industry. M. Schiff. il Refrig Eng 38:376-7 D '39

Fractional horsepower
A.c. motors of fractional horse-power; a manual of design, construction and maintenance. H. H. Jones. 189p $3 Chemical pub. co. '38
British Thomson-Houston fractional h.p. motors. il Engineer 169:576-7 Je 28 '40
Delco-Remy and Hyatt fractional h.p. electric grinders. il Engineer 168:576 D 8 '39
Electric motors and their users. Electrician 124:263 Ap 5 '40
Fractional-horsepower motors. diags Electrician 124:94, 109-10, 125, 171, 188 F 2-16, Mr 1-8 '40
Higgs fractional horse-power single-phase motors. il Engineer 169:144 F 9 '40; Electrician 124:99 F 2 '40; Engineering 149:211-12 F 23 '40
Laboratory electric stirring motor; ball bearing pulley assembly. E. B. Hershberg. il diags Ind & Eng Chem Anal ed 12:293-6 My 15 '40
Refrigerator motors. S. F. Philpott. il diags Elec R (Lond) 127:65-6 Jl 26 '40
Study of food-mixer motor performance. C. S. Siskind. il diags Purdue Univ Eng Exp Sta, Research Ser 72:1-37 '40 (pa 25c)

Lubrication
Our oilers are proud of their jobs; AC spark plug division, General motors corporation. E. J. Kelly. Factory Management 98:84-6 S '40
Waste made good as new; Chicago surface lines reclaims wool waste and oil for packing motor and journal bearings. il Transit J 84:169 My '40

Manufacture
Bruce Peebles all-welded electric motor. il Engineer 170:232-3 O 11 '40
Extruding holes; sheet steel motor conduit base; Reliance electric & engineering co. il diags Steel 106:48-9 Ja 15 '40
Flash baking oven; making electric motor laminations; synchronized sheet slitter, varnish applicator and conveyorized flash-baking oven at Reliance electric & engineering co. K. H. Meyer. il diag Steel 105:54+ D 4 '39
Handling in press work; Reliance electric & engineering co. il Steel 106:66+ My 27 '40; Iron Age 145:33 Je 13 '40
Mass production; importance of handling methods; motors. D. D. Rayner. Elec R (Lond) 126:499 My 3 '40
New oven quadruples heat transfer rate; General electric co. il Elec W 113:150-1 Ja 13 '40
Projection welding fixture for production work. H. B. Faught. diags Mach 46:111-13 Mr '40
Square shear has conveyor and stop; production of laminations for armatures and fields of electric motors. J. I. Karash. il Am Mach 84:91-2 F 21 '40
Winding-shop practice. il Elec R (Lond) 126: 653-5 Je 21 '40

Mounting
Motor support provides useful shelf space. il Elec W 113:1734 Je 1 '40
Short-center drives with tension-control motor bases adopted by Lydia cotton mills. F. A. Westbrook. il Textile World 90:69 Mr '40
Steel-slab foundation cures drive trouble. W. Krotee. il diag Power 84:175 Mr '40

Noise
Harmonic theory of noise in induction motors. W. J. Morrill. bibliog il diags Elec Eng 59:Trans 474-80 Ag '40

ELECTRIC motors—Noise—*Continued*
Motor noise finder; recording frequency analyzer. Sci Am 162:100-1 F '40
When motors make too much noise. A. A. Currie. il diags Factory Management 98: 69-71 N '40

Protection

Diving bell keeps manhole motor dry. M. Roach. il Elec W 113:2064 Je 29 '40
Dust- and water-proof motors for mixers. G. H. Hall. il Eng N 124:501-3 Ap 11 '40
Electric heat for protection and preventative maintenance. C. T. Elder. diag Steel 106: 52-3 Je 10 '40
Forced ventilation solves dirt problem. il Elec W 113:312 Ja 27 '40
Klixon motor protection thermostat. il Refrig Eng 38:367-8 D '39
Precipitators keep mill motors clean. C. M. Myers. il Elec W 113:1732 Je 1 '40
Protecting motors in the steel mill. G. A. Caldwell. il Steel 106:60-2 Ap 8 '40
Shaft switch prevents motor overheating; General Foods corn mill. il Elec W 113:1232 Ap 20 '40

Repair

Motor servicing; single-phase repulsion-induction types. J. E. Noble. Elec R (Lond) 126:239-40 Mr 1 '40
Motor troubles I have met. L. A. Hunt. il Factory Management 98:73-4 O '40
Proving repair work. R. A. Joseph. diags Elec R (Lond) 126:395-6 Ap 5 '40
We profit by dated motor upkeep; Staley manufacturing company, Decatur, Ill. W. H. Broadbear. il Factory Management 98:82, 84 Je '40

Standards

Motors redesigned; improved 1 to 2 hp. models. il Business Week p55-6 O 26 '40

Starting

Distribution outlays to limit lamp flicker; appliance motor-starting currents create flicker limitations to transformer and wire loading. D. K. Blake. Elec W 114:854-6 S 21 '40
Selecting starters for d.c. motors. L. E. Markle. il Power Pl Eng 44:61-4 Jl '40
Sprague motor starting capacitor indicator, Motormike. il Refrig Eng 39:112-13 F '40
Theory and design of NEMA resistors for motor starting and speed control. G. C. Armstrong. diag Elec Eng 59:Trans 277-81 My '40

See also
Electric motors, Induction—Starting

Testing

Motor testing simplified; use of watthour meters in conjunction with an electrically operated timer. C. O. von Dannenberg. diag Power Pl Eng 44:83-4 S '40
Proving repair work. R. A. Joseph. diags Elec R (Lond) 126:395-6 Ap 5 '40

Vibration

Measurement of motor vibration; cooperation of manufacturers through N.E.M.A. in standardizing method. W. R. Hough. il diag Elec W 112:1743+ D 16 '39

Windings

Winding-shop practice. il Elec R (Lond) 126:653-5 Je 21 '40

ELECTRIC motors, Alternating current
A.c. motors of fractional horse-power; a manual of design, construction and maintenance. H. H. Jones. 189p $3 Chemical pub. co. '38
BTA motor best for gravure press. il Elec W 113:456 F 10 '40
Commutation in a.c. machines. Electrician 123:276, 291, 314, 332 S 15-O 6 '39
Drives for full-fashioned machines. L. H. Stark. il Textile World 90:75-6 Ap '40
Early developments in electric ship propulsion in Great Britain; Spinner motor. S. R. Yates. il diag Inst Mech Eng J & Proc 143: 76-7 Ap '40
Electric motors for war industries. il Chem & Ind 59:256 Ap 13 '40
General Electric direct-coupled roller motors. il Engineer 169:372-3 Ap 19 '40; Electrician 124:271 Ap 5 '40; Engineering 149:458-9 My 3 '40
Powered by ac; special section. F. A. Annett. diags Power 84:221-36 Ap '40
Suiting the motor to the process; torque and speed control; Schräge motor. Electrician 123:406 N 3 '39
They didn't pick the right motor. J. V. Hunt. il Factory Management 98:91-3 F '40
Variable speed drives; Schräge motor. Electrician 123:330 O 6 '39

See also
Electric motors, Induction
Electric motors, Synchronous

Control

Speed adjustment. F. A. Annett. diags Power 84:228-9 Ap '40

Design

Single-phase motors. F. A. Annett. diags Power 84:231-2 Ap '40
Wound-rotor motors. F. A. Annett. diags Power 84:230 Ap '40

Repair

Motor servicing; single-phase repulsion-induction types. J. E. Noble. Elec R (Lond) 126:239-40 Mr 1 '40
Troubles and remedies. F. A. Annett. diags Power 84:235-6 Ap '40

Tables, calculations, etc.

Calculating a. c. motor speeds. E. G. Key. Power Pl Eng 44:88 Ja '40

Testing

Check slip-speed with neon device. il Elec W 112:1887 D 30 '39
Neon lamps check ac motor speed. D. M. Charles. il Power 84:110 F '40
Neon lamps simplify slip-speed checks. il Textile World 90:90 Ja '40; Sci Am 162:95 F '40

ELECTRIC motors, Direct current
Flexibility plus with d.c. motors. N. L. Rose. il diags Factory Management 98:77-9 Mr '40
High-speed printing; dc unit drives for large newspaper presses. il Elec R (Lond) 126: 447-9 Ap 19 '40
Powered by dc; how direct-current motors operate, different types, how to select, connect and reverse, how to maintain and stop troubles. F. A. Annett. diags Power 84:87-102 F '40

Control

Selecting starters for d.c. motors. L. E. Markle. il Power Pl Eng 44:61-4 Jl '40
Speed control. F. A. Annett. diags Power 84: 95 F '40

Protection

Relay and circuit-breaker protection for d-c machines. H. Bany. il Gen Elec R 43:312-19 Ag '40

Repair

Troubles and remedies. F. A. Annett. diags Power 84:99-101 F '40

Testing

Insulation resistance. F. A. Annett. diags Power 84:102 F '40

Windings

Frog-leg windings for direct-current generators and motors. C. S. Siskind. il diags Purdue Univ Eng Exp Sta, Research Ser 70:1-32 '40 (pa 25c)

ELECTRIC motors, Induction
Allis Ajusto-Spede and Westinghouse wound-rotor motors. F. J. Oliver. il Iron Age 145: 48 F 1 '40
Boost motor loading, better power factor; ammeters on induction motors; middle western soy bean mill. il Elec W 113:602 F 24 '40

ELECTRIC motors, Induction—*Continued*
Capacitor motors, a safe bet. E. P. Codling. il Factory Management 97:74-5 D '39
Capacitor motors for single-phase systems. Electrician 124:187 Mr 8 '40
Capacitor motors; types, characteristics and fields of application. C. T. Button. il diags Product Eng 11:213-16 My '40
China kiln turns to purchased power; induction motors for ventilating and exhaust fans on an oil-fired rotary kiln. il Elec W 113:1240+ Ap 20 '40
Dead points in squirrel-cage motors. Q. Graham. diags Elec Eng 59:Trans 637-42 N '40
Der drehstrom-kurzschlussläufermotor in der industrie. F. Oertel. il diag V D I 83:1261-6 D 9 '39
Electric drive for ordinary construction jobs; selecting the motor. G. H. Hall. il diags Eng N 124:326-9 F 29 '40
Electric-tie transmissions; new power or motion transmitting system ties movement at two or more points without mechanical connection. C. W. Drake. diags Steel 106:47-8+ Je 17 '40
Fractional-horsepower motors. Electrician 124: 125, 171 F 16, Mr 1 '40
General Electric development of an improved type induction motor; Valv-amp cast aluminum winding. il diags Marine Eng 45: 79-81 Mr '40
General Electric heavy-duty slip-ring motors. il diag Engineer 170:62 Jl 26 '40; Engineering 150:107-8 Ag 9 '40; Mech Handling 27:216 S '40
General Electric valv-amp rotor. il Mass Transportation 36:92 Ap '40; Same. Sci Am 163:124 S '40
Harmonic theory of noise in induction motors. W. J. Morrill. bibliog il diags Elec Eng 59:Trans 474-80 Ag '40
How an induction motor can be used to provide a supply at a frequency differing from that of the supply. diag Electrician 125:112 Ag 30 '40
Induction-motor characteristics at high slip. T. H. Morgan, W. E. Brown and A. J. Schumer. Elec Eng 59:Trans 464-8 Ag '40
Induction motors. S. G. Monk. 126p $2 Chemical pub. co. '39
Methods of measuring the torque of induction motors. A. C. W. V. Clarke. Inst E E J 86:597-600, pl 1-4 Je '40
New alternating-current adjustable-speed motor made by Louis Allis co. il diag Steel 106:66 Mr 11 '40
Single-phase motors; their selection and application. Electrician 124:20 Ja 12 '40
Squirrel-cage motors. F. A. Annett. diags Power 84:222-4 Ap '40
Squirrel cage motors for air conditioning and commercial refrigeration. C. C. Leader. bibliog diags Refrig Eng 39:162-5+ Mr '40
Synchronized drives; features and applications of synchrotie systems. C. W. Drake. il diags Product Eng 11:303-6 Jl '40

Control

Single-phase capacitor motors; methods of starting and speed control. diags Electrician 125:15 Jl 12 '40
Smooth speed control of wound-rotor motors with special reactors. H. E. Larson. diag Power 84:607-8 S '40

Design

Motor noise as influenced by the design of rotor. C. E. Johnson. il Product Eng 11:446-7 O '40
Two-phase machines for single-phase; evolution of the capacitor motor. diags Electrician 125:4 Jl 5 '40

Repair

Motor maintenance. B. L. Cathey. il Textile World 90:64+ Ja '40

Starting

Fractional-horsepower motors; starting methods. Electrician 124:171 Mr 1 '40
Liquid starters for slipring motors and their uses. Electrician 124:89 F 2 '40
Single-phase capacitor motors; methods of starting and speed control. diags Electrician 125:15 Jl 12 '40
Starting squirrel-cage motors. F. A. Annett. diags Power 84:225 Ap '40
Transient starting torques in induction motors. A. M. Wahl and L. A. Kilgore. il Elec Eng 59:Trans 603-7 N '40

Tables, calculations, etc.

Time-saving method for calculating induction-motor performance. A. F. Puchstein. bibliog Elec Eng 59:208-10 My '40

Testing

Induction-motor brushes; testing under load conditions. G. H. Rawcliffe. il diag Elec R (Lond) 125:613-14 N 10 '39
Obtaining test constants for induction motors. A. F. Puchstein. Elec Eng 59:124-5 Mr '40

ELECTRIC motors, Railway
Application of traction motors. F. E. Wynne and G. M. Woods. Elec Eng 59:Trans 369-74 Jl '40
Carbon brushes for modern transportation equipment. J. C. Aydelott. il Mass Transportation 36:11-14 Ja '40
Modern transportation motors. H. W. Gouldthorpe. il Mass Transportation 36:64-6 Mr '40
New features of the St Louis Streamliner. il Mass Transportation 36:154-5 Jl '40
Prolonging insulation life; dipping and baking motor fields and armatures; infra-red lamps for heaters. G. L. Moses. il Transit J 84: 280-1 Ag '40

ELECTRIC motors, Synchronous
Bruce Peebles all-welded electric motor. il Engineer 170:232-3 O 11 '40
Large synchronous motor drives air conditioning compressor; International building in Rockefeller Center. il Heating-Piping 12:162 Mr '40
Multiple power-factor correction by combination of synchronous motors and capacitors. Elec W 113:604 F 24 '40
Power-angle indicator and recorder for synchronous machines. E. B. Kurtz. il diags Gen Elec R 43:406-9 O '40
Record rotor action on motor pull-in. E. W. Swanson. diag Elec W 113:1550+ My 18 '40
Some effects of variable excitation on synchronous motor oscillation. J. G. Barry. bibliog Franklin Inst J 229:491-512 Ap '40
Synchronous motor drive for gold mill; used for rolling either gold or silver plate. il Elec W 114:1346+ N 2 '40
Synchronous motors. F. A. Annett. diags Power 84:226-7 Ap '40

Control

Power factor and voltage controlled automatically; American rolling mill company. E. G. Schlup. il diag Elec W 114:842-4 S 21 '40

Design

Secondary circuits of synchronous induction motors. G. H. Rawcliffe. bibliog diags Inst E E J 87:282-98 S '40

Tables, calculations, etc.

Amplitudes of magnetomotive-force harmonics for fractional-slot windings of three-phase machines. J. F. Calvert. diags Iowa Eng Exp Sta Bul 142:1-76 bibliog(p35) '39
Effect of sequential switching on short-circuit currents in synchronous machines. F. Von Roeschlaub. il Gen Elec R 43:256-61 Je '40
Graphical solution of transient stability. H. H. Skilling and M. H. Yamakawa. il Elec Eng 59:462-5 N '40
Power-factor correction with synchronous motors; how to determine the maximum output. H. O. Poland. il Power 84:634-6+ O '40
Synchronous machine circle diagrams; charts for mechanical and electrical power. H. Rissik. Electrician 125:191-2 O 11 '40
Synchronous machine circle diagrams; network theory as applied to the synchronous motor. H. Rissik. bibliog Electrician 125: 111-12 Ag 30 '40

ELECTRIC organs in fishes
Electricity elicited by an organic chemical process. D. Nachmansohn. bibliog Science 91:405-6 Ap 26 '40

ELECTRIC oscillations. See Oscillations, Electric

ELECTRIC ovens
Air recirculated in efficient auto oven. il Elec W 114:712 S 7 '40
Electric drying oven for drying rouge; industrial data sheet. W. J. Collins. il Elec West 85:54 O '40
Electric oven aids bicycle production; Cleveland welding co. T. A. Driscoll. il Iron Age 145:33 F 22 '40
Enamel baking oven; industrial data sheet. W. B. Cheney. il Elec West 84:50 Ap '40
Enamel baking oven; utilization data sheet. C. W. Brissenden. il Elec West 85:51 S '40
Enamel baking oven; utilization data sheet. H. Van Wyk. il Elec West 85:40 Ag '40
New oven quadruples heat transfer rate; General electric co. il Elec W 113:150-1 Ja 13 '40
Oven warms bakelite before stamping. E. Sandstrom. il Elec W 112:1762 D 16 '39
Trent air convection ovens. Metal Ind 38:72 Ja '40
Utilization data sheet; enamel baking oven. H. Van Wyk. il Elec West 84:42 Mr '40

ELECTRIC ovens, Baking
Thermosheet supplies oven heating data. T. H Swisher. il Elec W 114:880+ S 21 '40

Control

Unit concentric drive simplifies oven control. il Product Eng 11:199 My '40

Merchandizing

Duke marketing plan sells portable ovens. J. P. Lucas. Elec W 114:714+ S 7 '40
Electric oven good in domestic field. T. C. Harvey. Elec W 112:1634+ D 2 '39
Ovens and roasters mean plus business; Central Maine power company. A. E. Smith. Elec W 113:1554 My 18 '40
Portable oven sells electric cooking. W. M. Walsh. Elec W 113:1094 Ap 6 '40

ELECTRIC plants
Capacitors aid feeders in textile machinery plant; Whitin machine works improves power factor of own generating plant. F. D. Snyder. il Elec W 114:213-14+ Jl 27 '40

See also

Boiler plants
Electric generator sets
Electric plants (central stations)
Electric power
Electric railroads—Power
Electric substations
Hydroelectric plants
Power factor
Power plants
Steam plants

Interconnection

Carrier telemetering simplifies dispatching; Central Vermont public service corp. H. L. Durgin. il diag Elec W 112:1732-3+ D 16 '39
Chester station adds 50,000-kw top. D. F. Schick, jr. and C. F. Bishop. il diags map Power 84:700-5 N '40
Coming boom in kilowatts; integration of utilities into regional networks. il diags Fortune 20:58-60+ D '39
Controlling power flow; how phase angle, other factors, affect load balance. J. F. Spease. Elec West 84:50-1 My '40
Design and operation of a metropolitan electrical system from the viewpoint of possible major shutdowns; bulk power system of the Detroit Edison company. S. M. Dean. diags Elec Eng 59:Trans 575-9 O '40
Device allocates load on incremental heat rate. H. Johnson and M. S. Umbenhauer. il Elec W 112:1861-2 D 30 '39
Giant power pool seen as Northwest solution. il Elec W News ed 112:1677 D 9 '39
Influence of load factor on size, type and operation of major power station plant. il Elec R (Lond) 126:631-4 Je 14 '40
Metameter system of telemetering. F. B. Bristol and G. S. Lunge. il diags Gen Elec R 42:466-72 N '39
Network of power grid to cost $200,000,000; plans for northeastern and north central sections. map Elec W News ed 113:971-2 Mr 30 '40
New line put in service by Commonwealth Edison; line from Powerton to Crawford stations. il map Elec W News ed 114:1396 N 9 '40
New method for determining relay selectivity and coordination. C. L. Betts, jr. diags Edison Elec Inst Bul 8:437-41 S '40
110-kv. cable tie for high continuity service. H. E. Carson. il diags Elec W 114:988-90+ O 5 '40
Out-of-step blocking and selective tripping with impedance relays. H. R. Vaughan and E. C. Sawyer. bibliog il diags map Elec Eng 58:Trans 637-45; Discussion. Trans 645-6 D '39
Philadelphia Electric expanding its grid. il Elec W News ed 114:465-6 Ag 17 '40
Power for defense; a job for the electric utilities. S. B. Williams. maps Elec W 114:1150-2+ O 19 '40
Power policy committee widens grid discussions. Elec W News ed 112:1813 D 23 '39
Provisions for re-energizing the electric system of the Consolidated Edison company of New York, inc. G. R. Milne and H. C. Otten. diags map Elec Eng 59:Trans 579-85 O '40
Relation of thermal efficiency to electricity costs. C. S. Jeffrey. Engineering 148:710-12 D 29 '39
Restoration of service from large metropolitan system after complete shutdown; Philadelphia electric company. H. A. Dryar and R. Bailey. diags Elec Eng 59:Trans 571-4 O '40
Restoration of service on a metropolitan power system; Duquesne light company system. W. C. Bryson and A. P. Hayward. diags Elec Eng 59:Trans 563-70 O '40
Shows power transfer by phase shifter. B. E. Ellsworth. Elec W 113:1727+ Je 1 '40
66-kv. loop avoids capacity addition. il maps Elec W 112:1884 D 30 '39
Step regulators for transmission control; Iowa-Nebraska light & power company. G. C. Moomaw. diags Elec W 114:387-9+ Ag 10 '40
Synchronizing transients and synchronizers for large machines. R. D. Evans, F. H. Gulliksen and C. B. Myhre. diags Electronics 13:71-5 Mr '40
Tie line regulator compensator setting. B. E. Ellsworth. Elec W 113:448 F 10 '40
Unusual application of a General Electric torque balance watt telemeter; obtaining hourly integration of power interchange. C. Wasserman. diags Instruments 13:219-20 Ag '40
Utah Power announces added link in its grid. map Elec W News ed 114:921-2 S 28 '40
Wisconsin utilities plan interchange power pact. Elec W News ed 114:604 Ag 31 '40

Industrial plants

Automatic load control for turbo-generator. diag Elec W 113:1090 Ap 6 '40
Good engineering cures over-load; Cranston print works co. Textile World 89:104-5 N '39
Industrial and utility systems co-ordinated for reliability; plants of International harvester company and Indianapolis power & light company. T. F. Offenbacker. il diag Elec W 112:1448-9 N 18 '39
Integrated supply improves service to welders; utility substation co-ordinated with plant interlaced bus scheme; Midland steel products company, Detroit. W. B. Hurley and W. Smith. il diags Elec W 113:1198-1200 Ap 20 '40
Interconnection of networks with different current characteristics; group of steel works, France. il plan Electrician 124:165 Mr 1 '40

ELECTRIC plants—Interconnection—Industrial plants—*Continued*
Metering for two-rate two-way power. H. G. Brown. il diag Elec W 114:1024 O 5 '40
Pacific gas & electric co. solves industrial problem; plants adjacent to oil refineries, by-product fuels used; process steam and electric power supplied to the refineries. il Power Pl Eng 44:71-2 O '40
Vermont Marble's four-station, interconnected hydro system. F. A. Westbrook. il map Power 84:730-1 N '40

Isolated plants vs. purchased power

China kiln turns to purchased power; induction motors for ventilating and exhaust fans on an oil-fired rotary kiln. il Elec W 113:1240+ Ap 20 '40
Cost of by-product steam for heating. E. Caldwell. Power Pl Eng 44:58-9 Jl '40
Cost trends favor purchased energy. Elec W 112:1855+ D 30 '39
Diesel ice plant costs; Springdale ice & coal co. il Power Pl Eng 44:67-8 Mr '40
Electrifying oil properties and service restoration systems. O. Dowzer. diag Oil & Gas J 39:41, 43+ Jl 18 '40
Hotel power plant; cost comparisons. E. Douglas. Power Pl Eng 44:41-4+ Mr '40
Meeting competition in refrigeration and air conditioning field; with comparative cost data for purchased power, Diesel and gas engine plants. H. C. Gause. Edison Elec Inst Bul 8:197-200 My '40
Some power problems for solution. C. H. Purdy. Edison Elec Inst Bul 8:167-8 Ap '40
Steam competition. P. D. Lawrence. diags Edison Elec Inst Bul 8:201-6 My '40

Steam distribution

Pacific gas & electric co. solves industrial problem; plants adjacent to oil refineries, by-product fuels used; process steam and electric power supplied to the refineries. il Power Pl Eng 44:71-2 O '40

ELECTRIC plants (central stations)
Bryce E. Morrow plant, near Kalamazoo, Mich. il Power Pl Eng 43:792 D '39
Coming boom in kilowatts; integration of utilities into regional networks. il diags Fortune 20:58-60+ D '39
Consumers power dedicates Weadock station. il Power Pl Eng 44:68 Ag '40
Consumers power opens new generating station at Bay City. il Elec W News ed 113: 1989 Je 22 '40
Control of gases in the wake of smokestacks. R. H. Sherlock and E. A. Stalker. il diag Mech Eng 62:455-8 Je '40
Electric stations and substations. F. S. Benson. 95p, 103p $1.90 International textbook co, Scranton, Pa. '38
Influence of load factor on size, type and operation of major power station plant. il Elec R (Lond) 126:631-4 Je 14 '40
More and more for less and less; developments of the decade and future trends. H. L. Wallau. Edison Elec Inst Bul 8: 327-34 Jl '40; Excerpts. Elec W 113:1890-1 Je 15 '40
New plants, new units keep pace with demand. map Power 84:552-3 S '40
Progress in power generation, 1933-39. il diags Elec Eng 59:12-22 bibliog(119 titles, p20-2) Ja '40
Supply in the Leicester area. il Electrician 124:406 Je 7 '40
Work now in progress; construction activities; illustrations. Elec W 113:1683-92 Je 1 '40

See also
Boiler plants
Electric distribution
Electric engineering
Electric lighting
Electric lines
Electric plants—Interconnection
Electric plants—Isolated plants vs. purchased power
Electric plants, Municipal
Electric railroads—Power
Electric service, Rural
Electric transmission
Electric utilities
Hydroelectric plants
Steam plants

Auxiliaries

Stokers steam-driven in emergencies. il Elec W 113:1384 My 4 '40

Cost of construction

Electric plant adorns swamp; Holland, Mich. C. G. Bouwkamp and T. S. Lovell. flow diag Power Pl Eng 44:49-50 Jl '40

Costs

Coal for power generation; its availability in the United States, means of production, and cost; hydroelectric and steam plant costs compared. C. Y. Thomas. il map Civil Eng 10:497-500 Ag '40
Cost data on electrical materials; supply items involved in power plant improvement; tabulation. Elec W 114:1184 O 19 '40
Fourth steam station cost survey; 56 representative plants. A. E. Knowlton. il Elec W 112:1585-1600 D 2 '39; Discussion. 113: 1057-60+ Ap 6 '40
Largest gas-engine central station averages 1.84 mills per kwhr; Rea station, Louisiana ice & electric co. F. H. Coughlin. Power 84:444-5 Jl '40
Relation of thermal efficiency to electricity costs. C. S. Jeffrey. Engineering 148:710-12 D 29 '39

Damage from storms

See also Electric plants (central stations) —Flood damage

Design

Comparative factors of station design. A. E. Knowlton. Elec W 112:1599-1600 D 2 '39
Economics of station design and use. A. E. Knowlton. Elec W 112:1586-7 D 2 '39
How ten utilities hook up new units. S. A. Tucker. plans Power 84:654-7 O '40
Low-cost single-unit plant for Kansas utility; windowless plant. G. A. Mills. il diags plans Elec W 113:274-7 Ja 27 '40
Provisions for re-energizing the electric system of the Consolidated Edison company of New York, inc. G. R. Milne and H. C. Otten. diags Elec Eng 59:Trans 579-85 O '40
Steam station designed as hydro adjunct; Orem station, Utah power & light company. S. B. Flagg. il diags plan Elec W 114:522-5+ Ag 24 '40
Topping, condensing operation combined in one turbine; Walnut station of the Columbus & southern Ohio electric company; flexible steam provisions for combination turbine; boiler units in Walnut station. C. A. Butler, jr. flow diag il diags plan Elec W 114:70-3+, 397-9+ Jl 13, Ag 10 '40

Diesel engine auxiliaries

Diesel emergency sets; abstract. R. J. Welsh. Elec R (Lond) 126:187 F 16 '40

Diesel engine stations

Diesel engine operating and outage data; five-year data for 84 units in 27 plants. L. Schneitter. Elec W 114:993-5+ O 5 '40
Diesels for Newton Falls; Ohio municipality installs Diesel plant. il Power Pl Eng 44: 50-1 N '40
Diesels team with hydro; Sturgis, Mich. il diag plan Power 84:275-7 My '40

Efficiency

Integrated program improves station reliability. J. A. Keeth and R. L. Frisby. il Elec W 114:1160-2 O 19 '40
Largest gas-engine central station averages 1.84 mills per kwhr; Rea station, Louisiana ice & electric co. F. H. Coughlin. Power 84:444-5 Jl '40
Millers Ford; three years of high temperature operation. R. D. Gillespie. il diags layout Power Pl Eng 44:38-42, 52-3 Je; 54-6 Jl '40
Relation of thermal efficiency to electricity costs. C. S. Jeffrey. Engineering 148:710-12 D 29 '39

ELECTRIC plants (central stations)—Efficiency —*Continued*
Review of forty years' development in mechanical engineering plant for power stations. L. Pearce. diags plans fold charts Inst Mech Eng J & Proc 142:Proc 305-63, pl 1-8 F '40; Same abr. Engineering 149:254, 263-4, 308, 317-19, 397-9, 423-5, 472-3, 492-3, pl 12-13 Mr 8, 22, Ap 12-19, My 3-10 '40; Excerpts. Engineer 169:85-6, 108-9 Ja 26-F 2 '40

Employees

Engineers wanted; lack of applicants for civil service examination; problem. Power Pl Eng 44:82 Jl '40; Solutions. 44:90-3 S '40
Power station staffs' salaries. Elec R (Lond) 126:6 Ja 5 '40
Power station staffs' salaries; upward revision from July 1st. Elec R (Lond) 127:8 Jl 5 '40

See also
Electric engineers

Equipment

Boston Edison co. increases 1400 lb. boiler output at Edgar. C. H. Danforth. il diags Power Pl Eng 44:40-6 My '40
Chester station adds 50,000-kw top. D. F. Schick, jr. and C. F. Bishop. il diags map Power 84:700-5 N '40
Electric plant adorns swamp; Holland, Mich. C. G. Bouwkamp and T. S. Lovell. flow diag il diags Power Pl Eng 44:40-3, 49-51 Jl '40
Electrical engineering in 1939. il Engineer 169:6-10, 14, supp 3, 40, 48-50 Ja 5-12 '40
Flat-jaw clamps for grounding; to safeguard inspection, maintenance and emergency repair work on station apparatus. E. A. Mack. il Elec W 114:873 S 21 '40
Forced circulation for Montaup Electric. Elec W 114:225 Jl 27 '40
Generator housed to reduce 3,600-r.p.m. noise; also housings about boiler gage boards and high-pressure steam reducing valves. F. E. Hertel. il Elec W 113:2046-8+ Je 29 '40
High-capacity hydro-blast circuit breakers for central-station service. W. F. Skeats and W. R. Saylor. il diags Elec Eng 59:Trans 111-14; Discussion. Trans 114-16 F '40
Integrated program improves station reliability. J. A. Keeth and R. L. Frisby. il plans Elec W 114:1160-2, 1296-8+, 1468-70+ O 19-N 16 '40
Kansas City modernizes Northeast steam plant. Elec W 113:903 Mr 23 '40
Klip power station. Electrician 125:153 S 20 '40
Logan operating experience. P. Sporn. Engineering 149:294-5 Mr 15 '40
Metameter system of telemetering. F. B. Bristol and G. S. Lunge. il diags Gen Elec R 42:466-72 N '39
New power station dedicated; John C. Weadock station at Bay City, Mich. il Gen Elec R 43:344-5 Ag '40
New 35,000-kw. unit in service at Kansas City. il Elec W News ed 114:313 Ag 3 '40
Performance justifies selection of air-blast breakers; Beauharnois light, heat & power company. H. W. Haberl. il Elec W 114: 841+ S 21 '40
Power generation advances during a depression decade. E. L. Hopping. bibliog il diags Edison Elec Inst Bul 8:343-51 Jl '40
Progress in engineering knowledge during 1939; power-generation equipment. P. L. Alger. Gen Elec R 43:71-2 F '40
Progress in power generation; report of A.I.E.E. committee. il diag Mech Eng 62: 241-2 Mr '40
Rebuilt turbo-unit trims production costs; 25-cycle unit converted to 60-cycle; Riverton station of the Empire district electric company. G. W. Irey and E. J. Drewelow. il diag Elec W 113:889-91+ Mr 23 '40
Recent progress in electrical technology. M. Heins. Engineering 149:611-12 Je 21 '40
Review of forty years' development in mechanical engineering plant for power stations. L. Pearce. diags plans fold charts Inst Mech Eng J & Proc 142:Proc 305-63, pl 1-8 F '40; Same abr. Engineering 149: 254, 263-4, 308, 317-19, 397-9, 423-5, 472-3, 492-3, pl 12-13 Mr 8, 22, Ap 12-19, My 3-10 '40; Excerpts. Engineer 169:85-6, 108-9 Ja 26-F 2 '40
Rivesville topping reduces B.t.u. per kw.-hr. one-third. W. V. Drake. il diags Elec W 113:564-6+ F 24 '40
Trends in electrical-apparatus development. A. C. Monteith. il Elec Eng 59:221-2 Je '40
Typical central stations installed or under construction since January, 1939; tabulation. S. A. Tucker. Power 84:560-1 S '40
Utility plant in mill yard; steam stand-by on Amoskeag mill property, Manchester, New Hampshire. A. A. Winters. il diag Elec W 113:2034-6+ Je 29 '40

Extensions

Baltimore utility speeds work on Westport plant addition. il Elec W News ed 113:1593 My 25 '40
Central stations build for 1941; progress reports on 25 new installations. il Power 84: 280-3 My '40
Cincinnati utility starts work on new addition. il Elec W 114:1327 N 2 '40
Derby tops; installation of superposed unit by the Derby gas & electric co. C. O. Lenz and J. B. Saxe. flow diag il diags Power Pl Eng 43:762-6, 798-9 D '39
Gains station efficiency by engineering program; Boston Edison Edgar and L Street stations. il Elec W News ed 113:1990 Je 22 '40
High-pressure turbine installation at Edmonton, Canada. il Engineer 168:649 D 29 '39
Increase bus capacity at South Meadow. il Elec W 113:1356-7 My 4 '40
Panhandle power & light co. adds 23,000 kw. capacity. C. R. Stahl. Elec W News ed 112: 1680 D 9 '39
Virginia public service completes Hampton unit. il Elec W News ed 113:1991 Je 22 '40

Fires and fire protection

Fire protection in electrical installations. M. Laborde. Engineering 148:729-30 D 29 '39

Flood damage

Flood damage loss placed at $150,000, by East Tennessee light and power co. il Elec W News ed 114:600 Ag 31 '40
Heat and welders reclaim salt-flooded equipment; Hell Gate station. C. M. Gilt. il diag Elec W 112:1736-8 D 16 '39
Restoration of service on a metropolitan power system; Duquesne light company system. W. C. Bryson and A. P. Hayward. diags Elec Eng 59:Trans 563-70 O '40

Fuel

Fourth steam station cost survey; station fuel economies. A. E. Knowlton. Elec W 112: 1589+ D 2 '39
Intermittent burning of gas and pulverized coal. H. A. Kleinman. diag Gas Age 86: 16-19 Ag 29 '40
Milwaukee's contribution to pulverized-coal development. H. Kreisinger and J. Blizard. diags Mech Eng 62:723-6+ O '40
Pacific gas & electric co. solves industrial problem; plants adjacent to oil refineries, by-product fuels used; process steam and electric power supplied to the refineries. il Power Pl Eng 44:71-2 O '40

Gas engine stations

Largest gas-engine central station averages 1.84 mills per kwhr; Rea station, Louisiana ice & electric co. F. H. Coughlin. Power 84:444-5 Jl '40

Heating and ventilation

Integrated program improves station reliability; special ventilation for bus and switch house. J. A. Keeth and R. L. Frisby. il plan Elec W 114:1296-8+ N 2 '40

ELECTRIC plants (central stations)—*Continued*

Interconnection

See Electric plants—Interconnection

Layout

Review of forty years' development in mechanical engineering plant for power stations. L. Pearce. Inst Mech Eng J & Proc 142:Proc 322-4 F '40

Load

Air conditioning load exceeds 1,000,000 kilowatts. map Edison Elec Inst Bul 8:402 Ag '40

Commercial cooking program yields 4,000 kw. of new load; Georgia power company. W. A. Tadlock. il Elec W 114:526-7+ Ag 24 '40

Commercial load added 1939; estimated annual revenue, etc; 14 companies, Northwest electrical light & power assn.; tabulations. Elec West 84:99 Je '40

Data on output and peak load of largest generating and distributing systems in North America, 1936-1939. Elec W 113:supp My 4 '40

Domestic load; new light on its characteristics. G. O. McLean. Elec R (Lond) 127: 127-8 Ag 16 '40

Fall lighting campaign builds load for middle west companies. Edison Elec Inst Bul 8: 484 O '40

Fluorescent lighting brings new load building problems. J. E. Mueller. Edison Elec Inst Bul 8:443-4+ S '40

Forgotten load; street and highway lighting. il Elec W 114:207-9 Jl 27 '40

Informed dealers build utility load. P. C. Tucker. il Elec W 112:1636 D 2 '39

Load building, its effect on rates and investment. R. R. Herrmann. Edison Elec Inst Bul 7:573-6+ D '39

Load pickup and steam standby. F. G. Philo Gen Elec R 42:520-4 D '39

Load potentialities through packaged air conditioning. H. B. Brown. Edison Elec Inst Bul 8:151-2 Ap '40

Our work and play (in kilowatts); pictorial load chart. Elec West 85:43 N '40

Power station performance; estimating probable results. R. C. Golding. Elec R (Lond) 126:272 Mr 8 '40

Ranges and water heaters boost usage to 1,985 kw.-hr.; Washington water power company. R. B. McElroy. Elec W 113:434+ F 10 '40

Revenue building and load building in 1939; utility and dealer sales of household appliances and lighting; based upon reports from 116 utility companies. H. G. Dooley. Elec W 113:737-44 Mr 9 '40

Sign check-up restores and increases loads. R. B. Brown, jr. il Elec W 114:714 S 7 '40

Sign survey halts load mortality. L. L. Booth. il Elec W 112:1446+ N 18 '39

Study of customer load guide to system growth; Kansas City power & light co. compiles information. il Elec W News ed 113:1290 Ap 27 '40

Superimposed control applications, with special reference to tariffs and load-levelling. D. J. Bolton. Inst E E J 86:329-36; Discussion. 336-44 Ap '40

Vigorous promotion builds commercial cooking load; Potomac Edison system. W. C. Conley, jr. il Elec W 113:892-4+ Mr 23 '40

Water heating important source of utility income. R. E. Caywood and E. E. Sprague. Elec W 114:392-4 Ag 10 '40

Weather and the power companies; forecasts in maintenance, service and load conditions. Edison Elec Inst Bul 8:18+ Ja '40

Why we must build load downtown. H. N. Carroll. Elec West 84:79-80 Je '40

See also

Electric service, Rural

Load dispatching

Carrier telemetering simplifies dispatching; Central Vermont public service corp. H. L. Durgin. il diag Elec W 112:1732-3+ D 16 '39

Carrier telemetering with the metameter. G. S. Lunge. il Gen Elec R 43:336-43 Ag '40

Design and operation of a metropolitan electrical system from the viewpoint of possible major shutdowns; bulk power system of the Detroit Edison company. S. M. Dean. diags Elec Eng 59:Trans 575-9 O '40

Device allocates load on incremental heat rate. H. Johnson and M. S. Umbenhauer. il Elec W 112:1861-2 D 30 '39

Metameter system of telemetering. F. B. Bristol and G. S. Lunge. il diags Gen Elec R 42:466-72 N '39

Provisions for re-energizing the electric system of the Consolidated Edison company of New York, inc. G. R. Milne and H. C. Otten. diags map Elec Eng 59:Trans 579-85 O '40

Restoration of service from large metropolitan system after complete shutdown; Philadelphia electric company. H. A. Dryar and R. Bailey. diags Elec Eng 59:Trans 571-4 O '40

Restoration of service on a metropolitan power system; Duquesne light company system. W. C. Bryson and A. P. Hayward. diags Elec Eng 59:Trans 563-70 O '40

Telemetering scheme for generating stations. L. F. Lischer. diag Elec W 113:770 Mr 9 '40

Maintenance and repair

Fourth steam station cost survey; station maintenance costs. A. E. Knowlton. Elec W 112:1600 D 2 '39

Heat and welders reclaim salt-flooded equipment; Hell Gate station. C. M. Gilt. il diag Elec W 112:1736-8 D 16 '39

Management

Red tape; a curse or a blessing. G. W. Dyson. Power Pl Eng 44:56-7 Ag; 57-8 S '40

Protection

Current transformers and relays for high-speed differential protection, with particular reference to offset transient currents. E. C. Wentz and W. K. Sonnemann. il diags Elec Eng 59:Trans 481-8 Ag '40

Electrical changes in topped plant. W. V. Drake. diags Elec W 113:600 F 24 '40

Integrated program improves station reliability. J. A. Keeth and R. L. Frisby. il plan Elec W 114:1296-8+, 1468-70+ N 2-16 '40

Lightning currents in arresters at stations. I. W. Gross and W. A. McMorris. il diag Elec Eng 59:Trans 417-22 Ag '40

Station-type lightning-arrester performance characteristics. Elec Eng 59:Trans 347-8 Je '40

Tough nut to crack; air raid protection for Swiss power plants. il plan Power 84:307 My '40

See also

Electric plants (central stations)—Fires and fire protection

Electric transformers—Protection

Records

Distribution planning; checking transformer and secondary conditions. C. E. Arvidson. il Elec W 112:1740-2 D 16 '39

Safety devices and measures

See also

Electric distribution—Grounding

Statistics

Capacity, 1939. Elec W 113:96-9 Ja 13 '40

Customers, 1939. Elec W 113:110-11 Ja 13 '40

Data on output and peak load of largest generating and distributing systems in North America, 1936-1939. Elec W 113:supp My 4 '40

Detailed data on generator rating, output, customers and distribution of energy of public utility systems having an output exceeding 100,000,000 kw.-hr. during 1939. Elec W 113:supp My 4 '40

New capacity, 1939. Elec W 113:100-3 Ja 13 '40

ELECTRIC plants (central stations)—Statistics —*Continued*
Station economics, 1939. Elec W 113:104-5 Ja 13 '40
Utilities make greater use of available capacity; 28th annual survey; operating data for 184 light and power companies in North America. C. De Vore. Elec W 113: 1352-4 My 4 '40
See also
Electric power—Statistics
Electric utilities—Statistics

Tables, calculations, etc.
Parsons line for assessing the performance of stations. R. C. Golding. Elec R (Lond) 126:675-6 Je 28 '40
Power station performance; estimating probable results. R. C. Golding. Elec R (Lond) 126:272 Mr 8 '40

Underground stations
Usines électriques de secours aménagées dans des galeries à l'abri des bombardements. plans Génie Civil 115:329 O 28 '39

Alexandria, Virginia
Virginia public service co. starts new steam plant. Elec W News ed 113:647 Mr 2 '40

Baltimore
Baltimore utility speeds work on Westport plant addition. il Elec W News ed 113:1593 My 25 '40

Berlin
Air force targets in Germany; two Berlin power stations. il map Engineer 170:198-9 S 27 '40

Boston
Boston Edison co. increases 1400 lb. boiler output at Edgar. C. H. Danforth. il diags Power Pl Eng 44:40-6 My '40
Gains station efficiency by engineering program; Boston Edison Edgar and L Street stations. il Elec W News ed 113:1990 Je 22 '40

Durban, Natal
Progress in Durban. E. Poole. il Elec R (Lond) 125:573-5 N 3 '39

Great Britain
Review of forty years' development in mechanical engineering plant for power stations. L. Pearce. diags plans fold charts Inst Mech Eng J & Proc 142:Proc 305-63, pl 1-8 F '40; Same abr. Engineering 149:254, 263-4, 308, 317-19, 397-9, 423-5, 472-3, 492-3, pl 12-13 Mr 8, 22, Ap 12-19, My 3-10 '40; Excerpts. Engineer 169:85-6, 108-9 Ja 26-F 2 '40; Abstracts. Electrician 124:74 Ja 26 '40; Elec R (Lond) 126:102-3 Ja 26 '40

Indianapolis
Start work on 35,000-kw. steam station addition. Elec W 113:1073 Ap 6 '40

Kansas City, Kansas
Kansas City plant work will increase efficiency. il Elec W News ed 113:831 Mr 16 '40

Milwaukee
Contribution to pulverized-coal development. H. Kreisinger and J. Blizard. diags Mech Eng 62:723-6+ O '40

Morocco
L'équipement électrique et hydraulique du Maroc;' la production et la distribution de l'énergie électrique. J. Thomas. il map Génie Civil 116:77-82 F 3 '40

New York (city)
Heat and welders reclaim salt-flooded equipment; Hell Gate station. C. M. Gilt. il diag Elec W 112:1736-8 D 16 '39

Philadelphia
Philadelphia Electric expanding its grid. il Elec W News ed 114:465-6 Ag 17 '40

South Africa
Klip power station. Electrician 125:153 S 20 '40

Western states
Plant expansion for '39 & '40. il Elec West 84:38-52 F '40

ELECTRIC plants, Automatic
Unattended electric power plant. il diag Engineering 149:86-7 Ja 26 '40; Engineer 169: 130-1 F 9 '40

ELECTRIC plants, Municipal
California goes modern; new plants at Burbank and Glendale. flow diag il Power Pl Eng 44:52-3 S '40
Diesels for Newton Falls; Ohio municipality installs Diesel plant. il Power Pl Eng 44: 50-1 N '40
Diesels team with hydro; Sturgis, Mich. il diag plan Power 84:275-7 My '40
Electric plant adorns swamp; Holland, Mich. C. G. Bouwkamp and T. S. Lovell. flow diag il diags Power Pl Eng 44:40-3, 49-51 Jl '40
Management of combined municipal utilities; Lansing, Michigan, supplies water, electricity and steam. O. E. Eckert. Am Water Works Assn J 32:1435-41; Discussion. F. W. Martin. 1441-5 S '40
North Carolina High court upholds orders halting High Point power project. Eng N 124:563 Ap 25 '40
Typical municipal plants installed or under construction since January, 1939; tabulation. Power 84:564-5 S '40
Water-cooled stoker for Richmond, Ind. municipal plant. flow diag il diag Power 84: 8-11 Ja '40
See also
Electric utilities—Municipal ownership

Finance
Is fair return appropriate for municipal utilities? decision of the New York Court of appeals in the Boonville case. R. H. Riley. bibliog J Land & Pub Util Econ 16:52-60 F '40

ELECTRIC potential. See Potential, Electric

ELECTRIC power
Advances in the use of electricity. F. W. Doolittle. Civil Eng 10:90-2 F '40; Same. Edison Elec Inst Bul 8:100-2 Mr '40
After hours; sixty-five hours in a modern city without electricity. P. H. Erbes, jr. Ptr Ink 192:6 S 6 '40
Consumption of electrical energy for industrial purposes. S. J. R. Allwood. Inst E E J 86:82-4 Ja '40
Co-ordinated power supply and control equipment for instrument and meter testing. C. T. Weller and R. M. Giroux. il diags Gen Elec R 43:420-4 O '40
Defense and the power salesman. il Elec W 114:1307-18 N 2 '40
Determination of power; supply to or absorption from a network. L. P. Dudley. Electrician 124:449 Je 28 '40
Electricity and civilization. H. Joseph. Inst E E J 86:59-65 Ja '40; Abstract. Elec R (Lond) 125:645 N 17 '39
Energy resources and national policy. 435p U.S. National resources committee, Washington '39
Executive interest in power sales. H. M. Sawyer. Edison Elec Inst Bul 8:193-4 My '40
Future is ours. J. Franklin. 208p pa 50c Modern age books, New York '39
Future of power use in the Pacific Northwest. H. V. Carpenter. Mech Eng 62:663-4+ S '40
Getting power to the job; electric power for construction equipment. G. H. Hall. il Eng N 124:164-6 F 1 '40
Know your industrial customer. R. E. Fisher. Edison Elec Inst Bul 8:137-8+ Ap '40
Power for defense. il maps Power 84:552-74 S '40
Power in a.c. circuits. Electrician 124:208-9, 226, 248-9 Mr 15-29 '40
Power preparedness. W. McClellan. Elec Eng 59:270-1 Jl '40
Power supply for resistance-welding machines; with cost data. il diags Elec Eng 59:Trans 306-20 My '40

ELECTRIC power—*Continued*
Shows power transfer by phase shifter. B. E. Ellsworth. Elec W 113:1727+ Je 1 '40
Some power problems for solution. C. H. Purdy. Edison Elec Inst Bul 8:167-70+ Ap '40
Synchronous machine circle diagrams; charts for mechanical and electrical power. H. Rissik. Electrician 125:191-2 O 11 '40

See also
Coal mines and mining—Power
Electric distribution
Electric driving
Electric plants
Electric plants (central stations)
Electric railroads—Power
Electric transmission
Electric welding—Power supply
Electricity supply
Hydroelectric power
Metallurgical plants—Power
Paper mills—Power
Power cost
Power factor
Power plants
Pumping stations—Power
Steel works—Power
Textile mills—Power
Trolley buses—Power

Rates

See Electric rates

Statistics

Data on output and peak load of largest generating and distributing systems in North America, 1936-1939. Elec W 113:supp My 4 '40
Electric power load and growth; figures by the Federal power commission, on the electric power production for 1939. Power Pl Eng 44:75-7 S '40
Energy sales, 1939. Elec W 113:106-7 Ja 13 '40
Gas and electric industries look back on 1939. Pub Util 25:107-8 Ja 18 '40
Output, 1939. Elec W 113:94-5 Ja 13 '40
Power for defense; a job for the electric utilities. S. B. Williams. maps Elec W 114:1150-2+ O 19 '40
Production and sales to ultimate consumers, 1936-1939. Survey of Cur Business 1940 Sup p97 [supplemented in monthly numbers]
Production of electric energy for public use during October and November. Comm & Fin Chr 150:34 Ja 6 '40 [cont monthly]
Source and disposal of energy during November 1938 and 1939. Comm & Fin Chr 150:754 F 3 '40 [cont monthly]
Weekly electric output. Published in weekly numbers of Commercial & financial chronicle
Weekly output. Published in weekly numbers of Electrical world
Weekly production of electrical energy in the United States, 1902-1941; graphs. Elec W 113:supp Ja 13 '40

See also
Electric plants (central stations)—Statistics

ELECTRIC power and light corporation
Capitalization as of December 31, 1938; and earnings, 1927-39. Pub Util 25:481-3 Ap 11 '40
Earnings, 1938 and 1939. Comm & Fin Chr 150:3507 Je 1 '40
Low price, active leverage stocks; thumbnail appraisal. Mag of Wall St 65:620 F 24 '40

ELECTRIC precipitation
Dust collecting becomes a major problem in engineering. il Concrete (mill sec) 48:230-1 S '40
Electrostatic air cleaning as applied to air conditioning. J. R. McConnell. Heat & Ven 37:51-2 Ag '40
Indicating system for high voltage power packs; electrostatic precipitation systems. R. L. Hildebrand. il diag Electronics 13:38+ O '40
Industrial application of electrically cleaned air; use of the Precipitron has reduced rejections in making carbide tools; Firth-Sterling steel co. W. J. Loach. il Mach 46:89-90 Ag '40
Precipitators keep mill motors clean. C. M. Myers. il Elec W 113:1732 Je 1 '40
Profitable fly-ash handling; State Line plant uses Redler conveyors and electrostatic precipitators; fly ash used in concrete. N. W. Elmer. il diag Steel 106:64-5+ F 12 '40
Recent progress in dust collecting equipment. il diags Sheet Metal Worker 31:30-2 Ag '40
Recovery in sulphate pulp mills; experience with the Tomlinson system in Sweden; cleaning of the gases. G. Edling. diags Pulp & Pa of Can 40:735-7 D '39

See also
Electrostatic separators

ELECTRIC propulsion of ships. See Ship propulsion, Electric

ELECTRIC protective apparatus
Auxiliary equipment for ground-fault neutralizers. E. M. Hunter and S. B. Farnham. il diags Gen Elec R 43:352-6 S '40
Control of inductive interference to telegraph systems. J. W. Milnor. il diags Elec Eng 59:Trans 469-74 Ag '40
Current transformers and relays for high-speed differential protection, with particular reference to offset transient currents. E. C. Wentz and W. K. Sonnemann. il diags Elec Eng 59:Trans 481-8 Ag '40
Discriminative-overcurrent and earth-leakage protection for electrical circuits. Engineering 150:15-16 Jl 5 '40; Engineer 170:45-6 Jl 19 '40
Protector tubes for power systems. H. A. Peterson and others. bibliog diag Elec Eng 59:Trans 282-8; Discussion. Trans 288-91 My '40
Relay and circuit-breaker protection for d-c machines. H. Bany. il Gen Elec R 43:312-19 Ag '40
Safeguards against interruptions of supply. H. W. Clothier, B. H. Leeson and H. Leyburn. pl diags Inst E E J 82:445-73 My '38; Discussion. 82:473-502; 85:735-59 My '38, D '39
Sensitive ground protection for radial distribution feeders. L. F. Hunt and J. H. Vivian. il diags Elec Eng 59:Trans 84-7; Discussion. Trans 87-90 F '40
Series capacitor protector control. R. E. Marbury. il diag Elec W 112:1476 N 18 '39

See also
Electric circuit breakers
Electric distribution—Grounding
Electric fuses
Electric lines—Protection
Electric motors—Protection
Electric switches
Lightning arresters
Lightning protection
Petersen earth coil
Relays

Testing

High-voltage testing of meter protector. il diag Elec W 113:154 Ja 13 '40

ELECTRIC railroads
Electric transportation. F. R. Thompson. 427p $4 International textbook co, Scranton, Pa. '40
Some unsolved problems in transportation. J. A. Noertker. Elec Eng 59:113-17 Mr '40

See also
Electric locomotives
Electric motors, Railway
Railroads—Electrification
Street cars
Street railroads
Subways
Trolley buses

Braking

Electric braking for railroad and urban transit equipment. F. H. Craton and F. M. Turner. bibliog Elec Eng 59:Trans 489-94 S '40
Signal system, interlocking plants, and automatic train control on the San Francisco-Oakland Bay bridge railway. C. R. Davis. Elec Eng 59:Trans 162-4 Mr '40

Bridge crossing

Signal system, interlocking plants, and automatic train control at the San Francisco-Oakland Bay bridge railway. C. R. Davis. il Elec Eng 59:Trans 158-64 Mr '40

ELECTRIC railroads—*Continued*

Cars

See Cars, Electric railroad; Cars, Subway; Motor cars (railroad)—Diesel-electric; Street cars

Control equipment

Metadyne, and its application to electric traction. G. H. Fletcher and A. Tustin. diags Inst E E J 85:370-84 S '39; Discussion. 85:384-99; 86:379-82 S '39, Ap '40

Costs

What the industry spends. Transit J 84:8-9 Ja '40

Where the transit dollar goes. Transit J 84: 6-7 Ja '40

Equipment and supplies

Electric transportation. F. R. Thompson. 427p $4 International textbook co, Scranton, Pa. '40

Finance

More riding and revenue, 1939. Transit J 84: 2-3 Ja '40

See also

Electric railroads—Securities

Street railroads—Finance

also Boston elevated railway

Maintenance and repair

See also

Street railroads—Maintenance and repair

Mileage

Track changes in 1939; tabulation. Transit J 84:18 Ja '40

Models

Auto-electric model railways, with a chapter on radio control of model boats. A. D. Stubbs. 197p $1.50 Nelson '39

Overhead construction

Exhibit of modern equipment; overhead line devices; pictorial review. Transit J 84:346-7 S '40

Overhead devices redesigned. il Transit J 84: 286-7 Ag '40

Wire stringing made easier; new line truck for installing trolley wire. J. I. Moore. il Transit J 84:60-1 F '40

Passenger traffic

More riding and revenue, 1939. Transit J 84: 2-3 Ja '40

Power

Data on output and peak load of largest generating and distributing systems in North America, 1936-1939. Elec W 113:supp My 4 '40

Joint corrosion committee for electrolysis mitigation. M. W. Ghen. diags Edison Elec Inst Bul 8:231-3 My '40

Network coupling by means of static electronic frequency changers. O. K. Marti. bibliog diags Elec Eng 59:Trans 495-502 S '40

Power supply for railroad electrification and fundamentals of power contracts. E. R. Hill. Elec Eng 59:Trans 560-2 S '40

Railway electrification in Pretoria-Johannesburg area, South Africa. W. D. Bearce. il diag map Gen Elec R 43:126-30 Mr '40

Railway power supply. P. Torchio. Elec Eng 59:Trans 550-3 S '40

Remote supervisory control on the Wirral railway. il diags Engineer 169:102-4, 126-7 F 2-9 '40

Remote supervisory control; Southern railway. il diags Engineer 168:540-1, 561-4 D 1-8 '39

Saving power; Chicago surface lines. Transit J 84:274-5 Ag '40

Some unsolved problems in transportation. J. A. Noertker. Elec Eng 59:113-15 Mr '40

See also

Railroads—Electrification

Receiverships

Financial atmosphere clearing, 1939. Transit J 84:19-21 Ja '40

See also

Pittsburgh railways company

Rolling stock

Modernizing the rail lines. map Transit J 84: 13 Ja '40

Now is the time to buy equipment. R. E. Elgen. Transit J 83:442-3 N '39

Progress and trends in 1939 in mass transportation. il Mass Transportation 36:15-16, 25+ Ja '40

See also

Cars, Electric railroad

Electric locomotives

Safety devices and measures

Safest year in history; Philadelphia transportation company. H. W. Whitcomb. il Transit J 84:152-4 My '40

Securities

Financial atmosphere clearing, 1939. Transit J 84:19-21 Ja '40

Shops

Boston gears up for production; new machine shop at Everett. il plan Transit J 83:484-5 D '39

Signals

Signal system, interlocking plants, and automatic train control on the San Francisco-Oakland Bay bridge railway. C. R. Davis. il Elec Eng 59:Trans 158-64 Mr '40

Statistics

Transit industry statistics; revenues, expenditures, rolling stock, traffic, mileage, etc. il map Transit J 84:1-21 Ja '40

Track

See also

Rail bonds

Trolley shoes

Wear indicator for trolley shoes. F. G. Hibbard and J. G. Packard. il diags Transit J 83:492-3 D '39

Massachusetts

See also

Boston elevated railway

Switzerland

Electric railcar for the Bex and Villars-Chesieres railway. il diags Engineering 150: 6-7, pl 2 Jl 5 '40

ELECTRIC ranges. See Electric stoves

ELECTRIC rates

Annual report of the Electrical fair trading council; illicit discounts, hire purchase. Electrician 123:472, 492, 530 N 24-D 1, 15 '39

Boston Edison cuts rates $750,000. Elec W News ed 114:1086 O 12 '40

Changes in retail prices of electricity, 1923-38. U S Bur Labor Statistics Bul 664:1-79 '39; Excerpt (chart). Edison Elec Inst Bul 8:13 Ja '40

Contrasts in tariffs; demand-limit and load-rate types. R. B. Rowson. Elec R (Lond) 127:25-6 Jl 12 '40; Discussion (Load-rate tariff). W. B. Parker. 127:309 O 11 '40

Electricity prices on December 15, 1939. Monthly Labor R 50:493-7 F '40

FPC summarizes average electric bills for 1939. Pub Util 25:113-14 Ja 18 '40

Financial statements in connection with utility rate regulation. H. C. Hasbrouck. Edison Elec Inst Bul 8:431-6 S '40

Hawaiian rate plan. Pub Util 25:480-1 Ap 11 '40

Homes in Alaska use 5,230 kw.-hr. per year. W. T. Stewart. il Elec West 85:29-30 N '40

Index numbers of cost of electricity for domestic service and tables of monthly bills for domestic service, commercial light and small power, 1939. 17p pa 25c Canada. Dominion bur. of statistics, Ottawa '40

ELECTRIC rates—*Continued*
Is fair return appropriate for municipal utilities? decision of the New York Court of appeals in the Boonville case. R. H. Riley. bibliog J Land & Pub Util Econ 16:52-60 F '40
Load building, its effect on rates and investment. R. R. Herrmann. Edison Elec Inst Bul 7:573-6+ D '39
Meeting the submetering problem; decisions in leading cases. R. M. Barton. Pub Util 25:109-13 Ja 18 '40
Minimum bill is key to farm load growth. C. D. Henry. Elec W 113:780 Mr 9 '40
Monopoly pricing in shaping utility rate schedules; cost studies do not wholly justify difference in charges for different classes of service. C. E. Troxel. bibliog Pub Util 24:796-805 D 21 '39
National electric rate book; rate schedules for electric service in the United States in communities of 1,000 population or more; residential, commercial, and industrial services. 1329p 2v $15 U.S. Federal power commission, Washington '40 [rates for individual states published separately]
1940 rates, drifting or sailing. F. A. Newton. Edison Elec Inst Bul 8:298-302 Je '40; Same cond. Pub Util 26:44-8 Jl 4 '40; Excerpts. Elec W 113:1896-7 Je 15 '40
Objective rate plan set to increase use; Athol gas & electric co. Elec W News ed 114: 1396-7 N 9 '40
Power-factor correction. il Elec R (Lond) 127:125-6 Ag 16 '40
Price changes between June and September 1939. Monthly Labor R 49:1272-4 N '39
Price changes between December 1939 and March 1940. Monthly Labor R 50:1269-71 My '40
Price changes between March and June 1940. Monthly Labor R 51:498-500 Ag '40
Profit-sharing plan seen aid to utilities. Elec W 112:1613 D 2 '39
Profit sharing, the key to regulatory success; the Washington plan or sliding-scale regulation of the District of Columbia. R. E. Elgen. bibliog Pub Util 25:787-96 Je 20 '40
Prospects for continued electric rate reductions. W. J. Crowley. J Land & Pub Util Econ 15:464-72 N '39
Report of the utilities committee of the Federal bar association. Pub Util 25:748+ Je 6 '40
Residential electric bills; with chart. map Dun's R 48:43-4 Mr '40
Residential rate reductions since 1935 by companies and municipal systems. Edison Elec Inst Bul 7:605 D '39
Revenues increase 45 per cent under commercial cooking plan; Puget Sound power & light company. C. T. Bakeman. il Elec W 113:1368-9+ My 1 '40
San Diego Gas & Electric declares new rate schedule. Elec West 85:74 O '40
Seattle City Light declares new commercial rates. Elec West 85:72 O '40
Selling a rate cut. Elec W 113:571+ F 24 '40
Short-cut electric bill calculation. R. McMillan. Elec W 114:84-5 Jl 13 '40
State regulation of electricity supply tariffs; recent German legislation compared with British tendencies. J. W. Beauchamp and R. Kauffmann. Inst E E J 85:569-80 N '39; Excerpts. Electrician 122:437-8 Ap 7 '39; Abstract. Elec R (Lond) 124:461-2 Mr 31 '39; Discussion. Inst E E J 85:581-9 N '39; Electrician 122:438-9 Ap 7 '39; Elec R (Lond) 124:500-1 Ap 7 '39
Suggests automatic rate adjustments. C. W. Kellogg. Elec W 112:1439-40+ N 18 '39; Abstract. Pub Util 24:764-6 D 7 '39
Superimposed control applications, with special reference to tariffs and load-levelling. D. J. Bolton. Inst E E J 86:329-36; Discussion. 336-44 Ap '40
Tariff standardisation; some minor points of American practice. G. V. Harrap. bibliog Elec R (Lond) 126:635-6 Je 14 '40
That billion dollar overcharge. E. R. Abrams. Barron's 20:8 S 23 '40
Those TVA rates; cost of distributing power. O. Ely. Pub Util 24:755-6 D 7 '39
Toledo Edison and city agree on cut in rates. Elec W News ed 113:232 Ja 20 '40
Two-part tariff challenged; Wimbledon consumer's test case. Elec R (Lond) 125:681 N 24 '39
Uniform tariffs; are they commercially and economically practicable? H. Southall. Elec R (Lond) 127:222 S 13 '40
Utility rate making as a social objective. W. D. Gay. Pub Util 26:10-19 Jl 4 '40
Wanted: a coördinated federal power rate policy. T. L. North. Pub Util 25:594-602 My 9 '40
Washington water power co. declares rate reductions. Elec West 84:186 Je '40
Water heating important source of utility income. R. E. Caywood and E. E. Sprague. Elec W 114:392-4 Ag 10 '40
Will the Washington plan work with gas utilities, producing gas rate reductions as it has produced electric rate decreases. C. E. Troxel. Pub Util 25:660-8 My 23 '40
Wimbledon case; electricity undertakings and the two-part tariff judgment. Electrician 123:535 D 22 '39
Yardstick once more; analysis and criticism. M. G. Glaeser. Pub Util 24:733-9 D 7 '39

Terminology

Glossary of important electric rate terms. 23p Nat. assn. of railroad and utilities commissioners, Washington, D.C. '39

ELECTRIC razors. See Electric shavers

ELECTRIC rectifiers
Conversion devices for electrochemical loads. C. C. Levy. bibliog il diag Chem & Met Eng 47:344-8 My '40
Design and construction of a mercury vapor rectifier tube for use in oscillator plate supply of cyclotron. A. J. Allen and A. G. Nester. diag R Sci Instr 11:43-4 Ja '40; Abstract. Franklin Inst J 229:397-8 Mr '40
Electrical plant and machinery; review of progress. G. A. Juhlin. Inst E E J 86:199-200 F '40
Electronic welder used for intricate parts. il Steel 106:74 Je 17 '40
50,000-volt d.c. transmission. diags Engineer 169:240-1 Mr 8 '40
General Electric copper-oxide rectifier and voltage regulator for electroplating. il Metal Ind 37:586+ D '39
Gleichstrom-kraftübertragung. il diags V D I 84:69-71 Ja 27 '40
Harmonic current generation in polyphase rectifier circuits. H. Rissik. Electrician 124: 37-9 Ja 19 '40
Harmonic power consumption of polyphase rectifier systems. H. Rissik. Inst E E J 86:568-74 Je '40
Inexpensive power unit for high-voltage direct current. G. Welch and F. E. Blacet. il diag J Chem Educ 17:484-5 O '40
Kupferoxydul-trockengleichrichter für stromversorgungszwecke. H. Hoffmann. bibliog il diags V D I 84:61-8 Ja 27 '40
Magnesium copper sulphide rectoplaters as a source of direct current power for electroplating; abstract. C. A. Kotterman and W. Binai. Iron Age 145:45 Je 27 '40
Mercury-arc rectifiers in the coal-mining industry. D. E. Renshaw. Elec Eng 59:Trans 242-4; Discussion. Trans 244 Ap '40
Mutators and rectifiers, 1939. F. J. Teago. Electrician 124:58 Ja 26 '40
New single-anode mercury rectifier. O. K. Marti. diag Elec W 113:608 F 24 '40
Phase occurrence of arc-backs in high-current mercury-arc rectifiers. W. E. Pakala and W. B. Batten. Elec Eng 59:Trans 345-7 Je '40
Problem of switch circuit for rectifier. Power Pl Eng 43:671 O '39; Solutions. diags 43:800-3 D '39
Progress of the art in electrical machinery, 1934-39. Elec Eng 59:Trans 103-4 F '40
Pumpless air-cooled rectifier. il Elec R (Lond) 126:72 Ja 19 '40
Rectifier plant in war-time; glass bulb rectifiers inside a brick or concrete substation. G. M. C. Peacock. Electrician 125:87 Ag 16 '40; Same abr. Engineer 170:104 Ag 16 '40

ELECTRIC rectifiers—*Continued*
Rectifiers for electroplating. C. C. Helmle. il diags Metal Finishing 38:379-82 Jl '40
Rectifiers for plating. A. G. Arend. Elec R (Lond) 127:284 O 4 '40
Rectifying plant in war-time; some observations on whether glass or steel is most suitable material. Electrician 125:17 Jl 12 '40
Relay and circuit-breaker protection for d-c machines; protection of mercury arc rectifiers. H. Bany. il Gen Elec R 43:318-19 Ag '40
Selects glass tube rectifier for shop d.c. supply; Beloit iron works. il diag Elec W 113: 426-7+ F 10 '40
Selenium rectifier for electroplating. J. B. Kushner. il diag Metal Finishing 38:424-6 Ag '40
Selenium rectifiers; construction and operation. W. O. Julius. diags Elec R (Lond) 126: 543 My 17 '40
Simple pulse generating circuits. S. P. Sashoff and W. K. Roberts. diags Electronics 13: 40-1+ S '40
Wave shape of 30- and 60-phase rectifier groups. O. K. Marti and T. A. Taylor. bibliog il diags Elec Eng 59:Trans 218-24; Discussion. Trans 224-6 Ap '40

See also
Electric inverters
Ignitron
Radio rectifiers
Thyratron

Control

Surface-controlled mercury-pool rectifier. T. M. Libby. il diags Inst Radio Eng Proc 28:52-9 F '40

Testing

Condensation of mercury in mercury-arc tubes. J. Slepian and W. M. Brubaker. diags Elec Eng 59:Trans 381-4 Jl '40
Watt-hour-meter performance with power rectifiers. C. T. Weller, H. E. Trekell and F. O. Stebbins. bibliog il diags Elec Eng 59:Trans 449-57 Ag '40

ELECTRIC research
American way of work. R. Kelly. Edison Elec Inst Bul 8:325-6+ Jl '40
Current progress in electrical-insulation research reflected at National research council conference. Elec Eng 59:33-6 Ja '40
Electrical developments of 1939. G. Bartlett. il Gen Elec R 43:52-4 Ja '40
Electrical research; annual report of the British electrical and allied industries research association. Engineer 169:162-3 F 16 '40
Electrical research; 1938-39 E.R.A. report. Elec R (Lond) 126:156-7 F 9 '40
National physical laboratory; electricity department. diags Engineering 148:587-9 N 24 '39
National physical laboratory; work in 1939. Electrician 124:351 My 10 '40; Elec R (Lond) 126:525 My 10 '40
Practical applications of research. E. S. Lee. Power Pl Eng 44:104+ Ag '40
Progress of electrical research; summary of annual report of the British electrical and allied industries research association. Engineering 149:178 F 16 '40
Redemption of darkness. W. E. Wickenden. Edison Elec Inst Bul 8:153-5 Ap '40
Research and General Electric laboratories. S. Dushman. Can Chem & Process Ind 24: 202 Ap '40
Role of science in the electrical industry. M. W. Smith. il Elec Eng 59:63-7 F '40

See also
Electric laboratories

ELECTRIC resistance
Bridged-T measurement of high resistances at radio frequencies. P. M. Honnell. il diags Inst Radio Eng Proc 28:88-90 F '40
Charts show ground rod depth for any resistance, in advance. R. M. Schahfer and W. H. Knutz. Elec W 114:1163-5+ O 19 '40
Converting resistance units from the metric system. E. G. Key. Power Pl Eng 44:75 Ag '40
Dielectric constant, power factor, and resistivity of marble. A. H. Scott. J Research Nat Bur Stand 24:235-40 Mr '40
Discontinuities in the resistance-temperature curves of commercially pure iron and steel. C. Sykes and F. W. Jones. diag Iron & Steel Inst J 139:485-42 no 1 '39; Same. Engineering 147:574-5 My 12 '39
Effect of the physical and chemical properties of carbon black on its electrical resistivity. G. L. Roberts and E. G. Emmert. il Rubber Age 46:159-62 D '39
Effective inductance and resistance of screened coils. A. G. Bogle. diags Inst E E J 87:299-316 S '40
How to construct a nomogram giving in one reading the resistance of 1 yard or 1 metre of any wire. D. J. Williams. Electrician 123: 343-4 O 13 '39
Low resistance measurements. G. R. Patterson. bibliog Instruments 13:52-4+ F '40
Methods, apparatus, and procedures for the comparison of precision standard resistors. F. Wenner. 2 pls diags J Research Nat Bur Stand 25:229-93 bibliog (124 titles, p290-2) Ag '40
Nickel-tungsten system. F. H. Ellinger and W. P. Sykes. il Am Soc for Metals Trans 28:632-5 S '40
Resistance networks; complete design tables. C. D. Colchester and M. W. Gough. bibliog diags Wireless Eng 17:206-15 My '40
Vacuum-tube alternating-voltage compensator. I. L. Cooter, F. Wenner and C. Peterson. diags J Research Nat Bur Stand 25:41-5 Jl '40

See also
Dielectric constants
Electric conductivity
Insulation (electric)
Kelvin bridge
Ohm's law

ELECTRIC resistors
Design of liquid earthing resistances. C. J. O. Garrard. il diags Engineering 150:124-6 Ag 16 '40
Development of the modern transportation resistor. R. O. Eaton. il Mass Transportation 36:38-40 F '40
Flameproof resistances. il Engineer 170:207-8 S 27 '40; Engineering 150:257 S 27 '40; Electrician 125:193 O 11 '40
Methods, apparatus, and procedures for the comparison of precision standard resistors. F. Wenner. 2 pls diags J Research Nat Bur Stand 25:229-93 bibliog (124 titles, p290-2) Ag '40
Resistors in parallel; reference book sheet. C. P. Nachod. Product Eng 11:385 Ag '40
Theory and design of NEMA resistors for motor starting and speed control. G. C. Armstrong. diag Elec Eng 59:Trans 277-81 My '40

See also
Rheostats

ELECTRIC roasters
Roasters build load for two classes. H. G. Voight. Elec W 113:610 F 24 '40

Merchandizing

Boosts roaster sales 151 per cent. J. M. Stedman. Elec W 113:158+ Ja 13 '40
Buffalo stages summer campaign on roasters. il Elec W 114:405 Ag 10 '40
Builds roaster volume through utility-dealer organization; Texas Power & Light promotion. G. B. Richardson. Elec W 112:1863 D 30 '39
Electric roaster plan book for 1940. Edison Elec Inst Bul 8:216 My '40
Four Oklahoma roaster campaigns analyzed. B. C. Spencer. Elec W 112:1770+ D 16 '39
1,900 roasters sold in 90-day campaign. R. I. Seymour. Elec W 113:1920 Je 15 '40
Ovens and roasters mean plus business; Central Maine power company. A. E. Smith. Elec W 113:1554 My 18 '40
Roasters selected as load building natural; Southern California Edison pushes a three-year program. H. C. Rice. il Elec W 114: 675+ S 7 '40
Sales guide. il Elec West 84:67-70 Je '40

ELECTRIC saws. See Saws, Electric

ELECTRIC service, Rural
Automatic and progressive voltage regulator for rural areas. L. P. Canaby and J. L. Hegly. Electrician 124:407-8, 420-1 Je 7-14 '40
Criticism and defense of rural service policy of Commonwealth & southern corp. D. E. Lilienthal; W. L. Willkie. Comm & Fin Chr 149:3348-9 N 25 '39
Distance meter aids rural line design. il Elec W 113:144+ Ja 13 '40
E.R.A. reports on safety in rural areas. Electrician 124:205 Mr 15 '40
Executive's views on rural electrification. N. M. Argabrite. Edison Elec Inst Bul 8:417-20 S '40
Extension of rural lines as a good neighbor policy; Arkansas power and light company. W. C. Adams. Pub Util 25:403-10 Mr 28 '40
Farm electrification in Northwest. C. O. Bunnell. Elec West 84:105-8 Je '40
Farm supplies; reducing distribution costs. A. Stewart. Elec R (Lond) 127:265-6 S 27 '40
High-voltage distribution in rural areas. K. L. May. il diags Inst E E J 87:33-54; Discussion. 54-61 Jl '40
Land values hold key to electrification; Wisconsin study. B. E. Miller. map Elec W 113:471 F 10 '40
Low-cost bird-proof gaps protect rural transformers effectively. C. E. Bathe. il diag Elec W 114:1002-3 O 5 '40
Metropolitan-Vickers rural oil circuit-breaker. il Engineer 169:73 Ja 19 '40; Engineering 149:73 Ja 19 '40; Elec R (Lond) 126:74 Ja 19 '40
Minimum bill is key to farm load growth. C. D. Henry. Elec W 113:780 Mr 9 '40
More rural revenue, new uses needed by utilities; Farm electrical council meeting of the Empire state gas and electric association. Elec W 114:545-6 Ag 24 '40
New Hampshire utilities expand farm power use. Elec W News ed 113:8 Ja 6 '40
Practical distribution economies. H. S. St John. Elec W 114:672-4+ S 7 '40
Progress of rural electrification in the United States; chart. Pub Util 25:752 Je 6 '40
Progress report on rural planning. D. F. Misz. Elec West 84:131-3 Je '40
Protection and operation of rural lines in Southeast. L. C. Flournoy. Elec W 113: 575-6 F 24 '40
Public looks at rural electrification. F. E. Price. Elec West 84:77-8 Je '40
Public viewpoint of rural electrification. H. Beresford. Elec West 84:78-9 Je '40
Reenforcing rural lines; eight methods for increasing the capacity. J. F. Emery. Elec West 85:39-41 Jl '40
Rural development; progress in the East Anglian and Beds, Cambs and Hunts areas. il Elec R (Lond) 127:105-6 Ag 9 '40
Rural electrification award won by PG and E. il Elec West 85:21 Jl '40
Rural electrification surveys of Harvey and Dickinson counties. F. C. Fenton and D. E. Wiant. il fold map Kansas State College Eng Exp Sta Bul 39:1-46 '40
Rural loadbuilding. H. B. Walker. Elec West 84:153-4 Je '40
Supplies to small holdings; combined high and low tension distribution system. il Electrician 123:410 N 3 '39
La technique des réseaux ruraux. Génie Civil 116:139 F 24 '40

See also
Electricity on the farm
Rural electrification administration

Cooperative lines
Arkansas' good neighbor policy for rural electrification. H. W. Blalock. Pub Util 26:331-7 S 12 '40

ELECTRIC shavers
Modern merchandising keeps dry shaver pioneer on top. il Sales Management 47:25-6 N 15 '40
Plastics competition; award to Schick dry shaver, inc. il Mod Plastics 18:73, 97 O '40
Ratings. il Consumers' Research Bul (Gen bul ser) 9:17-19 Ja '40
Schick inventory seemed big as a mountain, but smart merchandising moved it; helping retailer sell it. R. J. Cordiner. il Ptr Ink 189:9-12+ D 8 '39

ELECTRIC shock. See Electricity, Injuries from

ELECTRIC shops (retail trade)
Little woman in business; how wife helps husband. E. B. Wheat. Elec West 84:36 Ap '40
Putterers' shop, specializing in spare parts. il Elec West 84:50 Ja '40
Sales guide; do's and dont's for Christmas. il Elec West 85:35-8 N '40
You sell, I'll install; J. Tennent sells wiring and lighting fixtures. il Elec West 84:52-3 Mr '40

ELECTRIC shovels
Avoiding shock with electrically-operated quarry shovels. E. L. Nicolson. plan Concrete (mill sec) 48:232-3 S '40
Electric drive for ordinary jobs; direct-current drive for power shovels. G. H. Hall. il Eng N 125:235-7 Ag 15 '40
Fundamental principles of electrical safety for open-pit iron mines. L. M. Frazee. il diags Gen Elec R 43:230-6 Je '40
Recover 3-ft. seam with 23-yd. shovel at Clemens 22. il Coal Age 45:49-50 Ja '40

ELECTRIC signals
Centralised control system for special signals for A.R.P. and other purposes; Ripplay system. il Engineer 168:598 D 15 '39
Device for keeping ships in convoy station. il diag Engineer 170:112-13 Ag 16 '40
Low-voltage systems for schools; program control; time-saver standards. diags Arch Rec 88:106 O '40
Signal scheme warns of fouled trash rack. il diags Elec W 112:1462 N 18 '39
Street lighting in France; control of the Paris system. diags Electrician 124:19 Ja 12 '40

See also
Electric alarms
Fire alarms
Light signals
Railroads—Signals

ELECTRIC signs
A.R.P. signs. il Electrician 123:502 D 8 '39
Electric signs. C. E. Weitz. 93p $1 International textbook co, Scranton, Pa. '39
Fluorescent sketches used by sign industry. Illum Eng 35:405-6 My '40
Flying electric signs. il Adv & Sell 33:25 Ap '40
Illuminated sign display in which plastics provide economies in operation and permanence. R. L. Davidson. il Mod Plastics 17:25-7, 70+ Mr '40
Neon sign contracts; position under the lighting restrictions. E. P. Hollis. Elec R (Lond) 126:274 Mr 8 '40
Neon tube practice. W. L. Schallreuter. 2d ed rev 255p $4.25 Chemical pub. co. '39
Plant sign uses 43,000 kw.-hr. a year. il Elec W 114:1036 O 5 '40
Power factor correction ruled for fluorescent; Wisconsin public service commission prescribes uniform requirements for all types of gaseous tube lighting. Elec W 114:696 S 7 '40
Sign check-up restores and increases loads. R. B. Brown, jr. il Elec W 114:714 S 7 '40
Sign survey halts load mortality. L. L. Booth. il Elec W 112:1446+ N 18 '39

ELECTRIC sparks
Theory of spark discharge. J. M. Meek. bibliog Phys R 57:722-8 Ap 15 '40

ELECTRIC standards
Look into the future of electric light and power; research and standardization needed. R. E. Elgen. Pub Util 25:195-203 F 15 '40
Precision rotating standard for the measurement of kilowatt-hours. J. H. Goss and A. Hansen, jr. il diags Elec Eng 59:Trans 412-15; Discussion. Trans 415-16 Jl '40
Proposed American standards: transformers, regulators, and reactors. 97p pa 75c Am. standards assn, 29 W. 39th st, New York '40

ELECTRIC standards—*Continued*
Recommended practise for electrical installations on shipboard. rev ed 98p pa $1.50 Am. inst. of electrical engineers, New York '40
Report on wave form in dielectric power-factor measurements. Elec Eng 59:255-6 Je '40
Standardization and the Institute. F. M. Farmer. Elec Eng 59:395-7 O '40
Standards for circuit arrangement. Elec W 114:1183 O 19 '40
Theory of a single-layer, bifilar, absolute standard of mutual inductance. C. Snow. J Research Nat Bur Stand 24:597-638 Je '40
Trends in AIEE standards work. R. E. Hellmund. Elec Eng 58:530 D '39
See also
Electric equipment—Standards
Electric units

ELECTRIC storage battery company
Dividend paying stock selling near quick asset value. Mag of Wall St 66:534-5 Ag 10 '40
Thumbnail stock appraisal. Mag of Wall St 67:155 N 16 '40

ELECTRIC stoves
Cooker design; some lessons of the past decade. Electrician 124:167 Mr 1 '40
Cookers and fires, 1939. S. F. Bickell. Electrician 124:60 Ja 26 '40
Cooking notes; guarantees, an unsolved problem. Electrician 124:5 Ja 5 '40
Domestic cooker. il Elec R (Lond) 127:215-16 S 13 '40
Electric range oven temperature measurement. T. H. Swisher. il Edison Elec Inst Bul 8:113-14+ Mr '40
Electric thermal storage; a means of coal conservation in the national interest. W. L. Shand. Elec R (Lond) 125:758 D 15 '39
Some heating and cooking developments. il Electrician 123:306-10 S 29 '39
See also
Electric cooking
Electric heaters

Installation
Range installations on 24-hour basis; Brockton Edison systematizes sales and installation procedure. G. C. King. diag Elec W 113: 285+ Ja 27 '40

Merchandizing
Cooker outlook; will hire-purchase replace simple hire? Electrician 123:504 D 8 '39
Co-operative festival promotes range sales. H. W. Riley. il Elec W 113:1096 Ap 6 '40
Department store as an outlet for electric range sales. H. Lutes. Edison Elec Inst Bul 8:162-6 Ap '40
Domestic electric range sales; November and December, and year of 1939; tabulation. Edison Elec Inst Bul 8:74 F '40
Domestic range and its sales curve; gas and electric stoves compared. F. X. Mettenet. Am Gas Assn Proc 1939:257-9
Electromaster taps new fields with line for Judy O'Grady; electric ranges at $50 to $70. il Sales Management 46:18+ Ap 20 '40
Experiment; Pacific gas and electric co. to help dealers boost range and water heater sales to combat competition of bottled gas. Elec West 84:34 Mr '40
Lower cost electric cookery; Central Hudson develops equipment for low-income customers. H. E. Dexter. il Elec W 113:745+ Mr 9 '40
Meeting obstacles in promotion of electric cooking and water heating. S. Stites. Edison Elec Inst Bul 8:171-4 Ap '40
Modern kitchen bureau offers outstanding range and water heater programs. il Edison Elec Inst Bul 8:407-8 Ag '40
Pacific G. & E. wards off bottled gas; dealer co-operative range and water heater sales promotion. Elec W 114:712+ S 7 '40
Range installations on 24-hour basis; Brockton Edison systematizes sales and installation procedure. G. C. King. diag Elec W 113:285+ Ja 27 '40
Ranges and water heaters boost usage to 1,985 kw.-hr.; Washington water power company. R. B. McElroy. Elec W 113:434+ F 10 '40
Ranges and water heaters respond to heavy promotion; Florida power and light company. R. B. Roberts, jr. il Elec W 113: 1212-13+ Ap 20 '40
Ranges recover revenues; Washington water power co. Elec West 85:31 N '40
Sales exceed total for 1939; statistics for 1938, 1939 and 7 months of 1940. Edison Elec Inst Bul 8:436 S '40
Sales guide. Elec West 84:35-8 Mr '40
Salesmen as cooks. Ptr Ink 193:87 N 1 '40
Stoppa shopper; Electric cookery council conducts unique campaign. Elec West 85:31 Jl '40

Rating
Two-burner electric table stoves. il Consumers' Research Bul (Gen bul ser) 9:9-10 Je '40

ELECTRIC substations
Integrated supply improves service to welders; utility substation co-ordinated with plant interlaced bus scheme; Midland steel products company, Detroit. W. B. Hurley and W. Smith. il diags Elec W 113:1198-1200 Ap 20 '40
Power supply for suburban areas. R. A. Hentz and J. A. Thielman. il diag Elec Eng 59: 234-8 Je '40
Surface and underground substations; coal mines. F. L. Stone. Min Cong J 26:44 Mr '40
When to move a substation or add a new one; coal mines. F. P. Brightman. il Min Cong J 26:45-6 Mr '40
See also
Electric distribution
Electric rectifiers
Electric transformers
Electric transmission

Control
See also
Electric substations—Supervisory control

Costs
Substation equipment costs. Elec W 113:1386 My 4 '40

Design
Allowing for growth in small substation. L. M. Robertson. il diag Elec W 114:1153+ O 19 '40
Automatic zone substation has many refinements; Pacific Gas & Electric's station F, Berkeley, Calif. F. S. Benson. il diags plan Elec W 114:528-30+ Ag 24 '40
Barre substation. A. A. Kroneberg. il diag Elec West 85:49-50 O '40
Caldwell sub. B. C. Russell. il Elec West 85: 50-1 O '40
High-tension substation layout. S. Margoulies. diags Engineering 148:730-1 D 29 '39
How Public service co. of Colorado designed a small sub. L. M. Robertson. il diag Elec West 85:44-5 N '40
Industrial power system based on co-operative design; supply system for rubber products plant. T. F. Offenbacker, R. Patrick and H. T. Fox. il diag Elec W 113:282-5 Ja 27 '40
New substation meets modern requirements. R. D. Iden and R. C. Snyder. il diag Elec W 113:1230 Ap 20 '40
Station arrangement flexible—slightly. il Elec W 112:1462+ N 18 '39
Substation built for flexibility; Dry Creek substation, Public service company of Colorado. L. Robertson. diag plan Elec West 85:41 S '40
Urban unit; Portland GE builds three similar substations. il plans Elec West 85:46 N '40

Equipment
Bonneville completes unit of major substation. il Elec W News ed 114:155 Jl 20 '40
Breaker control outside station fence. il Elec W 114:560 Ag 24 '40
Electrical supply equipment at a wireless works. il Engineer 169:482 My 24 '40

ELECTRIC substations—Equipment—*Continued*
Electricity supply at a Gloucester works; Fielding and Platt. il Engineer 169:335 Ap 5 '40
Improved reliability for city substation; step-type regulators on transformers. F. R. Ford. il Elec W 114:857 S 21 '40
New substation serves underground bus. K. R. Birge. il diags Elec W 112:1442-5 N 18 '39
Pumpless air-cooled rectifier. il Elec R (Lond) 126:72 Ja 19 '40
Relay houses save switch house space. il Elec W 113:305-6 Ja 27 '40
700-kVA substations at the works of Messrs Fielding and Platt, limited. il Engineering 149:291 Mr 15 '40
Trends in electrical-apparatus development. A. C. Monteith. Elec Eng 59:224-5 Je '40

Fires and fire protection
Fire danger of oil circuit breakers. G. Meiners. diags Engineering 148:688-9 D 22 '39
Try CO_2 in bulk on big outdoor oil fires. il diags Elec W 114:676-7 S 7 '40

Location
Roof substation saves plant space; Heald machine company. il Elec W 114:1190 O 19 '40

Maintenance and repair
Substation oil purified by trailer-truck set; equipment includes filters and facilities for maintenance and repair. il Elec W 114: 1299+ N 2 '40

Protection
E.R.A surge filter. diags Engineer 169:320 Ap 5 '40
Protection of sub-station apparatus. P. L. Bellaschi. Electrician 123:303 S 29 '39

Supervisory control
Carrier telemetering with the metameter. G. S. Lunge. il Gen Elec R 43:336-43 Ag '40
Remote supervisory control. il diags Engineer 168:464-5, 467, 489-92, 512-15, 540-1, 561-4, 586-8, 610-13 N 10-D 22 '39
Remote supervisory control on the Wirral railway. il diags Engineer 169:102-4, 126-7 F 2-9 '40
Simple control sectionalizes important industrial loop; telephone lines leased for air-break switch operation. H. A. P. Langstaff and K. N. Reardon. il diags Elec W 113:1065-7 Ap 6 '40

Telephone
Simple control sectionalizes important industrial loop; telephone lines leased for air-break switch operation. H. A. P. Langstaff and K. N. Reardon. il diags Elec W 113:1065-7 Ap 6 '40

ELECTRIC substations, Automatic
Automatic switching at 34.5-kv. substation. il Elec W 114:551 Ag 24 '40
Automatic zone substation has many refinements; Pacific Gas & Electric's station F, Berkeley, Calif. F. S. Benson. il diags plan Elec W 114:528-30+ Ag 24 '40
New substation serves underground bus. K. R. Birge. il diags Elec W 112:1442-5 N 18 '39
Single-anode tank rectifier substation; automatic substation of the New York central railroad. il Elec W 112:1887-8 D 30 '39

ELECTRIC substations, Outdoor
How Public service co. of Colorado designed a small sub. L. M. Robertson. il diag Elec West 85:44-5 N '40
Simple structure aids substation designers; outdoor installation of Eastern corporation's paper mill. il Elec W 114:1346 N 2 '40
Where unit stations fit into Pacific Gas and Electric's distribution plant. R. B. Kellogg. il Elec West 84:46-7 Ap '40

ELECTRIC substations, Portable
Emergency sub-stations. Engineer 169:441 My 10 '40; Elec R (Lond) 126:523 My 10 '40; Electrician 124:350 My 10 '40
Getting power to the job; electric power for construction equipment. G. H. Hall. il Eng N 124:1164-6 F 1 '40
Mobile substation has metering, too. T. M. Reed. il Elec W 114:99-100 Jl 13 '40
New mobile substation meets success in field. il Elec W News ed 113:229 Ja 20 '40
Portable factory-built substation. il Gen Elec R 43:427 O '40
Portable substations. D. C. Keller. Elec West 85:41-3 Ag '40
Silent substation for cinema production. G. F. Maughmer. il Elec W 112:1762+ D 16 '39
Sous-station mobile de traction, pour la partie électrifiée des chemins de fer français. Garnier. diag Génie Civil 116:188 Mr 16 '40
Unit substation on wheels has high service reliability. J. D. Roberts. il diags Elec W 113:1361-2 My 4 '40

ELECTRIC switches
Arcing phenomena in mercury switches. C. G. Suits. il diags Gen Elec R 43:120-5 Mr '40
Automatic switches improve reliability. il Elec W 114:1342 N 2 '40
Carrier control is faster than hunt fault procedure. H. W. Coffin. il map Elec W 113:290-1+ Ja 27 '40
Carrier-current losses measured and interference minimized on Boulder-Los Angeles transmission lines. J. D. Laughlin, W. E. Pakala and M. E. Reagan. il diags Elec Eng 59:Trans 4-9; Discussion. Trans 9-10 Ja '40
Effect of sequential switching on short-circuit currents in synchronous machines. F. Von Roeschlaub. il Gen Elec R 43:256-61 Je '40
Electrical developments of 1939. G. Bartlett. il diags Gen Elec R 43:2, 11-14 Ja '40
Electrical engineering in 1939. il Engineer 169:9-10 Ja 5 '40
Electrical switching for aircraft. A. L. Riche. il diags Aviation 39:70+ Jl '40
Electricity's safety valves. M. A. Gimbel. il Nat Safety N 41:22-3 My '40
Electronic switch for fluorescent lamps. R. F. Hays. il diag Electronics 13:14-15 My '40
Entwicklung der hartgasschalter. V. Grosse. il diags V D I 84:321-4 My 11 '40
Improvements in micro switches. diag Aero Digest 37:172 Jl '40
Improvements in 287.5-kv. disconnects at Boulder dam. il Elec W 114:1352 N 2 '40
Mercury switch on-load tap-changing equipment. il diags Engineer 169:131-2 F 9 '40
On-load tap-changing equipment. il diag Electrician 124:98 F 2 '40
Operational solution of switching problems. T. J. Higgins. Elec Eng 59:480-2 N '40
Pressure-operated controls for electrical apparatus. diags Engineering 149:77 Ja 19 '40
Prevent condensation on switchgear. Elec W 113:312 Ja 27 '40
Reclosers; service restorers, Colorado Springs. il Elec West 84:47 Ja '40
Restorers improve urban distribution. F. H. Wiley. il Elec W 113:448+ F 10 '40
Rotary switching. R. W. J. Cockram. il diags Elec R (Lond) 126:586 My 31 '40
Selection of low voltage switchgear. R. T. Lythall. Electrician 123:536 D 22 '39
Shaft switch prevents motor overheating; General Foods corn mill. il Elec W 113: 1232 Ap 20 '40
Shunt limit switches for control of London subway floodgates. il Engineer 169:121-2 F 2 '40
Switchgear contacts. G. Windred. diags Engineer 169:558, 567-8 Je 21-28 '40
Switchgear layout; special arrangements to meet war conditions. A. J. Nicholas. diags plans Elec R (Lond) 127:219-20 S 13 '40
Switchgear maintenance. R. T. Lythall. Elec R (Lond) 126:101 Ja 26 '40
Switchgear, 1939. C. C. Garrard. il Electrician 124:55-6 Ja 26 '40
Switching sled for construction power. K. N. Banthin. il Elec W 113:1546 My 18 '40

ELECTRIC switches—*Continued*
Time switches never forget; illustrations. Factory Management 98:82-3 Jl '40

See also
Electric circuit breakers
Electric control
Electric fuses
Electric motors—Control
Switchboards

Design
Switch design eliminates braids. H. W. Young. il Elec W 114:110 Jl 13 '40

Manufacture
Metal-clad switchgear; Whitehead switchgear & inventions co. il Elec R (Lond) 126:213-14 F 23 '40

Purchasing
Inquiries for switchgear; some problems set by customers. Elec R (Lond) 127:6 Jl 5 '40

ELECTRIC symbols
Letter symbols for electric and magnetic quantities; tabulation. Elec Eng 59:46 Ja '40

ELECTRIC testing
Circuit constants for the production of impulse test waves. J. R. Eaton and J. P. Gebelein. Gen Elec R 43:322-32 Ag '40
Control circuit testing set. E. A. Prather. il Transit J 83:493 D '39
Effect of small projections on breakdown in air. H. H. Race. diags Gen Elec R 43:365-9 S '40
Electrical testing for practical engineers. G. W. Stubbings. 252p $3.50 Chemical pub. co. '39
High-voltage service testing with direct current. A. E. W. Austen, A. M. Thomas and S. Whitehead. Engineering 150:175-6 Ag 30 '40
Periodic testing of rail-bond return circuits unmasks bad joints. H. P. Chandler. il diag Coal Age 45:51-3 S '40
Rapid-recording a-c bridge. W. Mikelson and H. W. Bousman. il diags Elec Eng 59:Trans 628-31 N '40
Some recent developments in impulse-voltage testing. C. M. Foust and N. Rohats. il diags Elec Eng 59:Trans 257-62; Discussion. Trans 262-5 My '40
Switch scheme provides flexible d.c. for testing. diag Elec W 113:1388+ My 4 '40

See also
Dynamometers
Electric instruments
Electric laboratories
Electric measurements
Electric resistance
also subdivision Testing under special headings; e.g. Electric cables; Electric transformers; Insulation (electric)

ELECTRIC testing of metals
Electrical detection of flaws in metal. H. C. Knerr. il diags Metals & Alloys 12:464-9 O '40

ELECTRIC thawing. See Thawing, Electric

ELECTRIC tools
Air versus electricity. Comp Air M 45:6068 Ja '40
Hints for electric tool users. Sheet Metal Worker 31:38 Ag '40

ELECTRIC tools, Portable
Climax Wodack electric drill. il diag Engineering 149:178 F 16 '40
New portable electric hammer, Thor-Nado. Marine Eng 45:63 Ap '40
Portable electric grinders. il diag Engineer 169:73-4 Ja 19 '40
Power equipment cuts costs of small Stamford houses. il Am Bld 62:66-7+ My '40
Seven jobs simplified with portable electric tools; illustrations. Factory Management 97:66-7 D '39
Use of hand-motor tools in the textile industry. H. E. Wenrich. il diags Rayon 21:489-91, 576-8, 651-2 Ag-O '40
Where welding aids machining; portable electric shear made by Black & Decker. H. Chase. il Am Mach 84:134-5 Mr 6 '40
Wolf lightweight electric drilling machines. il Engineer 168:553 D 1 '39

Advertising
Multiple-purpose handbooks. il Ptr Ink Mo 41:22 Ag '40

Manufacture
Flaming the fans; fans for portable tools assembled by bronze welding. J. E. Taylor. il diags Am Mach 83:1030-1 D 13 '39
Plant for electric construction tool maker; Skilsaw, inc. il Eng N 124:588-9 Ap 25 '40
Skilsaw, inc. builds a new plant, offices, and research quarters. H. R. Coleman. il Heat & Ven 37:39-41 F '40

ELECTRIC traction
Electric traction, 1939. J. H. Cansdale. Electrician 124:58-9 Ja 26 '40
Electrical developments of 1939. G. Bartlett. il Gen Elec R 43:34-6 Ja '40
Metadyne, and its application to electric traction. G. H. Fletcher and A. Tustin. diags Inst E E J 85:370-84 S '39; Discussion. 85:384-99; 86:379-82 S '39, Ap '40
Unsolved problems of electrical engineering in the field of transportation; abstract. J. A. Noertker. Ry Age 108:214 Ja 27 '40

See also
Electric locomotives
Electric railroads
Electric trucks
Electric vehicles
Motor cars (railroad) —Diesel-electric
Railroads—Electrification
Street railroads
Subways
Trolley buses

ELECTRIC transformers
Current transformers and relays for high-speed differential protection, with particular reference to offset transient currents. E. C. Wentz and W. K. Sonnemann. il diags Elec Eng 59:Trans 481-8 Ag '40
Economic study determines best network arrangement; with cost data. E. E. Forrest and L. B. Wickersham, jr. diags Elec W 113:1358-60+ My 4 '40
Economical transformer standby. R. B. Bratton and E. A. Ankenman. diags Elec W 114:104 Jl 13 '40
Electric oscillations and surges in subdivided windings. R. Rüdenberg. diags J Ap Phys 11:665-80 O '40
Electrical developments of 1939. G. Bartlett. il Gen Elec R 43:7-8 Ja '40
Electrical engineering in 1939. il Engineer 169:7-9 Ja 5 '40
Electrical plant and machinery; review of progress. G. A. Juhlin. Inst E E J 86:195-6 F '40
Function of a tertiary winding on a transformer. Electrician 125:178 O 4 '40
Graphic-type demand meter installation. R. L. Haase. il Elec W 112:1621 D 2 '39
Harmonics and capacitors. C. G. Smith. Elec West 85:40-3 N '40
Load-balancing transformers for a-c secondary network systems. F. M. Starr and D. L. Beeman. il diags Gen Elec R 43:452-8 N '40
Luminous-tube transformer proved in service. il Gen Elec R 43:142 Mr '40
Magnetic storm of March 24, 1940; effects in the power system. W. F. Davidson. Edison Elec Inst Bul 8:365-6+ Jl '40
No. 1 traveling gantry for assembling, inspecting and repairing transformers. C. M. Allen. il Power 84:705 N '40
Power transformers, 1939. E. T. Norris. il Electrician 124:56 Ja 26 '40
Progress toward production of new EEI-NEMA standard distribution transformers. Edison Elec Inst Bul 8:420+ S '40
Restriking-voltage characteristics under various fault conditions at typical points on the network of a large city supply authority. L. Gosland. diags Inst E E J 86:248-74, pl 1-2 bibliog(p270) Mr '40
Simultaneous loading of transformers. V. N. Friedman. diag Power Pl Eng 44:57-8 Jl '40
Some effects of short-circuits on three-phase transmission lines. T. F. Wall. diags Engineering 149:405-7, 578-80 Ap 19, Je 14 '40
Transformers for resistance welding machines. il Engineer 170:223 O 4 '40

ELECTRIC transformers—*Continued*
Transformers for the Central electricity board. il Engineer 169:240 Mr 8 '40
Transformers increase capacity of lighting circuit; American furniture mart in Chicago. il Power Pl Eng 44:77 S '40
Use of multiwinding transformers with synchronous condensers for system voltage regulation. H. P. St Clair. bibliog il diags Elec Eng 59:Trans 212-17; Discussion. Trans 217 Ap '40
Wave shape of 30- and 60-phase rectifier groups. O. K. Marti and T. A. Taylor. bibliog il diags Elec Eng 59:Trans 218-24; Discussion. Trans 224-6 Ap '40
See also
Electric rectifiers
Electric substations
Electric transmission

Autotransformers
Autotransformer connections for varhour metering. E. J. Boland. diags Gen Elec R 43:298-301 Jl '40
Auto-transformers in modulation circuits. T. A. Gross. diags Electronics 13:52+ N '40
Distribution in factories; single-winding static apparatus on four-wire systems. A. L. Morris. diags Elec R (Lond) 127:129 Ag 16 '40
Equivalent circuit of the auto-transformer; equations for prediction of regulation. G. H. Rawcliffe. diags Electrician 124:203-4 Mr 15 '40

Connections
Banked secondaries and secondary networks. P. E. Benner. diags Gen Elec R 43:285-7 Jl '40
Economical closure of open-delta banks. J. F. Deffenbaugh. Elec W 114:704 S 7 '40
Use tertiary bank to buck voltage. diags Elec W 113:1738 Je 1 '40

Design
Distribution planning; transformer-secondary design for service. C. E. Arvidson. Elec W 112:1581-2+ D 2 '39
Transformer cores. diags Electrician 124:266 Ap 5 '40
Transformer with non-inflammable liquid dielectric; Permitol. il Engineer 169:424 My 3 '40; Engineering 149:490 My 10 '40
Transformers in industry. il Elec R (Lond) 127:277-9 O 4 '40

Drying
Power transformers dried in field by vacuum. J. C. Gaylord. il diags Elec W 113:896-7+ Mr 23 '40

Fires and fire protection
Fire-fighting equipment for electrical installations. diags plans Inst E E J 85:719-34 D '39; Abstract. Engineering 149:139-41, pl 8 F 9 '40; Discussion. il diags Inst E E J 87:251-81, 535-8 S, N '40; Electrician 124:92-3 F 2 '40
Improving vault fire protection. Elec W 113: 1088 Ap 6 '40
Transformer fire risks; fireproof construction and its limitation. E. T. Norris. Elec R (Lond) 126:270-1 Mr 8 '40
Transformer protection; fire precautions. Electrician 124:451 Je 28 '40
Transformer with non-inflammable liquid dielectric; Permitol. il Engineer 169:424 My 3 '40; Engineering 149:490 My 10 '40

Installation
Blowing-in a booster. D. F. Young. diags Elec West 84:45 Ap '40
Boosters connected without interruption. L. F. Young. diags Elec W 114:102 Jl 13 '40
Cost of installing power transformers. Elec W 113:915 Mr 23 '40
Simple gin hoist for transformers. J. Kulick. il Elec W 114:102 Jl 13 '40
Steel makes better transformer racks. C. C. Cornelius. il diags Elec W 114:273 Jl 27 '40
Support power banks from steel channel. il Elec W 113:1080 Ap 6 '40
Transformer gin lightens line work. il Elec W 114:409-10 Ag 10 '40
Vaults for a.c. secondary networks. J. S. Parsons. diags Elec W 113:886-8+, 1201-3+, 1512-13+ Mr 23, Ap 20, My 18 '40

Manufacture
Finishing system at Allis-Chalmers; production of transformer containers. F. R. Anderson. il Metal Finishing 38:359-60 Je '40
Finishing transformer cases; Allis-Chalmers mfg. co. il diag plan Steel 107:70-1 S 9 '40
Transformer steel takes a new turn; silicon steel as core material; new assembly method utilizes directional effect produced by rolling. W. E. Ruder. il diags Steel 106:58-60 Je 3 '40
Transformers in industry. il Elec R (Lond) 127:277-9 O 4 '40

Noise
Limitation of transformer noise; abstracts and discussion. B. G. Churcher and A. J. King. Electrician 124:262 Ap 5 '40; Elec R (Lond) 126:397-8 Ap 5 '40
Sound level ratios key to noise problem. Elec W 113:1731 Je 1 '40

Parallel operation
Transformers in parallel. Electrician 123:407, 425, 441 N 3-17 '39

Protection
How does arrester location affect transformer protection? E. H. Grosser, jr. diag Elec W 113:278-80 Ja 27 '40
Lightning-proof transformers. il Engineer 170: 224 O 4 '40
Low-cost bird-proof gaps protect rural transformers effectively. C. E. Bathe. il diag Elec W 114:1002-3 O 5 '40
Relay protection of a-c rotating machines, transformers, buses, and lines; transformers and a-c buses. C. R. Mason. il diags Gen Elec R 42:488-96 N '39
Secondary fusing of banked transformers. A. Benson. il diags Elec W 113:2044-5 Je 29 '40
Shielding transformers; abstract. H. L. Thomas. diag Elec R (Lond) 126:215 F 23 '40; Discussion. 126:245-6 Mr 1 '40; Electrician 124:169-70 Mr 1 '40
Surge-proof transformers. E. T. Norris. Electrician 124:228 Mr 22 '40
Thermal device shows transformer overload. il Elec W 114:1032 O 5 '40
Transformer lightning protection. il Elec R (Lond) 126:430 Ap 12 '40
Transformer protection. diags Electrician 124: 378, 394, 411, 425, 436, 451 My 24-Je 28 '40

Rating
Loading limits for distribution transformers. E. N. Nelson and J. E. Davies. Elec W 114:1154-8 O 19 '40

Repair
Safety scaffold for transformer repair. il Elec W 113:1907 Je 15 '40

Standards
Distribution transformer benefits by standardization. il diags Elec W 113:734-6+ Mr 9 '40
New proposed transformer standards issued by ASA for year's trial. V. M. Montsinger. il Ind Stand 11:53-5 Mr '40
New standards now ready for distribution transformers. il Edison Elec Inst Bul 8:75+ F '40

Tables, calculations, etc.
Distribution planning; checking transformer and secondary conditions. C. E. Arvidson. il Elec W 112:1740-2 D 16 '39
Diversified demand method of estimating residential distribution transformer loads. C. E. Arvidson. Edison Elec Inst Bul 8:469-73+ O '40
Influence of various factors upon the leakage reactance of transformers. A. L. Morris. bibliog diags Inst E E J 86:485-95 My '40

ELECTRIC transformers—Tables, calculations, etc.—*Continued*
Selecting distribution-transformer size. M. F. Beavers. bibliog Elec Eng 59:407-12 O '40
Transformer overloads. C. Anderson. Elec R (Lond) 127:259-61 S 27 '40
Zero-phase-sequence characteristics of transformers. A. N. Garin. bibliog diags Gen Elec R 43:131-6, 174-9 Mr-Ap '40

Tanks

Metal finishing; modern units fit into assembly line methods of manufacture; transformer containers produced at Allis Chalmers co. plant, Pittsburgh. W. F. Sherman. il diags plans Iron Age 146:32-6 Jl 25 '40

Tap changing

Color photo; tapped transformer permits control of color temperature of incandescent light sources. T. W. Fitch. Elec West 85: 45-6 Ag '40
Mercury switch on-load tap-changing equipment. il diags Engineer 169:131-2 F 9 '40
On-load tap-changing equipment. il diag Electrician 124:98 F 2 '40

Temperature

Effect of load factor on operation of power transformers by temperature. V. M. Montsinger. bibliog Elec Eng 59:Trans 632-6 N '40
Loading limits for distribution transformers. E. N. Nelson and J. E. Davies. Elec W 114:1154-8 O 19 '40
Temperature rise of electrical apparatus as affected by radiation. G. W. Penney. bibliog diag Elec Eng 59:Trans 338-42; Discussion. Trans 342-5 Je '40
Transformer overloads. C. Anderson. Elec R (Lond) 127:259-61 S 27 '40

Testing

Analysis of bushing-current-transformer performance. J. P. Gebelein and J. A. Elzi. diags Elec Eng 59:Trans 541-6 S '40
Benefits of check routines for transformer loading; relative costs of various methods. F. Sanford. Elec W 114:204-6+ Jl 27 '40
Calculation and experiment on transformer reactance in relation to transients of restriking voltage. L. Gosland and W. F. M. Dunne. bibliog diags Inst E E J 87:163-77, pl 1-2 Ag '40
Checking the polarity of transformers. diag Power Pl Eng 44:76 F '40
Checking transformer loadings. S. H. Pollock. Elec W 114:413 Ag 10 '40
Current-transformer errors; their determination by self-compensation. G. F. Freeman. diag Elec R (Lond) 125:756 D 15 '39
Determines economic transformer size. A. G. Pergande. Elec W 113:306 Ja 27 '40
Overcurrent performance of bushing-type current transformers. C. A. Woods, jr. and S. A. Bottonari. diags Elec Eng 59:Trans 545-60 S '40
Petch-Elliott current transformer testing set. il diags Engineer 169:299-300 Mr 29 '40
Power-factor testing of transformer insulation. F. C. Doble and G. H. Browning. il diags Elec W 112:1583-4+ D 2 '39
Proposed method for the determination of current-transformer errors. G. Camilli and R. L. Ten Broeck. diags Elec Eng 59:Trans 547-50 S '40

Transportation

Dyson 30-ton transformer trailer. il Engineering 150:87-8, pl 7 Ag 2 '40
Dyson trailer for 40-ton loads. il diags Engineer 169:133-4 F 9 '40

ELECTRIC transformers, Portable
Metropolitan-Vickers 30,000-kVA., 132/33 kV. mobile transformer. il diag Engineer 149: 599-600, 604, pl 33 Je 21 '40
Mobile transformer unit lessens interruptions. C. F. Sheakley. il Elec W 113:435+ F 10 '40

ELECTRIC transient phenomena
Calculation and experiment on transformer reactance in relation to transients of restriking voltage. L. Gosland and W. F. M. Dunne. bibliog diags Inst E E J 87:163-77, pl 1-2 Ag '40
Contact phenomena in telephone switching circuits. A. M. Curtis. pls diag Bell System Tech J 19:40-62 Ja '40; Same. Elec Eng 59:Trans 360-8; Discussion. Trans 368 Je '40
Current transformers and relays for high-speed differential protection, with particular reference to offset transient currents. E. C. Wentz and W. K. Sonnemann. il diags Elec Eng 59:Trans 481-8 Ag '40
Effects of short-circuits on three-phase transmission lines. T. F. Wall. diags Engineering 149:354-6 Ap 5 '40
Graphical solution of transient stability. H. H. Skilling and M. H. Yamakawa. il Elec Eng 59:462-5 N '40
Magnetic storm of March 24, 1940; effects in the power system. W. F. Davidson. Edison Elec Inst Bul 8:365-6+ Jl '40
Restriking-voltage characteristics under various fault conditions at typical points on the network of a large city supply authority. L. Gosland. diags Inst E E J 86:248-74, pl 1-2 bibliog(p270) Mr '40
Some recent developments in impulse-voltage testing. C. M. Foust and N. Rohats. il diags Elec Eng 59:Trans 257-62; Discussion. Trans 262-5 My '40
Transient analysis of symmetrical networks by the method of symmetrical components. L. A. Pipes. Elec Eng 59:Trans 457-9 Ag '40
Transient and steady-state performance of potential devices. E. L. Harder, P. O. Langguth and C. A. Woods, jr. il diags Elec Eng 59:Trans 91-9; Discussion. Trans 99-102 F '40
Transient starting torques in induction motors. A. M. Wahl and L. A. Kilgore. il Elec Eng 59:Trans 603-7 N '40

See also
Electric protective apparatus
Lightning

ELECTRIC transmission
Arc-furnace loads on long transmission lines. T. G. LeClair. il diags Elec Eng 59:Trans 234-9; Discussion. Trans 239-42 Ap '40
Carrier-current losses measured and interference minimized on Boulder-Los Angeles transmission lines. J. D. Laughlin, W. E. Pakala and M. E. Reagan. il diags Elec Eng 59:Trans 4-9; Discussion. Trans 9-10 Ja '40
Electrical energy in balance; short circuit on one branch of transmission circuit directs energy thru parallel branch. J. K. Masten. diags Power Pl Eng 44:54-5 F '40
Experience with ultrahigh-speed reclosing of high-voltage transmission lines. P. Sporn and C. A. Muller. il diags Elec Eng 58:Trans 625-31 D '39; Abstract. Engineering 148:593-4 N 24 '39; Discussion. Elec Eng 58:Trans 631-6 D '39
50,000-volt d.c. transmission. diags Engineer 169:240-1 Mr 8 '40
Gleichstrom-kraftübertragung. il diags V D I 84:69-71 Ja 27 '40
Long distance power transmission; new solution of stability problem; dual compensation system. H. Rissik. diags Electrician 124:317-19 Ap 26 '40
Long distance transmission. diag Engineer 169:191 F 23 '40
Progress in engineeering knowledge during 1939; transmission and distribution. P. L. Alger. bibliog diags Gen Elec R 43:79-82 F '40
Quadrature boosters and transmission. A. M. Taylor. diags Electrician 124:390-1 My 31 '40
Rationalization of transmission-system insulation strength; margins between basic insulation levels and protectable levels. P. Sporn and I. W. Gross. bibliog Elec Eng 59:Trans 591-5 O '40
Recent progress in electrical technology. M. Heins. Engineering 149:612 Je 21 '40
Step regulators for transmission control; Iowa-Nebraska light & power company. G. C. Moomaw. diags Elec W 114:387-9+ Ag 10 '40

ELECTRIC transmission—*Continued*
Super-power transmission; the use of direct current. H. Rissik. Elec R (Lond) 126:125-6 F 2 '40
Trends in electrical-apparatus development. A. C. Monteith. il Elec Eng 59:221-6 Je '40
Voltage stabilisation; use of static apparatus to maintain constant values in transmission systems. T. F. Wall. diags Elec R (Lond) 126:367-9 Mr 29 '40

See also
Electric cables
Electric distribution
Electric lines
Electric plants (central stations)—Load dispatching
Voltage regulation

Tables, calculations, etc.

Circle diagram for three-phase transmission lines. T. F. Wall. Electrician 124:119-21 F 16 '40; Discussion. H. Rissik. 124:379-80 My 24 '40
Determination of ground-fault current and voltages on transmission systems. E. M. Hunter, E. Pragst and P. H. Light. Gen Elec R 42:353-6, 479-85 Ag, N '39
Direct current transmission; size of wire needed to transmit a certain current a definite distance with a given voltage drop; reference book sheet. C. P. Nachod. Product Eng 11:386 Ag '40
Some effects of short-circuits on three-phase transmission lines. T. F. Wall. diags Engineering 149:352-6, 405-7, 478-9, 539-40, 578-80, 608-10 Ap 5, 19, My 10, 31, Je 14-21 '40

ELECTRIC trucks
Battery vehicle; its development, performance and advantages. J. H. Cansdale. il Elec R (Lond) 126:181-2 F 16 '40
Electric vehicles for refuse collection in Orleans. il Electrician 123:551 D 29 '39
Future of the electric. il Elec R (Lond) 126: 177-80 F 16 '40

ELECTRIC trucks, Industrial
Blitzkrieg handling methods adopted by Canadian packer. C. B. Cook. il Food Ind 12:49-51 S '40
Electric storage batteries for trucks. il diags Mech Handling 27:7-11 Ja '40
Elwell-Parker power scoop truck. il Paper Tr J 109:106 N 30 '39
Materials handling; developments in 1939. il Steel 106:203+ Ja 1 '40
Mechanical handling of mail bags; new electric truck system. il Mech Handling 26:342-3 D '39
New small Baker hy-lift trucks. il Paper Tr J 109:19 N 16 '39
Post office underground railway; driverless electric train at Zurich. il Electrician 125: 60-1 Ag 2 '40
Pulp and roll handling at Southland. il Paper Tr J 110:62 Mr 21 '40

Manufacture

Assembling trucks; efficient order and production control system; Yale & Towne mfg. co. E. R. Nordin. il Steel 106:58+ Ap 29 '40

Statistics

Industrial electric trucks and tractors, shipments, 1936-1939. Survey of Cur Business 1940 Sup p161 [supplemented in monthly numbers]

Tiering trucks

Automatic transportation co. tipping telescopic fork truck, ERS-3T. il Mech Handling 27:172-3 Ag '40; Paper Tr J 111: 18 S 12 '40; Ry Mech Eng 114:417 O '40
Fork trucks and pallets; General electric co. H. J. Beattie. il diags Steel 107:53-4, 56+ O 7 '40
Ransomes, Sims and Jefferies battery-operated tiering truck. il Engineering 148:525-6 N 10 '39

ELECTRIC units
Absolute units; the M.K.S. (Giorgi) system. Elec R (Lond) 127:240-1 S 20 '40
Converting resistance units from the metric system. E. G. Key. Power Pl Eng 44:75 Ag '40
M.K.S. units and dimensions and a proposed M.K.O.S. system. G. E. M. Jauncey and A. S. Langsdorf. 62p bibliog(p62) $1 Macmillan '40
New units of electricity and light. Franklin Inst J 229:235-6 F '40
Les nouveaux préfixes des unités électriques. Génie Civil 115:392 N 25 '39
Revision of electrical units. E. C. Crittenden. bibliog Elec Eng 59:160-3 Ap '40
Variations in electrical units; abstract. A. Perard and M. Romanowski. Electrician 124:165-6 Mr 1 '40

ELECTRIC utilities
Diversity versus integration. C. W. Kellogg Edison Elec Inst Bul 8:195-6 My '40
Look into the future of electric light and power; research and standardization needed. R. E. Elgen. Pub Util 25:195-203 F 15 '40
Utilities get behind application development of fluorescent; survey of company policies tabulated. F. R. Innes. Elec W 114:210-12 Jl 27 '40

See also
Edison electric institute
Electric industries
Electric lines
Electric plants (central stations)
Electric service, Rural
United gas improvement company

Accidents

Dollars and sense; safety's value to the employee; East Bay municipal utility district of California. H. B. Fisher. Safety Eng 78:35 D '39
Survey of company traffic accidents. E. D. Searing. Elec West 84:113-14; Discussion. 114-15 Je '40

See also
Electricity, Injuries from

Accounting

Asymptotic method of determining annual and accrued depreciation. J. Jeming. Edison Elec Inst Bul 8:27-32 Ja '40
Balance sheet accounts and the public interest. M. J. Miley. Edison Elec Inst Bul 7:598-600 D '39
Customer accounting problems in connection with statistics for Federal power commission reports. E. N. Keller. Edison Elec Inst Bul 7:596-7 D '39
Danger in uniform accounting. C. L. Campbell. Edison Elec Inst Bul 8:285-7 Je '40; Excerpts. Elec W 113:1881-2 Je 15 '40
Disposition of amounts in acquisition adjustments and plant adjustments accounts. C. F. McRae. Edison Elec Inst Bul 8:24-6 Ja '40
Edison electric institute 3d national accounting conference, Chicago, Nov. 13-15. Edison Elec Inst Bul 7:505-59 N '39; Elec W News ed 112:1518-19 N 25 '39
Fifth column tactics in original cost and depreciation accounting. S. Ferguson. Edison Elec Inst Bul 8:281-4+ Je '40; Excerpts. Elec W 113:1879-80 Je 15 '40
Financial statements in connection with utility rate regulation. H. C. Hasbrouck. Edison Elec Inst Bul 8:431-6 S '40
New plan of rewriting meter reading sheets. L. A. Mayo. il Edison Elec Inst Bul 7:587-90 D '39
One way street. B. S. Rodey, jr. Edison Elec Inst Bul 8:291-4 Je '40; Excerpts. Elec W 113:1882+ Je 15 '40
Rewriting meter reading sheets by alphabetic tabulating cards. J. O. Hill. il Edison Elec Inst Bul 7:591-3 D '39
Short-cut electric bill calculation. R. McMillan. Elec W 114:84-5 Jl 13 '40
Sinking-fund v. straight-line depreciation accounting. L. S. Ready. Pub Util 26:570-82 O 24 '40
So depreciation is a technical problem! C. E. Kohlhepp. Edison Elec Inst Bul 8:288-90 Je '40; Excerpts. Elec W 113:1880-1 Je 15 '40

ELECTRIC utilities—Accounting—*Continued*
Transition to depreciation accounting; how Public service commission and Wisconsin utilities have met this problem. A. R. Colbert. J Land & Pub Util Econ 16:129-36 My '40
Why not a consumer-government-labor partnership with utilities? F. X. Welch. bibliog Pub Util 26:131-40 Ag 1 '40

Advertising

Advertising builds good will and good business; Southern California Edison campaign. il Elec W 114:845 S 21 '40
Advertising to sell use. R. G. Kenyon. Edison Elec Inst Bul 8:141-4 Ap '40
Best advertising campaigns in 1939. J. Dierdorff. Elec West 84:109-10 Je '40
Electric service is supplied by people working; Louisiana power & light company public relations advertising pictures employees at work. R. C. Paslay. il Elec W 113:1524-6 My 18 '40
Highbrow radio program does double job for California utility; Pacific gas & electric co. Sales Management 46:40+ Je 15 '40
Industrial ads create goodwill for utility; Rockland light and power company; presenting facts about industries in territory served. Edison Elec Inst Bul 8:398 Ag '40
More power for the power salesman; continuous, planned, organized advertising campaigns of Pennsylvania utilities. H. S. Metcalfe. il Elec W 114:1000-1+ O 5 '40
Short tales soon told—and often; Rhode Island utility inaugurates institutional advertising campaign. A. W. Barstow. il Elec W 114:215 Jl 27 '40
3,752 customers step through their electric bills; letter writing contest; Alabama power company's campaign to get customers to read the company's advertising. il Elec W 112:1447-8 N 18 '39

See also
Electric apparatus industry—Advertising
Electric industries—Advertising

Appliance selling

All service commercial mass selling. A. G. Garrigues. Edison Elec Inst Bul 7:581-3 D '39
Approach to commercial and industrial markets; abstract. G. W. Ousler. Elec W 113: 1895 Je 15 '40
Commercial and industrial data sheets for Northwest; contest to create data sheets on commercial and industrial electric heating applications. il Elec W 113:577+ F 24 '40
Committee reports, Northwest electric light and power association. Elec West 84:72-143 Je '40
Coöperation with dealers as an aid to appliance sales. J. E. Bullard. Pub Util 26:459-65 O 10 '40
Duke marketing plan sells portable ovens. J. P. Lucas. Elec W 114:714+ S 7 '40
Effective co-ordination of utility-manufacturers selling. C. E. Swartzbaugh. Edison Elec Inst Bul 8:148-50+ Ap '40
Lighting the way for customers and dealers. Mrs B. E. Marsh. Edison Elec Inst Bul 8:156-8 Ap '40
Lower cost electric cookery; Central Hudson develops equipment for low-income customers. H. E. Dexter. il Elec W 113:745+ Mr 9 '40
Market research and analysis. R. H. Fite, jr. il Edison Elec Inst Bul 8:19-23 Ja '40
Meeting obstacles in building refrigeration load; Philadelphia electric company. A. Monty. Edison Elec Inst Bul 8:139-40+ Ap '40
More net revenues for the utilities; domestic field is largest revenue classification. V. H. Moon. Elec West 84:27-9 Ap '40
Net revenue the sales objective. C. E. Greenwood. Edison Elec Inst Bul 8:463-6 O '40
Problems of sales managers in wartime; abstract. J. B. Ashworth. Elec R (Lond) 126: 429-30 Ap 12 '40; Discussion. 126:452 Ap 19 '40; Electrician 124:301-2 Ap 19 '40
Ranges and water heaters boost usage to 1,985 kw.-hr.; Washington water power company. R. B. McElroy. Elec W 113:434+ F 10 '40
Ranges and water heaters respond to heavy promotion; Florida power and light company. R. B. Roberts, jr. il Elec W 113:1212-13+ Ap 20 '40
Residential load building at zero net cost; Jersey Central sales organization. B. A. Seiple. il Elec W 114:1168-9 O 19 '40
To sell or not to sell. C. W. Kellogg. Edison Elec Inst Bul 8:126+ Ap '40
Vigorous promotion builds commercial cooking load; Potomac Edison system. W. C. Conley, jr. il Elec W 113:892-4+ Mr 23 '40
Violet campaign; Washington water power co. il Elec West 84:40 My '40

Buildings

Chicago pioneers permanent fluorescent floodlighting; method of floodlighting buildings without setbacks; Commonwealth Edison company's Northern service building tower. E. D. Tillson and C. Kohler. il diag Elec W 114:1303-4 N 2 '40
Co-ordinated space in distribution building. S. R. Finley. plans Elec W 114:1022+ O 5 '40
Electric elements well adapted to the air conditioning heating cycle; office building of Appalachian electric power co., Beckley, W.Va. L. P. Hynes. il Heating-Piping 12: 29-30 Ja '40
Heating by reversed refrigeration; United illuminating co. administration and service building. A. J. Lawless. il diag Heating-Piping 12:473-6, 519-21 Ag-S '40
Lighting the Detroit Edison company service building. H. A. Cook. il diags plan Illum Eng Soc Trans 34:1199-1207; Discussion. 1207-8 D '39
Photomurals in utility offices; illustrations. Edison Elec Inst Bul 7:594-5 D '39

Complaints

Capitalizing on complaints to improve service. L. A. Ferguson, jr. il Elec W 112:1866-7+ D 30 '39
Customer service program works out for Kansas G. & E.; improved customer relations and increased usage result from personal interviews. H. W. Hobson. il Elec W 114:539-41 Ag 24 '40

Costs

Budget, 1939; 1940 prospects. Elec W 113: 118-19 Ja 13 '40
Expenses, 1939. Elec W 113:114-15 Ja 13 '40
Public utility construction cost index, 1914-1939. Eng N 124:880 Je 20 '40
Suggests automatic rate adjustments. C. W. Kellogg. Elec W 112:1439-40+ N 18 '39

Customer relations

Better relations through personalized service. C. M. Turner. Edison Elec Inst Bul 8:425-30+, 486-9 S-O '40
Consumers' complaints; abstract. G. E. Barrett. Elec R (Lond) 126:430 Ap 12 '40
Customer relations. Power Pl Eng 44:53 Mr '40
Customer relations simplified for medium-sized company. E. J. Burger. il Elec W 112: 1746-7 D 16 '39
Customer research pays. G. McCrary. Edison Elec Inst Bul 8:395-7+ Ag '40
Customer service personalized; Commonwealth Edison shifted interviews from counter to desks. L. L. Starrett. il Elec W 113:1204-6 Ap 20 '40
Customer service program works out for Kansas G. & E.; improved customer relations and increased usage result from personal interviews. H. W. Hobson. il Elec W 114:539-41 Ag 24 '40
Good and bad customer relations. H. J. Merilees. Elec West 84:82-3 Je '40
How the accounting dept. can help. R. W. Lawlor. Elec West 84:80-1 Je '40
I wouldn't know about that; employee information and customer relations. J. M. Stafford, jr. Edison Elec Inst Bul 8:315-18 Je '40; Excerpts. Elec W 113:1884-5 Je 15 '40

ELECTRIC utilities—Customer relations—*Cont.*
Know your industrial customer. R. E. Fisher. Edison Elec Inst Bul 8:137-8+ Ap '40
Selling a rate cut. Elec W 113:571+ F 24 '40

See also
Electric utilities—
Public relations

Employees

Coordination of pension plans with social security provisions. M. B. Folsom. Edison Elec Inst Bul 7:527-30 N '39
Electric utilities stake in experience-rating under unemployment compensation laws; Wisconsin experience. Edison Elec Inst Bul 8:89-92 Mr '40
I wouldn't know about that; employee information and customer relations. J. M. Stafford, jr. Edison Elec Inst Bul 8:315-18 Je '40; Excerpts. Elec W 113:1884-5 Je 15 '40
Live wire union; utility hits hard demands of Independent brotherhood of Consolidated Edison employees. Business Week p41 Jl 20 '40
Proved economies in commercial accounting operations; modernization and management of accounting department. A. J. Bohl. Edison Elec Inst Bul 7:523-6 N '39
Resuscitation performance, how effective? tests of employees in their prone-pressure application. H. G. Hays. il Elec W 114: 681-2+ S 7 '40
$05,000,000 dinner-pail dollars for new utility construction; how money is spent by workers. Elec W 113:1693-1704 Je 1 '40
Some observations on 37 employee information programs. Edison Elec Inst Bul 8:421-3 S '40
Twelve resuscitation medals awarded last year. M. B. Woods. il Edison Elec Inst Bul 8:69-72+ F '40

See also
Electric utilities—
Salesmen

Equipment and supplies

Alabama develops three-purpose truck. W. P. Postell. il Elec W 112:1880+ D 30 '39
Auto fleets expense; abstract. R. Whitfield. Power Pl Eng 44:59-60 S '40
Dozen duties for a generator set; portable power equipment. Portland General electric co. il Elec West 83:27-8 D '39
For best operation of motor vehicle fleets; cost charts. R. Whitfield. Elec W 113:1910 Je 15 '40
Multi-purpose truck is ambassador of good will; equipped to furnish light, power or public-address service; Portland general electric co. W. W. R. May. il Elec W 113: 280-1+ Ja 27 '40

Finance

Biggest industrial electric system; Niagara Hudson power corp. B. Mitchell. map Barron's 20:20 F 5 '40
Commonwealth & Southern faces recapitalization problem. J. F. Childs. map Barron's 20:18 Mr 18 '40
Consumers Power case raises issue of capital set-up of this and other companies. Pub Util 25:160-1 F 1 '40
Diversity of utility investments through common holding company control and integration as required by §11; abstract. C. W. Kellogg. Pub Util 25:616-17 My 9 '40
Earning power steady but stocks declined. D. W. Ellsworth. Annalist 55:780+ Je 6 '40
Economic factor moderately favorable to utilities. D. W. Ellsworth. Annalist 55:122-3+ Ja 25 '40
Economic trends in the electric industry. E. Vennard. Edison Elec Inst Bul 8:309-14 Je '40; Excerpts. Elec W 113:1883-4 Je 15 '40
Expenses, 1939. Elec W 113:114-15 Ja 13 '40
Financial and depreciation history of the Utah power and light company. L. W. Thatcher. J Land & Pub Util Econ 15: 448-55; 16:89-95 N '39-F '40
How the British finance their public utilities; comparison with American methods. F. J. McDiarmid. Pub Util 24:675-85 N 23 '39
Load building, its effect on rates and investment. R. R. Herrmann. Edison Elec Inst Bul 7:573-6+ D '39
Long-range view of the industry's gross and net revenues. E. Vennard. Edison Elec Inst Bul 8:5-8 Ja '40
More net revenues for the utilities; domestic field is largest revenue classification. V. H. Moon. Elec West 84:27-9 Ap '40
Nationwide utility system; American Power & Light. map Barron's 20:8 F 19 '40
Outstanding facts; 1930-1939; tabulation. Elec W 113:124 Ja 13 '40
Plant expansion for '39 & '40. il Elec West 84:38-52 F '40
Population growth, 1930-40; a basic factor affecting public utility earnings. C. J. Vanderhyde. Annalist 56:333-4 S 12 '40
Private electric light and power industry, 1902-1939; taxes and other financial data tabulated. Edison Elec Inst Bul 8:cover Ap '40
Profit-sharing plan seen aid to utilities. Elec W 112:1613 D 2 '39
Public utilities today and tomorrow; armament program revives some political worries. F. C. Fullerton. il Mag of Wall St 66:284-6+ Je 15 '40
Revenue, 1939. Elec W 113:108-9 Ja 13 '40
SEC explains position on common stock financing; Dayton Power & Light case. Pub Util 25:289-90 F 29 '40
SEC limits state jurisdiction over security issues of local utilities; refinancing by Wisconsin electric power co. A. R. Colbert. Pub Util 26:149-58 Ag 1 '40; Reply. J. N. Frank. 26:259-71 Ag 29 '40
Standard Gas & Electric sets $37,047,735 budget. Elec W 112:1871 D 30 '39
Status of New England Power debentures. W. W. Amos. Barron's 20:19 Ap 15 '40
That billion dollar overcharge; private utilities and TVA rates. E. R. Abrams. Barron's 20:8 S 23 '40
Treadmill of debt; a financial history of three government enterprises; TVA, the British grid system, and Boulder dam. W. M. Carpenter. Edison Elec Inst Bul 8:9-13 Ja '40
Utility growth continues. H. Lawrence. Barron's 20:11-12 Je 3 '40
Will the war handicap electric utilities? O. Ely. Pub Util 24:806-12 D 21 '39

See also
Electric plants,
Municipal—Finance
Electric utilities—
Securities
Holding companies
also Consolidated Edison company of New York

Flood problems

See also Electric plants (central stations)—Flood protection

Gas competition

Effect of competitive fuels on use of electricity in Ontario. Edison Elec Inst Bul 7: 600 D '39
Electric cookery sold against gas competition; Appalachian electric power company. H. M. Kemmer. il Elec W 114:848-50+ S 21 '40

Government ownership

Bonneville speaks to Portland. P. J. Raver. Elec West 84:52 Je '40; Reply (Importance of private enterprise). P. B. McKee. il 53-5 Je '40
Government power program loses momentum pending plans for a defense grid. K. K. Hoyt. map Annalist 55:782-3+ Je 6 '40
Nebraska's public power projects; heavy losses reported despite federal subsidies. H. T. Dobbins. Barron's 20:15 Je 3 '40
Pacific Northwest votes on formation of public utility districts. Elec W News ed 114: 1233 O 26 '40
Power in transition. E. R. Abrams. 318p $3 Scribner '40
Public power loses; Portland and five out of six rural areas defeat civic plan to use Bonneville power. Business Week p36-7 My 25 '40

ELECTRIC utilities—Government ownership— *Continued*
Public utility districts proposals defeated in special Oregon vote. Elec W News ed 113: 1589 My 25 '40
RFC offers aid to public utility districts to buy properties of Puget Sound Power & Light. Elec W 114:547 Ag 24 '40
TVA tax hangover; counties and taxing districts miss public utility revenues. A. Barnes. Pub Util 25:527-9, 532-4 Ap 25 '40
Treadmill of debt; a financial history of three government enterprises; TVA, the British grid system, and Boulder dam. W. M. Carpenter. Edison Elec Inst Bul 8:9-13 Ja '40
Turn of antiutility tide. H. Corey. Pub Util 25:30-8 Ja 18 '40
Uncle Sam power company, inc.; two billions for competition with private utilities. V. C. Royster. Barron's 20:13-14 Je 3 '40
Would the Supreme court OK federal steam-power operations? Pub Util 25:421-2 Mr 28 '40

See also
Electric utilities—Municipal ownership
Hydroelectric plants—Government ownership

Insurance requirements
War damage insurance. Elec R (Lond) 126: 185 F 16 '40; Electrician 124:121 F 16 '40

See also
Rural electrification administration—Insurance requirements

Laboratories
See Electric laboratories

Law
Meeting the submetering problem; decisions in leading cases. R. M. Barton. Pub Util 25:109-13 Ja 18 '40

Management
Analysis of an electric utility company. N. H. Nelson. East Underw 41:12 O 11 '40
Approach to the development of the commercial and industrial markets; Duquesne light company. G. W. Ousler. Edison Elec Inst Bul 8:356-60 Jl '40
Bottle neck in distribution; cooperative sales program of Pennsylvania power and light company. C. M. Randel. Edison Elec Inst Bul 8:131-6 Ap '40
Controller's job, what is it and why? F. J. Brett. Edison Elec Inst Bul 7:517-19+ N '39
Cooperation with accounting and business departments. W. F. Miller; C. P. Johnson. Elec West 84:142-3 Je '40
Electricity-supply industry; relations between user and manufacturer. O. Haworth. Inst E E J 86:45-50 Ja '40; Abstract. Elec R (Lond) 125:583-4 N 3 '39
Engineering enterprise needed by electric utilities. E. C. Stone. Elec W 113:286-7 Ja 27 '40
Executive interest in power sales. H. M. Sawyer. Edison Elec Inst Bul 8:193-4 My '40
How the engineering dept. can help. M. T. Crawford. Elec West 84:81-2 Je '40
Improve your industrial sales methods to increase the net income of your company. W. A. Moore. Edison Elec Inst Bul 8:207-9 My '40
Keeping down costs for service continuity. W. J. Lyman. diags Elec W 114:74-7+ Jl 13 '40
Know your industrial customer. R. E. Fisher. Edison Elec Inst Bul 8:137-8+ Ap '40
Net revenue the sales objective. C. E. Greenwood. Edison Elec Inst Bul 8:463-6 O '40
New dealers build new loads for Portland General Electric; cooperative dealer-utility load building program. J. A. Polhemus. il Elec West 84:30-4 Mr '40
Proved economies in commercial accounting operations; modernization and management of accounting department. A. J. Bohl. Edison Elec Inst Bul 7:523-6 N '39
Some of my prejudices. A. Dow. Edison Elec Inst Bul 8:259-62 Je '40
Tailor-made plans sell municipal lighting; Idaho power company. J. D. Orr. il Elec W 113:1210-11+ Ap 20 '40
Why we must build load downtown. H. N. Carroll. Elec West 84:79-80 Je '40

See also
Electric utilities—Employees

Meter departments
Critical survey of American metering practice. G. F. Shotter. il diags plans Inst E E J 87:195-207, pl 1-4; Discussion. 208-17 Ag '40
Meter testing; arrangements at Newbury and Salisbury. il Elec R (Lond) 126:498 My 3 '40
Meter testing at Torquay. il Elec R (Lond) 126:588 My 31 '40

Municipal ownership
Chattanooga power board expands electric system. il Elec W news ed 112:1817 D 23 '39
Hetch Hetchy tie-up in San Francisco. T. L. North. Pub Util 26:338-49 S 12 '40
Hetch Hetchy truce; extension of federal court injunction against the sale of electric power. Business Week p53 S 7 '40
Municipal utility ownership elections, 1934-1939, with list of municipalities. G. E. Doying. Pub Util 25:294-303 F 29 '40
Restricting markets for federal power; free flow of public funds to promote public ownership of local electric utilities has been stopped. G. E. Doying. bibliog Pub Util 25:67-79 Ja 18 '40

See also
Electric plants, Municipal

Offices
Customer service personalized; Commonwealth Edison shifted interviews from counter to desks. L. L. Starrett. il Elec W 113:1204-6 Ap 20 '40

Public relations
All the answers in a picture; Detroit utility uses pictograph as response to customer requests for information. A. D. McLay. il Elec W 114:1158-9 O 19 '40
Home service community promotion. M. Elrod. Elec West 84:91-2 Je '40
Human problems of the utility industry. P. M. Downing. Edison Elec Inst Bul 8:295-7 Je '40; Same cond. Elec West 85:19-20 Jl '40; Excerpts. Elec W 113:1886 Je 15 '40
Human relations smooth public relations. R. V. H. Wood. Elec W 113:895+ Mr 23 '40
School for stockholders and employees; Washington water power co. educational meetings. il Elec West 84:25 Mr '40
Seven C's of public relations. R. T. Livingston. Edison Elec Inst Bul 8:377-81 Ag '40
Suggested range of public relations activities for a utility company. H. Obermeyer. Edison Elec Inst Bul 8:103-4 Mr '40
Time for a double-barreled offensive. J. E. E. Royer. il Elec West 84:50-1 Je '40
What's new? what's up? both utility employees and customers want to know what's going on. M. A. Rowley. Elec West 83:21 D '39

Purchasing
Electric utilities aid in upturn; large orders for equipment being placed. Business Week p20+ D 2 '39

Radio communication
Frequency modulation communication for Indianapolis power & light company. il Elec W 114:403 Ag 10 '40; Same. Gen Elec R 43:426 O '40
New England Power adds radio facilities. il Elec W 113:1227 Ap 20 '40
Pepco's radios. W. A. Leidigh, jr. il Elec West 84:46-7 Ja '40

ELECTRIC utilities—Radio communication— *Continued*
Portland General electric company emergency trouble dispatching network. W. A. Leidigh, jr. il plan map Edison Elec Inst Bul 8: 241-4 My '40
Radio for emergency dispatching. G. A. Grimm. il Elec W 113:760 Mr 9 '40
Short wave emergency stations are supplemented by employee amateur telegraph stations in New England power association system. W. J. Belleville and W. Phillips. Edison Elec Inst Bul 8:105-6 Mr '40
Trouble dispatching by radio; ultra-short wave radio system, WQLP, of the Philadelphia electric company. H. L. Davis, jr. il map Edison Elec Inst Bul 7:601-3 D '39
Two-way radio aids Indiana utility work. il Elec W 112:1610 D 2 '39
Use of radio in special emergencies. Edison Elec Inst Bul 8:83 F '40

Rates

See Electric rates

Records

Benefits of check routines for transformer loading; relative costs of various methods. F. Sanford. Elec W 114:204-6+ Jl 27 '40
Detroit Edison saves 30% in customer service costs. R. G. French. il Am Business 10: 28-30+ Jl '40
Engineer's comments on the control of continuing property records. H. R. Martz. Edison Elec Inst Bul 7:545-6 N '39
Organization for the maintenance of continuing property records. W. A. Clader. Edison Elec Inst Bul 7:543-4+ N '39
Tabulating machine records for stores control. K. C. Campbell. il Elec W 114:1305-6+ N 2 '40

Regulation

Government power program loses momentum pending plans for a defense grid. K. K. Hoyt. map Annalist 55:782-3+ Je 6 '40
Profit sharing, the key to regulatory success; the Washington plan or sliding-scale regulation of the District of Columbia. R. E. Elgen. bibliog Pub Util 25:787-96 Je 20 '40
State regulation of gas and electric companies in Connecticut. J. W. Alsop. Edison Elec Inst Bul 8:217-18 My '40
Utilegalities. W. L. Grossman. Elec W 112: 1794 D 16 '39
Why not a consumer-government-labor partnership with utilities? F. X. Welch. bibliog Pub Util 26:131-40 Ag 1 '40

See also
Holding companies
Public utilities—Regulation
Public utilities commissions
Securities and exchange commission

Reports to government

Customer accounting problems in connection with statistics for Federal power commission reports. E. N. Keller. Edison Elec Inst Bul 7:596-7 D '39
Industry reporting within a rationalized system of federal statistics. S. A. Rice. Edison Elec Inst Bul 7:547-8 N '39

Safety devices and measures

Conserving our greatest asset; man power. W. E. Mitchell. Edison Elec Inst Bul 8:457-62 O '40
Electrical safety appliances. S. W. Winje. il Safety Eng 79:23-4 Ap '40
Management's responsibility for safety must be accepted. W. E. Mitchell. Concrete (mill sec) 48:266-7 N '40
President was proud! safety record of Moncton electricity and gas company. K. R. MacClure. il Nat Safety N 41:17+ Ap '40
Relamp airway beacon from safe position. diags Elec W 114:1183-4 O 19 '40

Salesmen

Commercial sales training. O. C. Mayer. Elec West 84:102-4 Je '40
Good planning a "must" in wiring sales. E. G. Stahl. il Elec W 113:898-9+ Mr 23 '40
1940 industrial salesman. T. M. Salisbury. Edison Elec Inst Bul 8:49-52 F '40
Power salesman is industry's ally in defense; ways in which improvements to industrial efficiency may be offered to customers. F. R. Innes. il Elec W 114:1316-18 N 2 '40
Sales plans seek appliance volume; salesmen's compensation plans. Elec W 114:85+ Jl 13 '40
Supervision assures successful program. G. E. Davis. Elec West 84:83-4 Je '40

Securities

Can the utilities come back? F. C. Fullerton. il map Mag of Wall St 65:342-5+ D 30 '39
Depressed utility bond; several factors adversely affect Associated Electric issue. Barron's 20:19 N 4 '40
Effect of federal power program on utility stocks since 1933; chart. Annalist 55:782 Je 6 '40
Financial statistics, 1939. Elec W 113:116-17 Ja 13 '40
Improvement for Virginia Public Service bonds attain best levels since 1937. Barron's 20:19 Ag 5 '40
Offering of utility stock to test investor demand; new trend in financing undertaken by several companies. Elec W 113:1071 Ap 6 '40
Outlook for electric utility investments. A. Dow. Weekly Underw 143:935 O 19 '40
Preferred stock arrears utility and SEC problem. Elec W 112:1612 D 2 '39
Price trend of 50 power and light bonds; graph. Published in weekly numbers of Electrical world
Price trend of 36 power and light common stocks; graph. Published in weekly numbers of Electrical world
Recovery in Cities service power & light co.'s 5½s; earnings record. Barron's 20:19 Ja 15 '40
Relation of accounting statements and reports to security issues. W. W. Werntz. Edison Elec Inst Bul 7:537-8+ N '39
SEC sees integration aiding utility industry. J. N. Frank. Elec W News ed 113:1133-5 Ap 13 '40; Abstract. Pub Util 25:614-16 My 9 '40
Speculative factors in National power and light co. J. F. Childs. map Barron's 20:20 F 12 '40

Service

Capitalizing on complaints to improve service. L. A. Ferguson, jr. il Elec W 112:1866-7+ D 30 '39
Continuity of service as related to its cost and value. H. R. Woodrow. Edison Elec Inst Bul 8:305-8 Je '40; Same cond. Power Pl Eng 44:60-2 Ag '40; Excerpts. Elec W 113:1892-3 Je 15 '40
Customer service program works out for Kansas G. & E.; improved customer relations and increased usage result from personal interviews. H. W. Hobson. il Elec W 114:539-41 Ag 24 '40
Detroit Edison saves 30% in customer service costs. R. G. French. il Am Business 10: 28-30+ Jl '40
Electric laboratory in a public utility; carrying on farm electrification program. C. W. Wildebour. Elec West 84:108-9 Je '40
Home service. J. B. Buman and others. Elec West 84:89-97 Je '40
Long-pull results of lighting activity; lighting service department, Consolidated gas, electric light & power company of Baltimore. Elec W 113:774+ Mr 9 '40
Multi-purpose truck is ambassador of good will; equipped to furnish light, power or public-address service; Portland General electric co. W. W. R. May. il Elec W 113: 280-1+ Ja 27 '40
Organized promotion for commercial sales; Ohio Edison company, Akron. T. J. James. il Elec W 113:2037-8+ Je 29 '40
Power salesman is industry's ally in defense; ways in which improvements to industrial efficiency may be offered to customers. F. R. Innes. il Elec W 114:1316-18 N 2 '40

ELECTRIC utilities—Service—*Continued*
Range installations on 24-hour basis; Brockton Edison systematizes sales and installation procedure. G. C. King. diag Elec W 113:285+ Ja 27 '40
Sales assistance for retail dealers; Puget Sound power & light co. inaugurates co-operation program. H. R. Kruse. il Elec West 85:28-9 Jl '40
Showrooms and service; wartime opportunities. V. W. Dale. Elec R (Lond) 127:297-8 O 11 '40
Utility crew strings line to save baby. Elec W News ed 113:660 Mr 2 '40
Weather and the power companies; forecasts in maintenance, service and load conditions. Edison Elec Inst Bul 8:18+ Ja '40; Pub Util 25:233-7 F 15 '40

Showrooms

Hornsey's new showrooms. il Elec R (Lond) 125:818 D 29 '39
Showrooms and service; wartime opportunities. V. W. Dale. Elec R (Lond) 127:297-8 O 11 '40

Statistics

Commercial load added 1939; estimated annual revenue, etc; 14 companies, Northwest electrical light & power assn.; tabulations. Elec West 84:99 Je '40
Electric light and power industry in 1939. Edison Elec Inst Bul 8:1-4 Ja '40
Highlights, 1939. Elec W 113:93-124 Ja 13 '40
1940 rates, drifting or sailing; distribution of residential electric customers according to monthly use. F. A. Newton. Edison Elec Inst Bul 8:303-4 Je '40
Progress of utilities during year. C. W. Kellogg. Elec W 112:1873 D 30 '39
Prospects for continued electric rate reductions. W. J. Crowley. J Land & Pub Util Econ 15:464-72 N '39
Regional percentage distribution of the electrical industry's revenues in the United States; charts. Pub Util 25:749 Je 6 '40
Revenue building and load building in 1939; utility and dealer sales of household appliances and lighting; based upon reports from 116 utility companies. H. G. Dooley. Elec W 113:737-44 Mr 9 '40
Utilities make greater use of available capacity; 28th annual survey; operating data for 184 light and power companies in North America. C. De Vore. Elec W 113: 1352-4 My 4 '40

See also
Electric plants (central stations)—Statistics

Stores systems

Tabulating machine records for stores control. K. C. Campbell. il Elec W 114:1305-6+ N 2 '40

Submetering problem

Meeting the submetering problem; decisions in leading cases. R. M. Barton. Pub Util 25:109-13 Ja 18 '40

Taxation

Electric company taxes increase by nearly $20,000,000 during 1939. Edison Elec Inst Bul 8:4 Ja '40
Private electric light and power industry, 1902-1939; taxes and other financial data tabulated. Edison Elec Inst Bul 8:cover Ap '40
Taxes still increasing; ratio of taxes to revenues. Pub Util 25:288-9 F 29 '40

See also
Tennessee Valley authority—Taxation problem

Telephone

See also
Electric utilities—Radio communication

Valuation

Tennessee tax valuations upheld by Supreme court. Eng N 124:696 My 23 '40

Alabama

Alabama Power to sell system in north area; TVA, municipalities and co-operatives in eleven counties to purchase facilities for $4,600,000. map Elec W News ed 113:1818 Je 8 '40

Arkansas

Arkansas' good neighbor policy for rural electrification. H. W. Blalock. Pub Util 26: 331-7 S 12 '40
Extension of rural lines as a good neighbor policy; Arkansas power and light company. W. C. Adams. Pub Util 25:403-10 Mr 28 '40

Connecticut

State regulation of gas and electric companies in Connecticut. J. W. Alsop. Edison Elec Inst Bul 8:217-18 My '40

District of Columbia

Profit sharing, the key to regulatory success; the Washington plan or sliding-scale regulation of the District of Columbia. R. E. Elgen. bibliog Pub Util 25:787-96 Je 20 '40

Great Britain

British Power and Light results, 1937-39. Economist 138:431 Mr 9 '40
Clyde Valley electrical, South London electric supply and South Metropolitan reports. Economist 138:528, 530 Mr 23 '40
County of London electric supply company profits report and ordinary general meeting. Economist 138:480, 545 Mr 16-23 '40
Edmundsons electricity results. Economist 138:941 My 25 '40
Electricity reports, City of London Electric and London Associated. Economist 138:478-80 Mr 16 '40
Future policies and tariffs. H. Southall. Elec R (Lond) 126:369-70 Mr 29 '40
How the British finance their public utilities; comparison with American methods. F. J. McDiarmid. Pub Util 24:675-85 N 23 '39
Lancashire Electric progress, 1937-39, and ordinary general meeting. Economist 138:344, 353 F 24 '40
London electricity companies; outlook for dividends. Economist 137:298 N 25 '39
Metropolitan electric supply company and Midland counties electric supply company accounts, 1937-39, and annual general meetings. Economist 138:389-90, 442 Mr 2-9 '40
Municipal undertakings; information from accounts of municipal electricity supply undertakings for the year ended March 31, 1939. Electrician 123:319, 563; 124:213 S 29, D 29 '39, Mr 15 '40
North eastern electric supply company profits report and ordinary general meeting. Economist 138:480+, 544 Mr 16-23 '40
Northmet power company and Scottish power company, results 1937-39, and ordinary general meetings. Economist 138:430-1, 493-4 Mr 9-16 '40
Problems of sales managers in wartime; abstract. J. B. Ashworth. Elec R (Lond) 126: 429-30 Ap 12 '40; Discussion. 126:452 Ap 19 '40; Electrician 124:301-2 Ap 19 '40
Sales-management policy in war-time; abstracts. J. C. Dalton. Electrician 124:281 Ap 12 '40; Elec R (Lond) 126:429 Ap 12 '40; Discussion. Electrician 124:281 Ap 12 '40; Elec R (Lond) 126:451-2 Ap 19 '40
Treadmill of debt. W. M. Carpenter. Edison Elec Inst Bul 8:11-12 Ja '40
Utilities under pressure. Economist 137:214-15 N 11 '39
Yorkshire electric power report; profits, 1937-39. Economist 138:304-5 F 17 '40

See also
Electricity supply—Great Britain

New England

Short wave emergency stations are supplemented by employee amateur telegraph stations in New England power association system. W. J. Belleville and W. Phillips. Edison Elec Inst Bul 8:105-6 Mr '40

ELECTRIC utilities—*Continued*

New Hampshire

Utilities expand farm power use. Elec W News ed 113:8 Ja 6 '40

Northwestern states

Pacific Northwest votes on formation of public utility districts. Elec W News ed 114:1233 O 26 '40

Utility struggle in decisive phase; climax approaching in Pacific Northwest. J. Maguire. Barron's 20:18 O 28 '40

Oregon

Public utility districts proposals defeated in special Oregon vote. Elec W News ed 113: 1589 My 25 '40

Statistical report, 1937-1938, Oregon electric utilities. 106 l Ormond R. Bean, Public Utilities commissioner, Salem '39

Tennessee

Tennessee tax valuations upheld by Supreme court. Eng N 124:696 My 23 '40

United States

American electrical survey, 1939. C. W. Kellogg. Elec R (Lond) 126:99 Ja 26 '40

Can the utilities come back? F. C. Fullerton. il map Mag of Wall St 65:342-5+ D 30 '39

Case for light and power; review of the accomplishments of the industry, with an interpretation of developments in public policy. il map Nation's Business 28:33-64 Mr '40

Congressional economy line forms to the right; prospects for utility legislation. H. Brayman. Pub Util 25:89-97 Ja 18 '40

Economic factors moderately favorable to utilities. D. W. Ellsworth. Annalist 55:122-3+ Ja 25 '40

Electric light and power industry in 1939. Edison Elec Inst Bul 8:1-4 Ja '40

Electric utilities are prepared. C. W. Kellogg. Edison Elec Inst Bul 8:255-8 Je '40; Excerpts. Elec W 113:1876-7 Je 15 '40

Electric utilities during 1940. E. R. Abrams. Comm & Fin Chr 150:541-3+ Ja 27 '40

Electric utility paradox. C. W. Kellogg. Edison Elec Inst Bul 8:93-6 Mr '40

More and more for less and less; developments of the decade and future trends. H. L. Wallau. Edison Elec Inst Bul 8: 327-34 Jl '40

Power for defense; a job for the electric utilities. S. B. Williams. maps Elec W 114:1150-2+ O 19 '40

Power policy committee starts utility meetings. Elec W News ed 112:1675 D 9 '39

Progress of the electric utilities under private ownership. H. S. Bennion. Edison Elec Inst Bul 8:41-8+ F '40

Public utilities, 1939. Survey of Cur Business 20:21-2 F '40

605,000,000 dinner-pail dollars for new utility construction; how money is spent by workers. Elec W 113:1693-1704 Je 1 '40

Three significant years; 1919-1929-1939. Elec W 113:112-13 Ja 13 '40

Utilities make greater use of available capacity; 28th annual survey; operating data for 184 light and power companies in North America. C. De Vore. Elec W 113: 1352-4 My 4 '40

What tomorrow's engineers must do. il Elec West 84:62-3 Je '40

See also

Electricity supply—
United States
also American water works and electric company

Western states

Commercial load added 1939; estimated annual revenue, etc; 14 companies. Northwest electrical light & power assn.; tabulations. Elec West 84:99 Je '40

Electrical West annual review number. il Elec West 84:35-73 F '40

Report on 1939 industrial business. J. D. Scott. Elec West 84:100-2 Je '40

Wisconsin

Transition to depreciation accounting; how Public service commission and Wisconsin utilities have met this problem. A. R. Colbert. J Land & Pub Util Econ 16:129-36 My '40

ELECTRIC utilities and the plumbing trade

Here's one answer; Los Angeles utility and plumbers cooperate in selling electric water heaters. il Dom Eng 155:44-5+ F '40

Inside track to sales; Chicago plan for cooperative electric water heater campaign. il Dom Eng 155:52-3 Je '40

It's done with water; plumbing installations follow electric pump sales; electric utility and plumber cooperation. il Dom Eng 154: 31-3+ D '39

ELECTRIC vehicles

Cleco electric car. il Electrician 123:493 D 1 '39

Electric road vehicles; demand stimulated by the war. Electrician 124:73 Ja 26 '40

Electric vehicle stagnation; survey of psychological factors. Elec R (Lond) 126:611-12 Je 7 '40

Future of the electric. il Elec R (Lond) 126: 177-80 F 16 '40

Traction batteries; a vehicle maker's views. H. G. Wilson. il Elec R (Lond) 126:183 F 16 '40

La traction électrique sur la voie publique; les véhicules à accumulateurs et les trolleybus. J. Thomas. il Génie Civil 116:225-8, 247-50 Ap 6-13 '40

See also

Electric trucks
Trolley buses

ELECTRIC washing machines. See Washing machines, Electric

ELECTRIC water heaters

Cleaning motors and chassis; utilization data sheet. N. J. Mahar. il diag Elec West 85:38 Jl '40

Domestic water heaters; abstract. T. A. Mugford; N. S. Richards. Elec R (Lond) 126: 215-16 F 23 '40

Electric thermal storage; a means of coal conservation in the national interest. W. L. Shand. Elec R (Lond) 125:757-8 D 15 '39

Electrode boilers, a survey of modern practice. Electrician 123:487 D 1 '39

Portable heater meets farm needs. il Elec W 114:424+ Ag 10 '40

Utilization data sheet; poultry cleaning. H. Van Wyk. il Elec West 84:43 My '40

Water heater tank performance. C. S. Alger. Elec West 84:122-5 Je '40

Water heating important source of utility income. R. E. Caywood and E. E. Sprague. Elec W 114:392-4 Ag 10 '40

Water heating notes; electrode boilers. Electrician 123:552 D 29 '39

Water heating problems; is the use of expensive insulation justified? Electrician 124: 364 My 17 '40

Merchandizing

Electrical West sales guide. il Elec West 84: 67-70 F '40

Experiment; Pacific gas and electric co. to help dealers boost range and water heater sales to combat competition of bottled gas. Elec West 84:34 Mr '40

Here's one answer; Los Angeles utility and plumbers cooperate. il Dom Eng 155:44-5+ F '40

Hotpoint serves soup; demonstration for electric water heaters. il Ptr Ink 191:24 Ap 26 '40

Inside track to sales; Chicago plan for cooperative electric water heater campaign. il Dom Eng 155:52-3 Je '40

Meeting obstacles in promotion of electric cooking and water heating. S. Stites. Edison Elec Inst Bul 8:171-4 Ap '40

Modern kitchen bureau offers outstanding range and water heater programs. il Edison Elec Inst Bul 8:407-8 Ag '40

Modern kitchen bureau's utility water heater contest for 1940. il Edison Elec Inst Bul 8:442 S '40

ELECTRIC water heaters—Merchandizing—*Continued*
Pacific G. & E. wards off bottled gas; dealer co-operative range and water heater sales promotion. Elec W 114:712+ S 7 '40
Ranges and water heaters boost usage to 1,985 kw.-hr.; Washington water power company. R. B. McElroy. Elec W 113:434+ F 10 '40
Ranges and water heaters respond to heavy promotion; Florida power and light company. R. B. Roberts, jr. il Elec W 113:1212-13+ Ap 20 '40
This is no fiction; electric water heater sales by plumbers. C. E. Greenwood. Dom Eng 154:30+ D '39
Water heater as a revenue builder. R. B. McElroy. Elec West 84:85-7 Je '40
Water heaters boost net; abstract. K. M. Robinson. Elec W News ed 114:922 S 28 '40

Testing

Dripmeter helps water heater service. il Elec West 85:33 Ag '40

ELECTRIC wave filters. See Electric filters

ELECTRIC waves
Alternative treatment of the attenuation of waves in a coil-loaded telephone line. G. H. Metson. Inst E E J 87:69-75 Jl '40
Anomalous dispersion and absorption of electric waves in solutions of amino-acids and dipeptides. J. B. Bateman and G. Potapenko. bibliog Phys R 57:1185 Je 15 '40
Circuit constants for the production of impulse test waves. J. R. Eaton and J. P. Gebelein. Gen Elec R 43:322-32 Ag '40
Electric and magnetic fields of a linear radiator carrying a progressive wave. F. M. Colebrook. bibliog diags Inst E E J 86:169-78 F '40
Report on wave form in dielectric power-factor measurements. Elec Eng 59:255-6 Je '40
Wave shape of 30- and 60-phase rectifier groups. O. K. Marti and T. A. Taylor. bibliog il diags Elec Eng 59:Trans 218-24; Discussion. Trans 224-6 Ap '40
Wave shapes of successive lightning current peaks. K. B. McEachron. il Elec W 113:428-31+ F 10 '40
Wavelength of oscillations along transmission lines and antennas. E. M. Siegel. Texas U Engineering Research Ser no32:1-50 '40

See also
Electric currents, Alternating
Harmonics (electric waves)
Radio measurements
Radio waves

Mechanical analogies

Electrical waves in slow motion; apparatus designed and built by C. F. Wagner. il Power Pl Eng 43:760, 809 D '39

ELECTRIC welding
Automatic chassis welding. C. E. Heitman. il diags Steel 105:57-8, 60, 62 D 4 '39
Aviation Corporates convertible spot and seam welder. il Engineering 148:567-8 N 17 '39
Babcock & Wilcox stainless-steel clad carbon-molybdenum plate for high-temperature service; Croloy. il Mach 46:275 D '39
Boiler advances; welding at Barberton, O., plant of Babcock & Wilcox co. il diag Steel 105:64-5+ N 27 '39
Built-in conveyor for welding machine. il Steel 105:62+ N 20 '39
Butt welding pipe continuously; Fretz-Moon process. J. Hopkins and T. C. Campbell. il diag Iron Age 145:35-9 Mr 28 '40
Concentric bus for resistance welders. W. Specht. diag Elec W 114:558 Ag 24 '40
Current distribution improved weld quality. H. Lawrence. il Steel 107:56+ Jl 8 '40
Designed for welding. V. R. Willoughby. il diag Product Eng 11:100-3 Mr '40
Developments in steam boilers. S. Train. Blast F & Steel Pl 28:361 Ap '40
Dissimilar metals welded by flash-percussive method. Am Mach 84:64f F 7 '40
Electric welded chain; operations at Yale & Towne plant. A. G. Anderson. il diag Steel 106:70, 72-3+ My 27 '40
Electric welding in shipbuilding, unionmelt process. T. M. Jackson. Metal Prog 38:487+ O '40
Electrical developments of 1939. G. Bartlett. il Gen Elec R 43:26-8 Ja '40
Electricity as applied to metallurgy. A. P. M. Fleming. diags Engineer 169:324-5 Ap 5 '40; Same. Engineering 149:395 Ap 12 '40
Examination and tests of welded parts for steam power plant. A. H. Goodger. bibliog diags Inst Mech Eng J & Proc 142:Proc 261-87, pl 1-12 Ja '40; Discussion. 143:Proc 73-80, pl 13-16 Ap '40
Fabricated stainless steel in the rayon and textile industries; with special reference to the Shotweld process. H. B. Vollrath. il Rayon 20:713-15 D '39
Federal heavy-duty projection welder features hydraulic, air or motor operation. il Am Mach 84:687 S 4 '40
Finned tubing by welding. D. James. il diags Iron Age 144:46-7 D 14 '39
Flame-cutting and electric unionmelt welding in the preparedness program. D. E. Roberts. il Mach 47:122-3 O '40
Flash percussive welding. A. H. Allen. il Steel 106:37-8 F 19 '40
Forge welding heavy sections. il Steel 107: 64-5 S 30 '40
Handling for welding. H. Lawrence. il Steel 107:48+ Ag 5 '40
Hansen welder designed for multiple operation. il Ry Mech Eng 114:417 O '40
Health hazards of electric and gas welding. J. A. Britton and E. L. Walsh. J Ind Hygiene 22:125-51 bibliog(122 titles, p147-51) Ap '40
Heavy sections electrically forge-welded. il Iron Age 146:33 O 3 '40; Mach 47:158 N '40
High speed assembly welding; radiator grilles. il Steel 107:60, 63+ N 4 '40
Making welded gears; flame hardened; Harnischfeger corp. H. Menck. il Steel 107: 66-8 Jl 1 '40
Metropolitan-Vickers 250-kVA resistance welding machine. il Engineering 150:336 O 25 '40
New resistance welding process; FESA-Weibel process. Metals & Alloys 11:MA33 Ja '40
Nothing but welding used by International Harvester in fabrication of truck cabs. W. A. Salzmann. il Am Mach 84:579-81 Ag 7 '40
Percussive welding. F. J. Oliver. il diag Iron Age 145:40-3 Ap 4 '40
Process control of spot welding. C. L. Hibert. il Iron Age 145:43-7 Mr 7; 31-4 Mr 14 '40
Progressive assembly; body of harvesting combine; John Deere harvester co. il plan Steel 107:58, 60, 62+ S 9 '40
Projection welding; abstract. L. H. Frost. Mech Eng 62:615 Ag '40
Projection welding fixture for production work. H. B. Faught. diags Mach 46:111-13 Mr '40
Proper sub-assemblies for welding. E. W. P. Smith. diags Iron Age 146:42 Ag 29 '40
Resistance welding. E. J. Del Vecchio. Metal Prog 38:490-1 O '40
Resistance welding. L. D. Jennings. diags Iron Age 145:38-43 My 9 '40
Resistance welding; as it was in 1915 and as it is in 1940. J. W. Meadowcroft. Metal Prog 37:313 Mr '40
Some applications of the resistance welding process; abstract. C. L. Pfeiffer. Metals & Alloys 11:MA194+ Ap '40
Spot welded aluminum aircraft structures. C. W. Dodge. il diags Product Eng 11:388-92 S '40
Spot-welders of standardized design built by American electric fusion corp. il Mach 46: 135 Ag '40
Spot welding aluminum by Hi-wave welder. il diags Iron Age 145:42-5 Ap 18 '40
Spot welding; composite of abstracts. Metals & Alloys 11:MA323 Je '40
Spot welding; equipment for operations on light alloys. il Automobile Eng 30:60 F '40
Spot welding of aluminum for aircraft. L. P. Wood. Metal Prog 38:274+ S '40
Spot welding of light alloys. diags Engineer 169:189-90 F 23 '40

ELECTRIC welding—*Continued*
Stainless steel and aircraft trends; Shotweld process. M. Watter. Aero Digest 36:72 My '40
Stainless steel in aircraft. C. De Ganahl. il diags Am Mach 84:527-9 Jl 24 '40
Stainless steel in aircraft fabrication. H. W. Perry. il diags Steel 107:72, 75 Ag 5 '40
Thomson press welder with indexing table. il Mach 46:147 Mr '40
Thomson welding press. il Am Mach 84:516-17 Jl 10 '40; Mach 46:214 Jl '40
Tubes electrically welded; new method produces grain structures in weld indistinguishable from parent metal. J. B. Borgat. il diag Steel 106:52, 54+ Mr 11 '40
Two-gun portable spot welding unit announced by Progressive welding co. il(p59) Automotive Ind 83:68 Jl 15 '40
Welding aluminum aircraft alloys. M. Sciaky. il diag Iron Age 145:33-5 Mr 21 '40
Welding and the business of shipbuilding. E. C. Rechtin. Marine Eng 45:68-70 Ap '40
Welding machine of unusual capacity. il Mach 46:105 My '40
Welding of heating boilers; L. O. Koven & brother. H. S. Card. il diags Iron Age 145: 42-5 Ap 25 '40
Welding serves industrial upswing. R. E. Miller. il Iron Age 145:116+ Ja 4 '40
Welding tubes; new processing line employs fixed precision forming rolls and drives each roll spindle. G. Kentis, jr. il Steel 107:64, 67-8+ O 7 '40
What's new in welding apparatus. F. J. Oliver. il Iron Age 145:45-50 Je 13 '40

Control

British Thomson-Houston ignitron contactor for the control of spot welders. il diag Engineering 149:275 Mr 15 '40; Electrician 124:190 Mr 8 '40
British Thomson-Houston welding machine control. il diag Elec R (Lond) 126:348 Mr 22 '40
Electronic control for resistance welding. E. H. Vedder. il Elec W 113:766 Mr 9 '40
Feedback welding timer; for radio tube manufacture. J. Kurtz. il diag Electronics 13:47 Ap '40
Ignitron contactor control of resistance welding. W. C. Hutchins. il diags Gen Elec R 42:544-7 D '39
Progress-O-Matic high-speed spot-welder. il Mach 46:138 Ag '40; Am Mach 84:638 Ag 21 '40; Automotive Ind 83:169, 171+ Ag 15 '40
6000 welds per hour; new timing method; machine built by Progressive welder co. il Steel 107:72+ Ag 19 '40
Spotwelding machine settings and their effect on weld strength. A. M. Unger. il Iron Age 145:27-31 Je 20 '40
Spot-welding machines with ignitron control for dealing with aluminium. il Engineering 148:509 N 3 '39
What's new in welding apparatus; welding timers. F. J. Oliver. il Iron Age 145:46-7 F 29 '40

Power supply

Distribution outlays to limit lamp flicker. D. K. Blake. Elec W 114:1005+ O 5 '40
Improved power factor in resistance welding; General Electric series-capacitor system. Gen Elec R 43:220-1 My '40; Same. Mach 46:100-1 Ag '40
Integrated supply improves service to welders; utility substation co-ordinated with plant interlaced bus scheme; Midland steel products company, Detroit. W. B. Hurley and W. Smith. il diags Elec W 113:1198-1200 Ap 20 '40
Measurement of spot-welding current. W. F. Hess, R. A. Wyant and A. Muller. il diags Elec Eng 59:Trans 349-53; Discussion. Trans 353-4 Je '40
Power factor costs; correcting power factor offers means of cutting welding costs. S. B. Vinson. il Steel 106:42-4 Ja 8 '40
Power supply for resistance-welding machines; with cost data. il diags Elec Eng 59:Trans 306-20 My '40
Transformers for resistance welding machines. il Engineer 170:223 O 4 '40

Testing

Festigkeitsverhalten von rohrschweissungen bei dauerbelastung. E. Siebel and K. Wellinger. il diags V D I 84:57-9 Ja 27 '40
Portable equipment for weld inspection. V. Hicks. il diags Elec W 114:718+ S 7 '40
Punkt- und nahtschweissung von leichtmetallen. C. Haase. il V D I 84:89-96 F 10 '40

ELECTRIC welding, Arc
All-welded boiler approved. H. B. Fergusson and E. F. Burford. il Steel 106:57-8+ Ja 22 '40
All-welded diecasting machine. A. E. Abbott. il diag Steel 107:42-4 O 7 '40
A.c. welding aids metal fabricator; with cost data. L. D. Jennings. il Iron Age 146:40-1 Ag 8 '40
Angular distortion. C. H. Jennings. il Steel 106:72, 74 Je 10 '40
Application and welding of stainless steel for lining tanks. E. W. P. Smith. bibliog diags Paper Tr J 110:34-7 Je 6 '40
Arc-torch for welding and heating. F. W. Scott. il Metal Prog 37:659-60 Je '40
Arc-welded fabrication of machine tools. Engineering 150:265-6, 270, pl 18 O 4 '40
Arc welded river tunnel for Chicago. il Engineer 169:190 F 23 '40
Arc welding for maintenance in chemical works. R. Butler. il diags Chem Age (Lond) 42:77-9 F 10 '40
Arc welding in design, manufacture and construction. 1409p $1.50 James F. Lincoln arc welding foundation, Cleveland '39
Arc welding ingenuity; machinery repair; illustrations. Iron Age 146:35 S 5 '40
Arc welding; limitations and requirements that are unnecessary. J. F. Lincoln. Electrician 123:302 S 29 '39
Arc welding manual. 180p $1 General electric co, Schenectady, N.Y. '39
Arc welding saves in switchboard assembly. L. Haines. il Elec W 112:1626 D 2 '39
Arc welding sheet metal. G. G. Landis. il Sheet Metal Worker 31:39-40 S; 27+ O; 31-2 N '40
Arc welding used to repair huge 25,000-pound stone crusher jaw. il Steel 106:76 Je 10 '40
Arc weldors must be qualified. W. J. Chaffee. Metal Prog 38:183+ Ag '40
As it was in 1915 and as it is in 1940. L. J. Larson. Metal Prog 37:312 Mr '40
Automatic carbon arc welds plate for aluminum tank cars. il Steel 106:69 My 20 '40; Refrig Eng 39:402 Je '40
Automatic welding for water mains; additions to New York city distribution system. il Eng N 125:343-4 S 12 '40
Awards totaling $200,000 offered in new welding progress program. Steel 106:327-8 Ja 1 '40
Body design gives added torsional rigidity. H. C. Frentzel. il diags Automotive Ind 83:108-9 Ag 1 '40
Bruce Peebles all-welded electric motor. il Engineer 170:232-3 O 11 '40
Carbon arc welding of meter magnets. il Elec W 114:718 S 7 '40
Characteristics of multi-pass welds. C. H. Jennings. Metal Prog 38:494-5 O '40
Composite metal is welding outgrowth. R. E. Kinkead. Elec W 114:108+ Jl 13 '40
Could you use a 4000 ampere arc welder? machine built for Blaw-Knox co. il Steel 106:51+ Je 10 '40
County bridge maintenance; Kent county, Michigan, employs arc welding. L. W. Brunson. il Roads & Sts 83:62, 64, 66+ Ag '40
Diesel arc welder equipped with gasoline engine starting. il Marine Eng 45:84 O '40
Diesel engine frames; advantages of welding. M. Essl. il Steel 106:72, 74+ My 20 '40
Done in a jiffy with arc welding; illustrations. Factory Management 98:80-1 My '40
18-gage 18-8 stainless welded automatically by smothered arc. T. R. Lichtenwalter. Steel 107:181-2 O 14 '40
Electric arc welding. W. J. Chaffee. Metal Prog 38:489-90 O '40

ELECTRIC welding, Arc—*Continued*
Electric arc welding. E. D. Lacy. il Elec R (Lond) 127:47-8 Jl 19 '40
Electric arc welding, 1939. il Electrician 124: 62 Ja 26 '40
Electric welding; abstracts. B. P. Haigh. Engineer 168:526 N 24 '39; Elec R (Lond) 125:646-7 N 17 '39
Electric welding saves replacement cost of new dredge. il Marine Eng 45:67 Jl '40
Electronic welder used for intricate parts. il Steel 106:74 Je 17 '40
Examples of time, cost and weight saved with arc welding; tabulation. Iron Age 146: 71 S 5 '40; Same. Steel 107:27 S 2 '40
Fabrication by arc welding often requires redesign of parts; truck bearing and wheels and saw carriage as examples. il Mach 46: 102-3 F '40
Get exactly the die you want by welding. H. H. Mansur. il Brick & Clay Rec 97:23-5 Ag '40
Hand carbon arc welding. il Engineer 170: 145 Ag 30 '40
Hard-faced dies; their design and fabrication. A. R. Butler. il Steel 107:62-3, 66 O 21; 66, 68-9 O 28 '40
Hi-tensile steel ships. G. deRooy and P. Schoenmaker. Steel 106:56, 58+ Mr 18; 68, 70-1+ Mr 25 '40
Holmes drooping-characteristic welding generator. il Engineering 149:181 F 16 '40
How to make a simple butt weld; illustrated instructions. Power 84:752 N '40
How to strike an arc and run a bead; illustrated instructions. Power 84:678-9 O '40
How to tell a good weld. G. G. Landis. il Marine Eng 45:71-3 S '40
Industrial trucks; units are arc welded from sheared, flame cut or sawed steel plate; Yale & Towne plant. F. Stewart. il Steel 106:76, 79 My 13 '40
Instrumentation in arc welding; studies in operator behavior prove valuable. R. E. Kinkead. il Steel 107:60-1+ Jl 22 '40
Irrigation siphons constructed by arc welding methods. il Can Eng W & S 78:14+ S '40
Lessons in arc welding. 136p 50c Lincoln electric co, Cleveland '40
Light weight flooring joined by welding. il Iron Age 146:25 Ag 29 '40
Lincoln 300 ampere Diesel-engine driven welding set. il Engineering 149:550 My 31 '40; Engineer 169:336 Ap 5 '40; Marine Eng 44:580 D '39
Lincoln 200-ampere engine-driven welder. Can Min J 61:404 Je '40; il Automobile Eng 30:124 Ap '40
Locomotive tender tank; interlocked baffle plates in water tank are arc welded. W. C. Rockenstire. il diag Steel 105:45-7 D 25 '39
Low-cost freight cars; combined welded and riveted construction. J. W. Sheffer. il Am Mach 84:862-4 O 30 '40
Measurement of arc welding technique; arcronograph. H. S. Card. il diag Power Pl Eng 44:66-8 Je '40
Metropolitan-Vickers engine-driven arc welding sets. il Engineer 168:504-5 N 17 '39
Metrovick Thermac a.c. equipment. il Electrician 123:361+ O 20 '39
Mill part fabricated by thermit and arc welding; housings of blooming mill pinions. il Iron Age 145:35 Ja 18 '40; Same. Blast F & Steel Pl 28:70 Ja '40; Same. Steel 106:80 F 12 '40
Mounting of the 200-inch telescope. F. Fredericks and N. L. Mochel. il diags Metals & Alloys 10:334-41, 362-8 N-D '39
New Georgia factory built and equipped for arc welding; Le Tourneau factory project. J. R. Morrill. il Manuf Rec 109:28-9 S '40
New process for making composite metals. R. Kinkead. Blast F & Steel Pl 27:1245-6 D '39
New process for producing corrosion-resistant sheet steel; Kinkead arc welding process. Mach 46:116 F '40
New process of electric welding used on aluminum tank cars. il Refrig Eng 39:402 Je '40
New 200-ampere Lincoln arc welder. il Marine Eng 44:569 D '39; Engineer 168:600 D 15 '39
No mystery in arc welding. J. F. Lincoln. Metal Prog 37:438-9 Ap '40; Discussion. 38: 183+, 291 Ag-S '40
Organizing a weldery. R. W. Sternke. Steel 106:60+ Ap 1; 68-9+ Ap 8 '40
Oxy-acetylene and electric processes in boiler and tender work. il diags Ry Mech Eng 114:453-7 N '40
Passenger coach has sheathing arc welded in place. A. E. Katz. diags Steel 105:66+ D 18 '39
Positioning; a welding must. H. Lawrence. il Steel 107:60, 62+ S 2 '40
Possible savings with welded construction; from papers in J. F. Lincoln arc welding contest. Heating-Piping 12:154+ Mr '40
Procedure handbook of arc welding design and practice. 6th ed 1117p $1.50 Lincoln electric co, Cleveland '40
Proposed appendix C for A.P.I. std. no. 12-C: all-welded oil-storage tanks on qualification of welding procedure and testing of welding operators. diags Am Pet Inst Proc 21M(4):260-9 My '40
Reaction chambers; all-welded molybdenum-bearing steel fabrications permit shell thickness to be reduced; Babcock & Wilcox co. il Steel 105:51-2 D 18 '39
Repair by welding of a cast-steel hydraulic cylinder. il diag Engineering 149:475-7, pl 25 My 10 '40
Repairing defects in welds as revealed by the X-ray. H. Lawrence. il diags Steel 107: 64-5+ Jl 29 '40
Rolling mill equipment reclaimed by welding. D. B. Rice. il diags Steel 107:57+ S 30 '40; Same. Blast F & Steel Pl 28:979-80 O '40; Same cond. Iron Age 146:33 O 31 '40
Saving switch tongues by welding. H. H. Griffin. il Transit J 83:450-1 N '39
Sees 1600-ampere manual metallic arc welding within a year. R. E. Kinkead. Steel 107:186 O 14 '40
Shipbuilding on a production basis; Ingalls shipbuilding corp. A. J. Grassick. il Steel 107:44-7+ Jl 8 '40
Shop operation, electric welding; Car department officers association committee report. Ry Mech Eng 114:475-7 N '40
Silicon bronzes; to prevent steel pickup during welding of silicon bronzes to steel, surfaces are first tinned with bronze, using oxyacetylene flame. H. Lawrence. diags Steel 106:67-8 Je 3 '40
Snow cruiser welded. il Iron Age 144:24-5 D 28 '39
Speed of manual arc welding; data sheet. Metal Prog 38:492 O '40
Surface cladding; new method; corrosion-resistant lining for processing vessels. G. E. Gude, jr. il Steel 107:44+ Ag 26 '40
Tentative standard. American water works association; specification for electric fusion welded steel water pipe for sizes 30 inches and over. diags Am Water Works Assn J 32:sup7A.3 p 1-22 Ja '40
There is no mystery about arc welding. J. F. Lincoln. il Concrete (mill sec) 48:174 My '40; Same. Oil & Gas J 38:54 My 2 '40; Same. Iron Age 145:30 My 30 '40; Same. Power Pl Eng 44:75-6 Ag '40; Discussion. 44:91-3 O '40
Thermostats arc welded. il Iron Age 146:43 Jl 18 '40
2,930 ft. of welded casing run in Kansas well in seven hours. H. F. Simons. il Oil & Gas J 39:61 Ag 15 '40
Unshackle arc welding and speed progress. C. M. Taylor. Manuf Rec 109:36 Ag '40; Same cond. Mach 46:127 Ag '40
Welded axle housings. J. W. Meadowcroft. il diag Steel 106:64, 66+ Ap 29 '40
Welded connections for tier buildings; diagrams. Metal Prog 38:57 Jl '40
Welded hooks save time, cost, weight; lifting hooks for draft tube gates. W. D. Myers and M. Fourny. il diag Elec W 112:1759-60 D 16 '39
Welded oil-well casing; with cost data. G. M. Stearns. diags Steel 106:46-7+ Ja 29 '40

ELECTRIC welding, Arc—*Continued*
Welded piping system; supplies water for cooling electric machinery; Edgar Thomson works of Carnegie-Illinois steel co. H. Weiss. Steel 105:64+ N 20 '39
Welded railway trestle. T. H. Gardner. il Steel 105:55, 58+ D 11 '39
Welding construction; applications to plant in the chemical industry. E. D. Lacy. il Chem Age (Lond) 42:225-6 Ap 20 '40
Welding cuts cost of Air lines terminal in New York. L. Grover. il diags plans Eng N 125:94-7 Jl 18 '40
Welding distortion prevented by clamping and peening. C. R. Heermans. il Coal Age 45:62 My '40
Welding fabrications for porcelain enamel finishes. il Steel 107:64, 66, 68-9+ S 23 '40
Welding methods. R. Butler. Chem Age (Lond) 41:346 N 18 '39
Welding surface casing at Oklahoma City. il Oil & Gas J 38:37 My 2 '40
Welding technique in vanguard of pipe-line building progress. A. F. Davis. il Oil & Gas J 39:131+ S 19 '40
Welding tool steels. H. A. Gonser. il Steel 106:66+ F 5 '40
Welding water wheels. E. A. Woodhead. Elec West 84:126-7 Je '40
Welding waterwheels; also metal spraying. A. P. Newberry. Elec West 85:46-7 Ag '40
Where to use a. c. welding. H. Lawrence. diags Steel 107:121+ S 16 '40
Wilson announces dual voltage switch for arc welders. il Marine Eng 45:75 S '40
Work positioners reduce weld fabrication time; Simplicity engineering co. il Iron Age 145:41 My 23 '40

Control

Wilson remote control for arc welders. il Ry Mech Eng 114:205 My '40

Cost

Costs of a welded mill building; comparison with riveting costs; barge assembly shop of the Dravo corp. G. H. Atwood. Eng N 124: 158 F 1 '40
Weld costs per foot. M. L. Smith. Power Pl Eng 44:69 O '40
Welded smoke stack costs. S. Barkla. il Power Pl Eng 44:114+ F '40

Electrodes

Factors governing the arc welding behavior of mild steel wire; abstract. J. C. Joublanc. Metals & Alloys 11:MA82 F '40
Hard-surfacing of steel by arc welding. il Engineering 149:334 Mr 29 '40
Lincoln announces new stainless steel electrode. Marine Eng 45:81 Mr '40
Some observations on metallic arc fluxes. W. Andrews. Engineer 169:224-6 Mr 8 '40; Excerpts. Metal Prog 37:578-9+ My '40
Welding electrodes for steel; composite of abstracts. Metals & Alloys 11:MA265-6 My '40
Welding high sulphur steels; adding manganese to parent metal and electrodes. J. H. Hruska. il Steel 106:40-3 F 26 '40

Hydrogen process

Atomic hydrogen arc welding. R. F. Wyer. Metal Prog 38:493-4 O '40
Atomic hydrogen, for welding hot strip off the 30-in. mill at the Otis plant. R. M. Fenton and E. W. Dougherty. il diag Iron Age 146: 40-2 Jl 18 '40
Atomic hydrogen welding; composite of abstracts. Metals & Alloys 11:MA200 Ap '40
Hydrogen from dissociated ammonia for atomic hydrogen welding. J. H. Gettig. il diags Steel 106:58-9 Ap 22 '40

Hygienic aspects

Chemical and physiological investigation of electric arc welding; bare, washed welding rods. G. C. Harrold, S. F. Meek and C. P. McCord. bibliog il J Ind Hygiene 22:347-78 O '40

Safety devices and measures

Electric welding. W. W. Reddie. il Nat Safety N 40:22-3+ D '39

Testing

Electric welding as an integral part of structural design. B. P. Haigh. il diags Engineering 149:21-5 Ja 5; 49-51 Ja 12 '40
Examinations and tests for fusion welded boiler drums; abstract. L. W. Schuster. Metals & Alloys 11:MA30 Ja '40

ELECTRIC wire

Automatic equipment salvages used copper. il Elec W 114:875 S 21 '40
Causes of corrosion of fine copper wires carrying a potential. H. N. Stephens and G. B. Gehrenbeck. Elec Eng 59:Trans 357-60; Discussion. Trans 360 Je '40
Direct current transmission; size of wire needed to transmit a certain current a definite distance with a given voltage drop; reference book sheet. C. P. Nachod. Product Eng 11:386 Ag '40
Dustless and sliverless wire. W. H. Bassett, jr. il diags Iron Age 146:36-9 S 5 '40
Glass fiber insulates new appliance wires. Steel 106:69 Mr 18 '40
Glass fibre as a wire covering. Electrician 125: 19 Jl 12 '40
How to construct a nomogram giving in one reading the resistance of 1 yard or 1 metre of any wire. D. J. Williams. Electrician 123:343-4 O 13 '39
Thin wall wire to the rescue; wiring for lighting office building. il Elec West 85:26-7 Jl '40
What about these new wires? their development, characteristics, uses, limitations. H. H. Weber. Elec West 85:29-31 O '40

See also
Electric cables
Electric conductors
Electric lines
Electric wiring
General cable corporation

Manufacture

Copper conductor defects; origin in various process stages. J. E. Deering. il diags Elec R (Lond) 125:576 N 3 '39
New method for producing rubber-insulated conductors; patent method of applying coating material to rubber; continuous vulcanization. diags Rubber Age 46:297-8 F '40

Protection

Standard improves weather resistance of coverings for aerial wire and cable. L. L. Carter and A. Bellis. il Ind Stand 11:16-18 Ja '40

Standards

New American standard for magnet wire to eliminate variety in specifications. H. D. Crowe. Ind Stand 11:19-20 Ja '40
Revised standard for tree wire, promises wider popular use. R. H. Titley and D. S MacCorkle. Ind Stand 11:208-9 Ag '40

Testing

Conductor properties tested in production line; copper thickness, ductility, strength of copper-to-steel weld, electrical conductivity and elongation tested in every coil of Copperweld wire. il diag Elec W 112:1604-5 D 2 '39

ELECTRIC wiring

Audels wiring diagrams for light and power. E. P. Anderson. 2d ed 209p $1 Audel & co, New York '39
Calculations on the three-wire system. E. G. Key. il diags Power Pl Eng 44:63-5 Je '40
Electric wiring. W. W. S. Ibbetson. 6th ed 264p $2.50 Chemical pub. co. '40
Good planning a "must" in wiring sales. E. G. Stahl. il Elec W 113:898-9+ Mr 23 '40
Installation components; wiring, lighting, and power accessories. il diags Electrician 124: 241-5 Mr 29 '40
Installation matters; technical instruction for apprentices. Electrician 124:123 F 16 '40
Motor-wire curve is farm sales help. C. P. Wagner. Elec W 113:1740 Je 1 '40

ELECTRIC wiring—*Continued*
New economy for electricity users; small-diameter wires. Business Week p44+ Ap 20 '40
Practical electrical wiring; residential, farm, and industrial. H. P. Richter. 503p bibliog (p495) $3 McGraw-Hill '39
Real need for rewiring on western farms. H. Beresford. Elec West 84:56 Mr '40
Simplex manual. 270p Simplex wire & cable co, 79 Sidney st, Cambridge, Mass. '40
Standards for services attached to buildings. diag Elec W 114:1342 N 2 '40
Thin wall insulation gets code approval. Elec W 112:1756 D 16 '39

See also
Electric cables
Electric conduits
Electric distribution
Electric fuses
Electric lighting
Electric lines
Electric transmission
Insulation (electric)
Motor buses—Electric equipment
National electrical code
National electrical safety code
Telegraph
Telephone
Telephone cables
Telephone lines

Finance
Meeting obstacles in promotion of electric cooking and water heating. S. Stites. Edison Elec Inst Bul 8:171-4 Ap '40

Safety devices and measures
Air-raid shelter wiring. J. J. Lesser. Elec R (Lond) 127:198-9 S 6 '40
Earth-leakage trips; a review of British standard specification no. 842. E. A. Reynolds. Elec R (Lond) 125:577-8 N 3 '39
E.R.A. reports on safety in rural areas. Electrician 124:205 Mr 15 '40
Furnace surges; high voltage on house circuits due to operation of oil burners. Elec West 85:43-4 Jl '40
Grounding practice in electric systems with particular reference to protection from shock. W. P. Dobson. Engineering 150:45-6, 66-7 Jl 19-26 '40
I.E.E. wiring regulations; comments on section 10 of the eleventh edition. T. C. Gilbert. diags Elec R (Lond) 127:147-8 Ag 23 '40
I.E.E. wiring rules; a guide to the principal alterations contained in the eleventh edition. Electrician 123:468-9 N 24 '39
Installation matters; an error in the new I.E.E. wiring regulations. Electrician 123: 359 O 20 '39
Installation matters; I.E.E. requirements for earth leakage circuit breakers. Electrician 124:40 Ja 19 '40
Modern wiring problems; a review of the earth leakage position. E. A. Reynolds. Electrician 124:237-8 Mr 29 '40; Discussion. 124:376 My 24 '40
New South African wiremen and contractors act. Electrician 123:274 S 15 '39
Re-inspection can be done. Elec West 85:44 O '40
What about these new wires? H. H. Weber. Elec West 85:29-31 O '40

ELECTRIC wiring, Interior
Adapting 3-wire lighting to network service. C. S. Wickstrom. il diag Elec W 114:384-6+ Ag 10 '40
Adequate wiring. il diags Arch Forum 73: 123-6 Ag '40
Adequate wiring and rewiring; some American proposals reviewed. H. R. Taunton. Elec R (Lond) 125:759-60 D 15 '39
Adequate wiring needed badly. F. Merish. Steel 107:46-8 Ag 19 '40
Boost riser capacity without new copper; American furniture mart, Chicago. il Elec W 114:708+ S 7 '40
Building management's interest in modern wiring developments. P. C. Hodill. Edison Elec Inst Bul 8:145-7 Ap '40
Conduits and outlets in solid partitions of metal lath and cement plaster. il diags Concrete 48:12+ Ja '40
Contractors hear of new plan to sell home wiring jobs. Elec West 85:40 S '40
Covered neutral cable still helps sell adequate wiring. Edison Elec Inst Bul 8:352 Jl '40
Demand totalized for housing project; impulse wiring for both residential and commercial rates, terminating in single demand meter; Parkchester housing development of the Metropolitan life insurance company. C. V. Morey. il diags plan Elec W 114:838-40 S 21 '40
Detecting electric furnace grounds. E. B. Ankenman. diag Elec W 113:1086+ Ap 6 '40
Distribution in factories; single-winding static apparatus on four-wire systems. A. L. Morris. diags Elec R (Lond) 127:129 Ag 16 '40
Electric distribution systems in buildings. L. W. Moxey, 3d. Elec Eng 59:104-6 Mr '40
Electrical distribution de luxe; new press shop at the Rouge plant of the Ford motor company. G. A. Van Brunt. il diags Factory Management 98:88, 90, 92 Mr '40
Electrical West sales guide. Elec West 84: 33-6 Ja '40
Factory distribution; critical survey of electrical installation practice. il Elec R (Lond) 127:23-4 Jl 12 '40
Identification code for distribution systems. S. H. Coleman. Factory Management 98:90 S '40
Inefficient open wiring eliminated; bus-bar feeders provide flexible system; Kezar Falls (Me.) woolen co. F. A. Westbrook. il diag Textile World 90:61 Ag '40
Inform the journeyman; how to interest the electrical journeyman in adequate wiring. G. Barker. Elec West 83:42-3 D '39
Interior electric wiring and estimating. A. Uhl, A. L. Nelson and C. H. Dunlap. new ed 342p $2.50 American technical soc, Chicago '40
Measuring conduit bends. E. G. Key and F. E. Saari. diags Power Pl Eng 44:76-7 N '40
New, a laminated bus; Los Angeles post-office and Federal building. il diags Elec West 84:58 My '40
No rewiring with plug-in power; all power for motors and lighting is distributed through a bus-duct system, Toledo scale company. H. Schaal. il Factory Management 98:78-9 Ja '40
Non-metallic conduit wiring. T. C. Gilbert. il diag Elec R (Lond) 126:211-12 F 23 '40
Open wiring above, conduit at lower levels preferred. J. I. Miller. Factory Management 98:98 My '40
Overhead bus-bar system for machine shops. il Engineer 169:541-2 Je 14 '40
Portable kit dramatizes poor wiring. W. C. Heston. il diag Elec W 113:1355+ My 4 '40
Practical electricity and house wiring. H. P. Richter. 183p $1.50 Drake '39
Sell standardized services. il diags Elec West 85:50-1 Ag '40
Selling tool in the new PCEB kit; testing apparatus demonstrates effect of inadequate wiring. il diag Elec West 84:48-9 Ja '40
Standard Oil rewires 28-story building in San Francisco. Elec West 85:55 Ag '40
Thin wall wire to the rescue; wiring for lighting office building. il Elec West 85:26-7 Jl '40
What, where and how of the new building wires. E. A. Brand. Elec W 113:1517-20+ My 18 '40
Wiring bottlenecks—inadequate lighting. P. W. Otto. il Elec W 114:239 Jl 27 '40
Wiring specifications; government departments and temporary building installations. Electrician 125:74 Ag 9 '40
Wiring survey nets 17% returns. Elec W 114: 270 Jl 27 '40

ELECTRIC workers
Chief mine electricians' examination, Pennsylvania, 1939. Coal Age 45:61 N '40
Electrical jolt; indictment charges union and contractors with boycott against firms outside New York. Business Week p29+ Ap 6 '40
Inform the journeyman; how to interest the electrical journeyman in adequate wiring. G. Barker. Elec West 83:42-3 D '39

ELECTRIC workers—*Continued*
Installation matters; technical instruction for apprentices. Electrician 124:123 F 16 '40
Lord helps those; employment opportunities in electric equipment maintenance. E. L. Richards. Power Pl Eng 44:70-1 My '40
Men now at work; illustrations. Elec W 113: 1705-13 Je 1 '40

See also
Electric engineers
Electric utilities—Employees

ELECTRICAL association for women
Annual meeting, 15th, London, April 18. Electrician 124:315 Ap 26 '40; Elec R (Lond) 126:479 Ap 26 '40

ELECTRICAL engineering (periodical)
Annual reference indexes covering Electrical engineering and AIEE transactions for 1939. Elec Eng 58:3-18 sec 2 D '39
Institute publication procedure modified to improve service. Elec Eng 59:331-2 Ag '40

ELECTRICITY
ABC's of electricity. J. A. Wasmund. il diags Marine Eng 45:40-8 Ap; 58-62 O '40
Advances in the use of electricity. F. W. Doolittle. Civil Eng 10:90-2 F '40; Same. Edison Elec Inst Bul 8:100-2 Mr '40
Electricity and civilization. H. Joseph. Inst E E J 86:59-65 Ja '40
Electricity to-day. T. B. Vinycomb. 192p $1.75 Oxford '39
Experimental electricity; an analytical college text. H. B. Lemon and M. Ference. 4th ed 284 numb l $3 Univ. of Chicago bookstore, Chicago '40 [mimeographed]
Forty eight million horses. H. B. Neill. 241p $2.50 Lippincott '40
Fundamental principles of electric and magnetic circuits. F. A. Fish. 3d ed 229p $3 McGraw-Hill '40
Fundamentals. F. A. Annett. diags Power 84:88-9 F '40
Fundamentals of electricity and electromagnetism. V. A. Suydam. 690p bibliog(p678-81) $4.75 Van Nostrand '40
Introduction to electricity and optics. N. H. Frank. 398p $3.50 McGraw-Hill '40
Magnetism and electricity. A. E. E. McKenzie. 379p $1.75 Macmillan '38
Practical electricity. T. Croft. 4th ed 701p $3 McGraw-Hill '40
Radiesthesis and electricity. N. Macbeth. diags Electrician 123:556+; 124:7+ D 29 '39-Ja 5 '40

See also
Armatures
Dielectrics
Electric currents
Electric generators
Electrons
Insulation (electric)
Ionization, Electrolytic
Lightning
Magnetism
Photoelectric cells
Photoelectric effect
Piezoelectricity
Potential, Electric
Radio communication
Radioactivity
Telegraph
Telephone
X rays
also headings beginning Electric and Electro

Tables, calculations, etc.
Electrical shop mathematics. H. D. Harper. 145p $1.50 Van Nostrand '40

ELECTRICITY, Accidents from
Electricity in mines; report of H.M. electrical inspector of mines for the year 1938. J. A. B. Horsley. Engineering 148:532 N 10 '39

See also
Electric fires
Electricity, Injuries from

ELECTRICITY, Injuries from
Deadly extension cords. G. E. Kimball. il Safety Eng 79:9-10 F '40
Effects of electric shock; abstract. S. W. Fisher and C. M. Harvey. Elec R (Lond) 126:314-15 Mr 15 '40
E.R.A. reports on safety in rural areas; sensitivity of animals to shock. Electrician 124: 205 Mr 15 '40
Fatalities caused by electric contacts in Alabama coal mines, 1925-39. F. E. Cash. U S Bur Mines Information Circ 7120:1-20 '40
Liability for accident; points raised by a linesman's death. Elec R (Lond) 127:87 Ag 2 '40
110-120; danger from defective electrical appliances. Safety Eng 78:24 N '39
Resuscitation from shock. S. Jellinek. Elec R (Lond) 126:10-11 Ja 5 '40; Discussion (Comparison of methods). G. H. Bell and J. A. C. Knox. 127:241 S 20 '40
Resuscitation review board is appointed; Edison electric institute accident prevention committee. Edison Elec Inst Bul 8:234+, 372-3 My, Jl '40
Twelve resuscitation medals awarded last year. M. B. Woods. il Edison Elec Inst Bul 8:69-72+ F '40

See also Electric laboratories—Safety devices and measures

ELECTRICITY, Static
Conductive rubber; Dunlop introduces substance which eliminates danger spots by absorbing static electricity. Business Week p38-9 My 25 '40
Discoloration at air outlet grilles caused by static charges, study shows. H. C. Murphy. il Heating-Piping 12:22-3 Ja '40
Electrical hazards presented by static electricity and earth currents; requirements for shot-firing underground. P. C. Ziemke. diag Eng & Min J 141:42-5 Je '40
Electrically conductive rubber. H. E. Elden. Rubber Age 47:308+ Ag '40
Static electricity; accumulation on buses; experiences of various companies; tabulation. Transit J 84:101-2 Mr '40
Velvet from static; electrical process. Business Week p40 Mr 16 '40

ELECTRICITY in air conditioning
Air conditioning load exceeds 1,000,000 kilowatts. map Edison Elec Inst Bul 8:402 Ag '40
Air conditioning survey by E.E.I. Elec W 114: 224-5 Jl 27 '40
Evaporative coolers; Edison builds real business on well planned campaign. il Elec West 85:32 Ag '40
Heating by reversed refrigeration; United illuminating co. administration and service building. A. J. Lawless. il diag Heating-Piping 12:473-6, 519-21 Ag-S '40
How much power is used for air conditioning? averages for Washington, D.C. S. L. Gregg. Heating-Piping 12:19-21 Ja '40
Large synchronous motor drives air conditioning compressor; International building in Rockefeller Center. il Heating-Piping 12:162 Mr '40
Load potentialities through packaged air conditioning. H. B. Brown. Edison Elec Inst Bul 8:151-2 Ap '40
Meeting competition in refrigeration and air conditioning field; with comparative cost data for purchased power, Diesel and gas engine plants. H. C. Gause. Edison Elec Inst Bul 8:197-200 My '40
New compressors save power and space; air-conditioning installation at the State-Lake theatre, Chicago. il Elec W 113:1546+ My 18 '40
Power consumption and operating data for storage air conditioning presented. J. M. Dean. il diag Heating-Piping 12:163-6 Mr '40
Streamlined air conditioning; Westinghouse air conditioning unit. il Power Pl Eng 43: 813 D '39
Survey shows 42,604 air conditioning jobs. C. E. Greenwood. Heat & Ven 37:30 Ag '40

See also
Electric fans, Ventilating

ELECTRICITY in medicine. See Electrotherapeutics—Apparatus and instruments

ELECTRICITY in mining
Capacitors correct power factor at Louisville's rock mine. il Concrete (mill sec) 48: 235 S '40

ELECTRICITY In mining—*Continued*
Construction of portable electrical overhead systems for stripping and dumping operations. L. W. Birch. il diag Min Cong J 26:32-3 Jl '40
Electric equipment for mines. il Can Min J 60:743-8 N '39
Electrified colliery; South Wales coalite co. Elec R (Lond) 125:695-8 D 1 '39
Expansion of hydro service in northern Ontario mining districts. T. C. James. il map Can Min J 60:811-16 D '39
Mine electrification pays two ways. il Elec W 113:1240 Ap 20 '40
Role of electricity in the Utah Copper enterprise. R. J. Corfield. il Min Cong J 26:12-15 My '40

See also
Coal mines and mining—Electric equipment
Coal mines and mining—Power
Electric locomotives, Mine
Mine hoisting, Electric
Safety lamps, Electric

Safety devices and measures
Electrical hazards presented by static electricity and earth currents; requirements for shot-firing underground. P. C. Ziemke. diag Eng & Min J 141:42-5 Je '40
Fundamental principles of electrical safety for open-pit iron mines. L. M. Frazee. il diags Gen Elec R 43:230-6 Je '40
Industrial uses of flameproof electric motors. il Engineering 150:85-6, 90 Ag 2 '40; Engineer 170:109-11 Ag 16 '40
List of permissible mine equipment approved to January 1, 1940. L. C. Ilsley. U S Bur Mines Information Circ 7110:1-27 '40
Safety sermonettes. W. B. Paton. Can Min J 61:454-6 Jl '40
Stray electrical currents create serious blasting hazards when grounding of equipment is inadequate. P. C. Ziemke. il Coal Age 45:46-8 N '40

ELECTRICITY in refrigeration
Cooling and air-conditioning, 1939. A. W. Weekes. Electrician 124:60 Ja 26 '40
Florida hospital saves on refrigeration costs. Refrig Eng 40:32 Jl '40
Meeting competition in refrigeration and air conditioning field; with comparative cost data for purchased power, Diesel and gas engine plants. H. C. Gause. Edison Elec Inst Bul 8:197-200 My '40
Squirrel cage motors for air conditioning and commercial refrigeration. C. C. Leader. bibliog diags Refrig Eng 39:162-5+ Mr '40

See also
Electricity in air conditioning
Refrigerators, Electric

ELECTRICITY in the home
Adequate wiring. il diags Arch Forum 73: 123-6 Ag '40
Domestic load; new light on its characteristics. G. O. McLean. Elec R (Lond) 127:127-8 Ag 16 '40
Domestic uses of electricity; how various wartime problems can be solved. C. Haslett. il Elec R (Lond) 127:299-300 O 11 '40
Electricity in the home in wartime. V. W. Dale. Elec R (Lond) 125:644 N 17 '39
Good planning a "must" in wiring sales. E. G. Stahl. il Elec W 113:898-9+ Mr 23 '40
Homes in Alaska use 5,230 kw.-hr. per year. W. T. Stewart. il Elec West 85:29-30 N '40
Living electrically. C. E. Greenwood. il Edison Elec Inst Bul 8:15-17 Ja '40
1940 rates, drifting or sailing; distribution of residential electric customers according to monthly use. F. A. Newton. Edison Elec Inst Bul 8:303-4 Je '40
Potential revenues from coffee making. P. S. Redford. Elec W 113:2076 Je 29 '40
What's next for 1940? C. E. Greenwood. Edison Elec Inst Bul 8:53-5 F '40; Excerpt (table). Elec W 113:2078 Je 29 '40
Wiring survey nets 17% returns. Elec W 114: 270 Jl 27 '40

See also
Electric apparatus and appliances, Domestic
Electric cooking
Electric water heaters
Refrigerators, Electric

ELECTRICITY in the petroleum industry
Colombian plant uses electric power extensively. M. Crawford and H. W. Palkowsky. il Oil & Gas J 38:87-8+ D 28 '39
Electricity keeps pace with the petroleum industry. M. A. Hyde. il Oil & Gas J 38:46+ Ja 4 '40
Electrification of pumping equipment in Illinois. R. E. Hammond. diags Oil & Gas J 38:44-6 Ap 18 '40
Electrifying oil properties and service restoration systems. O. Dowzer. diag Oil & Gas J 39:41, 43+ Jl 18 '40
Relation of electric power to east Texas' development. J. E. Elliott. il map Oil & Gas J 39:44+ O 10 '40
Test indicates potentialities of Diesel-electric rig for deep drilling. H. F. Simons. il Oil & Gas J 38:32-3+ N 30 '39
Variable-voltage equipment for rotary drilling rigs. E. H. Lamberger. il diag Elec Eng 59:Trans 248-55; Discussion. Trans 255-6 Ap '40

See also
Petroleum engineering—Power
Petroleum refineries—Electric equipment

ELECTRICITY on ships. See Ship propulsion, Electric; Ships—Electric equipment

ELECTRICITY on the farm
Agricultural engineers air electric problems; joint meeting of the North Atlantic section of the American society of agricultural engineers and the New England rural electrification institute. Elec W News ed 114:773 S 14 '40
Agriculture in wartime; effect on electrification. F. E. Rowland. il Elec R (Lond) 125:811 D 29 '39
Electric energy on farms. W. R. Newmyer. Elec West 84:104-5 Je '40
Electric laboratory in a public utility; carrying on farm electrification program. C. W. Wildebour. Elec West 84:108-9 Je '40
Electricity and the countryside. Electrician 125:32 Jl 19 '40
Electricity on farms; an analysis of the United States by counties showing the number of farms with electricity. 95p pa $1 Farm journal and farmer's wife, Philadelphia '39
Electrified farm is center of interest during farm week at the World's fair. Edison Elec Inst Bul 8:405-6 Ag '40
Electrified village; Vaudrenand. il Elec R (Lond) 126:37 Ja 12 '40
Electro-farming, 1939. R. B. Matthews. Electrician 124:59 Ja 26 '40
Farm electrification. H. W. Grimmitt. Elec R (Lond) 126:606-7 Je 7 '40
French rural experiment; the electrification of Magnet. S. H. Kahn. il Elec R (Lond) 126:497-8 My 3 '40
Frigidaire announces farm refrigerator. Refrig Eng 39:242 Ap '40
Frigidaire trailer joins REA farm tour. Refrig Eng 39:312 My '40
It's done with water; plumbing installations follow electric pump sales; electric utility and plumber cooperation. il Dom Eng 154: 31-3+ D '39
Motor-wire curve is farm sales help. C. P. Wagner. Elec W 113:1740 Je 1 '40
Portable heater meets farm needs. il Elec W 114:424+ Ag 10 '40
Potato cooker for rural customers served by the Utah power & light co. il Elec West 84:53 Ja '40
Poultry-wax heater improved; plucking poultry by the wax method. C. W. Wildebour. diags Elec W 113:464 F 10 '40
Puget Power has farm lab. il Elec West 85:61 O '40
Real need for rewiring on western farms. H. Beresford. Elec West 84:56 Mr '40
Rural electrification at Bedford. il Elec R (Lond) 126:583-4 My 31 '40
Selling the farmer. T. V. Houser. Edison Elec Inst Bul 8:159-61+ Ap '40

ELECTRICITY on the farm—*Continued*
Serving American farms; what the R.E.A. has accomplished. R. A. Wood. il Elec R (Lond) 127:85-6 Ag 2 '40
Things to consider in a feed grinder job. C. P. Wagner. Elec W 113:1922 Je 15 '40
Ultra-violet and infra-red radiations; uses on the electrified farm of the future; abstract. L. C. Porter. Science 90:sup8-9 D 15 '39

See also
Electric service, Rural

ELECTRICITY supply
Development of electricity supply. W. Dundas. Inst E E J 86:31-8 Ja '40

See also
Electric lighting
Electric lines
Electric plants
Electric power

Alaska
Homes in Alaska use 5,230 kw.-hr. per year. W. T. Stewart. il Elec West 85:29-30 N '40

California
Powering the great valley; means of getting power from Central Valley project's plant to California's breadbasket. L. S. Ready. map Elec West 84:42-4 Ap '40

Canada
Canada saves power; propaganda for St Lawrence project. Business Week p61 S 28 '40

See also
Hydroelectric plants —Canada

Chattanooga
Chattanooga power board expands electric system. il Elec W News ed 112:1817 D 23 '39

France
Electrified village; Vaudrenand. il Elec R (Lond) 126:37 Ja 12 '40
French rural experiment; the electrification of Magnet. S. H. Kahn. il Elec R (Lond) 126:497-8 My 3 '40
La production et la consommation de l'énergie électrique en France, en 1937. L. Pondeveaux. Génie Civil 115:471-2 D 30 '39

Germany
Electricity problems in Germany. Electrician 125:175 O 4 '40
State regulation of electricity supply tariffs; recent German legislation compared with British tendencies. J. W. Beauchamp and R. Kauffmann. Inst E E J 85:569-80 N '39; Excerpts. Electrician 122:437-8 Ap 7 '39; Abstract. Elec R (Lond) 124:461-2 Mr 31 '39; Discussion. Inst E E J 85:581-9 N '39; Electrician 122:438-9 Ap 7 '39; Elec R (Lond) 124:500-1 Ap 7 '39
Will exploit hydro resources of Norway for German benefit. Elec W News ed 114:1397 N 9 '40

Great Britain
Central electricity board 12th annual report for 1939. Electrician 124:299 Ap 19 '40; Engineer 169:401 Ap 26 '40; Engineering 149:440 Ap 26 '40
Construction and operation of the grid. J. Wright. map Inst E E J 86:1-17, pl 1 Ja '40; Same cond. Engineering 148:568-9, 577-9 N 17-24 '39; Same cond. Engineer 168:492-4 N 17 '39; Abstracts. Elec R (Lond) 125: 581-2 N 3 '39; Electrician 123:401-2 N 3 '39
Consumption of electrical energy for industrial purposes. S. J. R. Allwood. Inst E E J 86:82-4 Ja '40
Electric supply and the ordinary consumer. H. G. A. Stedman. Inst E E J 86:39-44 Ja '40
Electricity commissioners' 19th annual report. Engineer 168:546 D 1 '39
Electricity supply progress; commissioners' annual report. Elec R (Lond) 125:640 N 17 '39
Farm electrification. H. W. Grimmitt. Elec R (Lond) 126:606-7 Je 7 '40
Grid in 1939; Central board's report. Elec R (Lond) 126:450 Ap 19 '40
Incorporated municipal electrical association annual meeting, London, June 20. Electrician 124:445-6 Je 28 '40; Elec R (Lond) 126:673-4 Je 28 '40
Incorporated municipal electrical association council's report. Electrician 124:405 Je 7 '40
Residue load; analysis of the first war quarter. G. O. McLean. Elec R (Lond) 126: 242 Mr 1 '40
Rural development; progress in the East Anglian and Beds, Cambs and Hunts areas. il Elec R (Lond) 127:105-6 Ag 9 '40
Rural electrification at Bedford. il Elec R (Lond) 126:583-4 My 31 '40
State regulation of electricity supply tariffs; recent German legislation compared with British tendencies. J. W. Beauchamp and R. Kauffmann. Inst E E J 85:569-80 N '39; Excerpts. Electrician 122:437-8 Ap 7 '39; Abstract. Elec R (Lond) 124:461-2 Mr 31 '39; Discussion. Inst E E J 85:581-9 N '39; Electrician 122:438-9 Ap 7 '39; Elec R (Lond) 124:500-1 Ap 7 '39
Survey of supply industry. F. W. Purse. Inst E E J 86:18-22 Ja '40; Excerpt. Engineer 168:517-18 N 24 '39
Two-part tariff challenged; Wimbledon consumer's test case. Elec R (Lond) 125:681 N 24 '39

India
Indian power schemes. Elec R (Lond) 126: 548 My 17 '40

Ireland
Development of electricity supply in Ireland T. A. McLaughlin. Inst E E J 86:275-8 Mr '40; Abstract. Engineering 149:239 Mr 1 '40
Supply in Eire. Elec R (Lond) 127:89 Ag 2 '40

London, England
Voltage change. Elec R (Lond) 127:7 Jl 5 '40

Malaya, British
Problems in the tropics. H. R. Sparrow. il Elec R (Lond) 125:673-4 N 24 '39

Martha's Vineyard
Cross Nantucket Sound with five-mile cable; high-line service. il Elec W 114:684-6 S 7 '40
22-kv. submarine cable laid by Cape utility; connects island of Martha's Vineyard with mainland substation at Falmouth. il Elec W News ed 114:317 Ag 3 '40

Morocco
L'équipement électrique et hydraulique du Maroc. J. Thomas. il map Génie Civil 116: 77-82, 97-100 F 3-10 '40

Nebraska
Look at little TVA. L. W. W. Morrow. il plan map Elec W 112:1601-3+ D 2 '39
Nebraska power district signs energy sale pact with Iowa-Nebraska light & power co. Elec W 112:1457 N 18 '39

New South Wales
Power in New South Wales. Electrician 124: 22 Ja 12 '40

New Zealand
Electric supply in New Zealand. Electrician 124:90 F 2 '40
Electricity in New Zealand. il Elec R (Lond) 126:366 Mr 29 '40

Northwestern states
Cheap Bonneville power should attract electrometallurgical industries. W. W. R. May. il Min & Met 21:327-9 Jl '40
Future of power use in the Pacific Northwest. H. V. Carpenter. Mech Eng 62:663-4+ S '40
Giant power pool seen as Northwest solution. il Elec W News ed 112:1677 D 9 '39
Northwest in national defense. K. M. Robinson. Edison Elec Inst Bul 8:269-70+ Je '40; Excerpts. Elec W 113:1878 Je 15 '40

ELECTRICITY supply—Northwestern states—Continued
Utah Power announces added link in its grid. map Elec W News ed 114:921-2 S 28 '40
What the administrator says about Bonneville; interview with P. J. Raver. G. C. Tenney. map Elec West 84:27-9 Ja '40

Ontario
Effect of competitive fuels on use of electricity in Ontario. Edison Elec Inst Bul 7: 600 D '39
Hydro-electric power in Ontario; report, year ended Oct. 31, 1939. Engineering 150:126 Ag 16 '40
Ontario hydro-electric power commission 32d annual report. il Electrician 125:85 Ag 16 '40; Elec R (Lond) 127:146 Ag 23 '40

Pasadena, California
New substation serves underground bus. K. R. Birge. il diags Elec W 112:1442-5 N 18 '39

Philadelphia
Philadelphia a-c network; operating results. P. W. Crosby. diags Elec Eng 58:517-21 D '39

Russia
Export markets; U.S.S.R. Electrician 124:337 My 3 '40

South Africa
Electricity supply in South Africa. Engineering 150:252 S 27 '40
South African electricity supply. Engineer 168:622-3 D 22 '39
Supply in South Africa. Electrician 125:155 S 20 '40; Elec R (Lond) 127:239 S 20 '40

Sydney, New South Wales
Load-building in Sydney. il Elec R (Lond) 127:226-7 S 13 '40; Excerpts. Engineering 150:237 S 20 '40

Tennessee valley
TVA short on defense power? how industry is expanding in the Tennessee valley. il Business Week p22-4 Jl 27 '40

Trinidad
Electricity in Trinidad. il Elec R (Lond) 125: 813 D 29 '39

United States
Advances in the use of electricity. F. W. Doolittle. Civil Eng 10:90-2 F '40; Same. Edison Elec Inst Bul 8:100-2 Mr '40
American power is prepared; report of Natural resources production department of U.S. chamber of commerce. Pub Util 25: 745-7 Je 6 '40
Coming boom in kilowatts; integration of utilities into regional networks. il diags Fortune 20:58-60+ D '39
Congressional economy line forms to the right; the grid plan. H. Brayman. Pub Util 25:89-97 Ja 18 '40
Electric power load and growth; figures by the Federal power commission, on the electric power production for 1939. Power Pl Eng 44:75-7 S '40
Electric utilities are prepared. C. W. Kellogg. Edison Elec Inst Bul 8:255-8 Je '40; Excerpts. Elec W 113:1876-7 Je 15 '40; Same cond. Annalist 55:784-5 Je 6 '40
Forecasting defense power. L. Olds. il Elec W 114:1309-12 N 2 '40
Government power program loses momentum pending plans for a defense grid. K. K. Hoyt. map Annalist 55:782-3+ Je 6 '40
Is a grid necessary? O. Ely. Pub Util 25: 35-7 Ja 4 '40
National electric power grid system considered by President Roosevelt; confers with Leland Olds. Comm & Fin Chr 150: 2014-15 Mr 30 '40
Network of power grid to cost $200,000,000; plans for northeastern and north central sections. map Elec W News ed 113:971-2 Mr 30 '40
Output, 1939. Elec W 113:94-5 Ja 13 '40
Power for defense. il maps Power 84:552-74 S '40
Power for defense; a job for the electric utilities. S. B. Williams. map Elec W 114: 1150-2+ O 19 '40
Power policy committee widens grid discussions. Elec W News ed 112:1813 D 23 '39
Power preparedness. W. McClellan. Elec Eng 59:270-1 Jl '40
Power supply adequate to meet country demand. Elec W News ed 113:1819 Je 8 '40
President Roosevelt advocates better integrated system of power facilities; U.S. Chamber of commerce opposes plan; Secretary Ickes urges utilities to cooperate. Comm & Fin Chr 149:3797-8 D 16 '39
President Roosevelt tells FPC to take steps necessary to insure adequate power supply for defense program. Comm & Fin Chr 150:3898 Je 22 '40
Public utilities today and tomorrow; armament program revives some political worries. F. C. Fullerton. il Mag of Wall St 66:284-6+ Je 15 '40
Teamwork on defense power supply. T. D. Weaver. il Elec W 114:1308-9 N 2 '40
Turn of antiutility tide; the grid plan. H. Corey. Pub Util 25:80-8 Ja 18 '40
Utilities eye Washington uneasily; Ickes superpower grid program. map Business Week p40-1+ D 9 '39
Utilities' 1940 schedules boosted to 1,726,-800 kw. Elec W 114:223 Jl 27 '40
War problems of the utilities. O. Ely. Pub Util 25:800-1 Je 20 '40
Weekly production of electrical energy in the United States, 1902-1941; graphs. Elec W 113:supp Ja 13 '40

Virginia
Virginia utilities join in $6,000,000 expansion. Elec W News ed 114:471 Ag 17 '40

Western states
What kind of 40's? ten-year statistical data. Elec West 84:35-7 F '40

ELECTROACOUSTICS
Electro-acoustic reactions; with special reference to quartz crystal vibrators. A. T. Starr. diags Wireless Eng 17:247-56, 303-9 Je-Jl '40
Electro-acoustics. E. Meyer. 117p $2.25 Oxford (Toronto) '39
Elements of acoustical engineering. H. F. Olson. 344p $6 Van Nostrand '40
Standards on electroacoustics, 1938. rev ed 37p pa 50c Inst. of radio engineers, New York '38

Bibliography
Radio progress during 1939; electroacoustics. Inst Radio Eng Proc 28:99-102 Mr '40

ELECTROCAPILLARITY
Electrocapillarity; the chemistry and physics of electrodes and other charged surfaces. J. A. V. Butler. 208p $5 Chemical pub. co. '40

ELECTROCHEMICAL analysis
Electrochemical methods in microchemistry. E. B. Ashcraft. bibliog Electrochem Soc Trans 78 (preprint 9):127-35 O '40; Same. Can Chem & Process Ind 24:525-6, 528, 530 bibliog(p530) O '40; Discussion. Electrochem Soc Trans 78 (preprint 9):135-7 O '40
Electrochemical methods of analysis. A. J. Lindsey. bibliog il Chem Age (Lond) 41:357-8 N 25 '39
Estimation of small amounts of arsenic in copper. B. Park. bibliog Ind & Eng Chem Anal ed 12:97-8 F 15 '40
Measurements with the dropping mercury electrode. G. A. Perley. Electrochem Soc Trans 76 (preprint 19):225-35 S '39; Same. Can Chem & Process Ind 24:85-6, 88+ F '40
Mercury cathode in metallurgical analysis. A. E. Pavlish and J. D. Sullivan. il Metals & Alloys 11:56-9 F '40
Polarographic analysis in the plating industry. P. Sherrick. il Metal Ind 37:565-70 D '39
Precision of the microelectrolytic determination of copper. W. M. MacNevin and R. A. Bournique. bibliog Ind & Eng Chem Anal ed 12:431-3 Jl 15 '40

ELECTROCHEMICAL analysis—*Continued*
Voltammetric determination of oxygen; using platinum electrode. I. M. Kolthoff and H. A. Laitinen. diag Science 92:152-4 Ag 16 '40

ELECTROCHEMICAL industries
Growth of the electrolytic alkali and chlorine industry in the United States development and importance of the deposited diaphragm cell; with list and location of plants in the United States. R. L. Murray. il diag map Am Inst Chem Eng Trans 36:445-62 Ag '40; Same cond. Chem & Met Eng 47:396-9+ Je '40

See also
Electrochemistry
Electrometallurgy
Electroplating

Power

Bonneville customer; Aluminum co.; more on the list. Business Week p22+ S 14 '40
Carbide plant to be erected in Oregon by Stuart oxygen co. Oil Paint & Drug Rep 138:5+ Jl 22 '40
Chemical industry on the Niagara frontier. R. B. MacMullin, F. L. Koethen and C. N. Richardson. map Am Inst Chem Eng Trans 36:295-324 Ap '40; Excerpts. Chem & Met Eng 47:338-41 My '40
Conversion devices for electrochemical loads C. C. Levy. bibliog il diag Chem & Met Eng 47:344-8 My '40
Federal water power and electrochemical industries. C. G. Fink. bibliog il Elec Eng 59:59-62 F '40

Niagara area

Chemical industry on the Niagara frontier. R. B. MacMullin, F. L. Koethen and C. N. Richardson. map Am Inst Chem Eng Trans 36:295-324 Ap '40; Excerpts. Chem & Met Eng 47:338-41 My '40

Tennessee valley

TVA short on defense power? how industry is expanding in the Tennessee valley. il Business Week p22-4 Jl 27 '40

ELECTROCHEMICAL society
Meeting, 77th, Wernersville, Pa. April 24-27. Chem & Met Eng 47:353-4 My '40
Meeting, 78th, Ottawa, Oct. 2-5. Can Chem & Process Ind 24:495-7 O '40; Chem & Met Eng 47:692-3 O '40
Spring meeting, Wernersville, Pa.; abstracts of some papers. Metal Finishing 38:325-8 Je '40

ELECTROCHEMISTRY
Abstracts of papers presented at fall Electrochemical society meeting. Metal Finishing 38:590-2 N '40
American contemporaries; Hector Russell Carveth; sodium manufacturer at Niagara Falls. M. J. Brown. Ind & Eng Chem News ed 18:389-90 My 10 '40
Early days of electrochemistry at Buckingham, Quebec, and of chemists' organizations in Canada. F. J. Hambly. Chem & Ind 59:585-7 Ag 17 '40
Electrochemical methods in microchemistry. E. B. Ashcraft. Can Chem & Process Ind 24:525-6, 528, 530 bibliog(p530) O '40
Electrochemical methods in organic chemistry. J. C. Beltz. bibliog J Chem Educ 17:516-19 N '40
Electrochemical oxidation of n-hexanol. W. R. Lowstuter and A. Lowy. bibliog diag Electrochem Soc Trans 77 (preprint 21):263-70 Ap '40
Electrochemical society spring meeting, Wernersville, Pa.; abstracts of some papers. Metal Finishing 38:325-8 Je '40
Electro-organic chemical preparations. S. Swann, jr. bibliog Electrochem Soc Trans 77 (preprint 26):315-54 Ap '40
Industrial electrochemistry. C. L. Mantell. 2d ed 656p $5.50 McGraw-Hill '40
Quasi-reversible conduction and galvanic cells with liquid-liquid junctions. F. O. Koenig. bibliog J Phys Chem 44:101-35 Ja '40
Sodium chlorate cell design. P. H. Groggins, A. L. Pittman and F. H. Davis. diags Chem & Met Eng 47:468-70 Jl '40
Theoretical electrochemistry. N. A. McKenna. 469p $5.50 Van Nostrand '39
Theory of galvanic cells subject to fields of force; the gravitational field. F. O. Koenig and S. W. Grinnell. bibliog J Phys Chem 44:463-82 Ap '40
Über die elektrochemische bodenverfestigung nach dem verfahren von L. Casagrande. E. Kumutat. bibliog il Angew Chemie 53:168-71 Ap 13 '40

See also
Electric batteries
Electric precipitation
Electrochemical analysis
Electrodeposition of metals
Electrodes
Electrolysis
Electrolytes
Electrometallurgy
Electroplating
Ionization, Electrolytic
Metal cleaning, Electrolytic
Oxidation, Electrolytic
Reduction, Electrolytic
Storage batteries

Bibliography

Recent periodical literature. Published in monthly numbers of Bulletin of Electrochemical society

Patents

Patents of interest to electrochemists. F. W. Dodson. Published in monthly numbers of Bulletin of Electrochemical society

ELECTRODEPOSITION of metals
Abstracts of papers presented at fall Electrochemical society meeting. Metal Finishing 38:590-2 N '40
Deposition potentials of metals from fused alkali chloride-aluminum chloride baths. W. H. Wade, G. O. Twellmeyer and L. F. Yntema. Electrochem Soc Trans 78 (preprint 17):229-42 O '40
Determination of sulfur in organic compounds. E. W. D. Huffman. bibliog diags Ind & Eng Chem Anal ed 12:53-8 Ja 15 '40
Electrochemical society spring meeting, Wernersville, Pa.; abstracts of some papers. Metal Finishing 38:325-7 Je '40
Electrodeposition of alloys, 1930 to 1940. C. L. Faust. Electrochem Soc Trans 78 (preprint 7):73-106 bibliog(235 references, p100-5) O '40; Excerpts. Iron Age 146:38 O 24 '40
Electrodeposition of indium from sulfate baths. C. G. Fink and R. H. Lester. bibliog diag Electrochem Soc Trans 78 (preprint 14):179-202 O '40
Electrodeposition on plastic materials. J. J. Bayard. il Metal Ind 38:255-6+ My '40
Electrolytic metallizing on non-metallic surfaces; wood, plaster of Paris, flowers, horn, insects, etc. E. Schore. il Metal Finishing 38:433-7 Ag '40
Electroplates as metal-forms in engineering design; composite of abstracts. Metals & Alloys 11:MA280 My '40
Five-foot reflectors made by electroforming; rhodium plating applied to base of electroplated nickel. il Metal Finishing 38:532+ O '40
Improvement in quality of metal deposits due to rotation of cathode applies likewise to metal deposits by displacement. R. Piontelli. bibliog il Electrochem Soc Trans 77 (preprint 7):83-92 Ap '40
Metal plated plastics. J. B. Kushner. il Product Eng 11:364-6 Ag '40
Metal screen made by electroplating; Lektromesh. Metals & Alloys 11:MA60 F '40; Same. il Sci Am 162:158 Mr '40; Same cond. il Steel 106:64 Mr 4 '40
Molds and dies electroformed; EKKO process. Elec W 112:1766+ D 16 '39
Molds by electro-forming; Ekko process. il Sci Am 162:89 F '40
New process is developed for plating metals onto plastics; process known as Metaplast. Steel 107:55 Jl 15 '40
Plastic materials; application of various metals by electro-plating. Electrician 124: 308 Ap 19 '40
Plating on baby shoes, leather and other materials. A. V. Re. il Metal Ind 38:82-3 F '40; Discussion. 38:213 Ap '40

ELECTRODEPOSITION *of metals—Continued*
Protection of silver by the electrolytic deposition of beryllia. L. E. Price and G. J. Thomas. bibliog il Metal Ind 37:507-10 N '39; Same cond. Engineering 148:675-6 D 15 '39
Study of the electrolysis of the sodium cuprocyanide solution. J. V. Petrocelli. bibliog Electrochem Soc Trans 77 (preprint 4):49-57 Ap '40
Theory of the potential and the technical practice of electrodeposition. C. Kasper. diags Electrochem Soc Trans 77 (preprint 23):275-85 Ap '40
Theory of the potential and the technical practice of electrodeposition; flow between and to circular cylinders. C. Kasper. Electrochem Soc Trans 78 (preprint 19):259-72 O '40
Theory of the potential and the technical practice of electrodeposition; linear polarization on some line-plane systems. C. Kasper. Electrochem Soc Trans 78 (preprint 18):243-58 O '40
Theory of the potential and the technical practice of electrodeposition; point-plane and line-plane systems. G. Kasper. Electrochem Soc Trans 77 (preprint 28):363-82 Ap '40

See also
Electrometallurgy
Electroplating

ELECTRODES
Apparatus for plating hydrogen electrodes. V. A. Lamb. il diag J Chem Educ 17:539 N '40
Carbon electrodes; their manufacture on a small scale. A. G. Arend. Electrician 124: 185-6 Mr 8 '40
Characteristics and function of anode spots in glow discharges. S. M. Rubens and J. E. Henderson. bibliog il diags Phys R 58: 446-57 S 1 '40
Dropping electrode with a constant head of mercury. E. F. Mueller. diag Ind & Eng Chem Anal ed 12:171 Mr 15 '40
Electrical characteristics of low pressure discharges. J. W. Marden and G. Meister. il Illum Eng Soc Trans 34:1095-1107 N '39
Electrodes in metal vacuum systems. A. Hemmendinger. diag R Sci Instr 10:389 D '39
Hydrogen anode. M. deK. Thompson and H. V. Fairbanks. diags Electrochem Soc Trans 78 (preprint 23):327-35 O '40
Irreversible electrode phenomena of thallium; hydrogen overvoltage in sulfuric acid. I. M. LeBaron and A. R. Choppin. diag Electrochem Soc Trans 77 (preprint 11):137-45 Ap '40
Lead anodes for chromium plating. R. Eckhardt. il Metal Finishing 38:313-14 Je '40
Measurement and control of pH; Chem. & Met. report. bibliog il diags Chem & Met Eng 47:554-60 Ag '40
Mercurous bromide electrode. W. D. Larson. bibliog Am Chem Soc J 62:764-5 Ap '40
Photovoltaic cells with silver-silver bromide electrodes; optical sensitizing by dyes. S. E. Sheppard, W. Vanselow and G. P. Happ. bibliog il diag J Phys Chem 44:411-21 Ap '40
Polonium alloy for spark plug electrodes. J. H. Dillon. J Ap Phys 11:291-9 Ap '40; Discussion. R. D. Evans. 11:561-2 Ag '40
Porous carbon electrodes; oxidation of arsenite. M. Janes. diag Electrochem Soc Trans 77 (preprint 5):59-71 Ap '40
Qualitative spectrographic analysis in the arc, with graphite electrodes. W. C. Pierce, O. R. Torres and W. W. Marshall. il diag Ind & Eng Chem Anal ed 12:41-5 Ja 15 '40
Reclaiming nickel anodes by welding; current loss preferable to metal loss. C. C. Downie. Chem Age (Lond) 43:59+ Ag 3 '40
Relation of residual ionization to arc-back in thyratrons. K. H. Kingdon and E. J. Lawton. diags Gen Elec R 42:474-8 N '39
Sign of electrode potential. C. S. Hoyt. J Chem Educ 17:530-2 N '40
Silver-silver iodide electrode. R. K. Gould and W. C. Vosburgh. bibliog diag Am Chem Soc J 62:1817-19 Jl '40
Study of diffusion processes by electrolysis with microelectrodes. H. A. Laitinen and I. M. Kolthoff. Am Chem Soc J 61:3344-9 D '39
Thermodynamics of the silver bromide—mercurous bromide cell. T. W. Dakin and D. T. Ewing. bibliog Am Chem Soc J 62:2280-4 S '40
Tissue reaction to some carbon arc dusts. E. L. MacQuiddy and others. il J Ind Hygiene 21:498-513 bibliog(p511-13) D '39
Voltammetric determination of oxygen; using platinum electrode. I. M. Kolthoff and H. A. Laitinen. diag Science 92:152-4 Ag 16 '40

See also
Cathodes
Overvoltage
Vacuum tubes

ELECTRODES, Glass
Determination of the pH value of clay by means of the glass electrode. F. W. Selfridge. il Rubber Age 46:287-8 F '40
Measurement and control of pH; Chem. & Met. report. il diags Chem & Met Eng 47: 559-60 Ag '40
Metallized glass oxygen electrodes. H. G. Bain. bibliog Electrochem Soc Trans 78 (preprint 16):211-27 O '40
Method for measuring and recording continuously the pH of the circulating blood. C. E. King and E. W. Benz. diag Science 92:409-10 N 1 '40
Methods of measuring pH in alkaline cyanide plating baths. M. R. Thompson. J Research Nat Bur Stand 24:423-34 Ap '40
New type of shielded glass electrode. J. Adler. diag Science 92:385-6 O 25 '40
Use of zeolitic membrane electrodes. C. E. Marshall. bibliog J Phys Chem 43:1155-64 D '39

ELECTRODIALYSIS. See Dialysis

ELECTRODIALYZER. See Dialyzers

ELECTRODYNAMICS
Complete data and boundary conditions for a superconductor. E. Cook. Phys R 58:361-4 Ag 15 '40
Electrodynamics. L. Page and N. I. Adams, jr. 506p $6.50 Van Nostrand '40
Equations of motion in electrodynamics. L. Infeld and P. R. Wallace. Phys R 57:797-806 My 1 '40
Phenomenological theory of superconductors. E. Cook. bibliog Phys R 58:357-61 Ag 15 '40

See also
Electric conductivity
Electric currents
Electricity
Inductance

ELECTROGALVANIZING. See Galvanizing

ELECTROHORTICULTURE
Heating hotbeds with radiant energy from incandescent lamps. R. L. Zahour. bibliog il diag plan Illum Eng 35:591-604 Jl '40

ELECTROKINETICS. See Potential, Electric

ELECTROLYSIS
Electrolysis of some higher aliphatic organomagnesium halides in ethyl ether. W. V. Evans, D. Braithwaite and E. Field. Am Chem Soc J 62:534-6 Mr '40
Electrolytic etching of brass. G. C. Williams and G. Rieger. bibliog il Electrochem Soc Trans 77 (preprint 20):259-62 Ap '40
Reducibility of quadrivalent zirconium. A. W. Laubengayer and R. B. Eaton. bibliog Am Chem Soc J 62:2704-6 O '40
Study of diffusion processes by electrolysis with microelectrodes. H. A. Laitinen and I. M. Kolthoff. Am Chem Soc J 61:3344-9 D '39
Study of the electrolysis of the sodium cuprocyanide solution. J. V. Petrocelli. bibliog Electrochem Soc Trans 77 (preprint 4):49-57 Ap '40

See also
Electrochemical analysis
Electrodeposition of metals
Electrodes
Electrolytes
Electrolytic corrosion
Metal cleaning, Electrolytic
Reduction, Electrolytic

ELECTROLYTES

Activity coefficients in concentrated aqueous solutions of strong electrolytes described by a formula containing the mean ionic diameter as single parameter; theory and application to the alkali chlorides, bromides and iodides. P. Van Rysselberghe and S. Eisenberg. bibliog Am Chem Soc J 61:3030-7 N '39; Correction. 62:451-2 F '40

Calculation of equilibria in dilute water solutions. D. S. McKinney. bibliog Am Soc T M Proc 39:1191-1203; Discussion. 1218-20 '39

Chemical treatment of clays; effect of electrolytes; abstract. H. G. Schurecht. diag Brick & Clay Rec 96:29-31 My '40

Dilute solutions of electrolytes. J. Kielland. bibliog J Chem Educ 17:146-8 Mr '40

Effect of adsorbed electrolytes on properties of monodisperse clay-water systems. S. Spell. bibliog Am Cer Soc J 23:33-8 F '40

Electrokinetics; electrokinetic potentials of barium sulfate in solutions of electrolytes and in fifty per cent ethanol. R. G. Ruyssen. bibliog J Phys Chem 44:265-75 Mr '40

Electrolyte coagulation process; the influence of dilution of sol on the adsorption of precipitating ions. H. B. Weiser and W. O. Milligan. bibliog Am Chem Soc J 62:1924-30 Ag '40

Electrolyte films in acid copper plating baths. H. J. Read and A. K. Graham. diags Electrochem Soc Trans 78 (preprint 1):1-23 O '40

Empirical relation between solubility of slightly soluble electrolytes and dielectric constant of the solvent. J. E. Ricci and T. W. Davis. bibliog Am Chem Soc J 62: 407-13 F '40

Freezing points in mixtures of strong electrolytes. M. Randall and B. Longtin. bibliog J Phys Chem 44:427-35 Ap '40

Hevea latex; effect of proteins and electrolytes on colloidal behavior. A. R. Kemp and W. G. Straitiff. bibliog diags J Phys Chem 44:788-808 Je '40

Modern chemical concepts and the high-school curriculum. J. F. Castka. J Chem Educ 17:489-90 O '40

Phase rule behavior of concentrated aqueous system of a typical colloidal electrolyte; sodium oleate. R. D. Vold. bibliog il diag J Phys Chem 43:1213-31 D '39

Properties of electrolytic solutions; conductance of ethylene dichloride solutions of some quaternary ammonium salts having large negative ions. D. L. Fowler and C. A. Kraus. bibliog Am Chem Soc J 62:2237-40 Ag '40

Solubilities of salts in dioxane-water solvents. T. W. Davis, J. E. Ricci and C. G. Sauter. bibliog Am Chem Soc J 61:3274-84 D '39

Solubility of barium iodate monohydrate in solutions of uni-univalent electrolytes at 25°, and the calculation of the dissociation constant of iodic acid from solubility data. S. Naidich and J. E. Ricci. bibliog Am Chem Soc J 61:3268-73 D '39

Surface tension of aqueous solutions of some paraffin chain colloidal electrolytes, including a comparison of the capillary rise and sessile bubble methods of measurement. H. V. Tartar, V. Sivertz and R. E. Reitmeier. bibliog diag Am Chem Soc J 62: 2375-80 S '40

Viscosity of solutions of electrolytes as a function of the concentration; potassium bromide and lanthanum chloride. G. Jones and R. E. Stauffer. bibliog Am Chem Soc J 62:335-7 F '40

Viscosity of solutions of electrolytes as a function of the concentration; silver nitrate, potassium sulfate and potassium chromate. G. Jones and J. H. Colvin. Am Chem Soc J 62:338-40 F '40

See also

Electric batteries
Electric double layer
Electrochemistry
Electrodes
Electrolysis
Ionization, Electrolytic
Solution (chemistry)

Conductivity

Conductance, dissociation constant and heat of dissociation of triethylamine in water. J. E. Ablard, D. S. McKinney and J. C. Warner. bibliog Am Chem Soc J 62:2181-3 Ag '40

Conductance of salts in monoethanolamine. H. T. Briscoe and T. P. Dirkse. bibliog J Phys Chem 44:388-97 Mr '40

Conductance of solutions of organosubstituted ammonium chlorides in liquid hydrogen sulfide. E. E. Lineken and J. A. Wilkinson. bibliog diags Am Chem Soc J 62:251-6 F '40

Conductance of some salts in chlorobenzene at 25°. R. L. McIntosh, D. J. Mead and R. M. Fuoss. bibliog Am Chem Soc J 62: 506-8 Mr '40

Conductivity measurement and control. il Chem & Ind 58:1011-13 N 18 '39

Inexpensive vacuum tube oscillator for student use in measuring the conductance of electrolytes. D. E. Hull. diag J Chem Educ 17:329 Jl '40

Ionization constant of monoethanolammonium hydroxide at 25° from electrical conductance measurements. V. Sivertz, R. E. Reitmeier and H. V. Tartar. bibliog Am Chem Soc J 62:1379-82 Je '40

Measurement of the conductance of electrolytes; the use of the cathode-ray oscillograph as a detector. G. Jones, K. J. Mysels and W. Juda. bibliog Am Chem Soc J 62:2919-22 N '40

Properties of electrolytic solutions; the conductance of tributylammonium picrate in ethylene chloride at 25°. D. J. Mead, R. M. Fuoss and C. A. Kraus. bibliog Am Chem Soc J 61:3257-9 D '39

ELECTROLYTIC cells

Cadmium-cadmium sulfate half-cell for measuring potentials in the earth. S. Ewing. Am Gas Assn Proc 1939:635-40

Cerate oxidimetry; electrolytic oxidation of cerium without use of a diaphragm cell. G. F. Smith, G. Frank and A. E. Kott. Ind & Eng Chem Anal ed 12:268-9 My 15 '40

Copper-copper sulfate half-cell for measuring potentials in the earth. S. Ewing. diags Am Gas Assn Proc 1939:624-34

Determination of sudden changes in flow of a direct current feeding a number of electrolytic cells. Power Pl Eng 43:733 N '39; Solutions. diags 44:96-9 Ja; 77 F '40

Electrolytic chromium plate thickness tester. S. Anderson and R. W. Manuel. bibliog il diags Electrochem Soc Trans 78 (preprint 3):37-46 O '40

Measurement and control of pH; Chem. & Met. report. bibliog il diags Chem & Met Eng 47:554-60 Ag '40

Modern chlorine practice. C. L. Mantell. diags Chem & Met Eng 47:166-8+ Mr '40

Sodium chlorate cell design. P. H. Groggins, A. L. Pittman and F. H. Davis. diags Chem & Met Eng 47:468-70 Jl '40

ELECTROLYTIC corrosion

Cooperative problems involved in cathodic protection. L. F. Scherer. il Oil & Gas J 38:179+ N 17 '39

Corrosion of underground cables. W. G. Radley and C. E. Richards. diags Inst E E J 85:685-704. pl 1-2 bibliog(p703) D '39; Discussion. 85:704-12; 86:496-500 D '39, My '40

Electrolysis stopped in industrial plant. Elec W 111:418 Ag 10 '40

Electrolytic corrosion of ship structures. J. H. Paterson. Engineering 149:425-7 Ap 19 '40; Same cond. Engineer 169:463-4 My 17 '40

Eliminating underground corrosion; cathodic protection on Treasure Island. C. W. Geiger. il diag Power Pl Eng 44:65-6 F '40; Abstract. Mech Eng 62:238-9 Mr '40

Joint corrosion committee for electrolysis mitigation. M. W. Ghen. diags Edison Elec Inst Bul 8:231-3 My '40

Report of subcommittee VIII on galvanic and electrolytic corrosion. il diag Am Soc T M Proc 39:247-55, pl 2-5 '39

ELECTROLYTIC corrosion—*Continued*
Sand helps lick water main electrolysis. F. M. Carver. Factory Management 97:77-8 D '39
Stray current corrodes underground mains. Nat Safety N 42:91 S '40
See also
Corrosion and anti-corrosives
Stray currents

ELECTROLYTIC depolarization. See Depolarization, Electrolytic

ELECTROLYTIC metal cleaning. See Metal cleaning, Electrolytic

ELECTROLYTIC oxidation. See Oxidation, Electrolytic

ELECTROLYTIC polishing. See Polishing, Electrolytic

ELECTROLYTIC reduction. See Reduction, Electrolytic

ELECTROMAGNETIC horns. See Radio antennas—Directional antennas

ELECTROMAGNETIC levitator
Earnshaw's theorem. L. Tonks. Elec Eng 59: 118-19 Mr '40

ELECTROMAGNETISM
Cosmic machinery in an electro-magnetic universe. H. A. Staples. 224p bibliog(p217-19) 12s 6d W. Clowes, London '39
Electricity and magnetism; need for more direct method of teaching; discussion of book by E. G. Cullwick; Fundamentals of electromagnetism. R. O. Kapp. Elec R (Lond) 126:475-6 Ap 26 '40
Electromagnetic problems in electrical engineering. T. J. Higgins. Elec Eng 59:246 Je '40; Discussion. B. Hague. 59:479-80 N '40
Electromagnetic self-energy of mesotrons. R. D. Richtmyer. Phys R 57:413-16 Mr 1 '40
Elements of electro-magnetic theory. A. W. Duff and S. J. Plimpton. 173p $2.75 Blakiston '40
Equations of motion in electrodynamics. L. Infeld and P. R. Wallace. Phys R 57:797-806 My 1 '40
Experiment on electromagnetic induction by linear motion. E. G. Cullwick. diags Inst E E J 85:315-18 Ag '39; Discussion. 86:96-7 Ja '40
Fundamentals of electricity and electromagnetism. V. A. Suydam. 690p bibliog(p678-81) $4.75 Van Nostrand '40
Fundamentals of electromagnetism; criticism of book by E. G. Cullwick. G. W. O. Howe. diag Electrician 123:289-90 S 22 '39; Discussion. 123:553-4; 124:323-5 D 29 '39, Ap 26 '40
Hyperfrequency waves and their practical use. L. Brillouin. il diags Franklin Inst J 229:709-36 Je '40
Wave reflections from diffuse boundaries. C. D. Thomas and R. C. Colwell. Phys R 56: 1214-16 D 15 '39

ELECTROMAGNETS
A. c. magnet coils; reference book sheet. G. L. Moses. Product Eng 11:97-8 F '40
Design for an electromagnet and performance of a small model. S Freed. il diags R Sci Instr 11:117-19 Ap '40
Design of powerful electromagnets; new magnet laboratory at M.I.T. F. Bitter. diags R Sci Instr 10:373-81 D '39
Magnet and cloud chamber for cosmic-ray studies. H. Jones and D. Hughes. il diags R Sci Instr 11:79-83 Mr '40
Magnet coils; proportioning and testing; reference book sheet. G. L. Moses. diag Product Eng 11:47-8 Ja '40
Magnetron oscillator with a compound field winding. L. H. Ford. diag Inst E E J 86: 293-6 Mr '40
Zeeman effects in complex spectra at fields up to 100,000 gauss. G. R. Harrison and F. Bitter. il Phys R 57:15-20 Ja 1 '40
See also
Armatures
Lifting magnets

ELECTROMECHANICS
See also
Electrodynamics

ELECTROMETALLURGY
Cheap Bonneville power should attract electrometallurgical industries. W. W. R. May. il Min & Met 21:327-9 Jl '40
Electricity as applied to metallurgy. A. P. M. Fleming. diags Engineer 169:323-6 Ap 5 '40; Same cond. Engineering 149:394-5, 421 Ap 12-19 '40; Abstracts. Electrician 124: 265 Ap 5 '40; Elec R (Lond) 126:371-2 Mr 29 '40
Electrolytic manganese; manufacture and possible uses; composite abstract. Metals & Alloys 11:MA47-8 Ja '40
Electro-metallurgy cheapens production. Elec R (Lond) 127:264 S 27 '40
Electrometallurgy, 1939. A. A. Center. Eng & Min J 141:85-7 F '40
Grand Coulee and electrometallurgical industries. A. E. Drucker. Mech Eng 62:661-2 S '40
Progress in electrolytic refining of metals, with special reference to the last decade. M. F. W. Heberlein. bibliog Electrochem Soc Trans 77 (preprint 25):303-14 Ap '40; Abstract. Eng & Min J 141:54-5 Je '40
Progress reports, Metallurgical division; annual report, fiscal year 1939. R. S. Dean. flow sheets pls U S Bur Mines Rep of Invest 3480:15-59 '40
Progress reports, Metallurgical division; electrometallurgical investigations; electrolytic method for the production of calcium boride. J. Koster, R. G. Knickerbocker and A. L. Fox. bibliog pls U S Bur Mines Rep of Invest 3500:1-21 '40
Progress reports, Metallurgical division; electrometallurgical investigations; recovery of antimony from gold ores. J. Koster and M. B. Royer. il diags U S Bur Mines Rep of Invest 3491:1-23 '40
Progress reports, Metallurgical division; electrometallurgical investigations; recovery of nickel, copper, and precious metals by combined electrothermal and electrolytic method. J. Koster and others. bibliog flow sheets pls U S Bur Mines Rep of Invest 3483:1-28 '39
Progress reports, Metallurgical division; manganese and its alloys. R. S. Dean and others. bibliog pls U S Bur Mines Rep of Invest 3477:1-47 '39
Smelting domestic chrome ores in the electric furnace; investigation of high-iron concentrates from Montana and Oregon made to determine chromium recovery, power consumption, and grades of products. Eng & Min J 141:49-51 Jl '40
See also
Copper metallurgy—Electrometallurgy
Electric furnaces, Metallurgical
Electrodeposition of metals
Electroplating
Iron metallurgy—Electrometallurgy
Steel metallurgy—Electrometallurgy

ELECTROMETERS
Degenerative electrometer tube amplifier. G P. Harnwell and L. N. Ridenour. diag R Sci Instr 11:346-7 O '40
Universal pH meter and simplified vacuum tube electrometer. F. M. Goyan, C. L. Barnes and H. W. Hind. diags Ind & Eng Chem Anal ed 12:485-8 Ag 15 '40
Use of electrets in electrical instruments. A. Gemant. diags R Sci Instr 11:65-71 F '40

ELECTROMOTIVE force. See Potential, Electric

ELECTRON bombardment
Behavior of willemite under electron bombardment. E. R. Piore and G. A. Morton. il diag J Ap Phys 11:153-7 F '40
Preparation of high melting alloys with the aid of electron bombardment. R. Hultgren and M. H. Pakkala. il diags J Ap Phys 11: 643-6 O '40
Simple power limiting device for use when heating by electron bombardment. R. P. Winch and H. E. Farnsworth. diag R Sci Instr 11:344 O '40

ELECTRON counters. See Counters (electrons, ions, etc.)

ELECTRON diffraction cameras. See Cameras, Electron diffraction

ELECTRON gun
Rectilinear electron flow in beams. J. R. Pierce. diags J Ap Phys 11:548-54 Ag '40

ELECTRON microscope. See Microscope and microscopy—Electron microscope

ELECTRON multipliers
American apparatus, instruments, and instrumentation; electrical and electronic instruments. R. H. Müller. il Ind & Eng Chem Anal ed 12:586 O 15 '40
Farnsworth electron multiplier phototube. diags Electronics 13:54 My '40
Photo-cell multiplier tubes. C. C. Larson and H. Salinger. il diags R Sci Instr 11:226-9 Jl '40

ELECTRON optics
Electron optics of cylindrical electric and magnetic fields. A. Rose. bibliog il diags Inst Radio Eng Proc 28:30-40 Ja '40
Infra-red plane detector. Science 92:sup6 Ag 30 '40
Some factors affecting the choice of lenses for television cameras. H. B. DeVore and H. Iams. Inst Radio Eng Proc 28:369-74 Ag '40
Space-charge limitations on the focus of electron beams. B. J. Thompson and L. B. Headrick. Inst Radio Eng Proc 28:318-24 Jl '40
System of large-screen television reception based on certain electron phenomena in crystals; possibility of color television by use of alkali halide crystals. A. H. Rosenthal. bibliog il diags Inst Radio Eng Proc 28:203-12 My '40
Ultra-high-frequency oscillography; electron-optical spectral analysis. H. E. Hollmann. bibliog il diags Inst Radio Eng Proc 28: 213-15 My '40

ELECTRON tubes. See Vacuum tubes

ELECTRON volt (term)
Electron volts. Sci Am 163:72 Ag '40

ELECTRONIC music. See Musical instruments, Electric

ELECTRONICS
Radio progress during 1939; electronics. bibliog(114 titles) Inst Radio Eng Proc 28: 103-7 Mr '40
Space potential plotting in thermionic vacuum tubes. D. E. Kenyon. R Sci Instr 11:308-10 O '40
Television; the electronics of image transmission. V. K. Zworykin and G. A. Morton. 646p $6 Wiley '40

See also
Electron optics
Electrons
Oscillographs, Cathode ray
Photoelectric cells
Radio engineering
Vacuum tubes

ELECTRONICS (periodical)
Decade of Electronics Electronics 13:18-24 Ap '40

ELECTRONS
Behavior of high energy electrons in the cosmic radiation. C. G. Montgomery and D. D. Montgomery. bibliog Rs Mod Phys 11: 255-64; Discussion. 264-6 Jl-O '39
Eigenvalue problem of the Dirac electron. A. Landé. Phys R 57:1183-4 Je 15 '40
Electron sharing ability of organic radicals; alpha-substituted tetrahydroquino-lines. W. Oldham and I. B. Johns. bibliog Am Chem Soc J 61:3289-91 D '39
Electrons arising from the disintegration of cosmic-ray mesotrons. B. Rossi. Phys R 57:469-71 Mr 15 '40
Electro-physics; review of progress, 1936-1939. N. Campbell. diags Inst E E J 86:212-19 F '40
Energy loss of electrons in carbon and the decay of the mesotron. H. R. Crane, N. L. Oleson and K. T. Chao. Phys R 57:664 Ap 1 '40
Existence and the magnitude of electronic charges. A. Landé. Franklin Inst J 229: 767-74 Je '40
Formation and maintenance of electron and ion beams. L. P. Smith and P. L. Hartman. diag J Ap Phys 11:220-9 Mr '40
Heavy electron pair theory of nuclear forces. R. E. Marshak. bibliog Phys R 57:1101-6 Je 15 '40
Interaction energies in radiation theory. H. Hurwitz, jr. Phys R 58:467-71 S 1 '40
Internal scattering of gamma-rays. E. P. Cooper and P. Morrison. Phys R 57:862-6 My 15 '40
Nuclear electron showers. A. W. Stern. Phys R 57:339-40 F 15 '40
Phenomenological theory of superconductors. E. Cook. bibliog Phys R 58:357-61 Ag 15 '40
Positive excess and electron component in the cosmic-ray spectrum. D. J. Hughes. diag Phys R 57:592-7 Ap 1 '40
Propagation of electron waves in ionic single crystals. A. von Hippel and J. W. Davisson. Phys R 57:156-7 Ja 15 '40
Quantization of mass. B. Podolsky and H. Branson. Phys R 57:494-500 Mr 15 '40
Quantum physics of solids; the energies of electrons in crystals. W. Shockley. il diags Bell System Tech J 18:645-723 O '39
Simple power limiting device for use when heating by electron bombardment. R. P. Winch and H. E. Farnsworth. diag R Sci Instr 11:344 O '40
Space-charge limitations on the focus of electron beams. B. J. Thompson and L. B. Headrick. Inst Radio Eng Proc 28:318-24 Jl '40

See also
Atoms
Beta rays
Cathode rays
Chemical bonds
Electric discharges
Electron bombardment
Ionization, Gaseous
Ions
Mesotrons
Neutrons
Photoelectric effect

Capture

K-electron capture and internal conversion in Cr^{51}. H. Walke, F. C. Thompson and J. Holt. il Phys R 57:171-6 F 1 '40
Radiative K capture. P. Morrison and L. I. Schiff. Phys R 58:24-6 Jl 1 '40

Collisions

Energy losses of fast mesotrons and electrons in condensed materials. O. Halpern and H. Hall. Phys R 57:459-60 Mr 1 '40
Ionization and dissociation of water vapor and ammonia by electron impact. M. M. Mann, A. Hustrulid and J. T. Tate. bibliog diags Phys R 58:340-7 Ag 15 '40
Products of ionization by electron impact in methyl and ethyl alcohol. C. S. Cummings, 2d and W. Bleakney. bibliog Phys R 58:787-92 N 1 '40

Counters

See Counters (electrons, ions, etc.); Geiger-Müller counters

Diffraction

Design and performance of an electron diffraction camera. J. E. Ruedy. il diags R Sci Instr 11:292-5 S '40
Effect of valence electrons and electron cloud distortion upon intensities in electron and X-ray scattering, applied to zinc oxide. V. A. Johnson. bibliog Phys R 57:613-21 Ap 1 '40
Electrical method for compounding sine functions; application to structure determinations of gas molecules by electron diffraction. L. R. Maxwell. bibliog diags R Sci Instr 11:47-54 F '40
Electron diffraction investigation of the molecular structure of tellurium tetrachloride. D. P. Stevenson and V. Schomaker. Am Chem Soc J 62:1267-70 My '40
Electron diffraction investigation of the structure of propylene bromide. V. Schomaker and D. P. Stevenson. bibliog Am Chem Soc J 62:2423-5 S '40
Fresnel diffraction of electrons as a contour phenomenon in electron supermicroscope images. J. Hillier. il Phys R 58:842 N 1 '40

ELECTRONS—Diffraction—*Continued*
Intensity distribution in X-ray and electron diffraction patterns; X-ray atom factors of zinc in zinc oxide and chemical binding. C. H. Ehrhardt and K. Lark-Horovitz. bibliog Phys R 57:603-13 Ap 1 '40
Internuclear distances in Se_2, Te_2, and HgCl by electron diffraction. L. R. Maxwell and V. M. Mosley. bibliog diag Phys R 57:21-3 Ja 1 '40
Molecular structures of dimethyl chloramine and methyl dichloramine. D. P. Stevenson and V. Schomaker. Am Chem Soc J 62:1913-16 Ag '40
Molecular structures of glyoxal and dimethylglyoxal by the electron diffraction method. J. E. LuValle and V. Schomaker. bibliog Am Chem Soc J 61:3520-5 D '39
Molecular structures of methyl isocyanate and cyanic acid by the electron diffraction method; the structural chemistry of cyanic acid and its derivatives. E. H. Eyster, R. H. Gillete and L. O. Brockway. bibliog Am Chem Soc J 62:3236-43 N '40
Recent contributions of electron diffraction to the chemistry of molecules in the gaseous state. A. L. G. Rees. bibliog Chem & Ind 59:685-9 O 5 '40
Secondary emission and electron diffraction on the glass surface. H. Kamogawa. il Phys R 58:660 O 1 '40
Symposium on optical methods for study of molecular structure; electronic diffraction method. L. R. Maxwell. bibliog il diags Opt Soc Am J 30:374-95 S '40
Theory and practice of electron diffraction. G. P. Thomson and W. Cochrane. 334p $6 Macmillan '39

Emission from metals

Electron emission into dielectric liquids. W. R. LePage and L. A. DuBridge. diags Phys R 58:61-6 Jl 1 '40
Progress in engineering knowledge during 1939; electron emission. P. L. Alger. bibliog Gen Elec R 43:63-4 F '40

See also
Electrons—Secondary emission
Electrons—Thermionic emission

Motion

Mechanical model for the motion of electrons in a magnetic field. A. Rose. il diag J Ap Phys 11:711-17 N '40

Reflection, scattering, etc.

Absorption of high energy electrons; extent to which existing energy loss data (up to 13.5 Mev) are affected by multiple scattering. M. M. Slawsky and H. R. Crane. Phys R 56:1203-10 D 15 '39
Calculation of force fields from scattering. F. C. Hoyt and W. E. Frye. Phys R 58:784-6 N 1 '40
Electron path lengths in multiple scattering. M. E. Rose. Phys R 58:90 Jl 1 '40
Electron photographs of molecular structure; abstract. P. Debye. Science 91:sup 12 Ap 19 '40
Electron scattering in bromine gas. C. H. Shaw and T. M. Snyder. bibliog Phys R 58:600-2 O 1 '40
Multiple scattering of charged particles. A. E. Ruark. Phys R 57:62 Ja 1 '40
Multiple scattering of electrons. S. Goudsmit and J. L. Saunderson. bibliog Phys R 57:24-9, 552; 58:36-42 Ja 1, Mr 15, Jl 1 '40
Multiple scattering of fast electrons and alpha-particles, and curvature of cloud tracks due to scattering. E. J. Williams. Phys R 58:292-306 Ag 15 '40
Multiple scattering of fast electrons; lead foils, carbon laminae and aluminum foil. C. W. Sheppard and W. A. Fowler. bibliog diags Phys R 57:273-80 F 15 '40
Polarization of electrons by scattering. L. Landau. Phys R 57:548 Mr 15 '40
Scattering and polarization of electrons. M. E. Rose. bibliog Phys R 57:280-8 F 15 '40
Scattering of fast electrons in helium. J. B. H. Kuper and E. Teller. bibliog Phys R 58:602-3 O 1 '40
Scattering of 50-kilovolt electrons by aluminum. C. T. Chase and R. T. Cox. diags Phys R 58:243-51 Ag 1 '40
Theory of multiple scattering of electrons. J. H. Bartlett, jr. Phys R 57:843 My 1 '40
Theory on cathode luminescence. U. Fano. Phys R 58:544-53 S 15 '40

Secondary emission

Design and performance of an electron diffraction camera. J. E. Ruedy. il diags R Sci Instr 11:292-5 S '40
Effects of order and disorder on secondary electron emission. D. E. Wooldridge and C. D. Hartman. Phys R 58:381 Ag 15 '40
K-electron capture and internal conversion in Cr^{51}. H. Walke, F. C. Thompson and J. Holt. il Phys R 57:171-6 F 1 '40
Relative secondary electron emission due to He, Ne, and A ions bombarding a hot nickel target. M. Healea and C. Houtermans. bibliog Phys R 58:608-10 O 1 '40
Secondary emission and electron diffraction on the glass surface. H. Kamogawa. il Phys R 58:660 O 1 '40
Secondary emission from evaporated nickel and cobalt. D. E. Wooldridge. Phys R 56:1062-3 N 15 '39
Secondary emission from films of platinum on aluminum. P. L. Copeland. Phys R 58:604-7 O 1 '40
Secondary emission from films of silver on platinum. A. E. Hastings. bibliog diag Phys R 57:695-9 Ap 15 '40
Temperature effects in secondary emission; emission from iron, nickel, cobalt, and molybdenum. D. E. Wooldridge. Phys R 58:316-21 Ag 15 '40
Time-lag analysis of the Townsend discharge in argon with activated caesium electrodes. R. W. Engstrom and W. S. Huxford. bibliog diags Phys R 58:67-77 Jl 1 '40

See also
Electron multipliers

Thermionic emission

Experiments on the periodic deviation from the Schottky line. W. B. Nottingham. Phys R 57:935 My 15 '40
Recent experiments on the thermionic properties of different crystal directions of the same metal. il J Ap Phys 11:337-8 My '40
Temperature dependence of the work function of tungsten from measurement of contact potentials by the Kelvin method. J. G. Potter. bibliog diag Phys R 58:623-32 O 1 '40; Discussion. 58:927-8 N 15 '40
Theory of the thermionic diode. E. L. E. Wheatcroft. Inst E E J 86:473-84 My '40
Thermionic constants of tungsten as a function of crystallographic direction. M. H. Nichols. bibliog il diags Phys R 57:297-306 F 15 '40

Velocity

Acceleration of electrons by magnetic induction. D. W. Kerst. Phys R 58:841 N 1 '40
Acceleration of electrons in a crystal lattice. W. V. Houston. Phys R 57:184-6 F 1 '40
Electron transit time; effects in cathode-ray tubes and diodes. W. E. Benham. Wireless Eng 16:598-602 D '39
Electronic-wave theory of velocity-modulation tubes. S. Ramo. diags Inst Radio Eng Proc 27:757-63 D '39
Velocity-modulated beams; the electron density distribution. D. M. Tombs. diags Wireless Eng 17:54-60 F '40; Discussion. 17:110-11, 202-5, 262-3 Mr, My-Je '40
Wave energy and transconductance of velocity-modulated electron beams. W. C. Hahn. diags Gen Elec R 42:497-502 N '39

ELECTROPHORESIS
Effect of phosphate buffers on the electrical mobility of hemoglobin. M. H. Gorin, H. A. Abramson and L. S. Moyer. bibliog Am Chem Soc J 62:643-4 Mr '40
Electrophoresis. H. A. Abramson and others. diags Annals of N Y Academy of Sciences 39:105-212 N '39
Electrophoretic analyses of hyperimmune sera. J. van der Scheer and R. W. G. Wyckoff. bibliog Science 91:485-6 My 17 '40

ELECTROPHORESIS—*Continued*
Electrophoretic isolation of constituents of ragweed pollen extracts. H. A. Abramson and others. bibliog Am Chem Soc J 62: 1627 Je '40
Electrophoretic study of pituitary lactogenic hormone. C. H. Li, W. R. Lyons and H. M. Evans. il Science 90:622-3 D 29 '39
Electrophoretic study of the proteins of egg white. L. G. Longsworth, R. K. Cannan and D. A. MacInnes. bibliog diags Am Chem Soc J 62:2580-90 O '40
Interpretation of simple electrophoretic patterns. L. G. Longsworth and D. A. MacInnes. bibliog diags Am Chem Soc J 62: 705-11 Ap '40
Physical chemistry of secalin; electrophoresis and diffusion constant studies of the prolamine of rye. A. C. Andrews. bibliog Am Chem Soc J 62:942-8 Ap '40
Properties of detergent solutions; electrophoretic mobility of oil drops in detergent solutions; abstract. J. Powney and L. J. Wood. Soc Dyers & Col J 56:230-1 My '40
Seminar on electrophoresis in theory and practice conducted by Arne Tiselius. il diags Franklin Inst J 228:797-810 D '39
Studies on pituitary lactogenic hormone; a comparison of the electrophoretic behavior of the lactogenic hormone as prepared from beef and from sheep pituitaries. Choh Hao Li, W. R. Lyons and H. M. Evans. bibliog il Am Chem Soc J 62:2925-7 N '40
Study of blood serum proteins by electrophoresis. E. Jameson and C. Alvarez-Tostado. bibliog J Phys Chem 43:1165-72 D '39

ELECTROPHYSIOLOGY
Argument for chemical mediation of nerve impulses. W. B. Cannon. bibliog Science 90: 521-7 D 8 '39
Bio-electric potentials of the hen's egg; possibility of detection of vital activity of the blastoderm of fertile eggs. A. L. Romanoff and C. L. Cottrell. Science 90:471-2 N 17 '39
Distribution of electric current in the animal body: an experimental investigation of 60 cycle alternating current. A. W. Weeks, L. Alexander and R. M. Dennis. il diags J Ind Hygiene 21:517-25 D '39
Electrical integrator for action currents. G. L. Freeman and E. L. Hoffman. diags R Sci Instr 11:283-4 S '40
Experimental radiological observations on the action of electrical current upon the respiratory and circulatory organs; respiratory organs. A. W. Greenberg. bibliog il diags J Ind Hygiene 22:104-10 Mr '40
Forces driving the respiratory act. R. Gesell. il diags Science 91:229-33 Mr 8 '40
High-gain d-c amplifier for bio-electric recording. H. Goldberg. diags Elec Eng 59: Trans 60-4 Ja '40
Uses of electricity in medicine. O. R. Langworthy. bibliog il Elec Eng 59:389-94 O '40

See also
Electric organs in fishes
Electricity, Injuries from

ELECTROPLATING
Abstracts of papers presented at fall Electrochemical society meeting. Metal Finishing 38:590-2 N '40
Addition agents in the electrodeposition of zinc. J. L. Bray and F. R. Morral. bibliog Electrochem Soc Trans 78 (preprint 15): 203-10 O '40
American electroplaters' society meeting; résumé of technical papers. Metal Finishing 38:373-6 Jl '40
American electroplaters' society 28th annual meeting, Dayton, June 10-13. Iron Age 145:43-5 Je 27; 41-3 Jl 4 '40
Apparatus for plating hydrogen electrodes. V. A. Lamb. il diag J Chem Educ 17: 539 N '40
Appreciation of Ernest Lamoureux. F. A. Herr. Metal Ind 38:155-6 Mr '40
Art of gold plating. F. B. Jacobs. il Steel 107:59+ O 7 '40
Automatic bright nickel plating of automobile radiator grilles. A. G. Spencer. il diag Metal Ind 38:197-200 Ap '40
Automatic plating machines. il Steel 106:70+ Ap 8 '40
Bright plating. F. F. Oplinger. Metal Prog 38:431, 434 O '40
Brush electroplating. W. A. Fairlie. il Metal Finishing 38:383-4 Jl '40
Cleaning metals for electroplating. C. C. Hermann and R. W. Mitchell. il Iron Age 144: 45-8+ D 7 '39
Cobalt-nickel plating solutions. L. Weisberg. Metal Finishing 38:318-20 Je '40
Determination of tartrates in cyanide copper solutions. W. B. Stoddard, jr. Metal Ind 37:580-1 D '39
Developments in electro-tinplating of strip steel; abstract. D. C. Bakewell. Metals & Alloys 11:MA82-3 F '40
Drying methods in electroplating. P. J. LoPresti. il Metal Ind 38:87-90 F '40
Effect of glycerine on the throwing power of plating baths. F. C. Mathers and W. J. Guest. Electrochem Soc Trans 78 (preprint 6):67-71 O '40
Electrodeposition of alloys, 1930 to 1940. C. L. Faust. Electrochem Soc Trans 78 (preprint 7):73-106 bibliog(235 references p100-5) O '40
Electrodeposition of bright copper. L. Greenspan. Electrochem Soc Trans 78 (preprint 13):175-8 O '40; Abstract. Iron Age 146:35 N 28 '40
Electrodeposition of lead from lead acetate solutions. F. C. Mathers and J. B. Schwartzkopf. bibliog Metal Finishing 38:533-6 O '40
Electrodeposition of metals from solutions of sulphamic acid or its salts; abstract. R. Piontelli and A. Giulotto. Metals & Alloys 11:MA90 F '40
Electrodeposition of nickel from nickel chloride solutions. W. A. Wesley and J. W. Carey. il Electrochem Soc Trans 75 (preprint 16):179-201 Ap '39; Same. Metal Ind 38:137-45 Mr '40; Excerpts. Iron Age 143: 41-2 Je 22 '39; Discussion. Metal Ind 38: 145-7 Mr '40
Electrolytic manufacture of tinplate strip. C. C. Downie. Blast F & Steel Pl 28:183-4+ F '40
Electroplating colalloy, aluminum and its alloys. Automotive Ind 83:435 O 15 '40; Metal Finishing 38:600-1 N '40
Electroplating digest; selected abstracts on plating, finishing, rust proofing, lacquering. Metal Finishing 38:331 Je '40 [cont monthly]
Electroplating on aluminum; with description of Travers process. A. Bregman. il Iron Age 145:40-2 F 8 '40
Fundamentals of science relating to electroplating. Metal Finishing 38:495-6, 545-6, 595-6 S-N '40 (to be cont)
Future of electroplating. C. G. Fink. Metal Ind 38:209-10 Ap '40
Glycerine in metal processing. G. Leffingwell and M. A. Lesser. bibliog Metal Ind 38:79-80 F '40
Heating solutions for pickling, plating, etc.; external heat exchangers. D. Augsburger. il diags Steel 106:46-9 Ap 22 '40
High speed filtration for cleaning and plating solutions. R. J. Green. il Metal Ind 38: 203-5 Ap '40
How to plate alloys. C. B. F. Young. bibliog diags Iron Age 146:36-40 O 17 '40
Investigation of electrodeposited gold alloys. C. B. F. Young and V. E. Herschlag. diag Metal Ind 38:194-6 Ap '40
Lasalco speed-plating system. H. J. Struckhoff. il Steel 106:46-7 Ja 15 '40
Lead anodes for chromium plating. R. Eckhardt. il Metal Finishing 38:313-14 Je '40
Metallurgical aspects of hydrogen in electroplating; abstract. C. A. Zapffe and C. L. Faust. Metals & Alloys 12:334-5 S '40
Modern rhodium plating. J. B. Kushner. il Metals & Alloys 11:137-40 My '40
New electroplating products and processes developed in 1939. W. R. Meyer, ed. il diag Metal Ind 38:3-11 Ja '40
New molybdenum-nickel electroplating process. Mach 46:101 Ag '40
Placing a plating contract. il Iron Age 146: 36-7 Jl 4 '40

ELECTROPLATING—*Continued*
Plating flexibility; finishing department of Spencer lens co. il layout Steel 106:57-8, 60 Ja 29 '40
Plating of aircraft parts. G. E. Stoll. Metal Prog 38:431 O '40
Prefinished metals find many applications. H. W. Lancaster. il Metal Ind 38:252-4 My '40
Quality finishes for metal products; with tabulated characteristics of finishes by price classes. A. Bregman. il Iron Age 146:28-33 S 26 '40
Recent history of certain cobalt-nickel alloy plating solutions. L. Weisberg. Electrochem Soc Trans 77 (preprint 18):245-51 Ap '40
Review of technical developments in electroplating during the year 1939. J. B. Kushner. Metal Ind 38:12-19 bibliog (179 references, p18-19) Ja '40
Speculum metal revived. Iron Age 145:44 Mr 21 '40
Speculum or white bronze plating. Iron Age 145:50 Je 20 '40
Storts high velocity spray rinse for plated work. il Metals & Alloys 11:MA2 Ja '40
Stress in electrodeposited copper as determined by X-rays. E. M. Mahla. il Electrochem Soc Trans 77 (preprint 16):207-17 Ap '40
Structure of heavy electrodeposits of copper and nickel. J. W. Cuthbertson. bibliog il diag Electrochem Soc Trans 77 (preprint 8):93-111 Ap '40
Study of rhodium plating. M. Weisberg. bibliog Metal Finishing 38:587-9 N '40 (to be cont)
Surface tension of plating solutions. D. S. Hartshorn, jr. il Metal Finishing 38:476-8 S '40
Tanks for cleaning and plating. C. C. Helmle. il diags Metal Ind 38:263-8 My '40
Working of carbon sheet steel; typical baths for electroplating; tabulation. Am Mach 84:829 O 16 '40

See also
Electrodeposition of metals
Galvanizing
Nickel plating

Cost

Metal finishing costs. A. Bregman. il Iron Age 145:28-31 Mr 28; 44-7 Ap 4 '40

Power

Electroplating power closely controlled; Reed & Barton. il Elec W 113:1914 Je 15 '40
General Electric copper-oxide rectifier and voltage regulator for electroplating. il Metal Ind 37:586+ D '39
Magnesium copper sulphide rectoplaters as a source of direct current power for electroplating; abstract. C. A. Kotterman and W. Binal. Iron Age 145:45 Je 27 '40
Rectifiers for electroplating. C. C. Helmle. il diags Metal Finishing 38:379-82 Jl '40
Rectifiers for plating. A. G. Arend. Elec R (Lond) 127:284 O 4 '40
Selenium rectifier for electroplating. J. B. Kushner. il diag Metal Finishing 38:424-6 Ag '40
Unique low voltage generator installation. il Metal Finishing 38:336-7 Je '40

Safety devices and measures

Health hazards in electroplating. J. P. Russell. Metal Finishing 38:321-4+ Je '40

Specifications

Suggested basis for specifications of plated coatings of nickel and chromium. A. W. Hothersall. Metal Ind 38:27-30 Ja '40

Stripping

Electrolytic stripping of copper from zinc base die castings. W. B. Stoddard, jr. Electrochem Soc Trans 77 (preprint 22):271-3 Ap '40

Testing

Dropping tests for measuring the thickness of zinc and cadmium coatings on steel. A. Brenner. diag Metal Ind 38:91-5; Discussion. 95 F '40
Influence of organic compounds in nickel plating solutions. E. Raub and M. Wittum. il Metal Ind 38:206-8+ Ap '40; [cont as] Metal Finishing 38:315-17, 429-32 Je, Ag '40
Outdoor exposure tests of electroplated nickel and chromium coatings on steel and nonferrous metals. W. Blum and P. W. C. Strausser. J Research Nat Bur Stand 24: 443-74 Ap '40

Waste

Disposal of plating room wastes; abstract. T. J. Fadgen. Iron Age 145:44-5 Je 27 '40

ELECTRO-POLISHING. See Polishing, Electrolytic

ELECTROSCOPES
Mean lifetime of the mesotron from electroscope data. H. V. Neher and H. G. Stever. bibliog Phys R 58:766-70 N 1 '40
Report of cosmic ray observations made on the U.S. Antarctic expedition in coöperation with the Bartol research foundation. S. A. Korff and E. T. Clarke. bibliog il diags Franklin Inst J 230:567-81 N '40
Use of a Lauritsen electroscope under adverse weather conditions. J. C. Hudson and R. F. Cowing. diag R Sci Instr 11:347 O '40

ELECTROSTATIC alternator. See Electric generators, Electrostatic

ELECTROSTATIC analyzer
Correction to measurements with the electrostatic analyzer. J. Mattauch. Phys R 57:549-50; Reply. S. K. Allison, L. S. Skaggs and N. M. Smith, jr. 550-1 Mr 15 '40

ELECTROSTATIC field. See Electric field

ELECTROSTATIC generators. See Electric generators, Electrostatic

ELECTROSTATIC separators
Annual report of the nonmetals division, fiscal year 1939; electrostatic separation of minerals. O. C. Ralston and others. In U S Bur Mines Rep of Invest 3473:32-4 '39; Same. Rock Prod 43:60+ Ja '40
Electrostatic electricity in industrial separation of particles. Science 91:sup12 Ja 5 '40
Electrostatic separation of solid particles. O. C. Ralston and F. Fraas. Concrete (mill sec) 48:144 Mr '40
Electrostatic separations of solids. F. Fraas and O. C. Ralston. bibliog il diags Ind & Eng Chem 32:600-4 My '40; Excerpts. Concrete (mill sec) 48:218-19 Ag '40

ELECTROSTATICS
Determination of the axial potential distribution in axially symmetric electrostatic fields. S. Bertram. diags Inst Radio Eng Proc 28:418-20 S '40
Electro-coated; high pile put on textiles electrically. il Sci Am 163:199 O '40
Electro-fiber-coated textile fabrics. il Rayon 21:622 O '40
Electrostatic effects on ionization constants. V. K. LaMer and F. Brescia. Am Chem Soc J 62:617-20 Mr '40
Electrostatic influence of substituents on reaction rates. F. H. Westheimer and M. W. Shookhoff. bibliog Am Chem Soc J 62:269-75, 1892-5 F, Ag '40
Sandpaper to textiles; electrostatic process used in fabric manufacture. il diag Textile World 90:56 Ap '40
Television receivers using electrostatic deflection. T. J. Goldsmith, jr. il diag Electronics 13:16-19+ Je '40

ELECTROTHERAPEUTICS
Approach to electrotherapeutics. R. J. Lindquist. 117p $3 Ward Ritchie press, Los Angeles '39
Electric shock treatment for mental patients. Science 91:sup10 Ja 19 '40
Electric shock treatment; method of restoring heart beat; abstract. C. J. Wiggers. Science 91:sup8 My 24 '40
Shock therapy in the treatment of mental disorders. Elec R (Lond) 126:47 Ja 12 '40
Uses of electricity in medicine. O. R. Langworthy. bibliog il Elec Eng 59:389-94 O '40

ELECTROTHERAPEUTICS—*Continued*

Apparatus and instruments

Modern version of the medical coil; portable muscle stimulating equipment. il Sci Am 163:127 S '40

ELECTROTYPES

How to repair smashed electros. N. Krum. il Inland Ptr 104:48-9 Ja '40

ELECTROTYPING

Electric heat aids electrotyping. il Elec W 114:1038 O 5 '40

Utilization data sheet; lead-pot heating; electrotype & engraving plates. H. Van Wyk. il Elec West 84:42 My '40

ELEOSTEARIN

Studies in the oxidation of the drying oils and cognate substances. R. S. Morrell and E. O. Phillips. Soc Chem Ind J 58:159-62; 59:144-8 Ap '39, Jl '40

ELEPHANTS, Fossil

See also
Mammoth

ELEVATED railroads

More New York El's to come down. il map Eng N 124:938-9 Je 27 '40

See also
Boston elevated railway

ELEVATED roads. See Roads, Elevated

ELEVATORS

Gearing for two-speed lifts. Engineering 149: 305-6 Mr 22 '40

Hillside apartment group serviced by a funicular elevator. il diags plans Arch Rec 86:41-3 D '39

Maintenance of wire ropes on lifts and hoists. J. B. Booth. Mech Handling 26:326-7 N '39

Radio phones on elevator cars. W. Devaughn. il Power 84:670 O '40

Lubrication

Lift maintenance. D. T. Anderton. diags Mech Handling 27:13-16 Ja '40

Outdoor elevators

Les ascenseurs du téléférique de l'Exposition de Zurich. il Génie Civil 115:343-4 N 4 '39

Safety devices and measures

Change in elevator safety code loading curve Mech Eng 62:163 F '40

Lift maintenance. D. T. Anderton. diags Mech Handling 27:13-17 Ja '40

Safety code for elevators. Safety Eng 80:24 Jl '40

Safety up and down; elevator inspections. Safety Eng 80:30 Ag '40

ELEVATORS, Electric

Distribution outlays to limit lamp flicker. D. K. Blake. Elec W 114:1004-5 O 5 '40

Interior transportation at the New York's world fair. il Elec Eng 59:32 Ja '40

Lift maintenance. D. T. Anderton. Mech Handling 27:13-17, 42-3 Ja-F '40

Lubricator eliminates coupling troubles. W. Devaughn. il diag Power 84:316-17 My '40

So it's maintenance you want; Empire state bldg. maintenance for elevators. F. G. Rechberger. il Power 84:309-11 My '40

Control

Modernized elevators give 25% more service; Singer building, New York. il Power 84:372-4 Je '40

ELGIN, Joliet and eastern railway

Bonds offered. Comm & Fin Chr 150:1598-9 Mr 9 '40

ELIZABETHPORT, New Jersey

Railroads

This grade separation involved difficult traffic problem. il diag plan Ry Age 107:784-8 N 18 '39

ELKHART, Indiana

Bridges

Hollow-ribbed bridge of rigid frame type has unusual features. il diags Concrete 48:3-4+ Ja '40

ELLERMAN, Ferdinand, 1869-1940

Sketch. W. S. Adams. Science 91:330-1 Ap 5 '40

ELLIOTT, Harriet Wiseman, 1884-

Food sentinels; Miss Elliott to line up 40,000,000 wives in defense program. C. M. Wright. Ptr Ink 192:31-2 Ag 9 '40

Harriet Elliott dodges the isms; consumer adviser on Defense commission. por Business Week p22+ S 7 '40

ELLIS, Carleton, 1876-

Personalities in chemistry. A. D. McFadyen. por Chem Ind 46:488 Ap '40

EL PASO (Texas) electric company

Bonds and preferred registered. Comm & Fin Chr 151:2350-1 O 19 '40

SEC counsel recommends additional equity capital. Comm & Fin Chr 151:2799 N 9 '40

EL PASO natural gas company

Another look. Mag of Wall St 66:98 My 4 '40

ELWOOD, Indiana

Elwood cashes in on Willkie. il Business Week p20+ Ag 10 '40

EMBALMING

Embalming fluids; their historical development and formulation, from the standpoint of the chemical aspects of the scientific art of preserving human remains. S. Mendelsohn. 166p bibliog(p161-2) $4 Chemical pub. co. '40

EMBANKMENTS

Accelerated settlement of embankments by blasting. A. W. Parsons. il diag Pub Roads 20:197-202 D '39

Axioms in roadway soil mechanics. H. C. Porter. Am Soc C E Proc 66:193-206 F '40; Discussion. V. J. Brown. 66:1339-40 S '40

Consolidation of embankment and foundation materials; progress report of sub-committee no. 2 of the committee of the soil mechanics and foundations division on earth dams and embankments. diags Am Soc C E Proc 66:1491-1509 O '40

Cut-and-fill yardages equal where compaction is effective. Eng N 124:388 Mr 14 '40

Embankment compaction control as practiced by Ohio. H. G. Sours and C. H. Shepard. il Roads & Sts 82:29-33 N '39

Embankment control in powdery magnesia soil; controlled compaction, South Dakota; with cost data. R. K. Morrell. il diags Roads & Sts 83:48+ S '40

Embankment densities; increase in Wyoming with increased size of grading equipment. C. F. Seifried. il diags Roads & Sts 83:44-7 Ap '40

Essential features of triaxial shear tests; use of stabilometer and other apparatus. C. A. Hogentogler and E. S. Barber. il diags Am Soc T M Proc 39:1028-45 bibliog(36 titles, p1044-5) '39; Same. Pub Roads 20:133-44, 153-4 S '39

Graphical analyses of the stability of soil. E. S. Barber and C. E. Mershon. bibliog diags Pub Roads 21:147-57 O '40

Snow drift control by highway design; result of wind tunnel investigations. E. A. Finney. il diags Roads & Sts 83:45-8 Mr '40

Soil mechanics; abstract. A. W. F. McQueen and R. C. McMordie. Can Eng R & B 78: 76-7 F '40

Soil science applied to the construction of embankments. C. E. Beland. Can Eng R & B 78:28, 79-81 Ap '40

Soil tests control stadium fill at Lynchburg, Va. G. Hadden. il diag Eng N 124:590-2 Ap 25 '40

Triaxial compression apparatus for the determination of the stress-deformation characteristics of soils. J. D. Watson. il diags Am Soc T M Proc 39:1046-57 '39

War christens Belgium's Albert canal. il Eng N 124:729-30 My 23 '40

See also
Dams
Dikes (engineering)
Earthwork
Levees
Shore protection

EMBARGO
Can embargoes stop Japan? Dutch East Indies, British Malaya and Philippines must be considered in U.S. policy. K. Bloch. map Barron's 20:3 S 30 '40
President Roosevelt orders embargo on shipments of iron and steel scrap. Comm & Fin Chr 151:1816 S 28 '40
Roosevelt bans scrap to Japan. Iron Age 146:68-9 O 3 '40
Scrap embargo unlikely to disturb domestic market. Steel 107:13-14 S 30 '40

EMBEZZLEMENT
How to be dishonest; methods of bank employees. W. K. Mendenhall. Ins Field (Fire ed) 69:16-18 Ja 18 '40; Abstract. Nat Underw 44:20 Ja 18 '40
Puzzle for auditors; detecting internal delinquencies. J. S. Seidman. Banking 32:27 D '39

EMBOSSING
Embossing and forming coiled metal strip stock by rolling; candy dish. M. J. Goldstein. il diags Mach 47:106-8 S '40

EMBRYOLOGY
Original sources in vertebrate embryology and animal cytology. W. Shumway. Science 91:93-4 Ja 26 '40
Rise of embryology. A. W. Meyer. 367p bibliog(p343-61) $6 Stanford univ. press '39

EMDEN, Germany
Harbor
Air force targets in Germany. il maps Engineer 170:91-2 Ag 9 '40

EMICH, Friedrich, 1860-1940
Sketch. por Ind & Eng Chem News ed 18: 260 Mr 25 '40
Sketch. A. A. Benedetti-Pichler. por Ind & Eng Chem Anal ed 12:226-9 bibliog(53 references, p229) Ap 15 '40
Sketch. J. B. Niederl. Science 91:376-7 Ap 19 '40

EMINENT domain
Law of viewers in Pennsylvania. P. L. Drum. 1172p $12.50 Smith-Bennett corp, Kingston, Pa. '40
Marginal land acquisition for highways. H. R. Briggs. plans Pub Roads 21:105-18 bibliog(p118) Ag '40
Urban redevelopment corporations act vetoed by New York Governor. A. C. Holden. J Land & Pub Util Econ 16:219-21 My '40
See also
Mexico—Expropriation policy

EMISSIVITY (term)
Temperature radiation emissivities and emittances. A. G. Worthing. bibliog diags J Ap Phys 11:421-37 Je '40

EMODIC acid
1:3:8-Trihydroxyanthraquinone. W. K. Anslow, J. Breen and H. Raistrick. Chem Soc J p427-8 Ap '40

EMORY, Vernon H. 1897-
Portrait. Pulp & Pa of Can 41:532 Ag '40

EMOTIONS
Autonomic basis of emotion. E. Gellhorn, R. Cortell and J. Feldman. bibliog Science 92:288-9 S 27 '40

EMPIRE gas and fuel company
Earnings, 1938, 1939. Comm & Fin Chr 150: 3819 Je 15 '40

EMPIRE State building
Metropolitan life insurance co. financially interested. Arch Forum 72:sup70 Ap '40
So it's maintenance you want; Empire State bldg. maintenance for elevators. F. G. Rechberger. il Power 84:309-11 My '40

EMPLOYEES
ABC's of personnel (cont). C. S. Stevenson. il Factory Management 98:57 Ja '40
Ask the employee; questionnaires on safety. T. O. Armstrong. il Nat Safety N 42:22-3, 64 N '40
I am a cog in a machine. H. Nix. il Textile World 90:48 Mr '40
Now, advertising employers' gripes. W. A. Lowen. Adv & Sell 33:31-2+ Jl '40
Off-the-job safety. L. B. Tipton. il Safety Eng 78:10-11 D '39
Shell's moving day. Ptr Ink 192:18 Ag 30 '40
What the employee expects of his employer. H. Schoeberlein. Factory Management 98: 157-8+ N '40
See also
Ability tests
Advertising agencies—Employees
Aeronautic workers
Age
Apprentices
Automobile factories—Employees
Bakers and bakeries—Employees
Bank employees
Bonus system
Building trades—Labor conditions
Cooperative associations—Employees
Cotton workers
Credit unions
Efficiency, Industrial
Electric utilities—Employees
Electric workers
Employees' ownership
Employees' representation in management
Employment management
Employment systems
Eye—Examination
Foremen
Gas companies—Employees
Government employees
Hygiene, Industrial
Industrial relations
Job analysis
Labor and laboring classes
Machine shops—Employees
Medical service, Industrial
Military service—Labor problems
Motor truck drivers
Municipal employees
Occupations
Office workers
Paper mills—Employees
Payrolls
Pensions, Industrial
Physical examinations
Radio workers
Railroads—Employees
Recreation
Rolling mills—Employees
Salesmen
Saving
Servants
Sickness
State employees
Steel workers
Street railroads—Employees
Suggestion systems
Supervisory workers
Textile workers
Wage payment plans
Wages
Welfare work in industry
Woman—Employment

Clothing
See also
Clothing, Protective

Length of service
American steel & wire co. recognizes employee service. Blast F & Steel Pl 28:1026 O '40
At work for 72 years! G. M. Heiwig, Seymour woolen mills. Textile World 90:104-5 O '40
Belle City employes form veterans club. Foundry 68:85-6 N '40
Eighty years on gas company payroll; John H. Martin. Am Gas J 152:58 My '40; Same cond Am Gas Assn Mo 22:218 Je '40
How Felt and Tarrant honors employees with long service records. il Am Business 10: 46 Ja '40
Merit and seniority; study of the principles of merit and seniority found operative in promotion, demotion and termination policies as applied to field workers in seventeen oil companies in California. D. K. Livingston. Personnel J 19:9-19 My '40
Michigan Alkali honors 567 veteran employees. il Oil Paint & Drug Rep 138:5+ O 28 '40
Practical service award plans. Management R 29:308-9 Ag '40
Pratt & Whitney veterans receive service emblems. Iron Age 145:89 Ap 18 '40
Quarter century men hailed at Sheet & tube co. Iron Age 145:79-80 My 23 '40
Seniority and military service. Management R 28:405-6 N '39
Seniority curse; condition of the million men in the railroad industry. F. W. Cottrell. Personnel J 18:177-83 N '39
Seniority practices in New York city. Management R 29:284-5 Ag '40
Seniority principle in union-management relations. F. H. Harbison. 39p bibliog(p39) pa 75c Dept. of economics and social institutions, Princeton univ, Princeton, N.J. '39
Seniority problems; abstract. S. H. Slichter. Management R 29:172-3 My '40

EMPLOYEES—*Continued*

Promotion

Can aptitude tests guide us in picking men for promotion? R. N. McMurray. Sales Management 46:48, 50, 52-6 My 15; 58-61 Je 1 '40; Excerpts (pt 1). Management R 29:298-300 Ag '40

Company plans for employee promotions. H. Baker. 48p bibliog(p37) pa 75c Dept. of economics and social institutions, Princeton univ, Princeton, N.J. '39

Merit and seniority; study of the principles of merit and seniority found operative in promotion, demotion and termination policies as applied to field workers in seventeen oil companies in California. D. K. Livingston. Personnel J 19:9-19 My '40

Selection of first-line supervisors; abstract. F. H. Achard and others. Management R 29:52-3 F '40

Seniority curse. F. W. Cottrell. Personnel J 18:177-83 N '39

Skilled workers for defense industries; upgrading skilled workers; selecting men to be trained. C. S. Slocombe. Personnel J 19:129-32, 147-50 O '40

Young man in industry; needs determination to make himself indispensable. W. H. Dow. Oil Paint & Drug Rep 137:3+ Mr 25 '40

Rating

Can men be measured? A. L. Kress. Am Mach 83:998-1000 N 29 '39

Common fallacies in employee ratings. J. H. Pockrass. Personnel J 18:262-7 Ja '40

Farm credit administration of Houston service appraisal form for non-supervisory office employees. Bankers M 140:194-5 Mr '40

How to rate employees. E. Caldwell. Iron Age 146:43-7 Ag 15 '40

Internal bank management controls; control of personnel and salaries. H. N. Stronck. il Bankers Mo 56:719-21+ D '39

Merit rating in industry. A. S. Knowles. 36p, 5p Northeastern univ, College of business administration, Bur. of business research, 360 Huntington av, Boston '40

See also
Ability tests
Salesmen—Rating

Training

See Employees, Training of

EMPLOYEES, Age of. See Age

EMPLOYEES, Dismissal of

Dismissal and demotion survey. Management R 29:70-1 F '40

See also
Employment systems
Wages—Dismissal wage

EMPLOYEES, New. See Employment management—New employees

EMPLOYEES, Reports to

Johns-Manville corporation; jobholders annual report. Comm & Fin Chr 150:1939 Mr 23 '40

EMPLOYEES, Selection of. See Employment systems

EMPLOYEES, Training of

America trains her industrial army; accounts of seven successful company programs. il Factory Management 98:42-8 N '40; Excerpt. Management R 29:399-400 N '40

American airlines trains its rookies. il Aviation 39:44-5+ O '40

Coordinated training program that has produced results; Warner & Swasey co. il Mach 46:93-7 Ag '40

Developing factory workers. Power Pl Eng 44:150+ O '40

Employee's viewpoint toward personnel industrial relations and training; proceedings of the Industrial personnel institute held at Purdue university, June 21-24, 1939. J. E. Walters and R. J. Greenly, eds. Purdue Univ Eng Extension Dept, Extension Ser 45:1-109 '39

Essie Lane teaches spinning, Bibb mfg. co. A. M. Daughtry. il Textile World 90:54-5 Ja '40

Factory training in the East. C. Norcross. il Aviation 39:34-5, 100+ O '40

First aid for the unskilled; Wright aeronautical corporation. P. W. Brown and H. E. Linsley. il Am Mach 84:416-17 Je 12 '40

40 stations operated by Sun, training men. J. H. Pew. Nat Pet N 32:10 F 28 '40

From learner to skilled operator in five months' time. R. Livingstone. il Factory Management 98:64-6+ My '40

G.E. tests and trains meter makers. il Factory Management 98:51-4 Jl '40

Home service training course within the company. Am Gas Assn Proc 1939:315-22

How aircraft factories find their men. C. F. McReynolds. il Aviation 39:32-3+ N '40

I wouldn't know about that; employee information and customer relations. J. M. Stafford, jr. Edison Elec Inst Bul 8:315-18 Je '40; Excerpts. Elec W 113:1884-5 Je 15 '40

Industrial post-graduates. W. T. Chevalier. Business Week p71 Mr 16 '40

Industrial training status of Wage act clarified. Oil Paint & Drug Rep 138:3+ O 14 '40

In-service training program is of benefit to school engineers; plan of Chicago board of education. J. Howatt. il Heating-Piping 12:90-1 F '40

Internal staff training; how should the trust department itself develop its personnel? Trusts & Estates 70:517-22 My '40

Internal trust training; a suggested employee educational program. R. E. MacDougall. Trusts & Estates 70:622-6 Je '40

Kansas City gas company concentrates on employee training. Pub Util 26:494 O 10 '40

Labour training; methods adopted by the Austin motor co. il Automobile Eng 30: 281-3 S '40

Learners trained soundly; quick training method of Cincinnati plant. Am Mach 84: 610 Ag 21 '40

Management's approach to job training; selected trainers working under supervision of departmental superintendents augment instruction of foremen. E. B. Mapel. Personnel J 18:352-7 Ap '40; Abstract. Management R 29:250-1 Jl '40

Men trained in four weeks; training school of Curtiss-Wright corporation. il Am Mach 84: 85-6 F 21 '40

Metal trades group develops machine operator training plan. Steel 107:35 N 11 '40

Monarch study courses for trained shop men. D. H. McKellar. il Mach 46:108-10 Je '40

More men, more planes; Pratt & Whitney training program. il Am Mach 84:451-3 Je 26 '40

New postgraduate course in industry in high-frequency engineering. A. R. Stevenson, jr. and S. Ramo. Elec Eng 59:Trans 374-8; Discussion. Trans 378-80 Jl '40

No seconds made while learning to weave at Pacolet's New Holland plant. il diag Textile World 90:52 Mr '40

Personnel work in state hospitals. P. Worchel. Personnel J 18:292-9 F '40

Quick-training procedures. 40p Nat. ind. conf. bd. '40

Retail training in principle and practice. H. M. Lester. 174p bibliog(p170-1) $2.50 Harper '40

School for operators of water and sewage plants. C. L. Walker. il Can Eng W & S 78:16-17+ S '40

Service men go to school; Coca-Cola company's service training school. il Ptr Ink Mo 40:10-11 My '40

Service station school run by Indiana independent marketer; Gaseteria, Inc. il Nat Pet N 31:26-30 N 29 '39

Service station used as laboratory for scientific sales training. il Nat Pet N 32:25-6, 28, 30+ Ag 28 '40

Short school instruction for superintendents and operators. W. A. Hardenbergh. il maps Pub Works 71:13-15+ Ap '40

Single-purpose training. Management R 29: 286-7 Ag '40

EMPLOYEES, Training of—*Continued*
Skilled workers for defense industries; special emergency training; progression training; time taken to learn jobs. C. S. Slocombe. Personnel J 19:133-46 O '40
Some observations on 37 employee information programs. Edison Elec Inst Bul 8:421-3 S '40
Supervisory training. A. M. Boyd. Am Gas Assn Proc 1939:69-73
Tact in contact; use of sound slide films in employee training. J. J. Quinn. il Am Gas Assn Mo 22:307-8 S '40
Training for better jobs; training school in Canton division of Champion paper and fibre company. G. W. Phillips. il Paper Ind 22:43+ Ap '40
Training for talent discovery. J. E. Orvis. il Factory Management 98:73-4 My '40
Training for trolley bus maintenance; Milwaukee electric railway & transport company. il Transit J 83:444-6 N '39
Training mechanics in the small shop. Am Mach 84:194 Mr 20 '40
Training new employees. Power Pl Eng 44: 53 My '40
Training procedure. F. Cushman. 230p bibliog (p221-3) $2 Wiley '40
Training programs in machine tool plants found satisfactory. il Iron Age 145:80-2 Je 27 '40
Training solutions of company problems; programs giving special attention to development of the skill of non-supervisory production employees. 71p pa $3 Nat. ind. conf. bd. '40
Training street car operators to be safe bus drivers; York bus company. S. P. Andrews. il Mass Transportation 36:170-1 Ag '40
Training your employees. M. Hall. 26p pa 35c Soc. for personnel administration, box 266, Washington, D.C. '40
Trends in cost reduction; training. H. B. Maynard. Advanced Management 5:29-30 Ja-Mr '40
Wanted: skilled men in aircraft manufacture. R. R. Irwin. il Am Mach 84:696 S 18 '40
Wartime training of personnel and the dilution of labor in Canada. Monthly Labor R 51:27-9 Jl '40
What belongs in the methods study program. L. S. Whitson. il diags Factory Management 98:50-2 S '40
Why not training? O. J. Naughton. Paper Tr J 110:13-14 Je 13 '40
Women and munition work. V. Holmes. Engineering 149:407-9 Ap 19 '40

See also
Apprentices
Bank employees—Training
Executives—Training
Foremen—Training
Government employees—Training
Industrial education—Cooperative plan
Insurance, Life—Agents—Training
Railroads—Employees—Training
Safety instructions and training
Salesmen—Training
Salesmen, Retail—Training

Cost

Skilled workers for defense industries; apprentice training costs. C. S. Slocombe. Personnel J 19:178-9 N '40

EMPLOYEES as sales promoters
Every employee can be an active member of sales department; Raybestos believes. R. B. Davis. Ptr Ink 193:11-14 O 25 '40
Home service. J. B. Buman and others. Elec West 84:89-97 Je '40

EMPLOYEES as salesmen
Converting human nature; employee sales crusade; Pacific gas and electric company. F. Talcott and R. I. Mendes. Gas Age 84: 11-12 D 7 '39
Employee sales plan that sells. Banking 32: 72-3 Je '40
New Haven railroad salesmen graduate. Sales Management 47:46 S 15 '40

EMPLOYEES as stockholders
Carrier corporation sets aside block of stock for employees. Am Business 10:50 Je '40

EMPLOYEES' associations
Here is an employee club that builds morale; Carnation club. B. Masslich. Am Business 10:39-40 S '40

EMPLOYEES' buildings
Pre-fabricated buildings; 20 panel-type utility structures and buildings at Irvin works of Carnegie-Illinois steel corp. il Steel 106:44-5 Ja 15 '40

EMPLOYEES' bulletins
Messages in the pay envelope and other ways of conveying messages. Transit J 84: 250-1 Jl '40

EMPLOYEES' committee from Lower Manhattan
Formation to aid business recovery in New York city and particularly in financial district. Comm & Fin Chr 150:927 F 10 '40

EMPLOYEES' inventions. See Inventions, Employees'

EMPLOYEES' magazines
American association of industrial editors 1st annual convention, Cincinnati, Ohio. Personnel J 19:76-7 Je '40
Experiences with a department newspaper; Waterlite news, Springfield, Ill. G. S. Bonn. Am Water Works Assn J 32:1459-69 S '40
Ideas that build interest in employee house magazines; a Printers' Ink Monthly special study. il Ptr Ink Mo 40:19-22+ F '40
Survey, 596 house magazines; Printers' Ink Monthly special study. Ptr Ink Mo 41:21-4, 42+ O '40
What factory workmen want in plant magazines. H. E. Fleming. Ptr Ink Mo 40:48+ Mr '40

See also
Salesmen's magazines

EMPLOYEES' manuals
Informative handbook for employees; Rockefeller Center acquaints employees with institution, its privileges and rules. il Ptr Ink Mo 41:17+ O '40
Manual for trust department operations; educational, efficiency and economy values of controls. M. F. Gstalder. Trusts & Estates 70:541-4 My '40

EMPLOYEES' ownership
Two-edged bargain; union hosiery workers, in role of owners, adjust their difficulties with C.I.O. unit. Business Week p32 Mr 16 '40

EMPLOYEES' representation in management
Chance for everybody; a liberal basis for the organization of work. H. Dubreuil. 270p bibliog(p266-8) 7s 6d Chatto and Windus, London '39
Fruits of industrial peace; union-management cooperation in steel mills. H. J. Ruttenberg. Harvard Business R 18 no 3:285-94 [Ap] '40
Harmony doesn't just happen here; Lockheed aircraft corporation, Burbank, Calif. R. R. Irwin. il Factory Management 98:56-7+ Mr '40
Junior advisory board. W. A. Koerber. Trusts & Estates 70:523-5 My '40
Management prerogatives. H. B. Bergen. Harvard Business R 18 no 3:275-84 [Ap] '40
My foremen help me manage; Standard register company, Dayton. F. W. Stein. il Factory Management 98:42-3+ Ap '40
They tell the boss; Saks-Fifth Avenue finds employee directors have ideas. Business Week p36-7 Mr 16 '40

See also
Collective bargaining

EMPLOYEES' saving plans. See Saving

EMPLOYEES' suggestions. See Suggestion systems

EMPLOYERS' associations
Another boss union; wholesalers and retailers in smaller California cities. Business Week p39 S 28 '40
Coast bombshell; judicial setbacks in California and Oregon. Business Week p42 N 2 '40
Collaboration between public authorities and organizations of workers and employers. Monthly Labor R 51:613-21 S '40

EMPLOYERS' associations—*Continued*
New open shop front; Los Angeles employers. Business Week p38-9 Je 1 '40
Organization of employers council in New York advocated by San Franciscan. A. E. Roth. Comm & Fin Chr 150:2813 My 4 '40
Salmon canners' union; Alaska salmon industry, inc. Business Week p33-5 Mr 16 '40
See also
San Francisco employers' council

EMPLOYER'S liability
Employer's liability in alleged libel. Management R 29:305-6 Ag '40
Factory accidents; electric power and dangerous machinery. Elec R (Lond) 126:393-4 Ap 5 '40
Liability for accident; points raised by a linesman's death. Elec R (Lond) 127:87 Ag 2 '40
No horseplay! L. Childs. Am Mach 84:865 O 30 '40
Recent court cases; cleaning dangerous machinery. W. Summerfield. Engineering 150:114 Ag 9 '40
Recent court cases; dangerous machinery. W. Summerfield. Engineering 149:120-1 F 2 '40
Recent court cases; head contractors and sub-contractors; responsibilities for the safety of persons working on building. W. Summerfield. Engineering 149:338-9 Mr 29 '40
When gas company employes may recover damages for injuries. L. T. Parker. Am Gas J 153:23-4 O '40
See also
Accidents, Industrial
Insurance, Employers' liability
Insurance, Workmen's compensation
Workmen's compensation

EMPLOYERS' liability assurance corporation
Company analysis. Spectator (Property ed) 6:28-9 Ag 22 '40
Ordinary general meeting, 59th, London. Economist 138:749 Ap 20 '40

EMPLOYMENT
Employment prospects in the tung-oil industry. Monthly Labor R 51:308-11 Ag '40
Making a hobby of job seeking; C. Vere Standiford's one-man employment service. H. Kershner. Nation's Business 28:87 S '40
New frontiers for American youth are pictured by industrial leaders; college presidents and officials of General motors corp. talk to students. Comm & Fin Chr 150:2981-2 My 11 '40
New opportunities in industry for college men and women. Comm & Fin Chr 150:2982-3 My 11 '40
New techniques for getting jobs. M. T. Waggaman. Monthly Labor R 50:797-806 Ap '40
Total of instrument-made jobs always exceeds number of displaced workers. P. R. Ewald. Instruments 13:10+ Ja '40
Youth itself is the problem; experiences of recent college graduate show that jobs are available. O. Stephens. Nation's Business 28:25-6+ S '40
See also
Applications for positions
Child labor
College students—Employment
Employees
Hours of labor
Labor and laboring classes
Labor requirements (for production)
Negroes—Employment
Part-time employment
Payrolls
Unemployment
Woman—Employment

Stability
Budgeting inventories and stabilizing employment; Talon, inc. P. K. Poulton and P. H. Goldsmith. il Factory Management 97:52-5 D '39
Comparison of nine industries' trends shows printing in strong position; graphs of yearly and monthly trends, 1933-38. M. M. Hamlin. Inland Ptr 104:40-2 N '39
Easing the payroll tax burden; experience-rating survey. E. P. Schmidt. Barron's 20:7 Ja 1 '40
Employment regularization. 95p pa 15c Nat. assn. of manufacturers, 14 W. 49th st, New York '40
Employment stabilization in Wisconsin; abstract. C. A. Myers. Management R 29:176-7 My '40
Experience of a group of plants in stabilizing employment. Monthly Labor R 50:1118-21 My '40
Making more jobs; initiative, price policies and research. C. Francis. il Dun's R 48:7-10 Ja '40
National association of manufacturers completes study of employment regularization. Comm & Fin Chr 150:1367 Mr 2 '40
Social security and labor mobility. S. H. Slichter. Management R 29:208-9 Je '40
Stabilizing jobs and wages through better business management. H. Feldman. 334p $3.50 Harper '40
Steady work to win employee loyalty; record of the Twin disc clutch company at Racine, Wis. M. G. Heuer. Am Business 10:34 Je '40
Structure of annual wage plans; elements of success or failure. F. B. Brower. Advanced Management 5:110-15+ Jl-S '40
See also
Employment systems—Guaranty of employment
Labor turnover
Unemployment

Statistics
Annual review of the employment situation in Canada during 1939. 9 tables 55p pa 25c Canada. Dominion bur. of statistics, Ottawa '40
Average number of wage earners employed by selected establishments in 105 industries, by geographic districts and industries, for 1937; table. Monthly Labor R 50:1219-20 My '40
Changes in employment in Britain between June, 1938 and 1939. Economist 138:166 Ja 27 '40
Comparison of nine industries' trends shows printing in strong position. M. M. Hamlin. Inland Ptr 104:40-2 N '39
Comparison of the gainfully occupied population by sex and age in the various countries of the world. Int Labour R 41:541-50 My '40
Conference on employment and pay roll statistics. E. Wilke. Am Statis Assn J 35:518-23 S '40
Decade of industrial change in Britain; industrial and geographical distribution of insured persons. Economist 138:20-1 Ja 6 '40
Detailed reports for industrial and business employment, December 1939. Monthly Labor R 50:751-61 Mr '40 [cont monthly]
Employment and pay rolls by states and cities; revision, monthly, 1932-38. Survey of Cur Business 20:14 Mr '40
Employment and pay rolls in nonmanufacturing industries, 1929-39; revision. Survey of Cur Business 20:17 Ap '40
Employment and production in manufacturing industries, 1919 to 1936; review of National research project report. H. Magdoff, I. H. Siegel and M. B. Davis. Monthly Labor R 49:1397-1404 D '39
Employment and unemployment in a depressed labor market: Brazil, Ind. M. E. West, E. J. Fitzgerald and G. L. Bird. 139p Work projects administration, Washington, D.C. '40
Employment and unemployment, 1939. Survey of Cur Business 20:25-7 F '40
Employment and unemployment of young workers. Int Labour R 41:445-78 My '40
Employment experience of eighth-grade graduates. Monthly Labor R 49:1098-1102 N '39
Employment in manufacturing, by states and cities, 1936-1939. Survey of Cur Business 1940 Sup p35-6 [supplemented in monthly numbers]
Employment in manufacturing industries; new series; monthly, Jan. 1923-Aug. 1940. Survey of Cur Business 20:15 O '40
Employment in manufacturing industries, 1936-1939. Survey of Cur Business 1940 Sup p31-5 [supplemented in monthly numbers]

EMPLOYMENT—Statistics—*Continued*
Employment in nonmanufacturing industries, 1936-1939. Survey of Cur Business 1940 Sup p37 [supplemented in monthly numbers]
Employment in relation to technical progress; labor productivity, employment, output, and prices in the United Kingdom, 1930-35. H. Staehle. R Econ Statis 22:94-100 My '40
Employment on electric street railways and busses, monthly, Jan. 1932-March 1940; revision. Survey of Cur Business 20:17 My '40
Employment trends in manufacturing; abstract. L. M. Spencer. Mech Eng 62:407 My '40
Employment under the WPA, 1939. Monthly Labor R 51:586-8 S '40
Employment, wages, and labor relations in marketing. P. D. Converse. Ann Am Acad 209:149-57 My '40
Factory employment and payrolls, by industries (without seasonal adjustment) monthly, Oct.-Nov. 1938; July-Nov. 1939. Fed Res Bul 26:50-1 Ja '40 [cont monthly]
Factory employment, by industries (adjusted for seasonal variation); monthly, Oct. 1938-Nov. 1939. Fed Res Bul 26:48-9 Ja '40 [cont monthly]
Factory-labor turn-over, 1931 to 1939. Monthly Labor R 51:696-704 S '40
Illinois industrial employment and payrolls in November. Comm & Fin Chr 150:35 Ja 6 '40 [cont monthly]
Industrial change in America in the past decade; comparison with trend in United Kingdom. Economist 138:472-3 Mr 16 '40
Italian industries employ nearly 4,000,000 workers. Comm Rep p310 Ap 6 '40
Labor conditions; hours, disputes, turnover, etc., 1936-1939. Survey of Cur Business 1940 Sup p39 [supplemented in monthly numbers]
Miscellaneous employment, 1936-1939. Survey of Cur Business 1940 Sup p38 [supplemented in monthly numbers]
National industrial conference board reports unemployment and employment in December. Comm & Fin Chr 150:785 F 3 '40 [cont monthly]
New York state factory employment and payrolls in December. Comm & Fin Chr 150: 187 Je 13 '40 [cont monthly]
Occupational distribution of employed colored workers in Maryland, 1938. Monthly Labor R 50:350-1 F '40
Occupational shifts of Maryland workers in depression. T. B. Manny and H. G. Clowes. Monthly Labor R 49:1108-10 N '39
Pay rolls by cities and in nonmanufacturing industries, 1936-1939. Survey of Cur Business 1940 Sup p43-4 [supplemented in monthly numbers]
Pay rolls in manufacturing industries, 1936-1939. Survey of Cur Business 1940 Sup p40-2 [supplemented in monthly numbers]
Pennsylvania factory employment and payrolls in December. Comm & Fin Chr 150:606 Ja 27 '40 [cont monthly]
Placement work of public employment services, January 1940. Monthly Labor R 50: 650-3 Mr '40 [cont monthly]
Placement work of public employment services, February 1940 and year 1939. Monthly Labor R 50:870-7 Ap '40
Production, employment, and output per man in gypsum mining. R. Newcomb and K. Peterson. map U S Bur Mines Information Circ 7134:1-17 '40
Secretary of labor reports employment and payrolls in United States in November. Comm & Fin Chr 150:344-6 Ja 20 '40 [cont monthly]
Statistics of industrial employment, unemployment, and hours of work in various countries, yearly, 1929-39; monthly, Jan. 1939-Jan. 1940. Int Labour R 41:318-28 Mr '40 [cont quarterly]
Steel employment, average hours, wages, June 1933-Oct. 1939; tabulation. Steel 106: 330 Ja 1 '40
Total nonagricultural employment; index totals, 1929-39; monthly, July, 1938-July, 1940. Fed Res Bul 26:985 S '40 [cont monthly]
Trend of employment and pay rolls. Published in Monthly labor review
Trends of manufacturing employment, 1929 to 1937. A. F. Hinrichs and H. Brenner. Monthly Labor R 50:1308-39 Je '40
Work and wages in 1939. Monthly Labor R 50:541-55 Mr '40
Young workers and their jobs in 1936; a survey in six states. H. Wood. U S Children's Bur Pub 249:1-95 '40

See also
Occupations—Statistics
Unemployment—Statistics

EMPLOYMENT agencies
Junior employment services, March 1936 to July 1940. Monthly Labor R 51:636 S '40
Junior placement; a survey of junior-placement offices in public employment centers and in public-school systems of the United States. J. H. Palmer. bibliog U S Children's Bur Pub 256:1-134 '40
Placement work of public employment services, February 1940 and year 1939. Monthly Labor R 50:870-7 Ap '40
Putting men to work; needed reorganization of British employment exchanges. Economist 138:672-3 Ap 13 '40
State-run hiring hall; employment office set up with civil service staff for sole use of organized dress industry. Business Week p39 Je 1 '40
Uncle Sam, employment agent, can help you find qualified salesmen. Sales Management 46:58, 61-2 My 15 '40

See also
Engineering societies—Employment
United States—Employment service

EMPLOYMENT contracts. See Labor contracts

EMPLOYMENT departments
Personnel work for 1000 employees. E. N. Hay. Personnel J 19:30-6 My '40
Survey of hiring methods; digest of report by Personnel group, National retail dry goods association. Personnel J 18:284-91 F '40

Records
Help for the hirer; Trane company, La Crosse, Wis. R. W. Gillette. Factory Management 98:60-2 Mr '40

EMPLOYMENT management
ABC's of personnel (cont). C. S. Stevenson. il Factory Management 98:57 Ja '40
Administering bank personnel; Farm credit administration of Houston, Texas. H. A. Cory. Bankers M 140:193-6 Mr '40
Administrative organization in business and industry. L. A. Appley. Mech Eng 62:281-2 Ap '40
After hours; treatment of juniors. W. E. Holler. Ptr Ink 190:6 Ja 26 '40
American management association annual personnel conference, Chicago. Iron Age 145: 55+ F 22 '40
And influence people; a little applied Dale Carnegie can work wonders in the shop. J. N. Peterson. Am Mach 84:251 Ap 17 '40
Breaking men of bad habits. J. C. Aspley. Am Business 10:26-8 Ap '40
Chain stores improve policies. J. H. Berger. Personnel J 19:69-72 Je '40
Closed shop, the strangler. W. Williams. il Factory Management 98:36-9 Ap '40
Common-sense procedure in developing employee relations policies. Ptr Ink 191:73, 76-8 Je 14 '40
Consideration for the worker. Engineer 170: 219 O 4 '40
Constructive proposals regarding older workers; job re-allocation department. G. Lawton. Personnel J 18:300-8 F '40
Dear fellow worker: Charles Gulick's letters to his employees. J. S. Little. il Sales Management 45:18-20+ D 1 '39
Decentralize personnel work. W. V. Owen. Personnel J 19:65-8 Je '40
Effects of unionism; surveys made by 1940 class in personnel management of University of Toledo. D. S. Parks. Personnel J 19:82-92 S '40

EMPLOYMENT management—*Continued*
Employment regularization. 95p pa 15c National assn. of manufacturers, New York '40
Executives of tomorrow; Oklahoma natural gas company. O. L. Jones. il Gas Age 84: 61-2+ D 21 '39
Exposing waste to fight it; scrap display tables, review of rework orders, and employees' scrap records; Addressograph-multigraph corporation. J. E. Sturm. il Factory Management 98:58-9 Jl '40
15 tips to executives. D. Vriesman. il Am Business 10:24-6 Jl '40
Foreman talks to foremen. J. J. Phillips. Am Mach 84:6-7 Ja 10 '40
Foundry personnel relations. H. J. Noble. il Foundry 68:53+ O '40
Functions of the personnel executive. L. A. Appley. 10p Calif. inst. of technology, Industrial relations section, Pasadena '40
Going to it; maintaining fitness and cheerfulness among workers in wartime. Engineer 170:137 Ag 30 '40
Gripes I've heard from agency workers. W. A. Lowen. Adv & Sell 33:35, 38+ Je '40
Growing emphasis on human administration; abstract and discussion. N. J. Aiken. S A E J 47:sup14-16 S '40
Hopes and fears of a worker; by employee of Real silk hosiery mills, Indianapolis. P. McCarty. Personnel J 18:365-72 Ap '40
How aptitude tests can uncover new assets in your business. J. O'Connor. il Sales Management 47:14-17+ O 20; 29, 31-2+ N 1 '40
How one industrial plant is helping America; George A. Hormel and company. il Factory Management 98:G1-G8 Ag '40
Human relations in industry; the executive's attitude. S. A. Lewisohn. Advanced Management 5:72-6+ Ap-Je '40
Humanizing an organization. R. E. Fisher. Am Gas Assn Proc 1939:103-6
Industrial relations for small plants. E. J. Benge. Factory Management 98:62+ My '40
Internal bank management controls; control of personnel and salaries. H. N. Stronck. il Bankers Mo 56:719-21+ D '39
International Business Machines is Mr Thomas J. Watson's temple of the company spirit. il Fortune 21:36-43+ Ja '40
It's up to the management. J. C. De Foe. Power Pl Eng 44:70-1 Mr '40
Job of a good employment relations man; abstract. C. R. Hook. Comm & Fin Chr 151:1076 Ag 24 '40
Jobholders' reports; abstract. J. J. Evans. Management R 29:245-7 Jl '40
Keep a jump ahead of your men. J. H. Sreenan. Aero Digest 36:62+ Ap '40
Keep your employes informed. R. A. Ilg. Bankers M 140:435-6 My '40
Keeping posted. E. A. Casey. Power Pl Eng 44:77-8 Je '40
Kind of boss I like. L. Semple, jr. Am Water Works Assn J 32:952-7 Je '40
Let employees find the answers; Michigan carton company. F. H. Stowitts. il Factory Management 98:61-3 S '40
Management and the worker. F. J. Roethlisberger, W. J. Dickson and H. A. Wright. 615p $4.50 Harvard univ. press '39; Review, by C. M. Arensberg. Mech Eng 62:380-2 My '40
Management and the worker. Power Pl Eng 44:43-4 F '40
Management board planning. il Power Pl Eng 43:810-12 D '39
Management looks to the future. J. R. Bangs. il Cornell Eng 5:8-10+ N '39
Management prerogatives. H. B. Bergen. Harvard Business R 18 no 3:275-84 [Ap] '40
Management's part in personnel relations; Lockheed aircraft corporation. R. R. Irwin. il Aviation 39:32-3+ Mr '40; Excerpt. Factory Management 98:56-7+ Mr '40
Million dollar research; personnel counseling plan; digest and review by C. S. Slocombe of "Management and the worker" by F. J. Roethlisberger and W. J. Dickson. Personnel J 18:162-72 N '39
Musings on discipline. C. J. Flippen. Min Cong J 25:21 D '39
My experience with men who wanted to strike. I. Stalmaster. Am Business 10:18-19+ O '40
National machinery co. holds open house to show what makes jobs. il Steel 107:41 N 11 '40
New techniques for supervisors and foremen. A. Walton. 233p $2.50 McGraw-Hill '40
Next decade in textiles; how to make money make more money through industrial relations. Textile World 90:110 F '40
No horseplay! L. Childs. Am Mach 84:865 O 30 '40
Old-timer who worships experience. J. Garth. Am Business 10:24-5+ F '40
Organisation and functions of personnel management in industrial undertakings. Int Labour R 40:820-2 D '39
Outline of industrial relations policies in defense industries. 47p bibliog(p44-7) Industrial relations section, of Princeton univ, Princeton, N.J. '40
Pacific gas and electric company case study; personnel management policies. E. G. McCann. il Gas Age 85:47-8 F 29 '40
Personnel activities in American business. 36p pa $3 Nat. ind. conf. bd. '40; Summary. Monthly Labor R 50:1121 My '40
Personnel administration in three non-teaching services of the public schools. H. Davis. 323p bibliog(p259-78) $2.50 Teachers college '39
Personnel policies, Wells Fargo bank & union trust co., San Francisco. A. W. Kohner. il Burroughs Clearing House 24:11-13+ My '40
Personnel practices in factory and office. 55p pa $3 Nat. ind. conf. bd. '40
Personnel program, American plan; Continental mills. A. White. Textile World 90: 69 O '40
Personnel program for a small plant. H. B. Bergen. Mech Eng 62:397-400 My '40
Personnel relationships in industry. E. G. Budd. Franklin Inst J 229:545-65 My '40
Personnel stimulation. L. W. Bishop. Bankers M 141:437-8 N '40
Petroleum's good-will ambassadors. H. H. Anderson. Am Pet Inst Proc 20(1):83-6 '39
Proceedings of the second annual Personnel institute held at the Ohio state university, November 17 and 18, 1939. 79p Ohio state univ, College of commerce '39
Profits under the social security system. C. B. Bartlett. Steel 106:38-41 Ap 1 '40
Psychology and management. W. H. Wulfeck. Personnel J 19:49-54 Je '40
Public relations and department records. H. B. Fisher. Am Water Works Assn J 32:265-70 F '40
Rating of supervisors by subordinates. I. J. Melsher and I. Weinstock. Personnel J 19: 37-40 My '40
Report of committee on personnel practices. Am Gas Assn Proc 1939:67-77
Retail personnel relations. O. P. Robinson. 565p $5.35; school ed $4 Prentice-Hall '40
Salerno, the baker who laughed at depression. J. K. Westerfield. il Am Business 10: 17-19+ N '40
Sampling industry's personnel practices. W. L. Stoddard. Factory Management 98:74 Mr '40
Sampling the bus service; employment management system of San Antonio public service company. W. R. Castle. il Transit J 84:90-1 Mr '40
Society for personnel administration. R. W. Cooper. Personnel J 18:309-12 F '40
Some observations on 37 employee information programs. Edison Elec Inst Bul 8:421-3 S '40
Sources of employe dissatisfaction; salary inequalities and fairness of promotion procedures. H. B. Bergen. Bankers M 139:541 D '39
Steps in job control; abstract. C. W. Lytle. Mech Eng 62:327 Ap '40
Studebaker's humanized public relations. G. Griswold. Ptr Ink Mo 41:12+ O '40
Talking politics to employees. J. Garth. il Am Business 10:17+ S '40

EMPLOYMENT management—*Continued*

Technology and labor; a study of the human problems of labor saving. E. D. Smith and R. C. Nyman. 222p $2.50 Yale univ. press '39; Review, by C. A. Myers. Mech Eng 62: 23-4 Ja '40; Review, by S. Barkin. Personnel J 18:237-43 Ja '40

TVA labor relations policy at work; successful cooperation between public power and organized labor in the public interest. J. King. 59p pa 25c Nat. popular government league, Tacoma park sta, Washington, D.C. '40

This plant didn't lose touch; use of cafeteria and auditorium retains intimacy at Monarch. D. H. McKellar. il Am Mach 84:605 Ag 21 '40

To start methods study, sell it. L. S. Whitson. il Factory Management 98:55-6+ Jl '40

Training engineers to handle men. M. H. Clark. J Eng Educ 30:855-9 Je '40

What the employee expects of his employer. H. Schoeberlein. Factory Management 98: 157-8+ N '40

What's past is prologue; reflections on my industrial experience. M. B. Gilson. 307p $3 Harper '40

Women and munition work. V. Holmes. Engineering 149:407-9 Ap 19 '40

See also

Ability tests
Applications for positions
Apprentices
Automobile factories—Employees
Bank employees
Bonus system
Building trades—Labor conditions
Collective bargaining
Employees
Employees, Dismissal of
Employees, Training of
Employees' representation in management
Employment departments
Employment systems
Executives
Factory management
Foremen
Government employees
Industrial management
Industrial relations
Job analysis
Layoff systems
Library administration
Medical service, Industrial
Organization in industry
Paper mills—Employees
Profit sharing
Rest periods
Sabotage
Safety devices and measures
Sales management
Saving
Sick leave
Unemployment—Relief measures
Wage payment plans
Welfare work in industry
Woman—Employment

Incentives

Dollar wages are only part of workers' pay; mental wages. R. E. Hamill. Am Business 10:53 Mr '40

See also

Wage payment plans

Messages

Messages in the pay envelope and other ways of conveying messages. Transit J 84:250-1 Jl '40

New employees

Hygrade Sylvania corporation helps new employees feel at home. Am Business 10:47 Ap '40

Records

Help for the hirer; Trane company, La Crosse, Wis. R. W. Gillette. Factory Management 98:60-2 Mr '40

Washington has employment history record. G. E. Toles. il Gas Age 86:33-4 Ag 1 '40

See also

Payrolls—Records

Study and teaching

See also

Employment managers—Training

EMPLOYMENT managers

Training

Agriculture department trains personnel men. P. W. Melton. Personnel J 19:25-9 My '40

EMPLOYMENT service. See United States—Employment service

EMPLOYMENT systems

Candidate for the wheel; United electric railways, Providence; driver selection. E. F. Theisinger. il Bus Transportation 19:419-21 S '40

Employment of aliens and plant protection. H. F. Browne. 15p Nat. ind. conf. bd. '40; Summary. Management R 29:326-7 S '40

Executive and clerical aptitudes; fitness tests for education and job applicants; Human engineering laboratory, Stevens institute of technology. L. W. Yawger. Trusts & Estates 70:529-32 My '40

G.E. tests and trains meter makers. il Factory Management 98:51-4 Jl '40

Help for the hirer; Trane company, La Crosse, Wis. R. W. Gillette. Factory Management 98:60-2 Mr '40

Hiring telephone men by tests. N. E. Rossett and P. Arakelian. Personnel J 18:184-92 N '39

How to judge job applicants. M. L. Sullivan and M. S. Davis. Banking 32:27 Mr '40

New psych quiz; Humm-Wadsworth temperament scale. Business Week p40 N 2 '40

Personnel selection in aviation industry; with aviation executive's comments. R. S. Schultz. Personnel J 19:99-107 S '40

Personnel work in state hospitals. P. Worchel. Personnel J 18:292-9 F '40

Selecting bank personnel; methods of Farm credit administration of Houston, Texas. H. A. Cory. Bankers M 140:118-22 F '40

Selection of employees for good public relations; Humm-Wadsworth temperament scale. D. G. Humm. Pub Util 26:663-71 N 7 '40

Selection of first-line supervisors; abstract. F. H. Achard and others. Management R 29: 52-3 F '40

Skilled workers for defense industries; hiring skilled workers; upgrading skilled workers. C. S. Slocombe. Personnel J 19:123-32 O '40

Skilled workers for defense industries; placement bulletin for plant. C. S. Slocombe. Personnel J 19:160-2 N '40

Sources of bank personnel. E. N. Hay. Banking 32:24 D '39

Steady work to win employee loyalty; record of the Twin disc clutch company at Racine, Wis. M. G. Heuer. Am Business 10:34 Je '40

Survey of hiring methods; digest of report by Personnel group, National retail dry goods association. Personnel J 18:284-91 F '40

Tools of the personnel trade. G. W. Wadsworth, jr. Mech Eng 62:13-17 Ja '40

Trends in cost reduction; methods engineering; human element; training. H. B. Maynard. Advanced Management 5:26-30 Ja-Mr '40

Turning the X-ray on the hiring line; Lockheed system. R. R. Irwin. il Aviation 39: 32-3+ Ja '40

Wanted: skilled men in aircraft manufacture. R. R. Irwin. il Am Mach 84:695-6 S 18 '40

We find a way to select better employees; Lockheed aircraft corporation. R. C. Storment. il Am Business 10:14-17+ Jl '40

See also

Ability tests
Age
Applications for positions
Employees—Rating
Employees, Dismissal of
Employment agencies
Job analysis
Layoff systems
Salesmen—Selection

Guaranty of employment

Annual wage and guaranteed-employment plans in union agreements. Monthly Labor R 51:283-9 Ag '40

Every week the same pay check; Tremco manufacturing company, Cleveland. W. C. Treuhaft. Factory Management 98:57+ N '40

Interviews

Civil service oral interviews. M. Mandell. Personnel J 18:373-82 Ap '40

Interviewing and rating men for sales jobs: a soup-to-nuts plan. il Sales Management 47:8-11 O 10 '40

EMPLOYMENT systems—Interviews—*Cont.*
Marketers build second defense to replace personnel called in draft. Nat Pet N 32:29-34 O 30 '40
Sales ability; how to analyze it through personal interviews. R. N. McMurray. Sales Management 46:58-61 Je 1 '40
Selection of men with creative ability. F. A. Magoun. Mech Eng 62:670-2 S '40
Sizing up job applicants. E. N. Hay. Personnel J 18:258-61 Ja '40
To hire or not to hire; employment techniques. G. W. Wadsworth, jr. Banking 32:88 D '39

EMULSIFICATION
Effect of air film in emulsification. I. S. Hall and E. H. Dawson. il diags Ind & Eng Chem 32:415-20 Mr '40
Mineral oil as a wool lubricant; method for promoting the removal of mineral oil from wool by emulsification. J. B. Speakman and T. S. Wang. Soc Dyers & Col J 56:259-61 Je '40
Soundless sound waves; supersonic waves in science and industry. W. L. Finlay. il diags Sci Am 162:216-17 Ap '40
See also
Dispersion

EMULSIFIERS
Determining emulsifying efficiencies. L. H. Cohan and N. Hackerman. il Ind & Eng Chem Anal ed 12:210-13 bibliog(80 references, p213) Ap 15 '40
Hydrous lanthanum hydroxide as an emulsifying agent. T. Moeller. bibliog J Phys Chem 44:259-63 F '40
Impulsor emulsifier. il diag Engineering 149: 621 Je 28 '40
New emulsifier; gelatinous form of hydrated aluminium oxide; Unemul. R. K. Thomas. Chem Age (Lond) 42:215 Ap 13 '40
Sulphonated oils and fatty alcohols; some industrial applications. G. S. Collingridge. Chem Age (Lond) 42:17-19 Ja 13 '40
What you can use; emulsifiers for oils. Oil Paint & Drug Rep 136:52 D 11; 50 D 18; 50 D 25 '39
See also
Colloid mill

EMULSIN
Action of almond emulsin on α-phenyl-*d*-lyxoside. W. W. Pigman. bibliog Am Chem Soc J 62:1371-4 Je '40

EMULSIONS
Determining emulsifying efficiencies. L. H. Cohan and N. Hackerman. il Ind & Eng Chem Anal ed 12:210-13 bibliog(80 references, p213) Ap 15 '40
Distribution of nicotine between water and petroleum oils. L. B. Norton. bibliog Ind & Eng Chem 32:241-4 F '40
Emulsion deoiling process separates oil-wax mixtures. A. H. Schutte. flow chart il diags Nat Pet N 32:R402-4, R406, R408 N 13 '40; Same. Oil & Gas J 39:113-14, 117+ N 14 '40
Hydrous lanthanum hydroxide as an emulsifying agent. T. Moeller. bibliog J Phys Chem 44:259-63 F '40
Industrial cleaning methods and materials as related to the automotive industry; abstract. V. Gephart. S A E J 47:290 Jl '40
New emulsifying agents for use with textiles. Textile Col 62:618-19 S '40
Rotproofing sandbags; creosote distillate emulsions. Chem Age (Lond) 41:332 N 11 '39; Engineering 148:579-80 N 24 '39
Stability of emulsions; emulsions stabilised by hydrophilic colloids. A. King and L. N. Mukherjee. Soc Chem Ind J 59:185-91 S '40
Studies in water-in-oil emulsions; the effect of the relative phase volumes on the type of emulsions stabilised by magnesium oleate. R. C. Pink. Chem Soc J p211-12 F '40
See also
Petroleum—Emulsions

EMULSIONS, Photographic. See Photographic emulsions

ENAMEL and enameling
Ceramic insulating materials. H. Thurnauer. Elec Eng 59:458-9 N '40
Chemistry and vitreous enamels. E. P. Poste. bibliog il Ind & Eng Chem 32:9-15 Ja '40
Chicago Vitreous demonstrates improved architectural porcelain enamel for interiors. il Am Cer Soc Bul 19:203-4 My '40
Closer process control in one-cover-coat porcelain enameling. G. I. Bruton. Steel 106: 51-2 F 12 '40
Correct use of porcelain defined by Porcelain enamel institute. Gas Age 85:34 Mr 28 '40
Development of opacity in superopaque enamels. B. W. King, jr. and A. I. Andrews. il diag Am Cer Soc J 23:228-32 Ag '40
Effect of enamel on the strength of enameling iron. A. I. Andrews and E. W. Dietterle. Am Cer Soc J 23:29-32 Ja '40
Effect of particle size and index of refraction on reflectance. B. W. King, jr. bibliog diag Am Cer Soc J 23:221-5 Ag '40
Enameling irons; coarse graphite and nonmetallic inclusions as cause of blisters. A. S. Hawtin. il Steel 106:66-7+ Mr 25 '40
Enamelling on bronze, gilding metals, silver, silver deposits and gold; abstract. W. E. Charles. Chem Age (Lond) 42:214 Ap 13 '40
Experiments on ground-coat enamels; abstract. H. N. Bose and I. S. Kalrah. Am Cer Soc J 23 (Cer A 19):107-8 My '40
Father and son recipients of Modern pioneer award, Karl Turk and Richard H. Turk. Am Cer Soc Bul 19:180 My '40
History of mill-addition opacifiers in vitreous enameling. H. D. Prior. bibliog Am Cer Soc Bul 19:379-83 O '40
Infra-red dryer for enameled strip. il Iron Age 146:34 O 17 '40
Laboratory control of drawing compounds on porcelain enamel metals. D. J. Benoliel. diag Am Cer Soc Bul 19:259-62 Jl '40
Matching porcelain enamels. F. H. Emery. Steel 106:48, 50 My 20 '40
Molybdenum in enamels; adherence produced with molybdenum compounds. K. Kautz. il Am Cer Soc J 23:283-7 O '40
New porcelain-enameling plant; Tappan stove co. il plan Steel 107:54, 56, 59+ Ag 12 '40
Overhead chain conveyor; U.S. porcelain enamel co. il Steel 106:80+ My 13 '40
Phosphorus steels for vitreous enameling. C. H. Lorig and D. E. Krause. il Am Cer Soc J 23:107-10 Ap '40
Porcelain enameled water tanks. G. H. Spencer-Strong. il Iron Age 145:44-7 My 9 '40
Preparation, drying, and firing of enamels and glazes. diags Gas J (Lond) 231:407-8+ S 4 '40
Producing cast iron for enameling. T. G. Johnston. il Foundry 68:34+ Ja '40
Rapid determination of quartz in feldspar. G. H. McIntyre and M. Bozsin. bibliog il Ind & Eng Chem Anal ed 12:326-8 Je 15 '40
Reactions taking place during melting of superopaque antimony enamel. B. W. King, jr. and A. I. Andrews. Am Cer Soc J 23:225-8 Ag '40
Refractory radiant tubes; fuel fired furnace with recuperator type heat exchanger and silicon carbide radiant tubes used for enameling. W. F. Ross. il Iron Age 146:42-4 S 12 '40
Relation of defects in enamel coatings to hydrogen in steel. C. A. Zapffe and C. E. Sims. il diags Am Cer Soc J 23:187-219 bibliog(219 titles, p215-19) Jl '40; Discussion. 23:291-6; Reply. 296-300 O '40
Relation of particle size and characteristics of light reflected from porcelain enamel surfaces. C. H. Zwermann and A. I. Andrews. bibliog il Am Cer Soc J 23:93-102 Ap '40
Solubility of a zirconium oxide opacifier in enamel glasses. A. I. Andrews and R. W. Gates. bibliog Am Cer Soc J 23:288-90 O '40
Some aspects of the scumming problem. G. H. Spencer-Strong and L. J. McMahon. bibliog Am Cer Soc J 23:102-7 Ap '40

ENAMEL and enameling—*Continued*
Some early experiences in enameling cast iron. E. L. Dawes. il Am Cer Soc Bul 19: 177-8 My '40

Symposium on fine ground enamels; abstract. E. C. Aydelott and others. Am Cer Soc J 23 (Cer A 19):157 Jl '40

Tearing of vitreous enamels. J. E. Rosenberg and A. F. Langerman. il Am Cer Soc J 23: 80-6 Mr '40

Wet-process leadless cast-iron enamels. B. Niklewski, jr. and A. I. Andrews. bibliog Am Cer Soc J 23:178-85 Je '40

White arsenic in the enameling industry; abstract. M. Dechigi. Am Cer Soc J 23 (Cer A 19):184-5 Ag '40

See also
Ferro enamel corporation

Bibliography

Ceramic abstracts. Published in monthly numbers of American ceramic society journal

James Edward Hansen, Enamel division trustee; publications. Am Cer Soc Bul 19:237 Je '40

Testing

Determination of thickness of acid-resistant portion of vitreous enamel coatings. W. N. Harrison and L. Shartsis. diag J Research Nat Bur Stand 25:71-4 Jl '40

Über die säurebeständigkeit von emails (eine neue methode zu deren bestimmung). G. Schmidt. diag Chemische Fabrik 13:49-54 F 10 '40

ENAMEL and enameling (paints, etc.) See Automobiles—Painting and finishing; Lacquer and lacquering; Paint; Painting, Industrial

ENAMELED sheet metal. See Sheet metal, Enameled

ENAMELED ware

Manufacture

Chemistry and vitreous enamels. E. P. Poste. bibliog il Ind & Eng Chem 32:9-15 Ja '40

Statistics

Porcelain enameled products, shipments, 1936-1939. Survey of Cur Business 1940 Sup p134 [supplemented in monthly numbers]

ENCEPHALITIS
Treatment for chronic sleeping sickness. Science 92:sup12 O 4 '40

ENCEPHALITIS, Epidemic
Tick-borne human encephalitis in the European part of USSR and Siberia. M. P. Chumakov and N. A. Seitlenok. bibliog Science 92:263-4 S 20 '40

ENCEPHALOMYELITIS
Horse sleeping sickness; new rabbit serum; abstract. J. Zichis and H. J. Shaughnessy. Science 92:sup10+ O 4 '40

Infectious equine encephalomyelitis in the United States in 1939. Pub Health Rep 55: 601-2 Ap 5 '40

Properties of the isolated equine encephalomyelitis virus (eastern strain). D. G. Sharp and others. bibliog Science 92:359-61 O 18 '40

ENCYCLOPAEDIA britannica
Dozen mathematical errors in the Encyclopaedia britannica. G. A. Miller. Science 90: 512-13 D 1 '39

ENCYCLOPEDIAS
Dictionary of American history. J. T. Adams and R. V. Coleman, eds. 6v v 1-2 444p; 430p set $60 Scribner '40

Rating

Reference books. M. Leach. Consumers' Research Bul (Gen bul ser) 10:21-5 O '40

ENDERGONIC (term)
Proposed terms exergonic and endergonic for thermodynamics. C. D. Coryell. Science 92: 380 O 25 '40

ENDICOTT-JOHNSON corporation
Another look. Mag of Wall St 66:98-9 My 4 '40

George F. and Uncle Frank. Ptr Ink Mo 40:9 Mr '40

Why Endicott-Johnson employees voted six to one against the unions; with excerpts from statements made twenty years ago by George F. Johnson. il Am Business 10:18-19+ F '40

Why Endicott-Johnson workers said "no" to the unions. il Factory Management 98:53-60 F '40

ENDOGONE
Endogone as animal food. W. W. Diehl. Science 90:442 N 10 '39

ENDOWMENTS
Administration of college and university endowments. C. R. Sattgast. 125p bibliog(p102-9) $1.85 Teachers college '40

Case of the endowment fund. A. H. Gilbert. Bankers M 141:415-16 N '40

College endowment fund investment, Harvard, Yale, Princeton. Trusts & Estates 69:594 D '39

Handling investments for an institutional trustee; qualifications for and scope of investment committee work and statistical staff. R. H. Williams. Trusts & Estates 70: 190-2 F '40

Investment of endowment funds; abstract. E. C. Barrett. Trusts & Estates 71:215-16 Ag '40

Investment problems of endowed institutions. L. G. Tighe. Trusts & Estates 70:188-9 F '40; Excerpts. Bankers M 140:229-30 Mr '40

Problem of endowed wealth; editorial. Trusts & Estates 70:271-2 Mr '40

ENEMY aliens
Problems in the treatment of enemy aliens. Economist 137:328-9 D 2 '39

Safety and sanctuary; British treatment of aliens and refugees. Economist 139:205-6 Ag 17 '40

ENEMY *property*
Canada: trading with the enemy; controllers appointed for certain German agencies and companies. Comm Rep p113-14 D 2 '39

German decrees concerning curatorship in absence for enemy-owned property. Compar Law Ser 3:385-8 Jl '40

See also
Patents—Enemy ownership

ENERGY level. See Atoms; Quantum theory

ENGINEER (periodical)
Engineer since 1856. Engineer 170:9 Jl 5 '40

ENGINEER (term)
Das wort ingenieur, abkunft und begriffswandel. H. Schimank. V D I 83:1287 D 16 '39

ENGINEERING
Construction planning and plant. A. J. Ackerman and C. H. Locher. 381p $4 McGraw-Hill '40

Engineering and law. H. C. Haskell. J Eng Educ 31:152-6 O '40

Engineering news events of 1939. Eng N 124: 220-1 F 15 '40

General engineering handbook. C. E. O'Rourke, ed. 2d ed 1120p $4 McGraw-Hill '40

Geology for engineers. R. F. Sorsbie. rev ed 348p $3.75 Oxford (Toronto) '38

Inventor's contribution to engineering progress. S. C. Hollister. il Cornell Eng 5:5-7+ My '40

Mathematical methods in engineering; an introduction to the mathematical treatment of engineering problems. T. von Kármán and M. A. Biot. 505p $4 McGraw-Hill '40

Metals as engineering materials. C. H. Desch. Engineering 149:176-7, 231-2, 312-13 F 16, Mr 1, 22 '40

Science in 1939. Science 90:sup18 D 22 '39

ENGINEERING—*Continued*

Some remarks on mathematics from the engineer's viewpoint. T. von Kármán. Mech Eng 62:308-10 Ap '40; Same. Engineer 170: 310-12 N 15 '40

See also

Aeronautic engineering
Aeronautics
Air conditioning
Airports
Aqueducts
Architecture
Automobile engineering
Blasting
Bridges
Building
Building materials
Canals
Chemical engineering
City planning
Civil engineering
Concrete construction
Construction equipment
Culverts
Dams
Dikes (engineering)
Docks
Drainage
Dredging
Drilling and boring (earth and rocks)
Earthwork
Efficiency, Industrial
Electric engineering
Engineers
Foundations
Gas engineering
Girders
Grouting
Harbors
Heating
Highway engineering
Hydraulic engineering
Industrial engineering
Irrigation
Lighting
Machinery
Marine engineering
Masonry
Mechanical engineering
Mechanical handling
Mining engineering
Municipal engineering
Pavements
Petroleum engineering
Pipe laying
Public works
Pumping
Radio engineering
Railroad engineering
Railroads—Construction
Reclamation of land
Refrigerating engineering
Refrigeration and refrigerating machinery
Reservoirs
Rivers
Roads
Sanitary engineering
Sewerage
Steam engines
Steel construction
Strains and stresses
Streets
Strength of materials
Structural engineering
Subways
Surveying
Technology
Traffic engineering
Tunnels and tunneling
Ventilation
Water supply engineering

Bibliography

Additions to the library. Inst Mech Eng J & Proc 142:192-4, 219-22 N-D '39; 28-32, 48-50, 66-8; 143:87-8, 103-6, 130-2 Ja-Je '40

Book notes and reviews; the month's additions to the engineer's reading and reference list. Eng N 124:338-40 F 29 '40 [cont monthly]

Books received. Published in monthly numbers of Electrical engineering

Engineering index, 1939. 1392p $50 Engineering index, 29 W 39th st, New York '40

Engineer's bookshelf. Published in monthly numbers of Power

For the engineer's library; catalogs and new engineering books. Published in monthly numbers of Power plant engineering

Reviews of books and notes on books received in the Engineering societies' library. Published in monthly numbers of Mechanical engineering

See also

Technology—Bibliography

Examinations

Results of administering state board examinations to senior engineers. C. T. Olmsted. J Eng Educ 30:690-3 Ap '40

University of the state of New York, examination for professional engineers. Am Inst Chem Eng Trans 36:B61-8 Ag '40

See also

Electric engineering—Examinations

History

Concept of engineering; a development of the eighteenth century. W. E. Howland. il Civil Eng 10:711-14 N '40

Engineering history and the cultural background. R. H. Carey. J Eng Educ 30:694-8 Ap '40

Newcomen society; abstracts of papers. Engineer 169:493 My 31 '40

Social aspects

Engineering and research for American defense. L. A. Hawkins. Elec Eng 59:355-7 S '40

Engineering progress and the social order. F. B. Jewett and R. W. King. Science 92: 365-71 O 25 '40

Engineer's province and obligation in and to organized society. D. C. Jackling. W Soc E J 45:54-8 Ap '40

Man in an engineering world. D. C. Jackson. Franklin Inst J 230:1-17 Jl '40

Trends in engineering education. D. C. Jackson. Science 92:183-9 Ag 30 '40

Study and teaching

Visual engineering education; papers before the annual meeting of the Society for the promotion of engineering education. diags Mech Eng 62:822-3 N '40

See also

Engineering colleges
Engineering education

Bibliography

Instructional methods in engineering, a bibliography. W. C. White, comp. J Eng Educ 30:761-88 My '40

Tables, calculations, etc.

English engineering units and their dimensions. E. W. Comings. bibliog Ind & Eng Chem 32:984-7 Jl '40

Terminology

See also

Engineering economy (term)
Highway engineering—Terminology

China

Engineering standards in China. A. J. Percival. Elec R (Lond) 126:399-400 Ap 5 '40

Europe

Engineers and engineering in the renaissance. W. B. Parsons. 661p bibliog(p619-23) $8 Williams & Wilkins '39

Sweden

Industrial history of Sweden. E. C. Smith. Engineering 149:548-9 My 31 '40

ENGINEERING colleges

By-products of E.C.P.D.; review of D. C. Jackson's Report on the present status and trends in engineering education in the United States. Mech Eng 61:912-14 D '39

Emergency training. J Eng Educ 31:52-62 S '40

Employer suggests needed improvements in our system of technical education. W. H. Carrier. Mech Eng 62:712-14 O '40; Same cond. Elec Eng 59:353-5 S '40

Engineering education and professional institutions. S. P. Smith. Inst E E J 86:51-8 Ja '40; Same cond. Engineer 168:574-5 D 8 '39; Abstract. Elec R (Lond) 125:675 N 24 '39

Engineer's view of engineering education. D. B. Steinman. J Eng Educ 31:18-41 S '40

Many more boys are studying engineering; report of Society for the promotion of engineering education. Min & Met 21:326 Jl '40

Modern aspect of engineering education. J. Weil. Elec Eng 59:119-22 Mr '40

Nation's engineering schools drawn into national defense program. Eng N 124:839 Je 20 '40

New technological institute of Northwestern university. il Ind & Eng Chem News ed 18:582 Jl 10 '40

Preparedness and the engineering colleges. D. B. Prentice. J Eng Educ 31:5 S '40

Present trends in engineering education. D. C. Jackson. Elec Eng 59:152-6 Ap '40

ENGINEERING colleges—*Continued*
Research and invention in engineering colleges. A. A. Potter. Science 91:1-7 Ja 5 '40; Same. Mech Eng 62:196-200 Mr '40

See also
Engineering education
Engineering graduates
Engineering students
Mining schools and education
also names of colleges, e.g.
Columbia university—School of engineering
Cornell university—Sibley college
Illinois institute of technology
Massachusetts institute of technology

Curriculum

Accredited undergraduate curricula. J Eng Educ 30:463-75 Ja '40
Advantages of Naval Academy instruction. E. W. Thomson. bibliog J Eng Educ 30: 645-54 Ap '40
Conflicting views on the definition of engineering economy. E. D. Ayres. J Eng Educ 30:485-90 Ja '40
Content of metallurgical engineering curricula in the United States. H. L. Walker. Min & Met 21:381-2 Ag '40
Content of the mechanical engineering curriculum. R. E. Flanders. J Eng Educ 30: 803-5 My '40
Design and construction of experimental vacuum tubes in engineering school laboratories. T. S. Gray. bibliog J Eng Educ 30: 372-8; Discussion. 378-81 D '39
Developing professional competency; engineering schools' share in this responsibility. E. S. Burdell. Civil Eng 10:485-6 Ag '40
Development of the teaching of management to engineers. C. W. Lytle. J Eng Educ 30:677-85 Ap '40
Effect of the tendency to reduce engineering drawing time. A. S. Levens. J Eng Educ 30:496-505 Ja '40
Electrical engineering courses for mechanical engineering students. L. E. Beck. J Eng Educ 30:382-8; Discussion. 388-91 D '39
Engineering history and the cultural background. R. H. Carey. J Eng Educ 30:694-8 Ap '40
General engineering. S. B. Morris. J Eng Educ 31:147-51 O '40
Humanistic band in the engineering curriculum. W. E. Wickenden. J Eng Educ 30: 206-14 N '39
Instruction in English in engineering colleges; report prepared under the direction of the committee on English of the Society for the promotion of engineering education; published serially in Journal of engineering education March '39-April '40. J Eng Educ 30:supp 1-102 Je '40
Intermediate physics in the engineering physics curriculum. C. E. Bennett. J Eng Educ 30:655-9 Ap '40
List of undergraduate curricula accredited by ECPD as of October 20, 1939. Elec Eng 58: 527 D '39
Mathematics and the engineer. S. G. Hacker. bibliog J Eng Educ 30:394-401 D '39
Practice and teaching of electrical design. T. C. Lloyd. J Eng Educ 30:354-64; Discussion. 364-71 D '39
Public speaking at Rensselaer. H. H. Nugent. J Eng Educ 30:893-7 Je '40
Report on instruction in English in engineering colleges; conclusions and recommendations. H. P. Hammond. J Eng Educ 30: 719-27 Ap '40
Report on instruction in English in engineering colleges; organization and conditions in universities with arts colleges. W. O. Birk. J Eng Educ 30:408-34 D '39
Report on instruction in English in engineering colleges; unusual plans and methods in English. K. O. Thompson. J Eng Educ 30: 608-17 Mr '40
Service courses in the undergraduate chemical engineering curriculum. L. T. Lawler and W. N. Jones. J Eng Educ 30:270-81 N '39
S.P.E.E. report of committee on aims and scope of engineering curricula. J Eng Educ 30:555-66 Mr '40
Status of the engineering profession; 1938-1939 committee on engineering schools. Science 90:609-10 D 29 '39
Summary of report of the committee on teaching highway engineering and highway transportation; S.P.E.E. annual meeting, State College, Pa. June, 1939. M. W. Furr. J Eng Educ 30:519-21 Ja '40
Those extra subjects of study. L. P. Sieg. J Eng Educ 31:102-9 O '40
Training for civil engineering students; proposed curriculum. B. F. Hastings. Civil Eng 10:322; Discussion. S. B. Morris. 322-3 My '40
Whither engineering education? report of special S.P.E.E. committee on aims and scope of engineering curricula. Mech Eng. 62:727-30 O '40
Why teach engineering economy? S. B. Lilly. J Eng Educ 30:298-9 N '39

Enrollment

Engineering enrollments, 1939-40; tabulation. J Eng Educ 30:449-62 Ja '40
Engineering student enrollment. Mech Eng 62: 241 Mr '40

Entrance requirements

Pre-engineering college education; proposal to encourage (not require) two or more years of liberal arts. D. B. Steinman. J Eng Educ 30:337-47 D '39; Discussion. 30: 476-7 Ja '40

Finance

Privately endowed college of engineering; problem of getting funds. Science 90:436-7 N 10 '39

Graduate work

Engineering graduate study. R. W. Sorensen. J Eng Educ 30:203-5 N '39
Graduate work in engineering; development of part-time program at the University of Tennessee; for TVA engineers and others. C. E. Ferris and R. O. Niehoff. Mech Eng 61:900-2 D '39
Graduate work in machine design. C. W. Ham. J Eng Educ 30:618-19 Mr '40
Postgraduate training of young mechanical engineers. A. G. Christie. Mech Eng 62:5-8 Ja '40; Same cond. Engineering 149:123 F 2 '40

Orientation programs

Report of Conference on orientation of freshmen. H. N. Cummings. J Eng Educ 30: 392-3 D '39

Personnel service

Factors other than intellectual in the training of an engineer; personality problems. J. E. Raycroft. J Eng Educ 30:660-7 Ap '40

Placement service

Employment after graduation. J. R. Moynihan. il Cornell Eng 5:9-11+ Ja '40
Widening opportunities of engineering institutions to contribute to public welfare; training and placement of men in normal public service, local, state and national. E. L. Moreland. J Eng Educ 31:43-6 S '40

Professors and instructors

Engineering-English teacher's training, and his proper teaching load. L. A. Rose. J Eng Educ 30:523-8 Ja '40
Humanistic band in the engineering curriculum. W. E. Wickenden. J Eng Educ 30: 206-14 N '39
Report on instruction in English in engineering colleges; conclusions and recommendations. H. P. Hammond. J Eng Educ 30:719-27 Ap '40
Teacher qualifications and development; chemical engineering. A. B. Newman. J Eng Educ 30:281-91 N '39
Teachers of English in engineering colleges; selection and training. H. L. Creek. J Eng Educ 30:300-13 N '39

Public service

Widening opportunities of engineering institutions to contribute to public welfare. E. L. Moreland. J Eng Educ 31:42-51 S '40

ENGINEERING colleges—*Continued*

Shop courses

Do instructional methods used in manufacturing processing laboratories contribute to trade training or to engineering education? comments by various professors. J Eng Educ 30:314-15, 435-6, 529-31 N '39-Ja '40

Shop courses in engineering schools. R. E. Wendt. il Foundry 68:72+ S '40

Shop, drawing, and design courses for engineering students. A. L. Townsend. J Eng Educ 30:898-901 Je '40

Student selection

Discovery of promising freshman engineers. J Eng Educ 31:137-46 O '40

Selection of engineering students. R. L. Sackett. J Eng Educ 30:595-600 Mr '40

ENGINEERING contracts

Army and navy fee construction contracts. Eng N 125:229-30 Ag 15 '40

Business methods in the building field. G. Schobinger and A. M. Lackey. 350p $3.50 McGraw-Hill '40

Contract upheld by Court of claims; rules against MWAK, builder of Grand Coulee low dam. Eng N 124:75 Ja 18 '40

Recent court cases. W. Summerfield. Engineering 149:55-7 Ja 19 '40

When and how to protest. J. W. Gaskins. Eng N 124:373-5 Mr 14 '40

History

Bidding practice two centuries ago; extracts from La science des ingénieurs, by B. F. de Belidor. R. S. Kirby. Eng N 123:712-13 N 23 '39

ENGINEERING council, American. See American engineering council

ENGINEERING departments

Gearing engineering to sales. F. B. Heitkamp. Mech Eng 62:216-17 Mr '40

Red tape gets maintenance done; Buick motor division, General motors corporation, Detroit. F. D. Elwell. il Factory Management 98:80-1 Je '40

Value received from an engineering department; Lockheed aircraft corporation. H. L. Hibbard. il Aviation 39:44-5, 122+ Je; 46-7, 104, 106 Jl '40

See also

Drafting room practice

ENGINEERING drawing

Drafting by camera; engineering drawings directly reproduced photographically by Glenn L. Martin co. il Steel 107:44-6 Jl 1 '40

Drawing isometric circles. J. S. Beggs. diag Mach 46:172-3 Ja '40

Effect of the tendency to reduce engineering drawing time. A. S. Levens. J Eng Educ 30:496-505 Ja '40

Engineering drawing problems. F. G. Higbee and J. M. Russ. 22p, 90 problem sheets pa $2.25 Wiley '40

Technical drafting; a text and reference book on graphics. C. H. Schumann. 793p $3.50 Harper '40

Study and teaching

Development of character and initiative in the drafting room. F. Paulsen. J Eng Educ 30:902-3 Je '40

Shop, drawing, and design courses for engineering students. A. L. Townsend. J Eng Educ 30:898-901 Je '40

ENGINEERING economics

What is engineering economics? C. E. Bullinger. J Eng Educ 30:890-2 Je '40

Why teach engineering economy? S. B. Lilly. J Eng Educ 30:298-9 N '39

ENGINEERING economy (term)

Conflicting views on the definition of engineering economy. E. D. Ayres. J Eng Educ 30:485-90 Ja '40

ENGINEERING education

By-products of E.C.P.D.; review of D. C. Jackson's Report on the present status and trends in engineering education in the United States. Mech Eng 61:912-14 D '39; Excerpts. Science 90:533 D 8 '39

Conflicting views on the definition of engineering economy. E. D. Ayres. J Eng Educ 30:485-90 Ja '40

Cooper Union engineering camp. Science 91: 64 Ja 19 '40

Department of humanities at Cooper union. W. S. Lynch. J Eng Educ 30:812-16 My '40

Developing professional competency; engineering schools' share in this responsibility. E. S. Burdell. Civil Eng 10:485-6 Ag '40

Employer suggests needed improvements in our system of technical education. W. H. Carrier. Mech Eng 62:712-14 O '40; Same cond. Elec Eng 59:353-5 S '40

Engineering and religion. D. C. Jackson, jr. Science 92:324-6 O 11 '40

Engineering education and professional institutions. S. P. Smith. Inst E E J 86:51-8 Ja '40; Same cond. Engineer 168:574-5 D 8 '39; Abstract. Elec R (Lond) 125:675 N 24 '39

Engineering traditions and educational responsibilities. O. W. Eshbach. W Soc E J 45:7-14 F '40

Is the philosophy of engineering education changing? O. J. Ferguson. J Eng Educ 31: 6-12 S '40

Management and engineering education. W. E. Hotchkiss. Mech Eng 62:605-8 Ag '40; Discussion. 62:826-7 N '40

Modern aspect of engineering education. J. Weil. Elec Eng 59:119-22 Mr '40

Postgraduate training of young mechanical engineers. A. G. Christie. Mech Eng 62:5-8 Ja '40; Same cond. Engineering 149:123 F 2 '40

Pre-engineering college education; proposal to encourage (not require) two or more years of liberal arts. D. B. Steinman. J Eng Educ 30:337-47 D '39; Discussion. 30: 476-7 Ja '40

Present status and trends of engineering education in the United States. D. C. Jackson. 177p pa $1 Committee on engineering schools, Engineers' council for professional development, 29 W. 39th st. New York '39; Excerpts. Elec Eng 59:152-6 Ap '40; Summary. C. F. Scott. J Eng Educ 30: 510-5 Ja '40

Progress in engineering education, 1939; Society for the promotion of engineering education. J Eng Educ 30:832-41 Je '40

Reading clubs for engineers; reading plan adopted by TVA at Chattanooga. W. H. Kaiser. Mech Eng 62:473-4 Je '40

Report of Society for the promotion of engineering education transportation committee. Ry Age 109:74-5 Jl 13 '40

Shall we teach culture? N. W. Dougherty. Civil Eng 10:135-6 Mr '40

This culture. J. C. Parker. Elec Eng 59:229-31 Je '40

Tool engineering education; symposium at annual meeting of American society of tool engineers. Iron Age 145:45-6 Mr 14 '40

Trends in engineering education. C. Derleth, jr. J Eng Educ 31:95-101 O '40

Trends in engineering education. D. C. Jackson. Science 92:183-9 Ag 30 '40

University engineering courses. Electrician 123:256 S 8 '39; Discussion. 123:273 S 15 '39

What a railway expects in the engineering graduate. J. W. Williams. Ry Age 109: 70-2 Jl 13 '40

Whither engineering education? report of special S.P.E.E. committee on aims and scope of engineering curricula. Mech Eng 62:727-30 O '40

ENGINEERING education—*Continued*
Whither technical institutes? P. R. Kolbe. J Eng Educ 30:648-4 Ap '40

See also
Apprentices
Chemical engineering—Study and teaching
Civil engineering—Study and teaching
Electric engineering—Study and teaching
Engineering—Study and teaching
Engineering colleges—Curriculum
Engineering laboratories
Engineers' council for professional development
Gas engineering—Study and teaching
Mining schools and education
Technical education

Cooperative plan

College of engineering of Cornell university; program of cooperation with American industry to train promising young employees as engineers. Science 92:191-2 Ag 30 '40

Engineering education at the Rensselaer polytechnic institute. Science 92:395 N 1 '40

Graduate work in engineering; development of part-time program at the University of Tennessee; for TVA engineers and others. C. E. Ferris and R. O. Niehoff. Mech Eng 61:900-2 D '39

History

Beginnings of engineering education; connection with the mineral industry in Germany. T. T. Read. bibliog J Eng Educ 30: 348-53 D '39

ENGINEERING ethics
Professional status, a British viewpoint; maintenance of technical and ethical standards. C. D. M. Hindley. Civil Eng 9:719-21 D '39

Standards of professional relations and conduct. D. W. Mead. bibliog Am Soc C E Proc 66:5-30 Ja '40; Discussion. 66:571-80, 795-803, 1145-60, 1688-96 Mr-Ap, Je, N '40

ENGINEERING foundation
Officers. Civil Eng 9:752 D '39
Officers and annual report. Elec Eng 58:531, 533-4 D '39

Report on research projects. Science 91:386-7 Ap 19 '40; Same cond. Min & Met 21:262 My '40; Same cond. Power Pl Eng 44:116+ My '40

Structural steel welding research committee. Science 91:496 My 24 '40

Twenty-five years of service, 1914-1939. 76p The foundation, 29 W. 39th st, New York

ENGINEERING graduates
After graduation, what? W. H. Kirkbride. Ry Age 109:73-4 Jl 13 '40

Employment after graduation. J. R. Moynihan. il Cornell Eng 5:9-11+ Ja '40

Graduate engineer's immediate future. E. R. Needles. Civil Eng 10:370-2 Je '40

Launching a career. H. J. Gilkey. Civil Eng 10:327-8 Je '40

What a railway expects in the engineering graduate. J. W. Williams. Ry Age 109: 70-2 Jl 13 '40

What the railways offer the engineering graduate. M. C. Blanchard. Ry Age 109: 72-3 Jl 13 '40

ENGINEERING Institute of Canada
Annual meeting, 54th, Toronto, Feb. 8-9. Can Eng R & B 78:74-9 F '40; Eng N 124:284-5 F 22 '40

ENGINEERING instruments

See also
Aeronautic instruments
Electric instruments
Scientific apparatus and instruments

ENGINEERING laboratories
New research building for Cummins. il Automotive Ind 83:316+ O 1 '40

Northwestern university inaugurates new technological institute facilities. il Steel 106: 79 Je 10 '40

Oil engine research laboratory; Kadenacy department of the Armstrong Whitworth securities company. il diag Engineer 169:232, 235-6 Mr 8 '40

See also
Automobile laboratories
Chemical engineering laboratories
Electric laboratories
Hydraulic laboratories

ENGINEERING law
Legal aspects of engineering. W. C. Sadler. 631p $4 Wiley '40

See also
Building laws and regulations

ENGINEERING libraries
Cooperation, a concrete example; Denver public library and Denver office library of Bureau of reclamation. D. L. Brechner. Mech Eng 62:800 N '40

See also
Engineering societies library, New York
Libraries—Technical departments
Technical libraries

ENGINEERING news-record (periodical)
C. H. Hill, veteran editor, retires. Eng N 124:935 Je 27 '40

ENGINEERING reports
Writing the technical report. J. R. Nelson. 373p $2.50 McGraw-Hill '40

See also
Mine reports

ENGINEERING research
Engineering foundation; report on research projects. Science 91:386-7 Ap 19 '40; Same cond. Min & Met 21:262 My '40; Same cond. Power Pl Eng 44:116+ My '40

National physical laboratory; report for 1939. Engineering 149:626-7 Je 28 '40

Popularizing research. W. Davis. J Eng Educ 30:491-5 Ja '40

Progress in engineering knowledge during 1939. P. L. Alger. il diags Gen Elec R 43:60-88 bibliog(221 titles) F '40

Research and invention in engineering colleges. A. A. Potter. Science 91:1-7 Ja 5 '40; Same. Mech Eng 62:196-200 Mr '40

Responsibility for sponsoring research. G. B. Woodruff. Civil Eng 10:199-200 Ap '40

What is engineering research? M. G. Spangler. Civil Eng 10:403-4 Jl '40

Year in research. F. E. Schmitt. il Eng N 124: 243-6 F 15 '40

See also
Aeronautic research
Electric research
Engineering laboratories
Gas research
Highway research
Hydraulic laboratories
Hydraulic research
Industrial research
Petroleum research
Scientific research

ENGINEERING societies
A.S.M.E. today; planning and conducting meetings. Mech Eng 62:138-42 F '40

Engineering-society life of the young engineer. A. G. Christie. Mech Eng 62:124-6 F '40

Meetings. Published in weekly numbers of Engineering news-record

Technical institutions in war time. Engineer 168:548-9 D 1 '39

Unionization of engineers. J. H. Herron. Mech Eng 61:788-9+ N '39; Discussion. 62:67-72, 155-60, 243-6, 328-31, 411-13, 478-81, 562-5, 827-8 Ja-Jl, N '40

See also names of societies, e.g.
American institute of electrical engineers
American society of civil engineers
Engineering institute of Canada
Engineers' council for professional development
Illuminating engineering society

Employment service

Engineering societies personnel service, inc, to open Detroit office. Mech Eng 62:568 Jl '40

30,000 engineering positions have been filled. A. H. Meyer. Mech Eng 62:390-1+ My '40

ENGINEERING societies—*Continued*

Proceedings

See also
American society of civil engineers. Proceedings

ENGINEERING societies library, New York
Engineering societies library; microfilm and photostat service. Science 91:350-1 Ap 12 '40; Same. Refrig Eng 39:302 My '40
Lending service extended. Civil Eng 10:250 Ap '40; Mech Eng 62:349-50 Ap '40; Min & Met 21:201 Ap '40
Officers and board and annual report. Elec Eng 58:531, 532-3 D '39

ENGINEERING students
Are enough students being trained in civil engineering? R. G. Tyler and R. G. Hennes. Civil Eng 10:604-5 S '40
Discovery of promising freshman engineers. J Eng Educ 31:133-46 O '40
Our raw material; training in mechanical drawing received by over 400 entering students. E. F. Tozer. J Eng Educ 30:437-8 D '39
Student interest in coal mining furthered. N. G. Alford. Min & Met 21:35+ Ja '40
Students' progress in wartime. R. O. Kapp. Elec R (Lond) 126:64-5 Ja 19 '40
Students' views on unionization. J. K. Bryan. Power Pl Eng 44:142+ O '40

See also
Engineering colleges —Enrollment
Engineering colleges —Student selection

Grading
Evaluating the ability of students to do the work of the upper classes in the engineering colleges; sophomore comprehensive examinations. W. H. Formhals and B. Stoughton. J Eng Educ 30:668-76 Ap '40

ENGINEERS
Census of engineers in construction field; mobilization of the engineering and architectural professions for national defense. Heating-Piping 12:450 Jl '40
Compensations for days of retirement; occupations and diversions for retired engineers. R. Fleming. Civil Eng 10:77-8 F '40
Consider the young engineer in adding to the sales force. Sales Management 47:54-5 Ag 1 '40
1812-1899; John Brunton's book; being the memories of John Brunton, engineer. 164p $2.50 Macmillan '39
Engineer and labor. E. A. Holbrook. Civil Eng 10:613-14 O '40
Engineering-society life of the young engineer. A. G. Christie. Mech Eng 62:124-6 F '40
Engineers as arbitrators. O. S. Beyer. Elec Eng 59:102-3 Mr '40
Engineers necessary for continued American industrial progress. D. B. Gillies. Min & Met 21:91-4 F '40
Everybody is an engineer today. H. W. Taylor. Eng N 124:167 F 1 '40
Great engineers. C. Matschoss. 381p bibliog (p369-74) $3.75 Oxford (Toronto) '39
Mentality of the engineer. W. Holttum. Inst E E J 86:27-30 Ja '40; Excerpts. Elec R (Lond) 125:559 O 27 '39
Message to young engineers. D. C. Jackling. Min & Met 21:462-4 O '40
Opportunities in making ends meet on the small project. R. M. Lingo. Civil Eng 10: 687-8 N '40
Professional status, a Canadian viewpoint. C. R. Young and R. F. Legget. Civil Eng 10:36-7 Ja '40
Promise; its development and discovery in the young engineer. J. R. Bangs, jr. J Eng Educ 31:118-28; Discussion. R. J. Heffner. 128-32 O '40
Protection of professional titles. M. T. Nisot. Int Labour R 41:35-42 Ja '40
Reading clubs for engineers; reading plan adopted by TVA at Chattanooga. W. H. Kaiser. Mech Eng 62:473-4 Je '40
Requisites for engineering leadership. A. R. Stevenson, jr. Mech Eng 61:903-6 D '39
Should engineers join a union? R. W. Sorensen. Elec Eng 59:227-8 Je '40
Standards of professional relations and conduct. D. W. Mead. bibliog Am Soc C E Proc 66:5-30 Ja '40; Discussion. 66:571-80, 795-803, 1145-60, 1688-96 Mr-Ap, Je, N '40
30,000 engineering positions have been filled; work performed by the Engineering societies employment service. A. H. Meyer. Mech Eng 62:390-1+ My '40
To classify New York engineers for possible war emergency. Eng N 124:763 My 30 '40
To get ahead, they learn to talk; Timken roller bearing company's Rock bit division. Factory Management 98:66+ S '40
Unionization of engineers. J. H. Herron. Mech Eng 61:788-9+ N '39; Discussion. 62:67-72, 155-60, 243-6, 328-31, 411-13, 478-81, 562-5, 827-8 Ja-Jl, N '40

See also
Advertising—Engineers, Appeal to
Chemical engineers
Civil engineers
Electric engineers
Engineering education
Engineering graduates
Highway engineers
Steam engineers
Technical writing
also names of engineers, e.g.
Bodmer, John George
Smith, William Sooy

Directories
Consulting engineers, Canada. Can Eng R & B 78:103-7 Je '40
Directory of the New England research agencies, consulting services, etc. 118p pa $2 Engineering societies of New England, 715 Tremont temple, Boston '39
Society for the promotion of engineering education year book; list of members. J Eng Educ 30:1-201 F '40
Year book recording the objects, activities, facilities, membership and the administrative and operating organization of the Western society of engineers. W Soc E J 44:145-219 Ag '39

Public relations
Engineer and public service. H. G. Hodges. Civil Eng 10:1-2 Ja '40
Engineer in public service. J. M. Byrne, jr. Mech Eng 61:742-4 O '39; Discussion. 62:72-3 Ja '40
Engineers and citizenship. C. M. White. Min & Met 20:542-4 D '39
Engineers of the future must show keenor interest in social and political structure of country; abstract. H. W. McKiel. Can Eng R & B 78:74-6 F '40
Increasing responsibility of the engineer in public life. M. Eisner. Min & Met 21:421-2 S '40
Popularizing research. W. Davis. J Eng Educ 30:491-5 Ja '40
Public service. G. Dunn. Elec Eng 59:97-9 Mr '40

Registration
Legal registration of professional engineers; review of problems and progress. T. K. Legaré. Civil Eng 10:288-90 My '40; Excerpt. Mech Eng 62:616 Ag '40; Discussion. C. H. Fuller. Civil Eng 10:723-4 N '40
Registration for engineers. Can Eng R & B 78:73+ O '40
Status of professional engineering registration in Illinois. H. E. Babbitt. In Ill U Eng Exp Sta Circ 41:19-23 '40

Salaries
Analysis of civil engineering employment in Nebraska. R. M. Green. Civil Eng 10:377-8 Je '40
Engineers begin salary study. Eng N 123: 805+ D 21 '39
Factual survey of members of American society of civil engineers. map Civil Eng 10:122-4, 252 F, Ap '40
Federal engineer and the American society of civil engineers. H. Stabler. Civil Eng 10:181-3 Mr '40

ENGINEERS—Salaries—*Continued*
Grading plan and compensation schedule for civil engineering positions, adopted by the American society of civil engineers. Civil Eng 9:566-8 S '39; Excerpts. Mech Eng 61: 767-8 O '39; Amendment. Civil Eng 10:180 Mr '40
Salaries for civil engineers in Missouri. W. G. Fowler. Civil Eng 10:378 Je '40
Salary study made for Arizona engineers in employ of Highway department. Eng N 124: 471-2 Ap 4 '40

California

Engineering trends in California; a study of employment classifications of society membership, 1924-1939. R. O. Thomas. Civil Eng 10:466-7 Jl '40

Great Britain

Technical institutions in war time. Engineer 168:548-9 D 1 '39

ENGINEERS' council for professional development
Activities in 1939 reviewed. Civil Eng 9:754-6 D '39
Annual meeting, 7th, New York, Oct. 20. Mech Eng 61:909-11 D '39
E.C.P.D. petitioned to study accrediting of nondegree certificates. Mech Eng 62:508 Je '40
Selection of engineering students. R. L. Sackett. J Eng Educ 30:595-600 Mr '40
Seventh annual report of the Engineers' council for professional development for year ending Oct. 1939. 39p pa 25c Engineers' council for professional development, 29 W. 39th st, New York

ENGINEERS exploration and mining corporation
Dissolution. Comm & Fin Chr 150:3357 My 25 '40

ENGINEERS public service company
Answer filed with SEC regarding proceedings under Holding company act. Comm & Fin Chr 150:2422-3 Ap 13 '40
Assets and finances. Pub Util 25:608-9 My 9 '40
Depends on two units. J. F. Childs. map Barron's 20:38-9 Ja 15 '40
Earnings, 1938 and 1939. Comm & Fin Chr 150:1763-4 Mr 16 '40
Volatile low priced equities; thumbnail appraisal. Mag of Wall St 65:687 Mr 9 '40

ENGINES

See also
Airplane engines
Automobile engines
Blowers
Connecting rods
Crankshafts
Diesel engines
Flywheels
Fuel
Gas and oil engines
Governors (machinery)
Locomotives
Motor bus engines
Motor truck engines
Pistons
Pumping machinery
Steam engines
Steam turbines
Turbines

Testing

Measuring brake horsepower. P. Swain. diags Power 84:461 Jl '40

ENGLAND

See also
Great Britain

Antiquities

Treasure in East Anglia; a buried Anglo-Saxon ship; sepulchral mound at Sutton Hoo. J. R. Moir. il Sci Am 162:266-7 My '40

Views

This is England. G. Holme, comp. 128p $5 Studio publications, 381 4th av, New York '40

ENGLISH Channel tunnel
Channel tunnel again. Comp Air M 45:6068 Ja '40

ENGLISH language
Cultivate discernment, not rules; review of P. G. Perrin's An index to English. E. N. Teall. Inland Ptr 105:46-7 Jl '40
Get it right! a cyclopedia of correct English usage. J. B. Opdycke. rev ed 673p $3.50 Funk & Wagnalls co, New York '39
Treasures from the red notebook. E. N. Teall. Inland Ptr 105:34-5 Ag '40
Yankees' talk is free and easy. E. N. Teall. Inland Ptr 104:36-7 D '39

See also
Basic English
Chemical writing
Compound words

Business English

Business writing; theory and practice. C. C. Parkhurst and R. Davis. 362p bibliog(p353-7) $3.25 Prentice-Hall '40
Effective English in business. R. R. Aurner. 2d ed 848p bibliog(p830-4) lea'tte $3.75 South-western pub. co. '40
First course in practical business English. D. W. Morton and H. T. Viets. 403p $2.50 Crofts '40
Modern business English. R. Davis, C. H. Lingham and W. H. Stone. rev ed 516p $1.44 Ginn '40

See also
Commercial correspondence

Study and teaching

Engineering-English teacher's training, and his proper teaching load. L. A. Rose. J Eng Educ 30:523-8 Ja '40
Instruction in English in engineering colleges; report prepared under the direction of the committee on English of the Society for the promotion of engineering education; published serially in Journal of engineering education March '39-April '40. J Eng Educ 30:supp 1-102 Je '40
Language in general education. 226p bibliog(p214-18) $2 Appleton-Century '40
Report on instruction in English in engineering colleges; conclusions and recommendations. H. P. Hammond. J Eng Educ 30: 719-27 Ap '40
Report on instruction in English in engineering colleges; organization and conditions in universities with arts colleges. W. O. Birk. J Eng Educ 30:408-34 D '39
Report on instruction in English in engineering colleges; unusual plans and methods in English. K. O. Thompson. J Eng Educ 30:608-17 Mr '40
Supplementary exercises for use in English courses for engineers. J. O. Bailey, T. B. Stroup and A. C. Howell. 2d ed 148p pa $1 Wiley '40
Teachers of English in engineering colleges; selection and training. H. L. Creek. J Eng Educ 30:300-13 N '39

ENGRAVING

See also
Photoengraving
Postage stamps—Printing

History

Origins of printing and engraving. A. Blum. 226p bibliog(p193-211) $3 Scribner '40

ENGRAVING (metal work)
Caviar guns, and others. A. D. Rathbone, 4th. il Sci Am 162:238-9 Ap '40

ENGRAVINGS
Engraving specifications of leading magazines. Ptg Art 68 no 4:K10+ '40
French original engravings from Manet to the present time. C. Roger-Marx. 87p, 128 il $4 Art book publications, 251 W. 57th st, New York '39

ENOLIZATION. See Isomerization

ENOLS
Reaction between quinones and metallic enolates; duroquinone and the enolates of cyanoacetic ester and of β-diketones. L. I. Smith and E. W. Kaiser. bibliog Am Chem Soc J 62:138-40 Ja '40
Reaction between quinones and metallic enolates; trimethylquinone and the enolates of β-diketones. L. I. Smith and E. W. Kaiser. Am Chem Soc J 62:133-8 Ja '40

ENOLS—*Continued*
1,2,4-Trimesityl 1,4-diketones and related compounds, including the stereoisomeric mono and dienols. R. E. Lutz and C. J. Kibler. bibliog Am Chem Soc J 62:360-72 F '40

ENOREE river, South Carolina
Studying sediment loads in natural streams; Enoree River laboratory of the Soil conservation service. G. C. Dobson and J. W. Johnson. il diags Civil Eng 10:93-6 F '40

ENTERTAINMENT of buyers. See Salesmen—Entertainment of buyers

ENTHALPY. See Thermodynamics

ENTRANCES
Unit heater over revolving door solves entrance heating problem. J. G. Eadie. diag Heating-Piping 12:307 My '40
Unit heaters prevent cold drafts at building and store entrances. D. R. Rippey. il Heating-Piping 12:249-51 Ap '40

ENTROPY
Entropies of large ions; the heat capacity, entropy and heat of solution of potassium chloroplatinate, tetramethylammonium iodide and uranyl nitrate hexahydrate. L. V. Coulter, K. S. Pitzer and W. M. Latimer. bibliog Am Chem Soc J 62:2845-51 O '40
Fluctuations, thermodynamic equilibrium and entropy. E. C. Kemble. bibliog Phys R 56: 1013-23 N 15 '39
Heat capacities, heats of transition and fusion, and entropies of ethylene dichloride and ethylene dibromide. K. S. Pitzer. bibliog Am Chem Soc J 62:331-5 F '40
Heat capacity and entropy, heats of fusion and vaporization and the vapor pressure of isobutane. J. G. Aston, R. M. Kennedy and S. C. Schumann. bibliog Am Chem Soc J 62:2059-63 Ag '40
Heat capacity and entropy, heats of fusion and vaporization and the vapor pressure of *n*-butane. J. G. Aston and G. H. Messerly. bibliog Am Chem Soc J 62:1917-23 Ag '40
Hindered internal rotation of methyl groups: the entropy of silicon tetramethyl. J. G. Aston and R. M. Kennedy. Am Chem Soc J 62:2567 S '40
Ionic entropies and free energies and entropies of solvation in water-methanol solutions. W. M. Latimer and C. M. Slansky. bibliog Am Chem Soc J 62:2019-23 Ag '40
Quantum-mechanical basis of statistical mechanics. E. C. Kemble. Phys R 56:1146-64 D 1 '39
Thermal data; the heat capacities and entropies of guanidine carbonate, glutamic acid hydrochloride, ornithine dihydrochloride, *d*-lactic acid and *l*-lactic acid. H. M. Huffman, E. L. Ellis and H. Borsook. Am Chem Soc J 62:297-9 F '40

See also
Thermodynamics

ENVELOPES
How we find ways to cut mailing and letter costs; window envelopes. I. A. Herrmann. il Am Business 9:26-7 D '39

Printing

Uncle's envelope prices are shown; comparative cost of government and locally printed envelopes. T. C. Ryther. Inland Ptr 104: 61-2 F '40

ENZYMES
Accelerated flow method for rapid reactions. B. Chance. diags Franklin Inst J 229:455-76, 613-40 bibliog(p 640) Ap-My '40
Action of almond emulsin on α-phenyl-*d*-lyxoside. W. W. Pigman. bibliog Am Chem Soc J 62:1371-4 Je '40
Ascorbic acid oxidase from summer crookneck squash (C. pepo condensa). P. L. Lovett-Janison and J. M. Nelson. bibliog Am Chem Soc J 62:1409-12 Je '40
Biological oxidation. C. Oppenheimer, K. G. Stern and W. Roman. 317p bibliog(p277-309) $8.25 Nordemann pub. co, New York '39
Enzyme activity in frozen vegetables; asparagus. M. A. Joslyn and C. L. Bedford. bibliog Ind & Eng Chem 32:702-6 My '40
Enzyme desizing efficiency; quantitative evaluation. W. M. Scott. bibliog il Ind & Eng Chem 32:784-7 Je '40
Enzymes in textile treatment. Textile Col 62:691+ O '40
Enzymes; principles underlying activated sludge process. Eng N 124:186 F 1 '40
Laccase from the wild mushroom, russula foetens. D. C. Gregg and W. H. Miller. bibliog Am Chem Soc J 62:1374-9 Je '40
Meat packer puts fruit enzyme to work; proteolytic enzyme in pineapple juice improves eating qualities of frankfurts and pork sausages. J. M. Ramsbottom and C. A. Rinehart. il Food Ind 12:45-7 Je '40
Nature of the enzyme tyrosinase. G. G. Parkinson, jr. and J. M. Nelson. Am Chem Soc J 62:1693-7 Jl '40
Nature of the Pasteur enzyme. K. G. Stern, J. L. Melnick and D. DuBois. bibliog Science 91:436 My 3 '40
Quantum yield as a function of wave length for the inactivation of urease. E. W. Landen. Am Chem Soc J 62:2465-8 S '40
Sur la fabrication industrielle des enzymes microbiennes. I. A. Effront. bibliog Chimie & Ind 43:3-12 Ja 5 '40

See also
Catalase
Cocarboxylase
Coenzymes
Dehydrogenases
Fermentation
Invertase
Papain
Tyrosinase

EPHEDRINE
Acetylation of *d*-ψ-ephedrine and *l*-ephedrine. W. Mitchell. Chem Soc J p1153-5 Ag '40
Ephedrine; di-(α-hydroxyl-β-methylaminopropyl)-benzenes. S. D. Wilson and C. Chang. Am Chem Soc J 62:287-8 F '40

EPICHLORHYDRIN
Industrial uses of chemicals and related materials. Oil Paint & Drug Rep 137:32 My 13; 49 My 27 '40

EPICYCLIC gearing. See Gearing, Planetary

EPIDEMICS
Disease outbreaks resulting from faulty environmental sanitation. L. C. Frank. bibliog Pub Health Rep 55:1373-83 Ag 2 '40
Outbreaks of water-borne diseases in the New England states, 1920 to 1936. A. E. Gorman. N E Water Works Assn J 53:473-96; Discussion. 497-504 D '39

See also
Infectious diseases
Influenza
Malaria
Typhoid fever

EQUATION of state
Analytical calculations of thermodynamic properties. H. M. Robinson and H. Bliss. bibliog Ind & Eng Chem 32:396-8 Mr '40
General equation of state; equations for ammonia and steam. J. L. Finck. Franklin Inst J 229:201-21 F '40
Law of corresponding states as applied in refrigeration. J. S. Doolittle. bibliog Refrig Eng 40:165-7 S '40

See also
Virial coefficients

EQUATIONS, Theory of
Elementary theory of equations. W. V. Lovitt. 237p $2.50 Prentice-Hall '39

EQUILENIN
Sterols; oxidation and reduction products of equilenin. R. E. Marker and E. Rohrmann. Am Chem Soc J 61:3314-17 D '39
Synthesis of 6-hydroxy-17-equilenone (an isomer of equilenin) and two of its homologs. W. E. Bachmann and D. W. Holmes. bibliog Am Chem Soc J 62:2750-7 O '40
Total synthesis of the sex hormone equilenin and its stereoisomers. W. E. Bachmann, W. Cole and A. L. Wilds. bibliog Am Chem Soc J 62:824-39 Ap '40

EQUILENONE
Synthesis of *cis* and *trans* 17-equilenone. W. E. Bachmann and A. L. Wilds. Am Chem Soc J 62:2084-8 Ag '40

EQUIPMENT industries
Gearing engineering to sales. F. B. Heitkamp. Mech Eng 62:216-17 Mr '40
Missionaries at work. Management R 29:219-21 Je '40
Sales engineering. B. Lester. 200p $2 Wiley '40

See also
Advertising—Industries, Appeal to
Automobile accessories industry
Construction equipment
Industrial market
Machine tool industry
Machinery industry
Plumbing supplies industry
Railroad supplies industry
Tractor industry and trade
also Container corporation of America; Crane company

Advertising
How industrial advertisers fix budgets; ratios for complete programs. Ptr Ink 189:69-70+ D 22 '39
How industrial companies work out problem of obtaining installation pictures. Ptr Ink 192:129-30, 132-3 S 27 '40

Directories
Shop equipment review. il diags Am Mach 84:57-295 Ja 24 '40

Securities
Machinery and miscellaneous equipment companies, 1937-39. Mag of Wall St Manual p30-2 Mr 2 '40
Position of leading equipment stocks. Mag of Wall St 65:466-8; 66:466-7 Ja 27, Jl 27 '40

Statistics
Concerns that sell to industry; pictographs. Sales Management 45:40 D 15 '39
Durable goods expenditures in 1937-1939; producers' and consumers' expenditures for plant and equipment. G. Terborgh. Fed Res Bul 26:116 F '40
Index, monthly and weekly, of capital goods activity; graph. Published in weekly numbers of Iron age

EQUIPMENT trust certificates. See Railroads—Equipment trust certificates

EQUITABLE life assurance society of the United States
Annual statement, 1939. East Underw 41:8 F 23 '40

EQUITABLE trust company of Wilmington, Delaware
Equitable fund C yields 3.6%; audit report. Trusts & Estates 71:434 O '40

EQUITY
Equity through the cases and judicial exposition. J. A. Nathan. 458p 16s Stevens & sons, London '39
Strahan's Digest of equity. J. A. Strahan. 6th ed 642p 22s 6d Butterworth & co, London '39

EQUIVALENCE (law). See Patent laws and legislation

EQUIVALENT weights
Equivalent weights of salts of organic acids; microdetermination by electrodialysis. K. H. Dittmer and R. G. Gustavson. diags Ind & Eng Chem Anal ed 12:297-9 My 15 '40

ERCKER, Lazarus, d. 1593
Lazarus Ercker and his Probierbuch; Sir John Pettus and his Fleta minor. E. V. Armstrong and H. S. Lukens. bibliog J Chem Educ 16:553-62 D '39

ERIE, Lake
Lake Erie water for Toledo. P. Hansen. il diag map Eng N 124:35-6 Ja 4 '40

ERIE City iron works
100 years with Erie City iron works. il Power Pl Eng 44:90-2 Ap '40

ERIE railroad
Commission approves Erie reorganization plan. Ry Age 108:712-14 Ap 20 '40
Erie junior bonds in doldrums. A. Jansen. Barron's 20:19 Mr 25 '40
Interest payments on bonds; reorganization plan modified by ICC. Comm & Fin Chr 151:244 Jl 13 '40
I.C.C. hears Erie oral argument. Ry Age 107: 802-3 N 18 '39
ICC issues reorganization plan. Comm & Fin Chr 150:2573-4 Ap 20 '40
Operating statistics and income statement for calendar years 1936-39. Comm & Fin Chr 150:1764 Mr 16 '40
Profits, real and illusory; earnings, 1929, 1932, 1936-39. H. Lawrence. Barron's 20:13 Ap 1 '40
Reorganization plan. Comm & Fin Chr 149: 3260 N 18 '39
Reorganization plan. E. S. Brooks. Barron's 20:18 My 6 '40
Three groups set up new plan; bondholders, C.&O. and road itself in agreement on compromise proposals. Comm & Fin Chr 149:4174 D 30 '39

ERIODICTYOL
Isolation of eriodictyol and homoeriodictyol; an improved procedure. T. A. Geissman. bibliog Am Chem Soc J 62:3258-9 N '40

ERLENMEYER theory. See Asymmetric induction

EROSION
Beach erosion studies. E. I. Brown. il diags Am Soc C E Proc 65:69-91 Ja '39; Discussion. il diags 65:757-60, 901-6, 1091-7; 66: 303-11, 501-6 Ap-Je '39, F-Mr '40
Causes et dangers de l'érosion du sol dans les régions arides ou semi-arides; modes de culture qui y remédient. Génie Civil 116: 229-31 Ap 6 '40
Ep-Archean and Ep-Algonkian erosion surfaces, Grand canyon, Arizona. R. P. Sharp. map diags Geol Soc Bul 51:1235-69 bibliog (p1265-9) Ag '40
Erosion control and landscaping. A. Gries. il In Ill U Eng Exp Sta Circ 41:72-5 '40
Erosion in Palestine; abstract. W. C. Lowdermilk. Science 91:sup6 Ja 26 '40
Erosional topography and erosion; a mathematical treatment with application to geomorphology, soil science, agronomy and engineering. J. M. Little. 104p $2.50 A. Carlisle & co, 135 Post st, San Francisco '40
Geomorphology of the Ruby-East Humboldt range, Nevada. R. P. Sharp. il maps Geol Soc Bul 51:337-71, pl 1-4 bibliog(p370-1) Mr '40
Silting of reservoirs. L. S. Hall. bibliog Am Water Works Assn J 32:25-42 Ja '40
Soil erosion on slopes; correction and prevention on Massachusetts state highway system. R. D. Murphy. il Roads & Sts 83:60, 63-4 F '40
Some additional observations on slumping and gully formation. R. H. Mitchell. Science 92: 378-9 O 25 '40
Wind erosion control in Texas. J. F. Vearling. Pub Works 71:36+ Mr '40

See also
Roads—Protection
Sedimentation and deposition
Soil conservation

EROSION of metals
Operation ok's blade research. N. D. Gove. il diag Power 84:156-7 Mr '40

See also
Hydraulic machinery—Cavitation

ERRATA
Errata and corrigenda; suggests to librarians a use by them of marginal corrections or references. J. N. Goldsmith. Assn of Sp Lib & Inf Bur Proc 1939:46-9

ERRORS

See also
Errata

ERRORS, Typographical
Real headaches in earlier folios. S. L. Gaber. Inland Ptr 104:73-4 N '39

ERYTHRALINE
Erythrina alkaloids; isolation and characterization of the new alkaloids, erythraline and erythratine. K. Folkers and F. Koniuszy. bibliog Am Chem Soc J 62:436-41 F '40
Erythrina alkaloids; studies on the constitution of erythramine and erythraline. K. Folkers and F. Koniuszy. Am Chem Soc J 62:1673-7 Jl '40

ERYTHRAMINE
Erythrina alkaloids; studies on the constitution of erythramine and erythraline. K. Folkers and F. Koniuszy. Am Chem Soc J 62:1673-7 Jl '40

ERYTHRATINE
Erythrina alkaloids; isolation and characterization of the new alkaloids, erythraline and erythratine. K. Folkers and F. Koniuszy. bibliog Am Chem Soc J 62:436-41 F '40

ERYTHRINA
Erythrina alkaloids; isolation and characterization of erysodine, erysopine, erysocine and erysovine. K. Folkers and F. Koniuszy. Am Chem Soc J 62:1677-83 Jl '40
Erythrina alkaloids; studies on the constitution of erythramine and erythraline. K. Folkers and F. Koniuszy. Am Chem Soc J 62:1673-7 Jl '40

ERYTHRINA cristagalli
Studies on Argentine plants; hypaphorine from erythrina cristagalli. V. Deulofeu, E. Hug and P. Mazzocco. Chem Soc J p1841-2 D '39

ERYTHROL tetranitrate
Experimental studies in cardiovascular pathology; pathological changes in the organs of rats produced by chronic nitrite poisoning; abstract. W. C. Hueper and J. W. Landsberg. J Ind Hygiene 22:sup163 O '40

ERYTHRONIC acid
Improvements in the preparation of DL-threonic and DL-erythronic acids. J. W. E. Glattfeld and E. Rietz. bibliog Am Chem Soc J 62:974-7 Ap '40

ERYTHROPHLEINE
Erythrophleum alkaloids; erythrophleine. B. K. Blount, H. T. Openshaw and A. R. Todd. Chem Soc J p286-90 Mr '40

ESCALATORS
Interior transportation at the New York's world fair. il Elec Eng 59:32 Ja '40

ESCHER Wyss turbine
Hot air power plant; cycle employed by Escher Wyss. J. Ackeret and C. Keller. il diags Engineer 169:373-4 Ap 19 '40

ESCHERICHIA coli. See Bacillus coli

ESKIMOS
One man against the North. D. Irwin and F. M. Reck. 244p $2 Crowell '40

ESOPHAGUS
Diseases
Diagnosis and treatment of diseases of the esophagus. P. P. Vinson. 224p $4 C. C. Thomas, Springfield, Ill. '40

ESSAYS
Bibliography
Essay and general literature index, 1939. M. Shaw and A. Cowing, eds. 199p Wilson, H.W. '40

ESSENTIAL oils
Calythrone; separated from the essential oil obtained from calythrix tetragona. A. R. Penfold and J. L. Simonsen. Chem Soc J p412-15 Ap '40
Constituents of some Indian essential oils; a synthesis of *dl*-α-curcumene. F. D. Carter, J. L. Simonsen and H. O. Williams. Chem Soc J p451-3 Ap '40
Étude des essences de lippia adoensis Hochst. E. Laffitte and J. Rabaté. Chimie & Ind 43:365-6 Mr 5 '40
Examen d'une huile essentielle de lippia adoensis Hochst. L. Palfray, S. Sabetay and P. Petit. il Chimie & Ind 43:367-70 Mr 5 '40
Possibilities of a domestic essential oil industry. P. Kolachov. Manuf Rec 109:30-1 Ag '40
Spice oils give uniform flavor; experience in replacing dry spices for pickle manufacture with spice essential oils and oleoresins. A. H. Downey. il Food Ind 12: 54-5 S '40
See also
Terpenes
Statistics
Essential oils, aromatic chemicals. Published in weekly numbers of Oil, paint and drug reporter

ESTATE planning
Business insurance trust in estate planning. E. D. La Rue. East Underw 41:116+ pt 2 O 4 '40
Estate analysis co. of New York; setup. W. L. Clapp. East Underw 41:9 Ag 30 '40
Estate planning, a unique service. W. T. Sunley. J Account 70:444-9 N '40
Estate planning to minimize taxes. M. Garwood. 269p $3.50 Prentice-Hall '40
Examples of estate and will planning. C. Davidson. East Underw 41:74-5 pt 2 O 4 '40
See also
Insurance, Life—
Estate protection

ESTATE tax. See Inheritance tax

ESTATES (law)
Effect of corporate transformation upon ademption, lapse, and fiduciary appointments. A. E. Evans. Trusts & Estates 70: 435-8 Ap '40
1939 amendments affecting wills, trusts and estates in New York and emergency mortgage laws. 120p New York trust co, 100 Broadway, New York '39
See also
Inheritance tax
Joint tenancy

ESTATES, Decedents'
Accrued income for tax purposes; considerations in preparation of decedent's final return by executor. P. G. Evans. Trusts & Estates 71:411-16 O '40
Probate records reveal how much potential business and where it is going; survey of Los Angeles county. H. H. Rolapp. Trusts & Estates 70:649-55 Je '40
See also
Executors and administrators
Inheritance and succession
Life tenants and remaindermen
Probate law
Probate records
Wills

ESTER gum
Effect of nonvolatile material on solvent balance; plasticizers. J. B. Dorsch. Ind & Eng Chem 32:279-82 F '40

ESTERIFICATION
Acid catalyzed esterification of aliphatic acids. H. A. Smith. bibliog Am Chem Soc J 62:1136-40 My '40
Comparison of esterification and ester interchange kinetics. P. J. Flory. bibliog Am Chem Soc J 62:2261-4 S '40
Equilibrium in an esterification reaction with perchloric acid as catalyst. H. M. Trimble and E. L. Richardson. Am Chem Soc J 62:1018-19 My '40
Kinetics of polyesterification; a study of the effects of molecular weight and viscosity on reaction rate. P. J. Flory. bibliog Am Chem Soc J 61:3334-40 D '39
Kinetics of the esterification of cyclohexanoic acid and of the saponification of its ethyl ester. H. A. Smith and H. S. Levenson. bibliog Am Chem Soc J 62:2733-5 O '40
Kinetics of the esterification of substituted benzoic acids. R. J. Hartman and A. G. Gassmann. bibliog Am Chem Soc J 62:1559-60 Je '40
Lactic esters; preparation and properties. L. T. Smith and H. V. Claborn. bibliog Ind & Eng Chem 32:692-4 My '40
Mechanism of the esterification of strong organic acids; the esterification of neopentyl alcohol with the chloroacetic acids. O. R. Quayle and H. M. Norton. bibliog Am Chem Soc J 62:1170-1 My '40

ESTERIFICATION—*Continued*
Vapor-phase esterification of benzoic acid with ethyl alcohol; effect of oxides on catalytic activity of silica gel. A. A. Vernon and B. M. Brown. bibliog diag Ind & Eng Chem 32:534-6 Ap '40

ESTERS
Aerosol wetting agents, their properties and their uses. C. A. Sluhan. il Chem Ind 47: 284-6 S '40
Amino-acid and peptide esters of choline as possible analogues of the oxytocic hormone of the posterior lobe of the pituitary gland. J. M. Gulland, M. W. Partridge and S. S. Randall. Chem Soc J p419-25 Ap '40
Chemistry of wood; the esters and ethers of the water soluble polysaccharides of larch wood. F. C. Peterson and others. Am Chem Soc J 62:2361-5 S '40
Comparison of esterification and ester interchange kinetics. P. J. Flory. bibliog Am Chem Soc J 62:2261-4 S '40
Condensation of esters with aromatic hydrocarbons by means of aluminum chloride. J. F. Norris and P. Arthur, jr. Am Chem Soc J 62:874-7 Ap '40
Condensations brought about by bases; the Michael type of condensation with certain esters and α,β-unsaturated keto compounds. C. R. Hauser and B. Abramovitch. bibliog Am Chem Soc J 62:1763-6 Jl '40
Condensations; the alkylation of ethyl isobutyrate and of certain other esters by means of sodium triphenylmethyl and alkyl halides. B. E. Hudson, jr. and C. R. Hauser. bibliog Am Chem Soc J 62:2457-9 S '40
Decomposition reactions of the aromatic diazo-compounds; some reactions of diazonium chlorides with esters and nitriles. W. E. Hanby and W. A. Waters. Chem Soc J p1792-5 N '39
Dipole moments and structures of the esters of some fatty and some inorganic acids. G. L. Lewis and C. P. Smyth. bibliog Am Chem Soc J 62:1529-33 Je '40
Drying oils and resins; reactions involving the carbon-to-carbon unsaturation during the thermal treatment of some esters of unsaturated C_{18} fatty acids. T. F. Bradley and W. B. Johnston. bibliog il diag Ind & Eng Chem 32:802-9 Je '40
Drying oils and resins; ultraviolet absorption study of esters of the acids of drying oils. T. F. Bradley and D. Richardson. bibliog il diag Ind & Eng Chem 32:963-9 Jl '40
Esters of alginic acid. H. J. Lucas and W. T. Stewart. bibliog Am Chem Soc J 62: 1070-4 My '40
Esters of brominated aminobenzoic acids. M. B. Moore and E. H. Volwiler. bibliog Am Chem Soc J 62:2799-801 O '40
Evaluation of nitrocellulose lacquer solvents; ester activation by alcohols and the use of alcohols as lacquer diluents. V. W. Ware and W. M. Bruner. bibliog Ind & Eng Chem 32:519-24 Ap '40
Formation and deterioration of paint films; changes in films of glycol esters of several unsaturated fatty acids under exposure to ultraviolet light. J. L. Overholt and A. C. Elm. Ind & Eng Chem 32:1348-51 O '40
Hydrogen exchange reactions of esters in relation to reactivity in condensation reactions with deuteroalcohol. W. G. Brown and K. Eberly. Am Chem Soc J 62:113-15 Ja '40
Influence of alkyl groups upon reaction velocities in solution; the alkaline and acid hydrolyses of the ethyl esters of the lower saturated aliphatic acids in aqueous acetone. G. Davies and D. P. Evans. Chem Soc J p339-45 Mr '40
Interaction of litharge with carboxylic esters and with linseed oil. M. P. Balfe and H. W. Chatfield. Soc Chem Ind J 59:31-4 F '40
Kinetics of the degradation of polyesters by alcohols. P. J. Flory. Am Chem Soc J 62: 2255-61 S '40
Kinetics of the esterification of cyclohexanoic acid and of the saponification of its ethyl ester. H. A. Smith and H. S. Levenson. bibliog Am Chem Soc J 62:2733-5 O '40
Kinetics of the saponification of the ethyl esters of several phenyl substituted aliphatic acids. H. S. Levenson and H. A. Smith. bibliog Am Chem Soc J 62:2324-7 S '40
Lactic esters; preparation and properties. L. T. Smith and H. V. Claborn. bibliog Ind & Eng Chem 32:692-4 My '40
Local anesthetics derived from tetrahydronaphthalene; esters of 1-dialkylamino-2-hydroxy-1, 2, 3, 4-tetrahydronaphthalenes. E. S. Cook and A. J. Hill. Am Chem Soc J 62:1998-9 Ag '40
Local anesthetics derived from tetrahydronaphthalene; esters of 2-dialkylamino-3-hydroxy-1, 2, 3, 4-tetrahydronaphthalenes. E. S. Cook and A. J. Hill. bibliog Am Chem Soc J 62:1995-8 Ag '40
Phenacyl, *p*-phenylphenacyl and *p*-nitrobenzyl esters of certain uneven numbered fatty acids. D. Price and R. Griffith. Am Chem Soc J 62:2884 O '40
Polyhydric alcohol-polybasic acid reaction; the glyceryl succinate and glyceryl maleate polyesters. R. H. Kienle and F. E. Petke. bibliog Am Chem Soc J 62:1053-6 My '40
Preparation of nitriles and amides; reactions of esters with acids and with aluminum chloride; the use of the salt $NaCl \cdot AlCl_3$ in the Friedel and Crafts reaction. J. F. Norris and A. J. Klemka. Am Chem Soc J 62:1432-5 Je '40
Purification of high molecular weight fatty esters. L. O. Buxton and R. Kapp. Am Chem Soc J 62:986 Ap '40
Question of intramolecular asymmetric induction. A. McKenzie and A. D. Wood. Chem Soc J p1536-44 O '39
Racemisation of carboxylic esters by sodium ethoxide and its bearing on Claisen's condensation. J. Kenyon and D. P. Young. Chem Soc J p216-18 F '40
Reaction of organic halides with piperidine; some branched chain β-bromo-esters. E. L. Foreman and S. M. McElvain. bibliog Am Chem Soc J 62:1438-41 Je '40
Redistribution reaction; redistribution of halides and of esters. G. Calingaert and others. Am Chem Soc J 62:1545-7 Je '40
Ring closure of acylic ureides resulting from the elimination of alcohol; a study of the esters of beta-phenylalanine-N-acetic acid and related compounds. D. A. Hahn, M. J. McLean and M. M. Endicott. bibliog Am Chem Soc J 62:1087-91 My '40
Saponification of ethyl esters of aliphatic acids. H. S. Levenson and H. A. Smith. Am Chem Soc J 62:1556-8 Je '40
Some alkamine esters of alkylthio-substituted phenylcarbamic acids. J. J. Donleavy and J. English, jr. bibliog Am Chem Soc J 62:2965-6 N '40
Some alkamine esters of disubstituted methylcarbamic acids. J. J. Donleavy and J. English, jr. bibliog Am Chem Soc J 62:218-19 Ja '40
Studies on the esters of sulphurous, chlorosulphinic, and chlorosulphonic acids. W. Gerrard. Chem Soc J p218-30 F '40
Study of monolayers of some esters and chlorinated derivatives possibly useful as lubricating addition agents. G. L. Clark and J. V. Robinson. bibliog Am Chem Soc J 62:1948-51 Ag '40
Synthesis of some alkamine esters of alkylthiobenzoic acids. J. J. Donleavy and J. English, jr. bibliog Am Chem Soc J 62:220-1 Ja '40
Viscosities of linear polyesters; an exact relationship between viscosity and chain length. P. J. Flory. bibliog Am Chem Soc J 62:1057-70 My '40
Viscosity variations in methacrylic ester polymer solutions. D. E. Strain. Ind & Eng Chem 32:540-1 Ap '40

See also
Cellulose esters
Malonic esters

ESTHETICS
Arts and the art of criticism. T. M. Greene. 690p $5 Princeton univ. press '40
History of esthetics. K. E. Gilbert and H. Kuhn. 582p $4.25 Macmillan '39
Humanities; applied aesthetics. L. Dudley and A. Faricy. 600p $3.50 McGraw-Hill '40

ESTIMATES
See also
Building—Estimates
Printing, Practical—Estimates
Sheet metal work—Estimates

ESTONIA
Russian acquisition of Estonia, Latvia and Lithuania. Comm & Fin Chr 151:480-1 Jl 27 '40

See also
Wages—Estonia

Economic conditions
Business situation, 1939. Comm Rep p289 Mr 30 '40

ESTRADIOL
Conversion of estradiol to estrone in vivo. W. R. Fish and R. I. Dorfman. Science 91: 388 Ap 19 '40
Dibromo-α-oestradiol. R. B. Woodward. Am Chem Soc J 62:1625-6 Je '40

ESTRADIOL benzoate
Effect of alpha-estradiol benzoate on the skeletal development of immature rats; abstract. J. O. Ely and R. L. Phillips. Franklin Inst J 230:670-1 N '40

ESTRANE
Sterols; estrane derivatives. R. E. Marker and E. Rohrmann. bibliog Am Chem Soc J 62:73-5 Ja '40

ESTROGENIC activity
Synthetic oestrogens related to triphenylethylene. A. Schönberg and others. Chem Soc J p1327-9 S '40

ESTRONE
Direct introduction of the angular-methyl group. R. B. Woodward. bibliog Am Chem Soc J 62:1208-11 My '40
Experiments on the synthesis of oestrone; the 2-(β-phenylethyl)-furans as components in the diene synthesis. R. B. Woodward. bibliog Am Chem Soc J 62:1478-82 Je '40
Studies in the sterol-oestrone group; derivatives of 2-phenyl*cyclo*hexanone. J. C. Bardhan. Chem Soc J p848-50 Jl '40
Über synthetische östrogene. F. v. Wessely. bibliog Angew Chemie 53:197-202 My 11 '40

ETCHING (metals)
Adhesion of nickel deposits; Ollard adhesion test to evaluate efficiency of etching methods prior to plating. E. J. Roehl. il diag Iron Age 146:17-20 S 26; 30-3 O 3 '40
Anodic polishing of metals; preparing specimens for microscopic examination. C. Schaefer. bibliog il diag Metal Ind 38:22-6 Ja '40
Colored films in micrography. A. Portevin. il Metal Prog 36:761-2+ D '39
Electrolytic etching of brass. G. C. Williams and G. Rieger. bibliog il Electrochem Soc Trans 77 (preprint 20):259-62 Ap '40
Etching of cementite in pearlite. F. D. Waterfall. il Metal Prog 37:68-9 Ja '40
Etching of the platinum metals and their alloys with a.c. electrolysis; abstract. E. Raub and G. Buss. Metals & Alloys 11: MA356 Je '40
Heat etching as a means of revealing austenite grain size. M. J. Day and J. B. Austin. il diag Am Soc for Metals Trans 28:354-68; Discussion. 369-71 Je '40
Jones electric pencil. Engineer 169:122 F 2 '40
Makonus electric pencil. il Automobile Eng 30:88 Mr '40
Polishing technique for stainless steels. W. M. Mitchell. Iron Age 144:35+ O 26 '39; Same. Metal Ind 38:216 Ap '40
Some experiments showing the directional reactivities of single crystals of copper. A. T. Gwathmey and A. F. Benton. il Electrochem Soc Trans 77 (preprint 9):113-20 Ap '40

ETCHINGS
Van Rye, etcher of the electric utility industry. il Edison Elec Inst Bul 8:43, 56-60 F '40

ETHANE
Action of elementary fluorine on organic compounds; the vapor phase reaction between ethane and fluorine in progressively varying proportions. J. D. Calfee, N. Fukuhara and L. A. Bigelow. diag Am Chem Soc J 61:3552-4 D '39
Action of elementary fluorine upon organic compounds; the influence of dilution on the vapor phase fluorination of ethane. De W. S. Young, N. Fukuhara and L. A. Bigelow. Am Chem Soc J 62:1171-3 My '40
Catalytic dehydrogenation of gaseous paraffins. A. V. Grosse and V. N. Ipatieff. bibliog il Ind & Eng Chem 32:268-72 F '40
Fluorinated derivatives of ethane and ethylene; corrective data. A. L. Henne and E. G. Wiest. Am Chem Soc J 62:2051-2 Ag '40
Isothermal changes in enthalpy for some gases. R. York, jr. and H. C. Weber. bibliog Ind & Eng Chem 32:388-92 Mr '40
Liquid-vapor equilibrium relations in binary systems; the ethane-*n*-butane system. W. B. Kay. diag Ind & Eng Chem 32:353-7 Mr '40
Nitration of ethane. H. J. Hibshman, E. H. Pierson and H. B. Hass. diags Ind & Eng Chem 32:427-9 Mr '40
Partial volumetric behavior of lighter paraffin hydrocarbons in the gas phase; methane, ethane, propane, *n*-butane in binary mixtures. B. H. Sage and W. N. Lacey. bibliog Oil & Gas J 38:189-92+ N 17 '39
Phase equilibria in hydrocarbon systems; the methane-ethane system in the gaseous region. B. H. Sage and W. N. Lacey. bibliog Ind & Eng Chem 31:1497-1509 D '39
Viscosity of hydrocarbon solutions; methane—ethane—crystal oil system. B. H. Sage and W. N. Lacey. bibliog Ind & Eng Chem 32: 587-9 Ap '40

ETHANOL. See Alcohol

ETHANOLAMINE
Alkanolamines; reaction of ethanolamines on *p*-nitrobenzoic acid. M. Meltsner, D. Greenfield and H. Rosenzweig. Am Chem Soc J 62:991-2 Ap '40
Alkanolamines; reducing and hydrolyzing action of the ethanolamines on the dichloronitrobenzenes. C. B. Kremer and A. Bendich. Am Chem Soc J 62:1279-81 My '40
Conductance of salts in monoethanolamine. H. T. Briscoe and T. P. Dirske. bibliog J Phys Chem 44:388-97 Mr '40
Determination of cellulose in fibrous agricultural wastes; a rapid method using monoethanolamine. J. D. Reid, G. H. Nelson and S. I. Aronovsky. bibliog diag Ind & Eng Chem Anal ed 12:255-9 My 15 '40
Ethanolamines of the oxindole series. R. B. Crawford and H. G. Lindwall. bibliog Am Chem Soc J 62:171-3 Ja '40
Some properties of monoethanolamine and its aqueous solutions. R. E. Reitmeier, V. Sivertz and H. V. Tartar. Am Chem Soc J 62:1943-4 Ag '40

Analysis
Identification of 2-aminoethanol. B. Keiser. Ind & Eng Chem Anal ed 12:284 My 15 '40

ETHER (anesthetic). See Ethyl ether

ETHER of space
Ether-drift experiments. N. Rosen. Phys R 57:154-5 Ja 15 '40
Measurement of velocity with atomic clocks. H. E. Ives. Science 91:79-84 Ja 26 '40

See also
Lorentz-Fitzgerald contraction

ETHERS
Chemistry of wood; the esters and ethers of the water soluble polysaccharides of larch wood. F. C. Peterson and others. Am Chem Soc J 62:2361-5 S '40

ETHERS—*Continued*

Dibenzofuran; isomeric metalation products of some phenols and their methyl ethers. H. Gilman and others. Am Chem Soc J 62: 667-9 Mr '40

Ethers and amines from β-4-morpholinoethyl chloride. J. P. Mason and S. Malkiel. bibliog Am Chem Soc J 62:1448-50 Je '40

Hydrogen fluoride as a condensing agent; the reaction of alcohols and ethers with benzene. J. H. Simons and S. Archer. Am Chem Soc J 62:1623-4 Je '40

Hydrolysis or alcoholysis of resorcinol ether sulphonic acids. G. S. Hartley. Chem Soc J p1834-6 D '39

Identification of organic compounds; chlorosulfonic acid as a reagent for the characterization of aromatic ethers. E. H. Huntress and F. H. Carten. Am Chem Soc J 62: 603-4 Mr '40

4-Morpholinomethyl alkyl ethers and N-substituted morpholines. J. P. Mason and M. Zief. Am Chem Soc J 62:1450-2 Je '40

Studies on acid iodides; the mechanism of ether cleavage. P. G. Stevens. Am Chem Soc J 62:1801-2 Jl '40

Sulphonates of higher alkyl phenolic ethers. G. S. Hartley. Chem Soc J p1828-34 D '39

See also

Cellulose ethers
Ethyl ether

ETHICS

Wisdom in conduct; an introduction to ethics. C. B. Garnett, jr. 458p bibliog(p421-35) $3.50 Harcourt '40

See also

Accounting ethics
Advertising ethics
Business ethics
Insurance ethics
Legal ethics
Professional ethics

ETHNOLOGY

Culture historical method of ethnology; the scientific approach to the racial question. W. Schmidt. 383p $5 Fortuny's, New York '39

Races of central Europe; a footnote to history. G. M. Morant. 163p bibliog(p156-9) 5s G. Allen & Unwin, London '39

ETHYL acetate

Binary liquid systems; the azeotropic composition of carbon tetrachloride-ethyl acetate mixtures as a function of the pressure. P. W. Schutz and R. E. Mallonee. Am Chem Soc J 62:1491-2 Je '40

Physical properties of the ternary system butyl alcohol—ethyl acetate—toluene. E. E. Litkenhous, J. D. Van Arsdale and I. W. Hutchison, jr. bibliog J Phys Chem 44:877-88 Mr '40

Solvents in industry. Metal Ind 38:245 Ap '40

ETHYL acetoacetate

Addition of βγ-unsaturated alcohols to the active methylene group; the action of ethyl acetoacetate on cinnamyl alcohol and phenylvinylcarbinol. M. F. Carroll. Chem Soc J p1266-8 S '40

Addition of αβ-unsaturated alcohols to the active methylene group; the action of ethyl acetoacetate on linalool and geraniol. M. F. Carroll. Chem Soc J p704-6 Je '40

Condensations; a general theory for certain carbon-carbon condensations effected by acidic and basic reagents. C. R. Hauser and D. S. Breslow. Am Chem Soc J 62: 2389-92 S '40

Condensations of certain active hydrogen compounds effected by boron trifluoride and aluminum chloride. D. S. Breslow and C. R. Hauser. bibliog Am Chem Soc J 62:2385-8 S '40

Condensations; the alkylation of ethyl acetoacetate with isopropyl acetate in the presence of boron trifluoride. D. S. Breslow and C. R. Hauser. bibliog Am Chem Soc J 62:2611-12 O '40

ETHYL acetonedicarboxylate

Aryl isothiocyanates and ethyl acetonedicarboxylate. D. E. Worrall. Am Chem Soc J 62:578 Mr '40

ETHYL alcohol. See Alcohol

ETHYLAMINE

β-phenylfurylethylamine and analogous derivatives of thiophen and pyrrole. R. Robinson and W. M. Todd. Chem Soc J p1743-7 N '39

ETHYL azide

Action of ethyl azide and phenyl azide on fuming sulfuric acid. K. W. Sherk, A. G. Houpt and A. W. Browne. bibliog Am Chem Soc J 62:329-31 F '40

ETHYL benzene

Jacobsen reaction; polyethylbenzenes. L. I. Smith and C. O. Guss. Am Chem Soc J 62:2631-5 O '40

Polyalkylbenzenes; nitration of tetra-, penta- and hexa-ethylbenzenes; bromination of the tetraethylbenzenes. L. I. Smith and C. O. Guss. bibliog Am Chem Soc J 62:2635-8 O '40

Polyalkylbenzenes; preparation of pure ethylbenzenes. L. I. Smith and C. O. Guss. bibliog Am Chem Soc J 62:2625-9 O '40

ETHYL benzoate

Condensations brought about by bases; the conversion of ethyl benzoyldimethylacetate to ethyl benzoate and ethyl isobutyryl-isobutyrate in the presence of sodium ethoxide and triphenylmethane; the reversibility of the Claisen type of condensation. C. R. Hauser and B. E. Hudson, jr. bibliog Am Chem Soc J 62:62-6 Ja '40

Vapor-phase esterification of benzoic acid with ethyl alcohol; effect of oxides on catalytic activity of silica gel. A. A. Vernon and B. M. Brown. bibliog diag Ind & Eng Chem 32:534-6 Ap '40

ETHYL benzoyldimethylacetate

Condensations brought about by bases; the conversion of ethyl benzoyldimethylacetate to ethyl benzoate and ethyl isobutyryl-isobutyrate in the presence of sodium ethoxide and triphenylmethane; the reversibility of the Claisen type of condensation. C. R. Hauser and B. E. Hudson, jr. bibliog Am Chem Soc J 62:62-6 Ja '40

ETHYL bromide

Mechanism of elimination reactions; kinetics of olefin elimination from ethyl, *iso*propyl, *tert.*-butyl and α- and β-phenylethyl bromides in acidic and in alkaline alcoholic solution; effects due to, and factors influencing, the two mechanisms of elimination. E. D. Hughes and others. Chem Soc J p899-912 Jl '40

Mechanism of substitution at a saturated carbon atom; hydrolysis of methyl, ethyl, *iso*propyl and *tert.*-butyl bromides in acidic solutions under conditions believed to be conducive to uniformity of mechanism. L. C. Bateman and E. D. Hughes. Chem Soc J p945-8 Jl '40

Mechanism of substitution at a saturated carbon atom; mechanisms operative in the hydrolysis of methyl, ethyl, *iso*propyl, and *tert.*-butyl bromides in aqueous solutions. L. C. Bateman and others. Chem Soc J p925-35 Jl '40

Photolysis of acetaldehyde and ethyl bromide mixtures at 310°. J. G. Roof and F. Daniels. bibliog diag Am Chem Soc J 62:2912-15 N '40

Reaction of organic halides with piperidine; negatively substituted ethyl bromides. E. L. Foreman and S. M. McElvain. bibliog Am Chem Soc J 62:1435-8 Je '40

ETHYL butanol

Thermodynamic properties of the hexyl alcohols; 2,2-dimethylbutanol-1 and 2-ethylbutanol-1. F. Hovorka, H. P. Lankelma and W. R. Smith. Am Chem Soc J 62:2372-4 S '40

ETHYL cellulose

Ethyl cellulose. W. Koch. Chem & Ind 59: 329-30 My 11 '40

Ethylcellulose rigid container sheeting. S. L. Bass and F. C. Dulmage, jr. il Mod Packaging 14:88+ S '40

Spirit varnishes; incorporation of ethylcellulose. R. C. Ernst, J. B. Tepe and I. W. Hutchison, jr. il Ind & Eng Chem 32:1539-40 N '40

ETHYL chloride
Action of elementary fluorine upon organic compounds; the vapor phase fluorination of ethyl chloride. J. D. Calfee and others. diag Am Chem Soc J 62:267-9 F '40
Laboratory synthesis of ethyl chloride. I. A. Koten. diag J Chem Educ 17:461 O '40

ETHYL chlorocarbonate. See Ethyl chloroformate

ETHYL chloroformate
Kinetic decomposition of ethyl chlorocarbonate; foreign gas effects. A. R. Choppin and G. F. Kirby, jr. bibliog Am Chem Soc J 62:1592-4 Je '40

ETHYL cyclopropyl ketimmonium chloride
Rates of reaction of cyclopropyl ketimines with water. J. B. Cloke. bibliog Am Chem Soc J 62:117-19 Ja '40

ETHYL diacetyl tartrate
Influence of solvents and other factors on the rotation of optically active compounds; asymmetric solvent action. T. S. Patterson and C. Buchanan. Chem Soc J p290-3 Mr '40

ETHYL ether
Chemical preparation of colloidal suspensions in non-aqueous solvents; ether, dioxane, and acetone. A. A. Vernon and H. A. Nelson. J Phys Chem 44:21-5 Ja '40
Electrolysis of some higher aliphatic organomagnesium halides in ethyl ether. W. V. Evans, D. Braithwaite and E. Field. Am Chem Soc J 62:534-6 Mr '40
Equilibrium composition of *n*-butylmagnesium chloride solutions in ethyl ether. C. R. Noller and D. C. Raney. Am Chem Soc J 62:1749-51 Jl '40
Examination of the mechanism by which cool flames give rise to normal flames; the chemical character of the blue flame initiated in the cool flame products of ether-oxygen mixtures. M. Maccormac and D. T. A. Townend. diag Chem Soc J p151-6 F '40
Examination of the mechanism by which cool flames give rise to normal flames; the physical characteristics of the two-stage process of ignition of ether-oxygen mixtures. M. Maccormac and D. T. A. Townend. Chem Soc J p143-50 F '40
Simple apparatus for measuring the dielectric constant of non-conducting liquids; dielectric constant of ethyl ether-chloroform mixtures. B. E. Hudson and M. E. Hobbs. bibliog diags J Chem Educ 17:366-70 Ag '40
Simple proof of the thermodynamic stability of materials taken up by solutions containing solubilizers such as soap. J. W. McBain and J. J. O'Connor. diags Am Chem Soc J 62:2855-9 O '40
System *n*-butylmagnesium bromide—magnesium bromide—ethyl ether. W. E. Doering and C. R. Noller. Am Chem Soc J 61: 3436-7 D '39

ETHYL gasoline corporation
Complete text of U.S. Supreme court decision on Ethyl corporation's jobber licensing plan. Nat Pet N 32:18-20 Mr 27 '40; Same. Oil Paint & Drug Rep 137:3, 37+ Ap 1; 3, 58 Ap 8 '40
Ethyl improves its sales position in conforming to court decision. W. T. Ziegenhain. Oil & Gas J 39:40 Je 13 '40
Ethyl offers two new agreements licensing leaded gasoline sales; with text. Nat Pet N 32:9-10, 20-2 Je 5 '40
Nine against Ethyl; Supreme court enjoins use of patent to control jobbers through licensing system. Business Week p17 Mr 30 '40
Patentees can't fix prices. Ptr Ink 190:40 Mr 29 '40
U.S. Supreme court holds patentees may not fix prices; Ethyl gasoline corporation. Comm & Fin Chr 150:2017, 2574 Mr 30, Ap 20 '40

Laboratory
Chemical research laboratory. H. A. Beatty. il Ind & Eng Chem Anal ed 12:185-6 Mr 15 '40

ETHYL hexenalaniline
Reactions of anils; a new type of Diels-Alder reaction. H. R. Snyder, R. B. Hasbrouck and J. F. Richardson. Am Chem Soc J 61:3558-60 D '39

ETHYL iodide
Photolysis of ethyl iodide in various solvents. W. West and J. Fitelson. bibliog Am Chem Soc J 62:3021-6 N '40

ETHYL isobutyrate
Condensations; the alkylation of ethyl isobutyrate and of certain other esters by means of sodium triphenylmethyl and alkyl halides. B. E. Hudson, jr. and C. R. Hauser. bibliog Am Chem Soc J 62:2457-9 S '40

ETHYL isobutyryl-isobutyrate
Condensations brought about by bases; the acylation of ethyl isobutyryl-isobutyrate and the cyclization of a 3,5-diketo-ester by means of sodium triphenylmethyl. B. E. Hudson, jr. and C. R. Hauser. bibliog Am Chem Soc J 61:3567-70 D '39
Condensations brought about by bases; the conversion of ethyl benzoyldimethylacetate to ethyl benzoate and ethyl isobutyryl-isobutyrate in the presence of sodium ethoxide and triphenylmethane; the reversibility of the Claisen type of condensation. C. R. Hauser and B. E. Hudson, jr. bibliog Am Chem Soc J 62:62-6 Ja '40

ETHYL mercury phosphate
Dermatitis venenata resulting from contact with an aqueous solution of ethyl mercury phosphate. F. J. Vintinner. il J Ind Hygiene 22:297-300 S '40

ETHYL methacrylate
Ethyl methacrylate as a mounting medium for embryological specimens. W. O. Puckett. Science 91:625-6 Je 28 '40

ETHYL methylethylacetate
Condensations; the alkylation of ethyl isobutyrate and of certain other esters by means of sodium triphenylmethyl and alkyl halides. B. E. Hudson, jr. and C. R. Hauser. bibliog Am Chem Soc J 62:2457-9 S '40

ETHYL nitrate
Experiments with doped fuels for high-speed Diesel engines. J. J. Broeze and J. O. Hinze. bibliog Inst Pet J 25:657-77; Discussion. 704-7 O '39

ETHYL oleate
Action of lead tetraacetate upon hydroxylated fat acids and related compounds; hydroxylated oleic acid, ethyl oleate and oleyl alcohol. J. T. Scanlan and D. Swern. bibliog Am Chem Soc J 62:2305-9 S '40

ETHYL orthoformate
Energy and entropy of activation of the hydrolysis of ethyl orthoformate in deuterium oxide. F. Brescia and V. K. LaMer. bibliog Am Chem Soc J 62:612-14 Mr '40

ETHYL palmitate
Dipole moments and structures of the esters of some fatty and some inorganic acids. G. L. Lewis and C. P. Smyth. bibliog Am Chem Soc J 62:1529-33 Je '40

ETHYL silicate
Acute response of guinea pigs and rats to inhalation of the vapors of tetraethyl orthosilicate. H. F. Smyth, jr. and J. Seaton. bibliog J Ind Hygiene 22:288-96 S '40

ETHYL stearate
Dipole moments and structures of the esters of some fatty and some inorganic acids. G. L. Lewis and C. P. Smyth. bibliog Am Chem Soc J 62:1529-33 Je '40
Interaction of litharge with carboxylic esters and with linseed oil. M. P. Balfe and H. W. Chatfield. Soc Chem Ind J 59:31-4 F '40

ETHYL undecylate
Dipole moments and structures of the esters of some fatty and some inorganic acids. G. L. Lewis and C. P. Smyth. bibliog Am Chem Soc J 62:1529-33 Je '40

ETHYL vanillin. See Bourbonal

ETHYLAL. See **Acetaldehyde**

ETHYLATION
Hydrogen fluoride as a condensing agent; reactions of methyl, ethyl and phenyl compounds with benzene and its derivatives. J. H. Simons and H. J. Passino. Am Chem Soc J 62:1624 Je '40
Polyalkylbenzenes; preparation of pure ethylbenzenes. L. I. Smith and C. O. Guss. bibliog Am Chem Soc J 62:2625-9 O '40

ETHYLENE
Aromatic stabilized double bonds; Mills-Nixon problem. R. T. Arnold and R. L. Evans. bibliog Am Chem Soc J 62:556-8 Mr '40
Calculation of chemical equilibrium at high pressures; with applications to methanol synthesis, hydration of olefins, and reaction of nitrogen and acetylene to give hydrogen cyanide. R. H. Ewell. bibliog Ind & Eng Chem 32:147-53 F '40
Catalysis in the formation of α-methoxymercurials from ethylenes. A. M. Birks and G. F. Wright. Am Chem Soc J 62:2412-21 S '40
Catalytic dehydrogenation of alcohols in the liquid phase using ethylene as a hydrogen acceptor. W. Reeve and H. Adkins. Am Chem Soc J 62:2874-6 O '40
Defoliation of rose plants with ethylene gas. J. A. Milbrath, E. Hansen and H. Hartman. Science 91:100 Ja 26 '40
Ethylene injury to cut flowers in cold storage rooms. D. V. Lumsden and others. bibliog Science 92:243-4 S 13 '40
Facts about artificially ripened fruit. N. C. Thornton. bibliog il Food Ind 12:48-50+ Jl; 51-2 Ag '40
Fluorinated derivatives of ethane and ethylene; corrective data. A. L. Henne and E. G. Wiest. Am Chem Soc J 62:2051-2 Ag '40
Freshman experiment; preparation and properties of ethylene. G. H. Stempel, jr. J Chem Educ 17:508 N '40
Gas imperfection; experimental determination of second virial coefficients for seven unsaturated aliphatic hydrocarbons. E. E. Roper. bibliog diag J Phys Chem 44:835-47 O '40
Hydrogenation of ethylene at surfaces of certain oxides; molybdenum oxide compounds. J. F. Woodman, H. S. Taylor and J. Turkevich. Am Chem Soc J 62:1397-9 Je '40
Hydrogenation of ethylene at surfaces of certain oxides; zinc oxide and zinc chromite. J. F. Woodman and H. S. Taylor. bibliog Am Chem Soc J 62:1393-6 Je '40
Induced pyrolysis of methane. W. J. Hessels, D. W. van Krevelen and H. I. Waterman. bibliog diag Soc Chem Ind J 58:323-7 N '39
Inflammable ranges of ethylene-air mixtures at atmospheric and reduced pressures and the influence of small amounts of nitrogen peroxide thereon. J. S. Forsyth and D. T. A. Townend. Engineering 149:127 F 2 '40; Excerpt. Chem Age (Lond) 41:386 D 9 '39
Inhibition of ethylene polymerization by nitric oxide. H. D. Burnham and R. N. Pease. Am Chem Soc J 62:453 F '40
Inhibition of the hydrogenation of ethylene by nitric oxide. H. D. Burnham and R. N. Pease. Am Chem Soc J 62:453 F '40
Nature of the surface of catalytic nickel; poisoning by ethylene and by methane decomposition. W. W. Russell and W. V. Loebenstein. Am Chem Soc J 62:2573-80 O '40

ETHYLENE bromide
Heat capacities, heats of transition and fusion, and entropies of ethylene dichloride and ethylene dibromide. K. S. Pitzer. bibliog Am Chem Soc J 62:331-5 F '40
Specific heat of some ethylene halides. W. E. Railing. Am Chem Soc J 61:3349-53 D '39

ETHYLENE chloride
Heat capacities, heats of transition and fusion, and entropies of ethylene dichloride and ethylene dibromide. K. S. Pitzer. bibliog Am Chem Soc J 62:331-5 F '40
Properties of electrolytic solutions; conductance of ethylene dichloride solutions of some quaternary ammonium salts having large negative ions. D. L. Fowler and C. A. Kraus. bibliog Am Chem Soc J 62:2237-40 Ag '40
Properties of electrolytic solutions; the conductance of tributylammonium picrate in ethylene chloride at 25°. D. J. Mead, R. M. Fuoss and C. A. Kraus. bibliog Am Chem Soc J 61:3257-9 D '39
Specific heat of some ethylene halides. W. E. Railing. Am Chem Soc J 61:3349-53 D '39
Spiral screen packing for efficient laboratory fractionating columns. H. S. Lecky and R. H. Ewell. bibliog il diag Ind & Eng Chem Anal ed 12:544-7 S 15 '40

ETHYLENE chlorobromide
Specific heat of some ethylene halides. W. E. Railing. Am Chem Soc J 61:3349-53 D '39

ETHYLENE chlorohydrin
Industrial uses of chemicals and related materials. Oil Paint & Drug Rep 137:61 Je 10 '40
Investigation of the complex structure of the O-H harmonic bands of substituted alcohols, and of the effect of temperature on the relative intensities of the multiplet components. L. R. Zumwalt and R. M. Badger. bibliog Am Chem Soc J 62:305-11 F '40

ETHYLENEDIAMINE
Certain arylsulfonyl derivatives of ethylenediamine. L. H. Amundsen and R. I. Longley, jr. bibliog Am Chem Soc J 62:2811-12 O '40
Reaction of *bis*-β-chloroethyl ether with ethylenediamine. M. E. Hultquist and E. H. Northey. Am Chem Soc J 62:447-8 F '40

ETHYLENE dibromide. See Ethylene bromide

ETHYLENE dichloride. See Ethylene chloride

ETHYLENE glycol. See Glycol

ETHYLENE iodide
Photochemical investigations; the photolysis and iodine sensitized decomposition of gaseous ethylene iodide. W. H. Janneck and E. O. Wiig. Am Chem Soc J 62:1877-8 Jl '40

ETHYLENE oxide
Action of alkylene oxides on cellulose. L. G. Lawrie, R. J. W. Reynolds and D. Ward. bibliog il Soc Dyers & Col J 56:6-17 Ja '40; Abstracts. Chem Age (Lond) 42: 145 Mr 9 '40; Textile Col 62:330-1 My '40; Textile World 90:61 Je '40; Discussion. Soc Dyers & Col J 56:221-2 My '40
Condensation of phenol and ethylene oxide. R. A. Smith. Am Chem Soc J 62:994 Ap '40
Effects of storage on microbial content of spices. H. W. Smith. Food Ind 12:52+ N '40
Molecular size distribution in ethylene oxide polymers. P. J. Flory. bibliog Am Chem Soc J 62:1561-5 Je '40
Studies on reactions relating to carbohydrates and polysaccharides, the mechanism of polymerization of ethylene oxide. S. Perry and H. Hibbert. bibliog Am Chem Soc J 62:2599-604 O '40
Thiodiglycol; unit process and operations involved in its synthesis from ethylene oxide and hydrogen sulfide. D. F. Othmer and D. Q. Kern. diags Ind & Eng Chem 32:160-9 F '40

ETHYLIDENE chloride
Condensations by sodium; reactions of disodium compounds with ethylidene and methylene chlorides. A. A. Morton and J. T. Massengale. bibliog Am Chem Soc J 62: 120-3 Ja '40

ETIQUET
Brush up your manners. G. Pocock. 107p $1.25 David McKay co, Washington sq, Philadelphia '39
This way, please; a book of manners. E. Boykin. 280p $1.75 Macmillan '40

ETTINGSHAUSEN effect
Galvano- and thermomagnetic phenomena in iron and nickel. E. H. Butler, jr. and E. M. Pugh. diags Phys R 57:916-21 My 15 '40

ETYMOLOGY
Latin and Greek roots in chemical terminology. G. R. Beezer. J Chem Educ 17:63-6 F '40
There's history in bank terms. E. Berger. Banking 33:56 N '40

EUCALYPTUS oil
Carbonyl constituents of eucalyptus oils; the constitution of phellandral; *d*-, *l*-, and *dl* (synthetic)-phellandric acids. R. G. Cooke, A. K. Macbeth and T. B. Swanson. Chem Soc J p808-10 Je '40
Eucalyptus oil imported into the United States. For Comm W 1:228-9 N 2 '40

EUCARVONE
Application of the diene synthesis to terpenoid compounds; eucarvone and maleic anhydride. T. F. West. Chem Soc J p1162-4 Ag '40

EUCHOROPTERA longipennis
Carboniferous insects from the Stanton formation, Kansas. F. M. Carpenter. diag Am J Sci 238:636-42, pl 1 S '40

EUGENICS
Preface to eugenics. F. Osborn. 312p $2.75 Harper '40

EUGLENIDAE
Limitations of euglenidae as polluted water indicators. J. B. Lackey and R. S. Smith. bibliog diags Pub Health Rep 55:268-80 F 16 '40

EUROPE
Fortune survey; Europe's villians; which nation do you regard as the worst influence? Fortune 21:102 Mr '40
Inside Europe. J. Gunther. 1940 war ed rev 606p bibliog(p576-9) $3.50 Harper '40
Storm breaks; a panorama of Europe and the forces that have wrecked its peace. F. T. Birchall. 366p $3 Viking press '40

See also
United States of Europe (proposed)

Commerce
Wartime trade in south-eastern Europe. Economist 137:208-9 N 11 '39

Economic conditions
Europe's changing economic structure; three major long-run problems. P. F. Drucker. Annalist 56:143 Ag 1 '40
Financial situation abroad. Published in monthly numbers of Bankers magazine
What the coming European inflation means to us. V. L. Horoth. il Mag of Wall St 67:82-4+ N 2 '40

Industries and resources
Geographical and industrial studies; Europe. N. B. Allen. rev ed 419p $1.12 Ginn '40

Maps
Environment and conflict in Europe; eighteen basic maps. 26p pa $1; to members 75c Am. geographical soc, Broadway at 156th st, New York '39

Politics and government
Europe downstream. L. O. Mosley. 330p $2.75 Doubleday '40
European jungle. F. Yeats-Brown. 408p $3 Macrae-Smith co, 1712 Ludlow st, Philadelphia '39
Federation for western Europe. W. I. Jennings. 208p $2.50 Macmillan '40
Governments of continental Europe. J. T. Shotwell, ed. 1092p $4.50 Macmillan '40

EUROPEAN war, 1914-1918
Refrigeration in the World war. H. L. Consley. il Refrig Eng 39:15-18 Ja '40
World war 1914-18; a portfolio with notes: 24 photographs. Fortune 20:61-8 D '39

Aerial operations
Up and at 'em. H. E. Hartney. 333p $2.50 Stackpole sons, Harrisburg, Pa. '40

Economic aspects
As it was in 1914; business men won then, as they can now. E. T. Gundlach. Ptr Ink 192:15 Jl 19 '40
Business and financial record of World war years. 427p pa $6; lea'tte $7.50 Herbert D. Seibert & co, 25 Spruce st, New York '39
Draft need not upset U.S. economic picture to any great extent; study of 1917 conscription effects; some suggestions for management. H. L. Stephen. Ptr Ink 192: 9-11, 64+ Ag 9 '40
Government price policy in the United States during the World war. H. Stein. 138p bibliog(p129-32) $2 Williams college, Williamstown, Mass. '39
Inventories during the World war; record of 111 companies and trends, 1913-1922. W. L. Thorp and H. B. Russell. il Dun's R 48: 17-22 F '40
Real estate in war time; 1914 and 1939 compared. H. D. Pettibone. J Land & Pub Util Econ 15:391-6 N '39

Labor problems
Independent labor party and social amelioration in Great Britain during the World war. B. Sacks. 37p Univ. of New Mexico press, Albuquerque '40
Labour cost of the World war to Great Britain, 1914-1922; a statistical analysis. N. B. Dearle. 260p $2 Yale univ. press '40
War-time casualties on the industrial front; the experience of Germany and Austria-Hungary, 1914-18. J. E. Wheeler. Nat Safety N 42:21+ Jl '40

Bibliography
Industrial relations in wartime: Great Britain, 1914-1918; annotated bibliography of materials in the Hoover library on war, revolution, and peace. W. Chamberlin, comp. 239p $3 Stanford univ. press '40
Problems and policies in industrial relations in a war economy; a selected annotated bibliography. 23 numb l Industrial relations section, Dept. of economics and social institutions, Princeton univ, Princeton, N.J. '39

Naval operations
German subs in Yankee waters: first World war. H. J. James. 208p $3 Gotham house, New York '40

Prices
Price control possibilities; what was done in 1917-18. Barron's 20:6 Je 17 '40
War and commodity prices. H. Working. Am Statis Assn J 35:309-24 Je '40

Secret service
Spy and counterspy. E. V. Voska and W. Irwin. 322p $2.75 Doubleday '40

Supplies
Substitute materials in time of war; research in Charlottenburg, 1915-1917. G. Schlesinger. Engineer 170:135-7 Ag 30 '40

Germany
Cost of the World war to Germany and to Austria-Hungary. L. Grebler and W. Winkler. 192p bibliog(p108-10) $2.50 Yale univ. press '40
What Germany forgot. J. T. Shotwell. 152p $1.50 Macmillan '40

Great Britain
Die englische eisenwirtschaft im Weltkriege. J. W. Reichert. Stahl & Eisen 60:149-56 F 22 '40
Labour cost of the World war to Great Britain, 1914-1922; a statistical analysis. N. B. Dearle. 260p $2 Yale univ. press '40

Bibliography
Industrial relations in wartime; Great Britain, 1914-1918; annotated bibliography of materials in the Hoover library on war, revolution, and peace. W. Chamberlin, comp. 239p $3 Stanford univ. press '40

Russia
Bolsheviks and the World war; the origin of the Third International. O. H. Gankin and H. H. Fisher. 856p bibliog(p729-70) $6 Stanford univ. press '40

EUROPEAN war, 1914-1918—*Continued*

United States

War industries board, 1917-18. J. L. Tyson. Fortune 22:supp 1-16 S '40

EUROPEAN war, 1939-

Allowances to families of mobilized men in European countries. Monthly Labor R 49: 1362-8 D '39

America's Maginot line. C. Caldwell. Aero Digest 37:47-8+ Jl '40

America's stake in the present war and the future world order; Fortune round table. il Fortune 21:70-2+ Ja '40

Begin here; a war-time essay. D. L. Sayers. 160p bibliog(p157-60) $1.75 Ryerson press '40

Beyond German victory. H. Hill and H. Agar. 117p $1 Reynal & Hitchcock, New York '40

Blitzkrieg; its history, strategy, economics and the challenge to America. S. L. A. Marshall. 188p $2 Morrow '40

Colonies at war; French and British policies. Economist 138:325-6 F 24 '40

European outlook: progress of the war; inner weakness of Nazi regime. L. Robbins. Annalist 55:103+ Ja 25 '40

Failure of a mission, Berlin 1937-1939. N. Henderson. 324p $3 Putnam '40

First six months. Economist 138:451-7 Mr 16 '40

For what do we fight? N. Angell. 327p $2.50 Harper '39

Geology and strategy in the present war. D. Johnson. 36p Geological soc. of America, New York '40

Handbook of the war. J. C. de Wilde, D. H. Popper and E. Clark. 248p $2; text ed $1.50 Houghton '39

Land power vs. sea power in ancient Greece; parallels between present struggle and Peloponnesian war. A. de Richelieu. Barron's 20:8 O 7 '40

Men, martyrs and mountebanks; Beverley Baxter's inner story of personalities and events behind the war. B. Baxter. 286p $2.75 Collins publishers, 70 Bond st, Toronto '40

Oil shortage dictates Axis' drive toward southeast. J. P. O'Donnell. il Oil & Gas J 39:23 O 17 '40

Our part in a changed world. W. A. McDonnell. Comm & Fin Chr 151:35-6 sec 3 O 12 '40

President Roosevelt sees danger to Americas in acceptance of principle of agression abroad; addresses Pan American scientific congress. Comm & Fin Chr 150:3133-4 My 18 '40

Real Mediterranean war is on. Business Week p14 N 2 '40

Revolution is on. M. W. Fodor. 239p $2.75 Houghton '40

Second imperialist war. E. Browder. 309p $2.75 International publishers, 381 4th av, New York '40

This is what we face? Germany's plans. D. Thompson. Trusts & Estates 71:189-90 Ag '40

This war. T. Mann. 68p bibliog(p68) $1 Knopf '40

Turning point of the war. M. Palyi. il Am Business 10:14-16 N '40

War as revolution; abstract. M. Lerner. Trusts & Estates 71:197-8 Ag '40

War: first year. E. McInnis. 312p $1.50 Oxford '40

Wave of the future; a confession of faith. A. M. Lindbergh. 41p $1 Harcourt '40

What happened to the blitzkrieg? where does the war stand today? M. Palyi. il Am Business 10:14-16 S '40

What has happened to Europe? G. T. Garratt. 351p $2.75 Bobbs '40

What this war means. E. D. Martin. il Banking 33:28-9, 41-2 O; 33-4 N '40

Where do we go from here? H. J. Laski. 192p $1.75 Viking press '40

Whither Europe? A. Lunn. 270p $3 Sheed & Ward, New York '40

Year and the outlook. Banking 33:25-32 S '40

See also
Prize law

Aerial operations

Air force targets in Germany. il diag plan maps Engineer 170:27-8, 59-61, 91-2, 134-5, 198-9, 236, 252-3, 263-5, 279-80, 295-6, 312-13, 328-9, 342-4, 359-61, 362 Jl 12, 26, Ag 9, 30, S 27, O 11, 25-D 6 '40

Airpower. A. J. Williams. 433p bibliog(p417-18) $3.50 Coward-McCann, New York '40

Air power and sea power. C. Caldwell. il Aero Digest 36:36-9, 158 Je '40

Battle of Britain. C. Caldwell. il Aero Digest 37:34-6+ N '40

Bombing of London. C. G. Grey. il Aviation 39:34-5 S '40

Defense of America; present war shows need for large air force. C. Caldwell. il Aero Digest 37:38-40+ S; 38-42 O '40

Europe's unanswered question, bombardment. C. Caldwell. il Aero Digest 35:32-5 D '39

Germany's vulnerability; geographical distribution of industry in Britain and Germany from the point of view of attack from the air. Economist 137:843-5 N 18 '39; Excerpts. Engineer 168:549 D 1 '39

Hitler gambles on air power. C. Caldwell. il map Aero Digest 36:37-9+ My '40

Now we are in it; first hand view of British air forces. C. G. Grey. il Aviation 39:56-7, 150 Ag '40

Parachute troops in modern warfare. F. Smith. il Aero Digest 37:63+ Jl '40

Persian Gulf Oil properties are objects of Italian bomb raid. J. P. O'Donnell. il Oil & Gas J 39:13 O 24 '40

Some aspects of the aerial warfare in the German-Polish campaign. J. J. Dziewonski and S. Rogalski. il plans Roy Aeronautical Soc J 44:627-47; Discussion. 647-52 Ag '40

Atlases

War atlas; a handbook of maps and facts; maps by E. Herlin; text by V. Fry. 96p pa 25c Foreign policy assn, New York '40

Bibliography

Books of the second World war. F. E. Curtiss. Special Lib 31:232-4 Jl-Ag '40

World war II; compiled by Time, inc. library, New York city. Special Lib 31:373-8, 413-15 O-N '40

Blockade

Allies promise United States to ease blockade's effect on trade. Comm & Fin Chr 150:2802 My 4 '40

Blockade; Europe's scarcity and the world's plenty (exports and imports, 1936-38). Economist 139:37-9 Jl 13 '40

Blockade shapes the course of war; adequacy of Nazi war materials rather than of food is the clue. R. Strausz-Hupé. map Barron's 20:3+ Ap 15 '40

Blockade statistics; first fifteen weeks of war. Economist 137:503 D 30 '39

Blockade; the grounds for alarm. Economist 138:369-70 Mr 2 '40

Britain's blockade intensifying oil famine in Europe. J. P. O'Donnell. il Oil & Gas J 39:61+ S 19 '40

Economic war in the Balkans; the political background. Economist 138:678-9 Ap 13 '40

End of German exports; British and French embargo. Economist 137:278-9 N 25 '39

Great Britain and France embargo exports from Germany; neutrals protest. Comm & Fin Chr 149:3473, 3643 D 2-9 '39

Great Britain extends blockade to include all of Europe. Comm & Fin Chr 151:623 Ag 3 '40

Is the British blockade effective? our 1939 trade with Germany. J. W. Hazard. Barron's 20:7 F 12 '40

Japan gets Nazi goods; British pass cargo of German materials. Business Week p38 D 23 '39

Nazis try to reverse blockade. Business Week p58-9 Je 8 '40

State department protests to Great Britain on blockade of German exports; United States reserves all rights under international law. Comm & Fin Chr 149:3799 D 16 '39

Causes

Economic birth of war. E. M. Patterson. Trusts & Estates 71:208 Ag '40

EUROPEAN war, 1939—Causes—*Continued*
Fortune survey; causes of the war. Fortune 20:118+ D '39
Hitler's war and eastern Europe. M. P. Price. 160p bibliog(p154) 5s George Allen and Unwin, London '40
Primary reasons for war. C. Caldwell. il Aero Digest 37:36-9+ Ag '40
Through the diplomatic looking-glass; immediate origins of the war in Europe. O. Benson. 239p $2 Univ. of Oklahoma press, Norman '39
Why Europe fights. W. Millis. 277p bibliog(p271-2) $2.50 Morrow '40

Children

See European war, 1939—Evacuation, Civilian

Commerce

Battle for world trade supremacy. V. L. Horoth. il Mag of Wall St 66:560-2+ Ag 24 '40
Constanta relegated to secondary oil port by European war. il Oil & Gas J 39:32 S 26 '40
Effect of the war on Germany's rubber goods markets. L. Thakar. India Rubber W 102: 44-5 My '40
Effect of the war on trade in forest products. R. D. Craig. Pulp & Pa of Can 40:691-2 N '39
Effect of war developments on American markets. Fed Res Bul 26:489-94 Je '40
Effect on Cuban trade of hostilities in Scandinavia. Comm Rep p446 My 18 '40
Effects of war on Brazil. Comm Rep p1093-6 N 25 '39
Europe expands steel output despite war difficulties. V. Delport. il Steel 106:21-3 Ap 29 '40
European war reduces United States farm exports other than cotton; agricultural imports increased. Comm & Fin Chr 151: 2270-1 O 19 '40
Export of internal combustion engines; Internal combustion engine manufacturers' association war export group. Engineer 169: 332 Ap 5 '40
Foreign trade in grip of war. J. Lloyd. il Mag of Wall St 66:214-17 Je 1 '40
Foreign trade under war conditions; economic aspects affecting the United States. Index 20 no 3:49-59, 62-5 [S] '40
German staying power; allied commercial policy. W. W. Case. Annalist 55:453-4 Mr 28 '40
Germany at war; survey of foreign trade of European neutral countries during 1939 shows Germany's economic penetration. Economist 138:468 Mr 16 '40
Good times ahead; Canadian war boom will spill over into United States. S. Leacock. Barron's 19:9 D 4 '39
How allied policies affect our trade; worldwide trend towards exchange controls. I. de Vegh. Barron's 20:3 Ap 22; 8-9 My 13 '40
International developments and United States foreign trade. Fed Res Bul 26:377-84 My '40
Italy's entry into war would have wide oil significance. H. S. Norman. map Oil & Gas J 39:12-13 Je 6 '40
London rushes arms orders. Business Week p17-18 S 14 '40
Official export data show lag in allied procurement. W. W. Case. Annalist 56:4+ Jl 4 '40
Oil picture cloudy in war's second year. J. P. O'Donnell. il Oil & Gas J 39:27 S 12 '40
Pulp and paper problem; perplexing situation throughout the world in war time. G. G. Archibald. map Pulp & Pa of Can 41:381-4+ My '40
Spreading war; effects on industries. J. Lloyd. il Mag of Wall St 66:140-4 My 18 '40
Total war and commodities. Barron's 20:6 My 13 '40
Trade data reveal dominant position of a victorious fascist bloc. W. W. Case. Annalist 56:272 Ag 29 '40
Trade warfare in the future. G. C. Cox; C. Davidson, jr. Barron's 20:3+ Jl 1 '40
Trade with the belligerents. F. Johnston. Ann Am Acad 211:117-22 S '40
Trading the Americas' surplus. A. A. Berle, jr. Trusts & Estates 71:175-7 Ag '40
United States exports and the war; value of principal U.S. exports and their destinations. Nat City Bank p16-18 F '40
U.S. faces 25 per cent petroleum export loss as result of war. J. P. O'Donnell. Oil & Gas J 39:27 O 31 '40
U.S. war trade. W. W. Case. Annalist 55:748 My 30 '40
War and defense, and textiles. Textile World 90:50-1 Je '40
War curtailing U.S. exports still more. J. P. O'Donnell. il Oil & Gas J 39:13 Ag 29 '40
War in Scandinavia dislocates United States steel exports. map Steel 106:23-4 Ap 15 '40
War robs U.S. oil producers of export markets. Nat Pet N 32:10-11 Jl 3 '40
War strikes American foreign trade. E. J. Noble. Ann Am Acad 211:111-16 S '40
War turns exports into an enigma. Business Week p56-8 Ja 27 '40

Commodity control

Copper supplies; reduction for electrical industry. Elec R (Lond) 126:639 Je 14 '40
Home consumption restricted; rationing of electrical appliances. Elec R (Lond) 126: 638 Je 14 '40
How the Germans buy their clothes; Reich clothing card. il Business Week p52 D 16 '39
Limitation of supplies. Engineer 169:539 Je 14 '40
Rationing of goods in Germany. Monthly Labor R 49:711-13 S '39

Communications

Radio in the European war. H. W. Roberts. il Aero Digest 36:51-2 Je '40

Compensation of war victims

Compensation of war victims. Int Labour R 41:47-63, 152-65, 276-91, 371-87, 506-16 Ja-My '40

Documentation

Library service in international relations. R. Savord. Special Lib 31:46-51 F '40
Master list of European war subject headings; abstract. S. R. Giovine. Special Lib 31:231 Jl-Ag '40
Tentative list of subject-subdivisions for current European war material. 13p pa 25c Bibliographical planning committee of Philadelphia, room 1703, 123 S. Broad st, Philadelphia '39
War, scholarship and documentation. R. H. Heindel. Special Lib 31:43-6 F '40

Documents, sources, etc.

American white paper; the story of American diplomacy and the second World war. J. Alsop and R. Kintner. 107p pa $1 Simon and Schuster, New York '40
French yellow book; diplomatic documents (1938-1939). 419p $2.50 Reynal & Hitchcock, 386 4th av, New York '40
Netherlands orange book. 31p pa 75c Columbia univ. press '40

Economic aspects

Aftermath of Armageddon. Bankers M 140:509 Je '40
Allies in race against time; must untangle production snarls and gear their economic machine to the war. il Business Week p17-18+ Je 8 '40
Allies pool economic resources. Business Week p46+ N 25 '39
Allies tie currencies; financial agreement. Business Week p58 D 16 '39
Annual report of World, inc.; imaginery holding company with nations as subsidiaries. C. R. Harrower. Barron's 20:34+ Ja 15 '40
As I see it! Hitler can bite it off, but can he chew it? C. Benedict. Mag of Wall St 66: 502-4+ Ag 10 '40
Blood, toil, tears, and sweat; last-ditch human resources when empires fail to mobilise inanimate resources for war. maps Fortune 22:52-5+ Jl '40

EUROPEAN war, 1939—Economic aspects—*Continued*
Bond market unlikely to be harmed by the first year of the defense program. S. L. Miller. Annalist 56:77+ Jl 18 '40
Break-through in the markets. Business Week p55, 57-9 My 18 '40
British buying looms. M. Palyi. Am Business 9:15+ D '39
British Treasury taking over holdings of its nationals in American securities; T. J. C. Gifford to represent Great Britain in United States in sale of securities. Comm & Fin Chr 150:1205-6 F 24 '40
Business set for Europe's verdict. Business Week p15-16 Je 22 '40
Can English money outlast German food and oil? V. L. Horoth. il Mag of Wall St 66:661-3+ S 21 '40
Changes in war fronts to affect movement and use of oil. H. S. Norman. il map Oil & Gas J 38:20-1 Ap 18 '40
Dollar supplanting pound as principal international currency, says Guaranty trust co. of New York. Comm & Fin Chr 150: 4052-3 Je 29 '40
Economic alignment of the nations of the world; tabulation. Economist 137:407-9 D 16 '39
Economic consequences of a German peace. Business Week p37-44 Je 22 '40; Discussion. p51 Ag 24; 47 Ag 31; 63 S 7 '40
Economic effort of war. R. W. B. Clarke. 251p $2.25 Norton '40
Economic prizes of war; oil, gold, copper and food. J. Lloyd. il maps Mag of Wall St 67:13-15+ O 19 '40
Economic resources of the belligerents. Nat City Bank p140-3 D '39
Economic revolution on the march. J. A. de Haas. Trusts & Estates 71:171-4 Ag '40
Economic strategy of the war. B. H. McCormack. Nation's Business 28:15-16+ My '40
Economics of public works in wartime. A. F. W. Plumptre. il Can Eng R & B 78:13-15+ Ja '40
Effect of the war on American commerce and industry; symposium. R. E. Wood and others. Mag of Wall St 65:285-7+ D 16 '39
Effect of the war on America's idle men and idle money. J. A. Krout, ed. Academy of Political Science Proc 18:1-133 Ja '40 (pa $2.50)
Effect of war on employment, prices, and business in Canada. Monthly Labor R 50: 1122-4 My '40
Estimate of the possible consequences to America of a total Nazi victory. W. W. Case. Annalist 55:853 Je 20 '40
European industry in the war. V. Delport and others. il Steel 106:271-81 Ja 1 '40
Faisons le point. M. Lambert. Chimie & Ind 43:355-7 F 20 '40
Fewer adverse effects of war than expected on business conditions in United States seen by Guaranty trust co. of New York. Comm & Fin Chr 151:1209-10 Ag 31 '40
Financing of foreign trade after war; if dollar is to remain currency of world its value in terms of gold must be fixed. S. Morgan. Comm & Fin Chr 151:2293 O 19 '40
Financing the national defense program. W. R. Burgess. Comm & Fin Chr 151:30-3 sec 3 O 12 '40; Same abr. Bankers M 141:386-90 N '40
La guerre et la vie. M. Lambert. Chimie & Ind 42:1087-90 D '39
Home folks of each belligerent nation feel war's realities. Business Week p36+ D 23 '39
How 1940 draft will build new markets; important comparisons with 1917. H. L. Stephen. Ptr Ink 192:123-5, 128 S 27 '40
If war spreads. J. Lloyd. map Mag of Wall St 65:532-5 F 10 '40
Industry's outlook as the war goes on. Factory Management 97:34a-34d D '39
Men and guns, not blockades, will win the war. M. Palyi. il Am Business 10:16-18 Mr '40
Minimum standard of living; Britain should establish irreducible minimum as a war measure. Economist 139:4-5 Jl 6 '40
Monetary alliance between France and Great Britain. Economist 138:64-5 Ja 13 '40
National government: impact of invasion of Holland upon Washington opinion. K. K. Hoyt. Annalist 55:686 My 16 '40
Nazis prepare economic offensive; European consolidation. Business Week p20+ S 28 '40
Necessity explains blitzkrieg. il map Business Week p15-17 My 18 '40
New immigration; abstract. P. Van Zeeland. Trusts & Estates 71:180 Ag '40
1915-1940; pattern of war economy shapes up H. M. Tremaine. il Mag of Wall St 65:458-60+ Ja 27 '40
On the economic war fronts. Mag of Wall St 65:270-1, 340-1, 416-17, 482-3 D 16 '39-Ja 27 '40
On the world economic front: post-war period, 1920-Sept. 1939 ended; 1939 record and war-time prospects. W. W. Case. Annalist 55: 108-9+ Ja 25 '40
On the world economic front; some results of war. W. W. Case. Annalist 54:659-60 N 23 '39
Paul Reynaud: war economist; extracts from four addresses. Economist 138:91-3 Ja 20 '40
Peace and sound economics. G. S. Patterson. Ann Am Acad 210:68-72 Jl '40
Petroleum economics; demand stimulated by the war. L. F. Terry. Min & Met 21:49-50 Ja '40
Problems facing European neutrals and steps taken thus far to meet them. G. Reimann. Annalist 55:653 My 9 '40
Pulp, paper, and war. il Fortune 21:58+ Je '40
Real war begins; potential and contingent economic effects of the spread to Scandinavia. H. M. Tremaine. Mag of Wall St 66:10-11 Ap 20 '40
Six months of economic war; report to executives. Business Week p31-4+ Mr 2 '40
Some reflections of the war in this country; international dollar; war credit. G. E. Anderson. Banking 32:5-6 D '39
Struggle in Flanders; interpretations of the war news. Nat City Bank p61 Je '40
Totalitarian economics for Europe. P. F. Drucker. Trusts & Estates 71:182-4 Ag '40
Union now: Britain and France coordinate economic war efforts. Economist 137:275-6 N 25 '39
Wall Street and war; bull market, following Norse invasion, was national reaction, and not staged. E. Lokey; H. B. Joseph. Ptr Ink 191:67-9 My 17 '40
War and American jobs. C. E. Bowerman. 48p bibliog(cover) pa 50c Science research associates, Chicago '39
War and its effects on American banking. M. Nadler. Comm & Fin Chr 151:28-30 sec 3 O 12 '40; Excerpts. Bankers M 141:402-4 N '40; Trusts & Estates 71:379-80 O '40
War and Latin America. F. M. Stern. Bankers M 140:114-17, 197-200 F-Mr '40
War brings new frontiers to America. M. Palyi. il Am Business 10:20-2+ Jl '40
War effects on banking credits. P. M. Atkins. Bankers M 141:378-84 N '40
War having violent effect on Pennsylvania grade region. J. P. O'Donnell. il Oil & Gas J 39:16-17 Jl 18 '40
War is changing the social structure; demands of the have-nots increase while wealth is being destroyed. J. T. Adams. Barron's 20:3 Je 10 '40; Abstract. Management R 29:205-6 Je '40
War, wealth and inflation. M. Nadler. Trusts & Estates 71:245-9 S '40
War week in business. Published in weekly numbers of Business week
War's impact on the United States. H. M. Tremaine. map Mag of Wall St 66:270-3 Je 15 '40
Wartime economic trends. E. C. Harwood and D. G. Ferguson. 16p bibliog(p16) pa $1 Am. inst. for economic research, Cambridge, Mass. '39
What if Germany wins? economic effects on world trade. M. Palyi. il Am Business 10: 14-16+ My '40

EUROPEAN war, 1939—Economic aspects—*Continued*
What investors must know today; answering vital and typical questions raised by the war. W. Gates. Mag of Wall St 66:148-9+ My 18 '40
What the coming European inflation means to us. V. L. Horoth. il Mag of Wall St 67:82-4+ N 2 '40
What's ahead for industry as the war area widens. Factory Management 98:46a-46d My '40
Will foreign bonds recover? B. C. Rodes. Bankers M 139:489-92 D '39

See also
European war, 1939—
Prices

Bibliography

Effects of the European war on business. (Business literature v 12, no 7) 2p Business branch, Newark public library Mr '40

Education and the war

Back to school; plight of British children. Economist 137:239-40 N 18 '39
Education in 1940 in Britain. Economist 137: 461 D 23 '39
Technical education; students' progress in wartime. R. O. Kapp. Elec R (Lond) 126: 64-5 Ja 19 '40

Evacuation, Civilian

Borrowed children. Mrs St L. Strachey. 149p 75c Commonwealth fund, New York '40
British ambassador says many child refugees from war zone would use American ships if made available. Comm & Fin Chr 141:641 Ag 3 '40
British delay plan to send children overseas due to lack of convoys; United States removes quota restrictions for child refugees Comm & Fin Chr 151:327 Jl 20 '40
Evacuation crisis in Britain; nearly 60 per cent of mothers and children evacuated last September have returned. Economist 138:198-9, 243 F 3-10 '40
Evacuation: fresh plans in Britain. Economist 138:330 F 24 '40
Evacuation from London. Economist 139:395 S 28 '40
House passes bill authorizing American ships to bring child refugees from European war zone Comm & Fin Chr 151:780 Ag 10 '40
London letter: de-urbanizing Britain. C. W. Stokes. Adv & Sell 33:69-70+ Je '40
Mechanical handling, business evacuation and war damage. F. E. Sugden. Mech Handling 27:209-10 S '40
President Roosevelt says lack of British shipping is responsible for small number of refugee children received here. Comm & Fin Chr 151:181 Jl 13 '40
Status of children evacuated from cities in Great Britain. Monthly Labor R 49:1090-1 N '39
Text of bill authorizing American vessels to assist in evacuation from European war zone of child refugees. Comm & Fin Chr 151:1506 S 14 '40

Finance

Are war bonds enough? Economist 139:346-7 S 14 '40
Britain finances war by borrowing. Business Week p58-9 Ap 27 '40
Britain seeks billions for war; faces problems of taxation and loans to control inflation. F. B. Makin. Barron's 20:9 Ap 1 '40
British mobilization of foreign assets more drastic than that of the French. E. C. Stiefel. Annalist 55:198-9+ F 1 '40
British national war bonds. Economist 138: 1113-14 Je 29 '40
Canada looks beyond the war; financial policy designed to avoid inflation and minimize final readjustment. C. H. Herbert. Barron's 20:7 F 26 '40
Canada's first war loan. J. L. Ralston. Bankers M 140:239-40 Mr '40
Deferred pay: the Keynes plan; review and comment on "How to pay for the war" by H. J. Keynes. E. J. Riches. Int Labour R 41:557-81 Je '40
Economic aspects of British conscription of assets; danger of inflation. G. Reimann. bibliog Annalist 55:291+ F 22 '40
Financial policy of Australia on war financing. Comm & Fin Chr 149:3474 D 2 '39
Financing of German war industries; a new stage in Nazi borrowing policy. G. Reimann. Annalist 56:429-30 O 3 '40
First war borrowing; calling the small investor. Economist 137:280, 297-8 N 25 '39
Foreign war expenditures and finance; with government expenditures, 1929 and 1936-41, by country. Nat City Bank p29-31 Mr '40
Germany's war expenditure. Economist 138: 806 My 4 '40
How allies are financing immense war costs; tight internal controls bring armament expenditures back to governments. C. R. Hargrove. Barron's 20:20 F 19 '40
How to pay for the war; a radical plan for the Chancellor of the Exchequer. J. M. Keynes. 88p $1 Harcourt '40
Importance of allied mobilization of foreign assets to American industries. A. W. May. Annalist 54:427 O 5 '39
Insurance companies take 12% of Canadian war bonds. Ins Field (Fire ed) 69:8-9 S 26 '40; Same. Ins Field (Life ed) 69:6 S 27 '40; Same. East Underw 41:14 S 20 '40
Keynes plan; financing the war by a system of compulsory savings. Economist 138:363-4 Mr 2 '40
Technique of inflation; possible methods of British war finance. Economist 138:136-7 Ja 27 '40
Three per cent; British government loan for £300 millions. Economist 138:409-10, 428-9 Mr 9 '40
Three per cent. war; discussion of a war loan policy for Britain. Economist 138:88-9 Ja 20 '40
War finance in Canada. F. H. Brown, J. D. Gibson and A. F. W. Plumptre. 110p pa 75c Ryerson press '40

History

Atlas-history of the second great war. v 1, Sept. 1939 to Jan. 1940. J. F. Horrabin. 99p $1.50 Knopf '40
History of the war. il maps Fortune 20:90-6 N; 97-104 D '39; 21:44-51+ Ja; 85-8+ Mr '40

Labor problems

Adjustment of social insurance schemes to war conditions. bibliog Int Labour R 40: 779-94 D '39
Arms and the men. Economist 138:968-9 Je 1 '40
Canadians are irked; union members grow restless under war restraint. Business Week p29-30+ My 11 '40
European labor on a war footing. J. S. Gambs. Monthly Labor R 49:1348-58 D '39
Hours of employment of women and young persons in factories in Great Britain. Int Labour R 41:608-13 Je '40
Hours of work and maximum output; circular sent to number of British engineering employers. Engineer 170:88-9 Ag 9 '40
Hours of work in war-time. H. M. Vernon. Engineering 150:94 Ag 2 '40
Influence of the war and mobilisation on hours of work and rest periods; various countries. bibliog Int Labour R 41:291-306 Mr '40
Labor and industry in war; German policies. Manuf Rec 109:32+ N '40
Labor in Great Britain in the summer of 1940. Monthly Labor R 51:572-9 S '40
Labor relations in war countries. Personnel J 18:199-202 D '39
Military service and contracts of employment; Italy, Rumania, Greece. Int Labour R 42:114-18 Ag-S '40
Military service and contracts of employment; right of reinstatement and payment of wages in Belgium, Hungary, and Italy. Int Labour R 41:165-76 F '40
Mr Bevin, British Minister of labour, orders registration and classification of types of labour available for munitions work. Economist 139:209-10 Ag 17 '40

EUROPEAN war, 1939—Labor problems— *Continued*
National service and contracts of employment; reinstatement and payment of wages of mobilised workers. E. Herz and I. Bessling. Int Labour R 42:1-28 Jl '40
Recent legislation and mechanical handling; Trade boards and road haulage wages (emergency prbvisions) act, 1940. F. E. Sugden. Mech Handling 27:153-4 Jl '40
Regulation of employment in Germany. bibliog Int Labour R 41:387-97 Ap '40
Requisitioning of labour in wartime. bibliog Int Labour R 41:582-608 Je '40
Rise in wages in Britain. Economist 137:163-4 N 4 '39
Social legislation in wartime; the problem of agricultural labour. Int Labour R 42:95-107 Ag-S '40
Training war workers in Britain. Economist 138:321-2, 893 F 24, My 18 '40
Under the million unemployed; failure to organise the supply of industrial manpower. Economist 138:849-50 My 11 '40
Wage policy. Economist 138:87-8 Ja 20 '40
Wages and the war effort. Economist 137:405-6 D 16 '39
Wages and the workers. Economist 138:1034-5 Je 15 '40
War and American jobs. C. E. Bowerman. 48p bibliog(cover) pa 50c Science research associates, 600 S. Michigan av, Chicago '39
War labor tangle; Canada discovering need of unified control. Business Week p57-8 N 9 '40
Wartime emergency controls. Monthly Labor R 50:43-58, 324-8, 601-12 Ja-Mr '40
Wartime modification of Belgian laws on working hours. Monthly Labor R 49:1359-60 D '39
Wartime personnel policies in Britain. Management R 29:32-3 Ja '40
Wartime requisitioning of woman workers in France. R. D. Murphy. Monthly Labor R 50:1373-4 Je '40
Wartime training of personnel and the dilution of labor in Canada. Monthly Labor R 51:27-9 Jl '40
Women in wartime in Germany. E. A. Dow. Monthly Labor R 50:1147-50 My '40

See also
European war, 1939—Women's work

Law and legislation

Solicitors' handbook of war legislation. S. M. Krusin and P. H. T. Rogers. 836p 30s Sweet & Maxwell, London '40

Medical and sanitary affairs

Public health services; British civil defence medical organisation. Economist 137:453-4 D 23 '39

Naval operations

German pocket battleship Graf Spee scuttled and German liner Columbus scuttled. Comm & Fin Chr 149:3945 D 23 '39
Navy at war. B. Stubbs. 280p $3.50 Ryerson press
Sea power and today's war. F. Pratt. 237p $3 Harrison-Hilton books, 420 Madison av, New York '39
War on the sea. il Fortune 21:85-8+ Mr '40

Peace and mediation

Economically unified Europe after war urged. T. W. Lamont. Comm & Fin Chr 149:3199-200 N 18 '39
Fortune survey; the peace—if the allies win. Fortune 21:90 Ja '40
President Roosevelt on basis of report by Sumner Welles expresses doubt of early peace in Europe. Comm & Fin Chr 150:2188-9 Ap 6 '40
President Roosevelt sending Under Secretary of State Welles to survey European conditions; Secretary Hull says United States is engaging in peace talks with neutrals. Comm & Fin Chr 150:917-18 F 10 '40
Under-Secretary of State Welles confers with officials in Paris, London and Rome. Comm & Fin Chr 150:1683 Mr 16 '40
Undersecretary of State Welles visits Premier Mussolini and Chancellor Hitler. Comm & Fin Chr 150:1369-70, 1518 Mr 2-9 '40
United States is asked to define eventual aims before entering war; should seek to exert pressure for peace in Europe. J. D. Mooney. Comm & Fin Chr 150:3592 Je 8 '40
Why America should make peace effort. J. D. Mooney. Ptr Ink 191:21-3 Je 14 '40

Prices

Commodities in first war year; industrial materials make better showing than foodstuffs. Barron's 20:6 Ag 26 '40
Effects of the war on price levels discussed by Guaranty trust co. of New York. Comm & Fin Chr 150:2805-6 My 4 '40
Impact of the war on American commodity prices; a preliminary view. E. S. Mason. R Econ Statis 21:141-8 N '39
Steel prices were weak a year after outbreak of war in 1914. Iron Age 145:81F Ap 18 '40
War shifts in commodities; supply-demand factors favor firming prices. J. R. Wallace. il Mag of Wall St 66:717-19+ O 5 '40
Will the war rise be resumed? enigma of commodity prices. J. D. C. Weldon. Mag of Wall St 65:272-4+ D 16 '39

Propaganda

Secret weapon; Germany's propaganda. Economist 138:1101-2 Je 29 '40
War of nerves. Fortune 22:46-51+ O; 85-7, 108+ N '40
War propaganda and the United States. H. Lavine and J. Wechsler. 363p $2.75 Yale univ. press '40

Prophecies

Shape of the war to come. 83p $1 Longmans '40

Public opinion

Fortune survey; national policy toward the war. Fortune 20:78-9 D '39
Fortune survey; parties and the war; battle for England; war partners to blame; more aid for England; will war come to U.S. Fortune 22:supp2-4 Ag '40
Fortune survey; the war; what should United States do? Fortune 22:supp 1-4 Jl '40
Fortune survey; war policy now. Fortune 21:98+ Mr '40

Refugees

Germany refuses to grant safe conduct for American vessel to bring to the United States 1,200 citizens still in Great Britain. Comm & Fin Chr 151:2729 N 9 '40
Safety and sanctuary; British treatment of aliens and refugees. Economist 139:205-6 Ag 17 '40
United States transport American Legion, with 897 war refugees from Finland. Comm & Fin Chr 151:1068 Ag 24 '40

See also
European war, 1939—Evacuation, Civilian

Relief work

Allied relief fund and British war relief society consolidate; new organization to retain name of latter. Comm & Fin Chr 151:2745-6 N 9 '40
American Red cross nearing goal of $20,000-000 for war relief; President signs order establishing $50,000,000 fund. Comm & Fin Chr 151:641 Ag 3 '40
British war relief activity by insurance companies expands. il(p6) Ins Field (Fire ed) 69:8 O 24 '40
British war relief; insurance companies contribute. il Spectator (Property ed) 6:10-11 S 19 '40
Children's crusade for children organized to aid war-stricken children abroad. Comm & Fin Chr 150:1869 Mr 23 '40
Food for Europe; make distribution dependent on German army withdrawal. Economist 139:206-7 Ag 17 '40
Former President Hoover urges Congress to vote up to $20,000,000 for Polish relief. Comm & Fin Chr 150:1358 Mr 2 '40

EUROPEAN war, 1939—Relief work—*Continued*
Fortune survey; European famine vs. British blockade; should we or should we not try to send food. Fortune 22:78 N '40
President Roosevelt asks Congress to appropriate $50,000,000 to aid civilians of war-torn Europe; to be used by Red cross mainly for food. Comm & Fin Chr 150:3752 Je 15 '40
Senator Vandenberg requests that President Roosevelt have Under Secretary of State Welles obtain German assurance that relief funds for Poland will be distributed. Comm & Fin Chr 150:1212 F 24 '40
Two American corporations formed to assist Great Britain and France. Comm & Fin Chr 149:3473 D 2 '39

Science and the war

Scientific and technical developments of use in the war; British advisory committee. Science 92:326 O 11 '40

Shipping

British enemy shipping claims committee established. Weekly Underw 143:702 S 28 '40
British to control Norse-flag tankers. Nat Pet N 32:17+ My 1 '40
Caribbean oil affected by widening of war fronts. H. S. Norman. il map Oil & Gas J 39:94-5 My 16 '40
Loss of tanker tonnage in European war mounts. Nat Pet N 32:17 Ap 10 '40
Merchant shipping in war-time. Engineering 150:105 Ag 9 '40
Merchant tonnage losses due to the war are only one-third as great as in 1917. Marine Eng 45:56 Mr '40
Merchant vessel losses for first full year of war. Weekly Underw 143:635 S 21 '40
Merchant vessels losses due to depredations of war up to Aug. 27; vessels torpedoed, mined, bombed, missing, or scuttled; recapitulation of war losses according to types of vessels; tabulation. Marine Eng 45:90, 92 S '40
Present operation of American vessels formerly engaged in services to combat zones. Marine Eng 45:78+ Ap '40
75 tankers destroyed in war; U.S. is now building 59 more. il Nat Pet N 32:13 N 6 '40
Shipping in war. Economist 138:937-8, 978-9 My 25-Je 1 '40
Tanker construction exceeds sinkings. J. P. O'Donnell. il Oil & Gas J 39:11 S 5 '40
United States merchant vessels, each of 2000 gross tons or over, sold or transferred to foreign registry from Sept. 1, 1939, to March 27, 1940. Marine Eng 45:76 Ap '40
War's effect on oil exports. Oil & Gas J 39: 14-15 Je 20 '40

Social aspects

Minimum standard of living; Britain should establish the irreducible minimum as a war measure. Economist 139:302-4 S 7 '40
War is changing the social structure; demands of the have-nots increase while wealth is being destroyed. J. T. Adams. Barron's 20:3 Je 10 '40
War of systems; economic socialization as component part of national defense. G. Myers. Trusts & Estates 70:581-5 Je '40

Strategy

Necessity explains blitzkrieg. il map Business Week p15-17 My 18 '40

Submarine operations

Breaking the blockade; radio operator on board ship going through the submarine fields. J. Colby. il Radio N 24:9+ D '40

Supplies

Allies coordinating missions here. Business Week p43 D 2 '39
Allies oil up buying machinery; French and British buying missions complete headquarters organization. il Business Week p15-17 Ja 27 '40
Anglo-French purchasing board established in New York. Comm & Fin Chr 150:614 Ja 27 '40
Axis strategy in the Mediterranean; eastern sources of oil important to both sides in winter theater of war. R. Strausz-Hupé. map Barron's 20:9 O 28 '40
Battle of the metals. P. W. Bidwell. Min & Met 21:417-20 S '40
Best bargain we can jolly well make; Anglo-French purchasing board in the U.S. il Fortune 21:68-71+ Ap '40
British and German steel supplies. Economist 138:1114-15 Je 29 '40
Canada arms Britain; making Bren machine gun and the 40-mm. shell. il diags Am Mach 84:317-32 My 15 '40
Canadian industry expected to reach full capacity to fill 1940 war orders. C. M. Short. Annalist 55:327 F 29 '40
Canadian war supplies ordered for the militia; tabulation. S. L. Miller. Annalist 55:204 F 1 '40
Economic war (1940 chapter); Franco-British buying in U.S., Sept.-Nov. 1939. Business Week p46 Ja 6 '40
France's raw materials are Germany's gains. Economist 138:1086 Je 22 '40
F.D.R. moves in on war orders; Morgenthau is putting White House authority behind priority for airplane engine makers. Business Week p59-60 F 10 '40
Full-scale war may bring heavy allied oil demand. il Oil & Gas J 39:29-30 My 23 '40
Important war orders placed. Business Week p53 N 18 '39
Mediterranean oil situation becomes more critical. J. P. O'Donnell. il Oil & Gas J 39:31+ Jl 11 '40
Nazis must win before oil runs low or drop offensive soon. M. W. Ball. Nat Pet N 32: 21-2 Je 26 '40
Organisation of munition supplies. Engineering 149:14-15 Ja 5 '40
La politique de guerre des produits de remplacement; le rôle de la chimie. C. Berthelot. bibliog Chimie & Ind 43:873-7 My 20 '40
Raw material strategy in Europe; factors governing available supplies. G. Reimann. Annalist 55:35-6 Ja 11 '40; Correction. 55:319 F 22 '40
Raw materials in modern war. Barron's 20: 6 Ap 29 '40
Role of minerals in the present war. C. K. Leith. Min & Met 21:520 N '40
Rumania shipping British and French oil to Reich. H. S. Norman. Oil & Gas J 39:11 Ag 1 '40
Rumanian oil fields are in center of new war area. H. S. Norman. il map Oil & Gas J 39:6-7 Jl 4 '40
Sale of motor torpedo boats to British halted by President Roosevelt; would seem to be prohibited under 1917 law. Comm & Fin Chr 150:4056-7 Je 29 '40
U.S. war trade; demands on resources of allies. W. W. Case. Annalist 55:622-3 My 2 '40
War buyers listed; countries other than the allies account for $44,000,000 in 1939 licensed arm exports. Business Week p55-6 F 17 '40
War orders, rumors vs. facts. J. Lloyd. il Mag of Wall St 65:786-9+ Ap 6 '40
War purchases likely to spurt. L. C. Duncan. Barron's 20:3 My 13 '40

Women's work

Employment of women workers during the war; various countries. bibliog Int Labour R 40:795-807 D '39
Women and the British land army. Economist 137:249 N 18 '39
Women; Mr Churchill has called for a million more in war industries. Economist 138:189-90 F 3 '40
Women's army; British Auxiliary territorial service. Economist 139:307-8 S 7 '40

Australia

Australia organises for war. Economist 137: 289 N 25 '39

EUROPEAN war, 1939—*Continued*

Belgium

Belgian King surrenders to Germans; Parliament, meeting in Paris, removes him from throne. Comm & Fin Chr 150:3434-5 Je 1 '40

Canada

Canada and the second World war. C. P. Stacey. 32p pa 15c Farrar '40

Canada arms Britain; making Bren machine gun and the 40-mm. shell. il diags Am Mach 84:317-32 My 15 '40

Canada at war; its effect on transit. Transit J 84:192-3 Je '40

Canada at war; its industry may soon need U.S. dollars; will compete with U.S. and England when peace comes. il map Fortune 22:50-7+ N '40

Canada building war plans anew. Business Week p52-3 Je 15 '40

Canada hastens her war effort. C. E. Wright. il Iron Age 145:68-71 Je 13 '40

Canada in the war, and later. F. S. Chalmers. il Nation's Business 28:15-17+ Ap '40

Canada is in action. Business Week p49-50 Je 1 '40

Canada offers picture of oil in a nation engaged in war. A. M. Petty. il Nat Pet N 32:25-6+ O 16 '40

Canada will increase war effort. Business Week p58-9 S 7 '40

Consequences to Canada of Soviet invasion of Finland. S. L. Miller. Annalist 54:730 D 7 '39

Economics of public works in wartime. A. F. W. Plumptre. il Can Eng R & B 78:13-15+ Ja '40

Effect of war on employment, prices, and business in Canada. Monthly Labor R 50: 1122-4 My '40

How Canada is preventing sabotage. W. J. Scott. East Underw 41:1+ S 27 '40

Investments and war. F. J. Crawford. Bankers M 141:57-8 Jl '40

Recent Canadian war measures. Monthly Labor R 51:580-2 S '40

War finance in Canada. F. H. Brown, J. D. Gibson and A. F. W. Plumptre. 110p pa 75c Ryerson press '40

War orders at last; Canada's war program. Business Week p61 Je 8 '40

War seen exercising far-reaching effects on Canada. Annalist 56:542-3 O 24 '40

Egypt

Axis strategy in the Mediterranean; eastern sources of oil important to both sides in winter theater of war. R. Strausz-Hupé. map Barron's 20:9 O 28 '40

Battle of Egypt may decide war. M. Palyi. il Am Business 10:30-2 O '40

France

Appeal by French Premier to United States for moral and material aid. Comm & Fin Chr 150:3757 Je 15 '40

British Prime Minister Churchill says French government violated agreement by surrendering fleet to Germany. Comm & Fin Chr 150:4050-1 Je 29 '40

Chronology of failure; the last days of the French republic. H. F. Armstrong. 202p $1.50 Macmillan '40

Coordination and utilization of labor in France. Monthly Labor R 50:45-51 Ja '40

Debits and credits; economic and strategic implications for Britain in the defeat of France. Economist 139:5-6 Jl 6 '40

Fate of France; the French collapse. Economist 138:1066-7, 1099-1100, 1102-3 Je 22-29 '40

France and a durable peace. P. de Lanux. Ann Am Acad 210:82-8 Jl '40

France at war. W. S. Maugham. 111p $1 Doubleday '40

France; war measures partial list of decrees since Aug. 26, 1939. Comm Rep p25-6+ Ja 13 '40

France's peace aims. Economist 138:190-1 F 3 '40

France's war effort. Economist 138:720-2 Ap 20 '40

French armies destroyed refineries before giving ground. H. S. Norman. il Oil & Gas J 39:14 Je 20 '40

French industry and the war. R. P. Schwarz. il Factory Management 98:50-1, 100, 102 Ja '40; Excerpts. Mech Eng 62:149-50 F '40

French-Italian armistice signed; terms of agreement. Comm & Fin Chr 150:4048 Je 29 40

French Premier Petain explains armistice terms to French people. Comm & Fin Chr 150:4050 Je 29 '40

German-French armistice; text of agreement. Comm & Fin Chr 150:4049 Je 29 '40

I saw France fall; will she rise again? R. de Chambrun. 216p $2.50 Morrow '40

J'accuse! the men who betrayed France. A. Simone. 354p $2.50 Dial press, 432 4th av, New York '40

Price of freedom. E. Curie. 32p $1; pa 50c Doubleday '40

Suicide of a democracy. H. Pol. 296p $2.50 Reynal & Hitchcock, New York '40

Tragedy in France. A. Maurois. 255p $2 Harper '40

War without music. P. Muir. 262p $2 Scribner '40

Wartime control of food distribution and prices in France. Monthly Labor R 49:1091-3 N '39

Why France lost the war; a biologic and economic survey. A. Reithinger. 75p $1.25 Veritas press, New York '40

Germany

Air force targets in Germany. il diag plan maps Engineer 170:27-8, 59-61, 91-2, 134-5, 198-9, 236, 252-3, 263-5, 279-80, 295-6, 312-13, 328-9, 342-4, 359-61, 362 Jl 12, 26, Ag 9, 30, S 27, O 11, 25-D 6 '40

Battle of the metals. P. W. Bidwell. Min & Met 21:417-20 S '40

Effect of the war on Germany's rubber goods markets. L. Thakar. India Rubber W 102: 44-5 My '40

Fortune survey; if the Germans win, do you think she will be a threat to the United States? Fortune 21:88+ Ja '40

German Europe; policy in occupied territories. Economist 139:301-2 S 7 '40

Germany at war. Economist 137:212 N 11 '39 [cont weekly]

Germany; the economic area; fate depends on what she can get from U.S.S.R. and other neutrals. il maps Fortune 20:92-6+ D '39

Germany's strategy; minimum as well as maximum objective. R. Strausz-Hupé. Barron's 20:8 My 27 '40

Into the darkness; Nazi Germany today. L. Stoddard. 311p $2.75 Duell, Sloan and Pearce, 270 Madison av, New York '40

Nazi-red trade terms uncovered. il map Business Week p47-9 Je 1 '40

Nazis must win before oil runs low or drop offensive soon. M. W. Ball. Nat Pet N 32: 21-2 Je 26 '40

Nazis try to reverse blockade. Business Week p58-9 Je 8 '40

Nazis win or lose in six months. Business Week p53-4 N 11 '39

Polish campaign, 1939. G. F. Eliot. maps Fortune 20:97-104 D '39

Rationing of goods in Germany. Monthly Labor R 49:711-13 S '39

Scientific looting; German methods of paying for goods in occupied territories. Economist 139:249 Ag 24 '40

War may suit the Nazis; present defensive tactics preserving staying power. C. J. Friedrich. Barron's 20:3 Ap 8 '40

Why Germany has to win a quick victory or lose the war. V. L. Horoth, pseud. Il Mag of Wall St 66:209-11+ Je 1 '40

Great Britain

Bombing of London. C. G. Grey. il Aviation 39:34-5 S '40

Bombs over England; buses keep rolling. P. I. Smith. il Bus Transportation 19:422-3 S '40

Britain goes to war. N. S. Wilson. 120p $1 Revell '40

EUROPEAN war, 1939—Great Britain—*Cont.*
British attitude towards war. G. Kingan. Weekly Underw 143:696+ S 28 '40
British case. Lord Lloyd of Dolobran. 93p 50c Macmillan '40
British emergency powers (defense) act of 1940. Monthly Labor R 51:31-2 Jl '40
British industry and the war. U. B. Scott. il Factory Management 97:39-43 D '39; Abstract. Mech Eng 62:149 F '40
British industry at war. P. I. Smith. il Chem & Met Eng 47:12-14 Ja '40
British Parliament passes drastic bill giving government power to conscript persons and property. Comm & Fin Chr 150:3279 My 25 '40
British transit carries on. il Transit J 83:436-8 N '39
Business in Britain. il Fortune 21:44-51+ Ja '40
Commonwealth at war; cooperation overseas. Economist 139:207-9 Ag 17 '40
Defence measures. Economist 137:203-4, 323-4, 500-1; 138:138 N 11, D 2, 30 '39, Ja 27; sup 12 F 17 '40
Economic front; constructive criticism of British war measures. Economist 137:362-6 D 9 '39
Emergency law. W. Summerfield. Engineering 148:520-1, 546-7, 602-3 N 10-17, D 1 '39
England's motorists protest unnecessary gas rationing. Automotive Ind 81:647+ D 15 '39
English business man looks at the war. Business Week p60 F 24 '40
Foreign armies in Britain. Economist 139: 214-15 Ag 17 '40
Government's priority organisation. Engineer 169:422-3 My 3 '40
Great Britain awakes, in time? Trusts & Estates 71:193-4 Ag '40
How British work and fight. J. M. Haslegrave. Ptr Ink 192:18 S 27 '40
Letter from England. M. Panter-Downes. 259p $2 Little '40
My fight to rearm Britain. H. S. H. Rothermere. 190p 5s Eyre and Spottiswoode, London '39
Output of munitions. Engineer 169:533-4 Je 14 '40
Paying our way; cutting-down British civilian consumption to release money and goods for war purposes. Economist 138:370 Mr 2 '40
Prepare! prepare! prepare! letter from England. J. M. Haslegrave Ptr Ink 192:16 Jl 12 '40
Problems of war finance; conditions of 1914 compared with to-day. E. Benn. Electrician 124:225 Mr 22 '40
Technical institutions in war time. Engineer 168:548-9 D 1 '39
Voice from England. R. Westerby. 156p $2 Duell, Sloan & Pearce, 270 Madison av, New York '40
War aims. G. D. H. Cole. 2d ed 58p pa 6d New statesman and nation, 10 Great Turnstile, London, W.C. 1 '39
War comes to the British radio servicemen. E. J. G. Lewis. il diags Radio N 23:6-8+ My '40
Wartime changes in labor conditions in Great Britain. Monthly Labor R 50:52-7 Ja '40
Why England slept. J. F. Kennedy. 252p bibliog(p247-52) $2 Wilfred Funk, 386 4th av, New York '40
Wings over England! effect of war on British clay industries. il diag Brick & Clay Rec 95:40, 42+ D '39; 96:34+ Ap '40
World listens to Britain's war. il Business Week p43-4 Ag 17 '40
Yank in England. L. E. Scriven. Ptr Ink 192: 48 Jl 19 '40

India

India's war aid to Britain. Economist 138: 567-8 Mr 30 '40

Italy

For Italy, a gambler's choice; Fascist war problem. map Business Week p16+ My 25 '40
Italy enters European conflict on side of Germany; text of Premier Mussolini's announcement. Comm & Fin Chr 150:3743-4 Je 15 '40
Italy seen as driving for British-controlled eastern oil fields. J. P. O'Donnell. il Oil & Gas J 39:25 Ag 22 '40
Mare Nostrum joins the blackout; Italy's war entry shuts off 5% of U.S. exports, 7% of imports. Business Week p16 Je 15 '40
President Roosevelt promises allies all material aid of United States; denounces entry of Italy into war in speech at University of Virginia. Comm & Fin Chr 150:3751-2 Je 15 '40

Japan

Axis into triangle. Economist 139:420-1 O 5 '40
Tokyo deal shows weakened Axis. Business Week p15-16 O 5 '40

Netherlands

Netherlands orange book. 31p pa 75c Columbia univ. press '40

Netherlands Indies

Europe's war and Netherlands India; German victory would complicate the situation in the Pacific. K. Bloch. Barron's 20:18 My 27 '40

Norway

I saw it happen in Norway. C. J. Hambro. 219p $2.50 Appleton-Century '40

Palestine

Palestine at war. Economist 139:216 Ag 17 '40

Poland

Flight from Poland. C. Salter. 226p 7s 6d Faber and Faber, London '40
Poland fights on with Britain after French surrender. Economist 138:1110-11 Je 29 '40
Polish campaign, 1939. G. F. Eliot. maps Fortune 20:97-104 D '39
Some aspects of the aerial warfare in the German-Polish campaign. J. J. Dziewonski and S. Rogalski. il plans Roy Aeronautical Soc J 44:627-47; Discussion. 647-52 Ag '40

Russia

Nazi-red trade terms uncovered. il map Business Week p47-9 Je 1 '40

Scandinavia

Executive order and regulation on transfers of Danish and Norwegian property by persons or institutions in the United States. Fed Res Bul 26:390-3 My '40
Germany occupies Denmark, invades Norway; President Roosevelt orders freezing of Danish and Norwegian financial transactions in United States. Comm & Fin Chr 150:2339-40 Ap 13 '40
Germany weighs gain; results of spectacular move into Scandinavia. Business Week p53-4 Ap 20 '40
Hitler runs into an economic "if." Business Week p 15-16 Ap 13 '40
President Roosevelt condemns invasion of Denmark and Norway. Comm & Fin Chr 150:2503 Ap 20 '40
Real war begins; potential and contingent economic effects of the spread to Scandinavia. H. M. Tremaine. Mag of Wall St 66:10-11 Ap 20 '40

United States

American white paper; the story of American diplomacy and the second World war. J. Alsop and R. Kintner. 107p pa $1 Simon and Schuster, New York '40
Building for defense. map Eng N 125:529-33 O 24 '40
Col. Charles A. Lindbergh declares we must stop trend toward involvement in European war. Comm & Fin Chr 150:3907 Je 22 '40
Col. Charles A. Lindbergh urges non-interference in European affairs but would cooperate with Europe in relationships with other peoples. Comm & Fin Chr 151:787-8 Ag 10 '40
Col. Lindbergh sees United States being led into war. Comm & Fin Chr 151:2290 O 19 '40

EUROPEAN war, 1939—United States—*Cont.*
Dynamics of war and revolution. L. Dennis. 259p $3 Weekly foreign letter, 515 Madison av, New York '40
Fewer adverse effects of war than expected on business conditions in United States seen by Guaranty trust co. of New York. Comm & Fin Chr 151:1209-10 Ag 31 '40
For America; guns and butter. H. M. Bratter. Nation's Business 28:19+ Jl '40
Fortune survey; are we in for war? who should make our war decision? alliance with Canada and Great Britain. Fortune 22:77-8 N '40
Fortune survey; are we marked for Mars? chances that the U.S. will be drawn into this war? Fortune 21:86 Ja '40
Fortune survey; the war; what should United States do? Fortune 22:supp 1-4 Jl '40
From England to America; a message. H. N. Brailsford. 130p $1 McGraw-Hill '40
If we declare war; not way to save democracy. A. M. Pope. Inv Banking 10:12-13 Jl '40
Our new relations with the British empire; trend toward pooling of resources. J. T. Adams. Barron's 20:3 O 21 '40
Questions involved in entrance of United States in European war. J. A. White. Comm & Fin Chr 150:3904-5 Je 22 '40
War and peace. Fortune 22:45 Jl '40
What investors must know today; answering vital and typical questions raised by the war. W. Gates. Mag of Wall St 66:148-9+ My 18 '40

EUROPIUM chloride
Magnetic rotation of praseodymium, samarium, and europium chlorides in aqueous solution at 25°. C. M. Mason, J. W. Hickey and W. K. Wilson. diag Am Chem Soc J 62:95-9 Ja '40

EVANS, Oliver, 1755-1819
Oliver Evans memorial. il Mech Eng 62:612-13 Ag '40

EVANS, William Lloyd
Portrait. Oil Paint & Drug Rep 136:3 D 25 '39
Sketch. por Ind & Eng Chem News ed 17: 773 D 20 '39

EVANS products company
Stocks in the low-price range; thumb-nail appraisal. Mag of Wall St 65:356 D 30 '39

EVAPORATION
Anhydrous sodium hydroxide production by partial-pressure evaporation; pilot plant. D. F. Othmer and J. J. Jacobs, jr. flow sheet il diags Ind & Eng Chem 32:154-60 F '40
Change from water into steam. W. Y. Lewis and S. A. Robertson. diag Blast F & Steel Pl 28:491-3 My '40
Data on evaporation and drying in a jacketed kettle. H. G. Laughlin. bibliog il Am Inst Chem Eng Trans 36:345-55; Discussion. 356-7 Je '40
Determination by the evaporation method of small amounts of dissolved solids in water such as condensed steam from boilers. R. C. Ulmer. diags Am Soc T M Proc 39: 1221-7; Discussion. 1228-32 '39
Evaporation at Charleston, S.C. J. E. Gibson. Pub Works 71:14 Ja '40
Evaporation of water from saturated surfaces. R. W. Powell. Engineering 150:238-9, 278-80 S 20, O 4 '40
Evaporation of water through unimolecular films. F. Sebba and H. V. A. Briscoe. diags Chem Soc J p106-14 F '40
Evaporation problems. Am Inst Chem Eng Trans 36:sup3-9 S '40
Evaporation rate of Stoddard dry cleaning solvent. C. S. Lowe and A. C. Lloyd. bibliog il diags Ind & Eng Chem 32:1310-13 O '40
Heat transmission in evaporative condensers. A. K. G. Thomson. il diags Inst Chem Eng Trans 17:137-52 '39
Hydrology of the Great Lakes, a symposium; discussion. Am Soc C E Proc 65: 1105-8, 1305-13, 1435-44; 66:131-42 Je, S-O '39, Ja '40
New ageing phenomenon in unimolecular films on water. F. Sebba and H. V. A. Briscoe. Chem Soc J p128-31 F '40
Salt for every use; grainer, vacuum pan and Alberger processes; St Clair, Mich. plant of Diamond crystal salt co. J. A. Lee. flow diags il Chem & Met Eng 47:530-4, 565-8 Ag '40

See also
Crystallization
Dehydration
Distillation
Drying
Drying apparatus
Evaporators

Tables, calculations, etc.
Evaporative index. G. S. Gardner. bibliog il diag Ind & Eng Chem 32:226-31 F '40

EVAPORATORS
Alco valve introduces new line of pressure regulators. il Refrig Eng 39:192 Mr '40
All-welded boiler approved. H. B. Fergusson and E. F. Burford. il Steel 106:57-8 Ja 22 '40
Evaporator heat balance. diag Power Pl Eng 44:76 Jl '40
Flooded water coolers; new designs are used for Freon. R. M. Armstrong. il diag Refrig Eng 38:343-5 D '39
Fortschritte auf dem gebiete der grosstechnischen betriebsapparaturen; verdampfer. B. Waeser. bibliog Chemische Fabrik 12:509-12 D 27 '39
Heat transfer in a long tube vertical evaporator. O. C. Cessna, J. R. Lientz and W. L. Badger. flow sheet Am Inst Chem Eng Trans 36:759-79 O '40
Krystal classifying crystallizer. H. Svanoe. il diags Ind & Eng Chem 32:636-9 My '40
Liquid controls for flooded operation with Freon. H. A. Phillips. diags Refrig Eng 38: 340-2 D '39
Maintenance of evaporators and driers. B. N. Reavell. Chem Age (Lond) 42:79-80 F 10 '40
Materials of construction for sulphate pulp mills. J. A. Lee. Paper Tr J 110:42-3 My 23 '40
Pressure drop in refrigerant liquid lines. E. Gygax and K. S. Willson. Refrig Eng 39: 103-6 F '40
Review and summary of developments in heat transfer by conduction and convection. W. H. McAdams. il Am Inst Chem Eng Trans 36:8-13 F '40
Then and now in plant operation. M. G. Geiger. Chem & Met Eng 46:720 N '39
Vacuum and mechanical crystallizers; a comparison. G. E. Seavoy and H. B. Caldwell. flow sheets bibliog il diags Ind & Eng Chem 32:627-36 My '40

EVENING and continuation schools
Little education; don't spurn the correspondence course and evening classes; university extension service. R. H. Morris. Power Pl Eng 44:70-2 Je '40

EVERGLADES
Larger levees for Lake Okeechobee. il map Eng N 124:636-9 My 9 '40
New 69-mile Everglades highway. il diag map Eng N 125:270-2 Ag 29 '40

EVIDENCE (law)
Chemistry in crime detection. J. E. Hoover. il Ind & Eng Chem News ed 18:402-3 My 10 '40
Outline of evidence. I. W. Berkman. 176p pa $2.50 I. W. Berkman, 66 Court st, Brooklyn, N.Y. '40
Pennsylvania trial evidence. G. M. Henry. 3d ed 978p $12 Soney & Sage co, Newark, N.J. '40
Physics in court; computations by which police can work out driving speeds from skid marks after accidents. C. W. Sheppard. il Sci Am 163:144 S '40
Spotting the facts; presenting data in automobile tort cases in Peoples court of Baltimore; PAM system. A. B. Metzger. il Safety Eng 80:24+ Ag '40
Treatise on the Anglo-American system of evidence in trials at common law. J. H. Wigmore. 3d ed 10v lea'tte $100 Little '40

EVIDENCE (law)—*Continued*
Wills on the law of evidence in civil and criminal cases. W. Wills. 3d ed 551p 25s Stevens & sons, London '39

See also
Expert evidence
Fingerprints
Identification
Medical jurisprudence
Moving pictures as evidence

EVOLUTION
Evolution of man; abstract. F. Weidenreich. Science 91:sup13 Ja 5 '40
Material basis of evolution. R. Goldschmidt. 436p bibliog(p401-23) $5 Yale univ. press '40

See also
Heredity

EXAMINATIONS
Evaluating the ability of students to do the work of the upper classes in the engineering colleges; sophomore comprehensive examinations. W. H. Formhals and B. Stoughton. J Eng Educ 30:668-76 Ap '40
Innovations in students' tests; sheet metal work. diag Sheet Metal Worker 31:35+ Je '40

See also
Chemistry—Examinations
Civil service—Examinations
Electric engineering—Examinations
Engineering—Examinations

EXCAVATING machinery
Caterpillar carriages for cranes and excavators. E. G. Fiegehen. diags Engineering 148: 599-602, pl 23 D 1 '39
Dragline excavator. W. Barnes. il diags Engineering 149:571-4, 612-14, pl 31, 34 Je 7, 21 '40
Earth-moving for roads. W. S. Tomlinson, jr. Can Eng R & B 78:26, 65-6 Ja '40
Excavate by slackline cableway. il Rock Prod 43:72 Ja '40
Further progress in excavator production; a walking dragline. il Mech Handling 27:132 Je '40
Haiss bucket loader on pneumatic tires. il Roads & Sts 83:88 Ap '40
Hidden pipe lines do not slow up this power shovel; use of WTP pipe anticipator. il Comp Air M 45:6244 S '40
Increasing life of dipper teeth. il Rock Prod 43:52 Je '40
Increasing rope life by salvage on draglines and shovels. F. L. Spangler. Coal Age 45: 62+ Ag '40
Iron ore extraction in the Midlands. diags Mech Handling 26:353-5 D '39
Lorain-80. Can Eng 77:18, 20 D 5 '39
Lorain-69 1¼ yd. excavator. il Roads & Sts 83:88 My '40
Mavor and Coulson gypsum-rock extracting transporter for Messrs Cafferata and company. il diags Engineering 148:517-20, 530, pl 19 N 10 '39
New types of earth-movers might solve your clay winning problems. il Brick & Clay Rec 96:17-18, 20-2 Je '40
Osgood type 10 excavator. Can Eng R & B 78:74 Mr '40
Osgood type-90 excavator. Can Eng R & B 78:42+ Jl '40
Pipe locating device for excavators. il Roads & Sts 83:88 My '40; Pub Works 71:51 My '40
Priestman side dragline excavator. il(p250) diags Engineering 150:247-8 S 27 '40
Ruston-Bucyrus 3-cub. yd. walking dragline excavator. il Engineering 149:513 My 17 '40; Engineer 169:462-3 My 17 '40
Stripping and stockpiling. il Rock Prod 43: 74-5 Ja '40

See also
Dredges
Electric shovels
Mining machinery
Scrapers
Shoveling machines
Subways—Construction

EXCAVATION
Building roads at $200,000 a mile; two Pennsylvania projects. C. H. Vivian. il map Comp Air M 45:6275-9 N '40
Deepest Wisconsin road cut between Hazel Green and U.S. route 61. il Roads & Sts 82:58+ D '39
Draining of the Isere valley at Grenoble; water table lowered to permit conduit construction. il diags plans Engineer 169:150-2, 160 F 16 '40
Méthodes nouvelles de construction rapide et économique de vastes ouvrages souterrains. A. Pettavel. diags Génie Civil 115:386-9 N 25 '39
Modern excavating methods employed in the construction of the Pennsylvania Turnpike. il map Can Eng 77:2-4+ D 12 '39
Settlement from excavation; abstract. K. Terzaghi. Eng N 124:176 F 1 '40
War christens Belgium's Albert canal. il map Eng N 124:729-32 My 23 '40

See also
Aqueducts
Blasting
Dredging
Drilling and boring (earth and rocks)
Earthwork
Excavating machinery
Hydraulic excavation
Shaft sinking
Shoveling machines
Subways—Construction
Tunnels and tunneling

EXCAVATION, Subaqueous
How dredging and jetting operations sink huge concrete piers; use of Flexicore tubes, Wax Lake Outlet bridge in Louisiana. il diag Concrete 48:3-4 S '40
New 69-mile Everglades highway. il diag map Eng N 125:270-2 Ag 29 '40

See also
Dredging
Petroleum—Well drilling, Subaqueous

EXCAVATIONS (archeology)
Pittsburgh of old Palestine; buried city with smelter in which King Solomon refined copper; Ezion-geber. N. Glueck. il maps Sci Am 162:22-4 Ja '40
Treasure in East Anglia; a buried Anglo-Saxon ship; sepulchral mound at Sutton Hoo. J. R. Moir. il Sci Am 162:266-7 My '40

See also
Colosseum, Rome

EX-CELL-O corporation
Balanced portfolio of stocks. J. S. Williams. Mag of Wall St 66:490-1 Jl 27 '40
Uncovering special situations. E. A. Barnes. Mag of Wall St 65:806 Ap 6 '40
Why Ex-Cell-O is the market's favorite machine tool stock. E. A. Barnes. Mag of Wall St 66:359+ Je 29 '40

EXCESS insurance company of America
Company analysis. Spectator (Property ed) 5:34-6 Ap 18 '40

EXCESS profits tax
Advertising and the new tax law; with tables showing amount of taxes for specified profit totals. J. K. Lasser. Adv & Sell 33:28, 52, 54, 56 N '40
Agreement on excess profits proposal by subcommittee of House ways and means committee. Comm & Fin Chr 151:780-1 Ag 10 '40
Applying the excess profits tax law in practice. J. A. Phillips. J Account 70:411-16 N '40
Bill goes to conference following its adoption by Senate. Comm & Fin Chr 151:1654-5 S 21 '40
Bill reported to Senate. Comm & Fin Chr 151:1504-5 S 14 '40
Business neither fears nor opposes reasonable tax on excess profits, says Guaranty trust co. of New York; discriminatory features of Act. Comm & Fin Chr 151:2573-4 N 2 '40
Coming tax bill. Mag of Wall St 66:568-9 Ag 24 '40
Conference on industry and national defense held in New York under auspices of Tax foundation. Comm & Fin Chr 151:1217 Ag 31 '40
Congress completes action on excess profits tax bill. Comm & Fin Chr 151:1976-7 O 5 '40
Corporate earnings and the proposed excess profits tax. Nat City Bank p99-102 S '40

EXCESS profits tax—*Continued*
Corporation income and excess-profits tax returns for 1938. Comm & Fin Chr 151:2420 O 26 '40
Defense expenditures and taxation. Nat City Bank p90-5 Ag '40; Excerpts. Comm & Fin Chr 151:776 Ag 10 '40
Difficulties pointed out by United States Chamber of commerce. Comm & Fin Chr 151:785 Ag 10 '40
Discussion of excess profits taxes. J Account 70:245-60 S '40
Effects of new tax bill; how excess profits levies will influence corporate earnings. G. E. Shea, jr. Barron's 20:8-9 S 2 '40
Evaluating the leaders under excess profits tax. J. Lloyd. Mag of Wall St 66:628-9 S 7 '40
Excess profits tax bill passed by House. Comm & Fin Chr 151:1213-14 Ag 31 '40
Excess profits tax likely to discourage expansion; its effects on particular industries. E. W. Axe. Annalist 56:461-2 O 10 '40
Excess profits tax; NACM committee statement. C. F. Baldwin. Credit & Fin Management 42:30-1 S '40
Excess profits tax (second Revenue act of 1940) with explanation, approved October 8, 1940. 56p gratis Peat, Marwick, Mitchell & co, 70 Pine st, New York '40
Excess profits tax to fall lightly on steel producers. Steel 107:78 O 14 '40
Excess profits tax to hit lil fellers. Nat Pet N 32:21 O 9 '40
Excess profits tax unwise; Washington review, Chamber of commerce of the United States. Bankers M 141:171-2 Ag '40
Excess-profits tax will have minimum impact on industry. F. J. Sansone. Oil & Gas J 39:22-3 O 3 '40
Excess profits taxation. D. Horne. Banking 33:58 O '40
Exempt from first year's excess profits tax; companies whose fiscal years end prior to December 31, next. Barron's 20:9 S 30 '40
Explanation of new excess profits tax law. T. Tarleau. J Account 70:396-402 N '40
Gleanings from the capital; excess profits tax may mean end of special profits limitations. E. Duffield. Barron's 20:4 Jl 8 '40
Hearings before Senate finance committee. Comm & Fin Chr 151:1372-3 S 7 '40
House excess profits bill taxes bigness. Business Week p7 Ag 31 '40
How to buy advertising at 50c on the dollar; investing part of excess profits tax in additional advertising. Ptr Ink 47:16 N 1 '40
Hows and whys of excess-profits tax. Business Week p16 O 5 '40
Map out excess profits taxes. Business Week p15 Ag 3 '40
Minimizing the excess profits tax; methods by which corporations can ease the load. J. B. Lowe and J. D. Wright. Barron's 20:7 N 11 '40
New tax law effects on investors; many railroad, public utility and steel companies affected little or none. M. L. Seidman. Mag of Wall St 67:16-17+ O 19 '40
1940 revenue acts; with explanation and federal tax charts. 120p pa $1 Prentice-Hall '40
President Roosevelt asks Congress to enact excess-profits tax. Comm & Fin Chr 151:40 Jl 6 '40
Procedure for defense plant amortization is announced. Steel 107:23 N 11 '40
Proposed excess profits tax bill. Comm & Fin Chr 151:184-5 Jl 13 '40
Senate and House committees conclude joint hearings on excess profits tax bill. Comm & Fin Chr 151:926-7 Ag 17 '40
Six changes in pending excess profits tax recommended by tax group of National association of credit men. Comm & Fin Chr 151:1216-17 Ag 31 '40
Tax bill. Nat City Bank p113-15 O '40
Text of excess-profits tax-plant amortization bill; Second revenue act of 1940. Comm & Fin Chr 151:2251-61 O 19 '40
What value common stocks? how excess profits tax will affect heavy and consumer industries. J. S. Williams. il Mag of Wall St 67:18-21+ O 19 '40
Where new taxes hit hardest; estimated profit of leading companies; tabulation. L. C. Duncan. Barron's 20:3 O 14 '40
Your taxes; excess profits tax act of 1940. D. Horne. Banking 33:54-5 N '40

Canada

Canadian excess profits tax modifications. J. H. Barkmeier. Comm Rep p603 Jl 13 '40
Canadian industry's tax burden. A. T. Christie. Barron's 19:18 D 18 '39

Great Britain

Changes in British tax provide for more equitable treatment of companies in depressed circumstances in the standard years. Economist 138:940-1 My 25 '40
Excess profits tax and the national defence contribution. C. A. Newport. 160p 6s English universities press, London '39
Excess profits tax explained. Chem Age (Lond) 42:66 F 3 '40
Excess profits taxation; the British legislation; domestic considerations. H. G. Guthmann. Annalist 56:172 Ag 8 '40
Hard cases under British tax; relief from double excess profits tax. Economist 138: 980-1 Je 1 '40
Idle cash and excess profits tax. Economist 139:220+, 287 Ag 17, 31 '40
Taxation of war profits. Economist 138:675-6 Ap 13 '40

India

British Indian excess profits tax. J. H. Barkmeier. Comm Rep p529 Je 15 '40

Mexico

Mexico's new excess profits tax. Comm Rep p28 Ja 13 '40

EXCHANGE
See also
Balance of payments
Commerce
Foreign exchange

EXCHANGE equalization account. See Foreign exchange

EXCHANGE professors. See College professors and instructors—Interchange

EXCHANGES
CEA to supervise ten additional commodities. Comm & Fin Chr 151:2285 O 19 '40
Does futures trading influence prices? D. W. Malott. Harvard Business R 18 no 2:177-90 [Ja] '40
Volume of trading in grain futures, 1936-1939. Survey of Cur Business 1940 Sup p71 [supplemented in monthly numbers]
See also
Stock exchange
also names of exchanges, e.g. New York curb exchange

EXCISE tax
Alcohol tax exemption denied by House in revenue bill; with list of some new excise tax rates. Oil Paint & Drug Rep 137:5 Je 17 '40
Yield expected to increase during the fiscal year 1941. Oil Paint & Drug Rep 137:3+ Ja 8 '40

EXCITATION equipment
Generator relays protect exciter. G. I. Smith. diag Elec W 114:1021 O 5 '40
Reverse power relay changes exciters. G. I. Smith. Elec W 114:410+ Ag 10 '40

EXCLUSIVE agencies
Colorado bills auto companies for chain tax on dealers. H. E. Agnew. Sales Management 46:62, 64 F 15 '40
Lane Bryant slenderizing idea goes on national basis; department stores licensed to sell. Sales Management 46:57 Ja 1 '40

EXECUTIVES
Are you a business executive? W. C. Moore. Pulp & Pa of Can 41:502 Jl '40
Bosses who get in my hair; the cold water sprinkler. A. R. Barkley. Am Business 10: 28-9 Ja '40

EXECUTIVES—*Continued*
Don't-put-your-neck-out executive. E. Whitmore. Am Business 9:30+ D '39
Engineers of progress; noonday conference group of executives; Champion paper and fibre company. R. B. Robertson. il Paper Ind 22:463-4 Ag '40
Executive and clerical aptitudes; fitness tests for education and job applicants; Human engineering laboratory, Stevens institute of technology. L. W. Yawger. Trusts & Estates 70:529-32 My '40
Executive and the technologist. E. C. Williams. Ind & Eng Chem News ed 18:191-4 Mr 10 '40; Same. Chem Ind 46:297+ Mr '40; Excerpts. Chem & Met Eng 47:157-9 Mr '40; Chem & Ind 59:436-8 Je 22 '40
Executive and the technologist; a proper understanding between them. W. B. Bell. Ind & Eng Chem News ed 18:185-90 Mr 10 '40; Same. Chem Ind 46:296+ Mr '40; Same abr. Chem & Ind 59:398-401 Je 8 '40; Abstract. Chem & Met Eng 47:156-7 Mr '40
Executive diplomacy and good public relations. A. M. Cooper. Pub Util 26:474-8 O 10 '40
For men who move; Transferred executives guild guides business migrant to new home. il Business Week p29-30 Mr 30 '40
Fortune forum of executive opinion. Fortune 22:72-3, 112, 114 S; 74-5+ O '40
Human relations in industry; the executive's attitude. S. A. Lewisohn. Advanced Management 5:72-6+ Ap-Je '40
The ideal boss. T. H. Thompson. Ptr Ink 191:6 Ap 26 '40
Is a college degree needed for executive success? pictograph. Sales Management 47:37 S 15 '40
Job of an executive; review of C. I. Barnard's The functions of the executive, with supplementary comment. M. T. Copeland. Harvard Business R 18 no 2:148-60 [Ja] '40; Reply. C. I. Barnard. 18 no 3:295-308 [Ap] '40
Job security in the retail field; executives in department stores. Management R 29: 18-19 Ja '40
Keeping fit for business. A. D. Tuttle. il Am Business 10:11-13+ Ag '40
Less leisure for executives. W. H. Conant. Barron's 20:20 Ag 19 '40
Men who get things done; list of twenty-one executives, with their ages. Am Business 10:12 Je '40
More private offices? Management R 29:111-12 Mr '40
Origins of business leadership. A. W. Atwood. Barron's 20:7 Ag 5 '40
Overworked executives and the short hour week. J. Garth. Am Business 10:11-13+ My '40
Pensions for executives. J. C. Baker. Harvard Business R 18 no 3:309-21 [Ap] '40
Selecting and training executives for the chemical industry. W. S. Landis. Oil Paint & Drug Rep 137:3+ Ja 29; 5+ F 5; 28-9 F 12 '40
Six managers; Williams of Lehigh, Hudgins of Sloane-Blabon, Johnson of Boeing, Gill of government, Boeschenstein of Fiberglas, Connor of Caterpillar. Fortune 22:54-5, 92, 94+ Ag '40
Studies in cooperation. S. A. Courtis. Personnel J 18:314-34 Mr '40
Study, not play, makes executives. C. Warner. Rock Prod 43:28 Ap '40
30,000 managers earning $15,000 to $200,000 plus. pors Fortune 21:58-62+ F '40
Vacation policies for executives. Management R 29:71-2 F '40
What the general manager thinks about. R. T. Kent. Mech Eng 62:370-4 My '40; Same cond. Engineer 169:523-4 Je 7 '40
Where do general managers come from? E. Whitmore. il Am Business 10:11-13+ Ap '40
Who's an executive? wholesalers try to show wage-hour rulings are too strict. Business Week p34+ Ap 20 '40
Why businesses fail. J. A. Murphy. il Sales Management 46:18-20+ Mr 1; 27-8 Mr 15 '40
Why businesses succeed. J. A. Murphy. Sales Management 46:25, 28, 31 Ap 1 '40
Young men in top management. W. Webb. Am Business 10:18-20 S '40

See also
Advertising managers
Business management
Credit managers
Efficiency, Industrial
Employment management
Factory management
Foremen
Forty plus clubs
Industrial management
Office management
Organization in industry
Sales managers
Supervisory workers

Salaries
Executives whose salaries exceed $75,000. Steel 106:24 Ja 29 '40
Salary and bonus plans for department executives; Dartnell survey. Am Business 10:37-40 Ag '40; Abstract. Management R 29:283-4 Ag '40
Salary and bonus plans for top executives; a Dartnell survey. Am Business 10:11-13+ Jl '40
Tax deductions for officers' salaries; criteria for reasonable salaries. L. J. Freeman. Barron's 20:8 Jl 29 '40

Training
How modern business trains leaders; nine business careers analyzed. C. McPherson. il Am Business 10:11-13, 42 S '40
How shall we obtain executives for the chemical industry? W. S. Landis. Chem Ind 45: 516-17 N '39
How to train supervisors. R. O. Beckman. 305p bibliog(p291-5) $3 Harper '40
Selecting and training executives for the chemical industry. W. S. Landis. Oil Paint & Drug Rep 137:28-9 F 12 '40
Training engineers to handle men. M. H. Clark. J Eng Educ 30:855-9 Je '40

See also
Employment managers—Training
Foremen—Training
Industrial engineering—Study and teaching

EXECUTIVES as stockholders
Stock options for executives. J. C. Baker. Harvard Business R 19 no 1:106-22 [S] '40; Abstract. Management R 29:410-12 N '40

EXECUTORS and administrators
Avoiding problems of estate and trust administration. R. A. Jones. Trusts & Estates 70:263-70 Mr '40
Cases and materials on the law of fiduciary administration. L. M. Simes. 2d ed rev 3v pa $3.75 Brumfield & Brumfield, 308 S. State st, Ann Arbor, Mich. '40
Construction of wills; powers of appointment, charging general legacies, rule against perpetuities. W. H. Gambrell. Trusts & Estates 70:275-9 Mr '40
Executors and administrators. N. E. Mustoe. 3d ed 301p, 19p 12s 6d Butterworth & co, London '39
Executors not entitled to commissions on full sale price of property subject to encumbrance. Trusts & Estates 70:445-6 Ap '40
Executorship law and accounts. D. F. de l'H. Ranking, E. E. Spicer and E. C. Pegler. 14th ed 434p $5 Pitman '39
Executorships and trusts. J. H. Phillips and G. E. M. Jenkins. 381p $5 Pitman '38
Priority of federal estate tax lien as against trust deed made by executor. Trusts & Estates 69:687-8 D '39

See also
Probate law
Trusts and trustees
Wills

Accounting
Accrued income for tax purposes; considerations in preparation of decedent's final return by executor. P. G. Evans. Trusts & Estates 71:411-16 O '40
Determination of property as community or separate. Trusts & Estates 69:683-4 D '39
Estate accounting. E. Saxe. 244p $3.50 Emanuel Saxe, 17 Lexington av, New York '39

EXECUTORS and administrators—Accounting —*Continued*
Estate administration and accounting. C. J. Dodge and J. F. Sullivan. lawyer's and accountant's ed 872p $8 Clark Boardman co, New York '40
No collateral attack on decree allowing executor's account. Trusts & Estates 70:444 Ap '40
Tax computation in an estate with a charitable remainder. E. L. Eastman. J Account 69:175-7 Mr '40

EXERCISE
Culture of the abdomen; the cure of obesity and constipation. F. A. Hornibrook. 112p $1 Blue ribbon books '40
Exercise and keep fit. T. Hunt. 302p $1.96 Prentice-Hall '40

EXERGONIC (term)
Proposed terms exergonic and endergonic for thermodynamics. C. D. Coryell. Science 92: 380 O 25 '40

EXHAUST steam
Pratt & Whitney aircraft heats with unit heaters using exhaust steam from engines. il Heat & Ven 37:37-9 S '40

EXHAUST systems
American fork & hoe co. modernizes its dipping departments by installing unit heater and exhaust systems. R. C. Taft. il diags Heat & Ven 37:35-7 Mr '40
Controlling dust in rubber factories. F. C. Morey. il Rubber Age 46:361-3 Mr '40
Cummins engine company; vapor-laden air from injector tests exhausted through oil separator which reclaims 90% of fuel; heating system. C. Strock. il diags Heat & Ven 37:33-5 My '40
Curtiss-Wright; exhaust ventilation. il Heat & Ven 37:52-5 S '40
Design and construction of spray booths. R. L. Grayford. il diags Sheet Metal Worker 31:35-6 S; 28-30 O; 33-4 N '40
Down-draft exhaust aids finishing department; Landis tool co. il Steel 107:80 N 11 '40
Downdraft ventilation; for solvents producing heavier-than-air vapors. W. C. L. Hemeon. il diag Safety Eng 79:12, 14 Ap '40
Dust collection needs correct hood design. J. G. Liskow. diag Nat Safety N 42:52 Ag '40
Dust control in industry. F. F. Kravath. il diags Heat & Ven 37:39-42 Ap; 36-8 My '40
Dust control in the granite cutting industry. W. C. L. Hemeon. bibliog il diags Heat & Ven 37:41-5 Je; 54-8 Jl '40
Economical dust control with low resistance exhaust systems. F. F. Kravath. diags Heat & Ven 37:40-2 O; 27-9 N '40
Exhaust booth design. T. Hatch and R. B. Northrup. diags plan Metal Ind 38:62-3+ Ja '40; Same. Safety Eng 79:33-4+ Ja '40
Exhaust systems. il Nat Safety N 41:82-3 Mr '40
Ford motor company; tool and die shop exhaust systems. C. Strock. il diags plans Heat & Ven 37:32-8 Je '40
Grinding and sanding castings without dust; Monarch machine tool co. plant. il Iron Age 146:51 S 12 '40
How to design exhaust hoods for quartz-fusing operations. E. C. Riley and J. M. Dalla-Valle. diags Heat & Ven 37:23 Ap '40
Low velocity exhaust systems. T. Hatch. il plans Heat & Ven 37:27-30 O '40
New castings cleaning department at the Monarch machine tool co.'s plant. il Automotive Ind 83:260 S 15 '40
No dust, better health, more output; foundry ventilation practice. A. Van Vlissingen. il Factory Management 98:79-81 S '40
Pickling, ventilation; exhaust systems and inhibitors control health hazards in operation of pickling tanks. M. A. Snell. diags Steel 106:66, 68+ My 20 '40
Pratt & Whitney aircraft; dust and fume exhaust systems. il Heat & Ven 37:39 S '40
Profit opportunities in large-volume air movers. il diags plan Sheet Metal Worker 31: 27-30 Mr '40
Ventilating a poultry house. P. R. Jordan. diags Sheet Metal Worker 31:39-40 My '40
Ventilating and heating a chemical lab; chemical engineering building at Case school of applied science. D. O. Hubbard. il Heating-Piping 12:106 F '40
Ventilation of a trichlorethylene degreaser. W. N. Witheridge and H. T. Walworth. il diags J Ind Hygiene 22:175-87 My '40
Venturi ejector for handling air. F. F. Kravath. diags Heat & Ven 37:17-21 Je; 46-9 Ag '40
Woodworking plants use exhaust ventilation. T. Hatch and R. B. Northrup. diags plans Heat & Ven 37:33-8 F '40

See also
Dust removal

EXHIBITION buildings
Armchair spectator conveyer-guide; train of moving chairs and sound system; General Motors Futurama at the 1939 New York world's fair. J. Dunlop and W. T. White. il diags Elec Eng 58:509-14 D '39; Excerpts. Mech Eng 62:147-9 F '40
Experience in maintenance of large timber structures; temporary buildings of the Golden Gate international exposition. J. J. Gould. diags Eng N 125:240-2 Ag 15 '40
Louisiana's permanent exhibit building, Shreveport. il plans Arch Rec 87:38-41 F '40
Notes on exhibit techniques; based on observations at the New York world's fair 1939. A. Heythum and C. Heythum. il diags Arch Forum 72:195-8 Mr '40
Superstructure of theme building of New York world's fair. S. Hardesty and A. Hedefine. il diags Am Soc C E Proc 66: 1277-1316 S '40

See also
New York (city)—World's fair, 1939
San Francisco—Golden Gate international exposition

Air conditioning

See also New York (city)—World's fair, 1939—Air conditioning and refrigeration

EXHIBITION grounds
Application of soil mechanics in building the New York world's fair. G. L. Freeman, G. W. Glick and H. Gray. il plans Civil Eng 10:649-52 O '40

Lighting

New Zealand centennial exhibition, Wellington. il Elec R (Lond) 126:660 Je 21 '40

See also New York (city)—World's fair, 1940—Lighting

EXHIBITIONS
Le II[e] salon de la France d'outre-mer (Paris, 2-26 mai 1940); les ressources de L'Empire colonial français. il Génie Civil 116:353-6 Je 1 '40
East is East and West is West; some observations on the World's fairs of 1939. C. E. Cummings. 382p Buffalo soc. of natural sciences, Buffalo, N.Y. '40

See also
Chemical industries—Exhibitions
New York (city)—World's fair, 1939
San Francisco—Golden Gate international exposition

EXHIBITS
Convention paper; London assurance group attracts extra attention at yearly trade exhibit by daily paper. Ptr Ink 192:62-3 Jl 5 '40
Display animation, 1939-40; the year book of motion displays. I. L. Cochrane, ed. 237p $5 Reeder-Morton publications, 175 5th av, New York '39
Hobbyist comes through; out of Ernest Keithley's cellar comes a Combustion Engineering exhibit for the World's fair. A. H. Little. Ptr Ink 191:77-8 Ap 26 '40
How Bastian-Blessing stopped the show at the metals exposition. E. L. Mills. il Sales Management 45:52+ D 1 '39
Marketing review of the World's fair; survey findings; age, income level, residence of visitors, cost of exhibits per person, popularity of commercial areas. S. Griffith and A. Meyrowitz. Adv & Sell 33:31-2+ Ja '40

EXHIBITS—*Continued*
Mrs Homemaker's question: what color goes with what? R. Leigh. il Ptr Ink Mo 41: 14-15 O '40
Notes on exhibit techniques; based on observations at the New York world's fair 1939. A. Heythum and C. Heythum. il diags Arch Forum 72:195-8 Mr '40
What makes a World's fair exhibit click. I. C. Miller. il Food Ind 12:44-8 Ja; 55-9 F '40
See also
Foundry exhibits

EXHIBITS, Traveling
Frigidaire trailer joins REA farm tour. Refrig Eng 39:312 My '40
Major appliances inspected by 3,000. W. E. Schubert. il Elec W 113:776+ Mr 9 '40
Mobile showroom; Frigidaire division of General Motors. il Ptr Ink 191:14 My 3 '40

EXPANSION (heat)
Application of the interferometer to the measurement of dimensional changes in rubber. L. A. Wood, N. Bekkedahl and C. G. Peters. bibliog diags J Research Nat Bur Stand 23: 571-83 N '39
Control of crazing in sanitary ware glazes by Mayer and Havas coefficient of expansion factors. A. O. Knecht. Am Cer Soc J 23:61-3 F '40
Density, thermal expansion, vapor pressure, and refractive index of styrene, and the density and thermal expansion of polystyrene. W. Patnode and W. J. Scheiber. bibliog Am Chem Soc J 61:3449-51 D '39
Direct comparison on a crystal of calcite of the X-ray and optical interferometer methods of determining linear thermal expansion; evidence of differences among calcite crystals. J. B. Austin and others. bibliog Phys R 57:931-3 My 15 '40
Effect of thermal history on the physical properties of electrical porcelain. E. H. Fritz and H. C. Harrison. bibliog Am Cer Soc Bul 18:420-1 N '39
Expansion chart for determining the expansion in piping, rods, tubes, etc. W. F. Schaphorst. Ind & Eng Chem News ed 17: 790 D 20 '39
Expansion strains in the initial firing of ceramic ware. G. E. Sievert and J. Moffat, jr. diags Am Cer Soc J 23:122-4 Ap '40
Measurement of the heat capacity of a small volume of liquid by the piezo-thermometric method; coefficient of thermal expansion of benzene and of toluene measured with a new type of weight dilatometer. J. S. Burlew. bibliog diag Am Chem Soc J 62: 690-5 Ap '40
Model tests solve high-pressure pipe problems. J. D. Conrad. il Power 84:628-31 O '40
Relation between the coefficient of thermal expansion and structure of solutions. R. Wright. Chem Soc J p870-3 Jl '40
Thermal coefficient of expansion of portland cement; long-time tests. S. L. Meyers. bibliog Ind & Eng Chem 32:1107-12 Ag '40
Thermal expansion of some chromium-vanadium steels. P. Hidnert. J Research Nat Bur Stand 24:25-30 Ja '40
Thermal volume change and elasticity of aggregates and their effect on concrete. T. F. Willis and M. E. De Reus. il diags Am Soc T M Proc 39:919-28; Discussion. 929 '39
Variation of the adiabatic and isothermal elastic moduli and coefficient of thermal expansion with temperature through the λ-point transition in ammonium chloride. A. W. Lawson. bibliog diags Phys R 57: 417-26 Mr 1 '40
See also
Concrete—Expansion and contraction

EXPANSION problems. See Business management—Expansion problems

EXPECTATION of life. See Longevity

EXPEDITIONS
See also
Antarctic regions
Arctic regions
Scientific expeditions

EXPENSE accounts. See Salesmen—Expenses

EXPERIMENTS
Design of experiments. R. A. Fisher. Oliver & Boyd, Edinburgh, Scotland; Review, by H. A. Freeman. Mech Eng 62:231-2 Mr '40

EXPERT evidence
How to be a good expert witness. N. Young. Pub Works 71:42-7 Jl '40
Medical expert testimony; abstracts. J. F. Handy. East Underw 41:10 O 11 '40; Spectator (Life ed) 145:22-3 O 24 '40; Weekly Underw 143:858 O 12 '40

EXPLORATION geophysicists, Society of. See Society of exploration geophysicists

EXPLOSIONS
Cause of pipe-line explosion being sought. P. Reed. il Oil & Gas J 38:14-15+ D 21 '39
Combustion explosions in pressure vessels. W. D. Halsey. il Locomotive 43:14-19 Ja '40
Explosion of a solid-drawn air-vessel. il diag Engineering 149:555-6, pl 30 Je 7 '40
Explosions of condensate receiving tanks. il Locomotive 43:12-13 Ja '40
Explosions that weren't planned; fires, explosions and death—resulting from carelessness in chemical plants. E. Berl. il Chem & Met Eng 47:236-9 Ap '40
Explosive properties of cyclopropane; prevention of explosions by dilution with inert gases; hazards of gases and vapors used in anesthesia. G. W. Jones, R. E. Kennedy and G. J. Thomas. bibliog pl U S Bur Mines Rep of Invest 3511:1-17 '40
Hazards with butadiene and its peroxides. D. A. Scott. Ind & Eng Chem News ed 18: 404 My 10 '40
Investigation of a water pressure tank explosion; zinc lining and water generate hydrogen. R. J. Karpen. il Am Water Works Assn J 32:1770-4 O '40
Magnesium perchlorate explosion. Can Chem & Process Ind 24:478 S '40
Over-running medical lamps; possibility of causing explosion of anesthetics; temperature measurement. C. T. A. Harper. il Elec R (Lond) 126:519 My 10 '40
Prevention of explosions in sewerage systems. W. F. M. Bryce. il Can Eng W & S 78:7-8+ F '40
Rôle of free radicals in the mechanisms of gaseous explosions. A. R. Ubbelohde. bibliog Chem & Ind 59:657-9 S 21 '40
Storage battery explosions. Nat Safety N 42:89 N '40
See also
Boiler explosions
Coal dust
Coal mines and mining—Accidents and explosions
Dust explosions
Explosives
Flywheel explosions
Hot water tanks—Explosions
Inflammable mixtures
Locomotive boiler explosions

EXPLOSIVES
Active list of permissible explosives and blasting devices approved prior to June 30, 1940. J. E. Tiffany and Z. C. Gaugler. U S Bur Mines Rep of Invest 3533:1-24 '40
Annual report of the Explosives division, fiscal year 1939. W. J. Huff. pls U S Bur Mines Rep of Invest 3490:1-36 '40
Atlas vs. Hercules Powder; demand for explosives aided by both war and industrial pickup. W. Kraemer. il Mag of Wall St 66: 100-2+ My 4 '40
Breaking theory of detonation. L. R. Carl. bibliog Franklin Inst J 230:75-94, 207-27, 355-74 Jl-S '40
L'emploi des explosifs à oxygène liquide pour le percement des tunnels. Génie Civil 115: 442 D 16 '39
L'emploi d'explosifs pour le fonçage des pieux en béton; abstract. E. Zeevenhooven. diags Génie Civil 116:332 My 18 '40
Étude de la détonation. Libessart, Culmann and Penciolelli. il Chimie & Ind 42:774-8 N '39
Experimental study of the ignition of firedamp-air mixtures by explosives. E. Audibert. diag U S Bur Mines Rep of Invest 3518:1-6 '40

EXPLOSIVES—*Continued*
Explosives, types and uses. C. H. Blocher. N E Water Works Assn J 54:191-3 Je '40
Hazards associated with butadiene and its peroxides. D. A. Scott. Inst Pet J 26:272 My '40
More deadly bomb and bomber; new explosive, Gimite. Barron's 20:5 Ap 1 '40
My fifty years in the explosives industry. W. Cullen. bibliog il diags Inst Chem Eng Trans 17:11-24 '39; Same, without il and diags. Chem & Ind 58:812-23 S 2 '39; Abstract. Chem Age (Lond) 40:139-41 F 25 '40
Nitration of ethane. H. J. Hibshman, E. H. Pierson and H. B. Hass. diags Ind & Eng Chem 32:427-9 Mr '40
Nitrogen and the new preparedness. J. E. Zanetti. il Ind & Eng Chem News ed 18: 529-30 Je 25 '40
Remarques concernant diverses questions examinées au groupe D, section 6, du Congrès de Nancy. M. Libessart. il Chimie & Ind 42:957-8 D '39
Toluol and ammonia plants protected in defense plans. Oil Paint & Drug Rep 138:3+ S 23 '40
Twenty years' survey of the use of sheathed explosives in Belgium. A. Breyre. 6 pls U S Bur Mines Rep of Invest 3530:1-10 '40
Violent reactions; behavior of explosives and flammable chemicals. E. Berl. il Nat Safety N 41:12-13+ F '40

See also
Ammunition
Blasting
Bombs, Aerial
Coal mines and mining—Explosives
Detonators
Inflammable liquids
Nitrocellulose
Nitroglycerin
Nitromethane
Oxygen, Liquid

Manufacture
Conditions in, and some war problems of, the heavy chemical industry in 1939. P. Parrish. plan Chem Age (Lond) 41:429-30 D 30 '39
Explosions that weren't planned; fires, explosions and death—resulting from carelessness in chemical plants. E. Berl. il Chem & Met Eng 47:236-9 Ap '40
Explosives by TVA; ammonium nitrate deal closed. Business Week p30-1 O 26 '40
Refrigeration in ordnance manufacture. H. B. Matzen. Refrig Eng 39:21-3 Ja '40; Same. il Heating-Piping 12:1-3 Ja '40

Statistics
Explosives, shipments, 1936-1939. Survey of Cur Business 1940 Sup p88 [supplemented in monthly numbers]

Storage
Brief on explosive handling. J. C. Mason. Can Min J 61:650 O '40
Explosions that weren't planned; fires, explosions and death—resulting from carelessness in chemical plants. E. Berl. il Chem & Met Eng 47:236-9 Ap '40
Explosives in safe keeping. C. H. Fisher. Min Cong J 26:14-15 Je '40
Explosives in safe keeping. C. H. Fisher. il Nat Safety N 40:18-19+ N '39; Excerpts. Rock Prod 43:44 Ap '40

Testing
Gaseous products from explosives. J. C. Holtz. U S Bur Mines Rep of Invest 3507: 1-14 '40

Transportation
Cars for transporting explosives. C. W. Owings. diags 6 pls U S Bur Mines Information Circ 7115:1-6 '40; Same. Can Min J 61:429-34 Jl '40; Abstract. Eng N 125:243 Ag 15 '40
Explosives bureau reports best year on record. Ry Age 108:870 My 18 '40
Hazardous freight rules changes to be heard Aug. 8. Oil Paint & Drug Rep 138:3 Jl 15 '40
I.C.C. issues order revising regulations for transportation of explosives, dangerous articles. il Chem Ind 47:52 Jl '40
Trucking rules issued for dangerous articles by I.C.C. Oil Paint & Drug Rep 137:3+ Ap 22 '40

EXPORT associations
Decisions under Webb-Pomerene law; Pacific forest industries case. Comm Rep p131 F 10 '40
Export association sales ban found illegal by F.T.C.; Pacific forest industries. Oil Paint & Drug Rep 137:3 F 5 '40
Formation of export groups in Britain. Economist 138:640 Ap 6 '40
New Webb law association formed to export rice and rice products; pencil industry also forms association. Comm Rep p1083 N 25 '39
Webb law associations, 1938; and list of 44 export associations as of February 3, 1940. H. DeCourcy. Comm Rep p341 Ap 13 '40

EXPORT declarations
Export declaration. L. G. Koepfle. Compar Law Ser 3:129-37 Mr '40
Foreign commerce decisions. Comm Rep p604-5 Jl 13 '40
Foreign commerce decisions; export declarations. Comm Rep p1169 D 16 '39

EXPORT-Import bank of Washington
Approved loans totaling $110,595,235 since organization. W. L. Pierson. Comm & Fin Chr 150:619 Ja 27 '40
Congressional approval of $500,000,000 fund for loans to aid Latin-American trade urged by Secretary of State Hull; Senate group reports filed. Comm & Fin Chr 151:781-2 Ag 10 '40
Export-import bank loans $25,000,000 to China; United States to purchase $30,000,000 worth of tungsten. Comm & Fin Chr 151: 1821 S 28 '40
Export-import bank operations. W. L. Pierson. Ann Am Acad 211:35-40 S '40
Export-import bank to send Brazil $10,000,000 for new steel plant. Iron Age 146:82-3 Ag 1 '40
Foreign trade opportunities and the Export-import bank. M. Palyi. Am Business 10:14-16 F '40
Grants Chile and Colombia $12,000,000 credit. Comm & Fin Chr 150:2966 My 11 '40
Hemisphere handout; proposed loans by Export-import bank would provide only temporary relief. H. M. Bratter. map Barron's 20:20 S 2 '40
House passes bill increasing lending authority by $500,000,000; measure also increases borrowing power of RFC. Comm & Fin Chr 151: 1073 Ag 24 '40
Increase in lending power of Export-import bank by $500,000,000 asked by President Roosevelt in message to Congress. Comm & Fin Chr 151:485-6 Jl 27 '40
Legislation increasing capital passed by Congress; Finland and China to receive further credits for non-military purposes. Comm & Fin Chr 150:1356 Mr 2 '40
Senate banking committee approves $100,000,000 increase in Export-import bank's lending authority. Comm & Fin Chr 150: 620 Ja 27 '40
Senate foreign relations committee approves bill increasing capital of Export-import bank from $100,000,000 to $200,000,000; makes possible further credits of $20,000,000 to Finland and China. Comm & Fin Chr 150:918-19 F 10 '40
Senate passes bill increasing capital of Export-import bank by $100,000,000. Comm & Fin Chr 150:1070 F 17 '40
United States to lend Brazil $20,000,000 to finance steel industry; Brazilian government will also invest $25,000,000 in project. Comm & Fin Chr 151:1820-1 S 28 '40

EXPORT tax. See Tariff (export duties)

EXPORT trade
Africa, exporters' Eldorado. W. D. Hubbard. Barron's 19:9 N 20 '39
Analysis of war picture shows way is open for jump in U.S. 1940 exports. C. M. Wright. Ptr Ink 190:15-18 Ja 5 '40
Banking opportunities in Latin American trade; with bibliography of reference books. H. F. Koller. Bankers M 141:210-12 S '40
Bombs to the exporter; operating under war conditions. E. L. Bacher. Nation's Business 27:40 D '39

EXPORT trade—*Continued*

Boxing for export; aircraft. H. J. Emerson. il Aviation 39:40-1, 120+ Je '40

British Malaya increases imports from the United States. M. M. Bernbaum. Comm Rep p632 Jl 20 '40

Bulk packaging for export. R. W. Lahey. il Chem Ind 46:21-5 Ja '40

Business outlook; South American situation. W. W. Case. Annalist 56:201-2 Ag 15 '40

Can we export? British policy in wartime. Economist 139:159-60 Ag 3 '40

European war's economic weapons weaken United States farm export position. Comm & Fin Chr 150:42 Ja 6 '40

Exports; electrical industry's part. R. S. Hudson and others. il Elec R (Lond) 126:297-312 Mr 15 '40

Foreign shipments and the straight bill of lading; practices in Britain, France and Australia. J. O. Janousek. Compar Law Ser 3:365-70 Jl '40

Foreign tariffs and trade regulations. H. Chalmers. Published in weekly numbers of Commerce reports [cont in Foreign commerce weekly under names of countries beginning O 5]

Foreign trade in grip of war. J. Lloyd. il Mag of Wall St 66:214-17 Je 1 '40

Foreign trade large. Fed Res Bul 26:185-6 Mr '40

Foreign trade opportunities. Published in Foreign commerce weekly

Foreign trade under war conditions; economic aspects affecting the United States. Index 20 no 3:49-59, 62-5 [S] '40

Good packing vital to export success today. J. Leeming. For Comm W 1:187-9 N 2 '40

How foods are packaged for export. J. Leeming. il Food Ind 12:41-3 S '40

International developments and United States foreign trade. Fed Res Bul 26:377-84 My '40

Iron, steel export prospects considered best since 1920; January-February exports triple those for same period last year. Steel 106: 18-19 Ap 1 '40

Latin American export problems. map Barron's 20:6 Jl 29 '40

Latin-American sales mount; new tactics needed to hold them. W. R. E. Baxter. Sales Management 46:50-3 My 1 '40

Laws affecting foreign commerce. G. Everett. Published in weekly numbers of Commerce reports [cont in Foreign commerce weekly under names of countries beginning O 5]

Million-dollar electrical export markets; Cuba. B. I. Feig. Comm Rep p1145+ D 9 '39

Modern export packing. J. Leeming. il diags U S Bur For & Dom Com Trade Promotion Ser 207:1-530 '40

Moral embargo aids neutrality laws in limiting U.S. exports. Iron Age 145:53-5 Ja 11 '40

Netherlands Indies offers opportunities for American trade. B. D. Dahl. il Comm Rep p238-9 Mr 9 '40

Our foreign commerce in peace and war. R. L. Kramer, ed. maps Ann Am Acad 211:1-196 S '40

Packing for export; steel ties afford valuable strengthening. W. J. Auburn. il Steel 106: 56+ Je 3; 56+ Je 10 '40

President Roosevelt's message to Foreign trade convention. Comm & Fin Chr 151:630 Ag 3 '40

Principal effect of European war on American business may be readjustment rather than expansion. Comm & Fin Chr 150:2012 Mr 30 '40

Protection of American export trade. F. B. Sayre. 93p $1.50 Univ. of Chicago press '40

Regaining our foreign market. L. B. Ward. 77p pa $1 Louis B. Ward, 708 Fisher bldg, Detroit '39

Sales to Soviet hit; U.S.S.R.'s rubber and tin purchases. Business Week p60+ Ja 27 '40

Struggle for world trade. H. M. Tremaine. il map Mag of Wall St 65:594-7+ F 24 '40

Trade warfare in the future. G. C. Cox; C. Davidson, jr. Barron's 20:3+ Jl 1 '40

Uncertainty as to expected Nazi assault on Britain and its probable outcome. W. W. Case. Annalist 56:169-70 Ag 8 '40

U.S. faces 25 per cent petroleum export loss as result of war. J. P. O'Donnell. Oil & Gas J 39:27 O 31 '40

U.S. still retains large part of its oil export markets. H. S. Norman. il Oil & Gas J 39: 14-15 S 5 '40

War and foreign trade; abstracts. G. P. Nye. Oil Paint & Drug Rep 137:3+ Mr 18 '40; Comm & Fin Chr 150:1697 Mr 16 '40

War brings new frontiers to America. M. Palyi. il Am Business 10:20-2+ Jl '40

War orders, rumors vs. facts. J. Lloyd. il Mag of Wall St 65:786-9+ Ap 6 '40

War turns exports into an enigma. Business Week p56-8 Ja 27 '40

We can wage a trade war, too! seven defensive weapons. R. S. Byfield. Barron's 20:3 Ag 5 '40; Excerpts. Trusts & Estates 71:198 Ag '40

What if British orders cease? defense program probably would fill gap. Business Week p17-18 Ag 3 '40

What is in the future for our foreign trade? J. C. Rovensky. Comm & Fin Chr 151: 637-8 Ag 3 '40

Will the U.S. fall heir to Germany's South American trade? J. S. McCain. map Am Mach 84:41 F 7 '40

See also

Anglo-French purchasing board
Balance of payments
Branch factories, Foreign
Foreign exchange
National foreign trade week
Origin, Indication of
Packing for shipment
Samples, Shipment of
Tariff

Finance

Export financing methods; letter to the editor. J. Shoenfeld. Banking 32:5 D '39

Financing of foreign trade; suggestions for bankers. J. C. Rovensky. il Burroughs Clearing House 24:12-14 Mr '40

Financing South American trade. J. H. Durrell. il Burroughs Clearing House 24:12-14+ Ap '40

Foreign business under war conditions. A. M. Strong. Bankers Mo 57:323-5 Je '40

See also

Export-import bank of Washington

Government aid

Foreign trade opportunities and the Export-Import bank. M. Palyi. Am Business 10: 14-16 F '40

Latin-American treasure hunt. H. M. Bratter. Banking 32:22-3 D '39

Marketing

Distribution methods in Cuba. J. P. Hoover. Compar Law Ser 3:295-302 Je '40

Exporters should know foreign markets. B. Sharp. Paper Tr J 111:11-12 Ag 22 '40

How to enter the Latin-American market. H. P. Clark. il Ptr Ink Mo 40:16-17, 49 Ja '40

Regulation

Administration of section 6 of the act entitled An act to expedite the strengthening of the national defense, approved July 2, 1940; certain articles may be exported only by license. F. D. Roosevelt. Comm Rep p603-4 Jl 13 '40

Administration of the United States export control. For Comm W 1:5+ O 5 '40

Announcements under operation of United States export control. Published in Foreign commerce weekly

Aviation gas, lubes put on embargo list. Nat Pet N 32:13+ Jl '40

Aviation gasoline and oil and other commodities put under export control. Oil Paint & Drug Rep 138:5+ Ag 5 '40

Export-banned goods face government requisition. Oil Paint & Drug Rep 138:5+ Ag 19 '40

Export control for defense affects number of chemicals; with list. Oil Paint & Drug Rep 138:3, 26+ Jl 8 '40

EXPORT trade—*Continued*
Export control rules not made public. Oil Paint & Drug Rep 138:3+ Jl 29 '40
Export license control relaxed in some respects. Oil Paint & Drug Rep 138:3+ S 9 '40
Export licensing confusing despite interpretations. Oil & Gas J 39:33 Ag 15 '40
Export licensing will curb U.S. petroleum shipments. il Oil & Gas J 39:10-11 Ag 1 '40
Export restrictions on machine tools relaxed. Automotive Ind 83:175+ Ag 15 '40
Export trade still confused by lack of official ruling. H. D. Ralph. Oil & Gas J 38:24 N 23 '39
For preparedness; exports now controlled by Washington. Business Week p44 Jl 13 '40
How to get export licenses. Oil Paint & Drug Rep 138:3 Jl 8 '40
No embargo, try to get license! oil and scrap iron. Business Week p18+ Ag 3 '40
Petroleum products exports put under license control. Oil Paint & Drug Rep 138:3+ Jl 29 '40
President Roosevelt extends export license system to include plans for making aircraft and engines and for producing aviation fuel. Comm & Fin Chr 151:1651 S 21 '40
President Roosevelt issues executive order making oil, petroleum products and scrap metals subject to export licensing. Comm & Fin Chr 151:485 Jl 27 '40
President Roosevelt issues proclamation making subject to license and control, exports of munitions, materials and machinery essential to national defense program. Comm & Fin Chr 151:39-40 Jl 6 '40
Transfer of title under Neutrality act of 1939. Comm Rep p1114 D 2 '39
Ulterior motive is seen in oil embargo. H. D. Ralph. Oil & Gas J 39:21-2 Ag 1 '40

Sales management

Export idea; combination manager is suggested for two or more non-competing firms. I. M. MacDonald. Ptr Ink 190:20 Mr 15 '40

Statistics

Chemical foreign trade exceeded $100,000,000 in first quarter. C. C. Concannon. Comm Rep p438 My 11 '40
Destination of United States textile exports in 1939. E. A. Mann. Comm Rep p574 Je 29 '40
Distribution of U.S. exports in first seven months of war; chart. Barron's 20:11 My 20 '40
Do American export gains hide shipments to Germany? Business Week p53 My 11 '40
Downward trend in United States raw cotton exports reversed in 1939; exports to principal markets, 1930-39. R. Skliar. Comm Rep p146+ F 10 '40
Exports; cars, buses, trucks and accessories, 1939; tabulations. Automotive Ind 82:220 Mr 1 '40
Exports from U.S. ports; list by ports of chemical products, with amounts and consignees. Published in weekly numbers of Oil, paint and drug reporter
Exports higher because of heavy munition shipments. W. W. Case. Annalist 56:500-1 O 17 '40
Exports of cotton cloth; revision, monthly, 1913-Sept. 1939. Survey of Cur Business 19:17 N '39
Exports of lard including neutral lard; revision, monthly, 1913-Sept. 1939. Survey of Cur Business 19:16 N '39
Exports of sawmill products, monthly, 1913-39. Survey of Cur Business 20:18 Mr '40
Exports up 35% in first six months of the war. W. W. Case. Annalist 55:422-3+ Mr 21 '40
Foreign trade; chemicals. Chem & Met Eng 47:92-4 F '40
Gains in exports of rubber manufactures from United States to South America. Comm Rep p539 Je 15 '40
International trade and finance, 1939. Survey of Cur Business 20:45-7 F '40
June exports show acceleration of allied purchases. W. W. Case. Annalist 56:174+ Ag 8 '40
Latin American markets for confectionery; relative importance of principal countries, 1937-39 and United States exports, 1938 and 1939. A. S. Nemir. Comm Rep p350+ Ap 13 '40
Motion-picture exports decline during first 9 months of 1939. N. D. Golden. Comm Rep p1075 N 18 '39
Official export data show lag in allied procurement. W. W. Case. Annalist 56:4+ Jl 4 '40
Our exports; 1914-1915, 1939-1940. Comm & Fin Chr 150:537-40+ Ja 27 '40
Recent trends in United States export trade. Survey of Cur Business 20:6-11 Ja '40
Recent trends in United States exports of specialties; comparison of Oct. 1939-March 1940 totals with preceding comparable period. H. B. McCoy. Comm Rep p445-6 My 18 '40
Six months exports of United States motion pictures and equipment. N. D. Golden. Comm Rep p713 Ag 17 '40
Total exports of meats and meat products, including lard, monthly, 1913-Sept. 1939. Survey of Cur Business 19:16 N '39
Trade trends; iron and steel products; textile fibers and manufactures, 1939. Comm Rep p134+ F 10 '40
Trade with Latin America soars; Business Week survey. Business Week p15-16 F 24 '40
United States cotton export trade. R. Skliar. Comm Rep p759-60 S 7 '40
United States export trade in optical goods during 1939. G. R. Donnelly. Comm Rep p499 Je 1 '40
U.S. exports affected by the war; 1937-39; tabulation. D. W. Ellsworth. Annalist 55: 818 Je 13 '40
United States exports and the war; value of principal U.S. exports and their destinations. Nat City Bank p16-18 F '40
U.S. exports for first six months of war, September 1939-February 1940; value by country and commodity. B. Barton. Comm Rep p353-5 Ap 13 '40
United States exports in June show rise. Comm Rep p652-3 Jl 27 '40
United States exports of cotton cloth increased in 1939; comparisons with 1937 and 1938. E. A. Mann. Comm Rep p538 Je 15 '40
United States exports of crude materials; total value, and quantity and value of principal commodities; charts. Comm Rep p185 F 24 '40
United States exports of finished manufactures; charts. Comm Rep p1086, 1118, 1119 N 25-D 2 '39; p254, 255, 281 Mr 16-23 '40
United States exports of foodstuffs and beverages; charts. Comm Rep p209 Mr 2 '40
United States exports of semimanufactures; charts. Comm Rep p1062, 1063 N 18 '39; p232, 233 Mr 9 '40
U.S. foreign trade higher despite war dislocations. W. W. Case. Annalist 55:110-11+ Ja 25 '40
United States foreign trade in machinery, 1939. E. H. Young. Comm Rep p444+ My 18 '40
United States machinery trade with Latin America continued at high level in 1939. E. H. Young. Comm Rep p313-14 Ap 6 '40
U.S. million-dollar electrical export markets; Philippine Islands. B. I. Feig. Comm Rep p188-9 F 24 '40
U.S. war trade. W. W. Case. Annalist 55: 622-3, 748 My 2, 30 '40
Value of exports by grand divisions, countries, and economic classes, 1936-1939. Survey of Cur Business 1940 Sup p78-80 [supplemented in monthly numbers]
War buyers listed; countries other than the allies account for $44,000,000 in 1939 licensed arm exports. Business Week p55-6 F 17 '40
Wartime export trade disappointing; with chart, Jan. 1937-Nov. 1939. Barron's 20:1 Ja 8 '40
Wartime export trade increasing. Barron's 20:1 F 26 '40
What's ahead in 1940? exports; steel, iron, scrap and machinery. Steel 106:177+ Ja 1 '40

EXPOSURE meter. See Photography—Exposure

EXPRESS companies
See also
Railway express agency
EXPRESS highways. See Roads, Automobile
EXPRESS service
Fourteen thousand trucks comprise express fleet; railway-owned express companies in the United States and Canada. il diags Ry Age 108:215-21 Ja 27 '40
See also
Air express service
Railway express agency
EXTENSOMETERS
Combined stress experiments on nickel-chrome-molybdenum steel. J. M. Lessells and C. W. MacGregor. bibliog il diags Franklin Inst J 230:163-81 Ag '40
EXTERIOR lighting. See Buildings—Exterior lighting
EXTRA expense insurance. See Insurance, Extra expense
EXTRACTION apparatus
Cold extraction apparatus. J. Benotti. diag Science 91:223-4 Mr 1 '40
Continuous extraction of aqueous solutions by acetone-petroleum ether. M. Wayman and G. F. Wright. diag Ind & Eng Chem Anal ed 12:91 F 15 '40
Longest solvent extraction column used in lubricating oil analysis; abstract. E. R. Weidlein. Nat Pet N 32:R174 My 15 '40
Mechanically operated continuous liquid-extraction apparatus. G. W. Pucher and H. B. Vickery. Ind & Eng Chem Anal ed 11: 656-7 D 15 '39
Modified Rohrig extraction tube. C. W. Sullens and W. Rankin. diag Ind & Eng Chem Anal ed 12:291 My 15 '40

Design

Application of rectangular coordinate methods to solvent extraction design. J. O. Maloney and A. E. Schubert. flow diag Am Inst Chem Eng Trans 36:741-57 O '40
EXTRACTION processes
Action of solutizers in mercaptan extraction. D. L. Yabroff and E. R. White. bibliog Ind & Eng Chem 32:950-3 Jl '40
American institute of chemical engineers 1940 annual student contest problem; doubling production of acetic acid concentrating department, with consideration of economics of solvent extraction; with prize winning paper by H. Campbell. diags Am Inst Chem Eng Trans 36:593-655 Ag '40
Chemical engineering advances in soybean processing. G. W. McBride. il diags Chem & Met Eng 47:614-18 S '40; Same cond. Food Ind 12:55-7 O '40
Chloroform extract of reclaimed rubber. H. F. Palmer and F. L. Kilbourne, jr. bibliog Ind & Eng Chem 32:512-18 Ap '40
Extraction of a bituminous coal; influence of the nature of solvents. M. W. Kiebler. bibliog il diags Ind & Eng Chem 32:1389-94 O '40; Same. Gas J (Lond) 232:433-6 D 4 '40
Extraction of alkalies in rocks; modification of the J. Lawrence Smith extraction, using barium chloride as a flux. R. E. Stevens. bibliog Ind & Eng Chem Anal ed 12:413-15 Jl 15 '40
Extraction problems. Am Inst Chem Eng Trans 36:sup38-9 S '40
Fundamentals of solvent refining operation. E. W. Gard and E. G. Ragatz. diags Oil & Gas J 39:49-50+ Je 6 '40
Manufacture of industrial extracts for textiles and leathers. K. Campbell. Chem & Ind 59:145-6 Mr 2 '40
Process engineering in low-temperature, high-pressure condensate extraction. W. H. Justice. flow chart il Oil & Gas J 38:40-1+ My 9 '40
Solubility of cracked residues in some solvents. J. Voskuil. bibliog diag Inst Pet J 26: 57-71 F '40
Solutizer process for sweetening gasolines. L. E. Border. flow diag bibliog il Oil & Gas J 39:36-8, 40 Jl 18 '40
See also
Solvents
EXTRADITION
Extradition of nationals. R. W. Rafuse. 163p bibliog(p154-63) pa $1.50 Univ. of Illinois press, Urbana '39
EXTRUSION process
Carboloy's extrusion process for producing tubing, spirals and round or shaped bars. il Automotive Ind 82:72 Ja 15 '40; Mach 46:174 Ja '40
Column strength of two extruded aluminum-alloy H-sections. W. R. Osgood and M. Holt. bibliog il diags U S Nat Advisory Com for Aeronautics 1939:289-312 '40
Continuous length extrusion. J. E. Pierce. il Mod Plastics 18:49+ N '40
Extruded tubing has unusual properties. Automotive Ind 82:467-8 My 15 '40
Extruding holes; sheet steel motor conduit base; Reliance electric & engineering co. il diags Steel 106:48-9 Ja 15 '40
Extrusion of metal powders is advanced by new technique. R. H. Leach. Steel 107:164 O 14 '40
Extrusion of plastics. D. L. Gibb. il Mod Plastics 17:54-5+ Jl '40
Extrusion press for stainless steel, ferrous and non-ferrous tubing and rods. il Mach 47: 144 S '40
Farrel-Birmingham press extrudes ferrous, nonferrous tubing. il Steel 107:77 N 11 '40
Farrel-Birmingham 2,000-ton hydraulic press permits extrusion of steel and nickel alloys. il Am Mach 84:687-8 S 4 '40
Making valve-stems for internal combustion engines by the extrusion process. il Mach 47:175 O '40
Manufacture of shell forgings by the extrusion process. diags Mach 46:96-7 My '40
New technique for lead cable sheathing. B. B. Reinitz and R. J. Wiseman. bibliog il diags Elec Eng 59:Trans 165-71; Discussion. Trans 171-8 Mr '40
Rolling and extruding of lead for chemical equipment. F. P. Peters. il Metals & Alloys 11:115-17 Ap '40
Valve production by the extrusion process; Daniel Doncaster and sons. il diags Engineer 169:494 My 31 '40; Engineering 149:600 Je 21 '40; Automobile Eng 30:166 Je '40
EYE
Comparative anatomical studies of the eye with especial reference to the photoreceptors. S. R. Detwiler. il diags Opt Soc Am J 30:42-50 F '40
Ocular manifestations of ariboflavinosis. H. D. Kruse and others. bibliog Pub Health Rep 55:157-69 Ja 26 '40
Pigment of the vertebrate lens. G. L. Walls. Science 91:172 F 16 '40
Reflection from the eyes of animals. Science 91:sup10-11 Ja 19 '40
Size of pupil as a variable factor in measurements of the threshold; an experimental study of the Stiles-Crawford phenomenon; abstract. L. L. Sloan. Opt Soc Am J 30:271 Je '40
Stereoscopic eyes. C. F. Brindel. 88p lea'tte $2.50 for sale by New era optical co, 17 N. Wabash st, Chicago '39
See also
Color sense
Optics, Physiological
Sight
Winking

Accommodation and refraction

Aniseikonia. G. H. Gliddon. bibliog Opt Soc Am J 30:142-4 Ap '40
Applied orthoptics. S. E. Rudlin. 194p $5 Dietz press, Richmond, Va. '39
Cure of imperfect sight by treatment without glasses. W. H. Bates. 326p $3 Emily A. Bates, 20 Park av, New York '40
Induced size effect. K. N. Ogle. diags Opt Soc Am J 30:145-51 Ap '40
Measurement of sight. L. H. Hardy. bibliog il diags Illum Eng 35:605-24 Jl '40

EYE—*Continued*

Care and hygiene

Rights of the eye. H. G. Rowell. Edison Elec Inst Bul 8:353-5+ Jl '40

Diseases and defects

First aids in reading difficulties. S. W. Newmayer. 162p $2 North American ptg. co, 1029 Race st, Philadelphia '40

Lectures on motor anomalies. A. Bielschowsky. 128p pa $1 Dartmouth college publications, Hanover, N.H. '40

Manual of diseases of the eye. C. H. May and C. Worth. 8th ed rev 536p 16s Baillière, Tindall and Cox, London '39

See also
Trachoma

Examination

Eye tests in the industries; abstract. H. S. Kuhn. Science 92:sup10 O 11 '40

Fundus photography without cycloplegics. K. L. Stone and M. L. Pool. il diags Opt Soc Am J 29:463-5 N '39

How well do they see? eye examinations have important place in safety program. J. R. Wittekind. il Nat Safety N 41:22-3+ Je '40

Inspectors are born that way; tests for stereoscopic vision needed. C. A. Drake. il Factory Management 98:57+ My '40

Versatile eye-testing machine; Additive Phoroptor. il Sci Am 162:26 Ja '40

Injuries

Eyes are expensive targets. K. R. Sutherland. il Steel 105:52-3+ N 20 '39

Goggles vs. glass eyes. E. R. Granniss. il Safety Eng 80:13-14+ O '40

Priceless possessions; problems of eye injury and protection. L. Greenburg. il Nat Safety N 41:26-7+ Ja '40

Models

Mechanical model of the human eye. il Illum Eng 35:489-90 Je '40

Protection

Care of the eyes and the prevention of blindness. Pub Health Rep 55:1456-9 Ag 9 '40

Eye protection. Nat Safety N 41:6 Mr '40

Eye protection glass for welding. Elec W 114:106 Jl 13 '40

Eye protection; goggles and shields. J. W. Abrahamson. Can Min J 61:525-7 Ag '40

Guarding against rheumatism, and care for eyes and ears. Concrete (mill sec) 47:275 D '39

New eye safety film. il Safety Eng 80:23 Ag '40

Protecting eyes in industry. 18p U.S. Dept. of labor, Washington; 5c Supt. of doc. '40

Saving sight in industry. L. Resnick. Safety Eng 79:16 Ja '40

See also
Goggles

Surgery

Worth's Squint; or, The binocular reflexes and the treatment of strabismus. F. B. Chavasse. 7th ed 688p $8 Blakiston '39

EYE strain

Artificial lighting in industry; how eyestrain and fatigue affect works' output. G. V. Downer. Electrician 125:31 Jl 19 '40

Vitamin A therapy relieves eye fatigue. Nat Safety N 41:136 Mr '40

See also
Winking

EZION-GEBER

Pittsburgh of old Palestine. il maps Sci Am 162:22-4 Ja '40

F

F.O.B. (free on board)

Does F.O.B. mean favor of buyer? how the credit executive figures in freight problems. E. Rusch. Credit & Fin Management 42:22-5 N '40

FABRICS, Textile. See Textile fabrics

FACSIMILE, Radio. See Radio facsimile

FACSIMILE transmission. See Radio facsimile

FACTOR of safety

Factor of safety; its significance, purpose and shortcomings. C. O. von Dannenberg Power Pl Eng 44:65-6 Jl '40

How much safety? graphic presentation details typical methods of working out drive applications. J. N. Smith. Steel 105:70-1+ D 4 '39

Statistical methods and factors of safety: an argument for the revision of existing standards. W. T. O'Dea. bibliog Inst E E J 87:22-31; Discussion. 31-2 Jl '40

FACTORIES

Bird's-eye planning: new factor in industrial building design? protection against air raids. il diags plans Arch Rec 88:74-9 S '40

Build for permanence. W. J. Austin. il Chem Ind 45:525-7 N '39

Building types; factory buildings; design and maintenance factors, and illustrated case studies. il diag plans Arch Rec 87:81-108 F '40

Controlled comfort for workers; windowless factory of Simonds saw and steel company. il Sci Am 162:19 Ja '40

Cosmetic factory moves to the country; Northam Warren corp., Stamford, Conn. il plans Arch Rec 88:43-5 S '40

Factories for the 'forties; report to executives on materials, trends, and economies of plant design, construction, and modernization. il Business Week p41-52 Ja 27 '40

Factory for Church & Dwight, Syracuse, N.Y.; plant manufacturing baking soda; with construction outline. il Arch Forum 72:122-6 F '40

How Toledo Scale's new plant and office cuts costs. il Am Business 10:33-40 Mr '40

Johns-Manville products corporation, Jarratt, Virginia. il Paper Tr J 109:84, 86-7 N 30 '39

Less plant? what industry needs is more. J. G. Rosebush. Factory Management 98:58-9+ My '40

Le Tourneau builds frameless cellular shop. L. Hyler. il diags Eng N 125:458-60 O 10 '40

Lower costs through better buildings. il Factory Management 98:B35-B61 Ap '40

Modernism with a purpose; Church & Dwight, inc., a new baking soda plant. il Food Ind 12:48-9 Ag '40

New Georgia factory built and equipped for arc welding; Le Tourneau factory project. J. R. Morrill. il Manuf Rec 109:28-9 S '40

Plant for electric construction tool maker; Skilsaw, inc. il Eng N 124:588-9 Ap 25 '40

Porcelain enameled factory building; Ferro enamel corp. il Iron Age 144:44 D 7 '39

Skilsaw, inc. builds a new plant, offices, and research quarters. H. R. Coleman. il Heat & Ven 37:39-41 F '40

Trends in building design. W. J. Austin. il Factory Management 98:B37-B39+ Ap '40

Welded rigid-frame factory building. O. Bondy. diags Engineering 150:281-3, 321-2, 323, 330, pl 20, 23 O 11, 25 '40

What price expansion? C. A. Haynes. Am Mach 84:45 F 7 '40

Windowless plant for Diesel engines; Buda company. il plans Eng N 125:602-4 N 7 '40

See also
Airplane factories
Automobile factories
Chemical plants
Clay products plants
Cities and towns—Industries
Concrete products plants
Cotton mills
Factory management
Fertilizer factories
Food factories
Foundries
Furniture factories
Garment factories
Glass factories
Iron works
Machine shops
Metallurgical plants
Paper mills
Rayon mills
Rock products plants
Rolling mills
Rubber factories
Shoe factories
Silk mills
Steel works
Sugar factories
Textile mills
Tire factories
Water supply for factories
Woolen and worsted mills

FACTORIES—*Continued*

Accounting

ABC of the variable budget; uses of the profitgraph. A. A. Merrill. Factory Management 98:40-1 Ap '40

Budget follow-through; Talon, inc. P. K. Poulton and P. H. Goldsmith. Factory Management 98:61-3+ F '40

Budgeting for the smaller company; Seidlitz paint and varnish co. W. P. Marsh. N A C A Bul 21:1233-43 Je 1 '40

Budgeting for varying volume; Talon, inc. P. K. Poulton and P. H. Goldsmith. il Factory Management 98:54-6 Ja '40

Budgeting inventories and stabilizing employment; Talon, inc. P. K. Poulton and P. H. Goldsmith. il Factory Management 97:52-5 D '39

Case study of a standard cost system; designed primarily for full process textile plant. W. E. Perry. N A C A Bul 22:1-25 S 1 '40

Controlling tool costs. S. R. Catsiff. diags N A C A Bul 21:1149-76 My 15 '40

Cost control in conveyor production. M. D. Jarvis. Mech Handling 27:169-71 Ag '40

Depreciation and replacement of machinery. H. Gutteridge. Mech Handling 27:32 F '40

Do piping improvements pay? charts for checking probable profit on money spent for piping. A. C. Kirkwood. Heating-Piping 12:581-4 O '40

Don't expect all new equipment to pay out in three years. W. W. Gaylord. Factory Management 98:52 F '40

Economical handling methods in war-time production; statistical control which will reveal the cost and efficiency of each belt. Mech Handling 26:347-8 D '39

Finished goods inventory practice; comp. by the Research and technical service department. N A C A Bul 21:927-56 sec 3 Mr 15 '40

Function of costs in a joint-products industry. I. W. Keller. N A C A Bul 21:359-72 N 15 '39

How cost accounting increases profits. E. Caldwell. il Iron Age 145:32-5 Je 27 '40

Last-in, first-out; method of inventory valuation for income tax purposes; how it differs from first-in, first-out method. C. Reitell. Factory Management 98:55-6+ My '40

Last-in, first-out once more; a discussion of certain points raised by Professor Paton. M. E. Peloubet. J Account 69:446-50 Je '40

Must model changes mean parts losses? figure to what extent parts on hand can be profitably used up. R. F. Hurst. Factory Management 98:53-5+ O '40

Normal base stock method; a case history. R. R. Renner. N A C A Bul 22:103-26 O 1 '40

Purchases are tied to production; North & Judd manufacturing company, New Britain, Conn. W. C. Zinck. Factory Management 98:70-1+ Mr '40

Several phases of budgeting for an office appliance manufacturer; Monroe calculating machine co, Orange, N.J. S. Zweckbronner. N A C A Bul 21:727-45 F 15 '40

Standard costs for the Pioneer crayon manufacturing company. A. C. Chubbuck and C. B. Nickerson. plans N A C A Bul 21: 423-56 D 1 '39

Time in process, its effect on the economy of manufacturing; study of five tire factories. F. G. Moore. Advanced Management 5:11-15 Ja-Mr '40

See also

Budget, Business
Cost accounting
Cotton mills—Accounting
Depreciation
Inventories
Labor cost—Accounting
Overhead expense

Air conditioning

Designing industrial plants for defense. R. C. Farrington. il Heat & Ven 37:20-3 S '40

Ventilation of industrial plants; review of large-scale air-conditioning systems. J. C. Trill. il Electrician 125:135-6 S 13 '40

See also

Air conditioning, Industrial

Cleaning

Less make ready, more do for our janitors; A. C. spark plug division, General motors corp. S. J. Demarest. il Factory Management 98:86, 88 Ja '40

Scrubbers wash up cleaning costs; illustrations. Factory Management 98:84-5 My '40

Spring tonic; seasonal housecleaning. il Nat Safety N 41:14-15+ Ap '40

Cleanliness

Better housekeeping. il Nat Safety N 41:140-1+ Mr '40

Capitalize on cleanliness; C. F. Mueller co. J. E. Birdsall. il Safety Eng 80:10-12+ O '40

Clean plant is a safe plant. G. C. McCarten. il Chem Ind 45:522-4 N '39

Good housekeeping standards of atmospheric dusts. il Concrete (mill sec) 48:236-8 S '40

Housekeeping stimulants. il Nat Safety N 42:18-19+ Ag '40

Importance of a clean, safe work place; Anglo-Canadian pulp and paper mills, ltd. E. N. Baronet. il Paper Ind 22:139-41+ My '40

In the spring; factory painting and cleanliness as aid to safety. il Safety Eng 79:6-8 Mr '40

Keep it clean. Safety Eng 80:71 O '40

Keep it clean! R. D. Mudd. il Safety Eng 79: 34-7 Mr '40

Let in the light. E. L. Root. Safety Eng 79: 37 Ap '40

Steel-plate character found effective in plant safety work; Sloppy Sam. il Concrete (mill sec) 48:114 Ja '40

Electric equipment

Adequate wiring needed badly. F. Merish. Steel 107:46-8 Ag 19 '40

Application of circuit breakers for low voltage A.C. systems. C. P. West. il diag Power Pl Eng 44:58-61 My '40

Automatic control of plant capacitors. il diag Elec W 112:1626+ D 2 '39

Centralized metering for industrial plant. plan Elec W 113:1388 My 4 '40

Determination of short-circuit currents in low-voltage industrial feeders. E. F. Kubler. Gen Elec R 43:459-66 N '40

Distribution in factories; single-winding static apparatus on four-wire systems. A. L. Morris. diags Elec R (Lond) 127:129 Ag 16 '40

Don't get rough with instruments. J. H. Miller. diag Factory Management 98:90, 92 My '40

Easy to say no to high demand; limiting demand without cutting production. B. Marks. il Factory Management 98:82-3 My '40

Economical transformer standby. R. B. Bratton and E. A. Ankenman. diags Elec W 114:104 Jl 13 '40

Electric equipment. il Nat Safety N 41:99-100 Mr '40

Electrical instruments; first aid for maintenance and production. W. H. Ruehlin. il Factory Management 97:63-5 D '39

Electrical supply equipment at a wireless works. il Engineer 169:482 My 24 '40

Electricity in large factories. G. H. Buckle. Elec R (Lond) 126:454-5 Ap 19 '40

Electricity supply at a Gloucester works; Fielding and Platt. il Engineer 169:335 Ap 5 '40

Electricity's safety valves. M. A. Gimbel. il Nat Safety N 41:22-3 My '40

Essential equipment for the electrical department. C. C. Hermann. il Power Pl Eng 44: 88-9 S '40

Factory accidents; electric power and dangerous machinery. Elec R (Lond) 126:393-4 Ap 5 '40

Factory distribution; critical survey of electrical installation practice. il Elec R (Lond) 127:23-4 Jl 12 '40

FACTORIES—Electric equipment—*Continued*
Factory feeder goes through roof. il diags Elec W 114:418 Ag 10 '40
Factory maintenance. H. Greaves. Elec R (Lond) 126:677 Je 28 '40
Flexible mounting for capacitor jobs. il Elec W 114:710 S 7 '40
Improvement of works-supply power factor. Engineering 149:551 My 31 '40
Industrial applications of electricity. H. G. Weaver. Inst E E J 86:279-82 Mr '40
Junction box scheme for tapping sub-feeder; Minneapolis-Honeywell regulator company. il Elec W 114:1348 N 2 '40
Manufacturers' equipment. il Electrician 123: 456-62 N 24 '39
Motors and controllers. il Iron Age 146:49-52 O 17 '40
Power-factor correction. il Elec R (Lond) 127: 125-6 Ag 16 '40
Roof substation saves plant space; Heald machine company. il Elec W 114:1190 O 19 '40
Switchgear layout; problems for the works electrical engineer. R. T. Lythall. Elec R (Lond) 125:810-11 D 29 '39
Two ways to cut control upkeep; selection and installation of equipment. C. E. Armstrong. il Factory Management 98:53-4 Ap '40
What's new in motors and controllers. F. J. Oliver. il Iron Age 145:48-52 F 1; 36-40 My 30 '40
When you install capacitors for power factor correction. R. E. Marbury. il Factory Management 98:76-8 S '40
Your fault if insulation fails. W. H. Ruehlin. il Factory Management 98:77-8 My '40

See also
Electric driving
Electric motors
Electric tools, Portable
Electric wiring—Safety devices and measures
Factories—Lighting
Paper mills—Electric equipment
Rolling mills—Electric equipment

Equipment
Factory's catalog service. Published in monthly numbers of Factory management
Globe slicing machine company; plant at Stamford, Conn. for manufacture of meat slicers. il Factory Management 98:B56-B58 Ap '40
Industrial wastes from the equipment manufacturers' viewpoint; use of chemical, metallurgical, and sanitary engineering equipment. C. L. Knowles. il diag Ind & Eng Chem 31:1333-45 N '39
Loudspeakers keep us all in step; S. C. Johnson & son, Racine. J. Collier. il Factory Management 98:88, 90 Jl '40
Modernizing handling equipment speeds production, builds profits. F. Merish. Steel 107: 71-2, 74+ N 11 '40
New equipment; gages, small tools and accessories. il Iron Age 146:63-6 N 14 '40
New equipment; general plant accessories. il Iron Age 146:44-7 O 24 '40
New parts plant; efficient layout for handling large number of small units; Spencer lens co. il diags Steel 105:49, 52, 77-8 N 27 '39
Problem of easy maintenance; with summary of answers to a questionnaire. il plan Arch Rec 87:104-8 F '40
Shop equipment review; plant service equipment; parts and materials. il diags Am Mach 84:255-95 Ja 24 '40
Spencer lens company; plant at Buffalo for manufacture of precision parts for optical instruments. il Factory Management 98: B48-B51 Ap '40
Taking the date line off the old plant. G. A. Van Brunt. il Factory Management 98:B66+ Ap '40
What's new in heat-treating and process control apparatus. F. J. Oliver. il Iron Age 144:54-8 D 7 '39
What's new in plant service equipment. F. J. Oliver. il Iron Age 144:52-7 N 23 '39; 145: 68-71 Mr 7; 47-50 Je 27 '40

See also
Conveying machinery
Machinery, Replacement of
Mechanical handling
Power plants

Fire protection
See Fire protection

Flood protection
Let floods come, we're ready. G. R. Wescott. il Factory Management 98:73-5 Ja '40

Floors
Clearing the floor of building services; piping and conduit in tool and die shop of the Ford motor co. is under floor and in tunnels. il Eng N 124:504-5 Ap 11 '40
Floor for 100-ton machines; erecting floor; William Sellers & company. il Am Mach 84:127 Mr 6 '40
Floors for industrial purposes. R. Fitzmaurice and F. M. Lea. Inst Chem Eng Trans 17: 30-7 '39; Same. Engineer 167:197-200 F 10 '39; Discussion. Inst Chem Eng Trans 17: 37-42 '39 [for abstracts see 1939 annual]
Industrial floors of concrete. A. J. Boase. il Ind & Eng Chem 31:1435-6 N '39
Learns about floors, and tells. G. V. Clow. il Factory Management 98:96-7 F '40
Plant walkways. il Nat Safety N 41:91-3 Mr '40

Foreign branches
See Branch factories, Foreign

Grounds
Landscaping the mill property; Blandin paper company, Grand Rapids. C. H. Schacker. il Paper Ind 22:44-6 Ap '40

Heating and ventilation
Air conditioning as production tool; abstracts of papers at production conference of the American management association. il Heating-Piping 11:727-31+ D '39
C. G. Conn ltd.; band instrument manufacturer has unit heater and exhaust systems. F. A. Westbrook. il diags Heat & Ven 37: 39-40 Je '40
Does your mill have a steel chimney? utilization of chimney heat. W. F. Schaphorst. Pulp & Pa of Can 41:660 S '40
Down draft gets the dust; Monarch machine tool company's plant. il Nat Safety N 42:73 O '40
Fallacy of the square foot as a unit for factory costs. C. A. Haynes. Heat & Ven 37: 23 F '40
Gas solves the problem of industrial space heating. il Gas J (Lond) 232:22+ O 2 '40
Gas units solve factory heating problem. R. Boettinger. diags Power 84:246 Ap '40
Haughton elevator co. modernizes its heating plant; with cost data. il plan Heat & Ven 36:23-6 D '39
Industrial plant air conditioning and the national defense program. W. L. Fleisher. Heating-Piping 12:646 N '40
Industrial ventilation. il Nat Safety N 41:81-2 Mr '40
Lead poisoning; protective measures in plant manufacturing molten lead, lead oxides, white lead and lead dry-colors. F. W. Eckfeldt. il Safety Eng 80:8-10 Jl '40
Maintenance of plant air conditioning. W. E. Lowell. il Heating-Piping 12:92-3 F '40
New industrial heating unit. diags Engineer 169:143-4 F 9 '40
New plant heated by steam and hot water; Toledo scale co. il Heating-Piping 12:184, 186 Mr '40
N.Y. factories installed nearly 2,000 ventilating systems in '39. T. Hatch. Heat & Ven 37:55 My '40
No one complains about this heating plant; Pennsylvania lawn mower co. C. C. Hermann. il Power 83:763-4 D '39
Profits in air; how industrial plants promote processes and profits by scientific control of atmospheric conditions. il diags plans Heat & Ven 36:28-40 N; 17-29 D '39; 37:135-40 Ja; 25-32 F; 30-41 Mr; 33-45 Ap; 29-38 My; 31-45 Je; 51-8 Jl; 37-45 Ag; 22-30 O; 35-8 N '40
Unit heaters show cost reduction of 53 per cent; Haughton elevator co. H. W. Smith, jr. il Steel 105:74 N 20 '39
Units using Diesel cooling water heat plant; Rockford screw products co. F. A. Westbrook. Heating-Piping 12:664 N '40

FACTORIES—Heating and ventilation—*Cont.*
Warm air curtain at doors lightens heating load. H. M. Ratley. il Factory Management 98:84 N '40

See also
Air conditioning
Air conditioning, Industrial
Automobile factories—Heating and ventilation
Exhaust systems
Textile mills—Heating and ventilation

Layout

Basic plant operations improved; handling, sorting, separating and inspection by new methods and equipment devised for walnut factory. R. G. Engel. flow diag il Food Ind 12:32-4 N '40
Can change layout in an hour; making automobile seat covers; National automotive fibers, inc. H. M. Ratley. il Factory Management 98:48-9 S '40
Each order dictates its own layout; presses may be moved and lined up for straight-line flow, Acklin stamping company, Toledo. F. E. Graper. il Factory Management 98: 60-1 O '40
Efficient new plant, Toledo scale company, Toledo, Ohio. il plans Arch Rec 87:86-90 F '40
New parts plant; efficient layout for handling large number of small units; Spencer lens co. il diags Steel 105:49, 52, 77-8 N 27 '39
New scale plant; more efficient layout; Toledo scale co. il plan Steel 106:54, 56+ Ja 15 '40
Plating flexibility; finishing department of Spencer lens co. il layout Steel 106:57-8, 60 Ja 29 '40
What belongs in the methods study program. L. S. Whitson. il diags Factory Management 98:50-1 S '40

See also
Metal working plants—Layout
Workplace layout

Lighting

Allison division, General motors corporation, Speedway, Ind.; plant manufacturing airplane engines. il plans Arch Rec 87:91-5 F '40
Artificial lighting in industry; how eyestrain and fatigue affect works' output. G. V. Downer. Electrician 125:31 Jl 19 '40
Black-out and day-time conditions; wartime factory lighting during daylight working. il Electrician 125:110 Ag 30 '40
Chem. & Met. report on plant lighting. il plan Chem & Met Eng 47:35-32 Ja '40
Cleveland graphite bronze company, Cleveland; three types of lighting treatment used. il(cover) Illum Eng 35:571-2 Jl '40
Combining natural and electric lighting. J. F. Springer. il Rayon 21:113-14, 178-9, 314-15 F-Mr, My '40
Cooler foot-candles; Mazda F and RF fluorescent lamps. D. M. Warren. il Nat Safety N 42:62-3, 104 O '40
Designing a lighting system. D. Warren. il Power 84:298-301 My '40
Emergency tie for lighting service; Proctor & Schwartz & company. C. C. Hermann. il Elec W 113:1232 Ap 20 '40
Eyes have it; why vision must be protected and how to do it. D. M. Warren. il Power 84:219-20, 255 Ap '40
Facts of fluorescent lighting. R. G. Slauer. il Factory Management 98:71-4 Je '40
Fittings for industry. il Elec R (Lond) 127: 191-4 S 6 '40
Fluorescent lamps illuminate windowless factory; Simonds saw & steel co. G. K. Simonds. il Elec W 112:1744-5+ D 16 '39
General principles of satisfactory interior lighting. Electrician 123:486 D 1 '39
How good lighting can contribute to safety. R. A. Palmer. il diag Illum Eng 35:361-71 Ap '40
How to get the most out of your lights. S. H. Coleman. Food Ind 12:56 Jl '40
Industrial illumination. D. M. Warren and A. R. Finley. il diags Steel 106:36-40, 53-3 Ja 22; 51-4, 56+ Ja 29; 49-50, 52-3+ F 5; 59-61 F 12 '40
Industrial lighting for increasing production and efficiency. il Elec R (Lond) 127:11 Jl 5 '40
Industrial lighting; planning installations. A. D. S. Atkinson. il Elec R (Lond) 127:189-90 S 6 '40
It pays to keep clean; cleaning and maintenance of lighting equipment. A. K. Gaetjens. il Paper Ind 22:146-9 My '40
Light must help to go to it. il Electrician 125:3 Jl 5 '40
Lighting for the plant; with table of foot-candles recommended. il Nat Safety N 41: 96-8 Mr '40
Lighting in factories; report of Departmental committee. Gas J (Lond) 231:238 Ag 7 '40
Lighting in wartime. N. I. B. Harrison. il diag Elec R (Lond) 126:155-6 F 9 '40
Lighting spray booth from outside. il Elec W 114:1348 N 2 '40
Modern factory lighting; including special wartime requirements. 139p bibliog(p128-32) 8s 6d British electrical development assn, 2 Savoy hill, London, WC 2 '40
Modern industrial plant lighting. Mach 46:132-3 Mr '40
No rewiring with plug-in power; all power for motors and lighting is distributed through a bus-duct system, Toledo scale company. H. Schaal. il Factory Management 98:78-9 Ja '40
North-light monitors for precision manufacturing; new injector plant, Cummins engine company, Columbus, Ind. il diag plan Arch Rec 87:98-9 F '40
Paint for greater efficiency. J. A. Meacham. il Steel 107:98-100 O 14 '40
Principles and application of electric discharge lighting; with cost data. R. O. Ackerley. Electrician 124:206 Mr 15 '40
Putting daylight to work. Nat Safety N 41: 88 Mr '40
Relighting a large industry; program in the General electric company. J. M. Smith. il Illum Eng 35:692-702 S '40
Seven ways to be wrong in factory lighting. D. M. Warren. il Food Ind 12:41-3 N '40
Stop vibration, add to lamp life. J. D. Hall. il diags Factory Management 98:75-7 O '40
War time lighting. Engineer 168:590 D 15 '39
What is good lighting? recommended minimum standards for food industries. H. Reinhardt. il Food Ind 12:58-60 Jl '40
What's new in industrial lighting equipment. F. J. Oliver. il Iron Age 145:50-3+ Ap 25 '40

See also
Factories—Yards—Lighting
Machine shops—Lighting
Rubber factories—Lighting
Sheet metal shops—Lighting
Textile mills—Lighting

Location

Company and community relations. C. S. Slocombe. Personnel J 18:203-10 D '39
Doctor for sick cities; Hetz remodels unneeded plants and sells to young concerns. G. R. Reiss. il Nation's Business 28:27-9+ Ag '40
Industrial location; the reports of the Royal commission on the geographical distribution of the industrial population. Economist 138: 196 F 3 '40
Labor and the shut-down of the Amoskeag textile mills. D. Creamer and C. W. Coulter. 342p Work projects administration, Washington, D.C. '39; Review. Monthly Labor R 50:1380-4 Je '40
Location of industry and the depressed areas. S. R. Dennison. 216p $3.50 Oxford '40
Next decade in textiles; how to make money make more money through plant location. A. L. Scott. il Textile World 90:104-5 F '40
Pattern of industry in Britain. Economist 138:49-50 Ja 13 '40
Requisites for a good plant location; pictograph. Sales Management 47:50 N 15 '40

FACTORIES—Location—*Continued*
Staying in St Louis; Emerson electric manufacturing co. thanks C.I.O. unit for offer of $100,000 loan. Business Week p35-6 Mr 16 '40
To a manufacturer seeking a safe spot for a war materials plant. J. Collins. map Annalist 56:235-6 Ag 22 '40
Where new defense plants will be built, and why. R. Ginsburgh. il map Factory Management 98:42-6 S '40; Excerpts. Management R 29:367-9 O '40
Where should your new plant be built? Aviation 39:55, 120+ Ag '40
Yankee metal products corporation moved to another city. J. M. Robins. Factory Management 98:60-1 Je '40

See also
Cities and towns—Industries
Industry—Decentralization

Maintenance and repair
Bonus cuts costs, ups pay, 12%; Post products division of General foods corp. R. H. Pratt. Factory Management 98:58-9 Ap '40
Dozen heads are better than one; meetings of maintenance chiefs of Republic Steel's plants. C. W. Phillips and I. N. Tull. Factory Management 98:82-3 S '40; Same abr. Management R 29:405-6 N '40
Essential equipment for the electrical department. C. C. Hermann. il Power Pl Eng 44:88-9 S '40
Failure prevention; maintenance engineer keeps the plant in safe operating condition. E. W. Bender, jr. il Nat Safety N 41:14-15+ My '40
From a works maintenance note-book. Chem Age (Lond) 42:81-2 F 10 '40
Good electrical maintenance cuts fire hazards. G. S. Lawler. il Factory Management 98:79-81 Jl '40
Highroads to low maintenance; Caterpillar tractor company purchases best of everything; rigid standards for installation. C. E. Armstrong. il Factory Management 98:84-5 Ja '40
Maintenance 80% on incentive; time study and methods, Westinghouse East Pittsburgh plant. B. J. Stegemerten. il Factory Management 98:86-7 Mr '40
Maintenance forms. Factory Management 98:84-5 O; 82-3 N '40
Maintenance is a job for specialists. G. W. Donovan. il Factory Management 97:68-9 D '39
New life for old steel sash. S. B. Bingham. il diags Factory Management 98:75-7 Je '40
Our oilers are proud of their jobs; AC spark plug division, General motors corporation. E. J. Kelly. Factory Management 98:84-6 S '40
Problem of easy maintenance; with summary of answers to a questionnaire. il plan Arch Rec 87:104-8 F '40
Red tape gets maintenance done; Buick motor division, General motors corporation, Detroit. F. D. Elwell. il Factory Management 98:80-1 Je '40
Taking the date line off the old plant. G. A. Van Brunt. il Factory Management 98:B66+ Ap '40
We have 140 inspections for maintenance. H. L. Stackhouse. il Factory Management 98:86-8 My '40

Painting
In the spring; factory painting and cleanliness as aid to safety. il Safety Eng 79:6-7 Mr '40
Paint, a housekeeping stimulant. Nat Safety N 41:143+ Mr '40
Paint for greater efficiency. J. A. Meacham. il Steel 107:98-100 O 14 '40
We paint as needed. C. Y. Chapman. il Factory Management 98:77-8 N '40
What paint colors we use, and why; Industrial rayon corp. il Factory Management 98:94 Mr '40

Protection
Air-raid precautions in factories. Engineering 150:272 O 4 '40
Guarding against the saboteur. W. J. Barclay. il Factory Management 98:74-6 N '40

Records
Production and inventory control; Timken-Detroit axle co. S. W. Warner. N A C A Bul 22:43-65 S 15 '40
Told at a glance; control chart up-to-date; Speed products co. il Am Mach 84:495 Jl 10 '40

See also
Payrolls—Records

Roofs
Drying oven on roof is feature of enlarged finishing plant; De Foe finishing co. H. H. Slawson. il Steel 107:42, 44+ O 21 '40
Flooded-type roofs; reduce cooling load and lower construction and maintenance costs. S. H. Coleman. Textile World 90:106 O '40

Visitors
See Visitors

Yards
Better paving between tracks for industrial yards. Eng N 123:829 D 21 '39
Industrial illumination. D. M. Warren and A. R. Finley. il Steel 106:56+ Ja 29 '40
Landscaping makes the building look its best. il plan Factory Management 98:B64-B65+ Ap '40
Outdoor housekeeping. il Nat Safety N 41:22-3 Ap '40
Waste oil makes dustless plant roads. A. Van Vlissingen. Factory Management 98:92 Ja '40

Lighting
External plant lighting for safety. D. M. Diggs. il Illum Eng 35:351-60 Ap '40
Floodlighting against sabotage. D. C. Borden. Pulp & Pa of Can 41:700 S '40
Floodlighting factory grounds and buildings as means of protecting defense production. H. E. Blank, jr. il Automotive Ind 83:458-9 O 15 '40
Floodlighting your factory to prevent sabotage. il plan Food Ind 12:49-50 O '40
Lighted yards say "keep out." G. G. Bobst. il Factory Management 98:62-3 Ap '40
Protective lighting. J. A. Summers. diag Iron Age 145:41 Ap 18 '40
Protective lighting for industrial plants. J. A. Summers and D. M. Warren. il diags Steel 107:60, 62-3 Ag 26 '40
Protective lighting for industrial plants; line, fence and general yard lighting. J. A. Summers. il diag Elec W 114:846-7+ S 21 '40

FACTORS
Factoring as a means for financing sales: what it is, how it is growing. Sales Management 45:37-8+ D 1 '39
Management policies that help a business grow; Pliofilm firm; Richards, Boggs and King. E. Whitmore. il Am Business 9:18-20+ D '39

FACTORY accounting. See Factories—Accounting

FACTORY communication
$5,000 dial system worth every cent it cost us; Chicago hardware foundry co. S. A. Simonson. il Factory Management 98:100-1 F '40
Loudspeaker system wraps up the power job at RCA mfg. co. il Power 84:12-13 Ja '40
Loudspeakers keep us all in step; S. C. Johnson & son, Racine. J. Collier. il Factory Management 98:88, 90 Jl '40

FACTORY costs
How to figure the cost of a process piping shutdown. A. C. Kirkwood. diags Heating-Piping 12:87-9 F '40
Measuring cost of conveyor belt inspection. G. Lowe. Mech Handling 26:319-21 N '39
Relationship of costs to prices. P. M. Atkins. N A C A Bul 21:859-76 Mr 15 '40
What price expansion? C. A. Haynes. Am Mach 84:45 F 7 '40

See also
Factories—Accounting
Labor cost
Power cost
Sales costs

FACTORY fences. See Fences

FACTORY fire brigades

Blaze hasn't a chance; department brigades in Chrysler plants. M. R. Bowker. il Nat Safety N 41:18-19+ Ja '40

Close the gap in your fire protection system. Safety Eng 79:12, 14 Mr '40

Fire brigades. Nat Safety N 41:124+ Mr '40

Fire department of the Fort Wayne works of the General electric company. P. Grimme. In Purdue Univ Eng Extension Dept, Extension Ser 46:21-9 '40

Industrial fire fighting organizations. G. Brandt. In Purdue Univ Eng Extension Dept, Extension Ser 46:29-32 '40

FACTORY inspection

Organisation of labour inspection in industrial and commercial undertakings; report to the preparatory technical conference, Geneva, May 1939. 358p pa $2 Int. labor office '39

What do I get for my money? Interpretation of state's services to industry in the prevention of accidents and occupational diseases. W. H. Winans. Nat Safety N 41: 20-1+ Ap '40

FACTORY laws and legislation

Factories act, 1937. H. Samuels. 2d ed 702p 30s Stevens & sons, London '39

Handbook of the Factories act and Truck acts. J. Owner. 2d ed 151p $2 Pitman '39

Recent court cases; who are factory occupiers? W. Summerfield. Engineering 149:507-8 My 17 '40

Redgrave and Owner's Factories, truck and shop acts, being the 15th ed. of Redgrave's Factory acts. A. Redgrave. 1062p 30s Butterworth & co, London '39

Statute law relating to employment. F. N. Ball. 293p 10s Thames bank pub. co, Southend-on-sea, Essex, England '39

See also

Factory inspection

FACTORY management

American management association, annual production conference, Chicago, Nov. 15-16. Steel 105:70+ N 27 '39

Budgeting for varying volume; Talon, inc. P. K. Poulton and P. H. Goldsmith. il Factory Management 98:54-6 Ja '40

Budgeting inventories and stabilizing employment; Talon, inc. P. K. Poulton and P. H. Goldsmith. il Factory Management 97:52-5 D '39

Controlling tool costs. S. R. Catsiff. diags N A C A Bul 21:1149-76 My 15 '40

Economical handling methods in war-time production; factors in works' production. Mech Handling 27:40-1+ F '40

Efficiency in plant management. C. N. Moisan. Pulp & Pa of Can 41:729 O '40

Engineering administration in a small manufacturing company. C. T. Burke. Inst Radio Eng Proc 28:17-22 Ja '40

How Rival packing company's new plant speeds production; dog food factory, offices and management. il Am Business 10:33-40 Ap '40

Hudgins of Sloane-Blabon. Fortune 22.94 Ag '40

In business for myself; humorous account of foreman's difficulties. Pulp & Pa of Can 41:651-4+, 717-21 S-O '40

Industrial management. R. H. Lansburgh and W. R. Spriegel. 3d ed 666p $4.50 Wiley '40

Industrial organization and management. R. C. Davis. 636p bibliog(p623-6) $5 Harper '40

Is management to blame? F. W. Braun. il Safety Eng 80:35-6 S '40

Maintenance forms; ordering the work. Factory Management 98:84-5 O '40

Maintenance forms; requisitioning the material. Factory Management 98:82-3 N '40

Management can't be careless. B. C. Heacock. il Nat Safety N 42:10-11, 56+ Ag '40

Management in the small plant. L. M. Gilbreth. Mech Eng 61:597-8+ Ag '39; Discussion. 62:73-4 Ja '40

Managing a small plant. W. F. Dester. il Factory Management 98:59-70 Ja '40

My foremen help me manage; Standard register company, Dayton. F. W. Stein. il Factory Management 98:42-3+ Ap '40

Personnel relationships in industry. E. G. Budd. Franklin Inst J 229:545-65 My '40

Planning, estimating and rate-fixing for production engineers and students. A. C. Whitehead. 3d ed 310p $4.20 Pitman '39

Producing 1,750,000 speedometers a year; manufacturing eighteen basic types of automotive equipment; Stewart-Warner corp. J. Geschelin. il Automotive Ind 82:94-102 F 1 '40

Profits under the social security system. C. B. Bartlett. Steel 106:38-41 Ap 1 '40

Sales story for factory workers; finished products exhibited on truck to each department; American Schaeffer & Budenberg instrument division, Manning, Maxwell & Moore. E. F. Nordstrom. il Ptr Ink Mo 40:9 Je '40

Technology and labor; a study of the human problems of labor saving. E. D. Smith and R. C. Nyman. 222p $2.50 Yale univ. press '39; Review, by C. A. Myers. Mech Eng 62:23-4 Ja '40; Review, by S. Barkin. Personnel J 18:237-43 Ja '40

Training makes the foreman. G. S. Brady. Am Mach 84:125-6 Mr 6 '40

Trends in cost reduction; methods engineering; human element; training. H. B. Maynard. Advanced Management 5:26-30 Ja-Mr '40

Two million carburetors a year; Carter carburetor corp. J. Geschelin. il diags Automotive Ind 82:404-13+ My 1 '40

Two-way protection; management's responsibility for accident prevention. H. W. Heinrich. Safety Eng 79:16-18 Mr '40

Your plant and the national production; check chart. R. H. Rositzke. Factory Management 98:56a N '40

See also

Assembling methods
Bonus system
Budget, Business
Chemical plants—Management
Conveying machinery
Cost accounting
Cotton mills—Management
Efficiency, Industrial
Employees
Employees' representation in management
Employment departments
Employment management
Employment systems
Executives
Factories—Accounting
Factories—Equipment
Factories—Maintenance and repair
Foremen
Foundry management
Handling of materials
Hygiene, Industrial
Idleness, Industrial
Industrial management
Inspection
Inventories
Iron works—Management
Janitors
Job analysis
Machine shop management
Mechanical handling
Medical service, Industrial
Metal working plants—Management
Motion study
Noise
Office management
Orders
Organization in industry
Overhead expense
Packaging
Packing for shipment
Payrolls
Production and sales, Coordination of
Production control
Purchasing
Quality of products
Routing systems
Safety devices and measures
Salvage (waste, etc.)
Schedules
Shipment of goods
Spoilage
Stabilization in industry
Stores systems
Textile mills—Management
Time study
Visitors
Wage payment plans
Welding departments
Welfare work in industry

Bibliography

Production management; abstracts. Published in monthly numbers of Management review

New models

Must model changes mean parts losses? figure to what extent parts on hand can be profitably used up. R. F. Hurst. Factory Management 98:53-5+ O '40

FACTORY management—*Continued*

Quality control

Complete product protection tested and approved; packaged cereal products made insect free with aid of electrical treatment. G. E. O'Brien. il Food Ind 12:54-6 My '40

Control in modern gear manufacture. R. S. Marthens. il Iron Age 144:33-6 D 21 '39

Create jobs through quality products. E. H. Waldman. Instruments 13:22-3 Ja '40

Let employees find the answers; Michigan carton company. F. H. Stowitts. il Factory Management 98:61-3 S '40

Manufacturing methods; considerations in large-scale production. il Elec R (Lond) 126:561-3 My 24 '40

Production pace set by quality control. J. Geschelin. il Automotive Ind 83:284-95, 366-7+ O 1 '40

Quality production control in the mill. W. L. Bentley. il Rayon 20:261-2, 337, 389-90, 508-9, 650-1; 21:46-7, 160-1 My-Jl, S, N '39, Ja, Mr '40

Sampling cement materials. N. C. Rockwood. flow sheet diags Rock Prod 43:47-8, 51+ Ag '40

Standards control quality in optical manufacture; American optical company. W. H. Lehmberg. il Ind Stand 11:249-51 O '40

Statistical method from the viewpoint of quality control. W. A. Shewhart. 155p $2.50 Graduate school, Dept. of agriculture, Washington, D.C. '39; Review, by L. C. Young. Mech Eng 62:475-6 Je '40; Review, by J. Gaillard. il Ind Stand 11:109-18 My '40

Statistical methods and factors of safety: an argument for the revision of existing standards. W. T. O'Dea. bibliog Inst E E J 87: 22-31; Discussion. 31-2 Jl '40

Statistics and engineering practice. B. P. Dudding and W. J. Jennett. bibliog Inst E E J 87:1-15; Discussion. 15-21 Jl '40

Success in byproduct production demands quality control; illustrated in manufacture of casein. J. Chrisman. flow diag il Food Ind 12:45-7+ Ag '40

What quality control means. T. H. Butterworth. il Food Ind 11:684-6 D '39

See also
Inspection

FACTORY sanitation

Evaluation of the industrial hygiene problems of Illinois. 258p Illinois. Dept. of public health, Division of industrial hygiene, Chicago '39

In the spring; factory painting and cleanliness as aid to safety. il Safety Eng 79:6-8 Mr '40

It's wash-up time. A. W. Herdman. il Nat Safety N 42:64-5+ O '40

Plant sanitation. W. E. Obetz. Safety Eng 80:37-8 S '40

Sanitation and health. G. Swatek. il Safety Eng 79:47-8 Ap '40

Typical problem in industrial sanitation; preparation of hatters' fur. J. J. Bloomfield. il Am Soc C E Proc 65:1484-99 N '39; Discussion. 66:363-5, 369-70, 1097-1100, 1317-18 F, Je, S '40

Washrooms and locker rooms. il Nat Safety N 41:141-2 Mr '40

See also
Drinking fountains
Dust
Factories—Cleaning
Factories—Painting
Factory inspection
Food factories—Sanitation
Lavatories
Trade waste

FACTORY transportation

Cut down handling costs; efficient trackage system provides straight line production of brick and block; Southern concrete products co. R. S. Torgerson. il plan Rock Prod 43: 63, 65 S '40

Handling built-to-order; transportation system utilizes only three basic units; R. G. LeTourneau. W. J. Brooking. il Steel 107:52-3, 79 Jl 8; 48, 50+ Jl 15 '40

Inter-plant handling; new 5-way bridge, Mansfield, Ohio, plant of Westinghouse electric & mfg. co. C. L. Van Derau. il Steel 107:48+ Jl 1 '40

See also
Conveying machinery
Electric trucks, Industrial
Handling of materials
Mechanical handling
Monorail conveyors
Motor trucks, Industrial
Tractors, Industrial
Trucks

FACTORY visitors. See Visitors

FACTORY waste. See Trade waste

FACTORY yards. See Factories—Yards

FADING. See Dyes, Fastness of

FAHIE, John Joseph, 1846-1934

Short account of the life and work of John Joseph Fahie. E. S. Whitehead. 112p bibliog(p109-10) 7s 6d Hodder & Stoughton, London '39

FAIR labor standards act. See Labor laws and legislation—United States

FAIR trade laws. See Price fixing, Resale

FAIRBAIRN, John Morrice Roger, 1873-

Sketch. por Civil Eng 10:59-60 Ja '40

FAIRBANKS, Morse and company

Likely to set new earnings record this year. S. Devlin. il Mag of Wall St 66:91-3+ My 4 '40

Thumbnail stock appraisal. Mag of Wall St 67:156 N 16 '40

FAIRCHILD aircraft corporation

Fifteen years of Fairchild progress. il Aero Digest 37:141-2+ O '40

FAIRLESS, Benjamin F. 1890-

Boys, you take it from here, said Myron Taylor to Stettinius, Fairless, and Voorhees. por Fortune 21:64-7+ Mr '40

FAIRS

Business goes to the county fair. H. Botsford. Barron's 20:20 Ap 1 '40

FAJARDO sugar company of Porto Rico

Annual report to the stockholders for 1940. Comm & Fin Chr 151:2673 N 2 '40

FALL, Henry Clinton, 1862-1939

Sketch. T. D. A. Cockerell. Science 90:609 D 29 '39

FALLING bodies

Maximum beam stress and deflection from falling bodies. R. Fleming. Can Eng 77: 10+ D 19 '39

Terminal velocities. H. Chatley. Engineering 149:6-7 Ja 5 '40

FALLS

Falling down on the job. E. N. Goldstine. il Nat Safety N 41:24-5 F '40

How a coordinated attack can help control accidents resulting from slips and falls. C. Ainsworth. il Ind Stand 11:128-33 My '40

Safety device against shock to falling persons. diags Engineering 149:183-4 F 16 '40

Stay on your feet! H. W. Mowery. il Safety Eng 80:13-14 Jl '40

See also
Safety belts
Scaffolding—Safety devices and measures

FAMILY

Changing role of the family. J. K. Folsom. bibliog Ann Am Acad 212:64-71 N '40

Economic basis for child welfare. W. Hodson. Ann Am Acad 212:59-63 N '40

Families and how they live; Printers' Ink market explorations (cont). maps Ptr Ink 189:sup 1-32 D 29 '39; 190:sup 1-44 F 2; sup 1-28 F 23; sup 1-36 Mr 29; sup 1-32 Ap 26; sup1-35 My 31 '40

Family and community in Ireland. C. M. Arensberg and S. T. Kimball. 322p $3.50 Harvard univ. press '40

Family and its social functions. E. R. Groves. 631p $3.50 Lippincott '40

Family counseling service in a university community. M. G. Benz. 125p bibliog(p123-4) $1.60 Teachers college '40

$1500 preferred families, the 100,000 group of city-counties. Sales Management 46:10, 36 Ap 10 '40

FAMILY—*Continued*
Marriage and family problems and how to solve them. J. J. Anthony. 273p $1.98 Doubleday '39
Marriage market is steady; pictograph. Sales Management 45:38 D 15 '39

See also
Budget, Household
Home economics
Home labor
Husband and wife

FAMILY, Size of
Economic status of large urban families; income as related to number of children under 16. Monthly Labor R 50:66-8 Ja '40
Income, family size, and the economic level of the family. Monthly Labor R 50:115-34 Ja '40

FAMILY allowances
Allowances to families of mobilised men in Sweden. Int Labour R 42:155-6 Ag-S '40
Family allowances for mobilized men. Monthly Labor R 49:1362-8; 50:601-4, 843-4 D '39, Mr-Ap '40
Family allowances for soldiers in the Soviet Union. Monthly Labor R 50:328 F '40
Family allowances in Hungary. Monthly Labor R 50:360-1 F '40
Family allowances in Spanish agriculture. Monthly Labor R 51:457-8 Ag '40
Family allowances in the United States army and navy in the World war. Monthly Labor R 51:454-5 Ag '40
Family allowances to men in armed forces of New Zealand Monthly Labor R 51:32 Jl '40
Increase in working hours and family allowances in Italy. Monthly Labor R 50:57-8 Ja '40
Increased family allowances in Italy. Monthly Labor R 50:1165-7 My '40
Increases in family allowances for British soldiers. Monthly Labor R 50:325-6 F '40
Netherlands family allowance act, 1939. Monthly Labor R 51:455-7 Ag '40
Recent developments in compulsory systems of family allowances. C. Hoffner. Int Labour R 41:337-60 Ap '40
Recent developments in the family-allowance movement. Monthly Labor R 50:867-8 Ap '40

FAMILY budget. See Budget, Household

FAMILY income. See Income

FAMILY of products
How we put over a product whose price was ten times too high; Pignose faucet washer gets national distribution. K. Hill. il Sales Management 46:29-30, 32 F 15 '40
Shell specialties are now one big family. C. J. Cunneen. il Chem Ind 47:414-15 O '40

FANS, Mechanical
Automatic control of central fan systems for winter operation. R. F. Erickson. bibliog diags W Soc E J 45:59-78 Ap '40
Duct pressures; their correct interpretation. F. F. Kravath. diags Heat & Ven 37:19-22 F '40
Dust laboratory studies fan-abrasion problem. R. L. Lincoln. il diag Power 84:734-5 N '40
Having drying troubles? clay products manufacture. L. R. Whitaker. Brick & Clay Rec 97:31-2 S; 27-8+ O '40
How Sturtevant develops sales talent in tech school grads. Sales Management 46:44+ My 1 '40
Mechanical efficiencies of similar fans and pumps. G. G. McDonald. Engineer 169:458 My 17 '40; Discussion. J. Jennings. 169:519 Je 7 '40; Reply. 169:574 Je 28 '40
Reducing fan speed. Power 84:318 My '40
Seventeen fans line top flue of unique tunnel dryer; Brookhaven pressed brick & mfg. co. il diag Brick & Clay Rec 97:26-7 N '40
Take it from a trouble shooter; troubles can be avoided. L. G. Humphrey, jr. il Power 84:39-40 Ja '40
Vortex casing for an experimental fan. G. G. McDonald. diag Engineer 169:379 Ap 19 '40
Worm gears save space for draft-fan drive. E. J. Morgan. il plan Power 83:735 D '39

See also
Blowers
Electric fans, Ventilating
Fans, Mine

Design
Development in design of boilers and boiler house auxiliaries. A. Pollitt. Engineer 169:405 Ap 26 '40
New design stack booster fan cuts power cost in half. il Brick & Clay Rec 97:26 O '40
Theory of screw fans. W. R. Crawford. Engineer 170:150-2, 166-8 S 6-13 '40

Manufacture
Flaming the fans; fans for portable tools assembled by bronze welding. J. E. Taylor. il diags Am Mach 83:1030-1 D 13 '39

Testing
U-tube manometer for fan testing. G. G. McDonald. diags Engineer 170:48-9 Jl 19 '40

FANS, Mine
Davidson axial-flow compressed-air driven fans. il Engineering 149:561 Je 7 '40
Fan shaft built up in place by metallizing process. F. F. MacWilliams. il Coal Age 45:95 F '40
Shaft-bottom fans still hold replacement advantages; answers to objections. R. Mancha. il diags Coal Age 45:51-3 My '40
Sirocco screw fan for mine ventilation. il diags Engineer 168:515-17 N 24 '39
Synchronous-motor fan drive is new package unit. il Coal Age 45:87-8 Ap '40

FAR EAST
Far East in world politics; a study in recent history. G. F. Hudson. 2d ed 276p $3 Oxford '39
Red star behind the Rising Sun. il map Business Week p44-6 Ja 13 '40

See also
China
Japan

Bibliography
Northeastern Asia, a selected bibliography. R. J. Kerner. 2v $26 Univ. of California press, Berkeley '39

Commerce
Far East may reshape world trade; economic realignment would result from Japanese seizure of Dutch islands. Business Week p51-2 Ag 10 '40
Far Eastern commodities; expansion of Axis affects outlook. Barron's 20:6 O 7 '40
Trade review of the Far East at the end of 1939. Comm Rep p1207-8 D 23 '39

FAR EASTERN question
America holds the balance in the Far East. R. W. Barnett. 44p pa 25c American council, Inst. of Pacific relations, 129 E. 52d st, New York '40
Far Eastern adjustments and the United States. P. C. Jessup. Ann Am Acad 210:107-14 Jl '40
Open door policy and world peace. V. K. W. Koo. 24p pa 35c Oxford '39
Our future in Asia. R. A. Smith. 306p $3 Viking press '40
Policy of the United States in the Far East. E. B. Schumpeter. Ann Am Acad 210:98-106 Jl '40
Positive American action in the Far East. N. Peffer. Ann Am Acad 210:115-18 Jl '40

FARE registers
Fare box testing. il diag Bus Transportation 19:16 Ja '40

FARES. See Air lines—Fares; Motor bus lines—Fares; Railroads—Fares

FARIBAULT, Minnesota

Water supply
Faribault pumping station. il plan Pub Works 71:14-16 Je '40

FARISH, William S.
Portrait. Fortune 21:62 Je '40

FARLEY, James A. 1888-
Resigns as postmaster general. Comm & Fin Chr 151:786-7 Ag 10 '40

FARM accidents
Farm accidents in Alabama, 1932 to 1938. J. N. Baker. Monthly Labor R 51:108-11 Jl '40

FARM accidents—*Continued*
Safety's forgotten man; farm accidents and work of Kansas safety council. J. C. Mohler. il Nat Safety N 41:17-18+ F '40

FARM buildings
Concrete walls eliminate condensation in dairy buildings. G. B. Hanson. diags Concrete 48:16+ Ag '40
Design decade; general production farm in the Middle West. plans Arch Forum 73:232-3 O '40
Farm building plans popular in region 1-W; list of plans available, Structural clay products institute. il plan Brick & Clay Rec 96:37-8 F '40

See also
Barns and stables
Dairies
Farmhouses
Silos

FARM camps
Young partners with Henry Ford; Camp Legion for underprivileged boys. W. A. Scotten. il Nation's Business 28:30, 32+ F '40

FARM credit administration
Agricultural finance in the United States. H. W. Torgerson. bibliog J Land & Pub Util Econ 16:318-24 Ag '40
FCA changes raise question as to farm credit policies. Burroughs Clearing House 24:18-19+ F '40
Future of farm credit; loss of independent status of the land banks and the Farm credit administration. E. M. Ehrhardt. Banking 32:32-3 Ap '40
Liberalization of Farm credit act approved by Secretary Wallace. Comm & Fin Chr 150:2018-19 Mr 30 '40
Loans and discounts outstanding, by institutions, Nov. 1938-Nov. 1939. Fed Res Bul 26:44 Ja '40 [cont monthly]
Loans and repayments in 1939. Comm & Fin Chr 150:373-4 Ja 20 '40
Political mortgages? farmers dubious about Jones' bill. Business Week p 16-17 Ap 13 '40
Secretary of agriculture Wallace explains farm credit policies. Comm & Fin Chr 150:2506-7 Ap 20 '40
Secretary Wallace asks Senate approval of Farm credit bill. Comm & Fin Chr 150:3756 Je 15 '40
Straight lane to socialism; Jones-Wheeler farm credit bill. H. Corey. il Nation's Business 28:15-17+ Je '40
Threat of socialized credit; implications of the Jones bill and the FCA controversy. A. W. Atwood. Banking 32:19-22 My '40

FARM houses. See Farmhouses

FARM income
Agricultural situation, March, 1940; developments since the last war. J. D. Black and N. Boddy. R Econ Statis 22:53-73 My '40
Cash farm income and government payments in 1939. Comm & Fin Chr 150:907 F 10 '40
Cash farm income from marketings in 1939 estimated at $7,625,000,000. Comm & Fin Chr 149:3939 D 23 '39
Cash income from farm marketings in January reported by Bureau of agricultural economics. Comm & Fin Chr 150:1510 Mr 9 '40 [cont monthly]
Cash income from farm marketings, 1936-1940. Survey of Cur Business 1940 Sup p10 [supplemented in monthly numbers]
Farm income up. Business Week p28+ N 2 '40
Farmers' dismay over drop in prices offset by calm assurance over subsidies. C. M. Harger. Annalist 55:717 My 23 '40
Gross farm income in 1938 and 1939. Comm & Fin Chr 151:169 Jl 13 '40

FARM labor
Adrift on the land. P. S. Taylor. 31p bibliog(p32) pa 10c Public affairs committee, New York '40
Agricultural situation, March, 1940; output per worker. J. D. Black and N. Boddy. R Econ Statis 22:60-3 My '40
Agricultural wages in France, 1938. Monthly Labor R 50:734-5 Mr '40
Agricultural workers' health and medical association, California, provides medical service for migratory workers and their families. R. G. Leland. Monthly Labor R 51:333-7 Ag '40
American exodus; a record of human erosion. D. Lange and P. S. Taylor. 158p $2.75 Reynal & Hitchcock, New York '40
Average monthly and yearly wages of farm workers in Canada, 1929, 1933, and 1936 to 1939; tabulation. Monthly Labor R 51:192-3 Jl '40
California replies to Steinbeck; State chamber of commerce offers program stressing need for rehabilitation and adequate housing. Business Week p17 My 11 '40
Changes in technology and labor requirements in crop production; vegetables. J. C. Schilletter, R. B. Elwood and H. E. Knowlton. 131p Work projects administration. Washington, D.C. '39
Family allowances in Spanish agriculture. Monthly Labor R 51:457-8 Ag '40
Farm-city migration and industry's labor reserve. F. M. Vreeland and E. J. Fitzgerald. 67p Work projects administration, Washington, D.C. '39
Farm wage rates and employment, July 1940; farm wage rates by geographic divisions, 1910-14 average, July 1939, April 1940, and July 1940. Monthly Labor R 51:726-8 S '40
Farm wage rates, without board, quarterly, 1923-38. Survey of Cur Business 19:18 N '39
Government camps for agricultural workers. Monthly Labor R 50:625-7 Mr '40
Labor conditions in agriculture in east Prussia, Germany. Monthly Labor R 51:313-14 Ag '40
Labour problems on European farms in South Africa. bibliog Int Labour R 40:848-57 D '39
Meeting of the American members of the Permanent agricultural committee, Havana, Nov. 21-Dec. 2, 1939. Int Labour R 41:269-75 Mr '40
Minimum wage for British agricultural workers. Monthly Labor R 51:418-19 Ag '40
Shortage of agricultural labour in Latvia. P. Starcs. Int Labour R 40:768-78 D '39
Social legislation in wartime; the problem of agricultural labour. Int Labour R 42:95-107 Ag-S '40
Wage rates and employment on farms, 1929 to April 1940. Monthly Labor R 51:183-7 Jl '40
Wage workers and sharecroppers on Mississippi plantations. E. L. Langsford and R. H. Thibodeaux. Monthly Labor R 49:1104-6 N '39
Wages in agriculture. Economist 138:267-8 F 10 '40
Wages of farm workers in Sweden, 1938 and 1939. Monthly Labor R 50:735 Mr '40

See also
Cotton pickers
Cotton workers
Sugar workers

FARM life
Country relics; an account of some old tools and properties once belonging to English craftsmen and husbandmen saved from destruction and now described with their users and their stories by H. J. Massingham; drawn by Thomas Hennell. 210p 15s Cambridge univ. press, Cambridge, Eng. '39
On Medlock farm. H. Tetlow. 272p $2.50 Morrow '40
Teamsman. C. Porteous. 282p $2.50 Oxford (Toronto) '39
What's ahead for rural America; proceedings of the twenty-second American country life conference. 172p $2 Univ. of Chicago press '40

FARM loans. See Agricultural credit

FARM machinery. See Agricultural machinery

FARM management
Five acres and independence; a practical guide to the selection and management of the small farm. M. G. Kains. rev & enl ed 401p bibliog(p340-4) $2.50 Greenberg, New York '40

FARM management—*Continued*
Practical farming for beginners. H. A. Highstone. 199p $2.50 Harper '40
Small borrower becomes a large borrower; encouraging a farmer to develop his business. J. V. Tuttle. Bankers Mo 57:347+ Je '40

See also
Farm labor
Plowing

FARM market
Agriculture; review and prospects. R. G. Bingham. Iron Age 145:134-6 Ja 4 '40
New automotive type tractors expand farm motor fuel market. il Nat Pet N 32:35-7 Ja 24 '40
100,000 farmers at Wichita's big tractor and equipment show see bright 1940. A. M. Howe. il Ptr Ink 190:17-19 Mr 1 '40
Sales of Kansas salt grow as direct mail reaches 10,000 jobbers and dealers; Carey salt company. C. J. Swan. il Ptr Ink 189: 17-20 N 24 '39
Selling the farmer. T. V. Houser. Edison Elec Inst Bul 8:159-61+ Ap '40
Spread of mechanized farming creates huge market for gas, oil and grease, survey shows. il Sales Management 46:25-6 My 1 '40
Value of Canadian field crops. Annalist 55: 12 Ja 4 '40
What's ahead in 1940? agriculture. il Steel 106:166-8 Ja 1 '40

See also
Advertising—Farmers, Appeal to
Farm income
Farm population
Plumbing trade—Farm market
Refrigeration on farms
Tires, Tractor

FARM mortgages. See Mortgages, Farm

FARM population
Farm families and farms by states; Alabama, Florida, Georgia, Louisiana, Mississippi and South Carolina. Ptr Ink 190:sup36-40 F 2 '40
Farm families and farms by states; Arizona, California, Idaho, Nevada, Oregon, Utah, Washington. Ptr Ink 191:sup32-3 My 31 '40
Farm families and farms by states; Arkansas, Colorado, Kansas, Missouri, Nebraska, Wyoming. Ptr Ink 190:28-34 Mr 29 '40
Farm families and farms by states; Illinois and Wisconsin. Ptr Ink 189:sup28-9 D 29 '39
Farm families and farms by states; Iowa, Minnesota, Montana, North Dakota and South Dakota. maps Ptr Ink 191:sup24-9 Ap 26 '40
Farm families and farms by states; Kentucky, North Carolina, Tennessee and Virginia. Ptr Ink 189:sup30-3 N 24 '39
Farm families and farms by states; New Mexico, Oklahoma and Texas. Ptr Ink 190: sup24-7 F 23 '40

FARM produce
British-American trade agreement; effect on California agriculture. J. W. Tapp. Special Lib 30:344-7 D '39
European war's economic weapons weaken United States farm export position. Comm & Fin Chr 150:42 Ja 6 '40
Extension of war to Netherlands and Belgium threatens important market for United States agricultural products. Comm & Fin Chr 150:3138 My 18 '40
Freezing foods on the farm. D. K. Tressler. Refrig Eng 40:30-1 Jl '40
Frozen foods affecting farmers; packers' contracts with farmers. S. M. Udden. Refrig Eng 39:99 F '40
Gains to American farmers under reciprocal trade program pictured by Secretary Wallace; comments on producers' certificate plan. Comm & Fin Chr 149:3952-3 D 23 '39
Surpluses boosted; loan programs support prices. Barron's 20:6 S 16 '40

See also
Beets and beet sugar
Butter
Corn
Cotton
Dairy products
Fruit
Grain
Live stock
Rice
Soybeans
Sugar
Tobacco
Vegetables
Wheat
also Federal surplus commodities corporation

Advertising
Ads aiding farmers; nine states now promoting their own products. Business Week p29 Mr 16 '40
State advertising of farm products. B. Hibbs. il Adv & Sell 33:19-21+ Ja '40

By-products
Destructive distillation of agricultural wastes. P. B. Jacobs. bibliog il diags Ind & Eng Chem 32:214-26 F '40

See also
Bagasse
Corn products

Grading
Artificial daylighting studies for use in grading agricultural products. D. Nickerson. bibliog il diag Illum Eng Soc Trans 34: 1233-50; Discussion. 1250-3 D '39

Industrial uses
Alcohol-gasoline proposal. C. Reynolds. Am Pet Inst Proc 20(AT):51-5 '39
Chemurgic conference, 6th, Chicago, March 27-29. Oil Paint & Drug Rep 137:5+ Ap 1 '40
Chemurgic plastics. R. D. McMillen. il Manuf Rec 108:22-3+ D '39
Chemurgical highlights. Chem & Met Eng 47: 240 Ap '40
Farm chemurgy advocated for relief of agriculture before a committee of House Republicans. Oil Paint & Drug Rep 137:5+ Ja 15 '40
Farmer joins industry; industrial use of crops through chemurgy making rapid progress. C. M. Macko. Barron's 20:7 Mr 25 '40
Industrial outlook for soybeans. A. A. Horvath. il diag Manuf Rec 109:36-7 Je '40
Industrial utilization of southern farm crops. H. G. Knight. il Manuf Rec Extra no 109: 44-6 S '40
Industry can use all agricultural surplus. W. J. Hale. Comm & Fin Chr 150:926 F 10 '40
Utilization of industrial wastes. H. E. Howe and F. J. Van Antwerpen. Ind & Eng Chem 31:1328-9 N '39
War spurs chemurgy. Business Week p34-5+ Ap 6 '40

Marketing
Cooperative marketing of fleece wool. J. M. Coon. il diags maps U S Farm Credit Administration Bul 33:1-84 '39
Guaranty trust co. of New York finds outlook for export trade in United States farm products impaired by European war developments. Comm & Fin Chr 151:483 Jl 27 '40

See also
Marketing, Cooperative
also Associated farmers of the Pacific coast

Prices
Cost of living and prices received by farmers, 1936-1939. Survey of Cur Business 1940 Sup p11 [supplemented in monthly numbers]
Divergent movements in commodities, April-June 1940; charts. Business Week p28 Je 15 '40
Farm product prices reported by Department of agriculture; mid-December summary. Comm & Fin Chr 150:188 Ja 13 '40 [cont monthly]
Next year's farm price outlook; Agricultural economics bureau expects higher levels. Barron's 20:6 O 28 '40

Standards
Agricultural marketing service does government's agricultural standards work. Ind Stand 10:302 D '39

Statistics
Agricultural marketings; quantities marketed, 1936-1939. Survey of Cur Business 1940 Sup p9-10

FARM produce—Statistics—*Continued*
European war reduces United States farm exports other than cotton; agricultural imports increased. Comm & Fin Chr 151:2270-1 O 19 '40
War and our farm exports. Barron's 20:20 Mr 4 '40

Storage

Successful farm refrigerator fills many uses. F. Erbach. il diags Refrig Eng 39:361-3 Je '40

Transportation

Down-to-earth facts on produce trucking. C. M. Hardin and T. K. Cowden. Ry Age 109: 515 O 12 '40
Farmer and the highways. F. Johnson. Am Pet Inst Proc 20(AT):34-7 '39
Fast service for southeast Texas; efficient handling of perishables. il maps Ry Age 108:449-50+ Mr 9 '40

FARM relief. See Agriculture—United States—Farm relief

FARM security administration
Housing under Farm security administration. Monthly Labor R 49:636-7 S '39
Insurance bids made minus list of risks. East Underw 41:24 N 8 '40; Nat Underw 44:6 N 7 '40

FARM shops. See Workshops, Farm

FARM tenancy
Wage workers and sharecroppers on Mississippi plantations. E. L. Langsford and B. H. Thibodeaux. Monthly Labor R 49:1104-6 N '39

Bibliography

Farm tenancy in the United States, 1937-1939. J. M. McNeill, comp. 160p U.S. Bur. of agricultural economics, Washington '40

FARM women
Mothers of the South; portraiture of the white tenant farm women. M. J. Hagood. 252p $2 Univ. of North Carolina press, Chapel Hill '39

FARMER, Clyde C.
Railroad researchers named "Modern pioneers"; dinner meeting sponsored by National association of manufacturers. por Ry Age 108:295-6 F 10 '40

FARMERS
Farm workers. A. V. Keliher, ed. (Picture fact books) 56p $1 Harper '40
President Roosevelt signs bill extending time in which farmers may file under Bankruptcy act. Comm & Fin Chr 150:1857 Mr 23 '40
32,000,000 farmers; only 2 per cent of the world's farm population, they have made of the U.S. the world's greatest agricultural producer. il Fortune 21:68-71+ F '40

See also
Advertising—Farmers, Appeal to
Agricultural credit
Agriculture—Economic aspects
Farm income
Farm labor
Farm market
Marketing, Cooperative
also Associated farmers of the Pacific coast

FARMERS' cooperative associations
Cooperative purchasing by Indiana farmers through federated county farm bureau associations. G. M. Francis. (Bul. no. 38) 84p Farm credit administration, Cooperative research and service division, Washington, D.C. '40
Farmers' cooperative purchasing, 1913-39. Monthly Labor R 50:665-6 Mr '40

See also
Power alcohol cooperative association

Accounting

Audits of agricultural cooperatives. W. L. Bradley. J Account 70:25-32 Jl '40

FARMERS' markets. See Markets, Farmers'

FARMHOUSES
Agriculture has engineering problems in heating and ventilating. F. B. Lanham. Heating-Piping 11:769-70 D '39
Farm hut-clearance; USHA plans to extend program to rural areas. Business Week p16-17 D 23 '39
Illinois barn becomes house. il diags plans Arch Rec 87:98-101 My '40
New England farmhouse brought up to date. il plans Arch Rec 87:102-3 My '40
Private utilities for rural homes. il diags Arch Forum 71:469-72 D '39

FARMS
Bureau of agricultural economics reports marked decrease in farms lost through foreclosures and tax sales in last five years. Comm & Fin Chr 149:3646 D 9 '39
Extended functions for institutional landowners; rehabilitation of farm land taken in satisfaction of mortgage debt. C. L. Stewart. J Land & Pub Util Econ 16:357-62 Ag '40
Farm families and farms by states; Arizona, California, Idaho, Nevada, Oregon, Utah, Washington. Ptr Ink 191:sup32-3 My 31 '40
Farm families and farms by states; Iowa, Minnesota, Montana, North Dakota and South Dakota. Ptr Ink 191:sup24-9 Ap 26 '40; Correction. 191:74 My 10 '40
Graduated farm land transfer stamp tax for checking speculative booms in land values. J. A. Baker. J Land & Pub Util Econ 16: 21-9 F '40

See also
Agriculture
Electricity on the farm
Farm population
Farm tenancy
Farmers

Valuation

Farm appraisal. W. G. Murray. 254p $2.25 Collegiate press of Iowa State college, Ames '40

FARMS for industrial workers
Mill worker takes on farming; voluntary exodus to adjacent rural district from West Point mfg. co. towns. F. Tillery. il Textile World 90:51 Ag '40
Part-time subsistence farming. Monthly Labor R 49:623-8 S '39
Self-help cooperative housing; Penn-Craft community. Monthly Labor R 49:566-75 S '39

FARNSWORTH, Philo Taylor, 1906-
Personalities in science. por Sci Am 162:69 F '40

FARRAND, Livingston, 1867-1939
Sketch. T. Parran. Science 90:583-4 D 22 '39

FARREN-wall. See Walls, Brick

FASCISM
Deficiency delusion; abstract. H. B. Kirshen. Trusts & Estates 71:168 Ag '40
Freedom or fascism? 56p bibliog(p53) pa 25c Yale univ. press '40
Neither liberty nor bread; the meaning and tragedy of fascism. F. Keene, ed. 388p bibliog(p375-88) $3.50 Harper '40
Repudiation of gold standard responsible for rise in totalitarianism. M. J. Bonn. Comm & Fin Chr 149:3349 N 25 '39
Trojan horse in America. M. Dies. 366p $2.50 Dodd '40
War of nerves: Hitler's helper; Mussolini aims to win five million Italo-Americans for fascism. il Fortune 22:85-7, 108+ N '40
Where do we go from here? H. J. Laski. 192p $1.75 Viking press '40

FASHION
America is in fashion. H. S. Marcus. il Fortune 22:80-4+ N '40
America, refuge for fashion. M. B. Clark. il Textile World 90:72-3 S '40
Celanese takes lead in presenting American trend fashions. A. Perkins. il Rayon 21:601-2 O '40
Design piracy; legal, social, and economic aspects. K. D. Hutchinson. Harvard Business R 18 no 2:191-8 [Ja] '40; Abstract. Management R 29:47-8 F '40
Fashionating state of flux; how the fabric maker can fit his plans into America's new fashion role. M. B. Clark. il Textile World 90:58-9 O '40
Los Angeles becomes style center. il Business Week p42+ S 14 '40

FASHION—*Continued*
Plastic modes; shoes, ornaments, etc. il Mod Plastics 18:40-2 S '40
U.S. new style center. Business Week p26+ Ag 3 '40
Where are women's fashions coming from? Barron's 20:5 Ag 26 '40
See also
Clothing and dress
Costume

FASHION (periodical)
Introducing Fashion. il Business Week p31-2 Jl 27 '40

FASTENINGS
College boys are zippered up; Princeton votes; pictograph. Sales Management 47:33 O 20 '40
Fastening device nails metal parts together; Speed clip. il Iron Age 144:27 D 28 '39
Fastenings for die-cast parts. diags Mach 46:125-7 Ag '40
Strain-bearing panel system; Permagrip fastening method of making stressed-skin structures applicable to auto, truck and railroad car bodies, etc. E. Schaefer. diags Steel 106:52, 54+ F 26 '40
United-Carr develops new cowl fastener. diags Aero Digest 37:168 N '40
Wire stitching steel. Mech Eng 62:404-5 My '40
See also
Bolts and nuts
Rivets
Screws

FASTNESS of dyes. See Dyes, Fastness of

FAT
Effects of a beef liver fraction upon fat synthesis in rats. E. W. McHenry and G. Gavin. bibliog Science 91:171 F 16 '40
Haltbarkeit von rinder- und schweinefettgeweben bei tiefen temperaturen. F. Kiermeier. V D I 84:71 F 3 '40
See also
Oils and fats

FATIGUE
Artificial lighting in industry; how eyestrain and fatigue affect works' output. G. V. Downer. Electrician 125:31 Jl 19 '40
Industrial fatigue and efficiency; use of gelatin and of salt; abstract. D. B. Dill. Management R 28:388-9 N '39
Thief of time. Nat Safety N 41:144 Mr '40
See also
Eye strain
Motion study
Posture
Recreation
Relaxation
Rest periods

FATIGUE in metals
American society for testing materials meeting; fatigue and corrosion-fatigue discussed. Metal Finishing 38:441 Ag '40
Beeinflussung der lebensdauer wechselbeanspruchter teile durch ruhepausen. K. Daeves, E. Gerold and E. H. Schulz. Stahl & Eisen 60:100-3 F 1 '40
Effect of service stresses on impact resistance, X-ray diffraction patterns, and microstructure of 25S aluminum alloy. J. A. Kies and G. W. Quick. bibliog il diags U S Nat Advisory Com for Aeronautics 1939:343-64 '40
Der einfluss von betriebspausen auf die zeit- und dauerfestigkeit metallischer werkstoffe. F. Bollenrath and H. Cornelius. il diags V D I 84:295-9 My 4 '40
European developments in the study of impact and fatigue in structures. F. H. Frankland. bibliog Civil Eng 10:208-10 Ap '40
Factors in the fatigue of helical springs. R. R. Tatnall. il Mech Eng 62:289-92 Ap '40; Same. Engineering 150:36-7 Jl 12 '40; Discussion. Mech Eng 62:752-5 O '40
Failure of press tools under fatigue and impact. C. E. Bretney. il diags Metal Prog 36: 751-4 D '39
Fatigue endurance of killed, capped and rimmed steels. J. F. McDowell. il Metals & Alloys 11:27-32 Ja '40
Fatigue failure; effects of stress raisers on the fatigue strength of metals and alloys; correlated abstract. G. Sachs. bibliog il diag Iron Age 146:31-4 S 5; 36-40 S 12 '40
Fatigue in aircraft; composite of abstracts. Metals & Alloys 11:MA150+ Mr '40
Fatigue machines for testing structural units. R. L. Templin. bibliog il diags Am Soc T M Proc 39:711-21; Discussion. 722 '39
Fatigue of light metals; a composite of abstracts. Metals & Alloys 12:572 O '40
Fatigue problems in structural designs. A. V. Karpov. Metals & Alloys 10:346-52, 381-8 N-D '39
Fatigue provisions in riveted joints. J. Jones. Civil Eng 10:344-5 Je '40
Fatigue resistance of steel as affected by acid pickling. G. L. Kehl and C. M. Offenhauer. il diags Am Soc for Metals Trans 28:238-54; Discussion. 254-6 Mr '40
Fatigue strength of machined forgings 6 to 7 in. in diameter. O. J. Horger and H. R. Neifert. bibliog il diag Am Soc T M Proc 39:723-37; Discussion. 738-40 '39
Fatigue strength, of members as influenced by surface conditions. O. J. Horger. il Product Eng 11:490-3 N '40 (to be cont)
Fatigue tests of welded joints; summary. W. M. Wilson and A. B. Wilder. Oil & Gas J 38:194 Mr 28 '40
High speed fatigue testing. R. R. Moore. il Steel 105:40-1 N 27 '39
Influence of cyclic stress on corrosion pitting of steels in fresh water, and influence of stress corrosion on fatigue limit. D. J. McAdam, jr. and G. W. Geil. 29 pls J Research Nat Bur Stand 24:685-722 bibliog (p715) Je '40
Laboratory and field endurance values of sucker-rod materials. D. R. Dale and D. O. Johnson. Metal Prog 37:680+ Je '40
Mechanical properties in relation to design. H. W. Swift. Engineering 150:218-20 S 13 '40
Photoelasticity as applied to design problems. O. J. Horger and T. V. Buckwalter. bibliog il diags Iron Age 145:42-50 My 23 '40
Plastic yielding and fatigue of ductile metals; a criterion and its application. R. W. Bailey. bibliog Inst Mech Eng J & Proc 143:Proc 101-7 My '40
Properties and machinability of a leaded steel. T. J. Dolan and B. R. Price. Metals & Alloys 11:22-3 Ja '40
Protective coatings against corrosion-fatigue of steel; composite of abstracts. Metals & Alloys 12:208 Ag '40; Same. Oil & Gas J 39:48 O 24 '40
Screw threads; the effect of method of manufacture on the fatigue strength. A. M. Smith. il Iron Age 146:23-8 Ag 22 '40
Size effect in fatigue. bibliog Metals & Alloys 11:A19+ Mr '40
Static and fatigue torsion strengths of various steels with circular, square, and rectangular sections. E. G. Holley. diags Inst Mech Eng J & Proc 143:Proc 237-46, pl 1-2 S '40
Surface coatings found to affect properties of steel; combination corrosion-fatigue tests. il Steel 107:80-2 N 4 '40
Toughness (impact strength) unaffected by alternating stresses (fatigue). A. M. Portevin. diag Metal Prog 37:563-4 My '40
Turbine-blade fatigue testing. R. P. Kroon. il Mech Eng 62:531-5 Jl '40
Welds and the testing of their endurance. J. H. Hruska. il diags Iron Age 145:33-7 My 16 '40

FATS. See Oils and fats

FATTY acids. See Acids, Fatty

FAUCETS
No more leaky faucets. il Sci Am 162:360-1 Je '40
Wearless washer eliminates leaky-faucet trouble. diag Sci Am 163:279 N '40

FAULTS (electric distribution). See Electric distribution—Grounds and faults

FAULTS (geology)
Cuneiform fragments diagnostic of fault breccia. C. H. White. il Econ Geol 35:93-7 Ja '40
Openings due to movement along a curved or irregular fault plane. W. H. Newhouse. diags plans Econ Geol 35:445-64 My '40

FAVORED nation clause
Foreign trade blocs. E. B. Dietrich. Ann Am Acad 211:85-91 S '40

FEATHERS
Homework in the artificial flower and feather industry in New York state. New York (state) Dept of Labor Special Bul 199:1-109 '38

FECES
Simple method to use in recovering feces at measured intervals. K. L. Harris. Science 91:23 Ja 5 '40

FEDERAL aid to cities. See Municipal finance—Federal aid

FEDERAL aid to states. See State finance—Federal aid

FEDERAL and municipal relations. See Municipal government—Federal relations

FEDERAL and state relations. See State governments—Federal relations

FEDERAL barge lines
Hits federal barge phony accounts; Chamber of commerce of the United States. Ry Age 108:676+ Ap 13 '40

FEDERAL bureau of investigation. See United States—Federal bureau of investigation

FEDERAL committee on apprenticeship
Apprenticeship committee to train many more men for industry. Am Mach 84:476f Je 26 '40
Functions of the Federal committee on apprenticeship. M. M. Hanson. Ry Mech Eng 113:439-40 N '39

FEDERAL communications commission
Chains get headache over FCC report attacking exclusive outlet contracts. Business Week p22+ Je 22 '40
FCC cautious on television. Ptr Ink 189:20 N 24 '39
F.C.C. committee recommends change in system under which major radio broadcasting companies obtain outlet stations. Pub Util 26:31-2 Jl 4 '40
Monopoly committee of FCC accuses radio networks of abuses in broadcasting. Ptr Ink 191:53+ Je 21 '40
Needed reforms in FCC radio procedures. H. W. Roberts. il Aero Digest 37:79-80, 83 S '40
Pro bono publico; official statement of why government bureau would curb merchandising of television. J. L. Fly. Ptr Ink 191:64, 66-8 Ap 12 '40

FEDERAL deposit insurance corporation. See Banks and banking—Guaranty of deposits

FEDERAL emergency relief administration
Public relief, 1929-1939. J. C. Brown. 524p bibliog(p477-511) $3.50 Holt '40

FEDERAL government
Federal-state personnel relations. G. C. S. Benson. bibliog Ann Am Acad 207:38-43 Ja '40
Increasing the power of the federal government. E. C. Buehler, ed. 382p bibliog(p359-82) $2 Noble and Noble, 100 5th av, New York '40
Mexican federalism—fact or fiction? J. L. Mecham. bibliog Ann Am Acad 208:23-33 Mr '40

See also
State governments—Federal relations

FEDERAL home building service plan
Guiding home-builder; bureau in St Paul offering architectural supervision. Business Week p29 Je 8 '40
Registered homes. Arch Forum 72:sup76+ Ap '40

FEDERAL home loan bank board
Annual report, 1939; excerpts. Comm & Fin Chr 149:3345-6 N 25 '39

FEDERAL home loan banks. See Home loan banks

FEDERAL housing administration
Analysis of mortgage security; how FHA's mortgage risk rating system affects builders, borrowers and lenders. il Arch Forum 72: 437-9+ Je '40
Boomlet in under $2500 houses touched off by FHA's new program. il plans Arch Forum 72:207-9 Mr '40
Experience of National life of Vermont with FHA loans. E. S. Brigham. East Underw 41:88 pt 2 O 4 '40
FHA helps building industry in planning big August advertising drive. il Ptr Ink 192:21-2 Jl 12 '40
FHA sees peak building in 1940. il Dom Eng 155:40-1+ Ap '40
FHA urges low cost homes; new campaign, with free window display materials available to contractors. il Dom Eng 155:51-2+ Mr '40
Geography of FHA mortgages; charts. Banking 33:41 Ag '40
Low cost grease; FHA changes regulations under its Title I insurance program. Arch Forum 72:sup2+ Ja '40
Low FHA losses on insuring loans. Banking 32:73 Ap '40
New F.H.A. program booming low-cost home building. il diag Sheet Metal Worker 31:52, 54+ Jl '40
New regulations for low-cost homes. il Burroughs Clearing House 24:17 Ja '40
Policy of FHA as to insured loans to those in military service. S. McDonald. Comm & Fin Chr 151:20 sec 3 O 12 '40
Small homes deserve big FHA push; nation-wide education program announced amid criticism of new low cost home requirements. J. B. Mason. il Am Bld 62:86+ Mr '40
Small homes in 1940; F.H.A. promotional prices for banks, builders, etc. il Banking 32:28 Ap '40
Three jinx in new apartments are high rents, low working capital and out-of-season completion. il Arch Forum 73:210-12+ S '40
Title I loans for low cost housing; new FHA plan. W. P. Murray. il Burroughs Clearing House 24:18-20+ D '39
Two flops for FHA; St Louis and Dallas projects. Business Week p20 F 24 '40

See also
United States housing authority

Modernization credit plan
FHA modernization drive to start in August. il Am Bld 62:36-7 Ag '40; Excerpts. Heat & Ven 37:33 Ag '40; Sheet Metal Worker 31: 56+ Ag '40
Loans for better living: Title I modernization loans; benefit to banks. J. Keegan. il Banking 33:76, 78 S '40
New FHA program spurs modernization of rental dwellings. Arch Rec 88:76 Ag '40
New opportunities in FHA Title I loans. L. Hough. il Burroughs Clearing House 24:20-2+ S '40

FEDERAL land banks. See Land banks

FEDERAL loans and grants. See Government loans and grants

FEDERAL national mortgage association
Statement of condition as of Dec. 31, 1939. Comm & Fin Chr 150:1362 Mr 2 '40

FEDERAL power commission
Customer accounting problems in connection with statistics for Federal power commission reports. E. N. Keller. Edison Elec Inst Bul 7:596-7 D '39
Emergency powers. Pub Util 26:104 Jl 18 '40
Federal power commission and state jurisdiction. J. R. Foster. 34p pa $1 New York univ, Law quarterly review, 100 Washington square E, New York '40
FPC policy gets setback in New River decision; court holds Commission has no jurisdiction over Claytor Dam project. il Elec W 112:1611 D 2 '39
Is the FPC eating away state jurisdiction? abstract. J. R. Foster. Pub Util 25:613-14 My 9 '40
No license needed for Virginia plant; U.S. Court of appeals holds New River is not navigable stream. Eng N 123:673 N 23 '39

FEDERAL reserve bank of Chicago
Annual statement. Comm & Fin Chr 150:204-5 Ja 13 '40

FEDERAL reserve bank of New York
Annual report. Comm & Fin Chr 150:1521-2 Mr 9 '40
Annual statement. Comm & Fin Chr 150:204 Ja 13 '40
Condition of the Federal reserve bank of New York. Published in weekly numbers of Commercial & financial chronicle

FEDERAL reserve banks
Appointments at Reserve banks and branches. Comm & Fin Chr 150:205 Ja 13 '40
Authority to issue Federal reserve notes. Fed Res Bul 26:306-7 Ap '40
Banking developments in 1940. Fed Res Bul 26:905-11 S '40
Federal advisory council annual organization meeting, Washington, Feb. 18-20; members. Comm & Fin Chr 150:1371 Mr 2 '40; Fed Res Bul 26:205 Mr '40
Federal reserve banks are public institutions. Fed Res Bul 26:307 Ap '40
Unifying effects of Federal reserve system. M. S. Szymczak. Bankers M 141:272 S '40

Collection rules
Regulation G effective February 1, 1940; collection of noncash items; text. Fed Res Bul 26:15-16 Ja '40

Collection system
Federal reserve inter-district collection system: banks upon which items will be received by Federal reserve banks for collection and credit, January 1, 1940. 65p Board of governors, Federal reserve system, Washington, D.C. '40
Par collection system of the Federal reserve banks. G. R. Vest. map Fed Res Bul 26: 89-96 F '40

Credit policy
Annual report of Board of governors of Federal reserve system. Comm & Fin Chr 150:2790-2 My 4 '40
Changes in central banking. G. Freund and S. Fink. Bankers M 139:486-8 D '39
Cheap money and the Federal reserve system. E. A. Goldenweiser. Fed Res Bul 26: 385-9 My '40
Currency function. Fed Res Bul 26:655-7 Jl '40; Same. Comm & Fin Chr 151:635-6 Ag 3 '40
Historical review of objectives of Federal reserve policy. A. Hersey. Fed Res Bul 26: 279-89 Ap '40
Monetary control of price inflation thru credit restrictive measures. A. P. Woolfson Bankers M 140:477-80 Je '40
No danger sign in bank figures. L. M. Hostetler. Barron's 20:9 Ja 1 '40
Putting gold in circulation as means of restoring confidence; monetary policy. W. R. Burgess. Comm & Fin Chr 150:628-9 Ja 27 '40
Sources of lending power. Fed Res Bul 26: 202-3 Mr '40

Directors
Directors of Federal reserve banks and branches. Fed Res Bul 26:106-13 F '40

Interdistrict settlement fund
Interdistrict settlement fund; what it is and how is it used by the United States Treasury. Fed Res Bul 26:776-7 Ag '40

Loans to industry
Credit needs of small business. E. G. Draper. Bankers M 141:159-61 Ag '40
Industrial advances, Dec. 26, 1934 to Dec. 20, 1939. Fed Res Bul 26:27 Ja '40 [cont monthly]
Mead bill for direct loans to business introduced; Industrial loan corporation under the Federal reserve system. H. D. Ralph. il Burroughs Clearing House 24:15-16 D '39
Small business needs credit; Mead bill plan. J. M. Mead. Bankers M 140:159-60 F '40
Use existing system for small business credit. W. Netherland. Bankers M 140:488-9 Je '40

Member banks
All member banks; classification of loans, investments, real estate, and capital on December 30, 1939 by classes of banks. Fed Res Bul 26:250 Mr '40
All member banks; classification of loans, investments, real estate, and capital on June 29, 1940, by classes of banks. Fed Res Bul 26:995 S '40
All member banks, condition on Oct. 2, 1939 by classes of banks. Fed Res Bul 26:58 Ja '40
All member banks; condition on December 30, 1939 by classes of banks. Fed Res Bul 26:249 Mr '40
All member banks, condition on March 26, 1940 by classes of banks. Fed Res Bul 26: 608 Je '40
All member banks; condition on June 29, 1940, by classes of banks. Fed Res Bul 26:994 S '40
All member banks, condition on selected call dates, Oct. 17, 1934, to Oct. 2, 1939. Fed Res Bul 26:57 Ja '40
All member banks, condition on selected call dates, March 4, 1935, to March 26, 1940. Fed Res Bul 26:607 Je '40
Commercial banks eligible and ineligible for Federal Reserve membership as of Dec. 31, 1939. Fed Res Bul 26:530, 602-6 Je '40
Condition of Federal reserve reporting member banks, 1936-1939. Survey of Cur Business 1940 Sup p50-1 [supplemented in monthly numbers]
Earnings and expenses of member banks, 1938, 1939. Fed Res Bul 26:460-5 My '40
Earnings and expenses of member banks during 1939. Fed Res Bul 26:719-21 Jl '40
Earnings and expenses of all member banks of the Federal reserve system, 1927-1939. Comm & Fin Chr 150:3132 My 18 '40
Investments and liquidity of member banks during 1939. V. M. Longstreet. Fed Res Bul 26:293-7 Ap '40
Member bank earnings and expenses, first half of 1940, and comparisons with other half years, 1935-1939. Fed Res Bul 26:1181-2 N '40
Member bank operating ratios, 1939. Fed Res Bul 26:527-9, 588-601 Je '40
Recent trend of member bank earnings and the outlook for 1940 and 1941. S. L. Miller. Annalist 56:395-6 S 26 '40
Regulation H as amended November 20, 1939; membership of state banking institutions in the Federal reserve system. Fed Res Bul 25: 1054-64 D '39
Right of member bank and its subsidiary member banks to vote in the election of a Federal reserve bank director. Fed Res Bul 26:1172 N '40
Trend of member bank earnings and profits. R. I. Robinson. Fed Res Bul 26:395-400 My '40
Weekly reporting member banks, New York city and outside and by Federal reserve districts; loans and investments, reserves and liabilities. Published in monthly numbers of Federal reserve bulletin
Weekly return for the member banks of the Federal reserve system. Published in weekly numbers of Commercial & financial chronicle

Statements
Statement of the Federal reserve banks. Published in weekly numbers of Annalist

Statistics
Condition of Federal reserve banks, end of month, 1936-1939. Survey of Cur Business 1940 Sup p49 [supplemented in monthly numbers]
Earnings and expenses during 1939; tabulation. Fed Res Bul 26:114-15 F '40
Earnings and expenses of Federal reserve banks during the six-month period ended June 30, 1940. Fed Res Bul 26:819 Ag '40
Federal reserve notes; Federal reserve agents' accounts, by weeks, Nov. 22-Dec. 20, 1939. Fed Res Bul 26:27 Ja '40 [cont monthly]

FEDERAL reserve banks—Statistics—*Cont.*
Member bank reserves, Reserve bank credit, and related items; weekly and monthly figures, 1939. Fed Res Bul 26:21 Ja '40 [cont monthly]
No danger sign in bank figures. L. M. Hostetler. Barron's 20:9 Ja 1 '40
Prinicipal assets and liabilities of all Federal reserve banks; also maturity distribution of bills and U.S. government securities held by Federal reserve banks. Fed Res Bul 26:23 Ja '40 [cont monthly]
Statement of condition of the Federal reserve banks by weeks, Nov. 22-Dec. 20, 1939. Fed Res Bul 26:24-6 Ja '40 [cont monthly]
Weekly return of the Board of governors of the Federal reserve system. Published in weekly numbers of Commercial & financial chronicle

FEDERAL reserve board
Annual report. Comm & Fin Chr 150:2790-2 My 4 '40
Index to regulations, February 1, 1940. 71p Board of governors of the Federal reserve system, Washington, D.C. '40
New F.R.B. index. Business Week chart (p18) p52 Ag 24 '40
Rise in the Federal Reserve index of production. Fed Res Bul 26:1047-9 O '40

FEDERAL reserve system
Under Federal reserve system, banking is drawn into one interrelated organization. M. S. Szymczak. Comm & Fin Chr 151:636-7 Ag 3 '40

FEDERAL savings and loan associations
Cyclopedia of federal savings & loan associations. H. S. Rosenthal and R. B. Jacoby. 415p $12.50 Am. savings & loan news, 22 E. 12th st, Cincinnati '39
Have advanced $1,355,852,158 in home-mortgage loans since 1934. Comm & Fin Chr 150: 1224 F 24 '40
Members of New York home loan bank increased resources in first half of 1940 to $174,557,132. Comm & Fin Chr 151:935 Ag 17 '40
National association of supervisors of state banks opposed to legislation designed to increase powers; abstracts. D. W. Bates. Comm & Fin Chr 150:1075 F 17 '40; Bankers M 140:345-6 Ap '40

Advertising
Farm loan campaign. Ptr Ink 190:22 Ja 5 '40

FEDERAL securities act. See Securities—Law

FEDERAL security agency
Drug law administration ordered transferred to FSA. Oil Paint & Drug Rep 137:5+ Ap 15 '40
Functions brought to Federal security agency by Reorganization plan IV; Freedmen's and St Elizabeths hospitals under the public health service. Pub Health Rep 55:1278-82 Jl 12 '40
Real issue in the sweetener controversy. R. S. McBride. Food Ind 12:36-7 S '40

FEDERAL surplus commodities corporation (now Surplus marketing administration)
Cotton stamp experiment starts in Memphis, Tenn. Textile World 90:110 My '40
Cotton stamps hailed; merchants are enthusiastic after FSCC launches latest plan in Memphis. Business Week p34-6 My 25 '40
Cotton stamps next; new plan patterned after food program. Business Week p17-18 F 10 '40
Experiment; extension of stamp plan to nonrelievers in Shawnee, Okla. Business Week p27 Ja 13 '40
Memphis selected as first test city for cotton stamp program. Comm & Fin Chr 150:x Ap 6 '40
Reports on year's surplus removal programs. Comm & Fin Chr 150:48-9 Ja 6 '40
Stamp plan for distributing cotton goods to relief families announced by Secretary of Agriculture Wallace. Comm & Fin Chr 150: 1014 F 10 '40
To expand stamp plan by distributing cotton goods to needy. Comm & Fin Chr 150:48 Ja 6 '40
See also
Food stamp plan

FEDERAL trade commission
Above the law? F.T.C. exemption from Walter-Logan bill draws fire of Senate and House committees. Ptr Ink 190:75-6+ F 16 '40
Action the FTC has taken under the Robinson-Patman act; nine cases summarized. Sales Management 46:56, 59-61 F 15 '40
After two years of Wheeler-Lea. P. B. Morehouse. Adv & Sell 33:22-3+ My '40
Annual report for the fiscal year 1938-39. Comm & Fin Chr 149:4106-7 D 30 '39
A.N.A. would have radical changes in Federal trade commission procedure. I. W. Digges. Ptr Ink 192:69-71 Jl 19 '40
Check list of FTC taboos; quotations from stipulations and cease and desist orders, under product headings. Adv & Sell 33:31-2, 56, 60 Mr; 48, 50+ Ap '40
Claims the FTC won't let you make; a checklist of Federal trade commission taboos in food advertising. N. R. Abelson. il Food Ind 12:61-2 Jl; 56-7 Ag '40
Cry babies! upholding proposed F.T.C. inquiry, accuses advertising men. J. P. McGranery. Ptr Ink 191:15-17 Ap 19 '40
Defends commission. A. Price. Ptr Ink 190: 82+ Mr 22 '40
FTC blue pencil: before and after; collection of copy claims and advertisements published before and after signing of FTC stipulations. il Adv & Sell 33:25-7 Ja '40
F.T.C. cites advertising firms; nineteen New York city distributors of ready-made advertising materials. Ptr Ink 192:57 S 13 '40
Federal trade commission complaint vs. Air conditioning training corporation; latter charged with misleading representations. Refrig Eng 40:174 S '40
FTC in unofficial profile; sketches of members. S. Rippey. Adv & Sell 33:20-2 F '40
FTC injunction; power to restrain unfair or deceptive acts or practices in commerce. Sci Am 163:47 Jl '40
F.T.C. methods hit by Attorney-General's committee on administrative procedure. Oil Paint & Drug Rep 137:3+ F 26 '40
FTC reassures advertisers. Ptr Ink 190:22 F 9 '40
F.T.C. relations with drug manufacturers; abstract. J. A. Horton. Oil Paint & Drug Rep 137:42-3 My 13 '40
F.T.C. reports on 1939 work affecting advertising, trade practice, consumers. Ptr Ink 189:63-7 D 29 '39
FTC widens sphere; assumes jurisdiction over misleading labeling. Business Week p44-5 My 11 '40
Federal trade commission's attitude toward advertising. R. E. Freer. Ptr Ink 190:77, 80-2 Mr 22 '40
Four questions on Wheeler-Lea. J. Benson. Adv & Sell 33:28-9 Ap '40
How F.T.C. does its work; answer to queries made by P.I. readers. Ptr Ink 190:21-4 Mr 1 '40
New Federal Trade orders. Ptr Ink 189:70-2 D 1 '39
Observes advertising for a year, and here is what it now thinks. Ptr Ink 192:53-4, 56-7 Jl 19 '40
Review of harmful advertising. P. B. Morehouse. Ind & Eng Chem News ed 18:439-40 My 25 '40
Reviews Patman act and ad control activities; annual report, year ended June 30, 1939. Oil Paint & Drug Rep 137:3+ Ja 1 '40
Rough stuff; how Federal trade commission conducts a hearing as shown by Good Housekeeping case. G. A. Nichols. Ptr Ink 189:15-16+ D 22 '39
Three years of Robinson-Patman: F.T.C. invokes every phase and wins all appeals. B. Werne. Ptr Ink 189:21-2+ D 8 '39
Trade associations must know antitrust law processes. J. M. F. Donovan, jr. Oil Paint & Drug Rep 138:36 Ag 5; 5+ Ag 12; 5+ Ag 19 '40

FEDERAL trade commission—*Continued*
Well, it's here! F.T.C. gets appropriation for national advertising inquiry. Ptr Ink 190: 113-14 Ja 26 '40
What is false advertising? FTC case against Good Housekeeping. Business Week p24-6 D 23 '39

FEDERAL water service corporation
Annual report. Comm & Fin Chr 150:1599 Mr 9 '40
Hearing on plan of merger and reorganization. Comm & Fin Chr 150:2724 Ap 27 '40

FEDERAL wholesale druggists association
Annual meeting, 25th, Hot Springs, Va. Oil Paint & Drug Rep 138:3+ S 16 '40
Schlotterer named secretary; chairmen appointed for 1940. Oil Paint & Drug Rep 137: 3+ Ja 15 '40

FEDERAL works agency
Exhibit at the New York world's fair. il diag Arch Forum 73:40-2 Jl '40
Federal works agency becomes ASA member-body. Ind Stand 11:49 F '40
Federal works agency still in experimental stage. Eng N 124:4 Ja 4 '40

FEDERATION, International. See International federation

FEDERATION of insurance counsel
Annual convention, 4th, Atlantic City. Ins Field (Life ed) 69:22 S 13 '40; Ins Field (Fire ed) 69:13 S 12 '40; Nat Underw 44: 30+ S 12 '40; Nat Underw (Life ed) 44:2+ S 13 '40; Weekly Underw 143:515 S 7 '40

FEDERATION of mutual fire insurance companies
Annual meeting, Cleveland. Nat Underw 43: 4+ N 23 '39

FEDERATION of paint and varnish production clubs
Annual convention, 19th, Washington, Oct. 28-30. Oil Paint & Drug Rep 138:43-52 N 4 '40

FEDERATION of sewage works associations
Annual meeting, 1st, Chicago, Oct. 3-5. Eng N 125:451, 611-13 O 10, N 7 '40; Water Works & Sewerage 87:461-8, 509-19 O-N '40
Convention, 1st; program. Water Works & Sewerage 87:404-5 S '40
Reorganization plan. Eng N 124:933-4 Je 27 '40

FEED mechanism
Finger feed for blanking dies. H. W. Falstrom. diag Am Mach 84:664 S 4 '40
Mechanism for picking up and transferring thin plates. M. Jacker. diags Mach 46:107-9 F '40
Moslo hopper feeding machine for welding rod. il Mach 47:174 N '40
No stoppage in this stock; feed mechanism controlled by photoelectric cell at Buick plant. il diag Am Mach 84:169 Mr 20 '40
Novel intermittent feeding mechanism. P. Grodzinski. diag Mach 46:151 Ja '40

FEED water
Calculation of the distribution of carbon dioxide between water and steam. A. M. Amorosi and J. R. McDermet. Am Soc T M Proc 39:1204-17; Discussion. 1218-20 '39
Cross connections to steam boilers. R. F. Goudey. Water Works & Sewerage 87:365-7 Ag '40
Determination by the evaporation method of small amounts of dissolved solids in water such as condensed steam from boilers. R. C. Ulmer. diags Am Soc T M Proc 39:1221-7; Discussion. 1228-32 '39
Determination of sulfate by tetrahydroxyquinone method; effect of sodium sulfite and procedure for its elimination. H. L. Kahler. Ind & Eng Chem Anal ed 12:266-7 My 15 '40
Few facts about pH. A. S. Park. il Comp Air M 44:6018-20 N '39
Millers Ford; 3 years of high temperature operation. R. D. Gillespie. diag Power Pl Eng 44:55-6 Jl '40
Power plant operation problems; boiler water testing. R. W. Crain. il Power Pl Eng 44:66 N '40
Progress report of the Committee on quality tolerances of water for industrial uses. N E Water Works Assn J 54:262-4 Je '40
Speeding up water analysis. S. H. Coleman. diags Power Pl Eng 44:73 Ag '40
Sur l'économie des combustibles; étude de la vaporisation et du vaporigène transformant de la chaleur en travail. L. Fassina. diag Chimie & Ind 43:717-20 My 5 '40
Watch that feedwater connection! diags Power 84:667 O '40

Testing
Simple test for oil in boiler water. W. F. Schaphorst. Am Gas J 153:49 O '40

FEED water heaters
Corrosion in steam heating systems; removal of gases from feedwater. L. F. Collins and E. L. Henderson. diags Heating-Piping 12: 159-62 Mr '40
Millers Ford; 3 years of high temperature operation. R. D. Gillespie. diag Power Pl Eng 44:56 Jl '40

FEED water heating
ABC's of feed heating. N. D. Gove. diags Power 84:16-19 Ja '40
Fifty years of marine engineering. A. L. Mellanby. Inst Mech Eng J & Proc 143; Proc 334-5 O '40; Same. Engineer 169:307 Mr 29 '40; Same. Engineering 149:372 Ap 5 '40
Regenerative feed heating in industrial power plants. A. F. Webber. Blast F & Steel Pl 28:594-7+ Je '40

See also
Fuel economizers

FEED water pumps. See Pumps, Feed water

FEED water purification
A.S.M.E. boiler code; addenda to par. CA-5. Mech Eng 62:249-52 Mr '40
Boiler feedwater treatment, 1930-1940. F. G. Straub. diags Power Pl Eng 44:65-8 Ja '40
Boiler plant management; abstract. P. Hamer. Chem Age (Lond) 42:184 Mr 30 '40; Same. Chem & Ind 59:64; Discussion. 64-5 Ja 27 '40
Boiler water treatment; Ameroid colloid-chemical system. Rayon 21:649-50 O '40
Causes and the prevention of embrittlement in boilers. W. C. Schroeder. il Ry Mech Eng 114:182-5 My '40
Chemical treatment of boiler feedwater; Master boiler makers' association committee report. il Ry Mech Eng 113:450-3 N '39
Die chemischen eigenschaften der im wasser gelösten kieselsäure und ihr einfluss auf den hochdruckkesselbetrieb. A. Splittgerber. bibliog diags Chemische Fabrik 13:169-73 My 18 '40
Conditioned boiler water; resulting chemical problems. F. Kenyon. Elec R (Lond) 125: 641-3 N 17 '39
Corrosion in steam heating systems; feedwater treating system in central heating plant. L. F. Collins and E. L. Henderson. diags Heating-Piping 12:243-6, 299-301 Ap-My '40
Corrosion in steam heating systems; removal of carbon dioxide by feedwater treatment. L. F. Collins and E. L. Henderson. diags Heating-Piping 12:99-101 F '40
Cycle-controlled Dearborn treating plant. il Ry Age 108:460-1 Mr 9 '40
Developments in the conditioning of boiler feed water. E. F. Walsh. diags Am Gas J 152:11-14, 42 F; 14-16 Mr '40
Discussion on colloids. J. D. Springs. Am Gas J 152:17 Mr '40
Die entwicklung der austauscher-enthärtung an hand zehnjähriger betriebserfahrungen in Leuna. E. Seyb. diag Chemische Fabrik 13:30-4 Ja 27 '40
Function of pH in water treatment. C. E. Imhoff. il diags Paper Tr J 110:37-44 Ap 4 '40
How to use pH. G. A. Perley. il Power 83:738-9 D '39
Hydrogen ion control in water treatment; tests in the Tugela river. G. W. Bond. Chem Age (Lond) 41:327-8 N 11 '39
Intercrystalline corrosion; report of American railway engineering association. Ry Age 108:855-6+ My '40

FEED water purification—*Continued*
Mississippi makeup; Louisiana station of Gulf states utilities co; storage and materials-handling system for chemicals required to treat water. A. C. Klein. il diag Power 84:278-9 My '40
New trends in boiler feed water treatment. F. G. Straub. bibliog Am Inst Chem Eng Trans 36:395-401 Je '40; Same. Chem & Met Eng 47:477-9 Jl '40; Same. Can Chem & Process Ind 24:395-6+ Ag '40; Same. Blast F & Steel Pl 28:1181-7 D '40
100% makeup at 825 lb, 750 F; Youngstown Sheet and Tube installs high-pressure topping units. diag plan Power 84:638-9 O '40
Practical answer to a feedwater problem; amount of soda ash needed to give suitable pH value. Power 84:173 Mr '40
Purification of water for boiler feed purposes. F. G. Straub. diags Blast F & Steel Pl 27: 1148-53, 1170 N '39
Recent experiences with carbonaceous zeolites. S. B. Applebaum. bibliog diag Am Water Works Assn J 32:583-92 Ap '40
Removal of chlorides and sulfates by synthetic resins. M. C. Schwartz, W. R. Edwards, jr. and G. Boudreaux. bibliog(48 references) Ind & Eng Chem 32:1462-6 N '40
Removal of silica from water. A. S. Behrman and H. Gustafson. bibliog il diag Ind & Eng Chem 32:468-72 Ap '40
Removal of silica from water by cold process. L. D. Betz, C. A. Noll and J. J. Maguire. bibliog il Ind & Eng Chem 32:1320-3 O '40
Removal of silica from water by hot process. L. D. Betz, C. A. Noll and J. J. Maguire. il diag Ind & Eng Chem 32:1323-9 O '40
Review of progress in feedwater treatment. C. H. Fellows. bibliog Mech Eng 62:392-6 My '40; Same. Engineering 149:568-9, 601-2, 633 Je 7, 21-28 '40; Excerpt. Nat Pet N 32: R222 Je 12 '40; Abstract. diags Power 84: 423-5 Jl '40
Self-contained boiler water conditioner. A. H. Wadewitz. diag Power Pl Eng 44:75 Je '40
Silica in boiler feedwater. W. F. Peters, jr. and W. D. Turner. bibliog Power Pl Eng 44:54-7 Mr; 47-9 Ap '40
Some contributions of chemistry and chemical engineering to steam generation. G. W. Hewson and R. L. Rees. bibliog Inst Chem Eng Trans 17:52-61 '39
Sulphur burner applied to feed water treatment. S. T. Powell, G. A. Cain and J. B. Chatelain. bibliog il diags Power Pl Eng 44:54-7 My '40
TAPPI survey of progress in water technology for 1939. L. B. Miller. Paper Tr J 110:41 My 16 '40
Treating boiler feedwater at Federal central heating plant, Washington, D.C. C. B. Overman. flow diag il Power 84:488-91 Ag '40
Treating locomotive boiler feedwater chemically; Master boiler makers' association committee report. Ry Mech Eng 114:462-3 N '40
Water conditioning and the cracking of boiler plate. Marine Eng 45:96+ Jl '40
Water treatment for heating boilers. K. Steiner and R. A. Nelson. il map Heating-Piping 12:177-9, 428-30 Mr, Jl '40
Water treatment; processes recently developed. F. J. Matthews. Elec R (Lond) 127:5-6 Jl 5 '40
What water treatment has done for the Illinois central. il Ry Age 107:1002-5 D 30 '39
See also
Water softening
Cost
Cost of chemicals for water conditioning; tabulation. Power 84:490 Ag '40

FEED water regulators
Advertising
Leadership challenged, this advertiser improved item, changed its name, and advertised; Copes flowmatic regulator. D. Allshouse. il Ptr Ink 192:15-17 Jl 26 '40

FEEDERS
Continuous weighing permits accurate blending of ores to blast furnaces; vibratory feeder. J. A. Flint. il Steel 106:48, 51+ F 26 '40
Dry feeders; design, maintenance and operation. F. J. Lammers. diags Water Works & Sewerage 87:240-1 My '40
Improvised kiln feeders. il Rock Prod 43:99 Ja '40
Vibratory equipment. F. J. Van Antwerpen. il diags Ind & Eng Chem 32:767-8 Je '40

FEEDING and feeding stuffs
Dealer pays for money he doesn't borrow; feed manufacturer tells dealers to send credit customers to the bank. J. V. Tuttle. Bankers Mo 57:290+ My '40
Drying method changes composition of grapefruit byproduct. G. N. Pulley and H. W. von Loesecke. bibliog il Food Ind 12:62-3+ Je '40
Fodder from straw; abstract. H. D. M. McGowan. Chem Age (Lond) 42:198 Ap 6 '40
From food waste to feeding stuffs; a new outlet for gas coke. Gas J (Lond) 230:488 Je 5 '40
Hog feeding with garbage under study in Los Angeles. Eng N 124:732 My 23 '40
Policy changes that pulled Blatchford calf meal company back from the brink of bankruptcy. J. E. Sams. il Sales Management 47:18-20 O 1 '40
Stabilization of iodine in salt and feedstuffs. F. F. Johnson and E. R. Frederick. Science 92:315-16 O 4 '40
Vitamin content of distillers' by-products. C. S. Boruff, A. F. Langlykke and S. Black. bibliog il Ind & Eng Chem 32:1237-9 S '40
See also
Alfalfa meal
Grasses
Silage
Tomato pomace
Analysis
Analysis of the fibrous and carbohydrate constituents of feeding stuffs; the determination of cellulose. E. G. Hallsworth. bibliog Soc Chem Ind J 59:9-17 Ja '40
Analysis of the fibrous and carbohydrate constituents of feeding stuffs; the furfuraldehyde-yielding constituents. E. G. Hallsworth. Soc Chem Ind J 58:357-63 D '39
Determination of crude fiber; potassium sulfate as a filtration aid. A. M. Neubert, F. VanAmburgh and J. L. St John. Ind & Eng Chem Anal ed 12:451 Ag 15 '40
Factors affecting adsorptive power of magnesia for carotene. G. S. Fraps, A. R. Kemmerer and S. M. Greenberg. bibliog Ind & Eng Chem Anal ed 12:16-18 Ja 15 '40
Manufacture
Ammeter cuts costs for Tulsa feed mill. C. A. Bradford. Elec W 114:1354 N 2 '40
Provender mill plant; conversion of a 600-year-old establishment. il Elec R (Lond) 126:33-4 Ja 12 '40

FEET. See Foot

FEHLING'S solution
Potentiometric estimation of hydroxylamine and hydrazine in alkaline solution. H. T. S. Britton and M. Königstein. Chem Soc J p673-6 My '40

FEIGL, Fritz, 1891-
Sketch. R. E. Oesper. por(front) J Chem Educ 17:538 N '40

FELDSPAR
Concentration of feldspathic waste from a titanium mine near Roseland, Va. D. I. Smith, R. G. O'Meara and T. N. McVay. Am Cer Soc J 23:339-41 N '40
Development and growth of the feldspar industry; with chronological index. H. B. DuBois. Am Cer Soc Bul 19:206-13 Je '40
Feldspar and beryllium in America; old methods and new developments. Chem Age (Lond) 41:329 N 11 '39
Froth flotation and agglomerate tabling of feldspars. R. G. O'Meara, J. E. Norman and W. E. Hammond. Am Cer Soc Bul 18:286-92 Ag '39; Excerpts. Concrete (mill sec) 48: 136 Mr '40

FELDSPAR—*Continued*
Mining of feldspar and associated minerals in the southern Black Hills of South Dakota. J. R. Guiteras. flow sheets maps U S Bur Mines Information Circ 7112:1-104 bibliog (p92-104) '40
Pegmatites of the Spruce Pine district, North Carolina. C. S. Maurice. il maps Econ Geol 35:49-78, 158-87 bibliog(p 185-7) Ja-Mr '40
See also
Albite
Analysis
Rapid determination of quartz in feldspar. G. H. McIntyre and M. Bozsin. bibliog il Ind & Eng Chem Anal ed 12:326-8 Je 15 '40

FELLOWSHIPS. See Scholarships and fellowships

FELT
Hats made with milk; casein fiber blended with natural rabbit fur. Business Week p55 O 12 '40
Industrial felts from synthetic fibers. H. Boeddinghaus. Ind & Eng Chem News ed 18:248 Mr 25 '40; Same. Rayon 21:294 My '40
Up, down and sideways; use of cork, felt, and springs for isolation of vibratory air conditioning machinery. il diags Dom Eng 155:44-5+ Je '40

FELT, Roofing
Manufacture and testing of roofing-felts and damp-courses. D. M. Wilson. diags pls Inst Pet J 26:377-88; Discussion. 388-9 Ag '40

FELTING of wool. See Wool—Felting

FELTS (paper making)
Decrease in felt life due to bacterial action. J. P. Weidner. bibliog Paper Tr J 110:36-8 My 9 '40
Paper machine felt and wire developments. H. S. Spencer. Pulp & Pa of Can 41:577-9 Ag '40
Rags and substitutes in the dry felt industry. A. Whittemore. Paper Tr J 110:22-3 Je 6 '40

FENCES
Fences for privacy and decoration. H. Sibley. il diags Am Bld 62:108-9 Ap '40
Fencing Pennsylvania Turnpike; unit prices. Eng N 124:834 Je 13 '40
Good fence is first-line defense; illustrations. Factory Management 98:80-1 Mr '40
Rustic cedar fences for garden enclosures and screens; illustrations. Am Bld 62:58-9 S '40
Strong fences keep outsiders out; illustrations. Factory Management 98:80-1 N '40

FENCES, Electrified
Electric fences. Elec R (Lond) 127:131 Ag 16 '40
Safety rules for electric fences. U S Nat Bur Stand Handbook H36:1-13 '40

FENCES, Wire. See Wire fences

FENDERS, Automobile. See Automobiles—Fenders

FERGUSON, Garland Sevier, jr. 1878-
FTC in unofficial profile; sketch. S. Rippey. por Adv & Sell 33:22 F '40

FERMENTATION
Acceleration of lactic acid fermentation by heat-labile substances. S. C. Pan, W. H. Peterson and M. J. Johnson. bibliog Ind & Eng Chem 32:709-14 My '40
Alcoholic fermentation by fusaria juice obtained with a wet crushing mill. J. C. Wirth and F. F. Nord. bibliog Science 92:15 Jl 5 '40
Anaerobic fermentations. 193p bibliog(p186-93) Illinois. Dept. of registration and education, Division of the state water survey, Urbana '39
Chemical changes in phosphoric acid silage. E. Pagé and L. A. Maynard. bibliog Ind & Eng Chem 32:1140-3 Ag '40
Effect of aeration on fermentations; acetic acid bacteria and yeasts. K. R. Butlin and W. H. D. Wince. Chem & Ind 59:41-2 Ja 20 '40; Discussion. 59:96 F 10 '40
Facts and interpretations in the mechanism of alcoholic fermentation. F. F. Nord. il Chem R 26:423-72 bibliog(p466-72) Je '40
Fermentation control of ciders by the centrifuge method; abstract. V. L. S. Charley. Food Ind 12:92 Ap '40
Fermentation of concentrated solutions of glucose to gluconic acid; improved process. A. J. Moyer, E. J. Umberger and J. J. Stubbs. bibliog Ind & Eng Chem 32:1379-88 O '40
Industrial microbiology. S. C. Prescott and C. G. Dunn. 541p $5 McGraw-Hill '40
Influence of oxygen on the fermentation of maltose and galactose. A. S. Schultz, L. Atkin and C. N. Frey. diag Am Chem Soc J 62:2271-2 S '40
Saccharification of starchy grain mashes for the alcoholic fermentation industry; comparison of several saccharifying agents; malt, moldy bran, and soybean meal. L. Schoene, E. I. Fulmer and L. A. Underkofler. bibliog Ind & Eng Chem 32:544-7 Ap '40
Sorbose from sorbitol; semiplant-scale production by acetobacter suboxydans. P. A. Wells and others. Ind & Eng Chem 31:1518-21 D '39
See also
Alcohol—Manufacture
Wine
Yeasts
Enzymes

FERMENTS. See Enzymes

FERRETS
Pathologic histology of experimental virus influenza in ferrets. T. L. Perrin and J. W. Oliphant. bibliog Pub Health Rep 55:1077-86, pl 1-2 Je 14 '40

FERRIES
See also
Ferryboats

FERRIHEMOGLOBIN. See Methemoglobin

FERRITE
Influence of ferrite on the intercrystalline corrosion of chromium-nickel austenitic steels. Engineer 170:sup[Metallurgist] 124-7 Ag 30 '40

FERRO enamel corporation
Admitted to stock exchange list; financial statistics, 1929-38. L. Applegate. Annalist 55:44-5 Ja 11 '40
Moderate-priced newcomer to the New York stock exchange; thumbnail appraisal. Mag of Wall St 65:754 Mr 23 '40

FERROALLOYS
American iron and steel institute's report of pig iron and ferroalloy production in 1939. Iron Age 145:61 My 9 '40
First-half pig iron output up 49 per cent; output of ferroalloys increased. Steel 107:78 S 2 '40
Grainal, new-type alloy, announced by Vanadium corp. E. D. Bransome. Iron Age 145: 70 My 23 '40; Same. Blast F & Steel Pl 28:477 My '40; Same. Steel 106:38 My 20 '40
High hardenability and toughness in carbon and low alloy steels; use of Grainal. J. Strauss. Metals & Alloys 11:174-6 Je '40
Process alloys for steelmaking afford important improvements; Grainal alloys. Steel 107:52 Jl 15 '40
Treatment of open-hearth steels with a material known as Grainal. A. H. Allen. Steel 106:35-6 Ap 22 '40
World production of pig iron and ferroalloys, 1929-1939; tabulation. Steel 106:269 Ja 1 '40
See also
Iron alloys
Prices
Ferroalloy quotations; monthly, 1922-1939; tabulation. Iron Age 145:169 Ja 4 '40
Ferroalloys. Published in weekly numbers of the Iron age

FERRO-CONCRETE. See Concrete, Reinforced

FERROCYANIDES
Magnetic susceptibilities of some complex cyanides with transition element cations. J. Richardson and N. Elliott. bibliog diag Am Chem Soc J 62:3182-3 N '40
Study of diffusion processes by electrolysis with microelectrodes. H. A. Laitinen and I. M. Kolthoff. Am Chem Soc J 61:3344-9 D '39

FERROCYANIDES—*Continued*

Analysis

Qualitative identification of ferrocyanide ion. W. C. Oelke. Ind & Eng Chem Anal ed 12: 498 Ag 15 '40

FERROMAGNETISM. See Magnetism

FERROMANGANESE

Monthly price averages for eleven years, 1929-1939; tabulation. Steel 106:285 Ja 1 '40

Sloss-Sheffield to make 30,000 tons of ferromanganese annually. Blast F & Steel Pl 27: 1140 N '39

FERROMOLYBDENUM

Analysis

Rapid determination of copper by α-benzoin oxime in ferromolybdenum, calcium molybdate, etc. L. Silverman. bibliog Ind & Eng Chem Anal ed 12:343-4 Je 15 '40

FERROSILICON

Monthly price averages for eleven years, 1929-1939; tabulation. Steel 106:284 Ja 1 '40

Sink-and-float separation applied successfully on the Mesabi; ferrosilicon provides efficient medium. G. J. Holt. flow sheets il Eng & Min J 141:33-8 S '40; Same. Min Cong J 26:25-9, 64 S '40

FERRYBOATS

E. G. Diefenbach, electric ferryboat. il Marine Eng 45:115 N '40

E. G. Diefenbach, new Diesel electric ferryboat. il Marine Eng 45:54-6 Ap '40

Pointe-A-La-Hache, Diesel ferryboats. il Marine Eng 45:73 S '40

See also
Train ferries

FERTILIZER factories

Equipment

Granulating phosphate fertilizers; Davison chemical corp. J. N. Mackall and M. Shoeld. flow diag il plan Chem & Met Eng 47:102-5 F '40

Screening under water for phosphate recovery; use of flotation; Swift and company fertilizer works. B. Nordberg. flow diag il Rock Prod 43:26-9+ My '40

FERTILIZER industry

Possible development of the superphosphate industry. S. Nordengren and H. Lehrecke. bibliog Chem Age (Lond) 42:139-42 Mr 9 '40

See also
Fertilizers
Nitrates
Phosphates
Potash industry and trade
Sodium nitrate
also American cyanamid company

Statistics

American fertilizer practices (second survey). H. R. Smalley, R. H. Engle and H. Willett. 128p pa $1 National fertilizer assn, 616 Investment bldg, Washington, D.C. '39

Fertilizer and materials. Chem & Met Eng 47:72-6 F '40

Fertilizer materials. Published in weekly numbers of Oil, paint and drug reporter

Fertilizer materials used in U.S. for 1938-39. Oil Paint & Drug Rep 136:3 D 18 '39

Fertilizers, 1936-1939. Survey of Cur Business 1940 Sup p89-90 [supplemented in monthly numbers]

Germany

Phosphate in Germany; serious deficiency reported. Chem Age (Lond) 42:80 F 10 '40

Phosphate materials in Germany. S. B. Redecker. Can Chem & Process Ind 24:122 Mr '40

Italy

L'industrie italienne des engrais. G. Blumenthal. Chimie & Ind 43:620-3 Ap 5 '40

United States

Fertilizers, 1940. C. J. Brand. il Manuf Rec 109:41+ Ja '40

See also
National fertilizer association

FERTILIZERS

American chemical society; Division of fertilizer chemistry; abstracts of papers presented at Detroit, Sept. 9-13. Chem & Ind 59:677-81, 697-700 S 28, O 12 '40

Fluoride-induced reversion in mixtures of superphosphates and calcined rock phosphate. W. H. MacIntire and L. J. Hardin. bibliog Ind & Eng Chem 32:88-94 Ja '40

Potassium metaphosphate; a potential high-analysis fertilizer material. S. L. Madorsky and K. G. Clark. bibliog il Ind & Eng Chem 32:244-8 F '40

TVA to spend $6,500,000 on fertilizer program. Oil Paint & Drug Rep 137:3+ Ja 29 '40

What does the soil need? H. T. Rutledge. il Sci Am 162:207 Ap '40

See also
Ammonium sulfate
Nitrates
Phosphates
Potash
Refuse as fertilizer
Sodium nitrate

Analysis

Routine determination of equivalent acidity or basicity of fertilizers. E. W. Constable. il Ind & Eng Chem Anal ed 12:214-15 Ap 15 '40

Manufacture

Fertilizer practice at Curtis bay; Davison chemical corp. R. S. McBride. il diag Chem & Met Eng 47:4-9 Ja '40

Granulating phosphate fertilizers; Davison chemical corp. J. N. Mackall and M. Shoeld. flow diag il plan Chem & Met Eng 47:102-5 F '40

See also
Phosphates—Manufacture

FESSENDEN, Reginald Aubrey, 1866-1932

Fessenden; builder of tomorrows. H. M. Fessenden. 362p bibliog(p353-62) $3 Coward-McCann, New York '40

FEVER

Essentials of fevers. G. E. Breen. 273p $3 Williams & Wilkins '39

Ker's Manual of fevers. C. B. Ker. 4th ed rev 354p $4.50 Oxford '39

See also
Malaria
Rheumatic fever
Scarlet fever
Typhoid fever
Typhus fever
Undulant fever
Yellow fever

FEVER, Therapeutic

Fever therapy locally induced by conditioned air. M. B. Ferderber, F. C. Houghten and C. Gutberlet. bibliog il diags Heating-Piping 12:323-5 My '40

FIBER, Vulcanized. See Vulcanized fiber

FIBER board

Aging properties of fiber building boards. Pulp & Pa of Can 41:448 Je '40

Insulation board for home building. il diags plans Am Bld 61:43-71 D '39

Making walls sound-proof; radio and moving picture studios. M. Rettinger. diags Eng N 124:723-5 My 23 '40

See also
Masonite
Wall board

Manufacture

Carterite process for making resin boards and blanks. R. B. Landrigan and H. Rosecaln. diag Mod Plastics 17:50 D '39

Johns-Manville products corporation, Jarratt, Virginia. il Paper Tr J 109:84, 86-7 N 30 '39

New products from wood; Masonite products. J. A. Lee. il Chem & Met Eng 47:95-8 F '40

Plastics and chemicals from wood; Masonite products. R. M. Boehm. il Paper Tr J 110:35-8 My 2 '40

Process heating uses oil for heat transfer; insulation board production; Fir-Tex insulating board company use Gilsonite as covering. R. M. Hermann. il diag Elec W 114:1319-20 N 2 '40

FIBER board, Paper. See Paper board

FIBERDOWN. See Textile fabrics—Coating

FIBERGLAS. See Glass fibers

FIBERGLAS fabrics. See Glass fabrics

FIBERS
Color atlas for fiber identification. J. H. Graff. 27p bds $12.50 Institute of paper chemistry, Appleton, Wis. '40
Cross sections of pulp fibers. J. H. Graff, M. A. Schlosser and E. K. Nihlen. il Paper Tr J 111:75-80 Ag 29 '40
Determination of crude fiber; potassium sulfate as a filtration aid. A. M. Neubert, F. VanAmburgh and J. L. St John. Ind & Eng Chem Anal ed 12:451 Ag 15 '40
Diameter variation in cellulose fibrils. A. J. Bailey and R. M. Brown. bibliog il Ind & Eng Chem 32:57-63 Ja '40
Existence and nature of fiber membranes. H. F. Lewis, F. E. Brauns and M. A. Buchanan. Paper Tr J 110:36-8 F 1 '40
Flocculation and dispersion of papermaking fibers. A. Erspamer. bibliog Paper Tr J 110: 33-8 Je 13 '40
Hydraulic problems of the pulp and paper industry. M. L. Edwards. il plan Mech Eng 62:665-9 S '40
Inorganic fibres; developments in production of asbestos, quartz, glass, mineral wool and metallic fibres. D. Wolochow. il Can Chem & Process Ind 24:333-5 Jl '40
Intermicellar hole and tube system in fiber structure. H. Mark. il diags J Phys Chem 44:764-88 bibliog(118 references, p785-8) Je '40
Mercerisation of various cellulose fibres. J. R. Katz and J. Seiberlich. bibliog Pulp & Pa of Can 41:337-40 Ap '40
Microdissection of paper pulp fibers. C. W. Hock and W. Seifriz. il diag Paper Tr J 110:31-2 F 1 '40
Practical application of the classification of groundwood pulp. B. A. Koskinen. il Pulp & Pa of Can (Convention no) 41:132-8 [F] '40
Rags and substitutes in the dry felt industry. A. Whittemore. Paper Tr J 110:22-3 Je 6 '40
Trying out mineral fiber as concrete reinforcement; developed from polyvinyl chloride with hydrochloric acid. S. B. Redecker. Concrete 48:43 My '40

See also
Bast fibers
Cotton fibers
Flax
Hemp
Henequen
Jute
Lint
Paper
Rayon fibers
Silk
Textile fibers
Vulcanized fiber
Wool

FICTION

Bibliography

Early New York library of fiction; with a checklist of the fiction in H. Caritat's circulating library, No. 1 City hotel, Broadway, New York, 1804. G. G. Raddin, jr. 113p $2.25 Wilson, H.W. '40

FIDELITY and deposit company of Maryland
50 years of progress. W. L. Clapp and S. C. Doolittle. East Underw 41:32, 34, 38 O 4 '40

FIDELITY mutual life insurance company
Historical sketch. T. Eagan. il Spectator (Life ed) 145:13 S 26 '40

FIELD, Marshall, and company. See Marshall Field and company

FIELD, Reginald H.
Personnel practices award to R. H. Field. por Am Gas J 153:18+ N '40

FIELD houses. See Gymnasiums

FIELD museum of natural history, Chicago
Annual report for 1939. C. C. Gregg. Science 91:495-6 My 24 '40

Expeditions

Expedition to the Caribbean. Science 91:284 Mr 22 '40
Expeditions. Science 91:65 Ja 19 '40
Survey of the flora of Guatemala. Science 92:305 O 4 '40
Zoological expedition. Science 90:610-11 D 29 '39

FIFTH column
C.P. column; fifth column of Stalin. il Fortune 22:88-9+ N '40
Fifth column in America. H. Lavine. 240p $2.50 Doubleday '40
Fortune survey; curbs for Trojan horses. Fortune 22:supp4 Jl '40
War of nerves: Hitler's helper; Mussolini aims to win five million Italo-Americans for fascism. il Fortune 22:85-7, 108+ N '40
War of nerves: U.S. front; Nazi agents in United States. il Fortune 22:46-51+ O '40

See also
European war, 1939
—Propaganda

Bibliography

Trojan-horse bibliography; the European fifth-column and American morale-resistance, 1939-1940. T. W. Huntington, comp. N Y Pub Lib Bul 44:741-4 O '40

FIGURE drawing
Figure construction. A. Bement. rev ed 124p $2.40 Gregg '39
Figure-drawing for beginners. D. Furniss. 287p $3.50 Bridgman publishers, Pelham, New York '40

FIGURES (numbers). See Numerals

FIJI ISLANDS
In the wake of a traveling engineer. J. C. Gosgrove. il map Explosives Eng 18:313-16 O '40

See also
Labor and laboring classes—Fiji Islands

FILAMENTS
Monolayers on solids. I. Langmuir. Chem Soc J p511-43 Ap '40

FILENE'S, William, sons company
Income account for years ended Jan. 31, 1937-40. Comm & Fin Chr 150:3822 Je 15 '40

FILES and filing (documents, etc.)
Allocation of filing space. Management R 29: 264-5 Jl '40
Centralized files; abstract. B. M. Weeks. Management R 29:242-3 Jl '40
Correspondence and research reports in a library; du Pont Jackson laboratory library, Wilmington. H. Woodward. Special Lib 31:321-4 S '40
Disposition of inactive records. Management R 29:210-11 Je '40
Effective business contacts based on a comprehensive file. H. R. Pennell. il Bankers Mo 57:552-3 O '40
Engineering records; drafting room methods; use of photography; Pneumatic scale corporation. G. F. Burton. il Product Eng 11: 220-2 My '40
Filing photographic copies for articles. E. T. Evans and R. M. Goepp, jr. Science 91:248 Mr 8 '40
Improving bank filing methods; change to a centralized filing plan. L. E. Dishongh. il Burroughs Clearing House 25:14-16+ N '40
Indexing and filing scientific photographs. J. M. Trefethen. Science 91:24 Ja 5 '40
Information file; manufacturing data and catalog material. G. H. Alberga. Textile World 90:56 Jl '40
New folder simplified our trust records. W. F. Howell. il Bankers Mo 57:216-17 Ap '40
Personal file of geologic photographs. C. K. Wentworth. Science 91:438 My 3 '40
Place of an index in health department record keeping. J. W. Mountin and E. Flook. Pub Health Rep 55:387-93 Mr 8 '40
Simple method for the filing of microfilm records in short length strips. H. P. Brown and J. A. Austin. Science 90:573-4 D 15 '39
William Penn's real estate; pictures of record department, Land title bank and trust company, Philadelphia. Banking 32:34-5 Ap '40

See also
Banks and banking—Records
Classification
Records, Visible

FILES and rasps
Eighteenth-century industrialist; Peter Stubs of Warrington, 1756-1806. T. S. Ashton. 156p 8s 6d Manchester univ. press, Manchester, Eng. '39

FILES and rasps—*Continued*
Walters and Dobson file grinding machines. il diag Engineer 169:263-4 Mr 15 '40

FILING cabinets
Finishing filing cabinets and allied steel office units. F. V. Faulhaber. il Metal Finishing 38:622-4 N '40 (to be cont)
Press brakes in mass production in an English plant. il diags Mach 47:149 S '40

FILING machines
Grob improved continuous-motion filing machine. il Mach 47:161 O '40
Herbert jig sawing and filing machine. il Engineer 168:600 D 15 '39; Engineering 149: 100 Ja 26 '40
Lorant rotary filing machine. il Engineering 150:67 Jl 26 '40; Engineer 169:577 Je 28 '40
Marburg duplex punch and die filer. il Am Mach 84:637-8 Ag 21 '40
Using microscopes to facilitate accurate machine work. A. Baker. il Mach 46:129 Mr '40

FILLING
Accelerated settlement of embankments by blasting. A. W. Parsons. il diag Pub Roads 20:197-202 D '39
Application of soil mechanics in building the New York world's fair. G. L. Freeman, G. W. Glick and H. Gray. il plans Civil Eng 10:649-52 O '40
Cutting culvert cost under high fills; Moffat railway. il diag Eng N 125:632-3 N 7 '40
Graphical analyses of the stability of soil. E. S. Barber and C. E. Mershon. bibliog diags Pub Roads 21:147-57 O '40
Health experts endorse landfills and recommend best practice. Eng N 124:446-7 Mr 28 '40
Highway fills over swamps settled quickly by dynamite. il Concrete 48:5 S '40
How refuse disposal is accomplished by sanitary fill. J. L. Vincenz. diag Pub Works 71:47 Mr '40
Light weight soils used in heavy Idaho fill. J. A. West. il diags map Roads & Sts 83:48+ O '40
Modern construction methods on earth dams O. N. Floyd. il Civil Eng 10:487-90, 586-9 Ag-S '40
New 69-mile Everglades highway. il diag map Eng N 125:270-2 Ag 29 '40
New York municipal airport. B. B. Somervell. Civil Eng 10:202-3 Ap '40
Operating a sanitary fill at Fresno, Calif. J. L. Vincenz. il Civil Eng 9:746 D '39
Sawmill waste covers refuse fills. Eng N 123: 705 N 23 '39
65,000 yards daily at Hansen dam. il Eng N 124:497-500 Ap 11 '40
Soil science applied to the construction of embankments. C. E. Beland. Can Eng R & B 78:28, 79-81 Ap '40
Soil tests control stadium fill at Lynchburg, Va. G. Hadden. il diag Eng N 124:590-2 Ap 25 '40
Transatlantic seaplane base, Baltimore, Maryland. W. W. Pagon. Am Soc C E Proc 66:1471-6 O '40

FILLING machines
Mechanisms designed for filling containers with pencil leads and applying covers. diags Mach 46:159-60 Ap '40

FILLING materials
Dicalite fillers for rubber; use in mechanical goods. Rubber Age 46:228 Ja '40
Some experiences with expansion joints in concrete pavements; rubber and rubber compounds used as a filler or seal. A. P. Anderson. il Pub Roads 21:57-61 My '40; Excerpt. Concrete 48:6 O '40
See also
Paper making—Fillers
Pavements, Bituminous—Fillers

FILM slides. See Slide films

FILMS
Airplane dopes; relation of tautening and weathering qualities to composition. F. W. Reinhart and G. M. Kline. bibliog il Ind & Eng Chem 32:184-93 F '40
Der anstrichfilm als wissenschaftliches problem. A. V. Blom. bibliog Angew Chemie 53: 40-2 Ja 20 '40
Cerin and friedelin; surface films of cerin, friedelin and some related substances. N. L. Drake and J. K. Wolfe. bibliog Am Chem Soc J 62:3018-21 N '40
Concave spherical crystals of barium-copper-stearate for use in long wave-length X-ray spectrometers. C. L. Andrews. il diag R Sci Instr 11:111-14 Ap '40
Drop-wise and film condensation of steam. F. L. Shea, jr. and N. W. Krase. bibliog diags Am Inst Chem Eng Trans 36:463-87; Discussion, 487-90 Ag '40
Electrolyte films in acid copper plating baths. H. J. Read and A. K. Graham. diags Electrochem Soc Trans 78 (preprint 1):1-23 O '40
Evaporation of water through unimolecular films. F. Sebba and H. V. A. Briscoe. diags Chem Soc J p106-14 F '40
Figures in thin layers of grease and viscous liquids. W. D. Kumler. il J Phys Chem 44: 612-18 My '40
Film-forming plastics; effect of solvents, diluents, and plasticizers on properties of films formed from airplane dopes. F. W. Reinhart and G. M. Kline. Ind & Eng Chem 31:1522-9 D '39
Fresnel formulae applied to the phenomena of nonreflecting films. K. B. Blodgett. Phys R 57:921-4 My 15 '40
Impedance of bimolecular films. R. B. Dean, H. J. Curtis and K. S. Cole. Science 91: 50-1 Ja 12 '40
Infra-red transmission of thin films of various organic materials. A. J. Wells. J Ap Phys 11:137-40 F '40
Interactions between polycyclic hydrocarbons and sterols in mixed surface films at the air-water surface. W. W. Davis, M. E. Krahl and G. H. A. Clowes. Am Chem Soc J 62:3080-98 N '40
Intramolecular folding of polypeptide chains in relation to protein structure. H. Neurath. bibliog il J Phys Chem 44:296-305 Mr '40
Linseed oil films; permeability, adsorption, and solubility. H. F. Payne. bibliog il Ind & Eng Chem 32:737-43 My '40
Monolayers on solids. I. Langmuir. Chem Soc J p511-43 Ap '40
New ageing phenomenon in unimolecular films on water. F. Sebba and H. V. A. Briscoe. Chem Soc J p128-31 F '40
New method for investigating the refractive index and the thickness of thin interference films on glass. A. Vašiček. diags Phys R 57:925-31 My 15 '40
Paint films of controlled thickness. H. G. Arlt. il Metal Ind 38:123-4 F '40
Performance of packed towers; experimental studies of absorption and desorption. T. K. Sherwood and F. A. L. Holloway. bibliog Am Inst Chem Eng Trans 36:21-36; Discussion. 36-7 F '40
Performance of packed towers; liquid film data for several packings. T. K. Sherwood and F. A. L. Holloway. bibliog diag Am Inst Chem Eng Trans 36:39-69, 181-2 F, Ap '40; Discussion. 36:69-70 F '40
Pressure-soluble and pressure-displaceable components of monolayers of native and denatured proteins. I. Langmuir and D. F. Waugh. diags Am Chem Soc J 62:2771-93 O '40
Producing uniform films. Oil Paint & Drug Rep 138:52 N 4 '40
Research, 1939; thin films. G. Bartlett. il Gen Elec R 43:52-3 Ja '40
Spontaneous extension of cellulose acetate films. E. Freund and F. Deutsch. bibliog Rayon 21:280-3 My '40
Spreading of binary mixtures of volatile organic liquids on water. C. P. Keim and E. R. Washburn. bibliog Am Chem Soc J 62: 2318-20 S '40
Spreading of volatile organic liquids on water in the presence of unimolecular films. E. R. Washburn and C. P. Keim. bibliog Am Chem Soc J 62:1747-9 Jl '40

FILMS—*Continued*
Studies of solutions of hydrocinnamic acid and of lauryl sulfonic acid with the film balance. J. W. McBain and W. V. Spencer. Am Chem Soc J 62:239-44 F '40
Study of monolayers of some esters and chlorinated derivatives possibly useful as lubricating addition agents. G. L. Clark and J. V. Robinson. bibliog Am Chem Soc J 62:1948-51 Ag '40
Study of oleoresinous film structure. F. R. McQuilkin and R. C. Ernst. Oil Paint & Drug Rep 138:45-6 N 4 '40
Surface films in metal cleaning. E. C. Rinker. Metal Ind 38:20-1 Ja '40
Surface tension of a solvent-diluent mixture. J. K. Stewart and G. C. Hook. bibliog il Ind & Eng Chem 32:871-6 Je '40
Thickness of a liquid film adhering to a surface slowly withdrawn from the liquid. F. C. Morey. bibliog diags J Research Nat Bur Stand 25:385-93 S '40
Variation of the solubility of unimolecular films with surface pressure, and its effect on the measurement of true surface pressure. F. Sebba and H. V. A. Briscoe. Chem Soc J p114-18 F '40
Viscosity of monolayers: a test of the canal viscosimeter. G. C. Nutting and W. D. Harkins. bibliog diags Am Chem Soc J 62:3155-61 N '40
Wetting characteristics of solid surfaces covered with adsorbed films. F. E. Bartell and K. E. Bristol. bibliog diags J Phys Chem 44:86-101 Ja '40
X-ray and optical properties of built-up films. S. Bernstein. bibliog il Am Chem Soc J 62:374-8 F '40

See also
Lubrication and lubricants
Surface phenomena

FILMS, Metallic
Colored films in micrography. A. Portevin. il Metal Prog 36:761-2+ D '39
Conductivity and mobility of thin lead films. M. G. Foster. bibliog il diags Phys R 57: 42-6 Ja 1 '40
Cuprous-cupric oxide films on copper. C. G. Cruzan and H. A. Miley. J Ap Phys 11:631-4 O '40
Electron diffraction study of anodic films; abstract. R. A. Harrington, B. F. Goodrich and H. R. Nelson. Iron Age 145:42 F 22 '40
Identification of aluminum hydrate films of importance in silicosis prevention. L. H. Germer and K. H. Storks. bibliog il Ind & Eng Chem Anal ed 11:583-92 N 15 '39; Abstract. Bell System Tech J 19:152-5 Ja '40
Investigation of thin evaporated silver films on glass. J. Strong and B. Dibble. diag Opt Soc Am J 30:431-8 S '40
Lubrication in vacuum by vaporized thin metallic films. Z. J. Atlee, J. T. Wilson and J. C. Filmer. il diag J Ap Phys 11:611-15 S '40
Precision flicker photometer, for measurement of optical densities of thin metallic films. G. Timoshenko and W. J. Glasson. bibliog il diags Illum Eng 35:162-8 F '40
Preparation of thin films of uranium and thorium by cathode sputtering. C. C. Van Voorhis. R Sci Instr 11:77 F '40
Protection of silver by the electrolytic deposition of beryllia. L. E. Price and G. J. Thomas. bibliog il Metal Ind 37:507-10 N '39; Same cond. Engineering 148:675-6 D 15 '39
Secondary emission from films of platinum on aluminum. P. L. Copeland. Phys R 58: 604-7 O 1 '40
Secondary emission from films of silver on platinum. A. E. Hastings. bibliog diag Phys R 57:695-9 Ap 15 '40
Some recent studies of thin oxide films on metals. W. H. J. Vernon. Chem & Ind 59: 87-8; Discussion. 88-9 F 10 '40
Translucent films of aluminum oxide. R. E. Vollrath. diags J Phys Chem 44:401-4 Ap '40

FILMS, Photographic. See Microfilms; Moving picture films; Photography—Films; Slide films

FILTER bags
Characteristics of cloth filters handling coal dust and air mixtures. A. R. Mumford, A. A. Markson and T. Ravese. diags Concrete (mill sec) 48:152-3 Ap '40
Recent progress in dust collecting equipment; cloth bag filters. il diags Sheet Metal Worker 31:51-4 Ja '40

FILTER cloth
Determination of cloth area for industrial air filters. C. E. Williams, T. Hatch and L. Greenburg. il diag Heating-Piping 12:259-63 Ap '40
How to reduce filter cloth blinding in filtering sewage sludge. Eng N 125:622 N 7 '40

FILTER paper
Distinguishing individual quantitative filter papers. C. E. Otto. J Chem Educ 17:519 N '40

FILTER presses
Diatomite an aid in filtering cyanide precipitate. E. C. Bitzer. diag Eng & Min J 141: 52-3 O '40
Longer useful life for your filter presses, P. Kriegel. il diags Chem Ind 45:561-3 N '39
Shriver quick cleaning filter press. il Metal Finishing 38:602-3 N '40

FILTER sand. See Sand, Filter

FILTERS, Air. See Air filters

FILTERS, Electric. See Electric filters

FILTERS, Light. See Light filters

FILTERS and filtration
Complete control of filter plant; Fairfax (Ala.) mills, West Point mfg. co. Textile World 89:110 N '39
Effectiveness of sand filters in removing floc. G. B. McCall, S. E. Edwards and E. S. Hopkins. Am Water Works Assn J 32:147-51 Ja '40
Filter sand. T. M. Riddick. diags Am Water Works Assn J 32:121-36; Discussion. 136-46 Ja '40
Filter sand from a producer's standpoint. H. J. Gerrard. Am Water Works Assn J 32:152-4 Ja '40
Floculation et filtration des eaux dans l'industrie. E. Desroches. Chimie & Ind 42: 954-6 D '39
Nozzle replacement on trickling filters. R. S. Lanphear. il Water Works & Sewerage 87:236 My '40
Porous filter bottoms at Flat Rock, Mich. L. Stevens. il Water Works Assn J 32:494-9 Mr '40; Same. Water Works & Sewerage 87:111-13 Mr '40; Discussion. H. T. Campion. Am Water Works Assn J 32:500-1 Mr '40
Porous plate filter bottom at Larchmont, N.Y. H. T. Hotchkiss, jr. bibliog il Water Works & Sewerage 86:442-4 N '39
Removal of salts from water. R. F. Goudey. bibliog Am Water Works Assn J 32:435-49; Discussion. 450-5 Mr '40
Round-table conference; operation of water filters during warm weather. Can Eng W & S 78:23+ S '40
Tentative specifications and tests for vitrified clay filter block for trickling filters. Pub Works 71:72+ Ap '40

See also
Filtration plants
Sewage disposal—Filtration
Water purification
Waterworks

Cleaning
Air-water combination wash. F. C. Amsbury, jr. Water Works & Sewerage 87:114 Mr '40
Clean filters! a year's experience with the Palmer filter sweep. E. C. Goehring. il Water Works & Sewerage 87:282-5 Je '40
Increasing filter efficiency. H. Nix. il Textile World 90:62-3 Ag '40

Vacuum filters
Filter dressing rig. W. D. Sheets. il diag Water Works & Sewerage 86:490-1 D '39

FILTERS and filtration (technical chemistry)
Centrifugals, filters and thickeners at chemical exposition. il Chem & Met Eng 46:691-2 N '39

FILTERS and filtration (technical chemistry) —*Continued*

Determination of crude fiber; potassium sulfate as a filtration aid. A. M. Neubert, F. VanAmburgh and J. L. St John. Ind & Eng Chem Anal ed 12:451 Ag 15 '40

Diatomite an aid in filtering cyanide precipitate. E. C. Bitzer. diag Eng & Min J 141: 52-3 O '40

Filter aids. A. L. Olsen. diag Ind & Eng Chem Anal ed 12:254 My 15 '40

Filter cooler for producer gas plants. diags Engineer 168:529 N 24 '39

Filtering apparatus. J. F. Kings and H. F. Priest. diags Ind & Eng Chem Anal ed 12: 418-19 Jl 15 '40

Filtration problems. Am Inst Chem Eng Trans 36:sup20-1 S '40

Filtration's future. A. Wright. il Ind & Eng Chem 32:617-21 My '40

Fluid drive in Canadian paper mills for speed control of rotating screen cylinders of vacuum filters. il diag Paper Tr J 111:14-15 Jl 11 '40

High speed filtration for cleaning and plating solutions. R. J. Green. il Metal Ind 38:203-5 Ap '40

How slurry filters solved a big problem in wet-process manufacture. il Concrete (mill sec) 48:182-3 Je '40

How to remove lead from maple sirup; traces of it and other heavy metals can be precipitated and filtered out. A. Conlin. il plan Food Ind 12:52-3 Ja '40

New developments in treatment of milk wastes. L. F. Warrick. bibliog flow diag il Food Ind 12:46-8, 99 S '40

New thermofor kiln and clay-regeneration processes for maintaining decolorizing clays at high efficiencies. T. P. Simpson and J. W. Payne. il diags Am Pet Inst Proc 20(3): 7-14 '39; Same. Nat Pet N 31:R486-7, R490-2 N 15 '39; Same. Oil & Gas J 38:147, 150+ N 17 '39; Discussion. Am Pet Inst Proc 20(3):14-15 '39

Preparing asbestos for filtering mats. B. L. Kaspin. diag Ind & Eng Chem Anal ed 12:517 S 15 '40

Simple hot filtrations and crystallizations. J. W. Dawson and W. M. Dehn. il Ind & Eng Chem Anal ed 12:317 Je 15 '40

Small centrifuge tube filter. T. Perrine and W. Kump. diag Ind & Eng Chem Anal ed 11:658 D 15 '39

Some variables in filter clays. L. M. Henderson, C. M. Ridgway and W. B. Ross. Am Pet Inst Proc 21M(3):30-6 My '40; Same. Nat Pet N 32:R193, R195, R197-9 My 29 '40; Discussion. Am Pet Inst Proc 21M(3):36-8 My '40

Suction filtration apparatus for sampling filtrates under constant pressure. E. T. Fukunaga and L. A. Dean. diag Ind & Eng Chem Anal ed 12:471 Ag 15 '40

See also

Air filters
Filter paper
Filter presses
Oil filters

FILTRATION plants

Chicago's first filtration plant to serve half of city's area. il plan Concrete 48:3-4 Jl '40

Chicago's South District water filtration project. A. E. Gorman. front il diag plans W Soc E J 44:275-305 D '39

Construction and operation of rapid sand filters at Lawrence, Mass. A. L. Shaw and E. S. Chase. il diags plan N E Water Works Assn J 53:412-40 D '39; Excerpts. Eng N 123:828-9 D 21 '39; Abstract. Water Works & Sewerage 86:455 N '39; Discussion. F. H. Kingsbury. N E Water Works Assn J 53:441-3 D '39

Filtered water for Chicago. L. D. Gayton. il diags plan Eng N 123:682-5 N 23 '39

Filtration plant visitors: Cambridge, Mass. F. E. Smith. il Pub Works 70:14-16 D '39

Laboratory control and operating experiences at the Hammond, Indiana, filtration plant. J. C. Vaughn. il Am Water Works Assn J 31:2137-48 D '39

Larvae and crustacea; problem in water purification and corrective measures. R. A. Thuma. Water Works & Sewerage 87:214-15 My '40

Men behind filtration in Chicago. A. E. Gorman. Eng N 123:840-1 D 21 '39

Modern filter plant treats 100 gals. per minute; Clarkesville, Ga. il Pub Works 71:24 Je '40

New filter plant replaces old at Thomaston, Ga. il Pub Works 71:12 Jl '40

Softening plant of the metropolitan water district of southern California. C. P. Hoover, J. M. Montgomery and W. W. Aultman. bibliog flow sheets il Water Works & Sewerage 87:293-8 Jl '40

Vest pumping station and filter plant; abstract. G. S. Rawlins. Water Works & Sewerage 87:17 Ja '40

Water purification plant at Frankenmuth, Mich.; view and plan. Pub Works 71:9 Ag '40

Water-softening and filtration plant of the metropolitan water district of southern California. J. M. Montgomery and W. W. Aultman. flow diag diags plans Am Water Works Assn J 32:1-24 Ja '40

Water supply is born; Harrisburg, Pa. F. Gannett. il Eng N 124:577-9 Ap 25 '40

World's largest filtration plant. L. D. Gayton. il diag plans map Am Water Works Assn J 32:1359-74; Discussion. 1374-80 Ag '40

See also

Filters and filtration
Sewage disposal—Filtration
Water purification
Waterworks

Equipment

Additions and changes at Fredericksburg. R. J. Leveque. Am Water Works Assn J 32:641-4 Ap '40

Concentrator for solids in filter effluent. H. Weigand. diags Am Water Works Assn J 32:1528 S '40

Double-deck settling basins; Chicago's water filtration plant. L. D. Gayton. il diags Eng N 124:528-30 Ap 11 '40

Experiences with the Palmer filter agitator at Olean. J. E. Rehler. Am Water Works Assn J 32:1381-4 Ag '40

Milwaukee's water purification plant. J. P. Schwada. il diags plan Water Works & Sewerage 87:137-45, 195-200 Ap-My '40

New filter plant and pumping station at Raleigh, N.C. W. C. Olsen. il diag plan Water Works & Sewerage 87:449-60 O '40

New water filtration plant for Fort Benning, Georgia. R. B. Johnston. il Pub Works 70: 20-2 D '39

Management

Tuning up the new Milwaukee filtration plant. J. E. Kerslake. Am Water Works Assn J 32:1310-20 Ag '40; Excerpts. Eng N 125:339-40 S 12 '40

FINANCE

Banking and financial subject headings for bank libraries and financial information files. 98p $4; to members $3 Special lib. assn. '40

Business man's stake in government finance; lectures delivered at the third annual Stanford business conference, July 17-21, 1939. H. L. Lutz. 119p pa $1 Graduate school of business, Stanford univ, Calif. '40

City page. F. Lee. 228p 75c Nelson '39

Forum on finance. G. B. Roberts, ed. 233p $2.50 Columbia univ. press '40

Picture of business; charts and maps. Banking 33:49-53 S '40

Principles of public finance. M. H. Hunter and H. K. Allen. 672p $3.50 Harper '40

Public finance. A. G. Buehler. 2d ed 846p $4 McGraw-Hill '40

World finance, 1939-1940. P. Einzig. 271p $2.75 Macmillan '40

See also

Auditing
Automobile industry and trade—Finance
Bankruptcy
Banks and banking
Banks and banking—Finance
Bonds
Budget
Building—Finance
Capital
Chain stores—Finance
Collecting of accounts
Commerce
Corporations—Finance
County finance
Credit
Debts, Public
Electric utilities—Finance
Finance companies
Financial statements
Foreign exchange
Gold as money
Holding companies

FINANCE—See also—*Continued*

Housing finance
Income
Income tax
Inflation (finance)
Insurance
Interest
Investment trusts
Investments
Loans, Bank
Local government—Finance
Mining industry and finance
Money
Motor bus lines—Finance
Municipal finance
Petroleum industry and trade—Finance
Prices
Profit
Public utilities—Finance
Public works—Finance
Railroads—Finance
Roads—Finance
School finance
Securities
Speculation
State finance
Stock exchange
Stocks
Surplus
Tariff
Taxation
Trusts, Industrial

Bibliography

Selected bibliography of money, credit, banking and business finance. R. B. Westerfield. 136p pa $1.50 Bankers pub. co, 465 Main st, Cambridge, Mass. '40

Argentina

Argentina had deficit of 60,500,000 pesos at end of 1939 financial year. Comm & Fin Chr 151:1068-9 Ag 24 '40

Loan requested. Business Week p68 N 16 '40

Australia

War finance in Australia. Economist 138: 812-13 My 4 '40

Canada

Canada looks beyond the war; financial policy designed to avoid inflation and minimize final readjustment. C. H. Herbert. Barron's 20:7 F 26 '40

Canada's credit position. Bankers M 141:241-2 S '40

Canada's war budget; sentiment divides on whether to tax heavily now or take long-range basis. Business Week p55 My 25 '40

Canada's war financing. Economist 139:45-6 Jl 13 '40

Canadian business; Dominion government revenues and expenditures, 1931-40. Annalist 56:116-17 Jl 25 '40

Canadian financial measures. Fed Res Bul 26:677-8 Jl '40

Canadian tax increases likely; government borrowing probable, too. C. H. Herbert. Barron's 20:18 My 13 '40

Economic reconfederation; Sirois report on Dominion-provincial relations charts new financial patterns. J. R. Johnson. Trusts & Estates 71:5-8+ Jl '40

Year of war finds no sign of inflation in Canada; war loan oversubscribed. S. L. Miller. Annalist 56:404-5 S 26 '40

Chile

Chilean finance. Economist 138:570 Mr 30 '40

China

Chinese government finance. Economist 139: 398-9 S 28 '40

Export-import bank loans $25,000,000 to China; United States to purchase $30,000,000 worth of tungsten. Comm & Fin Chr 151: 1821 S 28 '40

Cuba

Government revenues; budget outlook; proposed issue of Treasury notes. For Comm W 1:197 N 2 '40

Egypt

Abolition of public debt commission. For Comm W 1:249 N 9 '40

Europe

Financial situation abroad. Published in monthly numbers of Bankers magazine

Finland

Finnish plan for covering war loses. Comm Rep p441 My 18 '40

France

Annual report of the Bank of France for year ending Dec. 21, 1939. Fed Res Bul 26: 535-44 Je '40

French financial measures of Feb. 29, 1940. Fed Res Bul 26:406-7 My '40

French government's mobilization of foreign assets; trend of recent decrees. E. C. Stiefel. Annalist 54:756 D 14 '39

Germany

Financing of German war industries: a new stage in Nazi borrowing policy. G. Reimann. Annalist 56:429-30 O 3 '40

Germany's war finance; industrial machine decaying; private investment dead. G. Reimann. Annalist 54:821+ D 28 '39

Nazis ease capital restrictions. B. Ravits. Barron's 20:7 S 2 '40

Great Britain

Another budget; first supplementary budget. Economist 139:66-7 Jl 20 '40

Britain finances war by borrowing. Business Week p58-9 Ap 27 '40

Britain seeks billions for war; faces problems of taxation and loans to control inflation. F. B. Makin. Barron's 20:9 Ap 1 '40

Budget; revenue and expenditure. Economist 138:sup 1-6 Ap 13 '40

Checks on public spending; appointment of Select committee on national expenditure. Economist 137:201-2 N 11 '39

Economic aspects of British conscription of assets; danger of inflation. G. Reimann. bibliog Annalist 55:291+ F 22 '40

English theories of central banking control, 1819-1858, with some account of contemporary procedure. E. Wood. 250p bibliog(p221-38) $5 Harvard univ. press '39

Government revenue and expenditure, period ending Dec. 31, 1939, as compared with the corresponding period of the preceding year; tabulation. Economist 138:39 Ja 6 '40

Government revenue and expenditure, period ending March 31, 1940, as compared with the corresponding period of the preceding year. Economist 138:662 Ap 6 '40

Government revenue and expenditure; period ending June 30, 1940, compared with the corresponding period of the preceding year. Economist 139:29 Jl 6 '40

More taxation? Economist 138:2-3, 46-7 Ja 6-13 '40

On the world economic front; British military finance. W. W. Case. Annalist 54:659-60 N 23 '39

Technique of inflation; possible methods of British war finance. Economist 138:136-7 Ja 27 '40

Three per cent. war; discussion of a war loan policy for Britain. Economist 138:88-9 Ja 20 '40

Treasury deposits; new device of government short-term borrowing by way of six-months Treasury deposits from the clearing and Scottish banks. Economist 139:49 Jl 13 '40

United Kingdom; internal control, new taxation, government expenditure. Fed Res Bul 25:1044-5 D '39

See also

Bonds, Government—Great Britain
Budget—Great Britain
Money—Great Britain
Taxation—Great Britain

Indiana

Indiana state disbursements. G. A. Steiner. diags Indiana Univ Bur of Business Research, Business Studies 15:1-63 '39

Ireland

Eire's uneasy finances. Economist 138:682-3 Ap 13 '40

Italy

Italian budget accounts for the fiscal year 1938-39. Comm Rep p335 Ap 13 '40

Italy's imperial budget and new loans. Economist 138:616-17 Ap 6 '40

See also

Budget—Italy

FINANCE—*Continued*

Japan

National finance council organized; special banks revise policy. For Comm W 1:255 N 9 '40

Netherlands

War finance in Holland. Economist 138:201-2 F 3 '40

Netherlands Indies

Exchange and finance. For Comm W 1:62-3 O 12 '40

New York (city)

Does transit unification help city's credit? increase in subway and elevated fares would not increase New York's revenues. H. N. Bulow. Barron's 20:19 Jl 8 '40

Fiscal facts concerning the city of New York; a 20 year statistical summary of the city's finances. 90p $2.50; pa $1.50 Citizens budget commission, 51 E. 42d st, New York '40

New York (state)

See also
Budget—New York (state)

Peru

Exchange and finance. For Comm W 1:66 O 12 '40

Spain

Anglo-Spanish agreements; a loan, a payments and a trade agreement. Economist 138:514-15, 522+ Mr 23 '40

Turkey

Turkish budget receipts increase. Comm Rep p233 Mr 9 '40

United States

Agencies involved in the administration's hopes to avoid raising debt limit; recapturing excess capital funds of government corporations. S. L. Miller. Annalist 55:651-2+ My 9 '40

America's international accounts. A. E. Taylor. Ann Am Acad 211:9-17 S '40

Annual report of the Secretary of the Treasury, fiscal year ended June 30, 1939. Comm & Fin Chr 150:176-8 Ja 13 '40

Banking and Treasury finance in 1939. Fed Res Bul 26:1-8 Ja '40

Business man's interest in national fiscal policy; compensatory fiscal policy versus balanced budget. B. Ruml. Advanced Management 4 no5:122-5 '39

Conference board estimates that from $17,000,000,000 to $19,000,000,000 could be drafted for defense in extreme emergency. Comm & Fin Chr 151:1510 S 14 '40

Control of federal expenditures; a documentary history, 1775-1894. F. W. Powell, comp. 928p $5 Brookings institution, Washington, D.C. '39

Defense financing possibilities. Bankers M 141:342 O '40

Defense financing possibilities studied by Conference board. Comm & Fin Chr 151:1658 S 21 '40

Defense; what of its aftermath? M. Nadler. Inv Banking 10:10-13 O '40

Deficit financing and bank reserves. Fed Res Bul 26:9-10 Ja '40

Domestic banking and finance, 1939. Survey of Cur Business 20:33-7 F '40

Economic balance and a balanced budget; public papers. M. S. Eccles. 299p $3.50 Harper '40

Factors to watch when we start paying for rearmament. M. Palyi. Am Business 10:13-15 Je '40

Federal financial operations, 1939. Survey of Cur Business 20:37-44 F '40

Federal financial system. D. T. Selko. 606p bibliog(p583-90) $3.50 Brookings institution, Washington, D.C. '40

Financing defense. H. D. Ralph. il Burroughs Clearing House 24:9-11+ Jl '40

Financing our preparedness program; should mobilize resource of private investment capital. E. F. Connely. Bankers M 141:106-8+ Ag '40

Financing the cost of armament; serious problems of taxation and credit inflation. W. von Tresckow. Barron's 20:3 O 7 '40

Fiscal policy and recovery; flexibility required under defense program. G. Colm. Trusts & Estates 71:383-4 O '40

Fortune survey on government spending; what to spend for; when to balance the budget; how to pay the bills. Fortune 21:66-7+ Ap '40

Government receipts and expenditures for December, 1939 and 1938 and the six months of the fiscal years 1939-40 and 1938-39. Comm & Fin Chr 150:381 Ja 20 '40 [cont monthly]

How government will finance the armament spending; its impact on business and investment values. W. Gates. Mag of Wall St 66:722-3+ O 5 '40

Investor's stake in government finance. H. L. Lutz. Trusts & Estates 70:129-30 F '40

Monthly report on governmental corporations and credit agencies. Published monthly in Commercial and financial chronicle

National welfare and business stability; the permanent functions of public spending. J. Bauer. 182p bibliog(p179-80) $2 Harper '40

Objections to issuance of currency against gold and silver stocks indicated by Under-Secretary of Treasury Bell. Comm & Fin Chr 151:782-3 Ag 10 '40

Our financial rulers; although immense monetary powers reside in Washington, authority is divided. A. W. Atwood. Barron's 20:9 Ap 22 '40

Paying the bills for war or peace; prerequisite is loosing restrictions on private capital. G. C. Cox. Barron's 20:3 S 16 '40

President's budget message; with condensed summary of U.S. finances, 1914-41. Nat City Bank p19-23 F '40

Public finance (federal), 1936-1939. Survey of Cur Business 1940 Sup p61-5 [supplemented in monthly numbers]

Reallotment of amounts to be paid back to Treasury by government agencies to meet $700,000,000 of deficit announced by President Roosevelt. Comm & Fin Chr 150:2971-2 My 11 '40

Reserves for economic armament; how America's unused capacity can carry the load. J. H. Riddle. Trusts & Estates 71:137-42 Ag '40

Revision in bulletin table on Treasury operations. Fed Res Bul 26:1052-4, 1122 O '40

Summary of Treasury operations; with details of trust accounts and general fund balance, monthly, Nov. 1938-Nov. 1939. Fed Res Bul 26:42 Ja '40 [cont monthly]

Survey predicts possibility of reduction of negotiable Treasury obligations if deficit is cut; U.S. government financing in 1939. Comm & Fin Chr 150:2025 Mr 30 '40

Treasury financial operations. Fed Res Bul 26:633-7 Jl '40

United States defense program; financing defense expenditures. Nat City Bank p62-4 Je '40; Excerpt. Comm & Fin Chr 150:3749 Je 15 '40

U.S. defense: the dollars; budgetary prognosis. Fortune 22:79+ N '40

U.S. government finances, 1914-1941; tabulation. Inv Banking 10:24 Mr '40

United States government securities. Published in weekly numbers of Annalist

U.S. price program seen as beating back revival in business; effects of controlled money and planned economy. R. C. Leffingwell. Ptr Ink 190:11-14, 139-40+ Ja 26 '40

What is holding America back. il Factory Management 98:D1-D12 Ag '40

See also

Banks and banking—United States
Bonds, Government—United States
Budget—United States
Debts, Public—United States
Gold as money—United States
Government expenditures
Inflation (finance)
Money—United States
Reconstruction finance corporation
Silver as money—United States
Taxation—United States

FINANCE, International
Allies tie currencies; financial agreement. Business Week p58 D 16 '39
Dr Puhl of Reichsbank ties gold to mark plan; finds clearing and metallic systems could operate on regular trade basis. Comm & Fin Chr 151:1812-13 S 28 '40
Normal and abnormal international capital transfers. M. Fanno. 120p pa $2 Univ. of Minnesota press, Minneapolis '39

See also
Balance of payments
Debts, Public
Foreign exchange
Investments, Foreign

FINANCE, Personal
Accounting for the individual and family. N. H. Radell. 348p $3 Prentice-Hall '40
Income management for women. L. H. Scott. 298p bibliog(p292-4) $3 Harper '40
You don't have to be rich; the wise management of a small income. A. Herrick. 235p bibliog(p225-8) $1.75 Appleton-Century '40
Your personal economics; an introduction to consumer problems. A. H. Smith. 651p bibliog(p625-35) $1.96 McGraw-Hill '40

See also
Budget, Personal
Loans, Small

FINANCE companies
Auto finance affiliate loses round; General Motors guilty of restraint of trade. Business Week p15-16 N 25 '39
Banking invasion of the consumer credit field; credit buying on increase. S. L. Miller. Annalist 56:171-2 Ag 8 '40
Banks and finance companies purchased $2,700,000,000 of retail instalment notes in 1939. Comm & Fin Chr 151:2285 O 19 '40
Big Baltimore finance company buys own insurer; Commercial credit corporation gets Pennsylvania indemnity fire. Nat Underw 43:3+ D 21 '39
C.I.T. roundup drive turns cowhands into quota busters; campaign to increase purchases of time-payment notes from retail automobile dealers. il Sales Management 47:108+ O 10 '40
Distribution and the finance company. W. H. Grimes. Harvard Business R 18 no 2:199-206 [Ja] '40
Finance auto angles; insurance on financed accounts unsettled problem. S. O. Smith. Weekly Underw 143:638+ S 21 '40
Finance executive presents position before committee of the National association of commissioners. F. V. Chew. Nat Underw 43:3+ D 14 '39
Growing evil of finance company ownership of insurance companies. C. F. J. Harrington. Weekly Underw 142:129+ Ja 13 '40; Excerpts. Ins Field (Fire ed) 69:7 Ja 11 '40
Lax automobile finance; 1939 trends as shown in figures of 24 leading companies. A. W. Newton. Banking 32:58-9 Ja '40
Personal finance companies and their credit practices. R. A. Young and others. 170p $2 Nat. bur. econ. research '40
Retail installment paper holdings. Bankers M 141:455-6 N '40
Sales finance companies and their credit practices. W. C. Plummer and R. A. Young. 298p $3 Nat. bur. econ. research '40; Review, by M. V. Ayres. Banking 33: 61 S '40
Slump in hire purchase finance in Britain. Economist 139:218-19 Ag 17 '40
Washington plan to recapture insurance on financed automobiles for agents. East Underw 41:50 S 27 '40
Why 1940 profits will be up for installment finance companies. H. L. Travis. il Mag of Wall St 65:350-1+ D 30 '39

See also
Automobile industry and trade—Finance
Commercial credit company
Commercial investment trust corporation
Factors
Insurance—Premium financing

Accounting
Discount and reserves on balance-sheet of finance company. J Account 69:212-13 Mr '40

FINANCIAL advertisers association
Annual convention, 25th, Hot Springs, Va. Oct. 28-31. Comm & Fin Chr 151:2590 N 2 '40; Ptr Ink 193:21 N 8 '40; Bankers Mo 57:668-9 D '40
Financial advertisers' association and Bankers' association for consumer credit establish financial clearing house of ideas and procedures. Comm & Fin Chr 150:1220 F 24 '40; Same. Bankers Mo 57:177-8 Mr '40

FINANCIAL advertising. See Bank advertising; Investments—Advertising; Securities—Advertising

FINANCIAL libraries
See also
Bank libraries

FINANCIAL ratios
For 36 manufacturing industries, fourteen important financial ratios for 1938; tabulation. R. A. Foulke. Dun's R 47:12-13 D '39
For 36 manufacturing industries, fourteen important financial ratios, median and interquartile range figures for 1939; tabulation. R. A. Foulke. Dun's R 48:22-3 N '40
How to test your bonds; ratios set up for various classes of corporate issues by bankers' committee. E. S. Adams. Barron's 19: 8+ D 4 '39
Measure for accounts receivable; study of receivables-to-sales ratios, 1923-37, which may be used as standards in statement analysis. R. Nugent. Credit & Fin Management 42:9-13+ Ja '40
Net income to expense ratio; a new yardstick of investment stability. A. M. Bernstein. Annalist 55:719 My 23 '40
Relativity of the moral hazard. R. A. Foulke. 61p Dun & Bradstreet, 290 Broadway, New York '40
Tracing bank trends; analysis of significant bank ratios, 1930-1939. W. H. Kniffin. Burroughs Clearing House 24:9-11+ Ap '40
What to seek in financial statements. W. M. Davis. Credit & Fin Management 42:9-12+ Mr '40

FINANCIAL statements
Accounting regulation S-X. J Account 69: 319-21 Ap '40
Accounting requirements of the Securities and exchange commission for the preparation of financial statements. B. B. Greidinger. 517p bibliog(p489-95) $5 Ronald press '39
Accounting research bulletin no. 6; comparative statements. J Account 69:468-9 Je '40
Amended requirements for financial statements prescribed by the Securities and exchange commission in regulation S-X. H. N. Sweet. J Account 69:167-74 Mr '40
Discussion of management's responsibilities to the public for accounting reports. P. L. West. Comm & Fin Chr 151:1660 S 21 '40
Financial statement of the future. R. A. Foulke. il Dun's R 48:20-5+ N '40
Financial statements. M. B. Daniels. 215p pa $1 American accounting assn, Chicago '39
Financial statements for investors. W. W. Werntz. J Account 69:22-9 Ja '40
Financial statements in connection with utility rate regulation. H. C. Hasbrouck. Edison Elec Inst Bul 8:431-6 S '40
Get more exact credit information; balance sheet or financial statement. R. M. Swisher. Bankers Mo 57:3-5 Ja '40
Get more exact credit information; the circulation principle. R. M. Swisher. Bankers Mo 57:76-8, 158, 160-1, 280-1, 341+, 463, 505+ F-Mr, My-Je, Ag-S '40
Holding companies and consolidation statements. M. M. Lindsay. 199p $3 Bentley school of accounting and finance, Boston '39
Interpreting financial statements; banker's views on credit. T. F. Regan. Credit & Fin Management 42:9-11+ My '40

FINANCIAL statements—*Continued*
Inventories and receivables of department stores, instalment houses, chain stores, and other retailers; a statement by the committee on auditing procedure of the American institute of accountants. J Account 69:88-90 F '40
Is the inventory too high? how can a credit executive tell from the financial statement. E. S. Benjamin. Credit & Fin Management 42:6-9 F '40
Need for single-purpose statements. V. Z. Brink. J Account 69:284-92 Ap '40
Putting life into your audits; use of progress-and-performance records; interview with Wallace Clark. B. Brougham. Barron's 20:3 Ja 22 '40
Relation of accounting statements and reports to security issues. W. W. Werntz. Edison Elec Inst Bul 7:537-8+ N '39
Single-purpose statements; suggested by J. N. Frank; discussion. J Account 69:186-9 Mr '40
Streamlined financial statements; Le Roi company, Milwaukee. J. E. Hubel. J Account 69:298-9 Ap '40
Streamlining. J Account 69:475-6 Je '40
What to check in annual statements. B. P. Murphy. Credit & Fin Management 42:10-11+ N '40
What to seek in financial statements. W. M. Davis. Credit & Fin Management 42:9-12+ Mr '40

See also
Balance sheets — Income statements
Consolidated statements

FINANCIAL statistics
International financial statistics. Published in monthly numbers of Federal reserve bulletin
International trade and finance, 1939. Survey of Cur Business 20:45-52 F '40
Statistics for Federal reserve chart book. Fed Res Bul 26:56 Ja '40 [cont monthly]

See also
Banks and banking—Statistics

FINCH, John Wellington
Ickes' removal of Mines bureau director stirs industry, Congress. Iron Age 145:56 Ja 11 '40
Portrait. U S Bur Mines Bul 421:2b '40

FINCH telecommunications, inc.
Stock offered. Comm & Fin Chr 149:3261 N 18 '39

FINENESS. See Cement—Fineness; Particles

FINGERPRINTS
Blue book of crime; science of crime detection. T. G. Cooke. 14th ed 80p $1 Inst. of applied science, Chicago '39
Citizenship and personnel relations; drive for fingerprints at Hamilton, Ohio; foundry companies participate. il Foundry 68:38-9+ N '40
Classification of fingerprints. 133p U.S. Federal bur. of investigation, Washington '39
Finger print eye comfort; California Dept. of criminal identification installs fluorescent light on its file room. il Elec West 85:33 S '40
Finger prints; aliens and others. Science 92: sup8-9 Jl 19 '40
Fingerprinting protection for banks. C. W. Fishbaugh. il Bankers M 141:202-5 S '40
Fingerprinting reduces trespassing on Missouri Pacific. Ry Age 108:527 Mr 16 '40
Why universal fingerprinting? F. Kuhne. il Sci Am 163:84-5 Ag '40

FINISHING materials
Ault & Wiborg infra-red finishes for use with infra-red baking equipment. il Metal Finishing 38:420 Jl '40
Calculating the solids content of reduced organic finishing materials. W. G. Sheane. Metal Ind 38:176-7 Mr '40; [cont as] Metal Finishing 38:361 Je '40
Calculation of finishing material costs. W. G. Sheane. chart Metal Ind 38:238-9 Ap '40
Coatings, 1919-1939. J. Marshall. il Chem Ind 46:15-20 Ja '40
Developments in lacquers and enamels for industrial finishing during 1939. G. Klinkenstein. il Metal Ind 38:61 Ja '40
Enamel for plastics developed; Kem Bakolescent and Kem Plastite. Iron Age 145:52 Ap 18 '40
Firm adhesion in new finishes; Kem Plastite and Kem Bakolescent enamel. G. H. Robertson. il Mod Plastics 17:32-3 F '40
Hints on handling finishing materials. E. M. Stephenson. Metal Finishing 38:464 Ag '40
Improved heat-hardenable coatings and new methods of applying them. A. J. Weith. il Ind & Eng Chem News ed 18:241-5 Mr 25 '40
Making croquet tough; pyroxylin patented coating process. il Mod Plastics 17:34+ My '40
Measurement of coating adhesion. Oil Paint & Drug Rep 138:51-2 N 4 '40
Mixing vehicles and metallic powders. il Metal Finishing 38:618 N '40
New developments in wrinkle finishes revealed at Technical production conference held by New Wrinkle, inc. il Metal Finishing 38:416-17 Jl '40
Organic finishing digest; patent and literature reviews. Metal Finishing 38:362 Je '40 [cont monthly]
Paints and other finishes for which a need exists; Research advisory service survey. Oil Paint & Drug Rep 138:3+ O 21 '40
Pistol that sprays powdered metals and plastics; Schori pistol. R. G. Skerrett. il diag Comp Air M 45:6057-60 Ja '40
Plastic-on-metal finishes; new type of protection for steel products. il Iron Age 146:48-50 Ag 15 '40
Plastics progress during 1939; coatings. W. T. Pearce. bibliog il Mod Plastics 17:44-5 Ja '40
Plastics versus corrosion. C. G. Munger. il Mod Plastics 18:124-5+ O '40
Precautions in the use of organic finishing materials. R. F. Peabody. il diag Metal Finishing 38:462-4 Ag '40
Product finishes; causes and remedies for finishing troubles. G. H. Robertson. Product Eng 11:163-4, 217-19, 269-70 Ap-Je '40
Solvents in industry. Metal Ind 37:609 D '39
Storing, mixing and reducing of organic finishing materials. il Metal Ind 38:121-3 F '40
Technical developments of 1939 in supplies and equipment for organic finishing. W. R. Meyer, ed. il Metal Ind 38:58-9 Ja '40
Urea resin finishes; their formation and characteristics. C. A. Knauss. Can Chem & Process Ind 24:9-10 Ja '40

See also
Lacquer and lacquering — Varnish and varnishing
Paint

Testing
Urea-formaldehyde film-forming compositions; enamel formulation, properties, and durability. T. S. Hodgins, A. G. Hovey and P. J. Ryan. bibliog il Ind & Eng Chem 32: 334-45 Mr '40

FINLAND
Dr Erkki Mikkola tribute; with excerpt from letter to his wife. R. F. Flint. Science 91:611-12 Je 28 '40
Federal loan administrator Jones regards Finland good risk. Comm & Fin Chr 150: 1211-12 F 24 '40
Finland fights. H. B. Elliston. 443p $2.75 Little '40
Finland; history and commerce; editorial. Comm & Fin Chr 149:3611-14+ D 9 '39
Finnish relief fund establishes remittance division to send gifts for purposes specified; Mr Hoover's statement. Comm & Fin Chr 150:1212 F 24 '40
Former President Hoover opens drive to aid Finland relief. Comm & Fin Chr 149:3809 D 16 '39
President Roosevelt says Finland won moral right to live in peace and independence by its valor. Comm & Fin Chr 150:1688 Mr 16 '40

FINLAND—*Continued*
President Roosevelt urges Congress to study method of extending non-military loan to Finland. Comm & Fin Chr 150:360-1 Ja 20 '40
Senate foreign relations committee studies plan for Finnish loan by Export-import bank. Comm & Fin Chr 150:771 F 3 '40
$200,000 additional sent to aid Finland. Comm & Fin Chr 150:209 Ja 13 '40
United States tells League of nations of aid to Finland. Comm & Fin Chr 150:351-2 Ja 20 '40

See also
Architecture—Finland
Finance—Finland
Labor and laboring classes—Finland
Labor laws and legislation—Finland
Moving picture industry—Finland
Securities—Finland

Economic conditions
Cooperation to the Finnish. H. H. Bakken. 220p $2.50 Mimir, box 2002, Madison, Wis. '39
Economic conditions. For Comm W 1:199-200 N 2 '40
Finland needs assistance for rehabilitation and reconstruction program. H. J. Procope. Comm & Fin Chr 150:3287-8 My 25 '40
Stocks of supplies low. Comm Rep p385-6 Ap 27 '40

Foreign relations
War and peace in Finland; a documented survey. A. Brody and others, eds. 128p pa 25c Soviet Russia today, 114 E. 32d st, New York '40

Russia
Consequences to Canada of Soviet invasion of Finland. S. L. Miller. Annalist 54:730 D 7 '39
Finland accepts the peace. Economist 138: 458 Mr 16 '40
Finland and Russia. map Economist 137:198-9 N 11 '39
Finland and Russia sign treaty ending hostilities. Comm & Fin Chr 150:1682-3 Mr 16 '40
Finland fights back and appeals to League of nations. map Economist 137:866-7 D 9 '39
Finnish blue book; the development of Finnish-Soviet relations during the autumn of 1939 including the official documents and the peace treaty of March 12, 1940. 120p $1.50 Lippincott '40
Invasion of Finland following Russia's denunciation of non-aggression pact. Comm & Fin Chr 149:3471-2 D 2 '39
Soviet's Finnish victory a boon to Reich. il Business Week p51+ Mr 23 '40
What Russia is reaching for; rich Finnish economic prizes, including new International Nickel mine. map Business Week p16-18 D 9 '39

Industries and resources
Finland's resources. Economist 137:464 D 23 '39
L'industrie chimique en Finlande. I. Spira. Chimie & Ind 43:613-19 Ap 5 '40

FINNED cylinders. See Airplane engines—Cooling

FINNEY-HOWELL research foundation
Cancer research fellowships. Science 91:379 Ap 19 '40

FIRE

See also
Combustion
Fires
Heating
Smoke

FIRE alarms
Alarm systems and fire menace; combating incendiary bombs; audible and visual signalling with telephone communication. plan Electrician 125:163 S 27 '40; Elec R (Lond) 127:307-8 O 11 '40
Electric eye guards against fires in ducts; Ernst Kern company. J. J. Woolfenden. il diag Heat & Ven 37:24-6 Je '40
Fire alarm systems in the pulp and paper industry. J. B. Radford. il Pulp & Paper of Can 41:470 Je '40
Fire detection on parade; demonstration studio of American district telegraph co.; electric protection systems against fire, burglary and holdup. il Safety Eng 78:8 D '39
Inexpensive fire-detection system; Fyre-Scout fire-detection system. il Sci Am 162: 33 Ja '40
Low-voltage systems for schools; time-saver standards. diags Arch Rec 88:105 O '40

FIRE apparatus
Evolution of forest fire-fighting equipment. D. P. Godwin. il Pulp & Pa of Can 41:349-51 Ap '40
Fire department pumps, pumping equipment and pumping; a reference manual. 84p bibliog(p84) pa $1.50 Educational committee, International assn. of fire chiefs, 24 W. 40th st, New York '39
Fire fighting pumping plant. il Engineer 169: 97 Ja 26 '40

See also
Fire boats
Fire extinguishers
Fire hose
Fire protection

FIRE apparatus, Motor
Carbon dioxide becomes mobile; fire extinguishing equipment for airports. D. Mapes. il Aero Digest 36:58+ Je '40
Carbon dioxide fire trucks now used for industries and airports. P. W. Eberhardt. il East Underw 41:31 My 3 '40
Harland trailer fire pump. il Engineering 149:245-6 Mr 8 '40
100-ft. turntable ladder for the London fire brigade. il Engineering 150:155-6 Ag 23 '40

FIRE boats
James Braidwood, high-speed fire boat for the London county council. il plans Engineering 148:653 D 8 '39; Engineer 168:599-600 D 15 '39
New York city has best fireboat protection; history and progress. A. B. Carlson. East Underw 41:29 My 17 '40
Nokk, Norwegian firefloat. il plans Engineer 168:501-2 N 17 '39

FIRE brick
Alumina and silica refractories. H. M. Kraner. flow sheet il Iron Age 145:25-30 Ja 18; 34-9 Ja 25 '40
Construction and operation of basic open hearth roofs; abstract. H. S. Robertson. diag Iron Age 145:52-3 My 2 '40
Decrease firing time and fuel consumption with hot face insulation. diags Brick & Clay Rec 95:55-6+ D '39
Expansion of various refractories. A. M. Morton. il Blast F & Steel Pl 28:665-6 Jl '40
Flint clays and flint-clay refractories of southern California. B. M. Burchfiel and H. Mulryan. Am Cer Soc Bul 19:161-3 My '40
Heating furnace refractories. E. C. Hite and G. Soler. il Brick & Clay Rec 96:51-2+ Je '40
Low maintenance cost on marine brick work. S. M. Elonka. Marine Eng 44:570 D '39
100% alumina or 100% silica refractories. F. A. Harvey. Brick & Clay Rec 97:44-5 O '40
Refractories in the iron and steel industry. A. Stein. il Blast F & Steel Pl 28:204+, 292-4, 421-2 F-Ap '40
Tailored firebrick; system of refractory shapes developed to permit formation of circumferential dimensions with exactitude. W. A. Stuart. diags Steel 106:58, 60-1 My 27 '40
Trends in refractories for the basic open-hearth furnace. R. P. Heuer. bibliog il diags Metals & Alloys 11:95-8, 152-5 Ap-My '40
Use and advantages of insulating firebrick in the circle system. J. D. McCullough and G. M. Frederick. diags Am Cer Soc Bul 19:16-19 Ja '40

See also
Chromite magnesite brick
Magnesite brick
Silica brick

Manufacture
Breakage and porosity decreased by crusher-mixer combination. il Brick & Clay Rec 97:56+ S '40

FIRE brick—Manufacture—*Continued*
Give fire brick good heat soaking in M. D. Valentine new tunnel kiln. il Brick & Clay Rec 97:44-6 Jl '40
Increased maximum pressure time improves density of brick; plant of Illinois clay products co. il Brick & Clay Rec 96:56-8 F '40
Laboratory control and flexible operation allow wide variety of refractories; Richard C. Remmey son co. il plan Brick & Clay Rec 97:44-6 Ag '40
Some things you should know about burning natural gas. G. L. Ballard. Brick & Clay Rec 97:22-4 Jl '40

Testing

Backbone of industry; technical development and specifications. J. D. Ramsay. Brick & Clay Rec 97:50, 52+ Jl '40
Deformation of insulating firebrick under load. C. L. Norton, jr. and V. J. Duplin, jr. il diags Am Cer Soc J 23:22-5 Ja '40
Principal physical tests for fireclay refractories. R. S. Bradley. il diags Brick & Clay Rec 96:66-9 Ap; 57-9 My; 53-4+ Je; 97:47-8 Jl; 47-8 Ag; 55-6 S '40
Raw material tests; abstract. J. O. Everhart. Brick & Clay Rec 97:54-5 N '40

FIRE brigades, Factory. See Factory fire brigades

FIRE clay
Alumina and silica refractories. H. M. Kraner. flow sheet il Iron Age 145:25-30 Ja 18; 34-9 Ja 25 '40
Blending clays to develop super duty refractories. R. Russell, jr. Brick & Clay Rec 97:47-8 O '40
Determination of quartz (free silica) in refractory clays. L. J. Trostel and D. J. Wynne. Am Cer Soc J 23:18-22 Ja '40
Development of superduty refractories from Ohio, Pennsylvania, and Kentucky fire clays. R. Russell, jr. il Ohio State U Eng Exp Sta Bul 105:1-81 '40 (pa 60c)
Effect of exchangeable bases on absorption and transverse strength of clay bodies. R. P. Graham and J. D. Sullivan. Am Cer Soc J 23:52-6 F '40
Effect of exchangeable bases on torsion properties of clays. J. D. Sullivan and R. P. Graham. bibliog Am Cer Soc J 23:39-51 F '40
Flint clays and flint-clay refractories of southern California. B. M. Burchfiel and H. Mulryan. Am Cer Soc Bul 19:161-3 My '40
Mechanism of the hardening of clay-sodium-silicate mixtures. W. R. Morgan, W. L. Peskin and S. J. Kronman. Am Cer Soc J 23:170-3 Je '40
Spalling and cracking of fireclay and other refractory materials. L. Hickman. il Blast F & Steel Pl 28:516+, 620-1, 709-10, 832-5 My-Ag '40
Use of aluminum metal in the ceramic industry; properties of refractories produced with mixtures of aluminum, fire clay, and grog. H. G. Schurecht and H. I. Sephton. Am Cer Soc J 23:259-64 S '40
What pouring pit refractory is the worst offender in causing fireclay inclusions in killed steels? discussion at Open hearth conference. Brick & Clay Rec 96:54 My '40

See also
Fire brick

Testing

Principal physical tests for fireclay refractories. R. S. Bradley. il diags Brick & Clay Rec 96:66-9 Ap; 57-9 My; 53-4+ Je; 97:47-8 Jl; 47-8 Ag; 55-6 S '40

FIRE damp
Experimental study of the ignition of firedamp-air mixtures by explosives. E. Audibert. diag U S Bur Mines Rep of Invest 3518:1-6 '40
Gas detectors in mines. T. R. Barnard. diag Elec R (Lond) 127:49 Jl 19 '40
Phenomena in the ignition of firedamp by explosives; particles from the detonation. S. L. Gerhard and W. J. Huff. diag pls U S Bur Mines Tech Pa 603:1-17 '40

FIRE departments
Civilian auxiliary fire-fighting force organized in Boston. East Underw 41:1+ N 1 '40
History of the New York Fire department. L. M. Limpus. 380p bibliog(p357-9) $3.50 Dutton '40

FIRE departments, Industrial. See Factory fire brigades

FIRE extinction
Automatic smothering of liquid fires. P. W. Eberhardt. diags India Rubber W 103:45-6 N '40
Burnt offering; dummy used for instruction in extinguishing clothing fires. J. T. Howell. il Nat Safety N 41:26+ Je '40
Carbon dioxide on wheels; mobile units carrying fire-killing gas. il Sci Am 163: 197-8 O '40
Chemische feuerlöschmittel und -geräte. O. Kausch. il diags V D I 83:1200-4 N 11 '39
Conflagrations and outside aid. East Underw 41:27 Ja 5 '40
Control of fire hazards; carbon-dioxide systems. P. W. Eberhardt. il diag Steel 106:46-7, 76-7 Ap 15 '40
Efficient utilization of water for fire fighting. C. Goldsmith. Am Water Works Assn J 31: 2027-36 D '39
Extinguishing electrical fires. Elec R (Lond) 126:69 Ja 19 '40
Extinguishing fires in the chemical industry. R. M. L. Russell. Weekly Underw 143:16-19 Jl 6 '40; Same cond. Chem & Met Eng 47: 548-50 Ag '40
Fighting fire in the rubber factory with carbon dioxide. P. W. Eberhardt. il diag Rubber Age 47:172-4 Je '40
Fighting smoky fires. Safety Eng 79:33-4 Je '40
Fire chief of today a trained expert. J. N. Cosgrove. East Underw 41:18+ O 4 '40
Fire-fighting equipment for electrical installations. diags plans Inst E E J 85:719-34 D '39; Abstract. Engineering 149:139-41, pl 8 F 9 '40; Discussion. il diags Inst E E J 87:251-81, 535-8 S, N '40; Electrician 124: 92-3 F 2 '40; Elec R (Lond) 126:129 F 2 '40
Fireman's textbook of entrance and promotional examination questions. R. W. Cassell and R. P. Pritsel. 336p $3.50 College book co, Columbus, Ohio '40
Fire's first line of defense. B. L. Whorf. il Safety Eng 78:44, 46-8+ O; 33-5 N '39
Fundamentals of fire fighting tactics. L. Layman. 71p pa $1 Magruder pub. co, box 296, Parkersburg, W.Va. '40
Gas automatically smothers liquid fires in many industrial plants. P. W. Eberhardt. East Underw 41:26 Je 28 '40; Same abr. Am Dyestuff Rep 29:575-6 O 14 '40
Gasoline truck burns in Tulsa business section. il Nat Underw 44:11 O 24 '40
How to fight liquid fires. il Safety Eng 79: 8-9 My '40
Manual of instruction: New York Fire department. L. M. Limpus, ed. 255p $1.85 Dutton '40
Sleepless fire fighters; carbon dioxide gas. P. W. Eberhardt. il diag Nat Safety N 41: 26-7+ F '40
Some information on extinguishing an anthracite refuse-bank fire near Mahanoy City, Pa. R. D. Leitch. pl plan U S Bur Mines Information Circ 7104:1-16 '40
Try CO_2 in bulk on big outdoor oil fires. il diags Elec W 114:676-7 S 7 '40
We fight fire with gas; S. C. Johnson & son, inc. J. Collier. il Factory Management 98: 71-3 S '40
Where there's smoke there's fire; gaseous compounds and carbon monoxide dangerous. G. W. Booth. Weekly Underw 142:846-8 Ap 6 '40
Wild fires; flammable chemicals. R. M. L. Russell. il diags Nat Safety N 42:66-7+ O '40

See also
Fire boats
Fire extinguishers
Fire service (water supply)

FIRE extinguishers
Airport fire fighting. C. L. Griffin. il Aviation 39:42-3+ Je '40

FIRE extinguishers—*Continued*
Carbon dioxide becomes mobile; fire extinguishing equipment for airports. D. Mapes. il Aero Digest 36:58+ Je '40
CO_2 fire protection for the chemical industry. R. E. Eberhardie. il Chem & Ind 59:541-3 Jl 27 '40
Carbon dioxide gas as a fire prevention aid. A. M. Doxsey. il Chem Ind 47:394-6 O '40
Chemische feuerlöschmittel und -geräte. O. Kausch. il diags V D I 83:1200-4 N 11 '39
Dry ice extinguishes fire. il Safety Eng 78:21 D '39
Équipement extincteur d'incendie, système Graviner, installé sur les avions de la Royal air force. diags Génie Civil 116:71-2 Ja 27 '40
Fire extinguishment with carbon dioxide. Franklin Inst J 228:649-51 N '39
Fire protection for private planes; carbon dioxide systems. C. L. Griffin. il diag Aero Digest 36:65-6 Ap '40
First aid fire protection. il Nat Safety N 41:118-20 Mr '40
Hand extinguishers; selection, installation, maintenance and use. il Safety Eng 80:31-2 S '40
How an acetate rayon plant assures fire protection; carbon dioxide system, hand extinguishers and sprinklers. M. B. Morgan. il plan Chem & Met Eng 47:403-5 Je '40
Lux fire-fighting laboratory dedicated; housed in a 10-ton truck. il Ind & Eng Chem News ed 17:737 D 10 '39
Maintaining defense. L. F. Maar. il Safety Eng 79:31-2+ Ap '40
Maintenance and care of fire-extinguishing apparatus on board ship. Marine Eng 45:75 O '40
Precautions to be taken by users of hand fire extinguishers; abstracts. H. W. Lange. East Underw 41:31 O 25 '40; Nat Underw 44:6 O 17 '40
Preventing fires in plants. A. J. R. Curtis. Rock Prod 43:38-40 My; 31-2 S '40
Walter Kidde & co. demonstrates carbon-dioxide extinguishers. East Underw 40:34 N 24 '39
Water everywhere; five gallon portable extinguisher. Safety Eng 79:26 Ap '40
Why wait for the firemen? illustrations. Factory Management 98:94-5 F '40

Freezing

Warning on frozen extinguishers. F. Shepperd. Nat Safety N 41:56 My '40
See also Sprinkling systems—Freezing

FIRE hose
Care of fire hose. M. Berman. Min Cong J 26:13 Je '40
Efficient utilization of water for fire fighting. C. Goldsmith. Am Water Works Assn J 31: 2032-6 D '39
Fire hose bridges for road vehicles; company practice. Transit J 84:251 Jl '40
Forest fire hose. D. T. Hewson. Pulp & Pa of Can 41:452+ Je '40
Helpful hints on care of hose. Rock Prod 43:48-9 Jl '40

FIRE houses
New multi-use fire station at Miami Beach. il diag plans Arch Rec 87:44-8 Ap '40

FIRE hydrants. See Hydrants

FIRE insurance. See Insurance, Fire

FIRE patrols
See also
Forest fire patrols

FIRE protection
Chem. & Met. report on plant lighting; hazardous locations (based on National electric code, 1937). plan Chem & Met Eng 47:29-32 Ja '40
Civilian auxiliary fire-fighting force organized in Boston. East Underw 41:1+ N 1 '40
Col. Layton presents Inter-Chamber fire waste awards. East Underw 41:26 My 3 '40; Ins Field (Fire ed) 69:9 My 2 '40; Nat Underw 44:3 Ap 11 '40; Weekly Underw 142:1077+ My 4 '40
Credit's place in fire prevention; what N.A.C.M. has accomplished in 25 years of effort. C. E. Meek. Credit & Fin Management 42:6-8 O '40
Design of built-in luminaire constructions for safe thermal operation. W. Rosebraugh. il Illum Eng 35:203-17 Mr '40
Designing for greater fire safety. bibliog il Arch Rec 88:81-3 O '40
Explosion hazards; gases, vapors, liquids, dusts. Nat Safety N 41:126-7 Mr '40
Fire hazards of art treasures and of auto parking congestion in cities. S. D. McComb. East Underw 41:16+ My 10 '40
Fire prevention week awards. East Underw 40:16 D 29 '39
Fire prevention week marked by nation. il Ins Field (Fire ed) 69:13-14 O 17 '40
Fire prevention work aids national defense. T. Woosley. East Underw 41:37 S 20 '40
Fire prevention work; what fire prevention associations can do. G. L. Steeples. Ins Field (Fire ed) 69:22-5 Ja 25 '40
Fire protection and the pulp and paper industry. T. M. Burton. Pulp & Pa of Can 41: 618 Ag '40
First aid fire protection. il Nat Safety N 41: 118-20 Mr '40
Flameproof resistances. il Engineer 170:207-8 S 27 '40; Engineering 150:257 S 27 '40; Electrician 125:193 O 11 '40
Good electrical maintenance cuts fire hazards. G. S. Lawler. il Factory Management 98: 79-81 Jl '40
Hand buckets to hook and ladder; story of American fire protection from colonial days to the present. J. N. Cosgrove. East Underw 40:17-18+ D 22 '39
Handle with care; safety in the use of the oxy-acetylene process. il Safety Eng 80:27-9 O '40
How an acetate rayon plant assures fire protection; carbon dioxide system, hand extinguishers and sprinklers. M. B. Morgan. il plan Chem & Met Eng 47:403-5 Je '40
How to prevent freeze-ups in fire protection equipment; Associated factory mutual fire insurance companies. Factory Management 97:79-80 D '39
Industrial uses of flameproof electric motors. il Engineering 150:85-6, 90 Ag 2 '40; Engineer 170:109-11 Ag 16 '40
National board forms Washington advisory bureau; offers fire protection service to War department. Nat Underw 44:3 O 10 '40
National fire protection association acts on standards to prevent fire. P. Bugbee. Ind Stand 11:212-13 Ag '40
National fire protection association revises air conditioning standards and warm air installation rules. Heat & Ven 37:64 S '40
New industrial processes bring additional hazards. T. A. Fleming. East Underw 41:34 N 1 '40
Organizing to prevent fires. P. Bugbee. Am Water Works Assn J 32:987-92 Je '40
Precautions in the use of organic finishing materials. R. F. Peabody. il diag Metal Finishing 38:462-4 Ag '40
Preventing electrical fires in factories. Elec W 114:1028+ O 5 '40
Preventing fires in rubber processes. G. M. Burke. il India Rubber W 102:41-3+ My '40
Preventing winter fires; suggestions for safeguarding acetylene welding and cutting indoors. Nat Safety N 42:86-7 N '40
Protection scholarships awarded by Armour institute. Weekly Underw 143:430 Ag 31 '40
Recommended practice for handling nitrocellulose. Chem & Met Eng 47:619 S '40
Safest cities in the 1939 Inter-chamber fire waste contest. Safety Eng 79:36 My '40
Stop fire losses. il Safety Eng 80:9-10, 14 S; 46-7 O '40
Suggestions given on preventing sabotage by Ontario fire marshal. W. J. Scott. East Underw 41:28 Ja 19 '40
Sulphur; safe practice in storage and handling. Nat Safety N 42:40 S '40
28 points for fire safety. il Safety Eng 78: 13-14, 18 N '39

FIRE protection—*Continued*
24-hour protection; sprinklers, automatic fire alarms, watchmen and central stations. il Nat Safety N 41:121-2 Mr '40
Waste paper and junk fires. Safety Eng 79:30 Je '40
Weak link in fire protection; failure of men. A. L. Brown. il Nat Safety N 42:60-1 O '40
What to do to avoid fire losses. R. S. Moulton. Inland Ptr 106:79-80 O '40

See also
Factory fire brigades
Fire alarms
Fire boats
Fire extinction
Fire extinguishers
Fire resisting materials
Fire service (water supply)
Fireproof construction
Fireproofing
Fireproofing of textiles
Forest fires
Inflammable mixtures
Insurance, Fire—Preventive work
Records, Preservation of

also subdivision Fires and fire protection under special subjects, e.g.
Air conditioning equipment
Chemical plants
Cotton mills
Electric plants (central stations)
Petroleum refineries
School buildings
Ships

also National fire protection association

FIRE protection association, National. See National fire protection association

FIRE resisting materials
Fire-retardant paint. Ind & Eng Chem News ed 18:404 My 10 '40
Fire-tested plywood. Business Week p41-2 S 28 '40
Superiority of clay not emphasized in present fire resistive ratings. Brick & Clay Rec 97: 27-8 N '40

See also
Asbestos
Shingles, Asbestos

Testing

Electric cables and fire risks. S. W. Melsom. il Engineering 149:360, 369-70 Ap 5 '40
Evaluation of fire resistance requirements. Franklin Inst J 229:373-5 Mr '40
Fire-resisting qualities of linoleum. Engineering 150:68 Jl 26 '40
Study of the fire resistance of building materials. H. D. Foster. il diags Ohio State U Eng Exp Sta Bul 104:1-58 '40 (pa 60c)

FIRE schools. See Firemen—Training

FIRE service (water supply)
Consideration of distribution system design for adequate fire protection. G. Tatnall. plans Am Water Works Assn J 31:2037-43; Discussion. 2043-6 D '39
Efficient utilization of water for fire fighting. C. Goldsmith. Am Water Works Assn J 31: 2027-36 D '39
Fire protection; discussion by Canadian section of American water works association. Can Eng W & S 78:51-2 Ap '40
Flow in pipe grid systems. R. G. Tyler. Water Works & Sewerage 87:sup44-6 Ap '40
Hydraulic investigation of a small water works system and effects of main cleaning. R. H. Ellis. diag map N E Water Works Assn J 54:155-63 Je '40
Improvements triple fire fighting flow and improve domestic supply service, Creston, Iowa. il Pub Works 71:11-12 O '40
Maintaining proper charge for private fire protection. D. D. Gross. Am Water Works Assn J 31:2053-7; Discussion. 2057-60 D '39
Organizing to prevent fires. P. Bugbee. Am Water Works Assn J 32:987-92 Je '40
Private fire protection charges. W. D. Masterson. Am Water Works Assn J 31:2061-8 D '39; Abstract. Water Works & Sewerage 86: 477-8 D '39; Discussion. G. L. Fugate. Am Water Works Assn J 31:2068-72 D '39
Round-table conference; charging for water for fire-protection use, and why? Can Eng W & S 78:25 Ja; 23+ F; 81-2, 85-7 Ap '40
Water rate structures in American cities. E. W. Moke. Am Water Works Assn J 32:977-85 Je '40
Water works' view of the use of public water supplies for private fire protection. R. Newsom. Am Water Works Assn J 32: 993-1000 Je '40

See also
Hydrants
Water distribution—Cross connections

FIRE stations. See Fire houses

FIRE tests. See Fire resisting materials—Testing

FIRE underwriters association of the Pacific
Annual meeting, San Francisco. East Underw 41:26, 30-1 F 9 '40; Ins Field (Fire ed) 69: 9-10 F 8 '40; Nat Underw 44:3+ F 8 '40

FIRE walls
Fire wall made from vermiculite. il Sci Am 163:256 N '40

FIREARMS
History of the Colt revolver and the other arms made by Colt's patent fire arms manufacturing company from 1836 to 1940. C. T. Haven and F. A. Belden. 711p $10 Morrow '40
Your firearms. A. D. Rathbone. Published in monthly numbers of Scientific American

See also
Ordnance

Sights

Old sights, new sights. il Sci Am 162:112-13 F '40

FIREBOXES, Locomotive. See Locomotive fireboxes

FIREBRICK. See Fire brick

FIREMEN
Fire chief of today a trained expert. J. N. Cosgrove. East Underw 41:18+ O 4 '40
Fireman's hand book. G. H. Murray, comp. 3d ed rev 337p bibliog(p336-7) $1.50 David Scannell club, San Francisco '39
Hours of work of municipal firemen in the United States. C. P. Brainerd and G. M. Whitright. Monthly Labor R 51:13-26 Jl '40
Selection of fire fighters. 28p pa 75c Public administration service, 1313 E. 60th st, Chicago '40

Salaries

Salaries in Canadian fire departments, January 1940. Monthly Labor R 51:449-51 Ag '40

Training

Selected papers from 1938 and 1939 Indiana fire schools held at Purdue university. W. A. Knapp, comp. Purdue Univ Eng Extension Dept, Extension Ser 46:1-100 '40

FIREMEN'S manuals
Manual of instruction; New York Fire department. L. M. Limpus, ed. 255p $1.85 Dutton '40

FIREPLACES
Brick comes into its own in the fireplace market; illustrations. Brick & Clay Rec 97: 34 O '40
Cheerful but inexpensive small home heating; living room fireplace equipped with a Superior fireplace circulator. diags plans Am Bld 62:128 Ap '40
It's easy to relax by a brick fireplace. il diags Brick & Clay Rec 95:34-6 N '39
New fireplaces bring increased rentals. il Am Bld 62:52 N '40

FIREPLACES, Outdoor
How to build outdoor fireplaces for parks and recreation areas. il diags Pub Works 71:13 Je '40

FIREPROOF construction
Clay products resist 40-hour fire; cereal mill of General mills. il Brick & Clay Rec 96: 16-17 My '40
Designing for greater fire safety. bibliog il Arch Rec 88:81-3 O '40
House of gypsum; Gips-Union, Zurich; precast products for flooring, walls, and ceilings. F. O. Anderegg. il diags Rock Prod 43:37-8 O '40

FIREPROOF construction—*Continued*
Special precast floor construction is fireproof. diags Concrete 48:46 My '40

See also
Concrete houses
Fire resisting materials
Steel houses

FIREPROOFING
Assets or ashes? fire resistant safes. P. H. Ryan. il Safety Eng 79:13-14 Ja '40
Decreasing the combustibility of sawdust; relative effectiveness of certain chemicals. J. L. McCarthy. bibliog Ind & Eng Chem 32:1494-6 N '40
Fireproofing wood. W. G. Cass. Chem Ind 46: 32 Ja '40

FIREPROOFING of textiles
Airplane dopes; relation of tautening and weathering qualities to composition. F. W. Reinhart and G. M. Kline. bibliog il Ind & Eng Chem 32:184-93 F '40
Flame-proofing agent for textiles; chlorinated rubber. Rubber Age 47:34 Ap '40

Bibliography
Bibliography on flameproofing of textiles. E. W. Akin, L. H. Spencer and A. R. Macormac. Am Dyestuff Rep 29:418-20, 445-51 Ag 19-S 2 '40

FIRES
After-a-fire value of records; news reporter digs into history of a few fire cases. C. F. Mather. il Credit & Fin Management 42: 20, 22, 24 O '40
Careless smokers cause most losses; other causes of fires. Nat Underw 44:5 O 10 '40
Careless smoker worst fire hazard; home fire problem. P. Bugbee. East Underw 41: 25-6 My 10 '40
Chimney fires; prevention and extinction. il Safety Eng 80:28 S '40
Dangerous fire gases. G. E. Ferguson. il Safety Eng 80:25-6+ Jl '40
Dynamite controls a fire; Colon, Panama. il map Explosives Eng 18:327-9 N '40
Final Hollingshead loss may be reduced. Weekly Underw 143:377 Ag 24 '40
Fire loss in Camden may be $2,000,000; R. M. Hollingshead company. Weekly Underw 143:217 Ag 3 '40
Fire prevention in chemical plants. G. A. Shattuck. il Chem Ind 47:274-6 S '40
Industrial fires increase in Canada. W. J. Scott. East Underw 41:30 O 11 '40
National board's report on R. M. Hollingshead company loss at Camden, N.J. Nat Underw 44:5 O 3 '40
New fire hazards. R. E. Maginnis. il Safety Eng 79:39-40+ Ap '40
No home fires burning. T. A. Fleming. il Safety Eng 78:30-2 D '39
Oil men at Lagunillas praised in report on fire. il Oil & Gas J 38:28 D 21 '39
Real cost of fire. Bankers Mo 57:563-4 O '40
Selected papers from 1938 and 1939 Indiana fire schools held at Purdue university. W. A. Knapp, comp. Purdue Univ Eng Extension Dept, Extension Ser 46:1-100 '40
What goes up. D. J. Price. il Safety Eng 80: 48, 50-1 O '40
Where there's smoke; danger from combustion gases at fires. P. W. Kearney. il Nat Safety N 42:19+ S '40

See also
Chemical plants—Fires and fire protection
Cotton mills—Fires and fire protection
Electric fires
Electric plants (central stations)—Fires and fire protection
Fire extinction
Fire protection
Forest fires
Inflammable mixtures
Insurance, Use and occupancy
Mine fires
Oil fires
School buildings—Fires and fire protection
Ships—Fires and fire protection
Spontaneous combustion

Statistics
Dates of world famous fires. East Underw 41:19 Ap 19 '40
Facts about fires from annual report of the New York board. East Underw 41:24 Mr 22 '40
Fire losses, monthly, 1937-39. East Underw 41:18 Ja 19 '40; Nat Underw 44:3 Ja '40; Weekly Underw 142:245 Ja 27 '40
Fire losses, 1936-1939. Survey of Cur Business 1940 Sup p23 [supplemented in monthly numbers]
Gas and gas appliances low on fire cause list; estimates by National fire protection association of annual fire losses by causes. Gas Age 86:21 Ag 29 '40

FIRESTONE tire and rubber company
Annual report. Comm & Fin Chr 149:4028 D 23 '39
Enters the new decade. J. W. Thomas. Comm & Fin Chr 150:531 Ja 27 '40

FIREWORKS
Exemption of cap pistols asked from model N.F.P.A. fireworks law. East Underw 40:17 D 29 '39
N.F.P.A. fireworks campaign. S. Wentworth. East Underw 40:62+ D 15 '39
Pyrotechny; a practical manual for manufacturers of fireworks, signals, flares and pyrotechnic displays; a rev. ed. of Dictionary and manual of pyrotechny. G. W. Weingart. 170p $5 Chemical pub. co. '39

See also
Pyrotechnic snakes

FIRING

See also
Boilers—Firing
Combustion
Fuel
Furnaces
Glass furnaces—Firing
Kilns—Firing
Stokers, Mechanical

FIRST advertising agency group
Network no 1. Sales Management 46:64 Mr 15 '40

FIRST aid in illness and injury
Burnt offering; dummy used for instruction in extinguishing clothing fires. J. T. Howell. il Nat Safety N 41:26+ Je '40
Establishment of first-aid service in Costa Rica and Guatemala. Monthly Labor R 49: 1422-3 D '39
First aid for the injured. il Nat Safety N 41:130-1 Mr '40
First aid is his hobby; A. B. Vieth made his automobile a first aid station on wheels. il Nat Safety N 40:17+ D '39
First aid teams in refineries, part of oil's safety program. il Nat Pet N 32:38 O 16 '40
First aid to safety. J. B. Dunne. il Safety Eng 78:36-8 N '39
First-aiders boost safety; Hygrade Sylvania corporation. il Factory Management 98:51 Je '40
Gasoline stations enroll for highway first aid. il Nat Pet N 32:40-1 Ap 10 '40
Highway samaritans first aid and emergency service trucks; Spector motor service, inc. il Safety Eng 79:23 Je '40
Legal requirements for first aid. Safety Eng 79:42 Mr '40
Long lines of safety; first aid and safety activities, Bell system employees. E. S. Miner. il Nat Safety N 41:10-11, 54+ Je '40
Manual of first-aid instruction. 361p U.S. Bur. of mines; pa 45c Supt. of doc. '40
Poisonous snakes of the United States; first aid treatment for their bites. Nat Safety N 41:38, 40+ Ap '40
Prevention first; Red cross first aid instruction. L. M. Thompson. il Safety Eng 79:21, 24 Mr '40
Resuscitation performance, how effective? tests of employees in their prone-pressure application. H. G. Hays. il Elec W 114: 681-2+ S 7 '40
Scratch the surface; preventing infection in industry. J. E. Nichols. il Safety Eng 80: 22, 24-6 O '40
Small plant hired nurse—saves; Bull dog electric products company, Detroit. M. B. Holstine. il Factory Management 98:68-9 Mr '40

FIRST aid in illness and injury—*Continued*
They know what to do; first aid trained pulp and paper mill workers of the Pacific coast. W. D. Welsh. il Nat Safety N 42:58-9+ O '40
Why quarry workers need first-aid training. L. M. Thompson. Concrete (mill sec) 48: 141-2 Mr '40
Work of the Bureau of mines safety cars in the Pennsylvania anthracite region from 1934 to 1939. J. J. Forbes and L. L. Naus. bibliog pl map U S Bur Mines Information Circ 7132:1-16 '40
See also
Burns and scalds
Electricity, Injuries from
Respiratory apparatus
Resuscitation

FIRST security corporation of Ogden
Earnings, 1936-39. Comm & Fin Chr 149:4028-9 D 23 '39

FISCAL year
Changing from calendar year to natural business year. G. E. Klanderman. J Account 68:386-92 D '39
Flexibility of the natural business year. W. Mitchell, jr. J Account 69:361-2 My '40
Many corporations turning to natural fiscal year. Am Business 10:19+ Ap '40
Securities and exchange commission on natural business year. J Account 69:418 My '40
Vamp-till-ready sales program that gives competition the jump; sales and advertising plans frequently do not get under way until spring. H. Clark. Sales Management 46:68+ F 1 '40

FISCHER reagent
Analytical procedures employing Karl Fischer reagent; the determination of acid anhydrides. D. M. Smith, W. M. D. Bryant and J. Mitchell, jr. Am Chem Soc J 62:608-9 Mr '40
Analytical procedures employing Karl Fischer reagent; the determination of alcoholic hydroxyl. W. M. D. Bryant, J. Mitchell, jr. and D. M. Smith. Am Chem Soc J 62: 1-3 Ja '40
Analytical procedures employing Karl Fischer reagent; the determination of organic acids. J. Mitchell, jr, D. M. Smith and W. M. D. Bryant. Am Chem Soc J 62:4-6 Ja '40
Determination of moisture in native and processed cellulose; titrimetric determination using Karl Fischer reagent. J. Mitchell, jr. bibliog Ind & Eng Chem Anal ed 12:390-1 Jl 15 '40
Fischer volumetric determination of water; application to technical substances. E. G. Almy, W. C. Griffin and C. S. Wilcox. diag Ind & Eng Chem Anal ed 12:392-6 Jl 15 '40

FISCHER-TROPSCH process
Benzin- und gasolgewinnung mit aktivkohle aus den restgasen der benzinsynthese nach Fischer-Tropsch-ruhrchemie. W. Herbert and H. Ruping. diag Chemische Fabrik 13: 149-53 My 4 '40
Industrial synthesis of hydrocarbons from hydrogen and carbon monoxide. A. J. V. Underwood. il Ind & Eng Chem 32:449-54 Ap '40
Oil. F. H. Rogers. Engineering 149:459-60 My 3 '40; Same. Chem Age (Lond) 42: 210-11 Ap 13 '40

FISH, Frozen
Frozen fish laboratory. B. Robinson. Can Chem & Process Ind 23:630 D '39
Further tasting panel tests on frozen and stored fish; abstract. O. C. Young. Food Ind 12:95 Ap '40
Possibilities of freezing aboard ships. il Refrig Eng 39:166 Mr '40
Preserving fish by freezing; abstract. W. Rudolph. Food Ind 11:728 D '39
Reduce head pressure? fish-freezing and storage plants, condensing pressure. diags Power 83:773-5+ D '39

FISH, Smoked
Study of the chemical composition of wood smoke. A. E. J. Pettet and F. G. Lane. bibliog diags Soc Chem Ind J 59:114-19 Je '40

FISH and wildlife service. See United States—Fish and wildlife service

FISH as food
Preservation
Preservative ice containing sodium nitrite; abstract. H. L. A. Tarr and P. A. Sunderland. Food Ind 12:98 Jl '40
Preservatives for fish products; abstract. H. L. A. Tarr and R. A. Sunderland. Food Ind 12:92-3 F '40
Refrigeration in retail stores. R. E. King. Refrig Eng 40:3-4 sec 2 Jl '40
Sodium benzoate-sodium chloride coated wrappers; a progress report on application of method to fish fillets. E. H. Crowther. Can Chem & Process Ind 24:505+ O '40
Ultra-violet light as a sterilizing agent for brines or pickles; abstract. O. C. Young, H. L. Tarr and P. A. Sunderland. Food Ind 11:710 D '39
See also
Canned fish
Fish, Frozen
Fish, Smoked
Transportation
Trucks replace freight cars in shipment of perishable product; fresh fish distribution. il Food Ind 12:64-5 My '40

FISH culture
Pacific salmon not established in Atlantic waters. A. G. Huntsman and J. R. Dymond. bibliog Science 91:447-9 My 10 '40
Uncle Sam to nurse forty million little fish; Columbia Basin project for culture and protection of salmon and trout. il Comp Air M 45:6174-8 Je '40
See also
Fish hatcheries

FISH hatcheries
Cost
Hatchery building, Columbia Basin project, Washington; unit prices. Eng N 124:752 My 23 '40

FISH hooks. See Fishhooks

FISH ladders. See Dams—Fish problem

FISH oil
Bodying dehydrated castor oil and others. Oil Paint & Drug Rep 138:49 N 4 '40
Preparation of drying oils; recent developments. D. V. Stingley. bibliog il Ind & Eng Chem 32:1217-20 S '40
Vitamin A content of Argentine fish liver oils; abstract. A. O. Castellanos. Food Ind 12:101-2 O '40
Vitamin A destruction in fish liver oils; relation to peroxide formation. E. J. Simons, L. O. Buxton and H. B. Colman. bibliog Ind & Eng Chem 32:706-8 My '40
Waste utilized to improve quality of product; late season salmon brought up to par by addition of oil from inedible parts of fish. H. Cloukey. il Food Ind 12:54 Ja '40
See also
Sardine oil
Analysis
Assay of vitamin A with the photoelectric colorimeter. R. B. French. bibliog Ind & Eng Chem Anal ed 12:351-2 Je 15 '40
Statistics
Fish oils, 1936-1939. Survey of Cur Business 1940 Sup p91 [supplemented in monthly numbers]
Oils, fats and waxes. Published in weekly numbers of Oil, paint and drug reporter

FISH poisons
Active principles of leguminous fish-poison plants; derris malaccensis and tephrosia toxicaria. S. H. Harper. Chem Soc J p1178-84 Ag '40
Active principles of leguminous fish-poison plants; the isolation of malaccol from derris malaccensis. S. H. Harper. Chem Soc J p309-14 Mr '40
Chemical treatment for the control of algae and weeds. Pub Works 71:41 S '40

FISH poisons—*Continued*
Cooperative investigations of the relation between mosquito control and wildlife conservation. Science 92:201-2 Ag 30 '40
Fish deaths. Eng N 124:398 Mr 14 '40
Fish in reservoir resist chemical poisoning effects. Eng N 124:522 Ap 11 '40

FISH protection
Fish screen, Idaho; unit prices. Eng N 123: 804 D 14 '39
Making a water tunnel entrance 165 ft. below lake surface; new fish hatchery at Leavenworth, Wash. diags Eng N 124:371 Mr 14 '40
Uncle Sam to nurse forty million little fish; Columbia Basin project for culture and protection of salmon and trout. il Comp Air M 45:6174-8 Je '40

FISH trade
Fish production. J. Perry. 104p $1.50 Longmans '40
Trucks replace freight cars in shipment of perishable product; fresh fish distribution il Food Ind 12:64-5 My '40

Statistics
Landings of fresh fish, canned salmon, stocks, 1936-1939. Survey of Cur Business 1940 Sup p114 [supplemented in monthly numbers]

Great Britain
Fishing industry. Economist 139:320 S 7 '40

FISHERIES
Transactions of the American fisheries society, sixty-eighth annual meeting, Asheville, North Carolina, June 23 and 24, 1938. 419p pa $3 American fisheries soc, Investment bldg, Washington, D.C. '39

See also
Cod fisheries
Salmon
United States—Fish and wildlife service

Alaska
Alaska fisheries experimental commission. Science 90:533-4 D 8 '39

Canada
Fisheries statistics of Canada, 1938. 280p pa 35c Canada. Dominion bur. of statistics, Ottawa '40

Great Lakes
Saving the fish; Great Lakes campaign to rehabilitate industry. Business Week p26+ N 16 '40

Japan
Far Eastern fisheries; significance of the 1940 Russo-Japanese convention. Economist 138:11 Ja 6 '40

Newfoundland
Fishing rights raise a squall; General Seafoods' concession in Newfoundland. Business Week p20+ Ap 13 '40

United States
Book of fishes; presenting the better known species of food and game fishes of the coastal and inland waters of the United States. J. O. La Gorce, ed. rev & enl ed 367p $3.50 National geographic soc, Washington, D.C. '39

FISHERMEN
Compensation for Canadian seamen and fishermen. Monthly Labor R 50:605 Mr '40

FISHES
Founding of a Department of fishes in the Museo Poey of the University of Havana. Science 90:490 N 24 '39
Polysaccharides; the constitution of glycogen from fish liver and fish muscle. W. N. Haworth, E. L. Hirst and F. Smith. Chem Soc J p1914-22 D '39

See also
Aquariums
Bass
Electric organs in fishes
Fish as food
Salmon

FISHES. Electric. See Electric organs in fishes

FISHHOOKS
Fish hooks of new alloy; Z nickel. il Sci Am 162:277 My '40
Manufacture of fish hooks; Z nickel finish hooks, product of Bill DeWitt baits, division of Shoe form co. il Iron Age 145:43 Mr 14 '40

FISHING boats
Menhaden fishing boat repowered with Diesel engines. il Marine Eng 45:56 O '40
Trawler Brookline fitted with alloy shaft. il Marine Eng 45:55 Ja '40
Trawler Vagabond repowered. il diag Marine Eng 45:66+ F '40

FISHING net floats
Fishing is a business; lightweight, sturdy floats and needles; plastics replace aluminum, and wood, etc. il Mod Plastics 18:50-1 N '40

FISHING tackle
Salt water fishing tackle. H. Major. 284p bibliog(p130-1) $5 Funk & Wagnalls co, New York '39
Your fishing tackle. A. D. Rathbone. il Sci Am 162:363-5 Je '40

See also
Fishhooks

FISHWAYS. See Fish protection

FISK rubber corporation
Sale of company to U.S. Rubber is approved by Fisk stockholders. Rubber Age 46:243 Ja '40
To vote on merger with U.S. Rubber. Comm & Fin Chr 149:3871 D 16 '39
U.S. rubber company absorbs Fisk assets. Rubber Age 46:306 F '40
U.S. Rubber negotiates purchase of Fisk. India Rubber W 101:54-5 Ja '40

FISSION. See Atoms—Disintegration

FISSION, Heat of
Heat of fission of uranium. M. C. Henderson. bibliog diag Phys R 58:774-80 N 1 '40

FITS (machinery)
Broaching machines assemble press-fit parts. diags Steel 106:71 Je 10 '40
Investigation of the fretting corrosion of closely fitting surfaces. G. A. Tomlinson, P. L. Thorpe and H. J. Gough. diags Inst Mech Eng J & Proc 141:Proc 223-37, pl 1-8 My '39; Discussion. 141:Proc 238-49; 142: Proc 401-6, pl 9-10 My '39, Mr '40
Press fits. A. D. Hollis. Ry Mech Eng 114:25 Ja '40

FITZGERALD, John Gerald, 1882-1940
Sketch. R. D. Defries. Science 92:141 Ag 16 '40

FITZGERALD contraction. See Lorentz-Fitzgerald contraction

FIVE- and ten-cent stores
Counter cards in the 5 and 10. A. L. Karp. il Ptr Ink Mo 39:9 D '39
Five and ten; the fabulous life of F. W. Woolworth. J. K. Winkler. 256p $3 Robert M. McBride & co, New York '40
Merchandising chemical specialties to chain stores. il Chem Ind 46:598-600 My '40
Topping the variety chain field; G. C. Murphy company's progress. S. Devlin. il Mag of Wall St 66:674-5+ S 21 '40
Variety chains show gains. H. Lawrence. Barron's 20:20 Ap 8 '40
W. T. Grant co. Buffalo; with construction outline. il plans Arch Forum 71:441-5 D '39
What chemical specialties do chain stores buy? il Chem Ind 46:468-70 Ap '40

See also
Kresge, S. S., company
Woolworth, F. W., company

FIZEAU, Armand Hippolyte Louis, 1819-1896
Theory of the double Fizeau toothed wheel. H. E. Ives. diags Opt Soc Am J 29:472-8 N '39

FLADER, Fred
Fred Flader, master plumber, of Evanston, Illinois. pors Fortune 21:62-3, 114, 117-18 Mr '40

FLAGS
Cleans flags free to celebrate anniversary; C. G. Howes company, Boston. Am Business 10:38-9 O '40
Flags are barred to advertisers. A. W. Gray. Inland Ptr 104:25-6 F '40
United States Supreme court upholds compulsory salute of flag if required by state laws. Comm & Fin Chr 150:3590 Je 8 '40

FLAME propagation
Combustion of methane; displacements of mixtures giving maximum flame velocities. A. R. T. Denues and W. J. Huff. bibliog Am Chem Soc J 62:3045-7 N '40
Engine combustion and pressure development. G. W. Rassweiler, L. Withrow, and W. Cornelius. il S A E J 46:25-48 Ja '40
Process of combustion in spark ignition engines. W. T. David. diags Engineer 169:509-10 Je 7 '40; Discussion. 170:76-7 Ag 2 '40
Recent views on factors affecting flame velocity. D. T. A. Townend and M. MacCormac. bibliog Gas J (Lond) 229:294, 299-301 F 7 '40; Abstract. Engineering 149:45 Ja 12 '40

FLAMENOL
G. E. publishes data on flamenol. Automotive Ind 83:187 Ag 15 '40

FLAMES
Air-acetylene flame in refrigeration. il Refrig Eng 38:386+ D '39
Control for luminous flame firing in glass furnaces. F. G. Schwalbe. il diag Am Cer Soc J 23:173-8 Je '40
Effect of surface on cool flames in the oxidation of propane. R. A. Day, jr. and R. N. Pease. bibliog Am Chem Soc J 62:2234-7 Ag '40
Examination of the mechanism by which cool flames give rise to normal flames; the chemical character of the blue flame initiated in the cool flame products of ether-oxygen mixtures. M. Maccormac and D. T. A. Townend. diag Chem Soc J p151-6 F '40
Examination of the mechanism by which cool flames give rise to normal flames; the physical characteristics of the two-stage process of ignition of ether-oxygen mixtures. M. Maccormac and D. T. A. Townend. Chem Soc J p143-50 F '40
Flame as an indicator of oxygen depletion and deficiency. W. S. Weeks and R. K. Byerts. Eng & Min J 141:44-5 O '40
Flame-cleaning method for steel. F. H. Dill. il Civil Eng 10:412-14 Jl '40
Flame temperature; abstract. B. Lewis and G. von Elbe. Glass Ind 20:467 D '39
Flame temperature; in use of fuels for heating and generation of power. B. Lewis and G. von Elbe. bibliog J Ap Phys 11:698-706 N '40
Lamb Glass adopts luminous-flame firing. il Glass Ind 21:267-71 Je '40
Temperature of flame gases; discussion of sodium line reversal method of measurement. W. T. David. Engineering 149:241-2 Mr 8 '40
Die wärmestrahlung von flammen. J. Werneburg. V D I 83:1258-9 D 2 '39

See also
Combustion
Gas burners
Gas lighting
Inflammable liquids
Inflammable mixtures
Oxyacetylene apparatus
Oxyacetylene flame

FLANGES

See also
Pipe flanges

FLASH point
Smoke, flash, and fire points; applicable to animal and vegetable oils and fats. diags Ind & Eng Chem Anal ed 12:380-2 Jl 15 '40

FLASHBOARDS. See Dams—Flashboards

FLASHING
Correct use of flashing prevents moisture penetration. diag Brick & Clay Rec 96:32-3 Je '40
Your contractor might like to know these principles of flashing. Brick & Clay Rec 95:34-6 D '39

FLASHLIGHT photography. See Photography, Flashlight

FLASHLIGHTS, Electric. See Electric flashlights

FLAT ROCK, Michigan

Water supply
Porous filter bottoms at Flat Rock, Mich. L. Stevens. il Am Water Works Assn J 32:494-9 Mr '40; Same. Water Works & Sewerage 87:111-13 Mr '40; Discussion. H. T. Campion. Am Water Works Assn J 32:500-1 Mr '40

FLATIRONS. See Electric irons

FLATWORMS. See Planarians

FLAVANS
Flavans. J. B. Niederl and A. Ziering. Am Chem Soc J 62:1157-8 My '40

FLAVONES
Osage orange pigments; degree of unsaturation and flavone nature. M. L. Wolfrom, P. W. Morgan and F. L. Benton. Am Chem Soc J 62:1484-9 Je '40

FLAVOR
200 tell what they prefer in pickle sweeteners. R. G. Switzer and F. W. Fabian. il Food Ind 12:38-40 N '40

FLAVORING extract manufacturers' association
Annual convention, Chicago, June 24-26. Oil Paint & Drug Rep 138:3+ Jl 1 '40; Food Ind 12:62 Ag '40

FLAVORING materials

See also
Essential oils
Malt
Spices
Vanillin

FLAX
Eine einfache und rasch auszuführende methode zur quantitativen trennung von kunstfasern aus hydratcellulose und fasern aus nativer cellulose. Schwertassek. Angew Chemie 52:700-1 D 9 '39
Flax and hemp; advances during the past year, and notes on practical processing. F. G. Brown. Textile Col 61:847-9; 62:98-100 D '39, F '40
Flax may be cotton kingdom's ally. il Business Week p54-5 O 12 '40
Flax straw cleaning machine. Business Week p51 O 19 '40
Other textile fibres, 1939. Economist 138: sup39-40 F 17 '40
Shortage of flax; Britain's trade, 1937, 1938, Jan.-Aug. 1939. Economist 137:389 D 9 '39

See also
Linen

FLAX Institute of United States
Achievements and aims. Oil Paint & Drug Rep 137:33D Mr 11 '40
Report of activities in 1939. Oil Paint & Drug Rep 137:5+ Ja 22 '40

FLAXSEED
Crop gain indicated in Northwest. Oil Paint & Drug Rep 138:5+ Jl 8 '40
Cultivation expands in California. Oil Paint & Drug Rep 136:5+ N 20 '39
Flax developers hunt better seed. Oil Paint & Drug Rep 136:5+ N 20 '39
Flax institute opposes Argentine duty cut. Oil Paint & Drug Rep 136:5+ D 4 '39
Outlook noted by Institute. Oil Paint & Drug Rep 137:5+ Je 10 '40
Prospects considered excellent. Oil Paint & Drug Rep 137:61 Ap 1 '40

Statistics
Flaxseed, 1936-1939. Survey of Cur Business 1940 Sup p94 [supplemented in monthly numbers]

FLAXSEED oil. See Linseed oil

FLEAS
Siphonaptera; notes on two California species. W. L. Jellison. diags Pub Health Rep 55: 489-92 Mr 22 '40

FLEMING-WILSON mercantile company
Preferred stock offered. Comm & Fin Chr 151: 2497 O 26 '40

FLEXNER, Abraham, 1866-
Honorary degrees conferred by Princeton university. Science 91:591 Je 21 '40

FLEXURE
See also
Elasticity
Strains and stresses
Strength of materials

FLIES
Fly farms raise toughest breeds to test insecticide quality. il Nat Pet N 32:28+ My 8 '40
See also
Blowflies

FLIES as carriers of infection
House-fly as a danger to health; its life-history and how to deal with it. E. E. Austen. 4th ed rev 25p bibliog(p25) 6d Trustees of the British museum, London '39
Musca domestica and hippelates flies; vectors of bovine mastitis. D. A. Sanders. Science 92:286 S 27 '40

FLIGHT
See also
Aerodynamics
Aeronautics
Aviation

FLINT, Michigan
Diagnosis and suggested treatment of an urban community's land problem; vacant lot problem. E. N. Bacon. maps J Land & Pub Util Econ 16:72-88 F '40

FLINT clay. See Fire clay

FLOATING bridges. See Bridges, Pontoon

FLOATING cranes. See Cranes, Floating

FLOCCULATION
Effect of water hardness on the formation of floc from sodium aluminate. L. B. Miller and R. L. Lanz. Paper Tr J 110:131-3 F 22 '40
Fine particle suspensions in organic liquids. C. R. Bloomquist and R. S. Shutt. bibliog il diags Ind & Eng Chem 32:827-31 Je '40
Flocculation and dispersion of papermaking fibers. A. Erspamer. bibliog Paper Tr J 110:33-8 Je 13 '40
Flocculation as an aid in the clarification of coal washery water. H. F. Yancey and others. pls U S Bur Mines Rep of Invest 3494:1-13 bibliog(p12-13) '40
Influence of sol concentration on flocculation values. E. D. Fisher and C. H. Sorum. bibliog J Phys Chem 44:62-70 Ja '40
Sedimentation and flocculation. M. B. Donald. bibliog Chem & Ind 59:105-9 F 17 '40; Same cond. Engineering 149:248-9 Mr 8 '40; Abstract. Chem Age (Lond) 42:100 F 17 '40
Some aspects of white water flocculation. E. N. Poor. Paper Tr J 110:37-8 Mr 7 '40
Unifloc reagents ltd. Chem & Ind 59:234 Ap 6 '40
See also
Deflocculation

FLOCK covered fabrics
Fiberdown; electrically embossing fabrics with short-cut fibers. Textile Col 62:754+ N '40
Sandpaper to textiles; electrostatic process used in fabric manufacture. il diag Textile World 90:56 Ap '40

FLOCKS, Rayon. See Rayon flocks

FLOOD control
Effect of Shasta dam on the Sacramento river. F. M. S. Johnson. maps Civil Eng 10:108-10 F '40
Flood control. W. E. R. Covell. J Eng Educ 30:244-55 N '39
Flood control and its relation to problems of stream pollution. D. F. Horton. Boston Soc C E J 27:42-52 Ja '40
Flood-control methods; their physical and economic limitations. Am Soc C E Proc 66: 265-82 F '40; Discussion. 66:990, 1194-8 My-Je '40
Flood-control progress, 1939. V. T. Boughton. il map Eng N 124:222, 231-4 F 15 '40
Flood control pumping stations. diags Power Pl Eng 44:72 Jl '40
Flood-protection data; progress report of the committee. Am Soc C E Proc 66:615-26 bibliog(p620-3) Ap '40; Discussion. 66:1225-8, 1347-8, 1728-5 Je, S, N '40
Functional design of flood control reservoirs. C. J. Posey and Fu-Te I. diag Am Soc C E Proc 65:1317-26 O '39; Discussion. 65: 1765-6; 66:507-16, 695-706, 961-3 D '39, Mr-My '40
Grouped reservoirs control floods on the Colorado river. C. McDonough. il map Eng N 124:793-6 Je 6 '40
House flood control bill includes $191,000,000 for dams and local works. Eng N 124:625+ My 9 '40
John Martin reservoir project for flood control and water conservation in the Great Plains area. il diags map Eng N 125:614-17 N 7 '40
Larger levees for Lake Okeechobee. il map Eng N 124:636-9 My 9 '40
Lifting a river over a levee. J. D. Andrews, jr. il diags map Eng N 125:39-42 Jl 4 '40
Major projects of 1939. il Eng N 124:264-5 F 15 '40
Ohio river has door shut in its face at Huntington; flood gates. il Eng N 124:691 My 16 '40
Prado dam to control floods on the Santa Ana river. Eng N 124:500 Ap 11 '40
Public ownership and the Central Valley, California, project. J. H. Collins. Pub Util 26:195-206 Ag 15 '40
Reclamation bureau gains in fight over flood control-irrigation job; San Luis project. Eng N 124:553 Ap 18 '40
River control and water storage in 1939. il diag map Engineer 169:33-4 Ja 12 '40
State regulation of flood-plain use. G. F. White. bibliog J Land & Pub Util Econ 16: 352-7 Ag '40
Whitney Point dam. S. E. Hunkin. il Cornell Eng 5:8-11 F '40
Yellow River problem. O. J. Todd and S. Eliassen. il diags maps Am Soc C E Proc 64:1921-91 D '38; Discussion. 65:550-8, 707-15, 1069-77, 1255-7, 1777-87 Mr-Ap, Je, S, D '39
See also

Dams	Reclamation of land
Dikes (engineering)	Reservoirs
Levees	Rivers—Regulation
Mississippi river—Flood control projects	

Cost
Channel improvement, Pennsylvania; unit prices. Eng N 125:515 O 17 '40
Contract unit bid prices; list of projects showing how contractors bid in 1939-1940. Eng N 124:sup205-10 Je 20 '40
Flood protection project, Corning, New York; unit prices. Eng N 125:384 S 19 '40
Flood wall, Kittanning, Pa.; unit prices. Eng N 124:765 My 30 '40
Flood wall, Ohio; unit prices. Eng N 124:482 Ap 4 '40
Flood wall, West Virginia; unit prices. Eng N 124:672 My 9 '40
Pressure culvert, Pennsylvania; unit prices. Eng N 123:670 N 16 '39
Pumping plants, Tell City, Indiana; unit prices. Eng N 124:623 My 2 '40

FLOODLIGHTING. See Light projection

FLOODS
Cities move to escape floods; Hill, N.H.; Shawneetown, Ill.; Leavenworth, Ind.; Greenville, Mo. Eng N 124:370 Mr 14 '40
Delaware River basin flood volumes. R. E. Horton and R. VanVliet. 38p Interstate commission on the Delaware River basin, Broad Street Station bldg, Philadelphia '40
Floods, bridges, foundations and failures. R. J. Borhek. Roads & Sts 82:66+ N '39
Let floods come, we're ready. G. R. Wescott. il Factory Management 98:73-5 Ja '40
Mathematical theory of irrotational translation waves. G. H. Keulegan and G. W. Patterson. bibliog J Research Nat Bur Stand 24:47-101 Ja '40
Mount the pumps to protect against flood damage. il Elec West 84:52 Ja '40

FLOODS—*Continued*
Probable maximum flood flow from a small watershed. J. K. Bartlett and T. G. Pfiffner. Civil Eng 10:233-5 Ap '40
Transient flood peaks. H. B. Lynch. il maps Am Soc C E Proc 65:1605-24 N '39; Discussion. diags 66:176-8, 546-52, 745-69, 995-1002, 1104-8, 1337-8, 1665-70 Ja, Mr-Je, S, N '40
Transmit river stages with radio gages. A. S. Fry. il Elec W 114:1166-7+ O 19 '40

See also
Electric plants (central stations)—Flood damage
Flood control
Gas works—Flood problems
Railroads—Damage from floods, storms, etc.
Rain and rainfall

Forecasting

Possible and probable future floods; analysis of data suggests need for research in storm probabilities. W. P. Creager. Civil Eng 9: 668-70 N '39; Discussion. 10:111-13 F '40

Arizona

Storm causes floods below Boulder dam. L. J. Foster. Eng N 123:753-4 D 7 '39

California

California highway department fights floods. F. W. Panhorst. Civil Eng 10:174-5 Mr '40
Designing flood-proof streets to carry storm water flows. H. H. Edwards. il Pub Works 71:16-18 Ap '40
Floods of December 1937 in northern California. H. D. McGlashan and R. C. Briggs. maps U S Geol S Water-supply Pa 843:1-497, pl 1-13 '39
Railroad fights floods; southern California deluge, March 2, 1938, and its effect on Southern Pacific lines. W. H. Kirkbride. il maps Civil Eng 9:711-14 D '39
Sacramento river experiences its greatest flood. il Eng N 124:341, 343 Mr 7 '40
Storm causes floods below Boulder dam. L. J. Foster. Eng N 123:753-4 D 7 '39

China

Yellow River problem. O. J. Todd and S. Eliassen. il diags maps Am Soc C E Proc 64:1921-91 D '38; Discussion. 65:550-8, 707-15, 1069-77, 1255-7, 1777-87 Mr-Ap, Je, S, D '39

Massachusetts

High water data, floods of March 1936 and September 1938 in Massachusetts. 163p Massachusetts geodetic survey, Boston '39
Lessons from floods and hurricane at Ware. G. F. Merrill. N E Water Works Assn J 54:186-90 Je '40

New England

Hurricane floods of September 1938. C. G. Paulsen and others. maps U S Geol S Water-supply Pa 867:1-562, pl 1-20 '40

New Jersey

Dam failures caused freak floods in Jersey. Eng N 125:320-1 S 12 '40
Hurricane rain floods New Jersey. Eng N 125:311 S 5 '40

North Carolina

Floods again hit North Carolina. Eng N 125: 311+ S 5 '40

Pennsylvania

Maximum probable floods on Pennsylvania streams. C. F. Ruff. maps Am Soc C E Proc 66:1239-76 S '40

Pittsburgh

Flood control. W. E. R. Covell. J Eng Educ 30:244-55 N '39

Tennessee

Flood damage loss placed at $150,000. il Elec W News ed 114:600 Ag 31 '40

United States

Bridge losses from floods. R. J. Borhek. Roads & Sts 82:68+ N '39
Flood-protection data; progress report of the committee. Am Soc C E Proc 66:615-26 bibliog(p620-3) Ap '40; Discussion. 66:1225-8, 1347-8, 1723-5 Je, S, N '40
Twin floods hamper flood control. Eng N 125:164 Ag 1 '40

FLOOR cleaning machines
Clean floors cut accidents, waste. Textile World 89:91-2 N '39
Scrubbers wash up cleaning costs; illustrations. Factory Management 98:84-5 My '40

FLOOR coverings
Cement-latex mixtures; their composition and applications. H. J. Stern. bibliog India Rubber W 102:37-40 My '40

See also
Carpets
Ozite
Rugs

Testing

Performance test of floor coverings. Franklin Inst J 229:513-14 Ap '40
Standard methods of testing pile floor covering adopted 1939; American society for testing materials. Textile Col 62:407-9 Je '40

FLOOR surfacing machines
Customer presentation; American floor surfacing machine company. il Ptr Ink Mo 41:40 Jl '40
Nordberg car-floor finishing machine. il Ry Mech Eng 113:555-6 D '39

FLOOR wax
Is the floor too slippery? testing coefficient of friction of the floor finish. S. W. Gurney. il Nat Safety N 42:22-3+ Ag '40
Premiums lift the sales story out of the hum-drum; No-Rub waxes and polishes. R. S. Wheeler. il Ptr Ink Mo 41:28 Jl '40

FLOORING
Cement-latex mixtures; their composition and applications. H. J. Stern. bibliog India Rubber W 102:37-40 My '40
Sanitary and physiological aspects of flooring materials; dustiness, comfort, coldness, noise. J. M. DallaValle. bibliog Pub Health Rep 55:1884-92 O 18 '40
White oak and red oak flooring and northern hard maple flooring. il Am Bld 62:86-7 Ja '40

Statistics

Flooring, 1936-1939. Survey of Cur Business 1940 Sup p126 [supplemented in monthly numbers]

FLOORS
Electric heat for the bathroom floor. il Heat & Ven 36:41 D '39
How to estimate accurately. J. D. Wilson. diags Am Bld 61:72+ D '39
Rock-Tred floor re-surfacer. Paper Tr J 109: 20 N 16 '39

See also
Bridges—Floors
Factories—Floors
Pavements
Ships—Deck coverings

Anti-slip surfaces

How a coordinated attack can help control accidents resulting from slips and falls. C. Ainsworth. il Ind Stand 11:128-33 My '40
Is the floor too slippery? testing coefficient of friction of the floor finish. S. W. Gurney. il Nat Safety N 42:22-3+ Ag '40
New antislip material may be important new outlet for metals; Ten-Lox. il Steel 106:41 Ja 8 '40
Plant walkways. il Nat Safety N 41:91-3 Mr '40

FLOORS, Concrete
Air puts cavities in building materials; inflated tubes in construction of concrete floors. A. M. Hoffmann. il Comp Air M 44: 6040-2 D '39
Build reputation as contractor specialist on concrete floors. diags Concrete 48:16+ S '40
Coloring concrete floors. I. A. Butcher. Eng N 125:300 Ag 29 '40

FLOORS, Concrete—*Continued*
Corridor beam floor; dormitories at the University of Wisconsin. C. A. Willson. diags Am Concrete Inst J 11:165-8 N '39; Discussion. H. M. Hadley. 11:sup168[1]-168[8] Ap '40

Cracks in exterior masonry bearing walls occurring where concrete roof and floor slabs bear on the walls. A. M. Korsmo and B. M. Thorud. diags Am Concrete Inst J 12:49-54 S '40

Design concrete floor for skating rink and all-round service. il diag Concrete 48:34 Je '40

Details of plywood form work for walls, columns, slabs and girders. il diags Concrete 48:13+ Je '40

Flexicore method of precast concrete floor construction; abstract. H. L. Rogers. il Rock Prod 43:67 Mr '40

Full span concrete slabs for floors and roofs; joist system made from vibrated concrete. R. S. Torgerson. il diag Rock Prod 43:59-60 My '40

How cinder units in floor construction increase your market. L. P. Kooken. il Concrete 48:20, 23-4 N '40

Industrial floors of concrete. A. J. Boase. il Ind & Eng Chem 31:1435-6 N '39

Installing pipes, ducts and conduits in concrete walls and floors. il diags Concrete 48:17-18 My; 12 Ag '40

Mass-production methods in manufacture of precast concrete joists. il diags Concrete 48:24 My '40

O. K. to slab heating; steam pipes laid under concrete floor. il plan Dom Eng 155: 46-7+ Ap '40

Precast concrete floor units find market in all residential building types. il Concrete 48:14+ Jl '40

Precast concrete floors; abstract. R. Condo. il Rock Prod 43:67 Mr '40

Precast concrete joist floors in hospital hold cost within appropriation. R. Lawrie, jr. il Concrete 48:18 Mr '40

Precast joist concrete floor systems; report of A.C.I. committee 711. diags Am Concrete Inst J 11:297-312 Ja '40

Reconstruction of the ice skating rink at the University of Illinois; corrosion of brine pipes cause failure of original floor. J. Doak. il diags Am Concrete Inst J 11:1-20 S '39; Discussion. 11:sup20[1]-20[8] F '40

Space between floor joists used for heating; Shawneetown, Ill. public building construction. Heating-Piping 12:169 Mr '40

Special precast floor construction is fireproof. diags Concrete 48:46 My '40

Testing

Portable apparatus for determining the relative wear resistance of concrete floors. L. Schuman and J. Tucker, jr. bibliog pls diags J Research Nat Bur Stand 23:549-70 N '39; Abstract. Concrete 48:5-6 Ap '40

FLOORS, Rubber
Latex floor coverings. India Rubber W 101:54 D '39

115,000 square feet of rubber flooring, Bankers life building, Des Moines, Iowa. il Rubber Age 47:245-6 Jl '40

FLOORS, Steel
Light weight flooring joined by welding. il Iron Age 146:25 Ag 29 '40

Office building completed in 79 working days; use of special cellular steel floor, roof and partition sections, bonded metal paneling for walls; H. H. Robertson co. H. B. Winslow. il diags Steel 106:46-8+ F 19 '40

FLOORS, Wood
Plywood and laminated timber construction. I. D. S. Kelly. il diags Civil Eng 10:25-8 Ja '40

FLORAL decoration
Flower arrangement in color. F. F. Rockwell and E. C. Grayson. 238p $2.95 W. H. Wise & co, 50 W. 47th st, New York '40

FLORICULTURE
See also
Greenhouses
Plant breeding

FLORIDA
Cue's guide to what to see and do in Florida. G. W. Seaton. 112p $1 Prentice-Hall '40

Florida; a guide to the southernmost state. 600p bibliog(p553-65) $2.50 Oxford '39

Economic conditions

Florida's sun brighter this year. il Business Week p24-6 Ja 13 '40

Industries and resources

Economic development of Florida. il maps Manuf Rec Extra no 109:100-8 S '40

FLORIDA bankers association
Regional bank groups; Florida bankers have organized the state into five areas. J. N. Stonebraker. il map Burroughs Clearing House 25:9-11 O '40

FLORIDA east coast railway
Reorganization plan. Comm & Fin Chr 151: 2042-3, 2497 O 5, 26 '40

FLORIST shops
Flowers sold like perishables; Flower markets, inc, Dallas. il Refrig Eng 39:161 Mr '40

Well planned building combines 5-room apartment, garage, and small store. il plans Am Bld 62:104-5 Ap '40

FLOTATION agents
What you can use; flotation agents for concentrating ores. Oil Paint & Drug Rep 137: 30B Ja 22; 30 Ja 29; 56 F 5 '40

Xanthates in froth-flotation concentration. D. D. Howat. flow sheet bibliog Chem Age (Lond) 43:89-90 Ag 24 '40

FLOTATION plants

Equipment

Re-treating complex tailings at Ophir, Utah. J. B. Huttl. flow sheet il Eng & Min J 141:52-3 My '40

FLOTATION process
Booth-Thompson counter froth flow flotation system. il Eng & Min J 141:121 Ag '40

Bubble action in the deep flotation cell. N. A. MacLeod. Eng & Min J 141:61 Je '40

Charcoal as a gold precipitant in conjunction with flotation. M. W. von Bernewitz. flow sheets Eng & Min J 141:43-7 Mr '40

De-leading zinc concentrates at the Pend Oreille mill. C. A. R. Lambly and F. R. Milliken. flow sheets il Eng & Min J 141:29-32 Mr '40

Flotation. B. Delany. il Ind & Eng Chem 32:1172-3 S '40

Flotation concentration of oxidised minerals and salts; the use of collectors and frothers. D. D. Howat. Chem Age (Lond) 42: 343-5 Je 29 '40

Flotation of mercury ores; recent tests. L. H. Shaffer, J. Newton and A. W. Fahrenwald. bibliog diags Eng & Min J 141:40-3 My '40

Flotation plant practice. P. Rabone. 3d ed rev & enl 184p 12s 6d Mining publications, London '39

Flotation shorthand; symbolic representation of flowsheets. A. F. Taggart. Eng & Min J 141:36-9 Ap '40

Froth flotation concentration. C. C. DeWitt. il Ind & Eng Chem 32:652-8 bibliog (112 references, p658) My '40

Progress in milling practice and equipment. A. W. Fahrenwald. il Min Cong J 26:20-1 Ja '40

Progress reports, Metallurgical division; beneficiation of boron minerals. R. G. Knickerbocker and others. pls U S Bur Mines Rep of Invest 3525:1-12 '40

Sixty years of development in ore dressing; with special attention to the last ten years. C. S. Parsons. il Can Min J 60:693-711 N '39

Twenty years' progress in flotation. F. L. Bosqui. il Min & Met 21:501-6 N '40

FLOTATION process (cement)
Flotation as applied to modern cement manufacture. G. K. Engelhart. flow sheet bibliog il Ind & Eng Chem 32:645-51 My '40
Flotation process draws lively interest of cement industry. il Concrete (mill sec) 48: 102-3 Ja '40
Froth flotation as applied to modern cement manufacture. G. K. Engelhart. Concrete (mill sec) 48:123 F '40

FLOTATION process (non-metals)
Beneficiating raw materials by froth flotation. J. Norman and E. W. Gieseke. Concrete (mill sec) 48:216-17 Ag '40
La concentration par flottation des minerais non métalliques. H. Vigneron. Génie Civil 115:467-9 D 30 '39
Detecting unsound chert in aggregates. C. E. Wuerpel. il Eng N 124:652-4 My 9 '40
Froth flotation and agglomerate tabling of feldspars. R. G. O'Meara, J. E. Norman and W. E. Hammond. Am Cer Soc Bul 18: 286-92 Ag '39; Excerpts. Concrete (mill sec) 48:136 Mr '40
Mineral concentration by oil adhesion in XVth century; manuscript written by Persian scholar Muhammad ibn Mansûr in the year 897 of the hegira (1491 of the Christian era). A. M. Gaudin. bibliog Eng & Min J 141:43-4 O '40
Screening under water for phosphate recovery; use of flotation; Swift and company fertilizer works. B. Nordberg. flow diag il Rock Prod 43:26-9+ My '40

FLOUR
Analyses of western Canadian wheat. J. A. Anderson and T. R. Aitken. Can Chem & Process Ind 23:573-4, 576+ N '39
Ascorbic acid vs. bromates as flour improver; abstract. K. Burian. Food Ind 11:711 D '39
Cereal flours as antioxidants in dairy products; abstract. W. S. Mueller and M. J. Mack. Food Ind 12:93-4 F '40
Conditioning surfaces for froth flotation. J. E. Norman and O. C. Ralston. Concrete (mill sec) 48:139-40 Mr '40
Consumers get unexpected answers to demand; Vibic flour. il Food Ind 12:58 S '40
Furor over wheat germ flour; vitamin B in white flour offered on licensing and royalty arrangement. F. C. Minaker. il Am Business 10:26-8 Ag '40
Putting vitamins in their place; riboflavin returns to food. D. H. Killeffer. Ind & Eng Chem News ed 18:758 S 10 '40
Soft winter wheat flours; their laboratory evaluation and commercial application. G. Garnatz. Can Chem & Process Ind 24:255-6 My '40
Stabilizing flour by drying; abstract. B. Thomas. Food Ind 12:98 Jl '40
That new white flour; vitamin enthusiasts acclaim milling process. Business Week p29 Mr 30 '40
Vibic flour on sale. Business Week p43+ Je 15 '40
Vitamins for defense? fortified flour. Business Week p26+ O 26 '40
White bread with whole wheat value; Vibic flour has an added mineral and vitamin content. Barron's 20:5 Je 17 '40
See also
Soybean flour

Analysis
Micro-determination of bromine in foodstuffs. W. P. Ford and others. bibliog Soc Chem Ind J 59:177-80 Ag '40
Three methods for determining foreign matter in flour; chemical and physical tests for contamination by confused flour beetle. B. L. Blumberg and C. W. Ballard. il Food Ind 12:36-8 Ja; 37-8 Ag '40

Manufacture
Flour milling flow sheet. Food Ind 12:60 O '40

Patents
Bleaching flour with nitrogen trichloride; British patent. Food Ind 12:90 S '40
Flour bleaching and maturing; patent. Food Ind 12:96 Ap '40

Testing
Bread baking test suggested for pastry flours. J. A. Shellenberger. il Food Ind 12:52-4 F '40

FLOUR beetles
Three methods for determining foreign matter in flour; chemical and physical tests for contamination by confused flour beetle. B. L. Blumberg and C. W. Ballard. il Food Ind 12:36-8 Ja; 37-8 Ag '40

FLOUR mills
Das kräftespiel im walzenstuhl. O. Moog. diags V D I 83:1301-5 D 23 '39
Der mahlvorgang im walzenstuhl; getreidemüllerei, zement- und zuckerindustrie usw. O. Moog. diag V D I 83:1317-20 D 30 '39

Accounting
Profit or loss in flour milling accounts. J Account 70:269-71 S '40

Air conditioning
About the influence of humidity and temperature of the air on wheat millings; abstract. E. Standt. Food Ind 12:99 Mr '40

Power
Diesel-powered flour mill; Sperry Gerard milling co. il Power 84:169-70 Mr '40
Flour mill employs 251 hp. for processes. B. H. Miller. il Elec W 113:1554 My 18 '40

FLOUR mills of America, inc.
Reorganization. Comm & Fin Chr 150:2724-5 Ap 27 '40

FLOUR trade
Brass tacks for the investor; General mills, inc; Pillsbury flour mills co; brief analysis. Barron's 20:13 Ja 8 '40
Growth through filling basic needs; General mills. S. Devlin. Mag of Wall St 65:756-7+ Mr 23 '40
Millers avoid war hysteria. il Business Week p42-4 N 11 '39

Advertising
How regular insertions can buy new customers; case of a flour miller. F. E. Fehlman. il Adv & Sell 33:35, 56-8 O '40
Ingenious sampling device, via letter, brings upper bracket business for retailers of Washington flour. Ptr Ink 193:59+ O 4 '40

Statistics
Wheat flour, 1936-1939. Survey of Cur Business 1940 Sup p108 [supplemented in monthly numbers]
Wheat flour production, revision; monthly, 1923-June, 1940. Fed Res Bul 26:850 Ag '40
World trade in wheat flour; calendar years 1926-1938. 77p pa 50c Canada. Dominion bur. of statistics, Ottawa '40

FLOW. See Fluids; Rheology

FLOW indicators
Arkon visible-flow indicator. il Engineering 150:117 Ag 9 '40

FLOW meters
American apparatus, instruments, and instrumentation; high vacuum and measurement and control of gases. R. H. Müller. il Ind & Eng Chem Anal ed 12:582-3 O 15 '40
Capillary flowmeter with variable orifices. J. H. Bruun. diag Ind & Eng Chem Anal ed 11:655 D 15 '39
Cochrane linameter. diag Ind & Eng Chem News ed 18:424 My 10 '40
Construction of manometers for measuring flow. A. D. Loring. il diags Ind & Eng Chem Anal ed 11:626-8 N 15 '39
Electronic flow meter. J. M. Weinberger. diags Electronics 13:30-1 Ja '40
Flexibility; piping interconnections permit four blowing engines to serve four blast furnaces in any combination. R. Trautschold. il plan Steel 106:45-6 Ja 8 '40
Flow measurements in the glass industry. A. J. Monack and E. E. Beeton. diags Glass Ind 21:392-4 S '40
Flow meter accuracy governed by the piping layout, pressure tap location. L. K. Spink. il diags Heating-Piping 12:155-8 Mr '40

FLOW meters—*Continued*
Flowmeter refinement, broadens field of applications. diags Rayon 21:320 My '40
Improved rotameter. diag Water Works & Sewerage 87:sup70 Ag '40
Measurement of fluid flow. E. Ower. Chem Age (Lond) 42:270 My 11 '40
National bureau of standards announces new flow meter; to measure discharge rates of plumbing fixtures. Ind Stand 11:120 My '40
Orifice meter for measurement of flow of gases and liquids. A. D. MacLean. 146p loose-leaf $2 Pittsburgh equitable meter co, Pittsburgh '38
Piping arrangement for sealing liquid pots used to maintain a constant static liquid head on the flow meter or manometer. diag Oil & Gas J 39:44 Ag 29 '40
Safe Harbor hydro plant meters water flow. J. M. Mousson. il diags Power 84:650-2, 708-10 O-N '40
Simple meter charts blowdown; orifice, length of oversize pipe and recording pressure gage. A. A. Markson. diag Power 84:77 F '40
Square root extractor; useful in calculating the total volume flow. H. D. Green. il diags R Sci Instr 11:262-4 Ag '40
Stetigzähler für mengenmesser. B. Mester. il diag V D I 84:71 Ja 27 '40
Testing hot-oil pumps under actual operating conditions. A. J. Stepanoff. diags Oil & Gas J 39:52, 55+ O 31 '40
Volumeter research of the fluid-meters committee of the A.S.M.E. E. E. Ambrosius and H. S. Bean. il diags Oil & Gas J 39: 56, 59, 61+ Ag 8 '40; Same. Mech Eng 62: 677-81 S '40

See also
Gas meters
Orifices
Penetrometers
Venturi meters
Water meters

FLOW of air. See Air flow

FLOW of fluids. See Fluids

FLOW of gas. See Gas flow

FLOW of metals. See Metals—Fluidity

FLOW of oil. See Oil flow

FLOW of rocks. See Rocks—Deformation

FLOW of water. See Hydraulics; Water flow

FLOW regulators
Automatic constant flow regulator for low gas flows. L. Silverman. plan Ind & Eng Chem Anal ed 12:292-3 My 15 '40
Heavy-duty oxygen flow controller. il Instruments 13:98 Ap '40
Meyers continuous water feed controller. S. E. Meyers. diags Paper Tr J 110:12-14 My 2 '40
Ein neuer mengenregler für flüssigkeiten. diag Chemische Fabrik 13:75-6 F 24 '40
Sensitive method of flow control; plant for the production of magnesium oxide from sea-water bittern. M. G. Mastin. diag Instruments 13:214-15 Ag '40
Supply of gas and air to furnaces; patent proportioning device. diag Gas J (Lond) 230:444 My 29 '40

FLOW sheets
Flotation shorthand; symbolic representation of flowsheets. A. F. Taggart. Eng & Min J 141:36-9 Ap '40

FLOWERS
Ethylene injury to cut flowers in cold storage rooms. D. V. Lumsden and others. bibliog Science 92:243-4 S 13 '40

See also
Inflorescence

FLUE dust
Defining equitable limits of dust emission from stacks. P. H. Hardie. Mech Eng 61: 895-6 D '39; Same. Concrete (mill sec) 48: 137-8 Mr '40; Discussion. Mech Eng 62:557-62 Jl '40
Dust and fly ash removal from boilers. R. Lincoln. Heat & Ven 37:50-1 Ag '40
Dust laboratory studies fan-abrasion problem. R. L. Lincoln. il diag Power 84:734-5 N '40
Dust sampling methods to determine dust collection efficiency. diags Rock Prod 43:29-30+ Ja '40
Low-cost flue-dust sampler. plan chart Power 84:216-18 Ap '40
Measuring dust collector performance. G. L. Kirp and R. B. Foley. flow diag il Rock Prod 43:41-3+ Ap '40
Profitable fly-ash handling; State Line plant uses Redler conveyors and electrostatic precipitators; fly ash used in concrete. N. W. Elmer. il diag Steel 106:64-5+ F 12 '40
Recovery in sulphate pulp mills; experience with the Tomlinson system in Sweden; cleaning of the gases. G. Edling. diags Pulp & Pa of Can 40:735-7 D '39
Reduction of fly-ash emission from chimneys. J. F. Barkley. il diags pls U S Bur Mines Rep of Invest 3472:1-10 '39; Excerpts. Power Pl Eng 43:745-7 N '39; 44:78 F '40; Concrete (mill sec) diags 48:108+, 168-9, 185-6 Ja, My-Je '40
Riley flue gas scrubber in paper plant. diags Paper Tr J 109:60, 64-6 N 30 '39
Simpler operation for this flue-dust sampler. P. H. Hardie. diag Power 84:369 Je '40
Small cyclonic collectors for stack dust; Peerless cement corp. plant. B. Nordberg. il plan Rock Prod 43:31-2 Jl '40
Wastes problems of the iron and steel industries. W. W. Hodge. Ind & Eng Chem 31: 1366 N '39

See also
Blast furnace gas
Blast furnaces
Flue gas
Sintering
Smoke

FLUE gas
Alkali slurry for CO_2 recovery from flue gases. G. T. Reich. diags Chem & Met Eng 47: 152-5 Mr '40
Chemical uses of gas. C. G. Segeler. Ind & Eng Chem News ed 18:437-8 My 25 '40
Control of gases in the wake of smokestacks. R. H. Sherlock and E. A. Stalker. il diag Mech Eng 62:455-8 Je '40
Corrosion of metals and alloys by flue gases. L. Shnidman and J. S. Yeaw. Am Gas Assn Proc 1939:542-52
Eliminating stack losses. J. O. G. Gibbons. Power Pl Eng 44:80+ Ag '40
Intermittent burning of gas and pulverized coal. H. A. Kleinman. diag Gas Age 86:16-19 Ag 29 '40; Excerpt. Power Pl Eng 44:82-3 O '40
Practical removal of sulfuric-acid fog by bubble-phase absorption. D. W. Bransky and F. F. Diwoky. diags Am Pet Inst Proc 21M(3):39-45 My '40; Excerpts. Nat Pet N 32:R200-1 My 29 '40; Abstract. Oil & Gas J 39:56 My 30 '40
Recovery of sulfur dioxide from waste gases; regeneration of the absorbent by treatment with zinc oxide. H. F. Johnstone and A. D. Singh. bibliog flow sheet il Ind & Eng Chem 32:1037-49 Ag '40
Report on corrosion of metals and alloys by flue gases. E. J. Murphy. il Am Gas Assn Proc 1939:553-7
Some contributions of chemistry and chemical engineering to steam generation. G. W. Hewson and R. L. Rees. Inst Chem Eng Trans 17:61-8 '39

See also
Flue dust

Analysis
Fuel flue gases; the application and interpretation of gas analyses and tests. C. G. Segeler, ed. 198p $5 Am. gas assn, New York '40
How to run an orsat. il diag Power 84:463-4 Jl '40
Improved automatic flue gas analyzer; Hays Orsatomat. il Marine Eng 44:582 D '39

Industrial applications
Dust explosions avoided by use of boiler flue gas; Quaker oats co. R. O. Kirn. il plans Food Ind 12:52-4+ O '40
Gas-fired galvanizing equipment; using flue gas heat for after-pickle drying tables. F. M. Carlson. il diags Metal Ind 37:578-9 D '39

FLUE gas scrubber
Riley flue gas scrubber in paper plant. diags Paper Tr J 109:60, 64-6 N 30 '39

FLUES
Longitudinal cracking of flues through the beads; Master boiler makers' association committee report. il Ry Mech Eng 113:448-50 N '39

Organic sulphur. bibliog il Am Gas Assn Proc 1939:517-42; Same cond. Am Gas J 151:27-33 D '39; Discussion. Am Gas Assn Proc 1939:557-8

See also
Chimneys

FLUID meters. See Flow meters

FLUIDITY
Fluidity of cotton in dimethyl dibenzyl ammonium hydroxide; measure of cotton degradation. W. W. Russell and N. T. Woodberry. bibliog diag Ind & Eng Chem Anal ed 12:151-4 Mr 15 '40

Properties of the oxycelluloses formed in the early stages of the oxidation of cotton cellulose by periodic acid and metaperiodate. G. F. Davidson. bibliog Textile Inst J 31:T81-96 Jl '40

Relation of fluidity to volume in organic liquids. E. C. Bingham and P. W. Kinney. J Ap Phys 11:192-202 Mr '40

Viscosity-fluidity relations of proteins. H. P. Treffers. bibliog Am Chem Soc J 62:1405-9 Je '40

See also
Metals—Fluidity
Mobilometer
Viscosity

FLUIDS
Charts solve orifice equations. H. S. Winnicki and R. Koch. Chem & Met Eng 47:24 Ja '40

Druckverlust von kugelschüttungen. G. Kling. bibliog V D I 84:85-6 F 3 '40

Economic pipe size in the transportation of viscous and nonviscous fluids. B. R. Sarchet and A. P. Colburn. Ind & Eng Chem 32: 1249-52 S '40

Factor *C* in the performance of ejectors as a function of molecular weights of vapors. L. T. Work and A. Miller. diags Ind & Eng Chem 32:1241-3 S '40

Fluid flow through porous carbon. M. R. Hatfield. bibliog il diags Ind & Eng Chem 31: 1419-24 N '39

Free discharge of fluids through small circular orifices. H. L. Roy and N. K. Sen-Gupta. bibliog diag Ind & Eng Chem 32:288-90 F '40

Friction of fluids in solder-type fittings; comparison between copper and cast iron pipe and fittings. P. F. Bruins and others. flow sheet bibliog il Am Inst Chem Eng Trans 36:721-37; Discussion. 737-9 O '40

Helium the superfluid. K. K. Darrow. bibliog diags Rs Mod Phys 12:257-66 Jl '40

Measurement of fluid flow. E. Ower. Chem Age (Lond) 42:270 My 11 '40

Mechanics of liquids; an elementary text in hydraulics and fluid mechanics. R. W. Powell. 271p $3.50 Macmillan '40

Photographic study of fluid flow between banks of tubes. R. P. Wallis. bibliog diag Inst Mech Eng J & Proc 142:Proc 379-83, pl 1-6 F '40; Abstract. Elec R (Lond) 125: 670 N 24 '39; Discussion. Inst Mech Eng J & Proc 142:Proc 384-7 F '40

Piping flow problems made easy. W. Goodman. Heating-Piping 12:603-6 O '40

Review and summary of developments in heat transfer by conduction and convection. W. H. McAdams. il Am Inst Chem Eng Trans 36:1-20 bibliog(68 references, p 18-20) F '40

Thermodynamics of irreversible processes; fluid mixtures. C. Eckart. Phys R 58:269-75 Ag 1 '40

Thermodynamics of irreversible processes; the simple fluid. C. Eckart. Phys R 58:267-9 Ag 1 '40

Velocity distribution of fluids in turbulent flow. H. T. Bates. Am Inst Chem Eng Trans 36:269-84 Ap '40

See also
Aerodynamics
Air flow
Asbury fluid impact mill
Equation of state
Flow meters
Gas flow
Gases
Hydraulic engineering
Hydraulics
Hydrodynamics
Liquids
Oil flow
Solution (chemistry)
Vapors
Viscosity
Water flow

FLUOR corporation
Celebrates fiftieth anniversary. il Oil & Gas J 39:141 O 10 '40

FLUORANTHENE
Isolation and identification of fluoranthene from carbon black. J. Rehner, jr. Am Chem Soc J 62:2243-4 Ag '40

FLUORENE
Preparation of alkylidene fluorenes from fluorene with aliphatic aldehydes. R. F. Schultz and C. F. Smullin. Am Chem Soc J 62:2904-5 N '40

Remarks on the structure of fluorene. E. Bergmann and T. Berlin. bibliog Am Chem Soc J 62:316-17 F '40

FLUORENEACETIC acid
Synthesis of 2-,4- and 9-fluoreneacetic acid. W. E. Bachmann and J. C. Sheehan. bibliog Am Chem Soc J 62:2687-90 O '40

FLUORENONE
Reaction of fluorenone and diazomethane; a new route to 9-phenanthrol derivatives. R. F. Schultz, E. D. Schultz and J. Cochran. Am Chem Soc J 62:2902-4 N '40

FLUORENYLCARBINOL
Dehydration of 9-fluorenylcarbinol; a new synthesis of phenanthrene. W. G. Brown and B. Bluestein. bibliog Am Chem Soc J 62:3256-7 N '40

FLUORESCEIN
Quenching of fluorescence in solution. R. W. Stoughton and G. K. Rollefson. diag Am Chem Soc J 61:2634-8; 62:2264-8 O '39, S '40

FLUORESCENCE
Black light; ultra-violet lamps and fluorescent materials for theaters. F. M. Falge. il Elec West 85:31-2 S '40

Color effects observable from fluorescent lamps. G. R. Fonda. Science 91:476 My 17 '40

Determination of aluminum by photometric fluorescence measurement. C. E. White and C. S. Lowe. bibliog Ind & Eng Chem Anal ed 12:229-31 Ap 15 '40

Estimation of *o*-nitrophenol in *p*-nitrophenol and *o*-aminophenol in *p*-aminophenol by fluorescence analysis. W. Seaman, A. R. Norton and O. E. Sundberg. bibliog Ind & Eng Chem Anal ed 12:403-5 Jl 15 '40

Excitation and detection of ultraviolet fluorescence. R. G. Franklin and A. J. Allen. diags Franklin Inst J 230:263-8 Ag '40

Fittings to furnish low illuminations; ultraviolet light and fluorescent materials. W. J. Jones. il Light & Lighting 32:231, 232 N '39

Fluorescence analysis in ultra-violet light. J. A. Radley and J. Grant. 3d ed 424p $7 Van Nostrand '39

Fluorescence comes to the industry; spectacular printing effects expected from development of inks that glow; plant will benefit from fluorescent lamps. D. M. MacMaster. Inland Ptr 105:31-2 My '40

Fluorescence size test, an improved method and a new instrument for measuring the water resistance of paper. J. A. Van den Akker and others. bibliog il diags Paper Tr J 109:33-42 N 28 '39

Fluorescent and phosphorescent paint; British standard specification, BS/ARP 18. Light & Lighting 33:10+ Ja '40

Fluorescent carpet acts as guide in the dark. il Textile World 90:46 Jl '40

Fluorescent lighting; effects produced by use of ultra-violet lamps and fluorescent powders. il Electrician 123:545 D 22 '39

FLUORESCENCE—*Continued*
Fluorescent shop lighting. J. B. Harris. il Elec R (Lond) 125:706 D 1 '39
Frozen light. il Gen Elec R 43:303-4 Jl '40
Invisible light shows up defects in foods; British test raw materials and finished products by fluorescence under ultraviolet light. C. H. S. Tupholme. bibliog il Food Ind 12:53+ Ag '40
Means of measuring turbidity and fluorescence using the Lovibond tintometer fitted with Rothamsted device. G. S. Fawcett and J. Hewitt. diag Soc Chem Ind J 58:342-4 N '39
Night-light carpets. Textile Col 62:524 Ag '40
Photochemical studies; the fluorescence of biacetyl; some general considerations governing the study of fluorescence. F. C. Henriques, jr. and W. A. Noyes, jr. bibliog Am Chem Soc J 62:1038-43 My '40
Preparation of fluorescent calcite. G. R. Fonda. bibliog il J Phys Chem 44:435-9 Ap '40
Quenching of fluorescence in solution; temperature and solvent effects. R. W. Stoughton and G. K. Rollefson. Am Chem Soc J 62: 2264-8 S '40
Some recent advances in fluorescence analysis as an aid to the textile colorist. J. Grant. bibliog Textile Col 62:9-11 Ja '40
Time course of photosynthesis and fluorescence. E. D. McAlister and J. Myers. Science 92:241-3 S 13 '40
Time course of photosynthesis and fluorescence observed simultaneously. E. D. McAlister and J. Myers. Smithsonian Misc Coll v 99, no 6:1-37 bibliog(p36-7) '40
Yellow and red zinc silicate phosphors. G. R. Fonda. bibliog il J Phys Chem 44:851-61 O '40

See also
Luminescence

FLUORESCENT lamps. See Electric lamps, Fluorescent

FLUORIDES
Effect of fluorides on salivary amylase. F. J. McClure. bibliog Pub Health Rep 54:2165-71 D 8 '39
Fluorides in food and drinking water. F. J. McClure. (Nat. inst. of health bul. no. 172) 15c Supt. of doc. '40
Fluorinated derivatives of ethane and ethylene; corrective data. A. L. Henne and E. G. Wiest. Am Chem Soc J 62:2051-2 Ag '40
Structures of complex fluorides; barium fluosilicate and barium fluogermanate. J. L. Hoard and W. B. Vincent. bibliog diag Am Chem Soc J 62:3126-9 N '40

FLUORINATION
Action of elementary fluorine on organic compounds; the vapor phase reaction between ethane and fluorine in progressively varying proportions. J. D. Calfee, N. Fukuhara and L. A. Bigelow. diag Am Chem Soc J 61: 3552-4 D '39
Action of elementary fluorine upon organic compounds; the influence of dilution on the vapor phase fluorination of ethane. DeW. S. Young, N. Fukuhara and L. A. Bigelow. Am Chem Soc J 62:1171-3 My '40
Action of elementary fluorine upon organic compounds; the vapor phase fluorination of ethyl chloride. J. D. Calfee and others. diag Am Chem Soc J 62:267-9 F '40
Fluorinated derivatives of ethane and ethylene; corrective data. A. L. Henne and '40
Fluorination of thionyl chloride. H. S. Booth and F. C. Mericola. bibliog Am Chem Soc J 62:640-2 Mr '40
Fluorination of thiophosphoryl trichloride; the thiophosphoryl chlorofluorides. H. S. Booth and M. C. Cassidy. bibliog Am Chem Soc J 62:2369-72 S '40

FLUORINE
Action of elementary fluorine on organic compounds; the vapor phase reaction between ethane and fluorine in progressively varying proportions. J. D. Calfee, N. Fukuhara and L. A. Bigelow. diag Am Chem Soc J 61: 3552-4 D '39
Action of elementary fluorine upon organic compounds; the influence of dilution on the vapor phase fluorination of ethane. DeW. S. Young, N. Fukuhara and L. A. Bigelow. Am Chem Soc J 62:1171-3 My '40
Action of elementary fluorine upon organic compounds; the vapor phase fluorination of ethyl chloride. J. D. Calfee and others. diag Am Chem Soc J 62:267-9 F '40
Action of fluorine upon some simple aliphatic chlorinated hydrocarbons. W. T. Miller. bibliog diag Am Chem Soc J 62:341-4 F '40
Angular distribution in the reaction F^{19} (p, α). E. Gerjuoy. Phys R 58:503-5 S 15 '40
Distribution in angle of the long range alpha-particles from fluorine bombarded with protons. W. B. McLean, A. Ellett and J. A. Jacobs. diag Phys R 58:500-2 S 15 '40
Fluorine content of rocks and ocean-bottom samples. E. S. Shepherd. map Am J Sci 238:117-28 F '40
Free radicals and radical stability; fluorotriphenylmethyl and the reactivity of halogen substituents in free radicals. S. T. Bowden and T. F. Watkins. Chem Soc J p1249-57 S '40
Search for resonance scattered protons from B^{11} and F^{19}. W. R. Kanne, R. F. Taschek and G. L. Ragan. bibliog diags Phys R 58:693-5 O 15 '40
Zur entwicklung der fluorchemie in Deutschland; Otto Ruff zum gedächtnis. W. Klemm. Angew Chemie 53:25-7 Ja 20 '40

Analysis
Amperometric titration of fluorine with thorium nitrate. A. Langer. bibliog Ind & Eng Chem Anal ed 12:511-14 S 15 '40

Physiological effect
Exposure to fluorine in industry. W. Machle and E. E. Evans. bibliog J Ind Hygiene 22: 213-17 Je '40

See also
Fluorides

FLUORINE compounds
Fluorine compounds as wood preservatives. D. Steinherz. bibliog Can Chem & Process Ind 23:601 D '39
Hydrogen bonds involving the C-HF link. C. S. Marvel, M. J. Copley and E. Ginsberg. bibliog Am Chem Soc J 62:3263-4 N '40
Organic compounds containing fluorine. Soc Dyers & Col J 55:568 N '39
Some fluorine and chlorine derivatives of sulfanilamidobenzenesulfonic acids. C. M. Suter and A. W. Weston. bibliog Am Chem Soc J 62:604-6 Mr '40
Synthesis of 3,5-difluoro- and 3-fluoro-5-iodo-*dl*-tyrosine. J. English, jr, J. F. Mead and C. Niemann. bibliog Am Chem Soc J 62:350-4 F '40

FLUORINE poisoning
Exposure to fluorine in industry. W. Machle and E. E. Evans. bibliog J Ind Hygiene 22: 213-17 Je '40

FLUORITE. See Fluorspar

FLUOROBENZENE
Partial pressure of hydrogen chloride from its solutions in the mono-halobenzenes at 25°. S. J. O'Brien and J. B. Byrne. bibliog Am Chem Soc J 62:2063-5 Ag '40

FLUOROCHLOROMETHANES. See Chlorofluoromethanes

FLUORONITROSOPHENOL
Nitrosation of phenols; the synthesis of 3-fluoro-4-nitrosophenol and of 3-fluoro-6-nitrosophenol; a comparison of the stabilities of the 3-halogeno-4-nitrosophenols. H. H. Hodgson and D. E. Nicholson. Chem Soc J p1268-71 S '40

FLUOROPENTACHLOROETHANE
Fluorochloroethanes as solvents for the cryoscopic determination of molecular weights. J. Bernstein and W. T. Miller. bibliog Am Chem Soc J 62:948-9 Ap '40

FLUOROPHENOL
Action of nitrosylsulphuric acid on *m*-fluorophenol; a new red *o*-quinoneimine. H. H. Hodgson and D. E. Nicholson. Chem Soc J p205-7 F '40
Nitrosation of phenols; *o*-fluorophenol, and a comparative study of the four *o*-halogenophenols. H. H. Hodgson and D. E. Nicholson. Chem Soc J p810-12 Je '40

FLUOROTRIPHENYLMETHYL
Free radicals and radical stability; fluorotriphenylmethyl and the reactivity of halogen substituents in free radicals. S. T. Bowden and T. F. Watkins. Chem Soc J p1249-57 S '40

FLUORSPAR
Fluorspar; its chemical and industrial applications. L. Schwerin. bibliog il J Chem Educ 17:160-5 Ap '40
Fluorspar ores of Madoc, Ont. C. L. Emery. Can Min J 61:667-8 O '40
Record activity brings prosperity to Illinois-Kentucky fluorspar district. S. Snook. il Min & Met 21:513-17 N '40
Refining of metal in the basic open-hearth furnace; the influence of fluorspar on the process. W. B. Lawrie. bibliog Iron & Steel Inst J 139:257-80 no 1 '39; Same. il Blast F & Steel Pl 27:675-9, 943-6, 1043-5 Jl, S-O '39; Discussion. Iron & Steel Inst J 139: 281-5 no 1 '39
Treatment of camera lenses with low reflecting films; evaporated fluorite. C. H. Cartwright. il Opt Soc Am J 30:110-14 Mr '40; Abstract. Mech Eng 62:549-50 Jl '40

Prices

Fluorspar prices. Published in weekly numbers of Iron age

FLUTE
Pipes of Pan; evolution of flute; abstract. D. C. Miller. Science 91:sup8 Ap 26 '40

FLUX
Fluxes and their influence on burning clinker. S. Gottlieb. bibliog Rock Prod 43:46-8 My; 49-51 Je; 41-2+ Jl '40
Fluxes for soldering; abstract. B. W. Gonser and E. E. Slowter. Chem Age (Lond) 43:60 Ag 3 '40; Same abr. Can Chem & Process Ind 24:394 Ag '40
Iron oxide vs. alumina as a fluxing agent. A. J. Blank. Rock Prod 43:47-50 N '40
Recommended welding methods, flame adjustments, welding rods, and fluxes; data sheet. Mach 46:93 My '40
Some observations on metallic arc fluxes. W. Andrews. Engineer 169:224-6 Mr 8 '40; Excerpts. Metal Prog 37:578-9+ My '40

FLUXMETERS
Grassot fluxmeter as a quantity meter. H. K. Dunn. R Sci Instr 10:368-70 D '39
Use of thermocouple and fluxmeter for measurement of average power of irregular waves. H. K. Dunn. diags R Sci Instr 10: 362-7 D '39

FLY, James L.
Portrait. Business Week p7 Ap 6 '40

FLY ash. See Flue dust

FLY sprays and repellents
320% increase; cost, $292.94; flies die because of this program, but sales jump; pyrethrum fly spray campaign. il Ptr Ink 190:19-22 Ja 26 '40

FLYING. See Aviation

FLYING boats
Big boats in navy service. A. M. Pride. il Aero Digest 36:41-3+ F '40
Consolidated, biggest builder of flying boats. C. O. Herb. il Mach 46:188-92 Jl '40
More Clippers for the Atlantic; new problems in machining, forming and assembly solved by Boeing. il Am Mach 84:155-9 Mr 20 '40
Plastic materials; uses in Yankee Clipper. Electrician 124:186 Mr 8 '40
Possibilities of large flying boats for national defense. H. Alfaro. diags map Aero Digest 37:43-5 O '40
Reversible pitch propellers as applied to water handling of multi-engine flying boats. C. W. Chillson. diags J Aeronautical Sci 7:269-75 My '40
Transatlantic air transport with particular reference to flying boats. A. Gouge. bibliog diags map Inst Mech Eng J & Proc 142: Proc69-79 N '39; Excerpts. Mech Eng 61: 876-8 D '39; Discussion. Inst Mech Eng J & Proc 142:Proc83-5 D '39; Mech Eng 62:477 Je '40

See also
Seaplanes

FLYING clubs. See Aviation—Clubs

FLYWHEEL explosions
Two steam engine flywheel explosions. il Locomotive 43:79-80 Jl '40

FLYWHEELS
Flywheel on pump soft-pedals pipeline surges. il Power 84:11 Ja '40
Three belts run on one flywheel. W. F. O'Regan. il Power 84:76 F '40
Unusual flywheel defect. il Locomotive 43:25 Ja '40

Manufacture

Gisholt automatic multi-tool lathe operation; machining of a motor-car engine flywheel. il diags Engineering 148:580-2 N 24 '39
Machining automobile flywheels at the Chevrolet plant; battery of eight Mult-Au-Matics. C. O. Herb. il diags Mach 46:103-7 Je '40

FODDER. See Feeding and feeding stuffs

FOG
Behavior of a beam of light in fog. L. M. K. Boelter and F. A. Ryder. bibliog il diags Illum Eng 35:223-35 Mr '40
Transmission of infra-red light by fog. J. A. Sanderson. bibliog Opt Soc Am J 30:405-9 S '40
Transmission of infra-red radiation through fog. P. N. Smith and H. V. Hayes. Opt Soc Am J 30:332-7 Ag '40

FOKKER, Anthony Herman Gerard, 1890-1939
Sketch. Comm & Fin Chr 149:4112 D 30 '39; Engineering 149:19 Ja 5 '40

FOLDERS. See Advertising, Mail—Folders

FOLDS (geology)
Crustal shortening and axial divergence in the Appalachians of southeastern Pennsylvania and Maryland. E. Cloos. diags maps fold table Geol Soc Bul 51:845-71 bibliog(p869-71) Je '40
Status of geological and geophysical investigations on the Atlantic and Gulf coastal plain. L. D. Leet. map Geol Soc Bul 51: 873-86 bibliog(p885-6) Je '40
Stratigraphic measurements in parallel folds. J. B. Mertie, jr. bibliog Geol Soc Bul 51: 1107-34 Ag '40

See also
Synclines

FOLKLORE
Folklore in iron (cont). F. T. Sisco. Min & Met 21:61, 159, 199, 249 Ja, Mr-My '40

FOLLANSBEE brothers company (now Follansbee steel corporation)
Reorganization plan. Comm & Fin Chr 150: 994 F 10 '40

FOLLANSBEE steel corporation
Listing; consolidated balance sheet, May 1, 1940. Comm & Fin Chr 151:1279 Ag 31 '40

FOLLOW-up systems
Dealer follow-up; systematic mail plan gets retailers to build immediate sales out of consumer inquiries; Nurre mirrors. Ptr Ink 193:83-6 N 1 '40
Effective customer follow-up promotes regular service sales. Nat Pet N 32:32, 34, 36-7 Ag 21 '40
Follow-up value; inquiry survey brings 37% response and shows that 13.7% of prospects become purchasers, Hartmann trunk company, Racine, Wis. P. H. Erbes, jr. il Ptr Ink 192:17-20 Jl 12 '40
How 220 advertisers respond (if at all) when consumer writes in an inquiry; P.I. third study. P. H. Erbes, jr. Ptr Ink 190:9-11+ Mr 1 '40

FOLLOW-up systems—*Continued*
When retailer makes inquiry: follow-up letter plan that works via wholesaler. C. A. Emley. Ptr Ink 191:77-8 My 31 '40
See also
Advertising, Mail
Commercial correspondence
Sales letters
FOLSOM man. See Man, Prehistoric
FOOD
Accepted foods and their nutritional significance. 492p $2 American medical assn, 535 N. Dearborn st, Chicago '39
Air conditioning as applied to foods and industry. H. B. Matzen. il Refrig Eng 40:297-9+ N '40
Customer is sometimes right; defective merchandise and foreign objects in food responsible for many claims for damages. F. E. Morris. il Nat Safety N 41:12-13, 62+ Je '40
Decontamination of foodstuffs affected by poisonous gases. A. P. B. Page. Chem & Ind 58:906-9 O 7 '39; Same. Can Chem & Process Ind 24:6-8 Ja '40
Everyday foods. J. W. Harris and E. L. Speer. new ed 530p,34p Houghton '39
Experimental studies on the ingestion of lead compounds; lead content of food materials. R. A. Kehoe and others. bibliog J Ind Hygiene 22:381-400 N '40
Feeding the family. M. S. Rose. 4th ed 421p $3.75 Macmillan '40
Food by vein. B. M. Newman. il Sci Am 162: 220-1 Ap '40
Food expenditures of wage earners and clerical workers. Monthly Labor R 51:250-66 Ag '40
Food, health, vitamins. R. H. A. Plimmer and V. G. Plimmer. 8th ed 233p $1.60 Longmans '39
Food science in the future. J. B. Orr. Chem & Ind 59:356-9 My 25 '40
Foods; an introductory college course. M. M. Justin, L. O. Rust and G. E. Vail. rev ed 659p $2.80 Houghton '40
Foods and home making. C. C. Greer. new ed 635p bibliog(p594-6) $1.80 Allyn & Bacon, Boston; New York '39
Memorandum on the examination and treatment of foodstuffs contaminated by poison gas. J. C. Drummond. Chem & Ind 59:397-8 Je 8 '40
New packages and products. Published in monthly numbers of Food industries
Recent advances in food industries. A. R. M. MacLean. Chem & Ind 59:556 Ag 3 '40
This problem of food. J. I. Rowntree. rev ed 32p bibliog(p31-2) Public affairs committee, New York '40
To market, to market. M. T. Gamble and M. C. Porter. 279p bibliog(p263-6) $2 Bobbs '40
See also
Bakers and bakeries
Baking
Beverages
Bread
Butter
Cake
Canned food
Cheese
Coloring matter in food
Cost of living
Dairy products
Diet
Dog food
Eggs
Farm produce
Fish as food
Flavor
Flour
Fruit
Ice cream
Meat
Milk
Nutrition
Proteins
Restaurants
Spices
Sugar
Sweetening agents
Vegetables
Vitamins

Analysis
Determination of cobalt in foods. N. D. Sylvester and L. H. Lampitt. bibliog Soc Chem Ind J 59:57-60 Mr '40
Distribution of vitamin-B_1 in foods as determined by chemical analysis. M. Pyke. Soc Chem Ind J 58:338-40 N '39
Invisible light shows defects in foods; British test raw materials and finished products by fluorescence under ultraviolet light. C. H. S. Tupholme. bibliog il Food Ind 12: 53+ Ag '40
Iron content of bread and bread ingredients. C. Hoffman, T. R. Schweitzer and G. Dalby. bibliog Ind & Eng Chem Anal ed 12:454-5 Ag 15 '40
Micro-determination of bromine in foodstuffs. W. P. Ford and others. bibliog Soc Chem Ind J 59:177-80 Ag '40
See also
Beverages—Analysis
Vegetables—Analysis

Bacteriology
Redox potential indicators in quality control of foods; abstract. B. E. Proctor and D. G. Greenlie. Food Ind 12:92 My '40
Uses and limitations of the coliform group in sanitary control of food production; abstract. A. C. Hunter. Food Ind 12:94 Jl '40
See also
Milk—Bacteriology

Color
See Coloring matter in food

Copper content
Metallic contamination of foods; copper content and contamination of tomatoes, canned chicken, etc. J. T. Janson and C. E. Allen. bibliog Can Chem & Process Ind 24:389-91+ Ag '40

Insect infestation
Complete product protection tested and approved; packaged cereal products made insect free with aid of electrical treatment. G. E. O'Brien. il Food Ind 12:54-6 My '40
See also
Flour beetles
Grain—Insect infestation

Manufacture
Formulas for foods. Published in monthly numbers of Food industries
Keeping out the bacteria; how to produce foods of high sanitary quality. P. S. Prickett and N. F. True. il Food Ind 12: 34-6 Ag '40
Process operations in the food industry; ham, tenderized beef, biscuit tunnel ovens, cannery equipment. W. L. Campbell. Chem & Ind 59:431-4 Je 22 '40
Technologists discuss food processing problems. E. Singruen. Food Ind 12:39-41 Jl '40
See also
Pickles—Manufacture

Patents
Patents. Published in monthly numbers of Food industries

Prices
Cost of living and prices received by farmers, 1936-1939. Survey of Cur Business 1940 Sup p11 [supplemented in monthly numbers]
Dun & Bradstreet weekly food index, 1935 to date. Published in monthly numbers of Dun's statistical review
How branded products resist price reductions; wholesale prices of selected foods; chart. Business Week p36 O 19 '40
Increase in food prices in the Soviet Union. Monthly Labor R 51:500-1 Ag '40
Index numbers of cost of living and food prices in various countries. Int Labour R 41:99-103, 398-403; 42:77-8 Ja, Ap, Jl '40
Retail food costs between Nov. 14 and Dec. 12 reported by Bureau of labor statistics. Comm & Fin Chr 150:748-9 F 3 '40 [cont monthly]
Retail food prices in Britain, Sept. 1, 1939, Feb. 1 and March 1, 1940. Economist 138: 588 Mr 30 '40
Retail food prices, United States, United Kingdom, France, Germany, Netherlands, Switzerland, 1926, 1929-1938 and monthly, Oct. 1938-Nov. 1939. Fed Res Bul 26:76 Ja '40 [cont monthly]
Retail prices for the year 1939. Monthly Labor R 50:768-71 Mr '40
Retail prices in certain countries in October 1939 in 35 countries (food and heating). Int Labour R 41:428-33 Ap '40
Retail prices in government stores in Moscow, July 1, 1936, 1938, 1939. S. E. Grummon. Monthly Labor R 49:1276-8 N '39
Retail prices of food. Published in Monthly labor review

FOOD—Prices—*Continued*
Rise of the super-market and some marketing consequences; price variations of 68 nationally advertised grocery products at super-markets, chain stores, and independent stores in a large southern city. R. P. Wolff. il map Dun's R 48:8-13+ S '40

Standards

FSA gets under way on food standards. Food Ind 12:65-6 Ag '40

Schedule of current action on food standards. Published in monthly numbers of Food industries

See also
Canned food—Standards

Storage

See also
Cold storage
Food, Frozen—Storage
Fruit—Storage

Transportation

Good on all counts, these food delivery trucks; C. D. Kenny co. wholesale grocery. il Food Ind 12:70-1 Je '40

See also
Food containers
Refrigeration on cars, trucks, etc.

X ray inspection

X-rays put clincher on quality control. il Food Ind 12:43-5 O '40

Zinc content

Metallic contamination of foods. J. T. Janson and C. E. Allen. bibliog Can Chem & Process Ind 24:389-91+ Ag '40

FOOD, Canned. See Canned food

FOOD, Dried

See also
Parsley flakes
Prunes, Dried

FOOD, Frozen
Accounting for frozen foods. J Account 68: 403-4 D '39

Big market predicted for new household freezer; Deep Freeze. F. C. Minaker. il Am Business 10:42-3 N '40

Bulk quick-freezing package; new latex baglined carton. il Mod Packaging 14:87+ S '40

Continuous quick freezer developed by Birdseye; automatic feed and discharge; gravity froster. il diags Food Ind 12:44-5 S '40

Expanding market for frozen foods. E. Haller. Barron's 20:7 S 30 '40

Food preservation in the South. C. T. Baker. Heating-Piping 11:775-6 D '39

Frozen food sold door-to-door; Bob White issues local franchises on a royalty basis. il Business Week p40+ Ap 13 '40

Gravity froster. C. Birdseye. il Refrig Eng 40:281-5 N '40

How foods are frozen in the Northwest. F. W. Knowles. il diags plans Food Ind 12: 54-6 Ap; 50-2 My; 59-61 Je '40

Moisture vapor proofness of wrapping materials used on frozen foods. C. W. DuBois and D. K. Tressler. Paper Tr J 109:15-16+ N 16 '39; Abstract. Food Ind 12:96 Mr '40

Performance data determined for new food freezing plant; John H. Dulany & son, Fruitland, Md. W. J. Finnegan. il diag Food Ind 12:64-5 F; 48-9 Mr '40

Rubber bag in a box; new container for frozen foods. il Food Ind 12:67 O '40

Some observations on the materials used in packaging frozen foods. W. Rabak. Paper Tr J 111:80-2 Ag 29 '40

They're still freezing; house-to-house delivery and locker plants for quick-frozen foods. il Ptr Ink Mo 41:5-8+ S '40

Young industry gains strength. O. A. Fitzgerald. il Nation's Business 28:33-4+ S '40

See also
Fish, Frozen
Fruit, Frozen
Ice cream
Meat, Frozen
Milk, Frozen
Peas, Frozen
Vegetables, Frozen

Cabinets

Fresh and frozen foods displayed. il Refrig Eng 38:354 D '39

Frozen food cabinets on production line; Liquid carbonic corporation. il Refrig Eng 39:369 Je '40

New line of chests for frozen foods. il Refrig Eng 40:81 Ag '40

Storage

Agriculture has engineering problems in heating and ventilating; farm locker systems. F. B. Lanham. Heating-Piping 11:774 D '39

Below zero safety deposit boxes. V. E. Brink. il Nation's Business 28:23-4+ Mr '40

Freezing foods on the farm. D. K. Tressler. Refrig Eng 40:30-1 Jl '40

New Zero-pak locker system. Refrig Eng 39:54+ Ja '40

Preparation and freezing of certain vegetables in lockers. C. DuBois and D. K. Tressler. Refrig Eng 39:107-8 F '40

Refrigeration load calculations. S. C. Segal. Refrig Eng 39:1-4 sec 2 Ap '40

Steinhorst zero-temp-10° chests used for quick freezing and storage. il Refrig Eng 39:272 Ap '40

Storage of frozen vegetables; vitamin C experiments. R. R. Jenkins and others. bibliog Refrig Eng 39:381-2 Je '40

Storage of quick frozen foods. J. J. Antun. Refrig Eng 39:235 Ap '40

Study Hoosier farm refrigeration at Purdue university. H. H. Slawson. il Refrig Eng 40:152 S '40

Warehouses and quick frozen foods. J. H. Frederick. Refrig Eng 40:19+ Jl '40

Transportation

Distribution problem solved by common carrier trucks; provide quicker, cheaper and better seasonal service than railroad; Farmers' commission house, Eastport, N.Y. il diags Food Ind 12:68-9 F '40

Refrigerated trucks essential in sale of frozen foods. M. E. Pennington. Refrig Eng 40:286 N '40

FOOD, Irradiated
Ultraviolet finds new applications; bactericidal irradiation in meat, baking, dairy, fish and fresh fruit and vegetable industries. T. R. Porter. il Food Ind 12:51-3 Jl '40

FOOD adulteration and inspection
Food inspection ordinance, city of Wichita, held invalid. Pub Health Rep 55:988-9 My 31 '40

Foods X-rayed. il Sci Am 162:341 Je '40

Pennsylvania food laws. 73p Pennsylvania. Dept. of agric, Harrisburg '39

FOOD and drug administration. See United States—Food and drug administration

FOOD brokers
A. & P. answers net price ban; chain refuses to buy from suppliers who use brokers. Business Week p30 F 3 '40

A. & P. loses appeal under Patman act. Oil Paint & Drug Rep 137:3+ Ja 8 '40

Brokers dodge R-P boomerang. Business Week p34+ Ag 10 '40

F.T.C. order hits A & P brokerage fee. Oil Paint & Drug Rep 138:5+ Ag 5 '40

Marketing through food brokers. A. U. Shirk. 310p $3.50 McGraw-Hill '39

Patman act brokerage clause held applicable to cooperatives; Quality bakers of America. Oil Paint & Drug Rep 138:3+ S 16 '40

Salaried brokers? reported result of Robinson-Patman law in food field brings demand for survey. Business Week p41-2 Ap 27 '40

FOOD colors. See Coloring matter in food

FOOD containers
Containers for fruits and vegetables. L. C. Carey. il U S Agric Farmers' Bul 1821:1-64 '39
Germicidal properties of hot paraffin. F. W. Tanner and H. F. Lewis. bibliog Food Ind 12:60-2 Mr; 57-8 Ap '40
How foods are packaged for export. J. Leeming. il Food Ind 12:41-3 S '40
New packages and products. Published in monthly numbers of Food industries
Pliofilm bags for packing of food. Rubber Age 46:252 Ja '40
Pliofilm packaging process. India Rubber W 101:48 Mr '40
Prevention of oxidation and rancidity in paper with oat flour. S. Musher. bibliog Paper Tr J 110:117-20 F 22 '40
Product comes first in successful packaging. C. B. Pape. il Food Ind 12:58-9 Mr '40
Rubber bag in a box; new container for frozen foods. il Food Ind 12:67 O '40
Significance of bacterial control in paper. C. M. Baker. Paper Tr J 110:33-5 Ap 18 '40
Technology's effect on food and packaging. I. C. Miller. il Food Ind 12:53-4 Mr '40
Uses of aluminum in the food industries; abstract. A. Montefredine. Food Ind 12:92-3 Ap '40
Using pliofilm in food packing. Barron's 19:5 D 11 '39
Vinylite resins for can and container coatings. A. K. Doolittle. il Ind & Eng Chem News ed 18:303-5 Ap 10 '40; Abstract. Food Ind 12:94-5 Jl '40

See also
Bottles
Canned food
Glass containers
Milk containers
Tin cans

FOOD factories
General foods corporation; plant at Hoboken, N.J. for Maxwell house coffee, Sanka, and Kaffee Hag. il Factory Management 98: B44-B47+ Ap '40
Hot water and paint give effective maintenance; sirup boiling and handling. il Food Ind 12:50 Ag '40

See also
Bakers and bakeries
Flour mills
Packing houses
Sugar factories

Air conditioning
Kraft cheese company; heating and air conditioning systems co-ordinated with process steam and refrigeration. G. H. Kraft. il diags Heat & Ven 37:29-32 My '40
Sixteen things that can go wrong with air conditioning. C. I. Elliott. il diags Food Ind 12:39-41 Ap; 40-1 My '40

Equipment
Another food factory adopts gas for steam raising. il Gas J (Lond) 228:238 N 1 '39
Basic plant operations improved; handling, sorting, separating and inspection by new methods and equipment devised for walnut factory. R. G. Engel. flow diag il Food Ind 12:32-4 N '40
Dehydration equipment as applied to food processing. F. Rosseau. il diags Food Ind 11:687-702 D '39
Food equipment news. Published in monthly numbers of Food industries
Good to the last drop; steam plant of the new Maxwell House plant. il diag Power Pl Eng 44:48-51 Je '40
Making jelly by continuous process; layout. G. L. Baker and W. D. Pheteplace, jr. bibliog Food Ind 12:54-6 Jl '40
Previewing the chemical show; wide range of food processing equipment. il Food Ind 11:669-77 D '39

Heating and ventilation
Coffee plant of the General foods corp. at Hoboken, N.J. J. F. Kern, jr. il Heat & Ven 36:18-22 D '39

Lighting
What is good lighting? recommended minimum standards for food industries. H. Reinhardt. il Food Ind 12:58-60 Jl '40

Management
Bonus cuts costs, ups pay, 12%; Post products division of General foods corp. R. H. Pratt. Factory Management 98:58-9 Ap '40
Knockout blow to competition might be delivered by production department. L. V. Burton. Food Ind 12:42-3 Jl '40
What quality control means. T. H. Butterworth. il Food Ind 11:684-6 D '39

Power
Diesel engines provide power economy for many food industries plants. il Food Ind 11:680-1 D '39

Quality control
Quality control improved by research methods; practices employed to raise butter standard. M. E. Parker. il Food Ind 12:41-4 Mr '40

Safety devices and measures
Food plants lag in accident prevention. il Food Ind 12:52-3 S '40

Sanitation
Capitalize on cleanliness; C. F. Mueller co. J. E. Birdsall. il Safety Eng 80:10-12+ O '40
How to get rid of rats; methods used in English food factories and warehouses. E. Hardy. il Food Ind 12:58-9 O '40
Keeping out the bacteria; how to produce foods of high sanitary quality. P. S. Prickett and N. F. True. il Food Ind 12: 34-6 Ag '40

FOOD industry and trade
Battle of the brands; report to executives. Business Week p27-30+ O 12 '40
Best sales manual; General Foods. C. White. il Ptr Ink 190:15-17+ Ja 26 '40
Early Americana is theme for merchandising new Cresca gift line of foods. C. J. Swan. il Ptr Ink 193:19-20 O 18 '40
Fats and oils battle for food industries market. G. W. McBride. Food Ind 12:60-3 F; 70-3 Mr '40
Five-cent sample hoists sales 23-30% for Heublein's A-1 sauce. K. F. Lingo. il Sales Management 47:38 Jl 15 '40
Food men convene in Chicago. Business Week p17 Ja 27 '40
Gift packages give lift to sales. I. C. Miller. il Food Ind 12:64-5 O '40
Good packaging demands proper use of adhesives. J. P. Langwill. diags Food Ind 12: 55-7 Mr; 45-7 My '40
How La Choy draws contracts with dealers to insure good display; allows 5% of purchases, payable in cash, for advertising and merchandising cooperation. il Sales Management 47:39 S 1 '40
How to be a clever host at a business lunch or dinner. il Sales Management 47:22-4+ Ag 1 '40
It pays to blue-print salesmen's jobs; salesmen of national manufacturer and distributor of packaged specialty food products who call upon food retailers and take orders for delivery by food wholesalers. B. R. Canfield. Adv & Sell 33:27+ Ap '40
News by commodities. Published in Foreign commerce weekly
Packaging for plus sales and prestige. I. C. Miller. il Food Ind 12:46-8 N '40
Planes by the million; General Mills is distributing rubber-powered models. Business Week p39 Ap 27 '40
Product comes first in successful packaging. C. B. Pape. il Food Ind 12:58-9 Mr '40
Science influences food habits; canning, quick freezing and new processes help change our diets. J. V. Sherman. Barron's 20:7 Je 17 '40
Smart selling policies bring a small company to the ranks of national advertisers; Emman-Cee co, manufacturer of Italian food specialities. il Sales Management 46:38-9 Ap 1 '40
Standardization of packages. U S Nat Bur Stand Misc Pub M165:79-128 '40
Star salesman gives ten tips on how to sell quality; B. Wallace, purveyor of de luxe food products. Sales Management 47:52, 54-5 O 1 '40

FOOD industry and trade—*Continued*
Technology's effect on food and packaging. I. C. Miller. il Food Ind 12:53-4 Mr '40
Twelve executives answer the driver-owner question. Food Ind 12:44-5 N '40
Vitamins are an industry. il Ptr Ink Mo 40: 5-8, 24, 28 My '40
What the public thinks of food manufacturers; survey of consumer opinion. D. Hartwell. Food Ind 12:39-41+ Je '40

See also
Bakers and bakeries
Bread
Candy trade
Canned food
Coffee trade
Dairy products
Dairying
Flour trade
Food, Frozen
Food brokers
Food stores
General foods corporation
Grain trade
Grocery trade
Market stores
Meat industry and trade
Milk trade
Packing houses
Produce terminals
Safeway stores, inc.
Standard brands, incorporated
Sugar industry and trade

Accounting
Accounting for frozen foods. J Account 68: 403-4 D '39

Advertising
American housewives report likes and dislikes about food advertising. il Sales Management 46:18-20+ Ap 1 '40
Claims the FTC won't let you make; a checklist of Federal trade commission taboos in food advertising. N. R. Abelson. il Food Ind 12:61-2 Jl; 56-7 Ag '40
If your executives personally like your advertising, watch out! all ideas, programs and plans, including media, methods and copy, should be tested by facts. D. D. Davis. Ptr Ink 189:21-4 N 24 '39
Panorama-painted trucks increase food sales; Stokely brothers & co., Indianapolis. il Food Ind 12:70-1 Ap '40
Recipe creates new market for old product; candy bar used to make cookies. I. C. Miller. il Food Ind 12:57 My '40
Truck bodies dressed up to aid food sales; spaghetti, dairy, mayonnaise and dog food industries. il Food Ind 12:68-9 Jl '40
Two years of preparation, and then new product quickly wins market; how General Mills experimented with KIX, a corn cereal. D. D. Davis. il Ptr Ink 190:11-13+ F 16 '40
What the public thinks about advertising and loss-leaders. D. Hartwell. il Food Ind 12:56-7 S '40
Why thousands of dealers tie up with Del Monte theme campaigns; California packing corp. retail promotion program. il Sales Management 47:40, 44 S 1 '40
Women read service copy more eagerly than hot war news. C. B. Larrabee. il Ptr Ink 192:13-15, 100-2 Ag 2 '40

Exhibitions
Food manufacturers' exhibits will again dominate at World's fair. il Food Ind 12: 42-4 My '40
What makes a World's fair exhibit click. I. C. Miller. il Food Ind 12:44-8 Ja; 55-9 F '40

Finance
Food company earnings held back by rising costs and lost foreign markets. L. Applegate. Annalist 56:205 Ag 15 '40
Investing in industrial leadership; General Foods obtains earnings from a large group of well-established products. H. Lawrence. Barron's 20:3 O 28 '40
Profit margins widen in food industry. L. C. Duncan. Barron's 20:20 S 9 '40

See also
General foods corporation
Standard brands, incorporated

Patents
Patents. Published in monthly numbers of Food industries

Securities
Food and packing companies, 1937-39. Mag of Wall St Manual p87-8 Mr 2 '40
Position of leading food stocks. Mag of Wall St 65:541-2; 66:519-20 F 10, Ag 10 '40
Standard Brands watches profit margins. W. Kraemer. Mag of Wall St 65:624-5+ F 24 '40

Statistics
Family expenditures in selected cities, 1935-36; food. map U S Bur Labor Statistics Bul 648 v2:1-406 '40
Food store sales in metropolitan areas, 1938; Printers' Ink market explorations. maps Ptr Ink Mo 40:30-1, 33-5 Mr '40
Foodstuffs, 1936-1939. Survey of Cur Business 1940 Sup p101-14 [supplemented in monthly numbers]
How foods are packaged for export. J. Leeming. il Food Ind 12:41-3 S '40
International trade in certain raw materials and foodstuffs by countries of origin and consumption, 1938. 178p pa $1.50 Columbia univ. press '39
Production of manufactured food products, revision, 1923-June, 1940. Fed Res Bul 26: 849-56 Ag '40
United States exports of foodstuffs and beverages; charts. Comm Rep p209 Mr 2 '40
U.S. imports of foodstuffs and beverages; charts. Comm Rep p1172, 1173 D 16 '39; p324, 325 Ap 6 '40
World stocks of foodstuffs and raw materials, 1936-1939. Survey of Cur Business 1940 Sup p10

British Columbia
B.C. canning industry discusses position. Can Chem & Process Ind 24:178-9 Ap '40

Canada
Fruit and vegetable canning industry in Canada. E. P. Hawk. Comm Rep p399-400 Ap 27 '40
War conditions as technical and economic factors in canning and bacon industry; function of canning laboratory of National research council. W. H. Cook and E. J. Reedman. Can Chem & Process Ind 24:288-9 Je '40

Denmark
Food from Denmark. Economist 138:677 Ap 13 '40

Great Britain
Home and colonial stores 45th ordinary general meeting, London. Economist 138:593 Mr 30 '40
Imports of most remaining foodstuffs into United Kingdom placed under license. Comm Rep p303 Mr 30 '40
Increased food consumption; food sales in 1938-39. Economist 137:430-1 D 16 '39
War brings new methods to British food industries. E. Hardy. Food Ind 12:54 Ag '40

See also
Lyons, J., and company

Latin America
United States and Latin American food products trade. F. H. Rawls. Comm Rep p309-10 Ap 6 '40

Northwestern states
How foods are frozen in the Northwest. F. W. Knowles. il diags plans Food Ind 12:54-6 Ap; 50-2 My; 59-61 Je '40

United States
Food industry in 1940. C. M. Chester. Comm & Fin Chr 150:496 Ja 27 '40
Hoover sees foodstuffs demand; long war would eliminate our surpluses. Barron's 20:6 F 19 '40
United States and Latin American food products trade. F. H. Rawls. Comm Rep p309-10 Ap 6 '40

FOOD laboratories
New laboratory of Best foods, inc. il Ind & Eng Chem News ed 18:944 N 10 '40

Equipment
Substitute for the laboratory food grinder. W. B. Davis. il Ind & Eng Chem News ed 17:752 D 10 '39

FOOD laws and legislation
Answers to food law questions; interpretative opinions from F&DA letters to the industry. Food Ind 12:75-7 Ap; 69-71 My; 75-7 Je; 73-5 Jl; 67-8 Ag; 75-7 O; 91-2 D '40
Chemicals in foods adjudged by F.D.A. Oil Paint & Drug Rep 137:5+ F 26 '40
Color manufacturers ask exemption for dilutions. Oil Paint & Drug Rep 137:3 Ap 1; 3 Ap 8 '40
Flavor-color certification rule modified by F.D.A. Oil Paint & Drug Rep 137:3+ Mr 25 '40
Food and drug administration active against slack-filled cartons. Oil Paint & Drug Rep 136:5+ N 20 '39
Mineral oil barred from food use. Oil Paint & Drug Rep 137:3+ Mr 4 '40
New drug act in full effect July 1. il Business Week p28-30 Je 29 '40
Packaging fight; makers of gelatin dessert defy FDA, stick to 70% filling. Business Week p56-7 N 16 '40
Progress in public protection. il Ind & Eng Chem News ed 18:95-6 F 10 '40
Sell food flavor, not drug properties. Food Ind 12:61 My '40
Vitamin food labeling explained. Oil Paint & Drug Rep 137:5 Mr 11 '40
Vitamin food labeling to get hearing Oct. 7; tentative regulations. Oil Paint & Drug Rep 138:3+ S 9 '40
Vitamin food labels to be discussed at public hearings. Oil Paint & Drug Rep 137:5+ Ap 1 '40
Vitamins get a book of rules; FDA prepares to regulate them. il Business Week p40-3 Ap 6 '40

See also
Milk supply—Laws and regulations

FOOD machinery

Manufacture
Lathe attachment for machining spherical seats of special valves. S. Porritt. diags Mach 46:116-17 Ag '40
New Hobart foundry has monthly capacity of 50,000 finished parts. il Steel 107:62+ O 7 '40
Nonferrous castings made in modern foundry; Hobart mfg. co.; electric food-preparing machinery. il Foundry 68:40-2+ S '40

FOOD machinery corporation
Brass tacks for the investor; brief analysis. Barron's 20:13 Ja 1 '40
Continuing growth indicated. P. Dobbs. il Mag of Wall St 66:96-7+ My 4 '40

FOOD mixers
Sales strategy that built a new business; improved electric mixer, the Waring blendor. H. McLellan. il Am Business 10:20-1+ Ap '40
Study of food-mixer motor performance. C. S. Siskind. il diags Purdue Univ Eng Exp Sta, Research Ser 72:1-37 '40 (pa 25c)

FOOD poisoning
Disease outbreaks resulting from faulty environmental sanitation. L. C. Frank. bibliog Pub Health Rep 55:1373-83 Ag 2 '40
Metallic contamination of foods; lead in maple syrup, copper content and contamination of tomatoes, canned chicken, etc. J. T. Janson and C. E. Allen. bibliog Can Chem & Process Ind 24:389-91+ Ag '40

FOOD preservation
Effects of storage on microbial content of spices. H. W. Smith. Food Ind 12:52+ N '40
Food preservation in the South. C. T. Baker. Heating-Piping 11:775-7 D '39
Food research; report of the Food investigation board for the year 1938. Engineering 149:464 My 3 '40
Inhibiting effect of acetic acid upon microorganisms in the presence of sodium chloride and sucrose; abstract. A. S. Levine and C. R. Fellers. Food Ind 12:84 N '40
New bag preserves flavor with inert gas; pliofilm lining seals product in carbon dioxide and is impermeable to air and moisture. il Food Ind 12:42-3 Ja '40
Prevention of oxidation and rancidity in paper with oat flour. S. Musher. bibliog Paper Tr J 110:117-20 F 22 '40
Progress made in gas storage of fruits, vegetables. H. H. Plagge. bibliog il Food Ind 12:46-8+ O '40
Refrigeration in retail stores; meat, fowl, fish and vegetables. R. E. King. Refrig Eng 40:1-6 sec 2 Jl '40
Science influences food habits; canning, quick freezing and new processes help change our diets. J. V. Sherman. Barron's 20:7 Je 17 '40
Treated spices reduce spoilage on fresh pork sausage. H. W. Smith. bibliog il Food Ind 12:50-1 N '40

See also
Canned food
Canning and preserving
Cold storage
Fish as food—Preservation
Food, Frozen
Meat—Preservation
Prunes, Dried
Vegetables, Frozen

FOOD research
Food research; report of the Food investigation board for the year 1938. Engineering 149:464 My 3 '40
New federal nutritions laboratory at Cornell university. Science 91:37-8 Ja 12 '40
Organizing research for profit. T. M. Rector. il Food Ind 12:29-31+ N '40
Research and development organization of the General foods corporation. T. M. Rector. il plan Ind & Eng Chem Anal ed 12: 247-50 Ap 15 '40
Science influences food habits; canning, quick freezing and new processes help change our diets. J. V. Sherman. Barron's 20:7 Je 17 '40
32 inventions needed by the food industries. Food Ind 12:35 N '40
War brings new methods to British food industries. E. Hardy. Food Ind 12:54 Ag '40

FOOD stamp plan
First year of the food stamp plan. G. R. Taylor. il Dun's R 48:19-24 Jl '40
Food stamp plan extended to Shelby county, Tenn. Comm & Fin Chr 149:3490-1 D 2 '39
Food stamp plan inaugurated in Brooklyn and Nassau county, N.Y. Comm & Fin Chr 151: 1375 S 7 '40
Food stamps in Texas. H. M. Hart. Banking 33:61 O '40
Nationwide food stamp plan; FSCC officials map rapid expansion. Business Week p18, 20 D 23 '39
Newark, N.J. selected for food stamp plan operation. Comm & Fin Chr 150:xii Ap 6 '40
Rochester (N.Y.) banks agree to defer service charge for redeeming food stamps. Comm & Fin Chr 149:3347 N 25 '39
What food stamps are buying. Barron's 19:6 N 27 '39
Working our food stamp plan in Rochester. il Burroughs Clearing House 24:16-17 Ja '40

FOOD stores
Food store sales in metropolitan areas, 1938; Printers' Ink market explorations. maps Ptr Ink Mo 40:30-1, 33-5 Mr '40
How refrigeration is sold to the market man. L. Gibson. il Refrig Eng 39:290-2 My '40
Illumination designed for buying in self-service food stores. G. Gilleard. bibliog Illum Eng 35:503-13 Je '40
Refrigeration in retail stores; meat, fowl, fish and vegetables. R. E. King. Refrig Eng 40:1-6 sec 2 Jl '40
Safeway stores, inc.; behaves as if it were operated for the benefit of its producers, employees, and consumers. il Fortune 22: 60-4+ O '40
Self-service and semi-self-service food stores. C. W. Dipman and J. E. O'Brien. 312p $3 Progressive grocer, 161 6th av, New York '40

See also
Candy stores
Grocery stores
Market stores

FOOD stores—*Continued*

Equipment

Fresh and frozen foods displayed. il Refrig Eng 38:354 D '39

FOOD supply

Agriculture department announces plan to aid Red cross in refugee food shipments. Comm & Fin Chr 150:3598 Je 8 '40

Raw materials and foodstuffs; production by countries, 1935 and 1938. 75p bibliog(p75) pa 60c Columbia univ. press '39

Secretary of Agriculture Wallace explains food situation; ever-normal granary program. Comm & Fin Chr 150:3904 Je 22 '40

What food stamps are buying. Barron's 19:6 N 27 '39

World's wheat supply. E. C. Davis. Science 91:sup9 Je 14 '40

See also

Armies—Food supply

Milk supply

also Federal surplus commodities corporation

Canada

Wholesale stocks of food commodities in Canada in cold and common storage, 1920-1939. 15 charts 15 tables pa 25c Canada. Dominion bur. of statistics, Ottawa '40

Europe

European food supplies reduced, according to reports to Department of agriculture. Comm & Fin Chr 151:616-17 Ag 3 '40

Europe's famine and the American farmer. F. K. Walters. il Mag of Wall St 66:514-15+ Ag 10 '40

Europe's food supplies. Nat City Bank p82-3 Jl '40

Europe's food supplies, excluding Russia, U.K., Irish Free State, 1936-38. Economist 138:1122 Je 29 '40

Food for Europe; make distribution dependent on German army withdrawal. Economist 139:206-7 Ag 17 '40

Food habits of Europeans. E. C. Davis. Science 92:sup10+ S 6 '40

Fortune survey; European famine vs. British blockade; should we or should we not try to send food. Fortune 22:78 N '40

France

France's food production, 1936-38. Economist 138:1122 Je 29 '40

Intérêt, en temps de guerre, des jardins potagers proches des agglomérations urbaines. Génie Civil 116:124 F 17 '40

Wartime control of food distribution and prices in France. Monthly Labor R 49:1091-3 N '39

Germany

Formulas by der Fuehrer. il Food Ind 12:47 Ap '40

German rationing. Economist 139:452-3 O 12 '40

Guns bring butter; Reich's conquests fill gaps. Business Week p46 Ag 31 '40

Rabbits as source of food in Germany. Monthly Labor R 50:383-4 F '40

Rationing of goods in Germany. Monthly Labor R 49:711-13 S '39

Great Britain

Anglo-Argentine deal: British ask for loan to spend on food. Business Week p49 S 21 '40

Britain gears food resources to war time needs. H. B. Cronshaw. il Food Ind 12: 43-5 F '40

Controllers. Economist 138:282-3 F 17 '40

Englishman's food; a history of five centuries of English diet. J. C. Drummond and A. Wilbraham. 574p $3.75 Nelson (Toronto) '39

Farmers and food; crop and marketing control measures. Economist 138:367-8 Mr 2 '40

Food policy. Economist 138:762-3 Ap 27 '40

Food prices and rations. Economist 138:242 F 10 '40

Garden v. U-boats. Chem & Ind 58:1119 D 30 '39

Our food problem; a study of national security. F. LeG. Clark and R. M. Titmuss. 184p bibliog(p183-4) pa 6d Penguin books, Harmondsworth, Eng. '39

Prices and rations. Economist 138:513-14 Mr 23 '40

War and nutrition. B. M. Housman. Gas J (Lond) 228:243-4 N 1 '39

Wartime control troubles British food manufacturers. H. B. Cronshaw. il Food Ind 12:44-6 Ap '40

Wartime food and price control in Great Britain. Monthly Labor R 50:326-7 F '40

United States

First year of the food stamp plan. G. R. Taylor. il Dun's R 48:19-24 Jl '40

FSCC experiment; extension of stamp plan to non-reliefers in Shawnee, Okla. Business Week p27 Ja 13 '40

Food no defense problem now. Business Week p28+ S 7 '40

Food sentinels; Miss Elliott to line up 40,000,000 wives in defense program. C. M. Wright. Ptr Ink 192:31-2 Ag 9 '40

Food stamp plan extended to Shelby county, Tenn. Comm & Fin Chr 149:3490-1 D 2 '39

Nationwide food stamp plan; FSCC officials map rapid expansion. Business Week p18, 20 D 23 '39

FOOD technologists, Institute of. See Institute of food technologists

FOOD technology

Some drink aspects of food engineering; abstract. S. A. Gregory. Inst Chem Eng Trans 17:197 '39

FOOT

Care of the feet. Pub Health Rep 55:1631-3 S 6 '40

Foot. N. C. Lake. 2d ed 366p bibliog(p355) $4.50 Wood '39

Foot and ankle; their injuries, diseases, deformities and disabilities. P. Lewin. 620p bibliog(p584-91) $9 Lea & Febiger, Philadelphia '40

See also

Arch supports

Diseases

Functional disorders of the foot, their diagnosis and treatment. F. D. Dickson and R. L. Dively. 305p 202 il bibliog(p293-6) $5 Lippincott '39

FOOTBALL

Unique football utility cart. il Sheet Metal Worker 31:29 Je '40

FOOTBALL helmets

Taking it head on! economically molded plastics for football headgear. J. Riddell, jr. il Mod Plastics 18:42-3+ N '40

FOOTINGS, Concrete

Building on soft clay; New England mutual life insurance co. building in Boston's Back Bay district; concrete box substructure. il diags plans Eng N 123:692-5 N 23 '39

Soil tests control stadium fill at Lynchburg, Va. G. Hadden. Eng N 124:592 Ap 25 '40

Use of relief pipes to reduce thickness of concrete seal. H. V. McCoy. il diag Civil Eng 10:40-1 Ja '40

FOOTPRINTS, Fossil

Carboniferous mystery; prints roughly resembling human footprints. A. G. Ingalls. il Sci Am 162:14 Ja '40

FORAGE plants

See also

Alfalfa
Feeding and feeding stuffs
Grasses

FORAGE poisoning

See also

Suckleya suckleyana

FORAMINIFERA

Foraminifera, their classification and economic use. J. A. Cushman. 3d ed rev & enl 535p bibliog(p335-94) $6 Harvard univ. press '40

FORAMINFERA, Fossil
Applied paleontology. H. G. Schenck. il diags map Am Assn Pet Geologists Bul 24:1752-78 bibliog(p1772-8) O '40

FORBES lithograph manufacturing company, Boston
Color captures customers. Sales Management 46:64 Ja 1 '40

FORCE account system
79% of county roads are built by force account; results of survey. il Pub Works 71: 9-11+ My '40

FORCE and energy
See also
Impact
Mechanics
Power (mechanics)
Pressure
Quantum theory
Strains and stresses

FORD, Henry, 1863-
Chance for farm boys; H. Ford offers them competitive openings as salaried salesmen for his new tractor. A. M. Howe. Ptr Ink 191:25-6, 30 My 17 '40
Fortune survey; helpful to labor or harmful? Fortune 21:163 Je '40
Henry Ford lends support to Farm youth foundation, established by Ferguson-Sherman mfg. corp; educational courses in farm management and engineering, and training in operation of farm equipment. Automotive Ind 82:530-1 Je 1 '40
Henry Ford says his plant could produce 1,000 planes a day. Comm & Fin Chr 150:3444-5 Je 1 '40
National farm youth foundation. Science 91: 470-1 My 17 '40
Young partners with Henry Ford; Camp Legion for underprivileged boys. W. A. Scotten. il Nation's Business 28:30, 32+ F '40

FORD, William Ebenezer, 1878-1939
Memorial. A. Knopf. por(pl 6) Geol Soc Proc 1939:187-93 bibliog(p190-3) Je '40
Sketch. C. H. Warren. Am J Sci 238:63-6 Ja '40

FORD motor company
Account shifts from N. W. Ayer & son to McCann-Erickson. Business Week p 16 O 19 '40
Automotive buying procedures differ from those of other industries. W. F. Sherman. Iron Age 145:48+ F 15 '40
Benefits of technological developments; abstracts. E. B. Ford. Iron Age 145:71-5 Ap 18 '40; Automotive Ind 82:430-1+ My 1 '40; Inv Banking 10:23-5 Jl '40
Casting steel for Ford tractors. R. H. McCarroll and E. C. Jeter. il Iron Age 145:34-9 F 15 '40; Same. Foundry 68:30-3+ F '40
Clearing the floor of building services; piping and conduit in tool and die shop of the Ford motor co. is under floor and in tunnels. il Eng N 124:504-5 Ap 11 '40
Emphasis on planes for defense only, a factor in program's early stages. W. F. Sherman. Iron Age 145:52-3 Je 27 '40
Fifteen thousand inspections per hour on Ford crankshafts. il diag Mach 46:128-32 Ap '40
Following Ford tractors down the line. J. Geschelin. il diag Automotive Ind 83:4-11+ Jl 1 '40
Ford and plastics. W. T. Cruse. il Mod Plastics 17:23-9 Ja '40
Ford cast steel crankshafts now poured continuously. E. F. Cone. il Metals & Alloys 12:267-70 S '40
Ford contracts to build airplane engines. il Am Mach 84:476c Je 26 '40
Ford has air motor. Business Week p 16 Ag 10 '40
Ford installs 110,000-kilowatt hydrogen-cooled generator. D. S. Snell. il plans Power 84:29-31 Ja '40
Ford introduces a new 8-hp. model in England. Automotive Ind 82:246 Mr 1 '40
Ford lines for 1941. il Automotive Ind 83: 310-12+ O 1 '40
Ford motor company; tool and die shop exhaust systems. C. Strock. il diags plans Heat & Ven 37:32-8 Je '40
Ford operates the world's largest tool and die shop at River Rouge. il Mach 46:108-11 Ag '40
Ford ready for mass production of equipment for U.S. defense. F. J. Oliver. Iron Age 145: 86-8 Je 20 '40
Ford speeds plane job. Business Week p18 Je 22 '40
Ford tooling for airplane engines for U.S. continues. Iron Age 146:88 Jl 4 '40
Ford wins in chain tax case. Automotive Ind 82:293 Mr 15 '40
From the ore dock through the press shop at Dearborn. J. Geschelin. il Automotive Ind 83:476-82 N 1 '40
Government cancels plans to have Henry Ford produce airplane engines. Comm & Fin Chr 150:4057 Je 29 '40
Heat treatment in the Ford new tool and die shop. E. F. Cone. il Metals & Alloys 10: 326-31 N '39
How the sales department can capitalize a production anniversary. il Sales Management 46:35-6 Mr 1 '40
Inter-office communication systems facilitate industry's operations; automobile industry's intercity telegraph, telephone and teletype systems. E. L. Warner, jr. il maps Automotive Ind 83:50-4+ Jl 15 '40
NLRB orders Ford to bargain. Automotive Ind 82:482-3 My 15 '40
1939 profit indicated at $16,400,000; with condensed balance sheet Dec. 31, 1936-39. Comm & Fin Chr 150:3359 My 25 '40
UAW-CIO fights dismissal of 20 Ford patternmakers. Automotive Ind 83:274 S 15 '40

FORECLOSURE of mortgages. See Mortgages—Foreclosures

FOREIGN exchange
American credit to ease Canadian foreign exchange problem; business at peak. S. L. Miller. Annalist 56:276-7 Ag 29 '40
Argentina exchange control modifications. Comm Rep p665 Ag 3 '40
Argentina; French exchange arrangements. Comm Rep p102 F 3 '40
Argentine peso under control; regulations as of July 1940. E. C. Stiefel. Annalist 56:207+ Ag 15 '40
Australian exchange regulations. Comm & Fin Chr 149:3186, 3637 N 18, D 9 '39
British and French foreign exchange regulations. Fed Res Bul 25:1039-41 D '39
British exchange control after 1 year of operation. T. R. Wilson. Comm Rep p762-3 S 7 '40
British profit by drop in pound. Business Week p43 Mr 30 '40
Canada; foreign exchange regulations amended. Comm Rep p645 Jl 27 '40
Canada tightens foreign exchange regulations. Comm & Fin Chr 149:3473-4, 3636 D 2-9 '39
Canada's foreign exchange control. Bankers M 140:146, 148 F '40
Canadian financial measures. Fed Res Bul 26:677-8 Jl '40
China; revised procedure governing settlement of foreign exchange for exports. Comm Rep p666 Ag 3 '40
Completion of exchange control. Economist 139:124-5 Jl 27 '40
Course of sterling exchange and continental and other foreign exchanges. Published in weekly numbers of Commercial & financial chronicle
Cuba; disposition of dollars in stabilization fund. Comm Rep p1087 N 25 '39
Decline in free sterling. Nat City Bank p39-40 Ap '40
Depreciation of the pound sterling. A. Maffry. Survey of Cur Business 19:11-15 N '39
Dollar diplomacy; Canada stops redemption of currency returned from U.S.; retail trade in border cities affected. Business Week p53-4 Ap 6 '40
Dollar supplanting pound as principal international currency, says Guaranty trust co. of New York. Comm & Fin Chr 150:4052-3 Je 29 '40
Exchange control and commodities; rubber, tin and jute affected by new British regulations. Barron's 20:6 Mr 18 '40

FOREIGN exchange—*Continued*
Exchange control and exports. Economist 137:161-3 N 4 '39
Exchange control at last; problems of bilateralism. Economist 139:93-4 Jl 20 '40
Exchange stabilization fund earnings and expenses in third quarter. Comm & Fin Chr 150:768 F 3 '40
Forecast of Canadian-United States dollar parity just another Wall Street rumor. S. L. Miller. Annalist 56:308-9 S 5 '40
Foreign business under war conditions; transfer of funds to foreign countries. A. M. Strong. Bankers Mo 57:323-5 Je '40
Foreign exchange. F. J. Docker. 326p $6 Chemical pub. co. '40
Foreign exchange and gold policies. J. Donaldson. Ann Am Acad 211:18-26 S '40
Foreign exchange control in Canada; how Canadian banks have adjusted their routines. J. Montagnes. il Burroughs Clearing House 24:22-4+ D '39
Foreign exchange developments. A. E. Taylor. Published in weekly numbers of Commerce reports [cont in Foreign commerce weekly under names of countries beginning O 5]
Foreign exchange practice and policy. F. A. Southard, jr, P. F. Swart, jr. and A. N. Gentes. 215p bibliog(p201-3) $2.50 McGraw-Hill '40
Foreign exchanges, 1939. Economist 138:sup8-9 F 17 '40
Free and controlled pounds. Economist 138: 608-9, 626 Ap 6 '40
Free market in sterling. Economist 138:337-8, 381-2 F 24-Mr 2 '40
Free sterling restricted. Survey of Cur Business 20:7 Ap '40
Gain or loss on foreign exchange. J Account 70:74 Jl '40; Discussion. H. S. Benjamin. 70: 267 S '40
General rulings and general licenses issued by Secretary of the Treasury relating to transactions in foreign exchange, etc. Fed Res Bul 26:513-16, 649-54, 774-5, 936-8, 1045-6, 1175-6 Je-N '40
How allied policies affect our trade: worldwide trend towards exchange controls. I. de Vegh. Barron's 20:3 Ap 22 '40
Inter-American clearing house to further exchange stability of American republics considered. Comm & Fin Chr 149:3344 N 25 '39
Latin American exchange situation. For Comm W 1:95-6+ O 19 '40
New British exchange regulations. Fed Res Bul 26:638 Jl '40
Normal and abnormal international capital transfers. M. Fanno. 120p pa $2 Univ. of Minnesota press, Minneapolis '39
L'organisation du contrôle des changes, à l'étranger et en France. P. Razous. Génie Civil 115:337-40 N 4 '39
Outline of international price theories. C. Wu. 373p bibliog(p323-55) 15s Routledge '39
Peru; survey of exchange situation. Comm Rep p567 Je 29 '40
Remnants of the reichsmark. Economist 138: 815-16 My 4 '40
Sterling area funds; growth of London assets belonging to certain countries. Economist 139:313-14 S 7 '40
Sterling under control; an outline of regulations. E. C. Stiefel. Annalist 55:589+ Ap 25 '40
Sterling weakens; exchange loopholes. Economist 137:217 N 11 '39
Sterling's recovery. Economist 137:258 N 18 '39
Stricter exchange control. Economist 138: 425-6 Mr 9 '40
Tightening up the British exchange control. Economist 137:338 D 2 '39
Towards real exchange control; new regulations. Economist 138:1044-5 Je 15 '40
Treasury authorizes remittances to citizens of United States in occupied countries. Comm & Fin Chr 151:1503 S 14 '40
Treasury issues general license permitting sending of funds for living expenses to nationals of European countries. Comm & Fin Chr 151:1369 S 7 '40
United Kingdom; new foreign exchange regulations. Comm Rep p551, 646 Je 22, Jl 27 '40
Venezuela; exchange and finance. For Comm W 1:215 N 2 '40
War and the foreign exchanges. Nat City Bank p53-6 My '40

See also
Balance of payments

Rates

Foreign exchange in 1939; weekly high and low rates by countries. S. L. Miller. Annalist 55:154-5 Ja 25 '40
Foreign exchange rates. Published in weekly numbers of Commercial & financial chronicle
Foreign exchange rates; a statement by the research department of the American institute of accountants. J Account 69:86-7 F '40
Foreign exchange rates daily and weekly. Published in weekly numbers of Annalist
Foreign exchange rates, 1929-1938, and monthly, March-Nov. 1939. Fed Res Bul 26:74 Ja '40 [cont monthly]
Foreign exchange rates, 1936-1939. Survey of Cur Business 1940 Sup p58 [supplemented in monthly numbers]
Latin American exchange rates; other exchange rates. Published in weekly numbers of Commerce reports [cont as Foreign commerce weekly beginning O 5]
Rates of exchange on London, selected dates, 1930-38 and monthly, 1939. Economist 138: sup52 F 17 '40
Rates for 1937, 1938, and 1939; monthly averages by countries, 1938 and 1939; annual averages, 1937-39. Comm Rep p161 F 17 '40
U.S. Treasury will recognize only official sterling rate for customs purposes. Comm & Fin Chr 150:2503 Ap 20 '40

FOREIGN exchange control board. See Canada —Foreign exchange control board

FOREIGN insurance association, American. See American foreign insurance association

FOREIGN investments. See Investments, Foreign

FOREIGN language press
Foreign-language press; 1,047 immigrant newspapers talking to more than six million readers in thirty-eight different languages. il Fortune 22:90-3, 102+ N '40

FOREIGN relations, Council on. See Council on foreign relations

FOREIGN trade. See Commerce; Export trade; Imports

FOREMEN
Finishing foremanship. P. C. Kramarcik. Metal Finishing 38:483-5 S '40
Foreman talks to foremen. J. J. Phillips. Am Mach 84:6-7 Ja 10 '40
Foreman's life is not all roses. G. L. Radamaker. Power Pl Eng 44:70-1 Ag '40
Foreman's union card. E. S. Cowdrick. Nation's Business 28:15-16+ F '40; Abstract. Management R 29:84-5 Mr '40
Foremen and strikes. A. H. Unsworth. Manuf Rec 108:18 D '39
In business for myself; humorous account of foreman's difficulties. Pulp & Pa of Can 41:651-4+, 717-21 S-O '40
Keep a jump ahead of your men. J. H. Sreenan. Aero Digest 36:62+ Ap '40
Kind of boss I like. L. Semple, jr. Am Water Works Assn J 32:952-7 Je '40
Modern foremanship and supervision under new deal legislation. H. B. Rector and W. A. Rinckhoff. 156p $4.50 Law research service, 712 Keith bldg, Cincinnati '40
My foremen help me manage: Standard register company, Dayton. F. W. Stein. il Factory Management 98:42-3 +Ap '40
New techniques for supervisors and foremen. A. Walton. 233p $2.50 McGraw-Hill '40
Regulation of work of foremen in the Soviet Union. Int Labour R 42:137-8 Ag-S '40
Selection and development of foremen. 43 numb l 50c Bur. of industrial relations, Univ. of Michigan, Ann Arbor '38
Selection of first-line supervisors; abstract. F. H. Achard and others. Management R 29:52-3 F '40

FOREMEN—*Continued*
Skilled workers for defense industries; training on the job; training assistants for foremen; Carnegie-Illinois steel corporation. C. S. Slocombe. Personnel J 19:171-7 N '40
When foremen joined the C.I.O. I. B. Cross, jr. Personnel J 18:274-83, 346 F-Mr '40
Who gets foremen? industrial unions reluctant to organize them. Business Week p36-7 D 16 '39

See also
Mine foremen
Supervisory workers

Training

Case history of foremen training. D. Purves. Management R 29:363-5 O '40
College in a factory; labor relations studied in Oakland plant of the Paraffine companies, San Francisco. il Business Week p37-8 Mr 16 '40
Every foreman is becoming a public speaker. L. G. Jacques. Factory Management 98: 69-70 O '40
Films teach foremen tact. il Factory Management 98:62-3 O '40
Foreman training; abstracts of American foundrymen's association papers. Foundry 68:68+ Jl '40
Foreman training; roundtable discussion; American foundrymen's association. Steel 106:58+ My 20 '40
Home office visits for foremen in branch plants, Armstrong cork company. Management R 28:407 N '39
How to train supervisors. R. O. Beckman. 305p bibliog(p291-5) $3 Harper '40
Plan of foremanship training. H. S. Jones. Mech Eng 62:135-7 F '40
Training makes the foreman. G. S. Brady. Am Mach 84:125-6 Mr 6 '40
Training of foreman conference leaders; suggestions as to methods to be followed and types of subject matter recommended by a committee of experienced conference leaders. U S Office of Educ Vocational Division Bul 125, Trade and Industrial Ser 33:1-119 '38

FOREMEN'S conferences
Conferences make the supervisor. T. J. Connor. il Factory Management 98:69-72 My '40; Abstract. Management R 29:288-9 Ag '40
Plan of foremanship training. H. S. Jones. Mech Eng 62:135-7 F '40

FOREST conservation
Blackboard of pulpwood cutting; demonstration by Southern pulpwood conservation association. Paper Tr J 109:21 N 23 '39
Forest conservation; a task in engineering. W. Compton. J Eng Educ 30:215-31 N '39
Our forest protection problems. A. Koroleff. Pulp & Pa of Can 41:343-5 Ap '40
Pulp and paper industry's approach to forest protection in Canada. E. E. Shaw. bibliog Pulp & Pa of Can 41:675-8 S '40
Trend of forest conservation in the southern pulpwood industry. F. Heyward, jr. Pulp & Pa of Can 41:254-6+ F '40
What price forests? A. A. Schmon. Pulp & Pa of Can 41:245-8 F '40

See also Southern pulpwood conservation association

FOREST fire patrol, Aerial
Parachute as an aid to national forest protection. D. P. Godwin. il Aero Digest 36: 44-5+ Ap '40
Radio for parachute fire fighters developed by U.S. Forest service. Franklin Inst J 230: 394 S '40
Smoke jumpers; parachute jumpers to fight forest fires. il Sci Am 162:97-8 F '40

FOREST fires
Bosworth trencher used in fighting forest fires. diag Pulp & Pa of Can 41:354 Ap '40
Combatting forest fires. F. Thone. Science 92:sup9 Jl 19 '40
Evolution of fire-fighting equipment. D. P. Godwin. il Pulp & Pa of Can 41:349-51 Ap '40
Fighting forest fires by parachute. il Sci Am 162:28 Ja '40
Fire alarm systems in the pulp and paper industry. J. B. Radford. il Pulp & Pa of Can 41:470 Je '40
Fire protection and the pulp and paper industry. T. M. Burton. Pulp & Pa of Can 41:618 Ag '40
Fire-trench digger does work of many men. il Sci Am 162:32 Ja '40
Forest-fire behavior studies. J. R. Curry and W. L. Fons. bibliog il Mech Eng 62:219-25 Mr '40
Forest fire fighting in Michigan. 58p Michigan. Dept. of conservation, Lansing '39
Forest fire hose. D. T. Hewson. Pulp & Pa of Can 41:452+ Je '40
Forest fires. Science 92:sup8-9 Jl 26 '40
Forest protection in Quebec; inflammability tests, radio and airplanes employed in fire fighting. H. Kieffer. il Pulp & Pa of Can 41:508-10+ Jl '40
Forest protective associations; rallies for fire protection publicity. il Pulp & Pa of Can 41:347-8 Ap '40
New England forest fire hazard. Weekly Underw 142:246 Ja 27 '40
Parachute as an aid to national forest protection. D. P. Godwin. il Aero Digest 36: 44-5+ Ap '40
Pulp and paper industry's approach to forest protection in Canada. E. E. Shaw. bibliog Pulp & Pa of Can 41:675-8 S '40
Radio for parachute fire fighters developed by U.S. Forest service. Franklin Inst J 230: 394 S '40
Robot lookout for forest fires. Science 91:sup7 Je 28 '40

FOREST insurance. See Insurance, Forest

FOREST management
Forest manager; a handbook for farm woodland owners and others who manage their own woodlands. K. Dannecker. Am ed 172p $2 American forestry assn, Washington, D.C. '39
Using the forest crop. W. H. Price. Paper Ind 22:596+ S '40

FOREST mensuration
Elementary forest mensuration. M. R. K. Jerram. 124p bibliog(p ix) $2.45 Nordemann pub. co, New York '39

FOREST planting
Indiana strippers; turning worked-out areas into forests and recreation centers. V. Sappenfield. il Coal Age 45:36-8 Ag '40

FOREST products
Correlation of forestry industries. H. O. Chute. Ind & Eng Chem News ed 18:256 Mr 25 '40
Effect of the war on trade in forest products. R. D. Craig. Pulp & Pa of Can 40:691-2 N '39

See also
Acetic acid
Gums and resins
Lumber
Naval stores
Pine
Rubber
Turpentine
Wood
Wood pulp

Statistics

Forest products statistics of the Lakes states. R. V. Reynolds and A. H. Pierson. diag map U S Agric Statistical Bul 68:1-40 '39
Forest products statistics of the southern states. R. V. Reynolds and A. H. Pierson. diags map U S Agric Statistical Bul 69: 1-106 '39

FOREST products laboratories
Annual report on the research activities of the Pulp and paper division, Forest products laboratories of Canada. Pulp & Pa of Can (Convention no) 41:202-4 [F] '40

FOREST reserves
Engineering in the national forests. C. A. Gould. il Cornell Eng 5:7-9 Mr '40
Landscape design in the primeval environment. G. Eckbo, D. U. Kiley and J. C. Rose. il Arch Rec 87:74-9 F '40
Recreational use of forest waters; designing dams to improve the recreational advantages. C. A. Betts. il diags Eng N 125:297-9 Ag 29 '40
Reservation by the U.S. Forest service of a virgin hemlock-beech forest. Science 92:347-8 O 18 '40

FOREST roads
$13,000,000 for national forest highways and trail. Roads & Sts 83:68 F '40

FOREST shelter belt project
Shelterbelt comes true; changes into 17,000 belts. il diags map Business Week p20, 22-4 Ap 6 '40; Excerpts. Ind Stand 11:210-11 Ag '40

FOREST surveys
See also
Vegetation mapping

FOREST workers
Pulpwood association and others indicted under Fair labor standards act. Paper Tr J 111:7 Jl 11 '40
Wage law novelty; Arnold charges that forest workers were underpaid through conspiracy of employers' customers. Business Week p23 Jl 13 '40

FORESTERS
Chemistry in the education of a forester. E. C. Jahn. J Chem Educ 16:570-3 D '39

FORESTRY research
Balsam fir butt rot in relation to some site factors. C. Heimburger and A. W. McCallum. Pulp & Pa of Can 41:301-3 Mr '40
Is Canada penny wise and pound foolish in regard to its forest research? A. Koroleff. Pulp & Pa of Can 40:694, 696-8+, 752-3 N-D '39
Pulp man's paradise; research on the Australian pine (casuarina) at University of Tampa. D. D. Bodé. il Manuf Rec 109:38+ Ja '40

FORESTS and forestry
Book of the broadleaf trees. F. H. Lamb. 367p bibliog(p354-6) $3.75 Norton '39
Disturbance of forest soil resulting from the uprooting of trees. H. J. Lutz. pls Yale Univ School of Forestry Bul 45:1-37 bibliog (p26-7) '40 (pa 50c)
History in a bog; forest managers use method of long-range climatic prediction, based on study of fossil pollen grains. W. F. McCulloch. il Sci Am 162:330-1 Je '40
Outline of forestry. T. Thomson and M. R. K. Jerram. 208p $2.25 Nordemann pub. co, New York '38
Planted red pine as related to pulpwood yields North and South. E. F. McCarthy. il Paper Tr J 109:36-8 N 16 '39
See also
Airplanes in forestry
Forest conservation
Lumber trade
Lumbering
Pine
Rubber plants and planting
Trees
Wood

Bibliography
Selected bibliography of North American forestry. E. N. Munns. 2v U S Agric Misc Pub 364:1-1142 '40 (ea 75c Supt. of doc.)

Costs
Forest losses and expenditures. Pulp & Pa of Can 40:756 D '39

California
2300 forest service vehicles in California. T. C. Brown. S A E J 46:sup23-4+ Ja '40

Canada
Forest losses and expenditures. Pulp & Pa of Can 40:756 D '39
Is Canada penny wise and pound foolish in regard to its forest research? A. Koroleff. Pulp & Pa of Can 40:694, 696-8+, 752-3 N-D '39
Our forest protection problems. A. Koroleff. Pulp & Pa of Can 41:343-5 Ap '40
Pulp and paper industry's approach to forest protection. E. E. Shaw. bibliog Pulp & Pa of Can 41:675-8 S '40
Save our forest heritage. F. Carrel. Pulp & Pa of Can 41:514+ Jl '40
Spruce sawfly outbreak in 1939. R. E. Balch. map Pulp & Pa of Can 41:249-53 F '40
Virgin forests of the Canadian Northwest; war taking heavy toll. L. H. Engel. Science 91:sup 10 My 3 '40
What price forests? A. A. Schmon. Pulp & Pa of Can 41:245-8 F '40
See also Canadian pulp and paper association—Woodlands section

France
Carburants, combustibles et énergies de remplacement; surfaces exploitables pour la carbonisation du bois de la forêt française. L. Bacqueyrisse. Soc Ing Civils Mémoires 92:281-6 Mr '39

France (colonies)
L'exploitation des forêts coloniales françaises. Génie Civil 116:362-3 Je 1 '40

Gaspé peninsula
Decay in insect-killed spruce in Gaspé. C. G. Riley. Pulp & Pa of Can 41:611-12 Ag '40

Ireland
Afforestation plans in Eire. Economist 138: 421 Mr 9 '40

Manitoba
Record in forestry. J. S. McDiarmid. Paper Tr J 111:57 Ag 29 '40

New Brunswick
Forestry program. Pulp & Pa of Can 41:36+ Ja '40

New England
Timber owners cash in on calamity; sale of hurricane lumber. il Business Week p24-5+ D 9 '39

New York (state)
Primeval forest types of southwestern New York. R. B. Gordon. (New York State museum bul. 321) 102p bibliog(p93-7) Univ. of the state of New York, Albany '40

Ontario
Poplar pulpwood operations at Petawawa. M. B. Morison. il Pulp & Pa of Can 41.613 Ag '40
Special body studies Canadian forests. Paper Tr J 110:15 Ja 25 '40

Quebec
Report on forest inventories. J. O. Wilson. map Pulp & Pa of Can (Convention no) 41:178-80 [F] '40

Southern states
Forestry and the railroads. C. A. Gillett. Paper Tr J 109:16-17 N 23 '39
Hardwoods of the South; comparison with the pines. I. F. Eldredge. il map Manuf Rec Extra no 109:41-3 S '40
Trend of forest conservation in the southern pulpwood industry. F. Heyward, jr. Pulp & Pa of Can 41:251-6+ F '40; Excerpts. Paper Tr J 110:19 F 1 '40

United States
Forest conservation; a task in engineering. W. Compton. J Eng Educ 30:215-31 N '39
Forest drain in balance with forest growth except for fire, disease and insects. Pulp & Pa of Can 41:742 O '40
Principal trees of the forest regions; tabulation. map Am Bld 62:46-7 Ja '40
Problems of forest ownership. Science 90: sup12 D 1 '39
Survey of research in forest land ownership. 93 numb 1 pa 60c Advisory com. on social and economic research in agriculture, Social science research council, New York '39
See also Forest shelter belt project

Wisconsin
Wisconsin mills benefit by pulp scarcity. Paper Tr J 110:9+ Ja 11 '40

FORGE shops
Handy men to many industries; R. Steel & sons operates combined forge and machine shop. R. G. Skerrett. il Comp Air M 45: 6143-6 My '40

Electric equipment
Modern power layout for drop forge shop. il Elec W 112:1472 N 18 '39

FORGE shops—*Continued*

Equipment

Forge shop practice at Norfolk & Western. F. J. Oliver. il diags Iron Age 146:46-51 N 7 '40

Valve forging; methods employed by Guest, Keen and Nettlefold; electrical upsetting process. il Automobile Eng 30:235-8 Ag '40

FORGERY

Depositors in banks can help reduce forgery losses; ten safeguards. Weekly Underw 141: 1343 D 23 '39

Fingerprinting protection for banks. C. W. Fishbaugh. il Bankers M 141:202-5 S '40

Get a good fingerprint; stop check forgery. Bankers Mo 57:173 Mr '40

Oxidation of ferrous iron in iron gall ink; measures age of ink. H. T. F. Rhodes. Chem & Ind 59:143-5 Mr 2 '40

Will case out of the story-books; claimant produces ten forged documents. Trusts & Estates 70:288 Mr '40

See also

Bankers' blanket bond
Counterfeits and counterfeiting
Checks, Fraudulent

FORGERY insurance. See Insurance, Forgery

FORGING

Aluminum rolling and forging practice in Europe; with list of alloys giving trade names and compositions. E. V. Pannell. il Iron Age 146:35-9 Ag 1 '40

As it was in 1915 and as it is in 1940. A. M. Steever. Metal Prog 37:315 Mr '40

Forge shop practice at Norfolk & Western. F. J. Oliver. il diags Iron Age 146:46-51 N 7 '40

Forging. diags Metal Prog 38:507-16 O '40

Forging; developments in 1939. Steel 106:216+ Ja 1 '40

Forging magnesium alloys; abstract. Metals & Alloys 11:MA89 F '40

Forgings for aircraft. J. Allison. il Steel 107: 49-50 Jl 8 '40

How to forge tool steel. A. M. Steever. il diags Iron Age 146:21-7 Jl 25 '40

Lead-bearing steels; control of possible health hazards during fabrication. J. W. Halley and E. D. Martin. il diag Metal Prog 37: 412-18 Ap '40

Modern shrapnel shell production methods; Frankford arsenal. G. W. Birdsall. il Steel 106:39-40 Mr 11 '40

Standard tolerances for forgings up to 100 lb; data sheet. Metal Prog 38:514 O '40

Valve forging; methods employed by Guest, Keen and Nettlefold; electrical upsetting process. il Automobile Eng 30:235-8 Ag '40

See also

Hammers, Drop
Steel forgings
Welding

FORGING machinery

Adamson forging manipulator. il Engineer 169:383-4 Ap 19 '40

Ajax forging machine with integral frame permits greater accuracy. il Steel 106:82 Ap 8 '40; Am Mach 84:312 My 1 '40; Automotive Ind 82:377 Ap 15 '40; Mach 46:137 My '40

Baldwin-Omes shell forging presses combine mechanical piercing and drawing. il Am Mach 84:518+ Jl 10 '40

Chambersburg electro-pneumatic hammers economically forge tough alloy steels. il Am Mach 84:181 Mr 20 '40; Iron Age 145:57 Ap 18 '40

Design developments in upsetting forging machines. il Iron Age 145:98 Ap 11 '40

Forging presses are designed for uninterrupted flowing of metal. il Steel 107:67 Ag 5 '40

Latest practice in forging shells. C. O. Herb. il diags Mach 46:98-92 Mr '40

National high speed forging Maxipres. il Am Mach 84:686 S 4 '40

Rules governing forging machine dies. E. R. Frost. diags Metal Prog 38:509 O '40

Shell forgings; high speed and accurate production with the Baldwin-Omes mechanical press. A. G. Hochbaum. il Iron Age 146: 57-60 O 10 '40

FORGINGS

Clapp, maker of drop forgings, celebrates 75th anniversary. Iron Age 145:65-6 F 8 '40

Large press forgings. A. O. Schaefer. Metal Prog 38:510-11 O '40

Manufacture of shell forgings by the extrusion process. diags Mach 46:96-7 My '40

Physical properties and applications of forging metals; non-ferrous metals; data sheet. Mach 46:242A, 362A D '39-Ja '40

Quality forgings. E. O. Dixon. Metal Prog 38: 510 O '40

See also

Steel forgings

FORM letters. See Commercial correspondence —Form letters

FORMALDEHYDE

Action of nitrous acid on formaldehyde. H. M. Halliday and T. H. Reade. Chem Soc J p142-3 F '40

Aldehyde-nitroparaffin condensation. B. M. Vanderbilt and H. B. Hass. bibliog Ind & Eng Chem 32:34-8 Ja '40

Casein plastics. G. H. Brother. bibliog il Ind & Eng Chem 32:31-3 Ja '40

Condensation products improve dyeing qualities of fabrics. C. H. S. Tupholme. Textile Col 62:663-4 O '40

Derivatives of aminomethanethiol. A. Binz and L. H. Pence. bibliog Am Chem Soc J 61:3134-9 N '39; Abstract. Franklin Inst J 229:127-30 Ja '40

Detection of new finishing agents; abstract. H. Rath. Textile Col 62:762+ N '40

Distillation of formaldehyde solutions. J. F. Walker. bibliog Ind & Eng Chem 32:1016-18 Jl '40

Formaldehyde treated uncrushable rayon fabrics. Textile Col 62:545-6 Ag '40

pH change in gold sol formation; reduction of alkaline solution of potassium aurate by formaldehyde. C. L. Throckmartin and C. H. Sorum. J Phys Chem 44:247-55 F '40

Improvement of formaldoxime colorimetric method for manganese. C. P. Sideris. Ind & Eng Chem Anal ed 12:307 My 15 '40

Photochemical decomposition of solid hydrogen compounds at low temperatures. L. Farkas, Y. Hirshberg and L. Sandler. bibliog diag Am Chem Soc J 61:3393-6 D '39

Protein plastics from soybean products; influence of phenolic resins or phenolic molding compounds on formaldehyde-hardened protein material. G. H. Brother and L. L. McKinney. bibliog(51 titles) Ind & Eng Chem 32:1002-6 Jl '40

Reaction between hydrogen selenide, formaldehyde, and secondary amines. A. H. Binz, F. E. Reinhart and H. C. Winter. Am Chem Soc J 62:7-8 Ja '40

Reaction of formaldehyde with amino acids: X-ray diffraction patterns. A. K. Smith, P. Handler and J. N. Mrgudich. bibliog il J Phys Chem 44:874-80 O '40

Removal of chlorides and sulfates by synthetic resins. M. C. Schwartz, W. R. Edwards, jr. and G. Boudreaux. bibliog(48 references) Ind & Eng Chem 32:1462-6 N '40

Soybean protein dispersions in formaldehyde solutions; preparation and application. A. K. Smith and H. J. Max. Ind & Eng Chem 32:411-15 Mr '40

Summary of the reactions of aldehydes with amines. M. M. Sprung. Chem R 26:297-338 bibliog(p335-8) Je '40

Urea-formaldehyde film-forming compositions; enamel formulation, properties, and durability. T. S. Hodgins, A. G. Hovey and P. J. Ryan. bibliog il Ind & Eng Chem 32: 334-45 Mr '40

See also

Paraformaldehyde

Analysis

Chemical examination of urea coating resins. J. J. Levenson, jr. bibliog diags Ind & Eng Chem Anal ed 12:332-7 Je 15 '40

FORMALIN. See Formaldehyde

FORMAMIDE
Refractivity of formamide. G. F. Smith. Chem Soc J p869-70 Jl '40

FORMATES
Free radicals and radical stability; the stability of formates and the reduction of triarylcarbinols. S. T. Bowden, D. L. Clarke and W. E. Harris. diags Chem Soc J p874-80 Jl '40

FORMATS (printing)
How to sell pre-checked formats; customers' planning guide. W. J. Blackburn. il Inland Ptr 105:58-9 S '40
Pre-checked formats a sales aid. W. J. Blackburn. Inland Ptr 105:40 Ag '40

FORMIC acid
Action of formic acid on triphenylmethyl ethyl ether and on triphenylmethyl chloride. S. T. Bowden and T. F. Watkins. Chem Soc J p1333-4 S '40
Analysis of mixtures of aliphatic acids. S. T. Schicktanz, W. I. Steele and A. C. Blaisdell. bibliog Ind & Eng Chem Anal ed 12:320-4 Je 15 '40
Equilibrium constants for the systems alkyl formates and alkyl acetates with stearic acid. C. Barkenbus, C. A. Roswell and A. E. Mitts. bibliog Am Chem Soc J 62: 1251-3 My '40
Ionization constants of weak acids at 25° from conductance measurements; a method of extrapolating the data. B. Saxton and L. S. Darken. bibliog Am Chem Soc J 62: 846-52 Ap '40
Mechanism of substitution at a saturated carbon atom; hydrolysis of methyl, ethyl, *iso*propyl and *tert.*-butyl bromides in acidic solutions under conditions believed to be conducive to uniformity of mechanism. L. C. Bateman and E. D. Hughes. Chem Soc J p945-8 Jl '40
Mechanism of substitution at a saturated carbon atom; unimolecular and bimolecular substitutions of *n*-butyl bromide with water, and with anions, as substituting agents in formic acid solution. L. C. Bateman and E. D. Hughes. Chem Soc J p940-4 Jl '40
Mechanism of substitution at a saturated carbon atom; unimolecular substitutions of *tert.*-butyl chloride with water, and with anions, as substituting agents in formic acid solution. L. C. Bateman and E. D. Hughes. Chem Soc J p935-40 Jl '40
New reaction of formic acid. T. L. Davis and W. P. Green, jr. bibliog Am Chem Soc J 62:1274-6 My '40

FORMICA
Fresh air taxi; Formica paneling. il Mod Plastics 17:42 Ap '40

FORMS (law)
Encyclopedia of corporate forms. v 4 1269p $12.50; set $38 Prentice-Hall '40
Law office secretary's manual. J. J. Antus. 343p $5 Prentice-Hall '40
Legislative drafting and forms. A. Russell. 4th ed enl 716p 40s Butterworth & co, London '38

FORMS and blanks, Business
Economies in office forms. I. Rafkind. Am Water Works Assn J 32:221-4 F '40
Five advantages of properly designed office forms. J. F. Pierce. Pub Works 71:28-32 Ag '40
Hidden costs in office forms; functionally designed forms. F. M. Knox. Am Business 10:20-1, 42 O '40
How the Bell telephone system standardized its business papers. J. J. Murphy. il Ind Stand 11:221-8 S '40
Maintenance forms. Factory Management 98: 84-5 O; 82-3 N '40
Printed forms as tools of business. Management R 28:424-5 D '39
Salvaging the profit on small orders; special form. J. M. Robins. il Am Business 10:36 Ja '40
Stop loss plan controls printed supplies. C. V. Putnam. il Am Business 10:30-2 Je '40
Streamlining the cost of record-keeping. J. S. Seidman. Management R 29:301-4 Ag '40
Two money-saving ideas for the mailing department; Servel, inc. I. A. Herrmann. il Am Business 10:26-7 Ja '40

See also
Banks and banking—Forms, blanks, etc.
Railroads—Forms and blanks
Sales records

Manufacture
My foremen help me manage; Standard register company, Dayton. F. W. Stein. il Factory Management 98:42-3+ Ap '40

FORMYL camphor
Study of the configuration of the nickel salt of formyl camphor. H. S. French and G. Corbett. bibliog Am Chem Soc J 62:3219-22 N '40

FORSTERITE

Bibliography
Bibliography on orthosilicates of alkaline earths. G. E. Sell and others, comps. Am Cer Soc J 23 (Cer A 19):284-9 N '40

FORT BENNING, Georgia

Water supply
New water filtration plant. R. B. Johnston. il Pub Works 70:20-2 D '39

FORT DODGE, Iowa
Free lot surveys made in Fort Dodge. J. L. Parsons. Eng N 124:601 Ap 25 '40

FORT LAUDERDALE, Florida

Hotels
Resort hotel makes short season pay; the Lauderdale Beach hotel. il plans Arch Rec 88:95-7 Jl '40

FORT PECK, Montana
Hydraulic filling ended at Fort Peck. il Eng N 123:659 N 16 '39
Hydrogen cyanide gas fumigation; experience at Fort Peck. J. E. O'Donnell and others. J Ind Hygiene 22:253-75 bibliog(p274-5) S '40

FORT WAYNE, Indiana

Rapid transit
Ft. Wayne modernizes with trolley coaches. il Mass Transportation 36:172-3 Ag '40

FORTESCUE, Charles LeGeyt, 1876-1936
Fellowship established. Elec Eng 59:42 Ja '40

FORTIFICATION
Castles, a short history of fortifications from 1600 B.C. to A.D. 1600. S. Toy. 241p 25s W. Heinemann, London '39

FORTY plus clubs
Forty-plus men finding jobs; club to promote placement of older executives. Nation's Business 28:91 Ap '40
New techniques for getting jobs. M. T. Waggaman. Monthly Labor R 50:804-6 Ap '40
Recent activities of New York Forty plus club. Monthly Labor R 51:623 S '40

FORWARDING companies
Forwarder aids disapproved. Ry Age 109:290-1 Ag 24 '40
Forwarder rates declared illegal. Ry Age 108: 980+ Je 1 '40
Forwarders want regulation. Ry Age 108:488 Mr 16 '40
Is the forwarder the answer? Ry Age 108:854 My 18 '40
No winter truce on rail front. Business Week p18+ Ja 27 '40
Senate forwarder hearings. Ry Age 108:1006-7, 1057-62+, 1114-18, 1181-4 Je 8-29 '40
Uncommon carriers under fire; freight forwarder wages fight for ICC regulation. Business Week p38-9 D 9 '39
United States Supreme court sustains ICC ruling suspending tariffs of motor carriers providing lower freight rates to forwarders. Comm & Fin Chr 150:3286 My 25 '40
Would ease order on loading levy; Trezise gives reasons why low charges are justified. Ry Age 109:652 N 2 '40

FOSSIL footprints. See Footprints, Fossil

FOSSIL pollen. See Pollen, Fossil

FOSSIL trees. See Trees, Fossil

FOSSILS. See Paleobotany; Paleontology

FOSTER, Alexander, jr.
Sketch. R. W. Sheehan. por Spectator (Property ed) 6:16+ O 17 '40

FOSTER homes. See Child placing

FOSTER WHEELER corporation
Fast-moving low price stocks; thumbnail appraisal. Mag of Wall St 65:556 F 10 '40

FOUGNER, Arne
Christiania General's foreign secretary now a New Yorker. por East Underw 41:13 Ag 23 '40

FOUNDATION soils
Application of soil mechanics in building the New York world's fair. G. L. Freeman, G. W. Glick and H. Gray. il plans Civil Eng 10:649-52 O '40
Building foundation design; abstract. A. Casagrande. Eng N 124:174 F 1 '40
Building on soft clay; New England mutual life insurance co. building in Boston's Back Bay district; concrete box substructure. il diags plans Eng N 123:692-5 N 23 '39
Compaction of soils by explosives; Franklin Falls Dam site. A. K. B. Lyman. il Civil Eng 10:205-7 Ap '40
Consolidation of embankment and foundation materials; progress report of sub-committee no. 2 of the committee of the soil mechanics and foundations division on earth dams and embankments. diags Am Soc C E Proc 66: 1491-1509 O '40
Effect of foundation on earthquake motion. R. R. Martel. Civil Eng 10:7-10 Ja '40
Geological problems of dams. I. B. Crosby. bibliog Am Soc C E Proc 66:869-90 My '40
Settlement from excavation; abstract. K. Terzaghi. Eng N 124:176 F 1 '40
Settlement of soils. J. Osterberg. il diags Cornell Eng 5:13-15 D '39
Settlement studies of Huey P. Long bridge. W. P. Kimball. bibliog diags Civil Eng 10:145-8 Mr '40; Discussion. K. Terzaghi. 10: 311 My '40
Settlement studies of structures in Egypt. G. P. Tschebotareff. diags plans Am Soc C E Proc 64:1541-67 O '38; Discussion. 65: 344-50, 881-3, 1064-8; 66:633-47 F, My-Je '39, Ap '40
Soil mechanics in foundation engineering. R. L. James. diags Inst Pet J 26:365-74 Jl '40; Same. Engineer 170:126-7 Ag 23 '40; Discussion. A. H. D. Markwick. Inst Pet J 26:374 Jl '40
Survey of the frost-heaving problem. J. O. Osterberg. bibliog il diags Civil Eng 10: 100-2 F '40
Transatlantic seaplane base, Baltimore, Maryland. W. W. Pagon. il diags plans maps Am Soc C E Proc 66:1469-89 O '40
World's fair foundations; abstract. G. L. Freeman, G. W. Glick and H. Gray. Eng N 124: 174-5 F 1 '40

See also
Dams—Foundations
Marshes
Roads—Subgrades
Sand
Soil mechanics

Chemical consolidation

Über die elektrochemische bodenverfestigung nach dem verfahren von L. Casagrande. E. Kumutat. bibliog il Angew Chemie 53:168-71 Ap 13 '40

Testing

Les essais de géophysique pour la mesure des propriétés des sols et des terrains. Y. Poisson. diags Génie Civil 116:276-80, 291-4 Ap 27-My 4 '40

Essential features of triaxial shear tests; use of stabilometer and other apparatus. C. A. Hogentogler and E. S. Barber. il diags Am Soc T M Proc 39:1028-45 bibliog(36 titles, p1044-5) '39; Same. Pub Roads 20:133-44, 153-4 S '39

Improved sampler and sampling technique for cohesionless materials; equipment and methods used on Denison dam and reservoir project. H. L. Johnson. il diags Civil Eng 10: 346-8 Je '40

Omaha airport runways. W. H. Campen. Roads & Sts 83:62+ My '40

Portable apparatus for compression tests on clay soils. L. F. Cooling and H. Q. Golder. il diag Engineering 149:56, 57-8 Ja 19 '40

Some practical aspects of soil shear testing. G. P. Tschebotareff. Am Soc T M Proc 39: 1023-7 '39

Sondeuses échantillonneuses pour l'étude des sols de fondation. diags Génie Civil 115:408-9 D 2 '39

Technique of triaxial compression tests. J. D. Watson. diags Civil Eng 9:731-3 D '39

Torsion shear tests and their place in the determination of the shearing resistance of soils. M. J. Hvorslev. bibliog diags Am Soc T M Proc 39:999-1022 '39

Working drawings for a sounding rod puller. E. E. Brandow. diags Eng N 123:714 N 23 '39

FOUNDATIONS

Analyzing non-homogeneous sections subjected to bending and direct stress. W. G. S. Saville. Civil Eng 10:170-2 Mr '40

Building foundation design; abstract. A. Casagrande. Eng N 124:174 F 1 '40

Building on soft clay; New England mutual life insurance co. building in Boston's Back Bay district; concrete box substructure. il diags plans Eng N 123:692-5 N 23 '39

Design of pile foundations using piles of varied lengths. H. E. Eckles. diag Eng N 124:862-3 Je 20 '40

Difficulties met in the application of impermeable membranes to structures subject to hydrostatic pressure; abstract. H. Klipple. Am Concrete Inst J 11:700-1 Je '40

Foundation conditions and treatment at Guntersville dam. V. Gongwer. il diags Am Soc C E Proc 66:431-62 Mr '40

Foundations for gas works equipment. J. Hargreaves. Gas J (Lond) 230:443 My 29 '40

How to build waterproof foundations with clay products. il diags Brick & Clay Rec 96:31 Ap '40

Huge reinforced concrete foundation slab is a feature of big reservoir; Mount Washington reservoir, Cincinnati. il diags Concrete 48:3-4+ Mr '40

Piledriving leads 135 ft. long; new postoffice building, San Francisco. il diag Eng N 124: 848-9 Je 20 '40

Principles of foundation design. H. Chatley. Engineering 148:670 D 15 '39

Rotary-rig foundations in Gulf Coast marshes. N. Williams. il plan Oil & Gas J 39:42-3 Ag 8 '40

Soil mechanics and foundations. F. L. Plummer and S. M. Dore. 473p bibliog(p463-7) $4.50 Pitman '40

Telephone conduits carried by suspension bridge; cable structure used as temporary support. il diag Eng N 123:821 D 21 '39

Transatlantic seaplane base, Baltimore, Maryland. W. W. Pagon. il diags plan Am Soc C E Proc 66:1476-84 O '40

Underpinning beats subway threat to famous Chicago building; Monadnock office building carried on floating foundations underpinned with caissons; piers picked up through grillages resting on the foundation mats. il diags Eng N 125:422-6 S 26 '40

Wide-base tower foundations. J. L. Gaved. il Elec R (Lond) 126:184 F 16 '40

See also
Bridges—Foundations and piers
Building
Caissons
Cofferdams
Dams—Foundations
Earthwork
Excavation
Foundation soils
Piers (foundations)
Piles and pile driving
Roads—Foundations

Settlement

Settlement of soils. J. Osterberg. il diags Cornell Eng 5:13-15 D '39

Settlement studies of structures in Egypt. G. P. Tschebotareff. diags plans Am Soc C E Proc 64:1541-67 O '38; Discussion. 65: 344-50, 881-3, 1064-8; 66:633-47 F, My-Je '39, Ap '40

FOUNDATIONS, Charitable and educational

See also
Commonwealth fund

FOUNDATIONS, Subaqueous

See also
Bridges—Foundations and piers
Caissons
Cofferdams
Concrete construction, Subaqueous
Dams—Foundations
Dredging
Marine structures

FOUNDING. See Aluminum founding; Brass founding; Foundry practice; Iron founding

FOUNDRIES

American steel foundries; maker of railroad equipment has added tank parts. il Fortune 22:58-64+ N '40

Anti-glare measures at foundries. Engineer 169:524 Je 7 '40

Casting aluminum cylinder heads for aircraft; Wright aeronautical corp. il Foundry 68:46-9+ N '40

Comments of foundrymen reveal a year of progress. Foundry 68:26-7+ F; 30-1, 89-90, 92 Mr '40

English firm casts bells for 369 years; Mears & Stainbank. J. S. Trevor. il Foundry 67: 34-5, 98+ D '39

Foundry industry and army ordnance. N. F. Ramsey. il diags Foundry 68:28-9, 78+ Mr; 28-9, 98+ Ap '40

Indiana foundry holds open house; Decatur casting co. il Foundry 68:58, 60, 62 Ja '40

New foundry; International harvester co. P. Dwyer. il Foundry 68:22-7, 84+ Ja; 24-7, 84+ Mr; 34-7, 102+ Ap '40

New Hobart foundry has monthly capacity of 50,000 finished parts. il Steel 107:62+ O 7 '40

Nonferrous castings made in modern foundry; Hobart mfg. co.; electric food-preparing machinery. il Foundry 68:40-2+ S '40

100 years with the Erie City iron works. il Power Pl Eng 44:90-2 Ap '40

Produces variety of steel castings; West Michigan steel foundry co. D. F. Seyferth. il Foundry 68:44-5+ Je '40

Steel foundry shows steady growth; Ohio steel foundry co. P. Dwyer. il Foundry 68:34-7, 94+ N '40 (to be cont)

Waukesha Foundry holds open house. J. E. Hubel. Foundry 68:76 S '40

See also
Foundry accounting
Foundry management
Foundry practice
Iron works
Steel works

Cleanliness

Cleanliness features shop melting brass for plumbing trade. P. Dwyer. il Foundry 68: 24-6+ Ag '40

Cleanliness pays in foundries. il Safety Eng 78:41-2 N '39

Electric equipment

Co-ordinated electrical control saves foundry space; correlates mold production lines with sand-conditioning towers; International harvester company's motor truck engine factory. H. W. Parthemer. il diags Elec W 113:2041-3+ Je 29 '40

Raise foundry power factor to 97 per cent; Ferro machine & foundry company. il Elec W 114:276 Jl 27 '40

See also
Electric furnaces, Foundry

Employees

Apprentice training; abstracts of American foundrymen's association papers. Foundry 68:67-8 Jl '40

Belle City employes form veterans club. Foundry 68:85-6 N '40

Citizenship and personnel relations; drive for fingerprints at Hamilton, Ohio; foundry companies participate. il Foundry 68:38-9+ N '40

Earnings of foundry employes. Foundry 68: 96-7 N '40

Foreman training; abstracts of American foundrymen's association papers. Foundry 68:68+ Jl '40

Foundry personnel relations. H. J. Noble. il Foundry 68:53+ O '40

Jobs in the foundry. E. L. Bowman. 48p bibliog(p48) pa 50c Science research associates, 600 S. Michigan av, Chicago '40

Labor turn-over in foundries and machine shops, 1937 and 1938. Monthly Labor R 49:728-31 S '39

Training systems pay dividends; training foundrymen and castings salesmen. E. Bremer. il Foundry 68:92-4+ My '40

Youth's opportunity in the foundry industry. N. K. B. Patch. Foundry 68:29, 90+ Jl '40

Equipment and supplies

Blows molding sand into molds; system of sand-conveying and mold making developed in Great Britain. diags Foundry 68:78+ S '40

Canadian foundry; McKinnon industries limited. Engineer 169:134 F 9 '40

Economic foundry production. E. Ronceray. il diags plan Inst Mech Eng J & Proc 141: Proc 475-86, pl 1-4 S '39; Discussion, 141: Proc 486-92; 142:Proc 469-76 S '39, Mr '40

Engine founding in the modern manner; International harvester co.'s motor truck plant; illustrations. Iron Age 145:40-1 F 29 '40

Equipment and supplies exhibited at meeting of American foundrymen's association. Iron Age 145:51, 88-9 My 16 '40

Foundry of Monroe steel castings co. A. H. Allen. il Foundry 67:44, 46+ D '39

Mighty little man-handling; on core-making job things move mechanically. A. Van Vlissingen. il Factory Management 98:54-5+ Mr '40

Molding sand; automatic system reclaims both clay and cement bonded sand; used in Randupson process at foundry of Farrel-Birmingham co. W. A. Phair. il d ags Iron Age 145:48-52 Mr 7 '40

New die-casting plant; Alemite die casting and mfg. division of Electric auto-lite co. H. Chase. il Steel 106:70-1+ My 20 '40

Pontiac spends $1,000,000 to modernize its foundry. il Automotive Ind 83:159 Ag 15 '40

Sealed Power facilities bring precision. J. Geschelin. il Automotive Ind 83:194-6 S 1 '40

Splendid exhibit reveals progress in equipment and supplies. il Foundry 68:38-41, 106, 108+ Je '40

Sprues are cleaned in tumbling mills; sand handling equipment; Buick foundry in Flint, Mich. A. H. Allen. il Foundry 68: 96-7+ My '40

Steel foundry; Crane co. H. W. Maack. il Steel 106:38, 40-1 Ja 8 '40

Trends in foundry equipment. F. J. Oliver. il Iron Age 146:50-4 S 5 '40

What's new in foundry equipment. F. J. Oliver. il Iron Age 145:55-7 My 16 '40

See also
Core ovens
Cupola furnaces
Foundry ladles
Foundry machinery
Furnaces, Foundry
Molds (for casting)

Fuel

Utilize coke from cupola drop. R. Leicht. diags Foundry 68:27+ Ag '40

Heating and ventilation

No dust, better health, more output; foundry ventilation practice. A. Van Vlissingen. il Factory Management 98:79-81 S '40

Ventilating a steel foundry; United engineering & foundry co. P. S. Tanner. il Foundry 68:46+ F '40

Insurance requirements

Protection given a steel casting manufacturer by each type of insurance; checklist. O. E. Mount. Bankers Mo 57:98, 100 F '40

Lighting

Modern lighting means foundry safety; Hamilton foundry & machine co. il Foundry 68: 28+ F '40

Out of the shadows; Hamilton foundry and machine company, lighting system. il Nat Safety N 41:20-1 Ja '40

FOUNDRIES—*Continued*

Records

Rapid delivery is pride of jobbing foundry; Carondelet foundry co. E. Bremer. il diag Foundry 68:24-6, 94+ Ap '40

Safety devices and measures

Design for safety; Griffin wheel co. T. C. Weiser. il Safety Eng 79:6-8 Je '40

Safety in the foundry; abstract. W. Whitney. Foundry 68:66+ Ap '40

Safety stressed at foundry open house; Decatur casting company. Safety Eng 79:28 Ja '40

Town visits the plant; display of safety equipment; Decatur castings company. il Nat Safety N 41:64-5 Ja '40

Detroit

Among Detroit foundries (cont). A. H. Allen. il Foundry 67:44, 46+ D '39; 68:54+ Ja; 42+ F; 68 Mr; 80+ Ap; 138+ My; 85+ Je; 60+ Jl; 55+ Ag; 68+ S; 72+ O; 60+ N '40

FOUNDRY accounting

Distributing overhead costs by production centers. A. E. Grover. Foundry 68:34-5, 98+ S '40

FOUNDRY chemistry

Beiträge zur eisenhüttenchemie. A. Stadeler. bibliog Stahl & Eisen 59:1367-8, 1381-6 D 21-28 '39

See also
Alloys

FOUNDRY costs

Comparison of refractory costs of naturally-formed refractory material and ordinary fire brick; abstract. J. A. Bowers and J. T. MacKenzie. tables (p88, 89) Iron Age 145:51 My 16 '40

Cupola possibilities and limitations for making high-strength iron; use of Fer X. H. W. Gillett and C. H. Lorig. Iron Age 144: 22-3 D 28 '39

FOUNDRY dust

Silicosis prevention; dust control in foundries. 25p bibliog(p25) U.S. Dept. of labor; pa 10c Supt. of doc. '39

FOUNDRY exhibits

Operating foundry exhibit; Museum of science and industry, Chicago. J. F. Powell. il Foundry 68:32-3+ Ja '40

FOUNDRY laboratories

Modern analysis in the foundry; combustion-type carbon and sulphur determinators, and spectroscope equipment, Fairbanks, Morse & co. G. W. Zabel and J. Schuch. il Iron Age 145:31-7 My 2 '40

FOUNDRY ladles

How are two different types of materials used in foreign nozzles? discussion at Open hearth conference. Brick & Clay Rec 96:54-5 My '40

Pouring pit refractories. E. C. Hite and G. Soler. il Brick & Clay Rec 95:54-6 N; 52-4 D '39

Treadwell ladles. il Blast F & Steel Pl 27: 1264-5 D '39; Same. Metal Ind 38:160 Mr '40

Welded steel ladles; 190-ton elliptical ladles made of two heat-treated sections joined by riveting. il Steel 107:76+ Ag 5 '40; Same. Iron Age 146:72 Ag 1 '40; Same. Blast F & Steel Pl 28:797-8 Ag '40

FOUNDRY machinery

Fundamentals of core blowing. R. F. Lincoln. il diags Foundry 68:22-4+ F; 34-6, 94, 97-8 Mr '40

See also
Molding machines

Exhibitions

Splendid exhibit reveals progress in equipment and supplies. il Foundry 68:38-41, 106, 108+ Je '40

Manufacture

Work positioners reduce weld fabrication time; Simplicity engineering co. il Iron Age 145:41 My 23 '40

Statistics

Foundry equipment, 1936-1939. Survey of Cur Business 1940 Sup p138 [supplemented in monthly numbers]

FOUNDRY management

American foundrymen's association 44th annual meeting, Chicago; abstracts of papers. Steel 106:58, 60+ My 20 '40

Birmingham stages eighth conference, Feb. 22-24. Foundry 68:64+ Ap '40

Build a fire under slow sales: when salesmen fail to push one of a line. E. N. Simons. Foundry 68:85-6 O '40

Castings must pass many tests. M. D. Johnson. il Foundry 68:28-33+ S '40

Distributing overhead costs by production centers. A. E. Grover. Foundry 68:34-5, 98+ S '40

Evaluation of jobs discussed by group; abstracts of American foundrymen's association papers. Foundry 68:78+ Jl '40

Foreman training; abstracts of American foundrymen's association papers. Foundry 68:68+ Jl '40

Foundry personnel relations. H. J. Noble. il Foundry 68:53+ O '40

Modernizing your foundry. A. J. Tuscany. Foundry 68:37+ Mr '40

Problems of foremanship, management and employment; abstract. O. L. Allen. Foundry 68:138+ My '40

Rapid delivery is pride of jobbing foundry; Carondelet foundry co. E. Bremer. il diag Foundry 68:24-6, 94+ Ap '40

Steel casting costs; factors that effect costs. H. L. McClees. il Steel 106:70-1 My 13 '40

See also
Castings—Testing
Foundries—Employees

FOUNDRY practice

Abstracts from world foundry literature (cont). Foundry 67:86 D '39; 68:81 F; 66 Mr; 79 Ag; 84 S; 88, 91 O '40

American foundrymen's association, 44th annual meeting, Chicago, May 6-10. Steel 106:52, 54+ My 13; 56, 58, 60+ My 20 '40; Foundry 68:34-7, 92+ Je; 35, 64+ Jl '40; Iron Age 145:47-51, 88-9 My 16 '40

Anti-piping compounds and their influence on major segregation in steel ingots. E. Gregory. Iron & Steel Inst J 141:263-72, pl 8-15 no 1 '40; Excerpts. Iron Age 145:48-9 My 2 '40; Discussion. Iron & Steel Inst J 141:273-89 no 1 '40

Application of controlled directional solidification to large steel castings; abstract. J. A. Duma and S. W. Brinson. Metals & Alloys 11:MA252+ My '40

Application of the Durville rotatory process to the casting of steel. L. Northcott. diags Iron & Steel Inst J 139:297-304, pl 16-19 no 1 '39; Same. Engineer 167:659-61 My 26 '39; Same cond. Metal Prog 36:41-2 Jl '39; Discussion. Iron & Steel Inst J 139:305-14 no 1 '39

Avoiding defects in the nonferrous foundry. N. K. B. Patch. il Foundry 67:31-2+ D '39; 68:35, 88+ Ja; 29+ F; 33+ Mr; 33+ Ap; 95+ My '40

Baltimore-Washington foundrymen hold regional conference. Foundry 67:54+ D '39

Cast metals handbook. 1940 ed 532p $5 American foundrymen's assn, Chicago '39

Cast steel gears. W. J. Phillips and T. D. West. bibliog il diags Steel 107:48-50 O 21 '40

Cast steel gears. J. A. Shuffstall. il diags Foundry 68:28-30, 92+ Ja '40

Cast steel parts for the Ford tractor. R. H. McCarroll and E. J. Jeter. il diag Metal Prog 37:521-6 My '40

Casting; developments in 1939. il Steel 106: 245-6+ Ja 1 '40

Casting magnesium alloys; composite of abstracts. Metals & Alloys 11:MA192-3 Ap '40

Casting steel for Ford tractors. R. H. McCarroll and E. C. Jeter. il Iron Age 145:34-9 F 15 '40; Same. Foundry 68:30-3+ F '40

Casting temperatures for non-ferrous alloys. Iron Age 145:45 Mr 21 '40

FOUNDRY practice—*Continued*
Causes of non-ferrous casting defects; tabulation. S. Tour. Iron Age 145:46-7 My 2 '40
Chicago regional conference. Foundry 67:67-8, 70 D '39
Comments of foundrymen reveal a year of progress. Foundry 68:26-7+ F; 30-1, 89-90, 92 Mr '40
Continuous casting. T. W. Lippert. il diags Iron Age 145:31-9 Ap 4; 44-7 Ap 11 '40
Continuous casting; composite of abstracts. Metals & Alloys 12:66+ Jl '40
Continuous casting; scheme removes heat from congealing metal fast enough to avoid rupture of solidifying skin; Williams engineering co. E. R. Williams. il Steel 106: 48-9+ Ap 8 '40
Die cast or sand cast. H. Chase. il diags Product Eng 11:53-6, 165-8 F, Ap '40
Economic foundry production. E. Ronceray. il diags plan Inst Mech Eng J & Proc 141: Proc 475-86, pl 1-4 S '39; Discussion. 141: Proc 486-92; 142:Proc 469-76 S '39, Mr '40
Eighth annual conference at Michigan State college. il Foundry 68:78, 80, 82 Je '40
Expands facilities for producing precision iron, steel castings; Randupson process, Birdsboro steel foundry & machine co. il Steel 106:64+ Mr 18 '40
Ford cast steel crankshafts now poured continuously. E. F. Cone. il Metals & Alloys 12:267-70 S '40
Foundry burns new necks on rolls. il Foundry 68:99 Ag '40
Foundry practice affects yield. J. B. Atkinson. il Foundry 68:28-9+ Ag '40
Fundamentals of core blowing. R. F. Lincoln. il diags Foundry 68:22-4+ F; 34-6, 94, 97-8 Mr '40
Gating and feeding of castings. A. Johnson. diags Iron Age 145:26-8 F 22 '40
Gating nonferrous castings is important. N. K. B. Patch. diags Foundry 68:40-1, 90+ N '40
Hints on melting nonferrous metals. N. K. B. Patch. Foundry 68:37+ S '40
How to cast-in Calrod heating units. H. M. Chatto. il diags Gen Elec R 43:217-19 My '40
Ills and cures in the nonferrous foundry. A. Fritschle. il Foundry 68:30-1+ Jl '40
Improved foundry practice. H. H. Harris. Metal Prog 38:469 O '40
Investigates problem of cooling sand. F. H. Amos. diag Foundry 68:34-5+ Ag '40
Making over one hundred tons of die-castings a day; Ternstedt manufacturing division of the General motors corporation. H. Chase. il Mach 47:101-5 S '40
Molding and casting magnesium; Adrian plant of Magnesium fabricators inc. A. H. Allen. il Steel 105:36-8 D 25 '39
Moulding and other foundry work. W. Bell. 124p $1.50 Chemical pub. co. '39
New England holds fourth regional conference, Cambridge, Mass. March 29-30. Foundry 68:130+ My '40
Non-ferrous foundry practice. J. Laing and R. T. Rolfe. 336p $6 Van Nostrand '40
Pouring Canada's heaviest casting; housing for rolling mill; Dominion foundries and steel ltd. il Can Eng 77:9-10 D 12 '39
Pouring practice. E. H. Hollenback. il Steel 106:60, 68-9 Ap 29 '40
Prevent hot tears in steel castings. W. J. Phillips. il diag Foundry 68:27-8+ Jl '40
Problems in nonferrous foundry practice. W. B. George. Foundry 68:49+ O '40
Producing castings of nickel silver. D. M. Curry. il Foundry 68:46-7+ Je '40
Questions and answers relating to metallurgical, melting, and molding practice. Published in monthly numbers of Foundry
Radiographic development in the casting industries. C. W. Briggs. il Metals & Alloys 11:1-5 Ja '40
Second regional conference at Rutgers. Foundry 68:118, 120+ My '40
Some recent developments in iron and steel castings. R. C. Good. il Foundry 68:46-8+ O; 42-4+ N '40
Steel foundry progress in melting and heat treating. E. F. Cone. il Metals & Alloys 11:99-102 Ap '40
Steel valve castings. J. J. Kanter. il Iron Age 146:29-33 Jl 11 '40
Strike up the band; manufacture of band and orchestra instruments; C. G. Conn. P. Dwyer. il Foundry 68:24-6+ Jl '40
Wisconsin holds third regional foundry conference, Milwaukee, Feb. 15-16. Foundry 68:52+ Ap '40
Zinc-alloy dies for drop hammer work. W. W. Broughton. il Iron Age 145:29-32 F 8 '40

See also
Aluminum founding
Annealing
Brass founding
Bronze founding
Cast iron
Casting, Centrifugal
Castings
Cores
Die casting
Foundries
Foundry chemistry
Foundry management
Furnaces, Foundry
Iron founding
Iron metallurgy
Molding machines
Molds (for casting)
Pickling (metals)
Sand, Foundry
Steel castings
Steel ingots
Type and type founding

Study and teaching
Apprentice training; abstract. A. L. Armantrout. Steel 106:54 My 13 '40
Shop courses in engineering schools. R. E. Wendt. il Foundry 68:72+ S '40
Training systems pay dividends; training foundrymen and castings salesmen. E. Bremer. il Foundry 68:92-4+ My '40

FOUNDRY research
Organize gray iron research group. Foundry 68:100 S '40

See also
Foundry laboratories

FOUNDRY sand. See Sand, Foundry

FOUNDRYMEN
Men of industry. Published in monthly numbers of Foundry

FOUNTAIN pens
Pen-pencil contest; battle for top place. Business Week p22 D 30 '39
Snappy, inexpensive promotion to salesmen sells 2,000 pen deals in 30 days; Waterman pens. H. Dorff and A. W. Macy. il Ptr Ink 190:13-16 F 2 '40

Advertising
Letters turned to good sales account at L. E. Waterman co., correspondence handled by sales department. H. Dorff. Ptr Ink Mo 40: 46+ Ja '40

FOUNTAINS
Unusual product of a sheet metal shop. il Sheet Metal Worker 31:58 My '40
Water falls on the Fair. il Power 84:377 Je '40

Lighting
Fountain of light at Nela park, Cleveland. il Illum Eng 35:658-9 S '40; Same. Gen Elec R 43:386 S '40
Lighting effects at Liege exposition. Illum Eng Soc Trans 34:984-5 N '39
Lighting the New York world's fair. R. C. Engelken. il diags plan 8 col pls Elec Eng 59:178-203 My '40

4-H clubs
Bank's 4-H club. Banking 32:88 F '40

FOURDRINIER machines. See Paper making machinery

FOX, Philip, 1878-
Statement to the Board of trustees of the Museum of science and industry, Chicago, on dismissals by new president. P. Fox. Science 92:260-3 S 20 '40

FOXES
Diseases and pests
Deficiency disease of foxes. R. G. Green and C. A. Evans. Science 92:154-5 Ag 16 '40

FOY, Byron C., 1893-
Personalities in industry. por Sci Am 161: 323 D '39

FRACTIONATING columns. See Distillation apparatus

FRACTURES (surgery)
Fractures. P. B. Magnuson. 3d ed rev & enl 511p bibliog(p467-98) $5 Lippincott '39

FRACTURES (surgery)—*Continued*
Fractures and dislocations for practitioners. E. O. Geckeler. 2d ed 314p $4 Williams & Wilkins '40
Manual of fractures, dislocations and epiphyseal separations. H. C. W. S. de Brun. 468p $3 Year book publishers, Chicago '39

See also
Spine—Fractures

FRAMED structures
L'étude des changements d'échelle rendus possibles par l'emploi de métaux légers, dans les charpentes. R. de Fleury. Génie Civil 116:73 Ja 27 '40
Investigation of rigid frame bridges; tests of structural hinges of reinforced concrete. R. W. Kluge. il diags Ill U Eng Exp Sta Bul 322:1-33 '40 (pa 40c); Excerpts. Can Eng R & L 78:49, 58 Ag '40
Model rigid frame. K. W. Dowle. il Civil Eng 10:527-8 Ag '40
Moment distribution procedure for frames subjected to torsion. S. T. Carpenter. diags Civil Eng 10:364-5 Je '40
Reverse cantilever frame. P. W. Leisner. il diags W Soc E J 44:260-71 O '39
Rigid frames; detailed procedure for stress calculations. O. F. Kendler. diags Product Eng 11:121-4 Mr '40
Unique framing for skew overpass. il diag Eng N 124:447 Mr 28 '40

See also
Bridge design

FRAMING (building)
All-welded machine shop frame designed for rapid erection; Dravo corp. S. H. Newburn. il Eng N 124:445 Mr 28 '40
Bundled precut framing for house walls. il diags plan Am Bld 62:52-4 Ja '40
Finding length of common rafters with tables on the steel square. G. Townsend. diags Am Bld 62:106-7+ Ap '40
Good lumber house; how to specify and build it. diags Am Bld 62:58-61 Ja '40
Precast rigid frames are new departure. il Concrete 48:14 Je '40
Welded arch bent framing for road machinery factory; Western-Austin co. il Eng N 124:428 Mr 28 '40

See also
Roofs

FRANCE

See also
Budget—France
Electricity supply—France
European war, 1939—France
Finance—France
Insurance, Social—France
Labor laws and legislation—France
Pensions, Military—France
Railroads—Electrification—France

Biography
These rule France; the story of Edouard Daladier and the men around Daladier. S. B. Leeds. 367p $3 Bobbs '40

Colonies
Colonies at war; French and British policies. Economist 138:325-6 F 24 '40
Le IIe salon de la France d'outre-mer (Paris, 2-26 mai 1940); les ressources de l'Empire colonial français. il Génie Civil 116:353-6 Je 1 '40
France overseas through the old régime; a study of European expansion. H. I. Priestley. 393p $5 Appleton-Century '39

Commerce
Anglo-French industrial interests. Engineer 169:392-3 Ap 26 '40
Les exportations possibles de l'industrie métropolitaine vers la France d'outre-mer après la guerre. Génie Civil 116:361-2 Je 1 '40
Franco-British trade. Economist 138:283-5 F 17 '40
More opportunities for American producers; Italy and France shut off from Latin American markets. Manuf Rec 109:28-9 Jl '40

Commercial policy
How allied policies affect our trade; worldwide trend towards exchange controls. I. de Vegh. Barron's 20:3 Ap 22 '40

Defenses
Electricity in the Maginot line. il Elec R (Lond) 126:394 Ap 5 '40; Electrician 124:389 My 31 '40

Economic conditions
Business situation. Comm Rep p21-2 Ja 13 '40 [cont monthly] [cont as For Comm W O 5]
Economist looks at unoccupied France. Business Week p64 O 26 '40
France in 1939. Economist 138:sup 14-15 F 17 '40
France looks backward and forward. C. R. Hargrove. Barron's 20:35-6 Ja 15 '40
France; war requirements dominate economic life. Comm Rep p333-5 Ap 13 '40

See also
Finance—France

Economic policy
France issues decrees affecting dollar holdings of French nationals or foreigners living in France. Comm & Fin Chr 150:3435 Je 1 '40

Foreign relations
Britain and France between two wars; conflicting strategies of peace since Versailles. A. Wolfers. 467p bibliog(p417-51) $3.75 Harcourt '40
France and Munich, before and after the surrender. A. Werth. 447p $3.50 Harper '39

Industries and resources
France's raw materials are Germany's gains. Economist 138:1086 Je 22 '40
French industry and the war. R. P. Schwarz. il Factory Management 98:50-1, 100, 102 Ja '40; Excerpts. Mech Eng 62:149-50 F '40
Nouveaux essais de prospection de matières premières intéressant la fabrication des produits chimiques. H. Reif. Chimie & Ind 42:747-8 O '39

See also
Coal supply—France
Mines and mineral resources—France
Petroleum industry and trade—France
Steel industry and trade—France

Navy
French navy. Economist 138:1070-1 Je 22 '40

Politics and government
Inquest on France; the new regime. Economist 139:35-6 Jl 13 '40
Political lesson in French. N. Webb. Nation's Business 28:15-17+ O '40
Third republic; development of modern France (1870-1939). Economist 139:179 Ag 10 '40

FRANCIS, Charles K. 1875-1940
Sketch. por Oil & Gas J 38:57 Mr 28 '40

FRANCISCO, Don, 1892-
Francisco on leave from Lord & Thomas. por Ptr Ink 193:12 N 1 '40

FRANCISCO sugar company
Consolidated income account for the years ended June 30; consolidated balance sheet. Comm & Fin Chr 151:1895 S 28 '40

FRANDSEN, Julius Herman
Tribute. H. B. Ellenberger. Science 92:101 Ag 2 '40

FRANK, Fritz John, 1871-1939
Sketch. Iron Age 144:87 D 14 '39; Ptr Ink 189:44 D 15 '39

FRANK, Glenn, 1887-1940
Sketch. Comm & Fin Chr 151:1666 S 21 '40

FRANK, Jerome N. 1889-
Portrait. Burroughs Clearing House 24:18 Ag '40

FRANKFORT, Kentucky

Bridges
Building a beautiful bridge; Capital memorial bridge; with cost data. E. D. Smith. il diag Eng N 123:837-9 D 21 '39

FRANKFURTERS. See Sausages

FRANKLIN, Benjamin, 1706-1790
Discussion of Franklin and his times; program. Science 90:484-5 N 24 '39
Scientific conscience; Franklin on balloons and war. I. B. Cohen. Science 91:383-4 Ap 19 '40

FRANKLIN, Benjamin A. 1869-1940
Sketch. Paper Tr J 110:73 Je 27 '40

FRANKLIN institute, Philadelphia
Franklin institute and the American patent system, 1790-1940. A. Rigling. Franklin Inst J 229:519-20 Ap '40
Medal day. Science 91:471 My 17 '40
Medal day meeting, May 15. Franklin Inst J 230:249-61 Ag '40
Medalists. pors Ind & Eng Chem News ed 18: 444 My 25 '40
Medals for invention, discovery awarded by Franklin institute. Steel 106:30 Je 10 '40
Planned marine museum. C. M. Gay. il Franklin Inst J 229:567-83 My '40

Biochemical research foundation
Progress of the Biochemical research foundation of the Franklin institute. E. McDonald. Franklin Inst J 228:695-717 D '39

FRANKLIN mountains
Paleozoic stratigraphy of Franklin mountains, west Texas. L. A. Nelson. bibliog diags Am Assn Pet Geologists Bul 24:157-72 Ja '40

FRASCH foundation
Herman Frasch foundation awards. Ind & Eng Chem News ed 17:700 N 20 '39

FRASER, Duncan William, 1875-
American Locomotive's new president. por Barron's 20:5 Mr 18 '40
President, American locomotive co. por Ry Age 108:445 Mr 9 '40

FRATERNAL congress of America, National. See National fraternal congress of America

FRATERNAL societies. See Benefit societies

FRAUD
Alpha shares, inc.; promoters guilty of fraud. Comm & Fin Chr 149:3543 D 2 '39
Detection of frauds. J. S. Seidman. East Underw 40:42 N 24 '39
Fraud probe nets $26,500; Los Angeles case brings two convictions, in bankruptcy case. Credit & Fin Management 42:22+ F '40
Hoaxes. C. D. MacDougall. 336p $3.50 Macmillan '40

See also
Checks, Fraudulent
Competition, Unfair
Counterfeits and counterfeiting
Embezzlement
Forgery
Insurance, Automobile—Fraudulent statements
Insurance, Casualty —Fraudulent claims

FRAUDULENT conveyances
Fraudulent conveyances and preferences. G. Glenn. rev ed 2v $17.50 Baker, Voorhis & co, New York '40

FREDERICKSBURG, Virginia

Water supply
Additions and changes at Fredericksburg. R. J. Leveque. Am Water Works Assn J 32:641-4 Ap '40

FREE energy
Heat and free energy of formation of deuterium oxide. F. D. Rossini, J. W. Knowlton and H. L. Johnston. bibliog diags J Research Nat Bur Stand 24:369-88 Ap '40
Ionic entropies and free energies and entropies of solvation in water-methanol solutions. W. M. Latimer and C. M. Slansky. bibliog Am Chem Soc J 62:2019-23 Ag '40
Some free-energy data for typical hydrocarbons containing six or more carbon atoms. G. S. Parks. bibliog Chem R 27:75-83 Ag '40
Thermal data; the heats of combustion of urea and guanidine carbonate and their standard free energies of formation. H. M. Huffman. Am Chem Soc J 62:1009-11 My '40

FREE goods. See Sales policies—Free goods

FREE on board. See F.O.B.

FREE radicals. See Radicals (chemistry)

FREE speech
Fortune survey; freedom of speech. Fortune 21:136 F '40
Free speech and a free press. G. J. Patterson. 261p $3 Little '39
United States Supreme court voids municipal ordinances in Worcester, Milwaukee and Los Angeles prohibiting distribution of handbills and circulars and Irvington, N.J. ordinance barring canvassing of homes for sale of booklets. Comm & Fin Chr 149: 3342-3 N 25 '39

See also
Freedom of the press

FREE trade and protection
Free trade and peace. L. Baudin. 87p pa 75c Columbia univ. press '39

See also
Tariff

FREE will and determination
Can modern science harmonize physics and biological phenomena? W. F. G. Swann. Franklin Inst J 229:693-708 Je '40

FREEDOM of the press
A.N.P.A. on press freedom issue, would intervene in Good House case. Ptr Ink 191: 93-4 My 31 '40
Free speech and a free press. G. J. Patterson. 261p $3 Little '39
Supreme court okays handbill on freedom of press issue; upsets city ordinances. Ptr Ink 189:31-2 D 1 '39
United States Supreme court to consider action involving right of newspapers to comment editorially on court case prior to settlement. Comm & Fin Chr 151:2424-5 O 26 '40
United States Supreme court voids municipal ordinances in Worcester, Milwaukee and Los Angeles prohibiting distribution of handbills and circulars and Irvington, N.J. ordinance barring canvassing of homes for sale of booklets. Comm & Fin Chr 149: 3342-3 N 25 '39

FREEDOM of the seas
Great Britain's rejection of protest by United States against mail interference; bases right to search on its interpretation of international law. Comm & Fin Chr 150:613-14 Ja 27 '40
United States protests to Great Britain on delaying American ships in the Mediterranean area. Comm & Fin Chr 150:612-13 Ja 27 '40
United States protests to Great Britain on interference with American mails. Comm & Fin Chr 150:41-2 Ja 6 '40
United States warns Great Britain on diverting American vessels into combat area for contraband search. Comm & Fin Chr 150: 196-7 Ja 13 '40

FREEMAN, Charles Yoe, 1877-
Portrait. Barron's 20:5 Ja 1 '40

FREEPORT sulphur company
Another look at Freeport Sulphur. Mag of Wall St 66:175 My 18 '40
Freeport Sulphur profits from new venture; Cuban manganese subsidiary. F. H. McConnell. Barron's 20:8 My 6 '40
Large foreign demand lifts normally stable earnings. S. Devlin. il Mag of Wall St 66:472-4+ Jl 27 '40

FREER, Robert Elliott, 1896-
FTC in unofficial profile; sketch. S. Rippey. por Adv & Sell 33:22 F '40

FREEZING
Big market predicted for new household freezer; Deep Freeze. F. C. Minaker. il Am Business 10:42-3 N '40
Bulk quick-freezing package; new latex baglined carton. il Mod Packaging 14:87+ S '40
Cell structure and freezing. V. R. Gardner. Refrig Eng 39:233 Ap '40
Continuous quick freezer developed by Birdseye; automatic feed and discharge; gravity froster. il diags Food Ind 12:44-5 S '40
Direct expansion freezing for ice skating in New Orleans. W. W. Taylor. il Refrig Eng 40:211-14 O '40

FREEZING—*Continued*
Dry-ice freezing unit for cutting frozen sections. K. U. Smith. diag Science 92:364 O 18 '40
Enzyme activity in frozen vegetables; asparagus. M. A. Joslyn and C. L. Bedford. bibliog Ind & Eng Chem 32:702-6 My '40
Freezing makes beef tenderer; below zero temperatures most effective. O. G. Hankins and R. L. Hiner. il Food Ind 12:49-51 Ja '40
Freezing of natural gas regulators. W. C. Mitchell, S. Cromer and R. L. Huntington. bibliog il diags Gas Age 85:17-21+ Ja 4 '40
Fresh flavor assured by prompt freezing; ice cream quality improved. R. E. Heyl and P. H. Tracy. il Food Ind 12:39-40 Ja '40
Gas dehumidification prevents hydrate freezing troubles. E. G. Hammerschmidt. bibliog Nat Pet N 32:R162-3, R167-8 My 15 '40; Same. Oil & Gas J 39:61, 64+ My 23 '40
Gefrierkonservierung von obst und gemüse in Deutschland. R. Heiss. bibliog il diags V D I 83:1229-35 N 25 '39
Gravity froster. C. Birdseye. il Refrig Eng 40:281-5 N '40
How foods are frozen in the Northwest. F. W. Knowles. il diags Food Ind 12:54-6 Ap; 50-2 My; 59-61 Je '40
How quick freezing affects keeping quality of milk and cream. C. L. Roadhouse and J. L. Henderson. il Food Ind 12:54-5 Je '40
How to prevent browning of peaches in the freezing industry. J. G. Woodroof. bibliog il Food Ind 12:35-7 My; 50-2+ Je '40
How to quick freeze cherries successfully. A. J. Rogers. il Refrig Eng 40:215-16 O '40
Ice melting and freezing rates. A. H. Willis, B. E. Short and W. R. Woolrich. diags Refrig Eng 39:307-10 My '40
Pea canning and freezing; flow sheet. Food Ind 12:53 My '40
Performance data determined for new food freezing plant; John H. Dulany & son, Fruitland, Md. W. J. Finnegan. il diag Food Ind 12:64-5 F; 48-9 Mr '40
Preparation and freezing of certain vegetables in lockers. C. DuBois and D. K. Tressler. Refrig Eng 39:107-8 F '40
Quick-freeze machine for home freezes foods. il Sci Am 163:209 O '40
Reduce head pressure? fish-freezing and storage plants, condensing pressure. diags Power 83:773-5+ D '39
Roger Bacon was mistaken; statement that hot water would freeze more quickly than cold water. J. O. Thompson. Science 91:315 Mr 29 '40; Discussion. 91:384-5, 503-4, 619 Ap 19, My 24, Je 28 '40
Why humidity is a problem in freezers. V. H. Greene. il Refrig Eng 39:300+ My '40

See also
Concrete—Freezing
Fish, Frozen
Food, Frozen
Frost heaving
Gas holders—Ice protection
Ice
Refrigeration and refrigerating machinery
Soils—Frost penetration
Water pipes—Freezing

FREEZING points
Approximate rules for solute activities in dilute solutions of non-electrolytes, generalized form of Bury's rule. M. Randall, W. F. Libby and B. Longtin. J Phys Chem 44:313-21 Mr '40
Fluorinated derivatives of ethane and ethylene; corrective data. A. L. Henne and E. G. Wiest. Am Chem Soc J 62:2051-2 Ag '40
Fluorochloroethanes as solvents for the cryoscopic determination of molecular weights. J. Bernstein and W. T. Miller. bibliog Am Chem Soc J 62:948-9 Ap '40
Freezing point and solubility data for the system chlorine monoxide-water. C. H. Secoy and G. H. Cady. Am Chem Soc J 62: 1036-8 My '40
Freezing point experiments for undergraduates. J. G. Miller and W. W. Lucasse. J Chem Educ 17:522-4 N '40
Freezing points and low temperature viscosities of diacetone alcohol-acetone mixtures. V. Lantz. Am Chem Soc J 62:3260 N '40
Freezing points in mixtures of strong electrolytes. M. Randall and B. Longtin. bibliog J Phys Chem 44:427-35 Ap '40
Freezing points of pure high polymers. E. L. Lovell and H. Hibbert. Am Chem Soc J 62:230-1 Ja '40
Freezing points of the system ethylene glycol-methanol-water. F. H. Conrad, E. F. Hill and E. A. Ballman. bibliog Ind & Eng Chem 32:542-3 Ap '40
Physical properties of purified 2,2,3-trimethylpentane. D. B. Brooks, F. L. Howard and H. C. Crafton, jr. J Research Nat Bur Stand 23:637-41 D '39
Physical properties of some purified aliphatic hydrocarbons. D. B. Brooks, F. L. Howard and H. C. Crafton, jr. bibliog J Research Nat Bur Stand 24:33-45 Ja '40
Sturdy air jacket for the freezing-point apparatus. H. G. Cassidy. diag J Chem Educ 17:397-8 Ag '40

FREIGHT, Perishable
Charges for protective service to perishable freight. Ry Age 109:692 N 9 '40
Dry ice used to increasing extent for perishable shipments; wet and dry ice combination. C. T. Longaker. il diags Ry Age 109: 175-7 Ag 3 '40
Fast service for southeast Texas; efficient handling of perishables. il maps Ry Age 108:449-50+ Mr 9 '40
More for the transportation dollar; revolution in freight service. il Ry Age 108:892 My 25 '40
Would mechanical refrigeration hold traffic? Ry Age 108:200 Ja 27 '40

See also
Railroads—Produce terminals
Refrigerator cars

FREIGHT and freightage

See also
Forwarding companies
Freight cars
Freight handling
Freight ships
Motor trucks in freight service
Packing for shipment
Railroads—Freight
Railroads—Rates
Railway express agency
River traffic
Shipment of goods
Shipping
Ships—Cargo
Transportation

FREIGHT car service
Are the railroads prepared? survey of opinion among mechanical men. il Ry Age 108:1092-3 Je 22 '40
Freight car inspection and preparation for commodity loading; Car department officers' association committee report. Ry Mech Eng 113:464-5+ N '39
Freight car loading. Published in weekly numbers of Railway age
Going to town with freight trains. il Ry Age 108:20-1 Ja 6 '40
Interstate commerce commission suggests correcting abuses in car ordering. Ry Age 108:591-2 Mr 30 '40
Meticulous car rules wasteful. A. F. Cleveland. Ry Age 109:451+ S 28 '40
Railroad reserve capacity. J. H. Parmelee. il Manuf Rec 109:34-5+ Ja '40
Railroads ready to move winter wheat crop. Ry Age 108:874 My 18 '40
Report of Car service division. Ry Age 109: 652-3 N 2 '40
Second report of Merchandise committee. Ry Age 108:595-6 Mr 30 '40
Seeks shipper aid in car situation. W. C. Kendall. Ry Age 109:484+ O 5 '40
Speedball freight; Santa Fe's 450-mile run is latest hotshot rail service developed in war with trucks. Business Week p31-2 Ja 6 '40
Systematic check cuts freight car detention; Frisco lines' terminals. H. W. Johnson. il Ry Age 108:1008-10+ Je 8 '40
Union Pacific provides new merchandise service. il Ry Age 107:929-31 D 16 '39
What is good railway freight service worth? Ry Age 108:880-1 My 25 '40

See also
Container system (freight handling)
Forwarding companies

FREIGHT car service—*Continued*

Car load

Cutting l.c.l. costs; Illinois Central announces new freight-handling plan to woo shippers away from the trucks. Business Week p20-1 Mr 9 '40

Freight cut opposed; western wholesalers don't want chains to have benefit of car rate on assorted lots. Business Week p26 S 28 '40

What about l.c.l.? possibilities of regaining merchandise traffic and how it should be handled. il Ry Age 107:789-91 N 18 '39

FREIGHT cars

A.A.R. committee report on car construction. diags Ry Mech Eng 114:227-82 Jl '40; Same cond. Ry Age 109:19-22 Jl 6 '40

Freight car trucks for speed. il Ry Age 108: 920-3 My 25 '40

Loss and damage as influenced by car condition. C. H. Dietrich. Ry Mech Eng 113:456-7 N '39

See also

Advertising mediums —Freight cars
Air brakes
Car department officers' association
Car wheels
Freight car service
Loading and unloading—Cars
Refrigerator cars
Tank cars

Design

Car design and the development of freight traffic. E. D. Campbell. il Ry Age 108:811-13 My 11 '40

Changes in standard steel-sheathed box car. diag Ry Mech Eng 114:280-1 Jl '40

Interesting construction used in plywood refrigerator cars. il diags Ry Age 109:275-8 Ag 24 '40

Equipment

Freight car specialties for speed. il Ry Age 108:924-8+ My 25 '40

Metal running board for freight cars. il Ry Age 108:1127-8 Je 22 '40

Special cars for special shippers. il Business Week p38-40 F 17 '40

Steel replaces wood in train running boards. il Steel 105:41 D 4 '39

Truck-spring snubbers. W. S. Spieth. Ry Mech Eng 114:175-9+ My '40

See also

Draft gears

Floors

Nordberg car-floor finishing machine. il Ry Mech Eng 113:555-6 D '39

Inspection

See Car inspection

Interchange

Billing for car repairs; Car department officers' association committee report. Ry Mech Eng 113:459-60 N '39

Report of arbitration committee; A.A.R. Mechanical division. Ry Age 109:28-32 Jl 6 '40; Same. Ry Mech Eng 114:265-9 Jl '40

Report on interchange and billing; Car department officers' association committee. Ry Mech Eng 114:485-6+ N '40

Report on interchange; Car department officers' association. Ry Mech Eng 113:457-8 N '39

Report on labor and material prices; A.A.R. Mechanical division. Ry Age 109:32-3 Jl 6 '40; Same. Ry Mech Eng 114:269-70 Jl '40

Standard classification commodity cards; Car department officers' association committee report. Ry Mech Eng 114:478-80 N '40

Manufacture

Car ends oil heated. W. J. Tangerman. il Am Mach 84:201 Ap 3 '40

Private ownership

Tankcar lease rates come under I.C.C. Oil Paint & Drug Rep 137:4+ Ja 8 '40

Reconstruction

Lehigh Valley converts hopper cars for cement. il Ry Mech Eng 114:318-21 Ag '40

Louisville & Nashville modernizes and rebuilds 1,200 box cars. il Ry Age 108:749-50 Ap 27 '40

Renting

General American transportation; stability of major activities allows spread into more volatile lines. J. C. Clifford. il Mag of Wall St 66:104-5+ My 4 '40

General American's diversified business; leasing freight cars to railroads and to private companies, warehousing, etc. S. Altschul. Barron's 20:8+ Ap 8 '40

Repair

Freight car maintenance; Car department officers' association committee report. Ry Mech Eng 114:480-2; Discussion. 482 N '40

Repairing underframes of refrigerator cars. il Ry Mech Eng 114:119-21 Mr '40

Shop operation, electric welding; Car department officers association committee report. Ry Mech Eng 114:475-7 N '40

Statistics

Freight cars ordered in 1939. F. W. Kraeger. il Ry Age 108:82-8 Ja 6 '40

Freight cars, owned and on order, shipments, 1936-1939. Survey of Cur Business 1940 Sup p160-1 [supplemented in monthly numbers]

Intensity of freight-car use nearly up to 1928-9 peaks. Ry Age 108:16-17 Ja 6 '40

Railway equipment shipments; revision, monthly, 1919-39. Survey of Cur Business 20:16 Mr '40

Roads need 500,000 cars. R. N. Janeway. Ry Age 109:119 Jl 20 '40

Testing

A.A.R. high-speed freight car truck test report. il diags plans Ry Mech Eng 114: 345-52 S '40; Same cond. Ry Age 109:390-3+ S 21 '40

Weight

Big possibilities of freight-car weight reduction. Ry Age 108:919+ My 25 '40

Open-top and box cars in which new structural materials, new methods of fabrication, or special features of design have been used to reduce weight; tabulation. Ry Age 108:918 My 25 '40

Problems of freight-car weight reduction. V. R. Willoughby. il Ry Mech Eng 114:223-4 Je '40

FREIGHT cars, Aluminum

Big possibilities of freight-car weight reduction. Ry Age 108:919+ My 25 '40

FREIGHT cars, Steel

Baltimore & Ohio builds wagon-top hopper cars. il Ry Age 108:1063-4 Je 15 '40

Big possibilities of freight-car weight reduction. Ry Age 108:919+ My 25 '40

Cor-Ten hopper cars show low weight loss. Ry Mech Eng 114:149 Ap '40

Delaware, Lackawanna & Western lightweight box cars. il Ry Age 108:489-90+ Mr 16 '40

Denver and Rio Grande Western automobile-box cars designed for dual service; unusual door arrangement permits use for grain and other commodities. il Ry Age 108:135-7 Ja 13 '40; Same. Ry Mech Eng 114:62-4 F '40

Effect of lightweight cars on Bessemer & Lake Erie; reduced car mileage and tare ton-miles. il Ry Age 109:362-5+ S 14 '40

50-ton hopper cars for the Chesapeake & Ohio. il Ry Age 108:1178-9 Je 29 '40

Lehigh Valley converts hopper cars for cement. il Ry Mech Eng 114:318-21 Ag '40

Lightweight hopper cars for the D.L. & W. il Ry Age 108:636-7 Ap 6 '40

Lightweight riveted hopper cars for the Northern Pacific. il Ry Age 108:542-3 Mr 23 '40; Same, with diags. Ry Mech Eng 114: 137-9 Ap '40

Low-cost freight cars; combined welded and riveted construction. J. W. Sheffer. il Am Mach 84:862-4 O 30 '40

Milwaukee builds 50-ton box cars. il Ry Age 109:554-6 O 19 '40

Mt. Vernon builds 50-ton box cars for the North Western. il Ry Age 108:775-6 My 4 '40

FREIGHT cars, Steel—*Continued*
Nickel Plate buys covered hopper cars of large capacity. il Ry Age 108:708-9 Ap 20 '40
Problems of freight-car weight reduction. V. R. Willoughby. il Ry Mech Eng 114:223-4 Je '40
Railway-car engineering. D. S. Ellis. Mech Eng 62:18-22 Ja '40; Discussion. 62:483-4 Je '40
Service life of Cor-Ten steel in hopper cars; tests made in cars with USS Cor-Ten sheets in one end and copper steel or USS Man-Ten steel in the other. il Ry Age 107:847-8 D 2 '39; Same. Ry Mech Eng 114:60-1+ F '40
Union Pacific provides new merchandise service. il Ry Age 107:929-31 D 16 '39
Western Maryland all-welded flat cars. il diags Ry Mech Eng 114:180-1 My '40

FREIGHT forwarding. See Forwarding companies

FREIGHT handling
Eliminating a bottleneck; efficient yard operation, equipment and facilities. il Ry Age 108:904-9 My 25 '40
Milwaukee opens new l.c.l. facilities at Chicago. il diag plan Ry Age 109:542-4 O 19 '40
Systematic check cuts freight car detention; Frisco lines' terminals. H. W. Johnson. il Ry Age 108:1008-10+ Je 8 '40
What about l.c.l.? possibilities of regaining merchandise traffic and how it should be handled. il Ry Age 107:789-91 N 18 '39

See also
Cargo handling
Coal handling
Container system (freight handling)
Containers (for shipping)
Cranes, derricks, etc.
Electric trucks, Industrial
Freight, Perishable
Freight ships
Grain handling
Hoisting machinery
Loading and unloading—Cars
Loading and unloading—Ships
Merchant marine
Motor trucks in freight service
Ore handling
Railroads—Freight
Railroads—Terminals
Train ferries
Wharves

Store door delivery
Merchandise handling gets face-lifting. il Ry Age 108:898-903 My 25 '40

FREIGHT rates
Adjustment of rates between competing forms of transport. J. B. Eastman. Ry Age 107: 999-1001 D 30 '39

See also
Motor trucks in freight service—Rates
Railroads—Rates
Shipping—Rates

FREIGHT ships
C-3 cargo ship Sea Arrow; first ship of new program completed on West coast at Moore yard. il diag plans Marine Eng 45:68-76 Jl '40
Cargocaire goes to sea; hold ventilation and humidity control installed on Exporter. il diags Marine Eng 44:562-3 D '39
Exchequer, C-3 cargo ship. il diag Marine Eng 45:112-13 N '40
Exporter class cargo ships. il diags plans Marine Eng 44:558-61 D '39
From the shipowner's point of view. T. R. Cairns. Engineer 168:647-8 D 29 '39
Ingalls yard launches the Exchequer. C. M. Leavitt. il Marine Eng 45:63-6 Jl '40
Merchant ship testing. E. S. Land. il Marine Eng 45:59-61 Mr '40
Mormacpenn, motor ship. il diags plans Marine Eng 45:62-75 Mr '40
Notable performance records made by new export ships. Marine Eng 45:80 O '40
Rebuilding the steamship Olga. J. A. V. Hyatt. il Marine Eng 45:86+ Mr '40
Sea Fox and Frederick Lykes, turbine-drive C-3 cargo ships. il diags Marine Eng 45:54-61 My '40
Sea Fox, C-3 cargo ship. il Marine Eng 45:92-3+ N '40
Some problems in the design and operation of merchant vessels. R. C. Lee. Inst Mech Eng J & Proc 142:Proc87-95 D '39
Standardization trials of the Red Jacket. Marine Eng 45:48-9 Ap '40
U.S.S. Tangier (ex-Sea Arrow). il plan Marine Eng 45:86-7 N '40

See also
Barges
Merchant marine
Tank ships

FREIGHT terminals. See Railroads—Terminals

FREIGHTWAYS
Truck trail blazed; Freightways welds six big concerns into a unified trans-U.S. highway shipping system. Business Week p20-1 Ap 20 '40

FRENCH INDO-CHINA. See Indo-China, French

FRENCH language

Dictionaries
French-English science dictionary for students in agricultural, biological, and physical sciences. L. De Vries. 546p bibliog(pvii-viii) $3.50 McGraw-Hill '40

FREON. See Chlorofluoromethanes

FREON 12. See Dichlorodifluoromethane

FREQUENCY changers
How an induction motor can be used to provide a supply at a frequency differing from that of the supply. diag Electrician 125:112 Ag 30 '40
Network coupling by means of static electronic frequency changers. O. K. Marti. bibliog diags Elec Eng 59:Trans 495-502 S '40
Static frequency-conversion; problem of reactive volt-amperes. R. Feinberg. diags Elec R (Lond) 126:655 Je 21 '40

FREQUENCY control
Letters from a turbine specialist on a governing question. F. S. Kohl and L. B. Wales. flow diag Power 84:25 Ja '40
Neon lamp guides frequency control. C. H. Herr. il Power 84:455-6 Jl '40

FREQUENCY distribution (statistics)
Analysis of frequency charts to determine quality and performance of textile fabrics. J. E. Gill, jr. Rayon 21:111-13, 153-4 F-Mr '40
Chi-square test, the Poisson and the binomial. J. Berkson. Am Statis Assn J 35:362-7 Je '40
Electronic method for determining distribution curves. L. A. Ware. diags Electronics 13:36-7 O '40
Further comments on Berkson's problem. B. H. Camp. Am Statis Assn J 35:368-76 Je '40
Probable error for Poisson distributions. E. Rodgers. Phys R 57:735-7 Ap 15 '40

FREQUENCY meters
Measuring the frequency of alternating-current power supplies; abstracts. F. O. Morrell and G. R. Oman. Engineering 149: 319 Mr 22 '40; Electrician 124:183-4 Mr 8 '40

FREQUENCY modulation. See Radio frequency modulation

FREQUENCY modulation broadcasters, Inc.
Frequency modulation group. Ptr Ink 190: 33 Ja 19 '40

FRESH water biology
Freshwater biological association of the British empire, 7th annual report; abstract. Am Water Works Assn J 32:1050-1 Je '40
Limnological studies in Connecticut; contribution to regional limnology. E. S. Deevey, jr. maps Am J Sci 238:717-41 bibliog(p739-41) O '40
Problems of lake biology. F. R. Moulton, ed. 142p $2 Science press, Washington, D.C. '39

FRESNEL formula
Fresnel formulae applied to the phenomena of nonreflecting films. K. B. Blodgett. Phys R 57:921-4 My 15 '40

FRESNO, California

Sanitary affairs

Operating a sanitary fill at Fresno. J. L. Vincenz. il Civil Eng 9:746 D '39

FRETZ-MOON process

Butt welding pipe continuously. J. Hopkins and T. C. Campbell. il diag Iron Age 145: 35-9 Mr 28 '40

FRIANT dam. See Dams, Concrete

FRICTION

Analysis of the factors affecting duct friction. J. B. Schmieler, F. C. Houghten and H. T. Olson. il Heating-Piping 12:202-6 Mr '40

Braking high-speed trains as an engineering problem and the problem of solid friction. R. Schnurmann. il diags Mech Eng 62: 408-10 My '40

Effect of solvation on frictional constants and frictional ratios as determined with the ultracentrifuge and by diffusion. E. O. Kraemer. Franklin Inst J 229:680-7 My '40

Friction and temperature as criteria for safe operation of journal bearings. S. A. McKee. bibliog J Research Nat Bur Stand 24:491-508 My '40

Friction of fluids in solder-type fittings; comparison between copper and cast iron pipe and fittings. P. F. Bruins and others. flow sheet bibliog il Am Inst Chem Eng Trans 36:721-37; Discussion. 737-9 O '40

Hydraulics and water works engineering; friction losses in pipe lines. H. N. Lendall. flow diag Am Water Works Assn J 31:2073-9 D '39

Pipe line friction coefficients; a summary of the findings of the committee. E. T. Killam. Water Works & Sewerage 87:sup40-2 Ap '40

Sliding of metals, frictional fluctuations, and vibration of moving parts. F. P. Bowden, L. Leben and D. Tabor. bibliog il Engineer 168:214-17 Ag 25 '39; Abstract. Metal Prog 37:435+ Ap '40

Static friction of lubricated surfaces. A. Fogg and S. A. Hunwicks. Inst Pet J 26: 1-18 Ja '40; Same cond. Engineer 170:206-7, 214-16 S 27-O 4 '40

Surface friction of yarn; instrument for determination of coefficient of kinetic friction. L. W. Davis. diags Rayon 21:93-4, *155-8, 229-30* bibliog(p230) F-Ap '40

See also

Bearings
Lubrication and lubricants

FRICTION, Internal

Internal friction at high temperatures. A. H. Barnes and C. Zener. bibliog Phys R 58:87 Jl 1 '40

Internal friction of aluminum. R. H. Randall and C. Zener. Phys R 58:472-3 S 1 '40

Internal friction of single metal crystals. T. A. Read. bibliog diag Phys R 58:371-80 Ag 15 '40

Measurement of solid friction of plastics. A. Gemant. diags J Ap Phys 11:647-53 O '40

See also

Viscosity

FRICTION drive. See Power transmission

FRIEDEL-CRAFTS reaction

Alkylation and the action of aluminum halides on alkylbenzenes. D. V. Nightingale. Chem R 25:329-76 bibliog(105 titles, p374-6) D '39

Carbon suboxide in the Friedel-Crafts reaction. J. H. Billman, G. E. Tripp and R. V. Cash. bibliog Am Chem Soc J 62:770-1 Ap '40

Certain trialkylated benzenes and their compounds with aluminum chloride and with aluminum bromide. J. F. Norris and J. N. Ingraham. Am Chem Soc J 62:1298-1301 My '40

Cycli-alkylation of aromatic compounds by the Friedel and Crafts reaction. H. A. Bruson and J. W. Kroeger. Am Chem Soc J 62: 36-44 Ja '40

Fatty-acyl-modified resins; dicyclopentadiene, coumarone, and indene types. A. W. Ralston and others. bibliog il Ind & Eng Chem 32:99-101 Ja '40

Intermediate complexes in the Friedel and Crafts reaction. J. F. Norris and J. E. Wood, 3d. Am Chem Soc J 62:1428-32 Je '40

Ketene in the Friedel-Crafts reaction; direct acetylation of aromatic hydrocarbons with ketene. J. W. Williams and J. M. Osborn. bibliog Am Chem Soc J 61:3438-9 D '39

Preparation of nitriles and amides; reactions of esters with acids and with aluminum chloride; the use of the salt $NaCl \cdot AlCl_3$ in the Friedel and Crafts reaction. J. F. Norris and A. J. Klemka. Am Chem Soc J 62:1432-5 Je '40

Sulfonated arylstearic acids; wetting properties of the sodium salts. A. J. Stirton, R. F. Peterson and P. H. Groggins. bibliog Ind & Eng Chem 32:1136-7 Ag '40

Synthesis of lubricating oils by condensation reactions; the condensation of chlorinated paraffin wax with aromatic hydrocarbons. W. R. Wiggins, T. G. Hunter and A. W. Nash. bibliog Inst Pet J 26:129-45 Mr '40

See also

Fries reaction

FRIEDELIN

Cerin and friedelin; surface films of cerin, friedelin and some related substances. N. L. Drake and J. K. Wolfe. bibliog Am Chem Soc J 62:3018-21 N '40

FRIES reaction

Fries reaction. A. H. Blatt. Chem R 27: 413-36 bibliog(60 references, p435-6) O '40

FRITILARIA roylei

Alkaloids of fritilaria roylei; isolation of peiminine. Y. Chi, Y. Kao and K. Chang. Am Chem Soc J 62:2896-7 N '40

FRITS

See also

Enamel and enameling

FRITZ, John, medal

Award to C. F. Hirshfeld. J. W. Parker. Mech Eng 62:49-50 Ja '40

Posthumous award of the John Fritz gold medal to Dr Clarence Floyd Hirshfeld. Science 90:460 N 17 '39; Elec W 112:1454 N 18 '39

FROGS

Neuro-motor mechanism of the small blood vessels of the frog. G. P. Fulton and B. R. Lutz. bibliog Science 92:223-4 S 6 '40

FRONTIER and pioneer life

Bibliography

References on the significance of the frontier in American history. E. E. Edwards. 2d ed 99p U.S. Dept. of agric, library, Washington '39

FROST heaving

Survey of the frost-heaving problem. J. O. Osterberg. bibliog il diags Civil Eng 10:100-2 F '40

FROST penetration. See Soils—Frost penetration

FROST protection

Basic engineering factors in agricultural technology. L. M. K. Boelter. il diag Mech Eng 62:226-7 Mr '40

Sunlamps for crops; infra-red rays controlled thermostatically to avert freezing and hasten maturity. Business Week p31-2 Je 22 '40

FROZEN food. See Food, Frozen

FROZEN fruit. See Fruit, Frozen

FROZEN ground. See Mining methods—Frozen ground

FROZEN meat. See Meat, Frozen

FROZEN peas. See Peas, Frozen

FROZEN poultry. See Poultry, Frozen

FROZEN vegetables. See Vegetables, Frozen

FRUCTOSE anhydrides

Structure of difructose anhydride III (difructofuranose 1,2',2,3'-anhydride). E. J. McDonald and R. F. Jackson. bibliog J Research Nat Bur Stand 24:181-204 F '40

FRUEHAUF trailer company
Brass tacks for the investor; brief analysis. Barron's 20:13 My 27 '40
Fruehauf Trailer; flexible means of highway transportation. il Fortune 22:88-92+ S '40
Preferred stock offered. Comm & Fin Chr 150:2253 Ap 6 '40
Uncovering special situations. E. A. Barnes. Mag of Wall St 66:48+ Ap 20 '40

FRUIT
Digest of Agricultural marketing service standards for canned fruits. Food Ind 12:61-2 O '40
Influence of the steel-base composition on the rate of formation of hydrogen-swells in canned-fruit tinplate containers. T. P. Hoar, T. N. Morris and W. B. Adam. bibliog diags Iron & Steel Inst J 140:55-92, pl 9; Discussion. 93-4 no 2 '39

See also
Apples
Bananas
Canning and preserving
Citrus fruit
Mangosteen
Oranges
Peaches

Analysis
Vitamin C content of fruits and vegetables. R. C. Burrell and V. R. Ebright. bibliog J Chem Educ 17:180-2 Ap '40

Marketing
Use of transportation facilities in the Chicago fruit and vegetable market. E. A. Duddy and D. A. Revzan. J Business 13:1-86 pt 2 Jl '40

Preservation
Modified atmospheres for fruits and vegetables in storage and in transit. C. Brooks. Refrig Eng 40:233-7 bibliog(48 titles, p237) O '40

See also
Canning and preserving
Fruit—Storage
Fruit, Frozen

Respiration
Determination of relative humidity while measuring respiration in a gas train system. W. W. Jones. diag Science 91:202 F 23 '40

Storage
Gas storage; use of atmospheres modified by carbon dioxide for fruits and vegetables in storage and transit. C. Brooks. bibliog Can Chem & Process Ind 24:111-12 Mr '40
Progress made in gas storage of fruits, vegetables. H. H. Plagge. bibliog il Food Ind 12:46-8+ O '40
Removing excess carbon dioxide from a controlled atmosphere fruit storage. A. Van Doren. il diag Refrig Eng 40:303-4 N '40

See also
Apples—Storage

Transportation
Mobile's modern fruit house. il Manuf Rec 109:29 S '40
Motor terminals extends rail-highway service; ties in with Fruit growers express; demountable truck bodies transferred to cars. il Ry Age 108:375-7 F 24 '40
Use of transportation facilities in the Chicago fruit and vegetable market. E. A. Duddy and D. A. Revzan. J Business 13:1-86 pt 2 Jl '40

FRUIT, Dried
See also
Prunes, Dried

FRUIT, Frozen
Cell structure and freezing. V. R. Gardner. Refrig Eng 39:233 Ap '40
Gefrierkonservierung von obst und gemüse in Deutschland. R. Heiss. bibliog il diags V D I 83:1229-35 N 25 '39
Refrigeration of fruits and berries. H. J. Reed. il Refrig Eng 39:303 My '40

See also
Cherries, Frozen
Peaches, Frozen

FRUIT, Ripening of
Facts about artificially ripened fruit. N. C. Thornton. bibliog il Food Ind 12:48-50+ Jl; 51-2 Ag '40

FRUIT culture
Fruit crops. T. J. Talbert and A. E. Murneek. 345p $3.75 Lea & Febiger, Philadelphia '39
Grow your own fruit. M. G. Kains. 434p $3.50 Scribner '40

FRUIT juices
Les jus de fruits en conserve. H. Cheftel. il diags Chimie & Ind 42:425-46 bibliog(p444-6) S '39; Abstract (Canned fruit juices). Food Ind 12:96-7 Jl '40
Practical experience in fruit juice therapy for cardiac patients; abstract. G. Moschinski. Food Ind 12:95 F '40
Removing lead and arsenic from fruit juices; German patent. Food Ind 12:90 Ag '40
Scientific principles of storing unfermented fruit juices under carbon dioxide pressure; abstract. A. Oatenvalder and J. Jenny. Food Ind 12:89 Ja '40
Taking the guesswork out of pasteurizing; temperature at which canned or bottled fruit juices should be heat sterilized. C. S. Pederson and E. A. Beavens. Food Ind 12: 61-3 Ap '40

See also
Apple juice
Orange juice
Pineapple juice

Analysis
Determination of iron in liquid food products. H. L. Roberts, C. L. Beardsley and L. V. Taylor, jr. il diag Ind & Eng Chem Anal ed 12:365-7 Je 15 '40

FRUIT trade
Ban on fresh fruit. Business Week p49-50 N 25 '39
Foreign import duties and regulations on fresh fruits and vegetables. R. P. Wakefield. U S Bur For & Dom Com Trade Promotion Ser 206:1-130 '40
Hard winter aids growers. Barron's 20:1 F 5 '40
Rift over co-op; A.&P.'s "super" assailed by competitors as lever to gain price control throughout fruit and vegetable market. Business Week p30+ N 2 '40

See also
Bananas
Citrus fruit
Fruit juices
Peaches
United fruit company

Advertising
See also
Citrus fruit—Advertising

Statistics
Fruit and vegetables in 1939. Economist 138: sup32 F 17 '40

Canada
Fruit trade in Canada. Economist 137:529 D 30 '39

Chicago
Transportation and marketing facilities for fresh fruits and vegetables in Chicago; Location of the South Water wholesale fruit and vegetable market. E. A. Duddy and D. A. Revzan. maps plans J Business 12:280-97, 386-412; 13:39-55 Jl '39-Ja '40
Use of transportation facilities in the Chicago fruit and vegetable market. E. A. Duddy and D. A. Revzan. J Business 13:1-86 pt 2 Jl '40

FRYING
New day in fat frying. W. E. Broeg. Food Ind 12:51-2 Ap '40

FUCOSE
Action of the reagent pyridine-acetic anhydride on *d*-α-glucoheptose, *d*-glucosamine and *l*-fucose oximes. E. Restelli de Labriola and V. Duelofeu. bibliog Am Chem Soc J 62:1611-13 Je '40

FUEL
Discuss selection and utilization of coal at big fuel conference. Concrete (mill sec) 48:187-8 Je '40
Domestic sales still open for intensive effort; survey of household fuel users. D. Hartwell. Coal Age 45:78-80 Ap '40
Energy resources and national policy; report of the National resources committee. Monthly Labor R 49:1082-5 N '39
Fuel consumption record forms help to promote heating economy. L. W. Mauger. il Heating-Piping 11:753-4 D '39
Fuel supply worrying Russians. Business Week p49 N 18 '39
Fuel technology and the war. W. A. Bristow. Gas J (Lond) 228:288-90 N 8 '39; Same. Engineer 168:469-70 N 10 '39; Same cond. Engineering 148:561-2 N 17 '39; Abstract. Chem Age (Lond) 41:315-16 N 4 '39
Fuel utilization in 1939. J. E. Tobey. Min & Met 21:31-2 Ja '40
Fuels and their utilization. A. R. Carr and C. W. Selheimer. 180p $2 Pitman '40
Germany's oil supplies; present and potential production. A. J. V. Underwood. Can Chem & Process Ind 23:593-5 D '39
How to choose economical fuel for heating boilers. P. R. Unger. Heating-Piping 12: 295-7 My '40
Méthode pour préparer des mélanges convenables de matières combustibles devant servir à confectionner des agglomérés ayant un poids Q % de carbone fixe. L. Fassina. Chimie & Ind 43:808 My 20 '40
New smoke ordinance in St Louis aids mechanical fuel burning equipment. Heat & Ven 37:28 Je '40
Oil dehydration of North American lignites, pt 1. E. P. Schoch. il diags Ind & Eng Chem 31:1489-96 D '39; pt 2, Plant design. flow sheets diags Am Inst Chem Eng Trans 35:541-59; Discussion. 560-1 Ag '39
Place of coke in utilizing our national fuel resources. W. L. Boon. Gas J (Lond) 229: 141-2 Ja 17 '40
Post-war fuel policy. G. E. Foxwell. Gas J (Lond) 229:28-30, 85-6+ Ja 3-10 '40
Some methods of firing fuels in tunnel kilns. G. D. Brush. diags Am Cer Soc Bul 19: 368-71 O '40
Trends in power sources. J. V. Sherman. Barron's 20:9 Je 24 '40
Which fuel to choose? comparative economy of generating steam with anthracite, bituminous coal, and fuel oil for industrial plants in the New York area. G. A. Anbro. Mech Eng 61:804-6 N '39; Discussion. 62: 555-7 Jl '40

See also
Alcohol as fuel
Automobile engines—Fuel
Automotive fuel
Benzol (commercial benzene)
Blast furnace gas
Boilers—Firing
Butane
Charcoal
Coal
Coal, Pulverized
Coke
Coke-oven gas
Combustion
Diesel engines—Fuel
Electric plants (central stations)—Fuel
Fuel economizers
Furnaces
Gas, Natural
Gas and oil engines—Fuel
Gas as fuel
Gasoline
Heating
Kerosene
Lignite
Liquid fuel
Locomotives—Fuel
Motor bus engines—Fuel
Motor truck engines—Fuel
Oil fuel
Peat
Power plants—Fuel
Smoke prevention
Waste fuel
Wood as fuel

Bibliography
Survey of literature on the manufacture and properties of iron and steel, and kindred subjects. Iron & Steel Inst J 139:1A-397A no 1; 140:1A-368A no 2 '39; 141:1A-321A no 1 '40

Statistics
Production of fuels, revision; monthly, 1923-June, 1940. Fed Res Bul 26:877 Ag '40

FUEL, Colloidal
Demonstration of liquid coal in standard engine. il Mass Transportation 35:360-1 D '39

FUEL, Oil. See Oil fuel

FUEL economizers
Air heater and economizer selection. A. Johnson. Power Pl Eng 43:301-3+, 475-6, 773-5+ My, Jl, D '39
Development in design of boiler house auxiliaries. A. Pollitt. diags Engineer 169: 382-3 Ap 19 '40
Economizer leaks. diag Power Pl Eng 44:91 Ja '40
Economizers make no noise. Power 84:296-7 My '40
Green and son Premier Diamond horizontal gilled-tube economiser. il diags Engineering 148:496 N 3 '39

See also
Air preheaters

FUEL economy
Les économies de combustible réalisées à l'usine sidérurgique de Normanby Park (Angleterre). diag Génie Civil 115:470-1 D 30 '39
Economics of combustion control in industrial ceramics; fuel waste thru excessive use of air or of time in firing. R. C. Hutchison. bibliog Am Cer Soc Bul 19:295-8 Ag '40
Efficient combustion control promises lower fuel costs. O. F. Campbell. diag Nat Pet N 32:R53-4 F 21 '40
Fourth steam station cost survey; station fuel economies. A. E. Knowlton. Elec W 112:1589+ D 2 '39
How much locomotive fuel can be saved. J. G. Crawford. Ry Age 109:618 N 2 '40; Same. Ry Mech Eng 114:489-90 N '40
What a chief dispatcher thinks of fuel economy. T. O. Weeks. Ry Age 109:616-18 N 2 '40; Same cond. Ry Mech Eng 114:488-9 N '40

See also
Air preheaters
Boilers—Gas firing
Boilers—Oil firing
Coal distillation
Combustion
Feed water heating
Fuel economizers
Furnaces
Locomotives—Fuel
Temperature—Regulation
Waste fuel
Waste heat

FUEL pumps. See Pumps, Fuel

FUEL research

See also
Coal research

FUGACITY
P-V-T relations for propane. W. W. Deschner and G. G. Brown. bibliog Ind & Eng Chem 32:836-40 Je '40

FUJIWARA reaction
Study of the fate in the organism of some chlorinated hydrocarbons. H. M. Barrett, J. G. Cunningham and J. H. Johnston. bibliog J Ind Hygiene 21:479-90 D '39

FULLER'S earth
Abundance and significance of cristobalite in bentonites and fuller's earths. J. W. Gruner. bibliog Econ Geol 35:867-75 N '40
Clay investigations in the southern states, 1934-35. W. B. Lang and others. diags plans maps U S Geol S Bul 901:1-346, pl 1-8 '40
Les gisements de terres décolorantes de France et d'Algérie. Génie Civil 116:172-3 Mr 9 '40
New thermofor kiln and clay-regeneration processes for maintaining decolorizing clays at high efficiencies. T. P. Simpson and J. W. Payne. il diags Am Pet Inst Proc 20(3):7-14 '39; Same. Nat Pet N 31:R486-7, R490-2 N 15 '39; Same. Oil & Gas J 38:147, 150+ N 17 '39; Same abr. Can Chem & Process Ind 24: 397+ Ag '40; Discussion. Am Pet Inst Proc 20(3):14-15 '39
Some variables in filter clays. L. M. Henderson, C. M. Ridgway and W. B. Ross. Am Pet Inst Proc 21M(3):30-6 My '40; Same. Nat Pet N 32:R193, R195, R197-9 My 29 '40; Discussion. Am Pet Inst Proc 21M(3):36-8 My '40

FULLER'S earth—*Continued*
Treatment of bleaching clays; activation with sulphuric acid; abstract. Krajčinovic and Zalesow. Chem Age (Lond) 42:198 Ap 6 '40

FULLING
Facts about fulling. diag Textile World 90:70 Ag '40
Finishing army overcoatings; speed-up of fulling operation. D. Welsh. diags Textile World 90:69-70 S '40
Fulling-mill temperatures; proper control prevents unevenness, excessive flocking, and other defects. H. M. Rhodes. Textile World 90:70 My '40
Simple laboratory method of studying fulling phenomena. G. C. Le Compte and J. W. Creely. Am Dyestuff Rep 29:387-90, 408-9 Ag 5 '40
Testing of wool fabrics for shrinkage; standard method for determination of shrinkage produced by milling processes on wool fabrics. diag Textile Inst J 30:S29-40 O '39

FULTON, New York
Presbyterian church; Reverend Daniels of Fulton, New York, opposes all wars. il Fortune 20:69-72, 123-4 D '39

FULTON trust company of New York
Observes 50th anniversary. Comm & Fin Chr 151:2418 O 26 '40

FUMARIC acid
Industrial uses of chemicals and related materials. Oil Paint & Drug Rep 137:38 Mr 4 '40

FUMES
Air dilution in industrial ventilation. W. C. L. Hemeon. il Heat & Ven 37:39-43 N '40 (to be cont)
Atmospheric pollution; types of contaminants with methods for estimating and controlling them. P. Drinker. Ind & Eng Chem 31:1318-19 N '39
Can dust and fumes be controlled? abstracts. H. B. Meller and F. S. Mallette. il Safety Eng 79:53-4, 57-8 Ap '40; Nat Safety N 41:18-19+ My '40
Fresh air for the welder. A. G. Cranch. il Nat Safety N 42:20-1+ Ag '40; Same cond. Safety Eng 80:39-40+ Ag '40
Recent progress in dust collecting equipment; fine dust and fume collectors. il diags Sheet Metal Worker 31:29-31 My '40
Zinc and its relation to hygiene; brief summary of report. C. K. Drinker and L. T. Fairhall. Safety Eng 80:40 Jl '40

See also
Flue gas
Metal fumes
Smoke

FUMIGANTS
Decontamination of foodstuffs affected by poisonous gases. A. P. B. Page. Chem & Ind 58:906-9 O 7 '39; Same. Can Chem & Process Ind 24:6-8 Ja '40
p-Dichlorobenzene as a vapor fumigant; effect of crystal size on rate of evaporation, estimation of *p*-dichlorobenzene in atmosphere. F. R. Darkis, H. E. Vermillion and P. M. Gross. bibliog il Ind & Eng Chem 32:946-9 Jl '40
Protecting cereals and flour from insect pests during storage and transport; abstract. Kadoosa. Food Ind 12:100-1 O '40
Response attending exposure of laboratory animals to vapors of methyl bromide. D. D. Irish and others. J Ind Hygiene 22:218-30 bibliog(p229-30) Je '40
Toxicity of coal tar naphtha distillates. H. Taylor. il Chem & Ind 58:1078-80 D 16 '39

FUMIGATION
Hydrogen cyanide gas fumigation; experience at Fort Peck. J. E. O'Donnell and others. J Ind Hygiene 22:253-75 bibliog(p274-5) S '40
Recent developments in the fumigation of buildings, stored foods, and other materials. A. B. P. Page and O. F. Lubatti. bibliog Chem & Ind 58:1001-6 N 11 '39; Discussion. 58:1040 N 25 '39
Recent experiments on fumigation. A. B. P. Page and O. F. Lubatti. bibliog diags Chem & Ind 59:172-9 Mr 16 '40

See also
Disinfection and disinfectants
Insecticides

FUMING sulfuric acid. See Sulfuric acid—Fuming acid

FUNCTIONS
Theory of functions. E. C. Titchmarsh. 2d ed 454p bibliog(p445-52) $8.50 Oxford '39

FUNCTIONS, Orthogonal
Bibliography on orthogonal polynomials. 204p National research council '40
Orthogonal polynomials. G. Szegö. 401p bibliog(p378-93) $6 American mathematical soc, New York '39

FUNCTIONS of a complex variable
Theory and use of the complex variable; an introduction. S. L. Green. 136p bibliog(p134) $3 Pitman '39

FUNCTIONS of a real variable
Introduction to the theory of functions of a real variable. S. Verblunsky. 169p $4.25 Oxford '39

FUNGI
Constituents of the higher fungi; the triterpene acids of polyporus betulinus Fr. L. C. Cross and others. Chem Soc J p632-6 My '40
Dandruff germ; pityrosporum ovale. Science 92:sup9 Ag 9 '40
Deckenschüttung und schwammbefall in gebäuden. H. Zycha. V D I 84:86-7 F 3 '40
Effect of emanations from several species of fungi on respiration and color development of citrus fruits. J. B. Biale. Science 91:458-9 My 10 '40
Investigations of the wood-rotting fungi; biological methods; abstract. W. P. K. Findlay. Chem & Ind 59:95 F 10 '40
Investigations of wood destroying fungi; chemical methods; abstract. J. H. Birkinshaw and R. A. Webb. Chem & Ind 59:95-6 F 10 '40
Method of substituting pine sapwood for malt agar in culturing test fungi; testing the toxicity of preservatives in wood. E. E. Hubert. diag Science 91:247-8 Mr 8 '40
Microbiology of pulp and white water systems. H. K. Nason, R. S. Shumard and J. D. Fleming. bibliog il Paper Tr J 110:30-6 Mr 28 '40
Nachweis des holzabbaus durch holzzerstörende pilze. B. Schulze. il V D I 83:1306-7 D 23 '39
Outline of the fungi. G. W. Martin. Iowa Univ Studies in Natural History v 18, no 1: 1-40 bibliog(p34-7) '40 (pa 20c)
La protection des sacs de jute. G. Batta and L. Fabry. Chimie & Ind 43:535-8 Ap '40

See also
Bacteriology
Endogone
Fusarium
Molds (botany)
Russula foetens
Wood—Decay

FUNGI, Pathogenic
Isolation and pathogenicity of pityrosporum ovale. C. W. Emmons. bibliog diags Pub Health Rep 55:1306-12, pl 1 Jl 19 '40
Systematic histoplasmosis in the United States. J. D. Reid, J. H. Scherer and H. Irving. Science 91:264 Mr 15 '40

FUNGICIDES
Developments in mold and mildew prevention. W. A. Stringfellow. diags Am Dyestuff Rep 29:266-9 My 27 '40
p-Dichlorobenzene as a vapor fumigant; effect of crystal size on rate of evaporation, estimation of *p*-dichlorobenzene in atmosphere. F. R. Darkis, H. E. Vermillion and P. M. Gross. bibliog il Ind & Eng Chem 32:946-9 Jl '40
New industrial applications for metallic naphthenates. J. S. Trevor. Chem Ind 45:661 D '39
What you can use; parasiticides. Oil Paint & Drug Rep 138:48 S 23; 41 S 30; 52 O 7; 36 O 14; 52 O 21 '40

See also
Spraying materials

FUNGISTATIC properties
Effect of chlorine substitution on the fungistatic properties of acetic and propionic acids. C. Hoffman, T. R. Schweitzer and G. Dalby. Am Chem Soc J 62:988-9 Ap '40

FUR
Chemical processing in the production of furs. C. F. Mason. il Chem Ind 47:260-3 S '40
Fur digest, 1939. M. Bachrach. 208p 50c Retail fur council of the National retail dry goods assn, 101 W. 31st st, New York '39
Textile fiber atlas; fur fibers. W. von Bergen and W. Krauss. il Rayon 21:149-53 Mr '40

FUR, Hatters'
R-53 new casein fiber for hat making. H. R. Mauersberger. il Rayon 21:670 N '40

FUR insurance. See Insurance, Fur

FUR stores
California shop has two display frontages; George Benioff fur shop, Oakland. il plans Arch Rec 87:52-4 My '40
Chicago furrier finds air conditioning profitable. Refrig Eng 39:198 Mr '40
Jaeckel's inc, New York; method of illumination. il Illum Eng Soc Trans 34:990-1 N '39

FUR trade
Fur from the marshes; Louisiana's pelt harvest. Business Week p24 Mr 16 '40

Statistics
U.S. imports and exports during first 9 months of 1940. For Comm W 1:274 N 9 '40

Great Britain
Fur market in war; with figures for 1929, 1937, 1938. Economist 137:529 D 30 '39

FURALDEHYDE. See Furfural

FURAMIDINES
Some N-alkyl N'-aryl furamidines. W. M. Degnan and F. B. Pope. bibliog Am Chem Soc J 62:1960-2 Ag '40

FURAN
Experiments on the synthesis of oestrone; the 2-(β-phenylethyl)-furans as components in the diene synthesis. R. B. Woodward. bibliog Am Chem Soc J 62:1478-82 Je '40
Liquid-vapor equilibria of furan systems; system furfural-furfuryl alcohol. A. P. Dunlop and F. Trimble. bibliog diag Ind & Eng Chem 32:1000-2 Jl '40
Some substituted 2,5-dimesitylfurans. R. E. Lutz and C. J. Kibler. bibliog Am Chem Soc J 62:1520-8 Je '40

FURANACETIC acid
Preparation of 2-furanacetic acid. J. Plucker, 3d and E. D. Amstutz. bibliog Am Chem Soc J 62:1512-13 Je '40
Some esters of 2-furanacetic acid. J. F. Ryan, J. Plucker, 3d and E. D. Amstutz. Am Chem Soc J 62:2037 Ag '40

FURANOSIDES
Glycofuranosides and thioglycofuranosides; crystalline alkyl furanosides and dimethylacetal of *d*-mannose. A. Scattergood and E. Pacsu. bibliog diags Am Chem Soc J 62: 903-10 Ap '40

FURFURAL
Liquid-vapor equilibria of furan systems; system furfural-furfuryl alcohol. A. P. Dunlop and F. Trimble. bibliog diag Ind & Eng Chem 32:1000-2 Jl '40
Reaction of bromine with furfural and related compounds. E. E. Hughes and S. F. Acree. bibliog J Research Nat Bur Stand 24:175-80 F '40
Refining Pennsylvanian oils with furfural. F. T. Mertens. flow sheet il Oil & Gas J 39: 47-8 N 7 '40

Analysis
Analysis of the fibrous and carbohydrate constituents of feeding stuffs; the furfuraldehyde-yielding constituents. E. G. Hallsworth. Soc Chem Ind J 58:357-63 D '39
Determination of furfural in furfural-furfuryl alcohol solution; sodium bisulfite—iodine method. A. P. Dunlop and F. Trimble. bibliog Ind & Eng Chem Anal ed 11:602-3 N 15 '39
Photocolorimetric determination of furfural. R. A. Stillings and B. L. Browning. bibliog Ind & Eng Chem Anal ed 12:499-502 S 15 '40
Quantitative determination of pentoses. R. E. Reeves and J. Munro. bibliog Ind & Eng Chem Anal ed 12:551-3 S 15 '40

FURFURYL alcohol
Determination of furfural in furfural-furfuryl alcohol solution; sodium bisulfite—iodine method. A. P. Dunlop and F. Trimble. bibliog Ind & Eng Chem Anal ed 11:602-3 N 15 '39
Liquid-vapor equilibria of furan systems; system furfural-furfuryl alcohol. A. P. Dunlop and F. Trimble. bibliog diag Ind & Eng Chem 32:1000-2 Jl '40

FURFURYLAMINE
α-Furfurylpropylamine and di-α-furfuryl tertiary amines. J. E. Zanetti and J. T. Bashour. Am Chem Soc J 62:742-3 Ap '40

FURFURYL bromide. See Bromomethylfuran

FURFURYLPROPYLAMINE
α-Furfurylpropylamine and di-α-furfuryl tertiary amines. J. E. Zanetti and J. T. Bashour. Am Chem Soc J 62:742-3 Ap '40

FURNACE arch
Sprung-arch roofs of high temperature furnaces. J. S. McDowell. bibliog diags Blast F & Steel Pl 27:592-7, 947-51; 28:161-8+ Je, S '39, F '40
Tailored firebrick; system of refractory shapes developed to permit formation of circumferential dimensions with exactitude. W. A. Stuart. diags Steel 106:58, 60-1 My 27 '40

FURNACE industry and trade
Cooling manufacturers look to furnace dealers. il Sheet Metal Worker 30:40, 42 N '39
Making furnace cleaning pay; Long Island furnace vacuum cleaning co. il Sheet Metal Worker 31:56, 58+ Ap '40
Severity of past winter spurs furnace and chimney cleaning. il diag Sheet Metal Worker 31:44+ Je '40

FURNACES
Gas-fired furnaces. H. W. Smith, jr. Metal Prog 38:590 O '40
Problem of uniformity in furnace output. S. N. Clarkson. Metal Prog 38:595+ O '40
Recovery in sulphate pulp mills; experience with the Tomlinson system in Sweden. G. Edling. diags Pulp & Pa of Can 40:681-5, 734-8 N-D '39
Standard versus special; manufacture of gas furnaces. A. H. Koch. Steel 107:36-7 Jl 29 '40
Successful methods of selling standard rated industrial gas furnaces. C. B. Phillips. Am Gas Assn Proc 1939:373-6
Ueberwachung des gasverbrauchs von oefen mit einem im nebenschluss angeordneten kammergasmesser. G. Neumann. diags Stahl & Eisen 60:32-3 Ja 11 '40
Verwendung von kammer- oder drehkolbengasmessern zur ueberwachung des gasverbrauchs von oefen. G. Neumann. Stahl & Eisen 59:1365-6 D 21 '39

See also
Blast furnaces
Cement kilns
Coke ovens
Cupola furnaces
Electric furnaces
Fire brick
Fuel
Glass furnaces
Glass manufacture
Glass tanks
Heating
Kilns
Lime kilns
Oil burners
Open hearth furnaces
Refractory materials
Refuse incinerators
Sewage incinerators

Atmosphere control
Automatic control of furnace atmosphere; abstract. H. M. Webber. Metals & Alloys 11: MA290 My '40
Composition of furnace reducing atmospheres. Iron Age 146:48 O 17 '40
Preparation of controlled atmospheres by partial combustion of gaseous fuels. R. M. Conner. Metal Prog 38:591+ O '40

See also
Furnaces—Annealing—Atmosphere control
Furnaces, Heat treating—Atmosphere control

FURNACES—*Continued*

Control

See also
Temperature regulators

Design

Design and operation of De Florez furnaces. F. L. Maker. Mech Eng 62:161-3 F '40

Lining

Decrease firing time and fuel consumption with hot face insulation. diags Brick & Clay Rec 95:55-6+ D '39
Insulating refractories provide fuel saving and added furnace life. Brick & Clay Rec 96:58-9 F '40
Minerals, combustibles and chemicals used in making insulating materials. J. O. Knizek. il Brick & Clay Rec 97:52-4 N; 46-7 D '40
Refractories for gas and coke burning appliances; extract from the 30th report of the refractory materials joint committee. L. R. Barrett and A. T. Green. Gas J (Lond) 228:630-1, 687, 689-90; 229:195-7, 199 D 20-27 '39, Ja 24 '40; Abstract. Engineering 148: 724-5 D 29 '39

See also
Furnaces, Metallurgical—Lining
Furnaces, Steel making—Lining

FURNACES, Annealing

Car-type annealing furnace has automatic program control. il Steel 106:46 Ja 22 '40
General Malleable's new Holcroft furnace shortens annealing cycle. Automotive Ind 82:276-7 Mr 15 '40
Refractory radiant tubes developed. il Iron Age 144:38 D 14 '39
Refractory tubes used in heat treating furnace. il Steel 106:69 Ap 29 '40
Stripsheet annealing. il Steel 106:48-9+ Ap 15 '40

See also
Glass furnaces

Atmosphere control

Bright annealing; gas from producer sampled continuously and maintained at desired analysis by reversing motor which alters ratio of air to gas as required. il diags Steel 107:76+ Ag 12 '40
Practical annealing. E. G. de Coriolis. il diags Iron Age 145:43-4 Ja 18; 30-3 Ja 25 '40; Same cond. Blast F & Steel Pl 28: 259-61, 351-3+ Mr-Ap '40
Trends in application of atmospheres to heat treatment of copper and copper alloys. Am Gas Assn Proc 1939:367-70; Same. Blast F & Steel Pl 27:1277-9 D '39

FURNACES, Boiler

Bark burning furnaces for the pulp and paper industries. C. A. Hulsart. diags Paper Tr J 111:65-71 Ag 29 '40
Coal characteristics determine furnace performance. A. L. Luke, jr. diags Power Pl Eng 44:44-8 N '40
Few recent furnace explosions. il Locomotive 43:52-6 Ap '40
Furnace explosions; an operating responsibility. H. M. Spring. il diags Power 84:153-5 Mr '40
Get the inside story by furnace snapshots. R. Atlas. il diags Power 84:453 Jl '40
It's your furnace. G. C. Kohlar. diags Power Pl Eng 44:45-7+ Mr '40
Modern furnace design. G. C. Kohlar. Power Pl Eng 44:60-3 S '40
Pulverised-fuel developments. V. Walker. diag Elec R (Lond) 126:7-8 Ja 5 '40
Pulverised-fuel furnaces. V. Walker. diag Elec R (Lond) 127:67-8 Jl 26 '40

See also
Boilers
Boilers—Firing

Lining

Low maintenance cost on marine brick work. S. M. Elonka. Marine Eng 44:570 D '39

FURNACES, Carburizing

Carburizing furnaces. J. A. Dow. il Metal Prog 38:591 O '40
Leeds & Northrup Homocarb automatic furnace. il Am Mach 83:1096 D 27 '39; Mach 46:186 Ja '40
Practical gas carburizing. J. F. Wyzalek and M. H. Folkner. il diags Metal Prog 38:261-8 S '40
Truck axle parts; heat-treating procedure. F. B. Jacobs. il Steel 107:117 O 14 '40

FURNACES, Cupola. See Cupola furnaces

FURNACES, Electric. See Electric furnaces

FURNACES, Enameling

Heat loss in enameling and glassmelting furnaces; abstract. O. T. Koritnig. Am Cer Soc J 23 (Cer A 19):263 N '40
New porcelain-enameling plant; Tappan stove co. il Steel 107:59+ Ag 12 '40
Preparation, drying, and firing of enamels and glazes. diags Gas J (Lond) 231:407-8+ S 4 '40
Refractory radiant tubes; fuel fired furnace with recuperator type heat exchanger and silicon carbide radiant tubes used for enameling. W. F. Ross. il Iron Age 146:42-4 S 12 '40

FURNACES, Forging

Control

Instantaneous forging control. il diag Steel 106:73-4 Ap 8 '40

Firing

Die umstellung ölgefeuerter schmiedeöfen auf ferngasheizung. W. G. Rathmann. il diags Stahl & Eisen 59:1205-9 N 2 '39

FURNACES, Foundry

Practice in the steel casting field; abstract. J. H. Hall. Foundry 68:118+ My '40
Steel foundry progress in melting and heat treating. E. F. Cone. il Metals & Alloys 11:99-102 Ap '40

See also
Cupola furnaces
Furnaces, Nonferrous melting

FURNACES, Galvanizing

Gas-fired galvanizing equipment. F. M. Carlson. il diags Metal Ind 37:577-9 D '39
Use of gas for firing galvanizing kettles. F. C. Dietrich. il diag Am Gas J 152:10-11 Mr '40

FURNACES, Heat treating

American gas furnace co. reciprocating clean hardening machine. il Mach 46:142 My '40
As it was in 1915, and as it is in 1940; survey of progress. Metal Prog 37:284-7, 306-10 Mr '40
Continuous heat treating machine quickly built for emergency service. H. C. Knerr. il Metal Prog 38:147-52 Ag '40
Controlled combustion in new tempering oven. il diag Product Eng 11:395 S '40
Conveyor tables for continuous furnace doing both normalizing and annealing; Irvin works, Carnegie-Illinois steel corp. il Steel 107:56+ Ag 26 '40
Despatch tempering and drawing furnace. il Mach 46:139 My '40
Direct radiant firing methods. J. Kniveton. il Steel 106:36-7+ Ap 1 '40
Firing system has wide temperature range; new method of firing convection type gas furnaces. il Steel 106:64 My 27 '40
Furnace mechanisms; as it was in 1915, and as it is in 1940. H. H. Harris. Metal Prog 37:286 Mr '40
Hack saw blades; heat treating work, Forsberg mfg. co. R. D. Hawkins. il Steel 106:54, 57+ Mr 4 '40
Heat treating; developments in 1939. il Steel 106:196, 198, 200+ Ja 1 '40
Heat-treating for defense. il Am Mach 84: 810-17 O 16 '40
Heat treatment in the Ford new tool and die shop. E. F. Cone. il Metals & Alloys 10:326-31 N '39
Heating furnace refractories. E. C. Hite and G. Soler. il Brick & Clay Rec 96:51-2+ Je '40
Molten-salt ejector for salt-bath furnaces. Engineering 150:48 Jl 19 '40
New equipment; heat treatment and process control. il Iron Age 146:65-6 N 7 '40

FURNACES, Heat treating—*Continued*
New setup features three-section furnace. il Steel 107:64+ Jl 1 '40
Recirculating air heating for industrial furnaces. E. Stephenson, jr. il Metal Prog 36: 637-41 N '39
Salt baths and furnaces therefor. W. Adam, jr. Metal Prog 38:592-3 O '40
Shop equipment review; heat-treating and welding. il diag Am Mach 84:229-32 Ja 24 '40
Show in print; equipment, accessories and materials at National metal show, Cleveland, Oct. 21-25. il Am Mach 84:794-6 O 16 '40
Steel foundry progress in melting and heat treating. E. F. Cone. il Metals & Alloys 11:102 Ap '40
Town gas in industry. H. R. Hems. il Automobile Eng 30:157-8, 209-12 My, Jl '40
Tubular furnace. J. H. Loux. il Steel 107:54+ Ag 5 '40

See also
Electric furnaces, Heat treating
Furnaces, Annealing

Atmosphere control

Abhängigkeit des abbrandes von der zusammensetzung der gasatomsphäre, der wärmdauer, der wärmtemperatur und der gasgeschwindigkeit. R. Bourggraff. il Stahl & Eisen 60:129-37, 156-61 bibliog(139 titles, p159-61) F 15-22 '40
American gas furnace company announces improved continuous clean hardening units. il Am Mach 84:391 My 29 '40
Controlled atmospheres; composite of abstracts. Metals & Alloys 11:MA202+ Ap '40
Effect of humidity of air on the oxidation of a low carbon steel. C. A. Siebert and H. G. Donnelly. bibliog Am Soc for Metals Trans 28:372-7; Discussion. 377-9 Je '40
Equilibria for gas-steel reactions; relation between gas composition, temperature, and carbon content in steel; data sheet. Metal Prog 38:594 O '40
Gas blanket prevents burning and carbon loss in steel hardening. il Sci Am 163:254 N '40
Heat etching as a means of revealing austenite grain size. M. J. Day and J. B. Austin. il diag Am Soc for Metals Trans 28:354-68; Discussion. 369-71 Je '40
L'importance de l'atmosphère, dans les fours industriels. R. Martin. Génie Civil 115:393 N 25 '39
Instruments for control and analysis of controlled atmospheres. E. E. Slowter and B. W. Gonser. il diags Metal Prog 38:555-7+ O '40
Lithium-atmosphere furnaces. il Metals & Alloys 12:176 Ag '40
Lithium atmospheres. il Steel 107:52+ S 30 '40
Lithium for heat treating furnace. Iron Age 146:54 Ag 1 '40
Modern miracle; gas is chemical agent with unexplored possibilities. C. G. Segeler. Am Gas Assn Mo 21:427-9 D '39
Protective atmospheres; as it was in 1915 and as it is in 1940. W. S. Bidle. Metal Prog 37:285 Mr '40
Tool hardening atmospheres. W. A. Schlegel. Metals & Alloys 12:226 Ag '40

Control

Control for gas radiants; incandescent surface acts as constant pilot. J. Kniveton. diags Steel 107:70-1+ Ag 12 '40

FURNACES, Heating
Abhängigkeit des abbrandes von der zusammensetzung der gasatmosphäre, der wärmdauer, der wärmtemperatur und der gasgeschwindigkeit. R. Bourggraff. Stahl & Eisen 60:129-37, 156-61 bibliog(139 titles, p159-61) F 15-22 '40
Blaw-Knox soaking pit cover has novel method of sealing. il diag Blast F & Steel Pl 28:515 My '40
Car ends oil heated. W. J. Tangerman. il Am Mach 84:201 Ap 3 '40
Effects of soaking pit operation upon steel conditioning; abstract. C. L. Labeka. Iron Age 146:35-7 O 3 '40
Heating furnace refractories. E. C. Hite and G. Soler. il Brick & Clay Rec 96:57-8 Mr; 51-2+ Je '40
Heating of steel. P. J. McKimm. il diag Steel 106:54+ Je 17; 50+ Je 24; 107:52-3+ Jl 1 '40
Improved reheating furnaces. P. M. Offill. Metal Prog 38:587 O '40
New cover increases efficiency of soaking pit operations. diag Steel 107:56 Ag 5 '40
New type billet heater for brass mill. il Iron Age 144:29 N 30 '39
Recirculating air heating for industrial furnaces. E. Stephenson, jr. il Metal Prog 36: 637-41 N '39
Slivers in cold reduced strip; effect of furnace atmospheres. P. J. McKimm. il Blast F & Steel Pl 28:243-6+, 338-40 Mr-Ap '40

See also
Furnaces, Forging
Furnaces, Galvanizing
Furnaces, Heat treating

Atmosphere control

L'importance de l'atmosphère, dans les fours industriels. R. Martin. Génie Civil 115:393 N 25 '39

Control

Billet heating; new type of furnace fired with pulverized coal and employs complete automatic control. C. F. Herington. il plan Iron Age 146:26-9 Ag 29 '40
Controls soaking pit temperature and atmosphere automatically; Rayotubes. il Steel 107:49+ Ag 12 '40
Ingot soaking pits feature complete automatic control; Edgar Thompson works of Carnegie-Illinois steel corp. Steel 107:54 Ag 26 '40
Soaking pit control; abstract. M. J. Boho. Iron Age 146:37-9 O 3 '40

Firing

Billet heating; new type of furnace fired with pulverized coal and employs complete automatic control. C. F. Herington. il plan Iron Age 146:26-9 Ag 29 '40
Die umstellung ölgefeuerter schmiedeöfen auf ferngasheizung. W. G. Rathmann. il diags Stahl & Eisen 59:1205-9 N 2 '39

Lining

Soaking pit refractories. E. C. Hite and G. Soler. il Brick & Clay Rec 96:62-3 Ja; 60, 62 F '40

FURNACES, Laboratory
Rotating hearth idea for laboratory furnaces. Can Chem & Process Ind 24:272 My '40

FURNACES, Metallurgical
Analysis of new industrial gas applications. G. M. Parker. il diags Gas Age 86:20-3+ Jl 4 '40
Furnaces and refractories. Metal Prog 38: 583-604 O '40
Hastening the construction of mechanical furnaces; points from American practice. C. C. Downie. Chem Age (Lond) 41:sup23 N 4 '39
Pyrites roasting and sulphur burning; recent developments meriting war-time attention. C. H. Butcher. Chem Age (Lond) 41:411-13 D 23 '39
Refractories at Noranda smelter. W. B. Boggs. diags Am Cer Soc Bul 19:338-40 S '40
Roasting gold-silver sulphide ores; roaster operations and plant control. B. W. von Bernewitz. bibliog diags Can Min J 61:437-41, 518-24 Jl-Ag '40
Sprung-arch roofs of high temperature furnaces. J. S. McDowell. bibliog diags Blast F & Steel Pl 27:592-7, 947-51; 28:161-8+ Je, S '39, F '40

See also
Blast furnaces
Cupola furnaces
Electric furnaces, Metallurgical
Furnaces, Steel making
Open hearth furnaces

Control

Combustion control. E. G. deCoriolis. Metal Prog 38:593+ O '40

FURNACES, Metallurgical—*Continued*

Lining

Special refractories in melting furnaces; report of autumn meeting of the Refractories division of American ceramic society. J. B. Austin. Metal Prog 36:651-4 N '39

FURNACES, Non-ferrous melting

British gas immersion heater. diag Engineer 168:477-8 N 10 '39

Die manufacture; furnace for zinc and zinc alloys; Glenn L. Martin co. R. B. Gray. il Metal Prog 37:559-60 My '40

Double boiler for melting zinc. il diag Iron Age 145:23 My 30 '40

Melting of non-ferrous metals. il Gas J (Lond) 231:241-2+ Ag 7 '40

Monometer metal-melting furnace. il Engineer 168:601 D 15 '39

Nonferrous melting in sand casting foundries; abstract. H. Gieseke. Foundry 68:120 My '40

FURNACES, Reverberatory

Copper metallurgy, 1939. W. B. Boggs. Eng & Min J 141:87-8 F '40

FURNACES, Steel making

Progress in steelmaking in 1939. il Steel 106: 219+ Ja 1 '40

Sprung-arch roofs of high temperature furnaces. J. S. McDowell. bibliog diags Blast F & Steel Pl 27:592-7, 947-51; 28:161-8+ Je, S '39, F '40

See also

Electric furnaces, Steel making
Furnaces, Heating
Open hearth furnaces

Control

Automatic combustion control in the steel mill. M. J. Boho. il Blast F & Steel Pl 28: 395-7 Ap '40

Lining

Refractories in the iron and steel industry. A. Stein. il Blast F & Steel Pl 28:204+, 292-4, 421-2 F-Ap '40

Tailored firebrick; system of refractory shapes developed to permit formation of circumferential dimensions with exactitude. W. A. Stuart. diags Steel 106:58, 60-1 My 27 '40

Repair

Lower shell of Jones & Laughlin Eliza stack replaced with little disturbance. Steel 106:63 My 27 '40

FURNACES, Warm air

Baffling twin furnaces for blower application. il diags Sheet Metal Worker 31:60+ Ap '40

Don't overlook the gravity furnace. A. F. Frazee. Sheet Metal Worker 31:46, 48, 50+ Jl '40

Making furnace cleaning pay; Long Island furnace vacuum cleaning co. il Sheet Metal Worker 31:56, 58+ Ap '40

New trends in heating equipment; illustrations. Product Eng 11:8 Ja '40

Performance of a stoker-fired warm-air furnace as affected by burning rate and feed rate. A. P. Kratz and S. Konzo. diags Heating-Piping 12:55-60 Ja '40

Severity of past winter spurs furnace and chimney cleaning. il diag Sheet Metal Worker 31:44+ Je '40

You must have a good heating system, the oil man said. il plans Sheet Metal Worker 31:58+ Je '40

Firing

Investigation of oil-fired forced-air furnace systems in the research residence; a report of an investigation conducted by the Engineering experiment station, University of Illinois in cooperation with the National warm-air heating and air conditioning association. A. P. Kratz and S. Konzo. diags plans Ill U Eng Exp Sta Bul 318:1-87 '39 (pa 90c)

Look'ng ahead in the anthracite stoker field. il diag Sheet Metal Worker 31:50, 52, 54+ Ag '40

FURNESS, Withy and company

Annual general meeting, 49th, London. Economist 139:260 Ag 24 '40

FURNITURE

American Chippendale furniture; a picture book. 20 il pa 25c Metropolitan museum of art, New York '40

Color and transparency persist; plastic furniture and accessories. il Mod Plastics 17:31-7 Ap '40

Furniture. Consumers' Research Bul (Gen bul ser) 9:15-17 O '39; 12-15 bibliog(p 15) Ap '40

Furniture for the amateur craftsman. E. Harmes. 79p $2.25 Bruce pub. '40

Making maximum use of minimum space; interior design of minimum apartments and multipurpose rooms. V. Conner. il diags plans Arch Rec 88:61-6 S '40

Plastics competition; awards to Ypsilanti reed furniture co, Vazah, inc, Mrs G. Howard Davison. il Mod Plastics 18:57-9, 93-4 O '40

Stylists for furniture; American way, inc. Business Week p49-50 Ap 13 '40

'Traditional transition; sixth annual public exhibition of 65 decorators' interiors, sponsored by Grosfeld house. E. Main. il Mod Plastics 17:30-3+ My '40

What every woman should know about furniture. J. Judson. 98p $2.50 Stokes '40

See also

House decoration
Interior decoration
Office furniture

Bibliography

Bibliography of English Regency furniture, interiors and architecture, 1795-1830. S. J. Riccardi, comp. N Y Pub Lib Bul 44:319-25 Ap '40

Manufacture

Infra-red heat for gluing. il Elec W 114:1030 O 5 '40

Repair

Art of restoring and refinishing antique furniture. E. W. Minns. 163p $4.50 Edward William Minns, Newburgh, N.Y. '39

Transportation

Cartons vs. crates. Business Week p44-5 Ap 13 '40

FURNITURE, Arrangement of

Standards for circulation; time-and-motion economy within the house. il diag plans Arch Rec 87:106-7 Mr '40

Units; lounging. il diags plans Arch Rec 87: 67-72 Ap '40

FURNITURE, Built-in

Bedrooms. il diags plans Arch Rec 88:61-4 Jl '40

FURNITURE, Steel

Steel furniture, shelving, 1936-1939. Survey of Cur Business 1940 Sup p133 [supplemented in monthly numbers]

FURNITURE factories

Employees

Wage and hour structure of the furniture-manufacturing industry, Oct. 1937. U S Bur Labor Statistics Bul 669:1-121, pl 1-6 '40

Equipment

Dividends from smoke abatement in furniture factory. J. Donaly. il Power Pl Eng 44:45-6 F '40

Fires and fire protection

Fire hazards of bleaching; fires in furniture factories caused by hydrogen peroxide. Safety Eng 79:33-4 F '40

FURNITURE industry and trade

Furniture trade hails happy days. Business Week p28+ O 5 '40

What a key dealer policy has done for Heywood-Wakefield; selective selling; furniture in packages. R. S. Reed. Sales Management 47:60-1 Ag 15 '40

Advertising

Sale facts in a booklet; Seng company. il Ptr Ink Mo 40:26 Ap '40

FURNITURE industry and trade—*Continued*

Statistics

Furniture, 1936-1939. Survey of Cur Business 1940 Sup p128 [supplemented in monthly numbers]
Furniture production, revision; monthly, 1923-June, 1940. Fed Res Bul 26:836 Ag '40
Statistical study of the drawing power of cities for retail trade. J. A. Pfanner, jr. J Business 13:1-79 pt 2 Ap '40

FURNITURE polish

Advertising

Nothing too hard for advertising; Grand Rapids varnish corporation. il Ptr Ink Mo 41:21 Jl '40

FURNITURE stores

Chicago two-department store is built without interior columns; Straus and Schram. il diag plans Arch Rec 88:50-3 O '40

FUROATES

Some dialkylaminoalkyl furoates and benzoates as topical anesthetics. E. S. Cook and C. W. Kreke. bibliog Am Chem Soc J 62: 1951-3 Ag '40

FURRIERS' customers insurance. See Insurance, Furriers' customers

FUSARIUM

Alcoholic fermentation by fusaria juice obtained with a wet crushing mill. J. C. Wirth and F. F. Nord. bibliog Science 92: 15 Jl 5 '40

FUSED silica. See Silica, Fused

FUSES

Die zünder für die flugabwehr. A. Kuhlenkamp. bibliog il diags V D I 84:301-5 My 4 '40

Testing

Pneumatic fuse-testing machine. il Engineering 149:165 F 16 '40; Engineer 169:166-7 F 16 '40

FUSES, Electric. See Electric fuses

FUSIBLE alloys. See Alloys, Low melting

FUSION, Heat of

Correlating vapor pressure and latent heat data; a new plot. D. F. Othmer. bibliog Ind & Eng Chem 32:849-50 Je '40
Heat capacity and entropy, heats of fusion and vaporization and the vapor pressure of isobutane. J. G. Aston, R. M. Kennedy and S. C. Schumann. bibliog Am Chem Soc J 62:2059-63 Ag '40
Heat capacity and entropy, heats of fusion and vaporization and the vapor pressure of *n*-butane. J. G. Aston and G. H. Messerly. bibliog Am Chem Soc J 62:1917-23 Ag '40
Heat capacity and entropy, heats of fusion and vaporization and the vapor pressure of methyl chloride. G. H. Messerly and J. G. Aston. bibliog Am Chem Soc J 62:886-90 Ap '40
Heat of fusion of ice, a revision. N. S. Osborne. J Research Nat Bur Stand 23:643-6 D '39
Thermodynamics of *n*-heptane and 2,2,4-trimethylpentane, including heat capacities, heats of fusion and vaporization and entropies. K. S. Pitzer. bibliog Am Chem Soc J 62:1224-7 My '40

FUSTIC

Manufacture of industrial extracts for textiles and leathers. K. Campbell. Chem & Ind 59:145-6 Mr 2 '40

FUTURES

Does futures trading influence prices? D. W. Malott. Harvard Business R 18 no 2:177-90 [Ja] '40

See also
Exchanges
Speculation

G

GABARDINE

Finishing spun-rayon gabardines. P. LeBrun. Textile World 90:63 Ja '40

GADGETS for salesmen. See Salesmen's equipment

GADOLINIUM

Heat of solution of gadolinium sulfate octahydrate and the entropy of gadolinium ion. L. V. Coulter and W. M. Latimer. bibliog Am Chem Soc J 62:2557-8 S '40
Normal electron configuration of singly ionized gadolinium. W. E. Albertson, H. Bruynes and R. Hanau. bibliog Phys R 57:292-3 F 15 '40

GADOLINIUM sulfate

Heat of solution of gadolinium sulfate octahydrate and the entropy of gadolinium ion. L. V. Coulter and W. M. Latimer. bibliog Am Chem Soc J 62:2557-8 S '40

GADSDEN, Alabama

Host to Republic steel corp. officials. C. E. Wright. Iron Age 144:66-7 N 30 '39

GAGES

Adjustable gages used as comparators. G. C. Lawrence. diags Am Mach 84:58 F 7 '40
Angle-gage for screw machine work. R. E. Hulse. diags Mach 46:167 Ja '40
Cambridge thickness gauge for steel strip. il diags Engineer 169:297-8 Mr 29 '40
Doall height and depth gage. il Mach 46:143 My '40; Engineering 149:427 Ap 19 '40
Draft specification of engineers' feeler gauges. Engineering 149:457-8 My 3 '40
Electromagnetic feeler-gage control; how die-sinking operations may be controlled automatically. il diags Mach 47:116-17 S '40
Electromagnetic feeler-gage control; new method used in inspection measurements of small parts and in automatic control of grinding machine. diags Mach 46:119-21 Ag '40
Gaertner optical thread tool gage permits rapid checking. il Am Mach 81:640 Ag 21 '40
Gage facilitates wire inspection. J. I. Moore. diag Transit J 84:30 Ja '40
Gaging gears; Nuttal works of Westinghouse gearing division. il Steel 107:40-1 O 7 '40
General Electric guages for the steel plant. Min & Met 21:526 N '40
General Electric width gage for hot strip mills. diag Steel 107:71-2 O 28 '40
Heald machine company air conditions a portable gauge and inspection room. il Heat & Ven 37:38 N '40
Leased instruments ($16,000 a year) saved more, trial proved; making rubbers. H. Olken. Instruments 13:21-2 Ja '40
Measure meter jewels before assembly; Ames dial-type thickness gauge. il Elec W 114: 272-3 Jl 27 '40
Measuring internal diameter of still tubes. W. A. Howard. il diag Oil & Gas J 38: 78-80 Mr 28 '40
Methods of measurement. C. C. Street. il diags Am Mach 84:565-6, 612-15, 656-7, 700-1, 748-50 Ag 7-O 2 '40
Micrometer groove gage. E. A. Reibig. diags Mach 46:264 D '39
Position-thread gage; Canadian-Bren plant. il diags Am Mach 84:932 N 13 '40
Pratt and Whitney electrolimit gauges. il diags Engineering 149:220-2 Mr 1 '40
Sheffield Multicheck Electrigage. il Mach 47: 182 N '40; Steel 107:81 N 11 '40
Standard gage co. dial gages. H. E. Blank, jr. il Automotive Ind 83:297+ O 1 '40
Varied applications of thickness gages for thin nonmagnetic layers. M. A. Rusher. il diag Gen Elec R 42:486-7 N '39

See also
Ionization gage
Pressure gages
Vacuum gages

Testing

Dial-gauge research. diags Engineering 148: 725-7 D 29 '39
Modern gaging problems. N. Swenson. il Iron Age 145:32-4 Mr 28 '40

GAGES, Vacuum. See Vacuum gages

GAGING
Self-supporting tripod for gaging lantern. C. C. Lynde. il Factory Management 98:90 Ja '40

See also
Oil measurement
Water measurement

GALACTOSE
Acetone derivatives of the mercaptals of some monosaccharides; the 5,6-monoacetone derivative of *d*-galactosedibenzylmercaptal and the 6-methyl derivative of *d*-galactose. E. Pacsu and S. M. Trister. bibliog Am Chem Soc J 62:2301-4 S '40

Constitution of arabic acid; the formation of 3-galactosidogalactose by hydrolysis of degraded arabic acid. J. Jackson and F. Smith. Chem Soc J p79-82 Ja '40

Constitution of arabic acid; the isolation of methyl heptamethyl aldobionate from methylated degraded arabic acid. J. Jackson and F. Smith. Chem Soc J p74-8 Ja '40

3 : 4-Dimethyl galactose. J. S. D. Bacon and D. J. Bell. Chem Soc J p1869-71 D '39

Influence of oxygen on the fermentation of maltose and galactose. A. S. Schultz, L. Atkin and C. N. Frey. diag Am Chem Soc J 62:2271-2 S '40

Monothioacetals of galactose. M. L. Wolfrom and D. I. Weisblat. bibliog Am Chem Soc J 62:878-80 Ap '40

Studies on agar-agar; the isolation of derivatives of 3 : 6-anhydro-*l*-galactose from agar and the synthesis of their enantiomorphs. I. A. Forbes and E. G. V. Percival. Chem Soc J p1844-9 D '39

GALACTURONIC acid
Determination of uronic acids in cellulosic materials. R. L. Whistler, A. R. Martin and M. Harris. bibliog diag J Research Nat Bur Stand 24:13-23 Ja '40; Same. Am Dyestuff Rep 29:1-6 Ja 8 '40

Improvements in the preparation of *d*-galacturonic acid. W. W. Pigman. bibliog J Research Nat Bur Stand 25:301-3 S '40

Synthesis of uronic acids. M. Stacey. Chem Soc J p1529-31 O '39

GALENA
Differential density separation at Mascot, Tennessee; American Zinc's sink-and-float process. flow sheets il diag Eng & Min J 141:35-9 Jl '40; Same. Min Cong J 26:21-6 Jl '40

Solution and precipitation of lead and zinc sulphides in sodium sulphide solutions. F. G. Smith. bibliog il Econ Geol 35:646-58 Ag '40

Sphalerite and galena in sedimentary rocks in Ohio. K. Ver Steeg. Science 92:259 S 20 '40

GALESBURG, Illinois
Ghost plant revives. Business Week p29 N 25 '39

GALILEO GALILEI, 1564-1642
Galileo and the freedom of thought. F. S. Taylor. 212p bibliog(p203-8) 7s 6d Watts & co, London '38

Three hundred years of mechanics of materials. S. C. Hollister. Engineering 148:524-5 N 10 '39

GALLBLADDER
Diseases
Diseases of the gallbladder and bile ducts. W. Walters and A. M. Snell. 645p $10 Saunders '40

GALLIUM
Electric quadrupole moments of Ga^{69} and Ga^{71}; an atomic beam study of the hyperfine structures of the $^2P_{1/2}$ and $^2P_{3/2}$ states. N. A. Renzetti. bibliog diags Phys R 57: 753-65 My 1 '40

GALLIUM chlorides
Chlorides of gallium. A. W. Laubengayer and F. B. Schirmer. bibliog diag Am Chem Soc J 62:1578-83 Je '40

GALLIUM compounds
Triphenylgallium. H. Gilman and R. G. Jones. bibliog Am Chem Soc J 62:980-2 Ap '40

GALLUP poll, 1936
Polls of popular opinion on political questions; a statistical analysis. Annalist 56: 427 O 3 '40

GALLUP poll, 1940
Looking behind the Gallup poll. W. L. Crum. Barron's 20:5 O 28 '40

GALTON laboratory. See London university—Galton laboratory

GALVANIZED iron. See Iron, Galvanized

GALVANIZING
American hot dip galvanizers' association annual meeting, Pittsburgh. Iron Age 145:90-1 Mr 7 '40

Angriffsarten des zinks auf stahl bei der feuerverzinkung. W. Rädeker and R. Haarmann. il diags Stahl & Eisen 59:1217-27 N 9 '39

Complicated factors accompany use of aluminum in galvanizing. W. G. Imhoff. Steel 106:54-5 Ap 29 '40

Control of spangles; temperature and submersion time important. W. G. Imhoff. il Steel 107:54, 56 S 23 '40

Developments in galvanizing, hot-dip and electro; a composite of abstracts. Metals & Alloys 12:84+ Jl '40

Developments in hot dip galvanizing. J. L. Schueler. Metal Finishing 38:384-6 Jl '40

Electrogalvanizing of wire. E. H. Lyons, jr. il Electrochem Soc Trans 78 (preprint 2):25-36 O '40

Galvanizing steel sash. W. G. Imhoff. il Steel 106:47-8 Ja 8 '40

Hot dip galvanizing. H. R. Hanley. il Metal Prog 37:431-5 Ap '40

Hot galvanizing; composite of abstracts. Metals & Alloys 11:MA86-8 F '40

Hot galvanizing; patent. il Metal Ind 38:11 Ja '40

New electro-galvanizing process. J. A. Singmaster. Metal Finishing 38:386+ Jl '40; Same. Metal Prog 38:76-7+ Jl '40; Abstract. Steel 106:25 My 6 '40

Reaction of zinc and iron in hot-dip galvanizing. H. Bablik. il Metal Finishing 38:486-8, 530-1, 585-6, 632 S-D '40

Sheet galvanizing machine; Ebbw Vale works of Richard Thomas & co. V. Delport. il Steel 106:60+ Je 10 '40

Straight-line sheet galvanizing; Wheeling steel corp. D. A. McArthur and R. A. Geuder. il plans Iron Age 145:38-41 Ap 11 '40

See also
Furnaces, Galvanizing

GALVANIZING furnaces. See Furnaces, Galvanizing

GALVANOMETERS
Amplifier for direct-current galvanometers. A. W. Sear. il diag Electronics 13:28-9 Ja '40

Chronoscope; electronic interval timer originally developed to test the velocity of rifle bullets. C. I. Bradford. il diags Electronics 13:28-30+ N '40

Einthoven string galvanometer-amplifier system for the investigation of photovoltaic effects. W. Vanselow and others. diag R Sci Instr 11:202-3 Je '40

Optical devices used by, or of interest to, the meter and measuring instrument engineer. F. E. J. Ockenden. diags Inst E E J 86:452-6, pl 1 My '40

Recording of current pulses by slow galvanometers. F. T. Rogers, jr. R Sci Instr 11: 198-9 Je '40

Resolving power and efficiency of moving coil galvanometers. C. H. Cartwright. R Sci Instr 11:31-6 Ja '40

Sensitivity and resolution of moving coil galvanometers. C. H. Cartwright. R Sci Instr 11:25-30 Ja '40

See also
Fluxmeters

GAMBLING
Responsibility of utilities for criminal use of service; telephone companies and gambling laws. R. J. Beamish. Pub Util 25:586-91; Discussion. W. H. Lamb. 591-3 My 9 '40

GAMBLING chips
Mackenzie collection; a study of West African carved gambling chips. M. Siegel. il Am Anthropological Assn Memoirs 55:1-81 bibliog(p80-1) '40 (pa 85c)

GAMES
For fortune or fun; plastics for games and game sets. E. Main. il Mod Plastics 17:32-3 D '39
More indoor and community games. S. G. Hedges. 2d ed 144p $1.50 Chemical pub. co. '40

GAMING laws. See Gambling

GAMMA rays
Absolute value of cosmic-ray ionization at sea level in different gases; comparison with gamma rays. J. Clay. Rs Mod Phys 11:123-7 Jl-O '39
Beta-spectra of iodine. G. F. Tape. bibliog Phys R 56:965-71 N 15 '39
Bremsstrahlung of RaE. E. Stahel and J. Guillissen. Phys R 57:341-2 F 15 '40
Concentration of radioactive bromine produced by gamma-radiation. W. H. Barkas and others. Phys R 58:577 S 15 '40
Decay of the 4.5-hour Br^{80} isomer. D. DeVault and W. F. Libby. bibliog Phys R 58:688-92 O 15 '40
Directional correlation of successive quanta. D. R. Hamilton. Phys R 58:122-31 Jl 15 '40
Efficiency of γ-ray counters. F. Norbling. bibliog Phys R 58:277 Ag 1 '40
Excitation of the 455-Kev level of Li^7 by proton bombardment. C. M. Hudson, R. G. Herb and G. J. Plain. diags Phys R 57:587-92 Ap 1 '40
Fine focus radiography, gamma rays; using a bulb of radon. G. E. Doan and M. B. Vordahl. il diag Am Soc T M Proc 39:741-7; Discussion. 748 '39
Gamma-radiation from nitrogen bombarded by deuterons. E. R. Gaerttner and L. A. Pardue. bibliog Phys R 57:386-9 Mr 1 '40
Gamma-ray resonances from the bombardment of carbon by deuterons. W. E. Bennett and T. W. Bonner. Phys R 58:183-5 Jl 15 '40
Gamma-rays from aluminum due to proton bombardment. G. P. Plain and others. diags Phys R 57:187-93 F 1 '40
Gamma-rays from beryllium and nitrogen bombarded with deuterons. H. R. Crane, J. Halpern and N. L. Oleson. bibliog Phys R 57:13-15 Ja 1 '40
Integrating circuit for vapor-type Geiger-Müller counters. L. F. Curtiss. pl diags J Research Nat Bur Stand 25:369-77 S '40
Internal absorption of gamma rays in radium-beryllium neutron sources. L. F. Curtiss. diag J Research Nat Bur Stand 23:617-19 N '39
Internal conversion of gamma-radiation in the *L* shell. M. H. Hebb and E. Nelson. Phys R 58:486-91 S 15 '40
Internal scattering of gamma-rays. E. P. Cooper and P. Morrison. Phys R 57:862-6 My 15 '40
Internally converted gamma-rays from radioactive gold. J. L. Lawson and J. M. Cork. Phys R 58:580 S 15 '40
Ionization measurements of the radiations from radioactive substances. C. G. Montgomery and D. D. Montgomery. Franklin Inst J 229:604-6 My '40
K-electron capture and internal conversion in Cr^{51}. H. Walke, F. C. Thompson and J. Holt. il Phys R 57:171-6 F 1 '40
Measurement, in roentgens, of the gamma radiation from radium by the free-air ionization chamber. L. S. Taylor and G. Singer. bibliog diags J Research Nat Bur Stand 24:247-68 Mr '40
Radiations from radioactive indium (116). B. R. Curtis and J. R. Richardson. bibliog Phys R 57:1121-4 Je 15 '40
Radiative *K* capture. P. Morrison and L. I. Schiff. Phys R 58:24-6 Jl 1 '40
Structure of the lower excited levels of the Br^{80} nucleus. A. P. Grinberg and L. I. Roussinow. Phys R 58:181 Jl 15 '40
Study of the nuclear radiations from antimony and arsenic. A. C. G. Mitchell, L. M. Langer and P. W. McDaniel. bibliog diags Phys R 57:1107-17 Je 15 '40

GANGPLANKS, Aluminum
Aluminum gangplank. il Marine Eng 45:77 Jl '40

GANGRENE, Gas
Experimental pathological changes produced by the toxin of clostridium histolyticum in animals. J. G. Pasternack and I. A. Bengtson. bibliog Pub Health Rep 55:775-84 My 3 '40
Studies on the toxins and antitoxins of clostridium perfringens. S. E. Stewart. Pub Health Rep 55:753-75 bibliog(53 titles, p773-5) My 3 '40

GANNETT, Frank Ernest, 1876-
Announces his candidacy for Republican presidential nomination. Comm & Fin Chr 150: 367 Ja 20 '40

GANTT charts
Production control; use of Gantt chart. E. Caldwell. il Iron Age 145:46-8 Ap 18; 46-8 Ap 25 '40

GARAGE doors
Spring-balanced overhead doors. il Arch Rec 88:50 S '40

GARAGES
Building no. 11, Rockefeller Center, New York; garage and office building; views, plans, construction outline. Arch Forum 72: 23-8 Ja '40
Concrete lace curtains for walls to screen a multifloor parking structure in downtown Washington. il diags Eng N 124:803-4 Je 6 '40
Garage has 2-in. concrete walls; Evening Star parking plaza in Washington, D.C. il plans Arch Rec 88:44-6 Jl '40
Law relating to garages and car parks. D. Potter. lxiip, 384p 15s Butterworth & co, London '39
New staggered-floor garage design cuts cost. V. Lankovsky. il diags plans Eng N 125: 219-20 Ag 15 '40
Park-N-Shop; St Louis public garage operates private buses as a profitable adjunct to its parking business; retail trade cooperation. H. Barman. il Bus Transportation 19:378-9 Ag '40
Timber arches for buildings; five highway equipment buildings; reinforced concrete buttresses support glued laminated timber arches. A. S. Friedman. il Eng N 124:847 Je 20 '40

See also
Gasoline service stations
Motor bus lines—Garages

Heating and ventilation
Flexible heat, lowered fuel costs result from stoker installation; Avondale garage and car house of the Cincinnati street railway. T. A. Marsh. il diag Heat & Ven 37:44-5 N '40

Safety devices and measures
Safety in garages. Safety Eng 80:30 S '40

GARAGES, Private
Why not sell portable steel buildings and steel ceilings? Lutters' portable garage co. il Sheet Metal Worker 31:27-8 Ap '40

GARBAGE disposal. See Refuse disposal

GARBAGE incinerators. See Refuse incinerators

GARCINIA mangostana. See Mangosteen

GARDEN apartments. See Apartment houses—Garden apartments

GARDEN CITY, New York

Water supply
Progress report on the use of sodium hexametaphosphate. A. H. Rogers. Am Water Works Assn J 32:1498-1500 S '40

GARDEN pools
How to build a garden pool for water plants and goldfish. il diags Am Bld 62:68 Ag '40

GARDEN tools
American fork & hoe co. modernizes its dipping departments by installing unit heater and exhaust systems. R. C. Taft. il diags Heat & Ven 37:35-7 Mr '40

GARDENING
See also
Landscape gardening

GARDNER, Walter Myers, 1861-1939
Sketch. B. North. por Soc Dyers & Col J 56:123-4 Mr '40

GARMENT cutting
Cutters want wider fabrics; abstracts. A. C. Abrahams. Textile World 90:74 Ja '40; Rayon 21:84+ F '40
Should spun rayons be woven on wide looms? the effect of cloth width upon clothing manufacturer, mill man and loom builder. A. Palmer. Rayon 21:361-2+ Je '40

GARMENT factories

Equipment
Mechanical handling in a garment factory. il Mech Handling 26:339-41+ D '39

GARMENT workers
Earnings in the women's and children's apparel industry in the spring of 1939. A. T. Sutherland. U S Women's Bur Bul 175: 1 91 '40; Abstract. Monthly Labor R 51:901-7 O '40
Garment workers' wages fixed under wage and hour law. Monthly Labor R 50:1458-61 Je '40
See also International ladies' garment workers' union

GARMENTS
See also
Clothing and dress
Corsets
Dress industry
Shirts
Underwear

GARNETT, George
Presentation of the Textile institute medal to George Garnett. Textile Inst J 30:P411 O '39

GARY, Indiana

Sewerage
Garbage grinding. L. R. Howson. il plan Eng N 125:273-4 Ag 29 '40

Waste
Treatment works of Gary; abstract. L. R. Howson. Water Works & Sewerage 86:497-8 D '39

GAS
Modern miracle; gas is chemical agent with unexplored possibilities. C. G. Segeler. Am Gas Assn Mo 21:427-9 D '39
Producing 1100 B.t.u. by-product gas. P. E. Haynes. Gas Age 86:36+ S 12 '40
See also
Acetylene
Blast furnace gas
Butane
Coal distillation
Coke-oven gas
Distillation
Flue gas
Gas, Natural
Gas, Producer
Gas, Water
Gas analysis
Gas appliances
Gas as fuel
Gas companies
Gas industry
Gas lighting
Gas manufacture
Gas producers
Gases
Liquefied petroleum gas
Propane
Sewage sludge—Gas production

Analysis
See Gas analysis

Calorific value
Raising the calorific value of gas for motor transport. J. I. Graham and D. G. Skinner. Gas J (Lond) 229:39-41; Discussion. 41 Ja 3 '40

Cyanogen content
Effects of cyanogen on manufactured gas. E. J. Murphy. bibliog il Gas Age 84:23-7 N 23 '39; Same. Am Gas J 151:9-13, 41 D '39

Dehydration
Gas drying at Kirkintilloch; with cost data. T. Stirling. Gas J (Lond) 231:35-6 Jl 3 '40
Gas drying; with cost data. J. G. Gaunt. Gas J (Lond) 230:401 My 22 '40
Korrosionsverhinderung durch feinreinigung von brenngasen. H. Brückner. Chemische Fabrik 12:490-2 N 22 '39
Ten years of gas dehydration. W. L. Shively. bibliog flow sheets il diags Am Gas Assn Proc 1939:501-14; Same cond. Gas Age 84: 45-50 O 26 '39; Same cond. Am Gas J 151: 32-4+ N '39; Discussion. Am Gas Assn Proc 1939:515
Trocknung von stadtgas mit kieselgel. H. Klaus. V D I 84:123 F 17 '40
See also
Gas, Natural—Dehydration

Gum formation
Blaw-Knox cleaner installation at Rutland, Vt. S. F. McCallister. il diags Am Gas J 152:26-9 Ja '40; Same, without diags. Gas Age 84:21-2+ N 23 '39
Determination of the causes of pilot outages. W. L. Shively. bibliog diags Gas Age 85: 28-30+ Je 6 '40; Same. Gas J (Lond) 231: 328, 331-2 Ag 21 '40
Effects of cyanogen on manufactured gas. E. J. Murphy. bibliog il Gas Age 84:23-7 N 23 '39; Same. Am Gas J 151:9-13, 41 D '39
Light oil scrubbing for gum formers. S. Green. diags Am Gas Assn Proc 1939:573-85

Laws and regulations
See also
Gas, Natural—Laws and regulations
Gas companies—Law

Manufacture
See Gas, Water—Manufacture; Gas manufacture; Gas works

Standards
Richtlinien für die beschaffenheit von stadtgas. V D I 84:103-4 F 10 '40

Sulfur content
Corrosion of metals and alloys by flue gases. L. Shnidman and J. S. Yeaw. Am Gas Assn Proc 1939:542-52
Determination of organic sulfur in gases by the catalytic hydrolysis method. L. T. Jilk. il diags Am Soc T M Proc 39:1159-68; Discussion. 1169-70 '39
Effects of cyanogen on manufactured gas. E. J. Murphy. bibliog il Gas Age 84:23-7 N 23 '39; Same. Am Gas J 151:9-13, 41 D '39
Organic sulphur. bibliog il Am Gas Assn Proc 1939:517-42; Same cond. Am Gas J 151:27-33 D '39; Discussion. Am Gas Assn Proc 1939:557-8
Report on corrosion of metals and alloys by flue gases. E. J. Murphy. il Am Gas Assn Proc 1939:553-7
See also
Gas, Natural—Sulfur content

Testing
See Gas testing

GAS, Bottled
See also
Liquefied petroleum gas

Marketing
Growing bottled gas industry requires substantial oil marketers. il Nat Pet N 32:25-38 Ag 14 '40

GAS, Natural
Abstracts of papers presented before annual meeting of Natural gas section, American gas association, Houston, Tex., May 6-10. Oil & Gas J 39:153, 160 My 16 '40
Annual report of the Petroleum and natural-gas division, fiscal year 1939. R. A. Cattell and others. bibliog pl U S Bur Mines Rep of Invest 3501:1-41 '40
Chemical uses of gas. C. G. Segeler. Ind & Eng Chem News ed 18:437-8 My 25 '40
Columbian Carbon; United Carbon; favored by rising profits from natural gas and improvement in carbon black. P. Dobbs. Mag of Wall St 65:360-1, 381-2 D 30 '39

GAS, Natural—*Continued*
Educational aid; natural gas course meets test of time. M. M. Stephens. Am Gas Assn Mo 22:215-16 Je '40
Formation of fuels; a new theory of the origin of gas, oil and coal. E. Berl. Am Gas Assn Mo 22:335-6 O '40
Gas-liquid equilibrium constants; methane-decane system. H. M. Lavender, B. H. Sage and W. N. Lacey. bibliog diag Oil & Gas J 39:48-9 Jl 11 '40
Gas-recovery system installed by Kendall, J. P. O'Donnell. il diag Oil & Gas J 38:34-5 F 8 '40
Many new features in design of Cayuga no. 2 recycling plant. N. C. Turner. flow chart il Oil & Gas J 38:36-7+ My 9 '40
Natural gas engineering. M. M. Stephens. 553p Division of mineral industries extension, School of mineral industries, Pennsylvania state college, State College, Pa. '39
Natural gas engineering school in nature's laboratory; Texas college of arts and industries. F. H. Dotterweich. il map Am Gas J 152:13-18 My '40
Natural gas found hormone source. Am Gas Assn Mo 22:178 My '40
Process engineering in low-temperature, high-pressure condensate extraction. W. H. Justice. flow chart il Oil & Gas J 38:40-1+ My 9 '40
Progress in utilization of natural gas. R. H. Cook. Oil & Gas J 39:168-9 S 19 '40
Retrograde condensation; phase relations of a mixture of natural gas and natural gasoline. D. L. Katz and F. Kurata. il diags Ind & Eng Chem 32:817-27 bibliog(54 references, p827) Je '40
Suggest correlation of gas gravity and gasoline content. K. Davison. Oil & Gas J 38:54 F 8 '40
Thirty years of natural gas service; Lone Star gas system. il maps Gas Age 86:21-70+ N 7 '40
Utilization of natural gas for chemical products. H. M. Smith. U S Bur Mines Information Circ 7108:1-8 bibliog(44 titles, p5-8) '40; Same, without bibliog. Gas Age 86:31-6 Jl 4 '40

See also
Carbon black
Ethane
Gas as fuel—Natural gas
Gas mixing
Gasoline, Natural
Liquefied petroleum gas
Methane
Petroleum
also Columbia gas and electric corporation

Accounting
Basic accounting system adopted for natural gas. Gas Age 84:11 N 23 '39

Advertising
Stretching advertising dollars; Oklahoma natural gas company. H. V. Potter. il Gas Age 84:43-5 D 21 '39

Bibliography
Selected list of Bureau of mines publications and motion picture films dealing with petroleum, natural gas, helium, oil shale, and allied subjects. 129p U.S. Bur. of mines, Washington '40

Change-over
Pacific gas and electric company case study; operating: transmission, distribution. R. S. Fuller. Gas Age 85:25 F 29 '40

Compression
Alarm to indicate air in natural gas. F. M. Orelup and J. R. Cowles. il diag Gas Age 86:73-4 O 10 '40
Functioning of the Compressor department; Lone Star gas company. E. F. Schmidt. il Gas Age 86:36-8 N 7 '40

Conditioning
Purifying Turner Valley gas. H. Le M. S. Guille. Can Chem & Process Ind 24:343+ Jl '40

Conservation
Gas production; a decade of progress towards conservation. E. L. Rawlins. Am Gas Assn Mo 22:89-91 Mr '40
Natural gas resources of Texas and their conservation. E. O. Thompson. il Am Gas J 152:9-12+ My '40
Recycling as a conservation measure; Lone Star gas company. E. F. Schmidt. il Gas Age 86:41-2 N 7 '40

See also
Gas, Natural—Recycling

Dehydration
Complete dehydration facilities at Continental's K.M.A. plants. D. H. Stormont. flow diag il Oil & Gas J 39:34-6 Je 6 '40
Gas dehumidification prevents hydrate freezing troubles. E. G. Hammerschmidt. bibliog Nat Pet N 32:R162-3, R167-8 My 15 '40; Same. Oil & Gas J 39:61, 64+ My 23 '40
Ten years of gas dehydration. W. L. Shively. bibliog flow diag il diags Am Gas Assn Proc 1939:501-14; Same cond. Gas Age 84:47-50 O 26 '39

Distillate wells
Condensate recovery and recycling operations. F. H. Dotterweich. bibliog il Am Gas J 153:10-12 Jl '40
Cotton Valley agreement offers complete pressure maintenance. G. Weber. il map Oil & Gas J 39:168-70+ Jl 25 '40
Developments in gas recycling plants. E. E. DeBack. il Oil & Gas J 39:32-3 My 30 '40; Same. Nat Pet N 32:R171-2+ My 15 '40
Distillate-recovery rights acquired by new firm; Distillate engineering & processes co. Oil & Gas J 38:16 Mr 7 '40
Distillate-recovery systems; abstract. H. N. Wade. Oil & Gas J 39:46 N 7 '40
Equilibrium cell for investigating properties of fluids from petroleum and natural-gas reservoirs; with a section on hypothetical phase relations of natural hydrocarbon mixtures. K. Eilerts, R. V. Smith and R. C. Wright. bibliog pls U S Bur Mines Rep of Invest 3514:1-30 '40
Experimental plant at Cotton Valley proves recycling to be feasible. G. Weber. il plan Oil & Gas J 38:32-3 Mr 7 '40
Formation pressure increased by gas injection. il diag Oil & Gas J 38:98+ Ap 25 '40
Gas condensate well important to Lisbon. G. Weber. il Oil & Gas J 38:31-3 F 1 '40
Gas recycling plant at Long Lake shows good product yield. G. Weber. il Oil & Gas J 39:59, 62+ Ag 29 '40
High-pressure recycling plant operating at Agua Dulce. H. F. Simons. il Oil & Gas J 39:30-1 Jl 4 '40
Mixing gases in porous media. R. Ducker and R. L. Huntington. bibliog il plan Oil & Gas J 38:37-8, 40-1 Ja 4 '40
More efficient practices used to produce gas wells on Gulf. N. Williams. il Oil & Gas J 39:43-4 Ag 29 '40
New recycling plant in La Rosa field has unusual operating features. N. Williams. flow diag il Oil & Gas J 39:81, 84+ O 10 '40
Rapid expansion in recycling and pressure maintenance. il Oil & Gas J 38:165-6+ Ap 25 '40
Retrograde condensation. D. L. Katz and F. Kurata. il diags Ind & Eng Chem 32:817-27 bibliog(54 references, p827) Je '40
Rincon field in south Texas being steadily extended. N. Williams. il diag map Oil & Gas J 39:13-15 Ag 1 '40
Sixth recycling plant in Agua Dulce area placed in operation. N. Williams. il Oil & Gas J 39:60, 63-4 S 26 '40
Special section; describing three-plant recycling operations of Tide water associated oil co. and Seaboard oil co. in Anderson county, Texas. flow charts il Oil & Gas J 38:33-72 My 9 '40

Testing
Unusual testing methods used in Texas recycling project. G. Weber. il diag Oil & Gas J 39:48+ O 31 '40

GAS, Natural—*Continued*

Fuel use

See Gas as fuel—Natural gas

Geology

Geologist and gas reserves; Lone Star gas company. E. F. Schmidt. Gas Age 86:27-8 N 7 '40

Relative porosity and permeability of producing formations of Hugoton field as indicated by gas withdrawals and pressure decline. G. G. Bartle and R. M. Smith. map Am Assn Pet Geologists Bul 24:1798-1804 O '40

Subsurface geology and oil and gas resources of Osage county, Oklahoma. N. W. Bass and others. fold maps U S Geol S Bul 900-A:1-45 '38; 900-B:47-82; 900-C:83-129 '39; 900-D:131-71 '40

Laws and regulations

Federal power commission hedges in opinion as to natural gas act scope. H. D. Ralph. Oil & Gas J 39:69 Jl 25 '40

History and peculiarities of regulation in Texas; Lone Star gas company, rate cases, etc. R. C. Coffee and M. Newcomb. il Gas Age 86:53-5 N 7 '40

Rate-making by interim order; procedure in Natural Gas Pipeline case. A. L. Stein. J Land & Pub Util Econ 16:368-71 Ag '40

Recycling control is included in proposed Mississippi law. G. Weber. il Oil & Gas J 38:9+ My 2 '40

Leases

Forfeiture of natural gas leases for inactivity. Pub Util 26:530+ O 10 '40

Land department data and activities; Lone Star gas company. E. F. Schmidt. il Gas Age 86:29-32 N 7 '40

No room for doodlebugs; the Land and lease dept.; Oklahoma natural gas company. W. L. Rinaman, L. V. Davis and R. L. Miller. Gas Age 84:29+ D 21 '39

Liquefaction

East Ohio will build plant to liquefy natural gas. Gas Age 86:13 Jl 4 '40

Experiment with liquefied natural gas for storage. W. V. Howard. il Oil & Gas J 38: 18-19 My 9 '40

Liquefaction, storage and regasification of natural gas; commercial plant under construction at Cleveland. J. A. Clark and R. W. Miller. flow diag il Oil & Gas J 39:48, 51-2 O 17 '40; Same. Am Gas J 153:52-5 N '40; Same. Gas Age 86:46-8, 50 O 24 '40; Excerpt. Am Gas Assn Mo 22:387 N '40

Plant to liquefy gas; storage to meet any emergency in Cleveland. Business Week p40-2 Ag 10 '40

Measurement

California natural gas association adopts new gas shrinkage table. Nat Pet N 32:R14 Ja 10 '40

Chart for computing volumes. T. Davison. Oil & Gas J 39:65 Jl 11 '40

Operation of Gas measurement department; Lone Star gas company. E. F. Schmidt. il Gas Age 86:34-5 N 7 '40

Suggested supplement no. 2 to API code no. 50-A: natural gas (tentative); recommendations for measuring gas at pressures in excess of 1,000 psi. D. A. Sillers. diags Am Pet Inst Proc 21M(4):65-6 My '40

Merchandizing

Can our industry advance by more aggressive industrial gas promotion; with special reference to natural gas. C. E. Bennett. Am Gas Assn Proc 1939:58-60

Growing importance of industrial gas; sales work of Lone Star gas co. E. J. Hatzenbuehler. il Gas Age 86:67-9 N 7 '40

Industrial gas, what it means to us; abstract. D. W. Harris. Oil & Gas J 39:160 My 16 '40

Industrial sales; combating oil on its own soil; Oklahoma natural gas company. D. W. Reeves. il Gas Age 84:48-9 D 21 '39

Industrial sales conference at Houston augurs greater natural gas loads. il Am Gas Assn Mo 22:232-3+ Je '40

Natural gas in California. W. G. Vincent. Am Gas Assn Proc 1939:61-6

Oil field business; competing with free gas; Oklahoma natural gas company. J. A. McMullin. il Gas Age 84:52-3 D 21 '39

Oomphasizing your merchandise. H. V. Potter. Am Gas J 152:21-3 Mr '40

Planned programs; a formula for more gas sales; Oklahoma natural gas company. J. H. Warden. Gas Age 84:42+ D 21 '39

Moisture content

Freezing of natural gas regulators. W. C. Mitchell, S. Cromer and R. L. Huntington. bibliog il diags Gas Age 85:17-21+ Ja 4 '40

Odorizing

Introducing odorants into high-pressure pipe lines. T. S. Bacon. il diag Gas Age 85:18-19+ Je 20 '40

Odorization of natural gas for city distribution. W. R. Fraser. diags Gas Age 86:31-3 S 12 '40

Peak load

Kansas line provides for peak loads. R. E. McGee. il Oil & Gas J 39:88 S 19 '40

Liquefaction, storage and regasification of natural gas; commercial plant under construction at Cleveland. J. A. Clark and R. W. Miller. flow diag il Oil & Gas J 39:48, 51-2 O 17 '40; Same. Am Gas J 153:52-5 N '40; Same. Gas Age 86:46-8, 50 O 24 '40

Pacific gas and electric company case study; manufactured gas plants for stand-by. F. Wills. il diags Gas Age 85:31-2 F 29 '40

Plant to liquefy, store and regasify natural gas now being built. Am Gas Assn Mo 22:387 N '40

Pipe lines

Broad-visioned program of natural gas pipeline research. H. D. Hancock. Am Gas Assn Mo 22:44-6 F '40

Construction and testing of lines for high-pressure recycling operation in Texas. R. Vandercook. Oil & Gas J 39:138+ S 19 '40

Construction methods in laying Geneseo-Milwaukee gas line. P. Reed. il Oil & Gas J 39:44-5 N 7 '40

Correct well completion and design of gathering systems important in recycling. G. Weber. il diag map Oil & Gas J 38:66-9 My 9 '40

Dust control; glass wool filters to the rescue; Oklahoma natural gas company. E. J. McConnell. il diag Gas Age 84:35-6 D 21 '39

Effect of gas storage on transmission. S. A. Chadwell. map Gas Age 85:26-9+ My 23 '40

Empire of natural gas; map of pipe lines. Fortune 22:57 Ag '40

Engineering performance in a far flung system; Lone Star gas company. E. F. Schmidt. il map Gas Age 86:25-7 N 7 '40

Flow of natural gas in rough pipes; abstract. R. Ransom. Oil & Gas J 39:153 My 16 '40

Gasways keep pace; transmission and distribution; Oklahoma natural gas company. R. W. Ducker. il map Gas Age 84:31-4 D 21 '39

Gulf South; United gas pipe line company adopts industrial development program. il Am Gas J 152:39-40 My '40

Important decision on gas line construction. Min Cong J 25:55 N '39

Inspection department duties outlined; Lone Star gas company. E. F. Schmidt. il Gas Age 86:35-6 N 7 '40

Introducing odorants into high-pressure pipe lines. T. S. Bacon. il diag Gas Age 85:18-19+ Je 20 '40

Kansas line provides for peak loads. R. E. McGee. il Oil & Gas J 39:88 S 19 '40

Large all-welded pipe lines; abstract. H. J. Carson. Oil & Gas J 39:153 My 16 '40

Large pipe-line suspension bridge is constructed by Northern Natural. T. P. Sanders. il Oil & Gas J 39:145-6 S 19 '40

Latest engineering practices; text in English and Spanish. il Oil & Gas J 38:312-20 D 28 '39

GAS, Natural—Pipe lines—*Continued*
Laying Pennsylvania gas pipe line made difficult by terrain. A. C. MacIntyre and P. Reed. il Oil & Gas J 39:34+ S 5 '40
Lone Star constructs new fifty-mile line. il Gas Age 84:25-6 D 7 '39
Major pipe-line projects were feature of 1939 construction. Oil & Gas J 38:181 Ja 25 '40
Milwaukee line hearing enters final stages; applications of two rivals for certificates of authority to build pipe lines. Oil & Gas J 39:36 O 31 '40
Natural gas in ferro-manganese production for national defense. Oil & Gas J 39:18 Ag 29 '40
Natural gas transmission and utilization. E. F. Schmidt. il Gas Age 85:30-1 Ja 18 '40
New gas line in western Pennsylvania. Gas Age 86:48 S 12 '40
New Lirette-New Orleans line completed. il Gas Age 86:23+ S 12 '40
1940 a pipe-line year; with map showing crude oil, natural gas and gasoline pipe lines completed, under construction and proposed. P. Reed. il Oil & Gas J 39:54-6+ S 19 '40
1940 may exceed 1939 in pipe-line construction. P. Reed. il Oil & Gas J 38:12-13+ Mr 7 '40
Northern natural gas co. completes major construction. J. P. Bristow. il map Gas Age 85:12-14+ Mr 28 '40
Operating and maintaining a natural gas line. W. R. Beardsley and C. B. Abbot. il Gas Age 85:32-6+ My 23 '40
Pacific gas and electric company case study; operating: transmission, distribution. R. S. Fuller. il map Gas Age 85:23-6+ F 29 '40
Panhandle Eastern enlarges system; pipe laying in winter. J. S. Stevenson. il Gas Age 85:27+ Mr 14 '40
Panhandle Eastern looping program progresses; winter pipe line construction. J. S. Stevenson. il Gas Age 85:44-5+ My 9 '40
Phillips Petroleum unit plans 877-mile link. Gas Age 86:15-16 Jl 18 '40
Phillips plans gas line from Panhandle to Wisconsin. D. H. Stormont. map Oil & Gas J 39:9 Jl 4 '40
Pipe-line construction continues at high rate. Oil & Gas J 39:164 Jl 25 '40
Pipe-line expansion program to continue into 1940. P. Reed. il map Oil & Gas J 38:14-15 D 7 '39
Pipe-line facilities ready for any emergency. P. Reed. il Oil & Gas J 39:11+ O 24 '40
Pipe-line work in winter weather. P. Reed. il Oil & Gas J 38:63 F 15 '40
Private telephone communication system; Lone Star gas company. E. F. Schmidt. il map Gas Age 86:38-9 N 7 '40
Proposed gas line would tap largest remaining market; Reserve gas pipe line company plans line from Texas to New York city. map Oil & Gas J 39:34 Ag 15 '40
Recent construction, operating improvements in Oklahoma Natural Gas system. C. U. Daniels. il maps Oil & Gas J 39:115, 119-20 S 19 '40
Relocating transmission line in flood-control area. S. S. Donaldson. il Oil & Gas J 39: 87-8 S 19 '40
Rival applicants for Milwaukee gas line deny agreement. Oil & Gas J 39:20 O 24 '40
Safety practices in testing high-pressure gas lines. D. K. Stephens. il Oil & Gas J 39: 86+ S 19 '40
Telemetric pressure recording system simplifies pipe-line operation. il Gas Age 85:32 Je 20 '40
Texas Cities' Galveston Bay line completed. il Gas Age 86:15 Ag 1 '40
Trends in pipe-line operation. P. Reed. il map Oil & Gas J 39:16 Ag 1 '40
United Gas adopts unique practices in Monroe-Jackson pipe line. N. Williams. il map Oil & Gas J 38:198-200 Ja 25 '40

Directories
Personnel of natural gas pipe-line companies. Oil & Gas J 39:185-92 S 19 '40

Maps
Oil and gas journal's natural gas pipe line map. Oil & Gas J 39:supp S 19 '40

Pressure measurement
Application of well-test data to the study of a specific gas-production problem. M. A. Schellhardt, E. J. Dewees and W. H. Barlow. U S Bur Mines Rep of Invest 3493:1-22 '40

Production methods
Application of well-test data to the study of a specific gas-production problem. M. A. Schellhardt, E. J. Dewees and W. H. Barlow. U S Bur Mines Rep of Invest 3493: 1-22 '40
Bottom-hole control of gas production; abstract. E. W. McAllister. Oil & Gas J 38: 71 Mr 21 '40
Correct well completion and design of gathering systems important in recycling. G. Weber. il diag map Oil & Gas J 38:66-9 My 9 '40
Handling of high pressures at La Gloria, Texas, field. H. F. Simons. il Oil & Gas J 39:58-9 Je 13 '40
Maintenance of multicylinder engines in sour gas areas. D. H. Stormont. il Oil & Gas J 39:48-9 Je 13 '40
More efficient practices used to produce gas wells on Gulf. N. Williams. il Oil & Gas J 39:43-4 Ag 29 '40
Production engineering and scouting; Lone Star gas company. E. F. Schmidt. Gas Age 86:28-9 N 7 '40

See also
Gas, Natural—
Recycling

Prospecting
Geochemical exploration (soil analysis); with some speculation about the genesis of oil, gas, and other mineral accumulations. E. McDermott. bibliog diags maps Am Assn Pet Geologists Bul 24:859-81 My '40
Geochemical prospecting; a new method of gas and oil exploration. S. E. Slipper. il Am Gas J 153:31-3 Ag '40
Geologist and gas reserves; Lone Star gas company. E. F. Schmidt. Gas Age 86:27-8 N 7 '40
No room for doodlebugs; the Land and lease dept.; Oklahoma natural gas company. W. L. Rinaman, L. V. Davis and R. L. Miller. Gas Age 84:29+ D 21 '39

Rates
Detroit plan for gas company rate control. C. E. Troxel. J Land & Pub Util Econ 15: 486-8 N '39
FPC considers immediate gas rate reductions by Natural gas pipe line company of America and its subsidiary, Texoma natural gas company. Pub Util 24:830-1 D 21 '39
Federal power commission orders company to reduce gas rates of the Natural gas pipe line co. Oil & Gas J 39:36 Ag 8 '40
History and peculiarities of regulation in Texas; Lone Star gas company, rate cases, etc. R. C. Coffee and M. Newcomb. il Gas Age 86:53-5 N 7 '40
Load factors and increment costs in transmission and distribution of gas. E. L. Fischer. Am Gas Assn Proc 1939:478-92; Discussion. 492-4
Methods of valuation for rate-making purposes; natural gas production system property. E. C. Connor. Am Gas J 153:28-9 Mr '40
Natural Gas Pipeline rates ordered cut by FPC. Gas Age 86:18 Ag 15 '40
Pacific gas and electric company case study; rate structure and regulation. B. B. Beckett. Gas Age 85:21-2+ F 29 '40
Rate-making by interim order; procedure in Natural Gas Pipeline case. A. L. Stein. J Land & Pub Util Econ 16:368-71 Ag '40
Weather forecasting and rate variations in natural gas operation; natural gas in California; abstract. W. G. Vincent. Pub Util 24:766-8 D 7 '39

GAS, Natural—*Continued*

Recycling

Condensate recovery and recycling operations. F. H. Dotterweich. bibliog il Am Gas J 153:10-12 Jl '40

Construction and testing of lines for high-pressure recycling operation in Texas. R. Vandercook. Oil & Gas J 39:138+ S 19 '40

Cotton Valley agreement offers complete pressure maintenance. G. Weber. il map Oil & Gas J 39:168-70+ Jl 25 '40

Developments in gas recycling plants. E. E. DeBack. il Oil & Gas J 39:32-3 My 30 '40; Same. Nat Pet N 32:R171-2+ My 15 '40

Equilibrium cell for investigating properties of fluids from petroleum and natural-gas reservoirs; with a section on hypothetical phase relations of natural hydrocarbon mixtures. K. Eilerts, R. V. Smith and R. C. Wright. bibliog pls U S Bur Mines Rep of Invest 3514:1-30 '40

Experimental plant at Cotton Valley proves recycling to be feasible. G. Weber. il plan Oil & Gas J 38:32-3 Mr 7 '40

Full-scale pressure maintenance under way in K.M.A. field. D. H. Stormont. il map Oil & Gas J 38:34-7+ Ap 4 '40

Gas recycling plant at Long Lake shows good product yield. G. Weber. il Oil & Gas J 39: 59, 62+ Ag 29 '40

High-pressure recycling plant operating at Agua Dulce. H. F. Simons. il Oil & Gas J 39:30-1 Jl 4 '40

Mixing gases in porous media. R. Ducker and R. L. Huntington. bibliog il plan Oil & Gas J 38:37-8, 40-1 Ja 4 '40

New recycling plant in La Rosa field has unusual operating features. N. Williams. flow diag il Oil & Gas J 39:81, 84+ O 10 '40

Rapid expansion in recycling and pressure maintenance. il Oil & Gas J 38:165-6+ Ap 25 '40

Recycling as a conservation measure; Lone Star gas company. E. F. Schmidt. il Gas Age 86:41-2 N 7 '40

Recycling control is included in proposed Mississippi law. G. Weber. il Oil & Gas J 38:9+ My 2 '40

Recycling keeps natural gasoline industry on conservation front; abstract. H. B. Bernard. Nat Pet N 32:R176 My 15 '40

Recycling progresses; new plants in east Texas. Gas Age 85:46+ My 23 '40

Recycling views on Gulf coast; illustrations. Oil & Gas J 38:85 Ap 25 '40

Sixth recycling plant in Agua Dulce area placed in operation. N. Williams. il Oil & Gas J 39:60, 63-4 S 26 '40

Special section; describing three-plant recycling operations of Tide water associated oil co. and Seaboard oil co. in Anderson county, Tex. flow charts il Oil & Gas J 38:33-72 My 9 '40

Unusual testing methods used in Texas recycling project. G. Weber. il diag Oil & Gas J 39:48+ O 31 '40

Safety measures

Safety practices in testing high-pressure gas lines. D. K. Stephens. il Oil & Gas J 39: 86+ S 19 '40

Statistics

Annual statistics of the natural gas industry in 1938. 15p American gas assn, 420 Lexington av, New York '39

Customers, sales, and revenue from sales to consumers, 1935-1939. Survey of Cur Business 1940 Sup p99 [supplemented in monthly numbers]

Natural gas consumption decreased in 1938. Oil & Gas J 38:28 Ja 4 '40

Natural gas; customers, sales to consumers, revenue from sales, monthly, 1937-39; revision. Survey of Cur Business 20:16-17 My '40

Natural-gas industry looks for record consumption. H. S. Norman. Oil & Gas J 38:10+ My 2 '40

Natural gas reached new peak in 1939. Gas Age 86:29+ S 26 '40

Natural gas statistical summary for 1939. P. Ryan. Gas Age 85:54-6 My 9 '40; Same cond. Am Gas Assn Mo 22:165-6 My '40; Same cond. Oil & Gas J 38:13+ My 2 '40

Storage

Effect of gas storage on transmission. S. A. Chadwell. map Gas Age 85:26-9+ My 23 '40

Experiences with underground gas storage. J. H. Isherwood. Gas Age 85:29-30+ Je 20 '40

Experiment with liquefied natural gas for storage. W. V. Howard. il Oil & Gas J 38:18-19 My 9 '40

Liquefaction, storage and regasification of natural gas; commercial plant under construction at Cleveland. J. A. Clark and R. W. Miller. flow diag il Oil & Gas J 39:48, 51-2 O 17 '40; Same. Am Gas J 153:52-5 N '40; Same. Gas Age 86:46-8, 50 O 24 '40; Excerpt. Am Gas Assn Mo 22:387 N '40

Our experience with the underground storage of gas (the Peoples natural gas company). F. H. Finn. map Am Assn Pet Geologists Bul 24:1482-94 Ag '40; Abstract. Oil & Gas J 39:160 My 16 '40

Plant to liquefy gas; storage to meet any emergency in Cleveland. Business Week p40-2 Ag 10 '40

Underground storage of gas. C. U. Daniels. Oil & Gas J 39:135+ My 16 '40

Sulfur content

Maintenance of multicylinder engines in sour gas areas. D. H. Stormont. il Oil & Gas J 39:48-9 Je 13 '40

Removal of hydrogen sulphide from natural gas; Girbotol process. flow sheets il Chem & Met Eng 47:37-40 Ja '40

Valuation

Methods of valuation for rate-making purposes; natural gas production system property. E. C. Connor. Am Gas J 153:28-9 Mr '40

Valuation of oil and natural gas properties as distinguished from mines. L. F. Terry. Min & Met 21:227-30 My '40; Discussion. G. S. Borden. 21:345-6 Jl '40

Well control

Difficult completion job marks opening of new gas pool. J. P. O'Donnell. il Oil & Gas J 39:68, 70, 73 My 23 '40

Heroic measures extinguish gas well fire in West Virginia. il Am Gas J 152:57 My '40

High-pressure operation: problems of Cement field. O. P. Elkins. il Gas Age 84:30+ D 21 '39

Well temperature

Application of well-test data to the study of a specific gas-production problem. M. A. Schellhardt, E. J. Dewees and W. H. Barlow. U S Bur Mines Rep of Invest 3493: 1-22 '40

Well testing

Instruments for logging and sampling oil and gas wells while drilling; Baroid well logging service. J. T. Hayward and L. M. Swift. Instruments 13:155-6+ Je '40

Alberta

Northern Alberta foothills gas structure proved. V. Lauriston. Oil & Gas J 39:82 Ag 29 '40

Purifying Turner Valley gas. H. Le M. S. Guille. Can Chem & Process Ind 24:343+ Jl '40

Arkansas

New plant recovers butanes and natural gasoline from Magnolia reserves. G. Weber. flow diag il Oil & Gas J 39:48-9 My 23 '40

Outlet for Arkansas gas in chemical manufacturing. Oil & Gas J 38:27 F 8 '40

Atlanta, Supply to

How Atlanta celebrated decade of natural gas. J. H. Reed. il Gas Age 85:37-9 My 23 '40

GAS, Natural—*Continued*

California

Natural gas conservation and utilization in California; abstract. R. M. Bauer. Oil & Gas J 38:57 N 23 '39

Natural gas in California. W. G. Vincent. Am Gas Assn Proc 1939:61-6

Pacific gas and electric company case study; sources of supply. F. F. Doyle. il Gas Age 85:27-30+ F 29 '40

Canada

Brief history of Canadian mining. W. H. Losee. Can Min J 60:666 N '39

Dallas, Texas, Supply to

Gas distribution problems in a growing territory. W. F. Wright. il Gas Age 85:17-18+ Ap 25 '40

Eastern states

Natural gas, its recent development in the Appalachian area. P. H. Price. map Am Gas Assn Mo 22:332-4+ O '40

Italy

L'utilisation en Italie des gaz combustibles naturels ou des gaz résiduels des raffineries de pétrole. Génie Civil 115:408 D 2 '39

Kansas

Large gas reserves insure many years' supply. J. H. Page. il Oil & Gas J 39:69-70+ Je 27 '40

Larger gas fields in Kansas. J. H. Page. il map Am Assn Pet Geologists Bul 24:1779-97 O '40

Oil and gas seeps in Smith county, Kan. K. K. Landes and J. M. Jewett. map Kansas Univ Geol S Mineral Resources Circ 12:1-10 '39

Relation of thickness of Mississippian limestones in central and eastern Kansas to oil and gas deposits. W. Lee. il diag maps Kansas Univ Geol S Bul 26:1-42 '39

Relative porosity and permeability of producing formations of Hugoton field as indicated by gas withdrawals and pressure decline. G. G. Bartle and R. M. Smith. map Am Assn Pet Geologists Bul 24:1798-1804 O '40

Louisiana

Gas condensate well important to Lisbon. G. Weber. il Oil & Gas J 38:31-3 F 1 '40

Mississippi

Recycling control is included in proposed Mississippi law. G. Weber. il Oil & Gas J 38:9+ My 2 '40

New Orleans, Supply to

New Lirette-New Orleans line completed. il Gas Age 86:23+ S 12 '40

New York (state)

Deep-sand developments in Appalachian region during 1939. T. H. Myers. map Am Assn Pet Geologists Bul 24:970-3 Je '40

Difficult completion job marks opening of new gas pool. J. P. O'Donnell. il Oil & Gas J 39:68, 70, 73 My 23 '40

Ohio

Northeastern Ohio location follows intensive survey. J. P. O'Donnell. maps Oil & Gas J 39:13-14 My 30 '40

Oklahoma

Geology and fuel resources of the southern part of the Oklahoma coal field; Howe-Wilburton district, Latimer and Le Flore counties. T. A. Hendricks. U S Geol S Bul 874-D:284-93 '39

Oklahoma natural gas company; case study. il Gas Age 84:22-76 D 21 '39

Subsurface geology and oil and gas resources of Osage county. N. W. Bass and others. fold maps U S Geol S Bul 900-A:1-45 '38; 900-B:47-82; 900-C:83-129 '39; 900-D:131-71 '40

Pennsylvania

Deep-sand developments in Appalachian region during 1939. T. H. Myers. map Am Assn Pet Geologists Bul 24:970-3 Je '40

Many new developments in Pennsylvania operations; ninth petroleum and natural-gas conference at Pennsylvania state college. J. P. O'Donnell. Oil & Gas J 38:22+ My 2 '40

Western Pennsylvania refiners back on coal as gas supply fails. M. G. Van Voorhis. Nat Pet N 32:R50-1 F 21 '40

Texas

Formation pressure increased by gas injection. il diag Oil & Gas J 38:98+ Ap 25 '40

Handling of high pressures at La Gloria field. H. F. Simons. il Oil & Gas J 39:58-9 Je 13 '40

High-pressure recycling plant operating at Agua Dulce. H. F. Simons. il Oil & Gas J 39:30-1 Jl 4 '40

Houston and the Texas Gulf Coast area. A. B. Groesbeck. il Gas Age 85:38-41+ My 9 '40

Industrial utilization of Texas natural gas. R. H. Cook. Gas Age 86:23-4+ Jl 18 '40

Natural gas engineering school in nature's laboratory; Texas college of arts and industries. F. H. Dotterweich. il map Am Gas J 152:16-18 My '40

Natural gas resources of Texas and their conservation. E. O. Thompson. il Am Gas J 152:9-12+ My '40

Rincon field in south Texas being steadily extended. N. Williams. il diag map Oil & Gas J 39:13-15 Ag 1 '40

Saxet oil and gas field, Nueces county. J. C. Poole. maps Am Assn Pet Geologists Bul 24:1805-35 O '40

Unusual testing methods used in Texas recycling project. G. Weber. il diag Oil & Gas J 39:48+ O 31 '40

United States

Customers, sales, and revenue from sales to consumers, 1935-1939. Survey of Cur Business 1940 Sup p99 [supplemented in monthly numbers]

Employment prospects in the petroleum and natural-gas industry. H. O. Rogers. bibliog Monthly Labor R 50:1293-1307 Je '40

Natural-gas industry had record of expansion. H. S. Norman. Oil & Gas J 38:186-7 Ja 25 '40

Natural-gas industry looks for record consumption. H. S. Norman. Oil & Gas J 38:10+ My 2 '40

Natural gas properties well prepared for emergencies that might arise during war. E. F. Schmidt. Oil & Gas J 39:53 S 19 '40

Natural gas statistical summary for 1939. P. Ryan. Gas Age 85:54-6 My 9 '40; Same cond. Am Gas Assn Mo 22:165-6 My '40; Same cond. Oil & Gas J 38:13+ My 2 '40

Natural gas transmission and utilization. E. F. Schmidt. il Gas Age 85:30-1 Ja 18 '40

Natural gas was a $174,000,000 business in 1921, is a $500,000,000 business today. il map Fortune 22:56-61+ Ag '40

Outlook for natural gas. F. C. Fullerton. il Mag of Wall St 65:479-81+ Ja 27 '40

Years of progress; natural gas history is fairy tale come true. W. C. Beckjord. Am Gas Assn Mo 22:209-10 Je '40

GAS, Oil

Compressed oil gas in place of coal gas; London, Midland and Scottish railway company. Gas J (Lond) 231:532 S 25 '40

Pacific gas and electric company case study; manufactured gas plants for stand-by. F. Wills. il diags Gas Age 85:31-2 F 29 '40

Retort oil gas process. Am Gas J 153:57 O '40

See also

Liquefied petroleum gas

GAS, Producer

Alternative motor fuels; with cost data; abstracts. C. M. Walter. Gas J (Lond) 229: 516-19 Mr 6 '40; Automobile Eng 30:121-3 Ap '40; Discussion. Gas J (Lond) 229:519 Mr 6 '40

GAS, Producer—*Continued*
Carburants, combustibles et énergies de remplacement; le gaz des forêts. L. Bacqueyrisse. Soc Ing Civils Mémoires 92:255-66 Mr '39
Filter cooler for producer gas plants. diags Engineer 168:529 N 24 '39
Fuel supplies for gas producers; official specification for transport operators by coal and carbonization industries. Gas J (Lond) 229: 236 Ja 31 '40; Same abr. Engineering 149:150 F 9 '40
Gas generated from charcoal runs automobiles in Sweden. Mach 46:104 F '40
Gas—not gasoline; British transit systems are trying out producer gas and illuminating gas for bus fuel. il Transit J 84:56-7 F '40
Individual gas producers for lime kilns. V. J. Azbe. diags Rock Prod 43:53-4 Mr '40
Investigation of the high-speed producer gas engine. M. W. Woods. bibliog il Engineer 169:448-50, 468-9 My 17-24 '40
Physical chemistry of gas-producer reactions in relation to ceramic firing. A. W. Gauger. Am Cer Soc Bul 19:365-8 O '40
Practicable alternative fuel. Chem Age (Lond) 42:82 F 10 '40
Producer and town gas; abstracts of three papers. Automobile Eng 30:56 F '40
Producer fuels; official specification. Automobile Eng 30:100 Ap '40
Producer gas; government committee's report on the conversion of motor vehicles. il diags Automobile Eng 30:82-4 Mr '40
Producer gas in the limelight in England. il Automotive Ind 81:645 D 15 '39
Use of producer gas for motor transport. Gas J (Lond) 229:351, 353 F 14 '40
Les véhicules à gaz des forêts, en Suisse; abstract. Delley. Génie Civil 116:301 My 4 '40

See also
Gas producers

GAS, Sewage sludge. See Sewage sludge—Gas production

GAS, Water
Blaw-Knox cleaner installation at Rutland, Vt. S. F. McCallister. il diags Am Gas J 152:26-9 Ja '40; Same, without diags. Gas Age 84:21-2+ N 23 '39
Mechanism of the synthesis of hydrocarbons from water gas. S. R. Craxford and E. K. Rideal. Chem Soc J p1604-14 O '39
Pacific gas and electric company case study; manufactured gas plants for stand-by. F. Wills. il diags Gas Age 85:31-2 F 29 '40
Stoppages of pilot lights on gas appliances. O. L. Kowalke. il Gas Age 85:23-6 Ap 11 '40
Water gas; committee report. Am Gas Assn Proc 1939:573-90

See also
Fischer-Tropsch process

Manufacture
Carburetting blue gas with Bunker "C" oil; important savings realized by use of low-priced oil. O. B. Phillips. Can Chem & Process Ind 24:506-7 O '40
Changeover to heavy oil in Ottawa. O. B. Phillips. Gas Age 86:23-6+ Ag 15 '40
Gas making units at Rothesay; vertical retorts and water gas plant. T. S. Lockhart. il Gas J (Lond) 230:85-7 Ap 10 '40
Influence of pressure upon the water-gas and other equilibria. G. Sartori and D. M. Newitt. Engineering 149:157 F 9 '40
Making gas the modern way; Portland gas light company. G. R. Steere. il Comp Air M 45.6170-3 Je '40
Potentialities of future gas production costs. L. J. Willien. Am Gas Assn Proc 1939:461-73; Same cond. Gas Age 84:21-3+ N 9 '39; Excerpts. Am Gas J 151:36-7 N '39; Discussion. Am Gas Assn Proc 1939:474-7
Theoretical advantages of low air; steam ratios in water gas manufacture. J. H. Taussig, jr. Gas Age 85:31-3+ Je 6 '40; Same. Am Gas J 153:30-3 Jl '40; Same. without charts. Gas J (Lond) 231:293+ Ag 14 '40

GAS absorption. See Absorption; Rubber—Gas absorption

GAS analysis
American apparatus, instruments, and instrumentation; automatic gas analysis. R. H. Müller. il Ind & Eng Chem Anal ed 12: 612-13 O 15 '40
Analyse détaillée des produits d'une carbonisation à basse température. A. Gillet and P. Cherstnioff. diags Chimie & Ind 42:944-53 D '39
Analyse von gasgemischen durch die desorptions-wärmeleitfähigkeitsmethode. R. Edse and P. Harteck. diags Angew Chemie 52: 32-3; 53:210-13 Ja 7 '39, My 11 '40
Detection of small quantities of war gases (Dijkstra's method). A. P. J. Hoogeveen. diags Chem & Ind 59:550-6 Ag 3 '40
Determination of organic sulfur in gases by the catalytic hydrolysis method. L. T. Jilk. il diags Am Soc T M Proc 39:1159-68; Discussion. 1169-70 '39
Device for rapid rinsing of absorption towers used in gas analysis studies. N. F. Childers, D. C. Kiplinger and H. W. Brody. diags Science 90:447-8 N 10 '39
Direct estimation of biological nitrogen fixation; a gasometric method. C. Hurwitz and P. W. Wilson. bibliog diags Ind & Eng Chem Anal ed 12:31-3 Ja 15 '40
Exhaust gas analyzer; how to link it up with methods of checking fuel consumption. W. A. Roberts. il Bus Transportation 18: 578-81 N '39
Gaseous products from explosives. J. C. Holtz. U S Bur Mines Rep of Invest 3507: 1-14 '40
Instruments for control and analysis of controlled atmospheres. E. E. Slowter and B. W. Gonser. il diags Metal Prog 38:555-7+ O '40
Magmatic gases. T. A. Jaggar. bibliog Am J Sci 238:313-53, pl 1-5 My '40
Microanalysis of gases; acetylene, benzene, and some procedure modifications. F. E. Blacet, A. L. Sellers and W. J. Blaedel. diag Ind & Eng Chem Anal ed 12:356-7 Je 15 '40
New method for the micro-analysis of gases. R. Spence. diags Chem Soc J p1300-3 S '40
New method of gas analysis; using soap films as gas meters. W. J. Gooderham. il diags Soc Chem Ind J 59:1-8 Ja '40
Die quantitative analyse der gasförmigen paraffinkohlenwasserstoffe durch adsorption und desorption. E. Ferber and H. Luther. il diag Angew Chemie 53:31-5 Ja 20 '40
Rapid identification of war gases; abstract. H. E. Cox. Chem Age (Lond) 41:361 N 25 '39
Relative volumetric gas analysis; by cascaded absorption and oxidation and pressure recorder. S. Chase. diag Instruments 13:218-19 Ag '40
Thermal-conductivity-type gas analyzers. C. A. Hansen, jr. il diags Gen Elec R 43:166-9 Ap '40
Use of interferometer for two component mixtures; mixtures of carbon tetrachloride and gasoline. G. C. Harrold and L. E. Gordon. il J Ind Hygiene 21:491-7 D '39

See also
Air—Analysis
Flue gas—Analysis
Gases—Apparatus
also names of gases, subdivision Analysis e.g. Nitrogen—Analysis; Oxygen—Analysis

GAS and oil engines
Adapting rotary rigs to use of internal-combustion engines. T. P. Sanders. il Oil & Gas J 39:73-4+ O 17 '40
Does condensation cause gas-engine wear? B. Maddock. Power 84:590 S '40
Export of internal combustion engines; Internal combustion engine manufacturers' association war export group. Engineer 169:332 Ap 5 '40
Gas engine auxiliaries. C. Remschel. Gas J (Lond) 231:248-9 Ag 7 '40
Heavy automotive haulage; abstract. H. K. Church. il Automotive Ind 83:432-3, 453-4 O 15 '40
Hercules adds 2-cylinder gasoline engine to line. il Automotive Ind 82:26 Ja 1 '40

GAS and oil engines—*Continued*

High-compression gas engine. J. Jones. Gas J (Lond) 231:247-8 Ag 7 '40

Maintenance of multicylinder engines in sour gas areas. D. H. Stormont. il Oil & Gas J 39:48-9 Je 13 '40

Oil and gas power; special section with tabulated data on Diesel and gas engine installations since April 1, 1939. il Power 84: 341-56 Je '40

Present position of heavy-oil and gas engines in Great Britain. A. K. Bruce. il diags Mech Eng 61:429-36 Je '39; Discussion. 62:246-9 Mr '40

Primer of the internal combustion engine. H. E. Wimperis. new & rev ed 143p 5s Constable & co, London '39

Review of power and mechanical equipment; Diesels, gas engines and accessories. il diags Power 83:799-801 Mid-D '39

See also

Airplane engines
Automobile engines
Carbureters
Cylinders (engines, etc.)
Diesel engines
Gas turbines
Locomotives, Diesel
Locomotives, Gas and oil
Motor boats
Motor bus engines
Motor cars (railroad)
Motor ships
Motor truck engines
Power plants—Gas engine plants
Tractors

Air supply

Characteristics of air cleaners used on Diesel and gas engines; abstract. W. K. Gregory. diags Automotive Ind 83:64-5 Jl 15 '40

Bearings

Engine bearings, from design to maintenance. A. B. Willi. il diags S A E J 45:513-25 D '39; Excerpts. Power Pl Eng 44:68-70 F '40

Carbon deposits

Some remarks regarding the testing of engine lubricants. C. A. Bouman. Inst Pet J 25: 771-8 D '39

Cleaning

Chemical removal of scale from compressor engines. G. F. Williams. il Oil & Gas J 38:34-5 My 2 '40

Combustion research

Analysis of engine combustion data; abstracts. L. Withrow and W. Cornelius. Automotive Ind 82:570 Je 15 '40; Nat Pet N 32:R226-7 Je 12 '40

Combustion; a critical survey of certain current concepts. L. Mantell. diags Automobile Eng 30:41-3 F '40

Combustion turbulence. W. T. David. il Engineer 169:250-1 Mr 15 '40

Engine combustion and pressure development. G. W. Rassweiler, L. Withrow, and W. Cornelius. il S A E J 46:25-48 Ja '40

Influence of directed air flow on combustion in a spark-ignition engine. A. M. Rothrock and R. C. Spencer. bibliog il diags U S Nat Advisory Com for Aeronautics 1939: 313-26 '40

Physikalische und chemische vorgänge bei der verbrennung im motor. Angew Chemie 52:649-53 O 28 '39

Process of combustion in spark ignition engines. W. T. David. diags Engineer 169: 509-10 Je 7 '40; Discussion. 170:76-7 Ag 2 '40

Wärmeübergang bei schwingenden gasen. R. Sinn. diag V D I 83:1197-9 N 11 '39

Control

Engine governors in the making at Hoof products co. il Automotive Ind 82:556-7 Je 15 '40

Cooling

Engine temperature control by recirculation and mixing. T. N. Adlan. diags Power Pl Eng 44:68 S '40

Improved gas engine waste-heat utilization; report by A.G.A. committee. plan Gas Age 85:13-14+ F 15 '40; Same cond. Oil & Gas J 38:57+ F 29 '40; Same cond. Power Pl Eng 44:65-6 Mr '40; Excerpts. Refrig Eng 39: 383 Je '40; Abstract. Power 84:159-60 Mr '40

Monitor pressure and temperature alarms for lubricating-oil or cooling-water system of an internal-combustion engine. il diags Engineering 149:444-5 Ap 26 '40

New pressure alarm in cooling water and lubricating oil circuits of an oil engine. diag Engineer 169:192 F 23 '40

Parsons water-circulation indicator for internal-combustion engines. Engineering 149: 395 Ap 12 '40; Engineer 169:384 Ap 19 '40

Study of internal corrosion in horizontal gas engines. W. H. Davidson. il diag Oil & Gas J 39:89+ S 19 '40

Vapor-phase engine cooling introduced on pipe lines. T. P. Sanders. il Oil & Gas J 39:125-6+ S 19 '40

Design

Analysis of certain characteristics of a Kadenacy engine. S. J. Davies. il diags Engineering 149:515-17, 557-9, 617-20 My 24, Je 7, 28 '40

Coventry Climax engine. il diags Automobile Eng 30:259-61 S '40

Engine comparisons and formulae for the dimensions of parts analyzed. E. G. Ingram. Automotive Ind 83:111-14 Ag 1 '40

Fiat co. introduces multi-fuel engine. diag Automotive Ind 82:26 Ja 1 '40

Fifty years of pressure-scavenging. W. A. Tookey. diags Engineering 149:595-7 Je 21 '40; Discussion. 150:95-6, 137, 156 Ag 2, 16-23 '40

Kadenacy engine. il diags Engineering 149: 195-7, pl 10 F 23 '40

Lateral stiffness and vibration in engine structures; abstract. R. Pyles. Automotive Ind 83:64 Jl 15 '40

Multifuel engines. il diags Mech Eng 61:923-4 D '39

Natural gas engine for Trinidad. W. A. Tookey. il diags Engineer 169:551-2, 554, 575-6 Je 21-28 '40

Oil engine research laboratory; Kadenacy department of the Armstrong Whitworth securities company. il diag Engineer 169:232, 235-6 Mr 8 '40

Some new investigations on old combustion-engine problems. G. Eichelberg. il diags Engineering 148:463-6, 547-50, 603-6, 682-6; 149:297-9, pl 15-16 O 27, N 17, D 1, 22 '39, Mr 22 '40

Detonation

Betrachtungen über den klopfvorgang im Otto-motor; abstract. J. J. Broeze, H. v. Driel and L. A. Peletier. Angew Chemie 52:651 O 28 '39

Criterion for knock in petrol engines. R. C. Plumb and A. C. G. Egerton. bibliog diags Inst Mech Eng J & Proc 143:Proc 247-60 S '40

Untersuchung der klopfgeräusche von Ottomotoren mit elektroakustischen messgeräten. A. W. Schmidt. il V D I 84:48 Ja 20 '40

Efficiency

Analysis of certain characteristics of a Kadenacy engine. S. J. Davies. il diags Engineering 149:515-17, 557-9, 617-20 My 24, Je 7, 28 '40

Exhaust-pipe effects in a single-cylinder four-stroke engine. G. F. Mucklow. bibliog diags Inst Mech Eng J & Proc 143:Proc 109-27 My '40; Discussion. 144:Proc 42-5 N '40

Investigation of the high-speed producer gas engine. M. W. Woods. bibliog il Engineer 169:448-50, 468-9 My 17-24 '40

Exhaust

Exhaust-pipe effects in a single-cylinder four-stroke engine. G. F. Mucklow. bibliog diags Inst Mech Eng J & Proc 143:Proc 109-27 My '40; Discussion. 144:Proc 42-5 N '40

Improved gas engine waste-heat utilization; report by A.G.A. committee. plan Gas Age 85:13-14+ F 15 '40; Same cond. Oil & Gas J 38:57+ F 29 '40; Same cond. Power Pl Eng 44:65-6 Mr '40; Excerpts. Refrig Eng 39: 383 Je '40; Abstract. Power 84:159-60 Mr '40

GAS and oil engines—Exhaust—*Continued*
Rapid discharge of gas from a vessel into the atmosphere. E. Giffen. diags Engineering 150:134-6, 154-5, 181-3 Ag 16-23, S 6 '40
Waste-heat boilers, utilizing heat from exhaust of heavy duty blower-gas engines; Bethlehem steel co. T. A. Lewis. il Steel 106:62, 64+ Mr 25 '40

Fuel

Anforderungen der verbrennungsmotoren an die treibstoffe und wege zu ihrer verwirklichung in Deutschland; abstract. M. Pier. Angew Chemie 52:649-50 O 28 '39
Über die chemische konstitution der kraft- und schmierstoffe; abstract. H. Bütefisch. Angew Chemie 52:649 O 28 '39

See also
Airplane engines—Fuel
Automobile engines—Fuel
Automotive fuel
Diesel engines—Fuel
Motor bus engines—Fuel
Motor truck engines—Fuel
Tractors—Fuel

Fuel feeding

High precision manufacture; production methods at Bryce fuel injection ltd. il diags Automobile Eng 30:263-6 S '40
Multifuel engines. il diags Mech Eng 61:923-4 D '39
Processes in injection systems of oil engines. S. J. Davies and E. Giffen. diags S A E J 46:119-36 Mr '40; Excerpt. Automotive Ind 80:656-7 Je 1 '39
Some new investigations on old combustion-engine problems. G. Eichelberg. il diags Engineering 148:683-6 D 22 '39

See also
Automobile engines—Fuel feeding
Diesel engines—Fuel feeding

History

Akroyd engine. O. F. Allen. Mech Eng 62: 319-20 Ap '40
Beau de Rochas, Otto and the four-stroke cycle engine. A. K. Bruce. diag Engineer 170:5-6 Jl 5 '40
Herbert Akroyd Stuart and the heavy-oil engine. T. Hornbuckle and A. K. Bruce. Engineering 149:70-1, 101-2 Ja 19-26 '40; Excerpts. Engineer 169:72 Ja 19 '40
Historic oil engine; early Akroyd-Stuart engine. il diags Engineering 148:698 D 22 '39; Engineer 168:624 D 22 '39

Ignition devices

Gas-engine contact maker for tropical service. il diags Engineering 149:510 My 17 '40

Lubrication

Monitor pressure and temperature alarms for lubricating-oil or cooling-water system of an internal-combustion engine. il diags Engineering 149:444-5 Ap 26 '40
New pressure alarm in cooling water and lubricating oil circuits of an oil engine. diag Engineer 169:192 F 23 '40
Piston deposits, ring sticking, varnishing and ring clogging. W. A. Gruse and C. J. Livingstone. bibliog Inst Pet J 26:413-29, pl 1-4 S '40; Same. Automobile Eng 30:374-9 N '40; Same cond. Engineer 170:352-3 N 29 '40
Some remarks regarding the testing of engine lubricants. C. A. Bouman. Inst Pet J 25: 771-8 D '39
Timed lubrication. J. I. Clower. il diags Power 84:304-5 My '40

Manifolds

Induction manifolding; analysis of practice and theory, past and present. L. Mantell. diags Automobile Eng 30:203-8 Jl '40

Manufacture

Changes methods to reduce cylinder casting loss. J. E. Olson. diags Foundry 68:88-9+ My '40
Engine production at Coventry Climax engines limited. il Automobile Eng 30:291-4 O '40

See also
Automobile engines—Manufacture
Diesel engines—Manufacture
Tractors—Manufacture

Models

Junior Motors blackened for protection. il Iron Age 146:33 O 24 '40
Junior Motors demand precise manufacture. C. C. Hermann. il Iron Age 145:48-50 Je 20 '40

Repair

Procedure for servicing gas engines. C. Remschel. il Gas Age 85:23-5 Mr 28 '40

Scavenging

Charging process of two-stroke engine; abstract. C. F. Taylor. Automotive Ind 82: 564 Je 15 '40
Fifty years of pressure-scavenging. W. A. Tookey. diags Engineering 149:595-7 Je 21 '40; Discussion. 150:95-6, 137, 156, 256, 355, 436 Ag 2, 16-23, S 27, N 1, 29 '40
Kadenacy system of scavenging. G. F. Mucklow. bibliog diags Engineering 148:187-9 Ag 18 '39; Discussion. 148:207, 357-8; 149:122, 286, 443-4, 509 Ag 18, S 29 '39, F 2, Mr 15, Ap 26, My 17 '40
Spülvorgang bei zweitaktmotoren. W. Noeggerath. V D I 84:136-7 F 24 '40

Specifications

American stock, marine and commercial vehicle engines; tabulation. Automotive Ind 82: 206-15 Mr 1 '40
Automotive Diesel and other heavy oil engines; tabulation. Automotive Ind 82:218-19 Mr 1 '40

Superchargers

Fifty years of pressure-scavenging. W. A. Tookey. diags Engineering 149:595-7 Je 21 '40; Discussion. 150:95-6, 137, 156, 256, 355, 436 Ag 2, 16-23, S 27, N 1, 29 '40

Tables, calculations, etc.

Approximate formulas for piston travel in radial engines. H. W. Sibert. J Aeronautical Sci 7:134-7 Ag '40

Temperature

Sichtbarmachen von temperaturfeldern durch temperaturabhängige farbanstriche. F. Penzig. il diags V D I 83:69-74, pl 1-2 Ja 21 '39; Same (Sensitive paints). Automobile Eng 30: 47-9 F '40
Some new investigations on old combustion-engine problems. G. Eichelberg. il diags Engineering 148:463-6, 547-50, 603-6, 682-3; 149:297-9, pl 15-16 O 27, N 17, D 1, 22 '39, Mr 22 '40
Thermoelemente zur messung von gastemperaturen in verbrennungsmotoren. H. H. Berg. diags V D I 83:1259-60 D 2 '39

Testing

Automotive engine testing; a manual of test procedure. F. M. Gruber. 441p bibliog(p413-31) $4.75 Pitman '40
Investigation of the high-speed producer gas engine. M. W. Woods. bibliog il Engineer 169:448-50, 468-9 My 17-24 '40
Maximeter; device for determining maximum combustion pressures in cylinders of internal combustion engines. diags Automotive Ind 82:474 My 15 '40
Piston-ring blow-by on high-speed petrol engines. C. G. Williams and H. A. Young. diags Engineering 147:693-4, 723-6 Je 9-16 '39; Same. Automotive Ind 81:614-22 D 15 '39

Valves

Barrel-type valve lifters molded in green sand; Eaton-Erb foundry. E. C. Hoenicke. il diags Foundry 68:42-5+ O '40
Making valve-stems for internal combustion engines by the extrusion process. il Mach 47:175 O '40

GAS and oil engines—Valves—*Continued*
Valve production by the extrusion process; Daniel Doncaster and sons. il diags Engineer 169:494 My 31 '40; Engineering 149: 600 Je 21 '40; Automobile Eng 30:166 Je '40
Valves and valve seat material; data sheet. S. D. Heron, O. E. Harder and M. R. Nestor. Metal Prog 38:470 O '40

Vibration

Dampers and suppressors for controlling torsional vibrations in crankshafts. D. Gerdan. diags Product Eng 11:25-7, 57-9 Ja-F '40
Elements of pendulum dampers. R. W. Zdanowich and T. S. Wilson. bibliog diags Inst Mech Eng J & Proc 143:Proc 182-210, pl 1-2 Je '40
Equations of finite differences applied to torsional oscillations of crankshafts. M. A. Biot. diags J Ap Phys 11:530-7 Ag '40

GAS and oil engines, Marine
J. Samuel White and co. engines. il Engineer 168:476-7 N 10 '39
Mechanical engineering problems in marine transport. S. B. Freeman. diags Inst Mech Eng J & Proc 142:Proc 1-12 N '39; Same. Engineering 149:153-6 F 9 '40; Same cond. Engineer 169:164-6 F 16 '40
Nouveaux moteurs à combustion interne pour les sous-marins de la marine américaine. diags Génie Civil 116:329-30 My 18 '40
Parsons-Ford V-8 marine set. il Engineering 148:565 N 17 '39
Perkins 100 b.h.p. six-cylinder marine engine. il Engineering 148:625 D 1 '39

See also
Diesel engines, Marine — Motor boats, Motor ships

Exhibitions

Motor boat show, New York. il Automotive Ind 82:104-5+ F 1 '40

Specifications

American stock, marine and commercial vehicle engines; tabulation. Automotive Ind 82:206-15 Mr 1 '40

GAS and oil engines, Outboard
American two-cycle outboard motors; specifications tabulated. Automotive Ind 82:203 Mr 1 '40
Back-woods are closer; outboard motors for hunting and fishing trips. il Sci Am 163:164-5 S '40

Advertising

Finds prospects for high-class specialty; Johnson Motors "Fishing digest." il Ptr Ink Mo 40:22 Mr '40

GAS appliance industry
Appliance and equipment industry in 1939. F. H. Adams. Gas Age 85:24-6 Ja 18 '40
Four years of progress. E. R. Guyer. Am Gas Assn Proc 1939:13-14
Gas appliances gain. Business Week p39-40 O 19 '40
Gas mart will serve Long Island area; simplifies dealer-manufacturer-utility cooperation. G. F. B. Owens. il map Gas Age 85:20-1 F 1 '40; Same. Am Gas Assn Mo 22:51-2 F '40; Same. Am Gas J 152:27-8 F '40

See also Association of gas appliance and equipment manufacturers

Statistics

All gas appliance sales up sharply at half-year; gas and electric appliance shipments compared. Gas Age 86:14-15 Ag 29 '40
Comparative estimated data on residential appliances, 1929-1939; tabulation. Gas Age 85: 22 Mr 28 '40
Gas appliance sales gained rapidly in 1939; statistics of gas and electric equipment. Gas Age 85:28-9 Ap 11 '40
Trend of gas appliance sales. J. A. Hill. Am Gas J 152:21-2 Ap '40

GAS appliances
All-gas restaurant. F. R. Howe and R. F. Mann. il Am Gas J 151:7-8 D '39
Development of new appliances for the gas industry; with description of Stator gas duplex unit. R. D. McNiece. Am Gas J 152: 33-6 My '40
Effects of cyanogen on manufactured gas; needle-valve stoppages. E. J. Murphy. il Gas Age 84:23-5 N 23 '39; Same. Am Gas J 151:9-11 D '39
Ershler & Krukin waterless gas heated storage and serving tables. il Am Gas J 153: 37 Jl '40
Example of applying the method of least squares to derivation of average consumption of appliances. Am Gas Assn Proc 1939: 30-1
Gas appliance progress. il Am Gas J 153: 67-72, 74-7 O '40
Gas service for the modern army. il Gas J (Lond) 230:487-8 Je 5 '40
Gas-supply control valves; patent. diags Gas J (Lond) 231:171 Jl 24 '40
Modern deep fat fryer and its efficient maintenance. A. T. Pitman. Am Gas J 152:28-30 Mr '40
New research bulletins point way to better gas utilization. F. J. Rutledge. il Am Gas Assn Mo 22:301-4+ S '40

See also
Gas burners — Gas ovens
Gas cooking — Gas stoves
Gas heaters — Gas water heaters
Gas industry — Refrigerators, Gas

Merchandizing

Allies in action; dealer merchandising; Oklahoma natural gas company. N. A. Newton. Gas Age 84:46-7 D 21 '39
Better heating; sales campaign stresses automatic gas service. il Am Gas Assn Mo 22: 350-1 O '40
Dealer plan gets results; British Columbia electric railway company advertising allowance. Gas Age 85:72 My 9 '40
Discount plan offered to spur gas appliance sales; Wisconsin public service corporation. Am Gas Assn Mo 22:94 Mr '40
How Pittsburgh coordinates dealer sales work thru Gas appliance promotion division of Ketchum, MacLeod & Grove advertising agency. il Gas Age 86:27+ Jl 4 '40
New field he conquered; selling butane gas systems together with the gas appliances; McKay plumbing company. il Dom Eng 156: 48-9+ O '40
Pacific gas and electric company case study; sales and market development. R. E. Fisher. il Gas Age 85:33-7 F 29 '40
Promoting dealer sales. F. M. Rosenkrans. Am Gas Assn Mo 22:228-9+ Je '40
Successful cooperative sales policy. T. F. Murphy. Am Gas J 151:14-15 D '39
What are the trends in appliance servicing? F. M. Foster. Am Gas Assn Mo 22:313-14 S '40

See also
Gas appliances. Domestic—Merchandizing — Gas companies—Appliance selling

Patents

New law of patents and how to avoid infringement. L. T. Parker. Am Gas J 152:19-21 F '40

Pilot lights

Automatic control and safety pilot. il Am Gas J 152:33 Mr '40
Determination of the causes of pilot outages. W. L. Shively. bibliog diags Gas Age 85:28-30+ Je 6 '40; Same. Gas J (Lond) 231:328, 331-2 Ag 21 '40
EMCO pilot loading system of pressure regulation. il Am Gas J 152:33 Mr '40
Stoppages of pilot lights on gas appliances. O. L. Kowalke. il Gas Age 85:23-6 Ap 11 '40

Repair

Recent trends in appliance servicing policies. Am Gas Assn Proc 1939:306-15

Safety devices and measures

Safety cut-off device. diag Gas J (Lond) 230: 628 Je 19 '40

GAS appliances—*Continued*

Standards

A.S.A. accepts three sets of requirements as American standards. Am Gas J 153:31 S '40; Same. Am Gas Assn Mo 22:365 O '40

ASA approves gas-appliance requirements. M. Zare. Ind Stand 11:239-41 S '40

Certified quality standards set up for gas air conditioning. B. A. Johnson. Am Gas Assn Mo 22:94 Mr '40

Gas industry ahead of its time with consumer movement. A. Forward. Am Gas Assn Mo 22:85 Mr '40

New requirements for gas appliances accepted by American standards association. Am Gas Assn Mo 22:159 Ap '40

Pioneering move; safe-guarding the consumers' interests; Pacific Coast branch of the American gas association testing laboratories. Am Gas Assn Mo 22:83-5 Mr '40

Recommended revisions to requirements approved. Am Gas J 152:16 Ja '40

Requirements for commercial gas cooking equipment. Am Gas Assn Mo 22:199 My '40; Same cond. Am Gas J 152:54 My '40

Revised gas appliance standards benefit consumers. Am Gas Assn Mo 22:36-7 Ja '40

Revised gas-appliance standards reflect progress in industry. R. M. Conner. il Ind Stand 11:92-5 Ap '40

Testing

Photography used in laboratories' testing procedure. il Am Gas Assn Mo 22:159 Ap '40

See also American gas association—Appliance testing laboratory

GAS appliances, Domestic

All-gas cottage flats; South Wales housing experiment. J. Forrester. Gas J (Lond) 230:29 Ap 3 '40

Commercial kitchen appliances, 1938. 228p $1 Am. gas assn, New York '38

Comparative estimated data on residential appliances, 1929-1939; tabulation. Gas Age 85:22 Mr 28 '40

Gas for all four; Shangri-La apartment hotel at Santa Monica. F. A. Herr. il Am Gas J 153:7-9+ Jl '40

Housing census includes questions on domestic gas consumption. A. W. von Struve. Am Gas J 152:25-6 Mr '40

Humidifying air in homes, a new gas load. O. J. Kuenhold. il diags Am Gas J 153:43-5 O '40

Middletown's first all-gas housing project. il Am Gas Assn Mo 22:53 F '40

Report on appliance load characteristics. F. M. Terry. Am Gas Assn Proc 1939:23-9

Sales-tested kitchens and basements with gas appliances. il Am Bld 62:51-66 F '40

Tools of progress; domestic gas appliances further improved for 1940. W. R. Teller. il Am Gas Assn Mo 22:9-13 Ja '40

See also

Gas burners
Gas cooking
Gas heaters
Gas stoves
Gas water heaters
Refrigerators, Gas

Merchandizing

Expanded national domestic sales program offers real assistance to gas companies. D. M. DeBard. il Am Gas Assn Mo 22:68-70 F '40

Helping builders sell all-gas homes. F. Talcott. il Gas Age 86:18-19+ Ag 1 '40

Home service geared to sales needs; Oklahoma natural gas company. M. R. Clark. il Gas Age 84:54-5 D 21 '39

Promoting central heating and floor furnaces. J. J. Brennan. Gas Age 86:27+ Ag 15 '40

Residential load today and tomorrow; work of A.G.A. Commercial section. D. M. DeBard. Gas Age 85:33-4 Ja 18 '40

Sales outlook. A. F. Rice. Am Gas Assn Proc 1939:46-51

Selling residential gas today. C. W. Gale. Am Gas Assn Mo 22:150-1 Ap '40

Shortest way to sales; customer survey coordinates advertising and selling for domestic gas equipment. W. L. Jones. il Am Gas Assn Mo 22:272-4 Jl-Ag '40

Symposium on gas in new homes. Am Gas Assn Mo 21:442-5 D '39; Same. Am Gas Assn Proc 1939:263-9

Trend of the domestic base load. G. F. B. Owens. Am Gas J 153:57-8 N '40; Same. Gas Age 86:34, 36 N 21 '40

Your market. K. Dameron. Am Gas Assn Proc 1939:89-95

See also

Gas stoves—Merchandizing
Gas water heaters—Merchandizing

GAS as fuel

Alternative motor fuels; with cost data; abstracts. C. M. Walter. Gas J (Lond) 229:516-19 Mr 6 '40; Automobile Eng 30:121-3 Ap '40; Discussion. Gas J (Lond) 229:519 Mr 6 '40

American gas association 5th annual Industrial gas sales conference, Toledo, Ohio, March 28-29. Steel 106:64+ Ap 8 '40; Iron Age 145:52-3, 96-7 Ap 11 '40

Application of gas to the quick drying of printing ink. R. P. Wilson. Am Gas Assn Proc 1939:370-1; Discussion. 371-2

British gas immersion heater. diag Engineer 168:477-8 N 10 '39

Building the industrial load by improved applications. F. O. Hess. Am Gas Assn Proc 1939:362-6; Discussion. 366

Can gaseous fuel replace petrol? the sources and distribution of methane. H. T. F. Rhodes. il Chem Age (Lond) 42:33-4 Ja 20 '40

Can our industry advance by more aggressive industrial gas promotion; with special reference to natural gas. C. E. Bennett. Am Gas Assn Proc 1939:58-60

Coal-gas carburettors for running-in and road service. diags Engineering 149:60-1 Ja 19 '40

Coal gas; low-pressure system for petrol vehicles. il diags Automobile Eng 30:113-15 Ap '40

Cold-set printing process blazes trail with gas-burning system. H. W. Smith, jr. il Am Gas Assn Mo 22:316-18 S '40

Combustion characteristics of town gas; the aeration test burner (model B); 44th report of the joint research committee of the Institution of gas engineers and Leeds university. diags Gas J (Lond) 228:504-6, 511-12 D 6 '39

Combustion of common gases; data sheet. Metal Prog 38:586 O '40

Control for gas radiants; incandescent surface acts as constant pilot. J. Kniveton. diags Steel 107:70-1+ Ag 12 '40

Conversion of petrol vehicles to town gas. E. A. C. Chamberlain. bibliog diags Gas J (Lond) 232:76-7, 79, 120-3 O 9-16 '40; Same. Engineer 170:239-40, 254-5 O 11-18 '40; Same cond. Engineering 150:337-9, 358-60 O 25-N 1 '40

Corrosion by the products of combustion of town gas. F. Taylor and J. W. Wood. Engineering 149:58-9 Ja 19 '40; Abstract. Chem Age (Lond) 41:385-6 D 9 '39

Cost of steam with gas as fuel; charts. I. E. Brooke. Heating-Piping 12:669-70 N '40

Determination of the combustion characteristics of fuel gases; abstract. L. Shnidman. Gas Age 86:40 O 24 '40

Developments in the industrial field. il Gas J (Lond) 230:482, 487-8; 231:25-6, 29 Je 5, Jl 3 '40

Direct radiant firing methods. J. Kniveton. il Steel 106:36-7+ Ap 1 '40

Experiments on fuel jets and gaseous medium density; abstract. R. Kling. Automotive Ind 82:16-17 Ja 1 '40

Forging the future; anticipating the industry's needs with research. R. M. Conner. il Am Gas Assn Mo 22:171-4 My '40

Fuel flue gases; the application and interpretation of gas analyses and tests. C. G. Segeler, ed. 198p $5 Am. gas assn, New York '40

Gas as a fuel for motor vehicles. J. S. Clarke. il diags Automobile Eng 30:8-10 Ja '40

Gas bags on the move; London area developments. Gas J (Lond) 230:307 My 8 '40

Gas-fired furnaces. H. W. Smith, jr. Metal Prog 38:590 O '40

GAS as fuel—*Continued*
Gas for traction; filling connexion for fabric gas bags. il diag Gas J (Lond) 229:80 Ja 10 '40
Gas fuels private motor. Gas Age 85:44 Ap 11 '40
Gas helps build battleship at Brooklyn navy yard. Gas Age 86:50 Ag 15 '40
Gas—not gasoline; British transit systems are trying out producer gas and illuminating gas for bus fuel. il Transit J 84:56-7 F '40
Gas peanut roaster cuts costs 50%. il Am Gas Assn Mo 22:116 Mr '40
Gas sales in food storage locker plants; use for lard rendering and meat smoking. J. E. Dare. il plan Gas Age 85:60-2 My 9 '40
Gas toils to make war tools in Canadian factories. Am Gas Assn Mo 22:342 O '40
Gas utilization for automobile fuel. il Gas Age 84:18+ D 7 '39
High-compression gas engine. J. Jones. Gas J (Lond) 231:247-8 Ag 7 '40
Industrial gas section, A.G.A. sales conference, Toledo, March 28-29. Gas Age 85:22-5+ Ap 25 '40; Am Gas J 152:48-50 My '40; Am Gas Assn Mo 22:192-4+ My '40
Ingot soaking pits feature complete automatic control; Edgar Thompson works of Carnegie-Illinois steel corp. Steel 107:54 Ag 26 '40
Low-pressure gas; a supply system for the Greater London area. il Automobile Eng 30:190 Je '40
Low-pressure gas for motor transport. il Gas J (Lond) 228:230-1 N 1 '39
Melting of non-ferrous metals. il Gas J (Lond) 231:241-2+ Ag 7 '40
New development of the bag system; gas stored in fabric bags for motor transport. Gas J (Lond) 228:623-4 D 20 '39
Preparation, drying, and firing of enamels and glazes. diags Gas J (Lond) 231:407-8+ S 4 '40
Preparation of controlled atmospheres by partial combustion of gaseous fuels. R. M. Conner. Metal Prog 38:591+ O '40
Producer and town gas; abstracts of three papers. Automobile Eng 30:56 F '40
Raising the calorific value of gas for motor transport. J. I. Graham and D. G. Skinner. Gas J (Lond) 229:39-41; Discussion. 41 Ja 3 '40
Reasons why gas is forging ahead in the metals field. C. S. Cronkright. Am Gas Assn Proc 1939:360-1
Recent advances; recirculating air heating equipment and immersion and radiant tube heating. A. J. Cruise. Gas J (Lond) 231:26 Jl 3 '40
Recirculating air heating for industrial furnaces. E. Stephenson, jr. il Metal Prog 36: 637-41 N '39
Reducing the cost of metal spraying; new gun uses acetylene, propane, natural gas, or coal gas. E. T. Parkinson. il Steel 107: 46-9 S 9 '40
Running-in of automobile engines, control of gas supply; patent. diag Gas J (Lond) 229: 679 Mr 27 '40
Running petrol engines on coal gas. il diag Engineer 169:168-9 F 16 '40
Smokeless industry at Welwyn Garden City. Gas J (Lond) 230:305 My 8 '40
Some observations on the combustion characteristics of town gas and its constituents. G. H. Fuidge, W. O. Murch and B. Pleasance. Gas J (Lond) 228:571-3, 575-6 D 13 '39; Abstract. Engineering 148:679 D 15 '39; Discussion. Gas J (Lond) 229:32-4, 81-2 Ja 3-10 '40
Town gas in industry; survey of recent developments in the automobile and allied industries. H. R. Hems. il Automobile Eng 30:157-8, 209-12 My, Jl '40
Ueberwachung des gasverbrauchs von oefen mit einem im nebenschluss angeordneten kammergasmesser. G. Neumann. diags Stahl & Eisen 60:32-3 Ja 11 '40
Die umstellung ölgefeuerter schmiedeöfen auf ferngasheizung. W. G. Rathmann. il diags Stahl & Eisen 59:1205-9 N 2 '39
U.S. fuel facts; more gas than ever supplied to government. G. W. Bean. Am Gas Assn Mo 22:348-9 O '40
Use of gas as a fuel for motor vehicles; with cost data. J. S. Clarke. Gas J (Lond) 228: 614, 617; Discussion. 617-18+ D 20 '39
Use of gas for firing galvanizing kettles. F. C. Dietrich. il diag Am Gas J 152:10-11 Mr '40
Utilization of gas from sewage sludge. A. E. Berry. il Can Eng W & S 78:9-10, 40+ F '40
Year's service record shows gas-Diesel economy; Coolidge Standby generating station. R. G. Hornberger. il diag Power 84:724-7 N '40

See also
Blast furnace gas
Boilers—Gas firing
Boilers, Heating—Gas firing
Butane
Coke-oven gas
Gas, Producer
Gas and oil engines
Gas appliances
Gas burners
Gas cooking
Gas heaters
Gas heating
Gas in air conditioning
Gas producers
Gas stoves
Liquefied petroleum gas
Propane
Sewage sludge—Gas production

Natural gas
Analysis of new industrial gas applications. G. M. Parker. il diags Gas Age 86:20-3+ Jl 4 '40; Same. Gas J (Lond) 231:291-3 Ag 14 '40
Burn brick from top and bottom in chamber kiln using gas; Humboldt brick & tile co. il Brick & Clay Rec 97:24-5 N '40
Car-type annealing furnace has automatic program control. il Steel 106:46 Ja 22 '40
Combustion systems, controls for gas-fired boilers. H. Cooney. diags Oil & Gas J 39:61-3, 66 Ag 22 '40
Control for luminous flame firing in glass furnaces. F. G. Schwalbe. il diag Am Cer Soc J 23:173-8 Je '40
Gas engine driven generator improves operation at Franklin heating station; Rochester, Minn.; engine and steam turbine units working together promote efficiency. N. D. Adams. il diags Heating-Piping 12:643-5 N '40
Gas engines save cotton mill $9000 in year; with cost data. P. K. Giffin and E. W. McIntosh. il Gas Age 85:29-30 F 1 '40
Gas engines take on another job; natural-gas units make economical and flexible pumping plant drive. G. H. Dieter. il diags Power 84:206-9 Ap '40
Growing importance of industrial gas; sales work of Lone Star gas co. E. J. Hatzenbuehler. il Gas Age 86:67-9 N 7 '40
High-temperature gas-fired test furnace. C. L. Thompson and H. G. Wilcox. il diags Am Cer Soc Bul 19:336-7 S '40
Intermittent burning of gas and pulverized coal. H. A. Kleinman. diag Gas Age 86: 16-19 Ag 29 '40; Excerpt. Power Pl Eng 44: 82-3 O '40
Lamb Glass adopts luminous-flame firing. il Glass Ind 21:267-71 Je '40
Load factors and increment costs in transmission and distribution of gas. E. L. Fischer. Am Gas Assn Proc 1939:478-92; Discussion. 492-4
Los Angeles station uses gas heat and power. R. M. Richter. Gas Age 85:19+ F 15 '40
Luminous flame firing. R. C. Vroom. Power Pl Eng 44:87 My '40; Discussion. Z. Kogan. 44:78 Ag '40
Natural gas engine for Trinidad. W. A. Tookey. il diags Engineer 169:551-2, 554, 575-6 Je 21-28 '40
Natural gas for lime burning; Texas plant finds kiln capacity increased. T. J. Skrabanek. il Am Gas J 153:12-14 Ag '40
Natural gas in ferro-manganese production for national defense. Oil & Gas J 39:18 Ag 29 '40
Natural gas transmission and utilization. E. F. Schmidt. il Gas Age 85:30-1 Ja 18 '40
Oklahoma natural gas company; case study. il Gas Age 84:22-76 D 21 '39
Oxygen cutting with natural gas. il Oil & Gas J 38:49 D 21 '39
Pacific gas and electric company case study. il diags Gas Age 85:13-58 F 29 '40

GAS as fuel—Natural gas—*Continued*
Procedure for servicing gas engines. C. Remschel. il Gas Age 85:23-5 Mr 28 '40
Promoting central heating and floor furnaces. J. J. Brennan. Gas Age 86:27+ Ag 15 '40
Shreveport produce house saves with gas engines. R. M. Scoggins. il Gas Age 86: 78-80 O 10 '40
Skating on natural gas; Tropical ice gardens near Los Angeles. il Power 83:762 D '39
Some methods of firing fuels in tunnel kilns. G. D. Brush. diags Am Cer Soc Bul 19:368-71 O '40
Some things you should know about burning natural gas. G. L. Ballard. Brick & Clay Rec 97:22-4 Jl '40; Discussion. 97:29 S; 30+ N '40
Today's realities; natural gas fuel attracts many new industries. E. F. Schmidt. Am Gas Assn Mo 22:211-12 Je '40
Western Pennsylvania refiners back on coal as gas supply fails. M. G. Van Voorhis. Nat Pet N 32:R50-1 F 21 '40

GAS associations
Associations affiliated with A.G.A; list with names of officers. Am Gas Assn Mo 22: [back cover] Ja '40 [cont monthly]

GAS black. See Carbon black

GAS boosters
New type booster installation in Portland, Me. G. R. Steere. il Gas Age 86:70+ O 10 '40
Velocity and time-temperature pressure controls; Oklahoma natural gas company. E. C. McAninch. il Gas Age 84:37-9 D 21 '39

GAS burners
Ein brenner einfachster bauart für grosse gasmengen. F. Kessler. diags Stahl & Eisen 60:14-15 Ja 4 '40
Burner for gas-fired boilers; patent. diag Gas J (Lond) 231:543 S 25 '40
Combined grill and boiling burner. diags Gas J (Lond) 232:34 O 2 '40
Combustion characteristics of town gas; the aeration test burner (model B); 44th report of the joint research committee of the Institution of gas engineers and Leeds university. diags Gas J (Lond) 228:504-6, 511-12 D 6 '39; Abstract. Engineering 148:678-9 D 15 '39; Discussion. Gas J (Lond) 229:31-2 Ja 3 '40
Combustion systems, controls for gas-fired boilers. H. Cooney. diags Oil & Gas J 39, 61-3, 66 Ag 22 '40
Design of atmospheric gas burners for quiet performance; abstract. R. M. Conner. Am Gas J 153:34 N '40
Determination of the combustion characteristics of fuel gases; abstract. L. Shnidman. Gas Age 86:40 O 24 '40
Development of submerged combustion for recarbonation. L. H. Scott. il Am Water Works Assn J 32:93-7 Ja '40
Firing system has wide temperature range; new method of firing convection type gas *furnaces. il Steel 106:64 My 27 '40*
Gas burner patent. diag Gas J (Lond) 231: 166 Jl 24 '40
Injectors for gas burners; patent. diag Gas J (Lond) 230:445 My 29 '40
Non-aerated burners; research and practice. D. Chandler. Gas J (Lond) 229:138 Ja 17 '40
Physical problems associated with gas lighting. L. T. Minchin, A. B. Densham and J. Wright. bibliog Gas J (Lond) 230:240-1 My 1 '40
Recent views on factors affecting flame velocity. D. T. A. Townend and M. MacCormac. bibliog Gas J (Lond) 229:294, 299-301 F 7 '40; Abstract. Engineering 149:45 Ja 12 '40
Some observations on the combustion characteristics of town gas and its constituents. G. H. Fuidge, W. O. Murch and B. Pleasance. Gas J (Lond) 228:571-3, 575-6 D 13 '39; Abstract. Engineering 148:679 D 15 '39; Discussion. Gas J (Lond) 229:32-4, 81-2 Ja 3-10 '40
Some things you should know about burning natural gas. G. L. Ballard. Brick & Clay Rec 97:22-4 Jl '40; Discussion. 97:29 S; 30+ N '40
Spring and fall heating. G. M. Nash. il Am Gas Assn Proc 1939:332-4
Supply of gas and air to furnaces; patent proportioning device. diag Gas J (Lond) 230:444 My 29 '40
Vertical conversion gas burners; application to large heating boilers and control. L. S. Reagan. il diags Heating-Piping 12:362-6 Je '40

Control
Control for gas radiants; incandescent surface acts as constant pilot. J. Kniveton. diags Steel 107:70-1+ Ag 12 '40
Republic Gradient-Heet control. diags Am Gas J 153:37 Jl '40
Self-energized controls. W. E. Stark. diags Am Gas Assn Proc 1939:343-5

Ignition devices
Automatic lighters. diag Gas J (Lond) 231: 81 Jl 10 '40
Electric ignition for gas-fired heating equipment. B. A. Johnson. Am Gas Assn Proc 1939:334-7
New self-lighting gas burner. diags Gas J (Lond) 228:691 D 27 '39

GAS burning equipment
Air-O-Matic equipment for year-'round air conditioning. W. W. Williams. il Am Gas Assn Proc 1939:444-8
Analysis of new industrial gas applications. G. M. Parker. il diags Gas Age 86:20-3+ Jl 4 '40
Coffee roasting by gas. il Gas J (Lond) 229: 24 Ja 3 '40
Gas-fired galvanizing equipment. F. M. Carlson. il diags Metal Ind 37:577-9 D '39
Load building through packaged industrial equipment. A. H. Koch. Am Gas Assn Mo 22:153-5+ Ap '40
Partlow equipment in PM printing plant. il Am Gas J 153:59 O '40
Radically new method of annealing wire reduces costs and increases output; Syncro machine co. cooperates with Surface combustion corporation. il Mach 46:272-3 D '39
Refractories for gas and coke burning appliances; extract from the 30th report of the refractory materials joint committee. L. R. Barrett and A. T. Green. Gas J (Lond) 228:627, 629-31, 687, 689-90; 229:195-7, 199 D 20-27 '39, Ja 24 '40; Abstract. Engineering 148:724-5 D 29 '39
Standard versus special; manufacture of gas furnaces. A. H. Koch. Steel 107:36-7 Jl 29 '40
Successful methods of selling standard rated industrial gas furnaces. C. B. Phillips. Am Gas Assn Proc 1939:373-6

GAS carburizing. See Case hardening—Gas carburizing

GAS cleaning
Cleaning of air and gas by thermal repulsion. S. C. Blacktin. diags Soc Chem Ind J 58: 334-8; 59:153-4 N '39, Jl '40
Dust extractors; patent specification. diags Mech Handling 27:94-5 Ap '40
Gas-cleaning equipment. diags Chem & Met Eng 47:321-2 My '40
Practical equipment for gas conditioning; Blaw-Knox equipment. R. H. Hazlett. diags Gas Age 86:26-8 Ag 29 '40

See also
Blast furnace gas—Cleaning
Electric precipitation
Gas purification

GAS companies
Forward march of the American gas industry; statements from leading operating companies and executives. il Pub Util 26: 479-519 O 10 '40
Gas, in peace and war; how will gas utilities fare in industrial and economic shifts of immediate future? F. W. Parsons. Pub Util 26:451-8 O 10 '40
Gas lines and sky lines; history of Dallas gas company. R. G. Soper and W. F. Wright. il Gas Age 86:46-8 N 7 '40
Oklahoma natural gas company; case study. il Gas Age 84:22-76 D 21 '39
Pacific gas and electric company; case study. il diags Gas Age 85:13-58 F 29 '40

GAS companies—*Continued*
Thirty years of natural gas service; Lone Star gas system. il maps Gas Age 86:21-70+ N 7 '40

See also
American gas association
Columbia gas and electric corporation
United gas improvement company

Accounting

Accountants shape 1940 association program to meet new responsibilities. Am Gas Assn Mo 22:66-7 F '40
Accounting and treasury procedures; Lone Star gas system. D. L. Cobb and L. L. Dyer. il Gas Age 86:49-52 N 7 '40
Accounting by edict. C. B. Couchman. Am Gas Assn Proc 1939:191-6
Accounting for a purpose; Petty cash; accounting for cash; Oklahoma natural gas company. O. L. Jones; R. R. Allen. il Gas Age 84:56-7 D 21 '39
American gas association, Accounting section conference, White Sulphur Springs, April 11-12. Am Gas Assn Mo 22:163-4+ My '40
Are you making or are you losing money? V. H. Moon. Gas Age 85:30-1+ My 23 '40
Chicago gas case. A. L. Stein. J Land & Pub Util Econ 16:236-41 My '40
Cycle balance control systems; customer accounting committee report. Am Gas Assn Proc 1939:147-66
Depreciation in relation to income taxes. Am Gas Assn Mo 22:225-7+ Je '40
Distinction between production, transmission and distribution plant. E. F. Wressell. Am Gas Assn Proc 1939:248-50
Gas company accountants look ahead; work of A.G.A. Accounting section. F. B. Flahive. Gas Age 85:32 Ja 18 '40
Interpretations and usage of the various types of units required for continuing property records. J. L. Sunday. Am Gas Assn Proc 1939:223-7
Line between maintenance and capital items. L. Y. Meneely. Am Gas Assn Proc 1939: 211-13
Methods of accounting for taxes. E. I. Bjork. Am Gas Assn Proc 1939:217-20; Same. Am Gas Assn Mo 21:227-9 Je '39
Original cost; the regulatory viewpoint. C. W. Smith. Am Gas Assn Mo 22:185-7 My '40
Overhead construction costs. F. W. Cooper. Am Gas Assn Proc 1939:213-16
Pacific gas and electric company case study; accounting methods and procedure. D. G Martin. il Gas Age 85:41-3+ F 29 '40
Reality in accounting. T. H. Sanders. Am Gas J 151:38-40+ N '39; Same. Am Gas Assn Proc 1939:9-12; Same abr. Am Gas Assn Mo 22:25-6+ Ja '40
Recent developments in accounting principles. C. G. Blough. Gas Age 85:27-8+ Je 20 '40
Reducing the cost of rewriting meter reading route sheets. G. W. Fuchs. Am Gas Assn Mo 22:269-71 Jl-Ag '40
Report of property records committee. Am Gas Assn Proc 1939:196-200
Report of uniform system of accounts and depreciation accounting committee. Am Gas Assn Proc 1939:188-90
Some practical aspects of original cost determinations. B. S. Rodey, jr. Am Gas Assn Proc 1939:228-36
Station plan of bookkeeping. J. A. Williams. diag Am Gas Assn Proc 1939:171-4
Unit desk plan of customers accounting. O. Ullery. fold plan Am Gas Assn Proc 1939: 167-71
Unit group plan of customers accounting. A. W. Fyfe. Am Gas Assn Proc 1939:174-9

See also
Gas, Natural—Accounting

Advertising

See also
Gas industry—Advertising

Appliance selling

Achieving 40 per cent water heating saturation; Missouri utilities company. H. R. McArthur. il Gas Age 85:27+ Ap 11 '40
Appliance cost sharing plan works well in Wisconsin. J. E. Hubel. Am Gas J 152: 28-9 F '40
Chicago gas case; losses on merchandizing. A. L. Stein. J Land & Pub Util Econ 16:236-41 My '40
Company program for the sale of summer air conditioning. C. R. Bellamy. Am Gas J 152:12-15 Je '40
Coöperation with dealers as an aid to appliance sales. J. E. Bullard. Pub Util 26: 459-65 O 10 '40
Coordinating sales efforts with appliance servicing; with insert. Am Gas Assn Proc 1939:309-11
Cost of use applied to sales of new appliances; Wisconsin public service corporation's 1940 sales program. Gas Age 85:26 Ap 11 '40
Doubling domestic gas consumption; Western united gas and electric company. C. W. Tennant. il Gas Age 85:24-7 Je 6 '40
Florida public service company goes ranching in 1939. il Am Gas J 152:13 Ap '40
Gaining tenement heat load by domestic salesmen; Fall River gas works co. B. T. Poor. il Gas Age 85:19-20 Ap 11 '40
Gas company progress. H. M. Henry. Am Gas J 152:11-12+ Ap '40; Same cond. Gas Age 85:37-8+ Ap 11 '40
Gas load building; a promotional meter plan. E. V. Bowyer. Am Gas Assn Mo 21:425-6 D '39
Grand Rapids doubling C P range sales this year. W. M. Chamberlain. il Gas Age 86: 62-3+ O 10 '40
Hire purchase; need for continued sales of appliances. Gas J (Lond) 228:388-90 N 22 '39
How Grand Rapids replaced 623 electric ranges. L. M. Hall. il Gas Age 85:31-2 Ap 11 '40
How Hartford sold 419 appliances in one week. il Gas Age 85:19-21 Ap 25 '40
How Knoxville meets TVA competition. C. W. Gale. Gas Age 86:29-30+ Ag 29 '40
How leaders sell replacement refrigerators. Gas Age 86:66-9+ O 10 '40
How one company raised gas use 72 per cent; with financial data. W. C. Beckjord. Gas Age 85:26-8 Mr 28 '40
Increasing the gas operating income. H. M. Henry. Gas Age 84:15-18 N 23 '39
Minneapolis gas light company gets 60 per cent of automatic heating. il Gas Age 85: 14-16 F 1 '40
Pacific gas and electric company case study; sales and market development. R. E. Fisher. il Gas Age 85:33-7 F 29 '40
Portland proves that grime does not pay; sales campaign. A. J. Larson. il Gas Age 86:38+ S 12 '40
Reaching the low-use customer. H. W. Reed. Gas Age 84:33-5 N 9 '39; Same. Am Gas Assn Mo 22:27-9 Ja '40; Same. Am Gas Assn Proc 1939:283-6
Steps to sales planning. W. H. Matlack. Am Gas J 151:23-4 D '39
Successful cooperative sales policy. T. F. Murphy. Am Gas J 151:14-15 D '39
There must be no standing still; instalment selling of gas appliances. Gas J (Lond) 229: 237-8 Ja 31 '40
These sales ideas clicked. F. E. Kunkel. il Gas Age 85:26 F 1 '40
Water heating; how to build gas load through tested selling steps. R. A. Seiple. il Am Gas Assn Mo 21:430-1+ D '39; Same. Am Gas Assn Proc 1939:288-90

Customer relations

Customers' department. C. L. Sullivan. Am Gas Assn Proc 1939:205-6
Developing customer relations. H. F. Willis. Am Gas Assn Proc 1939:180-4
Form messages to customers. J. G. Ross. Am Gas Assn Proc 1939:254-6
Four payment plan and weather chart aid New Orleans collection record. J. E. Hevron. il Am Gas Assn Mo 22:312+ S '40

GAS companies—Customer relations—*Continued*
Getting results from personnel. H. F. Willis. Am Gas Assn Proc 1939:185-7
Lo, the poor credit man; an open letter to gas salesmen. T. H. Million. Am Gas Assn Mo 22:107-8+ Mr '40
Measuring performance in telephone contact work. H. R. Flanegan. Am Gas Assn Proc 1939:207-10
What the customer thinks of the utilities. E. Roper. Gas Age 86:35-6+ Ag 15 '40

Deposit requirements

Lo, the poor credit man; an open letter to gas salesmen. T. H. Million. Am Gas Assn Mo 22:107-8+ Mr '40

Electric utility competition

How Grand Rapids replaced 623 electric ranges. L. M. Hall. il Gas Age 85:31-2 Ap 11 '40
Market survey as a tool of management. L. Ginsburg. Gas Age 86:30-4+ Ag 15; 22-5+ Ag 29 '40
Statistics prove electric cooking gains limited to non-gas territory. E. R. Martin. Am Gas Assn Mo 22:305-6 S '40

Employees

Chinese instructed in Chinese; Louie Fong Gee youngest member of Consolidated Edison's home service staff. il Gas Age 86:44 S 26 '40
Converting human nature; employee sales crusade; Pacific gas and electric company. F. Talcott and R. I. Mendes. Gas Age 84:11-12 D 7 '39
Eighty years on gas company payroll; John H. Martin. Am Gas J 152:58 My '40; Same cond. Am Gas Assn Mo 22:218 Je '40
Executives of tomorrow; Oklahoma natural gas company. O. L. Jones. il Gas Age 84: 61-2+ D 21 '39
Getting results from personnel. H. F. Willis. Am Gas Assn Proc 1939:185-7
Home service training course within the company. Am Gas Assn Proc 1939:315-22
How gas men helped to save St Paul's cathedral; removal of unexploded bomb; reprinted from the Gas times, London, Sept. 21. Am Gas J 153:65 N '40
Humanizing an organization. R. E. Fisher. Am Gas Assn Proc 1939:103-6
Kansas City gas company concentrates on employee training. Pub Util 26:494 O 10 '40
Legal right of employers to develop and patent employe's inventions. L. T. Parker. Am Gas J 152:22-4 Ja '40
Leicester corporation special order; novel point regarding staffs. Gas J (Lond) 231:327-8 Ag 21 '40
Manuals of procedure. E. E. Meyer. Am Gas Assn Proc 1939:200-4
Pacific gas and electric company case study; personnel management policies. E. G. McCann. il Gas Age 85:47-8 F 29 '40
Protecting the employee's health. R. C. Heard. Gas Age 86:27 S 26 '40
Report of committee on personnel practices. Am Gas Assn Proc 1939:67-77
Selection and training of apprentice gas-fitters. M. S. Viteles. Am Gas Assn Proc 1939: 559-65
Sixty-three years in the gas business; William McKenzie. Am Gas J 152:29 F '40
Summary of McCarter medal awards. A. W. Breeland. Am Gas Assn Proc 1939:305-6
Tact in contact; use of sound slide films in employee training. J. J. Quinn. il Am Gas Assn Mo 22:307-8 S '40
Two students win $50 A.G.A. prizes for mastering gas courses; Chester R. Mathes and Marden E. Cobb. il Am Gas Assn Mo 21:438 D '39
Wage incentive plan proves desirable; Oklahoma natural gas company. F. E. Kee. Gas Age 84:59-60 D 21 '39
Washington has employment history record. G. E. Toles. il Gas Age 86:33-4 Ag 1 '40
What price mis-steps by meter readers. L. Childs. Am Gas J 152:18 Mr '40
When gas company employes may recover damages for injuries. L. T. Parker. Am Gas J 153:23-4 O '40

See also
Gas companies—
Salesmen

Equipment and supplies

Automobile fleet, 12 million miles a year; Lone Star gas system. F. Richardson. il Gas Age 86:58-9 N 7 '40
Emergency equipment materials and organization; repairing river crossings and other lines damaged by floods, etc; Industrial fuel supply company. M. L. Fort. il Gas Age 86:23-6 S 26 '40
Maintenance equipment and procedure; Lone Star gas company. E. F. Schmidt. Gas Age 86:39-40 N 7 '40
Pacific gas and electric company case study; transportation equipment. S. B. Shaw. il Gas Age 85:44-6 F 29 '40
Wrinkles; devices and methods used in safety, distribution, etc. (cont). il diags Gas Age 85:30-1 Ap 25; 76, 78 My 9; 86:28-9 Ag 15; 64-5 O 10 '40

See also
Gas works—
Equipment

Exhibits

How Atlanta celebrated decade of natural gas. J. H. Reed. il Gas Age 85:37-9 My 23 '40
Sales promotion pays dividends at Hartford exposition. il Am Gas Assn Mo 22:190 My '40

See also
Gas industry—Exhibitions
Gas industry—Model home exhibits

Extension policies

Gas main extension economics. A. Dixon. Gas Age 84:29-30 D 7 '39; Abstract. Pub Util 25: 617-18 My 9 '40
Small diameter high-pressure systems for outlying residential areas. R. F. Henneman. Gas Age 85:20-2+ F 15 '40

Finance

Gas company progress. H. M. Henry. Am Gas J 152:7-12, 40-3 Ap '40; Same cond. Gas Age 85:36-8+ Ap 11 '40
Increasing the gas operating income. H. M. Henry. Gas Age 84:12-18 N 23 '39
Oklahoma natural gas company; history; financial structure; management. J. Bowes and F. W. Peters. Gas Age 84:22-4 D 21 '39
Population growth, 1930-40; a basic factor affecting public utility earnings. C. J. Vanderhyde. Annalist 56:333-4 S 12 '40
Short-cuts for rate computations. Am Gas Assn Proc 1939:31-45
United Gas refunding plan. Pub Util 26:164 Ag 1 '40
Will the Washington plan work with gas utilities, producing gas rate reductions as it has produced electric rate decreases. C. E. Troxel. Pub Util 25:660-8 My 23 '40

Franchises

Legal pitfalls of gas franchises. L. T. Parker. Am Gas J 152:26-7 My '40

Law

Avoid legal losses, and points to observe. L. T. Parker. Am Gas J 153:13-15 Jl '40
Avoid liability for injuries caused by gas appliance explosions. L. T. Parker. Am Gas J 153:26-8 Ag '40
Complications of gas rate proceedings. L. T. Parker. Am Gas J 152:21-2 Je '40
Law of gas supply contracts. L. T. Parker. Am Gas J 151:18, 21 D '39
Legal pitfalls of gas franchises. L. T. Parker. Am Gas J 152:26-7 My '40
When delay to commence service results in liability. L. T. Parker. Am Gas J 152:33-4 Ap '40

GAS companies—*Continued*

Libraries

Pacific gas and electric company case study; reference and research library. A. G. Reinero. Gas Age 85:49+ F 29 '40

See also Public service corporation of New Jersey—Library

Management

Are you making or are you losing money? V. H. Moon. Gas Age 85:30-1+ My 23 '40

Billing procedure of the Brooklyn union gas company. il Am Gas J 151:15-17 D '39

Collection notices. Am Gas Assn Proc 1939: 112-42

From gas sand to gas consumer; Oklahoma natural gas company. C. U. Daniels. map Gas Age 84:25-7 D 21 '39

Gas distribution problems in a growing territory. W. F. Wright. il Gas Age 85:17-18+ Ap 25 '40

Increasing the gas operating income. H. M. Henry. Gas Age 84:12-18 N 23 '39

Market survey as a tool of management. L. Ginsburg. Gas Age 86:15-17+ Jl 4; 35-8+ Jl 18; 28-32+ Ag 1; 30-4+ Ag 15; 22-5+ Ag 29 '40

Oklahoma natural gas company; history; financial structure; management. J. Bowes and F. W. Peters. Gas Age 84:22-4 D 21 '39

Pacific gas and electric company case study; sales and market development. R. E. Fisher. il Gas Age 85:33-7 F 29 '40

Pioneering public service; Lone Star gas company. D. A. Hulcy. il Gas Age 86:22-4 N 7 '40

Presidential address before the Manchester district association of gas engineers; Stockport gas undertaking. T. Reynolds. diags plans map Gas J (Lond) 230:30-2, 35-7 Ap 3 '40

Problems in unaccounted-for gas. K. Richter. Gas Age 86:26-8 S 12 '40

Progress under grouped control. A. L. Morris. Gas J (Lond) 232:70+ O 9 '40

Serving 300 cities and towns; Community Star gas company. E. F. Schmidt. Gas Age 86:43-5 N 7 '40

Some observations on policy. A. B. Munro. Gas J (Lond) 231:453-4+ S 11 '40; Discussion. 231:493-4 S 18 '40

Summary of case study of Oklahoma natural gas company. F. W. Parsons. Gas Age 84: 66+ D 21 '39

Swindon's output trebled in eight years. il Gas J (Lond) 230:299-300 My 8 '40

See also

Gas companies—Records

Municipal ownership

Distinctions between municipalities and gas corporations; right of city to sell gas appliances; authority of public service commissions. L. T. Parker. Am Gas J 153:11-12 S '40

Offices

Unit desk plan of customers accounting. O. Ullery. fold plan Am Gas Assn Proc 1939: 167-71

Public relations

Amateur photography salon builds good will; Ohio fuel gas company. E. G. Marquardt, jr. il Gas Age 86:20-1 Ag 29 '40

Community spirit; new A.G.A. committee urges civic participation. Am Gas Assn Mo 22:133-4 Ap '40

Gas meter accuracy in relation to public good will. G. L. Budnick. Am Gas J 153: 10-11 Ag '40

Gay nineties week boosts gas stock; pageant originated by the Nashville gas heating company. F. E. Kunkel. il Am Gas J 153: 18+ Ag '40

How camp fire girls learned all about gas fuel. N. Walker. il Gas Age 86:39+ S 26 '40

"Nature's blue flame" is good will builder; talking motion picture designed to give information about gas service. A. F. Dawson. il Gas Age 85:46-8+ My 9 '40

Public relations forum. B. C. Adams and others. Am Gas Assn Proc 1939:97-108; Abstracts. Gas Age 84:33+ O 26 '39; Am Gas Assn Mo 21:383-5 N '39

Public relations in wartime. Gas J (Lond) 230: 388 My 22 '40

Say it with flowers; Michigan consolidated gas company's spring flower show. H. S. Parker. il Am Gas Assn Mo 22:257-8 Jl-Ag '40

Tepees to towers; Oklahoma gas company accepts a civic challenge; sponsors essay contest. J. H. Warden. Am Gas Assn Mo 22:175-6 My '40

Records

Continuous transfer of meter reading route sheets. G. W. Fuchs. Am Gas Assn Proc 1939:143-7

Interpretations and usage of the various types of units required for continuing property records. J. L. Sunday. Am Gas Assn Proc 1939:223-7

Meter records; Oklahoma natural gas company. W. Neish. il Gas Age 84:58-9 D 21 '39

Method of obtaining construction labor performance data. W. G. Pilgrim. Am Gas Assn Proc 1939:251-4

Pacific gas and electric company case study; accounting methods and procedure. D. G. Martin. il Gas Age 85:41-3+ F 29 '40

Purchasing and stocking 125 stores; Lone Star gas system. B. R. Newbery and C. F. Wilson. il Gas Age 86:60-2 N 7 '40

Reducing the cost of rewriting meter reading route sheets. G. W. Fuchs. Am Gas Assn Mo 22:269-71 Jl-Ag '40

Washington has employment history record. G. E. Toles. il Gas Age 86:33-4 Ag 1 '40

Work order system for gas companies. A. V. Schwartz. Am Gas Assn Proc 1939:236-48

Regulation

Chicago gas case. A. L. Stein. J Land & Pub Util Econ 16:236-41 My '40

Detroit plan for gas company rate control. C. E. Troxel. J Land & Pub Util Econ 15:486-8 N '39

How much should a utility company be allowed to earn? Illinois Supreme court holding 5 per cent not confiscatory. H. R. Booth. Pub Util 26:281-5 Ag 29 '40

Original cost; the regulatory viewpoint. C. W. Smith. Am Gas Assn Mo 22:185-7 My '40

State regulation of gas and electric companies in Connecticut. J. W. Alsop. Edison Elec Inst Bul 8:217-18 My '40

Safety devices and measures

Safety at home and abroad; Lone Star gas company. A. W. Breeland. il Gas Age 86:56-7 N 7 '40

Safety to the front; Oklahoma natural gas company. R. S. Huffman. Gas Age 84:63+ D 21 '39

Salesmen

A.G.A. refrigeration committee conducts Bermuda flight. Am Gas J 153:40-1 N '40

Companies and salesmen win awards in Pioneers of progress quarter. Am Gas J 153: 46 Ag '40

How to run a sales meeting. Z. Kaufman. il Gas Age 86:24-5 S 12; 71-2 O 10; 24-5+ N 21 '40

Lo, the poor credit man; an open letter to gas salesmen. T. H. Million. Am Gas Assn Mo 22:107-8+ Mr '40

Man the stoves! a new approach to the CP range salesman's job. H. L. Kirtland. Am Gas Assn Mo 22:345-6 O '40

New sales training method introduced in the gas industry; use of voice recording equipment. Am Gas Assn Mo 22:356-7 O '40; Same cond. Am Gas J 153:84 O '40

Securities

Gas stocks and shares. Published in weekly numbers of Gas journal (London)

Outlook for natural gas. F. C. Fullerton. il Mag of Wall St 65:479-81+ Ja 27 '40

Speculative values in Laclede gas light co. bonds. J. F. Childs. Barron's 20:20 Ap 29 '40

GAS companies—Securities—*Continued*
Status of Peoples Gas 4s. A. Jansen. Barron's 19:19 N 27 '39

Service

Gas company progress; service charges. H. M. Henry. Am Gas J 152:11 Ap '40; Same cond. Gas Age 85:37-8 Ap 11 '40
Home service department; breakfast session. Am Gas Assn Proc 1939:349-56
Home service in wartime. F. Backhouse. Gas J (Lond) 228:244 N 1 '39
Home service training course within the company. Am Gas Assn Proc 1939:315-22
Increasing the gas operating income; charging for service. H. M. Henry. Gas Age 84:14-15 N 23 '39
Keeping the service department up-to-date; Oklahoma natural gas company. F. M. Orelup. il Gas Age 84:64-5 D 21 '39
Pacific gas and electric company case study; service organization and routine. W. G. B. Euler. il Gas Age 85:38-40+ F 29 '40
Procedure for servicing gas engines. C. Remschel. il Gas Age 85:23-5 Mr 28 '40
Recent trends in appliance servicing policies. Am Gas Assn Proc 1939:306-15
What are the trends in appliance servicing? F. M. Foster. Am Gas Assn Mo 22:313-14 S '40

Shops

Centralized meter shops; Oklahoma natural gas company. G. Estill. il plan Gas Age 84:40-1 D 21 '39
New meter repair equipment; meter shops of the Southern California gas co. H. S. Harris. il Am Gas J 153:21-3 S '40

Show windows

It pays off; that carefully planned window display; Texas public service company of Austin. M. R. Rasor. il Am Gas J 153:7-8 Ag '40
Providing window space for local users of gas makes friends and boosts good will. F. E. Kunkel. il Am Gas J 153:28 S '40

Showrooms

Hospitality, southern style; Selma office of the Alabama gas company. R. A. Puryear, jr. il Am Gas Assn Mo 22:213-14 Je '40
Modernized home service makes its bow; Citizens gas and coke utility's auditorium. il Am Gas Assn Mo 22:179 My '40

Stores systems

Material and equipment control committee; Oklahoma natural gas company. W. A. Noel. Gas Age 84:60+ D 21 '39
Purchasing and stocking 125 stores; Lone Star gas system. B. R. Newbery and C. F. Wilson. il Gas Age 86:60-2 N 7 '40

Taxation

Increased gas rates based upon higher taxes; Rochester gas and electric corporation case. H. D. Koontz. J Land & Pub Util Econ 16: 233-5 My '40
Methods of accounting for taxes. E. I. Bjork. Am Gas Assn Proc 1939:217-20; Same. Am Gas Assn Mo 21:227-9 Je '39

Telephone

Measuring performance in telephone contact work. H. R. Flanegan. Am Gas Assn Proc 1939:207-10
Private telephone communication system; Lone Star gas company. E. F. Schmidt. il map Gas Age 86:38-9 N 7 '40

GAS companies' protection association
Annual meeting, 42d, London, Jan. 23. Gas J (Lond) 229:241-2 Ja 31 '40

GAS compressors
Automatic refrigerators. H. L. Jones. diags Inst Mech Eng J & Proc 143:94-9 My '40
Chemical removal of scale from compressor engines. G. F. Williams. il Oil & Gas J 38:34-5 My 2 '40
Combustion gas turbine. J. T. Rettaliata. diag Engineer 170:63-4, 78-9 Jl 26-Ag 2 '40
Compression equipment. Z. G. Deutsch. diags Chem & Met Eng 47:317-19 My '40
Gas recycling plant at Long Lake shows good product yield. G. Weber. il Oil & Gas J 39: 59, 62+ Ag 29 '40
Improve repressuring plant in Titusville, Pa. field. J. P. O'Donnell. il Oil & Gas J 38: 36+ Ja 18 '40
Improved features of the modern compressor. D. C. McKinley. il Refrig Eng 40:89-91 Ag '40
Neue bauelemente im hochdruckverdichterbau. C. Pfleiderer. V D I 84:346-7 My 18 '40
New design incorporated in compressor operation; recycling plant of the Tide water associated oil co. and Seaboard oil co. B. C. Thiel. il Oil & Gas J 38:55-6 My 9 '40
Streamlined air conditioning; Westinghouse air conditioning unit. il Power Pl Eng 43: 813 D '39; 44:64 Mr '40
Les turbosoufflantes dans les cokeries et usines à gaz. C. Berthelot. diags Génie Civil 116:86-7 F 3 '40

See also
Air compressors
Ammonia compressors

Control

One-speed control proves efficient in gasoline plant. flow diag il Oil & Gas J 38:42 Ja 18 '40

Repair

Welding cuts compressor-repair cost. S. W. Hines. il diags Power 84:381-2 Je '40

Testing

Effect of superheat on compressor performance; using Freon 12. E. R. Wolfert. il diag Refrig Eng 39:379-81 Je '40

GAS containers
Refilling small cylinders. G. W. Grove. il diag Chem Ind 46:322-4 Mr '40
Sleuthing for compressed gas flasks; Skip tracers company. Comp Air M 45:6243 S '40

GAS cooking
All-gas cooking cuts food cost 21 per cent; Agricultural and mechanical college of Texas. il Gas Age 86:21-6+ Jl 4 '40
All-gas restaurant. F. R. Howe and R. F. Mann. il Am Gas J 151:7-8 D '39
Another famous kitchen swings to gas; Grove Park inn, Asheville. il Gas Age 85: 38 Je 20 '40
British factory speed-up fosters gas canteens. il Gas Age 86:28-9 S 26 '40
Cheltenham college adopts centralized catering. il Gas J (Lond) 231:117 Jl 17 '40
Compressed oil gas in place of coal gas; London, Midland and Scottish railway company. Gas J (Lond) 231:532 S 25 '40
Control of repeaters and meters; cooking school stimulates gas range sales. M. T. Bly. Am Gas Assn Mo 22:151-2 Ap '40
Four-purpose contact; gas range promotion via meat cookery; butchers' cooperation. A. Berry. Am Gas Assn Mo 22:217-18 Je '40
Hotel man looks at gas service. R. J. Kief. Am Gas Assn Proc 1939:410-11; Same. Am Gas J 151:50-1 N '39
Housing survey shows 95% use gas for cooking. Am Gas J 153:16 Ag '40
Manufacturers cooperate with A.G.A. Industrial section and Consolidated Edison in display at hotel exposition. il Gas Age 84:78+ D 21 '39
Market survey as a tool of management; study of electric competition. L. Ginsburg. Gas Age 86:30-4+ Ag 15; 22-5+ Ag 29 '40
Modern deep fat fryer and its efficient maintenance. A. T. Pitman. Am Gas J 152:28-30 Mr '40
Newcastle company stage exhibition of appliances for fish fryers. Gas J (Lond) 230: 478 Je 5 '40
Réchaud de cuisine à gaz, à récupération de chaleur, système Rossini. A. Mestre. il Génie Civil 116:204-5 Mr 23 '40
Requirements for commercial gas cooking equipment. Am Gas Assn Mo 22:199 My '40; Same cond. Am Gas J 152:54 My '40
Statistically speaking; market research on cooking trends. H. Smith. Am Gas Assn Proc 1939:293-7

GAS cooking—*Continued*
Statistics prove electric cooking gains limited to non-gas territory. E. R. Martin. Am Gas Assn Mo 22:305-6 S '40
Utilities, manufacturers and A.G.A. join hands in selling a giant customer; 24th National hotel exposition, New York. il Am Gas Assn Mo 22:30-2 Ja '40
War and nutrition. B. M. Housman. Gas J (Lond) 228:243-4 N 1 '39
See also
Gas stoves

GAS cutting
Flame scarfing billets. J. Heffley. Steel 107: 54-5+ Jl 15 '40
Metal cutting costs. W. T. Tiffin and O. R. Eads. Power Pl Eng 44:76 Ap '40
Oxygen cutting with natural gas. il Oil & Gas J 38:49 D 21 '39
Report of ferrous metals committee; oxygen cutting. il diag Am Gas Assn Proc 1939: 412-22
See also
Oxyacetylene cutting

Cost
Cost of cutting with butane, propane and acetylene. W. T. Tiffin and O. R. Eads. Iron Age 144:42-3 D 21 '39; Discussion. E. L. Mathy. 145:43+ My 16 '40

GAS detectors
A. H. Pfund, granted patent for method of detecting and measuring certain gases when mixed with other gases. J. Stokley. Science 92:sup8 Ag 30 '40
Combustible gas alarm assists in boiler control. R. Winters. Power Pl Eng 44:73 Mr '40
Gas detectors in mines. T. R. Barnard. diag Elec R (Lond) 127:49 Jl 19 '40
Hydrogen sulfide detector. F. B. Behrens. il Oil & Gas J 38:86 Mr 28 '40
Is gas present? E. G. Meiter. il Nat Safety N 41:24-5+ Ja '40
Pittsburgh's investigations of gas leakage. J. B. Garner. il Gas Age 86:47-50 O 10 '40
See also
Carbon monoxide detectors

GAS distribution
Automatic controller maintains pressure. A. M. Spencer. il diag Gas Age 85:27-8 Ja 4 '40
Bridgeport gas light company extends its service. il Gas Age 86:11 Ag 29 '40
Bringing gas service to Cape Cod; butane distribution system. T. R. Robinson and A. C. Klein. il map Gas Age 86:18-20 Jl 18 '40
Design of a distribution network. L. Holtz. Gas Age 85:25+ My 23 '40
Dispatching in the Lone Star system. E. F. Schmidt. Gas Age 86:33 N 7 '40
Distribution design for heavy househeating loads. G. J. Heckendorn. Am Gas J 152:24-6 Je '40; Excerpts. Oil & Gas J 39:153+ My 16 '40
District high-pressure storage for use at peak load times. il Gas J (Lond) 231:406-7 S 4 '40
Effect of pressure reduction on unaccounted-for gas. P. A. Fusselman. map Gas Age 86:25-7 Ag 1 '40
Engineering performance in a far flung system; Lone Star gas company. E. F. Schmidt. il map Gas Age 86:25-7 N 7 '40
Field engineering guide notes for gas distribution. P. H. Kline. Am Gas J 153:15-18, 21-2 O '40
Freezing of natural gas regulators. W. C. Mitchell, S. Cromer and R. L. Huntington. bibliog il diags Gas Age 85:17-21+ Ja 4 '40
Functioning of the Compressor department; Lone Star gas company. E. F. Schmidt. il Gas Age 86:36-8 N 7 '40
Gas distribution problems in a growing territory. W. F. Wright. il Gas Age 85:17-18+ Ap 25 '40
Gas main extension economics. A. Dixon. Gas Age 84:29-30 D 7 '39
Gasways keep pace; transmission and distribution; Oklahoma natural gas company. R. W. Ducker. il map Gas Age 84:31-4 D 21 '39
Leakage surveys in distribution systems; with cost data. E. C. Kollock. Gas Age 85:28-32 F 15 '40; Same. Gas J (Lond) 229:684, 687, 691-2 Mr 27 '40
Natural gas convention, Distribution conference, Houston, May 6-10. Gas Age 85:19-24+ My 23 '40; Am Gas Assn Mo 22:203-8+ Je '40; Am Gas J 152:9-11 Je '40
New distribution system at Houma, La.; financed by sale of municipal revenue bonds. T. B. Smith. il Gas Age 85:19+ F 1 '40
New methods of improving gas service studied at annual distribution conference. D. P. Hartson. Am Gas Assn Mo 22:235-8 Je '40
Odorization of natural gas for city distribution. W. R. Fraser. diags Gas Age 86:31-3 S 12 '40
Operating division wrinkles. S. F. McCallister. il diags Am Gas J 153:35-8 O '40
Pacific gas and electric company case study; operating: transmission, distribution. R. S. Fuller. il map Gas Age 85:23-6+ F 29 '40
Problems in unaccounted-for gas. K. Richter. Gas Age 86:26-8 S 12 '40
Reconditioning a gas distribution system, Paris, Ill. il Gas Age 86:19-20 Ag 15 '40
Service regulators; action and maintenance. B. F. Worley. il diags Gas Age 86:58-61+ O 10 '40
Small diameter high-pressure systems for outlying residential areas. R. F. Henneman. Gas Age 85:20-2+ F 15 '40
Substituting butane and propane for manufactured gas. A. C. Rathkey. il Gas Age 85:22-4 F 1 '40
Ten years of gas dehydration. W. L. Shively. bibliog flow sheets il diags Am Gas Assn Proc 1939:501-14; Same cond. Gas Age 84: 45-50 O 26 '39; Same cond. Am Gas J 151: 32-4+ N '39; Discussion. Am Gas Assn Proc 1939:515
Les turbosoufflantes dans les cokeries et usines à gaz. C. Berthelot. diags Génie Civil 116:86-7 F 3 '40
Velocity and time-temperature pressure controls; Oklahoma natural gas company. E. C. McAninch. il Gas Age 84:37-9 D 21 '39
See also
Gas, Natural—Pipe lines
Gas flow
Gas holders
Gas leakage
Gas mixing
Gas pipes

Cost
Load factors and increment costs in transmission and distribution of gas. E. L. Fischer. Am Gas Assn Proc 1939:478-92; Discussion. 492-4; Discussion. L. H. East. Am Gas Assn Mo 21:451-2 D '39

Extensions
See Gas companies—Extension policies

Long distance lines
Druckverlust in ferngasleitungen. E. Zimmermann. V D I 84:103 F 10 '40
Fortschritte in der technik der gasfernversorgung. W. Wunsch. diags V D I 84:2-10 Ja 6 '40
See also
Gas, Natural—Pipe lines

GAS drying. See Gas—Dehydration

GAS engine plants. See Power plants—Gas engine plants

GAS engineering
Abstracts of conference papers. Am Gas Assn Proc 1939:601-3
Engineering performance in a far flung system; Lone Star gas company. E. F. Schmidt. il maps Gas Age 86:25-42 N 7 '40
Gas company engineers view the future; work of A.G.A. Technical section. D. P. Hartson. Gas Age 85:37-8 Ja 18 '40
Institution of gas engineers annual meeting papers. Gas J (Lond) 230:549-85 Je 12 '40

GAS engineering—*Continued*
New methods of improving gas service studied at annual distribution conference. D. P. Hartson. Am Gas Assn Mo 22:235-8 Je '40
Survey of present-day gas engineering practice. W. C. Jackson. Inst Mech Eng J & Proc 143:Proc 211-14 Je '40

See also
Gas and oil engines
Gas distribution
Gas fitting
Gas heating
Gas lighting
Gas manufacture
Gas works

Examinations

Institution of gas engineers; results of 1940 examinations. Gas J (Lond) 231:203-5 Jl 31 '40

Study and teaching

American gas association's laboratories as a training school. F. E. Vandaveer. Am Gas Assn Mo 22:325-6 S '40
Educational aid; natural gas course meets test of time. M. M. Stephens. Am Gas Assn Mo 22:215-16 Je '40
Natural gas engineering school in nature's laboratory; Texas college of arts and industries. F. H. Dotterweich. il map Am Gas J 152:13-18 My '40
Third Appalachian gas measurement short course is outstanding success. B. P. Stockwell. Am Gas Assn Mo 22:309 S '40
Two students win $50 A.G.A. prizes for mastering gas courses; Chester R. Mathes and Marden E. Cobb. il Am Gas Assn Mo 21:438 D '39

Tables, calculations, etc.

Influence of pressure upon the water-gas and other equilibria. G. Sartori and D. M. Newitt. Engineering 149:157 F 9 '40
Theoretical advantages of low air; steam ratios in water gas manufacture. J. H. Taussig, jr. Gas Age 85:31-3+ Je 6 '40; Same. Am Gas J 153:30-3 Jl '40

GAS engines. See Gas and oil engines; Gas turbines

GAS explosions. See Explosions

GAS fires
Heroic measures extinguish gas well fire in West Virginia. il Am Gas J 152:57 My '40

GAS fitting

Study and teaching

Selection and training of apprentice gasfitters. M. S. Viteles. Am Gas Assn Proc 1939:559-65

GAS fittings
Non-leak gas tap; patent specification. diag Gas J (Lond) 231:500 S 18 '40

GAS flow
Automatic constant flow regulator for low gas flows. L. Silverman. plan Ind & Eng Chem Anal ed 12:292-3 My 15 '40
Charts solve orifice equations. H. S. Winnicki and R. Koch. Chem & Met Eng 47: 24 Ja '40
Control of gases in the wake of smokestacks. R. H. Sherlock and E. A. Stalker. il diag Mech Eng 62:455-8 Je '40
Druckverlust in ferngasleitungen. E. Zimmermann. V D I 84:103 F 10 '40
Flow of a gas through porous media. J. L. Fowler and K. L. Hertel. diag J Ap Phys 11:496-502 Jl '40
Flow of natural gas in rough pipes; abstract. R. Ransom. Oil & Gas J 39:153 My 16 '40
Fluid flow problems. Am Inst Chem Eng Trans 36:sup12-14 S '40
Heat transfer in the flow of gas through a bed of solid particles. O. A. Saunders and H. Ford. bibliog diags Iron & Steel Inst J 141:291-316, pl 16-21 no 1 '40; Summary. Engineering 149:517 My 24 '40; Discussion. Iron & Steel Inst J 141:317-28 no 1 '40
Messung angreifender oder schwierig zu behandelnder gase und flüssigkeiten. F. Kretzschmer. il diags V D I 84:25-33 Ja 13 '40
Mixing gases in porous media. R. Ducker and R. L. Huntington. bibliog il plan Oil & Gas J 38:37-8, 40-1 Ja 4 '40
Rapid discharge of gas from a vessel into the atmosphere. E. Giffen. diags Engineering 150:134-6, 154-5, 181-3 Ag 16-23, S 6 '40
Selection of the most economical pipe and valve size and rate of flow in piping systems; with cost data. S. P. Johnson and F. L. Maker. diags Am Pet Inst Proc 21M(3):7-23 My '40
Strömungswiderstand von geraden rohren und formstücken. E. Zimmermann. il V D I 83:1288-9 D 16 '39
Study of the flow of air in tubes in the pressure range 1 to 300 atmospheres. R. W. Moulton and W. L. Beuschlein. bibliog diag plan Am Inst Chem Eng Trans 36:113-33 F '40
Wärmeübergang und druckverlust bei querströmung durch rohrbündel. E. Hofmann. bibliog V D I 84:97-101 F 10 '40

See also
Air flow
Gas meters

GAS furnaces. See Gas as fuel

GAS gangrene. See Gangrene, Gas

GAS governors
Automatic controller for gas governors. diags Gas J (Lond) 232:34+ O 2 '40
Automatic gas governors; patent. diags Gas J (Lond) 231:198 Jl 31 '40
Bryan Donkin gas governors. diags Gas J (Lond) 232:75 O 9 '40
EMCO introduces new model pressure regulator. il Gas Age 85:86+ My 9 '40
Service regulators; action and maintenance. B. F. Worley. il diags Gas Age 86:58-61+ O 10 '40

GAS heaters
Case histories; gas summer air conditioning on the delta; unit heaters regulate relative humidity for sugar and steel storage. G. E. May, R. E. Judd and J. M. Guillory. il Am Gas Assn Mo 22:341-2 O '40
Electric ignition for gas-fired heating equipment. B. A. Johnson. Am Gas Assn Proc 1939:334-7
Evanair fan-equipped gas space heater. il Gas Age 85:44 Je 20 '40
Gas fire patent. diags Gas J (Lond) 231:541 S 25 '40
Gas solves the problem of industrial space heating. il Gas J (Lond) 231:326-7 Ag 21 '40
Gas units solve factory heating problem. R. Boettinger. diags Power 84:246 Ap '40
Heat radiating elements; patent specifications. diag Gas J (Lond) 231:374-5 Ag 28 '40
Luminous flame fires. il diags Gas J (Lond) 229:143, 147, 149-50 Ja 17 '40
Maxol gas heated circulators; patent specifications. diag Gas J (Lond) 231:374 Ag 28 '40
Refractories for gas and coke burning appliances; extract from the 30th report of the refractory materials joint committee. L. R. Barrett and A. T. Green. bibliog Gas J (Lond) 228:627+ D 20 '39
Report on Dunham sav-t-heat heating systems. W. A. Scully. Am Gas Assn Proc 1939:346
Study of fan circulating cabinet heaters. A. M. Apmann. Am Gas Assn Proc 1939: 326-31
Unit heaters provide church comfort. R. A. Maxwell. il Gas Age 85:33 F 15 '40

See also
Gas water heaters

Merchandizing

Gaining tenement heat load by domestic salesmen; Fall River gas works co. B. T. Poor. il Gas Age 85:19-20 Ap 11 '40
Investigation of market for side wall or window vented heaters. Am Gas Assn Proc 1939:348
Promoting the sale of gas fired unit heaters. F. B. Hatcher. Am Gas Assn Proc 1939:423-5

GAS heating
L'alimentation des radiateurs à gaz à combustion interstitielle. diags Génie Civil 116: 314 My 11 '40

GAS heating—*Continued*
Applications of gas to air conditioning. G. E. May. diags Heating-Piping 12:395-8 Je '40
Better heating; sales campaign stresses automatic gas service. il Am Gas Assn Mo 22: 350-1 O '40
Distribution design for heavy househeating loads. G. J. Heckendorn. Am Gas J 152:24-6 Je '40; Excerpts. Oil & Gas J 39:153+ My 16 '40
Domestic direct heating. S. L. Drumm. Am Gas Assn Proc 1939:347
Experiments on warming a room by gas. N. S. Billington. Gas J (Lond) 229:353 F 14 '40
Gas for all four; Shangri-La apartment hotel at Santa Monica. F. A. Herr. il Am Gas J 153:7-9+ Jl '40
Gas heat ideal for growing house plants. H. L. Jacobs. il Gas Age 86:32-3+ S 26 '40
Gas heating. C. G. Segeler. diag Mech Eng 62:212-14 Mr '40; Excerpts. Sheet Metal Worker 31:50+ Ap '40
Gas househeating census. C. R. Rudy. Pub Util 26:490 O 10 '40
Gas provides heat for new building construction. W. F. Powers. il Am Gas Assn Mo 22:344 O '40
Gas solves the problem of industrial space heating. il Gas J (Lond) 232:22+ O 2 '40
Haughton elevator co. modernizes its heating plant; with cost data. il plan Heat & Ven 36:23-6 D '39
Heating multiple dwellings with gas. G. Duane. Am Gas Assn Mo 22:149-50 Ap '40
House heating campaign that was tested. W. H. Matlack. il Am Gas J 152:9-10 F '40
House heating, 1940 program; American gas association. J. G. Tooker. Am Gas Assn Mo 22:137-9 Ap '40
Industrial gas engineer and space heating. R. F. Mann. Am Gas J 152:25-8 Ap '40
Load factors and increment costs in transmission and distribution of gas. E. L. Fischer. Am Gas Assn Proc 1939:478-92; Discussion. 492-4; Discussion. L. H. East. Am Gas Assn Mo 21:451-2 D '39
Market survey as a tool of management; holding and adding heating load. L. Ginsburg. Gas Age 86:35-8+ Jl 18 '40
Minneapolis gas light company gets 60 per cent of automatic heating. il Gas Age 85: 14-16 F 1 '40
New method of estimating heating requirements. E. D. Landfear. Gas Age 86:29-30 S 12 '40
New York builds temporary heating load for buildings under construction. W. F. Powers. il Gas Age 85:29-30 Mr 28 '40
New York Metropolitan house heating and air conditioning council considers sales problems at annual meeting. Gas Age 85:8+ Ja 4 '40
Overhead radiant heating. K. G. Eccleshare. Gas J (Lond) 231:26, 29 Jl 3 '40
Progress of heating with gas in 1939. C. G. Segeler. Heat & Ven 37:40-1 Ja '40
Progress on heating appliance code in California. F. A. Herr. Am Gas J 152:26-7 Je '40
Promoting central heating and floor furnaces. J. J. Brennan. Gas Age 86:27+ Ag 15 '40
Separate bathroom heating system for Santa Monica apartment; Shangri-La apartment hotel. il Heat & Ven 37:30-1 N '40
Spring and fall heating. G. M. Nash. il Am Gas Assn Proc 1939:332-4
Study of fan circulating cabinet heaters. A. M. Apmann. plans Am Gas Assn Proc 1939:326-31
Summary of the progress of gas heating in new construction and recommended program. J. E. Cook. Am Gas J 152:13-16 Ja '40; Same. Gas Age 85:23-5 F 15 '40
Tools of progress; domestic gas appliances further improved for 1940. W. R. Teller. il Am Gas Assn Mo 22:9-13 Ja '40
Unit heaters show cost reduction of 53 per cent; Haughton elevator co. H. W. Smith, jr. il Steel 105:74 N 20 '39
Value of gas heating in new homes. Am Gas Assn Proc 1939:322-6

See also
Boilers, Heating—Gas firing
Gas heaters
Gas water heaters

Cost
Selling gas heat to the builder. W. V. Morrow. il Am Gas J 152:24-5 F '40

GAS heating, Industrial. See Gas as fuel

GAS holders
Construction and operation of the 10,000,000 cubic foot waterless holder at Everett, Mass. D. S. Reynolds. il diags Am Gas J 153:23-8+ Jl '40
Deformation controlled; handling system using hydraulic jacks for aligning parts of huge tanks during field erection. W. A. Sandberg. il Steel 107:50, 52+ Ag 12 '40
Der grösste gasbehälter der welt. il Chemische Fabrik 12:515 D 27 '39
Modern gas storage. S. C. Thomson. Gas J (Lond) 229:520-1; Discussion. 521-4 Mr 6 '40; Reply. 230:99 Ap 10 '40
Problem of clarifying gas holder waters. J. J. O'Loughlin. Gas Age 84:19-20 D 7 '39
Streamlined high pressure holder constructed at Corvallis. il Am Gas Assn Mo 22:139 Ap '40

Ice protection
Gasholder heating in Quebec. C. W. Delorey. diags Gas J (Lond) 230:441-2 My 29 '40
Maintenance of water-sealed holders during severe winter conditions. S. M. Milbourne. diags Gas J (Lond) 229:454-5 F 28 '40; Discussion. 230:80-1, 187 Ap 10, 24 '40
New development lessens winter hazards of wet seal gas holders. il Am Gas J 153:58 O '40

Painting
Graphite paint; its application in the gas plant. J. J. O'Loughlin. bibliog il Gas Age 85:23-4+ Mr 14 '40

Purging
Purging and dismantling of the Ardmore, Pennsylvania, gas storage holder. G. F. Tyler. il diags Am Gas J 152:9-11 Ja '40; Same. Gas Age 85:22-4 Ja 4 '40; Same. Am Gas Assn Mo 22:76-7 F '40

Repair
Description of alterations and repairs to storage holder at Westfield, New Jersey. J. J. Crilly. diags Am Gas Assn Mo 22:198 My '40

Wrecking
Purging and dismantling of the Ardmore, Pennsylvania, gas storage holder. G. F. Tyler. il diags Am Gas J 152:9-12 Ja '40; Same. Gas Age 85:22-4+ Ja 4 '40; Same. Am Gas Assn Mo 22:76-8 F '40

GAS igniters. See Gas burners—Ignition devices

GAS in air conditioning
Air conditioning a store year 'round; gas appliance store. E. F. Roth. il Gas Age 85:14-15 Je 20 '40
Air conditioning; gas industry adopts national sales program. il Am Gas Assn Mo 22:14-17 Ja '40
Air conditioning struggles toward maturity; Oklahoma natural gas company. C. Dean. il Gas Age 84:50-1 D 21 '39
Applications of gas to air conditioning. G. E. May. diags Heating-Piping 12:395-8 Je '40
Case histories; gas summer air conditioning on the delta. G. E. May, R. E. Judd and J. M. Guillory. il diag Am Gas Assn Mo 22: 337-42 O '40
Case study of gas summer air conditioning; results of installations in Florida. C. D. Littlefield. Sheet Metal Worker 31:60+ Ag '40
Company program for the sale of summer air conditioning. C. R. Bellamy. Am Gas J 152: 12-15 Je '40; Excerpt. Heat & Ven 37:60 Je '40
Cooling by gas; abstract. J. W. Hill. Am Gas J 153:78 O '40
Coordination of air conditioning urged. Gas Age 84:27-8 D 7 '39

GAS in air conditioning—*Continued*
Drug store installs gas air-conditioning plant. il Gas Age 86:46 S 12 '40
Factors involved in merchandising gas air conditioning. K. B. Castle. il Am Gas Assn Mo 22:167-70 My '40
Gas-fired absorption systems; abstract. J. W. Hill. Heat & Ven 37:62 Jl '40
Humidifying air in homes, a new gas load. O. J. Kuenhold. il diags Am Gas J 153:43-5 O '40
Market possibilities and equipment available for summer air conditioning by gas. A. W. Lundstrum. il diags Am Gas Assn Proc 1939:270-80
Report of A.G.A. joint committee on industrial and commercial summer air conditioning. il Am Gas J 153:66-9 N '40
Report of the industrial and commercial air conditioning committee. il Am Gas Assn Proc 1939:426-58
Résumé of opinions on gas air conditioning. G. Rieley. il Am Gas J 153:51-2+ O '40
What air conditioning offers the gas industry. W. H. Carrier. Am Gas Assn Mo 22:391 N '40

GAS in refrigeration
Gas refrigeration; what it offers in the commercial field. C. J. Conkey. Am Gas Assn Mo 22:135-6 Ap '40

See also
Refrigerators, Gas

GAS industry
Report of special committee on fundamental research. Am Gas Assn Proc 1939:52-7; Same. Am Gas Assn Mo 21:386-9+ N '39
Technical developments and their effect on the gas industry. H. Russell. Am Gas Assn Proc 1939:78-80; Same. Am Gas J 151:16-17 N '39

See also
Gas, Natural
Gas appliance industry
Gas appliances
Gas as fuel
Gas companies
Gas distribution
Gas heating
Gas manufacture
Gas rates
Gas research
Gas stoves
Gas works

Advertising
Advertising and promotional activities; Lone Star gas system. W. C. Grant and W. G. Wiegel. il Gas Age 86:63-6 N 7 '40
Better copy winners named at Public utilities advertising assn. convention. Gas Age 86: 30+ Jl 18 '40
Better heating; sales campaign stresses automatic gas service. il Am Gas Assn Mo 22:350-1 O '40
Beware the gypsies! hewing to the line in national advertising. H. Obermeyer. il Am Gas Assn Mo 22:86-8+ Mr '40
Fifth year; new plans for Association's national advertising. T. J. Strickler. Am Gas Assn Mo 22:244-8 Jl-Ag '40
Gulf South; United gas pipe line company adopts industrial development program. il Am Gas J 152:39-40 My '40
Homemakers' quiz consolidates customer goodwill via radio; Michigan consolidated gas company. I. Hickey. il Am Gas Assn Mo 22:300 S '40
House heating campaign that was tested. W. H. Matlack. il Am Gas J 152:9-10 F '40
How Hartford sold 449 appliances in one week. il Gas Age 85:19-21 Ap 25 '40
How Pittsburgh coordinates dealer sales work thru Gas appliance promotion division of Ketchum, MacLeod & Grove advertising agency. il Gas Age 86:27+ Jl 4 '40
Ideal team; the latest movies and modern gas appliances. J. L. Johnson. il Am Gas Assn Mo 22:60-1 F '40
Merchandising advertising. P. N. Swaffield. Am Gas Assn Proc 1939:300-4
Mystery chef on air again in Philadelphia area. Gas Age 86:20+ Ag 15 '40
New film shows how gas serves New York. L. S. Metcalfe and H. G. Christensen. il Gas Age 84:21+ D 7 '39
Record of association advertising. J. Benson. il Adv & Sell 33:60, 62 Je '40
Report of the national advertising committee. il Am Gas Assn Proc 1939:386-91
Rock-ribbed foundation for gas industry development. J. F. Pollard. Am Gas Assn Proc 1939:82-8; Same cond. Am Gas Assn Mo 21:420-4 D '39
Small-space copy pulls; New Haven, Conn. gas light company. il Gas Age 85:26-7 F 15 '40
Smiling animated character is super salesman; Frugal Flame; Texas public service company of Austin. M. Rasor. il Am Gas J 152:19-20 Ja '40
Why a national advertising program on automatic gas water heating? H. N. Ramsey. il Am Gas Assn Mo 22:130-2 Ap '40
Why Washington ties-in to national advertising. W. R. Squier. il Gas Age 86:51-4 O 10 '40

See also
Gas, Natural—Advertising
Gas stoves—Advertising

Exhibitions
A.G.A. booth dramatizes gas heating at exposition. il Am Gas Assn Mo 22:114 Mr '40
Atlanta presents another decade of progress; gas show commemorating 10 years of natural gas in Atlanta. O. C. Waters. il Am Gas J 152:28, 31-2 Je '40
Cooperative gas display a feature at California home show. F. A. Herr. il Am Gas J 153:9-10 Ag '40
Gas at the fairs. C. S. Goldsmith; R. D. Smith. il Am Gas Assn Proc 1939:494-500
It's showmanship that counts; gas exhibit at the Los Angeles county fair. D. Houlgate. il Am Gas Assn Mo 21:432 D '39
Manufacturers cooperate with A.G.A. Industrial section and Consolidated Edison in display at hotel exposition. il Gas Age 84: 78+ D 21 '39
Metal show reaches 32,000 gas prospects. il Gas Age 84:30-2+ N 23 '39; Same. Am Gas Assn Mo 21:466-8 D '39
Report of the committee on displays at National industrial expositions. il Am Gas Assn Proc 1939:397-401
Utilities, manufacturers and A.G.A. join hands in selling a giant customer; 24th National hotel exposition, New York. il Am Gas Assn Mo 22:30-2 Ja '40

See also
New York (city)—World's fair, 1939—Gas exhibits and use
New York (city)—World's fair, 1940—Gas exhibits and use

Laws and regulations
See Gas companies—Law

Merchandizing
Advertising and promotional activities; Lone Star gas system. W. C. Grant and W. G. Wiegel. il Gas Age 86:63-6 N 7 '40
Are we selling appliances or gas? E. F. Jeffe. Am Gas Assn Proc 1939:280-2
Commercial sales conference in Atlanta features new set of tools for gas. Am Gas Assn Mo 22:276-8+ Jl-Ag '40
Factors involved in merchandising gas air conditioning. K. B. Castle. il Am Gas Assn Mo 22:167-70 My '40
Gas industry at the crossroads. W. C. Beckjord. Am Gas J 152:16-18+ Ap '40; Same abr. Am Gas Assn Mo 22:123-6 Ap '40
Gas mart proves success in first eight months. il Gas Age 86:75-7+ O 10 '40
Gas mart will serve Long Island area; simplifies dealer-manufacturer-utility cooperation. G. F. B. Owens. il map Gas Age 85: 20-1 F 1 '40; Same. Am Gas Assn Mo 22: 51-2 F '40; Same. Am Gas J 152:27-8 F '40
Gas sales are up, and we planned it that way! C. E. Paige. Am Gas Assn Mo 22: 343-4 O '40; Same. Pub Util 26:481 O 10 '40
Industrial and commercial gains continue; A.G.A. Industrial gas section, aims and objectives for 1940. F. T. Rainey. Gas Age 85:35-6+ Ja 18 '40

GAS industry—Merchandizing—*Continued*
Industrial gas section, A.G.A. sales conference, Toledo, March 28-29. Gas Age 85:22-5+ Ap 25 '40; Am Gas Assn Mo 22:192-4+ My '40; Am Gas J 152:48-50 My '40
Load building through packaged industrial equipment. A. H. Koch. Am Gas Assn Mo 22:153-5+ Ap '40
Market possibilities and equipment available for summer air conditioning by gas. A. W. Lundstrum. il diags Am Gas Assn Proc 1939:270-80
Mid-west gas association convention, Lincoln, Neb. April 15-17. Am Gas Assn Mo 22:183-4 My '40
Natural gas convention, Distribution conference, Houston, May 6-10. Gas Age 85:19-24+ My 23 '40; Am Gas Assn Mo 22:203-8+ Je '40; Am Gas J 152:9-11 Je '40
New York Metropolitan house heating and air conditioning council considers sales problems at annual meeting. Gas Age 85:8+ Ja 4 '40
1940 A.G.A. hotel, restaurant and commercial sales conference. Am Gas J 153:34-5 Jl '40
Reaching the air-conditioning market through the 1938-1939 developments in gas equipment. C. R. Bellamy. Am Gas Assn Proc 1939:435-44
Reasons why gas is forging ahead in the metals field. C. S. Cronkright. Am Gas Assn Proc 1939:360-1
Report of the industrial and commercial air conditioning committee. il Am Gas Assn Proc 1939:426-58
Résumé of opinions on gas air conditioning. G. Rieley. il Am Gas J 153:51-2+ O '40
Sales. R. Cowie, jr. Gas J (Lond) 229:530, 535 Mr 6 '40
Selling parade; a digest of successful selling ideas. C. B. Roth. Am Gas J 152:17-18 F; 12-13 Mr; 37-8 Ap; 28, 31 My; 41-2 Je; 153:16-17 Jl; 23-4 Ag; 25-6 S; 31-2 O; 71-2 N '40
Successful methods of selling standard rated industrial gas furnaces. C. B. Phillips. Am Gas Assn Proc 1939:373-6
Summary of the progress of gas heating in new construction and recommended program. J. E. Cook. Am Gas J 152:13-16 Ja '40; Same. Gas Age 85:23-5 F 15 '40
Utilities and manufacturers, a team for increased sales. L. C. Ginn. Am Gas Assn Proc 1939:383-6
What of the expanding industrial market, and management's part in capitalizing on it? C. G. Young. Am Gas Assn Proc 1939: 357-9
What of tomorrow. H. Cuthrell. Am Gas Assn Proc 1939:259-62
Who'll do what for industrial gas in 1940. E. D. Milener. Am Gas Assn Mo 22:72-4 F '40
Why gas companies should cooperate with LPG (liquefied petroleum gas). L. W. Johnson. il Gas Age 86:19-20+ S 12 '40

See also
Gas appliances—Merchandizing
Gas appliances, Domestic—Merchandizing
Gas companies—Appliance selling
Gas companies—Salesmen
Gas in air conditioning
Gas industry and the plumbing trade
Gas stoves—Merchandizing
Gas water heaters—Merchandizing
also American gas association—Industrial gas section

Model home exhibits

Modern miracle house of Boston consolidated gas company a worthy display. il Am Gas J 153:33 S '40

Publicity

Your industrial and commercial gas publicity as a sales tool. H. W. Smith, jr. Am Gas Assn Proc 1939:378-82; Same cond. Am Gas Assn Mo 22:47-50 F '40

Statistics

Annual statistics of the manufactured gas industry in 1938. 27p American gas assn, 420 Lexington av, New York '39
Gas and coal products. Chem & Met Eng 47: 82-4 F '40
Gas and electric industries look back on 1939. Pub Util 25:107-8 Ja 18 '40
Manufactured gas and natural gas, 1935-1939. Survey of Cur Business 1940 Sup p98-9 [supplemented in monthly numbers]
Manufactured gas; customers, sales to customers, revenue from sales, monthly, 1938 and 1939; revision. Survey of Cur Business 20:16 My '40
Statistical report, 1937-1938, Oregon gas utilities. 32 l Ormond R. Bean, Public utilities commissioner, Salem '40
Summary of gas company statistics for month of October, 1939. Comm & Fin Chr 150:37 Ja 6 '40 [cont monthly]
Uncle Sam checks up on the gas bill; gas use by different income groups in eight cities. R. Elgen. Gas Age 86:40+ Ag 15 '40

War measures

Brighton utilities pool their A.R.P. emergency services; gas, electricity, and water. Gas J (Lond) 228:229-30 N 1 '39
Defence (gas charges) order made by the Board of trade and dated Dec. 2. Gas J (Lond) 228:610 D 20 '39
Effect of war conditions on the London gas companies. D. Milne-Watson. Gas J (Lond) 228:286-7 N 8 '39
Gas-works are now war factories. E. L. Burgin. Gas J (Lond) 229:456 F 28 '40
Oxide purification; wartime practices and substitutes. J. M. Dow. Gas J (Lond) 231: 449-50+ S 11 '40
Public relations in wartime. Gas J (Lond) 230:388 My 22 '40

Australia

Gas industry in Australia and New Zealand. Gas J (Lond) 228:235 N 1 '39

Belgium

Organisation de la production et de la distribution du gaz en Belgique; problèmes techniques, économiques et administratifs connexes. C. Berthelot. Chimie & Ind 43: 77-80 Ja 5 '40

California

Pacific gas and electric company case study. il diags Gas Age 85:13-58 F 29 '40

Great Britain

British commercial gas association 28th annual general meeting. Gas J (Lond) 228: 612-13 D 20 '39
British gas federation 5th annual general meeting. Gas J (Lond) 228:561-2+ D 13 '39
Company meetings; Gas light and coke company and others. Gas J (Lond) 229:402-6+, 463-8, 585-6, 590+; 230:38, 43-5, 308-9, 352-3+, 489, 586-7, 631-2; 231:125 F 21-28, Mr 13, Ap 3, My 8-15, Je 5-19, Jl 17 '40
Effect of war conditions on the London gas companies. D. Milne-Watson. Gas J (Lond) 228:286-7 N 8 '39
Electricity-gas truce; recommendations of Joint committee. Elec R (Lond) 126:343 Mr 22 '40
Federal idea applied to the gas industry; British gas federation. W. T. Hallam. Gas J (Lond) 230:627 Je 19 '40
Gas industry in peacetime and war. H. D. Madden. Gas J (Lond) 230:399-400 My 22 '40
Gas prices order; permissible dividends are related to changes in output and in prices. Economist 137:473 D 23 '39
Gas undertakings' results. Published in weekly numbers of Gas journal (London)
Hire purchase: need for continued sales of appliances. Gas J (Lond) 228:388-90 N 22 '39
Holding corporations and amalgamations; forming a British gas grid system. F. R. G. Grant. Gas J (Lond) 231:35 Jl 3 '40

GAS industry—Great Britain—*Continued*
How gas undertakings can help the steel industry; augmenting the country's supplies of scrap iron and steel. Gas J (Lond) 228: 232+ N 1 '39
Joint gas and electricity committee; report submitted for approval by the two industries. Gas J (Lond) 229:683-4 Mr 27 '40
Leicester corporation special order; novel point regarding staffs. Gas J (Lond) 231: 327-8 Ag 21 '40
London gas dividends cut. Economist 138: 212 F 3 '40
London gas results of four gas companies 1938 and 1939. Economist 138:262 F 10 '40
Newcastle-upon-Tyne and Gateshead bill. Gas J (Lond) 230:201-2, 253 Ap 24-My 1 '40
1939 review. Gas J (Lond) 228:661-74, 677-8 D 27 '39
North of England gas managers' association presidential address. T. Law. Gas J (Lond) 230:390, 393-4 My 22 '40
Organization and activities of the British commercial gas assn. Gas J (Lond) 229:457 F 28 '40
Post-war fuel policy. G. E. Foxwell. Gas J (Lond) 229:28-30, 85-6+ Ja 3-10 '40
Presidential address before Institution of gas engineers. G. Dixon. Gas J (Lond) 230: 549-50, 553-4+ Je 12 '40
Presidential address before London and southern district junior gas association. F. O. Hawes. Gas J (Lond) 228:347-8, 350 N 15 '39
Presidential address before the Waverley association of gas managers. A. S. Nisbet. Gas J (Lond) 231:23-4, 73-4+; Discussion. 79 Jl 3-10 '40
Presidential address before the Yorkshire junior gas association. T. G. Lewis. Gas J (Lond) 229:527-30 Mr 6 '40
Presidential address before Wales and Monmouthshire association. J. P. Jones. Gas J (Lond) 230:436+ My 29 '40
Progress under grouped control. A. L. Morris. Gas J (Lond) 232:70+ O 9 '40
Smokeless industry at Welwyn Garden City. Gas J (Lond) 230:305 My 8 '40
Society of British gas industries; report of the Council for 1939-1940. Gas J (Lond) 230:481 Je 5 '40
Some observations on policy. A. B. Munro. Gas J (Lond) 231:453-4+ S 11 '40; Discussion. 231:493-4 S 18 '40
South metropolitan company's accounts. Gas J (Lond) 229:399 F 21 '40
Swindon's output trebled in eight years. il Gas J (Lond) 230:299-300 My 8 '40
Utilities under pressure. Economist 137:214-15 N 11 '39
War and the carbonisation industries. G. E. Foxwell. il Chem Age (Lond) 41:433-5 D 30 '39

See also
Gas light and coke company

India

Bombay gas company, annual ordinary general meeting, London, April 24. Gas J (Lond) 230.254-6 My 1 '40

Long Island, New York

Gas mart proves success in first eight months. il Gas Age 86:75-7+ O 10 '40
Gas mart will serve Long Island area; simplifies dealer-manufacturer-utility cooperation. G. F. B. Owens. il map Gas Age 85: 20-1 F 1 '40; Same. Am Gas Assn Mo 22: 51-2 F '40; Same. Am Gas J 152:27-8 F '40

New England

Gas company progress. H. M. Henry. Am Gas J 152:7-12, 40-3 Ap '40; Same cond. Gas Age 85:36-8+ Ap 11 '40

New Zealand

Gas industry in Australia and New Zealand. Gas J (Lond) 228:235 N 1 '39

South Africa

Cape Town and district gas light and coke company 50th ordinary general meeting. Gas J (Lond) 230:256 My 1 '40

United States

Arming the nation; gas industry takes stellar defense role. F. T. Rainey. Am Gas Assn Mo 22:379-80 N '40
Federal housing; the gas industry's opportunity in the USHA program. G. W. Bean. il Am Gas Assn Mo 22:254-6 Jl-Ag '40
Forward march of the American gas industry; statements from leading operating companies and executives. il Pub Util 26: 479-519 O 10 '40
Gas business in the modern world. W. C. Beckjord. Am Gas J 153:21-5 N '40; Excerpts. Am Gas Assn Mo 22:377-8 N '40
Gas utility industry in 1939. W. C. Beckjord. Gas Age 85:21-3+ Ja 18 '40; Same cond. Am Gas Assn Mo 22:3-4+ Ja '40
Manufactured gas and coke afford opportunity for expanding coal production. A. M. Beebee. Min & Met 21:235-9 My '40
National defense; the gas industry organizes to aid government program. Am Gas Assn Mo 22:250-1 Jl-Ag '40
Technical problems of the gas industry in connection with national defense, with special reference to toluol recovery by gas works; with cost data. P. T. Dashiell. Am Gas J 153:45-50+ N '40
U.S. fuel facts; more gas than ever supplied to government. G. W. Bean. Am Gas Assn Mo 22:348-9 O '40
War and navy departments; how gas supplies U.S. fuel requirements. G. W. Bean. Am Gas Assn Mo 22:298-9 S '40

See also
American gas association
Gas, Natural—United States

GAS industry and the plumbing trade
Achieving 40 per cent water heating saturation; Missouri utilities company. H. R. McArthur. il Gas Age 85:27+ Ap 11 '40
Cooperative campaign sells 3000 non-ferrous gas water heaters in southern California. R. A. Latimer. Am Gas J 153:18+ Jl '40
Novel promotion stimulates gas water heater sales. Am Gas Assn Mo 22:191 My '40

GAS laboratories

See also American gas association—Appliance testing laboratory

GAS lamps
Atlanta gas lamp memorial shares spotlight with Gone with the wind premiere. J. H. Reed. il Am Gas Assn Mo 22:7-8 Ja '40
New self-lighting gas burner. diags Gas J (Lond) 228:691 D 27 '39
Old gas lamp post in Atlanta becomes a memorial. il Am Gas J 152:31-2 Ja '40

See also
Gas lighting
Gas mantles

GAS leakage
Effect of pressure reduction on unaccounted-for. P. A. Fusselman. map Gas Age 86: 25-7 Ag 1 '40
Leak location by vegetation surveys; with cost data. E. O. Werba. Gas Age 85:20-1+ Mr 28 '40
Leakage surveys in distribution systems; with cost data. E. C. Kollock. Gas Age 85:28-32 F 15 '40; Same. Gas J (Lond) 229:684, 687, 691-2 Mr 27 '40
Pittsburgh's investigations of gas leakage. J. B. Garner. il Gas Age 86:47-50 O 10 '40
Problems in unaccounted-for gas. K. Richter. Gas Age 86:27-8 S 12 '40

GAS lifts
Experimental gas lift at Sulphur effective in recovering oil. il Oil & Gas J 38:76-7+ Ap 25 '40
Intermittent gas lift beneficial to large wells. T. P. Sanders. Oil & Gas J 39:63 Ag 15 '40
Surface-controlled intermitter utilizes static fluid column. D. H. Stormont. il diag Oil & Gas J 38:88-9 My 9 '40

GAS light and coke company
Accounts. Gas J (Lond) 229:346 F 14 '40
Ordinary general meeting, London. Economist 138:311 F 17 '40

GAS lighting
Developments in commercial gas lighting. A. M. Slattery. il Gas Age 84:22-4 D 7 '39
Gas lamps adapted to indicate Coventry's A.R.P. services. il Gas J (Lond) 228:285 N 8 '39
Physical problems associated with gas lighting. L. T. Minchin, A. B. Densham and J. Wright. bibliog Gas J (Lond) 230:240-2 My 1 '40
Wartime street lighting by gas. il diag Gas J (Lond) 229:354, 359-61 F 14 '40
William Murdoch; pioneer of gas lighting Chem Age (Lond) 41:331 N 11 '39

Control

Control of gas lighting; Webson gas switch. diags Gas J (Lond) 228:352 N 15 '39
Gas street lighting control. diags Gas J (Lond) 228:296-7+ N 8 '39

GAS liquor. See Gas works—Waste

GAS lock. See Petroleum—Pumping

GAS mantles
Physical problems associated with gas lighting. L. T. Minchin, A. B. Densham and J. Wright. bibliog Gas J (Lond) 230:241-2 My 1 '40

GAS manufacture
Adverse economic factors overcome by complete change in manufacturing methods; Portland gas light co. of Portland, Me. Pub Util 26:508 O 10 '40
American gas association, joint Production and Chemical committee conference, New York, May 20-22. Gas Age 85:18-21+ Je 6 '40
Aspects of coal testing. F. Duckworth. Gas J (Lond) 229:583-5 Mr 13 '40
Carbonization of coal-oil mixtures. C. J. Ramsburg and G. V. McGurl. Am Gas J 153:59-64 N '40
Correlation of analysis of coal with the products of carbonization in externally heated retorts. V. F. Parry. U S Bur Mines Rep of Invest 3482:1-37 '39
Cracking tars and distillates from coal. G. Egloff and others. bibliog il diags Ind & Eng Chem 32:39-47 Ja '40
Economic utilization of unscreened coke breeze; abstract and discussion. S. H. Stokes. Gas J (Lond) 229:639-40 Mr 20 '40
Fuel gas generator; a development using electrical energy as a source of heat; estimated costs. H. A. Curtis, R. B. Stitzer and W. J. Darby. il diags Ind & Eng Chem 32:757-62 Je '40
Making gas the modern way; Portland gas light company. G. R. Steere. il Comp Air M 45:6170-3 Je '40
New developments. Am Gas Assn Proc 1939: 599-601
Potentialities of future gas production costs. L. J. Willien. Am Gas Assn Proc 1939:461-73; Same cond. Gas Age 84:21-3+ N 9 '39; Discussion. Am Gas Assn Proc 1939: 474-7
Practical operating problems reviewed at annual production and chemical conference. Am Gas Assn Mo 22:280-3 Jl-Ag '40
Presidential address before the Manchester district association of gas engineers; Stockport gas undertaking. T. Reynolds. diags plans map Gas J (Lond) 230:30-2, 35-7 Ap 3 '40
Presidential address before the Yorkshire junior gas association. T. G. Lewis. Gas J (Lond) 229:527-8 Mr 6 '40
Production of reactive gas coke by alkali activation. H. H. Thomas and P. J. Askey. Gas J (Lond) 230:582-3 Je 12 '40
Reconnaissance at Alloa gas works. A. W. Brown. Gas J (Lond) 229:247-8 Ja 31 '40
Remarks on the effect of storage on coal. D. D. Melvin. Gas J (Lond) 230:87-8 Ap 10 '40; Discussion. 230:139-40 Ap 17 '40
Steaming in horizontal retorts. M. Hamshaw. Gas J (Lond) 230:307 My 8 '40
Survey of gas, coke and by-product making properties of American coals. bibliog Am Gas Assn Proc 1939:585-9
Survey of present-day gas engineering practice. W. C. Jackson. Inst Mech Eng J & Proc 143:Proc211-14 Je '40
Technology of gas manufacture; review of American gas association handbook; need of British textbook. Gas J (Lond) 231:535 S 25 '40

See also
Coal distillation
Coke manufacture
Coke-oven gas
Gas, Water—Manufacture
Gas companies
Gas producers
Gas purification
Gas retorts
Gas works

By-products

Benzole recovery. L. R. Cowley. Gas J (Lond) 230:627-8 Je 19 '40
Benzole recovery; discussion. Gas J (Lond) 228:395+ N 22 '39
Gas-works are now war factories. E. L. Burgin. Gas J (Lond) 229:456 F 28 '40
Light oil recovery from coke oven gas. W. Tiddy and M. J. Miller. plans Am Gas J 153:7-10+ S '40
Observations on the economics of by-products recovery in gas-works; with cost data. D. M. Henshaw and C. Cooper. bibliog Gas J (Lond) 230:564-5, 569-72 Je 12 '40; Excerpts. Chem Age (Lond) 42:323 Je 15 '40; Discussion. Gas J (Lond) 230:662, 665-6 Je 26 '40
Physical chemistry of gas liquor distillation. F. H. Peakin. Soc Chem Ind J 59:81-7 My '40; Same. Gas J (Lond) 230:629-30, 672-4 Je 19-26 '40; Discussion. 231:30 Jl 3 '40
Technical problems of the gas industry in connection with national defense, with special reference to toluol recovery by gas works; with cost data. P. T. Dashiell. Am Gas J 153:45-50+ N '40

See also
Ammonia
Coal tar
Coke

Coal mine gasification

Underground gasification of coal in Russia. I. Pavlov. diag Gas Age 84:15-16+ D 7 '39

Complete gasification process

Potentialities of future gas production costs. L. J. Willien. Am Gas Assn Proc 1939:461-3; Excerpts. Am Gas J 151:36 N '39; Gas Age 84:21 N 9 '39

Patents

Carbonization under pressure; patent. Gas J (Lond) 231:166+ Jl 24 '40
Carbonization with hydrogen under pressure; patent. diags Gas J (Lond) 230:389 My 22 '40

GAS masks
Is chemical industry ready? activated carbon. A. B. Ray. Ind & Eng Chem 32:1166-7 S '40
Rubber for army gas masks. M. E. Barker. il diags India Rubber W 102:33-6 My '40

GAS measurement
Is there a better measurement unit? Gas Age 86:22+ S 12 '40
Messung angreifender oder schwierig zu behandelnder gase und flüssigkeiten. F. Kretzschmer. il diags V D I 84:25-33 Ja 13 '40
Thickness of a liquid film adhering to a surface slowly withdrawn from the liquid. F. C. Morey. bibliog diags J Research Nat Bur Stand 25:385-93 S '40
Third Appalachian gas measurement short course is outstanding success. B. P. Stockwell. Am Gas Assn Mo 22:309 S '40

See also
Gas flow
Gas meters

GAS meters
Diaphragm meters for commercial and industrial loads. A. D. MacLean. il diags Am Gas J 152:21-4, 52 My '40
Emco develops meter for liquefied petroleum gases. il Gas Age 86:54 S 12 '40
Gas meter accuracy in relation to public good will. G. L. Budnick. Am Gas J 153:10-11 Ag '40
Gas meter performance. E. R. Gilmore. il Gas Age 86:20-4 Ag 1 '40

GAS meters—*Continued*
Gas meters. J. T. Haynes. Gas J (Lond) 230:572-4, 579-80 Je 12 '40; Discussion. 230: 666+; 231:69-70 Je 26, Jl 10 '40
Installation and operation of orifice meters for industrial customers. M. J. Cereghino. il diags Am Gas J 153:13-18+ S '40
Meter for liquefied petroleum gases. il Am Gas J 153:63 O '40
Meter records; Oklahoma natural gas company. W. Neish. il Gas Age 84:58-9 D 21 '39
Meters and metering. Am Gas Assn Proc 1939:620-2
Non-corrosive meter. diags Gas J (Lond) 232:75 O 9 '40
Recent experiments on laboratory wet gas meters. H. S. Bean and F. C. Morey. Am Soc T M Proc 39:1171-9 '39
Relationship of meter obsolescence to the cost of replacement capital. M. W. Waddington. Am Gas Assn Proc 1939:221-2; Same. Gas Age 84:24+ N 9 '39
Report of Republic flow meters co.'s ring-balance meter. diag Am Gas Assn Proc 1939: 594-6
Ueberwachung des gasverbrauchs von oefen mit einem im nebenschluss angeordneten kammergasmesser. G. Neumann. diags Stahl & Eisen 60:32-3 Ja 11 '40
Verwendung von kammer- oder drehkolben-gasmessern zur ueberwachung des gasverbrauchs von oefen. G. Neumann. Stahl & Eisen 59:1365-6 D 21 '39

Diaphragms
Meter diaphragms in wartime. Gas J (Lond) 228:686 D 27 '39
Tanning sheepskins for meter diaphragms. S. McIntire. Gas Age 85:27-8 F 1 '40

Lubrication
Lubrication of dry gas meters; patent. diag Gas J (Lond) 231:542 S 25 '40

Prepayment meters
Compensation for unpaid-for gas; patent. diag Gas J (Lond) 230:444-5 My 29 '40
Gas load building; a promotional meter plan. E. V. Bowyer. Am Gas Assn Mo 21:425-6 D '39
Two-part tariff prepayment meters. diag Gas J (Lond) 230:205 Ap 24 '40

Repair
Centralized meter shops; Oklahoma natural gas company. G. Estill. il plan Gas Age 84: 40-1 D 21 '39
New meter repair equipment; meter shops of the Southern California gas co. H. S. Harris. il Am Gas J 153:21-3 S '40

Testing
Testing orifice meter gages at high pressure with special water manometer. J. T. Cortelyou. diag chart Gas Age 85:27-9 Ap 25 '40

GAS mixing
Gas mixing valve designed in connection with the conversion of petrol driven vehicles to gas operation. diag Engineer 169:239-40 Mr 8 '40
Pacific gas and electric company case study; manufactured gas plants for stand-by. F. Wills. il diags Gas Age 85:31-2 F 29 '40

GAS oil
Carbonization of coal-oil mixtures. C. J. Ramsburg and G. V. McGurl. Am Gas J 153:59-64 N '40
Carburetting blue gas with Bunker "C" oil; important savings realized by use of low-priced oil. O. B. Phillips. Can Chem & Process Ind 24:506-7 O '40
Changeover to heavy oil in Ottawa. O. B. Phillips. Gas Age 86:23-6+ Ag 15 '40
Effect of marketing policies and refining methods on future availability of residue enrichment oils. A. E. Pew, jr. Am Gas J 152:37-9 Je '40
Stoppages of pilot lights on gas appliances. O. L. Kowalke. il Gas Age 85:23-6 Ap 11 '40

See also
Gas, Water

GAS ovens
Baking and drying; gas-fired baking and drying ovens. J. E. Dare. il diags Steel 105:59, 62 D 18 '39
Drying and baking with radiant energy. il diags Steel 107:48-51 O 28; 48-50 N 11 '40
Drying oven on roof is feature of enlarged finishing plant; De Foe finishing co. H. H. Slawson. il Steel 107:42, 44+ O 21 '40
Drying with infra-red radiation; comparing industrial heating by gas and by electricity. H. A. Clark. Am Gas J 152:43-5+ My '40
Flash baking oven; making electric motor laminations; synchronized sheet slitter, varnish applicator and conveyorized flash-baking oven at Reliance electric & engineering co. K. H. Meyer. il diag Steel 105: 54+ D 4 '39
Oven thermostats. diag Gas J (Lond) 231:249-50 Ag 7 '40

GAS ovens, Baking
New gas-fired biscuit oven. Gas J (Lond) 231:25 Jl 3 '40

GAS pipe lines
See also
Gas, Natural—Pipe lines
Gas distribution
Gas pipes

GAS pipes
A.G.A. laboratories study boltless pipe couplings. K. R. Knapp. il diags Am Gas Assn Mo 22:284-7 Jl-Ag '40
Construction of submerged river crossings. R. W. Todd and A. B. Polley. diags maps Gas Age 86:34-8 S 26 '40
Designing water, gas and sewerage facilities for low cost housing project in San Antonio. A. Sauer. il diags Pub Works 71: 20-3 S '40
Experiences in laying the West Yorkshire gas grid. L. W. Roberts. Gas J (Lond) 230:141-2, 147; Discussion. 147-8 Ap 17 '40
New tower carries gas line. il Gas Age 85: 42 Mr 14 '40
Small diameter high-pressure systems for outlying residential areas. R. F. Henneman. Gas Age 85:20-2+ F 15 '40
Standards for cast iron pipe forged over long period. Am Gas Assn Mo 22:364 O '40
Supporting strengths of cast-iron pipe for water and gas service. W. J. Schlick. il diags Iowa Eng Exp Sta Bul 146:1-128 bibliog(p113-14) '40

See also
Gas, Natural—Pipe lines
Gas flow
Gas leakage
Gas distribution

Corrosion
Effects of cyanogen on manufactured gas. E. J. Murphy. bibliog il Gas Age 84:23-7 N 23 '39; Same. Am Gas J 151:9-13, 41 D '39

Deposits
Dust control; glass wool filters to the rescue; Oklahoma natural gas company. E. J. McConnell. il diag Gas Age 84:35-6 D 21 '39
Ten years of gas dehydration. W. L. Shively. bibliog flow sheets il diags Am Gas Assn Proc 1939:501-14; Same cond. Gas Age 84: 45-50 O 26 '39; Same cond. Am Gas J 151: 32-4+ N '39; Discussion. Am Gas Assn Proc 1939:515

Flood damage
Emergency equipment materials and organization; repairing river crossings and other lines damaged by floods, etc; Industrial fuel supply company. M. L. Fort. il Gas Age 86:23-6 S 26 '40

Protection
What about cathodic protection? W. T. Smith and T. C. Marshall. il Gas Age 85:49-52+ My 9 '40

GAS pipes—*Continued*

Repair

Emergency equipment materials and organization; repairing river crossings and other lines damaged by floods, etc; Industrial fuel supply company. M. L. Fort. il Gas Age 86:23-6 S 26 '40

Tables, calculations, etc.

Nomograph for pipe-line work. A. Bahn. diag Gas Age 85:34-5 Ap 11 '40

Testing

Fink main joint tester. diags Am Gas J 153:15-16 Ag '40

Leakage surveys in distribution systems; with cost data. E. C. Kollock. Gas Age 85:28-32 F 15 '40; Same. Gas J (Lond) 229:684, 687, 691-2 Mr 27 '40

GAS poisoning. See Carbon monoxide poisoning; Gases, Asphyxiating and poisonous

GAS producers

Bright annealing; gas from producer sampled continuously and maintained at desired analysis by reversing motor which alters ratio of air to gas as required. il diags Steel 107:76+ Ag 12 '40

Brush-Koela gas producer. il diags Automobile Eng 30:53-5 F '40

Brush-Koela gas producer. il diags Engineering 149:70, 71 Ja 19 '40

Brush-Koela producer gas for transport vehicles. il diags Mech Handling 27:29-31 F '40

Comparison of producer fuels. A. A. Mitchell. Gas J (Lond) 229:301-2 F 7 '40

Gas generators capture European interest; Volvo design. il diags Automotive Ind 82: 22-5 Ja 1 '40

Improvements in the Brush-Koela gas producer. il diags Engineer 169:395 Ap 26 '40; Automobile Eng 30:147-8 My '40; Engineering 149:532 My 24 '40; Mech Eng 62:746-7 O '40

Installation de fours à coke chauffés au gaz pauvre de gazogène, aux cokeries de la Seine. C. Berthelot. il diag Génie Civil 116: 129-32 F 24 '40

Mobile gas producers. diags Gas J (Lond) 231:250 Ag 7 '40

New producer gas plant. il diags Engineer 169:68-9 Ja 19 '40

Producer gas utility car. il Engineer 170: 238-9 O 11 '40; Engineering 150:304 O 18 '40

Producer gas vehicle. il diag Engineer 168:576 D 8 '39

Two hundred miles on half a pint of petrol; Gas light and coke company lorry fitted with gas producer. il Gas J (Lond) 228: 340 N 15 '39

GAS purification

Ammonia as an aid to purification. L. T. Calhoun. Am Gas Assn Mo 22:362-3 O '40

Blaw-Knox cleaner installation at Rutland, Vt.; removal of fine oil mists, tar-fog, entrained water, naphthalene and liquid phase gum formers. S. F. McCallister. il diags Am Gas J 152:26-9 Ja '40; Same, without diags. Gas Age 84:21-2+ N 23 '39

Burnt oxide for H_2S removal. G. E. Thompson. Gas J (Lond) 229:190 Ja 24 '40

L'emploi de produits français pour l'épuration chimique du gaz d'éclairage. Génie Civil 116:220-1 Mr 30 '40

Filter cooler for producer gas plants. diags Engineer 168:529 N 24 '39

Fortschritte in der technik der gasfernversorgung. W. Wunsch. diags V D I 84:2-10 Ja 6 '40

Gaging adsorption power of colloidal ferric oxide by dye adsorption; development of a standard test. F. H. Dotterweich and W. J. Huff. bibliog diags Ind & Eng Chem Anal ed 12:277-9 My 15 '40

Gas purification in small plants. D. K. Taylor. diags Gas Age 85:28-9+ Mr 14 '40

Korrosionsverhinderung durch feinreinigung von brenngasen. H. Brückner. Chemische Fabrik 12:489-93 N 22 '39

Light oil scrubbing for gum formers. S. Green. diags Am Gas Assn Proc 1939:573-85

Living organisms in gas purification. G. E. Seil. Gas Age 85:36+ Je 6 '40

Oxide purification; wartime practices and substitutes. J. M. Dow. Gas J (Lond) 231: 449-50+ S 11 '40

Physical chemistry of gas liquor distillation. F. H. Peakin. Soc Chem Ind J 59:81-7 My '40; Same. Gas J (Lond) 230:629-30, 672-4 Je 19-26 '40

Purifying Turner Valley gas. H. Le M. S. Guille. Can Chem & Process Ind 24:343+ Jl '40

Recovery in sulphate pulp mills; experience with the Tomlinson system in Sweden; cleaning of the gases. G. Edling. diags Pulp & Pa of Can 40:735-7 D '39

Removal of hydrogen sulphide from natural gas; Girbotol process. flow sheets il Chem & Met Eng 47:37-40 Ja '40

Technical problems of the gas industry in connection with national defense, with special reference to toluol recovery by gas works; with cost data. P. T. Dashiell. Am Gas J 153:45-50+ N '40

See also

Electric precipitation

Gas cleaning

Cyanogen removal

Effects of cyanogen on manufactured gas. E. J. Murphy. bibliog il Gas Age 84:23-7 N 23 '39; Same. Am Gas J 151:9-13, 41 D '39

GAS rates

Appliance cost sharing plan works well in Wisconsin. J. E. Hubel. Am Gas J 152:28-9 F '40

Chicago gas case. A. L. Stein. J Land & Pub Util Econ 16:236-41 My '40

Complications of gas rate proceedings. L. T. Parker. Am Gas J 152:21-2 Je '40

Doubling domestic gas consumption; Western united gas and electric company. C. W. Tennant. il Gas Age 85:24-7 Je 6 '40

Electricity and gas; price changes between March and June 1940. Monthly Labor R 51:498-500 Ag '40

Gas prices on December 15, 1939. Monthly Labor R 50:497-504 F '40

How much should a utility company be allowed to earn? Illinois Supreme court holding 5 per cent not confiscatory. H. R. Booth. Pub Util 26:281-5 Ag 29 '40

How one company raised gas use 72 per cent; with financial data. W. C. Beckjord. Gas Age 85:26-8 Mr 28 '40

Increased gas rates based upon higher taxes; Rochester gas and electric corporation case. H. D. Koontz. J Land & Pub Util Econ 16: 233-5 My '40

Market survey as a tool of management; meeting severe electric competition. L. Ginsburg. Gas Age 86:22-5+ Ag 29 '40

Price changes between June and September 1939. Monthly Labor R 49:1274-6 N '39

Price changes between December 1939 and March 1940. Monthly Labor R 50:1271 My '40

Report of rate committee. Am Gas Assn Proc 1939:19-31

Short-cuts for rate computations; effect of revenue of a change in rates. Am Gas Assn Proc 1939:31-45

Will the Washington plan work with gas utilities, producing gas rate reductions as it has produced electric rate decreases. C. E. Troxel. Pub Util 25:660-8 My 23 '40

See also

Gas, Natural—Rates

Terminology

Glossary of important gas rate terms. 16p Nat. assn. of railroad and utilities commissioners, Washington, D.C. '39

GAS refrigerators. See Refrigerators, Gas

GAS research

Broad-visioned program of natural gas pipeline research. H. D. Hancock. Am Gas Assn Mo 22:44-6 F '40

GAS research—*Continued*
Combustion characteristics of town gas; the aeration test burner (model B); 44th report of the joint research committee of the Institution of gas engineers and Leeds university. diags Gas J (Lond) 228:504-6, 511-12 D 6 '39; Discussion. 229:31-2 Ja 3 '40
Forging the future; anticipating the industry's needs with research. R. M. Conner. il Am Gas Assn Mo 22:171-4 My '40
Institution of gas engineers; extract from the 5th report of the research executive committee, 1938-39. Gas J (Lond) 228:445-8+ N 29 '39; Abstract. Engineering 149:87-8 Ja 26 '40
New research bulletins point way to better gas utilization. F. J. Rutledge. il Am Gas Assn Mo 22:301-4+ S '40
Organic sulphur. bibliog il Am Gas Assn Proc 1939:517-42; Same cond. Am Gas J 151:27-33 D '39; Discussion. Am Gas Assn Proc 1939:557-8
Report of special committee on fundamental research. Am Gas Assn Proc 1939:52-7; Same. Am Gas Assn Mo 21:386-9+ N '39
Research and the Am. gas association's laboratories. R. M. Conner. il Gas Age 85: 41-4 Ja 18 '40
Research on the Lone Star system. E. F. Schmidt. il Gas Age 86:32-3 N 7 '40
Technical developments and their effect on the gas industry. H. Russell. Am Gas Assn Proc 1939:78-80; Same. Am Gas J 151:16-17 N '39
What of the future? the possibilities and importance of adequate research. E. F. Schmidt. Am Gas Assn Mo 22:5-6+ Ja '40

GAS retorts
C.O.L. intermittent verticals in New Zealand. il Gas J (Lond) 228:460 N 29 '39
Coke discharge in intermittent verticals; patent. diags Gas J (Lond) 231:542-3 S 25 '40
Gas-making units at Rothesay; vertical retorts and water gas plant. T. S. Lockhart. il Gas J (Lond) 230:85-7 Ap 10 '40
Gas retort settings; patent specifications. diag Gas J (Lond) 230:83 Ap 10 '40
Maintenance of continuous vertical retorts. N. Matthews. Gas J (Lond) 230:91-3; Discussion. 93 Ap 10 '40
Narrow brick retorts for low-temperature carbonisation. Engineering 148:652 D 8 '39
New Drakes vertical installation at Farnham. il Gas J (Lond) 229:680 Mr 27 '40
Relieving pressure in the foul main; readily adjustable and compact valve. diags Gas J (Lond) 229:640 Mr 20 '40

Electric heating
Fuel gas generator; a development using electrical energy as a source of heat; estimated costs. H. A. Curtis, R. B. Stitzer and W. J. Darby. il diags Ind & Eng Chem 32:757-62 Je '40

Steaming
Steaming in horizontal retorts. M. Hamshaw. Gas J (Lond) 230:307 My 8 '40

GAS scrubbers. See Gas purification

GAS storage
District high-pressure storage for use at peak load times. il Gas J (Lond) 231:406-7 S 4 '40

See also
Gas, Natural—
Storage
Gas holders

GAS stoves
Combined grill and boiling burner. diags Gas J (Lond) 232:34 O 2 '40
Cooker splash plates. diags Gas J (Lond) 231:541-2 S 25 '40
Design of solid hotplates. diag Gas J (Lond) 230:135-6 Ap 17 '40
Gas cooker design and construction. il Gas J (Lond) 230:344, 349-51 My 15 '40
Hotel man looks at gas service. R. J. Kief. Am Gas Assn Proc 1939:410-11; Same. Am Gas J 151:50-1 N '39
Non-aerated burners; research and practice. D. Chandler. Gas J (Lond) 229:138 Ja 17 '40
Radiation, ltd. large scale-cooking range. il Gas J (Lond) 229:692 Mr 27 '40
Today's gas ranges hold front rank in user-performance test. G. L. Pennock. il Am Gas Assn Mo 22:296-7 S '40
Tools of progress; domestic gas appliances further improved for 1940. W. R. Teller. il Am Gas Assn Mo 22:9-13 Ja '40

See also
Gas cooking
Gas heaters

Advertising
Beware the gypsies! hewing to the line in national advertising. H. Obermeyer. il Am Gas Assn Mo 22:86-8+ Mr '40
How Pittsburgh coordinates dealer sales work thru Gas appliance promotion division of Ketchum, MacLeod & Grove advertising agency. il Gas Age 86:27+ Jl 4 '40

Merchandizing
Control of repeaters and meters; cooking school stimulates gas range sales. M. T. Bly. Am Gas Assn Mo 22:151-2 Ap '40
Customers prefer Certified performance ranges. C. W. Tennant. Gas Age 85:9-13+ Ja 4 '40
Dealers who sell; the story of Chicago's spectacular range sales. M. F. Boss. Am Gas Assn Mo 22:57-9 F '40
Domestic range and its sales curve; comparison with electric ranges. F. X. Mettenet. Am Gas Assn Proc 1939:257-9
Eight suggestions for CP promotion. C. A. Debell. Gas Age 85:26 Ap 25 '40
Four-purpose contact; gas range promotion via meat cookery; butchers' cooperation. A. Berry. Am Gas Assn Mo 22:217-18 Je '40
Gas range campaign successfully creates big fall sales. A. J. Larson. Am Gas J 153: 27-8 O '40
Gas range outlook is encouraging. W. E. Derwent. Gas Age 85:25-6 F 1 '40
Gas range presentation at Chicago. Am Gas J 152:45 Ap '40
Grand Rapids doubling C P range sales this year. W. M. Chamberlain. il Gas Age 86: 62-3+ O 10 '40
How 84,400 gas ranges were sold in Chicago. G. E. Stedman. Gas Age 85:17-18 F 15 '40
How Grand Rapids replaced 623 electric ranges. L. M. Hall. il Gas Age 85:31-2 Ap 11 '40
In the mirror of customer opinion. G. B. Price. Am Gas Assn Proc 1939:290-2
Jacksonville breaks all merchandise records; Old stove round-up keyed around musical show. il Gas Age 84:28-9 N 23 '39
Man the stoves! a new approach to the CP range salesman's job. H. L. Kirtland. Am Gas Assn Mo 22:345-6 O '40
Old range roundup; American Stove gets dealer support for new models. Ptr Ink 192: 51-2, 54+ S 20 '40
Our 1940 profit parade to greater modern gas range sales. G. L. Scofield. Am Gas Assn Mo 22:109-11 Mr '40
Play suits and gas ranges; sales campaign of Oklahoma natural gas co. H. V. Potter. il Gas Age 86:34-5 S 12 '40
Prizes of CP Ranger club interest. il Gas Age 85:57+ My 9 '40; Same. Am Gas Assn Mo 22:188-9 My '40; Same. Am Gas J 152: 46+ My '40
Purchase price vs. cost of ownership. R. S. Agee. Am Gas Assn Proc 1939:297-300
Warranty sells gas ranges; maintenance agreement; Knoxville gas company. F. E. Kunkel. il Am Gas J 152:30 Ja '40
What are they thinking about gas ranges? A. Hirose. Am Gas Assn Mo 22:20-2+ Ja '40

GAS supply

Bridgeport, Connecticut
Bridgeport gas light company extends its service. il Gas Age 86:11 Ag 29 '40

GAS supply—*Continued*

Detroit

Detroit plan for gas company rate control. C. E. Troxel. J Land & Pub Util Econ 15: 486-8 N '39

Germany

German gas and appliances regulated by decrees. F. Braun. Gas Age 86:24 Jl 18 '40

Liverpool

Century-and-a-quarter of gas at Liverpool. Gas J (Lond) 231:154 Jl 24 '40

Oconomowoc, Wisconsin

Gas popular in Oconomowoc. il Am Gas J 152:39 Ap '40

GAS tanks

Hygrade Sylvania corporation; steel sphere for storing illuminating gas under high pressure. il Factory Management 98:96 Mr '40

Warren installs pressure tanks to accommodate liquefied-gas users. il Oil & Gas J 39: 39 O 31 '40

See also

Gas holders

GAS testing

Combustion characteristics of town gas; the aeration test burner (model B); 44th report of the joint research committee of the Institution of gas engineers and Leeds university. diags Gas J (Lond) 228:504-6, 511-12 D 6 '39; Abstract. Engineering 148:678-9 D 15 '39; Discussion. Gas J (Lond) 229:31-2 Ja 3 '40

Gas testing; little known Commission function. Pub Util 26:534-7 O 10 '40

Stoppages of pilot lights on gas appliances. O. L. Kowalke. il Gas Age 85:23-6 Ap 11 '40

GAS torch

Improved design for a laboratory torch. J. M. Krappe. diags J Chem Educ 17:216-19 My '40

GAS turbines

Abgasturbinen mit gekühlten laufschaufeln. K. Leist. il V D I 83:1206-7 N 11 '39

Combustion gas turbine. J. T. Rettaliata. diag Engineer 170:63-4, 78-9 Jl 26-Ag 2 '40; Abstract. Automotive Ind 83:63 Jl 15 '40

Combustion gas turbine; its history, development, and prospects. A. Meyer. il diags Inst Mech Eng J & Proc 141:Proc 197-212, pl 1-2 My '39; Discussion. 142:Proc 393-6 F '40

Combustion turbine. diag Locomotive 43:24 Ja '40

Hot air power plant; cycle employed by Escher Wyss. J. Ackeret and C. Keller. il diags Engineer 169:373-4 Ap 19 '40

Load tests of a 4,000-kw. combustion-turbine set. A. Stodola. il diags Engineering 149:1-4 Ja 5 '40; (Essais de puissance d'une turbine à combustion de la Société Brown, Boveri & cie). Génie Civil 116:8-11 Ja 6 '40; (Leistungsversuche an einer verbrennungsturbine). V D I 84:17-20 Ja 6 '40; Abstracts. Power 84:74-6 F '40; Mech Eng 62:239-40 Mr '40

Les possibilités actuelles de la turbine à gaz à pression constante; la turbine à détente totale fractionnée sur un seul disque. M. Gautier. Génie Civil 116:117-20, 132-5, 148-51 F 17-Mr 2 '40

Proposed combustion-turbine locomotive; combined with hydraulic torque converter and coupling, and worm-gear drive. diag plan Ry Mech Eng 114:144-8 Ap '40; Same cond. Ry Age 108:588-90 Mr 30 '40

Die verbrennungsturbine, ihre geschichte, ihr heutiger stand und ihre aussichten für die nahe zukunft. A. Meyer. il diags Stahl & Eisen 59:1373-9 D 28 '39

Verbrennungsturbine mit geschlossenem kreislauf. F. Liceni. diags V D I 83:1239-40 N 25 '39

Why combustion gas turbines? J. T. Rettaliata. il Power 83:732-4 D '39

Temperature

Verfahren zur läufertemperaturmessung von gasturbinen. H. H. Berg. diags V D I 84: 329-30 My 11 '40

GAS turbines, Marine

Marine gas turbines. diags Mech Eng 62:744-5 O '40

GAS warfare. See Chemical warfare; Gases, Asphyxiating and poisonous

GAS water heaters

Booster-recovery installation for 180° water heating. diag Am Gas J 151:34-5 D '39

Carrying conviction for gas; water heaters in the service of A.R.P. il Gas J (Lond) 230:478 Je 5 '40

Domestic gas water heating; American gas association bulletin. Gas J (Lond) 231:36-7, 118, 123-4 Jl 3, 17 '40

Easy-clean water heaters. Gas J (Lond) 230: 636 Je 19 '40

Fair exhibit features gas water heating for sanitization. Am Gas Assn Mo 22:318 S '40

Features of the performance of gas water heaters. J. Cooper. diag Gas J (Lond) 230: 193-4, 199 Ap 24 '40; Discussion. 230:199-200, 245-7 Ap 24-My 1 '40

Gas water heating for barracks. il Gas J (Lond) 229:26 Ja 3 '40

New Thermo Cuber ice cutter; new use for gas-heated water. il Gas Age 86:56 S 26 '40

Progress in gas central heating. il Gas J (Lond) 231:193-4 Jl 31 '40

Radiation gas equipment for war services. il Gas J (Lond) 228:566 D 13 '39

Stator gas duplex unit; combination refrigerator and water heater uses mercury vapor boiler. R. D. McNiece. Am Gas J 152:35-6 My '40

Summer-winter water heating by coil attachments to central gas heating plant; with cost data. G. C. Beck. Am Gas Assn Proc 1939:337-43

Water heater requirements revised. Am Gas Assn Mo 22:415 N '40

Advertising

Why a national advertising program on automatic gas water heating? H. N. Ramsey. il Am Gas Assn Mo 22:130-2 Ap '40

Merchandizing

Achieving 40 per cent water heating saturation; Missouri utilities company. H. R. McArthur. il Gas Age 85:27+ Ap 11 '40

Commercial water heating load is increased 70 per cent; Springfield gas light company. B. Dale. il Gas Age 85:20+ Je 20 '40

Cooperative campaign sells 3000 non-ferrous gas water heaters in southern California. R. A. Latimer. Am Gas J 153:18+ Jl '40

Doubling domestic gas consumption; Western united gas and electric company. C. W. Tennant. il Gas Age 85:24-7 Je 6 '40

Market survey as a tool of management; increasing water heater sales. L. Ginsburg. Gas Age 86:28-32+ Ag 1 '40

Novel promotion stimulates gas water heater sales. Am Gas Assn Mo 22:191 My '40

Portland proves that grime does not pay; sales campaign. A. J. Larson. il Gas Age 86:38+ S 12 '40

Selling points on volume water heating. W. H. Ligon. il Am Gas Assn Mo 22:358-60 O '40

Straws in the wind arouse provocative questions on gas water heaters. B. Bowser. il Am Gas Assn Mo 22:92-3 Mr '40

Water heating; how to build gas load through tested selling steps. B. A. Seiple. il Am Gas Assn Mo 21:430-1+ D '39; Same. Am Gas Assn Proc 1939:288-90

Water heating in the home. C. F. Turner. Am Gas Assn Mo 22:151 Ap '40

GAS works

Gas plant at Sterling, Ill.; nature contributes to attractive setting. il Am Gas J 152:20 Ja '40

Pacific gas and electric company case study; manufactured gas plants for stand-by. F. Wills. il diags Gas Age 85:31-2 F 29 '40

GAS works—*Continued*
Substituting butane and propane for manufactured gas. A. C. Rathkey. il Gas Age 85: 22-4 F 1 '40

See also
Gas, Water—Manufacture
Gas holders
Gas manufacture

Accounting

See Gas companies—Accounting

Costs

Benzole balance sheet. W. N. Baird. Gas J (Lond) 228:345-6 N 15 '39; Discussion. 228: 346-7, 398-9, 441 N 15-29 '39
Comparison of producer fuels. A. A. Mitchell. Gas J (Lond) 229:301-2 F 7 '40
Edinburgh gas department; effect of war on production costs. J. Jamieson. Gas J (Lond) 230:26-7 Ap 3 '40
Factors affecting gas production costs. F. W. J. Belton. Gas J (Lond) 229:400-1 F 21 '40
Gas company progress; reducing operating costs. H. M. Henry. Am Gas J 152:8-10 Ap '40; Same cond. Gas Age 85:37 Ap 11 '40
Increasing the gas operating income. H. M. Henry. Gas Age 84:12-14 N 23 '39
Potentialities of future gas production costs. L. J. Willien. Am Gas Assn Proc 1939:461-73; Same cond. Gas Age 84:21-3+ N 9 '39; Excerpts. Am Gas J 151:36-7 N '39; Discussion. Am Gas Assn Proc 1939:474-7
Public utility construction cost index, 1913-1939. Eng N 124:880 Je 20 '40
Relationship of meter obsolescence to the cost of replacement capital. M. W. Waddington. Am Gas Assn Proc 1939:221-2; Same. Gas Age 84:24+ N 9 '39

Employees

How to prepare a job manual; with summary of analysis of water gas maker's job; Hudson Valley fuel corporation, Troy, N.Y. R. D. Williams. Personnel J 18:219-26 D '39; Same. Am Gas Assn Proc 1939:73-6

Equipment

Blaw-Knox cleaner installation at Rutland, Vt. S. F. McCallister. il diags Am Gas J 152:26-9 Ja '40; Same, without diags. Gas Age 84:21-2+ N 23 '39
Builders' section; committee report. Am Gas Assn Proc 1939:591-7
Changeover to heavy oil in Ottawa. O. B. Phillips. Gas Age 86:23-6+ Ag 15 '40
Coke de-breezing. il Mech Handling 27:183-4 Ag '40
Foundations for gas works equipment. J. Hargreaves. Gas J (Lond) 230:443 My 29 '40
Gas equipment development; units and accessories for gas production, distribution or industrial application. il Am Gas J 153: 55-66 O '40
Gas-making units at Rothesay; vertical retorts and water gas plant. T. S. Lockhart. il Gas J (Lond) 230:85-7 Ap 10 '40
Gas purification in small plants. D. K. Taylor. diags Gas Age 85:28-9+ Mr 14 '40
Making gas the modern way; Portland gas light company. G. R. Steere. il Comp Air M 45:6170-3 Je '40
New carbonizing plant at Bridgwater. il Gas J (Lond) 229:182-3 Ja 24 '40
New developments of equipment used in gas manufacture. Am Gas Assn Proc 1939:589-90
New gas-works of the Blackpool corporation gas department; with cost data. T. R. Cook. il diags Gas J (Lond) 230:559-64 Je 12 '40; Discussion. 230:662; 231:69 Je 26, Jl 10 '40
Practical equipment for gas conditioning; Blaw-Knox equipment. R. H. Hazlett. diags Gas Age 86:26-8 Ag 29 '40
Presidential address before the Manchester district association of gas engineers; Stockport gas undertaking. T. Reynolds. diags plans map Gas J (Lond) 230:30-2, 35-7 Ap 3 '40
Reconnaissance at Alloa gas works. A. W. Brown. Gas J (Lond) 229:247-8 Ja 31 '40
Survey of present-day gas engineering practice. W. C. Jackson. Inst Mech Eng J & Proc 143:Proc211-14 Je '40
Visit to world's greatest gas and chemical works. il Mech Handling 27:55-7 Mr '40

See also
Coal handling
Gas holders
Gas purification
Gas retorts

Flood problems

Preparing gas plants for floods and hurricanes. G. F. Tyler. plan map Gas Age 85: 21-6 Je 20 '40

Fuel

Aspects of coal testing. F. Duckworth. Gas J (Lond) 229:583-5 Mr 13 '40
Comparison of producer fuels. A. A. Mitchell. Gas J (Lond) 229:301-2 F 7 '40

Load

Distribution design for heavy househeating loads. G. J. Heckendorn. Am Gas J 152:24-6 Je '40
Gas load building; a promotional meter plan. E. V. Bowyer. Am Gas Assn Mo 21:425-6 D '39
Load building through packaged industrial equipment. A. H. Koch. Am Gas Assn Mo 22:153-5+ Ap '40
Report on appliance load characteristics. F. M. Terry. Am Gas Assn Proc 1939:23-9
Trend of the domestic base load. G. F. B. Owens. Am Gas J 153:57-8 N '40; Same. Gas Age 86:34, 36 N 21 '40
Water heating; how to build gas load through tested selling steps. B. A. Seiple. il Am Gas Assn Mo 21:430-1+ D '39; Same. Am Gas Assn Proc 1939:288-90

Maintenance and repair

Maintenance of continuous vertical retorts. N. Matthews. Gas J (Lond) 230:91-3; Discussion. 93 Ap 10 '40

Management

Changeover to heavy oil in Ottawa. O. B. Phillips. Gas Age 86:23-6+ Ag 15 '40
Operating division wrinkles. S. F. McCallister. il diags Am Gas J 153:35-8 O '40

Protection

Preparing gas plants for floods and hurricanes. G. F. Tyler. plan map Gas Age 85:21-6 Je 20 '40

Waste

Observations on the economics of by-products recovery in gas-works; with cost data. D. M. Henshaw and C. Cooper. Gas J (Lond) 230:569-70 Je 12 '40; Discussion. 230:662, 665-6 Je 26 '40
Physical chemistry of gas liquor distillation. F. H. Peakin. Soc Chem Ind J 59:81-7 My '40; Same. Gas J (Lond) 230:629-30, 672-4 Je 19-26 '40; Discussion. 231:30 Jl 3 '40
Separator for effluents. diags Am Gas J 152: 45 Je '40

GASES
Admission of pure gases to vacuum systems. E. L. Jossem. bibliog diag R Sci Instr 11: 164-6 My '40
Automatic effusiometer for determination of specific gravity of gases. G. V. Feskov. il diag Ind & Eng Chem Anal ed 11:653-4 D 15 '39
Breakdown potentials of gases under alternating voltages. G. W. Fox and D. O. McCoy. diag J Ap Physics 11:592-5 S '40
Calculation of chemical equilibrium at high pressures. R. H. Ewell. bibliog Ind & Eng Chem 32:147-53 F '40
Calculation of the thermal diffusion constant from viscosity data. R. C. Jones and W. H. Furry. bibliog Phys R 57:547 Mr 15 '40
Chemical equilibria, free energies, and heat contents for gaseous hydrocarbons. K. S. Pitzer. Chem R 27:39-57 bibliog(41 references, p56-7) Ag '40
Chemical uses of gas. C. G. Segeler. Ind & Eng Chem News ed 18:437-8 My 25 '40

GASES—*Continued*

Chemisorptions of gases on iron synthetic ammonia catalysts. S. Brunauer and P. H. Emmett. bibliog Am Chem Soc J 62:1732-46 Jl '40

Combustion of common gases; data sheet. Metal Prog 38:586 O '40

Composition of furnace reducing atmospheres. Iron Age 146:48 O 17 '40

Differential gas pressures in wells. T. E. Larson. Am Water Works Assn J 31:2118-20 D '39

Electrical method for compounding sine functions; application to structure determinations of gas molecules by electron diffraction. L. R. Maxwell. bibliog diags R Sci Instr 11: 47-54 F '40

Fixed path acoustic interferometer for the study of matter. J. C. Hubbard and I. F. Zartman. bibliog diags R Sci Instr 10:382-6 D '39

Gas imperfection; experimental determination of second virial coefficients for seven unsaturated aliphatic hydrocarbons. E. E. Roper. bibliog diag J Phys Chem 44:835-47 O '40

Gas temperature measurement and the high velocity thermocouple; abstract. H. F. Mullikin. diag Glass Ind 20:441 D '39

Gases and metals; composite of abstracts. Metals & Alloys 11:MA164-5 Mr '40

Heats of adsorption of gases on iron synthetic ammonia catalysts at low temperatures. R. A. Beebe and N. P. Stevens. Am Chem Soc J 62:2134-40 Ag '40

Heats of formation of gaseous hydrocarbons. F. D. Rossini. Chem R 27:1-16 bibliog(p15-16) Ag '40

Interstellar gas; astronomers are finding matter as particles between the stars. H. N. Russell. Sci Am 163:128-9 S '40

Ionization loss of energy in gases and in condensed materials. E. Fermi. bibliog Phys R 57:485-93 Mr 15 '40

Isothermal changes in enthalpy for some gases. R. York, jr. and H. C. Weber. bibliog Ind & Eng Chem 32:388-92 Mr '40

Kinetic decomposition of ethyl chlorocarbonate; foreign gas effects. A. R. Choppin and G. F. Kirby, jr. bibliog Am Chem Soc J 62:1592-4 Je '40

Mechanism of electrical discharges in gases of low pressure. M. J. Druyvesteyn and F. M. Penning. bibliog il diags Rs Mod Phys 12:87-174 Ap '40

Osmotic diffusion in gases. E. J. Hellund. Phys R 57:737-42 Ap 15 '40

Performance of packed towers; experimental studies of absorption and desorption. T. K. Sherwood and F. A. L. Holloway. bibliog Am Inst Chem Eng Trans 36:21-36; Discussion. 36-7 F '40

Performance of packed towers; liquid film data for several packings. T. K. Sherwood and F. A. L. Holloway. bibliog diag Am Inst Chem Eng Trans 36:39-69; Discussion. 69-70 F '40

Preferential and initial ionic recombination in gases. N. E. Bradbury. bibliog J Ap Phys 11:267-73 Ap '40

Present status of the statistical method of calculating thermodynamic functions. E. B. Wilson, jr. Chem R 27:17-38 bibliog(182 references, p34-8) Ag '40

Pressure gradient fractionation of gases. J. W. Creely and G. C. Le Compte. bibliog diags Ind & Eng Chem 32:430-4 Mr '40

Pressure-volume-temperature relations of *n*-hexane and of 2-methylpentane. E. A. Kelso and W. A. Felsing. bibliog Am Chem Soc J 62:3132-4 N '40

Radioactive products from gases produced in uranium fission. G. N. Glasoe and J. Steigman. bibliog il Phys R 58:1-6 Jl 1 '40

Recent contributions of electron diffraction to the chemistry of molecules in the gaseous state. A. L. G. Rees. bibliog Chem & Ind 59:685-9 O 5 '40

Recovery of sulfur dioxide from waste gases; regeneration of the absorbent by treatment with zinc oxide. H. F. Johnstone and A. D. Singh. bibliog flow sheet il Ind & Eng Chem 32:1037-49 Ag '40

Report on conditioning of gases and air. il diags Chem & Met Eng 47:286-332 My '40

Some observations on the thermodynamics of hydrocarbons and related compounds. J. G. Aston. il Chem R 27:59-73 bibliog(p72-3) Ag '40

Steady-state diffusion under conditions of generalized source and incident current distributions. E. A. Schuchard and E. A. Uehling. Phys R 58:611-23 O 1 '40

Symposium on optical methods for study of molecular structure; electronic diffraction method. L. R. Maxwell. bibliog il diags Opt Soc Am J 30:374-95 S '40

Table of molecular structure by electron diffraction; configurations, bond angles, and interatomic distances. L. R. Maxwell. Opt Soc Am J 30:382-95 bibliog(148 references, p382, 394-5) S '40

Temperature of flame gases; discussion of sodium line reversal method of measurement. W. T. David. Engineering 149:241-2 Mr 8 '40

Theory of the van der Waals adsorption of gases. S. Brunauer and others. bibliog Am Chem Soc J 62:1723-32 Jl '40

Thermal separation ratios calculated from viscosity data. H. Brown. bibliog Phys R 57:242-3 F 1 '40

Thermodynamic properties from *P-V-T* data. R. York, jr. Ind & Eng Chem 32:54-6 Ja '40

Transformations of matter-radiation gas mixtures. R. M. Whitmer. Phys R 57:516-21 Mr 15 '40

Über die zwischenzustände bei modifikationsumwandlungen und die katalytische beeinflussung dieser vorgänge durch fremdgase. G. F. Hüttig. Angew Chemie 53:35-9 Ja 20 '40

Viscosity of gases and vapors at high pressures. E. W. Comings and R. S. Egly. bibliog Ind & Eng Chem 32:714-18 My '40

See also

Acetylene
Adsorption
Aerodynamics
Air
Argon
Avogadro number
Blast furnace gas
Brownian movement
Carbon dioxide
Chemistry
Chlorine
Coke-oven gas
Corresponding states, Law of
Electric discharges
Equation of state
Flame propagation
Flue gas
Fumes
Gas
Gas analysis
Gas flow
Helium
Hydrogen
Inflammable mixtures
Ionization, Gaseous
Joule-Thomson effect
Neon
Nitrogen
Oxygen
Ozone
Smoke
Van der Waals forces
Vapor pressure
Vapors
Volcanic gases
Water vapor

Apparatus

American apparatus, instruments, and instrumentation; high vacuum and measurement and control of gases. R. H. Müller. il Ind & Eng Chem Anal ed 12:581-4 O 15 '40

Apparatus for continuous automatic measurement of evolved gas; nitrogen evolution from diazo compounds. M. L. Crossley, R. H. Kienle and C. H. Benbrook. il diags Ind & Eng Chem Anal ed 12:216-17 Ap 15 '40

Atmosphere protection in paint and varnish manufacture; new inert gas generator. H. W. Smith, jr. Gas J (Lond) 229:304 F 7 '40

Compact gas saturator. A. E. Markham. diag Ind & Eng Chem Anal ed 12:112 F 15 '40

Constant path acoustic interferometer for gases at variable pressure. C. M. Herget. diag R Sci Instr 11:37-9 Ja '40

Efficiency of differently designed tubes for the thermal separation of gases and isotopes. A. Bramley and A. K. Brewer. Franklin Inst J 229:390-2 Mr '40

Flow divider for gases. J. H. Bruun. diag Ind & Eng Chem Anal ed 12:172 Mr 15 '40

Gas conditioning for paint and varnish plant. C. H. S. Tupholme. il Ind & Eng Chem News ed 18:621 Jl 25 '40

GASES—Apparatus—*Continued*
Gas-conditioning units for paint and varnish manufacture. il Engineer 169:542 Je 14 '40; Gas J (Lond) 230:482+ Je 5 '40; Engineering 150:27 Jl 12 '40
Improved form of vapor density apparatus. J. M. Hendel and O. Ochsenreiter. diag J Chem Educ 17:533-5 N '40
Instruments for control and analysis of controlled atmospheres. E. E. Slowter and B. W. Gonser. il diags Metal Prog 38:555-7+ O '40
Modified Kendall tube for purifying nitrogen. G. M. Savage and Z. J. Ordal. diags Science 91:222-3 Mr 1 '40
New method for the micro-analysis of gases. R. Spence. diags Chem Soc J p1300-3 S '40
New method of gas analysis; using soap films as gas meters. W. J. Gooderham. il diags Soc Chem Ind J 59:1-8 Ja '40
Pressure regulator for dynamic gaseous system. J. H. Bruun. diag Ind & Eng Chem Anal ed 11:628 N 15 '39
Thermal-conductivity-type gas analyzers. C. A. Hansen, jr. il diags Gen Elec R 43:166-9 Ap '40
Thermal separation of isotopes. W. W. Watson. diags Phys R 57:899-902 My 15 '40
Tube for nitrogen purification. A. B. Garrett and R. Heiks. diag Science 91:460 My 10 '40
Versatile gas saturator. W. R. Rinelli and K. S. Willson. diags Ind & Eng Chem Anal ed 12:549-50 S 15 '40

Liquefaction

Liquid gas in Germany. Automobile Eng 30: 192 Je '40
Producing 1100 B.t.u. by-product gas. P. E. Haynes. Gas Age 86:36+ S 12 '40
Refrigeration in the chemical industries. D. H. Killeffer. il Refrig Eng 40:145-8+ S '40

See also
Carbon dioxide, Liquid
Gas, Natural—Liquefaction
Helium, Liquid

Tables, calculations, etc.

Approximate solutions to problems involving the ideal gas law. A. Calandra. J Chem Educ 17:15-17 Ja '40
Measuring the permeability of rubber to various gases. A. S. Carpenter and D. F. Twiss. bibliog diags Ind & Eng Chem Anal ed 12:99-108 F 15 '40
New specific heats. R. C. Heck. Mech Eng 62:9-12 Ja '40
Nomographs for correcting volumes of perfect gases. J. G. Roof. Ind & Eng Chem 32:998-1000 Jl '40
Partial volumetric behavior of lighter paraffin hydrocarbons in the gas phase; methane, ethane, propane, *n*-butane in binary mixtures. B. H. Sage and W. N. Lacey. bibliog Oil & Gas J 38:189-92+ N 17 '39

GASES, Asphyxiating and poisonous

Air conditioning of air raid precaution shelters. J. W. Harvey. plan Refrig Eng 39:19-20 Ja '40
Chemical and physiological investigation of electric arc welding; bare, washed welding rods. G. C. Harrold, S. F. Meek and C. P. McCord. bibliog il J Ind Hygiene 22:347-78 O '40
Danger ahead! sewage gas hazards. J. S. Wiley. Eng N 125:488-9 O 10 '40
Dangerous fire gases. G. E. Ferguson. il Safety Eng 80:25-6+ Jl '40
Decontamination of electrical plant; effects of poison gas on equipment. Electrician 125:114 Ag 30 '40
Decontamination of foodstuffs affected by poisonous gases. A. P. B. Page. Chem & Ind 58:906-9 O 7 '39; Same. Can Chem & Process Ind 24:6-8 Ja '40
Decontamination of plant; recommended methods. Elec R (Lond) 127:171-2 Ag 30 '40
Detection of small quantities of war gases (Dijkstra's method). A. P. J. Hoogeveen. diags Chem & Ind 59:550-6 Ag 3 '40
Fallacy about poison gas; misconception of danger above 30 feet from ground. Heat & Ven 37:33 N '40
Les gaz de combat; leur détection. C. Berthelot. Chimie & Ind 43:91-106 Ja 20 '40
Manual of industrial health hazards. J. B. Ficklen. 176p $4 Service to industry, West Hartford, Conn. '40
Memorandum on the examination and treatment of foodstuffs contaminated by poison gas. J. C. Drummond. Chem & Ind 59:397-8 Je 8 '40
Methods for the detection of toxic gases in industry; sulfur dioxide, and nitrous fumes; abstract. Am Water Works Assn J 32: 896-7 My '40
Poison gases encountered by firemen while fighting fires. E. G. Meiter. In Purdue Univ Eng Extension Dept, Extension Ser 46:78-91 '40
Rapid identification of war gases; abstract. H. E. Cox. Chem Age (Lond) 41:361 N 25 '39
Treatment of casualties from lung irritant gases with particular reference to the use of oxygen and carbon dioxide mixture. A. T. Jones. bibliog il J Ind Hygiene 22:235-43 Je '40
Ventilation of air raid shelters. T. C. Angus. il Heating-Piping 12:356+ Je '40
War gases and their identification. Chem & Ind 58:1072-3 D 9 '39; Discussion. il 59:13-14, 239-40 Ja 6, Ap 6 '40
Where there's smoke; danger from combustion gases at fires. P. W. Kearney. il Nat Safety N 42:19+ S '40

See also
Arsine
Carbon disulfide
Carbon monoxide
Carbon monoxide poisoning
Chlorine
Flue gas
Gas masks
Hydrogen sulfide
Mustard gas
Smoke
Sulfur dioxide

GASES, Compressed

Alternative motor fuels; with cost data; abstracts. C. M. Walter. Gas J (Lond) 229: 516-19 Mr 6 '40; Automobile Eng 30:121-3 Ap '40; Discussion. Gas J (Lond) 229:519 Mr 6 '40
Compressed oil gas in place of coal gas; London, Midland and Scottish railway company. Gas J (Lond) 231:532 S 25 '40
Gas as a fuel for motor vehicles. J. S. Clarke. il diags Automobile Eng 30:8-10 Ja '40
Raising the calorific value of gas for motor transport. J. I. Graham and D. G. Skinner. Gas J (Lond) 229:39-41; Discussion. 41 Ja 3 '40
Study of the flow of air in tubes in the pressure range 1 to 300 atmospheres. R. W. Moulton and W. L. Beuschlein. bibliog diag plan Am Inst Chem Eng Trans 36:113-33 F '40
Theory of gas compression and circulation. D. M. Newitt. diags Inst Chem Eng Trans 17:153-68; Discussion. 168-70 '39
Use of gas as a fuel for motor vehicles; with cost data; abstracts. J. S. Clarke. Gas J (Lond) 228:614, 617 D 20 '39; Engineer 168: 638 D 29 '39; Discussion. Gas J (Lond) 228: 617-18+ D 20 '39

GASES, Diffusion of. See Diffusion

GASES. Kinetic theory of

Kinetics of chemical change. C. N. Hinshelwood. 274p $4.50 Oxford '40
Mathematical theory of non-uniform gases. S. Chapman and T. G. Cowling. 404p bibliog(p389-90) $7.50 Macmillan '40
Theory of the thermal diffusion coefficient for isotopes. R. C. Jones. bibliog Phys R 58:111-22 Jl 15 '40

GASES, Liquefied

Handling and storing liquefied gases in bulk. il diag Comp Air M 45:6237 S '40

See also
Carbon dioxide, Liquid
Helium, Liquid
Liquefied petroleum gas

GASES, Rare

See also
Argon
Helium
Krypton
Neon

GASES in warfare. See Chemical warfare

GASHOLDERS. See Gas holders

GASKETS
Dickson all-metal laminated gasket. il Engineering 148:540 N 10 '39
Garlock flange jacks for replacing gaskets in pipe lines. il Marine Eng 45:56 Ap '40
Gasket dimensions; chart. R. R. Howington. Power 84:745 N '40
Neoprene and asbestos used in the production of gaskets. Mach 47:169 N '40
New forms of tubing connectors; Superseal couplings; VibraSeal gaskets. il Iron Age 144:43 D 21 '39
New material for gaskets; layers of synthetic rubber Buna and steel-wire netting. Automotive Ind 83:265-6 S 15 '40
Tool opens flanges for the renewal of gaskets. il Ry Mech Eng 114:166 Ap '40
Victor gasket combines asbestos and neoprene. il Automotive Ind 82:552-4 Je 15 '40; Aero Digest 37:176+ Jl '40; Oil Paint & Drug Rep 138:57 Jl 8 '40

GASOLINE
Aviation gasoline and oil and other commodities put under export control. Oil Paint & Drug Rep 138:5+ Ag 5 '40
Aviation gasoline defined for export. Oil Paint & Drug Rep 138:3+ Ag 12 '40
Chemicals from petroleum fast becoming a reality. W. T. Ziegenhain. il Oil & Gas J 39:22-3+ O 31 '40
Cooperative fuel research motor-gasoline survey, summer 1939. E. C. Lane, comp. U S Bur Mines Rep of Invest 3492:1-30 '40
Cooperative fuel research motor-gasoline survey, winter 1939-40. E. C. Lane. U S Bur Mines Rep of Invest 3524:1-29 '40
Evaluation of nitrocellulose lacquer solvents; study of hydrocarbon diluents by the constant-viscosity procedure. V. W. Ware and W. M. Bruner. bibliog Ind & Eng Chem 32: 78-82 Ja '40
Gasoline improvements influence auto trends; abstract. T. A. Boyd and W. G. Lovell. Nat Pet N 32:37-8 N 13 '40
Investigation of motor gasolines. B. J. Robertson. il diags Univ of Minn Eng Exp Sta Bul 13:1-45 bibliog(p39-45); Supplement. 11 1 '39
Knock rating and volatility improved in new gasolines; National petroleum news survey. Nat Pet N 32:25-8+ Ja 31 '40
Lightweight tractors using gasoline grow in favor with farmers. il Nat Pet N 32:25-6, 28, 30+ Jl 31 '40
Next 35 years. D. Beecroft. S A E J 47:sup 35-7 Jl '40
Octane rise charted by Bureau of mines. Nat Pet N 32:15-16 Jl 24 '40
One-fourth of refining capacity is in reserve. W. T. Ziegenhain. Oil & Gas J 39:26 O 24 '40
Prospects of fuels of higher octane number in the transport field. W. H. Hubner. bibliog J Aeronautical Sci 7:319-31; Discussion. 331-3 Je '40
Third grade gasolines show increase in octane; reported by Bureau of mines for summer of '39. Nat Pet N 32:20-2 Mr 20 '40

See also
Airplane engines—Fuel
Automobile engines—Fuel
Automotive fuel
Gas and oil engines—Fuel
Gasoline handling
Gasoline service stations
Motor bus engines—Fuel
Motor truck engines—Fuel
Petroleum refining

Alcohol mixtures
Alcohol-gasoline proposal. C. Reynolds. Am Pet Inst Proc 20(AT):51-5 '39; Abstract. Nat Pet N 31:16-17 N 15 '39
Motor fuels of the present and future. G. Egloff. W Soc E J 45:88-90 Ap '40
Power alcohol from molasses; government action in India. Chem Age (Lond) 42:185 Mr 30 '40

Analysis
Determination of dissolved oxygen in gasoline. W. A. Schulze, J. P. Lyon and L. C. Morris. il Oil & Gas J 38:149+ Mr 28 '40
Polarographic determination of lead in gasoline. H. A. Frediani and L. A. Bass. bibliog il Oil & Gas J 39:51-2 S 26 '40
Use of interferometer for two component mixtures; mixtures of carbon tetrachloride and gasoline. G. C. Harrold and L. E. Gordon. il J Ind Hygiene 21:491-7 D '39

Anti-knock and anti-knock mixtures
Anti-knock and carburetor de-icing fluid; Anilol. diags Automotive Ind 83:18 Jl 1 '40
Better fuels for better engines. W. H. Hubner. S A E J 47:409-17 O '40; Abstract. Nat Pet N 32:R242-3 Je 26 '40; Discussion. S A E J 47:417-20 O '40
Criterion for knock in petrol engines. R. C. Plumb and A. C. G. Egerton. bibliog diags Inst Mech Eng J & Proc 143:Proc 247-60 S '40
Determination of the composition of commercial iso-pentane. K. H. Hachmuth and J. W. Tooke. diags Nat Pet N 32:R142-4+ My 1 '40
Differences in fuel volatility will account for differences in octane numbers; abstract. A. E. Becker and G. H. B. Dairs. Oil & Gas J 38:67 Ja 25 '40
Effect of car mileage on octane requirements; abstracts. C. S. Bruce. Automotive Ind 82: 116 F 1 '40; Nat Pet N 32:R36 F 7 '40
End of motor fuel octane race not in sight. W. T. Ziegenhain. il Oil & Gas J 38:20-1+ D 14 '39
Gasoline grading laws. G. Egloff. flow diag flow chart il diag Am Pet Inst Proc 20(AT): 56-79 '39; Excerpts. Nat Pet N 31:21-33 D 6 '39
High-octane aviation fuel by the sulfuric-acid alkylation process. bibliog flow diags il Am Pet Inst Proc 20(3):89-100 '39; Same. Oil & Gas J 38:104-8 N 17 '39; Same cond. Nat Pet N 31:R512-14, R516 N 29 '39; Same cond. Can Chem & Process Ind 24:58-63 F '40
High octane gasoline. Science 91:sup12 Je 7 '40
Individual fuel properties to be guide in engine design; abstracts. J. M. Campbell. Nat Pet N 32:R35-6 F 7 '40; Automotive Ind 82: 115 F 1 '40
Interview with research chemist, George Calingaert. M. G. Van Voorhis. Nat Pet N 32:R42-3 F 7 '40
Knocking octanes; comparison of value of improved automobile performance with the incremental costs of producing gasolines of successively higher octane numbers. C. H. Van Hartesveldt and H. W. Field. Am Pet Inst Proc 21M(3):116-23; Discussion. 123-4 My '40
More miles per gallon; correlated development of fuels and engines. G. Edgar. flow chart il Sci Am 162:204-6 Ap '40
Motor cars, trucks, and aircraft to have better fuels in 1950; abstract. D. P. Barnard and A. H. Fox. Nat Pet N 32:R82-4+ Mr 20 '40
Octane hike unneeded, say Midwest refiners. Nat Pet N 32:5+ Ja 3 '40
Octane number and lead response improved by solutizer sweetening. D. L. Yabroff and A. C. Nixon. bibliog Nat Pet N 32:R56, R58, R60+ F 21 '40; Same. Oil & Gas J 38: 74-6 F 22 '40
Octane number problem from the automotive viewpoint. J. B. Macauley. Nat Pet N 32: 30, 32-4 My 1 '40; Discussion. 32:19-20 Ap 24; 34-5 My 1 '40
Octane number, the refiner's will-o'-the wisp. W. W. Scheumann. il Oil & Gas J 38:14-15, 98-9 Ap 4 '40; Same. Nat Pet N 32:33-9 Ap 10 '40
Octane race spreads. H. S. Norman. il Oil & Gas J 38:10-11 F 1 '40
Performance vs. octane number. W. T. Ziegenhain. il Oil & Gas J 38:26 F 15 '40
Processes for conversion of light hydrocarbons to high antiknock aviation fuels. S. H. McAllister. Oil & Gas J 39:46 N 7 '40
Properties of motor fuels. T. A. Boyd and W. G. Lovell. Automotive Ind 82:156-7 F 15 '40
Revolution in gasoline; refiners' race for high octane ratings. Business Week p23-4 D 30 '39

GASOLINE—Anti-knock and anti-knock mixtures—*Continued*
Synthesize octanes for anti-knock tests. Nat Pet N 32:R322 S 4 '40
Thermal reforming plus polymerization pulls octane ratings upward. R. P. Mase and N. C. Turner. flow diag Nat Pet N 32:R113-14 Ap 3 '40
To offer better gas from octane stock built for aviation. il Nat Pet N 32:25-6+ Ja 10 '40
Which will it be? high octane gasoline or safety fuel. J. R. MacGregor. Aviation 39: 57, 98+ Ap '40
See also
Gasoline—Ethyl mixtures

Blending

Catalytic desulfurization to improve aviation blending naphthas. W. A. Schulze and R. C. Alden. Am Pet Inst Proc 20(3):72-7 '39; Same. Oil & Gas J 38:199-200+ N 17 '39
High volatility aviation fuel; abstract. W. D. Parker and R. C. Alden. Automotive Ind 82:569 Je 15 '40
Thermal alkylation and neohexane. G. G. Oberfell and F. E. Frey. bibliog il diag Oil & Gas J 38:50-1 N 23; 70, 73-4+ N 30 '39; Same cond. Nat Pet N 31:R502-3+ N 29 '39
To offer better gas from octane stock built for aviation. il Nat Pet N 32:25-6+ Ja 10 '40

Ethyl mixtures

Complete text of U.S. Supreme court decision on Ethyl corporation's jobber licensing plan. Nat Pet N 32:18-20 Mr 27 '40; Same. Oil Paint & Drug Rep 137:3, 37+ Ap 1; 3, 58 Ap 8 '40
Effect of lead in gasoline on crankcase oils. Oil & Gas J 38:54 D 7 '39
Nine against Ethyl; Supreme court enjoins use of patent to control jobbers through licensing system. Business Week p17 Mr 30 '40

Evaporation losses

Evaporation losses at bulk plants more costly with today's gasolines. H. C. Conners. il Nat Pet N 32:32+ Ap 17 '40
Expansion roof effects economy in storage of gasoline. C. L. Marner. il Oil & Gas J 38:68 F 22 '40
Importance of preventing evaporation losses. C. G. Anderson. Nat Pet N 32:23 Ja 31 '40

Gum formation

Autoxidation and gum-forming tendencies of certain hydrocarbons. B. Berger and R. W. Bost. bibliog Oil & Gas J 38:81-4+ Mr 28 '40
Engine deposits, and the effect of some fuel additives. J. A. Moller and H. L. Moir. bibliog il diags S A E J 46:250-61 Je '40; Abstract. Automotive Ind 82:91 F 1 '40
Gasoline treating patents issued one weekly in 1939. Nat Pet N 32:R179-80, R182-4 My 15 '40
Gum formation in cracked gasolines. D. L. Yabroff and E. L. Walters. bibliog il diag Ind & Eng Chem 32:83-8 Ja '40
Report of section on gum; technical committee A. Am Soc T M Proc 39:400-8 '39

Manufacture

Achievement via group effort; award for chemical engineering achievement won for 1939 by Standard oil development company. Chem & Met Eng 46:750-3 D '39
Alkylation and its influence on the utilization of natural gasoline. E. W. Gard, A. L. Blount and K. Korpi. bibliog il diags Oil & Gas J 38:42-3, 51+ D 14; 46-8 D 21 '39
Alkylation plant takes olefins left by selective polymerization. A. H. Garrison. flow diag il Nat Pet N 32:R212-13, R216+ Je 12 '40
Aviation fuel by catalytic cracking promises quick volume at low cost. D. P. Barnard and R. B. Cragin. Nat Pet N 32:R210-11 Je 12 '40
Better fuels for better engines. W. H. Hubner. S A E J 47:409-17; Discussion. 417-20 O '40
Catalytic cracker specializes in 100-octane fuel base. M. G. Van Voorhis. flow chart il plan Nat Pet N 32:R386-8+ O 30 '40
Catalytic dehydrogenation process (gaseous paraffins to olefins). A. V. Grosse and others. flow diags il Am Pet Inst Proc 20(3):110-20 '39; Same. Oil & Gas J 38:53, 55-6 N 23 '39; Same cond. Nat Pet N 31: R520-1 N 29 '39
Catalytic desulfurization to improve aviation blending naphthas. W. A. Schulze and R. C. Alden. Am Pet Inst Proc 20(3):72-7 '39; Same. Oil & Gas J 38:199-200+ N 17 '39
Catalytic polymerization unit fits well into Sunray operations. R. L. Johnson, W. B. Shanley and C. H. Alberding. il Oil & Gas J 38:34-5 Ja 4 '40
Catalytic reforming for the production of aviation gasoline. A. G. Peterkin, J. R. Bates and H. P. Broom. flow diag il Am Pet Inst Proc 20(3):101-8 '39; Abstract. Nat Pet N 31:R517-19 N 29 '39; Discussion. Am Pet Inst Proc 20(3):108-9 '39
Caustic wash takes most of load of doctor sweetening process. il diag Nat Pet N 32: R115-16 Ap 3 '40
Caustic washing of gasoline and caustic regeneration. L. M. Henderson, G. W. Ayers, jr. and C. M. Ridgway. bibliog Oil & Gas J 38:114+ Mr 28 '40
Conversion of petroleum. A. N. Sachanen. 413p $6 Reinhold pub. corp. '40
Cracking coal-oil distillates. G. Egloff and others. diags Oil & Gas J 38:36, 39, 52-3 Ja 11 '40
Cracking tars and distillates from coal. G. Egloff and others. bibliog il diags Ind & Eng Chem 32:39-47 Ja '40
Depropanization of butane. L. J. Coulthurst. il Oil & Gas J 39:50 Jl 11 '40
Destructive alkylation produces high-octane aviation gasoline. D. L. Gol'dshtein and B. A. Englin. bibliog Nat Pet N 32:R262-4, R266, R268 Jl 24 '40
Development of petroleum refining. A. W. Nash. Inst Pet J 26:41-56 F '40
Distillation curves of blends. W. L. Nelson. Oil & Gas J 38:64 F 29 '40
Economic factors in catalytic cracking. J. S. Carey and H. W. Ortendahl. Nat Pet N 32: R370-2, R375 O 16 '40; Same. Oil & Gas J 39:55-6+ O 17 '40
Extraction of mercaptans with alkaline solutions. D. L. Yabroff. bibliog il Ind & Eng Chem 32:257-62 F '40
Gasoline grading laws; refining processes. G. Egloff. flow chart flow diag il diag Am Pet Inst Proc 20(AT):56-79 '39
Gasoline treating patents issued one weekly in 1939. Nat Pet N 32:R179-80, R182-4 My 15 '40
Gulf plants produce high gasoline yield by polyform process. P. Ostergaard and E. R. Smoley. flow sheets il Oil & Gas J 39:52-3+ S 12 '40; Same. diags Nat Pet N 32:R330-1+ S 18 '40; Abstract. Chem & Met Eng 47: 626-7 S '40
High-octane aviation fuel by the sulfuric-acid alkylation process. bibliog flow diags il Am Pet Inst Proc 20(3):89-100 '39; Same. Oil & Gas J 38:104-8 N 17 '39; Same cond. Nat Pet N 31:R512-14, R516 N 29 '39; Same cond. Can Chem & Process Ind 24:58-63 F '40
Industrial synthesis of hydrocarbons from hydrogen and carbon monoxide. A. J. V. Underwood. il Ind & Eng Chem 32:449-54 Ap '40
Latest engineering practices; text in English and Spanish. il Oil & Gas J 38:260-304 D 28 '39
Manufacture of aviation fuels. Can Chem & Process Ind 23:591-2 D '39
Motor fuels of the present and future. G. Egloff. W Soc E J 45:80-6 Ap '40
National petroleum association, Department of manufacture, meeting, Buffalo; abstracts of papers. Nat Pet N 32:R208 My 29 '40; Oil & Gas J 39:20 My 30 '40
Neohexane for 100-octane plus; new synthetic hydrocarbon made by thermal alkylation surpasses iso-octane. M. E. Clark. il diag Chem & Met Eng 47:225-7 Ap '40

GASOLINE—Manufacture—*Continued*
Neohexane plant operating at record high pressures. R. C. Alden. flow diag il Nat Pet N 32:R234, R236-8+ Je 26 '40
New Kansas refinery includes modern processing equipment; Consumers cooperative association. D. H. Stormont. flow sheet il Oil & Gas J 39:58-9+ My 23 '40
Octane number and lead response improved by solutizer sweetening. D. L. Yabroff and A. C. Nixon. bibliog Nat Pet N 32:R56, R58, R60+ F 21 '40; Same. Oil & Gas J 38: 74-6 F 22 '40
Oil. F. H. Rogers. Engineering 149:448-9, 459-60 Ap 26-My 3 '40; Same cond. Chem Age (Lond) 42:209-11 Ap 13 '40
100 refineries now converting mercaptans with copper salts; Perco processes. M. G. Van Voorhis. il Nat Pet N 32:R122-3, R126, R129 Ap 17 '40
Petroleum-ization, 1940. H. W. Field. Am Pet Inst Proc 20(3):65-71 '39; Same. Oil & Gas J 38:110, 112, 115+ N 17 '39; Excerpts. Nat Pet N 31:R522-4 N 29 '39
Petroleum refining in 1939. W. Miller. Min & Met 21:51-3 Ja '40
Refiners alert to potential need for aviation fuel. H. S. Norman. il Oil & Gas J 39:28-9 Je 13 '40
Regeneration step in the solutizer process for the extraction of mercaptans. D. L. Yabroff, E. R. White and A. V. Caselli. Am Pet Inst Proc 20(3):57-64 '39
Shell operating first solutizer treating plant at Wood River. L. E. Border. flow diag Oil & Gas J 39:55-6 N 7 '40
Slurry-type copper chloride treater is used by Kanotex. F. A. Deering. flow chart il Oil & Gas J 39:43-4 S 5 '40
Sohio polymerization unit first using new catalyst; copper pyrophosphate. M. G. Van Voorhis. flow chart il Nat Pet N 32:R230-1, R233 Je 26 '40
Solutizer process for sweetening gasolines. L. E. Border. flow diag bibliog il Oil & Gas J 39:36-8, 40 Jl 18 '40
Sun Oil operating large Houdry catalytic gasoline treating unit at Marcus Hook. H. S. Norman. flow chart il Oil & Gas J 38: 106-7, 111+ Mr 28 '40
Thermal alkylation and neohexane. G. G. Oberfell and F. E. Frey. bibliog il diag Am Pet Inst Proc 20(3):78-88 '39; Same. Oil & Gas J 38:50-1 N 23; 70, 73-4+ N 30 '39; Same cond. Nat Pet N 31:R502-3+ N 29 '39
Thermal reforming plus polymerization pulls octane ratings upward. R. P. Mase and N. C. Turner. flow diag Nat Pet N 32:R113-14 Ap 3 '40; Same. Oil & Gas J 38:87-8 Ap 11 '40
Tide Water Associated completes alkylation plant in California. C. K. Viland and J. Seth. Oil & Gas J 39:32+ S 12 '40
Total removal of sulfur compounds is goal of sweetening technique. P. M. Robinson. Nat Pet N 32:298-300; Discussion. C. D. Lowry, jr.; P. W. Emery; G. G. Rumberger. R300, R302+ Ag 21 '40
Treating high-sulfur cracked distillate with acid process. F. A. Apgar and C. A. Day, jr. flow diag il plan Oil & Gas J 38:187-8+ Mr 28 '40
Triumph of a technology; Standard oil development co. S. D. Kirkpatrick. flow diags il Chem & Met Eng 46:670-8 N '39
Use exchanger instead of heater in new polymerization unit; Freedom oil co. J. P. O'Donnell. il Oil & Gas J 38:43-4 My 2 '40
Use of lecithin in gasoline; reduces corrosion and effect of sunlight. H. V. Rees, W. S. Quimby and J. C. D. Oosterhout. il Oil & Gas J 39:176+ N 14 '40; Abstract. Nat Pet N 32:R416 N 13 '40
War speeds the development of aviation fuel processes; abstracts of papers at American petroleum institute meeting. il Nat Pet N 31:27-8, 32+ N 22 '39

See also
Gasoline, Natural—Manufacture
Petroleum refining

By-products
T.N.T. from gasoline. Business Week p30-1 Je 22 '40
T.N.T. from gasoline; Shell oil co. preparing to build toluene plant. Business Week p39-40 Ag 10 '40

Hydrogenation process
Hydrogenation in cracking aviation gas, described; abstracts. E. V. Murphree. Nat Pet N 32:16 Je 19 '40; Oil & Gas J 39:19 Je 20 '40
Hydrogenation of petroleum. E. V. Murphree; C. L. Brown and E. J. Gohr. flow sheets bibliog il Ind & Eng Chem 32:1203-12 S '40
Synthetic fuels for aviation. J. P. Eames. plan Aero Digest 37:75 S '40

Hydrogenation process (coal)
Germany expanding synthetic production. H. S. Norman. il Oil & Gas J 38:14 Ja 18 '40

See also
Coal liquefaction

Measurement
Handling gasoline; new gasoline meter for buses. il Mass Transportation 35:362 D '39
Symposium on meters; pros and cons on use of meters on automotive equipment in the delivery of petroleum products. il Am Pet Inst Proc 20(1):65-79 '39; Abstract. Nat Pet N 31:34-7 N 22 '39

Price cutting
14 dealers sue for damages under Robinson-Patman law. Nat Pet N 31:8 D 20 '39
Price cutters, or price sellers? W. C. Platt, ed. Nat Pet N 32:34-6+ Jl 31 '40
Refiners squirm on horns of marketing dilemma. T. F. Smiley. il Oil & Gas J 38: 22-3 Mr 21 '40

Price fixing
Arnold cites dealers' case as anti-trust achievement. Nat Pet N 32:18 Je 26 '40
California companies to contest impounding of documents. L. P. Stockman. Oil & Gas J 38:22+ N 23 '39
Complete text of U.S. Supreme court decision on Ethyl corporation's jobber licensing plan. Nat Pet N 32:18-20 Mr 27 '40; Same. Oil Paint & Drug Rep 137:3, 37+ Ap 1; 3, 58 Ap 8 '40
Gasoline price-fixing charges upheld by U.S. Supreme court. Oil Paint & Drug Rep 137:3+ My 13 '40
Nine against Ethyl; Supreme court enjoins use of patent to control jobbers through licensing system. Business Week p17 Mr 30 '40
Oil companies lose Madison case; with text of Supreme court decision. Nat Pet N 32:9-10, 14-24, 24A-24H My 8 '40
39 oil firms are indicted in California; with text of charge. Nat Pet N 31:9, 18 N 22 '39
U.S. Supreme court holds patentees may not fix prices; Ethyl gasoline corporation. Comm & Fin Chr 150:2017, 2574 Mr 30, Ap 20 '40

Price fixing, Resale
Minneapolis damage suit thrown out; with complete text of decision. Nat Pet N 32:13, 14, 16 O 16 '40

Prices
Drivers paid 13.29 cents for gasoline in 1939. T. F. Smiley. Oil & Gas J 38:83-4 Ja 25 '40
Drop in service-station prices is general throughout U.S. D. H. Stormont. Oil & Gas J 39:80, 82 Jl 25 '40
Federal agencies pay less than a year ago for gas. Nat Pet N 32:20 Jl 31 '40
Federal gas prices show varied trends. Nat Pet N 32:22 Ja 10 '40
Gasoline price sags. Business Week p44-5 Mr 23 '40
Government pays more for gas than in 1939. Nat Pet N 32:23 Ap 10 '40
Government's service station contracts run higher than current retail prices; with schedule of contracts, by states, July 1, 1940 to June 30, 1941. Nat Pet N 32:34, 36, 38 Jl 10 '40

GASOLINE—Prices—*Continued*
Oil price basing structures; abstract. E. S. Mason, S. Nelson and W. Keim. Nat Pet N 32:24 N 13 '40
Retail oil markets. Published in weekly numbers of Oil and gas journal
Socony's new schedule aids commercial users. Nat Pet N 32:15 Ag 14 '40
Strong first half fuel-oil market was partial balance for soft gasoline. H. S. Norman. Oil & Gas J 39:85-6 Jl 25 '40

Rating

Engine manifold fractionation key to fuel rating correlation; abstracts. A. E. Becker and G. H. B. Davis. Nat Pet N 32:R38-9 F 7 '40; Automotive Ind 82:115-16 F 1 '40
Gasoline grading laws. G. Egloff. flow chart flow diag il diag Am Pet Inst Proc 20(AT): 56-79 '39; Excerpts. Nat Pet N 31:21-33 D 6 '39
Gasoline; summer grades. Consumers' Research Bul (Gen bul ser) 9:18-19 Je '40
Little change in octane ratings in the Middle West in 1939. Nat Pet N 32:26 F 21 '40
New octane brackets adopted by refiners. Nat Pet N 32:9-11 Ap 10 '40
Octane number, the refiner's will-o'-the wisp. W. W. Scheumann. il Oil & Gas J 38:14-15, 98-9 Ap 4 '40; Same. Nat Pet N 32:33-9 Ap 10 '40
Octane numbers in Middle West are catching up with the East. Nat Pet N 32:32-3 My 15 '40
Octane race may be no contest; Western Refiners vote for single standard of rating. Business Week p18 Ap 6 '40
Octanes on the spot; rating of actual road value begun by Universal oil products co. Business Week p42+ O 5 '40
Performance testing of motor fuels; development of conversion formulas for values by various methods. H. G. Smith. il Am Pet Inst Proc 21M(3):105-13 My '40; Abstract. Nat Pet N 32:R202-4 My 29 '40; Discussion. Am Pet Inst Proc 21M(3):113-15 My '40

See also Gasoline—Anti-knock and anti-knock mixtures

Specifications

Army releases specifications on aviation gasoline. Nat Pet N 32:13+ O 30 '40
Government to buy gas on new specifications. Nat Pet N 32:28 Ap 3 '40
History of development of motor-gasoline specifications. C. K. Francis. Oil & Gas J 38:58 Ap 4 '40
Motor-fuel specifications given. Oil & Gas J 39:30 N 7 '40

Standards

Motor fuel sold is far superior to grading law's standards; North Carolina. il Nat Pet N 32:28, 30-2 Ap 10 '40

Sulfur content

Action of solutizers in mercaptan extraction. D. L. Yabroff and E. R. White. bibliog Ind & Eng Chem 32:950-3 Jl '40
Application of catalytic desulfurization process. M. W. Conn. flow diags Oil & Gas J 39:40, 42, 45+ O 24 '40; Excerpts. Nat Pet N 32:R454-5; Discussion. R155 D 11 '40
Caustic wash takes most of load of doctor sweetening process. il diag Nat Pet N 32: R115-16 Ap 3 '40
Caustic washing of gasoline and caustic regeneration. L. M. Henderson, G. W. Ayers, jr. and C. M. Ridgway. bibliog Oil & Gas J 38:114+ Mr 28 '40
Extraction of mercaptans with alkaline solutions. D. L. Yabroff. bibliog il Ind & Eng Chem 32:257-62 F '40
Gasoline treating patents issued one weekly in 1939. Nat Pet N 32:R179-80, R182-4 My 15 '40
Octane number and lead response improved by solutizer sweetening. D. L. Yabroff and A. C. Nixon. bibliog Nat Pet N 32:R56, R58, R60+ F 21 '40; Same. Oil & Gas J 38:74-6 F 22 '40
100 refineries now converting mercaptans with copper salts; Perco processes. M. G. Van Voorhis. il Nat Pet N 32:R122-3, R126, R129 Ap 17 '40
Regeneration step in the solutizer process for the extraction of mercaptans. D. L. Yabroff, E. R. White and A. V. Caselli. Am Pet Inst Proc 20(3):57-64 '39
Significance of doctor test for gasoline found negligible. J. Happel and S. P. Cauley. bibliog Nat Pet N 32:R284+ Ag 7 '40; Same. Am Pet Inst Proc 21M(3):96-101 My '40; Discussion (Doctor test has indirect value and saves refiners headaches). W. A. Schulze. Nat Pet N 32:R290+ Ag 7 '40; Am Pet Inst Proc 21M(3):101-4 My '40
Solutizer process for sweetening gasolines. L. E. Border. flow diag bibliog il Oil & Gas J 39:36-8, 40 Jl 18 '40
Total removal of sulfur compounds is goal of sweetening technique. P. M. Robinson. Nat Pet N 32:R298-300; Discussion. C. D. Lowry, jr.; P. W. Emery; G. G. Rumberger. R300, R302+ Ag 21 '40
Treating high-sulfur cracked distillate with acid process. F. A. Apgar and C. A. Day, jr. flow diag il plan Oil & Gas J 38:187-8+ Mr 28 '40

Taxation

Administration of gasoline tax refunds and exemptions. 32p pa 75c Federation of tax administrators, 1313 E. 60th st, Chicago '40
American motorist and the gasoline tax. R. F. Britton. Am Pet Inst Proc 20(AT): 38-41 '39
Chart on diversion of gasoline taxes and registration fees, 1934-1938, and table on distribution of gasoline dollar, 1936, by states. Roads & Sts 83:39-40 Jl '40
Constitutional safeguards against diversion. M. D. Van Wagoner. Am Pet Inst Proc 20(AT):42-4 '39
Cut gas-tax evasion. Business Week p30+ F 24 '40
Freak crude sold tax-free as motor fuel in Minnesota. Nat Pet N 32:25 O 30 '40
Gasoline-tax administration. J. L. McLaughlin. Am Pet Inst Proc 20(AT):27-33 '39
Gasoline tax, its use and abuse. F. G. Crawford. Am Pet Inst Proc 20(AT):19-22 '39
Local imposts on motor vehicles in Missouri. J. H. Long and B. H. Mayes. il Pub Roads 21:49-56+ My '40
Minnesota keeps its word letting emergency tax die. Nat Pet N 32:19 S 4 '40
Motor fuel tax rates by states in cents per gallon, 1919-1938. Roads & Sts 83:41 Jl '40
1939 state taxes, $40 per vehicle; registration fees and gasoline taxes; tabulation. Automotive Ind 82:183 Mr 1 '40
Road traveled, and the road ahead. B. H. Markham. Am Pet Inst Proc 20(AT):6-9 '39; Same. Oil & Gas J 38:172+ N 17 '39
State motor-fuel tax receipts, 1939; tabulated by states. Pub Roads 21:84 Je '40
Tax evasion is increasing in Mid-west; abstract. F. V. Martinek. Nat Pet N 32:19 Jl 31 '40
3% shrinkage allowance is fair; abstract. H. E. Bradshaw. Nat Pet N 32:12 Ap 10 '40

Testing

Co-operative fuel research committee to develop new gasoline road test method in 1940. M. G. Van Voorhis. Nat Pet N 32:R34-5 F 7 '40
Distribution; its effect on knocking and performance in multi-cylinder engines. H. J. Gibson and C. Walcutt. Automobile Eng 30:69-71 Mr '40
Engine deposits, and the effect of some fuel additives. J. A. Moller and H. L. Moir. bibliog il diags S A E J 46:250-61 Je '40
Engine fuel testing and proposals for its further development. A. v. Philippovich. Nat Pet N 31:R526-32; Discussion. R533-40 D 13 '39
Octane number, the refiner's will-o'-the wisp. W. W. Scheumann. il O'l & Gas J 38:14-15, 98-9 Ap 4 '40; Same. Nat Pet N 32:33-9 Ap 10 '40

GASOLINE—Testing—*Continued*
Performance testing of motor fuels; development of conversion formulas for values by various methods. H. G. Smith. il Am Pet Inst Proc 21M(3):105-13 My '40; Abstract. Nat Pet N 32:R202-4 My 29 '40; Discussion. Am Pet Inst Proc 21M(3):113-15 My '40
Reduced air-fuel radio variation no help in knock improvement; abstract. H. J. Gibson and C. Walcutt. Nat Pet N 32:R39 F 7 '40
Richfield equips fuel testing car. il Automotive Ind 82:84 Ja 15 '40
Significance of doctor test for gasoline found negligible. J. Happel and S. P. Cauley. bibliog Nat Pet N 32:R284+ Ag 7 '40; Same. Am Pet Inst Proc 21M(3):96-101 My '40; Discussion (Doctor test has indirect value and saves refiners headaches). W. A. Schulze. Nat Pet N 32:R290+ Ag 7 '40; Am Pet Inst Proc 21M(3):101-4 My '40
Status of fuel performance tests in aviation engines. R. F. Gagg. S A E J 46:271-2 Je '40
Test laboratory has unique control; regulation of equipment effected from seat of car being tested; automotive laboratory of Atlantic refining company. il Automotive Ind 81:574-6+ D 1 '39

Transportation

Barges move oil 200 miles up Columbia river for the California oil companies. il map Nat Pet N 31:85-7 D 13 '39
Three-step program cut bulk hauling and delivery costs. il Nat Pet N 31:71-2+ D 13 '39
Trucking trends in Middle South. il diags Nat Pet N 32:32-7 S 18 '40
Trucks, trades and barges cut into pipelines. Nat Pet N 31:5+ N 29 '39

See also
Gasoline pipe lines
Railroads—Rates—Gasoline
Tank cars
Tank ships
Tank trucks

Volatility

Differences in fuel volatility will account for differences in octane numbers; abstract. A. E. Becker and G. H. B. Dairs. Oil & Gas J 38:67 Ja 25 '40
High volatility aviation fuel; abstract. W. D. Parker and R. C. Alden. Automotive Ind 82:569 Je 15 '40
Seek vapor lock reduction in aviation fuel systems; abstract. O. C. Bridgeman. Nat Pet N 32:R417 N 13 '40

GASOLINE, Natural
Alkylation and its influence on the utilization of natural gasoline. E. W. Gard, A. L. Blount and K. Korpi. bibliog il diags Oil & Gas J 38:42-3, 51+ D 14; 46-8 D 21 '39
New outlets found for Texas natural. Nat Pet N 32:24 S 18 '40
Retrograde condensation; phase relations of a mixture of natural gas and natural gasoline. D. L. Katz and F. Kurata. il diags Ind & Eng Chem 32:817-27 bibliog(54 references,p827) Je '40
Suggest correlation of gas gravity and gasoline content. K. Davison. Oil & Gas J 38:54 F 8 '40

See also
Liquefied petroleum gas

Directories

Personnel of natural-gasoline companies; natural gasoline plants in the United States, tabulated by states. Oil & Gas J 38:93-103 My 9 '40

Manufacture

California natural gasoline association annual fall meeting; abstracts of papers. Oil & Gas J 39:46 N 7 '40
Catalytic desulfurization to improve aviation blending naphthas. W. A. Schulze and R. C. Alden. Am Pet Inst Proc 20(3):72-7 '39; Same. Oil & Gas J 38:199-200+ N 17 '39
Centrifugal supercontactor; abstract. W. J. Podbielniak. Oil & Gas J 38:57 N 23 '39
Developments in gas recycling plants. E. E. DeBack. il Oil & Gas J 39:32-3 My 30 '40; Same. Nat Pet N 32:R171-2+ My 15 '40
Gas dehumidification prevents hydrate freezing troubles. E. G. Hammerschmidt. bibliog Nat Pet N 32:R162-3, R167-8 My 15 '40; Same. Oil & Gas J 39:61, 64+ My 23 '40
Gasoline-recovery devices tested on stripper lease. P. Reed. il diag Oil & Gas J 38:53-4 Mr 14 '40
High-pressure recycling plant operating at Agua Dulce. H. F. Simons. il Oil & Gas J 39:30-1 Jl 4 '40
Large absorption unit now presaturates absorber gas. Oil & Gas J 38:34 Ap 18 '40
Latest engineering practices; text in English and Spanish. il Oil & Gas J 38:322-8 D 28 '39
Natural gasoline plant completed in Arkansas by Shell oil company. il Manuf Rec 109:36 My '40
Natural-gasoline plant in New Mexico. il Comp Air M 45:6065-6 Ja '40
Natural gasoline progress. W. N. Roper. Nat Pet N 32:R398-9 O 30 '40
New plant recovers butanes and natural gasoline from Magnolia reserves. G. Weber. flow diag il Oil & Gas J 39:48-9 My 23 '40
New recycling plant in La Rosa field has unusual operating features. N. Williams. flow diag il Oil & Gas J 39:81, 84+ O 10 '40
One-speed control proves efficient in gasoline plant. flow diag il Oil & Gas J 38:42 Ja 18 '40
Prize winning operating kinks at N.G.A.A. meeting. il diags Oil & Gas J 39:40-2 My 30; 54 Je 6 '40
Process engineering in low-temperature, high-pressure condensate extraction. W. H. Justice. flow chart il Oil & Gas J 38:40-1+ My 9 '40
Propane cooling of absorption oil used at new Jal gascline plant. D. H. Stormont. flow diag il Oil & Gas J 39:30-1, 35+ Ag 29 '40
Raising absorption efficiency by presaturating lean oil. A. J. L. Hutchinson and E. Moncrief. Oil & Gas J 39:53+ Ag 8 '40
Recycle stabilizer bottoms to increase gasoline yield. diag Oil & Gas J 39:27 Je 6 '40
Recycling keeps natural gasoline industry on conservation front; abstract. H. B. Bernard. Nat Pet N 32:R176 My 15 '40
Shell and Coltexo complete butane plant in Wasson-Bennett field. il plan Oil & Gas J 38:208-9, 213 Ja 25 '40
Sinclair's new plant in Nueces county is model of efficiency. H. F. Simons. il Oil & Gas J 38:178+ Ap 25 '40
6,000,000 gallons of natural gasoline recovered daily. W. T. Ziegenhain. il Oil & Gas J 38:14-15 My 9 '40
Sixth recycling plant in Agua Dulce area placed in operation. N. Williams. il Oil & Gas J 39:60, 63-4 S 26 '40
Superior making isobutane at Kettleman absorption plant. L. P. Stockman. flow diag il Oil & Gas J 39:50-1, 53-4 Ag 15 '40

Statistics

Natural-gasoline plants in the United States, January 1, 1940. G. R. Hopkins and E. M. Seeley. U S Bur Mines Information Circ 7126:1-21 '40
Natural-gasoline production decreased in United States. Oil & Gas J 38:35 F 29 '40
November natural gasoline production. Comm & Fin Chr 150:192 Ja 13 '40 [cont monthly]

Sulfur content

Catalytic desulfurization solves problem in high-sulfur distillate. J. E. Pew and A. E. Buell. il diags Nat Pet N 32:R354-5, R357-8 O 2 '40

GASOLINE, Substitutes for
Carburants nationaux, combustibles et énergies de remplacement. L. Bacqueyrisse. Soc Ing Civils Mémoires 92:241-86 Mr '39

GASOLINE delivery
Tank flow studied; research for oil industry begun at University of Wisconsin. Business Week p43 D 16 '39

See also
Tank trucks

GASOLINE handling
Cities Service plant operating unusually safe truck rack. W. T. Ziegenhain. il Oil & Gas J 39:56 Ag 15 '40
Electric-driven pumping unit speeds truck deliveries. il Nat Pet N 32:37 Mr 27 '40
New tank car rack has features adaptable to truck loading racks. il Nat Pet N 32: 40+ Jl 10 '40

See also
Gasoline service stations
Gasoline storage
Tank trucks

Safety devices and measures
Safe handling in the marketing of petroleum products. D. S. Russell. il Nat Pet N 32:38, 40+ Je 12 '40

GASOLINE industry
Analysis of marketing costs. P. E. Lakin. Nat Pet N 32:36-7 My 1 '40
Export licensing confusing despite interpretations. Oil & Gas J 39:33 Ag 15 '40
Refiners squirm on horns of marketing dilemma; dealer marketing plan problems. T. F. Smiley. il Oil & Gas J 38:22-3 Mr 21 '40

See also
Gasoline—Prices
Gasoline pipe lines
Gasoline service stations
Oil bulk stations
Petroleum refining

Advertising
Advertising fanfare ushers in new fuels. Nat Pet N 32:30-1 Ja 31 '40
Bearcat takes a wife; Powerine company announces addition of ethyl fluid. il Nat Pet N 32:28 F 21 '40
Captain Midnight flight patrol radio serial enrolls 800,000 kids for Skelly oil co. A. E. Taylor. il Sales Management 46:50, 52 Mr 1 '40
Decreased exports emphasize growing need of expanding domestic oil markets. P. Truesdell. Oil & Gas J 39:41-2 S 12 '40
Esso baby awards; Esso marketers offer congratulations and cash to parents of New Year's day babies in 18 states. il Adv & Sell 33:23 F '40
Football broadcasts gain ground for Tide Water in off season. il Sales Management 47:37+ N 1 '40
Lesson two in the Gracie Allen technique of space buying. B. E. Tacks. Sales Management 47:42 N 1 '40
Novelty direct mail brings customers to dealers; Shell oil company. H. L. Curtis. il Ptr Ink 190:19-21 Ja 5 '40
Parlor games help Polly gas forge ahead in the race for sales; audience-participation radio program. J. Guedel. il Sales Management 46:56 Mr 15 '40
Sand in your shoes; Orange state oil company distributes bags of Florida sand as souvenirs. il Ptr Ink Mo 40:13 Mr '40

Aviation market
Aviation fuel on moral embargo list. H. D. Ralph. Oil & Gas J 38:65 D 28 '39
Aviation gasoline assuming increasing importance. H. S. Norman. il Oil & Gas J 38:21-2 Mr 14 '40
Output of aviation gasoline keeps pace with needs. H. S. Norman. il Oil & Gas J 38: 11-12 N 30 '39
Warplane program will need big supply of aviation gas. Nat Pet N 32:10 My 22 '40

See also
Airplane engines—Fuel

Credit problems
Oil men jumpy over credit cards. Business Week p38-9 N 25 '39

Exhibits
Shell wows county fair visitors. il Sales Management 47:24 O 1 '40

Laws and regulations

See also
Gasoline—Taxation

Statistics
Crisis building up for oil industry. Barron's 20:1 Ap 8 '40
Gasoline production, revision; monthly, 1928 June, 1940. Fed Res Bul 26:870 Ag '40
Mid-continent gasoline yield rises nearly 0.5% per year. M. G. Van Voorhis. Nat Pet N 32:R94+ Mr 20 '40
Motor-fuel consumption, 1939; tabulated by states. Pub Roads 21:83 Je '40
Motor fuel demand for U.S. at all-time high in 1939. Nat Pet N 32:12 N 6 '40
Motor fuel, 1936-1939. Survey of Cur Business 1940 Sup p120 [supplemented in monthly numbers]
Nine out of ten gallons of gasoline in storage held in strong hands, Texas hearing indicates. Nat Pet N 32:14-15 F 21 '40
1939 gas demand breaks record. Nat Pet N 32: 23 F 14 '40
Petroleum refineries, including cracking plants, in the United States, January 1, 1940. G. R. Hopkins and E. W. Cochrane. U S Bur Mines Information Circ 7124:1-31 '40
Trends and seasonal variations in factors influencing domestic motor-fuel demand. H. A. Breakey. U S Bur Mines Economic Pa 21:1-65 '40

Alberta
Oil industry profits reasonable, Alberta Royal commission finds. il Nat Pet N 32:40-52 Ag 14 '40

British Columbia
Attempt to fix gasoline prices. Oil & Gas J 38:26 My 9 '40

California
California companies to contest impounding of documents. L. P. Stockman. Oil & Gas J 38:22+ N 23 '39
Conflict of oil laws. Business Week p39-40 N 25 '39
39 oil firms are indicted in California; with text of charge. Nat Pet N 31:9, 18 N 22 '39

Germany
Germany expanding synthetic production. H. S. Norman. il Oil & Gas J 38:14 Ja 18 '40

Great Britain
England's motorists protest unnecessary gas rationing. Automotive Ind 81:647+ D 15 '39

North Carolina
Motor fuel sold is far superior to grading law's standards. il Nat Pet N 32:28, 30-2 Ap 10 '40

United States
Decreased exports emphasize growing need of expanding domestic oil markets. P. Truesdell. Oil & Gas J 39:41-2 S 12 '40
Fuel for planes. Business Week p28-30 N 9 '40
Home, peace-time markets at new high levels in '40. Nat Pet N 32:25-6 Ja 24 '40
New automotive type tractors expand farm motor fuel market. il Nat Pet N 32:35-7 Ja 24 '40
1940, a forecast. Oil & Gas J 38:64 D 28 '39
Oil's preparedness for war today compared with position in 1917. Nat Pet N 32:43-4 Jl 10 '40
Sick gasoline market ignores health rules. T. F. Smiley. Oil & Gas J 38:10-11 D 21 '39
6,000,000 gallons of natural gasoline recovered daily. W. T. Ziegenhain. il Oil & Gas J 38: 14-15 My 9 '40
Too much gasoline; stocks are climbing because of fuel oil demand. Business Week p25-6 F 10 '40
Trends and seasonal variations in factors influencing domestic motor-fuel demand. H. A. Breakey. U S Bur Mines Economic Pa 21:1-65 '40

Anti-trust trial
Court makes the trust law stick; victory in Madison oil case. Business Week p15 My 11 '40
Government upheld by U.S. Supreme court in anti-trust suit against oil companies. Comm & Fin Chr 150:2975-6 My 11 '40

GASOLINE industry—United States—Anti-trust trial—*Continued*
NRA keynotes comment on oil case; newspapers view Madison decision. Nat Pet N 32:17-20 My 15 '40
Oil case in the air; Supreme court split clears 11 defendants, but government is sure to prosecute them again. Business Week p18 D 2 '39
Oil companies lose Madison case; with text of Supreme court decision. Nat Pet N 32:9-10, 14-24, 24A-24H My 8 '40
Rule of reason abandoned in Madison decision. H. D. Ralph. Oil & Gas J 38:13 My 9 '40
U.S. Supreme court upholds dismissal of eleven defendants in Madison (Wis.) oil anti-trust case. Comm & Fin Chr 149:3482 D 2 '39

GASOLINE patents. See Petroleum refining—Patents

GASOLINE pipe lines
Automatic operation to feature Magnolia's new east Texas butane pipe-line system. D. H. Stormont. il Oil & Gas J 38:38-40 D 7 '39
Gasoline pipe lines; design and construction. A. H. Riney and S. Learned. il maps Civil Eng 10:501-4 Ag '40
Gasoline pipelines built to new market centers. il map Nat Pet N 31:44, 46+ D 13 '39
Kansas fields served by 17 pipe line systems. map(supp) Oil & Gas J 39:110+ Je 27 '40
Latest engineering practices; text in English and Spanish. il Oil & Gas J 38:312-20 D 28 '39
Legal aspects of Southeastern pipeline project; running under state highway. P. Reed. Oil & Gas J 38:17+ Ap 4 '40
Major pipe-line projects were feature of 1939 construction. Oil & Gas J 38:181 Ja 25 '40
New Illinois-Indiana pipe line using mill-wrapped pipe. T. P. Sanders. il Oil & Gas J 39:45-6 Je 6 '40
1940 a pipe-line year; with map showing crude oil, natural gas and gasoline pipe lines completed, under construction and proposed. P. Reed. il Oil & Gas J 39:54-6+ S 19 '40
1940 may exceed 1939 in pipe-line construction. P. Reed. il Oil & Gas J 38:12-13+ Mr 7 '40
Phillips gasoline line from Borger to East Chicago now operating. H. F. Simons. il Oil & Gas J 38:28-30 F 1 '40
Pipe-line construction continues at high rate. Oil & Gas J 39:164 Jl 25 '40
Pipe-line expansion program to continue into 1940. P. Reed. il map Oil & Gas J 38:14-15 D 7 '39
Pipe-line facilities ready for any emergency. P. Reed. il Oil & Gas J 39:11+ O 24 '40
Pipeline sues, charging plot to block line. Nat Pet N 32:9+ Ja 24 '40
Pipe-line welding practices advance. L. D. Sugg. il Oil & Gas J 39:136-7 S 19 '40
Pipe lines; strong arm in national defense. R. S. Ellison. Oil & Gas J 39:52+ S 19 '40
Precision methods in pipe-line operation; Shell gasoline line moves gasoline, kerosene, gas oil, Diesel fuel, and other products. H. O'Gara. il Oil & Gas J 39:134-5+ S 19 '40
Southeastern gas pipeline goes ahead, despite suits. Nat Pet N 32:16 F 28 '40
Southeastern pipe line co. building Florida-Georgia gasoline line. P. Reed. il map Oil & Gas J 38:54-5 Ap 25 '40
Southeastern pipe line faces obstructive tactics in Georgia. P. Reed. Oil & Gas J 39:29 O 31 '40

Corrosion
Internal corrosion of gasoline pipe lines. L. C. Morris and W. A. Schulze. il diags Oil & Gas J 38:205-10+ N 17 '39

Directories
Personnel of gasoline pipe-line companies. Oil & Gas J 39:182-4 S 19 '40

Pumping stations
Automatic operation for pipe-line pump stations. J. M. Pearson. il diag Oil & Gas J 39:158, 161 S 19 '40
Fifteen years of electric pipe-line pumping. W. H. Stueve. il Oil & Gas J 39:149, 151, 155 S 19 '40
Integrating tachometers show reciprocating pump flow. il Oil & Gas J 39:109+ S 19 '40
Maintenance and operating problems at gasoline pipe-line stations. P. Reed. il Oil & Gas J 38:70+ F 29 '40
Oil and gas power; pipeline. il Power 84: 346-7 Je '40

GASOLINE pumps
Light-transmitting plastic illuminates dial; gasoline pump; lucite for dial and figure illumination. il diag Product Eng 11:347 Ag '40
Nailed wooden boxes used for export shipments of gasoline meter pumps. J. Leeming. Comm Rep p594 Jl 6 '40
Need cited for uniformity in gasoline pump laws. G. D. Moore. Nat Pet N 32:36+ Jl 3 '40

GASOLINE research
Achievement via group effort; award for chemical engineering achievement won for 1939 by Standard oil development company. Chem & Met Eng 46:750-3 D '39
All for one and one for all; research in motor industry. J. J. Frey. il Sci Am 161: 330-2 D '39
API hydrocarbon research project. D. P. Barnard. il Am Pet Inst Proc 20(3):42-54 '39; Same. Oil & Gas J 38:117-18+ N 17 '39; Discussion. Am Pet Inst Proc 20(3):55-6 '39
Autoxidation and gum-forming tendencies of certain hydrocarbons. B. Berger and R. W. Bost. bibliog Oil & Gas J 38:81-4+ Mr 28 '40
Destructive alkylation produces high-octane aviation gasoline. D. L. Gol'dshtein and B. A. Englin. bibliog Nat Pet N 32:R262-4, R266, R268 Jl 24 '40
Report of the chairman of the committee on motor fuel research. T. B. Rendel. Am Pet Inst Proc 20(3):124-6 '39
Synthesize octanes for anti-knock tests. Nat Pet N 32:R322 S 4 '40
Triumph of a technology; Standard oil development co. S. D. Kirkpatrick. flow diags il Chem & Met Eng 46:670-8 N '39

GASOLINE service stations
$80,000 put into modernizing downtown station and office; MacMillan and Cameron co. il Nat Pet N 32:32-3 Ja 31 '40
Gasoline stations enroll for highway first aid. il Nat Pet N 32:40-1 Ap 10 '40
More give their free service than try to sell any goods. il Nat Pet N 32:25-7 Ap 10 '40
Rebuilding stations efficient way to increase sales. Nat Pet N 32:79-81 Mr 6 '40
Sales contract puts station under chain tax, Texas court holds. Nat Pet N 32:13+ O 9 '40
Tennessee marketer builds office with savings on maintenance. il Nat Pet N 32:39 S 18 '40
Two-lb. package sugar given away at service station's opening. Nat Pet N 32:46 Ag 7 '40

Advertising
Effective customer follow-up promotes regular service sales. Nat Pet N 32:32, 34, 36-7 Ag 21 '40

Automobile accessories
Check-list of change-over stocks and how to estimate requirements. Nat Pet N 32:46-7 N 6 '40
Check list of needed supplies for change-over servicing. Nat Pet N 32:54-5 Ap 3 '40
Make stations Christmas gift headquarters. il Nat Pet N 31:22-4 N 29 '39
Oil marketer uses movies to increase tire sales. il Nat Pet N 32:53 Ag 14 '40
Sells batteries by making it easy for dealers to handle them. il Nat Pet N 32:30-1 F 28 '40
Servicing gives the leads for spark plug sales. il Nat Pet N 32:27-8+ Mr 20 '40
Servicing is first step to a battery sale. il Nat Pet N 32:26+ F 14 '40
Servicing shock absorbers. il Nat Pet N 32: 25-6+ My 22 '40
Standard oil co. of Indiana extends new credit cards to budget plan for accessories. Nat Pet N 32:21-2+ Ja 3 '40

GASOLINE service stations—Automobile accessories—*Continued*
Station can sell accessories before new car is purchased. Nat Pet N 32:61-2 O 23 '40
Well-balanced inventory at station keeps operator, customers happy. il Nat Pet N 32:44 N 6 '40
What and how to sell to the summer tourist. map Nat Pet N 32:22+ Je 19 '40
You can sell more new tires in the change-over period. Nat Pet N 32:56-7 Ap 3 '40

Cleanliness

Cleanliness chart issued for service stations. Nat Pet N 32:42 Jl 24 '40

Construction and design

Designed modern station from photos, plans in National petroleum news. il plan Nat Pet N 32:25 F 28 '40
Free showers for customers and air conditioning; O'Shaughnessy's service, inc. il plan Nat Pet N 32:33-4 Ap 24 '40
How to build low cost service stations. il diags plan Am Bld 62:100-1 Ap '40
More sales appeal in station design today. J. N. Westsmith. il plan Nat Pet N 32:65-6+ Mr 6 '40
Novel service stations designed for Pennsylvania's super highway. il maps plan Nat Pet N 32:25-6, 28, 30-1 My 29 '40
Proof that station modernization pays dividends in increased sales. il Nat Pet N 32:25-6+ Ag 7 '40
Speed and economy with plywood. C. R. Simmons. il Mod Plastics 17:23-5+ F '40
Styles in modern service stations; with floor plans. il Nat Pet N 32:34-64 Mr 6 '40

Customer relations

Names make news, and win customers; remembering names. Nat Pet N 32:40-2 S 25 '40

Employees

40 stations operated by Sun, training men. J. H. Pew. Nat Pet N 32:10 F 28 '40
Service station school run by Indiana independent marketer; Gaseteria, inc. il Nat Pet N 31:26-30 N 29 '39
Service station used as laboratory for scientific sales training. il Nat Pet N 32:25-6, 28, 30+ Ag 28 '40

Equipment

I'd like to sell lube jobs with 1940 equipment. J. N. Westsmith. il Nat Pet N 32:26+ F 7 '40
Northwest petroleum assn. reports on study of used equipment prices. Nat Pet N 32:20 My 1 '40
Pre-winter check up for penny leaks. Nat Pet N 32:32-5 O 9 '40

Finance

Minimum of $5.90 per car is change-over market; potential is $500,000,000. il Nat Pet N 32:32+ N 6 '40

Leasing

Company policies are profitable, Iowa plan victim finds. Nat Pet N 32:24+ Ag 21 '40
Court denies refund of tax on Montana leased stations. Nat Pet N 32:19 F 7 '40
Picketing of leased station branded as racket by judge. il Nat Pet N 32:30, 32+ Jl 3 '40
Refiners squirm on horns of marketing dilemma. T. F. Smiley. il Oil & Gas J 38:22-3 Mr 21 '40
Sun Oil abandons Iowa plan; to resume company-owned stations. Business Week p16+ Mr 2 '40

Lighting

Brightest spot in town, lighted by its own generating plant; with cost data. il plan Nat Pet N 32:25-6, 28, 30 My 15 '40
More light sells more gasoline. C. C. Monroe. il Elec W 114:230 Jl 27 '40
Office standards for service station. F. H. Murphy. il Elec W 113:1920+ Je 15 '40

Location

Census shows why city stations are losing. Nat Pet N 32:17-18 Jl 10 '40
Motorists demand fast service at new parkway stations; Henry Hudson and Merritt parkways. il Nat Pet N 32:35-7 O 30 '40
Rebuilding investment is based on many factors at each individual location; list of points to be considered. Nat Pet N 32:74+ Mr 6 '40
Superhighways, their meaning to the petroleum industry; Esso marketers, hold exclusive right to operate filling stations along Pennsylvania's new toll road. W. T. Ziegenhain. il Oil & Gas J 39:22-3 S 12 '40

Lubricating service

Bells ring, lights flash to tell waiting motorist progress on his lube job. il Nat Pet N 32:37-40 Ag 7 '40
Check-list of change-over stocks and how to estimate requirements. Nat Pet N 32:46 N 6 '40
Effective customer follow-up promotes regular service sales. Nat Pet N 32:32, 34, 36-7 Ag 21 '40
Flushing crankcase recommended with change-over servicing. Nat Pet N 32:26-8 F 28 '40
I'd like to sell lube jobs with 1940 equipment. J. N. Westsmith. il Nat Pet N 32:26+ F 7 '40
Need for regular oil change has to be sold the motorist. R. A. Ludlow. Nat Pet N 32:44-5 Mr 20 '40
New servicing and lubrication required for many 1941 autos. il diags Nat Pet N 32:27-62 O 23 '40
Products required for complete car lubrication. Nat Pet N 32:14 S 25 '40
Proof that station modernization pays dividends in increased sales. il Nat Pet N 32:25-6+ Ag 7 '40
Servicing oil filters helps motor oil sales. diags Nat Pet N 32:28-31 Mr 13 '40
Speed your spring sales and build greater profits; spring change-over issue. il Nat Pet N 32:33-6+ Ap 3 '40
Spring change-over business; ask customers to buy and ask them early. S. C. Harlin. Nat Pet N 32:27 Mr 13 '40
You can't sell 'em lube jobs if you don't ask 'em; 1000-mile lube sales campaign. il Nat Pet N 32:25-6, 29 Jl 24 '40

Management

How to nurse a sick station back to profitable basis. il Nat Pet N 32:34-7 O 2 '40
Manual of service station merchandising and management; outlining plus profit possibilities. W. R. Schuh. 2d ed 213p $2.50 National assn. of petroleum retailers, 342 N. Water st, Milwaukee '39
Marketer sells oil changes to half the new car owners in his territory. il Nat Pet N 31:38-40 N 15 '39

Motor truck service

See Motor truck service stations

Refreshment stands

New style in lunch wagons; "chicken koop" for stations. il Nat Pet N 31:10 D 27 '39
Soft drink sale encourages station cleanliness. il Nat Pet N 32:30+ S 4 '40

Rest rooms

Clean restrooms clinch the sale. il Nat Pet N 32:23-6+ Jl 3 '40
Dirty restrooms indicate poor credit risks. Nat Pet N 32:42-4 Ag 7 '40
Grading rest rooms improved sanitation. Nat Pet N 31:26 D 20 '39
Syphilis fear drives public away from stations with dirty restrooms. Nat Pet N 32:34-5 Je 5 '40

Safety devices and measures

Plant inspections key to perfect safety record in retail marketing; Mid-continent petroleum corp. of Tulsa. Nat Pet N 31:28-31 D 20 '39
Safety made a part of station routine. L. V. Shepherd. il Nat Pet N 32:29, 32 O 16 '40

Service

Free parking for commuters is station's best salesman. il Nat Pet N 32:34+ My 8 '40

GASOLINE service stations—Service—*Continued*
Helping stranded motorists boosts tire, battery sales; use of service cars; analysis of operating costs and increased revenue. il Nat Pet N 32:33-4, 36-8 Ag 28 '40
Motorists demand fast service at new parkway stations; Henry Hudson and Merritt parkways. il Nat Pet N 32:35-7 O 30 '40
New servicing and lubrication required for many 1941 autos. il diags Nat Pet N 32: 27-62 O 23 '40
Salesmanship is the key to open locked hoods. il diags Nat Pet N 32:36-7, 40, 42 O 23 '40
Servicing is first step to a battery sale. il Nat Pet N 32:26+ F 14 '40
Servicing the cooling system is part of spring change-over. il Nat Pet N 32:58-9 Ap 8 '40

Signs

Refiner makes display signs from scrap metal. W. T. Ziegenhain. il Oil & Gas J 39:58 Jl 18 '40

Winter service

Biggest selling season; winter change-over. il maps Nat Pet N 32:27-54 N 6 '40
Follow-through on winter change-over! Nat Pet N 31:30 N 15 '39
Winter conditioned cars are better customers later. G. Goplerud. Nat Pet N 31:29 N 15 '39

GASOLINE service stations, Jobbers'

See also
Gasoline service stations—Leasing

GASOLINE storage
Gum formation in cracked gasolines. D. L. Yabroff and E. L. Walters. bibliog il diag Ind & Eng Chem 32:83-8 Ja '40
Importance of preventing evaporation losses. C. G. Anderson. Nat Pet N 32:23 Ja 31 '40
Reserve supply of aviation gas will be stored underground. H. D. Ralph. Oil & Gas J 39: 17 Ag 29 '40
Les réservoirs à essence enterrés; réservoir à compensation hydraulique. diags Génie Civil 115:376-7 N 18 '39
Réservoirs pour hydrocarbures à compensation hydraulique, système Miozzi. il diag Génie Civil 115:473 D 30 '39; Abstract (New type of storage tank for gasoline reverses pressure on walls). Concrete 48:42 My '40

See also
Gasoline tanks
Oil bulk stations
Oil tanks

Fires and fire protection

Underground gasoline seepage studied as fire hazard. Nat Pet N 32:31-3 Je 5 '40

GASOLINE tanks
Evaporation losses at bulk plants more costly with today's gasolines. H. C. Conners. il Nat Pet N 32:32+ Ap 17 '40
Expansion roof effects economy in storage of gasoline. C. L. Marner. il Oil & Gas J 38: 68 F 22 '40

GASOLINE tanks, Concrete
New type of concrete tank holds gasoline. il diags Concrete 48:6+ S '40

GASTEROPODA, Fossil
Invertebrate fauna of the late Permian Whitehorse sandstone. N. D. Newell. diags maps Geol Soc Bul 51:261-335, pl 1-10 bibliog(p323-5) F '40
Systematic study of the fossil gastropod exilia. H. Bentson. 3 pls Univ of Calif Bul of Dept of Geological Sciences v 25, no 5: 199-237 bibliog(p226-9) '40 (pa 50c)

GASTONIA, North Carolina
Family income and expenditure in the southeastern region, 1935-36; v.1, Family income. A. D. H. Kaplan, F. M. Williams and J. S. Bernard. U S Bur Labor Statistics Bul 647: 1-520 '39

GATES, Hydraulic
Chicago River control works. H. P. Ramey. il diags map Am Soc C E Proc 66:71-103 Ja '40; Discussion. 66:1161-83, 1833-5 Je, D '40
Design of Hiwassee dam; engineering details. C. E. Pearce. il diags Civil Eng 10:433-6 Jl '40
Hydraulic model studies solve backwater gate design; Detroit sewage disposal project. G. E. Hubbell. il diags Eng N 124:645-6 My 9 '40
Induction heating applied to Coulee drum gates; de-icing system. R. D. Goodrich, jr. il diags Elec West 85:46-8 O '40
Influence of the mechanical mind on the development of irrigation through the ages. E. B. Ball. il diag Inst Mech Eng J & Proc 142:Proc 407-11, pl 1-8 Mr '40; Same. Engineer 169:179-81 F 23 '40; Same. Engineering 149:235-7, pl 11 Mr 1 '40
Lead seal for Tainter gates. O. N. Floyd. diags Eng N 123:763 D 7 '39
Lock gate and levees on Lake Okeechobee. il Eng N 124:465 Mr 28 '40
Model tests of large sluice gates at high velocities of approach and with different pier noses. J. B. Macphail and R. Boucher. diags Civil Eng 10:592-4 S '40
Ohio river has door shut in its face at Huntington; flood gates. il Eng N 124:691 My 16 '40
Sprayed zinc protects hydro spillway gates. Elec W 113:760+ Mr 9 '40
Welded hooks save time, cost, weight; lifting hooks for draft tube gates. W. D. Myers and M. Fourny. il diag Elec W 112:1759-60 D 16 '39

GATTERMANN reaction
γ-Substitution in the resorcinol nucleus; the Gattermann reaction with 4-acylresorcinols. H. A. Shah and R. C. Shah. Chem Soc J p245-7 F '40

GAUMONT-BRITISH picture corporation, ltd.
Profits dropped sharply in the year to March 31, 1940. Economist 139:436-7 O 5 '40

GEAR cutting
Change gear calculations. J. W. Duffy. Am Mach 84:249-50 Ap 17 '40
Change-gears for helical-gear hobbing. R. H. Stout. Mach 46:134-6 Mr '40
Experiences in the gear industry. U. S. Eberhardt. il Iron Age 145:33-5 F 8 '40
Fixture used on boring mill for cutting teeth in large gear segments. J. Waitkus. diags Mach 46:197-8 Jl '40
Precision gear hobbing. C. R. Staub. diags Iron Age 145:45-7 Ja 18 '40
Steel gear blanks cut with carbides; Nuttall works of the Westinghouse gearing division. il Iron Age 146:48 S 5 '40
Tooth bearings in bevel gears. A. H. Candee. il diags Iron Age 146:38-41 Ag 15; 42-6 Ag 22 '40
Tungsten-carbide tools for heavy turning; Nuttall works of the Westinghouse gearing division. il Automotive Ind 83:28 Jl 1 '40
Turret lathe tooling; equipment for chucking. J. R. Longstreet and W. K. Bailey. il diags Am Mach 84:334-7 My 15 '40

GEAR cutting machines
American broach & machine co.'s Gearbroacher equipped to produce four hundred starter gears an hour. il Mach 46:122-3 Ag '40; Am Mach 84:734 S 18 '40
Cross gear-tooth pointing machine. il Mach 46:150-1 Je '40
Curved-tooth bevel-gear generating machines. il diags Engineering 149:82-5, pl 5 Ja 26 '40
18-ft. double-headed universal gear-hobbing machine. diags Engineering 149:498-500, 504, 577-8, pl 26, 32 My 17, Je 14 '40
Gearbroacher equipped to produce four hundred starter gears an hour. il Mach 46: 122-3 Ag '40; Automotive Ind 83:56, 68 Jl 15 '40
Gleason Revacycle for cutting straight bevel gears. il Automotive Ind 83:208 S 1 '40; Am Mach 84:683 S 4 '40; Mach 47:156 S '40; Steel 107:68 S 9 '40
Gleason straight bevel gear generator. il Am Mach 84:937 N 13 '40; Mach 47:180 N '40; Automotive Ind 83:505-6 N 1 '40
Gould and Eberhardt worm hobbing machine. il Automobile Eng 30:38-9 F '40
Michigan toothed-gear finishing machine. il Engineering 148:675 D 15 '39

GEAR cutting machines—*Continued*
National broach machine co. Red Ring heavy duty gear shaving machine. il Am Mach 84:224-5 Ap 3 '40; Automotive Ind 82:283 Mr 15 '40; Mach 46:176 Ap '40
New ways to make fine-pitch gears. D. T. Hamilton. il diags Steel 107:44-5, 85-6 Ag 5 '40
Sykes gear generating machine. il Automobile Eng 30:144-5 My '40

GEAR grinding machines
Chuck for triple gear. J. R. Whittles. diag Mach 46:116-17 My '40
Grinding of hardened gears. J. C. Dixon. il diags Iron Age 145:29-32 F 22; 49-52 Ap 18 '40
National broach & machine co.'s machine for precision grinding of master gears and involute broaches. il Automotive Ind 83:210-11 S 1 '40; Mach 47:160-1 S '40
Orcutt hydraulic gear-tooth grinder. il diags Engineering 150:204-5, 206-7 S 13 '40

GEAR lapping machines
Incolap gear finisher built for small gears. il Am Mach 84:593 Ag 7 '40

GEARING
Building up broken gear teeth by bronze-welding. diags Mach 46:128 My '40
Conical gear couplings. diags Automobile Eng 30:241 Ag '40
Finds labelling each gear aids users; production and marketing of cast iron gears has been instituted by Braun gear corp. Steel 106:66+ Je 10 '40
Gearing for two-speed lifts. Engineering 149: 305-6 Mr 22 '40
High-speed intermittent gearing. A. Bassoff. diag Mach 46:103-4 Ag '40
Intermittent gear mechanism; wire fabricating machine. L. Kasper. diags Mach 46:195-6 Jl '40
Lift worm reduction gear with back gearing. il Engineer 169:312 Mr 29 '40; Same. Mech Handling 27:87 Ap '40
Meehanite housings used for gear drives of C-1 ships. il Marine Eng 45:65-6 O '40
Stufenlos regelbare schaltwerksgetriebe. F. G. Altmann. il diags V D I 84:333-8 My 18 '40

See also
Automobiles—Gearing
Chain gear
Clutches
Couplings
Diesel engines, Marine—Gearing
Draft gears
Gear cutting machines
Hydraulic transmission
Locomotives—Gearing
Power transmission

Design
Appareil de changement de marche continu par engrenages. C. F. Couleru. diags Génie Civil 116:14 Ja 6 '40
Corrections for long addendum spur gears; reference book sheet. J. Apelskog. Am Mach 84:217 Ap 3 '40
Design of high speed gears. K. Knibbe. diags J Aeronautical Sci 7:68-71 D '39
Design of spiral gears. W. A. Tuplin. Engineering 149:187-90 F 23 '40
Devising a smaller auto transmission. G. L. Rothrock. Metal Prog 37:144-5 F '40
Direct method of designing gears for strength; spur, helical, bevel, spiral bevel, and worm gears. A. J. Nault. Mach 47:135-41 S '40
Gear design simplified. F. D Jones. 2d ed 139p $3 Industrial press, New York '40
Gear tooth deflection and profile modification. H. Walker. Engineer 170:102-4 Ag 16 '40
Leathem power reverse gear. diag Ry Mech Eng 114:413 O '40
Pressures on the teeth of skew gears. V. Lehel. diags Engineering 150:221-2, 241-3 S 20-27 '40
Suggested modifications in gear teeth formula. P. M. Heldt. il diags Automotive Ind 81: 428-31; 82:56-9 O 15 '39, Ja 15 '40; Discussion (pt 1), 82:59-62 Ja 15 '40
Tooth bearings in bevel gears. A. H. Candee. il diags Iron Age 146:38-41 Ag 15; 42-6 Ag 22 '40
Torkondif is a continuously variable transmission. P. M. Heldt. il diag Automotive Ind 81:202-4+ S 1 '39; Same abr. Automobile Eng 30:59 F '40

Manufacture
American gear manufacturers association meeting, Skytop, Pa. Oct. 14-16. Iron Age 146:39-40+ O 24 '40
American gear manufacturers association, 24th annual meeting, Asheville, N.C, May 20-22. Iron Age 145:62-4 My 30 '40; Steel 106:27-8 My 27 '40
Cast steel gears. W. J. Phillips and T. D. West. bibliog il diags Steel 107:48-50 O 21 '40
Cast steel gears. J. A. Shuffstall. il diags Foundry 68:28-30, 92+ Ja '40
Centrifugally cast gear blanks introduced by Ford. C. O. Herb. il diags Mach 46:85-8 My '40
Clark's twenty acres of automotive manufacturing. J. Geschelin. il Automotive Ind 83:98-107+ Ag 1 '40
Complicated one-piece parts made by die casting. il Steel 106:42-3+ Mr 11 '40
Control in modern gear manufacture. R. S. Marthens. il Iron Age 144:33-6 D 21 '39
Flame-hardening of gear teeth. D. Vande Vate. il Mach 46:123-6 F '40
Flame hardening standardization. A. L. Hartley. il diags Iron Age 146:54-63 N 7 '40
Gear case machining modernized. il Iron Age 146:47 Ag 15 '40
Gear finishing symposium; American society of tool engineers. Iron Age 146:43 O 24 '40
Gear materials and their heat-treatment. E. J. Wellauer. Mach 46:103-5 Mr '40
Gear powders. Engineer 169:230 Mr 8 '40
Geared for defense; turbine-gear sets; General electric company. A. A. Ross. il diag Am Mach 84:874-5 O 30 '40
Geared for quality; production of milling machine gears; Kearney & Trecker corporation. il plan Am Mach 84:121-4 Mr 6 '40
Gears for U.S. defense and trade; marine turbine gears; manufacturing and testing operations; General electric company. A. A. Ross. il Gen Elec R 43:434-7 N '40; Same. Power Pl Eng 44:58-61 N '40; Same. Marine Eng 45:62-7 D '40
Gears of iron powder. il diag Automotive Ind 82:158-9 F 15 '40
Grinding of hardened gears. J. C. Dixon. il diags Iron Age 145:29-32 F 22; 49-52 Ap 18 '40
Ground form-finishing of gear hobs; abstract. C. R. Staub. diag Automotive Ind 82:112 F 1 '40
Hannifin centrifugal quenching machine. il diags Mach 47:159-60 O '40
Heat treating industrial gears. T. R. Rideout. il Iron Age 146:46-7 Ag 1 '40
Improving the durability of large industrial gears. E. J. Wellauer. il Metal Prog 37: 653-7+ Je '40
Industrial gears for large transmissions. E. J. Wellauer. il Metal Prog 36:725-30+ D '39
Making welded gears; flame hardened; Harnischfeger corp. H. Menck. il Steel 107: 66-8 Jl 1 '40
Modern methods in gear manufacture; Nuttall works of the Westinghouse electric & mfg. co. G. Young. il diags Mach 47:107-14 O '40
New gear tooth hardening machine; Shorter process. il Engineer 169:384-5 Ap 19 '40; Automobile Eng 30:156 My '40
Noisy gears are out; manufacturing methods of International Harvester. R. R. Wiese. il Am Mach 83:1067-70 D 27 '39
Odd-shaped cases machined easily on tilting faceplate; manufacturing gear drives at Farrel-Birmingham co. il Steel 106:69 F 5 '40
Oil pump gears, an example of iron powder metallurgy; abstract. F. V. Lenel. il(p471) Metals & Alloys 12:472+ O '40
Precision small gears; symposium at annual meeting of American society of tool engineers. Iron Age 145:48 Mr 14 '40
Quiet gears for tractors. il Iron Age 146: 34 O 3 '40
Reibungskräfte, laufunruhe und geräuschbildung an zahnrädern. G. Dietrich. il V D I 83:1320-1 D 30 '39

GEARING—Manufacture—*Continued*
Twin Disc products held to rigid specifications; manufacture of clutches and gearing. J. Geschelin. il Automotive Ind 82:310-19+ Ap 1 '40

See also
Gear cutting
Gear cutting machines
Gearing, Worm—Manufacture

Measurement
Precision measurements; Taylor, Taylor and Hobson projectors. il Automobile Eng 30: 45-6 F '40

Tables, calculations, etc.
Change gear calculations. J. W. Duffy. Am Mach 84:249-50 Ap 17 '40
Change-gears for helical-gear hobbing. R. H. Stout. Mach 46:134-6 Mr '40

Testing
Gaging gears; Nuttal works of Westinghouse gearing division. il Steel 107:40-1 O 7 '40
Machine tool gears are checked constantly; Gisholt machine co. Steel 106:52 Je 17 '40
Novel test of Farrel gear drives for five C-1 ships. il Marine Eng 45:77 S '40
Selection of steel and heat treatment for spur gears. H. B. Knowlton and E. H. Snyder. bibliog il diags Am Soc for Metals Trans 28:687-708; Discussion. 708-13 S '40

GEARING, Bevel
Curved-tooth bevel-gear generating machines. il diags Engineering 149:82-5, pl 5 Ja 26 '40
Tooth bearings in bevel gears. A. H. Candee. il diags Iron Age 146:38-41 Ag 15; 42-6 Ag 22 40

See also
Gearing, Hypoid

GEARING, Epicyclic. See Gearing, Planetary

GEARING, Helical. See Gearing, Spiral

GEARING, Hypoid
Curved-tooth bevel-gear generating machines. il diags Engineering 149:82-5, pl 5 Ja 26 '40
Four-ball apparatus predicts hypoid lube performance. H. R. Kemmerer and F. L. Garton. il diag Nat Pet N 31:R551-2+ D 27 '39
How specialty lubricants are made; Lubri-Zol corp, Cleveland. D. M. Considine. flow diag il Chem & Met Eng 47:230-3 Ap '40
Hypoid-lubricant requirements for passenger-car and truck rear axles. H. R. Wolf. bibliog il Am Pet Inst Proc 20(3):16-22 '39; Same. Oil & Gas J 38:162+ N 17 '39; Same cond. Nat Pet N 31:32-4, 36-7 N 15 '39; Discussion. Am Pet Inst Proc 20(3):22-4 '39
Hypoid lubricants for truck axles. E. W. Upham. Automotive Ind 82:74-5 Ja 15 '40
Need for two hypoid lubes; abstract. C. M. Larson. Nat Pet N 32:R77 Mr 6 '40
Willys hypoid-gear-driven rear axle. diags Automotive Ind 83:461-2 O 15 '40

GEARING, Planetary
Power transmissions for buses. G. A. Green. il diags S A E J 46:3-5 Ja '40
Warner overdrive gear; an automatic epicyclic system with solenoid-operated driver control. diag Automobile Eng 29:458 D '39

GEARING, Spiral
Brown and sons helical gearing for a mine winder. il Engineer 169:167 F 16 '40
Change gear calculations. J. W. Duffy. Am Mach 84:249-50 Ap 17 '40
Change-gears for helical-gear hobbing. R. H. Stout. Mach 46:134-6 Mr '40
Design of spiral gears. W. A. Tuplin. Engineering 149:187-90 F 23 '40
New Westinghouse gears for main propulsion. il Marine Eng 44:575 D '39
Pressures on the teeth of skew gears. V. Lehel. diags Engineering 150:221-2, 241-3 S 20-27 '40

GEARING, Spiral bevel
Curved-tooth bevel-gear generating machines. il diags Engineering 149:82-5, pl 5 Ja 26 '40
Tooth bearings in bevel gears. A. H. Candee. il diags Iron Age 146:42-6 Ag 22 '40

GEARING, Spur
Backlash for spur gears; reference book sheet. diag Am Mach 84:63 F 7 '40
Corrections for long addendum spur gears; reference book sheet. J. Apelskog. Am Mach 84:217 Ap 3 '40
Gear tooth deflection and profile modification. H. Walker. Engineer 170:102-4 Ag 16 '40
Selection of steel and heat treatment for spur gears. H. B. Knowlton and E. H. Snyder. bibliog il diags Am Soc for Metals Trans 28:687-708; Discussion. 708-13 S '40

GEARING, Worm
Efficiency of gearing. G. H. Gibson. diags Marine Eng 45:90+ F '40
Fortschritte auf dem gebiete der schneckengetriebe. F. G. Altmann. il diags V D I 83: 1245-9, 1271-3 D 9-16 '39
Proposed combustion-turbine locomotive; combined with hydraulic torque converter and coupling, and worm-gear drive. diag plan Ry Mech Eng 114:144-8 Ap '40; Same cond. Ry Age 108:588-90 Mr 30 '40
Treadwell worm-geared ladles. il Metal Ind 38:160 Mr '40
Worm gears save space for draft-fan drive. E. J. Morgan. il plan Power 83:735 D '39

Manufacture
Gould and Eberhardt worm hobbing machine. il Automobile Eng 30:38-9 F '40

GEDDES, Norman Bel, 1893-
House by Bel Geddes. Business Week p35-6 Ja 13 '40

GEIGER-MÜLLER counters
Application of the method of coincidence counting to experiments in nuclear physics. J. V. Dunworth. bibliog R Sci Instr 11:167-80 My '40
Circuit for anticoincidences with Geiger-Müller counters. G. Herzog. diags R Sci Instr 11:84-5 Mr '40
Cosmic-ray observations in the stratosphere with high-speed counters. L. F. Curtiss and others. pls diags J Research Nat Bur Stand 23:585-95 N '39
Design of a magnetic beta-ray spectrometer. J. L. Lawson and A. W. Tyler. bibliog diags R Sci Instr 11:6-18 Ja '40
Discharge mechanism of Geiger-Mueller counters. C. G. Montgomery and D. D. Montgomery. diags Phys R 57:1030-40 Je 1 '40
Fine structure in the directional intensity of cosmic rays. D. Cooper. bibliog diag Phys R 58:288-92 Ag 15 '40
Integrating circuit for vapor-type Geiger-Müller counters. L. F. Curtiss. pl diags J Research Nat Bur Stand 25:369-77 S '40
Interval meter and its application to studies of Geiger counter statistics. R. L. Driscoll, M. W. Hodge and A. Ruark. bibliog diags R Sci Instr 11:241-50 Ag '40
K-absorption edges of Br (35) and Kr (36). C. H. Shaw. Phys R 57:877-81 My 15 '40
Measurements of discharge characteristics of Geiger-Mueller counters. W. E. Ramsey. diag Phys R 57:1022-9 Je 1 '40; Abstract. Franklin Inst J 230:779-80 D '40
Period of photon emission in a counter discharge. W. E. Ramsey. diag Phys R 58:476-7 S 1 '40
Recent studies at high elevations. S. A. Korff. diag Rs Mod Phys 11:211-19; Discussion. J. C. Stearns and D. K. Froman. 220-1 Jl-O '39
Report of cosmic ray observations made on the U.S. Antarctic expedition in coöperation with the Bartol research foundation. S. A. Korff and E. T. Clarke. bibliog il diags Franklin Inst J 230:567-81 N '40
Report on Bartol research foundation; investigations concerning the properties of Geiger-Mueller counters. W. F. G. Swann. il Franklin Inst J 230:285-307 S '40
Some improvements in a Geiger-Müller counting system. H. McMaster and M. L. Pool. bibliog diags R Sci Instr 11:196-8 Je '40
Two small portable Geiger-Müller counters. R. B. Taft. diags R Sci Instr 11:63-4 F '40
Use of a grid to reduce operating voltage in Geiger-Mueller counters. S. A. Korff and W. E. Ramsey. diag R Sci Instr 11: 267-9 Ag '40

GELATIN
Blue gelatine-copper; reprinted from volume 22, Transactions of the American electrochemical society (now the Electrochemical society). W. D. Bancroft and T. R. Briggs. Metal Finishing 38:537-8 O '40
Breaking strength, elongation, and folding endurance of films of starches and gelatin used in textile sizing. M. S. Furry. il diags U S Agric Tech Bul 674:1-36 bibliog(p35-6) '39
Combination of gelatin with acids and bases; viscosity and electrometric titration studies. L. Friedman, K. Klemm and F. K. Thompson. bibliog J Phys Chem 43:1133-7 D '39
Comparison of gelatine and sodium alginate as stabilizers in ice cream; abstract. P. H. Tracy and S. L. Tuckey. Food Ind 12:94-5 Ap '40; Correction. 12:94 Jl '40
Dielectric properties of the system gelatin—water; polarization process in range of high gelatin concentrations. H. Fricke and E. Parker. J Phys Chem 44:716-26 Je '40
Edible gelatin, production, shipments, stocks, 1936-1939. Survey of Cur Business 1940 Sup p114 [supplemented in monthly numbers]
Gelatin models for photoelastic analysis of stress in earth masses. F. B. Farquharson and R. G. Hennes. il Civil Eng 10:211-14 Ap '40
Molecular structure of the collagen fibres. W. T. Astbury and F. O. Bell. bibliog il Soc Dyers & Col J 56:274-5 Je '40
Packaging light; makers of gelatin dessert defy FDA, stick to 70% filling. Business Week p56-7 N 16 '40
Procter Wilson theory of protein swelling in the light of modern ideas of protein structure; abstract. W. R. Atkin. Can Chem & Process Ind 23:550 N '39
Structure of gelatin sols and gels; the adsorption of water vapor and the electrical conductivity. S. E. Sheppard, R. C. Houck and C. Dittmar. bibliog il diag J Phys Chem 44:185-207 F '40
Surface conditions of silver halides and rate of reaction; rate of reduction of precipitated silver chloride. T. H. James. bibliog Am Chem Soc J 62:536-40 Mr '40
Surface conditions of silver halides and the rate of reaction; reduction of nucleated silver chloride. T. H. James. bibliog Am Chem Soc J 62:1649-54 Jl '40
Water bound to gelatin as shown by molecular structure studies. O. L. Sponsler, J. D. Bath and J. W. Ellis. il diags J Phys Chem 44:996-1006 bibliog(52 references, p1005-6) N '40

GELATINIZATION
Effect of mechanical gelatinization on the solubility of wood in cuprammonium solution. J. Levy and E. C. Jahn. bibliog Paper Tr J 109:45-9 D 7 '39
Water retention of beaten and gelatinized pulp. A. Sedoff, C. V. Holmberg and E. C. Jahn. bibliog Paper Tr J 109:42-9 D 28 '39

GELATION
Gelation of magnesium silicate suspensions by carbon dioxide and other agents. R. Roseman, H. Eisenberg and M. B. Levin. Am Chem Soc J 62:676 Mr '40

GELS. See Colloids

GELSEMINE
Study of gelsemine; the reduction of gelsemine. T. T. Chu and T. Q. Chou. Am Chem Soc J 62:1955-7 Ag '40

GEMS
Cutting and polishing stones. M. W. von Bernewitz and F. Hess. pls U S Bur Mines Information Circ 7107:19-24 '40
5000 years of gems and jewelry. F. Rogers and A. Beard. 309p bibliog(p293-5) $2.50 Stokes '40
See also
Diamonds
Turquoise
Zircon

GENERAL American investors company
Annual report. Comm & Fin Chr 150:277-8 Ja 13 '40

GENERAL American transportation corporation
Another look. Mag of Wall St 66:678-9 S 21 '40
Diversified business; leasing freight cars to railroads and to private companies, warehousing, etc. S. Altschul. Barron's 20:8+ Ap 8 '40
Stability of major activities allows spread into more volatile lines. J. C. Clifford. il Mag of Wall St 66:104-5+ My 4 '40
Thumbnail stock appraisal. Mag of Wall St 67:156 N 16 '40

GENERAL aniline and film corporation
Merger with Agfa Ansco proposed; financial statements for 9 months ended Sept. 30, 1939. Comm & Fin Chr 149:3408, 3716 N 25, D 9 '39

GENERAL cable corporation
Recapitalization plan. Comm & Fin Chr 150: 2725 Ap 27 '40
Stocks in the low-price range; thumbnail appraisal. Mag of Wall St 65:357 D 30 '39

GENERAL cigar company
Dividend paying stock selling near quick asset value. Mag of Wall St 66:535 Ag 10 '40

GENERAL electric company
Annual report, 1939. Comm & Fin Chr 150: 1934 Mr 23 '40
Bureau for new products. Barron's 20:5 My 13 '40
Expands turbine department. Marine Eng 45:55 O '40
G.E.'s third generation: Wilson and Reed; replace Owen D. Young and Gerard Swope. Fortune 21:68-9+ Ja '40
Indicted as trust. Comm & Fin Chr 151:1431-2 S 7 '40
Investing in industrial leadership; General Electric draws income from widely diversified fields. F. B. Dezendorf. Barron's 20:20 N 11 '40
New postgraduate course in industry in high-frequency engineering. A. R. Stevenson, jr. and S. Ramo. Elec Eng 59:Trans 374-8; Discussion. Trans 378-80 Jl '40
Plans $50,000,000 expansion. Elec W News ed 114:1080 O 12 '40
Reed and Wilson named to head General electric co. Elec W News ed 112:1513-14 N 25 '39; Business Week p15 N 25 '39
Relighting a large industry. J. M. Smith. il Illum Eng 35:692-702 S '40
Statistics of sales, income, earnings per share, etc. 1929-1939. Annalist 56:246 Ag 22 '40

GENERAL electric company, London
Profits, years to March 31, 1938-40, and annual general meeting. Economist 139:53, 103 Jl 13-20 '40

GENERAL electric institute, Bridgeport, Connecticut
Building intended primarily for use of visitors to the company's plant; views, plans and construction outline. Arch Forum 72: 360-2 My '40
Threshold to G-E. il Ptr Ink Mo 41:41 Jl '40

GENERAL foods corporation
Balanced portfolio of stocks. J. S. Williams. Mag of Wall St 66:459 Jl 27 '40
Investing in industrial leadership; General Foods obtains earnings from a large group of well-established products. H. Lawrence. Barron's 20:3 O 28 '40
Record sales and tonnage in 1939. Comm & Fin Chr 150:1934-5 Mr 23 '40
Laboratories
Research and development organization of the General foods corporation. T. M. Rector. il plan Ind & Eng Chem Anal ed 12:247-50 Ap 15 '40

GENERAL gas and electric corporation
Annual report. Comm & Fin Chr 150:2725-6 Ap 27 '40

GENERAL insurance company of America, Seattle, Washington
Company analysis. Spectator (Property ed) 6:42-3 S 19 '40

GENERAL managers. See Executives

GENERAL mills, incorporated
Brass tacks for the investor; brief analysis. Barron's 20:13 Ja 8 '40
General Mills meets its stockholders in 8 regional sessions. A. M. Howe. Ptr Ink 193:21-4 N 15 '40
Growth through filling basic needs. S. Devlin. Mag of Wall St 65:756-7+ Mr 23 '40
If your executives personally like your advertising, watch out! all ideas, programs and plans, including media, methods and copy, should be tested by facts. D. D. Davis. Ptr Ink 189:21-4 N 24 '39
Meet the owner; stockholders' meetings. Business Week p22+ Mr 2 '40
Safe stocks for income and protection. Mag of Wall St 66:365-6 Je 29 '40
Two years of preparation, and then new product quickly wins market; how General Mills experimented with KIX, a corn cereal. D. D. Davis. il Ptr Ink 190:11-13+ F 16 '40

GENERAL motors corporation
Annual report. Comm & Fin Chr 150:1935-7 Mr 23 '40
Auto finance affiliate loses round; General Motors guilty of restraint of trade. Business Week p15-16 N 25 '39
Chairman Sloan explains smaller dividend. Comm & Fin Chr 150:1696 Mr 16 '40
Futurama: 1940 model. G. Herrick. il Automotive Ind 82:447-8+ My 15 '40
G.M. pact shaping up; give-and-take evident in C.I.O. negotiations. Business Week p42 My 25 '40
Government declares peace at General Motors. Business Week p26 Je 22 '40
How the sales department can capitalize a production anniversary. il Sales Management 46:32, 35 Mr 1 '40
Inter-office communication systems facilitate industry's operations; automobile industry's intercity telegraph, telephone and teletype systems. E. L. Warner, jr. il maps Automotive Ind 83:50-4+ Jl 15 '40
Labor costs and profits in the motor industry. W. Beecher. Mag of Wall St 65:217+ D 2 '39
Overseas everywhere with General Motors; illustrations. Mach 46:134-7 Ja '40
Plans appeal in GM decision. Automotive Ind 81:593+ D 1 '39
Production aspects of national defense program. Comm & Fin Chr 151:550-1 Jl 27 '40
Quarterly report. Comm & Fin Chr 151: 2644-5 N 2 '40
Sales, United States and Canadian plants, monthly, 1919-39. Survey of Cur Business 20:12 Mr '40
Semi-annual report. Comm & Fin Chr 151: 700-1 Ag 3 '40
United States files civil suit; seeks to divorce corporation from acceptance company. Comm & Fin Chr 151:2192 O 12 '40

GENERAL petroleum corporation
Library
Functions and advantages of a company technical library. G. F. Olsen. Min & Met 21: 333-4 Jl '40

GENERAL railway signal company
Statistics of income, capital, stock earnings, etc. 1929-39. Annalist 55:757 My 30 '40

GENERAL seafoods' corporation
Fishing rights raise a squall; General Seafoods' concession in Newfoundland. Business Week p20+ Ap 13 '40

GENERAL shoe corporation, Nashville, Tennessee
Why 10 General shoe corp. factories are run in competition with one another; corporation set-up completely decentralized. W. M. Jarman. il Sales Management 46:18-20 F 1 '40

GENERAL telephone corporation
Earnings, 1936-39. Comm & Fin Chr 150:2254-5 Ap 6 '40
Preferred stock offered. Comm & Fin Chr 150:1136 F 17 '40
Proposed financing plan. Comm & Fin Chr 150:434 Ja 20 '40

GENERAL time instruments corporation
Small companies with large earnings; thumbnail appraisal. Mag of Wall St 65:491 Ja 27 '40
Thumbnail stock appraisal. Mag of Wall St 67:34 O 19 '40
Uncovering special situations. E. A. Barnes. Mag of Wall St 66:47-8 Ap 20 '40

GENERAL tire and rubber company
Earnings, years ended Nov. 30, 1936-39. Comm & Fin Chr 150:689 Ja 27 '40

GENERAL water gas and electric company
Annual report. Comm & Fin Chr 150:2577 Ap 20 '40

GENETICS
Artificial mixing of incompatible germ-plasms in drosophila; abstract. H. J. Muller. Science 92:418 N 8 '40
Copley medal awarded to Thomas Hunt Morgan. W. Bragg. Science 90:580-1 D 22 '39
Genes and genesis. H. W. Clark. 155p bibliog(p148-55) $1.50 Pacific press pub. assn, Mountain View, Calif. '40
Heredity and social problems. L. L. Burlingame. 369p bibliog(p353-7) $3.50 McGraw-Hill '40
Mammalian genetics. W. E. Castle. 169p $2 Harvard univ. press '40
Pedigrees and checkerboards. E. F. Barrows. 233 numb l $1.50 Edwards bros, Ann Arbor, Mich. '40

See also
Chromosomes
Heredity

Study and teaching
Experiment in the teaching of genetics, with special reference to the objectives of general education. A. D. Bond. 99p bibliog(p83-4) $1.85 Teachers college '40

GENIUS
Psychological approaches to the biography of genius. L. M. Terman. Science 92:293-301 O 4 '40

GENTIOBIOSE
Induced formation of β-gentiobiosides in gladiolus corms and tomato plants treated with chemicals. L. P. Miller. bibliog Science 92:42-3 Jl 12 '40

GEOCHEMISTRY
Analysis of some factors involved in geochemical prospecting. W. V. Howard. bibliog maps Oil & Gas J 39:33-4 Jl 4; 50, 53-4 Jl 18 '40
Barium in Appalachian salt brines. E. T. Heck. bibliog maps Am Assn Pet Geologists Bul 24:486-93 Mr '40
Discussion of geochemical exploration (soil analysis). E. E. Rosaire and others. Am Assn Pet Geologists Bul 24:1434-63 Ag '40
Fluorine content of rocks and ocean-bottom samples. E. S. Shepherd. map Am J Sci 238:117-28 F '40
Geochemical exploration (soil analysis); with some speculation about the genesis of oil, gas, and other mineral accumulations. E. McDermott. bibliog diags maps Am Assn Pet Geologists Bul 24:859-81 My '40
Geochemical prospecting for petroleum. E. E. Rosaire. diags Am Assn Pet Geologists Bul 24:1400-33 bibliog(p1432-3) Ag '40
Geochemical well logging. E. E. Rosaire. Oil & Gas J 38:114, 116+ Ap 25 '40
Geochemistry of quicksilver mineralization. R. M. Dreyer. bibliog il Econ Geol 35:17-48, 140-57 Ja-Mr '40; Discussion. J. J. Fahey, M. Fleischer and C. P. Ross. 35:465-70 My '40; Reply. 35:905-9 N '40

See also
Geology
Rocks
Rocks, Igneous
Soil analysis
Soils
Volcanic gases

GEODESY
See also
Gravity
Surveying
Triangulation

GEODESY—*Continued*

Terminology

Geodetic definitions; an alphabetical list of specific and doubtful definitions of geodetic terms as used by Massachusetts geodetic survey. 24 numb l Massachusetts geodetic survey, Boston '39

GEOGRAPHICAL names. See Names, Geographical

GEOGRAPHY

College geography. E. C. Case and D. R. Bergsmark. 2d ed 767p $4 Wiley '40

See also
Royal geographical society

GEOGRAPHY, Commercial

Economic geography. Z. C. Staples and G. M. York. 3d ed 702p $1.96 South-western pub. co. '40

North America. J. R. Smith and M. O. Phillips. rev ed 1008p $6 Harcourt '40

GEOGRAPHY, Economic

Economic geography; industries and resources of the commercial world. C. C. Colby and A. Foster. 685p bibliog(p681) $1.92 Ginn '40

Economic geography of South America. R. H. Whitbeck, F. E. Williams and W. F. Christians. 3d ed 469p bibliog(p437-52) $3.50 McGraw-Hill '40

Geographic basis of American economic life. H. H. McCarty. 702p bibliog(pxix-xxiii) $3.75 Harper '40

Introductory economic geography. L. E. Klimm, O. P. Starkey and N. F. Hall. 2d ed 501p bibliog(p485-7) $4.25 Harcourt '40

Our industrial world. J. R. Smith. 406p bibliog(p389-90) $1.72 John C. Winston co, Philadelphia '39

GEOGRAPHY, Political

Earth and the state; a study of political geography. D. Whittlesey. 618p $5 Holt '39

GEOLOGICAL exhibits

Exhibits in the geological sciences at the California institute of technology. Science 91:516 My 31 '40

GEOLOGICAL maps

Aerial photographs furnish valuable aid to geologists. W. V. Howard. il Oil & Gas J 38:52-3 Ap 18 '40

GEOLOGICAL research

Grants for research of the American geological society. Science 91:242-3 Mr 8 '40

Grants for research of the Geological society of America. Science 92:85-8 Jl 26 '40

Project grants of the Geological society of America, 1939. Geol Soc Proc 1939:107-10 Je '40

GEOLOGICAL society of America

Grants for research. Science 91:242-3 Mr 8 '40

Grants for research. Science 92:85-8 Jl 26 '40

Proceedings for 1939. Geol Soc Proc 1939: 1-292, pl 1-14 Je '40

GEOLOGICAL society of London

Awards. Science 91:66 Ja 19 '40

GEOLOGICAL time

Length of a geological period. H. P. Gillette. Roads & Sts 83:74, 76+ Ap '40

Time-scale of the universe. H. N. Russell. Science 92:19-27 Jl 12 '40

See also
Correlation (geology)

GEOLOGISTS

Geologists can do more than discover oil. W. V. Howard. Oil & Gas J 38:15+ Mr 7 '40

Geologists, scouts play big role in Kansas development. Oil & Gas J 39:67+ Je 27 '40

Where will young graduates in petroleum geology acquire field experience? F. H. Lahee. Am Assn Pet Geologists Bul 24:1386-8 Ag '40

Directories

American association of petroleum geologists membership list. Am Assn Pet Geologists Bul 24:523-97 Mr '40

GEOLOGISTS, Mine

Fields of the economic geologists widen and their technique improves. D. McLaughlin. il Min & Met 21:3-6 Ja '40

GEOLOGY

Abstracts of section E, American association for the advancement of science. Geol Soc Bul 50:1975-2015 pt 2 D '39

Abstracts of the Geological society of America; December meeting at Minneapolis and August meeting at Berkeley. Geol Soc Bul 50:1899-1962 pt 2 D '39

Geological problems of dams. I. B. Crosby. bibliog Am Soc C E Proc 66:869-90 My '40

Geology for civil engineers, as related to highway engineering. D. G. Runner. 299p $5 Gillette pub. co, Chicago '39

Geology for engineers. R. F. Sorsbie. rev ed 348p $3.75 Oxford (Toronto) '38

Geology for the layman. A. MacLean. 168p $2 Northern miner press, Toronto, Can. '39

Mining geology, 1939. H. Schmitt. Eng & Min J 141:77-9 bibliog(69 references, p79) F '40

Principles of economic geology. W. H. Emmons. 2d ed 529p $4 McGraw-Hill '40

Society of economic geologists; abstracts of papers to be presented at the twentieth annual meeting. Econ Geol 34:939-48 D '39

Society of economic paleontologists and mineralogists annual meeting, Chicago, April 9-12; abstracts of papers. Oil & Gas J 38: 63, 66-7 Ap 11 '40

See also
Asbestos
Asphalt
Conglomerate
Drift
Earth
Earthquakes
Erosion
Faults (geology)
Folds (geology)
Geochemistry
Geophysics
Geysers
Glacial geology
Graphite
Gypsum
Landslides
Limestone
Metamorphism
Metasomatism
Mines and mineral resources
Mountains
Ore deposits
Paleobotany
Paleoclimatology
Paleontology
Peat
Peneplains
Petroleum—Geology
Phosphate rock
Physical geography
Quarries and quarrying
Ripple marks
Rocks
Rocks, Igneous
Sand
Schists
Sedimentation and deposition
Soils
Synclines
Volcanoes
Water, Underground

Bibliography

Recent books on geology. K. F. Mather. Science 90:492-4 N 24 '39

Laboratory manuals

Laboratory manual for general geology. J. K. Roberts. 3d ed 157p pa $2 Jarman's inc, Charlottesville, Va. '39

Nomenclature

Carboniferous-Permian boundary. R. C. Moore. diags Am Assn Pet Geologists Bul 24:282-336 bibliog(p328-36) F '40

Name Claiborne in geologic literature. G. D. Harris. Science 92:257-8 S 20 '40

See also
Rocks—Classification and nomenclature

Study and teaching

Vitalizing historical geology through field trips. R. H. Mitchell. Science 90:441-2 N 10 '39

Terminology

Time and stratigraphic terminology. A. H. Sutton. bibliog Geol Soc Bul 51:1397-1412 S '40

Adirondack mountains

Adirondack igneous rocks and their metamorphism. A. F. Buddington. (Memoir 7) 354p, 21 pls bibliog(p334-42) $3.25 Geological soc. of America, New York '39

Alabama

Foundation exploration and geologic studies at Guntersville dam. R. M. Ross. il diags maps Am Soc C E Proc 66:420-30 Mr '40

GEOLOGY—*Continued*

Alaska

Geology of the Alaska railroad region. S. R. Capps. fold maps U S Geol S Bul 907:1-201, pl 1-9 '40

Origin of the muck-silt deposits at Fairbanks. R. Tuck. map Geol Soc Bul 51:1295-1310, pl 1-2 S '40

Alberta

Lower and middle Cambrian stratigraphy of southwestern Alberta and southeastern British Columbia. C. Deiss. diags maps Geol Soc Bul 51:731-93 bibliog(p792-3) pl 1-5 My '40

Paleozoic limestone of Turner valley. W. D. C. Mackenzie. il diags Am Assn Pet Geologists Bul 24:1620-40 S '40

Appalachian region

Age of the Schooley peneplain. G. W. Stose. bibliog diags maps Am J Sci 238:461-76, pl 1 Jl '40

Argentina

Validity of the criteria for lower carboniferous glaciation in western Argentina. C. O. Dunbar. Am J Sci 238:673-5 S '40

Arizona

Cambrian slide breccia, Grand canyon. R. P. Sharp. bibliog diags Am J Sci 238:668-72, pl 1 S '40

Ep-Archean and Ep-Algonkian erosion surfaces, Grand canyon. R. P. Sharp. map diags Geol Soc Bul 51:1235-69 bibliog(p1265-9) Ag '40

Three types of cross-lamination in paleozoic rocks of northern Arizona. E. D. McKee. bibliog maps Am J Sci 238:811-24 N '40

Bibliography

Bibliography of the geology and mineral resources of Arizona. E. D. Wilson. Arizona Bur of Mines Bul 146:1-164 '39 (pa 35c)

Atlantic coast

Status of geological and geophysical investigations on the Atlantic and Gulf coastal plain. L. D. Leet. map Geol Soc Bul 51: 873-86 bibliog(p885-6) Je '40

Barbados

Paleogene of Barbados and its bearing on history and structure of Antillean-Caribbean region. A. Senn. charts maps Am Assn Pet Geologists Bul 24:1548-1610 bibliog (85 titles, p 1607-10) S '40

Bolivia

Structure and mineral zoning of the Pailaviri section, Potosi. D. L. Evans. bibliog il map diag Econ Geol 35:737-50 S '40

British Columbia

Lower and middle Cambrian stratigraphy of southwestern Alberta and southeastern British Columbia. C. Deiss. diags maps Geol Soc Bul 51:731-93 bibliog(p792-3) pl 1-5 My '40

California

Eocene Yokut sandstone north of Coalinga. R. T. White. bibliog il map Am Assn Pet Geologists Bul 24:1722-51 O '40

Future oil possibilities of Newhall-Castaic district. D. Wosk. il diags Oil & Gas J 39:24-6 O 17 '40

Geology of the Covelo district, Mendocino county, California. S. G. Clark. il diags maps Univ of Calif Bul of Dept of Geological Sciences v 25 no 2:119-42 '40 (pa 25c)

Hat Creek lava flow. C. A. Anderson. diags maps Am J Sci 238:477-92, pl 1-2 Jl '40

Metamorphism in the southern Sierra Nevada northeast of Visalia, California. C. Durrell. il diags maps Univ of Calif Bul of Dept of Geological Sciences v 25 no 1:1-117 '40 (pa $1.25)

Petrology of Whittier conglomerates, southern California. G. J. Bellemin. bibliog il maps Am Assn Pet Geologists Bul 24:649-71 Ap '40

Sierra Nevada tectonic pattern. A. Locke, P. Billingsley and E. B. Mayo. map Geol Soc Bul 51:513-39 bibliog(p535-8) pl 1-2 Ap '40

Type locality of the cretaceous Chico formation. J. A. Taff, G. D. Hanna and C. M. Cross. map Geol Soc Bul 51:1311-27, pl 1-2 bibliog(p1323-4) S '40

Canada

Genetic relations of gold deposits and igneous rocks in the Canadian shield. E. S. Moore. bibliog Econ Geol 35:127-39 Mr '40

China

Geology of China. J. S. Lee. 528p $9 Nordemann pub. co, 215 4th av, New York '39

See also

Water, Underground
—China

Colombia

Jurassic-cretaceous (Girón) beds in Colombia and Venezuela. V. Oppenheim. bibliog il map Am Assn Pet Geologists Bul 24: 1611-19 S '40

Colorado

Geologic antiquity of the Lindenmeier site in Colorado. K. Bryan and L. L. Ray. diags maps Smithsonian Misc Coll v 99, no 2:1-76 bibliog(p72-6), pl 1-6 '40

Granites of the Front range, Colorado; the Indian Creek plutons. M. F. Boos and E. Aberdeen. bibliog diags maps Geol Soc Bul 51:695-730, pl 1-9 My '40

Ore deposits at Camp Albion, Boulder county. E. E. Wahlstrom. il maps Econ Geol 35: 477-500 Je '40

Paleozoic section in the vicinity of Dotsero. C. F. Bassett. map Geol Soc Bul 50:1851-65, pl 1-2 D '39

Rock glaciers in the Colorado Front range. R. L. Ives. bibliog diags map Geol Soc Bul 51:1271-94, pl 1-2 S '40

Tungsten deposits of Boulder county. T. S. Lovering. diags fold maps U S Geol S Bul 922-F:135-56 '40

Zonal mineralization and silicification in the Horseshoe and Sacramento districts. R. D. Butler and Q. D. Singewald. bibliog il diag maps Econ Geol 35:793-838 N '40

Connecticut

Fossil wood in the glacial drift of Connecticut. C. O. Dunbar and R. F. Flint. bibliog map Am J Sci 237:885-9, pl 1 D '39

New England intercollegiate field geologists 35th annual conference, Hartford, Conn., Oct. 20-22. Science 90:594 D 22 '39

Stagnation of ice in Connecticut. R. J. Lougee. Science 91:69-70 Ja 19 '40

England

Geology and development of Mill Close mine, Derbyshire. J. G. Traill. bibliog diags map Econ Geol 34:851-89 D '39

Geology of London and south-east England. G. M. Davies. 198p bibliog(p181-92) $2.75 Nordemann pub. co, New York '39

Gaspé peninsula

Paleontology and stratigraphy of the Silurian rocks of the Port Daniel-Black Cape region, Gaspé. S. A. Northrop. maps 28 pls Geol Soc Special Pa no 21:1-302 bibliog(p248-55) '39

Georgia

Oil search in Georgia covers wide front. A. C. Munyan. il maps Oil & Gas J 38:24-6+ Mr 14 '40

Greenland

Essays review: the petrology of the Skaergaard intrusion Kangerdlugssuaq, east Greenland by L. R. Wager and W. A. Deer. H. H. Hess. Am J Sci 238:372-8 My '40

Gulf coast

Status of geological and geophysical investigations on the Atlantic and Gulf coastal plain. L. D. Leet. map Geol Soc Bul 51: 873-86 bibliog(p885-6) Je '40

GEOLOGY—*Continued*

Hawaiian Islands

Geologic map and guide of the island of Oahu, Hawaii (with a chapter on mineral resources). H. T. Stearns. il diags Hawaii Dept of Public Lands, Division of Hydrography Bul 2:1-75, pl 1-6 '39

Iceland

Geysir in Iceland. T. F. W. Barth. diags Am J Sci 238:381-407; (Bibliography of Geysir and geyser action, 108 titles, p403-7) Je '40

Idaho

Aikinite and silver enrichment at the St Louis mine, Butte county. A. L. Anderson. il Econ Geol 35:520-33 Je '40

Geology and ore-deposits of the Atlanta district, Elmore county. A. L. Anderson. pls diag maps 71 numb l bibliog(l 2-3) Idaho. Bur. of mines and geol., Moscow '39

Grooved lava in the cross-section of Big Craters, Idaho. R. L. Nichols and C. E. Stearns. diags map Am J Sci 238:22-31, pl 1-3 Ja '40

Use of sedimentation features and cleavage in the recognition of overturned strata. P. J. Shenon and R. H. McConnel. bibliog il diags Econ Geol 35:430-44 My '40

Illinois

Elongate drift hills of southern Illinois. J. R. Ball. bibliog diag maps Geol Soc Bul 51: 951-70, pl 1 Jl '40

Geology of the Chicago region. J. H. Bretz. 118p Illinois State geological survey, Urbana '39

Glaciation of the Grays Lake, Illinois, quadrangle. W. E Powers and G. E. Ekblaw. bibliog maps Geol Soc Bul 51:1329-35 S '40

Mississippian border of eastern interior basin. J. M. Weller and A. H. Sutton. maps Am Assn Pet Geologists Bul 24:765-858 bibliog(102 titles, p855-8) My '40

Preliminary geologic map of the Mississippian formations in the Dongola, Vienna and Brownfield quadrangles. S. Weller and F. F. Krey. il fold map Ill State Geol S Rep of Invest 60:1-11 '39

Preliminary geological maps of the pre-Pennsylvanian formations in part of southwestern Illinois. S. Weller and J. M. Weller. fold maps Ill State Geol S Rep of Invest 59:1-15, pl 1-3 '39

Subsurface geology of Chester series in Illinois. L. E. Workman. diags maps Am Assn Pet Geologists Bul 24:209-24 F '40

Subsurface geology of Iowa (lower Mississippian) series in Illinois. J. N. Payne. diags map Am Assn Pet Geologists Bul 24:225-36 F '40

Subsurface geology of the Chester series in Illinois, by L. E. Workman; Subsurface geology of the Iowa (lower Mississippian) series in Illinois, by J. N. Payne. il diags maps Ill State Geol S Rep of Invest 61:209-36 bibliog(p236) '40

India

Geology of India. D. N. Wadia. 2d ed 460p $7.75 Macmillan '39

Indiana

Lower Mississippian rocks of the east-central interior. P. B. Stockdale. diags maps Geol Soc Special Pa no 22:1-248, pl 1-26 bibliog (p231-5) '39

Mississippian border of eastern interior basin. J. M. Weller and A. H. Sutton. maps Am Assn Pet Geologists Bul 24:765-858 bibliog(102 titles, p855-8) My '40

Kansas

Central Kansas uplift has several prolific pays. E. A. Koester. diags Oil & Gas J 39:50-1 Je 27 '40

Geology and ground-water resources of the Equus beds area in south central Kansas. S. W. Lohman and J. C. Frye. bibliog diags maps Econ Geol 35:839-66 N '40

Mississippian limestones in central and eastern Kansas. W. Lee. Oil & Gas J 39:102+ Je 27 '40

Relation of thickness of Mississippian limestones in central and eastern Kansas to oil and gas deposits. W. Lee. il diag maps Kansas Univ Geol S Bul 26:1-42 '39

Stratigraphy of Kansas. R. C. Moore. diags Oil & Gas J 39:73-4+ Je 27 '40

Kentucky

Lower Mississippian rocks of the east-central interior. P. B. Stockdale. diags maps Geol Soc Special Pa no 22:1-248, pl 1-26 bibliog (p231-5) '39

Mississippian border of eastern interior basin. J. M. Weller and A. H. Sutton. maps Am Assn Pet Geologists Bul 24:765-858 bibliog(102 titles, p855-8) My '40

Lake Superior region

Studies of the Lake Superior pre-Cambrian by accessory-mineral methods. S. A. Tyler and others. diags maps Geol Soc Bul 51: 1429-1537, pl 1-4 bibliog(p1533-7) O '40

Louisiana

Geology of Caldwell and Winn parishes. J. Huner, jr. 356p bibliog(p325-37) Louisiana. Geol. survey, Dept. of conservation, New Orleans '39

Quaternary history of Louisiana. R. J. Russell. maps Geol Soc Bul 51:1199-1233 bibliog(p1230-3) Ag '40

Subsurface miocene of southern Louisiana. A. C. Ellisor. diags 6 pls map Am Assn Pet Geologists Bul 24:435-75 Mr '40

Maine

Fossiliferous esker-like deposit. J. M. Trefethen and J. N. Harris. diag Am J Sci 238:408-12, pl 1 Je '40

Reconnaissance of the contact metamorphism of the Katahdin and Squaw Mountain intrusives. S. S. Philbrick. map Am J Sci 238:710-16, pl 1 O '40

Manitoba

Halfway Lake-Beresford Lake area, Manitoba. C. H. Stockwell and C. S. Lord. plans maps Canada Geol S Memoir 219:1-67 '39 (pa 25c)

Maryland

Crustal shortening and axial divergence in the Appalachians of southeastern Pennsylvania and Maryland. E. Cloos. diags maps fold table Geol Soc Bul 51:845-71 bibliog(p869-71) Je '40

Gravel and sand deposits of eastern Maryland adjacent to Washington and Baltimore. N. H. Darton. diags fold maps U S Geol S Bul 906-A:1-42, pl 1-10 '39

Massachusetts

Carboniferous topography in the vicinity of Boston. M. P. Billings, F. B. Loomis, jr. and G. W. Stewart. bibliog diags maps Geol Soc Bul 50:1867-84, pl 1 D '39

Faulted phyllite east of Greenfield. J. Keeler and C. Brainard. maps Am J Sci 238:354-65 My '40

Mexico

See also
Paleontology—
Mexico

Minnesota

Pre-Cambrian and Cambrian relations in east-central Minnesota. A. J. Crowley and G. A. Thiel. Am Assn Pet Geologists Bul 24:744-9 Ap '40

Rock series in diabase sills at Duluth, Minnesota. G. M. Schwartz and A. E. Sandberg. bibliog maps Geol Soc Bul 51:1135-71, pl 1-6 Ag '40

Studies of the Lake Superior pre-Cambrian by accessory-mineral methods. F. F. Grout and G. A. Thiel. Geol Soc Bul 51:1483-1518, pl 3-4 O '40

Mississippi

Possibility of further oil discovery in Mississippi. H. M. Morse. map Oil & Gas J 38: 19-20 D 7 '39

Tuscaloosa discovery heightens oil interest in Mississippi. G. Weber. diag map Oil & Gas J 39:62-3 S 19 '40

GEOLOGY—*Continued*

Mississippi valley

Contributions to a knowledge of the lead and zinc deposits of the Mississippi Valley region. E. S. Bastin, ed. diags maps 4 pls Geol Soc Special Pa no 24:1-156 bibliog (p145-52) '39

Montana

Mizpah coal field, Custer county. F. S. Parker and D. A. Andrews. fold maps U S Geol S Bul 906-C:85-133, pl 16-40 '39

Petrographic province of central Montana. E. S. Larsen. diags map Geol Soc Bul 51: 887-948 bibliog(p946-8) Je '40

Upper Cambrian formations in southern Montana. E. Dorf and C. Lochman. bibliog diag map Geol Soc Bul 51:541-56, pl 1-5 Ap '40

Nebraska

Box Butte member of the Sheep Creek formation. R. C. Cady. Am J Sci 238:663-7 S '40

Deep wells at Lincoln. G. E. Condra and E. C. Reed. il Nebraska Geol S Pa 15:1-25 bibliog(p25) '39

Nebraska in relation to the problems of pleistocene stratigraphy. A. L. Lugn. bibliog diags maps Am J Sci 237:851-84 D '39

Upper carboniferous formations in the lower Platte valley. G. E. Condra and O. J. Scherer. il Nebraska Geol S Pa 16:1-18 bibliog(p16-18) '39

Nevada

Devonian stratigraphy and paleontology of the Roberts Mountains region, Nevada. C. W. Merriam. diags maps Geol Soc Special Pa no 25:1-114 bibliog(p94-6), pl 1-16 '40

Geology of the Searchlight district, Clark county. E. Callaghan. diags plans map U S Geol S Bul 906-D:135-88, pl 41-52 bibliog (p138-9) '39

Geomorphology of the Ruby-East Humboldt range. R. P. Sharp. il maps Geol Soc Bul 51:337-71, pl 1-4 bibliog(p370-1) Mr '40

Goldbanks mining district, Pershing county. R. M. Dreyer. (Univ of Nevada Bul v 34, no 1) 38p 30c Nevada Bur. of Mines, Reno '40

Pinitized tuff of ceramic importance. P. F. Kerr. il diags map Am Cer Soc J 23:65-71 Mr '40

Tungsten-bearing manganese deposit at Golconda. P. F. Kerr. diags maps plan Geol Soc Bul 51:1359-89, pl 1-5 bibliog(p1388-9) S '40

See also
Comstock lode, Nevada

New Guinea

Metasomatism associated with tertiary mineralization in New Guinea. N. H. Fisher. maps Econ Geol 34:890-904 D '39

New Hampshire

Geologic conditions at Pittsburg, N.H. dam site. I. B. Crosby. Boston Soc C E J 27: 136-8 Ap '40

Geology of the Mt Chocorua quadrangle, New Hampshire. A. P. Smith, L. Kingsley and A. Quinn. 24p bibliog(p24) State planning and development commission, Concord, N.H. '39

Stone-rings on New Hampshire mountains. C. S. Denny. bibliog map Am J Sci 238: 432-8, pl 1-3 Je '40

New Jersey

Differentiation of the Palisade diabase. F. Walker. bibliog diags map Geol Soc Bul 51:1059-1105, pl 1-2 Jl '40

Weathering of the Jerseyan till. P. Mac Clintock. bibliog map Geol Soc Bul 51:103-15, pl 1-2 Ja '40

Zircon studies in the New Jersey Highlands. S. A. Tyler. map Am J Sci 238:260-71 Ap '40

New Mexico

Correlation of Pennsylvania rocks of New Mexico. C. E. Needham. bibliog Am Assn Pet Geologists Bul 24:1679-81 S '40

Geology and ore deposits of northeastern New Mexico (exclusive of Colfax county). G. T. Harley. diags maps New Mexico School of Mines, State Bur of Mines and Mineral Resources Bul 15:1-102 bibliog(p17-18) '40 (pa 60c)

New source for agate artifacts in central New Mexico. F. T. McCann. Science 92: 259 S 20 '40

Origin of Kilbourne Hole, New Mexico. P. Reiche. bibliog diags maps Am J Sci 238:212-25, pl 1-2 Mr '40

Probable lower Mississippian age of the Caballos novaculite. C. L. Baker. Am Assn Pet Geologists Bul 24:1679-81 S '40

Santa Fe formation in the Española valley, New Mexico. C. S. Denny. maps Geol Soc Bul 51:677-93, pl 1-4 bibliog(p692-3) My '40

New South Wales

Possibilities of heavy-mineral correlation of some Permian sedimentary rocks, New South Wales. D. Carroll. bibliog map Am Assn Pet Geologists Bul 24:636-48 Ap '40

New York (state)

Colored slates of Vermont and New York. D. M. Larrabee. il diags map Eng & Min J 140:47-53 D '39; 141:48-53 Ja '40

Geology of the Clyde and Sodus Bay quadrangles, New York. T. Gillette. (New York State museum bul. 320) 179p bibliog(p172-5) Univ. of the state of New York, Albany '40

Zinc and lead deposits of Shawangunk mountain, New York. A. I. Ingham. il map Econ Geol 35:751-60 S '40

New Zealand

Structural petrology of the schists of eastern Otago, New Zealand. F. J. Turner. diags maps Am J Sci 238:73-106, 153-91 bibliog(p191) F-Mr '40

Newfoundland

Geology and mineral deposits of the Baie d'Espoir area. W. B. Jewell. il map Newfoundland Geol S Bul 17:1-29 '39

Geology and mineral deposits of the Canada bay area, northern Newfoundland. F. Betz, jr. il diags map Newfoundland Geol S Bul 16:1-53 bibliog(p45-6) '39

Late quaternary changes of level in western and southern Newfoundland. R. F. Flint. bibliog maps Geol Soc Bul 51:1757-80, pl 1-5 N '40

Surface of Newfoundland. W. H. Twenhofel and P. Mac Clintock. bibliog diags maps Geol Soc Bul 51:1665-1727, pl 1-5 N '40

Wisconsin glaciation of Newfoundland. P. Mac Clintock and W. H. Twenhofel. bibliog diags maps Geol Soc Bul 51:1729-56, pl 1-4 N '40

North America

Physiographic provinces of North America. W. W. Atwood. 536p $4.80 Ginn '40

North Carolina

Pegmatites of the Spruce Pine district. C. S. Maurice. il maps Econ Geol 35:49-78, 158-87 bibliog(p185-7) Ja-Mr '40

North Dakota

Careful exploration required in North Dakota oil search. F. C. Foley. bibliog map Oil & Gas J 39:14-15 Jl 18 '40

Geology and coal resources of the Minot region. D. A. Andrews. diags fold maps U S Geol S Bul 906-B:43-84, pl 11-15 '39

Nova Scotia

Magnetite and hematite veins in Triassic lavas of Nova Scotia. A. P. Hornor, jr. il Econ Geol 34:921-30 D '39

Ohio

Lower Mississippian rocks of the east-central interior. P. B. Stockdale. diags maps Geol Soc Special Pa no 22:1-248, pl 1-26 bibliog (p231-5) '39

New evidence for an Illinoian glacial boundary in northeastern Ohio. H. A. Ireland. bibliog diags maps Geol Soc Bul 51:1337-57, pl 1 S '40

GEOLOGY—Ohio—*Continued*
Paleozoic and pre-Cambrian rocks of Vance well, Delaware county, Ohio. W. Stout and C. A. Lamey. Am Assn Pet Geologists Bul 24:672-92 Ap '40

Oklahoma

Geology and fuel resources of the southern part of the Oklahoma coal field; Howe-Wilburton district, Latimer and Le Flore counties. T. A. Hendricks. fold map U S Geol S Bul 874-D:255-300, pl 27-35 '39
Geology and ground water resources of Texas county. S. L. Schoff. diags maps Oklahoma Geol S Bul 59:1-248, pl 1-5 '39
Ground water in the Oklahoma Panhandle. S. L. Schoff. maps Econ Geol 35:534-45 Je '40
Morrow group of Adair county. C. A. Moore. il diags map Am Assn Pet Geologists Bul 24:409-34 Mr '40
Progress report on the classification of the timbered hills and Arbuckle groups of rocks, Arbuckle and Wichita mountains. C. E. Decker. maps Oklahoma Geol S Circ 22:1-62, pl 1-5 '39
Results of recent field studies in Osage, Washington, and Nowata counties. M. C. Oakes. map Am Assn Pet Geologists Bul 24: 716-30 Ap '40
Subsurface geology and oil and gas resources of Osage county. N. W. Bass and others. fold maps U S Geol S Bul 900-A:1-45 '38; 900-B:45-82; 900-C:83-129 '39; 900-D:131-71 '40

Ontario

Archean mylonite from northwestern Ontario. J. D. Bateman. bibliog Am J Sci 238:742-50, pl 1-2 O '40
Geology of the Keefer-Eldorado area. W. D. Harding and L. G. Berry. 26p Ontario. Dept. of mines, Toronto '39
Geology of the south Onaman area. W. W. Moorhouse. 30p Ontario. Dept. of mines, Toronto '39
Granitization near Killarney, Ontario. T. T. Quirke. bibliog maps Geol Soc Bul 51:237-53, pl 1-2 F '40
Petrology of the alkaline intrusive at Blue mountain, Ontario. M. L. Keith. bibliog diag map Geol Soc Bul 50:1795-1826, pl 1 D '39
Rock alteration in the Uchi gold area. J. D Bateman. bibliog il map Econ Geol 35:382-404 My '40
Tin in Ontario. R. T. Hancock. Can Min J 61:224-5 Ap '40

Oregon

Geology and ground-water resources of the Harney basin. A. M. Piper, T. W. Robinson and C. F. Park, jr. fold maps U S Geol S Water-supply Pa 841:1-189, pl 1-20 '39

Pacific basin

Structure of the Pacific basin as indicated by earthquakes. B. Gutenberg. Science 90:456-8 N 17 '39

Pennsylvania

Crustal shortening and axial divergence in the Appalachians of southeastern Pennsylvania and Maryland. E. Cloos. diags maps fold table Geol Soc Bul 51:845-71 bibliog(p869-71) Je '40
Devonian of Pennsylvania: middle and upper Devonian, by B. Willard; Keyser limestone and Helderberg group, by F. M. Swartz; Oriskany group, by A. B. Cleaves. 481p bibliog(p434-45) Pennsylvania. Topographic and geologic survey, Harrisburg '39
Geology and mineral resources of York county, Pennsylvania. G. W. Stose and A. I. Jonas. 199p Pennsylvania. Topographic and geologic survey, Harrisburg '39
Guide to the geology from Dauphin to Sunbury. B. Willard. 24p bibliog(p18-19) Topographic and geologic survey, Dept. of internal affairs, Harrisburg '39
Guide to the geology of the upper Schuylkill valley. B. Willard. 23p bibliog(p21-3) Topographic and geologic survey, Dept. of internal affairs, Harrisburg '39
Guidebook to places of geologic interest in the Lehigh valley, Pennsylvania. B. L. Miller. 47p bibliog(p23-4) Pennsylvania. Topographic and geologic survey, Harrisburg '39
Guidebook to the geology about Pittsburgh. H. Leighton. 35p bibliog(p34-5) Topographic and geologic survey, Dept. of internal affairs, Harrisburg '39
Guidebook to the geology near Reading, Pa. B. Willard and D. M. Fraser. 27p bibliog(p23-4) Topographic and geologic survey, Dept. of internal affairs, Harrisburg '39
Highway geology, Philadelphia to Pittsburgh. B. Willard. 42p bibliog(p27-8) Topographic and geologic survey, Dept. of internal affairs, Harrisburg '39
Northampton county, Pennsylvania; geology and geography. B. L. Miller. 496p bibliog (p13-55) Dept. of internal affairs, Topographic and geologic survey, Harrisburg, Pa. '39
Some structural features of the Northern Anthracite coal basin. N. H. Darton. fold map U S Geol S Professional Pa 193-D: 69-81, pl 10-19 '40
Tyrone quadrangle; geology and mineral resources. C. Butts, F. M. Swartz and B. Willard. 118p Pennsylvania. Topographic and geologic survey, Harrisburg '39

Persia

Geology of eastern Iran. F. G. Clapp. diags maps Geol Soc Bul 51:1-101, pl 1-13 bibliog (p90-5) Ja '40

Quebec

Distribution and structural control in Malartic area. H. C. Gunning and J. W. Ambrose. Can Min J 61:660-1 O '40

Rocky Mountain region

Permian in parts of Rocky Mountain and Colorado Plateau regions. A. A. Baker and J. S. Williams. diags map Am Assn Pet Geologists Bul 24:617-35 Ap '40

Russia

Type Permian; its classification and correlation. C. O. Dunbar. bibliog diags maps Am Assn Pet Geologists Bul 24:237-81 F '40; Discussion. 24:1128-33 Je '40

South Africa

Geology of South Africa. A. L. du Toit. 2d ed rev & enl 539p 28s Oliver and Boyd, Edinburgh, London '39

South Dakota

Magnetic survey of south-central South Dakota. W. H. Jordan; E. P. Rothrock. pl diags maps S D State Geol S [Vermillion] Rep of Invest 33:1-19 '40
Oil possibilities of South Dakota still unknown. E. P. Rothrock. il maps Oil & Gas J 39:18-19 My 30 '40
Structural survey of northeastern Stanley county. J. P. Gries. bibliog il diags map S D State Geol S [Vermillion] Rep of Invest 34:1-52 '40

Superior, Lake

Geology of the anorthosites of the Minnesota coast of Lake Superior. F. F. Grout and G. M. Schwartz. (Minn. geol. survey bul. no. 28) 119p bibliog(p4-5) $3 Univ. of Minnesota press, Minneapolis '39

Tennessee

Foundation exploration and geologic studies at Chickamauga dam. P. P. Fox. il diags map Am Soc C E Proc 66:463-77 Mr '40

Texas

Clay County geology still little known. R. M. Sanford. il map Oil & Gas J 38:12-13 Ja 11 '40
Concentric patterns in the granites of the Llano-Burnet region. D. Keppel. bibliog diags maps Geol Soc Bul 51:971-99, pl 1-5 Jl '40
Igneous rocks of the Terlingua-Solitario region, Texas. J. T. Lonsdale. bibliog diags map Geol Soc Bul 51:1539-1626, pl 1-7 O '40

GEOLOGY—Texas—*Continued*
Little known of geology in Fort Worth basin play. R. M. Sanford. diag map Oil & Gas J 39:97-8 My 16 '40
Marine pleistocene of Texas. H. G. Richards. Geol Soc Bul 50:1885-98, pl 1-3 bibliog(p1897-8) D '39
New zone in Cook Mountain formation, the crassatella texalta Harris, turritella cortezi Bowles zone. H. B. Stenzel. il Am Assn Pet Geologists Bul 24:1663-75 S '40
Stratigraphy and structure of the Devil Ridge area, Texas. J. F. Smith, jr. bibliog diag maps Geol Soc Bul 51:597-637, pl 1-6 Ap '40
West Texas-New Mexico symposium. R. K. DeFord and others. maps Am Assn Pet Geologists Bul 24:1-156 Ja '40

See also
Petroleum—Texas

United States

Proceedings of the Geological society of America for 1939. Geol Soc Proc 1939:1-292, pl 1-14 Je '40

See also
Coastal plains

Utah

Geographic and geologic sketch of the Capitol Reef region. H. E. Gregory and J. C. Anderson. bibliog diag maps Geol Soc Bul 50:1827-50, pl 1-9 D '39
Glaciation in the Wasatch plateau. E. M. Spieker and M. P. Billings. bibliog il maps Geol Soc Bul 51:1173-97, pl 1-5 Ag '40
Proterozoic (?) rocks in Utah. A. J. Eardley and R. A. Hatch. bibliog diags maps Geol Soc Bul 51:795-843 Je '40

Venezuela

Jurassic-cretaceous (Girón) beds in Colombia and Venezuela. V. Oppenheim. bibliog il map Am Assn Pet Geologists Bul 24:1611-19 S '40

Vermont

Cauldron subsidence at Ascutney mountain, Vermont. R. W. Chapman and C. A. Chapman. bibliog diags Geol Soc Bul 51:191-211, pl 1 F '40
Colored slates of Vermont and New York. D. M. Larrabee. il diags map Eng & Min J 140:47-53 D '39; 141:48-53 Ja '40

Virginia

Geology of the Draper Mountain area. B. N. Cooper. il Virginia Geol S Bul 55:1-98, pl 1-23 '39
Geomorphology of the Catoctin belt. K. Ver Steeg. map Am J Sci 238:685-709, pl 1 O '40
Origin of the nelsonite dikes of Amherst county, Virginia. C. H. Moore, jr. bibliog il diag Econ Geol 35:629-45 Ag '40

Washington (state)

Bibliography

Bibliography and index of geology and mineral resources of Washington, 1814-1936. W. A. G. Bennett. Washington (state) Dept of Conservation and Development, Div. of Geol Bul 35:1-140 '39

West Virginia

Greenbrier county. P. H. Price and E. T. Heck. 846p West Virginia. Geological survey, Charleston '39
Limestones of West Virginia. J. B. McCue, J. B. Lucke and H. P. Woodward. 560p il diags map 38pls West Virginia. Geological survey, Morgantown '39
Petrography and correlation of deepwell sections in West Virginia and adjacent states. J. H. C. Martens. 255p West Virginia. Geol. survey, Morgantown '39

Wyoming

Archaeological survey of the high western plains; twelfth report, Further research work in the Black's Fork basin, southwest Wyoming, 1938-1939. E. B. Renaud. 93p bibliog(p92-3), pl 1-3 pa 75c Univ. of Denver, Dept. of anthropology, Colorado '40
Structural and volcanic problems in the southern Absaroka mountains. J. T. Rouse. bibliog maps Geol Soc Bul 51:1413-27, pl 1 S '40
Structural geology and physiography of the Teton Pass area, Wyoming. L. Horberg. 86p bibliog(p83-5) pa $1.50 Augustana library publications, Rock Island, Ill. '38

See also
Water, Underground—Wyoming

GEOLOGY, Stratigraphic
Applied paleontology. H. G. Schenck. il diags map Am Assn Pet Geologists Bul 24:1752-78 bibliog(p1772-8) O '40
Geology of eastern Iran. F. G. Clapp. diags maps Geol Soc Bul 51:1-101, pl 1-13 bibliog (p90-5) Ja '40
Stratigraphic measurements in parallel folds. J. B. Mertie, jr. bibliog Geol Soc Bul 51: 1107-34 Ag '40
Stratigraphy of Kansas. R. C. Moore. diags Oil & Gas J 39:73-4+ Je 27 '40
Structural geology and physiography of the Teton Pass area, Wyoming. L. Horberg. 86p bibliog(p83-5) pa $1.50 Augustana library publications, Rock Island, Ill. '38

See also
Glacial geology
Paleontology

Terminology

Time and stratigraphic terminology. A. H. Sutton. bibliog Geol Soc Bul 51:1397-1412 S '40

Algonkian

Proterozoic (?) rocks in Utah. A. J. Eardley and R. A. Hatch. diags maps Geol Soc Bul 51:795-843 bibliog(p841-3) Je '40

Cambrian

Lower and middle Cambrian stratigraphy of southwestern Alberta and southeastern British Columbia. C. Deiss. diags maps Geol Soc Bul 51:731-93 bibliog(p792-3) pl 1-5 My '40
Pre-Cambrian and Cambrian relations in east-central Minnesota. A. J. Crowley and G. A. Thiel. Am Assn Pet Geologists Bul 24:744-9 Ap '40
Proterozoic (?) rocks in Utah. A. J. Eardley and R. A. Hatch. diags maps Geol Soc Bul 51:795-843 bibliog(p841-3) Je '40
Upper Cambrian formations in southern Montana. E. Dorf and C. Lochman. bibliog diag map Geol Soc Bul 51:541-56, pl 1-5 Ap '40

Carboniferous

Carboniferous topography in the vicinity of Boston, Massachusetts. M. P. Billings, F. B. Loomis, jr. and G. W. Stewart. bibliog diags maps Geol Soc Bul 50:1867-84 D '39
Lower Mississippian rocks of the east-central interior. P. B. Stockdale. diags maps Geol Soc Special Pa no 22:1-248, pl 1-26 bibliog (p231-5) '39
Relation of thickness of Mississippian limestones in central and eastern Kansas to oil and gas deposits. W. Lee. il diag maps Kansas Univ Geol S Bul 26:1-42 '39
Subsurface geology of the Chester series in Illinois, by L. E. Workman; Subsurface geology of the Iowa (lower Mississippian) series in Illinois, by J. N. Payne. il diags maps Ill State Geol S Rep of Invest 61: 209-36 bibliog(p236) '40
Upper carboniferous formations in the lower Platte valley. G. E. Condra and O. J. Scherer. il Nebraska Geol S Pa 16:1-18 bibliog(p16-18) '39
Validity of the criteria for lower carboniferous glaciation in western Argentina. C. O. Dunbar. Am J Sci 238:673-5 S '40

Cenozoic

Paleogene of Barbados and its bearing on history and structure of Antillean-Caribbean region. A. Senn. charts maps Am Assn Pet Geologists Bul 24:1548-1610 bibliog (85 titles, p1607-10) S '40

GEOLOGY, Stratigraphic—*Continued*

Cretaceous

Jurassic-cretaceous (Girón) beds in Colombia and Venezuela. V. Oppenheim. bibliog il map Am Assn Pet Geologists Bul 24:1611-19 S '40

Stratigraphy and structure of the Devil Ridge area, Texas. J. F. Smith, jr. bibliog diag map Geol Soc Bul 51:597-637, pl 1-6 Ap '40

Type locality of the cretaceous Chico formation. J. A. Taff, G. D. Hanna and C. M. Cross. map Geol Soc Bul 51:1311-27, pl 1-2 bibliog(p1323-4) S '40

Devonian

Devonian of Pennylvania; middle and upper Devonian, by B. Willard; Keyser limestone and Helderberg group, by F. M. Swartz; Oriskany group, by A. B. Cleaves. 481p bibliog(p434-45) Pennsylvania. Topographic and geologic survey, Harrisburg '39

Devonian stratigraphy and paleontology of the Roberts mountains region, Nevada. C. W. Meriam. il pls maps Geol Soc Special Pa no 25:1-114 bibliog(p94-6) '40 (pa $1)

Eocene

Coal in eocene, near Bakersfield, Calif. R. W. Clark. diag Am Assn Pet Geologists Bul 24:1676-9 S '40

Eocene Yokut sandstone north of Coalinga, California. R. T. White. bibliog il map Am Assn Pet Geologists Bul 24:1722-51 O '40

New zone in Cook Mountain formation, the crassatella texalta Harris, turritella cortezi Bowles zone. H. B. Stenzel. il Am Assn Pet Geologists Bul 24:1663-75 S '40

Sparta-Wilcox trend, Texas and Louisiana. J. D. Todd and F. C. Roper. il map Am Assn Pet Geologists Bul 24:701-15 Ap '40

Jurassic

Jurassic-cretaceous (Girón) beds in Colombia and Venezuela. V. Oppenheim. bibliog il map Am Assn Pet Geologists Bul 24: 1611-19 S '40

Mesozoic

Geographic and geologic sketch of the Capitol Reef region, Utah. H. E. Gregory and J. C. Anderson. bibliog diag maps Geol Soc Bul 50:1827-50, pl 1-9 D '39

Miocene

Subsurface miocene of southern Louisiana. A. C. Ellisor. diags 6pls map Am Assn Pet Geologists Bul 24:435-75 Mr '40

Paleozoic

Paleozoic and pre-Cambrian rocks of Vance well, Delaware county, Ohio. W. Stout and C. A. Lamey. Am Assn Pet Geologists Bul 24:672-92 Ap '40

Paleozoic limestone of Turner valley, Alberta, Canada. W. D. C. Mackenzie. il diags Am Assn Pet Geologists Bul 24:1620-40 S '40

Paleozoic section in the vicinity of Dotsero, Colorado. C. F. Bassett. map Geol Soc Bul 50:1851-65, pl 1-2 D '39

Paleozoic stratigraphy of Franklin mountains, west Texas. L. A. Nelson. bibliog diags Am Assn Pet Geologists Bul 24:157-72 Ja '40

Progress report on the classification of the timbered hills and Arbuckle groups of rocks, Arbuckle and Wichita mountains, Oklahoma. C. E. Decker. maps Oklahoma Geol S Circ 22:1-62, pl 1-5 '39

Three types of cross-lamination in paleozoic rocks of northern Arizona. E. D. McKee. bibliog maps Am J Sci 238:811-24 N '40

Upper paleozoic section of Chinati mountains, Presidio county, Texas. J. W. Skinner. il maps Am Assn Pet Geologists Bul 24:180-8 Ja '40

Permian

Astronomical hypothesis to explain Permian glaciation; ring of small satellites about the earth. R. L. Ives. diags map Franklin Inst J 230:45-74 bibliog(p71-4) Jl '40; Abstract. Science 92:sup6-7 Ag 16 '40

Carboniferous-Permian boundary. R. C. Moore. diags Am Assn Pet Geologists Bul 24:282-336 bibliog(p328-36) F '40

Classification of Permian rocks; the Association subcommittee on the Permian. C. W. Tomlinson and others. Am Assn Pet Geologists Bul 24:337-58 F '40

Permian in parts of Rocky Mountain and Colorado Plateau regions. A. A. Baker and J. S. Williams. diags map Am Assn Pet Geologists Bul 24:617-35 Ap '40

Possibilities of heavy-mineral correlation of some Permian sedimentary rocks, New South Wales. D. Carroll. bibliog map Am Assn Pet Geologists Bul 24:636-48 Ap '40

Type Permian; its classification and correlation. C. O. Dunbar. bibliog diags maps Am Assn Pet Geologists Bul 24:237-81 F '40; Discussion. 24:1128-33 Je '40

Pleistocene

Marine pleistocene of Texas. H. G. Richards. Geol Soc Bul 50:1885-98, pl 1-3 bibliog(p1897-8) D '39

Nebraska in relation to the problems of pleistocene stratigraphy. A. L. Lugn. bibliog diags maps Am J Sci 237:851-84 D '39

Pleistocene features of the Atlantic coastal plain; review of the literature. R. F. Flint. fold map Am J Sci 238:757-87 bibliog (p785-7) N '40

See also
Glacial geology
Terraces (geology)

Pre-Cambrian

Concentric patterns in the granites of the Llano-Burnet region, Texas. D. Keppel. bibliog diags maps Geol Soc Bul 51:971-99, pl 1-5 Jl '40

Ep-Archean and Ep-Algonkian erosion surfaces, Grand canyon, Arizona. R. P. Sharp. map diags Geol Soc Bul 51:1235-69 bibliog(p1265-9) Ag '40

Geology of the anorthosites of the Minnesota coast of Lake Superior. F. F. Grout and G. M. Schwartz. (Minn. geol. survey bul. no. 28) 119p bibliog(p4-5) $3 Univ. of Minnesota press, Minneapolis '39

Granites of the Front range, Colorado; the Indian Creek plutons. M. F. Boos and E. Aberdeen. bibliog diags maps Geol Soc Bul 51:695-730, pl 1-9 My '40

Paleozoic and pre-Cambrian rocks of Vance well, Delaware county, Ohio. W. Stout and C. A. Lamey. Am Assn Pet Geologists Bul 24:672-92 Ap '40

Pre-Cambrian and Cambrian relations in east-central Minnesota. A. J. Crowley and G. A. Thiel. Am Assn Pet Geologists Bul 24:744-9 Ap '40

Studies of the Lake Superior pre-Cambrian by accessory-mineral methods. S. A. Tyler and others. diags maps Geol Soc Bul 51: 1429-1537, pl 1-4 bibliog(p1533-7) O '40

Zircon studies in the New Jersey Highlands. S. A. Tyler. map Am J Scl 238:260-71 Ap '40

Quaternary

Late quaternary changes of level in western and southern Newfoundland. R. F. Flint. bibliog maps Geol Soc Bul 51:1757-80, pl 1-5 N '40

Quaternary history of Louisiana. R. J. Russell. maps Geol Soc Bul 51:1199-1233 bibliog(p1230-3) Ag '40

Silurian

Paleontology and stratigraphy of the Silurian rocks of the Port Daniel-Black Cape region, Gaspé. S. A. Northrop. maps 28 pls Geol Soc Special Pa no 21:1-302 bibliog(p248-55) '39

Tertiary

Metasomatism associated with tertiary mineralization in New Guinea. N. H. Fisher. maps Econ Geol 34:890-904 D '39

Propylitization and related types of alteration on the Comstock lode. R. Coats. Econ Geol 35:1-16 Ja '40

Tertiary forests and continental history. R. W. Chaney. maps Geol Soc Bul 51:469-88, pl 1-2 bibliog(p487-8) Mr '40

GEOLOGY, Stratigraphic—*Continued*

Triassic

Faulted phyllite east of Greenfield, Massachusetts. J. Keeler and C. Brainard. maps Am J Sci 238:354-65 My '40

GEOMAGNETISM. See Magnetism, Terrestrial

GEOMETRY

Elementary mathematics from an advanced standpoint: geometry. F. Klein. 3d ed 214p $3.50 Macmillan '39

Mathematical symposium at the University of Notre Dame; Foundations of topology. K. Menger. Science 91:398-9 Ap 26 '40

New geometry. A. W. Siddons and K. S. Snell. 302p $1.32 Macmillan '38

See also

Pythagorean proposition

GEOMETRY, Analytic

Brief course in analytics. M. A. Hill, jr. and J. B. Linker. 204p $1.36 Holt '40

Elements of analytic geometry. C. E. Love. 2d ed 159p $1.75 Macmillan '40

GEOMETRY, Descriptive

Engine mount analysis by means of descriptive geometry. C. R. Kramer. Aero Digest 37:52, 55-6 Ag '40

GEOMETRY, Differential

Metric differential geometry of curves and surfaces. E. P. Lane. 216p bibliog(p212) $3 Univ. of Chicago press '40

GEOMETRY, Plane

New trend geometry; first course. A. Leonhardy, M. Joseph and R. D. McLeary. 494p $1.48 Charles E. Merrill co, New York '40

GEOMETRY, Solid

Solid geometry. G. C. Bartoo and J. Osborn. 298p bibliog(p292) $1.20 Webster pub. co, St Louis '40

GEOPHYSICS

Les essais de géophysique pour la mesure des propriétés des sols et des terrains. Y. Poisson. diags Génie-Civil 116:276-80, 291-4 Ap 27-My 4 '40

Experimental flow of rocks under conditions favoring recrystallization. D. Griggs. bibliog diags Geol Soc Bul 51:1001-22, pl 1-2 Jl '40

Flow in stressed solids; an interpretation. R. W. Goranson. bibliog Geol Soc Bul 51: 1023-33 Jl '40

Geophysical exploration. C. A. Heiland. 1013p $10; school ed $8 Prentice-Hall '40

Geophysical exploration in 1939. S. F. Kelly. il Min & Met 21:41-4 Ja '40

Geophysics. E. A. Eckhardt. diags Am Assn Pet Geologists Bul 24:1377-85 Ag '40

Partnership between geology and geophysics in prospecting for oil. E. A. Eckhardt. Am Assn Pet Geologists Bul 24:1204-8 Jl '40

Sixth Washington conference on theoretical physics, March 21-23. E. Teller and M. A. Tuve. Science 91:621-3 Je 28 '40

Status of geological and geophysical investigations on the Atlantic and Gulf coastal plain. L. D. Leet. map Geol Soc Bul 51:873-86 bibliog(p885-6) Je '40

Strength and structure of the earth. R. A. Daly. 434p $3.50 Prentice-Hall '40

Symposium on geophysics in modern life a great success; American institute of mining and metallurgical engineers. Min & Met 21:151 Mr '40

See also

Auroras
Earth pressure
Earthquakes
Gravity
Magnetism, Terrestrial
Meteorology
Prospecting—Geophysical methods
Sedimentation and deposition
Weathering

Bibliography

Geophysical abstracts 96; January-March 1939. W. Ayvazoglou, comp. U S Geol S Bul 915-A:1-48 '40

Geophysical abstracts 97, April-June, 1939. W. Ayvazoglou, comp. U S Geol S Bul 915-B:49-86 '40

Geophysical abstracts 98, July-September, 1939. W. Ayvazoglou, comp. U S Geol S Bul 915-C:87-132 '40

GEORGE, Walter Franklin, 1878-

Portrait. Business Week p65 N 16 '40

GEORGEN, Lawrence C.

Wins medal and eight bars for saving nine lives by resuscitation. por Nat Safety N 42:19 Jl '40

GEORGIA

Georgia; a guide to its towns and countryside. 559p bibliog(p530-8) $2.50 Univ. of Georgia press, Athens '40

Commerce

Report of port study, Georgia. 118p State planning board of Georgia, box 270, East Point, Ga. '39

Industries and resources

Industrialization as a means to southern progress. pa 10c Georgia school of technology, Atlanta '40

Profits in Georgia industry. il map Manuf Rec Extra no 109:109-14, 118-20+ S '40

GEORGIA power company

Utility and town share benefits of cooperative load building campaign. il Ptr Ink Mo 40:22 Mr '40

GEORGIA school of technology

Joins school and mill training; cooperative course. J. E. McDaniel. il Textile World 90:50 Mr '40

GEORGIA southern and Florida railway

Traffic statistics and income statement, 1936-39. Comm & Fin Chr 150:2726-7 Ap 27 '40

GEOSYNCLINES. See Synclines

GERANIC acid

Resolution of *dl*-Δ^2-*cyclo*geranic acid. D. J. Bennett, G. R. Ramage and J. L. Simonsen. Chem Soc J p418-19 Ap '40

GERANIOL

Addition of $\alpha\beta$-unsaturated alcohols to the active methylene group; the action of ethyl acetoacetate on linalool and geraniol. M. F. Carroll. Chem Soc J p704-6 Je '40

Bleugenol in a commercial geraniol. H. A. Jones and H. L. Haller. Am Chem Soc J 62:2558-9 S '40

GERANYLACETONE

Addition of $\alpha\beta$-unsaturated alcohols to the active methylene group; the action of ethyl acetoacetate on linalool and geraniol. M. F. Carroll. Chem Soc J p704-6 Je '40

GERIATRICS. See Old age

GERMAN language

Advanced readings in chemical and technical German from practical reference books. J. T. Fotos and R. N. Shreve, eds. 304p $2.50 Wiley '40

Glossaries, vocabularies, etc.

German-English glossary for civil engineering. A. A. Brielmaier. Ill U Eng Exp Sta Circ 40:1-37 '40 (pa 45c)

GERMANIUM

Infrared arc spectrum of germanium. C. C. Kiess. bibliog J Research Nat Bur Stand 24:1-5 Ja '40

GERMANIUM compounds

See also

Chlorogermane
Dichlorogermane

GERMANIUM tetraphenyl

Preparation of tetraphenyl germanium. D. E. Worrall. Am Chem Soc J 62:3267 N '40

GERMANS in the United States

Tragedy of German-America; the Germans in the United States of America during the nineteenth century, and after. J. A. Hawgood. 334p bibliog(p311-29) $3 Putnam '40

War of nerves: U.S. front; Nazi agents in United States. il Fortune 22:46-51+ O '40

GERMANY

Fortune survey; Europe's villains; which nation do you regard as the worst influence? Fortune 21:102 Mr '40

GERMANY—*Continued*
German interests and policies in the Far East. K. Bloch. 75p pa $1 Am. council, Inst. of Pacific relations, 129 E. 52d st, New York '40
Hitler's Germany; the Nazi background to war. K. Loewenstein. new ed rev 230p $1.75 Macmillan '40
The other Germany. E. Mann and K. Mann. 318p $2.75 Modern age books, New York '40
Refugee. C. Leiser, tr. 308p $2.50 Prentice-Hall '40
Voice of destruction. H. Rauschning. 295p $2.75 Putnam '40
Within Germany; with an epilogue, England at war. O. G. Villard. 87p $1 Appleton-Century '40

See also
Aluminum industry and trade—Germany
Chemical industries—Germany
Chemistry—Germany
Copper industry and trade—Germany
Debts, Public—Germany
European war, 1939—Germany
Fertilizer industry—Germany
Finance—Germany
Iron ores—Germany
Labor laws and legislation—Germany
Money—Germany
Oil industries—Germany
Pensions, Military—Germany
Petroleum industry and trade—Germany
Public health—Germany
Steel industry and trade—Germany
Steel works—Germany
Technical education—Germany
Woman—Germany

Biography

Caesars in goose step. W. D. Bayles. 262p $3 Harper '40

Colonies

German colonial claim. L. S. Amery. 199p $2.50 Longmans '40
Germany's claims to colonies. F. S. Joelson. 343p $2.75 Ryerson press '39
Germany's colonial demands. A. L. C. Bullock, ed. 274p $2.75 Oxford '39
Peaceful change and the colonial problem. B. Wood. 166p $2 Columbia univ. press '40
Searchlight on German Africa; the diaries and papers of Dr W. Ch. Regendanz; a study in colonial ambitions. F. W. Pick. 178p $1.50 Norton '39

Commerce

Antwerp and German trade. Economist 137: 375 D 9 '39
Belligerents' trade in Europe. Economist 137: 373-4 D 9 '39
Economic war begins in earnest; allied blockade of all German exports. Business Week p41 D 2 '39
End of German exports; British and French embargo. Economist 137:278-9 N 25 '39
Germany resumes trade with Norway. Comm Rep p688 Ag 10 '40
Great Britain and France embargo exports from Germany; neutrals protest. Comm & Fin Chr 149:3473, 3643 D 2-9 '39
Is the British blockade effective? our 1939 trade with Germany. J. W. Hazard. Barron's 20:7 F 12 '40
Neue möglichkeiten im deutsch-russischen wirtschaftsaustausch. Stahl & Eisen 59: 1397-8 D 28 '39
On the world economic front; neutral trade with Germany; prices rising. W. W. Case. Annalist 55:552-3 Ap 18 '40
Problems and political implications of the finance of German-Russian trade. G. Reimann. Annalist 55:747+ My 30 '40
Soviet-German trade prospects. Economist 139:338-9 S 14 '40
Summary tables relating to the foreign trade of Germany. 9p pa 25c Canada. Dominion bur. of statistics, Ottawa '39

Commercial policy

Coming Nazi struggle for world trade. M. Palyi. il Am Business 10:14-16+ Ag '40
Dr Albert Degner declares Germany will drop barter system if victorious. Comm & Fin Chr 150:4058 Je 29 '40
Germany and the Balkans. Economist 138: 507-9 Mr 23 '40
Nazis score in Latin America; cash guarantee of October delivery. Business Week p47-8 Jl 27 '40
Third Reich in Latin America: main forces in the coming trade battle. G. Reimann. Annalist 56:72-3+ Jl 18 '40
Uncertainty as to expected Nazi assault on Britain and its probable outcome. W. W. Case. Annalist 56:169-70 Ag 8 '40

Economic conditions

Battle against time; a survey of the Germany of 1939 from the inside. H. Hauser. 386p $3 Scribner '39
Business situation. Published in Commerce reports [cont as Foreign commerce weekly beginning O 5]
Business situation at the end of 1939. Comm Rep p175-7 F 24 '40
Can Germany stand the strain? L. P. Thompson. 29p pa 15c Farrar '39
Distribution of wealth and income under the Nazis. M. Y. Sweezy. bibliog R Econ Statis 21:178-84 N '39
German military successes affect business situation. Comm Rep p747-9 S 7 '40
Germany at war. Economist 137:212 N 11 '39 [cont weekly]
Germany feels pinch. Business Week p30-1 D 30 '39
Germany in 1939. Economist 138:sup 13-14 F 17 '40
Germany's clearing debts. Economist 137:512-13 D 30 '39
Germany's economic gains in Poland. Economist 137:414-15 D 16 '39
Shortage of tin in Germany; economy and substitution in the use of packaging materials. Science 32:sup6 Ag 23 '40
What Germany forgot. J. T. Shotwell. 152p $1.50 Macmillan '40
Why Germany has to win a quick victory or lose the war. V. L. Horoth, pseud. il Mag of Wall St 66:209-11+ Je 1 '40

Economic history

German economy, 1870-1940; issues and trends. G. Stolper. 295p bibliog(p277-83) $3 Reynal & Hitchcock, 386 4th av, New York '40

Economic policy

Capital in a democracy; economic lessons for America of European capitalism's collapse. A. F. Schlomann. Trusts & Estates 71:119-24 Ag '40
Doing business under Hitler. F. Beyer. Iron Age 144:31-3+ N 23 '39
East holds fate of Germany. Business Week p43-4 N 25 '39
Economic mobilization of the western hemisphere. J. Lloyd. il Mag of Wall St 66:394-7+ Jl 13 '40
German economy, 1870-1940, issues and trends. G. Stolper. 295p bibliog(p277-83) $3 Reynal & Hitchcock, New York '40
Goering takes reins; coordinator of economics in Reich. Business Week p47-8 Ja 13 '40
How the Germans buy their clothes; Reich clothing card. il Business Week p52 D 16 '39
Industry collectively guarantees emergency credits. For Comm W 1:106 O 19 '40
Is Germany's secret weapon work? W. K. Smith. il Nation's Business 28:20-2+ N '40
Nazis prepare economic offensive; European consolidation. Business Week p20+ S 28 '40
Reich rations clothes. Business Week p45 N 25 '39

Foreign relations

Encirclement. J. L. Brierly. 32p pa 15c Farrar '39
End of the armistice. G. K. Chesterton. 224p $2 Sheed & Ward, New York '40
Europe and the German question. F. W. Foerster. 474p $3.50 Sheed & Ward, New York '40
Failure of a mission, Berlin 1937-1939. N. Henderson. 334p $3 Putnam '40

GERMANY—Foreign relations—*Continued*
Germany, Italy and Japan sign political, military and economic treaty. Comm & Fin Chr 151:1812 S 28 '40
Monroe doctrines, Pan-American, Japanese, and German. Economist 139:147-8 Ag 3 '40
They wanted war. O. D. Tolischus. 340p $3 Reynal & Hitchcock, New York '40
See also
Czechoslovakia—Partition

Great Britain

Publicity and diplomacy; with special reference to England and Germany, 1890-1914. O. J. Hale. 481p $4 Appleton-Century '40

Russia

Hitler and Stalin, friends or foes? H. C. Wolfe. Barron's 20:8 Ag 19 '40
Imperial conflicts in the Balkans; Germany and Russia. R. Strausz-Hupé. map Barron's 20:3 Jl 15 '40
Nazi-red riddle. Business Week p52-3 D 16 '39
Russian German riddle: rivals or partners? R. Strausz-Hupé. 17p pa 20c Univ. of Pennsylvania press, Philadelphia '40

Industries and resources

Austrian and Czech industry in the war. Economist 138:375-6 Mr 2 '40
Berlin rules new business empire. Business Week p47-8 Je 29 '40
Blockade shapes the course of war; adequacy of Nazi war materials rather than of food is the clue. R. Strausz-Hupé. map Barron's 20:3+ Ap 15 '40
Control over occupied territories improves economic position of the Reich. Chem & Met Eng 47:500-2 Jl '40
Germany intensifies search for metals, grains, mineral oils and other materials. Chem & Met Eng 46:738 N '39
Germany plans more intensive agricultural effort to meet wartime food demands. Chem & Met Eng 47:260 Ap '40
Germany; the economic area; fate depends on what she can get from U.S.S.R. and other neutrals. il maps Fortune 20:92-6+ D '39
Germany's vulnerability; geographical distribution of industry in Britain and Germany from the point of view of attack from the air. Economist 137:243-5 N 18 '39; Excerpts. Engineer 168:549 D 1 '39
Packing material substitutes in Germany. Comm Rep p695 Ag 10 '40

Navy

Robot raiders. il Business Week p20 S 28 '40

Politics and government

Convert to freedom. E. W. Dobert. 337p $3 Putnam '40
National socialism and Christianity. N. Micklem. 32p bibliog(p32) pa 15c Farrar '39
Nemesis? the story of Otto Strasser and the black front. D. Reed. 275p $2.75 Houghton '40

GERMICIDES. See Disinfection and disinfectants

GERMINATION
Oxygen requirements for germination of seeds of nyssa aquatica, tupelo gum. I. V. Shunk. Science 90:565 D 15 '39

GESTURE
Language of gesture. M. Critchley. 128p $1.75 Longmans '39

GETCHELL, J. Stirling, Incorporated
Getchell's Dr Dichter. Sales Management 46: 42 Ap 1 '40

GETTER action. See Vacuum

GEUM
Brown dyes from the species of geum. C. D. Mell. Textile Col 62:412-13 Je '40

GEYSERS
Geysir in Iceland. T. F. W. Barth. diags Am J Sci 238:381-407; (Bibliography of Geysir and geyser action, 108 titles, p403-7) Je '40
See also
Hot springs

GEYSIR, Iceland
Geysir in Iceland. T. F. W. Barth. diags Am J Sci 238:381-407; (Bibliography of Geysir and geyser action, 108 titles, p403-7) Je '40

GIBBS, Willard, medal
Award of the Willard Gibbs medal to Dr Vladimir N. Ipatieff. Science 90:486 N 24 '39
Veteran authority on catalysis awarded Willard Gibbs medal; Dr Vladimir N. Ipatieff. Nat Pet N 32:R8 Ja 10 '40
Willard Gibbs medal award. Ind & Eng Chem News ed 18:494 Je 10 '40

GIDDINGS and Lewis machine tool company
To increase stock. Comm & Fin Chr 151:2800 N 9 '40

GIFT packages. See Package goods—Gift packages

GIFT shops
Junior league shop, Grosse Pointe, Mich.; views, plans, finishes and equipment. Arch Forum 71:435 D '39

GIFT tax
How the law controls trust operations; recent developments in the taxation of trusts. L. R. Bloomenthal. bibliog Bankers Mo 57:282-4 My '40
Income, estate and gift tax provisions of the Internal revenue code; as amended by the Revenue act of 1940. 241p pa $1 Commerce clearing house '40
Insurance valuation; valuing single premium life insurance policies for gift tax purposes. D. Horne. Banking 32:36 My '40
Integration of gift and estate taxes; single transfer tax would obviate litigation over inter vivos gifts. G. T. Altman. Trusts & Estates 69:627-30 D '39
Taxability of revertible trust income; new decisions on estate levy suggest possible current savings. L. J. Freeman. Barron's 20:7 O 21 '40
Trends in trust taxation; federal gift and estate taxes; with case citations. W. E. Barton. Trusts & Estates 71:19-24 Jl '40
When gifts must pay estate taxes. L. J. Freeman. Barron's 20:8 S 30 '40

GIFT wrapping. See Department stores—Gift wrapping

GIFTS
See also
Christmas gifts
Department stores—Gift wrapping
Philanthropy

GIFTS (law)
Tax collector shadows Santa; when to deduct or include Christmas gifts in returns. L. J. Freeman. Barron's 19:7 D 4 '39
See also
Gift tax

GILD socialism
Political theory of Arthur J. Penty. A. D. Sokolow. 114p bibliog(p113-14) pa $1 Yale literary magazine, box 243A, Yale sta, New Haven, Conn. '40

GILDS
Ancient trade guilds. J. D. Little. il Metal Ind 38:257-9 My '40

GILL, Corrington
Six managers. por Fortune 22:55+ Ag '40

GILL, James Presley, 1896-
Sketch. por Metal Prog 37:142-4 F '40

GILLESPIE, George Joseph, 1870-
President of the New York board of water supply. por Explosives Eng 18:68-9 Mr '40

GILLETTE, Halbert Powers, 1869-
6,000 years of raindrops; H. P. Gillette's system of weather forecasting; reprinted from the Feb. 25 Sunday magazine of the Los Angeles times. E. Ainsworth. Roads & Sts 83:72, 74+ Mr '40

GILLETTE safety razor company
Statistics of income, capital, stock earnings, etc. 1929-39. Annalist 55:597 Ap 25 '40

GILSONITE
Process heating uses oil for heat transfer; insulation board production; Fir-Tex insulating board company uses Gilsonite as covering. R. M. Hermann. il diag Elec W 114:1319-20 N 2 '40
Utilization data sheet; heating asphalt and gilsonite for insulating board. A. L. Apperson. plan Elec West 84:43 Mr '40

GIMBEL brothers
Low price, active leverage stocks; thumbnail appraisal. Mag of Wall St 65:620 F 24 '40

GIN
Resistance of glass bottles to neutral alcoholic solutions. F. R. Bacon and O. G. Burch. Am Cer Soc J 23:147-51 My '40

GINORI-CONTI, Piero, prince, 1865-1939
Piero Ginori Conti; his work in chemistry; boric acid manufacture with volcanic steam. bibliog Ind & Eng Chem News ed 18:108 F 10 '40

Sketch. por Chem & Ind 59:99-100 F 10 '40

GIRARD life insurance company
Annual convention, Philadelphia. Spectator (Life ed) 144:18-19, 22 F 1 '40; Weekly Underw 142:326-7+ F 3 '40

Historical sketch. T. Eagan. il Spectator (Life ed) 145:17 S 26 '40

GIRBOTOL process. See Gas purification

GIRDERS
Design features of Thomas A. Edison bridge over Raritan river. M. Goodkind. il maps Civil Eng 10:491-4 Ag '40
Effective moment of inertia of a riveted plate girder. S. B. Lilly and S. T. Carpenter. il diags Am Soc C E Proc 65:1407-21 O '39; Discussion. 65:1807-18; 66:167-75, 357-62, 541-5, 984-9, 1089-96 D '39-Mr, My-Je '40
Pre-stressed 108-ft. girders in German bridge. G. N. Brekke. il diag Eng N 124:452 Mr 28 '40
Theory of elastic stability applied to structural design. L. S. Moisseiff and F. Lienhard. Am Soc C E Proc 66:31-70 bibliog(52 titles, p67-70) Ja '40
200-ton bridge girders; Thomas A. Edison bridge. il Can Eng R & B 78:64 Ap '40

See also
Airplane wings
Beams
Bridges
Building
Roofs
Steel construction
Strains and stresses
Trusses

GIRLS' clubs
Girls' clubs of national organization in the United States; their development and present status. H. G. Fudge. 349p bibliog(p325-49) pa $2 Helen G. Fudge, box 255, Rosemont, Pa. '39

GIRTY, George Herbert, 1870-1939
Memorial. J. S. Williams. por(pl 7) Geol Soc Proc 1939:195-205 bibliog(p201-5) Je '40

GISHOLT machine company
Compressed air in the bottleneck industry. J. Hazlewood. il Comp Air M 45:6280-2 N '40

Stock offered. Comm & Fin Chr 151:2498 O 26 '40

GLACIAL drift. See Drift

GLACIAL epoch
Astronomical hypothesis to explain Permian glaciation; ring of small satellites about the earth. R. L. Ives. diags map Franklin Inst J 230:45-74 bibliog(p71-4) Jl '40; Abstract. Science 92:sup6-7 Ag 16 '40
Isostatic control of fluctuations of sea level. A. C. Lawson. Science 92:162-4 Ag 23 '40

See also
Geology, Stratigraphic—Pleistocene

GLACIAL geology
Correlations of pollen profiles from glaciated eastern North America. P. Smith. Am J Sci 238:597-601 Ag '40
Fossiliferous esker-like deposit. J. M. Trefethen and J. N. Harris. diag Am J Sci 238: 408-12, pl 1 Je '40
Glaciation in the Wasatch plateau, Utah. E. M. Spieker and M. P. Billings. bibliog il maps Geol Soc Bul 51:1173-97, pl 1-5 Ag '40
Glaciation of the Grays Lake, Illinois, quadrangle. W. E. Powers and G. E. Ekblaw. bibliog maps Geol Soc Bul 51:1329-35 S '40
Marine pleistocene of Texas. H. G. Richards. Geol Soc Bul 50:1885-98, pl 1-3 bibliog(p1897-8) D '39
Nebraska in relation to the problems of pleistocene stratigraphy. A. L. Lugn. bibliog diags maps Am J Sci 237:851-84 D '39
New evidence for an Illinoian glacial boundary in northeastern Ohio. H. A. Ireland. bibliog diags maps Geol Soc Bul 51:1337-57, pl 1 S '40
Quaternary history of Louisiana. R. J. Russell. maps Geol Soc Bul 51:1199-1233 bibliog(p1230-3) Ag '40
Rock glaciers in the Colorado Front range. R. L. Ives. bibliog diags map Geol Soc Bul 51:1271-94, pl 1-2 S '40
Soils and periglacial phenomena in the Carolinas. K. Bryan. bibliog Science 91:523-4 My 31 '40
Stagnation of ice in Connecticut. R. J. Lougee. Science 91:69-70 Ja 19 '40
Validity of the criteria for lower carboniferous glaciation in western Argentina. C. O. Dunbar. Am J Sci 238:673-5 S '40
Weathering of the Jerseyan till. P. MacClintock. bibliog map Geol Soc Bul 51:103-15, pl 1-2 Ja '40
Wisconsin glaciation of Newfoundland. P. Mac Clintock and W. H. Twenhofel. bibliog diags maps Geol Soc Bul 51:1729-56, pl 1-4 N '40

See also
Drift
Glaciers
Loess

GLACIERS
Calcium carbonate deposits marginal to glaciers. J. C. Ludlum. Science 91:544-5 Je 7 '40
Glaciation in the Wasatch plateau, Utah. E. M. Spieker and M. P. Billings. bibliog il maps Geol Soc Bul 51:1173-97, pl 1-5 Ag '40

See also
Drift
also International association of scientific hydrology—Commission of snow and glaciers

GLANDS, Ductless

See also
Thyroid gland

GLARE
Curtains for protection of bus or car operator against glare; practices of various companies. Transit J 84:137-8 Ap '40
Evaluation of street lighting. K. M. Reid and H. J. Chanon. fold chart il Illum Eng Soc Trans 34:1209-31 bibliog(p1230-1); Discussion. 1231-2 D '39
Eyes have it; why vision must be protected and how to do it. D. M. Warren. il Power 84:219-20, 255 Ap '40
Greater safety through lighting. C. H. Rex. il Can Eng R & B 78:22-3, 82-7+ Ap '40
Ortho-krome process of coating paper; glare reduction. A. B. Hurley. bibliog diag Paper Tr J 109:37-40 O 19 '39; Discussion. V. G. W. Harrison. 110:16, 18-19 F 15 '40
Street lighting evaluator. K. M. Reid and H. J. Chanon. bibliog il Illum Eng 35:72-81 Ja '40; Excerpts. Elec W 114:278+, 422 Jl 27-Ag 10 '40

GLASS, Carter, 1858-
Testimonial to Carter Glass. Comm & Fin Chr 151:18-20 sec 3 O 12 '40

GLASS
American apparatus, instruments, and instrumentation; glass and glassware. R. H. Müller. il Ind & Eng Chem Anal ed 12: 602-4 O 15 '40

GLASS—*Continued*

Atomic consideration of immiscibility in glass systems. B. E. Warren and A. G. Pincus. Am Cer Soc J 23:301-4 O '40; Abstract. Glass Ind 21:225 My '40

Calculations of physical properties of silicate glasses from their chemical compositions; abstract. M. L. Huggins. Glass Ind 21: 446 O '40

Density of silicate glasses as a function of composition. M. L. Huggins. bibliog Opt Soc Am J 30:420-30 S '40

Glass for mechanical parts; product design possibilities and physical properties. T. J. Thompson. il Product Eng 11:196-8 My '40

Glass for ultra-violet estimation; limits for cerous and vanadous oxides. Chem Age (Lond) 42:257 My 4 '40

Glass melts in the systems zirconia-alumina-silica and titania-alumina-silica. A. E. Badger and L. M. Doney. bibliog diag Glass Ind 21:309-11+ Jl '40

Glass; what is old? what is new? a symposium. A. Silverman and others. il Ind & Eng Chem 32:1415-36 N '40

Glassmen honored as modern pioneers. Glass Ind 21:104-5 Mr '40

Homogeneity and heterogeneity of commercial glass; abstract. F. W. Preston and J. C. Turnbull. Glass Ind 21:432 O '40

Is chemical industry ready? glass for engineering and industry. L. Quigley. il Ind & Eng Chem 32:1176-8 S '40

Nature of the glass in portland cement clinker. H. Insley. bibliog pls J Research Nat Bur Stand 25:295-300 S '40

New method for investigating the refractive index and the thickness of thin interference films on glass. A. Vašiček. diags Phys R 57:925-31 My 15 '40

Physical properties of low-expansion glasses, fused quartz and fused silica and makers of equipment. Chem & Met Eng 47:604 S '40

Preparation of microscopic glass spheres. C. R. Bloomquist and A. Clark. il diag Ind & Eng Chem Anal ed 12:61-2 Ja 15 '40

Recent trends in glass composition. D. E. Sharp. bibliog Glass Ind 21:158-62 Ap '40

Reducing the reflection from glass; abstract. C. H. Cartwright. Glass Ind 21:220-1 My '40

Refractive index of silicate glasses as a function of composition. M. L. Huggins. bibliog Opt Soc Am J 30:495-504 O '40

Review of the relation of density and refractive index to the composition of glass. K. Sun, H. W. Safford and A. Silverman. bibliog Am Cer Soc J 23:315-26 N '40

Solubility of bottle glass. Glass Ind 20:452 D '39

State of aggregation in glass. R. E. Liesegang. bibliog diag Glass Ind 21:19-20 Ja '40

Structure and properties of glasses containing boron. M. L. Huggins. Am Chem Soc J 62:2248 Ag '40

Thermal history of the glassy phase and its effect upon physical properties. W. A. Weyl. bibliog il Am Cer Soc Bul 18:416-19 N '39

Viscous properties of soda-boric oxide-silica glasses at temperatures from 900° to 1500°F. W. B. King, jr. and A. I. Andrews. il Am Cer Soc J 23:232-5 Ag '40

X-ray diffraction study of the structure of glass. B. E. Warren. bibliog il diag Chem R 26:237-55 Ap '40

See also

Electrodes, Glass
Enamel and enameling
Glass manufacture
Glassware
Mirrors
Printing on glass
Windows

Analysis

Analysis of selenium in glass. A. E. Pavlish and R. W. Silverthorn. diag Am Cer Soc J 23:116-18 Ap '40

Durability of glass; estimating dissolved alkali by pH determination. R. F. Doran and S. R. Scholes. Am Cer Soc J 23:91-2 Mr '40

Estimation of boron in glasses; a flame test. diag Glass Ind 20:464 D '39

Powder method for measurement of chemical durability of glass. F. V. Tooley and C. W. Parmelee. diag Am Cer Soc J 23:304-14 O '40

Short methods for chemical analysis of glass. P. A. Webster and A. K. Lyle. bibliog Am Cer Soc J 23:235-41 Ag '40

Bibliography

Ceramic abstracts. Published in monthly numbers of American ceramic society journal

Color

Colour of soda-lime-silica glasses containing iron and manganese oxides; abstract. A. Lawton and W. E. S. Turner. Chem & Ind 59:166-7 Mr 9 '40; Same. Engineering 149: 264 Mr 8 '40

Coloration

Light-sensitive glass and its application for ultra-violet measurements; cerium-vanadium glasses. L. O. Upton. Glass Ind 21:109-12 Mr '40

See also

Glass, Colored

Devitrification

Effect of alumina on devitrification of sodium oxide-dolomite lime-silica glasses. W. B. Silverman. Am Cer Soc J 23:274-81 S '40

Durability

Chemical durability of glassware from the distiller's standpoint; abstract and discussion. A. Herman. Glass Ind 21:276+ Je '40

Durability of glass; estimating dissolved alkali by pH determination. R. F. Doran and S. R. Scholes. Am Cer Soc J 23:91-2 Mr '40

Effect of time and temperature on accelerated chemical durability tests made on commercial glass bottles; dilute acid, distilled water, and sodium hydroxide tests. F. R. Bacon and O. G. Burch. bibliog Am Cer Soc J 23:1-9 Ja '40

Powder method for measurement of chemical durability of glass. F. V. Tooley and C. W. Parmelee. diag Am Cer Soc J 23:304-14 O '40

Resistance of glass bottles to neutral alcoholic solutions. F. R. Bacon and O. G. Burch. Am Cer Soc J 23:147-51 My '40

Electric properties

Behaviours of porcelain and glass insulators under test conditions; abstracts. A. E. Helden and others. Elec R (Lond) 126: 426-7 Ap 12 '40; Electrician 124:321 Ap 26 '40; Engineering 149:434 Ap 26 '40

Ceramic insulating materials. H. Thurnauer. Elec Eng 59:456-8 N '40

Development of a pre-stressed glass insulator. P. M. Hogg. diags Engineering 149: 449 Ap 26 '40; Abstract. Elec R (Lond) 126:426 Ap 12 '40

Dielectric loss of glass at high frequencies. H. Thurnauer and A. E. Badger. diag Am Cer Soc J 23:9-12 Ja '40

Glass as an electrical insulator. C. J. Phillips. bibliog J Ap Phys 11:173-81 Mr '40

Relation of electrical conductivity to chemical composition of glass; soda-lime-silica system measured at 400°C. A. E. Badger and J. F. White. diags Am Cer Soc J 23:271-4 S '40

Significance of glass insulation. G. L. Moses. il Power Pl Eng 44:50-2 Mr '40

See also

Glass fibers

Exhibitions

History of glass from the World's fair donated to Chicago museum. il Glass Ind 21:486-7 N '40

Hardness

Scratching of glass by metals. L. G. Ghering and J. C. Turnbull. il Am Cer Soc Bul 19: 290-4 Ag '40

Heat transmission

Heat flow through glass blocks studied. il Heat & Ven 37:36 Ag '40; Same abr. Power Pl Eng 44:83 O '40

GLASS—Heat transmission—*Continued*
How to reduce sun heat through windows. C. Strock. tables Heat & Ven 36:35-40 D '39
Thermal conductivity of rocks and its dependence upon temperature and composition. F. Birch and H. Clark. bibliog diags Am J Sci 238:529-58, 613-35 Ag-S '40

History

Glass, old and new; the impact of thirty years of research on sixty centuries of tradition. A. E. Marshall. Chem & Ind 59: 459-60 Je 29 '40

Joining to metal

Sealed glass bushings for electrical apparatus. A. W. Hull, R. W. Moore and O. H. Doll. il diag Gen Elec R 42:525-8 D '39
Soldered metal to glass or porcelain seals. S. T. Martin, jr. R Sci Instr 11:205-6 Je '40

Light transmission

See also
Glass, Invisible

Manufacture

See Glass, Optical—Manufacture; Glass manufacture; Glassware—Manufacture

Opacification

Opal glass. N. J. Kreidl and W. A. Weyl. bibliog Glass Ind 21:57-62+ F '40

Permeability

Diffusion of helium through several glasses. P. L. Smith and N. W. Taylor. bibliog diag Am Cer Soc J 23:139-46 My '40

Protection

Anti-percussion latex films. P. Mabb. il Rubber Age 46:229-31 Ja '40

Silvering

Investigation of thin evaporated silver films on glass. J. Strong and B. Dibble. diag Opt Soc Am J 30:431-8 S '40

See also
Mirrors

Solubility

Comparison of titration and conductivity methods for determining the relative solubility of glass; abstract. E. H. Hamilton, D. K. Hubbard and A. N. Finn. Glass Ind 21:226 My '40

Stones

Kyanite as a glass stone. W. R. Lester. il Glass Ind 21:395-6 S '40

Strength

Effect of sulphur gases on surfaces (a review). bibliog Glass Ind 21:24-5 Ja '40
Improving the strength of glass containers through design. L. G. Ghering. il diags Glass Ind 20:443-7+ D '39

Testing

Effect of time and temperature on accelerated chemical durability tests made on commercial glass bottles; dilute acid, distilled water, and sodium hydroxide tests. F. R. Bacon and O. G. Burch. bibliog Am Cer Soc J 23:1-9 Ja '40
Method for the measurement of flatness of polished surfaces. C. Tuttle and R. Cartwright. il diag Opt Soc Am J 30:348-50 Ag '40
Silicate glasses; calculation of densities, refractive indices, and dispersions from glass composition. M. L. Huggins. bibliog il Ind & Eng Chem 32:1433-6 N '40
Staining glasses with silver; a possibility of studying inhomogeneities. J. C. Turnbull and W. A. Weyl. il Glass Ind 21:13-18+ Ja '40

Uses

New uses for glass. S. R. Scholes. Glass Ind 21:185+ Ap '40
Physical tendencies. G. W. Morey. il Ind & Eng Chem 32:1423-7 N '40

GLASS, Colored
Colored silvering of glass; lead sulfide, gold and copper processes. B. Schweig. Glass Ind 21:353-6 Ag '40
Effect of firing schedule on quality of glass color decorations. C. Robertson and D. O. Koch. il Am Cer Soc Bul 18:422-6 N '39
Glass takes on color; new fields opened for plate glass. E. Aiken. il Sci Am 162:152-4 Mr '40

See also
Marbles—Manufacture

GLASS, Effect of sulfur oxides on
Effect of sulphur gases on surfaces (a review). bibliog Glass Ind 21:24-5 Ja '40

GLASS, Heat absorbing
How to reduce sun heat through windows. C. Strock. tables Heat & Ven 36:35-40 D '39

GLASS, Invisible
Invisible glass camera lenses. C. H. Cartwright. Sci Am 162:168-9 Mr '40
Stepping up the lens; invisible glass principle. Business Week p34-5 Je 1 '40

GLASS, Laminated
Safety plate glass. G. B. Watkins. il Glass Ind 20:448-52 D '39

See also
Glass, Safety

GLASS, Molten
Reaction between metals and molten glass. A. E. Badger and B. Bard. diag Am Cer Soc J 23:326-8 N '40
Surface tension measurements on molten glass by a modified dipping cylinder method; calcite and dolomite lime glasses. C. L. Babcock. bibliog diag Am Cer Soc J 23:12-17 Ja '40

GLASS, Opal
Opal glass. N. J. Kreidl and W. A. Weyl. bibliog Glass Ind 21:57-62+ F '40

GLASS, Optical
Decade of research on optical glass. Ind & Eng Chem News ed 18:292-3 Ap 10 '40
Durability of optical glass; abstract. F. L. Jones. Glass Ind 21:226 My '40
Ernst Abbe, 1840-1905. Engineering 149:66 Ja 19 '40
Eye protection glass for welding. Elec W 114: 106 Jl 13 '40
Glass; optical characteristics. H. R. Moulton. il Ind & Eng Chem 32:1428-32 N '40; Abstract. Glass Ind 21:446+ O '40
Is chemical industry ready? optical glass. G. W. Morey. Ind & Eng Chem 32:1178 S '40
Review of the relation of density and refractive index to the composition of glass. K. Sun, H. W. Safford and A. Silverman. bibliog Am Cer Soc J 23:315-26 N '40 (to be cont)
Secondary emission and electron diffraction on the glass surface. H. Kamogawa. il Phys R 58:660 O 1 '40
Silicate glasses; calculation of densities, refractive indices, and dispersions from glass composition. M. L. Huggins. bibliog il Ind & Eng Chem 32:1433-6 N '40

See also
Goggles
Lenses
Optical instruments

Manufacture

Bausch & Lomb; its apron strings to Zeiss are cut; swamped with military orders. il diags Fortune 22:76-80+ O '40

GLASS, Ornamental
WPA producing decorative glass at Vineland, N.J. il Glass Ind 21:398-9 S '40
Xmas tree balls being made at Corning. il Glass Ind 21:21 Ja '40

GLASS, Polarizing. See Polaroid

GLASS, Safety
La fabrication actuelle des verres de sécurité. Génie Civil 116:331 My 18 '40
Safety plate glass. G. B. Watkins. il Glass Ind 20:448-52 D '39

GLASS, Spun. See Glass fibers

GLASS, Stained. See Stained glass

GLASS, Structural
Face-lifting with structural glass. E. Aiken. il Manuf Rec 109:26-7 Je '40
Glass, a structural material; abstract. J. Polivka. Eng N 123:820 D 21 '39
Glass for A.R.P. Engineer 168:601 D 15 '39; Engineering 148:618 D 1 '39
Impact tests on glass tiles. il Engineering 150:66 Jl 26 '40
Prize-winning designs in the Insulux glass block competition no. 3; dairy with milk bar. il diags plans Arch Forum 72:sup15-21 Ja '40

See also
Concrete, Reinforced—Glass reinforcement
Glass blocks
Glass construction

GLASS, Substitutes for
Glasses, organic and inorganic. H. Moore. bibliog Chem & Ind 58:1027-37 N 25 '39; Discussion. 59:157-8 Mr 9 '40

See also
Plastic materials, Transparent

GLASS blocks
Heat flow through glass blocks studied. il Heat & Ven 37:36 Ag '40; Same abr. Power Pl Eng 44:83 O '40
Heat gain through glass blocks by solar radiation and transmittance. F. C. Houghten and others. il diags Heating-Piping 12: 264-70 Ap '40
Insulux glass block competition; a newspaper plant. Arch Forum 71:sup17-20 D '39
Metal joint developed for glass blocks. il Eng N 124:sup138 Ja 18 '40
Prize winning designs in Insulux competition 4; newspaper plant. il diags plans Arch Forum 72:sup32-7 My '40
Prize-winning designs in the Insulux glass block competition no. 3; dairy with milk bar. il diags plans Arch Forum 72:sup15-21 Ja '40
Products and practice. il diags plans Arch Forum 72:327-30 My '40
Sheet metal work in glass block installations. il Sheet Metal Worker 31:25+ Jl '40
Windows in this enginehouse are of glass blocks. il diags Ry Age 109:512-15 O 12 '40

GLASS blowing and working
Modern glass working and laboratory technique. M. C. Nokes. 154p $3 Chemical pub. co. '37

GLASS bottles. See Bottles

GLASS bricks
Luminous bricks; patents. Science 92:sup11 O 11 '40

GLASS construction
Glass block. il diags plans Arch Forum 72: 327-30 My '40
Prefabricated metal shapes for new glass-block partition. il diags Arch Rec 87:47 Ja '40; diag Steel 106:75 Mr 4 '40

See also
Glass, Structural
Glass blocks

GLASS container association
Annual meeting, French Lick, Ind. Glass Ind 21:475-6 N '40
Annual meeting, White Sulphur Springs, May 20. Glass Ind 21:280-1+ Je '40

GLASS container industry
Concerning the monopoly suit. F. W. Preston. Glass Ind 21:69-72 F '40
Glass industry goes on trial. Glass Ind 21:11-12 Ja '40
Patent battles begin. Business Week p18+ D 16 '39
Pre-trial conference. Glass Ind 21:435-6 O '40

Statistics

Glass container production, revision; monthly, 1926-June, 1940. Fed Res Bul 26:839 Ag '40
Production and shipments. Glass Ind 21:280-1 Je '40
World trade in glass 1920-1938. E. J. Detgen. Glass Ind 21:189+ Ap '40

GLASS containers
Flaking of glass containers; abstract. W. R. Lester. Glass Ind 21:434 O '40
Glass container association annual meeting, French Lick, Ind. Glass Ind 21:475-6 N '40
Permanent labels for commercial glass containers; silk screen process for application of fused-on colours. C. S. Sidebottom. Can Chem & Process Ind 23:541-2 N '39; Same cond. Chem Age (Lond) 42:3-4 Ja 6 '40
Stresses in bottles or jars from differences in outside and inside temperatures (static temperature gradient). F. W. Preston. diags Am Cer Soc J 23:119-21 Ap '40; Discussion. J. B. Murgatroyd. 23:328-9; Reply. 329 N '40

See also
Bottles

Design

Improving the strength of glass containers through design. L. G. Ghering. il diags Glass Ind 20:443-7+ D '39

Manufacture

20 years of progress in glass-forming machines; machines for containers and other glassware. il Glass Ind 21:171-6 Ap '40

Standards

Standardization of packages. J. S. Algeo. U S Nat Bur Stand Misc Pub M165:117-21 '40

Testing

See also
Bottles—Testing

GLASS cutters
Hot wire cutter for glass tubing. A. A. Hirsch. diag Ind & Eng Chem Anal ed 12:48 Ja 15 '40

GLASS decoration. See Glassware—Decoration

GLASS eating
Eating glass. Sci Am 162:295-6 My '40

GLASS electrodes. See Electrodes, Glass

GLASS fabrics
Fiberglas. Textile Col 62:682+ O '40
Prints for fiberglas; expected to widen field for use as drapes and table covers. Business Week p35 N 11 '39
Significance of glass insulation. G. L. Moses. il Power Pl Eng 44:50-2 Mr '40

See also
Glass fibers

GLASS factories
Marble manufacture at Peltier glass company. il Glass Ind 21:64-6 F '40
New windows for China; proposed glass factory. Sun Kuan-han, J. E. Frazier and A. Silverman. flow sheet plan map Glass Ind 20:453-6+ D '39

See also
Glass manufacture

Costs

Methods of binding glass batch; cost comparisons between use of dry batch, briquetted batch and mixed-and-dried batch; abstract. R. L. Shute. Glass Ind 21:275-6 Je '40

Equipment

Buck glass co. modernizes batch handling. il Glass Ind 21:101-3 Mr '40
Finished ware conveying system sustains production at Carr-Lowrey. il Glass Ind 21: 437-40 O '40
Flow measurements in the glass industry. A. J. Monack and E. E. Beeton. diags Glass Ind 21:392-4 S '40
Making moulds at Swindell brothers, inc. il Glass Ind 21:471-4 N '40
Oil firing technique as perfected by Anchor-Hocking. il Glass Ind 21:313-15 Jl '40
Rebuilt batch plant at Thatcher manufacturing company incorporates automatic weighing; new mixer and mixed batch distribution. il diag Glass Ind 21:347-52 Ag '40
20 years of progress in glass plant materials handling. F. E. Bardrof. il Glass Ind 21: 163-8 Ap '40

See also
Glass furnaces
Glass machinery
Glass tanks

GLASS fibers
Fiberglas-insulated motor much smaller than standard type. il Mach 46:274 D '39
Games Slayter, Ohio inventor of fiberglas, is modern pioneer. Refrig Eng 39:258 Ap '40
Glass fiber. W. L. Schneider. Textile Col 62: 246-7 Ap '40
Glass fibre as a wire covering. Electrician 125:19 Jl 12 '40
Glass fibre electrical insulation. R. Quarendon. Engineer 169:538-9 Je 14 '40
Glass fiber insulates new appliance wires. Steel 106:69 Mr 18 '40
Glass insulation; advantages and limitations. Elec R (Lond) 126:9 Ja 5 '40
Glass insulation aids motor design. J. S. Askey. Elec W 113:924 Mr 23 '40
Inorganic fibres. D. Wolochow. il Can Chem & Process Ind 24:333-5 Jl '40
Motor capacity boosted 100 per cent; fiber glass insulations. il Rayon 20:724 D '39
New marine insulating material; fiberglas. G. Slayter. il Marine Eng 45:60-5 F '40
Patents. diags Glass Ind 21:240-1, 406 My, S '40
Throatless tank with suspended back wall improves fiberglas melting. il Glass Ind 21: 387-91 S '40
Water in refrigeration insulation; tests, using fiberglass. T. T. Tucker and G. A. Robertson. il diags plan Refrig Eng 39: 364-6 Je '40

See also
Glass wool

GLASS flowers
Glass flowers from the Ware collection in the Botanical museum of Harvard university; insect pollination series with 16 col. pl. by F. Kredel. 58p $1.50 Harcourt '40

GLASS furnaces
Analysis of new industrial gas applications. G. M. Parker. diags Gas Age 86:21-2 Jl 4 '40
Heat flow calculations. Glass Ind 21:236-8+ My '40
Heat loss in enameling and glassmelting furnaces; abstract. O. T. Koritnig. Am Cer Soc J 23 (Cer A 19):263 N '40
Industrial survey of conditions surrounding refractory service in continuous plate glass and window glass furnaces. diags Am Soc T M Proc 39:349-56 '39; Same abr. Brick & Clay Rec 97:42-4 D '40. Excerpt (Classification of refractories). Am Cer Soc J 23 (Cer A 19):164-5 Jl '40
20 years of progress in annealing. C. Cone. il Glass Ind 21:182-4 Ap '40
20 years of progress in glass melting. F. G. Schwalbe. Glass Ind 21:169-70+ Ap '40
Use of cast alumina refractories in the glass industry. H. N. Baumann, jr. and A. A. Turner. il Am Cer Soc J 23:334-8 N '40; Abstracts. Glass Ind 21:226-7 My '40; Brick & Clay Rec 96:34 My '40

See also
Glass tanks

Firing

Control for luminous flame firing in glass furnaces. F. G. Schwalbe. il diag Am Cer Soc J 23:173-8 Je '40
Effect of firing schedule on quality of glass color decorations. C. Robertson and D. O. Koch. il Am Cer Soc Bul 18:422-6 N '39
Lamb Glass adopts luminous-flame firing. il Glass Ind 21:267-71 Je '40
Oil firing technique as perfected by Anchor-Hocking. il Glass Ind 21:313-15 Jl '40

Patents

Furnaces; patented improvement in air cooling. diag Glass Ind 21:277 Je '40
Furnaces; patents. diags Glass Ind 21:29 Ja '40
Shackelford; sectional lehr with level of each section adjustable. diag Glass Ind 21:278-9 Je '40

GLASS laboratories
From theory to practice at Hartford-Empire. il Glass Ind 21:231-5 My '40

GLASS lining
Glass-lined equipment. P. S. Barnes. il Ind & Eng Chem 32:1158-9 S '40
How and how not to treat glass lined equipment. P. S. Barnes. Chem Ind 45:556-7 N '39
Lining metal capillaries with glass and the application to a capillary positive ion source. I. A. Getting and H. W. Leighton. diags R Sci Instr 11:232-4 Jl '40

GLASS machinery
Hartford-Empire co. glassware take-out and fire-finishing device. diag Glass Ind 20:74 F '40
20 years of progress in glass-forming machines; machines for containers and other glassware. il Glass Ind 21:171-6 Ap '40
20 years of progress in glass forming machines; machines for flat glass and tubing. F. W. Adams. il Glass Ind 21:177-9 Ap '40

Patents

Feeding, forming and shaping; Crown cork & seal co. receive three machine patents. Glass Ind 21:277-8 Je '40
Inventions and inventors; United States patents of interest to the glass industry issued during September and October. diags Glass Ind 20:458-61 D '39 [cont monthly]
Patent battles begin. Business Week p18+ D 16 '39

GLASS making materials
Developing Canada's nepheline syenite. C. M. Nicholson. bibliog flow sheets il map Can Min J 61:135-46 Mr '40

See also
Feldspar
Sand

Prices

Current prices of glass-making materials. Published in monthly numbers of Glass industry

GLASS manufacture
Alkali-free glasses. O. Knapp. Glass Ind 21: 115-16 Mr '40
Beneficiation of some Alabama glass sands. R. F. Havell and T. N. McVay. flow sheet map Am Cer Soc Bul 18:429-31 N '39
Conference on glass problems, 6th, Urbana, May 10-11. Glass Ind 21:274-6+ Je '40
Effect of sulphur gases on surfaces (a review). bibliog Glass Ind 21:24-5 Ja '40
From theory to practice at Hartford-Empire. il Glass Ind 21:231-5 My '40
Further studies on the influence of sodium chloride on the iron oxide content of glasses; abstract. R. Halle and W. E. S. Turner. Chem & Ind 59:167 Mr 9 '40; Same. Engineering 149:264-5 Mr 8 '40
Glass; chemical trends. H. H. Blau. il Ind & Eng Chem 32:1419-23 N '40
Glass, old and new; the impact of thirty years of research on sixty centuries of tradition. A. E. Marshall. Chem & Ind 59:459-60 Je 29 '40
Kyanite as a glass stone. W. R. Lester. il Glass Ind 21:395-6 S '40
Methods of binding glass batch; cost comparisons between use of dry batch, briquetted batch and mixed-and-dried batch; abstract. R. L. Shute. Glass Ind 21:275-6 Je '40
Methods used to reduce surface lines on glass. R. L. Shute. diags Am Cer Soc Bul 19:329-30 S '40
Physical tendencies. G. W. Morey. il Ind & Eng Chem 32:1423-7 N '40
Portland cement in glass batch briquets. R. L. Shute and A. E. Badger. Glass Ind 21:28 Ja '40
Recent trends in glass composition. D. E. Sharp. bibliog Glass Ind 21:158-62 Ap '40
Staining glasses with silver; a possibility of studying inhomogeneities. J. C. Turnbull and W. A. Weyl. il Glass Ind 21:13-18+ Ja '40
20 years of progress in annealing. C. Cone. il Glass Ind 21:182-4 Ap '40

See also
Glass factories
Glass furnaces
Glassware—Manufacture
Marbles—Manufacture
Plate glass—Manufacture

GLASS manufacture—*Continued*

Bibliography

Bibliographies on glass manufacture. Am Cer Soc Bul 19:315 Ag '40

Patents

Compositions; electrolyzed glass; alkali replaced by copper, silver or another alkali metal. diag Glass Ind 21:277 Je '40

Corning's Vycor patents. Glass Ind 21:482-3 N '40

Inventions and inventors; United States patents of interest to the glass industry issued during September and October. diags Glass Ind 20:458-61 D '39 [cont monthly]

China

New windows for China; proposed glass factory. Sun Kuan-han, J. E. Frazier and A. Silverman. flow sheet plan map Glass Ind 20:453-6+ D '39

Greece

Grecian glass; a modernized antique. A. Silverman. il Glass Ind 21:22-3 Ja '40

GLASS melting

Combustion calculations for a continuous glass melting furnace. R. L. Shute and R. K. Hursh. Glass Ind 21:357-9+ Ag '40

20 years of progress in glass melting. F. G. Schwalbe. Glass Ind 21:169-70+ Ap '40

GLASS patents. See Glass furnaces—Patents; Glass machinery—Patents; Glass manufacture—Patents

GLASS reinforcement. See Concrete, Reinforced—Glass reinforcement

GLASS research

Activities of the American ceramic society; committee on research. Am Cer Soc Bul 19: 214-15 Je '40

Ceramic history; Eugene C. Sullivan. Am Cer Soc Bul 19:378-9 O '40

Department of glass technology, University of Sheffield, England. il Am Cer Soc Bul 18:442-3 N '39

Departmental researches in glass; abstract. C. W. Parmelee. Glass Ind 21:275 Je '40

Diffusion of helium through several glasses. P. L. Smith and N. W. Taylor. bibliog diag Am Cer Soc J 23:139-46 My '40

From theory to practice at Hartford-Empire. il Glass Ind 21:231-5 My '40

Glass, old and new; the impact of thirty years of research on sixty centuries of tradition. A. E. Marshall. Chem & Ind 59:459-60 Je 29 '40

Heat transfer coefficients in glass exchangers. T. J. Thompson and A. S. Foust. flow diag bibliog il Am Inst Chem Eng Trans 36: 555-75 Ag '40; Same cond. Chem & Met Eng 47:410-14 Je '40; Discussion. Am Inst Chem Eng Trans 36:575-8 Ag '40

New uses for old materials; how modern research has improved glass, paper and rubber. J. V. Sherman. Barron's 20:13 Je 10 '40

Reaction between metals and molten glass. A. E. Badger and B. Bard. diag Am Cer Soc J 23:326-8 N '40

Viscous properties of soda-boric oxide-silica glasses at temperatures from 900° to 1500°F. B. W. King, jr. and A. I. Andrews. il Am Cer Soc J 23:232-5 Ag '40

X-ray diffraction study of the structure of glass. B. E. Warren. bibliog il diag Chem R 26:237-55 Ap '40

GLASS sand. See Sand

GLASS stone. See Glass—Stones

GLASS tanks

Combustion calculations for a continuous glass melting furnace. R. L. Shute and R. K. Hursh. Glass Ind 21:357-9+ Ag '40

Reducing block erosion at the glass level. R. L. Shute. il diags Glass Ind 21:106-8 Mr '40

Simplex channel tank. diags Glass Ind 21: 400-1 S '40

Throatless tank with suspended back wall improves fiberglas melting. il Glass Ind 21: 387-91 S '40

Control

Controlled tank pressure and combustion; abstract. I. G. Fowler. diag Glass Ind 21: 288-90 Je '40

GLASS trade

Statistics

Current statistical position of glass for January. Glass Ind 21:113-14 Mr '40 [cont monthly]

Glass products, 1936-1939. Survey of Cur Business 1940 Sup p151 [supplemented in monthly numbers]

World trade in glass 1920-1938. E. J. Detgen. Glass Ind 21:186-9+ Ap '40

Great Britain

See also
United glass bottle manufacturers, limited

Hong Kong

Glass and products. For Comm W 1:170 O 26 '40

United States

Glazing trade practices stopped by F.T.C. Oil Paint & Drug Rep 137:5+ Ja 22 '40

Hand made glassware and reciprocal treaties. il Glass Ind 21:51-6 F '40

War and the glass industry. Glass Ind 21:312 Jl '40

GLASS tubing

20 years of progress in glass forming machines; machines for flat glass and tubing. F. W. Adams. il Glass Ind 21:177-9 Ap '40

GLASS wool

Dust control; glass wool filters to the rescue; Oklahoma natural gas company. E. J. McConnell. il diag Gas Age 84:35-6 D 21 '39

Patents. diags Glass Ind 21:240-1, 406 My, S '40

GLASSINE

Fundamentals of glassine transparency. D. B. Wicker. bibliog il diags Paper Tr J 105:31-40 O 21 '37; 107:44-52 O 27 '38; 110:36-42 Ja 4 '40

Instrumentation studies; the Clark paper softness tester, with an important note on the Gurley stiffness tester. il diag Paper Tr J 110:29-37 F 15 '40

Printing on glassine. E. St John. Inland Ptr 105:69 My '40

GLASSWARE

American apparatus, instruments, and instrumentation; glass and glassware. R. H. Müller. il Ind & Eng Chem Anal ed 12:602-4 O 15 '40

American glass paperweights. F. E. Smith. 173p $10 Francis Edgar Smith, 809 Hancock st, Wollaston, Mass. '39

Glass; chemical trends. H. H. Blau. il Ind & Eng Chem 32:1419-23 N '40

Glass for mechanical parts; product design possibilities and physical properties. T. J. Thompson. il Product Eng 11:196-8 My '40

Grecian glass; a modernized antique. A. Silverman. il Glass Ind 21:22-3 Ja '40

Is chemical industry ready? glass for engineering and industry. L. Quigley. il Ind & Eng Chem 32:1176-8 S '40

Knickknack trade goes ersatz. Business Week p22 Ag 3 '40

M.I.T. recreates Sandwich glass co. il Glass Ind 21:73 F '40

Sandwich glass; the history of the Boston & Sandwich glass company. R. W. Lee. 2d ed 526p $10 Ruth Webb Lee, Framington Centre, Mass. '39

Two hundred pattern glass pitchers. M. W. Kamm. 120p pa $1 Mrs Oliver Kamm, 365 Lakeshore rd, Grosse Pointe Farms, Mich. '39

See also
Chemical apparatus
Glass containers
Molds (for glass)
Optical instruments

Decoration

Decoration of glass by means of enamels and fused colors; abstract. O. Herfurth. Am Cer Soc J 23 (Cer A 19):159 Jl '40

GLASSWARE—Decoration—*Continued*
Effect of firing schedule on quality of glass color decorations. C. Robertson and D. O. Koch. il Am Cer Soc Bul 18:422-6 N '39
Glass: artist, designer, artisan; Steuben Glass exhibition of twenty-seven engravings on crystal. A. Silverman. il Glass Ind 21:316-22 Jl '40

Design

Glass design at Carnegie Tech. il Glass Ind 21:478-81 N '40

Manufacture

British laboratory glassware industry; foreign made products superseded. N. Sheldon. il diag Chem Age (Lond) 42:244-5 Ap 27 '40
20 years of progress in glass-forming machines; machines for containers and other glassware. il Glass Ind 21:171-6 Ap '40
WPA producing decorative glass at Vineland, N.J. il Glass Ind 21:398-9 S '40

GLASSY state
Glasses, organic and inorganic. H. Moore. bibliog Chem & Ind 58:1027-37 N 25 '39; Discussion. 59:157-8 Mr 9 '40
Thermal history of the glassy phase and its effect upon physical properties. W. A. Weyl. bibliog il Am Cer Soc Bul 18:416-19 N '39
Vitrification of water. B. J. Luyet. Phys R 56:1244 D 15 '39
X-ray diffraction study of the structure of glass. B. E. Warren. bibliog il diag Chem R 26:237-55 Ap '40

GLAUBER salt. See Sodium sulfates

GLAUCONITE
Glauconite pseudomorphs after Ophiuran plates. C. T. Berry. Science 91:449 My 10 '40

GLAZES
Control of crazing in sanitary ware glazes by Mayer and Havas coefficient of expansion factors. A. O. Knecht. Am Cer Soc J 23:61-3 F '40
Development of a laboratory continuous kiln. C. H. Commons, jr. and E. E. Kunzman. diags Am Cer Soc Bul 19:331-3 S '40
Investigation of the volatility of glaze constituents by the use of the spectrograph. H. C. Harrison, W. G. Lawrence and D. J. Tucker. il Am Cer Soc J 23:111-16 Ap '40
Mat glazes and the lime-alumina-silica system. H. Wilson. diags Am Cer Soc Bul 18: 447-54 D '39
Preparation, drying, and firing of enamels and glazes. diags Gas J (Lond) 231:407-8+ S 4 '40
Promotion of interfacial reactions to counteract crazing. R. M. Campbell. Am Cer Soc Bul 19:91-2 Mr '40
They do many things differently in a glazed brick plant; East Canton plant, National fireproofing corp. il diag Brick & Clay Rec 96:20-2 F '40
They treat 'em like diamonds; making salt glazed brick; Metropolitan paving brick co. il Brick & Clay Rec 96:24-5 Je '40
Tin oxide in ceramic glazes; abstract. L. Stuckert. Am Cer Soc J 23 (Cer A 19):166-7 Jl '40
Zinc-vapor glazing of clays. C. M. Lampman and H. G. Schurecht. Am Cer Soc J 22: 91-5; 23:167-70 Mr '39, Je '40
Zur frage der anwendung blei- und borfreier steingutglasuren; abstract. W. Funk. Angew Chemie 53:66 F 3 '40

See also
Enamel and enameling

Testing

Evaluation of glaze-fit test methods. W. C. Bell. bibliog il diags Am Cer Soc J 23: 163-6 Je '40

GLEASON, James Emmett, 1868-
Awarded the A.S.M.E. medal. por Mach 46:153 Ja '40

GLEASON works
Celebrates 75th anniversary. il Iron Age 145: 93B-93D Ap 11 '40; Mach 46:123-5 My '40; Am Mach 84:260h Ap 17 '40; Automotive Ind 82:422-3 My 1 '40

GLEN Alden coal company
Status of Glen Alden Coal 4s, 1965. Barron's 20:19 Ap 8 '40

GLENFIELD and Kennedy, limited
Romance of industrial engineering. J. A. Morris. 148p Glenfield & Kennedy, Kilmarnock, Scotland '39

GLIDDEN, Jay Spencer, 1880-1940
Sketch. East Underw 41:26 N 1 '40; Nat Underw 44:19 O 31 '40

GLIDERS
Aero ITI model G-2 all-metal sailplane. il diags Aero Digest 37:71+ Ag '40
Briegleb glider. diags Aviation 39:69 Ap '40
Early gliding at Cornell. R. Dynes. il Cornell Eng 5:9-10+ D '39
Flight without power; the art of gliding and soaring. L. B. Barringer. 251p bibliog(p245-6) $3.50 Pitman '40
Motorless flight at Cornell. C. C. Eldridge. il Cornell Eng 5:15-17 Ja '40
Schweizer two-place all-metal sailplane. il diags Aero Digest 37:114+ O '40
Silent flight. A. C. Edmonds. 83p 5s Country life, London '39
Soaring on the West coast; third annual western championship soaring contest, Arvin, Cal., April 13-21. C. F. McReynolds. il Aviation 39:34-5, 102 Je '40
Status of aircraft, gliders, pilots, and glider pilots, by states, as of Jan. 1, 1940; tabulation. Civil Aero J 1:21 Ja 15 '40
Status of aircraft, gliders, pilots, and glider pilots by states as of April 1, 1940; tabulation. Civil Aero J 1:159 Ap 15 '40
Status of aircraft, gliders, pilots, and glider pilots by states as of July 1, 1940; tabulation. Civil Aero J 1:391 Ag 1 '40

GLOBE dye works
Civil war baby; Globe dye works celebrating its diamond jubilee. il Textile World 90:66 Ag '40

GLOBE life insurance company of Illinois
Examination report. Nat Underw (Life ed) 44:13 O 18 '40

GLOBIN
Some studies upon human globin; abstract. C. Rimington and A. T. Fuller. Chem & Ind 58:1019 N 18 '39

GLOBULINS
Substitute for edestin needed. H. B. Vickery, E. L. Smith and L. S. Nolan. bibliog Science 92:317-18 O 4 '40

GLOSS meter. See Luster

GLOUCESTER, Massachusetts
Port of Gloucester. J. B. Connolly. 333p $3 Doubleday '40

GLOVES
Sales policies that keep a 65-year-old fashion business young; Ireland brothers' marketing platform. il Sales Management 47:26, 30+ Ag 15 '40

Statistics

Production of gloves and mittens, 1936-1939. Survey of Cur Business 1940 Sup p12S [supplemented in monthly numbers]

GLOVES, Rubber
Experiments with equi-potential rubber gloves and boots. Electrician 123:483 D 1 '39

Testing

Testing rubber gloves with high voltage d-c. R. W. Chadbourn and W. H. Meade. Edison Elec Inst Bul 8:235-9 My '40

GLUCINUM. See Beryllium

GLUCOHEPTOSE
Action of the reagent pyridine-acetic anhydride on *d*-*a*-glucoheptose, *d*-glucosamine and *l*-fucose oximes. E. Restelli de Labriola and V. Deulofeu. bibliog Am Chem Soc J 62:1611-13 Je '40

GLUCOHEPTULOSE
Reduction products of *d*-glucoheptulose. F. L. Humoller, S. J. Kuman and F. H. Snyder. Am Chem Soc J 61:3370-4 D '39

GLUCOLYSIS
Interdependence of respiration and glycolysis. O. Rosenthal, M. A. Bowie and G. Wagoner. bibliog Science 92:382-3 O 25 '40

GLUCONIC acid
Biological production of gluconic acid. K. R. Butlin and W. H. D. Wince. Soc Chem Ind J 58:363-5 D '39
Fermentation of concentrated solutions of glucose to gluconic acid; improved process. A. J. Moyer, E. J. Umberger and J. J. Stubbs. bibliog Ind & Eng Chem 32:1379-83 O '40
Gluconic acid production; repeated use of submerged aspergillus niger for semicontinuous production. N. Porges, T. F. Clark and E. A. Gastrock. bibliog Ind & Eng Chem 32:107-11 Ja '40

GLUCONYL chloride
Preparation of pentaacetyl-*d*-gluconyl chloride. C. E. Braun and others. Am Chem Soc J 62:1619 Je '40

GLUCOSAMINE
Action of the reagent pyridine-acetic anhydride on *d*-α-glucoheptose, *d*-glucosamine and *l*-fucose oximes. E. Restelli de Labriola and V. Deulofeu. bibliog Am Chem Soc J 62:1611-13 Je '40
Isolation of keturonic acids; isolation of crystalline brucine salts of keturonic acids prepared by oxidation of *l*-xylose, *l*-arabinose and *d*-glucosamine. L. T. Crews, J. P. Hart and M. R. Everett. Am Chem Soc J 62:491-3 Mr '40
Nature of the carbohydrate residue in ovomucoid; the glucosamine constituent. M. Stacey and J. M. Woolley. Chem Soc J p184-91 F '40
Studies in the amino-sugars; the action of dilute alkali solution on *N*-acylglucosamines. T. White. Chem Soc J p428-37 Ap '40

GLUCOSAMINIDES
New chemical proof of the cyclic structure of glucosaminides. A. Neuberger. Chem Soc J p29-32 Ja '40

GLUCOSAN
Cleavage of the carbon chain of levoglucosan by oxidation with periodic acid. E. L. Jackson and C. S. Hudson. bibliog Am Chem Soc J 62:958-61 Ap '40

GLUCOSE
Acceleration of lactic acid fermentation by heat-labile substances. S. C. Pan, W. H. Peterson and M. J. Johnson. bibliog Ind & Eng Chem 32:709-14 My '40
Biological production of gluconic acid. K. R. Butlin and W. H. D. Wince. Soc Chem Ind J 58:363-5 D '39
Fermentation of concentrated solutions of glucose to gluconic acid; improved process. A. J. Moyer, E. J. Umberger and J. J. Stubbs. bibliog Ind & Eng Chem 32:1379-83 O '40
Physicochemical aspects of bacterial growth; conditions determining stationary populations and growth rates of bact. lactis aerogenes in synthetic media. R. M. Lodge and C. N. Hinshelwood. Chem Soc J p1683-92 N '39
Potato products industry; the manufacture of glucose. il diags Chem Age (Lond) 42:291-2 My 25 '40
Studies of sewage purification; metabolism of glucose by activated sludge. C. C. Ruchhoft, J. F. Kachmar and O. R. Placak. bibliog Pub Health Rep 55:582-601 Ap 5 '40
Studies of sewage purification; the removal of glucose from substrates by activated sludge. C. C. Ruchhoft, J. F. Kachmar and W. A. Moore. Pub Health Rep 55:393-423 bibliog(p422-3) Mr 8 '40
Utilization of l-glucose by mammalian tissues and bacteria. H. Rudney. Science 92:112-13 Ag 2 '40

See also
Dextrose
Glucolysis

GLUCOSIDES
Cortin-like effects of steroid glycosides on potassium. R. L. Zwemer and B. E. Lowenstein. bibliog Science 91:75-6 Ja 19 '40
Crystalline phenylurethans (carbanilates) of sugar glycosides. M. L. Wolfrom and D. E. Pletcher. Am Chem Soc J 62:1151-3 My '40
Effects of steroid glycosides and cortin on insulin convulsions and blood sugar. R. L. Zwemer, K. L. Pines and B. E. Lowenstein. bibliog Science 91:600-2 Je 21 '40
Epimeric alcohols of the *cyclo*hexane series; glucoside formation. D. T. C. Gillespie, A. K. Macbeth and J. A. Mills. Chem Soc J p243-5 F '40
Modification of the chemistry and pharmacological action of the cardiac glycosides. J. E. F. Riseman and S. B. London. Science 92:384 O 25 '40
Oxidation of glycosides by means of lead tetraacetate in aqueous solution. J. M. Gorsheintz. Am Chem Soc J 61:3379-81 D '39
Preparation of cholestanol glucosides with all four possible configurations of the glucoside link. R. P. Linstead. bibliog Am Chem Soc J 62:1766-70 Jl '40
Sterol glucosides from expressed soybean oil. M. H. Thornton, H. R. Kraybill and J. H. Mitchell, jr. bibliog Am Chem Soc J 62: 2006-8 Ag '40
Synthesis of glycol glucosides. S. Karjala and K. P. Link. bibliog Am Chem Soc J 62:917-20 Ap '40

GLUCURONE
Structure of trimethyl glucurone. R. E. Reeves. bibliog Am Chem Soc J 62:1616-17 Je '40

GLUCURONIC acid
Constitution of arabic acid; the isolation of methyl heptamethyl aldobionate from methylated degraded arabic acid. J. Jackson and F. Smith. Chem Soc J p74-8 Ja '40
Synthesis of uronic acids. M. Stacey. Chem Soc J p1529-31 O '39

GLUCURONIDES
Preparation of borneol glucuronide. H. K. Murer and L. A. Crandall, jr. Am Chem Soc J 62:674-5 Mr '40

GLUE
Animal glues and their use in woodworking. G. L. Rosser. 39p bibliog(p36-8) Canada. Dept. of mines and resources, Ottawa '39
Infra-red halves glue drying time; manufacture of radio loud speakers. il Elec W 113:1556 My 18 '40
Infra-red heat for gluing. il Elec W 114:1030 O 5 '40
Plywood manufacture; adhesives important in expanding applications. il Can Chem & Process Ind 24:341-2 Jl '40
Use of glue for polishing wheels. Metal Ind 38:31 Ja '40

GLUTACONIC acid
Isotopic exchange reaction between deuterium oxide and *cis-* and *trans*-glutaconic acids. E. M. Evans, H. N. Rydon and H. V. A. Briscoe. diag Chem Soc J p1673-9 N '39

GLUTAMIC acid
Experiments in the glutamic acid series. C. R. Harington and R. C. G. Moggridge. Chem Soc J p706-12 Je '40
p-Nitrobenzoyl-*d*(—)- and *p*-aminobenzoyl-*d*(—)-glutamic acid. H. C. Winter. Am Chem Soc J 62:3266-7 N '40

GLUTAMIC acid hydrochloride
Thermal data; the heat capacities and entropies of guanidine carbonate, glutamic acid hydrochloride, ornithine dihydrochloride, *d*-lactic acid and *l*-lactic acid. H. M. Huffman, E. L. Ellis and H. Borsook. Am Chem Soc J 62:297-9 F '40

GLUTAMINE
Analysis
Method for determining glutamine in plant tissues. G. W. Pucher and H. B. Vickery. bibliog Ind & Eng Chem Anal ed 12:27-9 Ja 15 '40

GLUTARIC acid
Determination of the thermodynamic dissociation constants of dibasic acids. J. C. Speakman. Chem Soc J p855-9 Jl '40

GLUTATHIONE
Hydrolysis of glutathione by blood serum; abstract. G. E. Woodward. Franklin Inst J 228:662-3 N '39
Simplified isolation of glutathione from yeast; abstract. E. F. Schroeder, V. Collier, jr. and G. E. Woodward. Franklin Inst J 228:663-4 N '39

GLUTEN
Étude de la synérèse du gluten de froment. E. Baron. Chimie & Ind 43:277-82 F 20 '40

GLYCERIDES
Component fatty acids and glycerides of some myristica fats. D. Atherton and M. L. Meara. bibliog Soc Chem Ind J 58:353-7 D '39
Component glycerides of a typical cow milk fat. T. P. Hilditch, S. Paul and others. Soc Chem Ind J 59:138-44 Jl '40
Composition of commercial palm oils; partial separation of palm oils by crystallisation as an aid to the determination of the component glycerides. T. P. Hilditch and L. Maddison. Soc Chem Ind J 59:67-71 Ap '40
Drying oils and resins; constitution of a drying oil gel. T. F. Bradley and H. F. Pfann. bibliog il diags Ind & Eng Chem 32:694-7 My '40
Fatty acids and glycerides of neem (margosa) oil. T. P. Hilditch and K. S. Murti. bibliog Soc Chem Ind J 58:310-12 O '39
Fatty acids and glycerides of solid seed fats; mimusops heckelii (baku) kernel fat. D. Atherton and M. L. Meara. Soc Chem Ind J 59:95-6 My '40
Fatty acids and glycerides of the seed fats of allanblackia floribunda and allanblackia parviflora. M. L. Meara and Y. A. H. Zaky. Soc Chem Ind J 59:25-6 Ja '40
Method for the preparation of α,β-diglycerides of fatty acids. B. F. Daubert and C. G. King. bibliog Am Chem Soc J 61:3328-30 D '39
Mixed unsaturated glycerides of liquid seed fats; low-temperature crystallisation of cottonseed oil. T. P. Hilditch and L. Maddison. Soc Chem Ind J 59:162-8 Ag '40
Mixed unsaturated glycerides of liquid seed fats; some non-drying oils. B. G. Gunde and T. P. Hilditch. Soc Chem Ind J 59:47-53 Mr '40
α- and β-Monopalmitin, heats of combustion and specific heats at 25°. T. H. Clarke and G. Stegeman. bibliog Am Chem Soc J 62: 1815-17 Jl '40
Preparation of drying oils; recent developments. D. V. Stingley. bibliog il Ind & Eng Chem 32:1217-20 S '40
Preparation of fatty acid beta-monoglycerides. B. F. Daubert. bibliog Am Chem Soc J 62: 1713-14 Jl '40
X-ray and thermal examination of the glycerides; unsymmetrical mixed triglycerides, $CH_2(O{\cdot}COR){\cdot}CH(O{\cdot}COR){\cdot}CH_2(O{\cdot}COR')$. M. G. R. Carter and T. Malkin. Chem Soc J p1518-21 O '39

GLYCERIN
Density and viscosity of glycerol solutions at low temperatures. E. Green and J. P. Parke. Soc Chem Ind J 58:319-20 O '39
Effect of glycerine on the throwing power of plating baths. F. C. Mathers and W. J. Guest. Electrochem Soc Trans 78 (preprint 6):67-71 O '40
Effect of glycerol on distillation method for water. R. B. Trusler. Ind & Eng Chem Anal ed 12:509-10 S 15 '40
Germany's glycerine problem; the investigation of substitutes. Chem Age (Lond) 43: 101 Ag 31 '40
Glycerine, an antifreeze aid. Bus Transportation 19:82-3 F '40
Glycerine as a lubricant. G. Leffingwell and M. A. Lesser. Mach 46:99 F '40
Glycerine comes into its own; increasingly important rôle in foods and beverages. Business Week p34-5 Ja 13 '40
Glycerine foots as brightening agent in cadmium cyanide baths. F. C. Mathers and W. J. Guest. Electrochem Soc Trans 78 (preprint 12):173-4 O '40
Glycerine in dye preparations and processes. G. Leffingwell and M. A. Lesser. bibliog Textile Col 62:743-4+ N '40
Glycerine in grease lubricants. G. Leffingwell and M. A. Lesser. Mach 46:242 D '39
Glycerine in metal processing. G. Leffingwell and M. A. Lesser. bibliog Metal Ind 38:79-81+ F '40
New method for preventing oil separation; addition of small quantity of glycerine to peanut butter. C. W. Lenth. il Food Ind 11:678-9 D '39
Quantitative determination of certain polyalcohols in the presence of each other. N. Allen, H. Y. Charbonnier and R. M. Coleman. bibliog Ind & Eng Chem Anal ed 12: 384-7 Jl 15 '40
Recent applications of glycerine in textiles. G. Leffingwell and M. A. Lesser. bibliog Rayon 21:553-4, 635-6 S-O '40
Resistance to the uniform motion of a solid through a viscous liquid; mixtures of glycerine and methyl alcohol. R. B. Block. bibliog J Ap Phys 11:635-42 O '40
Synthetic glycerine. Science 91:sup9 F 16 '40
System ethyl alcohol-glycerol-benzene at 25°. H. J. McDonald. Am Chem Soc J 62:3183-4 N '40
Vapour pressure of glycerin solutions at 20°. D. W. Grover and J. M. Nicol. diag Soc Chem Ind J 59:175-7 Ag '40

GLYCERIN chlorohydrin
Industrial uses of chemicals and related materials. Oil Paint & Drug Rep 137:51 My 20; 49 My 27 '40

GLYCEROL. See Glycerin

GLYCERYL maleate
Polyhydric alcohol-polybasic acid reaction; the glyceryl succinate and glyceryl maleate polyesters. R. H. Kienle and F. E. Petke. bibliog Am Chem Soc J 62:1053-6 My '40

GLYCERYL succinate
Polyhydric alcohol-polybasic acid reaction; the glyceryl succinate and glyceryl maleate polyesters. R. H. Kienle and F. E. Petke. bibliog Am Chem Soc J 62:1053-6 My '40

GLYCINE
Effects of certain salt mixtures on the dissociation of glycine and alanine. A. C. Batchelder and C. L. A. Schmidt. bibliog J Phys Chem 43:1121-32 D '39
Essential factor for the growth of bacteriophage. E. L. Ellis and J. Spizizen. Science 92:91 Jl 26 '40
Heats of dilution of aqueous solutions of glycine and glycolamide, and other thermodynamic properties of glycine at 25°. F. T. Gucker, jr. H. B. Pickard and W. L. Ford. bibliog Am Chem Soc J 62:2698-704 O '40
Heats of dilution of aqueous solutions of glycine at 25°. J. M. Sturtevant. Am Chem Soc J 62:1879 Jl '40
Interaction of ions and dipolar ions; solubility of barium and calcium iodates in glycine and in alanine solutions. R. M. Keefer, H. G. Reiber and C. S. Bisson. bibliog Am Chem Soc J 62:2951-5 N '40
Mono- and di-α-furfuryl glycines. J. E. Zanetti and J. T. Bashour. Am Chem Soc J 62: 1511-12 Je '40
New syntheses of basic amino-acids and glycine. D. W. Adamson. Chem Soc J p1564-8 O '39
Seminar on polycondensation of the peptide esters of glycine. G. E. Woodward. Franklin Inst J 230:132-4 Jl '40
Syntheses in the indole series; synthesis of indolyl-3-glyoxylic acid and of r-3-indolylglycine. J. W. Baker. Chem Soc J p458-60 Ap '40

GLYCOCYAMINE
Synthesis of glycocyamine in rat kidney and a mechanism of creatine synthesis in vivo. H. Borsook and J. W. Dubnoff. Science 91:551-2 Je 7 '40

GLYCOFURANOSIDES
Glycofuranosides and thioglycofuranosides; crystalline alkyl furanosides and dimethylacetal of *d*-mannose. A. Scattergood and E. Pacsu. bibliog diags Am Chem Soc J 62:903-10 Ap '40

GLYCOGEN
Polysaccharides; the constitution of glycogen from fish liver and fish muscle. W. N. Haworth, E. L. Hirst and F. Smith. Chem Soc J p1914-22 D '39

GLYCOL
Copolymerization of maleic polyesters. J. B. Rust. il Ind & Eng Chem 32:64-7 Ja '40
Dielectric characteristics of a chemically pure synthetic resin. C. G. Garton. diags Inst E E J 85:625-38 bibliog(p635) N '39
Du Pont ethylene glycol plant in operation. Ind & Eng Chem News ed 18:817 S 25 '40
Freezing points of the system ethylene glycol-methanol-water. F. H. Conrad, E. F. Hill and E. A. Ballman. bibliog Ind & Eng Chem 32:542-3 Ap '40
Kinetics of the reaction between ethylene glycol and lead tetra-acetate. R. P. Bell, J. G. R. Sturrock and R. L. St D. Whitehead. Chem Soc J p82-4 Ja '40
Lac-glycol ethers; esterification and polymerisation. Chem Age (Lond) 42:37 Ja 20 '40
3-Nitrophthalates of the mono ethers of ethylene and diethylene glycol. A. J. Veraguth and H. Diehl. Am Chem Soc J 62:233 Ja '40
Quantitative determination of certain polyalcohols in the presence of each other. N. Allen, H. Y. Charbonnier and R. M. Coleman. bibliog Ind & Eng Chem Anal ed 12: 384-7 Jl 15 '40
Solid derivatives of monoalkyl ethers of ethylene glycol and diethylene glycol. J. P. Mason and J. F. Manning. bibliog Am Chem Soc J 62:1635-40, 3136-9 Jl, N '40
Ternary systems ethylene glycol-potassium carbonate-water and dioxane-potassium carbonate-water. K. A. Kobe and J. P. Stong, jr. bibliog J Phys Chem 44:629-33 My '40

Analysis

Detection and determination of ethylene glycol in lubricating oil. H. Lamprey, E. E. Sommer and A. D. Kiffer. bibliog Ind & Eng Chem Anal ed 12:526-7 S 15 '40

GLYCOLALDEHYDE
Acid-base catalysis in the depolymerisation of dimeric glycolaldehyde. R. P. Bell and J. P. H. Hirst. diag Chem Soc J p1777-80 N '39

GLYCOLAMIDE
Heats of dilution of aqueous solutions of glycine and glycolamide, and other thermodynamic properties of glycine at 25°. F. T. Gucker, jr, H. B. Pickard and W. L. Ford. bibliog Am Chem Soc J 62:2698-704 O '40

GLYCOLS
1,2-Diacylethylene glycols. R. C. Fuson, C. H. McBurney and W. E. Holland. bibliog Am Chem Soc J 61:3246-9 D '39
Drying oils and resins; insolubilization of maleic glycol polyesters by additive polymerization. E. L. Kropa and T. F. Bradley. bibliog il diag Ind & Eng Chem 31:1512-16 D '39
Enediols; 1,2-dimesitylacetylene glycol. R. C. Fuson, C. H. McKeever and J. Corse. Am Chem Soc J 62:600-2 Mr '40
Formation and deterioration of paint films; changes in films of glycol esters of several unsaturated fatty acids under exposure to ultraviolet light. J. L. Overholt and A. C. Elm. Ind & Eng Chem 32:1348-51 O '40
Production of low temperatures; a simplified and inexpensive laboratory procedure. H. L. Wikoff, B. R. Cohen and M. I. Grossman. Ind & Eng Chem Anal ed 12:92-4 F 15 '40
Quantitative analysis of mixtures of polyoxyethylene glycols by fractional distillation. S. Perry and H. Hibbert. Am Chem Soc J 62:2561-2 S '40
Rearrangement of unsaturated 1,4-glycols; *cis* and *trans* forms of 2,5-dimethyl-3-hexene-2,5-diol. J. R. Johnson and O. H. Johnson. bibliog Am Chem Soc J 62:2615-20 O '40
Studies on reactions relating to carbohydrates and polysaccharides; the relation between concentration and viscosity of polyoxyethylene glycols. E. L. Lovell and H. Hibbert. bibliog Am Chem Soc J 62:2144-8 Ag '40
Studies on reactions relating to carbohydrates and polysaccharides; the surface tensions of aqueous solutions of polyoxyethylene glycols. E. L. Lovell and H. Hibbert. bibliog Am Chem Soc J 62:2140-3 Ag '40
Synthesis of glycol glucosides. S. Karjala and K. P. Link. bibliog Am Chem Soc J 62: 917-20 Ap '40

GLYCOLYSIS. See Glucolysis

GLYCOSIDES. See Glucosides

GLYOXAL
1,2-Diacylethylene glycols. R. C. Fuson, C. H. McBurney and W. E. Holland. bibliog Am Chem Soc J 61:3246-9 D '39
Molecular structures of glyoxal and dimethylglyoxal by the electron diffraction method. J. E. LuValle and V. Schomaker. bibliog Am Chem Soc J 61:3520-5 D '39
Oxidation of aldehydes; the combustion zones of butaldehyde, *iso*butaldehyde, propaldehyde, acetaldehyde, glyoxal, and acraldehyde. D. M. Newitt, L. M. Baxt and V. V. Kelkar. diag Chem Soc J p1703-10 N '39

GLYOXYLIC acid
Syntheses in the indole series; synthesis of indolyl-3-glyoxylic acid and of r-3-indolylglycine. J. W. Baker. Chem Soc J p458-60 Ap '40

GOERING, Hermann Wilhelm, 1893-
Takes reins; coordinator of economics in Reich. Business Week p47-8 Ja 13 '40

GOGGLES
Eye protection. Nat Safety N 41:6 Mr '40
Goggles vs. glass eyes. E. R. Granniss. il Safety Eng 80:13-14+ O '40
Priceless possessions; problems of eye injury and protection. L. Greenburg. il Nat Safety N 41:26-7+ Ja '40

GOLD
Distribution of radiophosphorus and radiogold in rats after oral, intraperitoneal and subcutaneous administration. J. O. Ely. Franklin Inst J 230:125-30 Jl '40
Fréquence de l'or dans les brèches houillères. Génie Civil 115:425 D 9 '39
Gold, its past and future. M. E. Shoup. il Min Cong J 26:34-6 F '40
pH change in gold sol formation; reduction of alkaline solution of potassium aurate by formaldehyde. C. L. Throckmartin and C. H. Sorum. J Phys Chem 44:247-55 F '40
Internally converted gamma-rays from radioactive gold. J. L. Lawson and J. M. Cork. Phys R 58:580 S 15 '40
Transmutation of platinum into gold. Science 90:sup8 N 17 '39

See also
Gold as money
Gold dredging
Gold metallurgy
Gold mines and mining
Gold ores

Analysis

Qualitative semimicro-analysis with reference to Noyes and Bray's system: the gold group. C. C. Miller and A. J. Lowe. Chem Soc J p1263-6 S '40

History

Historical and industrial discovery of the elements. J. N. Friend. Chem & Ind 58:1105-6 D 23 '39

Statistics

Bullion market, 1939. Economist 138:sup9 F 17 '40
English gold and silver markets. Comm & Fin Chr 150:2519 Ap 20 '40 [cont monthly]
Gold and silver by months; exports, imports and net balance, 1936-39. Comm & Fin Chr 150:753 F 3 '40
Gold and silver sales of copper companies, 1929, 1938; tabulation. L. Applegate. Annalist 54:726 D 7 '39
Gold bullion in European banks. Published in weekly numbers of Commercial & financial chronicle
Gold in 1939. Eng & Min J 141:42-3+ F '40

GOLD—Statistics—*Continued*
Gold movements to and from the United States, yearly, 1934-1938, monthly, Sept. 1938-Nov. 1939. Fed Res Bul 26:61 Ja '40 [cont monthly]
Gold production outside U.S.S.R.; estimated total production and reported production in Africa, United States, and Canada, monthly, 1929-39. Survey of Cur Business 20:11-12 Mr '40
Gold production outside U.S.S.R. 1929-1938 and monthly Aug. 1938-Oct. 1939. Fed Res Bul 26:61 Ja '40 [cont monthly]
Gold production, revision; monthly, 1932-June, 1940. Fed Res Bul 26:882 Ag '40
Gold reserves of United States and rest of the world and gold movement to the United States, totals from January 1934 to May 1940; charts. Banking 33:49 S '40
Monetary statistics, 1936-1939. Survey of Cur Business 1940 Sup p59 [supplemented in monthly numbers]
Movements of gold to and from the United States, Oct. and Nov. 1939. Fed Res Bul 26:30 Ja '40 [cont monthly]
War boomlet turned depression into prosperity for the nonferrous metals. P. E. Barbour. Annalist 55:176 Ja 25 '40
World gold production for 1939. Economist 138:475 Mr 16 '40
World gold production, 1933-1939; tabulation. Can Min J 61:238 Ap '40

Transportation
Heavy gold shipments to U.S. now generally have little insurance. East Underw 41:1+ Jl 12 '40

GOLD alloys
Induction melting and soldering in the optical industry. W. J. Wrighton and T. C. Jarrett. il Metals & Alloys 11:185-7 Je '40
Investigation of electrodeposited gold alloys. C. B. F. Young and V. E. Herschlag. diag Metal Ind 38:194-6 Ap '40
Variation of the principal elastic moduli of Cu_3Au with temperature. S. Siegel. bibliog diag Phys R 57:537-45 Mr 15 '40

GOLD as money
Abrogation of gold-clauses in international loans and the conflict of laws. J. Weigert. 65p pa $1 New York univ, Law quarterly review, 100 Washington sq, E., New York '40
Bullion market, 1939. Economist 138:sup9 F 17 '40
Capital in a democracy; economic lessons for America of European capitalism's collapse. A. F. Schlomann. Trusts & Estates 71:123-4 Ag '40
Case for the gold standard. W. E. Spahr. 35p Economists' nat. com. on monetary policy, 70 5th av, New York '40
Crider's report on gold disputed. W. E. Spahr. Annalist 56:38+ Jl 11 '40; Discussion. 56:269-70 Ag 29 '40
Financing of foreign trade after war; if dollar is to remain currency of world its value in terms of gold must be fixed. S. Morgan. Comm & Fin Chr 151:2293 O 19 '40
Foreign exchange and gold policies. J. Donaldson. Ann Am Acad 211:18-26 S '40
German view on gold. Trusts & Estates 71: 196 Ag '40
Gold in 1939. Eng & Min J 141:42-3+ F '40
Gold, its past and future. M. E. Shoup. il Min Cong J 26:34-6 F '40
Gold standard in theory and practice. R. G. Hawtrey. 4th ed 315p $2.50 Longmans '39
Golden elephant; gold reserve in U.S. Min & Met 21:88-9 F '40
Gold's post-war possibilities. P. F. Cadman. il Banking 33:25-6 N '40
Gold's war diary; chronology of recent events. Banking 33:39-40 Ag '40
Recent literature on the gold problem; "International monetary economics" by M. A. Heilperin, and "Golden avalanche" by F. D. Graham and C. R. Whittlesey. W. Lichtenstein. J Business 13:146-57 Ap '40
Synopsis of the gold problem; charts. Business Week p18 Mr 30 '40

See also
Money

Statistics
Gold reserves of central banks and governments, 1913-April, 1940. Fed Res Bul 26: 925-34 S '40
Gold reserves of central banks and governments, yearly, December 1913-1927; monthly, June, 1928-April, 1940; revision. Fed Res Bul 26:1000-7 S '40 [cont monthly]

Great Britain
Direct purchases of Empire gold by the British Treasury. Economist 138:819 My 4 '40

Italy
Italy's gold reserve. Economist 138:627 Ap 6 '40

Netherlands
Dutch gold revaluation bill introduced. Economist 138:157 Ja 27 '40
Restoration of Netherlands government's power to prohibit the export of gold. Fed Res Bul 25:1067 D '39
Revaluation of the gold stock of the Netherlands bank. Fed Res Bul 26:544 Je '40

United States
Analysis of changes in gold stock of United States, 1934-38 and monthly, Aug. 1937-Dec. 1939. Fed Res Bul 26:30 Ja '40 [cont monthly]
As I see it! Hitler can bite it off, but can he chew it? C. Benedict. Mag of Wall St 66: 502-3 Ag 10 '40
Asks end of President's power to change gold content of dollar and to buy silver. E. K. Kemmerer. Comm & Fin Chr 150:2980 My 11 '40
Catch in "cash and carry" sales to belligerents. H. M. Bratter. Banking 32:28 Ja '40
Chase national bank warns of dangers of huge monetary gold stocks; abstracts. W. W. Aldrich. Comm & Fin Chr 150:201-2 Ja 13 '40; Banking 32:103 F '40; Bankers M 140: 163-4 F '40
Future of American gold; use the accumulated gold fund to promote foreign trade by offering gold at nominal interest to American banks. P. Haensel. Bankers M 140:383-5 My '40
Gold accumulation in United States not a problem. F. Lehmann. Comm & Fin Chr 150:2981 My 11 '40
Gold and the American economy. S. E. Harris. bibliog R Econ Statis 22:1-12 F '40
Gold and the money of the U.S. H. Morgenthau, jr. Bankers M 140:500-2 Je '40; Excerpts. Comm & Fin Chr 150:2976-7 My 11 '40
Gold; asset or liability? W. A. Brown, jr. Trusts & Estates 71:125-30 Ag '40
Gold hoard advantages and dangers. H. H. Heimann. Bankers M 140:253-4 Mr '40
Gold problem. Nat City Bank p66-71 Je '40; Excerpt. Bankers M 141:79-80 Jl '40
Gold problem solution must await ending of war. W. W. Aldrich. Comm & Fin Chr 150: 2811 My 4 '40
Gold problem today. E. A. Goldenweiser. Fed Res Bul 26:11-14 Ja '40; Same cond. Comm & Fin Chr 150:364-5 Ja 20 '40
Gold stock; questions and answers on title to gold, mechanics of purchase, and sterilization. Fed Res Bul 26:939-40 S '40
Gold—treasure or menace? G. C. Cox. Barron's 19:3 N 20 '39
Gold, what of its future; abstract. T. M. McNiece. Min Cong J 26:39-40 O '40
Inflationary danger in foreign sales for gold. M. S. Eccles. Comm & Fin Chr 149:3196-7 N 18 '39
Money in circulation and monetary gold stocks. Published in weekly numbers of Annalist
Ownership of the monetary gold stock. M. S. Eccles. Fed Res Bul 26:404-5 My '40
Practical way out of the gold problem; solution must await world peace. S. L. Miller. Annalist 55:259-60 F 15 '40

GOLD as money—United States—*Continued*
Prospecting for a gold solution. P. F. Cadman. Banking 32:39 Je; 33:27-8 Jl '40
Real danger in our gold. H. Scherman. 82p pa $1 Simon and Schuster, New York '40
Strategy on the gold front. E. E. Agger. Banking 32:25-6 Je '40
Too much gold! Too much for what? asks economist. M. Palyi. il Am Business 10:14-15+ Ap '40
Twenty billions of American gold: is it a white elephant? O. M. W. Sprague. il Min & Met 21:383-5 Ag '40
Utilization of the monetary gold stock; process by which the Treasury acquires gold and puts it into use. Fed Res Bul 26: 531-2 Je '40; Same. Comm & Fin Chr 150: 3895 Je 22 '40
Wealth for gold. J. D. C. Weldon. il Mag of Wall St 65:337-9+ D 30 '39

GOLD coating
Colored silvering of glass; lead sulfide, gold and copper processes. B. Schweig. Glass Ind 21:353-6 Ag '40

GOLD compounds
Constitution of complex metallic salts; the stability of the 4-covalent auric complex. F. G. Mann and D. Purdie. Chem Soc J p1235-9 S '40

Therapeutic use

See also
Myochrysin

GOLD dredging
Jig versus riffle concentration in gold dredging. T. D. Galloway. flow sheet Eng & Min J 141:40-1 Je '40
Recent developments in Idaho dredging. F. A. Kennedy. flow sheet il Min Cong J 26:22-4 Mr '40
Running a 6-cu. ft. dredge at Helena, Montana. D. M. Mann. il Eng & Min J 141:64 Ag '40

Cost

Some operating costs of dredging on the Klamath river. V. Austin. il Eng & Min J 141:57 S '40

GOLD metallurgy
Amalgamation; de Phily patent. Can Min J 61:160-1 Mr '40
Arsenical gold ores; some tests on the cyanidation of a calcined arsenical gold ore at the hard rock gold mine. H. M. Howard. flow sheet il Can Min J 61:421-8 Jl '40
Charcoal as a gold precipitant in conjunction with flotation. M. W. von Bernewitz. flow sheets Eng & Min J 141:43-7 Mr '40
Chronic arsine poisoning among workers employed in the cyanide extraction of gold; a report of fourteen cases. F. M. R. Bulmer and others. bibliog J Ind Hygiene 22:111-24 Ap '40
Gold extraction by cyanide; variations in the process as applied by Canadian mills. N. Munro. bibliog flow sheets Can Chem & Process Ind 24:439-42 S '40
Guysborough is producing 600 oz. of gold per month. R. Charlick. flow sheet il diag Eng & Min J 141:55-7 Ag '40
Metallurgical study of Idaho placer sand. A. W. Fahrenwald and others. 10 numb l bibliog(l 5-6) Univ. of Idaho, Moscow '39
Milling practice in the Sand River area. H. Hanson. il Can Min J 61:151-2 Mr '40
Mining and milling methods and costs at Knob Hill mine, Republic, Wash. C. L. Cooper. flow sheet U S Bur Mines Information Circ 7123:1-29 '40
Open-pit mining and milling methods and costs at the Yellow Aster mine, Randsburg, Calif. A. W. Frolli. flow sheets diags plans U S Bur Mines Information Circ 7096:1-46 '40
Operating a custom mill in the Philippines. D. M. Young. flow sheet il plan Eng & Min J 141:46-51 O '40
Operations at the Haile gold mine, Kershaw, S.C. E. Newton, D. B. Gregg and M. Mosier. pls U S Bur Mines Information Circ 7111:12-35 '40
Ore concentration and milling in 1939. E. W. Engelmann. il Min & Met 21:36-9 Ja '40
Policy of Surcease mine, Yankee Hill, Calif. a conservative one. A. E. Jones. flow sheets il Eng & Min J 141:48-9 Ag '40
Present milling practice at the Porcupine gold mines. H. Hanson. flow sheets il Can Min J 60:804-9 D '39
Progress reports, Metallurgical division; electrometallurgical investigations; recovery of antimony from gold ores. J. Koster and M. B. Royer. il diags U S Bur Mines Rep of Invest 3491:1-23 '40
Progress reports, Metallurgical division; ore-testing studies; primarily precious metals. E. S. Leaver, J. A. Woolf and A. P. Towne. U S Bur Mines Rep of Invest 3515:1-76 '40
Recent advances in the applied chemistry of the rare metals; flotation treatment of gold ores. R. H. Atkinson. Chem & Ind 59:195 Mr 23 '40
Recovery of lode gold in jigs. J. M. Hague. flow sheets bibliog map Eng & Min J 141: 40-5 Ap; 48-50 My '40
Refinery slags; zinc-gold precipitate. M. B. Scott. Can Min J 61:292-6 My '40
Roasting gold-silver sulphide ores and concentrates. M. W. von Bernewitz. bibliog diags plan Can Min J 61:220-4, 297-9, 364-70, 437-41, 518-24, 651-7 Ap-Ag, O '40
Short history and description of Reno mill. A. C. Norcross. flow sheet Can Min J 61: 442-3 Jl '40
Some milling problems at the Raub Australian plant. E. C. Bitzer and C. B. Nines. flow sheet il Eng & Min J 141:33-8 Je; 57-9 Jl '40
Summit King mills 70 tons of silver-gold ore daily. P. G. Dobson. flow sheet il diag Eng & Min J 141:51-2 Ag '40
Three years of operation with a Hadsel mill; Demonstration gold mines, in the Philippines. G. A. Bell. flow sheet diag Eng & Min J 141:32-3 Ja '40

See also
Cyanide process

GOLD miners
Grammar of Witwatersrand silicosis. A. Mavrogordato. Chem & Ind 59:510-12 Jl 13 '40
Silicosis in gold miners of gold mines of Bellière in Maine-et-Loire; abstract. R. Amsler and J. Cady. J Ind Hygiene 22:sup57 Mr '40

GOLD mines and mining

See also
Gold dredging

Costs

Union corporation group costs. Economist 138: 1120-1 Je 29 '40

Placer mining

Gold placers of the Secesh basin, Idaho county, Idaho. S. R. Capps. 43p Idaho Bur of Mines and Geology, Moscow '40
Mining of deep-seated placer deposits. J. H. Robertson. Can Min J 61:648-50 O '40
Mobile dry placer plant. T. E. Smith. Eng & Min J 141:50 Je '40
New developments in placer mining and recovery of gold; abstract. C. M. Romanowitz and H. A. Sawin. Min Cong J 26:33-4 O '40
New placer gold mining film. Can Min J 60: 823 D '39
Placer mining for gold near Dahlonega, Ga. G. Peyton. il Eng & Min J 141:39 Ap '40
Placer mining for Shasta dam; world's longest conveyor system will carry gravel washed for gold. il Eng & Min J 141:52-3 Jl '40
Placering has its pitfalls! M. H. Guise. Eng & Min J 141:53 Ja '40
Testing of placer deposits by drilling. J. H. Robertson. diags Can Min J 61:355-8 Je '40
Whit Kuntz gets his beans; placer mining at Golden, N.M. C. Holbrook. il Comp Air M 45:6155-6 My '40

See also
Gold dredging

Alaska

Mineral industry of Alaska in 1938. P. S. Smith. fold map U S Geol S Bul 917-A:1-113 '39

GOLD mines and mining—Alaska—*Continued*
Origin of the muck-silt deposits at Fairbanks. R. Tuck. map Geol Soc Bul 51: 1295-1310, pl 1-2 S '40

Arabia

Gleaning gold in Arabia. J. E. Bryans. Can Min J 61:153-5 Mr '40
Mining gold in the Hedjaz. S. O. Hatton. il diag Eng & Min J 141:57-8 Ap '40

Australia

Australia, 1939. P. G. Tait. Eng & Min J 141:69-70 F '40
Gold exploration and finance company of Australia 6th ordinary general meeting, London. Economist 139:262 Ag 24 '40
Gold fields Australian development company 7th ordinary general meeting, London. Economist 138:989-90 Je 1 '40
Great Boulder proprietary gold mines limited, general meeting, London. Economist 139: 411 S 28 '40
Great Boulder proprietary gold mines profits and ordinary general meeting. Economist 138:1120; 139:26 Je 29-Jl 6 '40
Lake view and star, limited, 29th ordinary general meeting, London. Economist 137: 442 D 16 '39

British Columbia

Mining in British Columbia during 1939. H. G. Nichols. il Can Min J 61:102-7 F '40

California

Gold quartz veins of Grass valley. W. D. Johnston, jr. il diags maps U S Geol S Professional Pa 194:1-101, pl 1-39 '40
Hydraulicking for gold at Poverty Hill. J. M. Ehrhorn. il Eng & Min J 141:65-8 Ag '40
Mine electrification pays two ways. il Elec W 113:1240 Ap 20 '40
Open-pit mining and milling methods and costs at the Yellow Aster mine, Randsburg. A. W. Frolli. flow sheets diags plans U S Bur Mines Information Circ 7096:1-46 '40
Placer mining for Shasta dam; world's longest conveyor system will carry gravel washed for gold. il Eng & Min J 141:52-3 Jl '40
Policy of Surcease mine, Yankee Hill, a conservative one. A. E. Jones. flow sheets il Eng & Min J 141:46-9 Ag '40
Sampling the Picacho with drill and vacuum collector. L. W. Dupuy. il diags Eng & Min J 141:29-31 Ja '40
Some operating costs of dredging on the Klamath river. V. Austin. il Eng & Min J 141:57 S '40

Canada

Brief history of Canadian mining. W. H. Losee. il Can Min J 60:647-52 N '39
Canada, 1939. J. B. DeMille. Eng & Min J 141:61-3+ F '40
Canadian gold mines maintain earnings; data for 20 representative companies. A. T. Christie. Barron's 20:20 O 7 '40
Favorable financial results attend new gold-mine development in Canada. J. L. Maury. il Min & Met 20:409-11 S '39; Discussion. 20:512; 21:101 N '39, F '40
Practical stope support in deep mine workings; with discussion and cost data on granite masonry. W. J. Bichan. il diag Can Min J 60:799-803 D '39
Summary review of the gold mining industry in Canada, 1939. 65p pa 50c Canada. Dominion bur. of statistics, Ottawa '40

See also
Noranda mines, limited

Colorado

Carlton drainage tunnel to give Cripple Creek new life. C. H. Vivian. il diag plan Comp Air M 45:6162-9 Je '40
Cripple Creek. Comp Air M 45:6181 Je '40
Cripple Creek digs for comeback; $2,000,000 tunnel system to drain off underground streams. il Business Week p21-2 D 23 '39
Deeper drainage for Cripple Creek district; Carlton tunnel. M. I. Signer. il Eng & Min J 140:34-6 D '39
In the La Platas. R. H. Toll. il map Eng & Min J 141:38-41 Mr '40
Mining methods and costs at the South Burns shaft of Golden conqueror mines, inc, Cripple Creek. A. S. Konselman. diags maps U S Bur Mines Information Circ 7094:1-13 '40
Preliminary report on the Gold Hill mining district, Boulder county. E. N. Goddard. pls maps Colorado Scientific Soc Proc [Denver] v 14, no 4:103-39 '40 (pa $1)
Volcanic activity in the Cripple Creek gold mining field. Science 91:sup12 My 10 '40

Georgia

Placer mining for gold near Dahlonega. G. Peyton. il Eng & Min J 141:39 Ap '40

Gold Coast, Africa

Ashanti goldfields corporation 43d ordinary general meeting. Economist 138:272 F 10 '40

Idaho

Gold placers of the Secesh basin, Idaho county. S. R. Capps. 43p Idaho Bur of Mines and Geology, Moscow '40
Metallurgical study of Idaho placer sand. A. W. Fahrenwald and others. 10 numb l bibliog(l 5-6) Univ. of Idaho, Moscow '39
Recent developments in Idaho dredging. F. A. Kennedy. flow sheet il Min Cong J 26: 22-4 Mr '40

India

Champion Reef gold mines of India ordinary general meeting, London. Economist 138:792 Ap 27 '40
Ooregum gold mining company of India ordinary general meeting, London. Economist 138:832 My 4 '40

Malaya, British

Some milling problems at the Raub Australian plant. E. C. Bitzer and C. B. Nines. flow sheet il Eng & Min J 141:33-8 Je; 57-9 Jl '40

Manitoba

Mining in Manitoba during 1939. J. P. de Wet. il Can Min J 61:87-93 F '40

Montana

Running a 6-cu. ft. dredge at Helena. D. M. Mann. il Eng & Min J 141:64 Ag '40

Nevada

Geology of the Searchlight district, Clark county, E. Callaghan. diags plans map U S Geol S Bul 906-D:135-88, pl 41-52 bibliog(p138-9) '39
Goldacres mine supplies 35-ton cyanide plant. E. J. Bumsted. il Eng & Min J 141:57 Ag '40
Summit King mills 70 tons of silver-gold ore daily. P. G. Dobson. flow sheet il diag Eng & Min J 141:50-2 Ag '40

New Guinea

Metasomatism associated with tertiary mineralization in New Guinea. N. H. Fisher. maps Econ Geol 34:890-904 D '39

New Mexico

Mobile dry placer plant. T. E. Smith. Eng & Min J 141:50 Je '40

Nicaragua

Grinding balls take to the airways; copper molybdenum forged alloy steel balls help solve high-cost air transportation problem of La Luz mines, ltd. F. A. McCoy. il Min Cong J 26:34-5 Ag '40

Nova Scotia

Guysborough is producing 600 oz. of gold per month. R. Charlick. flow sheet il diag Eng & Min J 141:53-7 Ag '40

Ontario

Arsenical gold ores; some tests on the cyanidation of a calcined arsenical gold ore at the hard rock gold mine. H. M. Howard. flow sheet il Can Min J 61:421-8 Jl '40
Big stope at Buffalo-Ankerite. F. K. McKean. diags Can Min J 61:639-43 O '40

GOLD mines and mining—Ontario—*Continued*
Hard rock gold mining methods begin production, 1870; historical note. G. A. Cuthbertson. Can Min J 61:677 O '40
Milling practice in the Sand River area. H. Hanson. il Can Min J 61:151-2 Mr '40
Present milling practice at the Porcupine gold mines. H. Hanson. flow sheets il Can Min J 60:804-9 D '39

Oregon

Cornucopia Gold holds maintenance low on its mucking machines. A. V. Quine. diags Eng & Min J 141:63 Ag '40

Philippine Islands

Gold deposits of the Paracale-Mambulao district. R. D. Gilbert. il map Eng & Min J 141:45-50 Je '40
Mine valuation. W. F. Boericke. il Can Min J 61:644-7 O '40
Operating a custom mill in the Philippines. D. M. Young. flow sheet il plan Eng & Min J 141:46-51 O '40
Three years of operation with a Hadsel mill: Demonstration gold mines. G. A. Bell. flow sheet diag Eng & Min J 141:32-3 Ja '40

Quebec

Distribution and structural control in Malartic area. H. C. Gunning and J. W. Ambrose. Can Min J 61:660-1 O '40
Mining in Quebec during 1939. N. R. Arthur. il Can Min J 61:82-6 F '40
Mining methods at East Malartic. N. J. Thompson. il plans Can Min J 61:203-10 Ap '40

Rhodesia

Cam and motor gold mining company (1919) ordinary general meeting, London. Economist 137:485 D 23 '39

South Africa

South Africa, 1939. S. N. Hoffenberg. Eng & Min J 141:67-9 F '40
Status of gold shares. Economist 139:463-4 O 12 '40

See also
Gold mines and mining—Transvaal

South Carolina

Operations at the Haile gold mine, Kershaw. E. Newton, D. B. Gregg and M. Mosier. U S Bur Mines Information Circ 7111:1-42, pl 1-12 '40

South Dakota

Homestake bucks rising costs. J. J. Hipple. il Mag of Wall St 67:98-9+ N 2 '40

Transvaal

Consolidated gold fields of South Africa report, years to June 30, 1937-39, and ordinary general meeting, London. Economist 137:385, 394 D 9 '39
Developments on and around the Witwatersrand. A. L. du Toit. map Econ Geol 35:98-108 Ja '40
East Rand Proprietary and Anglo-American Development progress. Economist 138:782 Ap 27 '40
Geduld Proprietary, East Geduld, Marievale, Grootvlei, Van Dyk Consolidated, ordinary general meetings. Economist 138:1089-92 Je 22 '40
Investigation into the permissible load-carrying capacity of steel wire ropes for hoisting with special reference to deep-level winding on the Witwatersrand goldfields. J. J. P. Doland and W. G. Jackson. bibliog diag Inst Mech Eng J & Proc 142:Proc 225-60 Ja '40
Mining reports. Economist 138:583-4, 632-4, 698+, 741 Mr 30-Ap 20 '40
More air conditioning for gold mines; Robinson Deep mine, Johannesburg, South Africa. J. A. Bentley. Heating-Piping 12: 347 Je '40
Rand mines, City Deep, Crown mines, annual meetings, Johannesburg. Economist 138:988-9 Je 1 '40
Rand quarterly reports, January-March, 1940. Economist 138:942 My 25 '40
Rand taxation and Kaffirs. Economist 138: 431-2 Mr 9 '40
Union corporation and other Kaffir dividends. Economist 137:426, 476 D 16-23 '39
Union corporation ordinary general meeting, Johannesburg. Economist 138:1056 Je 15 '40
Witwatersrand goldfield; historical note. Engineer 169:454 My 17 '40

Utah

Drainage and development at a Utah mine; Park City consolidated mines company. G. M. Wiles and others. il diag map Eng & Min J 141:58-61 Ag '40

Virginia

Vaucluse gold mine, Orange county; with mining costs and milling costs data. C. E. Bass. maps Econ Geol 35:79-91 Ja '40

Washington (state)

Mining and milling methods and costs at Knob Hill mine, Republic, Wash. C. L. Cooper. flow sheet U S Bur Mines Information Circ 7123:1-29 '40

GOLD ores
Albite and gold. D. Gallagher. bibliog (166 references) Econ Geol 35:698-736 S '40
Dangers of careless sampling and assaying. B. W. Hill. Eng & Min J 141:38 O '40
Developments on and around the Witwatersrand. A. L. du Toit. map Econ Geol 35:98-108 Ja '40
Distribution and structural control in Malartic area. H. C. Gunning and J. W. Ambrose. Can Min J 61:660-1 O '40
Genetic relations of gold deposits and igneous rocks in the Canadian shield. E. S. Moore. bibliog Econ Geol 35:127-39 Mr '40
Gold deposits of the Paracale-Mambulao district. R. D. Gilbert. il map Eng & Min J 141:45-50 Je '40
Gold quartz veins of Grass valley, California. W. D. Johnston, jr. il diags maps U S Geol S Professional Pa 194:1-101, pl 1-39 '40
Metasomatism associated with tertiary mineralization in New Guinea. N. H. Fisher. maps Econ Geol 34:890-904 D '39
Mining gold in the Hedjaz. S. O. Hatton. il diag Eng & Min J 141:57-8 Ap '40
Paragenesis in the Hollinger veins. M. R. Keys. il Econ Geol 35:611-28 Ag '40
Roasting gold-silver sulphide ores and concentrates. M. W. von Bernewitz. bibliog diags plan Can Min J 61:220-4, 297-9, 364-70, 437-41, 518-24, 651-7 Ap-Ag, O '40
Rock alteration in the Uchi gold area. J. D. Bateman. bibliog il map Econ Geol 35:382-404 My '40
Vaucluse gold mine, Orange county, Va.; with mining costs and milling costs data. C. E. Bass. maps Econ Geol 35:79-91 Ja '40
Zonal mineralization and silicification in the Horseshoe and Sacramento districts, Colorado. R. D. Butler and Q. D. Singewald. bibliog il diag maps Econ Geol 35:793-838 N '40

GOLD plating
Art of gold plating. F. B. Jacobs. il Steel 107:59+ O 7 '40
Gold plating brass moulding. C. B. F. Young. Metal Finishing 38:329 Je '40
Induction melting and soldering in the optical industry. W. J. Wrighton and T. C. Jarrett. il Metals & Alloys 11:185-7 Je '40
Investigation of electrodeposited gold alloys. C. B. F. Young and V. E. Herschlag. diag Metal Ind 38:194-6 Ap '40
Reflector surfaces for infra-red lamps. E. R. D'Olive. diags Elec W 112:1890+ D 30 '39
Synchronous motor drive for gold mill; used for rolling either gold or silver plate. il Elec W 114:1346+ N 2 '40

GOLD sodium thiomalate. See Myochrysin

GOLD standard. See Gold as money

GOLDEN GATE bridge. See San Francisco Bay bridges

GOLDEN GATE international exposition. See San Francisco-Golden Gate international exposition

GOLDENROD
Progress in rubber from goldenrod. L. G. Polhamus. Rubber Age 47:25 Ap '40

GOLDFISH
Life blood of this business is its letters; Ozark goldfish. Ptr Ink Mo 40:62 Ja '40
Scavengers; gold fish remove scum from constant temperature bath. Sci Am 163:265 N '40

GOLDING, Moses, b. 1819
Moses Golding. por(cover) Am Cer Soc Bul 19:205-6 Je '40

GOLDMAN process
Non-woven cloth. Business Week p24 D 30 '39

GOLDSMITH, Lester M.
Tank steamer paper wins medal for Atlantic's chief engineer. Nat Pet N 31:R509 N 29 '39

GOLDSMITHS
Ancient trade guilds. J. D. Little. il Metal Ind 38:257-9 My '40

GOLF
Diet of golf players; effect of increasing blood sugar; abstract. P. Michael. Science 92:sup10 Ag 2 '40

GOLF balls
Golf balls; rating. Consumers' Research Bul (Gen bul ser) 9:22 Je '40

Advertising
Glory for the golf duffer. il Ptr Ink 191:19 My 10 '40

GOLF links
Lighting
Lighted golf range brings $75 monthly. il Elec W 113:612 F 24 '40

GOMBERG reaction
Union of aryl nuclei; a modification of the Gomberg reaction. J. Elks, J. W. Haworth and D. H. Hey. Chem Soc J p1284-6 S '40

GONADOTROPHINS
Effect of thiol compounds on gonadotrophins. H. L. Fraenkel-Conrat, M. E. Simpson and H. M. Evans. bibliog Science 91:363-5 Ap 12 '40

GONIOMETERS
Apparatus for determining the orientation of crystals by X-rays. F. E. Haworth. il diags R Sci Instr 11:88-91 Mr '40

GONORRHEA
Gonococcus and gonococcal infection. F. R. Moulton, ed. 171p $2.50 Pub. for Am. assn. for the advancement of science, by Science press, Lancaster, Pa. '39
Unto the fourth generation; gonorrhea and syphilis, what the layman should know. I. Simons. 243p $2.50 Dutton '40

GOOD housekeeping (periodical)
A.N.P.A. on press freedom issue, would intervene in Good House case. Ptr Ink 191:93-4 My 31 '40
Chemistry in Good Housekeeping case. Ptr Ink 190:38+ Mr 29; 191:20 My 10 '40
Good House case concludes. Ptr Ink 192:24 Jl 19 '40
Good House case moves to Chicago. Ptr Ink 191:23-4 Ap 26 '40
Heavy artillery; introduces expert witnesses. R. W. Lawrence, jr. Ptr Ink 191:67, 70-1 Ap 19 '40
Mr Waldo's baby; how Good housekeeping institute came to be, as brought out in F.T.C. hearing. G. A. Nichols. Ptr Ink 190:15-18 F 16 '40
Rough stuff; how Federal trade commission conducts a hearing. G. A. Nichols. Ptr Ink 189:15-16+ D 22 '39
Silk, rayon and otherwise. Ptr Ink 191:22 Je 28 '40
That exploded ham. Ptr Ink 191:30 My 3 '40
Vitamin field day; expert testimony. Ptr Ink 191:23-4 My 17 '40
What is false advertising? FTC case against Good Housekeeping. Business Week p24-6 D 23 '39
Women, at F.T.C.-Good Housekeeping hearing, make strong case for advertising. D. E. Rowan. Ptr Ink 189:43-4+ D 8 '39

GOOD will (in business)
See also
Advertising, Educational
Advertising, Institutional
Complaints

GOODENOUGH, Sir Francis, 1872-1940
Sketch; appreciations. por Gas J (Lond) 229:132-4, 177-8 Ja 17-24 '40

GOODNESS of fit. See Chi square test

GOODRICH, Benjamin Franklin
Builders of rubber. R. H. Wolf. por Rubber Age 46:369-72 Mr '40

GOODRICH, B. F., company
Annual report, 1939. Comm & Fin Chr 150:1767 Mr 16 '40
Another look. il Mag of Wall St 66:679 S 21 '40
Earnings discounted. W. E. Kraemer. Mag of Wall St 65:820-1+ Ap 6 '40
Goodrich mechanical rubber; expands its elastic frontier with synthetics and 32,000 products. il Fortune 21:64-9+ Je '40
Meet Mr Collyer at the helm of the B. F. Goodrich company. A. St John. Barron's 20:9 O 7 '40
Semi-annual report; joins forces with Phillips Petroleum to make synthetic rubber. Comm & Fin Chr 151:701 Ag 3 '40

GOODRICH, Ernest Payson, 1874-
Sketch. por Civil Eng 9:750 D '39

GOODYEAR, Charles, 1800-1860
Oldest Goodyear relic; letter written by Charles Goodyear. il India Rubber W 101:46 Mr '40

GOODYEAR tire and rubber company
Announces Chemigum, its new synthetic; Litchfield resigns; Thomas now president. il India Rubber W 102:59-60 S '40
Another look at Goodyear. Mag of Wall St 66:175 My 18 '40
Goodyear blimps. R. G. Picinich, jr. il Aviation 39:48-9, 120 O '40
Income account for calendar years 1936-39. Comm & Fin Chr 150:1279 F 24 '40
Report to employees. India Rubber W 101:57 Mr '40
Semi-annual report. Comm & Fin Chr 151:987 Ag 17 '40
Thomas assumes new duties as president of Goodyear. Rubber Age 47:397 S '40

GOVERNMENT accounting
Accounting controls in the federal government. E. F. Bartelt. 24 l Am. inst. of accountants, 13 E. 41st st, New York
Control of expenditures in the local governmental units of Illinois. H. K. Allen. Ill U Bur of Business Research Bul 61:1-58 '40
Control of federal expenditures; comparing the management of United States government with that of a large corporation. E. F. Bartelt. N A C A Bul 21:1087-1125 My 1 '40
Cost accounting practices in federal government departments. H. S. Bennion. Edison Elec Inst Bul 7:555-8+ N '39
Federal accounting and reporting. L. Morey. J Account 69:178-85 Mr '40
Governmental cost accounting. C. W. Tiller. 78p,xiip bibliog(piii-xii) pa $1 Municipal finance officers' assn., 1313 E. 60th st, Chicago '40
Municipal and governmental accounting. C. H. Chatters and I. Tenner. 794p bibliog(p549-77) $6; school ed $4.50 Prentice-Hall '40
Some purposes and principles of government accounting. J. L. Chambers. J Account 70:135-41 Ag '40
See also
Municipal accounting

GOVERNMENT advertising
Advertising enlisted. Business Week p38 Ag 24 '40
Army to advertise for recruits. il Ptr Ink 192:14 Ag 16 '40
See also
State advertising

GOVERNMENT aid to business
Exclusive industrial privileges in Cuba; text of constitutional provision. J. L. Brown. Comm Rep p703-4 Ag 17 '40; Same. Oil Paint & Drug Rep 138:3+ Ag 26 '40
Loan and purchase program for 1940 flue-cured tobacco crop announced by Department of agriculture. Comm & Fin Chr 151: 914 Ag 17 '40

See also
Economic policy
Export trade—Government aid
Government loans and grants
Government loans to industry
Government publications
Reconstruction finance corporation
Transportation—Federal aid

GOVERNMENT banking. See Government loans and grants

GOVERNMENT boards and commissions

See also
Federal communications commission
Federal power commission
Federal trade commission
Interstate commerce commission

GOVERNMENT bonds. See Bonds, Government

GOVERNMENT buildings. See Public buildings

GOVERNMENT bureaus. See United States—Executive departments

GOVERNMENT competition with business
Can the Union endure, half socialist, half free? A. W. Atwood. Pub Util 26:555-63 O 24 '40
Recent newspaper series on government in business. Pub Util 25:41-5 Ja 4 '40
When does control become tyranny? P. F. Cadman. Bankers M 140:551 Je '40

See also
Government loans and grants

GOVERNMENT contracts. See Contracts, Government; Purchasing, Government

GOVERNMENT corporations
Agencies involved in the administration's hopes to avoid raising debt limit; recapturing excess capital funds of government corporations. S. L. Miller. Annalist 55:651-2+ My 9 '40
Corporations nobody knows. H. Cory. Nation's Business 28:30, 32+ N '40
Federal corporations and credit agencies, 1939. Survey of Cur Business 20:42-4 F '40
Government financial agencies. H. M. Bratter. Banking 33:35-48 S '40
Governmental corporations and credit agencies, finance, 1935-1939. Survey of Cur Business 1940 Sup p63-4 [supplemented in monthly numbers]
Governmental corporations and credit agencies, Oct. 31, 1939. Fed Res Bul 26:43 Ja '40 [cont monthly]
Incorporated bureaucracy; thirty-one corporate agencies of federal government submit their financial report. H. F. Byrd. Manuf Rec 109:24-5+ Mr '40
Monthly report on governmental corporations and credit agencies. Published monthly in Commercial & financial chronicle
Public corporation as a regulatory device; British experiments. D. F. Pegrum. J Land & Pub Util Econ 16:335-43 Ag '40
RFC forms two more government corporations to store aviation gasoline and to lend on plant equipment. Comm & Fin Chr 151: 1075 Ag 24 '40
U.S. bookkeeping hit; Morgenthau advises Congress to give Treasury control over government credit agencies. Business Week p17+ F 24 '40
United States government corporations and credit agencies in 1939. H. Edmiston and G. Anderson. Fed Res Bul 26:298-305 Ap '40

See also
Federal surplus commodities corporation
Home owners' loan corporation
Reconstruction finance corporation
Rubber reserve company

Real estate operations
Uncle Sam's real estate holdings decline. G. E. Anderson. Barron's 20:5 Ap 29 '40

GOVERNMENT correspondence
More costly than battleships; annual billion dollar outlay for U.S. official correspondence. Nation's Business 28:31-2+ S '40

GOVERNMENT credit agencies. See Government loans and grants

GOVERNMENT employees
Changes in cost of living of federal employees in Washington, D.C., December, 1938-December, 1939. Monthly Labor R 50:926-9 Ap '40
Federal government has 12,400,000 on monthly payroll amounting to $509,000,000, according to study by National small business men's association. Comm & Fin Chr 150: 3139-40 My 18 '40
Fortune survey; government vs. business as employer. Fortune 21:133 F '40
Hiring of older workers by war and navy departments. Monthly Labor R 51:622-3 S '40
One thousand strikes of government employees. D. Ziskind. 279p bibliog(p261-8) $3 Columbia univ. press '40
Opportunities for women chemists in Washington. R. K. Worner. J Chem Educ 16: 583-5 D '39
Opportunities in government employment; getting a job in federal, state, or municipal government. L. J. O'Rourke. 307p $1 Garden City pub. co, New York '40
Personal-service expense in relation to total federal expenditures. H. Byer and A. Edwards. Monthly Labor R 50:1224-8 My '40
Role of the lawyer in management. P. M. Glick. Advanced Management 5:68-71+ Ap-Je '40
Survey of university graduates employed in government service, 1928 to 1936. L. M. Short and G. O. Pehrson. 40p Univ. of Minnesota, Public administration training center, Minneapolis '39
Too many elections; public service a profession, needing specialized training. C. B. Wivel. Personnel J 18:249-57 Ja '40
Warnings on violations of Hatch act issued by Civil service commission and Attorney General Jackson. Comm & Fin Chr 151: 928-9 Ag 17 '40

See also
Civil service
Municipal employees
State employees

Salaries
Federal engineer and the American society of civil engineers. H. Stabler. Civil Eng 10:181-3 Mr '40
Salaries of government employees in El Salvador, 1939. Monthly Labor R 51:452-3 Ag '40

Training
Agriculture department trains personnel men. P. W. Melton. Personnel J 19:25-9 My '40

GOVERNMENT employees insurance company, Washington, D.C.
Company analysis. Spectator (Property ed) 5:28-9 Mr 7 '40

GOVERNMENT expenditures
Capital budget; the latest form of rationalizing the huge federal deficit. J. C. Gebhart. bibliog Annalist 55:37+, 67-8 Ja 11-18 '40
Categorical negative to priming the pump. L. H. Douglas. Banking 32:87-8 D '39
Fortune survey on government spending; what to spend for; when to balance the budget; how to pay the bills. Fortune 21: 66-7+ Ap '40
Government spending and economic expansion. A. E. Burns and D. S. Watson. 176p $2.50; pa $2 Am. council on public affairs, Washington, D.C. '40
How government will finance the armament spending; its impact on business and investment values. W. Gates. Mag of Wall St 66: 722-3+ O 5 '40
Inflation and full employment imminent? L. M. Hostetler. Barron's 20:7+ S 23 '40

GOVERNMENT expenditures—*Continued*
Measure of purchasing power inflation and deflation. M. Shields. Am Statis Assn J 35:461-70 S '40
Personal-service expense in relation to total federal expenditures. H. Byer and A. Edwards. Monthly Labor R 50:1224-8 My '40
Plea for gradual move toward balanced federal budget. J. H. Case. Comm & Fin Chr 150:925-6 F 10 '40
President Roosevelt's reported remarks on government debts examined. D. W. Ellsworth. Annalist 55:225-6 F 8 '40
Reasons for believing there may be a real drive for economy this winter. E. Blair. Barron's 19:4 N 27 '39
Roosevelt budget plan shows U.S. looks for better 1940 business. M. Nadler. Ptr Ink 190:11-12+ F 2 '40
Timing the armament boom. L. Stern. il Mag of Wall St 66:608-10+ S 7 '40

See also
Budget
Finance
Government loans and grants
Municipal finance
Public works—Economic aspects
State finance
Taxation
Unemployment—Relief measures—Federal relief
United States—Appropriations and expenditures

GOVERNMENT housing. See Housing projects, Government

GOVERNMENT investigations
Consumers' red network; Dies investigation. Business Week p17-18 D 16 '39
Developments of congressional investigative power. M. M. McGeary. 172p bibliog(p161-5) $2.25 Columbia univ. press '40
Dies committee annual report. Comm & Fin Chr 150:213-14 Ja 13 '40
German ties in U.S. business will be probed by Senate. Oil Paint & Drug Rep 138:3+ O 14 '40
Labor mediation seen as next goal. Business Week p24+ Ja 27 '40
La Follette quiz lacks fireworks; civil liberties inquiry. Business Week p38-9 Ja 13 '40
More skeletons from NLRB closet; House inquiry. Business Week p27 D 23 '39
NLRB's own relations troubled; House inquiry. Business Week p34+ D 16 '39
Open shop under fire; La Follette inquiry. Business Week p26-7 Ja 27 '40
Well, it's here! F.T.C. gets appropriation for national advertising inquiry. Ptr Ink 190: 113-14 Ja 26 '40

See also
Federal trade commission
Petroleum industry and trade—United States—Antitrust suit

Monopoly investigation
Case for insurance; lengthening shadow of government. il Nation's Business 28:34-64 Ja '40
Checkup and crackdown on prices; TNEC hearings. Business Week p15-16 D 2 '39
Concentration of economic power; summary of preliminary report of the Temporary national economic committee, transmitted on July 14, 1939. Monthly Labor R 49:618-20 S '39
Institution of life insurance and the T.N.E.C.; address at American life convention; abstracts. J. C. O'Mahoney. East Underw 41: 18 O 18 '40; Ins Field (Fire ed) 69:7-8+ O 17 '40; Ins Field (Life ed) 69:5-6+ O 18 '40; Nat Underw 44:21-2+ O 17 '40; Nat Underw (Life ed) 44:3+ O 18 '40; Nat Underw (Life ed) Conv no 44:2+ O 12 '40; Weekly Underw 143:852 O 12 '40
Investment banking inquiry of the Temporary national economic committee. Inv Banking 10:1-5 Ja '40
Investor's dollar holds spotlight; relationships of banker and borrower under TNEC scrutiny. Business Week p17-18 D 23 '39
Life insurance and TNEC; report to executives. il Business Week p19-60 Mr 16 '40
Other lines of industry faced lighter task in telling own story to TNEC. R. B. Mitchell. Nat Underw (Life ed) 44:2+ Mr 22 '40
Results of TNEC investigation; position taken by National association of life underwriters. C. J. Zimmerman. Weekly Underw 143:722+ S 28 '40
SEC submits study to TNEC on ownership of non-financial corporations; shows small group controls power. Comm & Fin Chr 151: 2285-6 O 19 '40
TNEC desires to help business; abstracts. J. C. O'Mahoney. East Underw 41:19 Mr 1 '40; Ins Field (Fire ed) 69:7-8 F 29 '40; Ins Field (Life ed) 69:7-9 Mr 1 '40; Nat Underw 44:5 F 29 '40; Nat Underw (Life ed) 44:6 Mr 1 '40; Weekly Underw 142:522 Mr 2 '40
TNEC hearings continue. Comm & Fin Chr 150:372 Ja 20 '40
Temporary national economic committee hearings on effect of machines on men. Comm & Fin Chr 150:2353, 2512-13, 2652-3 Ap 13-27 '40
TNEC prepares for final round-up. Oil Paint & Drug Rep 137:3+ F 12 '40
TNEC steel hearings (cont). Iron Age 144: 62+ D 14 '39; 145:87, 87A-87H F 1 '40
TNEC steel hearings (cont). Steel 106:13-18+ Ja 29; 23-4+ F 5 '40
Temporary national economic committee to defer final report until after November elections. Comm & Fin Chr 150:923 F 10 '40
TNEC turns heat on steel prices. Business Week p15-16 N 18 '39

GOVERNMENT libraries
Imperial institute as an information centre. H. Lindsay. Assn of Sp Lib & Inf Bur Proc 1939:10-20; Same abr. Engineering 149:31-3 Ja 12 '40

See also Roosevelt, Franklin D., library, Hyde Park, New York

GOVERNMENT loans and grants
Agricultural finance in the United States. H. W. Torgerson. bibliog map J Land & Pub Util Econ 16:196-206, 318-24 My-Ag '40
Federal reserve board counsel predicts decreasing demand for government credit agencies. W. Wyatt. Comm & Fin Chr 150: 2653-4 Ap 27 '40
Financial omelet; federal credit agencies. A. W. Atwood. Banking 32:19-20 Mr '40
Government financial agencies. H. M. Bratter. Banking 33:35-48 S '40
Government investment banking; federal credit agencies. R. M. Stewart. Inv Banking 10:10-12 Mr '40
Governmental corporations and credit agencies, finance, 1935-1939. Survey of Cur Business 1940 Sup p63-4 [supplemented in monthly numbers]
Governmental corporations and credit agencies, Oct. 31, 1939. Fed Res Bul 26:43 Ja '40 [cont monthly]
Private vs. government credit. W. L. Dean. Bankers M 140:546-7 Je '40
Two fiscal policies of government scored. T. I. Parkinson. Nat Underw (Life ed) 44:1+ O 11 '40
Uncle Sam delivers a trolley bus; Kansas City public service company aided by Reconstruction finance corporation. il Transit J 84:124-5 Ap '40
United States government corporations and credit agencies in 1939. H. Edmiston and G. Anderson. Fed Res Bul 26:298-305 Ap '40

See also
Government corporations
Railroads—Federal loans
Roads—Federal aid
Rural electrification administration
Work projects administration

GOVERNMENT loans to industry
Asks liquidation of federal lending agencies; commercial banks can finance national defense program. J. A. Bower. Comm & Fin Chr 151:1982 O 5 '40
Centralized banking control dangers; proposals for additional federal lending agencies. C. E. Bennett. Bankers M 139: 484-5 D '39

GOVERNMENT loans to industry—*Continued*
Financing industrial expansion and working capital requirements of the defense program; Jesse Jones defines RFC policy. T. R. Goldsmith. Annalist 56:397+ S 26 '40
Financing our preparedness program; should mobilize resource of private investment capital. E. F. Connely. Bankers M 141:106-8+ Ag '40
New proposals for government loans to small business. Nat City Bank p137-40 D '39
RFC and business loans; abstracts. E. Schram. Bankers M 140:23-6 Ja '40; Banking 32:88 Ja '40

See also
Federal reserve banks—Loans to industry
Railroads—Federal loans

GOVERNMENT officials. See Public officials

GOVERNMENT ownership
Can the Union endure, half socialist, half free? A. W. Atwood. Pub Util 26:555-63 O 24 '40
Creeping paralysis of state socialism. M. M. Rice. Pub Util 26:80-6 Jl 18 '40
Does public ownership swamp private enterprise? T. Nettleton. Pub Util 25:728-35 Je 6 '40
Problems of forest ownership. Science 90: sup12 D 1 '39
Public or private? poll reveals 55.4% favoring government ownership of food industry. Business Week p48 Je 8 '40
Public utilities and the national power policies. J. C. Bonbright. 82p bibliog(p73) $1.25 Columbia univ. press '40

See also
Electric utilities—Government ownership
Government corporations
Government regulation of industry
Hydroelectric plants—Government ownership
Industry and state
Insurance, State
Municipal ownership
Railroad and state
Retail stores, Government

GOVERNMENT paper. See Paper, Government

GOVERNMENT printing. See Printing, Public

GOVERNMENT printing office. See United States—Government printing office

GOVERNMENT property

See also
Government corporations—Real estate operations

GOVERNMENT publications
Author entry for government publications. J. B. Childs. 38p Library of Congress, Washington '39
Check list of government reports of value to sales executives. Sales Management 46: 56-7 My 1 '40
Sources for the study of federal administration. D. C. Culver. 26 numb l pa 25c California univ. Bur. of public administration, Berkeley '40

See also
Archives
State publications
United States—Mines, Bureau of—Bibliography

Bibliography
Federal government publications, 1939. Russell Sage Foundation Library Bul 158:1-4 D '39
Market research sources, 1940; a guide to information on domestic marketing. R. Bretherton. U S Bur For & Dom Com, Domestic Commerce Ser 110:33-97 '40
Publications of the Tariff commission. 132p U.S. Tariff commission, Washington '39

Great Britain
Blue book and White paper. W. C. Dalgoutte. Special Lib 30:332-3 D '39

GOVERNMENT purchasing. See Purchasing, Government

GOVERNMENT regulation of industry
And now a TVA on the press-radio-amusement front; propaganda's golden age; abstract. M. Lerner. Pub Util 24:761-4 D 7 '39
Arnold has new plan for antitrust enforcement. H. D. Ralph. Oil & Gas J 38:33 D 14 '39
British cotton-industry reorganization act, 1939. Monthly Labor R 49:1086-9 N '39
Chilean control of manufactures and production. H. P. Crawford. Comm Rep p1139 D 9 '39
Doing business under Hitler. F. Beyer. Iron Age 144:31-3+ N 23 '39
Government and business. F. P. Hall. 2d ed 455p $4 McGraw-Hill '39
How government regulates business; an explanation of the principal federal and state laws which regulate business. M. Eisner and others. 120p $2 Dynamic America press, 381 4th av, New York '40
How thin can we cut it? how government effects business. Elec West 84:56-61 Je '40
Increasing federal power. H. B. Summers and R. E. Summers, comps. Ref Shelf v14, no3:1-301 bibliog(p291-301) '40 ($1.25)
Legal possibilities and limitations of milk distribution as a public utility. W. P. Mortenson. bibliog J Land & Pub Util Econ 15: 438-47; 16:61-71 N '39-F '40
Legislative barriers to marketing progress. J. H. Cover. Ann Am Acad 209:176-82 My '40
Less rigid control of economic machinery by government is advocated. B. M. Anderson, jr. Comm & Fin Chr 149:4108 D 30 '39
Marketing legislation. E. T. Grether. bibliog Ann Am Acad 209:165-75 My '40
Passing of the public utility concept. H. M. Gray. bibliog J Land & Pub Util Econ 16: 8-20 F '40
Price control by government. E. B. George. il Dun's R 48:9-14+ Je '40; Excerpts. Trusts & Estates 71:187 Ag '40
Private business and government regulation debated by Ernest Weir and Secretary of Interior Ickes. Comm & Fin Chr 150:1216 F 24 '40
Public control of business; selected opinions. H. F. Stone. 324p $3.50 Howell, Soskin & co, New York '40
Town meeting of the air; can business and government work together today? Inv Banking 10:26-7 Ja '40
Uncle Sam at the throttle. E. Whitmore. Am Business 10:20-2, 50-1 N '40
Urges holiday from further government regulation. W. L. Willkie. Comm & Fin Chr 149: 3348 N 25 '39
Wartime regimentation creating many new problems for Canadian businessmen. W. A. McKague. Annalist 54:758 D 14 '39
What's wrong with your business. H. S. Johnson. Inv Banking 10:24-6 Ja '40

See also
Banks and banking—Regulation
Civil aeronautics authority
Competition, Unfair
Economic planning
Economic policy
Electric utilities—Regulation
Federal trade commission
Government investigations
Government ownership
Industry and state
Interstate commerce commission
Labor laws and legislation
Milk supply—Laws and regulations
Municipal ownership
Petroleum industry and trade—Regulation
Price fixing, Government
Priorities, Industrial
Public utilities—Regulation
Railroads—Rates
Railroads and state
Trade associations
Trade marks
Trusts, Industrial

GOVERNMENT statistics
Deficiencies in state and local government data. E. R. Gray. Ann Am Acad 207:194-202 Ja '40
Industry reporting within a rationalized system of federal statistics. S. A. Rice. Edison Elec Inst Bul 7:547-8 N '39

GOVERNMENT statistics—*Continued*
Standard classification of industries in the United States. V. S. Kolesnikoff. Am Statis Assn J 35:65-73 Mr '40
Work of United States departments and bureaus. Am Statis Assn J 34:716-38; 35:116-35, 523-44 D '39, Mr, S '40

See also
State statistics

GOVERNMENTAL labor officials, International association of. See International association of governmental labor officials

GOVERNORS (machinery)
Engine governors in the making at Hoof products co. il Automotive Ind 82:556-7 Je 15 '40
Governing of Diesel engines. O. F. Zahn, jr. diags Automotive Ind 82:456-65 My 15 '40
Investigation into centrifugal governor vibration. G. R. Allan. diag Inst Mech Eng J & Proc 142:60-2 Mr '40
New speed control system heads off changes before they occur; gyroscopic governor. il Steel 107:44+ Jl 29 '40
Operating and designing engineers get together on governor performance; abstracts of ASME papers. diag Power 83:832-4 Mid-D '39
Pump governors. J. O. G. Gibbons. diags Textile World 90:96 Je '40
Servomotors control double-extraction turbines. O. N. Bryant. diag Power 84:580-2 S '40
Turbine governors can't talk; functions, selection, maintenance. R. W. McLaughlin. il Power Pl Eng 44:71-5 S '40

GRADE crossing accidents
Crossing accidents; annual report of the Board of transport commissioners for Canada. Can Eng R & B 78:95 Ap '40
Crossing and trespassing accidents worry safety men. Ry Age 109:545-7 O 19 '40
Crossing deaths dropped in '39. Ry Age 108: 1067+ Je 15 '40
Minister rides the cab, and resolves to crusade for safety. J. O. J. Taylor. Nat Safety N 42:68-70 Ag '40
School children learn to cross crossings cautiously. H. A. Daake. il Nat Safety N 41:56 My '40

GRADE crossing elimination
Federal funds build attractive grade separation structures; three at Columbus, Ohio, on the Chesapeake & Ohio. il plan Ry Age 107:852-4 D 2 '39
Federal grade-crossing program shows quickened pace. il Ry Age 108:433-7 Mr 9 '40
Ground water presented problem at this street subway. il diags Ry Age 109:366-8+ S 14 '40
Safety at intersections. V. S. Murray. il Can Eng R & B 78:24-5+ Ja '40
These three grade separations will cost $37,646,000; projects on Long Island railroad. il map Ry Age 108:737-40+ Ap 27 '40
Unique framing for skew overpass. il diag Eng N 124:447 Mr 28 '40

See also
Railroads—Track depression
Railroads—Track elevation

Cost

Grade elimination, Louisville, Ky.; unit prices. Eng N 123:669-70 N 16 '39
Grade elimination, Ohio; unit prices. Eng N 124:352+ Mr 7 '40
Grade elimination, Wyoming; unit prices. Eng N 125:132 Jl 25 '40
Grade separation, Indiana; unit prices. Eng N 124:141 Ja 25 '40
Underpass and bridge, Detroit, Michigan; unit prices. Eng N 124:421 Mr 21 '40
Underpass, Lansing, Michigan; unit prices. Eng N 123:720 N 23 '39

GRADE crossings
Gates at seven Alton crossings; 24-hr. protection for Lincoln, Ill. il plan Ry Age 108: 410-12 Mr 2 '40
Grade crossings, 1936-1939. Survey of Cur Business 1940 Sup p20 [supplemented in monthly numbers]
Recent developments in railroad-highway grade crossing protection. P. M. Gault. W Soc E J 45:117-20 Je '40
Signaling construction increases. J. H. Dunn. il Ry Age 108:93-8 Ja 6 '40

GRADE marks

See also
Labels
Quality of products

GRADUATE work

See also
Engineering colleges —Graduate work

GRADUATING
Lineal graduating in the milling machine. M. B. Seyffert. diag Am Mach 84:254-5 Ap 17 '40

GRAFTING
Bud-grafting procedure; rubber plants. il India Rubber W 101:42-4 Mr '40

GRAHAM, Roy, 1908-1939
Sketch. E. S. Bastin. Science 91:87-8 Ja 26 '40

GRAHAM-PAIGE motors corporation
Annual report. Comm & Fin Chr 150:3509-10 Je 1 '40
Graham plans early output of three new models in 1940 line; financial set-up, merchandizing plan, etc. Automotive Ind 82: 300 Mr 15 '40

GRAIN
Studies of the harmful changes in grain and milling products caused by moist storage; abstract. O. Varga. Food Ind 12:94 F '40

See also
Oats
Rice
Rye
Wheat

Insect infestation

Protecting cereals and flour from insect pests during storage and transport; abstract. Kadoosa. Food Ind 12:100-1 O '40

GRAIN dust
Dust explosions avoided by use of boiler flue gas; Quaker oats co. R. O. Kirn. il plans Food Ind 12:52-4+ O '40

GRAIN elevators
Dust explosion prevention in grain elevators. D. J. Price. Weekly Underw 142:52-7 Ja 6 '40
Grain elevator explosion offers data for study by ASA committee. D. J. Price and H. R. Brown. Ind Stand 10:309 D '39
Operations of cooperative grain elevators in Kansas and Oklahoma, 1931-32 to 1936-37. H. Hedges. 64p U.S. Farm credit administration, Washington; 10c Supt. of doc. '39
Restoring surface of huge concrete bins spalled by elevator fire. il Concrete 47:3-4 D '39

Electric equipment

Handling and storage of grain; electric control of elevators and transporters. il Mech Handling 27:201-3 S '40

GRAIN handling
Handling and storage of grain; electric control of elevators and transporters. il Mech Handling 27:201-3 S '40
Pumping of granular solids in fluid suspension. H. Chatley. Engineering 149:230-1 Mr 1 '40

See also
Grain elevators

GRAIN storage

See also
Grain elevators

GRAIN trade
Competition among grains. N. Jasny. 606p $4 Food research inst, Stanford University, Calif. '40
News by commodities; foodstuffs. Published in Foreign commerce weekly

See also
Wheat

Statistics

Breadstuffs. Published in weekly numbers of Commercial & financial chronicle

GRAIN trade—Statistics—*Continued*
Grain trade year book, 1938-39; full Canadian grain statistics, with summary tables for principal foreign countries and world's production and movement, year ending July, 1939. v.19 112p pa $1.50 Sanford Evans & co, 171 McDermot av, Winnipeg, Can. '39
Grains and grain products, 1936-1939. Survey of Cur Business 1940 Sup p104-8 [supplemented in monthly numbers]

Argentina
Second official Argentine crop report of the 1939-40 season. Comm & Fin Chr 150:1199 F 24 '40

Chicago
Minimum prices set on grain futures by Chicago board of trade and other leading exchanges. Comm & Fin Chr 150:3281 My 25 '40

GRAINAL. See Ferroalloys

GRAMICIDIN
Germ-killing chemical from soil bacilli; abstract. R. B. Little, R. J. Dubos and R. D. Hotchkiss. Science 92:sup8 Jl 26 '40

GRANARIES
20,500 brain bins in two months; Department of agriculture order received by Butler mfg. co. il Iron Age 144:47 N 30 '39

GRANBY consolidated mining, smelting and power company
Earnings, 1937-39. Comm & Fin Chr 150:3510 Je 1 '40

GRAND canyon of the Colorado
Cambrian slide breccia, Grand canyon, Arizona. R. P. Sharp. bibliog diags Am J Sci 238:668-72, pl 1 S '40
Ep-Archean and Ep-Algonkian erosion surfaces, Grand canyon, Arizona. R. P. Sharp. map diags Geol Soc Bul 51:1235-69 bibliog (p1265-9) Ag '40
Three types of cross-lamination in paleozoic rocks of northern Arizona. E. D. McKee. bibliog maps Am J Sci 238:811-24 N '40

GRAND COULEE dam. See Columbia river—Grand Coulee dam

GRAND FORKS, North Dakota

Sewerage
Multiple digestion of sludge at Grand Forks. K. W. Riley. il diag Pub Works 71:12-14 Ja '40

GRAND ISLAND, Nebraska

Water supply
Local overdevelopment of ground-water supplies; with special reference to conditions at Grand Island. L. K. Wenzel. U S Geol S Water-supply Pa 836-E:233-81, pl 16-21 '40

GRAND RAPIDS, Michigan
Increase in business during 1939. C. H. Hollister. Comm & Fin Chr 150:514 Ja 27 '40

Water supply
Concrete of highest quality in reservoir for Grand Rapids. il diag Concrete 48:3-4 F '40
Fabricating specials for Grand Rapids water line. il Eng N 124:60-1 Ja 11 '40
Great Lakes water for Grand Rapids. il diags Eng N 124:448-51 Mr 28 '40
Lake Michigan water for Grand Rapids; with cost data. A. W. Consoer and J. A. Fulkman. il plan Civil Eng 10:3-6 Ja '40

GRAND RAPIDS, North Dakota

Sewerage
Sewage plant operation at Grand Rapids. Pub Works 71:8 Ag '40

GRAND RIVER, Oklahoma
Bridges of the Grand River project. V. H. Cochrane. il diags Civil Eng 9:724-6 D '39

GRAND union company
Listing; plan approved. Comm & Fin Chr 149:3873 D 16 '39

GRANGESBERG company (Trafik-a. b. Grangesberg-Oxelosund)
Swedish ore company sustains substantial loss at Narvik. For Comm W 1:260 N 9 '40

GRANITE
Concentric patterns in the granites of the Llano-Burnet region, Texas. D. Keppel. bibliog diags maps Geol Soc Bul 51:971-99, pl 1-5 Jl '40
Dust control in the granite cutting industry. W. C. L. Hemeon. bibliog il diags Heat & Ven 37:41-5 Jc; 54-8 Jl; 41-5 Ag '40
Granite quarrying; electrical methods at Penmaenmawr. il Elec R (Lond) 126:3-6 Ja 5 '40
Granites of the Front range, Colorado; the Indian Creek plutons. M. F. Boos and E. Aberdeen. bibliog diags maps Geol Soc Bul 51:695-730, pl 1-9 My '40
Granitization near Killarney, Ontario. T. T. Quirke. bibliog maps Geol Soc Bul 51:237-53, pl 1-2 F '40
Physical, mineralogical, and durability studies on the building and monumental granites of the United States. D. W. Kessler, H. Insley and W. H. Sligh. diag 4 pls J Research Nat Bur Stand 25:161-206 Ag '40
Practical stope support in deep mine workings; with discussion and cost data on granite masonry. W. J. Bichan. Can Min J 60:802-3 D '39
Reconnaissance of the contact metamorphism of the Katahdin and Squaw Mountain intrusives, Maine. S. S. Philbrick map Am J Sci 238:710-16, pl 1 O '40

Analysis
Radioactive determination of protactinium in siliceous terrestrial and meteoritic material. W. C. Schumb, R. D. Evans and J. L. Hastings. bibliog Am Chem Soc J 61:3451-5 D '39

GRANITE pavements. See Pavements, Granite

GRANODIZING
Rust proofing processes. C. Cleveland. il diag Metal Ind 38:66-7 Ja '40

GRANT, Bertrand E. 1868-
Sketch. por(p55) Civil Eng 10:56 Ja '40

GRANT, W. T., company
Brass tacks for the investor. Barron's 20:13 My 6 '40

GRANTS-in-aid
English grants-in-aid; a study in the finance of local government. H. R. Bowen. Iowa Univ Studies in Social Science v 11, no 1: 1-156 '39 (pa $1)

See also
Municipal finance—Federal aid
State finance—Federal aid

GRANULAR materials
Avoiding clogged bin hoppers. C. O. Sandstrom. diags Chem & Met Eng 47:22-3 Ja '40
Beitrag zur kenntnis der stückigmachung unter besonderer berücksichtigung der agglomeration von substanzen ohne bindemittel durch anwendung von druck. H. Maul. diag Chemische Fabrik 12:483-6 N 8 '39
Capillary flow in porous solids. N. H. Ceaglske and F. C. Kiesling. bibliog diag Am Inst Chem Eng Trans 36:211-25 Ap '40
Charts to plot analyses of materials. R. E. Fowle; E. Shaw. Rock Prod 43:45 Je '40
Druckverlust von kugelschüttungen. G. Kling. bibliog V D I 84:85-6 F 3 '40
Electrostatic separations of solids. F. Fraas and O. C. Ralston. bibliog il diags Ind & Eng Chem 32:600-4 My '40; Excerpts. Concrete (mill sec) 48:218-19 Ag '40
Evaluation of fillers for tar and other bituminous surfacings. J. G. Mitchell and A. R. Lee. bibliog Soc Chem Ind J 58:299-306 O '39
Flow through bins. C. A. Lee. diags Chem & Met Eng 47:198-9 Mr '40
Hopper intersection angle solved with compound angle graph. P. W. Jacobsen. Chem & Met Eng 47:480 Jl '40
Horizontal carriage of granular material by an injector-driven air stream. S. A. Wood and A. Bailey. bibliog il diags Inst Mech Eng J & Proc 142:Proc 149-64; Discussion. Proc 164-73 D '39
Jeffrey elevator-conveyor for granular materials. il Rock Prod 43:83 Mr '40

GRANULAR materials—*Continued*
Pumping of granular solids in fluid suspension. H. Chatley. Engineering 149:230-1 Mr 1 '40

See also
Flour
Particles
Powders
Separators

GRANULATION
Granulating phosphate fertilizers; Davison chemical corp. J. N. Mackall and M. Shoeld. flow diag il plan Chem & Met Eng 47:102-5 F '40

GRAPEFRUIT
Drying method changes composition of grapefruit byproduct. G. N. Pulley and H. W. von Loesecke. bibliog il Food Ind 12:62-3+ Je '40

Grapefruit canning; treatment of wastes; abstract. Ratliff. Eng N 125:176 Ag 1 '40

Refrigeration of lemons and grapefruit. H. M. Hendrickson. diag Refrig Eng 40:1-8 sec 2 O '40

Vitamin C content of fresh and canned grapefruit; abstract. L. P. Stravchinskii. Food Ind 12:102 O '40

GRAPEFRUIT juice
Prevention of curd in grape fruit juice; abstract. C. T. Parks. Food Ind 12:96 O '40

GRAPEFRUIT seed oil
Grapefruit seed oil; manufacture and physical properties. A. J. Nolte and H. W. von Loesecke. il Ind & Eng Chem 32:1244-6 S '40

GRAPES
Anthocyanin pigment of the Hunt muscadine grape. W. L. Brown. bibliog Am Chem Soc J 62:2808-10 O '40

Grapes, raisins & wines; a survey of world production, consumption, and trade. 408p U.S. Tariff commission, Washington; 60c Supt. of doc. '39

Methods for keeping fresh grapes; abstract. Z. Gerb. Food Ind 12:90 F '40

GRAPESEED oil
Science seeks oil in vineyards. Business Week p42-3 Mr 16 '40

GRAPHIC arts
Five billion dollar industry; United States, Great Britain, Canada, and Germany produce three-fifths of world's graphic arts. D. M. MacMaster. Inland Ptr 104:27-9 N '39

See also
Art center, Chicago
Engraving
Printing

GRAPHIC methods
Angewandte betriebswirtschaft mit hilfe der einflussgrössen-rechnung. Stahl & Eisen 59: 1346-7; 60:54-5 D 14 '39, Ja 18 '40

Bestimmung des zeitbedarfs für das richten von stabstahl mit hilfe der einflussgrössenrechnung. H. Stevens. Stahl & Eisen 60: 103-4 F 1 '40

Correlating vapor pressure and latent heat data; a new plot. D. F. Othmer. bibliog Ind & Eng Chem 32:841-56 Je '40

Determination of short-circuit currents in low-voltage industrial feeders. E. F. Kubler. Gen Elec R 43:459-66 N '40

Device allocates load on incremental heat rate. H. Johnson and M. S. Umbenhauer. il Elec W 112:1861-2 D 30 '39

Distortion in valves with resistive loads; graphical methods for its determination. A. Bloch. Wireless Eng 16:592-6 D '39

Do piping improvements pay? charts for checking probable profit on money spent for piping. A. C. Kirkwood. Heating-Piping 12:581-4 O '40

Elements of cost in a barrel of portland cement. N. C. Rockwood. Rock Prod 43:20-1 Ja '40

461 timely pictographs on social and economic topics. 154p pa $2 Pictorial statistics, 142 Lexington av, New York

Graphic determination of batch distillation curves for binary mixtures. E. H. Smoker and A. Rose. bibliog Am Inst Chem Eng Trans 36:285-93 Ap '40; Discussion. 36:675-7 O '40

Graphic method of obtaining logarithmic mean temperature differences. R. H. Parsons. Engineer 169:458 My 17 '40

Graphic solution of great circle track. J. R. Griffith. Aero Digest 36:49+ My '40

Graphical construction of transfer units in packed towers; estimation of ratio of heights of liquid and gas transfer units. G. E. White. bibliog Am Inst Chem Eng Trans 36:359-69 Je '40

Graphical method for determining Warburg vessel constants at various fluid volumes. J. McLeod and W. H. Summerson. Science 91:201-2 F 23 '40

Graphical method for land subdivision problems. R. Kinslow. Civil Eng 10:526-7 Ag '40

Graphical method for selecting suitable targets for precision determination of cubic lattice constants and for solving cubic powder patterns. L. A. Carapella. bibliog diags J Ap Phys 11:510-14 Ag '40

Graphical solution of the bending-aileron case of flutter. W. B. Bergen and L. Arnold. bibliog diags J Aeronautical Sci 7:495-508 O '40

Graphical solution of transient stability. H. H. Skilling and M. H. Yamakawa. il Elec Eng 59:462-5 N '40

Graphs; how to make and use them. H. Arkin and R. R. Colton. rev ed 236p $3 Harper '40

Hopper intersection angle solved with compound angle graph. P. W. Jacobsen. Chem & Met Eng 47:480 Jl '40

Hydraulics of surface runoff. L. K. Sherman. diag Civil Eng 10:165-6 Mr '40

Illumination from extended sources computed by the theory of the integrating sphere. F. Benford. il diags Opt Soc Am J 30:33-40 Ja '40

Interpretation of sizing analyses. A. O. Gates. Eng & Min J 141:51-4 Je '40

Leistungssteigerung in betrieben durch grosszahlforschung. E. Franke. V D I 83:1179-83 N 4 '39

Maximum probable floods on Pennsylvania streams. C. F. Ruff. maps Am Soc C E Proc 66:1239-76 S '40

Method of graphic interpolation. J. S. Stock. Am Statis Assn J 34:709-13 D '39

Multicomponent distillation problems; single equilibrium line solution. H. J. Hibshman. bibliog Ind & Eng Chem 32:988-91 Jl '40

New method for determining relay selectivity and coordination. C. L. Betts, jr. diags Edison Elec Inst Bul 8:437-41 S '40

Non-linear circuits; graphical determination of performance. J. Frommer and A. Rédl. diags Wireless Eng 17:4-12 Ja '40

Parsons line for assessing the performance of stations. R. C. Golding. Elec R (Lond) 126:675-6 Je 28 '40

Predicting separated sizes of sand. E. Shaw. Rock Prod 43:28-9+ Jl '40

Principles of charting. W. E. Weld. 171p $2.50 Barron's, New York '39

Rectangular coordinate graph method used to design aggregate-soil mixtures for stabilized road surfaces. H. E. Worley. Roads & Sts 83:70, 72, 74 My '40

Rigorous performance prediction without drudgery. E. G. Reid. bibliog Roy Aeronautical Soc J 44:176-94 F '40

Simple graphical method of finding illumination values from tubular, ribbon, and surface sources. E. H. Wakefield. diags Illum Eng 35:142-50 F '40

Simple plot for partial pressure and vapor composition data for aqueous ammonia. D. F. Othmer. Chem & Met Eng 47:551-2 Ag '40

GRAPHIC methods—*Continued*
Simple test for straight line relationships. D. E. Babcock. J Chem Educ 17:440 S '40
Symmetrical components; graphical construction methods. G. W. O. Howe. Elec R (Lond) 127:7 Jl 5 '40
Tie lines in ternary liquid systems. I. Bachman. Ind & Eng Chem Anal ed 12:38-9 Ja 15 '40
Tie lines in two-liquid-phase systems. A. V. Brancker, T. G. Hunter and A. W. Nash. bibliog Ind & Eng Chem Anal ed 12:35-7 Ja 15 '40
Time-series charts; a manual of design and construction; American standard, approved by American standards association, November 1938. 68p $1.25 Am. soc. of mechanical engineers, New York '38
Velocity-graph analysis for solving problems encountered in high-speed motions. H. E. Golber. Product Eng 11:311-13, 369-71 Jl-Ag '40
Why not streamline statistics? Railway fuel and traveling engineers' association committee report. Ry Mech Eng 113:480-2 N '39
See also
Charts (calculating)

GRAPHIC records
See also
Gantt charts

GRAPHIC statics
Graphical analyses of the stability of soil. E. S. Barber and C. E. Mershon. bibliog diags Pub Roads 21:147-57 O '40
Graphical analysis of pipe stresses; abstract and discussion. O. J. Baggerud and K. W. Jernstrom. Marine Eng 44:588-90 D '39
Graphical method of analyzing eccentrically loaded concrete sections. P. Andersen. Civil Eng 10:37-9 Ja '40
See also
Mohr circle diagram

GRAPHITE
Colloidal graphite. Can Min J 60:822 D '39
Colloidal graphite in industry. Chem & Ind 59:121 F 24 '40
Conservation of lubricating oil. A. H. Stuart. Engineering 149:177-8 F 16 '40
Conveyor lubrication with colloidal graphite; Champion spark plug co. il Steel 106:70+ Ap 22 '40
Coussinets pour paliers de moteurs électriques et bagues pour galets de roulement, confectionnés en graphite ou en charbon de cornue. diags Génie Civil 116:170 Mr 9 '40
For faster run-in; colloidal graphite added to oil. il Am Mach 84:507 Jl 10 '40
Graphite paint; its application in the gas plant. J. J. O'Loughlin. bibliog il Gas Age 85:23-4+ Mr 14 '40
Industrial uses of chemicals and related materials; porous graphite; special graphitic carbon with controlled pore size and permeability characteristics. Oil Paint & Drug Rep 137:31 Je 17 '40
Metal parts impregnated with graphite to reduce abrasion. Mach 46:139 Mr '40
Nature of graphite impurities governs lubricating quality; abstract. E. S. Glauch. Nat Pet N 32:R382 O 16 '40
Pipes and fittings of carbon and graphite; Karbate materials. il Iron Age 146:43 S 5 '40
Die reduktion von titansäure mit festem kohlenstoff und kohlenstoffhaltigem eisen. W. Baukloh and R. Durrer. Stahl & Eisen 60:12-13 Ja 4 '40
Self-lubricating wire. Iron Age 145:45 Ap 25 '40; Same. Mach 46:129 Ag '40
Structural carbon and graphite; chemical resistance, physical properties, makers. Chem & Met Eng 47:607-9 S '40
Too hot for oil? suspension of graphite often solves problems. il Am Mach 84:747 O 2 '40
Wettability of highly polished metal surfaces by graphite hydrosols. R. Szymanowitz and B. H. Porter. R Sci Instr 11:230-1 Jl '40

GRAPHITIZATION. See Cast iron—Graphitization

GRAPHOLOGY
Analysis of handwriting; an introduction into scientific graphology. H. J. Jacoby. 285p bibliog(p23-6) $3 Norton '39

GRASS lands
Grassland as a site for basic research on terrestrial animals. V. E. Shelford. Science 90:564-5 D 15 '39

GRASSES
Crop drying; increasing use of electrical methods in Norfolk. il Elec R (Lond) 127: 145-6 Ag 23 '40
Temperature effects in grass drying. A. W. Scott. Engineering 150:7 Jl 5 '40
Vitamin content of grass. R. D. Potter. Science 91:sup12 Ap 12 '40

Analysis
Partition of the less easily digested carbohydrate complex of forages. R. E. Davis and C. O. Miller. Ind & Eng Chem Anal ed 11: 651-2 D 15 '39

GRASSES, Powdered
Grass, but not hay; cereal dehydration process. il Business Week p26+ Je 8 '40

GRAVEL
Flood gravel of San Gabriel canyon, California. W. C. Krumbein. bibliog diags maps Geol Soc Bul 51:639-76, pl 1 My '40
Forum on operating problems, National sand and gravel association. Rock Prod 43:39-41 F '40
Gravel and sand deposits of eastern Maryland adjacent to Washington and Baltimore. N. H. Darton. diags fold maps U S Geol S Bul 906-A:1-42, pl 1-10 '39
Gravel-packing oil wells in Gulf Coast fields. M. L. Cashion and F. B. Markle. il Oil & Gas J 38:48-9, 51+ Ap 4 '40
Producing crushed gravel to Ohio specifications. J. J. Gorman. il Rock Prod 43:47 Ap '40
See also
Aggregates
Concrete—Aggregate
Roads, Gravel

Specifications
Impracticable gravel specifications; discussion of practicability of simplified practice recommendation for coarse aggregates, U.S. Bureau of standards, R163-39. I. Warner. Rock Prod 43:40-2 Mr '40; Discussion. 43:33 Ap '40

Testing
Chemical treatment of chert-gravels for use in base-course construction. E. A. Willis and P. C. Smith. il Pub Roads 21:65-8+ Je '40
Stabilized soil mixtures; results of tests on circular tracks by Public roads administration. E. A. Willis. il Roads & Sts 83: 37-44 F '40

GRAVEL *handling*
Belt takes aggregate to Shasta. il map Eng N 125:102-4 Jl 18 '40
Blending ten aggregate sizes on long tunnel conveyor. F. M. Welch. il diag map Rock Prod 43:24-7 O '40
Effects of rifling on four-inch pipe transporting solids. G. W. Howard. il diags Am Soc C E Proc 65:1591-1603 N '39; Discussion. il diags 66:537-40, 770-2, 991-4, 1324-6 Mr-My, S '40
Grading fine sand products; General crushed stone co. L. Gray. il diag Rock Prod 43: 33-4+ My '40
Long field conveyors and tractors solve transportation problem; Friant Dam aggregates plant. H. K. Herrick. il Rock Prod 43:36-8 N '40

GRAVEL handling—*Continued*
Placer mining for Shasta dam; world's longest conveyor system will carry gravel washed for gold. il Eng & Min J 141:52-3 Jl '40
Preparing the aggregate for Shasta concrete. flow sheet il Eng N 125:100-1 Jl 18 '40
Push-over for sand and gravel; plant of Graham brothers. B. Nordberg. il Rock Prod 42:32-4 D '39
Shasta Dam conveyor-belt system. H. W. Young. il map Comp Air M 45:6249-53 O '40
Surge storage pile reduces shutdowns; Wolf River sand and gravel co. il diags plan Rock Prod 43:35-7 Je '40
See also
Screening

GRAVEL plants
Stockpiles and storage. il Rock Prod 43:68-9 Ja '40

Accidents
Announce safety contest winners in sand and gravel industry. Rock Prod 43:26 S '40

Directories
Sand and gravel pits, Canada. Can Eng R & B 78:84+ Je '40

Employees
Sand and gravel watchman collects; important U.S. court decision under wages and hours act. Rock Prod 43:40-1 Je '40
Seasonal exemption; sand and gravel industry. Rock Prod 43:43 F '40

Equipment
Better Allegheny River gravel; J. K. Davison and bro. B. Nordberg. il Rock Prod 43:33-5 N '40
Blending ten aggregate sizes on long tunnel conveyor. F. M. Welch. il diag map Rock Prod 43:24-7 O '40
Built of concrete for permanence; Saticoy rock co.'s plant near El Rio, Calif. il Rock Prod 43:26-7 Jl '40
Crusher mounted on rails to salvage boulders. B. Nordberg. il Rock Prod 43:29-30+ Ap '40
Grading fine sand products; General crushed stone co. L. Gray. il diag Rock Prod 43:33-4+ My '40
Impact crusher on modernized dredge. B. Nordberg. flow sheet il Rock Prod 43:36-8 Ap '40
Long field conveyors and tractors solve transportation problem; Friant Dam aggregates plant. H. K. Herrick. il Rock Prod 43:36-8 N '40
Making prescription sand at 50 tons an hour. W. B. Gery. flow sheet il Rock Prod 43:21-8 Jl '40
New method of dewatering and classifying. R. Dull. diags Rock Prod 43:87-8 F '40
Producing crushed gravel to Ohio specifications. J. J. Gorman. il Rock Prod 43:47 Ap '40
Push-over for sand and gravel; plant of Graham brothers. B. Nordberg. il Rock Prod 42:32-4 D '39
Relieving conveyor by adding crusher. L. D. H. Anderson. il diags Rock Prod 43:29-30+ O '40
Screenings plus bank sand make concrete aggregate; Grant-Pacific rock co. il Rock Prod 43:27-8 Je '40
Surge storage pile reduces shutdowns; Wolf River sand and gravel co. il diags plan Rock Prod 43:35-7 Je '40
See also
Gravel handling

Management
Most needed in management is common sense. F. D. Coppock. Rock Prod 43:28 Mr '40

Safety devices and measures
Heavy industry's safety program. L. P. Warner, jr. il Nat Safety N 41:12-14 Ja '40; Abstract. Concrete (mill sec) 48:105 Ja '40

GRAVES, Lester H.
President, Illuminating engineering society 1939-1940. por Illum Eng Soc Trans 34: 969-71 N '39

GRAVIMETRIC analysis
8-Hydroxyquinoline as a reagent for the determination of magnesium, especially in carbonate and silicate rocks. C. C. Miller and I. C. McLennan. Chem Soc J p656-9 My '40
Method for analysis of boiler scales and sludges; colorimetric and turbidimetric methods in conjunction with a Phototester as compared with gravimetric methods. F. K. Lindsay and R. G. Bielenberg. bibliog il diag Ind & Eng Chem Anal ed 12:460-3 Ag 15 '40
Microgravimetric determination of active hydrogen by the Grignard reagent; application to analysis of impregnated paper insulating tapes. R. N. Evans, J. E. Davenport and A. J. Revukas. bibliog diag Ind & Eng Chem Anal ed 12:301-3 My 15 '40
Possible source of error in gravimetric determinations involving use of hydrogen peroxide followed by nitron. R. C. Young and P. M. Bernays. Ind & Eng Chem Anal ed 12:90 F 15 '40
Redetermination of the Munson-Walker reducing-sugar values. L. D. Hammond. J Research Nat Bur Stand 24:579-96 My '40

GRAVITATION
Theory of galvanic cells subject to fields of force; the gravitational field. F. O. Koenig and S. G. Grinnell. bibliog J Phys Chem 44:463-82 Ap '40

GRAVITY
Gravity anomaly an important factor in earth science. W. Bowie. Science 91:158-60 F 16 '40
Gravity section across the Sierra Nevada. W. D. Johnston, jr. map Geol Soc Bul 51: 1391-6 S '40

GRAY herbarium. See Harvard university—Gray herbarium

GRAY iron. See Cast iron

GRAY iron founders' society
Elect officers. Foundry 68:82 O '40

GRAY iron research institute
Organization. Foundry 68:100 S '40

GRAY line association
Annual meeting, New York, Oct. 15-18. Bus Transportation 18:588 N '39

GRAZING
See also
Ranges

GREASE
Figures in thin layers of grease and viscous liquids. W. D. Kumler. il J Phys Chem 44:612-18 My '40
Improved mobilometer for measuring consistency of fluid and semifluid greases; Standard inspection laboratory, Bayonne, N.J. K. C. Combes, C. S. Ford and W. S. Schaer. bibliog diags Ind & Eng Chem Anal ed 12:285-7 My 15 '40
Oils, fats and waxes. Published in weekly numbers of Oil, paint and drug reporter
Recovering soaps and greases from wool-scouring liquors. C. H. S. Tupholme. Ind & Eng Chem News ed 17:789 D 20 '39
See also
Lubricating greases

GREAT American insurance companies
Annual statement, 1939. East Underw 41: 24 F 16 '40

GREAT Atlantic and Pacific tea company
A. & P. answers net price ban; chain refuses to buy from suppliers who use brokers. Business Week p30 F 3 '40
Battle of the brands; report to executives. Business Week p27-30+ O 12 '40
Rift over co-op; A. & P.'s "super" assailed by competitors as lever to gain price control throughout fruit and vegetable market. Business Week p30+ N 2 '40

GREAT BRITAIN

Fortune survey; is Albion perfidious? Fortune 21:88 Ja '40

Government's priority organisation. Engineer 169:422-3 My 3 '40

See also

Banks and banking—Great Britain
Bonds, Government—Great Britain
Coal miners—Great Britain
Coal trade—Great Britain
Corporation law—Great Britain
Cotton trade—Great Britain
Electricity supply—Great Britain
European war, 1939—Great Britain
Finance—Great Britain
Housing—Great Britain
Housing laws—Great Britain
Insurance, Unemployment—Great Britain
Labor and laboring classes—Great Britain
Money—Great Britain
Pensions, Military—Great Britain
Railroads—Great Britain
Retail trade—Great Britain
Roads—Great Britain
Securities—Great Britain
Taxation—Great Britain
Trade unions—Great Britain
Unemployment—Great Britain

Advisory council on scientific research and technical development

Scientific research and technical development in Great Britain. Science 91:88 Ja 26 '40

Air force

British aces in the making; training the R.A.F. is one of Canada's war jobs. J. Montagnes. il Aviation 39:28-9+ Mr '40

Air ministry

History of the Air ministry. C. G. Grey. 319p 10s 6d G. Allen & Unwin, London '40

Army

Women's army; British Auxiliary territorial service. Economist 139:307 S 7 '40

Civilization

World to make; a survey of post-war England. J. D. Chamier. 327p $4.50 Longmans '40

Colonies

British empire; its structure, its unity, its strength. S. Leacock. 263p $2 Dodd '40

Colonial new deal. Economist 138:328 F 24 '40

Colonies at war; French and British policies. Economist 138:325-6 F 24 '40

Great Britain; an empire in transition. A. Viton. 352p bibliog(p339-43) $3 Day '40

See also

Aden, Arabia

Commerce

Britain's exports continue at same level as last year; imports sharply higher; figures, Jan. 1938-March 1940. Comm & Fin Chr 150:2963-4 My 11 '40

Britain's trade with Scandinavia, 1937 and 1938. Economist 138:703 Ap 13 '40

British Empire gold and dollar resources. Nat City Bank p115-17 O '40

British push exports to U.S. Business Week p18 S 14 '40

Export trade to South America. Engineering 149:588-9 Je 14 '40

Exports; electrical industry's part. R. S. Hudson and others. il Elec R (Lond) 126:297-312 Mr 15 '40

Franco-British trade. Economist 138:283-5 F 17 '40

Importance of exports. Economist 137:78-9, 161-3, 200-1 O 21, N 4-11 '39

Marked changes in trade between this country and United Kingdom. Manuf Rec 109: 26-7 S '40

Markets in Central America. Engineering 150: 294-5 O 11 '40

Markets in Chile and Peru. Engineering 150: 123-4, 144-5 Ag 16-23 '40

Outlook for overseas trade; comparison with 1913-1918. Economist 138:205-7, 256-7 F 3-10 '40

Overseas trade, 1939, and comparison with other years. Economist 138:sup4-5 F 17 '40

Overseas trade returns, year ended Dec. 31, 1938 and 1939. Economist 138:131 Ja 20 '40

Russian-British trade possibilities. Economist 138:1041-2 Je 15 '40

Commercial policy

Anglo-Spanish agreements; a loan, a payments and a trade agreement. Economist 138:514-15, 522+ Mr 23 '40

British-American trade agreement; British viewpoint. A. S. Fletcher. Special Lib 30: 341-4 D '39

British exchange control. Economist 137:377-8 D 9 '39

British exchange control after 1 year of operation. T. R. Wilson. Comm Rep p762-3 S 7 '40

Can we export? Economist 139:159-60 Ag 3 '40

Completion of exchange control. Economist 139:124-5 Jl 27 '40

Decline in free sterling. Nat City Bank p39-40 Ap '40

Exchange control and commodities; rubber, tin and jute affected by new British regulations. Barron's 20:6 Mr 18 '40

Export policy. Economist 138:410-11 Mr 9 '40

Exports from Britain to United States and Switzerland must be paid for at official sterling rate or in dollars or francs. Comm & Fin Chr 150:3744-5 Je 15 '40

Free and controlled pounds. Economist 138: 608-9, 626 Ap 6 '40

Free market in sterling. Economist 138:337-8, 381-2 F 24-Mr 2 '40

Free sterling restricted. Survey of Cur Business 20:7 Ap '40

How allied policies affect our trade; world-wide trend towards exchange controls. I. de Vegh. Barron's 20:3 Ap 22; 8-9 My 13 '40

Importation of canned and bottled fruit restricted; additional products made subject to import license. Comm Rep p286+ Mr 23 '40

New British exchange regulations. Comm Rep p256 Mr 16 '40

New exchange regulations. Economist 138:473 Mr 16 '40

New rules on British exports. Comm & Fin Chr 150:1852 Mr 23 '40

Present agency problems in the United Kingdom. Comm Rep p820 S 28 '40

Stricter exchange control. Economist 138.425-6 Mr 9 '40

Towards real exchange control; new regulations. Economist 138:1044-5 Je 15 '40

United Kingdom additional import license regulations. Comm Rep p375+, 398 Ap 20-27 '40

United Kingdom; internal control, new taxation, government expenditure. Fed Res Bul 25:1044-5 D '39

War and the foreign exchanges. Nat City Bank p55-6 My '40

War measures; form of application for permit to import goods of British enemy origin. Comm Rep p277 Mr 23 '40

World trading systems; a study of American and British commercial policies. H. J. Tasca. 172p $1.50 Columbia univ. press '39

Defenses

Mobilisation at last; Emergency powers (defense) act is complete conscription of persons, labour and capital. Economist 138: 924-5 My 25 '40

Modern armaments. A. M. Low. 273p 8s 6d John Gifford, ltd, London '39

Economic conditions

Boom we left behind us. Economist 137:497 D 30 '39

Britain adjusts business to war. G. V. Ormsby. Barron's 20:37 Ja 15 '40

British business developments. Fed Res Bul 25:1046-7 D '39

British industrial developments. Published monthly in Economist Trade supplement

GREAT BRITAIN—Economic conditions—*Cont.*
Business situation. Comm Rep p1079 N 25 '39; p450-1, 474, 523-4, 543, 560, 598-9, 621, 660-1, 682-3, 700-1, 734-5, 770-1 My 18-25, Je 15-29, Jl 13-20, Ag 3-17, 31, S 14 '40
Hundred years of economic development in Great Britain. G. P. Jones and A. G. Pool. 420p bibliog(p403-15) $4.50 Macmillan '40
Manchester Guardian annual business review, Jan. 30, 1940. Published by Manchester guardian and evening news, Guardian bldg, 3 Cross st, Manchester, 2, Eng.
National affairs; the economic, political, and cultural structure of Britain. A. F. W. Pratt. 216p $2 Macmillan '39
1937 recession in England. J. A. Brown. bibliog Harvard Business R 18 no 2:248-60 [Ja] '40
On the world economic front: conditions in England not entirely reassuring. W. W. Case. Annalist 56:110 Jl 25 '40
United Kingdom; economic conditions; exchange, tariffs, etc. Published in Foreign commerce weekly

Economic history

Economic history of modern England. E. A. J. Johnson. 230p $1.75 Nelson '39
English navigation laws; a seventeenth-century experiment in social engineering. L. A. Harper. 503p bibliog(p419-47) $3.75 Columbia univ. press '39
Short history of English work & trade. H. Russell-Cruise. 276p 2s 9d Univ. tutorial press, London '39

Economic policy

As Britain mobilizes to buy; England nationalizes holdings of 60 American stocks. Business Week p55-6 F 24 '40
Britain's economic strategy. E. V. Francis. 391p $4 Thomas Nelson & sons, 91 Wellington, W, Toronto, 2 '39
British Treasury taking over holdings of its nationals in American securities; T. J. C. Gifford to represent Great Britain in United States in sale of securities. Comm & Fin Chr 150:1205-6 F 24 '40
British Treasury to take over more holdings of American securities from its nationals. Comm & Fin Chr 150:2499, 2964 Ap 20, My 11 '40
National capitalism; the government's record as protector of private monopoly. E. Davies. 320p 10s 6d V. Gollancz, London '39
National reserves for safety and stabilization. L. St C. Grondona. 190p 7s 6d G. Allen & Unwin, London '39

Foreign relations

Britain and France between two wars; conflicting strategies of peace since Versailles. A. Wolfers. 467p bibliog(p417-51) $3.75 Harcourt '40
British case. Lord Lloyd of Dolobran. 61p pa 25c William Collins sons & co. Canada ltd, 70 Bond st, Toronto, Can. '40
Forces for peace in the Near East; buffer states along Britain's lines of empire. R. Strausz-Hupé. map Barron's 20:3 F 12 '40

See also
European war—Great Britain

China

British relations with China: 1931-1939. I. S. Friedman. 255p bibliog(p238-47) $2 Inst. of pacific relations, 129 E. 52d st, New York '40

Germany

Publicity and diplomacy; with special reference to England and Germany, 1890-1914. O. J. Hale. 481p $4 Appleton-Century '40

United States

American impact on Great Britain, 1898-1914; a study of the United States in world history. R. H. Heindel. 439p $4 Univ. of Pennsylvania press, Philadelphia '40
Great Britain offers to lease naval bases in western hemisphere to United States; Prime Minister Churchill describes plan. Comm & Fin Chr 151:1067-8 Ag 24 '40
Our new relations with the British empire; trend toward pooling of resources. J. T. Adams. Barron's 20:3 O 21 '40

Industries and resources

British industry and the war. U. B. Scott. il Factory Management 97:39-43 D '39; Abstract. Mech Eng 62:149 F '40
British lesson; if U.S. armament requires cut in production of non-essentials. il Business Week p58-9 N 2 '40
Business in Britain. il Fortune 21:44-51+ Ja '40
Country relics; an account of some old tools and properties once belonging to English craftsmen and husbandmen saved from destruction and now described with their users and their stories. H. J. Massingham. 239p $4.75 Macmillan '39
Distribution of the industrial population. Engineering 149:174-5 F 16 '40
Employment in relation to technical progress; labor productivity, employment, output, and prices in the United Kingdom, 1930-35. H. Staehle. R Econ Statis 22:94-100 My '40
Industrial Britain; a survey. A. Wilmore. rev ed 367p bibliog(p349-57) 6s George G. Harrap & co, London '39
Industry through war to peace. W. Larke. Engineer 169:62 Ja 19 '40
Location of industry and the depressed areas. S. R. Dennison. 216p $3.50 Oxford '39
Recommendations for relocation of industrial population of Great Britain. Monthly Labor R 50:1124-7 My '40

See also
Agriculture—Great Britain
Chemical industries—Great Britain
Coal trade—Great Britain
Electric industries—Great Britain
Gas industry—Great Britain
Iron industry and trade—Great Britain
Labor and laboring classes—Great Britain
Plastic industries—Great Britain
Steel industry and trade—Great Britain

Minister of labor and national service

British control of employment act, 1939. Monthly Labor R 49:1374-6 D '39

National physical laboratory, Teddington

National physical laboratory; report for 1939. Engineering 149:626-7 Je 28 '40
Report for 1939. Elec R (Lond) 126:525 My 10 '40; Electrician 124:351 My 10 '40

Navy

Anatomy of British sea power; a history of British naval policy in the pre-dreadnought era, 1880-1905. A. J. Marder. 580p $5 Knopf '40
England's sea-officers; the story of the naval profession. M. A. Lewis. 307p $3 Norton '39
Fair exchange; American destroyers for leased naval bases. Economist 139:299-300 S 7 '40
Navy of to-day. K. Edwards. 206p 5s Blackie & son, London '39

Parliament

Parliamentary arithmetic. Economist 137:454-5 D 23 '39

Statistics

Commercial history and review of 1939. Economist 138:sup3-53 F 17 '40
Economist Trade supplement; new series. Economist 138:sup 1-4 Ja 7 '40 [cont monthly]

Unemployment assistance board

British Unemployment assistance board; a case study in administrative autonomy. J. D. Millett. 300p $3 McGraw-Hill '40

GREAT LAKES
Development of navigation on the Great Lakes. R. W. Putnam. W Soc E J 45:131-8 Je '40
Down to the Lakes in ships. il map Fortune 22:30-42+ Jl '40

GREAT LAKES—*Continued*
Hydrology of the Great Lakes, a symposium; discussion. Am Soc C E Proc 65:1105-8, 1305-13, 1435-44; 66:131-42 Je, S-O '39, Ja '40
Locating and maintaining buoys on the Great Lakes. F. P. Dillon. il Civil Eng 10:103-4 F '40
Ore, ships, and gentlemen; Cleveland's 99 per cent integrated industry. il Fortune 22:43-4+ Jl '40
See also
Fisheries—Great Lakes
Shipping—Great Lakes

GREAT men
See also
Genius

GREAT northern railway
Bonds offered. Comm & Fin Chr 151:2045 O 5 '40
Dividend prospects. A. Jansen. Barron's 20:18 Ag 19 '40
On the way back. J. J. Hipple. il Mag of Wall St 66:622-3+ S 7 '40
Serving northern Montana; Great Northern system of co-ordinated rail and truck routes. il map Ry Age 109:595-7 O 26 '40
Statistics and income account for 1936-39. Comm & Fin Chr 150:2727 Ap 27 '40

GREAT PLAINS region
Large mammals of the Great Plains; size of area necessary to prevent domestication. V. E. Shelford. Science 90:591-2 D 22 '39
White man versus the prairie. R. J. Pool. Science 91:53-8 Ja 19 '40

GREAT SMOKY Mountains national park
Dedicated at Newfound Gap by President Roosevelt on September 2. Science 92:212-13 S 6 '40
Dedication by President Roosevelt. Comm & Fin Chr 151:1375-6 S 7 '40

GREAT western railway of Canada
Great western railway of Canada. 64p pa $2; to members $1 Railway and locomotive historical soc, Baker library, Harvard business school, Boston '40

GREATER New York fund. See New York (city)—Charities

GRECIAN glass. See Glass manufacture—Greece

GREECE
Commerce
Foreign trade. For Comm W 1:201 N 2 '40
Greek trade declines since the war; September 1, 1939-March 31, 1940. Comm Rep p695-6 Ag 10 '40
Preliminary returns for the year 1939. Comm Rep p219 Mr 9 '40
Commercial policy
Regulations issued for application of export restrictions and controls. Comm Rep p1124-5 D 2 '39
Economic conditions
Business situation. Comm Rep p73 Ja 27 '40 [cont monthly] [cont as For Comm W O 5]
Business situation in 1939. Comm Rep p177-9 F 24 '40
Greece in 1939. Economist 138:sup 19 F 17 '40
Greek war economy. Economist 137:332 D 2 '39

GREECE, Ancient
Economic conditions
Economics of ancient Greece. H. Michell. 415p bibliog(p394-8) $4 Macmillan '40

GREEN, H. L., company
Brass tacks for the investor. Barron's 20:13 My 6 '40
High yield common stocks; thumbnail appraisal. Mag of Wall St 66:420 Jl 13 '40

GREEN, William, 1873-
Fortune survey; helpful to labor or harmful? Fortune 21:163 Je '40

GREEN
Dyeing and printing fast olive greens on cotton and rayon. R. Sansone. il Textile Col 62:168-70+ Mr '40
Green and yellow dyes from echium vulgare. C. D. Mell. Textile Col 62:412 Je '40
Stability of green pigments. Oil Paint & Drug Rep 138:49 N 4 '40
War and blackout curtains. R. Hamilton. Textile Col 62:745-9, 813-16+ N-D '40
Zinc-vapor glazing of clays; effect of variable lime and alkalis in clays on zinc-vapor glaze colors. C. M. Lampman and H. G. Schurecht. Am Cer Soc J 23:167-70 Je '40

GREENAWALT process. See Sintering

GREENBELT, Maryland
Another social experiment goes sour; Greenbelt soon to be for sale or lease. E. Thornhill and F. DeArmond. il Nation's Business 28:23-5+ O '40
Greenbelt takes over co-op stores. Business Week p35 F 3 '40
Planned community appraised. il Arch Forum 72:62-3+ Ja '40
Private housing in Greenbelt towns. Monthly Labor R 51:643 S '40

GREENHOUSES
How to build an inexpensive lean-to greenhouse. diags Am Bld 62:82-3 Mr '40
Electric equipment
Six applications in greenhouse load. J. C. Scott. il Elec W 113:318 Ja 27 '40
Heating and ventilation
Amount of steam for heating a greenhouse determined by test. G. K. Saurwein. diag plan Heating-Piping 12:182 Mr '40

GREENLAND
American-Danish Greenland commission formed. Comm & Fin Chr 150:2802 My 4 '40
Submarine valleys and related geologic problems of the north Atlantic. W. H. Bucher. Geol Soc Bul 51:489-511 bibliog(p509-11) Ap '40
United States government acts with regard to Iceland and Greenland. Comm & Fin Chr 150:2499-500 Ap 20 '40
See also
Geology—Greenland
Bibliography
Printing in Greenland with a list of Greenland imprints in the Krabbe library. N. Van Patten. 40p pa $1 Stanford univ. press '39

GREENSBORO, North Carolina
Sewerage
Observations on textile waste treatment. C. W. Mengel. il plan Civil Eng 10:267-9 My '40

GREENVILLE, South Carolina
Greenville gives another party; first annual National cotton festival. il Textile World 89:69 N '39

GREETING cards
Plastics competition; award to the Gibson art co. il Mod Plastics 18:72, 97 O '40

GREGORY, James, 1638-1675
Another inventor of the calculus? E. T. Bell. Science 91:450-2 My 10 '40

GRIGNARD reagents
Action of Grignard reagents on heavy metal salts: the formation of olefins in the reaction with silver bromide. J. H. Gardner and C. J. Snyder. Am Chem Soc J 62:2879-80 O '40
Action of Grignard reagents on methyl *r*-tropate and on methyl atropate. A. McKenzie and E. R. Winton. Chem Soc J p840-4 Jl '40
Action of organometallic compounds on dimethylmaleic anhydride. D. S. Tarbell and C. Weaver. bibliog Am Chem Soc J 62:2747-50 O '40
alpha-Bromo secondary alkyl ketones; reaction of 3-bromo-3-methyl-2-butanone with methylmagnesium iodide. R. B. Greenburg and J. G. Aston. Am Chem Soc J 62:3135 N '40

GRIGNARD reagents—*Continued*
Chemistry of vitamin E; dealkylation of hydroquinone ethers related to the tocopherols. L. I. Smith, H. E. Ungnade and W. B. Irwin. bibliog Am Chem Soc J 62: 142-4 Ja '40
Chemistry of vitamin E; the reaction between Grignard reagents and coumarins and hydrocoumarins. L. I. Smith and P. M. Ruoff. bibliog Am Chem Soc J 62:145-8 Ja '40
Color tests for some organolithium compounds. H. Gilman and J. Swiss. bibliog Am Chem Soc J 62:1847-9 Jl '40
Coördinate compounds in the color test for organometallic compounds. H. Gilman and R. G. Jones. bibliog Am Chem Soc J 62: 1243-7 My '40
Determination of hydroxyl groups with Grignard reagent. W. Fuchs, N. H. Ishler and A. G. Sandhoff. diag Ind & Eng Chem Anal ed 12:507-9 S 15 '40
Equilibrium composition of *n*-butylmagnesium chloride solutions in ethyl ether. C. R. Noller and D. C. Raney. Am Chem Soc J 62: 1749-51 Jl '40
Grignard reagent. M. Kilpatrick and E. A. Barr, jr. Am Chem Soc J 62:2242 Ag '40
Microgravimetric determination of active hydrogen by the Grignard reagent; application to analysis of impregnated paper insulating tapes. R. N. Evans, J. E. Davenport and A. J. Revukas. bibliog diag Ind & Eng Chem Anal ed 12:301-3 My 15 '40
Preparation of Grignard reagents from magnesium amalgams. E. G. Rochow. Am Chem Soc J 61:3591 D '39

GRILLES
Air flow measurements at intake and discharge openings and grilles. G. L. Tuve and D. K. Wright, jr. il diags Heating-Piping 12:501-7 Ag '40
Automatic bright nickel plating of automobile radiator grilles. A. G. Spencer. il diag Metal Ind 38:197-200 Ap '40
Discoloration at air outlet grilles caused by static charges, study shows. H. C. Murphy. il Heating-Piping 12:22-3 Ja '40

GRINDING
Billet grinding; factors affecting cost. A. O. Rousseau. il Iron Age 145:45-7 Je 20 '40
Door magnet valve grinding tools. E. Rogers. il Transit J 84:28 Ja '40
Dust collector for tool grinder. il Iron Age 145:55 My 23 '40
European thread-grinding practice. il diags Mach 46:255-6 D '39
Fixture for grinding eccentric. J. R. Whittles. diag Mach 46:129 Je '40
Grinding and sanding castings without dust; Monarch machine tool co. plant. il Iron Age 146:51 S 12 '40
Grinding carbide cutters. F. W. Lucht. il diags Am Mach 84:603-5, 658-61 Ag 21-S 4 '40
Grinding cracks in quenched steels. K. Monma. il Iron Age 145:44-5 F 29 '40; Summary. Metals & Alloys 11:MA208+ Ap '40
Grinding fixture for several sizes of work. J. I. Karash. il diag Am Mach 84:59-60 F 7 '40
Grinding large odd-shaped work on various types of machine tools. il Mach 46:248-9 D '39
Grinding large work on a milling machine. C. W. Hinman. diag Am Mach 84:585-6 Ag 7 '40
Grinding spherical shapes in a lathe. J. W. Gerdel. diags Mach 46:263-4 D '39
Increasing the life of cutting tools by an improved method of grinding. L. J. St Clair. Mach 46:267-71 D '39
Jigs for grinding jackhammer bits. il Eng & Min J 141:55 Mr '40
One way of grinding slender work on centers. T. Wilkinson. diag Am Mach 84:22 Ja 10 '40
Precision thread grinding; Wright aeronautical corp. H. E. Linsley. il Am Mach 84: 908-9 N 13 '40
Radius-forming attachment for cutter grinder used in slotting aluminum pistons. J. W. Gerdel. diags Mach 46:198-200 Jl '40
Simple rules for better grinds. H. C. Urbauer. il Am Mach 84:567 Ag 7 '40
Solution of a difficult grinding job. A. Taslyian. diag Am Mach 84:707-8 S 18 '40
Some tips on grinding paper mill rolls. H. J. Wills. il diag Paper Tr J 110:17-19 Ja 4 '40
Temperature control in precision grinding. G. E. Hersam. il Elec W 114:424 Ag 10 '40
Using die-grinder on lathe faceplate for planetary grinding job. H. J. Chamberland. diags Mach 46:117 My '40

See also
Abrasives
Lubrication and lubricants (cutting and grinding)
Machine shop practice
Polishing

GRINDING and crushing. See Crushing

GRINDING machines
Blanchard surface grinder. il Automobile Eng 30:18-19 Ja '40
Bowen and company grinding and lapping machine for sintered-carbide tools. il diags Engineering 149:435 Ap 26 '40
Carboloy machine for grinding chip-breakers in carbide tools. il(p459) Automotive Ind 83:460 O 15 '40
Cincinnati hydraulic universal grinder. il Am Mach 84:105 F 21 '40; Mach 46:143-4 Mr '40
Convenience features grinder motor drives. il Elec W 113:920 Mr 23 '40
Crystal Lake universal bench grinder. il Mach 46:282 D '39
Delco-Remy and Hyatt bench-type double grinding machines. il Engineering 149:129 F 2 '40
Delco-Remy and Hyatt fractional h.p. electric grinders. il Engineer 168:576 D 8 '39
Direct drives serve grinder battery. il Elec W 114:558+ Ag 24 '40
Doall precision surface grinder. il Am Mach 83:1054 D 13 '39; Mach 46:188 Ja '40
Edgwick twist-drill grinding machine. il Engineering 148:553 N 17 '39
Exhaust attachment for B & S cylindrical grinding machine. il Mach 46:150 Je '40
Farrell-Birmingham cylindrical grinder. il Am Mach 84:27 Ja 10 '40; Mach 46:138 F '40
Gardner 34-ton snagger grinder. il Am Mach 84:479 Je 26 '40
Geometric chaser grinder. il Mach 47:168 O '40; Ry Mech Eng 114:416 O '40
Hanchett parallel-surface grinding machine. il Engineering 149:49 Ja 12 '40
Hanchett Rotary Plano surface grinder. il Am Mach 84:841 O 16 '40; Mach 47:162 O '40
Hanchett traveling-wheel grinder for grinding edges of armor plate. il Mach 46:134 Ag '40; Am Mach 84:637 Ag 21 '40
LeMaire grinder. il Am Mach 84:65-6 F 7 '40
Modern machinery for the production of aircraft and engines. il Aero Digest 36:72, 75-6 Ja '40
Moore vertical jig grinder. il Am Mach 83: 1097 D 27 '39; Mach 46:182 Ja '40
Norton multipurpose grinder and improved cylindrical grinders. il Mach 46:181-2 Ja '40
Norton multipurpose universal grinder used for external and internal operations. il Am Mach 83:1091 D 27 '39; Ry Mech Eng 114: 79 F '40
Norton 10-in. type C grinders feature several design improvements. il Am Mach 83:1093 D 27 '39
Oliver template tool bit grinder. il Automotive Ind 81:639 D 15 '39
Oliver tool and cutter grinder. il Automotive Ind 82:163+ F 15 '40; Mach 46:139 F '40
Portable electric grinders. il diag Engineer 169:73-4 Ja 19 '40
Pratt & Whitney grinder. il Am Mach 84:515-16 Jl 10 '40
Selbsttätige flächenschleifmaschine für kolbenringe. H. J. Krug. il V D I 83:1273-4 D 9 '39
Stahlleichtbau bei werkzeugmaschinen; grundlagen und ausführungsbeispiel. C. Krug. il diags V D I 84:11-16 Ja 6 '40
Van Dorn grinding machine for carbide-tipped tools. il Engineering 149:21 Ja 5 '40
Walters and Dobson file grinding machines. il diag Engineer 169:263-4 Mr 15 '40

GRINDING machines—*Continued*
What's new in machine tools. F. J. Oliver. il Iron Age 145:40-1, 43 F 15 '40
Wright table surface grinder. il Automobile Eng 30:299 O '40
Wright table-type surface-grinding machine. il diag Engineering 149:76 Ja 19 '40

See also
Grinding wheels
Lubrication and lubricants (cutting and grinding)
Machine shop practice
Polishing machines

Control

Electromagnetic feeler-gage control; new method used in inspection measurements of small parts and in automatic control of grinding machine. diags Mach 46:119-21 Ag '40

Lubrication

Lubrication of grinding rolls; grinding and polishing rolls for rolling sheet metal. C. H. S. Tupholme. Blast F & Steel Pl 28: 198-9 F '40

GRINDING machines, Portable
Vibration dampener bushing for hand grinders. P. L. Kuznick. il India Rubber W 102:55 Ap '40

GRINDING wheels
Better finishing methods produce improved cutter efficiency. V. H. Ericson. il Steel 107:80+ Ag 12 '40
Billet grinding; factors affecting cost. A. O. Rousseau. il Iron Age 145:45-7 Je 20 '40
Fundamentals of grinding wheel selection. B. H. Work. il diags Iron Age 146:38-40 Jl 4; 42-4 Jl 11 '40
Grinding-action theories. A. H. Dall. il diags Engineering 150:17-18, 54-5 Jl 5, 19 '40
Grinding of hardened gears. J. C. Dixon. il diags Iron Age 145:50-1 Ap 18 '40
Metallographic grinding with abrasives fixed in lead disks; method preserves inclusions. K. Amberg. il diags Metal Prog 37:146-9 F '40
Regrinding machine knives. A. Rousseau. il Pulp & Pa of Can 41:476-7 Je '40
Selection of grinding wheels; data sheet. Mach 46:165 Ap '40
Wheels recommended for grinding aluminum alloys. Am Mach 84:629 Ag 21 '40

Safety devices and measures

Grinding wheel protection. Safety Eng 80:25 Ag '40

Truing

Diamonds for truing grinding wheels; reference book sheet. L. Gluck. Am Mach 84: 587 Ag 7 '40
Dressing and truing grinding wheels. H. J. Wills. il diags Am Mach 84:859-61, 914-16 O 30-N 13 '40 (to be cont)
Wheel-dressing fixture for step-grinding. H. J. Chamberland. diags Mach 47:129-30 S '40
Wheel-truing device for surface grinding machines. J. R. Whittles. diags Mach 46: 117 F '40

GRIT chambers. See Sewage disposal—Grit chambers

GROCERY stores
Co-ops dressing up. il Business Week p41 S 14 '40
Photo films in groceries for keeps; Standard Brands plans further extension of service. Business Week p32-3 S 21 '40

See also
Market stores
Safeway stores, inc.

GROCERY trade
Albrecht stock control plan for wholesalers. il Am Business 9:28-9 D '39
Bell-ringer displays of 1940 in drug, food and hardware stores; inventory study of 1,250 windows in 11 large cities. Sales Management 47:18-20, 80-2 S 1 '40
Brass tacks for the investor; brief analysis; Safeway stores, inc.; Kroger grocery & baking co. Barron's 20:30 Ja 15 '40
Chains battling Crisco and Spry; big grocery outfits bring own shortenings. Business Week p36-8 Je 15 '40
Conference topics for the retail grocery business. K. B. Haas and B. F. Kyker. U S Office of Educ Vocational Div Bul 198, Business Educ Ser 11:1-138; pa 20c Supt. of doc. '39
Controlled competition; corporate chains, cartels and cooperatives. H. Lazo. 77p pa gratis Cooperative food distributors of America, 1627 K st, NW, Washington, D.C. '39
Ex-grocer punctures consumer demand; sells IGA products. E. I. Campbell. Adv & Sell 33:44 Je '40
Fair trade tests; liquor and groceries in New York. Business Week p39-40 N 9 '40
Good on all counts, these food delivery trucks; C. D. Kenny co. wholesale grocery. il Food Ind 12:70-1 Je '40
Growth of chain stores hastened by recent political agitation against them. P. M. Carlisle. Annalist 55:518-19 Ap 11 '40
Hit food price cuts; grocers plug for laws to stop chains' use of loss leaders. Business Week p22 Je 22 '40
How are national-brand foods being price-cut today? R. P. Wolff. il Adv & Sell 33:17-19 Ag '40
Kellogg hoists Pep sales by climbing on vitamin bandwagon. il Sales Management 46:72, 74-5 F 15 '40
Manager's manual for consumer cooperative food stores. [155p] $1.25 Consumer distribution corp, 420 Lexington av, New York '40
Million dollar business on nuisance lines; wholesale business specializing in flour, sugar, and other short profit lines. R. McDaniel. il Am Business 10:28-30 S '40
NCR moves in; boosts grocery-trade volume 40 per cent. A. H. Little. il Ptr Ink 189:21-4 D 29 '39
N.Y. grocers (again) tell brands they like to sell most, and least. il Sales Management 47:40, 44-5+ O 1 '40
Rise of the super-market and some marketing consequences; price variations of 68 nationally advertised grocery products at super-markets, chain stores, and independent stores in a large southern city. R. P. Wolff. il map Dun's R 48:8-13+ S '40
Salesmen's cars and delivery trucks dressed up to increase sales; C. D. Kenny co., Baltimore. il Food Ind 12:60-1 S '40
Self-service and semi-self-service food stores. C. W. Dipman and J. E. O'Brien. 312p $3 Progressive grocer, 161 6th av, New York '40
What a dealer profit-sharing plan is doing for Baxter bros. R. H. M. White. il Sales Management 47:40-1 Jl 15 '40

See also
Butter
Canned food
Chain stores
Coffee trade
Eggs
Food industry and trade
Market stores
also Great Atlantic and Pacific tea company

Advertising

Does the dealer know you advertise? Independent grocers in metropolitan New York city area tested as to their knowledge of current magazine, newspaper and radio advertising. il Sales Management 45:18-20, 56 D 15 '39
Ingenious sampling device, via letter, brings upper bracket business for retailers of Washington flour. Ptr Ink 193:59+ O 4 '40

Statistics

Supermarkets and self-service stores; recent facts and figures on where they are, how many, and their turnover percentage of local grocery sales. D. Curtiss. il fold map Adv & Sell 33:22-4 Je '40

GROG
Use of aluminum metal in the ceramic industry; properties of refractories produced with mixtures of aluminum, fire clay, and grog. H. G. Schurecht and H. I. Sephton. Am Cer Soc J 23:259-64 S '40

GROINS
Beach erosion studies. C. T. Leeds. Am Soc C E Proc 66:303-11 F '40; Discussion. E. I. Brown. 66:501-6 Mr '40

GRONDAHL, Lars O.
Railroad researchers named "Modern pioneers"; dinner meeting sponsored by National association of manufacturers. por Ry Age 108:295-6 F 10 '40

GROOVING
Grooving operations performed with Haynes stellite tools. il Mach 46:100-1 F '40
Lathe attachment for grooving bushings. R. C. Smithyman. il diags Am Mach 84:752-4 O 2 '40
Oxyacetylene gouging process; abstract. R. F. Flood. Steel 106:74 Ap 22 '40
Wicaco heavy-duty oil-grooving machine. il Mach 46:144 Mr '40
Wicaco oil-groove cutting machine. il Engineering 149:294 Mr 15 '40; Engineer 169:264 Mr 15 '40; Automobile Eng 30:124 Ap '40

GROUNDING. See Electric distribution—Grounding

GROUNDNUT oil. See Peanut oil

GROUP discussion. See Discussion

GROUP insurance. See Insurance, Group

GROUP selling. See Salesmanship—Group selling

GROUP work
Group life. M. K. Simkhovitch. 99p bibliog(p99) $1 Assn. press, 347 Madison av, New York '40
Group work, 1939. 84p pa 50c American assn. for the study of group work, 381 4th av, New York '39

GROUTING
Construction joints. B. W. Steele. Am Soc C E Proc 66:927-9 My '40
Foundation conditions and treatment at Guntersville dam. V. Gongwer. il diags map Am Soc C E Proc 66:431-62 Mr '40
Foundation treatment and reservoir rim tightening at Norris dam. J. S. Lewis, jr. il diags Am Soc C E Proc 66:385-419 Mr '40; Discussion. 66:1341-5; 67:148-50 S '40, Ja '41
Foundation treatment at Chickamauga dam. J. B. Hays. il diags plan Am Soc C E Proc 66:478-99 Mr '40; Discussion. C. E. Blee. 66:1345-6 S '40
Large core drills aid construction at Chickamauga dam. J. L. Lewis, jr. il diags Am Soc C E Proc 65:959-62 Je '39; Discussion. 65:1464; 66:112-14 O '39, Ja '40
Waterproofing a brick tunnel; Otisville tunnel of the Erie railroad. S. A. Potter, jr. diags Civil Eng 10:702-4 N '40

GROWTH
Oncoming reversal of the human growth tide. C. A. Mills. Science 92:401-2 N 1 '40
Relative growth and vertebrate phylogeny. F. B. Phleger, jr. bibliog Am J Sci 238: 643-62 S '40
See also
Plant growth

GROWTH promoting substances
Growth-promoting principles for animals; abstract. W. C. Allee and others. Science 92: sup5-6 Jl 12 '40

GRUMMAN aircraft engineering corporation
Decade of Grumman progress. il Aero Digest 36:48-9, 52+ Ja '40
Selected war beneficiaries. Mag of Wall St 66:304 Je 15 '40

GRUNDY, Felix, 1777-1840
Felix Grundy, champion of democracy. J. H. Parks. 368p bibliog(p342-55) $3 Louisiana state univ. press, University, La. '40

GRÜNEISEN'S constant
Grüneisen's constant for the incompressible metals. J. C. Slater. bibliog Phys R 57: 744-6 Ap 15 '40

GUAIACOL
Steric hindrance in ketone-phenol condensations; the condensation of guaiacol with cyclic ketones. J. B. Niederl, V. Niederl and J. Grumer. Am Chem Soc J 62:320-2 F '40

GUAIACYL group
Studies on lignin and related compounds; occurrence of the guaiacyl and syringyl groupings in the ethanolysis products from various plants. A. S. MacInnes and others. bibliog Am Chem Soc J 62:2803-6 O '40

GUAM
Bibliography
Bibliography of the Island of Guam. C. F. Reid and others, eds. 102p $1.50 Wilson, H.W. '39

GUANIDINE
Aims of present day accelerator research. A. M. Neal. Rubber Age 46:289-94 F '40

GUANIDINE carbonate
Thermal data; the heat capacities and entropies of guanidine carbonate, glutamic acid hydrochloride, ornithine dihydrochloride, *d*-lactic acid and *l*-lactic acid. H. M. Huffman, E. L. Ellis and H. Borsook. Am Chem Soc J 62:297-9 F '40
Thermal data; the heats of combustion of urea and guanidine carbonate and their standard free energies of formation. H. M. Huffman. Am Chem Soc J 62:1009-11 My '40

GUANIDOACETIC acid. See Glycocyamine

GUANINE
Constitution of yeast ribonucleic acid; guanine-uridylic acid. J. M. Gulland. bibliog Chem & Ind 59:321-4 My 11 '40
Structure of yeast ribonucleic acid guanine-uridylic acid. R. S. Tipson and P. A. Levene. Chem & Ind 58:1010 N 18 '39

GUANOSINE
Constitution of yeast ribonucleic acid; syntheses of uridylic and guanylic acids, uridine-5-phosphate and guanosine-5-phosphate. J. M. Gulland and G. I. Hobday. Chem Soc J p746-52 Je '40

GUANYLIC acid
Constitution of yeast ribonucleic acid; syntheses of uridylic and guanylic acids, uridine-5-pho-phate and guanosine-5-phosphate. J. M. Gulland and G. I. Hobday. Chem Soc J p746-52 Je '40

GUARANTY. See Suretyship and guaranty

GUARANTY of bank deposits. See Banks and banking—Guaranty of deposits

GUARANTY of goods
Cooking notes; guarantees, an unsolved problem. Electrician 124:5 Ja 5 '40
Double-your-money guarantee; Richfield oil corporation. B. N. Pollak. il Ptr Ink 191: 21-2 Ap 19 '40
Guarantee hazard of $10. E. A. Hanson. Ptr Ink 191:24 My 17 '40
Guarantees can be valuable without being wild-eyed and all-inclusive. Ptr Ink 191: 83-7 Ap 19 '40
Guarantees: 12 types; double your money back still going strong. Ptr Ink 190:25-6+ Mr 8 '40
Helping dealers with adjustments; how to tell whether or not a returned hammer is defective. il Ptr Ink Mo 40:27 F '40
Manufacturers adopt new tire warranty. Rubber Age 46:246 Ja '40
New tire warranty; standard warranty covering tires used in off-the-road service, also airplane, industrial, and all-solid tires. India Rubber W 101:52 D '39
Put safeguards in those guarantees! C. R. Rosenberg, jr. Sheet Metal Worker 31:32 Ag '40
Ten-year guarantee on refrigerators announced. il Gas Age 85:13-14 Ap 25 '40
Accounting
Service guarantee payments from buyers of electric refrigerators. J Account 69:213-14 Mr '40

GUARANTY of products
Learning as it grows, Universal Camera builds volume by good advertising. F. G. Klock. Ptr Ink 193:17-20 N 1 '40

GUARANTY of wages. See Wage payment plans—Guaranty of earnings

GUARANTY trust company of New York
1939 earnings. Comm & Fin Chr 150:355-6 Ja 20 '40

GUARDIAN and ward
Accounting by guardians. W. M. Winans. Trusts & Estates 71:281-3 S '40
Official guardian; protection of infants' estates in the province of Ontario. D. P. MacDougall. Trusts & Estates 69:597-9 D '39
Progress and legislation concerning personal suretyship for guardians. H. W. Nichols. Weekly Underw 143:710-13 S 28 '40

GUATEMALA
Guatemala, past and present. C. L. Jones. 420p bibliog(p403-10) $5 Univ. of Minnesota press, Minneapolis '40

See also
Contacts, Government—Guatemala

Economic conditions

Economic conditions. For Comm W 1:202 N 2 '40

GUAYULE
Rubber on bushes; experiments with guayule prompt drive for federal aid. il Business Week p44-5 O 5 '40

GUEST houses
Guest house on a Los Angeles hillside. il plan Arch Rec 87:72-3 Mr '40
House for guests in Palm Springs, Calif. il plans Arch Rec 87:76-7 Mr '40
New York country guest cottage at Sand Pond. il plan Arch Rec 87:66-7 Mr '40

GUGGENHEIM, Daniel, medal
Award to D. W. Douglas. Mech Eng 62:82 Ja '40

GUGGENHEIM, John Simon, memorial foundation
Award of Guggenheim fellowships. Science 91:377-9 Ap 19 '40
Guggenheim fellowships for Latin Americans. Science 92:54 Jl 19 '40

GUGGENHEIM, Murry, 1858-1939
Sketch. Comm & Fin Chr 149:3204 N 18 '39

GUIBERSON engine
Guiberson Diesel. P. H. Wilkinson. diags Aviation 39:59, 112 Jl '40

GUIDE books. See Guidebooks

GUIDEBOOKS
Guide books needed. il Inland Ptr 104:33 Ja '40

GUILDS. See Gilds

GULF coast
Recent shoreline process, Brazoria county, Texas. W. H. Curry. il maps Am Assn Pet Geologists Bul 24:731-5 Ap '40

See also
Geology—Gulf coast
Petroleum—Gulf Coast region

GULF, Mobile and Northern railroad
Reorganization plan. Comm & Fin Chr 149: 3409-10 N 25 '39

GULF, Mobile and Ohio railroad
I. B. Tigrett heads G.M. & O.; merger of the Gulf, Mobile & Northern and the Mobile & Ohio. map Ry Age 109:397-8+ S 21 '40
Listing of securities Comm & Fin Chr 151: 987-8 Ag 17 '40

GULF public service company
Issuance of securities. Comm & Fin Chr 151:1281 Ag 31 '40

GULLIES. See Erosion

GUM arabic
Surface conditions of silver halides and rate of reaction; rate of reduction of precipitated silver chloride. T. H. James. bibliog Am Chem Soc J 62:536-40 Mr '40

GUMS and resins
Constituents of natural phenolic resins; a synthesis of *l*-matairesinol. R. D. Haworth and F. H. Slinger. Chem Soc J p1098-1101 Ag '40
Constituents of natural phenolic resins; 1 : 2 : 3 : 4-tetrahydronaphthalene-2 : 3-dicarboxylic acid and the 1-phenyl derivative. R. D. Haworth and F. H. Slinger. Chem Soc J p1321-7 S '40
Derivatives of natural resins and their polymerization. R. Bhattacharya. bibliog Chem & Ind 59:325-8 My 11 '40
Influence of resins on the heat bodying of oils. R. C. Shuey. bibliog Ind & Eng Chem 32:921-30 Jl '40
Microscopy in the resin industry; application of micromethods in study of typical resins for various commercial uses. T. G. Rochow. il Ind & Eng Chem Anal ed 11:629-34 N 15 '39
Spice oils give uniform flavor; experience in replacing dry spices for pickle manufacture with spice essential oils and oleoresins. A. H. Downey. il Food Ind 12:54-5 S '40
Studies in the oxidation of drying oils and cognate substances; the properties of the peroxide, ketol, and oxido-groupings, including those of some resins. R. S. Morrell and E. O. Phillips. Soc Chem Ind J 59:144-8 Jl '40
Triterpene group; the minor triterpenoid constituents of Manila elemi resin. I. M. Morice and J. C. E. Simpson. Chem Soc J p795-9 Je '40
Water-soluble gum from larch tree. E. V. White. Oil Paint & Drug Rep 138:54 O 21 '40
What you can use; catalysts and solvents for oleoresins. Oil Paint & Drug Rep 137: 30B Ja 22 '40

See also
Lac
Naval stores
Resinous products
Rosin
Shellac

Statistics

Botanical drugs, spices, and gums. Published in weekly numbers of Oil, paint and drug reporter

GUMWOOD
Handling gum lumber. G. R. Smiley. Ry Age 108:243-4 F 3 '40
Use of swamp black gum sulphate pulps for high grade papers. C. Carpenter and G. A. Ritter. Paper Tr J 110:29-31 Ja 18 '40

GUN carriages
New power to old guns; French 75's mounted on redesigned carriages; made at Rock Island arsenal. il Am Mach 84:1-4 Ja 10 '40
Safe-building plant turns to anti-aircraft gun carriages; York safe & lock co. il Mach 47: 130-40 N '40

GUNITE
Rebuilding stacks; heat-resistant cement applied with gun to corroded steel stacks. il Steel 105:64-5+ D 18 '39
Restoring surface of huge concrete bins spalled by elevator fire. il Concrete 47:3-4 D '39

GUNS

Manufacture

Telescope detects defects in gun barrels. il Steel 107:77 N 11 '40
Tenite stocks for guns. il Sci Am 161:362-3 D '39

GUNS (ordnance)
Dynamics of defense. R. Ginsburgh. il Am Mach 84:756-9 O 2 '40
Our superior modernized 75's. G. M. Barnes. il Sci Am 162:16-18 Ja '40

See also
Ammunition
Firearms
Machine guns

Manufacture

Army's big guns are made at Watervliet. R. H. Somers. il Mach 45:744-7; 46:97-9 Jl '39, F '40
Foundry industry and army ordnance. N. F. Ramsey. il diags Foundry 68:28-9, 78+ Mr; 28-9, 98+ Ap '40
Gun barrel spline shaping machine. il Engineer 170:224 O 4 '40
Manufacturing preparedness at Watertown arsenal. R. W. Case. il Mach 45:752-5 Jl '39; 46:99-101 Mr '40

GUNS, Anti-aircraft
Bofors 40-mm antiaircraft gun. diag Mech Eng 62:683-4 S '40
Fertigung englischer flugabwehrkanonen. A. Kuhlenkamp. il diags V D I 84:78-83 F 3 '40
Industry gets educated; printing press manufacturer gets order for anti-aircraft gun parts. il Am Mach 84:409-12 Je 12 '40
Machining aluminum anti-aircraft gun recoil mechanism frame. Mach 47:123 O '40
Safe-building plant turns to anti-aircraft gun carriages; York safe & lock co. il Mach 47:130-40 N '40

Detonators
Die zünder für die flugabwehr. A. Kuhlenkamp. bibliog il diags V D I 84:301-5 My 4 '40

GUNSMITHING
American gun makers. L. D. Satterlee and A. Gluckman. 186p bibliog(p185-6) $4 Ulbrich co, Buffalo, N.Y. '40
Caviar guns, and others. A. D. Rathbone, 4th. il Sci Am 162:238-9 Ap '40

GUNTERSVILLE, Alabama

Bridges
Long bridge raised by unique procedure. E. Harsch. il diags Eng N 123:757-61 D 7 '39

GUNTHER, Eustace Rolfe, 1902-1940
Sketch. Chem & Ind 59:424-5 Je 15 '40

GUTENBERG, Johann, 1397?-1468
Gutenberg's life recorded in documents. D. C. McMurtrie. il Inland Ptr 105:50-2 Jl '40
Significance of Gutenberg's invention. D. C. McMurtrie. Special Lib 31:199-200 Jl-Ag '40
Why we honor Gutenberg. D. C. McMurtrie. il por Inland Ptr 105:36-8 Ap '40
Wings for words; the story of Johann Gutenberg and his invention of printing. D. C. McMurtrie and D. Farran. 175p $2 Rand McNally & co, 111 8th av, New York '40

GUTHRIE, Samuel, 1782-1848
Early American chemist. F. H. Getman. J Chem Educ 17:253-9 Je '40

GUTTERS (roof)
Correct and incorrect copper application methods. H. H. Doe. il diags Sheet Metal Worker 31:55 Ja; 32-4 Ap '40
Information on copper gutter construction. diags Sheet Metal Worker 31:37 Jl '40
Porcelain enamel installation of gutters and downspouts. il Sheet Metal Worker 31:66 Ag '40

GUYS
Une propriété intéressante de la chaînette. M. Bourseire. Génie Civil 116:11-12 Ja 6 '40

GYMNASIUMS
Hemenway gymnasium, Harvard university; views, plans, construction outline. Arch Forum 73:56-7 Jl '40
Seats for nine thousand fans; Duke university's new gymnasium. A. C. Lee. il diag Eng N 124:376-8 Mr 14 '40
Simplicity in structural design; arch rib roofs for sports buildings. G. Hadden. il Civil Eng 10:451-2 Jl '40
Three high school gymnasiums; with construction outlines. il plans Arch Forum 72: 393-8 Je '40

GYMNASTICS
Play gymnastics. L. L. McClow and D. N. Anderson. 153p $3 Crofts '40

GYMNASTICS, Medical
Massage and remedial exercises in medical and surgical conditions. N. M. Tidy. 4th ed 458p 15s J. Wright and sons, Bristol, Eng. '39

GYPSOGENIN
Sapogenins; the sapogenin of fuller's herb. G. A. R. Kon and H. R. Soper. Chem Soc J p617-20 My '40

GYPSUM
Deposition of calcium sulfate from sea water. E. Posnjak. bibliog Am J Sci 238:559-68 Ag '40
Gypsum, 1935-1939. Survey of Cur Business 1940 Sup p152 [supplemented in monthly numbers]
Maver and Coulson gypsum-rock extracting transporter for Messrs Cafferata and company. il diags Engineering 148:517-20, 530, pl 19 N 10 '39; Abstract. Génie Civil 116:67-9 Ja 27 '40
Production, employment, and output per man in gypsum mining. R. Newcomb and K. Peterson. map U S Bur Mines Information Circ 7134:1-17 '40
Some factors affecting plaster mold life. M. C. Dailey and B. Nies. il Am Cer Soc Bul 19: 323-9 S '40
Transporter for separating gypsum. il Mech Handling 26:351-3 D '39

See also
National gypsum company
United States gypsum company

GYPSUM products
Florida's new gypsum plant. il diags Rock Prod 43:47 Ja '40
Gypsum board makers indicted as trust. Oil Paint & Drug Rep 138:5 Jl 8 '40
Gypsum operations in Great Britain; British plaster board co. J. Watson. il Rock Prod 43:38-9 Je '40
Gypsum patent trust assailed in civil suit. Oil Paint & Drug Rep 138:5+ Ag 19 '40
Gypsum products sold or used, 1935-1939. Survey of Cur Business 1940 Sup p152 [supplemented in monthly numbers]
Gypsum specialty for drying solids, liquids and gases; Drierite. Rock Prod 43:46 Ja '40
House of gypsum; Gips-Union, Zurich; precast products for flooring, walls, and ceilings. F. O. Anderegg. il diags Rock Prod 43:37-8 O '40
Inspecting National's new gypsum plant. il Rock Prod 43:50-1 Ja '40
Slag and gypsum cements. F. O. Anderegg. Rock Prod 43:52 Mr '40

GYROMAGNETIC effect. See Magnetism

GYROPLANES
Stressing of rotating-blade aerofoils. J. B. B. Owen. Engineering 148:511-13 N 3 '39

See also
Autogiros

GYROSCOPE
Einkreiselfluggeräte und ihr verhalten im flug. S. Wintergerst. diags V D I 84:35-8 Ja 13 '40
Lear gyromatic navigator. il Aero Digest 37: 153 Ag '40
Mechanical model for the motion of electrons in a magnetic field. A. Rose. il diag J Ap Phys 11:711-17 N '40
New speed control system heads off changes before they occur; gyroscopic governor. il Steel 107:44+ Jl 29 '40
Sperry; the corporation. il Fortune 21:52-6+ My '40
Sperry's spinning wheel. il diags Fortune 21: 57-64+ My '40

H

HABER, Fritz, 1868-1934
Haber memorial lecture. J. E. Coates. pors Chem Soc J p1642-72 N '39; Summary. Soc Dyers & Col J 56:67-8 F '40

HADFIELD, Sir Robert Abbott, 1858-1940
Appreciation. J. H. Hall. por Min & Met 21: 539-40 N '40
Sketch. por Engineer 170:235-6 O 11 '40; Engineering 150:274-5 O 4 '40

HADLEY, Raymond F.
Beal medal award. Am Gas J 153:78 N '40

HADSEL mill
Three years of operation with a Hadsel mill; Demonstration gold mines, in the Philippines. G. A. Bell. flow sheet diag Eng & Min J 141:32-3 Ja '40

HAGEN, Fred J.
Top-flight craftsmen. por Inland Ptr 105:62 Ap '40

HAIEN, John
Trains youth; director of mechanical and manual training, NYA. por Business Week p15 Jl 13 '40

HAIR

Analysis

Studies in the composition of human hair. R. C. Clay, K. Cook and J. I. Routh. bibliog Am Chem Soc J 62:2709-10 O '40

Diseases

Diagnosis and treatment of diseases of the hair. L. McCarthy. 671p $9.50 C. V. Mosby co, St Louis '40

Dyeing and bleaching

Hair-dyes and hair-dyeing, chemistry and technique. H. S. Redgrove and G. A. Foan. new ed rev 205p bibliog(p201-5) $5 Chemical pub. co. '39

HAIR (animal)
Textile fiber atlas; minor hair fibers. W. von Bergen and W. Krauss. il Rayon 21: 285-9 My '40

HAIR dressing
Six thousand years of hair styling. M. Louis. 96p pa $3 Charles W. Clark co, 240 Madison av, New York '39

HAIR dryers
Halo-hood dryer; transparent molded acrylic extension allows all-around vision. il Mod Plastics 18:39+ S '40

HAITI

See also
Wages—Haiti

Antiquities

Prehistory in Haiti; a study in method. I. Rouse. 202p, pl 1-5 bibliog(p160-5) pa $2.50 Yale univ. press '39

Commerce

Foreign trade, fiscal year ended Sept. 30, 1939. Comm Rep p64 Ja 20 '40

HALE, Arthur Hays, 1908-
Fathers and sons in chemistry. B. H. Lincoln. por Ind & Eng Chem News ed 18:664 Ag 10 '40

HALE, Harrison, 1879-
Fathers and sons in chemistry. B. H. Lincoln. por Ind & Eng Chem News ed 18:664 Ag 10 '40

HALIDES
Ammonolysis in liquid ammonia. W. C. Fernelius and G. B. Bowman. Chem R 26: 7-12, 14-18, 37 F '40

Compressions to 50,000 kg/cm². P. W. Bridgman. Phys R 57:237-9 F 1 '40

Kinetics of the reaction of *p*-methoxybenzhydryl chloride with methanol in dilute nitrobenzene solution. P. D. Bartlett and R. W. Nebel. bibliog Am Chem Soc J 62:1345-9 Je '40

Lower limit for the velocities of formation of the tri-halide ions in aqueous solution. R. S. Halford. bibliog Am Chem Soc J 62:3233-6 N '40

Reaction of organic halides with piperidine. E. L. Foreman and S. M. McElvain. bibliog Am Chem Soc J 62:1435-41 Je '40

Reactions of high energy atoms produced by slow neutron capture; retention by organic halides. W. F. Libby. Am Chem Soc J 62: 1941-2 Ag '40

Redistribution reaction; redistribution of halides and of esters. G. Calingaert and others. Am Chem Soc J 62:1545-7 Je '40

Solubilities of certain inorganic compounds in ordinary water and in deuterium water. R. D. Eddy and A. W. C. Menzies. bibliog J Phys Chem 44:207-35 F '40

Solvolytic reactions of organic halides. M. P. Balfe and J. Kenyon. bibliog Am Chem Soc J 62:445-6 F '40

See also

Alkali metal halides	Fluorides
Alkyl halides	Grignard reagents
Bromides	Iodides
Chlorides	Salt

Analysis

Systematic detection of thiocyanate, iodide, bromide, and chloride. D. Hart and R. Meyrowitz. bibliog Ind & Eng Chem Anal ed 12:318-20 Je 15 '40

HALL, John H.
When precision was young; Captain Hall's early work in rifle manufacture formed the basis of modern interchangeable production. E. E. MacMorland. il Am Mach 83:1078-9 D 27 '39

HALL effect
Examination of colored alkali halides for photoelectric Hall effect. J. Evans. bibliog diags Phys R 57:47-53 Ja 1 '40

Galvano- and thermomagnetic phenomena in iron and nickel. E. H. Butler, jr. and E. M. Pugh. diags Phys R 57:916-21 My 15 '40

HALOCHROMISM
Color and constitution; halochromism of anhydronium bases related to the cyanine dyes. L. G. S. Brooker and others. bibliog Am Chem Soc J 62:1116-25 My '40

HALOGEN compounds
Condensation of α-methoxystyrene with halogen compounds. C. W. Mortenson and M. A. Spielman. bibliog Am Chem Soc J 62:1609-10 Je '40

Electric moments of morpholine and some halogenated toluenes. A. A. Maryott, M. E. Hobbs and P. M. Gross. bibliog Am Chem Soc J 62:2320-4 S '40

Fluorinated derivatives of ethane and ethylene; corrective data. A. L. Henne and E. G. Wiest. Am Chem Soc J 62:2051-2 Ag '40

Hydrogen bonds involving the C-H link; effect of structure on bonding of donor and acceptor molecules. C. S. Marvel, M. J. Copley and E. Ginsberg. bibliog Am Chem Soc J 62:3109-12 N '40

Hydrogen bonds involving the C-H link; the solubility of donor solutes in halogenated hydrocarbons. C. S. Marvel, F. C. Dietz and M. J. Copley. bibliog Am Chem Soc J 62:2273-5 S '40

Indicator properties of 8-hydroxyquinoline-5-sulfonic acid and its derivatives. H. B. Feldman and A. L. Powell. bibliog Am Chem Soc J 62:3107-9 N '40

Nickel as a catalyst for the hydrogenation of aromatic halogen compounds. C. F. Winans. bibliog Am Chem Soc J 61:3564-5 D '39

Nitrosation of phenols; *o*-fluorophenol, and a comparative study of the four *o*-halogenophenols. H. H. Hodgson and D. E. Nicholson. Chem Soc J p810-12 Je '40

Some interconversion reactions of organolithium compounds. H. Gilman, W. Langham and F. W. Moore. Am Chem Soc J 62:2327-35 S '40

Some substituted 2,5-dimesitylfurans. R. E. Lutz and C. J. Kibler. bibliog Am Chem Soc J 62:1520-8 Je '40

Structure of aromatic compounds; halogenonitro-compounds of styrene, phenanthrene, diphenyl, hydrindene, fluorene, and acenaphthene. N. Campbell, W. Anderson and J. Gilmore. Chem Soc J p446-51 Ap '40

See also

Chlorides	Halides
Grignard reagents	Trichloroethylene

Analysis

Identification of organic compounds; chlorosulfonic acid as a reagent for the identification of aryl halides. E. H. Huntress and F. H. Carten. Am Chem Soc J 62:511-14 Mr '40

Identification of organic compounds; piperidyl derivatives of aromatic halogenonitro compounds. M. K. Seikel. bibliog Am Chem Soc J 62:750-6 Ap '40

HALOGENATION
Halogenation of hydrocarbons. H. P. A. Groll and others. bibliog il diags Ind & Eng Chem 31:1239-44, 1413-19, 1530-7 O-D '39
Halogenation of salicylic acid. L. H. Farinholt, A. P. Stuart and D. Twiss. Am Chem Soc J 62:1237-41 My '40
Halogenation of unsymmetrical diphenylethane. F. E. Sheibley and C. F. Prutton. bibliog Am Chem Soc J 62:840-1 Ap '40
Phthalocyanines and related compounds; the halogenation of phthalocyanines. P. A. Barrett and others. Chem Soc J p1820-8 D '39

See also
Bromination
Chlorination
Fluorination
Iodination

HALOGENS
Halogen-metal interconversion with *m*- and *p*-bromodimethylanilines. H. Gilman and I. Banner. bibliog Am Chem Soc J 62:344-5 F '40
Halogen molecule spectra; interval relations and relative intensities in the long wavelength spectra. R. S. Mulliken. bibliog Phys R 57:500-15 Mr 15 '40
Hydrolysis of bromine; the hydration of the halogens; the mechanism of certain halogen reactions. H. A. Liebhafsky. Am Chem Soc J 61:3513-19 D '39
Mechanism of substitution at a saturated carbon atom; unimolecular halogen exchange between an alkyl halide and halide ions in sulphur dioxide solution. L. C. Bateman, E. D. Hughes and C. K. Ingold. Chem Soc J p1017-29 Jl '40
Photoreactions sensitized by the halogens. J. W. T. Spinks. bibliog Chem R 26:129-39 F '40
Some factors affecting halogen-metal interconversions. H. Gilman and F. W. Moore. Am Chem Soc J 62:1843-6 Jl '40

See also
Bromine
Chlorine
Fluorine
Halogen compounds
Iodine

Analysis
Identification of the halogen in organic halogen compounds. D. W. Wilson and C. L. Wilson. Chem Soc J p1956-8 D '39
Micro-Carius halogen and sulfur determination. J. B. Niederl and others. bibliog diags Ind & Eng Chem Anal ed 12:428-31 Jl 15 '40

HALOS (meteorology)
Marvels of the night; aurora, zodiacal light, and lunar halos. W. Crowder. il Sci Am 162:338-40 Je '40
Pillar halos. il Sci Am 161:345 D '39

HAM
Aging ham in a hurry with TVA cabinet. il Business Week p30+ Jl 6 '40
Function of nitrate, nitrite, and bacteria in the curing of bacon and hams. Chem & Ind 59:274 Ap 20 '40
Meat aging cabinet for use in improvement of quality of country-cured ham. Food Ind 12:91-2 O '40
Plumpness of ham indicates quality; abstract. R. L. Hiner and O. G. Hankins. Food Ind 12:92 Ja '40
Process operations in the food industry. W. L. Campbell. Chem & Ind 59:431 Je 22 '40

HAMBLY, F. J. 1868-
Medal awarded by Canadian council of the Society of chemical industry. por Chem & Ind 59:363-4 My 25 '40; Can Chem & Process Ind 24:285+ Je '40

HAMILTON, Ohio
Citizenship and personnel relations; drive for fingerprints at Hamilton; foundry companies participate. il Foundry 68:38-9+ N '40

HAMMER mills. See Crushing machinery

HAMMERMILL paper company
Agents 29th annual meeting, Erie, Pa. Aug. 21-23. Paper Tr J 111:54-6 Ag 29 '40

HAMMERS
Hammers, hatchets, sledges, et cetera; Fayette R. Plumb, inc. C. C. Hermann. il Iron Age 146:38-41 Jl 11 '40

See also
Electric hammers
Pneumatic hammers
Steam hammers

HAMMERS, Drop
Developments in drop hammer dies; use of Kirksite A. W. W. Broughton. il Aero Digest 37:56, 59-60+ Jl '40
England changes forging practice; steam hammer in the Sheffield works of Ambrose Shardlow, ltd. Iron Age 145:57 Mr 7 '40
Largest steam drop-hammer in the United States built by Erie foundry co. il Mach 46:261 D '39; Iron Age 144:86 D 21 '39
New die alloy aids drop-hammer work; contains zinc, aluminum, copper and magnesium; Kirksite A. W. W. Broughton. il Steel 107:52-3 Ag 26 '40
No vibration from these hammers; mounted on heavy concrete blocks supported by springs. E. G. Grant. il Factory Management 98:78-9 Je '40
Steam drop hammer in plant of Ambrose Shardlow ltd, Sheffield, Eng. il Steel 106: 46 F 12 '40
Steel-faced cast iron dies for drop hammer work. J. H. Engel. il Iron Age 145:46-8 Mr 21 '40
Zinc-alloy dies for drop hammer work. W. W. Broughton. il Iron Age 145:29-32 F 8 '40

HAMMOND, Indiana

Water supply
Laboratory control and operating experiences at the Hammond filtration plant. J. C. Vaughn. il Am Water Works Assn J 31: 2137-48 D '39

HANCOCK, Maryland

Bridges
Wichert spans on Potomac bridge. il map Eng N 124:791-2 Je 6 '40

HAND

Protection
Hand protection. il Nat Safety N 41:15 Mr '40
Protective applications; hand creams and liquids; formulas. J. V. Klauder and E. R. Gross. il Nat Safety N 41:17+ My '40
Ten reasons for safety; prevention of hand and finger injuries. il Nat Safety N 41: 27+ Je '40

HAND-made paper. See Paper, Hand-made

HANDBILLS
Anti-handbill ordinances held unconstitutional by United States Supreme court. Monthly Labor R 50:101 Ja '40
Regulation of handbill distribution; legal problems involved. 20p pa 50c Am. municipal assn, 1313 E. 60th st, Chicago '40
Supreme court okays handbill on freedom of press issue; upsets city ordinances. Ptr Ink 189:31-2 D 1 '39
United States Supreme court voids municipal ordinances in Worcester, Milwaukee and Los Angeles prohibiting distribution of handbills and circulars. Comm & Fin Chr 149:3342-3 N 25 '39

HANDICAPPED
Handicapped child. W. J. Ellis. Ann Am Acad 212:138-45 N '40
Social pathology; obstacles to social participation. S. A. Queen and J. R. Gruener. rev ed 662p $3.50 Crowell '40

See also
Blind
Deaf
Disabled

HANDICRAFT
Complete book of modern crafts. H. A. Reynolds. 305p bibliog(p288-94) $1 Blue ribbon books '40
Crafts for fun. E. K. Perry. 278p $3 Morrow '40

HANDICRAFT—*Continued*
Encyclopedia of knots and fancy rope work. R. Graumont and J. Hensel. 615p $10 Cornell maritime press, 350 W. 23d st, New York '39
Low-cost crafts for everyone. H. A. Reynolds. 322p $2.50 Greenberg, 67 W. 44th st, New York '39
101 things for a boy to make. A. C. Horth, ed. 3d ed rev & enl 183p $2 Lippincott '39
Shopcrafter's corner. Published in monthly numbers of American builder and building age

See also
Weaving (handicraft)

HANDLES
Cast resin forms. il Mod Plastics 17:47 Ag '40
Good tools made better; handles on Millers Falls co. tools from red transparent cellulose nitrate. il Mod Plastics 17:56+ Ap '40

HANDLING of materials
Handling and storing liquefied gases in bulk. il diag Comp Air M 45:6237 S '40
Material handling at GE, Philadelphia. C. C. Hermann. il Iron Age 146:40-2 Jl 25 '40
New parts plant; efficient layout for handling large number of small units; Spencer lens co. il diags Steel 105:49, 52, 77-8 N 27 '39
Sewing machine parts; special trucks and moveable floor racks facilitate handling; White sewing machine co. il Steel 107:66, 68+ S 2 '40

See also
Cargo handling
Coal handling
Conveying machinery
Electric trucks, Industrial
Freight handling
Grain handling
Hoisting machinery
Loading and unloading
Mechanical handling
Motor trucks, Industrial
Ore handling
Sand handling
Steel handling
Stores systems
Trucks

Safety devices and measures
Pile it right. Safety Eng 80:42-3 O '40

HANDWORK
Cases in work simplification; simultaneous two-hand or alternate left- and right-hand operation in making Rubberset brushes. J. J. Baer. il Factory Management 98:58-9 O '40
Power and velocity developed in manual work. C. A. Koepke and L. S. Whitson. il Mech Eng 62:383-9 My '40
Studies of one and two-handed work. R. M. Barnes, M. E. Mundel and J. M. MacKenzie. il diags Iowa Univ Studies in Engineering Bul 21:1-63 '40 (pa 50c)

See also
Handicraft

HANDWRITING. See Graphology

HANGARS
Aeroplane hangar. il Engineer 169:443 My 10 '40
Building a hangar with limited funds. G. H. Hansen. il diag Aero Digest 37:83-4 O '40
Building bases for our air forces; buildings at the airbases. il Eng N 125:550-3 O 24 '40
New type of structure for airplane hangars. il diag Aero Digest 37:142+ Ag '40
Planning North Beach airport. B. Somervell. il diags plans Eng N 124:459-64 Mr 28 '40
Servicing a modern airport; LaGuardia field. B. B. Somervell. il Civil Eng 10:295-8 My '40
Stainless steel at LaGuardia field. il plan Steel 106:48-9 Mr 25 '40
Stainless steel hangars at Municipal airport, Flushing, Long Island. il diags Sheet Metal Worker 31:32-4 O '40
Transatlantic seaplane base, Baltimore, Maryland. W. W. Pagon. il diags plans maps Am Soc C E Proc 66:1469-89 O '40
Unique panel construction in LeTourneau hangar. il Aero Digest 37:168 S '40
Zwei weitgespannte eisenbeton-flugzeughallen. A. Mehmel. diags V D I 84:171-2 Mr 9 '40

Heating and ventilation
Direct-fired unit heaters to heat the hangars at La Guardia field; abstract. R. M. Rush and H. A. Pietsch. diag plan Mech Eng 62: 684-5 S '40
Heating and cooling the world's largest airport; New York's new LaGuardia field. M. C. Hamje. il diags plan Heat & Ven 37: 17-22 Mr '40

HANLEY, William Andrew, 1886-
Sketch. por(p637) Mech Eng 62:638 Ag '40

HANSEN, James Edward, 1898-
Enamel division trustee. bibliog por Am Cer Soc Bul 19:237 Je '40

HAPPINESS
Meaning of happiness. A. W. Watts. 219p bibliog(p211-13) $2.50 Harper '40

HARBOR workers

See also
Longshoremen

HARBORS
Air force targets in Germany; Emden and Wilhelmshaven. il maps Engineer 170:91-2 Ag 9 '40
Harbours and waterways in 1939. Engineer 169:31-3, 55-6, 80-2 Ja 12-26 '40

See also
Docks
Dredging
Jetties
Loading and unloading—Ships
Longshoremen
Piers
Ports
Terminals
Wharves
also subdivision Harbor under names of cities, e.g. New York (city)—Harbor

HARD facing
Applying hard-facing material to watercourse outlets, catheads, and ditcher teeth. W. L. Nelson. il diags Oil & Gas J 38:72 F 22 '40
Flame-hardening and hard-surfacing. C. E. MacQuigg. Mach 46:123-4 Je '40
Hammering through rock; an example of hard-facing. il diags Concrete (mill sec) 48: 110 Ja '40
Hard facing, a process for the mechanical engineer. E. E. LeVan. il Mech Eng 62: 459-64 Je '40
Hard-facing for modernization. R. L. Lerch. il Min Cong J 26:16 Je '40
Hard-facing technique; abstract. T. B. Jefferson. Metals & Alloys 11:MA194 Ap '40
Hard-facing tools and dies. Chem Age (Lond) 42:supl1 Mr 2 '40
Hard-surfacing of steel by arc welding. il Engineering 149:334 Mr 29 '40
Hard-surfacing steel and cast iron; reference book sheet. Am Mach 83:1007-8 N 29 '39
Lengthening the life of wearing parts with steel and cast iron welding rods. il Can Min J 61:590-3 S '40
Modern aircraft valves; use of stellite for hard facing. A. T. Colwell. bibliog il diags S A E J 46:147-65 Ap '40
Reducing mill machinery wear by facing the wearing surface. il diags Blast F & Steel Pl 27:1242-5 D '39
Rolling mill equipment reclaimed by welding. D. B. Rice. il diags Steel 107:57+ S 30 '40; Same. Blast F & Steel Pl 28:979-80 O '40; Same cond. Iron Age 146:33 O 31 '40
Wear resisting metals. W. A. Gibson. il Rock Prod 43:28 Ag '40
Welded dies, their design and fabrication; with tool steel analyses and recommended heat treatment. A. R. Butler. il Steel 107: 106, 108+ O 14; 62-3, 66 O 21; 66, 68-9 O 28 '40
Welding in the manufacture of valves for high pressures and temperatures; abstract. W. F. Crawford and L. H. Carr. Metals & Alloys 11:MA83 F '40

HARD facing alloys. See Alloys, Hard facing

HARD woods
Hardwoods and semichemical pulping process. C. E. Curran. Pulp & Pa of Can 41:665-8 S '40
Pulp and paper mill utilization of hardwoods and other little used species. K. D. Running. Pulp & Pa of Can (Convention no) 41:181-4+ [F] '40

HARD woods—*Continued*
White oak and red oak flooring; northern hard maple flooring; hardwoods for interior trim and paneling. il Am Bld 62:86-9 Ja '40

HARDENING
Age hardening symposium takes an inventory of factual information; National metal congress. il Steel 105:56, 58, 63 N 27; 48-50 D 11 '39
Electric salt bath; efficient in performing solution treatments on precipitation hardening copper-base alloys. W. F. Aylard and E. J. Dunn. il Steel 107:70, 72-3 Jl 8 '40
Mechanism of the hardening of clay-sodium-silicate mixtures. W. R. Morgan, W. L. Peskin and S. J. Kronman. Am Cer Soc J 23:170-3 Je '40
Plastic metals; new knowledge of metals' inner nature; problem of work-hardening. S. J. French. diags Sci Am 163:262-4 N '40
Theory of age-hardening; abstract. K. Honda. Metals & Alloys 11:MA91 F '40

See also
Case hardening
Metals—Aging
Steel, Hardening of

HARDINGE brothers, Inc.
Celebrate fiftieth anniversary. il Mach 46:126 F '40

HARDNESS
Correlation between hardness and the magnetic properties of solid matter. S. R. Williams. bibliog il diags Instruments 13: 188-94 Jl '40
Hardness conversion for hard metals. T. H. Gray and H. Scott. tables Iron Age 145: 39-41 Je 6 '40
Hardness conversion for hardened steels; tables. H. Scott and T. H. Gray. Metal Prog 38:428 O '40

See also
Case hardening
Steel, Hardening of

Tables, calculations, etc.
Hardness conversion for hardened steels; reference book sheet. H. Scott and T. H. Gray. Am Mach 84:101, 103 F 21 '40

Testing
Analysis of Rockwell hardness data. R. L. Peek, jr. and W. E. Ingerson. Am Soc T M Proc 39:1270-80 '39
Diamond pyramid hardness measurements with Rockwell hardness tester. J. H. Hruska. il Iron Age 145:29-33 F 1 '40
Effect of hardness and of temperature on the strength, ductility, and toughness of a heat treated carbon steel. S. W. Lyon. il diags Am Soc for Metals Trans 28:128-40; Discussion. 141-2 Mr '40
Gillette abrasive stone comparator. D. H. Harris. il diags Iron Age 146:32-8 Ag 22 '40
Grading abrasive sticks by the Rockwell test. L. H. Milligan. Iron Age 146:50-2+ S 19 '40; Same. S A E J 47:336-9 Ag '40
Hardenability of molybdenum S.A.E. steels. R. M. Parke and A. J. Herzig. bibliog il Metals & Alloys 11:6-13 Ja '40
Hardenability test for shallow hardening steels. W. E. Jominy. il diag Am Soc for Metals Trans 27:1072-85; Discussion. 1085-9 D '39
Hardenability testing tool steels by oil quenching small cones. E. K. Spring and J. K. Desmond. il Steel 107:58, 60-2 O 28 '40
Hardenability tests. W. E. Jominy. Metal Prog 38:423+ O '40
Hardenability variations in alloy steels; some investigations with the end-quench test. G. T. Williams. bibliog il diag Am Soc for Metals Trans 28:157-82; Discussion. 182-5 Mr '40
Hardness characteristics of some medium carbon S.A.E. steels. P. Klain and C. H. Lorig. il diags Am Soc for Metals Trans 28:83-121; Discussion. 121-7 Mr '40
Hardness conversion relations for hardened steels. H. Scott and T. H. Gray. Am Soc for Metals Trans 28:399-416; Discussion. 416-23 Je '40
Hardness testing; as it was in 1915 and as it is in 1940. S. P. Rockwell. Metal Prog 37:288 Mr '40
Hardness testing of chill-cast rolls. Engineering 148:664 D 15 '39; Engineer 169:132 F 9 '40
Hardness tests on various non-metallic materials. S. R. Williams. il diags Instruments 13:162-5 Je '40
Magnetic methods of testing hardness. S. R. Williams. il diag Instruments 13:222-4+ Ag '40
Magnetism measures hardness. R. C. Gibbons. il Am Mach 84:426-7 Je 12 '40
Memo. on desirable properties of steel for cutting tools and on Rockwell hardness test of axes. G. St G. Sproule. diags Pulp & Pa of Can 41:456, 458+ Je '40
Metals in thin layers; their microhardness; Knoop indenter. C. G. Peters and F. Knoop. bibliog il diags Metals & Alloys 12:292-7 S '40
Method of sclero-grating employed for the study of grain boundaries and of nitrided cases; grain structures revealed by cutting. B. O. W. L. Ljunggren. diags Iron & Steel Inst J 141:341-400, pl 22-39 bibliog(399-400); Discussion. 401-4 no 1 '40
Micro hardness tester; abstract. H. Hanemann and E. O. Bernhardt. Metals & Alloys 12:108 Jl '40
Mueller hardness tester. diag Automobile Eng 30:181 Je '40
New method of testing and grading fine abrasives for superfinishing machines. E. L. Hemingway. S A E J 47:332-6; Discussion. il 336-41 Ag '40
Pendulum hardness testing machine. H. Cornelius and W. Trossen. diags Iron Age 146:38B S 26 '40; Same. Engineer 170:319-20 N 15 '40
Phenomenon of creep and its relation to hardness measurements. S. R. Williams. il Rubber Age 47:175-6 Je '40
Physical processes which occur at the point where a hardness test is made. S. R. Williams. il Instruments 13:55-60, 79-83, 134-7 F-Mr, My '40
Rockwell hardness of cylindrical specimens. W. E. Ingerson. Am Soc T M Proc 39:1281-8; Discussion. 1289-91 '39
Standardization of durometers. L. Larrick. il Rubber Age 47:387-92 S '40
Testing bond hardness of abrasives used on superfinishing machines. E. L. Hemingway. Iron Age 145:30-4 Ap 25 '40
Titanium and some properties of Cr-Mo steel for airplane tubing. G. F. Comstock. il Metals & Alloys 12:21-6 Jl '40

HARDWARE
Bell-ringer displays of 1940 in drug, food and hardware stores; inventory study of 1,250 windows in 11 large cities. Sales Management 47:18-20, 80-2 S 1 '40
Distribution of hardware wholesalers' salesmen by number and length of calls; chart. Dun's R 48:43 Ja '40
How to estimate accurately. J. D. Wilson. diags Am Bld 61:72+ D '39
News by commodities. Published in Foreign commerce weekly
Retailer suggests: a bachelor of science in hardware line speaks out about sales aids and things. A. H. Little. Ptr Ink 191:75-8 My 10 '40
What a commission payment policy did to rebuild a tottering business; Union Hardware. E. H. McGinnis. Sales Management 47:42-4 O 10 '40

See also
Bolts and nuts **Screws**
Nails **Tools**
Saws

Advertising
Hardware's open house. il Ptr Ink Mo 40: 14-15 Ap '40

Statistics
Lumber, building supply and hardware store sales in metropolitan areas, 1938; Printers' Ink market explorations. maps Ptr Ink Mo 40:40-1, 43-5 F '40

HARGRAVE, Lawrence
Lawrence Hargrave; myth and fact in aeronautical history. C. W. Salier. Engineering 150:5 Jl 5 '40

HARKNESS, Edward Stephen, 1874-1940
Sketch. Comm & Fin Chr 150:783 F 3 '40

HARMONIC analysis
Frequency modulation; its production by phase shifting the side bands of an amplitude modulated wave. D. I. Lawson. Wireless Eng 17:388-93 S '40

See also
Harmonic synthesizer-analyzer

HARMONIC synthesizer-analyzer
Mechanical harmonic synthesizer-analyzer. S. L. Brown. il Franklin Inst J 228:675-94 D '39

HARMONICA
Plastics competition; award to Harmonic Reed corp. il Mod Plastics 18:79, 99 O '40

HARMONICS (electric waves)
Amplitudes of magnetomotive-force harmonics for fractional-slot windings of three-phase machines. J. F. Calvert. diags Iowa Eng Exp Sta Bul 142:1-76 bibliog(p35) '39
Dead points in squirrel-cage motors. Q. Graham. diags Elec Eng 59:Trans 637-42 N '40
Electro-acoustic reactions. A. T. Starr. diags Wireless Eng 17:303-9 Jl '40
Harmonic current generation in polyphase rectifier circuits. H. Rissik. Electrician 124: 37-9 Ja 19 '40
Harmonic power consumption of polyphase rectifier systems. H. Rissik. Inst E E J 86: 568-74 Je '40
Harmonic theory of noise in induction motors. W. J. Morrill. bibliog il diags Elec Eng 59:Trans 474-80 Ag '40
Harmonics and capacitors. C. G. Smith. Elec West 85:40-3 N '40
Shunt capacitor application problems. J. W. Butler. bibliog il diags Gen Elec R 43:206-12 My '40
Square wave harmonics; tabular compilation of relative amplitudes of particular interest in television. D. L. Herr. diag Electronics 13:34 My '40
Ultra-high-frequency oscillography; electron optical spectral analysis of oscillations; Lissajous figures. H. E. Hollmann. bibliog il diags Inst Radio Eng Proc 28:213-19 My '40
Wave shape of 30- and 60-phase rectifier groups. O. K. Marti and T. A. Taylor. bibliog il diags Elec Eng 59:Trans 218-24; Discussion. Trans 224-6 Ap '40

See also
Multivibrators

HARNWELL, Gaylord P. 1903-
Our new editor. por R Sci Instr 11:301-2 O '40

HARPER, William D. d. 1939
Sketch. Paper Tr J 109:26 D 7 '39

HARRIMAN, Florence Jaffray (Mrs J. Borden Harriman) 1870-
Secretary Hull praises work of Mrs J. Borden Harriman. Comm & Fin Chr 150:2506 Ap 20 '40

HARRIMAN memorial medals for safety
Present Harriman medals to railroads having the best safety records for the year 1939. il Nat Safety N 42:27+ Ag '40

HARRIS, Harwell Hamilton
Houses by Harwell Hamilton Harris; with views, plans, construction outlines. por Arch Forum 72:171-86 Mr '40

HARRISBURG, Pennsylvania

Rapid transit
How Harrisburg did it; result of a seven-year modernization program. il Transit J 84:116-19 Ap '40
Modernization brings larger gross and net; substitution of buses for street cars by the Harrisburg railways. il Transit J 84:228 Jl '40

Water supply
Water supply is born. F. Gannett. il map Eng N 124:577-9 Ap 25 '40

HARRISON, George Russell
Personalities in science. por Sci Am 162:131 Mr '40

HARRISON, Ward, 1888-
Honored by Case school of applied science. Illum Eng 35:654 S '40

HARRODS limited
Annual general meeting, 50th, London. Economist 138:492 Mr 16 '40

HART Schaffner and Marx
Study in management prerogatives. M. Kestnbaum. Harvard Business R 19 no 1:88-98 [S] '40

HARTFORD, Connecticut

Architecture
Record poll in Hartford; Caledonian insurance building voted outstanding. il map Arch Rec 88:16, 18 O '40

HARTFORD accident and indemnity company
Annual statement, 1939. East Underw 41:33 F 23 '40

HARTFORD college of insurance
College gets new building; courses offered; faculty. Spectator (Property ed) 6:6 O 3 '40; East Underw 41:1+, 16 S 20 '40
Hartford college of insurance admission and degree requirements. East Underw 41:19 Mr 29 '40
Training of graduate college grade in the field of insurance. H. S. Don Carlos. Weekly Underw 142:1296 My 25 '40

HARTFORD-EMPIRE company
From theory to practice at Hartford-Empire. il Glass Ind 21:231-5 My '40

HARTFORD fire insurance company
Annual statement, 1939. East Underw 41:21 F 23 '40

HARTFORD newsdaily
Lithography experiment in Hartford. Business Week p34 Mr 9 '40

HARTIG process
Newly perfected lumber process of Joseph A. Hartig. L. S. Schnitman. Barron's 20:5 Je 24 '40

HARTLEY, Marcellus, medal
Presentation of the Marcellus Hartley public welfare medal to John Edgar Hoover; with response. Science 91:416-17 My 3 '40

HARTLIEB, J. Frederick
Continental Can's new president. por Barron's 20:5 Ja 8 '40

HARTMAN, Hugh Wade, 1887-1940
Sketch. por Gas Age 85:13 Je 20 '40

HARTRANFT, M. V.
Portrait. Business Week p25 Ap 6 '40

HARVARD university
Colorado Rocky Mountain observatory of Harvard university; coronagraph studies. Science 91:425 My 3 '40
Harvard makes savings by careful control of its heating systems. G. K. Saurwein. il Heat & Ven 37:24-8 Ap '40
Men and machines in early Harvard science. A. D. Bliss. il J Chem Educ 17:353-60 Ag '40
Two new Harvard buildings; Hemenway gymnasium and Littauer center of public administration. il plans Arch Forum 73: 55-60 Jl '40

Gray herbarium
Additions and bequests, 1939. Science 91:285 Mr 22 '40

Library
Theatre collection, Harvard college. L. A. Hall. Special Lib 31:81-3 Mr '40

School of dental medicine
Harvard school of dental medicine. Science 92:53-4 Jl 19 '40

HARVEST mites. See Chiggers

HARVESTING machinery
Pyrethrum flower picker may spur U.S. cultivation. Oil Paint & Drug Rep 137:3+ Ap 29 '40
Sugar-cane harvesters. Mech Eng 62:824-5 N '40

Manufacture

Progressive assembly; body of harvesting combine; John Deere harvester co. il plan Steel 107:58, 60, 62+ S 9 '40

HASHISH. See Marihuana

HASTELLOY
New alloy fittings stand severe service; viscose mass tube parts made of Hastelloy. il Rayon 20:709 D '39
Rolled Hastelloy C has high strength. Steel 107:42 S 30 '40

HAT corporation of America
Uncovering special situations. E. A. Barnes. Mag of Wall St 66:48 Ap 20 '40

HAT CREEK valley
Hat Creek lava flow. C. A. Anderson. diags maps Am J Sci 238:477-92, pl 1-2 Jl '40

HAT factories

Employees

Earnings and hours in the hat industries, 1939. U S Bur Labor Statistics Bul 671:1-44 '39; Summary. Monthly Labor R 49:932-5 O '39; Correction. 50:210 Ja '40
Wages in the hat industry under wage and hour law. Monthly Labor R 51:157 Jl '40

HATCH law. See Elections

HATCHETS
Hammers, hatches, sledges, et cetera; Fayette R. Plumb, inc. C. C. Hermann. il Iron Age 146:38-41 Jl 11 '40

HATS
Hats made with milk; casein fiber blended with natural rabbit fur. Business Week p55 O 12 '40

See also
Panama hats

Advertising

Consistent advertising theme builds 2,000 store outlets for one-price hats; wholesale broadcasting of Madison Square Garden fights; Adam hat stores. L. S. Goldberg. il Ptr Ink 190:11-13+ Mr 8 '40

HATS, Safety
Hat may save life of workman on rig. il Oil & Gas J 39:32 Ag 1 '40
Head protection. il Nat Safety N 41:7 Mr '40

HAULAGE
Men and oxen transport compressor. C. R. King. il map Comp Air M 45:6179-80 Je '40
New developments and trends in logging technique; with cost data. C. R. Townsend. il plan Pulp & Pa of Can 41:736-40 O '40 (to be cont)

See also
Cableways
Conveying machinery
Delivery of goods
Electric trucks
Loading and unloading
Locomotives
Mine haulage
Motor trucks
Motor trucks in freight service
Tractors
Trucks

Tables, calculations, etc.

Some economics of motor truck performance. F. O. White. Pulp & Pa of Can 41:511-12 Jl '40

HAVANA pact, 1940
Senate ratifies Treaty of Havana providing for administration of European colonies and possessions in the Americas. Comm & Fin Chr 151:1977-8 O 5 '40

HAVANA university
Founding of a Department of fishes in the Museo Poey. Science 90:490 N 24 '39

HAVERHILL, Massachusetts
Family income and expenditure in five New England cities, 1935-36; v.1, Family income. A. D. H. Kaplan, F. M. Williams and D. McCamman. U S Bur Labor Statistics Bul 645:1-351 '39

HAWAIIAN ISLANDS
Hawaii: sugar-coated fort; Pearl Harbor is our Singapore. il maps Fortune 22:30-7, 78, 81-2 Ag '40
In the wake of a traveling engineer. J. C. Cosgrove. il map Explosives Eng 18:340-5 N '40

See also
Geology—Hawaiian Islands

Economic conditions

Business situation. Comm Rep p75 Ja 27 '40 [cont monthly] [cont as For Comm W O 5]
Economic and market highlights of the Territory of Hawaii. Sales Management 46:233 Ap 10 '40

HAWKSLEY, Thomas, 1807-1893
Portrait. Inst Mech Eng J & Proc 143:front My '40

HAWLEY, John, 1874-1940
Sketch. por Ptr Ink 191:22 Ap 19 '40

HAWLEY, William Chauncey, 1865-1939
Sketch. por Water Works & Sewerage 87:37 Ja '40

HAY
Agriculture has engineering problems in heating and ventilating; hay drying. F. B. Lanham. Heating-Piping 11:773-4 D '39
Hay fires that start themselves. H. E. Roethe. Nat Safety N 42:54 Ag '40
Hay ventilation. M. S. Grunder. diag Science 91:299-300 Mr 22 '40

HAY fever
Air conditioning for the relief of cedar-pollen hayfever. A. H. Willis and H. E. Degler. il diags maps Texas U Bul 3932:1-48 bibliog(p47-8) '39
Hay fever and asthma. Pub Health Rep 55: 1742-4 S 20 '40

HAYES industries, inc., Jackson, Michigan
Stock offered. Comm & Fin Chr 151:416 Jl 20 '40

HAZARD, Rowland Gibson, 1829-1898
Father of the American alkali industry. W. Haynes. pors Chem Ind 47:248-53 S '40

HAZELETT casting-rolling mill
Continuous casting; Hazelett machine. T. W. Lippert. il diags Iron Age 145:44-7 Ap 11 '40

HAZELL, Watson & Viney, ltd, printers, London
Century in print; the story of Hazell's, 1839-1939. H. J. Keefe. 224p 10s 6d Hazell, Watson & Viney, London '39

HEAD

Diseases

Head and neck in Roentgen diagnosis. H. K. Pancoast, E. P. Pendergrass and J. P. Schaeffer. 976p $12.50 C. C. Thomas, Springfield, Ill. '40

HEADLIGHTS, Automobile. See Automobiles—Lighting

HEADLINES. See Newspapers—Headlines

HEALTH

See also
Hygiene
Public health
Sickness

HEALTH and accident underwriters conference
Annual meeting, 39th, Minneapolis, June 10-13. East Underw 41:36+, 38-41 Je 14 '40; Ins Field (Fire ed) 69:9+ Je 13; 11 Je 20 '40; Ins Field (Life ed) 69:9+ Je 14; 9-10 Je 21 '40; Nat Underw (H. & A. conference no) 44:2-13 Je 14 '40; Weekly Underw 142: 1457 Je 15 '40
Presidential address. J. E. Powell. East Underw 41:35+ Je 14 '40

HEALTH centers
Building types; with case studies and time-saver standards. il plans map Arch Rec 88: 83-102 S '40
Washington Heights health and teaching center, New York city. Science 91:613-14 Je 28 '40

HEALTH departments. See Public health departments

HEALTH education

Opportunities for teaching health; for industrial nurses. B. K. Richardson. Nat Safety N 41:34, 36+ F '40

Our verbal public health activities. J. W. Mountin. Pub Health Rep 55:323-30 F 23 '40

Using tests as a medium for health education. M. Derryberry and A. Weissman. Pub Health Rep 55:485-9 Mr 22 '40

Ways to community health education. I. V. Hiscock and others. 306p $3 Commonwealth fund, 41 E. 57th st, New York '39

HEALTH insurance. See Insurance, Health

HEALTH surveys. See Public health surveys

HEARING

Auditory patterns. H. Fletcher. diag Rs Mod Phys 12:47-65 Ja '40

Educating your hearing. 48p $1.50 Better living foundation, 19 W. 44th st, New York '40

How to help your hearing. L. M. Neuschutz. 179p bibliog(p164-8) $2.50 Harper '40

Results of the World's fair hearing tests. J. C. Steinberg, H. C. Montgomery and M. B. Gardner. bibliog il Bell System Tech J 19:533-62 O '40

World's fairs hearing tests; abstracts. H. C. Montgomery. Electronics 13:71-4 Ja '40; Elec Eng 59:241 Je '40

See also

Deaf
Ear
Noise
Sound

HEART

Electric shock treatment; method of restoring heart beat; abstract. C. J. Wiggers. Science 91:sup8 My 24 '40

Modification of the chemistry and pharmacological action of the cardiac glycosides. J. E. F. Riseman and S. B. London. Science 92:384 O 25 '40

Diseases

Clinical heart disease. S. A. Levine. 2d ed rev 495p $6 Saunders '40

Congenital heart disease. J. W. Brown. 255p bibliog(p238-46) 21s J. Bale medical publications, London '39

Diseases of the heart. J. Frey. 279p bibliog(p270-3) $4 House of Field, 19 W. 44th st, New York '39

Electrocardiogram in congenital cardiac disease; a study of 109 cases, 106 with autopsy. M. A. Schnitker. 147p bibliog(p131-40) $3 Harvard univ. press '40

Electrocardiography. C. C. Maher and P. H. Wosika. 3d ed 334p $4 Williams & Wilkins '40

Heart failure. A. M. Fishberg. 2d ed rev 829p $8.50 Lea & Febiger, Philadelphia '40

Illustrative electrocardiography. J. H. Bainton and J. Burstein. 2d ed 292p $5 Appleton-Century '40

Manual of cardiology; clinical methods and case histories as problems for study. W. D. Reid. 364p $3.50 Oxford '40

Nomenclature and criteria for diagnosis of diseases of the heart. A. C. De Graff and others. 4th ed 282p $2 New York heart assn, New York '39

Rheumatic fever in New Haven, Conn.; a survey of recent hospital admissions. L. R. Farquhar and J. R. Paul. bibliog Pub Health Rep 55:1903-13 O 18 '40

Rheumatic heart disease in Philadelphia hospitals; a study of 4,653 cases of rheumatic heart disease, rheumatic fever, Sydenham's chorea, and subacute bacterial endocarditis, involving 5,921 admissions to Philadelphia hospitals from January 1, 1930, to December 31, 1934. O. F. Hedley. pls maps Pub Health Rep 55:1599-1619, 1647-91, 1707-40, 1809-31, 1845-62 bibliog(p1618-19, 1688-91, 1739-40, 1830-1, 1861-2) S 6-20, O 4-11 '40

Trends, geographical and racial distribution of mortality from heart disease among persons 5-24 years of age in the United States during recent years (1922-1936); preliminary report. O. F. Hedley. bibliog maps Pub Health Rep 54:2271-97 D 29 '39

Unsuspected heart disease. J. Stafford. Science 92:sup10 N 1 '40

HEAT

Heat. W. J. Sparrow. 382p 8s 6d J. Murray, London '38

Text-book of heat. H. S. Allen and R. S. Maxwell. 2pts 527;531-848p pt 1 $3.25; pt 2, $3.50 Macmillan '39

See also

Boiling points
Calorimeters and calorimetry
Combustion
Electric heating
Evaporation
Expansion (heat)
Flame propagation
Gas heating
Heating
Hot weather
Insulation (heat)
Melting points
Pyrometers and pyrometry
Solution, Heat of
Specific heat
Steam
Temperature
Thermochemistry
Thermodynamics
Thermometers and thermometry
Waste heat

HEAT, Animal and human

See also

Temperature, Animal and human

HEAT capacity. See Specific heat

HEAT conduction

Heat conduction. A. Eucken. Automobile Eng 30:242 Ag '40

Orientation of liquid crystals by heat conduction. G. W. Stewart, D. O. Holland and L. M. Reynolds. il diag Phys R 58: 174-6 Jl 15 '40

Review and summary of developments in heat transfer by conduction and convection. W. H. McAdams. il Am Inst Chem Eng Trans 36:1-20 bibliog(68 references, p18-20) F '40

HEAT conductivity

Analyse von gasgemischen durch die desorptions-wärmeleitfähigkeitsmethode. R. Edse and P. Harteck. diags Angew Chemie 52: 32-3; 53:210-13 Ja 7 '39, My 11 '40

Galvano- and thermomagnetic phenomena in iron and nickel. E. H. Butler, jr. and E. M. Pugh. diags Phys R 57:916-21 My 15 '40

Insulating materials for refrigeration work. E. Griffiths. Inst Mech Eng J & Proc 142: 187-8 N '39

Methods of establishing *k* values. K. Steiner and S. D. Black. diags Heating-Piping 12: 49-50 Ja '40

Thermal conductivities of some industrial alloys of copper and of nickel. J. W. Donaldson. Engineering 148:539-40 N 10 '39

Thermal conductivity of metals. C. C. Bidwell. Phys R 58:561-4 S 15 '40

Thermal conductivity of rocks and its dependence upon temperature and composition. F. Birch and H. Clark. bibliog diags Am J Sci 238:529-58, 613-35 Ag-S '40

Thermal-conductivity-type gas analyzers. C. A. Hansen, jr. il diags Gen Elec R 43:166-9 Ap '40

Transverse heat conductivity of wood. F. F. Wangaard. il diag Heating-Piping 12:459-64 Jl '40

See also

Heat transmission

HEAT convection

Review and summary of developments in heat transfer by conduction and convection. W. H. McAdams. il Am Inst Chem Eng Trans 36:1-20 bibliog(68 references, p 18-20) F '40

HEAT cramps

Industrial heat sickness. Safety Eng 80:32+ Jl '40

Man's worth his salt; use of salt for heat cramps. Safety Eng 79:39-40 My '40

Midsummer misery; defensive measures against heat sickness. il Nat Safety N 41: 24-5+ Je '40

Prevent heat sickness! use of salt tablets. C. D. Looker. il Am Mach 84:375 My 29 '40

Preventing heat cramps with salt. Nat Safety N 41:134+ Mr '40

HEAT engines
Theory of heat engines. W. Inchley. 4th ed rev 445p $3.60 Longmans '39

See also
Diesel engines
Gas and oil engines
Gas turbines
Steam engines
Steam turbines
Thermodynamics

HEAT exchangers
Copper alloys and their application in petroleum refining. J. T. Kemp. Am Pet Inst Proc 21M(3):58-63 My '40; Abstract. Metal Prog 38:326+ S '40

Corrosion of copper and copper-base tubing in oil-refinery heat-transfer equipment. R. A. Wilkins, E. S. Bunn and W. Lynes. il Am Pet Inst Proc 21M(3):46-57 bibliog(104 titles, p54-7) My '40

Einfluss des luftgehalts im heizdampf auf den wärmeübergang in wärmeaustauschern. H. Hausen. V D I 84:150 Mr 2 '40

Experimental study of heat interchangers. R. B. Jacobs and S. C. Collins. J Ap Phys 11: 491-5 Jl '40

Finned tubing by welding. D. James. il diags Iron Age 144:46-7 D 14 '39

Generator cooling; heat-recovery system. diag Elec R (Lond) 127:266 S 27 '40

Heat exchangers; factors influencing design and efficiency. F. Eiseman. Can Chem & Process Ind 24:169 Ap '40

Heat transfer coefficients in glass exchangers. T. J. Thompson and A. S. Foust. flow diag bibliog il Am Inst Chem Eng Trans 36:555-75 Ag '40; Same cond. Chem & Met Eng 47:410-14 Je '40; Discussion. Am Inst Chem Eng Trans 36:575-8 Ag '40

Heat transfer surfaces. C. M. Ashley. il Chem & Met Eng 47:319-21 My '40; Same. Chem Age (Lond) 43:4-5 Jl 6 '40

Heating solutions for pickling, plating, etc.; external heat exchangers. D. Augsburger. il diags Steel 106:46-9 Ap 22 '40

Kern oil co. circulating hot oil in Montebello field wells; Kobe hydraulic power unit; heat exchanger cools engine water and heats circulating oil. L. P. Stockman. il diag Oil & Gas J 38:34-5 D 21 '39

Nusselts theorie und neuere versuche über den wärmeübergang beim berieselungswärmeaustauscher. O. Krischer. bibliog diags Chemische Fabrik 13:165-8 My 18 '40

Plant exchanger transfer rates. W. L. Nelson. Oil & Gas J 39:32 Jl 4 '40

Refractory radiant tubes; fuel fired furnace with recuperator type heat exchanger and silicon carbide radiant tubes used for enameling. W. F. Ross. il Iron Age 146:42-4 S 12 '40

Use exchanger instead of heater in new polymerization unit; Freedom oil co. J. P. O'Donnell. il Oil & Gas J 38:43-4 My 2 '40

Wärmeübergang und druckverlust bei querströmung durch rohrbündel. E. Hofmann. bibliog V D I 84:97-101 F 10 '40

See also
Air preheaters
Fuel economizers
Superheaters

Design

Economy in tube grouping in round-shell exchangers. Z. G. Deutsch. diags Chem & Met Eng 47:538-40 Ag '40

HEAT exhaustion
Heat fag; effects of salt loss upon workers who sweat. il Blast F & Steel Pl 28:688 Jl '40

Industrial heat sickness. Safety Eng 80:32+ Jl '40

Midsummer misery; defensive measures against heat sickness. il Nat Safety N 41: 24-5+ Je '40

Peripheral type of circulatory failure in experimental heat exhaustion; role of posture. R. W. Keeton and others. bibliog Heating-Piping 12:122-6 F '40

See also
Heat cramps

HEAT insulation. See Insulation (heat)

HEAT measurement

See also
Calorimeters and calorimetry
Pyrometers and pyrometry
Temperature—Measurement
Thermocouples
Thermometers and thermometry

HEAT of combustion. See Combustion, Heat of

HEAT of dilution. See Dilution, Heat of

HEAT of dissociation. See Dissociation, Heat of

HEAT of fission. See Fission, Heat of

HEAT of formation. See Thermochemistry

HEAT of fusion. See Fusion, Heat of

HEAT of hydration. See Hydration, Heat of

HEAT of ionization. See Ionization, Heat of

HEAT of neutralization. See Neutralization, Heat of

HEAT of solution. See Solution, Heat of

HEAT of vaporization. See Vaporization, Heat of

HEAT pump
Heated by reverse cycle refrigeration. K. M. Fisher. il Dom Eng 155:50-1 Je '40

Heating by reversed refrigeration; United illuminating co. administration and service building. A. J. Lawless. il diag Heating-Piping 12:473-6, 519-21 Ag-S '40

HEAT radiation
Drying and baking with radiant energy. Steel 107:48-51 O 28; 68-9+ N 4; 48-50 N 11 '40

Panel heating. B. H. Jennings. diags Dom Eng 156:52-3+ S '40

Radiant heating and cooling. F. E. Giesecke. il diags Heating-Piping 12:357-61, 421-4, 484-5, 527-8, 589-90 Je-O '40

Radiation and psychrometry; abstract. D. Dropkin. Mech Eng 62:145-6 F '40

Spectral emissivity (at 0.65μ) of some alloys for electrical heating elements. W. F. Roeser. Am Soc T M Proc 39:780-7 '39

Temperature rise of electrical apparatus as affected by radiation. G. W. Penney. bibliog diag Elec Eng 59:Trans 338-42; Discussion. Trans 342-5 Je '40

Total emissivity of various materials; abstract. B. T. Barnes, E. Q. Adams, and W. E. Forsythe. Opt Soc Am J 30:269 Je '40

Die wärmestrahlung von flammen. J. Werneburg. V D I 83:1258-9 D 2 '39

See also
Electric lamps—Heat radiation
Heat transmission
Radiators

HEAT resisting materials
Corrosion, heat, abrasion-resistant materials for the construction of chemical engineering equipment. il Chem & Met Eng 47:598-612 S '40

Effect of heat on phenolic laminates. S. W. Place. il Mod Plastics 18:59-62 S '40

Heat and corrosion resistant metals. Metal Prog 38:457-71+ O '40

Marking hot steel; two compounds available in seven colors. V. L. Staley. il Steel 107:64+ N 4 '40

See also
Insulation (heat)
Refractory materials
Steel, Heat resisting

HEAT storage
Electric thermal storage; a means of coal conservation in the national interest. W. L. Shand. Elec R (Lond) 125:757-8 D 15 '39

Electrical thermal-storage plant. Engineering 148:508 N 3 '39; Same cond. Elec W 113:1394 My 4 '40

Electrical water-heating installation at Poplar town hall. Engineering 150:288 O 11 '40

Electrode thermal storage equipment at Poplar town hall. il Engineer 170:128 Ag 23 '40

HEAT stroke
Industrial heat sickness. Safety Eng 80:32+ Jl '40

HEAT transmission
Bone char reactivation; heat transfer and temperature changes. J. M. Brown and W. A. Bemis. diags Ind & Eng Chem 32:1112-14 Ag '40
Condensation of vapors on a horizontal tube; heat transfer coefficient for condensation of vapors of water and nonmiscible organic liquids. E. M. Baker and U. Tsao. bibliog diags Ind & Eng Chem 32:1115-21 Ag '40; Same. Am Inst Chem Eng Trans 36:517-39 Ag '40
Cooling on the front of an air-cooled engine cylinder in a conventional engine cowling. M. J. Brevoort and U. T. Joyner. bibliog il diags U S Nat Advisory Com for Aeronautics 1939:625-37 '40
Dirt patterns on walls. R. A. Nielsen. bibliog il Heating-Piping 12:389-94 Je '40
Dominion-Cram film system of dryer drainage. bibliog diags Pulp & Pa of Can 41:234-7 F '40
Dynamic and thermal behavior of water drops in evaporative cooling processes. H. B. Nottage and L. M. K. Boelter. Heating-Piping 12:330-1 My '40
Flow of heat problems. Am Inst Chem Eng Trans 36:sup15-20 S '40
Heat conduction in refrigerating machines. W. J. Peck and H. M. Edmonds. Engineer 170:89 Ag 9 '40
Heat gain through glass blocks by solar radiation and transmittance. F. C. Houghten and others. il diags Heating-Piping 12:264-70 Ap '40
Heat transfer in a long tube vertical evaporator. O. C. Cessna, J. R. Lientz and W. L. Badger. flow sheet Am Inst Chem Eng Trans 36:759-79 O '40
Heat transfer notes for electrical engineering. A. D. Moore. 105p bibliog(p105) pa $1.75 George Wahr, Ann Arbor, Mich. '40
Heat transmission in evaporative condensers. A. K. G. Thomson. il diags Inst Chem Eng Trans 17:137-52 '39; Summary. Engineering 149:319 Mr 22 '40
Helium the superfluid. K. K. Darrow. bibliog diags Rs Mod Phys 12:257-66 Jl '40
Molten salt, a new heat transfer medium for high temperatures. W. E. Kirst, J. B. Castner and W. M. Nagle. Business Week p39 My 25 '40
New heat transfer medium for high temperatures. W. E. Kirst, W. M. Nagle and J. B. Castner. bibliog Am Inst Chem Eng Trans 36:371-90 Je '40; Same cond. il Chem & Met Eng 47:472-5 Jl '40; Abstracts. Nat Pet N 32:R220+ Je 12 '40; Chem Age (Lond) 43: 100-1 Ag 31 '40; Discussion. Am Inst Chem Eng Trans 36:390-4 Je '40
Non-boiling heat transfer coefficients in annuli. A. S. Foust and G. A. Christian. diag Am Inst Chem Eng Trans 36:541-54 Ag '40
Nusselts theorie und neuere versuche über den wärmeübergang beim berieselungswärmeaustauscher. O. Krischer. bibliog diags Chemische Fabrik 13:165-8 My 18 '40
Strömungs- und wärmeübergangsprobleme in chemischer technik und forschung. G. Damköhler. Chemische Fabrik 12:469-77 O 25 '39
Summer cooling load as affected by heat gain through dry, sprinkled and water covered roofs. F. C. Houghten, H. T. Olson and C. Gutberlet. il diags Heating-Piping 12:451-8 Jl '40
Survey of the science of heat transmission. M. Jakob. Purdue Univ Eng Exp Sta, Research Ser 68:1-55 '39 (pa 25c)
Thermal test coefficients of aluminum insulation for buildings. G. B. Wilkes, F. G. Hechler and E. R. Queer. diags Heating-Piping 12:68-72 Ja '40
Transmission of heat to boiling liquids. T. H. Insinger, jr. and H. Bliss. bibliog diags Am Inst Chem Eng Trans 36:491-513; Discussion. 513-16 Ag '40
Vaults for a.c. secondary networks; heat conduction, dissipation and ventilation. J. S. Parsons. Elec W 113:1201-3+ Ap 20 '40
Wall heat loss back of radiators. E. C. Willey. diag Heat & Ven 37:32-3 N '40
Wärmeübergang bei schwingenden gasen. R. Sinn. diag V D I 83:1197-9 N 11 '39
Wärmeübergang und druckverlust bei querströmung durch rohrbündel. E. Hofmann. bibliog V D I 84:97-101 F 10 '40
Wärmeübertragung im übergangsgebiet von laminarer zu turbulenter strömung. A. Watzinger and D. G. Johnson. diags V D I 83:1289-90 D 16 '39

See also
Heat conduction
Heat conductivity
Heat convection
Heat radiation
Heating—Tables, calculations, etc.
Insulation (heat)
Textile fabrics—Heat transmission

Tables, calculations, etc.
Application of heat transfer data to practical design of horizontal shell type refrigerant condensers. H. B. Pownall. Refrig Eng 39: 27-31 Ja '40
Calculation of coil surface areas for air cooling and dehumidification. J. McElgin and D. C. Wiley. charts Heating-Piping 12:195-201 Mr '40
Circulating water, heat transmission, and heat discharge in condensing plants. R. H. Parsons. Engineer 168:499-501 N 17 '39
Design of built-in luminaire constructions for safe thermal operation. W. Rosebraugh. il Illum Eng 35:203-17 Mr '40
Estimating heat flow through sunlit flat roofs; reference data. C. O. Mackey and L. T. Wright, jr. Heat & Ven 37:26a-26b Ag '40
Estimating heat flow through sunlit walls. C. O. Mackey and L. T. Wright, jr. Heat & Ven 37:43-7 Mr; 29-32 Ap; 23-6 My '40
Heat flow calculations. Glass Ind 21:236-8+ My '40
Heat flow through sunlit walls of one material; reference data. Heat & Ven 37:58a-58b Je '40
Heat flow through sunlit wood frame walls; reference data. C. O. Mackey and L. T. Wright, jr. Heat & Ven 37:58a-58b Jl '40
Heat loss curves for uninsulated wrought iron pipe as a function of the saturated steam pressure; chart. Power Pl Eng 44:90 F '40
Heat transfer coefficients in glass exchangers. T. J. Thompson and A. S. Foust. flow diag bibliog il Am Inst Chem Eng Trans 36:555-75 Ag '40; Same cond. Chem & Met Eng 47:410-14 Je '40; Discussion. Am Inst Chem Eng Trans 36:575-8 Ag '40
Heat transfer in the flow of gas through a bed of solid particles. O. A. Saunders and H. Ford. bibliog diags Iron & Steel Inst J 141: 291-316, pl 16-21 no 1 '40; Summary. Engineering 149:517 My 24 '40; Discussion. Iron & Steel Inst J 141:317-28 no 1 '40
Heating coil selection by the by-pass method. C. O. Mackey and L. T. Wright, jr. Heat & Ven 37:19-21 Ag '40
Ignition in beds of solid fuel. M. A. Mayers and H. G. Landau. bibliog Ind & Eng Chem 32:563-8 Ap '40
Some new investigations on old combustion-engine problems. G. Eichelberg. il diags Engineering 148:463-6, 547-50, 603-6 O 27, N 17, D 1 '39
Speed and accuracy in figuring heat loss. R. A. Krauss. Heat & Ven 37:35-9 O '40
Sun heat transmission of single windows; reference data. Heat & Ven 37:54a-54b My '40
Surface heat-transfer coefficients of finned cylinders. H. H. Ellerbrock, jr. and A. E. Biermann. bibliog diags U S Nat Advisory Com for Aeronautics 1939:651-64 '40
Temperature rise of bus bars. H. B. Dwight, G. W. Andrew and H. W. Tileston, jr. bibliog Gen Elec R 43:213-16 My '40
Vibration; its effect on heat transfer. W. E. Mason and L. M. K. Boelter. bibliog Power Pl Eng 44:43-4+ Je '40
Wärmetechnische mess- und rechenverfahren zur ermittlung von wandverlusten. K. O. Borchers. Stahl & Eisen 59:1321-3 D 7 '39

HEAT treating furnaces. See Furnaces, Heat treating

HEAT treatment
Aluminium-bronze gravity die casting. A. Street. il Engineering 149:159-61, 190-1 F 16-23 '40

HEAT treatment—*Continued*
As it was in 1915, and as it is in 1940; survey of progress. Metal Prog 37:284-7, 306-10 Mr '40
Cylinders and pistons; production at Morris motors, ltd; low temperature treatment. il Automobile Eng 30:44 F '40
Developing maximum physicals in aircraft parts. A. G. Cordy. il plan Steel 106:44-6, 72-3 Je 24 '40
Developing special properties by heat treating the malleable irons. R. J. Cowan. il Steel 106:44-7, 72+ Mr 25 '40
Flame strengthening. J. H. Zimmerman. il diag Iron Age 145:38-9 F 1 '40; Same. Steel 106:60, 62 F 19 '40
General purpose nickel-bronze alloy; comparisons with gun metal, high-tensile brass and phosphor-bronze. A. Dunlop. bibliog Iron Age 146:30-4 Ag 29 '40
Gray cast iron; a new heat treatment. E. L. Bartholomew. il Iron Age 146:52-4 Ag 1 '40; Same cond. Steel 107:60+ Ag 5 '40
Heat treating aluminum alloys; a composite of abstracts. Metals & Alloys 12:93-4 Jl '40
Heat treating and finishing. Metal Prog 38: 419-30 O '40
Heat treating by the oxyacetylene process; abstract. J. H. Zimmerman. Oil & Gas J 38:45 Ja 4 '40
Heat treating magnetic alloys; composite of abstracts. Metals & Alloys 11:MA138+ Mr '40
Heat-treatment of aluminum alloys. Am Mach 84:623 Ag 21 '40
Heat treatment of K monel and Z nickel; abstract. Metals & Alloys 11:MA210+ Ap '40
Heat treatment of light alloy castings; abstract. H. G. Warrington. Metals & Alloys 12:200+ Ag '40
Heat treatment of non-ferrous alloys; as it was in 1915 and as it is in 1940. D. K. Crampton. Metal Prog 37:310 Mr '40
Influence of resins on the heat bodying of oils. R. C. Shuey. bibliog Ind & Eng Chem 32:921-30 Jl '40
Magnetic studies of solid solutions; methods of observations and preliminary results on the precipitation of iron from copper. F. Bitter and A. R. Kaufmann. diag Phys R 56:1044-51 N 15 '39
Mechanism of magnetisation; the effect of surface treatment on the magnetic quality of Armco iron wire. T. F. Wall. diags Engineer 169:342-3 Ap 12 '40
New equipment; heat treatment and process control. il Iron Age 146:65-8 N 7 '40
Nickel-tungsten system. F. H. Ellinger and W. P. Sykes. bibliog il Am Soc for Metals Trans 28:619-43; Discussion. 643-5 S '40
Pyrometric rings for measuring kiln heat treatment. L. H. Milligan. il Am Cer Soc Bul 19:247-51 Jl '40
Shop equipment review; heat-treating and welding. il diag Am Mach 84:229-32 Ja 24 '40
Study of the refractory properties of topaz. R. S. Bradley, F. W. Schroeder and W. D. Keller. il Am Cer Soc J 23:265-70 S '40
Thermal history of the glassy phase and its effect upon physical properties. W. A. Weyl. bibliog il Am Cer Soc Bul 18:416-19 N '39
Today's ball-bearing metallurgy. C. T. Hewitt. il Steel 107:38-9+ Jl 22 '40
What's new in heat-treating and process control apparatus. F. J. Oliver. il Iron Age 144:54-8 D 7 '39; 145:45-9 Mr 28 '40

See also
Annealing
Electric furnaces, Heat treating
Furnaces, Heat treating
Steel, Heat treatment of

HEATER cars. See Cars, Heater

HEATERS
American fork & hoe co. modernizes its dipping departments by installing unit heater and exhaust systems. R. C. Taft. il diags Heat & Ven 37:35-7 Mr '40
C. G. Conn ltd.; band instrument manufacturer has unit heater and exhaust systems. F. A. Westbrook. il diags Heat & Ven 37: 39-40 Je '40
Direct-fired unit heaters to heat the hangars at La Guardia field; abstract. R. M. Rush and H. A. Pietsch. diag plan Mech Eng 62: 684-5 S '40
Direct fired units heat armor plate plant. D. Henderson. Heating-Piping 12:479 Ag '40
Improved unit heater sections; control of heated and cooled air. il diags Rayon 21:53 Ja '40
International business machines corp.; heating additional air supply for new paint spray booths. H. G. Murphy. il Heat & Ven 37:35 N '40
Modern unit heaters; packaged forced-warm-air systems. diags Power 84:642-4+ O '40
New industrial heating unit. il diags Engineer 169:143-4 F 9 '40
Unit heater over revolving door solves entrance heating problem. J. G. Eadie. diag Heating-Piping 12:307 My '40
Unit heaters prevent cold drafts at building and store entrances. D. R. Rippey. il Heating-Piping 12:249-51 Ap '40

See also
Air preheaters
Electric heaters
Electric water heaters
Furnaces
Gas heaters
Gas water heaters
Oil burners
Solar heaters

Manufacture
Manufacturing heaters for Chrysler corporation air-control systems. C. O. Herb. il Mach 46:152-6 Ap '40
Rust proofing and finishing of unit heater casings and convector enclosures. C. T. Perkins. il Metal Ind 37:602-4 D '39

HEATING
Agriculture has engineering problems in heating and ventilating. F. B. Lanham. bibliog diags plans Heating-Piping 11:769-74 D '39
American radiator & standard sanitary corp.; President Henry Reed I, out to lick inefficiency. il plan Fortune 21:56-61+ Mr '40
American society of heating and ventilating engineers; abstracts of papers. Heat & Ven 37:52-8 F '40
Developments in domestic heating; symposium. bibliog il Mech Eng 62:203-14 Mr '40; Discussion. 62:620-1 Ag '40
Dirt patterns on walls. R. A. Nielsen. bibliog il Heating-Piping 12:389-94 Je '40
Foreign experiences with radiant or panel heating. S. Zamenhof. diag Heating-Piping 12:98+ F '40
Heating by reversed refrigeration; United illuminating co. administration and service building. A. J. Lawless. il diag Heating-Piping 12:473-6, 519-21 Ag-S '40
Heating with bituminous coal in 1939. R. A. Sherman. Heat & Ven 37:41-2 Ja '40
Humidity damage to buildings and means for its prevention. C. R. Downs and J. W. Spiselman. il diag Chem & Met Eng 47:620-1+ S '40
Methods of heating low cost houses. R. K. Thulman. Heat & Ven 37:63+ F '40
Oil burner market expands. il Nat Pet N 32: 27-8, 30, 32-3 O 2 '40
Old idea is latest in heating; radiant principle, applied by wrought iron piping laid in floors. il diag Business Week p48+ Ap 27 '40
Panel heating. B. H. Jennings. diags Dom Eng 156:52-3+ S '40
Progress report on radiant heating and cooling. il diags Arch Rec 88:67-73 S '40
Radiant heating and cooling. F. E. Giesecke. il diags Heating-Piping 12:357-61, 421-4, 484-5, 527-8, 589-90 Je-O '40
Sun as an aid to heating. T. W. Reynolds. Heat & Ven 37:23 N '40
Theory vs. practice; why heating calculations and requirements don't agree. T. W. Reynolds. Heat & Ven 37:34 O '40
Tourist courts turn to central heating and air conditioning. il Heat & Ven 37:27 Je '40

HEATING—*Continued*
What's ahead for panel heating? L. N. Rowley. diags Power 84:482-4 Ag '40

See also
Air conditioning
Boilers, Heating
Car heating
Chimneys
Electric heaters
Electric heating
Fuel
Furnaces, Warm air
Gas heaters
Gas heating
Heaters
Heating, Warm air
Heating from central stations
Hot water heating
Insulation (heat)
Mechanical equipment of buildings
Oil burners
Oil fuel
Radiators
Refractory materials
Solar heaters
Steam heating
Ventilation
Waste heat

also subdivision Heating and ventilation under special subjects, e.g.
Airport buildings
Automobile factories
Factories
Hotels
Office buildings
School buildings

also American society of heating and ventilating engineers

Bibliography

Abstracts of current papers, books and pamphlets. Published in monthly numbers of Heating and ventilating

Control

Analysis of zoning. W. A. Grant. diags Refrig Eng 39:370-3+ Je '40

Automatic control of central fan systems for winter operation. R. F. Erickson. bibliog diags W Soc E J 45:59-78 Ap '40

Control innovations, test kits feature 1939. il Heat & Ven 37:113-16+ Ja '40

Study of certain factors that affect the droop characteristics of thermostats. B. E. Shaw and L. Lyon. il diags Heating-Piping 11:761-5 D '39

Cost

Savings from insulation in low-cost housing; Tennessee Valley studies. W. H. Purnell. Heat & Ven 37:33 O '40

What thickness insulation? heating costs analyzed. W. T. Miller. Am Bld 62:86+ O '40

Estimates

Fallacy of the square foot as a unit for factory costs. C. A. Haynes. Heat & Ven 37:23 F '40

Industrial gas engineer and space heating. R. F. Mann. Am Gas J 152:25-8 Ap '40

New method of estimating heating requirements. E. D. Landfear. Gas Age 86:29-30 S 12 '40

Standards

Standards for heating and ventilating. il Arch Rec 87:100-1 Mr '40

Tables, calculations, etc.

Basis for selecting design temperatures for winter heating; based on analysis of weather data for 120 cities. C. M. Humphreys. map Heat & Ven 36:30-2 D '39

Data on heating and sheet metal; typical base wall of frame construction; insulated and not insulated stucco. A. M. Daniels. diags Sheet Metal Worker 31:131-2 Ja; 57-8 Mr; 61 My '40

Data on heating and sheet metal; typical base wall of hollow concrete blocks. A. M. Daniels. Sheet Metal Worker 31:63-4 Ag '40

Degree day figures for various large cities in the United States. Published in monthly numbers of Heating and ventilating

How to estimate building insulation requirements; abstracts. R. K. Thulman. maps Sheet Metal Worker 31:62-4 Jl '40; Heat & Ven 37:34-6 Ag '40

How to install degree-day system for estimating fuel oil consumption and scheduling heating oil deliveries. il Nat Pet N 32:25-35 S 11 '40

Insulation economics. E. J. Rodee. il map Arch Forum 72:161-6 Mr '40

N.P.N.'s degree day chart. Nat Pet N 32: 34-5 S 11 '40

Permissible relative humidities in humidified buildings. P. D. Close. diag Heating-Piping 11:766-8 D '39

Rapid method of estimating heat loss. A. G. Canar. Heat & Ven 37:29-30 Je '40

Speed and accuracy in figuring heat loss. R. A. Krauss. Heat & Ven 37:35-9 O '40

See also
Air pipes—Tables, calculations, etc.

HEATING, Industrial

Candy engineer; keeping chocolates at the right temper. P. H. Keeney. diag Power Pl Eng 44:86 S '40

Cold-set printing process blazes trail with gas-burning system. H. W. Smith, jr. il Am Gas Assn Mo 22:316-18 S '40

Design and operation of a high temperature Dowtherm system. R. E. Hulme. il diag Chem & Met Eng 47:685-7 O '40

Dowtherm heating systems. P. W. Foster, jr. diags Paper Tr J 111:29-32 Jl 25 '40

Drying, heating and heat transfer at chemical exposition. il diags Chem & Met Eng 46:697-9, 778 N-D '39

Fuels and furnaces for industrial heating; a handbook for furnace managers and firemen. H. C. Armstrong. 136p $1.50 G. E. Stechert & co, New York '38

Gas helps build battleship at Brooklyn navy yard. Gas Age 86:50 Ag 15 '40

Gas in the ceramic and allied industries. il Gas J (Lond) 231:25 Jl 3 '40

Gas in the shoe industry. Gas J (Lond) 230: 482 Je 5 '40

Gas solves the problem of industrial space heating. il Gas J (Lond) 231:326-7 Ag 21 '40

Gasholder heating in Quebec. C. W. Delorey. diags Gas J (Lond) 230:441-2 My 29 '40

Heating coil prevents coal chute from freezing. S. H. Coleman. diag Power Pl Eng 44: 78 F '40

Heating mixing water and aggregates. il Concrete 47:25 D '39

Heating solutions for pickling, plating, etc.; external heat exchangers. D. Augsburger. il diags Steel 106:46-9 Ap 22 '40

Organic compounds for industrial heating; characteristics of diphenyl and triphenyl systems. H. Seymour. Chem Age (Lond) 43:43-4 Jl 27 '40

Proper equipment is key to success in winter concreting. il Concrete 48:14, 16 O '40

Relation of uniform pyrometer records to uniform products. J. A. Doyle. Ind & Eng Chem News ed 18:135-7 F 25 '40; Excerpts. Am Mach 84:sup43 N 13 '40

See also
Concrete—Heating
Drying
Drying apparatus
Electric heating, Industrial
Foundry practice
Furnaces
Furnaces, Forging
Furnaces, Heating
Gas as fuel
Heat treatment
Kilns
Metallurgy
Oil fuel
Open hearth process
Paper drying
Solder and soldering
Steel, Heat treatment of
Waste heat
Welding

Tables, calculations, etc.

Desirable temperatures and humidities for industrial processing; tabulation. Factory Management 98:100, 102 Mr '40

HEATING, Warm air

Ample furnace capacity simplifies building extensions; school at Cleveland Corners, N.Y. plans Sheet Metal Worker 31:46+ My '40

Automatic control of central fan systems for winter operation. R. F. Erickson. bibliog diags W Soc E J 45:59-78 Ap '40

Balancing winter air conditioning systems. J. B. Wallis. Sheet Metal Worker 31:37-8, 40+ Ap; 43-4+ My '40

Cheerful but inexpensive small home heating; living room fireplace equipped with a Superior fireplace circulator. diags plans Am Bld 62:128 Ap '40

HEATING, Warm air—*Continued*
Direct-fired unit heaters to heat the hangars at La Guardia field; abstract. R. M. Rush and H. A. Pietsch. diag plan Mech Eng 62:684-5 S '40
Domestic heating with coke. C. C. Russell. Mech Eng 62:211-12 Mr '40; Same cond. diags Sheet Metal Worker 31:64, 66+ My '40
Don't overlook the gravity furnace. A. F. Frazee. Sheet Metal Worker 31:46, 48, 50+ Jl '40
Ford foundation, Dearborn, Mich.; heating and air conditioning equipment. C. Strock. il diags plans Heat & Ven 37:22-5 Jl '40
Fuel interests note swing to warm air heat; symposium, American society of mechanical engineers. Sheet Metal Worker 31:50, 52+ Ap '40
Fundamentals of winter air conditioning (cont). B. F. McLouth. diags Sheet Metal Worker 30:56-8 D '39; 31:100, 102 Ja; 40, 42+ F; 44, 46+ Mr; 52, 54+ Je '40
Glenn L. Martin company heats with forced warm air systems. il diag plan Heat & Ven 37:32-6 S '40
Hangars at New York airport heated with warm air system. il plan Heating-Piping 12: 183-4 Mr '40
Heating and cooling the world's largest airport; New York's new LaGuardia field. M. C. Hamje. il diags plan Heat & Ven 37: 17-22 Mr '40
Industry organizes for national defense; Plumbing, heating and allied industries advisory committee. Sheet Metal Worker 31: 40+ O '40
Insulating air ducts against heat loss and noise. il diags Sheet Metal Worker 31:36-8 Je '40
Investigation of oil-fired forced-air furnace systems in the research residence; a report of an investigation conducted by the Engineering experiment station, University of Illinois in cooperation with the National warm-air heating and air conditioning association. A. P. Kratz and S. Konzo. diags plans Ill U Eng Exp Sta Bul 318:1-87 '39 (pa 90c)
Keys to warm air heating profits; practices of T. Unkel. il Sheet Metal Worker 31:62, 64+ Mr '40
Modern unit heaters; packaged forced-warm-air systems. diags Power 84:642-4+ O '40
National fire protection association revises air conditioning standards and warm air installation rules. Heat & Ven 37:64 S '40
New industrial heating unit. diags Engineer 169:143-4 F 9 '40
Opportunities for sheet metal men to increase their business. C. Balsam. il Sheet Metal Worker 31:89-90+ Ja; 46, 48+ F '40
Performance of stack heads. D. W. Nelson, D. H. Krans and A. F. Tuthill. il diags Heating-Piping 12:131-8 F '40; Tables and conclusions. Sheet Metal Worker 31:48+ Mr '40
Progress on heating appliance code in California. F. A. Herr. Am Gas J 152:26-7 Je '40
Radiant heating and cooling; warm air type of panel heating. F. E. Giesecke. il plan Heating-Piping 12:589-90 O '40
Sales opportunities in basement modernizing. il Sheet Metal Worker 31:120+ Ja '40
Sheet metal contractors' association of Illinois annual meeting, Peoria, Jan. 17-18. Sheet Metal Worker 31:61-2 F '40
Sizing registers for air conditioning. J. H. Van Alsburg. diags Sheet Metal Worker 31: 52, 54 F '40
Space between floor joists used for heating; Shawneetown, Ill. public building construction. Heating-Piping 12:169 Mr '40
Stinson aircraft heats Nashville, Tenn. plant with direct fired warm air duct system. il Heat & Ven 37:40-3 S '40
Unusual jobs that taxed contractor's ingenuity. il diags plans Sheet Metal Worker 31: 64, 66, 68 S '40
Warm air curtain at doors lightens heating load. H. M. Ratley. il Factory Management 98:84 N '40
Warm air for plant, hot water for offices; Aviation mfg. corp. il Heating-Piping 12: 480 Ag '40
Warm air heating equipment makes strong showing in first quarter. Sheet Metal Worker 31:65 Jl '40
Winter air conditioning for camp buildings. Sheet Metal Worker 31:38+ O '40

See also
Furnaces, Warm air
Heaters

Tables, calculations, etc.
Carrying capacity of circular and rectangular ducts; reference data. Heat & Ven 36:58a-58b N; 50a-50b D '39; 37:144a-144b Ja '40
Carrying capacity of ducts for forced air; reference data. Heat & Ven 37:66a-66b F '40
Heat carrying capacity of ducts for forced air; reference data. Heat & Ven 37:54a-54b Mr '40

HEATING boilers. See Boilers, Heating

HEATING equipment
Buying and business guide; for the heating, air conditioning, sheet metal, and roofing industry. B. Crawford, comp. 1940 Central states ed 136p Etta Cohn, 105 W. Monroe st, Chicago '40
Heating abroad and at home; U.S. and English practice compared. S. Lewis. il Heating-Piping 12:554 S '40
Heating items lead new products parade. il Am Bld 62:88, 90 Mr '40
New equipment. Published in monthly numbers of Heating and ventilating
Progress in 1939 winter equipment. il diags Heat & Ven 37:43-8+ Ja '40
Theater steam system operation improved by utilization engineering. D. W. Blair. diag Heat & Ven 37:59-60 F '40

See also
Furnaces

HEATING from central stations
Block heating for two-family houses. C. Strock. il plan Heat & Ven 37:47-9 My '40
Corrosion in steam heating systems; feedwater treating system in central heating plant. L. F. Collins and E. L. Henderson. diags Heating-Piping 12:243-6, 299-301 Ap-My '40
Design and installation of a central hot water heating plant; Chatham Park Village, Chicago apartment project. C. G. Wohlfarth. il Heating-Piping 12:413-16 Jl '40
Fort Knox defense housing heated with hot water. il Heat & Ven 37:43-5 O '40
Gas engine driven generator improves operation at Franklin heating station; Rochester, Minn.; engine and steam turbine units working together promote efficiency. N. D. Adams. il diags Heating-Piping 12: 643-5 N '40
Glenside homes, Reading, Pa.; illustrations and plans. Heat & Ven 37:34-5 Jl '40
Harvard makes savings by careful control of its heating systems. G. K. Saurwein. il Heat & Ven 37:24-8 Ap '40
993 buildings report steam use; joint committee of National association of building owners and managers and National district heating association completes study of heating requirements. E. Shultz and J. C. Butler. Power 84:510-12 Ag '40
This small plant misses no tricks; Lawrence Park heat, light & power co. supplies power, steam, hot water and refrigeration. L. Rowley. il Power 84:239-40 Ap '40
Treating boiler feedwater at Federal central heating plant, Washington, D.C. C. B. Overman. flow diag il Power 84:488-91 Ag '40
U.S. army Air corps, McChord field; central heating plant. W. S. Leland. il Heat & Ven 37:25-7 S '40

HEATING furnaces. See Furnaces, Heating

HEATING industry
Ask separation of contracts; heating and plumbing contractors call attention to the cost-plus-fee contracts on government jobs which do not provide for work by subcontractors. Dom Eng 156:36-7, 56+ Ag '40

HEATING industry—*Continued*
C. Lester Ray shows how; plumbing and heating contractor. il Dom Eng 155:38-40+ My; 38+ Je '40
Damper specialty promotes contractor's heating business; L. H. Bingham, Bayside, N.Y. il Sheet Metal Worker 31:56+ My '40
Defense, and our industry; viewpoints of leaders. Dom Eng 156:34-5+ Ag '40
Display it to sell it; Miller bros., New Hyde Park, N.Y. il Dom Eng 155:50+ Mr '40
Heating, piping and air conditioning important factors in national defense; comments by authorities. Heating-Piping 12: sup31-2 Ag '40
How to get defense housing business. il Heat & Ven 37:19-22 N '40
Industry organizes for national defense; Plumbing, heating and allied industries advisory committee. Sheet Metal Worker 31: 40+ O '40
Installations of Moline heating and construction co. illustrate manner in which our industry aids defense. il Dom Eng 156: 38-9+ Ag '40
Keys to warm air heating profits; practices of T. Unkel. il Sheet Metal Worker 31:62, 64+ Mr '40
Large increase in sales volume marks 1939 as construction of new buildings mounts. Heat & Ven 37:31-9 Ja '40
Management policies by industries; plumbing and heating contractors as credit risks. N. D. Stone. il Bankers Mo 57:509-13+ S '40
Ohio votes for plumbing & heating weeks. Dom Eng 155:43-4+ Mr '40
Plumbing and heating manufacturers committee to prevent supply bottlenecks in defense program. Dom Eng 156:36-7, 56 O '40
Plumbing and heating week. Dom Eng 154: 34-5 D '39; 155:52-3+ Ja '40
Plumbing and heating week becomes a reality. il Dom Eng 155:48-50+ Ap '40
Put safeguards in those guarantees! C. R. Rosenberg, jr. Sheet Metal Worker 31:32 Ag '40
Question on contract adjustment; plumbing, heating and ventilating. Sheet Metal Worker 31:66 Mr '40
Sell 'em what they want to buy; experience of the Turner-Harrison co. il Sheet Metal Worker 30:52+ D '39
Small home heating drive. il Dom Eng 155: 54-5 My '40
Texas wants plumbing and heating week. Dom Eng 155:39+ Je '40
Weak spot in the contractor's business; responsibility for employees' conduct. C. R. Rosenberg, jr. Heat & Ven 36:16 D '39
Wisconsin votes for plumbing and heating week. Dom Eng 155:36-7 F '40

See also
Furnace industry and trade
Oil burner industry
Stokers, Mechanical
also American radiator and standard sanitary corporation; Sheet metal, roofing, heating and air conditioning contractors national association

Accounting
Where profits are realized; five points a businessman must learn from his bookkeeping system. S. E. Davis. il Dom Eng 156:36-8+ N '40

Advertising
Advertising and publicity; constructive bureau program makes available releases for contractor use. Dom Eng 156:50-1 Ag '40
C. Lester Ray; his follow through. il Dom Eng 155:38+ Je '40
Milwaukee sheet metal contractors association advertising warm air heating. il Sheet Metal Worker 30:38 N '39

Directories
Buyers' guide, 1940-1941; directory of manufacturers of heating, ventilating and air conditioning equipment. Heat & Ven 37:77-147 S '40
Directory of exhibitors, International heating and ventilating exposition, Cleveland, Jan. 22-26. plan Sheet Metal Worker 31:152-6, 178 Ja '40
Directory section; containing names and addresses of manufacturers of equipment and products used in warm air heating, air conditioning, ventilation and sheet metal work. Sheet Metal Worker 31:157-75 Ja '40
Heating, piping and air conditioning equipment for industry and large buildings; classified by products, trade names and manufacturers addresses. Heating-Piping 12:209-78 Ja '40

Exhibitions
International heating and ventilating exposition. il Ind & Eng Chem News ed 18: 157-8 F 25 '40

Remodeling
It pays to modernize; heating system, Wausau central school. il Dom Eng 156:42-3+ Ag '40
145 years modern; ancient church preserves appearance of antiquity but has automatic heat. il Dom Eng 154:42-3 D '39

Statistics
How was business in 1939? Dom Eng 155:44-5 Ja '40
Indexes indicate steady movement in most lines; heating and air conditioning industries. Heat & Ven 37:22-6 Ja '40
Warm-air furnace-burner units take lead over boiler-burner units. Sheet Metal Worker 31:58 Ag '40
Warm air heating equipment makes strong showing in first quarter. Sheet Metal Worker 31:65 Jl '40
Winter equipment sales statistics; tabulation. Heat & Ven 37:34, 38-9 Ja '40

HEATING pipes
Fundamentals of winter air conditioning; installation of ducts. B. F. McLouth. diags Sheet Metal Worker 30:62, 64+ N; 56-8 D '39; 31:100, 102 Ja; 40, 42 F; 44, 46+ Mr; 52, 54+ Je '40
Unit volume capacities and dimensions of standard pipe and tubing; reference data. Heat & Ven 37:58a-58b Ap '40

See also
Steam pipes

HEATING, piping and air conditioning contractors national association
Annual meeting, 51st, New York, May 27-29. Dom Eng 155:46-9+ Je '40; Heat & Ven 37:56 Je '40
Contractors hear air conditioning, heating committee reports. Heating-Piping 12:433 Jl '40

HEATING research
American society of heating and ventilating engineers committee on research, 21st annual report, 1939. il Heating-Piping 12:73-9 Ja '40
Development of instruments for the study of air distribution in rooms. A. P. Kratz, A. E. Hershey and R. B. Engdahl. diags plans Heating-Piping 12:559-66 S '40
Effect of room dimensions on the performance of direct radiators and convectors. A. P. Kratz and others. il diags plans Heating-Piping 12:439-46 Jl '40
Institute of boiler and radiator mfrs. announces contract with University of Illinois for construction and operation of research house. Dom Eng 155:55+ My '40
Performance of a stoker-fired warm-air furnace as affected by burning rate and feed rate. A. P. Kratz and S. Konzo. diags Heating-Piping 12:55-60 Ja '40
Radiator heat research program to open with hot water study. il plan Heat & Ven 37:53 N '40
Sensation of warmth as affected by the color of the environment. F. C. Houghten, H. T. Olson and J. Suciu, jr. il diag Heating-Piping 12:678-81 N '40; Same. Illum Eng 35:908-14 D '40

HEAVISIDE'S expansion theorem
Heaviside's expansion theorem. F. H. Miller. J Ap Phys 11:343-6 My '40

HEAVISIDE'S expansion theorem—*Continued*
Matrix generalization of Heaviside's expansion theorem. L. A. Pipes. bibliog Franklin Inst J 230:483-99 O '40

HEAVY hydrogen. See Hydrogen—Isotopes

HEAVY water. See Water—Heavy water

HEDGING
See also
Speculation
Stock exchange

HEILBRON, Isador M. 1881-
Portrait. J Chem Educ 17:51 F '40

HELENIUM
Constituents of certain species of helenium; concerning the compound melting at 233-234° obtained from helenium tenuifolium. E. P. Clark. Am Chem Soc J 62:2154-6 Ag '40
Constituents of certain species of helenium; the ester nature of tenulin. E. P. Clark. Am Chem Soc J 62:597-600 Mr '40

HELICOPTERS
Asboth helicopter. diags Sci Am 161:348 D '39
Details of the Sikorsky helicopter. il Aero Digest 36:56-7 Je '40
Rotating-wing aircraft exhibit desirable characteristics for national defense. A. Klemin. Sci Am 163:138 S '40
Sikorsky helicopter. il diags Aviation 39:65+ Jl '40
Sikorsky's helicopter. A. Klemin. il Sci Am 163:189 O '40; Same. Engineer 170:248 O 18 '40
Stressing of rotating-blade aerofoils. J. B. B. Owen. Engineering 148:511-13 N 3 '39
See also
Autogiros
Gyroplanes

HELIUM
Accurate measurement of the energy released in the disintegration of Li^6 by protons. G. J. Perlow. bibliog diag Phys R 58:218-25 Ag 1 '40
Angular distribution of fast neutrons scattered by hydrogen, deuterium and helium. H. H. Barschall and M. H. Kanner. bibliog il diags Phys R 58:590-6 O 1 '40
Anomalous scattering of neutrons by helium. T. W. Bonner and E. Hudspeth. Phys R 57: 1187-8 Je 15 '40
Anomalous scattering of neutrons by helium. H. Staub and H. Tatel. bibliog diag Phys R 58:820-8 N 1 '40
Anomalous scattering of neutrons by helium and the *d*—*d* neutron spectrum. E. Hudspeth and H. Dunlap. diag Phys R 57:971-5 Je 1 '40
Breakdown potentials of gases under alternating voltages. G. W. Fox and D. O. McCoy. diag J Ap Physics 11:592-5 S '40
Cross section for change of charge and ionization by high velocity metallic ions in hydrogen and helium. C. W. Sherwin. bibliog diags Phys R 57:814-21 My 1 '40
Deuteron-deuteron, proton-helium, and deuteron-helium scattering. N. P. Heydenburg and R. B. Roberts. Phys R 56:1092-5 D 1 '39
Diffusion of helium through several glasses. P. L. Smith and N. W. Taylor. bibliog diag Am Cer Soc J 23:139-46 My '40
Energy released in the reaction $Li^6(p,\alpha)$ He^3 and the mass of He^3. S. K. Allison and others. Phys R 58:178 Jl 15 '40
Evidence against the existence of an excited state of He^3. R. D. Park and J. C. Mouzon. bibliog Phys R 58:43-6 Jl 1 '40
Explosive properties of cyclopropane; prevention of explosions by dilution with inert gases; hazards of gases and vapors used in anesthesia. G. W. Jones, R. E. Kennedy and G. J. Thomas. bibliog pl U S Bur Mines Rep of Invest 3511:1-17 '40
Plant at Amarillo, Texas, has produced 100 million cubic feet of helium. Am Gas J 153:40 S '40; Can Min J 61:675-6 O '40
Production of helium in the United States. Engineering 149:97 Ja 26 '40
Relative secondary electron emission due to He, Ne, and A ions bombarding a hot nickel target. M. Healea and C. Houtermans. bibliog Phys R 58:608-10 O 1 '40
Resonance scattering of neutrons in helium. H. Staub and H. Tatel. Phys R 57:936 My 15 '40
Scattering of fast electrons in helium. J. B. H. Kuper and E. Teller. bibliog Phys R 58: 602-3 O 1 '40
Scattering of 2.5-Mev neutrons in helium. J. A. Wheeler and H. H. Barschall. diags Phys R 58:682-7 O 15 '40
Spin-orbit coupling in He^5. S. M. Dancoff. Phys R 58:326-31 Ag 15 '40
Theory of the resonance scattering of protons and neutrons on helium. F. Bloch. Phys R 58:829-36 N 1 '40
Transport cross section of helium. E. J. Hellund. Phys R 58:278-9 Ag 1 '40
Van der Waals potential in helium. H. Margenau. bibliog Phys R 56:1000-8 N 15 '39

Isotopes
Helium of mass three as an agent in nuclear reactions. W. H. Barkas. Phys R 56:1242-3 D 15 '39

Therapeutic use
Helium-oxygen mixtures for alleviation of tubal and sinus block in compressed air workers. J. W. Crosson, R. R. Jones and R. R. Sayers. bibliog Pub Health Rep 55: 1487-96 Ag 16 '40
New apparatus for the administration of helium-oxygen mixtures. H. F. Brubach, L. R. Crisp and P. A. Neal. bibliog Pub Health Rep 55:1776-82, pl 1-2 S 27 '40

HELIUM, Liquid
Bose-Einstein fluids. L. Goldstein. Phys R 57: 241-2 F 1 '40; Correction. 57:457 Mr 1 '40
Helium the superfluid. K. K. Darrow. bibliog diags Rs Mod Phys 12:257-66 Jl '40
Phenomena at the temperature of liquid helium. E. F. Burton, H. G. Smith and J. O. Wilhelm. 362p $6 Reinhold pub. corp. '40
Scattering of light by liquid helium. L. I. Schiff. Phys R 57:844-5 My 1 '40

HEMATITE
Magnetite and hematite veins in Triassic lavas of Nova Scotia. A. P. Hornor, jr. il Econ Geol 34:921-30 D '39

HEMICELLULOSES
Advances in the chemistry of wood, 1938-1939. F. H. Yorston. Pulp & Pa of Can (Convention no) 41:145 [F] '40
Composition of hemicellulose isolated from maple wood. R. L. Mitchell and G. J. Ritter. bibliog Am Chem Soc J 62:1958-9 Ag '40
Hemi-cellulose extract of various rayon wood pulps. G. A. Richter, C. H. Goldsmith and K. E. Glidden. Rayon 21:26-7 Ja '40

HEMIMELLITENE
Polyalkylbenzenes; preparation and physical properties of 1,2,3-trimethylbenzene (hemimellithene). L. I. Smith and L. J. Spillane. bibliog Am Chem Soc J 62:2639-42 O '40
Polymethylbenzenes; the reaction between dimethylacrylic acid and the trimethylbenzenes. L. I. Smith and W. W. Prichard. bibliog Am Chem Soc J 62:771-7 Ap '40

HEMLOCK
Ethanolysis of western red cedar, Douglas fir and western hemlock. J. S. Brawn, R. D. Heddle and J. A. F. Gardner. Am Chem Soc J 62:3251-2 N '40
Weight factors of beaten pulps. J. H. Graff. il Paper Tr J 110:37-40 Ja 11 '40
West Coast woods of the Douglas fir region. diags Am Bld 62:78-80 Ja '40

HEMOGLOBIN
Effect of phosphate buffers on the electrical mobility of hemoglobin. M. H. Gorin, H. A. Abramson and L. S. Moyer. bibliog Am Chem Soc J 62:643-4 Mr '40
Muscle and blood hemoglobin in the dolphin. L. Eichelberger and others. Science 90:443 N 10 '39
Pseudomethemoglobin and its reaction with carbon monoxide after reduction. G. Barkan and O. Schales. Science 90:616 D 29 '39

HEMOGLOBIN—*Continued*
Radio-iron in plasma does not exchange with hemoglobin iron in red cells. P. F. Hahn and others. Science 92:131-2 Ag 9 '40

HEMOPHILUS parainfluenzae
Determination of V factor in the urine and tissues of normal dogs and of dogs with blacktongue by the use of hemophilus parainfluenzae. M. Pittman and H. F. Fraser. bibliog Pub Health Rep 55:915-25 My 24 '40

HEMORRHAGE
Hemorrhagic adrenal necrosis in rats on deficient diets. F. S. Daft and W. H. Sebrell. Pub Health Rep 54:2247-50 D 22 '39
Hemorrhagic cortical necrosis of adrenals in rats on deficient diets. A. A. Nelson. bibliog Pub Health Rep 54:2250-6, pl 1-2 D 22 '39

HEMP
Cannabis indica; isolation of cannabidiol from Egyptian hashish; observations on the structure of cannabinol. A. Jacob and A. R. Todd. Chem Soc J p649-53 My '40
Cannabis indica; the synthesis of dibenzopyran derivatives, including an isomer of cannabinol. R. Ghosh, D. C. S. Pascall and A. R. Todd. Chem Soc J p1118-21 Ag '40
Cannabis indica; the synthesis of some tetrahydrodibenzopyran derivatives. R. Ghosh, A. R. Todd and S. Wilkinson. Chem Soc J p1121-5 Ag '40
Color test for sisal and manila; the Amoa test for the detection of sisal fiber when admixed with manila fiber. A. V. Billinghame. Textile Col 62:466 Jl '40
Flax and hemp; advances during the past year, and notes on practical processing. F. G. Brown. Textile Col 61:847-9; 62:98-100 D '39, F '40
Isolation of cannabinol, cannabidiol and quebrachitol from red oil of Minnesota wild hemp. R. Adams, D. C. Pease and J. H. Clark. bibliog Am Chem Soc J 62:2194-6 Ag '40
Other textile fibres, 1939. Economist 138: sup39-40 F 17 '40
Structure of cannabidiol, a product isolated from the marihuana extract of Minnesota wild hemp. R. Adams, M. Hunt and J. H. Clark. bibliog Am Chem Soc J 62:196-200 Ja '40

See also
Marihuana

HEMP seed
Substitute for edestin needed. H. B. Vickery, E. L. Smith and L. S. Nolan. bibliog Science 92:317-18 O 4 '40

HENDECENEDIONE
6-Diketones; synthesis, structure and bactericidal properties. C. D. Hurd and C. D. Kelso. bibliog Am Chem Soc J 62:2184-7 Ag '40

HENEQUEN
Mexico; henequen fiber and products. For Comm W 1:180 O 26 '40

HENRY, Thomas Anderson, 1873-
Director of the Wellcome chemical research laboratories. Chem & Ind 59:309 My 4 '40

HEPARIN
Anti-tryptic properties of heparin. M. K. Horwitt. bibliog Science 92:89-90 Jl 26 '40
Heparin and blood clotting. K. M. Brinkhous and others. bibliog Science 90:539 D 8 '39
Heparin as an anticoagulant for permeability studies. F. R. Hunter, L. D. Stringer and H. D. Weiss. Science 91:579 Je 14 '40
Heparin; its chemistry, physiology and application in medicine. J. E. Jorpes. 86p bibliog(p82-6) $2.50 Oxford '39

HEPTANE
Boiling points of *n*-heptane and 2,2,4-trimethylpentane over the range 100- to 1,500-millimeter pressure. E. R. Smith. bibliog diag J Research Nat Bur Stand 24:229-34 Mr '40
Electrical conduction in dielectric liquids. R. W. Dornte. bibliog diags Ind & Eng Chem 32:1529-34 N '40
Spiral screen packing for efficient laboratory fractionating columns. H. S. Lecky and R. H. Ewell. bibliog il diag Ind & Eng Chem Anal ed 12:544-7 S 15 '40
Thermodynamics of *n*-heptane and 2,2,4-trimethylpentane, including heat capacities, heats of fusion and vaporization and entropies. K. S. Pitzer. bibliog Am Chem Soc J 62:1224-7 My '40

HEPTYNE
Catalytic hydration of acetylene and of some alkylacetylenes. R. E. Schaad and V. N. Ipatieff. bibliog Am Chem Soc J 62:178-80 Ja '40

HERBARIUMS
Use of outline maps on herbarium labels. E. C. Abbe and D. B. Lawrence. diag Science 92:181-2 Ag 23 '40

HERBS
Herbarist. no.6 52p ltd ed pa $1 Herb soc. of America, 300 Massachusetts av, Boston '40
Herbs yield daily bread; business developed by Mrs Margaret Shawan and her husband in San Gabriel township, Calif. Nation's Business 28:107 Mr '40
Magic gardens; a modern chronicle of herbs and savory seeds. R. E. Clarkson. 369p $3 Macmillan '39

HERCULES life insurance company
Hercules Life offers lesson; Sears, Roebuck life insurance business. W. E. Webb. Nat Underw (Life ed) 43:2 N 17; 2 N 24; 6+ D 1 '39

HERCULES motors corporation
Dynamic specialties; thumbnail appraisal. Mag of Wall St 66:236 Je 1 '40

HERCULES powder company
Atlas vs. Hercules Powder; demand for explosives aided by both war and industrial pickup. W. Kraemer. il Mag of Wall St 66: 100-2+ My 4 '40
Consolidated income account for calendar years, 1936-39. Comm & Fin Chr 150:840 F 3 '40
Leaders in the chemical industry; thumbnail appraisal. Mag of Wall St 65:413 Ja 13 '40
Statistics of income, capital, stock earnings, etc., 1929-38. Annalist 54:637 N 16 '39

HEREDITY
Environment and heredity. O. D. Maguinness. 216p bibliog(p109) 2s 6d Nelson '40
Heredity and social problems. L. L. Burlingame. 369p bibliog(p353-7) $3.50 McGraw-Hill '40
Heredity, eugenics and social progress. H. C. Bibby. 93p bibliog(p93) 1s 6d; pa 1s V. Gollancz, London '39
Intelligence: its nature and nurture; pt. 1, Comparative and critical exposition; pt. 2, Original studies and experiments. G. M. Whipple, ed. (National soc. for the study of education, 39th yearbook) 2v xviii,471; xviii,409,xxxviip ea $3; pa $2.25 Public school pub. co, 509 N. East st, Bloomington, Ill. '40
Principles of heredity. L. H. Snyder. 2d ed 452p $3.50 Heath '40

See also
Genetics

Study and teaching

Suggestions for teaching selected material from the field of genetics. A. D. Laton, E. W. Bailey and J. Schwab. 66p bibliog(p58-66) pa 50c Teachers college '39

HERNIA
Industrial hernia and its control. L. H. Frechtling. Nat Safety N 41:34, 36+ Ja '40
When should hernia be compensable? L. Vaccaro. Nat Safety N 41:34, 36+ Je '40

HEROIN
Enzymatic deacetylation of heroin and closely related morphine derivatives by blood serum. C. I. Wright. Science 92:244-5 S 13 '40

HERRICK, Francis Hobart, 1858-1940
Sketch. W. G. Leutner. Science 92:371-2 O 25 '40

HERTY forest institute (proposed)
Seek testimonial fund for the founding of the Herty forest institute. il Paper Tr J 110:18 F 8 '40

HESPELER, Ontario

Sewerage
New sewage treatment works. W. B. Redfern. diags plans Can Eng W & S 78:9-11 Ag '40

HETCH HETCHY water supply project
Court ends Hetch-Hetchy power sales via Pacific gas & electric co. Elec W News ed 113:1285 Ap 27 '40
Hetch Hetchy tie-up in San Francisco. T. L. North. Pub Util 26:338-49 S 12 '40
Hetch Hetchy truce; extension of federal court injunction against the sale of electric power. Business Week p53 S 7 '40
Re-use of steel water mains of the Hetch Hetchy supply. C. W. Geiger. Pub Works 71:46 Mr '40
San Francisco loses Hetch Hetchy decision, voiding power sale contract. Business Week p16 Ap 27 '40
Water supply system of San Francisco. N. A. Eckart. il plans map Am Water Works Assn J 32:751-94 My '40

HETZ, Russell R.
Doctor for sick cities; Hetz remodels unneeded plants and sells to young concerns. G. R. Reiss. por Nation's Business 28:27-9+ Ag '40

HEUER, Russell Pearce
Named Modern pioneer in Philadelphia. por Am Cer Soc Bul 19:179-80 My '40

HEVEA. See Rubber plants and planting

HEVESY, George de, 1885-
Sketch. R. E. Oesper. por J Chem Educ 17: 301 Jl '40

HEXACHLOROETHANE
Utilisation of polychloropropanes and hexachloroethane; abstract. E. T. McBee and others. Chem Age (Lond) 43:145-6 S 28 '40

HEXADECANE
Thermal data on organic compounds; modern combustion data for some non-volatile compounds containing carbon, hydrogen and oxygen. J. W. Richardson and G. S. Parks. bibliog Am Chem Soc J 61:3543-6 D '39

HEXAETHYLBENZIL
Enediols; *cis-trans* isomerism. R. C. Fuson and others. bibliog Am Chem Soc J 62: 2091-4 Ag '40

HEXAHYDROACETOMESITYLENE
Hexahydroacetomesitylene. E. P. Kohler, T. L. Jacobs and H. M. Sonnichsen. bibliog Am Chem Soc J 62:785-93 Ap '40

HEXAHYDROCHROMAN
Hydrogenation of some substituted coumarins. P. L. de Benneville and R. Connor. bibliog Am Chem Soc J 62:3067-70 N '40

HEXAISOPROPYLSTILBENEDIOL
Enediols; hexaisopropylstilbenediols. R. C. Fuson and E. C. Horning. bibliog Am Chem Soc J 62:2962-4 N '40

HEXANE
Energies of isomerization of the five hexanes. F. D. Rossini and E. J. R. Prosen. Am Chem Soc J 62:2250-1 Ag '40
Partial pressure of hydrogen chloride from its solutions in *o*-nitrotoluene, *m*-nitrotoluene and *n*-hexane at 25°. S. J. O'Brien and C. L. Kenny. bibliog Am Chem Soc J 62:1189-92 My '40
Pressure-volume-temperature relations of *n*-hexane and of 2-methylpentane. E. A. Kelso and W. A. Felsing. bibliog Am Chem Soc J 62:3132-4 N '40
Simple proof of the thermodynamic stability of materials taken up by solutions containing solubilizers such as soap. J. W. McBain and J. J. O'Connor. diags Am Chem Soc J 62:2855-9 O '40

HEXANITRATO ammonium cerate
Rapid qualitative test for alcoholic hydroxyl group; use of nitrato and perchlorato cerate anions as test reagents. F. R. Duke and G. F. Smith. Ind & Eng Chem Anal ed 12:201-3 Ap 15 '40

HEXANOL
Electrochemical oxidation of n-hexanol. W. R. Lowstuter and A. Lowy. bibliog diag Electrochem Soc Trans 77(preprint 21):263-70 Ap '40

HEXAPHENYLDIPLUMBANE
Dissociation of hexaphenyldiplumbane. R. Preckel and P. W. Selwood. bibliog Am Chem Soc J 62:2765-6 O '40

HEXAPHENYLETHANE
Hexa-*p*-alkylphenylethanes; *p*-cyclohexyl derivatives of hexaphenylethane. C. S. Marvel and C. M. Himel. Am Chem Soc J 62:1550-3 Je '40

HEXATRIENE
Synthesis of polyenes; reactions of 6-methylallyl chloride with sodamide in liquid ammonia. M. S. Kharasch, W. Nudenberg and E. Sternfeld. Am Chem Soc J 62:2034-6 Ag '40

HEXENE
Attempted separation of isomeric hexenes by fractional distillation. F. C. Whitmore and others. bibliog Am Chem Soc J 62: 795-800 Ap '40
Separation of the isomeric hexenes by batch fractionation. A. Rose. bibliog Am Chem Soc J 62:793-5 Ap '40

HEXESTROL
Studies on the preparation of synthetic sex hormones; hexoestrol. S. Bernstein and E. S. Wallis. Am Chem Soc J 62:2871-3 O '40

HEXOIC anhydride
Physical properties of the aliphatic acid anhydrides. D. T. Lewis. Chem Soc J p32-6 Ja '40

HEXOSANS
Analysis of the fibrous and carbohydrate constituents of feeding stuffs; the determination of cellulose. E. G. Hallsworth. bibliog Soc Chem Ind J 59:9-17 Ja '40

HEXYL alcohols
Spectroscopic evidence for hydrogen bonds: the hexyl alcohols. S. C. Stanford and W. Gordy. bibliog Am Chem Soc J 62:1247-51 My '40
Thermodynamic properties of the hexyl alcohols; 2,2-dimethylbutanol-1 and 2-ethylbutanol-1. F. Hovorka, H. P. Lankelma and W. R. Smith. Am Chem Soc J 62:2372-4 S '40
Thermodynamic properties of the hexyl alcohols; 3-methylpentanol-1 and 2-methylpentanol-5. F. Hovorka, H. P. Lankelma and I. Schneider. bibliog Am Chem Soc J 62:1096-8 My '40
Thermodynamic properties of the hexyl alcohols; 2-methylpentanol-3 and 3-methylpentanol-3. F. Hovorka, H. P. Lankelma and A. E. Axelrod. bibliog Am Chem Soc J 62:187-9 Ja '40

HEXYNE
Catalytic hydration of acetylene and of some alkylacetylenes. R. E. Schaad and V. N. Ipatieff. bibliog Am Chem Soc J 62:178-80 Ja '40
Chlorides and hydrochlorides from 1-hexyne. G. F. Hennion and C. E. Welsh. Am Chem Soc J 62:1367-8 Je '40
Chlorination of 1-hexyne in reactive solvents. R. O. Norris and G. F. Hennion. Am Chem Soc J 62:449-50 F '40

HEYROVSKÝ, Jaroslav, 1890-
Sketch. H. S. Van Klooster. por J Chem Educ 17:101 Mr '40

HIBBING, Minnesota

Sewerage
New treatment plant. C. Foster. il plan Water Works & Sewerage 87:115-19 Mr '40

HIDES and skins
Hides prove erratic. Business Week p64-6 S 14 '40

HIDES and skins—*Continued*
Hides show gains. Business Week p51 Ap 20 '40
How about hides? Business Week p62+ N 16 '40
Latin American export problems. map Barron's 20:6 Jl 29 '40
Leather raw materials and national defense. E. G. Holt. For Comm W 1:97-9 O 19 '40
North American packer hides; production, preservation, protection, consumption. J. Price, jr. 113p $5 Pratt bros. co, 111 W. Jackson blvd, Chicago '39
Shoe and leather business in 1940. C. F. Danner. Comm & Fin Chr 150:500+ Ja 27 '40
See also
Leather

Prices

Evil days for hides. Business Week p40-1 Ag 17 '40

Statistics

Hides and skins, 1936-1939. Survey of Cur Business 1940 Sup p122 [supplemented in monthly numbers]
New York hide futures, 1939. Annalist 55: 150-1 Ja 25 '40
Production of calf and kip, goat and kid leathers, revision; monthly, 1923-June, 1940. Fed Res Bul 26:848 Ag '40
Production of cattle hide leathers, revision; monthly, 1923-June, 1940. Fed Res Bul 26: 847 Ag '40

HIGGINS, William, 1766-
Atomic hypothesis of William Higgins. E. R. Atkinson. bibliog J Chem Educ 17:3-11 Ja '40

HIGH buildings
Case for the skyscraper. H. N. Wright. Arch Forum 71:463-4 D '39
Le Corbusier considers the New York skyscraper. Arch Forum 72:98 F '40
Simplified wind-stress analysis of tall buildings. O. Gottschalk. diag Am Soc C E Proc 64:2023-32 D '38; Discussion. 65:729-30, 1081-6; 66:651-65 Ap, Je '39, Ap '40
See also
Empire State building
New York (city)—Rockefeller Center
Office buildings
Steel construction

HIGH frequency electric furnaces. See Electric furnaces, High frequency

HIGH POINT, North Carolina

Railroads

This track depression imposed severe drainage problem. il plans Ry Age 107:882-7 D 9 '39

HIGH school buildings. See School buildings

HIGH schools
Parker school district, of Greenville, S.C. expands facilities; broader program for high school and adult classes; training learners. il Textile World 90:56 My '40

Shop courses

First high school oil vocational course prepares graduates for oil jobs at Oil City, Pa. Nat Pet N 32:R100 Mr 20 '40
Helping schools help industry. W. W. Whipp. il Am Mach 84:493-4 Jl 10 '40

HIGH voltage phenomena
Radio-frequency high-voltage phenomena. A. Alford and S. Pickles. diags Elec Eng 59: Trans 129-36; Discussion. Trans 136-7 Mr '40

HIGH voltages
Dutch testing laboratory; high-voltage investigations; Kema association. il Elec R (Lond) 125:700 D 1 '39
High-voltage conductors; considerations affecting their arrangement. J. McCombe. il diags Elec R (Lond) 125:785-6 D 22 '39
High-voltage service testing with direct current. A. E. W. Austen, A. M. Thomas and S. Whitehead. Engineering 150:175-6 Ag 30 '40
Inexpensive power unit for high-voltage direct current. G. Welch and F. E. Blacet. il diag J Chem Educ 17:484-5 O '40
New high-voltage laboratory of the Bureau of standards. F. B. Silsbee. diag plan Elec Eng 59:238-40 Je '40
Recommendations for high-voltage testing. diag Elec Eng 59:Trans 598-602 O '40
Some features of an electrostatic generator and ion source for high voltage research. I. A. Getting, J. B. Fisk and H. G. Vogt. il diags Phys R 56:1098-1104 D 1 '39
Testing rubber gloves with high voltage d-c. R. W. Chadbourn and W. H. Meade. Edison Elec Inst Bul 8:235-9 My '40
Turbo-generators; high voltage generation. diags Electrician 124:325-6 Ap 26 '40
See also
Lightning
Lightning, Artificial

HIGHWAY accidents. See Automobile accidents; Roads—Safety devices and measures

HIGHWAY accounting
Equipment maintenance in Jackson county, Missouri; garage and shops; record system, etc. J. C. Black. il Roads & Sts 83:29-39 Ag '40

HIGHWAY administration
Equipment maintenance in Jackson county, Missouri; garage and shops; record system, etc. J. C. Black. il Roads & Sts 83:29-39 Ag '40
Governmental relationships, a committee report. Pub Works 71:41-3 F '40
Highway development in Illinois based on statewide planning survey. H. M. Ross. W Soc E J 44:253-9 O '39
Local roads and the highway program. M. C. Jones. In Ill U Eng Exp Sta Circ 41: 33-7 '40
Marginal land acquisition for highways. H. R. Briggs. plans Pub Roads 21:105-18 (bibliog p118) Ag '40
Planning the secondary road system. F. N. Barker. il In Ill U Eng Exp Sta Circ 41: 38-58 '40
Roads and the public. R. E. Harper. Can Eng R & B 78:58+ My '40
Roadside control through zoning. L. D. Tilton. il Civil Eng 10:11-14 Ja '40
Theory of highway costs and their allocation. E. D. Allen. J Land & Pub Util Econ 15: 269-76, 404-15 Ag-N '39
Trends in modern highway practice. M. D. Van Wagoner. il Civil Eng 10:291-4 My '40
See also
Highway departments
Roads—Finance

HIGHWAY departments
Directory, provincial highway officials; organization charts of nine provincial highway departments in Canada. Can Eng R & B 78:32+ Je '40
New gold for Oregon. H. B. Say. il Ptr Ink 190:17-20 Ja 19 '40
Organization chart, provincial highways department, Quebec. Can Eng R & B 78:58 O '40
Year of progress for the Quebec roads department. C. E. Lamarche. il Can Eng R & B 78:19-20 O '40

Employees

Safety by remote control; South Carolina highway department. T. D. Goodale and W. S. Smith. il map Nat Safety N 41:10-11+ Ap '40
Safety program for highway employees. T. D. Goodale and W. S. Smith. Roads & Sts 82:44-6 N '39
Saving money for Texas taxpayers; safety campaign among Highway department employees. J. Montgomery. il Nat Safety N 40:18-19+ D '39

Equipment

Equipment maintenance in Jackson county, Missouri; garage and shops; record system, etc. J. C. Black. il Roads & Sts 83:29-39 Ag '40

HIGHWAY departments—Equipment—*Cont.*
High speed highway lane marking with automatic device for dash lines. C. R. Waters. il Pub Works 71:34-6 My '40
How counties maintain highway equipment; survey. Pub Works 71:24+ My '40
Kelly-Creswell traffic striping machine of two color and three line operation. il Roads & Sts 83:91-2 S '40
Lane marking by broken lines placed automatically by regular paint striping machine. C. R. Waters. il Roads & Sts 82:37-8 D '39
New multiple-stripe road marker used by Nevada state highway department. il Comp Air M 45:6243 S '40
Organization and proper equipment are requisites of efficient winter maintenance. il Can Eng R & B 78:28 O '40
Round-table conference; keeping road construction and maintenance equipment in the most efficient operating condition. Can Eng R & B 78:29+ S '40
Shunk saw-tooth ice, snow and maintenance blade. il Pub Works 70:49 N '39
Special maintenance tools required; improvements already made and those desirable. T. H. Dennis. Can Eng 77:5-8 D 12 '39

Laboratories

Mobile soils laboratory; Maryland roads commission. G. H. Dent. il Roads & Sts 83:54+ F '40; Excerpts. Eng N 124:508-9 Ap 11 '40
Quebec Roads laboratory. J. B. Garneau and C. E. Beland. il Can Chem & Process Ind 24:419-20, 422, 424 Ag '40; Same. Can Eng R & B 78:15-17+ Ag '40

Public relations

Roads need publicity. E. W. Moeller. Can Eng R & B 78:89 Mr '40
Selling the highways to the public; West Virginia state roads commission. P. D. Olejar. il Roads & Sts 83:70+ F '40

HIGHWAY engineering
Accelerated settlement of embankments by blasting. A. W. Parsons. il diag Pub Roads 20:197-202 D '39
American road builders association annual meeting, Chicago; abstracts of papers. Eng N 124:316-17 F 29 '40
Axioms in roadway soil mechanics. H. C. Porter. Am Soc C E Proc 66:193-206 F '40; Discussion. V. J. Brown. 66:1339-40 S '40
Blasting through the Trans-Canada highway. P. A. Novikoff. il map Explosives Eng 18: 330-4 N '40
Building roads at $200,000 a mile: two Pennsylvania projects C. H. Vivian. il map Comp Air M 45:6275-9 N '40
Canada builds a superhighway; Queen Elizabeth Way. il Explosives Eng 18:264-6 S '40
Canada's first super-express highway is model of safety; Queen Elizabeth Way. il map Concrete 48:3-4 Ag '40
Channelization of motor traffic. G. Kelcey. diags Am Soc C E Proc 65:1649-73 D '39; Discussion. diag 66:557-62, 773-6, 1003-14, 1109-16, 1519-20 Mr-Je, O '40
Chicago builds a convertible roadway; elevating curbs on Lincoln Park express road. O. K. Jelinek. il diags Eng N 124:788-91 Je 6 '40
Colorado completes America's highest highway, up Mount Evans; with cost data. il Roads & Sts 82:37-9 N '39
Combining relief labor and modern machinery to construct high type roads; Chenango county, N.Y. B. J. Scanlon. il Pub Works 71:11-13+ Mr '40
Concrete pavements as built in the province of Quebec. D. O. Robinson. il Can Eng R & B 78:22-3 O '40
Construction progress on the Pennsylvania Turnpike. J. K. Knoerle. il Civil Eng 10: 137-41 Mr '40
Dangerous curves behind; North Carolina rebuilds an obsolete section of important state highway. J. S. Burch. il Roads & Sts 83:41-4 Mr '40
Deepest Wisconsin road cut between Hazel Green and U.S. route 61. il Roads & Sts 82: 58+ D '39
Design features of the Pennsylvania Turnpike. S. W. Marshall. Pub Works 71:39 F '40
Design features; Pennsylvania Turnpike. C. M. Noble. il layout Civil Eng 10:437-40 Jl '40
Design of Stoney Creek traffic circle. F. S. Hutton. il Can Eng R & B 78:18-19+ Jl '40
Developments in engineered asphalt design indicate future road economies. B. E. Gray. il Roads & Sts 83:75, 78-9, 82-3 Ja '40
Divided highway design. il diags Eng N 123: 816-19; 124:318-21, 380-4 D 21 '39, F 29, Mr 14 '40
Dual highways improves access to New London. il Eng N 125:250-1 Ag 22 '40
Efficient organization and good management feature Jefferson County highway work. il Pub Works 71:14-16 Jl '40
Embankment compaction control as practiced by Ohio. H. G. Sours and C. H. Shepard. il Roads & Sts 82:29-33 N '39
Embankment control in powdery magnesia soil; controlled compaction, South Dakota; with cost data. R. K. Morrell. il diags Roads & Sts 53:48+ S '40
Engineering approach to the design of highway intersections. J. Barnett. diags Pub Works 71:22-4, 26-7 Ag '40
Engineering news-record annual highway number. il maps Eng N 124:87-126 Ja 18 '40
Explosives carve highways in our last frontier. A. Muncaster. il Explosives Eng 18: 166-70 Je '40
Express road systems. R. M. Smith. il Can Eng R & B 78:19-21+ Ag '40
Geology for civil engineers, as related to highway engineering. D. G. Runner. 299p $5 Gillette pub. co, Chicago '39
Grade, right-of-way and alignment. R. G. Browning. il Can Eng R & B 78:23-4, 44, 46+ Jl '40
Gulf Coast road being rebuilt as a dual highway. il plan Eng N 125:351-2 S 12 '40
Highway design and construction as a factor in accidents. S. S. Williams. Can Eng R & B 78:81-3 F '40
Highway design trends in the western states; with special reference to Colorado. C. D. Vail. diags Civil Eng 10:567-70 S '40
Highway fills over swamps settled quickly by dynamite. il Concrete 48:5 S '40
Highway investigation by means of induced vibrations. R. K. Bernhard. il diags Penn. State College, Eng Exp Sta Bul 49:1-29 bibliog(p27-8) '39 (pa 50c)
Interregional highways. P. G. Hoffman and others. il maps Roads & Sts 83:35-62 Ja '40
Iowa road carved through loess bluffs. il diag Eng N 125:277-9 Ag 29 '40
Lakefront freeway speeds Cleveland traffic. il map Eng N 124:494-7 Ap 11 '40
Low-cost roads in Kansas. R. B. Wills. il Civil Eng 10:520-2 Ag '40
Metropolitan highway problems. L. I. Hewes. il Civil Eng 9:715-18 D '39
Minneapolis belt line highway development; WPA project. il Pub Works 71:20-1+ O '40
Modern contracting practices. H. W. Richardson. il Can Eng R & B 78:20-2+ F '40
Modern earth-moving; machines, methods and management. F. A. Nikirk. Can Eng R & B 78:14-16+ Je '40
Modern excavating methods employed in the construction of the Pennsylvania Turnpike. il map Can Eng 77:2-4+ D 12 '39
Moving earth at 2½c. per yard by hydraulic sluicing; highway between Weaverville and Junction City, Calif. Eng N 123:754 D 7 '39
New Monarch Pass highway in Colorado. D. W. Ormsbee and J. S. Marshall. il map Civil Eng 10:693-5 N '40
New 69-mile Everglades highway. il diag map Eng N 125:270-2 Ag 29 '40
New York builds mountain highway to bypass old Storm King road. il diag map Eng N 125:415-17 S 26 '40

HIGHWAY engineering—*Continued*
North Dakota uses stabilized gravel base under bituminous mat; with cost data. Z. E. Sevison. il diags Roads & Sts 83:36-9 S '40
Nothing shall be permitted to stop work; a review of activities of the Pennsylvania Turnpike commission. S. W. Marshall and others. il diags plan Roads & Sts 83:33-82 Je '40
Ohio's first cloverleaf; grading operations on project in Cuyahoga county. T. J. Kauer. il map Roads & Sts 83:35-9 Ap '40
Ontario good roads association convention, Toronto, Feb. 21-22. Can Eng R & B 78: 13-17+ Mr '40
Papers presented at the twenty-seventh annual conference on highway engineering held at the University of Illinois, March 6-8. il diags Ill U Eng Exp Sta Circ 41: 3-130 '40 (pa 50c)
Pavement design. C. N. Conner. Can Eng R & B 78:68, 70+ Ap '40
Pennsylvania Turnpike. B. Nordberg. il map Rock Prod 43:33-50 S '40
Pennsylvania Turnpike; longest toll superhighway in the United States. H. H. Allen. il diags map Civil Eng 10:79-82 F '40
Pennsylvania's dream highway. J. C. Cosgrove. il map Explosives Eng 18:41-50 F '40
Pineapple highway, Lanai island. J. Terry. il Roads & Sts 83:78+ Mr '40
Planning the Pennsylvania Turnpike. S. W. Marshall. il Civil Eng 10:337-9 Je '40
Progress in pavement construction. A. A. Anderson. il Can Eng R & B 78:11+ My '40
Published proceedings of the Highway conference held in Knoxville, March 14-15, 1940. bibliog il diags Univ of Tenn Record v 43, no 4:1-71 '40
Quebec's three-year program. E. Gohier. il diags maps Can Eng R & B 78:18-21+ My '40
Railroadbed highway; super-highway across Pennsylvania. F. E. Wood. il map Sci Am 162:270-1 My '40
79% of county roads are built by force account; results of survey. il Pub Works 71:9-11+ My '40
Snow drift control by highway design; result of wind tunnel investigations. E. A. Finney. il Roads & Sts 83:45-8 Mr '40
Soil science applied to the construction of embankments. C. E. Beland. Can Eng R & B 78;28, 79-81 Ap '40
Speed in paving methods as exemplified by Pennsylvania Turnpike. S. W. Marshall. il diag Can Eng R & B 78:23-6+ S '40
Symposium on standards for secondary roads. H. E. Surman and others. In Ill U Eng Exp Sta Circ 41:59-71 '40
Technical specification for earthworks for German motor roads. C. Schnell and K. H. Hartmann. Pub Works 71:18 Ja '40
Terracing of deep cuts; rerouting of highway no. 127, Iowa. il Can Eng R & B 78: 22+ S '40
Toronto's western approach. V. S. Murray. il map Can Eng R & B 78:14-17+ My '40
Traffic channelization methods. G. Kelcey. il diags Civil Eng 10:645-8 O '40
Trans-Canada highway. W. B. Hutcheson. il map Can Eng R & B 78:69-70 Ja '40
Treatments prevent slides and slipouts in California. O. J. Porter. il diags Roads & Sts 83:57-9+ Ap '40
Trends in modern highway practice. M. D. Van Wagoner. il Civil Eng 10:291-4 My '40
Variable construction methods on twelve mile project; relocation of about 12 miles of Pacific highway. V. J. Brown. il diags Roads & Sts 83:29-37 O '40
Vast Quebec area opened up by new highway; Senneterre-Mont Laurier highway. A. Bergeron. il map Can Eng R & B 78:24-5+ O '40

See also
Bridge design
Bridge engineering
Bridges
Highway research
Mountain roads
Pavements
Roads
Roads, Elevated
Streets

Study and teaching
Summary of report of the committee on teaching highway engineering and highway transportation; S.P.E.E. annual meeting, State College, Pa. June, 1939. M. W. Furr. J Eng Educ 30:519-21 Ja '40

Tables, calculations, etc.
Paving areas at intersections. V. M. Wann. Eng N 123:711 N 23 '39
Rectangular coordinate graph method used to design aggregate-soil mixtures for stabilized road surfaces. H. E. Worley. Roads & Sts 83:70, 72, 74 My '40
Reducing cross-section notes on highway construction. C. B. Potts. Civil Eng 10:172-3 Mr '40; Discussion. 10:311, 530, 596 My, Ag-S '40
Stresses under a loaded circular area. L. A. Palmer. diags Pub Roads 20:231-7 F '40

Terminology
Laboratory testing terms and methods of test. D. G. Runner. diags Roads & Sts 83: 70, 72 O; 78+ N '40

HIGHWAY engineers
Salary study made for Arizona engineers in employ of Highway department. Eng N 124: 471-2 Ap 4 '40
Some personalities on the engineering work of the Pennsylvania Turnpike, pors Roads & Sts 83:78, 80, 82 Je '40

HIGHWAY finance. See Roads—Finance

HIGHWAY inspection
Duties of a concrete inspector. C. R. Kendall. Can Eng R & B 78:60+ Ap '40

HIGHWAY law
See also
Automobile laws and regulations
Highway administration
Motor bus lines—Laws and regulations
Motor trucks—Laws and regulations
Motor vehicles—Law
Right of way
Traffic regulations

HIGHWAY lighting. See Roads—Lighting

HIGHWAY officials

Directories
Directory of Canadian municipal officials, counties, townships, cities and towns. Can Eng R & B 78:51-2+ Je '40

HIGHWAY research
Aims and activities of the Joint highway research project. K. B. Woods. il diags map Purdue Univ Eng Exp Sta, Research Ser 71:1-79 '40
British road research; annual report. Roads & Sts 83:86+ Mr '40; Same cond. Chem & Ind 59:91-2 F 10 '40
Essential features of triaxial shear tests; use of stabilometer and other apparatus. C. A. Hogentogler and E. S. Barber. il diags Am Soc T M Proc 39:1028-45 bibliog(36 titles, p1044-5) '39; Same. Pub Roads 20:133-44, 153-4 S '39
Experimental work on roads; report for 1938-39 of the Experimental work on highways (technical) committee. Engineering 148:693-4 D 22 '39
Experiments with continuous reinforcement in concrete pavements. E. C. Sutherland and S. W. Benham. bibliog il diags Pub Roads 20:205-14, 218-19 Ja '40
For better roads; studies of present highways. T. H. MacDonald. il Sci Am 162: 344-6 Je '40
Oregon plans expansion joint study. C. B. McCullough. diags Eng N 125:168-9 Ag 1 '40
Progress in study of motor-vehicle passing practices. O. K. Normann. diags Pub Roads 20:221-7+ F '40
Road research shows high activity; 19th annual convention of the Highway research board, Washington, D.C. Eng N 123:801-2, 834-6 D 14-21 '39
Sample of data obtained in study of motor-vehicle passing practices in Illinois. F. N. Barker. il Pub Roads 20:228-30 F '40

HIGHWAY research—*Continued*
Snow drift control by highway design; result of wind tunnel investigations. E. A. Finney. il Roads & Sts 83:45-8 Mr '40; Abstract. Pub Works 71:29-30 Je '40

See also
Highway departments—Laboratories

HIGHWAY transportation
Farmer and the highways. F. Johnson. Am Pet Inst Proc 20(AT):34-7 '39
Highway barriers and the need for cooperation in their removal. C. H. Gray. Am Pet Inst Proc 20(AT):45-7 '39
Ickes lashes trucks as monsters, urges weekend ban; A.T.A. replies. Nat Pet N 31:20 N 22 '39
Magic motorways. N. B. Geddes. 297p $3.50 Random house, 20 E. 57th st, New York '40
Motor transport, Great Britain. E. C. Ottaway. bibliog diags Inst Mech Eng J & Proc 142:Proc33-68, pl 1-8 N '39; Same cond. Engineer 169:236-8, 253-4, 286-8 Mr 8-22 '40; Excerpts. Engineering 149:47-9 Ja 12 '40; Discussion. Inst Mech Eng J & Proc 142: Proc82-3 D '39
Problems of the highway user in the United States. F. C. Horner. Inst Mech Eng J & Proc 142:Proc 113-25 D '39
Road cost study for Vermont. C. B. Breed. Ry Age 108:788-9 My 4 '40
Road transport and the national economy. D. F. Brisbine. Am Pet Inst Proc 20(1): 45-52 '39

See also
Automobiles and roads
Highway engineering
Motor bus lines
Motor trucks in freight service
Motor vehicles
Railroads—Motor vehicle auxiliaries
Road traffic
Roads
Street traffic
Trailers

HILL, Charles S.
Veteran editor retires from Engineering news-record. por Eng N 124:935 Je 27 '40

HILLMAN, Sidney, 1887-
Can NLRB veto defense contract? Business Week p15 O 12 '40
Insurgent becomes labor's man of the hour. por Business Week p31 Je 8 '40
Labor army marshaled for defense. Business Week p45-8 Je 22 '40
Manpower and Mr Hillman; load of national defense being adjusted to make best use of available skills and to absorb the unemployed. por Fortune 22:66-70+ N '40

HILLSIDE architecture
Hillside apartment group serviced by a funicular-elevator. il diags plans Arch Rec 86:41-3 D '39
Hillside houses. il diags plans Arch Rec 88: 57-68 O '40
House in Hillsborough, Calif.; views, plans, and construction outline. Arch Forum 73: 190-1 S '40
House in Los Angeles; views, plans and construction outline. Arch Forum 72:262-3 Ap '40
House in Salt Lake City, Utah; modern type with sliding windows and panels and reversed arrangement of living and sleeping floors, result of sloping site; views, plans and construction outline. Arch Forum 72: 280-1 Ap '40
House on a steep hillside in Oregon. il diags plans Arch Rec 87:50-1 Ja '40
House that fits site and a budget; $7000 hillside home at El Cerito, Calif. il plan Arch Rec 87:59 F '40
House tops a hillside with a view; Portland, Ore. il diag plan Arch Rec 87:56-8 F '40
House with split-level plan near Portland, Ore. il diag plans Arch Rec 87:64-5 Ap '40
Located to exploit view, catch summer winds: on a bluff high above the Mississippi river at Burlington, Iowa. il plans Arch Rec 88: 58-60 Ag '40
Shangri-La, house, Long Beach, Indiana; views, plans, construction outline. Arch Forum 72:33-7 Ja '40

HILO, Hawaii
Bridges
Wailuku River bridge. H. A. Ciuñi. il diag Civil Eng 10:87-9 F '40

HILTON-DAVIS chemical company
Common stock offered. Comm & Fin Chr 151: 1723-4 S 21 '40

HIRMAN, Arthur
Career out-Algers Horatio. E. L. Roney. Weekly Underw 143:1021 N 2 '40

HIRSHFELD, Clarence Floyd, 1881-1939
John Fritz medal awarded. J. W. Parker. Mech Eng 62:49-50 Ja '40
Posthumous award of the John Fritz gold medal. Science 90:460 N 17 '39; Elec W 112: 1454 N 18 '39

HISTAMINE
Histamine release from blood cells in anaphylaxis in vitro. G. Katz. Science 91: 221 Mr 1 '40
Relationship of histamine to anaphylaxis in the rabbit. C. A. Dragstedt, M. Ramirez de Arellano and A. H. Lawton, bibliog Science 91:617-18 Je 28 '40
Use of histamine in allergy. Science 91:sup10 My 10 '40

HISTIDINE
Reaction of formaldehyde with amino acids: X-ray diffraction patterns. A. K. Smith, P. Handler and J. N. Mrgudich. bibliog il J Phys Chem 44:874-80 O '40
Resonance and the chemistry of histidine. T. L. Hill and G. E. K. Branch. Science 91: 145-6 F 9 '40

HISTOPLASMOSIS
Systematic histoplasmosis in the United States. J. D. Reid, J. H. Scherer and H. Irving. Science 91:264 Mr 15 '40

HISTORIC houses, etc.
Old homes and gardens of North Carolina. Mrs C. A. Cannon, Mrs L. A. Cotten and Mrs J. E. Latham, comps. 34p, 100 pl $10 Univ. of North Carolina press, Chapel Hill '39
Some historic houses; their builders and their places in history. J. C. Fitzpatrick, ed. 160p $4 Macmillan '39

HISTORICAL atlases
Atlas of current affairs. J. F. Horrabin. 7th ed rev 149p $1.50 Knopf '40

HISTORY
See also
Civilization
Economic history

Bibliography
International bibliography of historical sciences; twelfth year, 1937. 499p pa $9.90 for sale by Wilson, H.W. '39
World list of historical periodicals and bibliographies. P. Caron and M. Jaryc, eds. 391p $6.75; pa $6 for sale by Wilson, H.W. '39

Philosophy
Historian and scientist; an essay on the nature of history and the social sciences. G. Salvemini. 203p $1.75 Harvard univ. press '39
Materialist conception of history. K. Federn. 263p $3.50 Macmillan '39

HITLER, Adolf
Hitler and I. O. Strasser. 249p $2.50 Houghton '40
Who Hitler is. R. C. K. Ensor. 31p pa 15c Farrar '39
World as Hitler wants it. Business Week p64 O 5 '40

HIWASSEE dam. See Dams—Design

HJORTH, Sören, 1801-1870
Early electrical pioneers. G. Windred. Engineering 149:274-5 Mr 15 '40

HOBBIES
Avocational interest patterns; a study in the psychology of avocations. D. E. Super. 148p bibliog(p137-48) $2.25 Stanford univ. press '40
Compensations for days of retirement; occupations and diversions for retired engineers. R. Fleming. Civil Eng 10:77-8 F '40

HOBBIES—*Continued*
Constructional activities of adult males. W. V. Nestrick. 128p bibliog(p93-5) $1.60 Teachers college '39
He collects fuses. G. E. Hawkins. il Power Pl Eng 44:55 N '40

HOBBING
Change-gears for helical-gear hobbing. R. H. Stout. Mach 46:134-6 Mr '40
Hobbing molds in the General Electric plastics department. C. O. Herb. il Mach 46: 87-91 F '40
Precision gear hobbing. C. R. Staub. diags Iron Age 145:45-7 Ja 18 '40

HOBBING machines
Barber-Colman standard and precision hobbing machines. il Mach 47:181 N '40
Combined hydraulic and electric drives; Barber-Colman type V vertical hobber. il diags Product Eng 11:248-50 Je '40
18-ft. double-headed universal gear-hobbing machine. diags Engineering 149:498-500, 504, 577-8, pl 26, 32 My 17, Je 14 '40
Gould and Eberhardt worm hobbing machine. il Automobile Eng 30:38-9 F '40

HOBLER, Atherton W.
Portrait. Business Week p46 My 25 '40

HOBS
Barber-Colman automatic hob-sharpening machine. il Mach 46:175 Ap '40; Am Mach 84:221 Ap 3 '40; Automotive Ind 82:280-1 Mr 15 '40; Automobile Eng 30:125-6 Ap '40
Coulter semi-automatic hob thread-milling machine. il Mach 46:177 Ap '40
Michigan hob-checking fixture. H. E. Blank, jr. il Automotive Ind 83:505 N 1 '40

HOFFMAN, Paul Gray, 1891-
Meet Mr Hoffman; president of Studebaker corp. A. St John. por Barron's 20:9 Jl 8 '40

HOFMANN, Karl Andreas, 1870-
Zur entwicklung des chemischen lehrbuches; K. A. Hofmann zum 70. geburtstag. R. Schwarz. por Angew Chemie 53:133-5 Mr 30 '40

HOGAN, John Philip, 1881-
Honorary degrees conferred by New York university. Science 91:566 Je 14 '40
Sketch. por Civil Eng 9:748-9; 10:115-16 D '39, F '40

HOISTING
How concrete is hoisted on house construction. L. J. Pond. il Concrete 48:7-8 F '40
Self-locking tongs for heavy materials handling. il diags Comp Air M 45:6291 N '40

See also
Mine hoisting

Tables, calculations, etc.

Angular effect of double slings. C. O. Hagen. Am Mach 83:1089-90 D 27 '39
Lifting capacity of tackle. Can Min J 61:643 O '40
Wire rope tackle blocks; ratio of lead pull to load when lifting and ratio of lead retarding force to load when lowering; reference book sheet. A. V. Rasmussen. Product Eng 11:145-6 Mr '40

HOISTING machinery
America's first book exclusively for the hoisting and portable engineer [200 hoisting and erecting questions and answers]. D. J. Newman. 48p pa $2 D. J. Newman, 103 Russell av, Buffalo, N.Y. '40
Delaware aqueduct; hoisting equipment in tunneling. il diags Eng N 125:420-1 S 26 '40
Lift worm reduction gear with back gearing. il Engineer 169:312 Mr 29 '40; Mech Handling 27:87 Ap '40
Maintenance of wire ropes on lifts and hoists. J. B. Booth. Mech Handling 26:326-7 N '39
Safety rear-engine hoist; Cincinnati street railway shop. il Mass Transportation 36:88 Ap '40
Sheave design and wire rope economy. F. L. Spangler. il Eng N 124:15-18 Ja 4 '40
Sullivan pistonair reversible single-drum hoist. il diags Engineering 149:265 Mr 8 '40
Wire rope for construction. il Eng N 124: 734-40 My 23 '40

See also
Cableways
Chains
Conveying machinery
Cranes, derricks, etc.
Elevators
Lifting magnets
Mine hoisting
Ore handling
Wire rope

Safety devices and measures

Mechanical equipment; handling material. il Nat Safety N 41:56-9 Mr '40
Suspended loads; right type of chain. H. A. Delano. il Nat Safety N 42:16-17+ Jl '40
Wire rope inspection. W. E. Rossnagel. il Power Pl Eng 44:72 Mr; 72-3 My '40

HOISTING machinery, Electric
Bolts and nuts; mechanical handling facilities; Lamson & Sessions co. F. B. Jacobs. il Steel 107:52, 55+ O 21 '40
Electric drive for ordinary construction jobs; simple hoists for cable-operated scrapers. G. H. Hall. il Eng N 124:659-62 My 9 '40

See also
Mine hoisting, Electric

HOLDEN, Hale, 1869-1940
Sketch. por Ry Age 109:439+ S 28 '40

HOLDING companies
American gas & electric co. integration hearings open. Elec W News ed 113:351-2 F 3 '40
Holding corporations and amalgamations; forming a British gas grid system. F. R. G. Grant. Gas J (Lond) 231:35 Jl 3 '40
Preferred stock arrears utility and SEC problem. Elec W 112:1612 D 2 '39
Public utility holding company common stocks. J. T. Madden and J. Backman. J Business 13:213-33 Jl '40
SEC ready to proceed on utility integration. E. D. White. Elec W 112:1751-2 D 16 '39
SEC sees integration aiding utility industry. J. N. Frank. Elec W News ed 113:1133-5 Ap 13 '40; Abstract. Pub Util 25:614-16 My 9 '40

See also
American gas and electric company
American water works and electric company
Associated gas and electric corporation
Columbia gas and electric corporation
Commonwealth and southern corporation
Electric bond and share company
Electric power and light corporation
North American company
Omnibus corporation
United gas improvement company

Accounting

Holding companies and consolidation statements. M M. Lindsay. 199p $3 Bentley school of accounting and finance, Boston '39

Finance

American power and light company. Pub Util 25:355-7 Mr 14 '40
Assets behind Standard Gas & Electric bonds. J. F. Childs. Barron's 20:19 Ap 1 '40
Cities service power & light co.'s assets. J. F. Childs. Barron's 20:19 My 20 '40
Commonwealth & Southern faces recapitalization problem. J. F. Childs. map Barron's 20:18 Mr 18 '40
Continental Gas & Electric assets valued. J. F. Childs. Barron's 20:19 Je 10 '40
Electric bond and share company investments. Pub Util 25:415-19 Mr 28 '40
Electric Bond & Share's assets appraised. J. F. Childs. Barron's 20:20 My 6 '40
Engineers public service company assets and finances. Pub Util 25:608-9 My 9 '40
Engineers Public Service depends on two units. J. F. Childs. map Barron's 20:38-9 Ja 15 '40
Industrial utility system; American gas & electric co. H. W. Witt. map Barron's 20: 8 Ja 22 '40
Integrated utility system; status under Holding company act. J. F. Childs. map Barron's 20:9 Mr 4 '40

HOLDING companies—Finance—*Continued*
Integration plan and a recapitalization plan for the parent company. map Pub Util 26: 420-3 S 26 '40
Large assets behind UGI stock. H. W. Witt. map Barron's 20:13 Mr 11 '40
National power & light company; liquidating value of principal investments based on 1939 earnings. Pub Util 25:802-4 Je 20 '40
Nationwide utility system; American Power & Light. map Barron's 20:8 F 19 '40
Natural gas and electric system; status of Columbia gas & electric corp. under Holding company act appears favorable. W. W. Amos. Barron's 20:8-9 F 26 '40
Need for recapitalizing many utility holding companies shown in SEC report. Comm & Fin Chr 149:3347 N 25 '39
Public utilities; comparative income accounts, 1937-39 Mag of Wall St Manual p21-2 Mr 2 '40
SEC issues analysis of 188 operating electric and gas utilities in 37 holding company systems. Comm & Fin Chr 150:3903-4 Je 22 '40
SEC publishes 10-year survey of financial statistics for 188 operating electric and gas subsidiaries of registered holding companies. Comm & Fin Chr 151:929 Ag 17 '40
Speculative factors in National power and light co. J. F. Childs. map Barron's 20:20 F 12 '40
Standard gas and electric co. to meet the requirements of paragraph 11. Pub Util 25: 548-51; 26:37-8 Ap 25, Jl 4 '40
Strongly buttressed holding company; North American co. J. F. Childs. map Barron's 20:7 Ja 29 '40
United Gas Improvement; estimated liquidating value of investments. O. Ely. Pub Util 26:354-6 S 12 '40
Utility values that will stand with table of approximate asset values of 11 leading holding companies with earnings and redemption prices. F. C. Fullerton. il Mag of Wall St 65:802-5+ Ap 6 '40
Values behind holding company debentures; North American light & power co. W. W Amos Barron's 20:19 Jl 1 '40
Wendell L. Willkie denies statement by Senator Norris that Commonwealth and southern corp. evaded spirit of Holding company act in stock sale of Consumers' power co. Comm & Fin Chr 149:3483 D 2 '39

Laws and regulations

Amendments to four rules dealing with exemptions under Holding company act adopted by SEC. Comm & Fin Chr 149:3188 N 18 '39
American & foreign power co., inc.; SEC grants company wide exemptions from Holding company act. Comm & Fin Chr 149:4164-5 D 30 '39
Columbia gas and electric system and paragraph 11. O. Ely. maps Pub Util 26:227-30 Ag 15 '40
Contiguous states under the Holding company act. Gas Age 86:26 S 26 '40
Diversity versus integration C. W. Kellogg. Edison Elec Inst Bul 8:195-6 My '40
Dividends v. depreciation; proposed SEC ruling for holding companies. Pub Util 25: 479-80 Ap 11 '40
Geographical integration interpretation sought. Elec W News ed 114:315 Ag 3 '40
Integration and public utility investors. J. N. Frank. Pub Util 26:35-7 Jl 4 '40
Integration defined; it's disintegration. Business Week p17 Je 15 '40
Integration developments. Pub Util 25:740-3 Je 6 '40
Managerial suicide; alternative to death sentence is to release control of subsidiaries to senior security holders. W. D. Gay. Pub Util 25:707-18 Je 6 '40
Middle West as test case for holding company integration. map Pub Util 26:162-3 Ag 1 '40
Moving pictures to show method used in determining observed depreciation; shown by American Gas & Electric system; presentation of its integration case before the SEC. Edison Elec Inst Bul 8:404+ Ag '40
Registered holding companies prohibited under new SEC rule from extending credit and making loans to associate companies without commission's approval. Comm & Fin Chr 150:616 Ja 27 '40
Regulation of dividend distribution under the Holding company act. Pub Util 25:237-40 F 15 '40
Responsibility of ownership; argument against geographic integration of utilities. C. W. Kellogg. Mag of Wall St 66:287 Je 15 '40
Section 11 of the Public utility holding company act. R. E. Healy. Pub Util 26:616-27 O 24 '40
SEC favors single integrated system. Pub Util 25:610-11 My 9 '40
SEC integration starts; proceeding under Holding company act. Comm & Fin Chr 150: 1360-1 Mr 2 '40
SEC issues nine show cause orders; with maps of holding company systems cited for integration programs. Pub Util 25:485-90 Ap 11 '40
SEC prepares to make little ones out of big ones; talk with Chairman Jerome N. Frank on integration and diversification. H. Corey. Pub Util 26:141-8 Ag 1 '40
SEC respects state jurisdiction over local utility securities. J. N. Frank. Pub Util 26:259-71 Ag 29 '40
SEC sifts integration proposals of utilities. Elec W News ed 113:1594 My 25 '40
SEC splits on advice for utility integration. Elec W 113:2059 Je 29 '40
SEC will shortly start integration proceedings in case of utility holding companies. J. N. Frank. Comm & Fin Chr 150:776 F 3 '40
Shadow-boxing on the integration issue. O. Ely. Pub Util 25:673-5 My 23 '40
Short cut towards utility holding company reorganization; earning power in valuation. M. L. Sindeband. Pub Util 25:515-26 Ap 25 '40
Simplified procedure for handling declarations and applications regarding financial transactions under Holding company act announced by SEC. Comm & Fin Chr 151: 185 Jl 13 '40
Slow death sentence; integrated utility system not yet defined. Business Week p28-9 N 25 '39
That integration puzzler; Holding company act period of grace thought to be nearing its end. E. C. Sandmeyer. Pub Util 25:259-69 F 29 '40
Two systems challenge legality of utility act; Commonwealth & Southern and Electric Bond & Share. Elec W News ed 113: 1450 My 11 '40
United gas improvement co.; death sentence action invoked by SEC. Comm & Fin Chr 150:1619-20 Mr 9 '40
Utilities expect new SEC squeezes; A.G. & E. bankruptcy proceedings and recent Consumers Power case set precedents. Business Week p18+ Ja 20 '40
Utilities map death sentence fight; SEC demands action on integration. maps Business Week p24-6 My 25 '40
Utilities seek extension to file integration plans. Elec W 113:1217 Ap 20 '40

See also
Securities and exchange commission

Management

Managerial suicide; alternative to death sentence is to release control of subsidiaries to senior security holders. W. D. Gay. Pub Util 25:707-18 Je 6 '40

HOLDING devices (machine work)

See also
Chucks
Clamps

HOLIDAYS
Red letter days; a book of holiday customs. E. H. Sechrist. 252p bibliog(p241-4) $2 Macrae Smith co, 1712 Ludlow st, Philadelphia '40
Why we celebrate our holidays. M. I. Curtis. 153p 80c Lyons & Carnahan, Chicago '39

See also
Bank holidays
Vacations

HOLLAND. See Netherlands

HOLLAND'S (periodical)
Holland's-sponsored Southern institute for town service. il Sales Management 46:60 Ja 15 '40

HOLLINGWORTH, Leta S. 1886-1939
Sketch. A. I. Gates. Science 91:9-11 Ja 5 '40

HOLLOW tile
Data on heating and sheet metal; typical base wall of hollow tile above grade, stucco exterior. A. M. Daniels. diag Sheet Metal Worker 31:62 My '40
Getting large tonnage of hollow tile in new tunnel kiln; New Jersey clay products co. il diag Brick & Clay Rec 95:14-16 D '39

Manufacture

Speed of your auger affects the quality of your ware. J. G. Seanor. Brick & Clay Rec 97:20-1+ Jl '40

HOLLY
Holly defoliation prevented by a-naphthaleneacetic acid. J. A. Milbrath and H. Hartman. Science 92:401 N 1 '40

HOLLY sugar corporation
Earnings, years ended March 31, 1938-40. Comm & Fin Chr 150:3662 Je 8 '40

HOLLYWOOD, California
Hollywood misses cue; La Guardia's efforts to lure picture industry back to New York. Business Week p24 D 16 '39

HOLMES, Joseph Austin, 1859-1915
First director, Bureau of mines; portrait. U S Bur Mines Bul 421:2a '40

HOLMES safety association
Joseph A. Holmes safety association and its awards. D. Harrington, L. Pedlow and A. P. Brown. pls U S Bur Mines Bul 421:1-121 '40
Mines awarded honor certificates by Joseph A. Holmes safety association. Min Cong J 26:36 Je '40

HOLOCELLULOSE
Holocellulose in wood; TAPPI tentative standard T 9 m-40. Paper Tr J 110:27 My 30 '40
Papermaking properties of holocellulose. H. H. Houtz and E. F. Kurth. bibliog Paper Tr J 109:38-41 D 14 '39
Relation of lignin content to the strength of paper and boards; preparation of pulps of different lignin content by chlorine dioxide. C. V. Holmberg and E. C. Jahn. bibliog Paper Tr J 111:33-6 Jl 4 '40
Yield and viscosity of holocellulose and some of its cellulosic fractions. W. G. Van Beckum and G. J. Ritter. bibliog Paper Tr J 109:107-9 N 30 '39

HOME

See also
Family

HOME clinic plan. See Architects—Home clinic plan

HOME economics
Functioning program of home economics. I. Spafford. 469p bibliog(p444-9) $3 Wiley '40
Home economics and the college student; an introductory college course. H. M. Carter. 372p $2.50 Farrar '40
Standards for circulation; time-and-motion economy within the house. il diag plans Arch Rec 87:106-7 Mr '40

See also
Budget, Household
Cost of living
Food
Fuel
Furniture
Heating
Hotels—Management
Interior decoration
Kitchens
Servants

Bibliography

Abstracts of studies in home economics education, 1934-1938; home economics education, September 1938. U S Office of Educ Misc 2114:1-43 '38

HOME labor
Employer convicted of evading New York home-work law. Monthly Labor R 50:1438 Je '40
Home workers granted decree against 11 knit-goods concerns; minimum pay of 25 cents an hour must be paid. Comm & Fin Chr 149:3352-3 N 25 '39
Homework in the artificial flower and feather industry in New York state. New York (state) Dept of Labor Special Bul 199:1-109 '38
Industrial homework; an analysis of homework regulation, here and abroad. R. E. Shallcross. 257p bibliog(p237-54) $2.75 Industrial affairs pub. co, 1819 Broadway, New York '39
Regulation of home work in Uruguay. Int Labour R 42:132-3 Ag-S '40

HOME life insurance company of America
Historical sketch. T. Eagan. il Spectator (Life ed) 145:14+ S 26 '40

HOME life insurance company of New York
Annual report. East Underw 41:3 F 2 '40

HOME loan banks
Annual report of Federal home loan bank of New York. Comm & Fin Chr 150:765-6 F 3 '40
Assets of members of FHLBS increased $145,000,000 in second quarter of 1940. Comm & Fin Chr 151:1070 Ag 24 '40
Chairmen and directors appointed. Comm & Fin Chr 150:931 F 10 '40
Federal home loan bank board, loans outstanding, by institutions, monthly, Nov. 1938 to Nov. 1939. Fed Res Bul 26:44 Ja '40 [cont monthly]
Federal home loan banks paid dividends of $1,988,038 on capital stock in 1939. Comm & Fin Chr 150:766 F 3 '40
Member institutions hold assets of nearly $5,000,000,000; system completes eight years of operation. Comm & Fin Chr 151:2284, 2285 O 19 '40
New legislation permits RFC to acquire stock of Federal home loan banks. Comm & Fin Chr 151:309-10 Jl 20 '40
New York home loan bank had 158 insured savings institutions with $265,481,000 assets in 1939. Comm & Fin Chr 150:1353 Mr 2 '40
Toward an understanding of the Federal home loan bank system. M. Bodfish. bibliog J Land & Pub Util Econ 15:416-37 N '39

HOME loans. See Building loans; Home owners' loan corporation

HOME office life underwriters' association
Annual meeting, New York, Nov. 15-17. Ins Field (Life ed) 68:11 N 17 '39; Spectator (Life ed) 143:12 N 23 '39; Weekly Underw 141:1093 N 18 '39
Spring meeting, Chicago. East Underw 41:13 My 24 '40; Nat Underw (Life ed) 44:3+ My 24 '40

HOME owners' loan corporation
Address at convention of NAIA. F. W. Hancock, jr. Spectator (Property ed) 6:20 S 19 '40
Brief filed by Stock company association in N.Y. answers HOLC contract objections. East Underw 41:25 O 18 '40; Ins Field (Fire ed) 69:7+ O 17 '40; Nat Underw 44:3+ O 17 '40
Commissioners study brief of Stock company association regarding HOLC contract. Weekly Underw 143:1015 N 2 '40
Full efficiency for '41. W. H. Bennett. East Underw 41:26 S 20 '40; Same. Spectator (Property ed) 6:34, 48 S 19 '40; Same. Weekly Underw 143:647+ S 21 '40
Fully guaranteed obligations by agencies, monthly, Nov. 1938-Nov. 1939. Fed Res Bul 26:41 Ja '40 [cont monthly]
HOLC borrowers reported to have repaid 21% of total indebtedness. Comm & Fin Chr 150: 206 Ja 13 '40

HOME owners' loan corporation—*Continued*
HOLC contract illegal in West Virginia and Missouri. Ins Field (Fire ed) 69:7-8 S 19 '40
HOLC contract opposed by zone 3 officials of National association of insurance commissioners. Nat Underw 44:5 S 26 '40
H.O.L.C. contract with Stock company association violates Idaho statutes. Weekly Underw 143:896+ O 19 '40
HOLC has accomplished necessary depression job and should be progressively eliminated. B. T. Shutz. Comm & Fin Chr 150:1693 Mr 16 '40
HOLC information on its insurance business. East Underw 41:31 F 2 '40
HOLC reports on fire, windstorm and hail losses on insured risks, 1935 to end of June, 1940; abstracts. F. W. Catlett. East Underw 41:30 O 18 '40; Nat Underw 44:33 O 17 '40
Plan hit by Duel of Wisconsin. East Underw 41:16 Ag 23 '40
Stock company association tells companies of changes in insurance procedure of HOLC. G. C. Morgan. East Underw 41:25 Je 21 '40; Same. Ins Field (Fire ed) 69:7-8 Je 20 '40; Abstract. Nat Underw 44:11 Je 20 '40
228,000 borrowers of HOLC request extended loan terms under Mead-Barry act; HOLC had most active real estate market in its history. Comm & Fin Chr 151:934 Ag 17 '40

HOME ownership
Best investment you can make. il Am Bld 62:38-9 O '40
Family income and expenditure in five New England cities, 1935-36. A. D. H. Kaplan, F. M. Williams and D. McCamman. U S Bur Labor Statistics Bul 645:71-89 '39
Family income and expenditure in the southeastern region, 1935-36. A. D. H. Kaplan, F. M. Williams and J. S. Bernard. U S Bur Labor Statistics Bul 647:92-113 '39
Housing, bulwark of democracy. T. C. Boushall. Nation's Business 28:66+ Jl '40
Housing facilities and expenditures of wage earners and clerical workers. Monthly Labor R 50:807-24 Ap '40
More basic houses; partly-finished houses sold in white-collar suburb of Chicago. Business Week p23-4 N 11 '39
New FHA film, Design for happiness, promotes good, small homes. il Am Bld 62:48-9 Jl '40
Own your own home, theme of film, sponsored by Federal housing administration. Dom Eng 155:34 Je '40

See also
Federal home building service plan
Home owners' loan corporation

Finance
Buy home with rent money; sales approach for builders. Am Bld 62:102-4 O '40
Demonstrating low cost homes; with table showing monthly cost of buying a home with a 20- and a 25-year FHA loan at 4½% interest. Am Bld 62:47 F '40
Economists of FHLBB report home mortgage debt placed on revolving basis through monthly-payment amortized loans. Comm & Fin Chr 151:2588 N 2 '40
Home mortgage structure in transition; urban one-family to four-family dwellings. L. Grebler. Harvard Business R 18 no 3:357-71 [Ap] '40
Home savings clubs; thrift plan pushed by U.S. savings & loan league. Ptr Ink 191:99 My 31 '40
1939 was best home-ownership year in decade. Comm & Fin Chr 151:2124 O 12 '40
Own-a-home savings clubs build business for the 40's. il Am Bld 62:48-9 Je '40
Quality products save more than they cost. J. B. Mason. il Am Bld 62:46-7 O '40
What $1 per day buys in a modern home; breakdown of ownership costs. il Am Bld 62:40-1 O '40

HOME work. See Home labor

HOMES, Institutional
See also
Old age homes

HOMESTAKE mining company
Brass tacks for the investor; brief analysis. Barron's 20:9 Mr 11 '40
Bucks rising costs. J. J. Hipple. il Mag of Wall St 67:98-9+ N 2 '40

HOMESTEADS
Private homesteads for the Okies; plan for gradual acquisition of idle, repossessed California land by migrant families. il Business Week p24-6 Mr 9; 24-6 Ap 6 '40

HOMICIDE
Homicide record of 1939; with tabulation. T. J. V. Cullen. Spectator (Life ed) 144:28-32+ Je 20 '40

HOMOGENIZED milk. See Milk, Homogenized

HOMOGENIZERS
Determining emulsifying efficiencies. L. H. Cohan and N. Hackerman. il Ind & Eng Chem Anal ed 12:210-13 bibliog(80 references, p213) Ap 15 '40

HOMOGENTISIC acid
Control of experimental alcaptonuria by means of vitamin C. R. R. Sealock and H. E. Silberstein. Science 90:517 D 1 '39

HOMOPHONES
Words the secretary must watch; homophones, semi-homophones, and homophonic sequences. E. J. Kilduff. 67p pa 50c Crofts '40

HOMOPTEROCARPIN
Chemistry of the insoluble red woods; pterocarpin and homopterocarpin. A. McGookin, A. Robertson and W. B. Whalley. Chem Soc J p787-95 Je '40

HOMSEY, Samuel
Portfolio of recent work by Victorine & Samuel Homsey of Wilmington, Delaware. Arch Forum 73:159-72 S '40

HOMSEY, Victorine
Portfolio of recent work by Victorine & Samuel Homsey of Wilmington, Delaware. Arch Forum 73:159-72 S '40

HONEY
New jar, sales increase. J. G. Paton. il Ptr Ink Mo 40:45 F '40

HONGKONG, China
Exports of underwear and hosiery increased in 1939. Comm Rep p497 Je 1 '40
Headway in Hongkong. Economist 138:857-8 My 11 '40
Hongkong in two wars. Economist 139:187 Ag 10 '40
Torches from Hongkong; industrial development in recent years. Economist 138:14-15 Ja 6 '40

HONGKONG and Shanghai banking corporation
Ordinary yearly general meeting, Hongkong. Economist 138:487-9 Mr 16 '40

HONING
Micro-honing, a new surface finish; Bower roller bearing co., Detroit. il Automotive Ind 82:75 Ja 15 '40
Synthetic rubber pressure tube; il. and diagrams. Product Eng 11:106 Mr '40
Ziehschleifen kleiner bohrungen. W. Plöttner. il diag V D I 84:21-2 Ja 6 '40

HONING machines
Honing equipment co.'s floor type honing machine. il Mach 46:290 D '39
Honing equipment co.'s honing machine for small cylindrical work. il Mach 46:218 Jl '40; Automotive Ind 82:559-60 Je 15 '40
Kellenberger hydraulic honing machine. il Automobile Eng 30:19 Ja '40
Kitchen and Wade hydraulic honing and lapping machine. il Automobile Eng 30:39 F '40

HONOLULU
Port of Honolulu. Comm Rep p101 F 3 '40

HONORARY degrees. See Degrees, Honorary

HOOD, Raymond Mathewson, 1881-1934
Honored posthumously by N.Y. chapter, AIA. Arch Rec 87:20+ Mr '40

HOOKS, Log, pulpwood, etc.
Pulpwood cutting. A. Koroleff. il Pulp & Pa of Can 41:503-7 Jl '40

HOOPER-HOLMES bureau
Why inspectors study credit methods. J. C. King. Credit & Fin Management 42:28-30 Mr '40

HOOPESTON, Illinois
Sewerage
Hoopeston builds sewage treatment works; constructed under new WPA; contract procedure; with cost data. K. V. Hill. il diag Water Works & Sewerage 86:423-6 N '39

HOOVER, John Edgar
Presentation of the Marcellus Hartley public welfare medal to John Edgar Hoover; with response. Science 91:416-17 My 3 '40

HOOVER medal
Gano Dunn, 1939 Hoover medallist; addresses by J. C. Parker and by G. Dunn. il Elec Eng 59:95-9 Mr '40

HOPKINS, Arthur John, 1864-1939
Sketch. Science 90:487 N 24 '39

HOPKINS, B. Smith
American contemporaries. L. F. Yntema. por Ind & Eng Chem News ed 18:590 Jl 10 '40

HOPKINS, Edwin Butcher, 1882-1940
Sketch. E. DeGolyer. por Am Assn Pet Geologists Bul 24:1851-3 O '40

HOPKINS, Harry Lloyd, 1890-
Resigns as secretary of commerce. Comm & Fin Chr 151:1222-3 Ag 31 '40

HOPPERS
Avoiding clogged bin hoppers. C. O. Sandstrom. diags Chem & Met Eng 47:22-3 Ja '40
Determining slope of intersection of two slanting hopper sides. L. Shapiro. Chem & Met Eng 47:632 S '40
Hopper gate which will not jam. il diags Rock Prod 43:52 Ap '40
Loading skips; patent specification relating to means for automatically loading wagons, skips and the like from hoppers. diags Mech Handling 26:336 N '39
Poultry mash hopper. F. W. Klay. il diags Sheet Metal Worker 31:65 O '40
Poultry shell and grit hopper. F. W. Klay. diags Sheet Metal Worker 31:68 Jl '40
Rotating hopper for truck-mix. J. R. Marcy. il Rock Prod 43:94 Ag '40
Design
Hopper intersection angle solved with compound angle graph. P. W. Jacobsen. Chem & Met Eng 47:480 Jl '40

HOPS
Golden age of hops; 19th century hop culture in southern New York. R. E. McFee. il diag map Comp Air M 45:6254-7 O '40

HORD, Eugene F. 1881-1940
Sketch. Weekly Underw 142:733+ Mr 23 '40

HORE-BELISHA, Leslie, 1898-
Men and measures. Economist 138:45-6 Ja 13 '40

HORMEL, George A., and company
How one industrial plant is helping America. il Factory Management 98:G1-G8 Ag '40

HORMONES
Action of certain hormones as dietary constituents. C. Funk and I. C. Funk. Science 90:443-5 N 10 '39
Administration of the E. R. Squibb and sons award; will be given for most meritorious scientific report dealing with hormones. Science 92:423 N 8 '40
Alleged gonadotropic effect of royal jelly. R. M. Melampy and A. J. Stanley. Science 91:457-8 My 10 '40
Amino-acid and peptide esters of choline as possible analogues of the oxytocic hormone of the posterior lobe of the pituitary gland. J. M. Gulland, M. W. Partridge and S. S. Randall. Chem Soc J p419-25 Ap '40
Crystalline drosophila eye-color hormone. E. L. Tatum and G. W. Beadle. Science 91:458 My 10 '40
Dibromo-α-oestradiol. R. B. Woodward. Am Chem Soc J 62:1625-6 Je '40
Direct introduction of the angular-methyl group. R. B. Woodward. bibliog Am Chem Soc J 62:1208-11 My '40
Effect of estrogens and androgens alone and in combination with chorionic gonadotropin on the ovary of the hypophysectomized rat. R. I. Pencharz. bibliog Science 91:554-5 Je 7 '40
Electrophoretic study of pituitary lactogenic hormone. C. H. Li, W. R. Lyons and H. M. Evans. il Science 90:622-3 D 29 '39
Evidence for the existence of a respiratory neurohormone. T. Koppanyi and C. R. Linegar. Science 90:141-2; 91:297-8 Ag 11 '39, Mr 22 '40
Fused carbon rings; experiments on the synthesis of tetracyclic compounds of the sexual hormone type. V. C. E. Burnop, G. H. Elliott and R. P. Linstead. Chem Soc J p727-35 Je '40
Fused carbon rings; further investigations of model substances of the sexual hormone type. V. C. E. Burnop and R. P. Linstead Chem Soc J p720-7 Je '40
Hormone studies with the ultracentrifuge; an application of Toepler's schlieren method to the analytical ultracentrifuge. J. A. Chiles, jr. and A. E. Severinghaus. bibliog il diags R Sci Instr 11:71-6 F '40
Hormones in invertebrates. B. Hanström. 198p bibliog(p147-85) $4.25 Oxford '39
Inactivation of pituitary lactogenic hormone by iodine. C. H. Li and others. bibliog Science 91:530-1 My 31 '40
International standards for prolactin and for the gonadotrophic substance of pregnant mares' serum. Chem & Ind 58:1050 D 2 '39
Isolation in pure form of the interstitial cell-stimulating (luteinizing) hormone of the anterior lobe of the pituitary gland. T. Shedlovsky and others. Science 92:178-80 Ag 23 '40
Metabolism of the parent hydrocarbons of some of the simpler synthetic oestrogenic phenols; abstract. S. W. Stroud. Chem & Ind 58:1087 D 16 '39
Natural gas found hormone source. Am Gas Assn Mo 22:178 My '40
Production of artificial hormones; abstract. L. W. Butz and others. Science 91:sup 12+ Ap 19 '40
Prolificacy of rats treated with mare gonadotropic hormone. H. H. Cole. Science 91: 436-7 My 3 '40
Purification of the pituitary interstitial cell stimulating hormone. C. H. Li, M. E. Simpson and H. M. Evans. Science 92:355-6 O 18 '40
Studies on pituitary lactogenic hormone; a comparison of the electrophoretic behavior of the lactogenic hormone as prepared from beef and from sheep pituitaries. Choh Hao Li, W. R. Lyons and H. M. Evans. bibliog il Am Chem Soc J 62:2925-7 N '40
Studies on the partial synthesis of corticosterone. P. N. Chakravorty and E. S. Wallis. bibliog Am Chem Soc J 62:318-20 F '40
Studies on the preparation of synthetic sex hormones; hexoestrol. S. Bernstein and E. S. Wallis. Am Chem Soc J 62:2871-3 O '40
Total synthesis of the sex hormone equilenin and its stereoisomers. W. E. Bachmann, W. Cole and A. L. Wilds. bibliog Am Chem Soc J 62:824-39 Ap '40
Über synthetische östrogene. F. v. Wessely. bibliog Angew Chemie 53:197-202 My 11 '40
See also
Estradiol
Prolactin

HORMONES, Plant
Effect of direct and alternating currents on the growth of oat seedlings. E. Burstein, L. M. Alliminosa and L. Moriber. bibliog il diag Electrochem Soc Trans 77 (preprint 24):287-301 Ap '40
Growth hormones in plants. K. V. Thimann. bibliog il diags Franklin Inst J 229:337-46 Mr '40
Plant hormones. D. H. Killeffer. il Ind & Eng Chem News ed 18:395-9 My 10 '40

HORMONES, Plant—*Continued*
Rooting of fir cuttings; hormone method. B. G. Griffiths. Pulp & Pa of Can 41:38 Ja '40
Synthetic hormones; abstract. F. W. Went. Science 91:sup8+ Ja 19 '40
Wound hormones of plants; structure and synthesis of a traumatin. J. English, jr, J. Bonner and A. J. Haagen-Smit. Am Chem Soc J 61:3434-6 D '39
See also
Auxins

HORNER, Henry, 1878-1940
Death of Governor Horner of Illinois. Comm & Fin Chr 151:2132 O 12 '40

HORNKEM
Dispersion of pigments in aqueous medium; induced dilatancy and its relation to dispersion. P. K. Daniel. India Rubber W 101: 33-7 Ja '40

HORSEPOWER
Figuring indicated horsepower. P. Swain. Power 84:181 Mr '40
General Electric meter for measuring shaft horsepower. Mach 46:106 Mr '40
Measuring brake horsepower. P. Swain. diags Power 84:461 Jl '40

HORSES
Care and stabling of horses. J. W. Sutherland. Pulp & Pa of Can (Convention no) 41:163-4, 166, 168 [F] '40
See also
Driving

HORSES, Fossil
Tie-ins between the marine and continental records in California. J. E. Eaton. Am J Sci 237:899-919 bibliog(p918-19) D '39

HORTICULTURE
Jobs in horticulture. G. W. Wernicke. 48p bibliog(p48) pa 50c Science research associates, 600 S. Michigan av, Chicago '40
Textbook of general horticulture. J. C. Schilletter and H. W. Richey. 367p $3 McGraw-Hill '40
See also
Plants—Soilless culture

HOSE
Flexible, seamless all-metal hose. il Ry Age 109:676 N 9 '40; Same. Ry Mech Eng 114: 549 D '40
Garden hose; rating. Consumers' Research Bul (Gen bul ser) 9:12-13 Je '40
Hose conservation. Can Min J 61:157-8 Mr '40
Lonn water savers novel waste preventers. diag Water Works & Sewerage 87:sup70 Mr '40
See also
Fire hose

HOSE couplings
Broom and Wade hose coupling with automatic cut-off valve. diags Engineering 148: 596-7 N 24 '39; Engineer 168:577 D 8 '39
High-pressure hose coupling. diag Engineer 169:311-12 Mr 29 '40

HOSIERY
Cotton hose, for somebody else! woman's viewpoint of experimental work by U.S. Department of agriculture. il Textile World 90:62-3 My '40
Hectic launching for nylon hosiery. Textile World 90:106 Je '40
New hose raise cotton hopes; many important research and merchandising ventures. il Business Week p20-2 Mr 23 '40
Novelty construction is newest feature in half hose. il Textile World 90:48 Mr '40
Nylon, a triumph of research. D. Wharton. il Textile World 90:50-2 Ja '40
Nylon goes to town. il Business Week p45 My 25 '40
Nylon hose go on sale Wednesday. Business Week p38+ My 11 '40
Water repellency of cotton hose. M. S. Furry and L. E. Weidenhammer. bibliog Rayon 21:370-1, 431-2 Je-Jl '40
Wearers of nylon stockings give impressions. Barron's 19:17 D 4 '39
See also
Dyes and dyeing—Hosiery

Grading
Grade-labeled hosiery; five department stores in Newark, N.J., launch plan to check customers' reaction. Business Week p43 Jl 6 '40

Inspection
Hidden defects exposed; Nolde & Horst co. inspecting forms. il Textile World 89:106 N '39

Manufacture
Development of synthetic resins for hosiery finishes. A. K. Haynes. Am Dyestuff Rep 29:186-9 Ap 15 '40
Dyeing and finishing of nylon hose. N. D. White. Rayon 21:683-5 N '40
Dyeing and finishing of nylon hosiery. V. Taurey. Am Dyestuff Rep 29:541-2+ O 14 '40
Finishing rayon hose; the physical properties of rayon in relation to hose finishing. Am Dyestuff Rep 29:207-8 Ap 15 '40
Finishing treatments applied to cotton hose. M. S. Furry and L. E. Weidenhammer. il Am Dyestuff Rep 29:203-5, 229-34 bibliog (p234) Ap 15-29 '40
Influence of twist on shortening, diameter, dullness and torsion of silk hosiery yarns. W. P. Seem, T. Andrew and E. Simmat. il Rayon 21:104-6, 168-70, 223-5, 303-5, 365-7, 423-4, 467-8 F-Ag '40
Knitter, use caution in substitution of rayon for silk in full fashioned hosiery manufacture. M. M. Abrams. il Textile World 90: 65-6 Ja '40
New finishes for silk hosiery; synthetic resins. W. T. Leggis. il Textile World 90: 78 Ap '40
Paramount pre-setting nylon hosiery. il Textile World 90:88-9 O '40
Pre-boarding nylon hosiery. T. S. Schermerhorn. il Rayon 21:217-18 Ap '40
Reduction of hosiery seconds made possible by new method of control. il Textile World 90:54-5 Jl '40
See also
Hosiery machines
Hosiery mills

Prices
Hosiery price war. Business Week p37-8 Mr 30 '40

Standards
Hosiery lengths and sizes. 3d ed diags U S Nat Bur Stand Commercial Standard CS46-40:1-20 '40

Testing
Hosiery research committee reports; stresses elaboration and extension of wear tests. Rayon 21:284 My '40
New hosiery finishes. Textile World 89:62 D '39
New snag detector for hosiery. il Rayon 21:182 Mr '40

HOSIERY machines
Drives for full-fashioned machines. L. H. Stark. il Textile World 90:75-6 Ap '40
Fixing hosiery machines; circular machines. J. W. Hughes. il diags Textile World 90: 58-9 Je; 64 Jl; 67-8 Ag; 82-3 S; 85 O; 90 N; 71 D '40
Fixing hosiery machines; full-fashioned machines. W. A. Simond. diags Textile World 90:59-60 Je; 62-3 Jl; 68-9 Ag; 83 S; 84-5 O; 89-90 N; 72 D '40
Hemphill knitting machine for children's hosiery. il Textile World 90:69 Jl '40
Increases hosiery production by simple change in pattern chain. I. C. Moore. il Textile World 90:85-6 Mr '40
Revamping full-fashioned mills. R. D. Collins. il Textile World 89:63-4 D '39

HOSIERY manufacturers, National association of. See National association of hosiery manufacturers

HOSIERY mills
Hanes Hosiery opens new unit at Winston-Salem. il Textile World 90:120-1 F '40
Liberal arts via hosiery mill; Athens (Ala.) college to furnish jobs for needy students. Textile World 90:58 Ja '40
Revamping full-fashioned mills. R. D. Collins. il Textile World 89:63-4 D '39

Accounting
American institute of accountants examinations; projected statements or budgets for proposed hosiery mill. J Account 69:479-85 Je '40

Air conditioning
Air conditioning for nylon hosiery. H. L. Kempaner. il Textile World 90:101-2 S '40

Employees
Annual earnings in the hosiery industry. H. E. Riley and E. B. Morris. Monthly Labor R 50:172-82 Ja '40
Co-op on the rocks; Philadelphia hosiery mill faces receivership because union won't let worker-owners cut their own pay. Business Week p38 S 21 '40
Effects of the 25-cent minimum wage on employment in the seamless hosiery industry. A. F. Hinrichs. Am Statis Assn J 35:13-23 Mr '40
From topper-knitter to head fixer. J. W. Hughes. il Textile World 90:74+ Ap '40
Hopes and fears of a worker; by employee of Real silk hosiery mills, Indianapolis. P. McCarty. Personnel J 18:365-72 Ap '40
Two-edged bargain; union hosiery workers, in role of owners, adjust their difficulties with C.I.O. unit. Business Week p32 Mr 16 '40
When labor tries to manage; worker-owned company has labor trouble; trips over union wage scale; Hancock knitting mills and other cooperatives. C. B. Coates. il Factory Management 98:48-51+ My '40

Equipment
Gives versatility in half-hose mill; Ellis hosiery mills. Textile World 89:87-8 N '39
Pre-boarding machine for nylon hosiery. il Textile World 90:79 Ap '40
Pre-boarding nylon hosiery. T. S. Schermerhorn. il Rayon 21:217-18 Ap '40
Reduction of hosiery seconds made possible by new method of control. il Textile World 90:54-5 Jl '40
See also
Hosiery machines

Heating and ventilation
Hanes hosiery mills company; heating and air conditioning. il diag plan Heat & Ven 37:22-4 O '40
Mill comfortable at 80° F.; air conditioning of the Meridian (Miss.) hosiery mills. G. H. Watson. Textile World 89:100 N '39

Lighting
Better lighting from fluorescent lamps. R. A. Palmer. il Elec W 113:318+ Ja 27 '40
Better mill lighting. L. C. Greene. il Textile World 90:72 Ja '40
Soft light minimizes glare; fluorescent lighting, Huffman full-fashioned mills. il Textile World 89:99 N '39
30 ft.-candles speed knitting mill output. il Elec W 113:928 Mr 23 '40

HOSIERY trade
Curious situation caused by higher silk prices and new competitive fibers. P. M. Carlisle. Annalist 54:755 D 14 '39
Jitters over nylon. Business Week p41-2 S 14 '40
Silk, a specter at hosiery feast; hosiery industry conference, New York, Jan. 17-18. Textile World 90:118-19 F '40
Stockings; nylon may be a boon to the hosiery manufacturer, but 90 per cent of his sales next year will be silk. il Ptr Ink Mo 41:6-8+ Ag '40
Third shift a Frankenstein in full-fashioned hosiery industry. R. Towne. il Textile World 90:76-7 S '40

Advertising
Year's sales jump 34%; Northmont Hosiery mill used mails to emphasize national advertising. C. J. Swan. Ptr Ink 190:29, 32 Mr 1 '40

Statistics
Hosiery, 1936-1939. Survey of Cur Business 1940 Sup p153 [supplemented in monthly numbers]
U.S. hosiery statistics, 1938 and 1939. Rayon 21:203-4 Ap '40

Great Britain
Boom in hosiery trade. Economist 137:348 D 2 '39

HOSPITAL trains
British ambulance trains. Engineering 148: 537 N 10 '39

HOSPITALIZATION insurance. See Insurance, Hospitalization

HOSPITALS
Ancient trust fund; established by Don Hernando Cortez to provide monies to operate a hospital in Mexico city. W. E. Taylor. Barron's 20:7 Ag 26 '40
Bellevue. L. Maynard and L. Miscall. 280p $2.50 Julian Messner, 8 W. 40th st, New York '40
Business census of hospitals, 1935; general report. E. H. Pennell, J. W. Mountin and K. Pearson. diags maps U S Pub Health Service, Pub Health Rep Sup 154:1-38 '39
Design decade. il Arch Forum 73:278-84 O '40
Hospital appropriation asked by President. Oil Paint & Drug Rep 137:3+ F 5 '40
Medical work of the Knights hospitallers of Saint John of Jerusalem. E. E. Hume. 371p bibliog(p348-50) $3 Johns Hopkins press, Baltimore '40
National hospital bill reported out of committee. Pub Health Rep 55:847-8 My 10 '40
Non-profit hospital service plans. C. R. Rorem. 130p pa 50c Commission on hospital service, 18 E. Division st, Chicago '40
Precast concrete joist floors in hospital hold cost within appropriation. R. Lawrie, jr. il Concrete 48:18 Mr '40
President Roosevelt considering plan for hospitals in poorer states. Comm & Fin Chr 149:3948 D 23 '39
President Roosevelt urges legislation to provide for 50 new hospitals in needy rural areas. Comm & Fin Chr 150:770 F 3 '40
Proceedings, mid-winter conference, hospital service plan executives, Pittsburgh, January 24 to 26, 1940. 138p Am. hospital assn, 18 E. Division st, Chicago '40
See also
Dispensaries

Accidents
Over-running medical lamps; possibility of causing explosion of anesthetics; temperature measurement. C. T. A. Harper. il Elec R (Lond) 126:519 My 10 '40

Accounting
Ratio control system for hospitals. W. A. Dawson. J Account 69:112-13 F '40

Air conditioning
Combination of central plant and unit air conditioning serves varying needs; Charity hospital of Louisiana. F. H. Chisholm. il plan Heating-Piping 12:539-41 S '40
Dual system solves operating room problems; windowless design permits basement location; Jewish hospital, Cincinnati. H. N. Hermann. il diags Refrig Eng 39:224-6 Ap '40
Hospital air conditioning, a realistic approach. C. F. Neergaard. il Refrig Eng 40:300-2+ N '40; Abstracts. Heating-Piping 11:742 D '39; Heat & Ven 37:22-3 Je '40
Should hospital operating room air be recirculated? Heating-Piping 12:351 Ap '40
Uses of air conditioning in hospitals; abstract. M. B. Ferderber. Heating-Piping 11:742-3 D '39

HOSPITALS—*Continued*

Costs

Attention to details cuts cost of heating and other services. C. W. Kimball. Heating-Piping 12:4 Ja '40

Can the hospital afford air conditioning? abstract. C. F. Neergaard. il Heat & Ven 37:22-3 Je '40

Decoration

Functional color in hospitals. F. Birren. Arch Forum 71:466 D '39

Designs and plans

Building types; reference studies on design and planning the small general hospital; with time saver standards. il plans Arch Rec 86:75-106 D '39

Hospital in Åbo, Finland; views and plans. Arch Forum 72:404-5 Je '40

Electric equipment

Florida hospital saves on refrigeration costs. Refrig Eng 40:32 Jl '40

Hospital equipment; installation at a maternity home. il Elec R (Lond) 127:27 Jl 12 '40

Hospital installation; Westminster hospital, London. R. F. Twentyman. il Elec R (Lond) 125:635-9 N 17 '39

Improve X-ray supply regulation. diag Elec W 114:1030 O 5 '40

Modern X-ray practice; installations at the new Westminster hospital. il Elec R (Lond) 125:605-8 N 10 '39

New Chichester hospital; electric lighting and services. il Elec R (Lond) 126:544 My 17 '40

St Bartholomew's hospital X-ray tube for one million volts. T. E. Allibone, F. E. Bancroft and G. S. Innes. diags Inst E E J 85:657-73. pl 1-4 bibliog(p673) D '39; Abstract. Engineering 148:622-3, 649-51 D 1-8 '39; Discussion. Inst E E J 85:674-80 D '39

Equipment

Design of the piping service tunnel at chronic disease hospital, Welfare Island, New York. diags Heating-Piping 12:168-9 Mr '40

Engineering at the New York hospital; refrigerating equipment. Refrig Eng 39:305 My '40

Finance

Life insurance funds permit a group of 51 Philadelphia doctors to purchase and operate a hospital of their own. Nat Underw (Life ed) 44-6 Ag 16 '40

Insurance requirements

Protection given a privately owned hospital by each type of insurance; check list. Bankers Mo 57:414 Jl '40

Laws and legislation

Legal guide for American hospitals. E. Hayt and L. R. Hayt. 608p bibliog(p594-5) $5 Hospital textbook co, 99 Wall st, New York '40

Michigan hospital handbook. D. Ketcham. 412p bibliog(p402-3) pa $1.50 The author, Social dept, University hospital, Ann Arbor, Mich. '40

Management

Hospital organization and management. M. T. MacEachern. 984p $7.50 Physicians' record co, 161 W. Harrison st, Chicago '40

Hospital public relations. A. B. Mills. 361p $3.75 Physicians' record co, Chicago '39

Hospitals offer opportunity; job of hospital superintendent. L. Brentano. il Nation's Business 28:23-5+ F '40

Management policies by industries; privately operated hospitals as loan prospects. A. F. Emch. il Bankers Mo 57:412-16 Jl '40

Storage and issuance of hospital supplies. N. Gorgas. 78p bibliog(p75-8) pa 50c Am. college of hospital administrators, 18 E. Division st, Chicago '40; Same. J Business 13: 172-204, 275-315 Ap-Jl '40

Operating rooms

Dual system solves operating room problems; windowless design permits basement location; Jewish hospital, Cincinnati. H. N. Hermann. il diags Refrig Eng 39:224-6 Ap '40

Operating suite, small general hospital. il plans Arch Rec 86:100-1 D '39

Should hospital operating room air be recirculated? Heating-Piping 12:251 Ap '40

Power

Hospital power plants need a doctor! P. Swain. Power 83:730-1 D '39

It takes more than a bright idea to convince the boss; power plant operation; Beth Israel hospital. il diags Power 84:591-3 S '40

This hospital plant took the doctor's advice; St Luke's hospital engineers modernize power plant. il Power 84:519-21 Ag '40

Those hospital plants still need a doctor! C. T. Baker. Power 84:325-6 My '40

Statistics

Classification of hospital morbidity; experience in a study of hospital discharges in New York city. M. Fraenkel. Am Statis Assn J 35:489-97 S '40

Existence and use of hospital facilities among the several states in relation to wealth as expressed by per capita income. E. H Pennell, J. W. Mountin and K. Pearson. bibliog Pub Health Rep 55:822-46 My 10 '40

Rheumatic fever in New Haven, Conn.; a survey of recent hospital admissions. L. R. Farquhar and J. R. Paul. bibliog Pub Health Rep 55:1903-13 O 18 '40

Rheumatic heart disease in Philadelphia hospitals; a study of 4,653 cases of rheumatic heart disease, rheumatic fever, Sydenham's chorea, and subacute bacterial endocarditis, involving 5,921 admissions to Philadelphia hospitals from January 1, 1930, to December 31, 1934. O. F. Hedley. pls maps Pub Health Rep 55:1599-1619, 1647-91, 1707-40, 1809-31, 1845-62 bibliog(p1618-19, 1688-91, 1739-40, 1830-1, 1861-2) S 6-20, O 4-11 '40

X ray rooms

X-ray department, small general hospital. il plans Arch Rec 86:102 D '39

Canada

Annual report of hospitals in Canada for the year 1938. 84p pa 25c Canada. Dominion bur. of statistics, Ottawa '40

HOSPITALS, Industrial

Two new hospitals built by Phelps Dodge. il Min & Met 21:330-1 Jl '40

HOSPITALS, Maternity

Maternity department, small general hospital. il plans Arch Rec 86:98-9 D '39

HOSPITALS, Military

See also
Hospital trains

HOSPITALS, Naval and marine

Dedication of the new Boston marine hospital; address by Paul V. McNutt. Pub Health Rep 55:1105-11, pl 1 Je 21 '40

Stapleton, N.Y. marine hospital enlarged. Pub Health Rep 55:1460-1 Ag 9 '40

HOSPITALS, Psychiatric

Existence and use of hospital facilities among the several states in relation to wealth as expressed by per capita income. E. H. Pennell, J. W. Mountin and K. Pearson. bibliog Pub Health Rep 55:830-3 My 10 '40

Functions brought to Federal security agency by Reorganization plan IV; Freedmen's and St Elizabeths hospitals under the public health service. Pub Health Rep 55:1281-2 Jl 12 '40

Patients in hospitals for mental diseases, 1938. Pub Health Rep 55:1537-40 Ag 23 '40

Employees

Personnel work in state hospitals. P. Worchel. Personnel J 18:292-9 F '40

HOSPITALS, Veterinary
Medical center for family pets; Manhasset, Long Island. il diag plans Arch Rec 88:34-6 Ag '40

HOT dip galvanizers association, American. See American hot dip galvanizers association

HOT plates
Design of solid hotplates. diag Gas J (Lond) 230:135-6 Ap 17 '40
Réchaud de cuisine à gaz, à récupération de chaleur, système Rossini. A. Mestre. il Génie Civil 116:204-5 Mr 23 '40

HOT springs
Analysis and study of hot-spring water in Foochow. T. Wang and Y. Lin. bibliog diag map Am J Sci 238:799-804, pl 1 N '40
Manganese in a thermal spring in west-central Utah. E. Callaghan and H. E. Thomas. bibliog il maps Econ Geol 34:905-20 D '39
Water brought from a hot spring for a swimming pool. Pub Works 71:26 Jl '40

HOT water heating
Comparative tests of various fuels when burned in a domestic hot-water boiler, 1935 to 1938. C. E. Baltzer and E. S. Malloch. 23p pa 25c Canada. Dept. of mines and resources, Ottawa '40
Design and installation of a central hot water heating plant; Chatham Park Village, Chicago apartment project. C. G. Wohlfarth. il Heating-Piping 12:413-16 Jl '40
Electrical thermal-storage plant. Engineering 148:508 N 3 '39; Same cond. Elec W 113: 1394 My 4 '40
Electrical water-heating installation at Poplar town hall. Engineering 150:288 O 11 '40
Electrode thermal storage equipment at Poplar town hall. il Engineer 170:128 Ag 23 '40
Fleetwood acres, Bronxville, N.Y. C. F. Holske. il diags plans Heat & Ven 37:26-9 Jl '40
Ford foundation, Dearborn, Mich.; heating and air conditioning equipment. C. Strock. il diags plans Heat & Ven 37:22-5 Jl '40
Fort Knox defense housing heated with hot water. il Heat & Ven 37:43-5 O '40
Glenside homes, Reading, Pa.; illustrations and plans. Heat & Ven 37:34-5 Jl '40
Harvard makes savings by careful control of its heating systems. G. K. Saurwein. il Heat & Ven 37:27-8 Ap '40
Heated by reverse cycle refrigeration. K. M. Fisher. il Dom Eng 155:50-1 Je '40
Heating a garden apartment project. H. Raisler. Heating-Piping 12:553 S '40
Heating system with grateless boiler and automatic temperature control. il diag Engineer 170:269-70 O 25 '40
Hot-water boilers in series heat California building. T. W. Bean. diags Power 84:241 Ap '40
New plant heated by steam and hot water; Toledo scale co. il Heating-Piping 12:184, 186 Mr '40
145 years modern; ancient church preserves appearance of antiquity but has automatic heat. il Dom Eng 154:42-3 D '39
Piping made this job; home in Olean, N.Y. il Dom Eng 155:42+ Mr '40
Radiator heat research program to open with hot water study. il plan Heat & Ven 37: 53 N '40
Russell house, North, Russell gardens, L.I.; illustrations and plan. Heat & Ven 37:42-3 Jl '40
1609 N. Prospect ave. Milwaukee; illustrations. Heat & Ven 37:38-9 Jl '40
Skilsaw, inc. builds a new plant, offices, and research quarters. H. R. Coleman. il Heat & Ven 37:39-41 F '40
Sun rays furnish hot water for homes. il Am Bld 62:117 Ap '40
Toledo scale company; heating system. G. S. Whittaker. il diags plan Heat & Ven 37:26-32 F '40
Ventilating Pennsylvania's super-highway tunnels and Standard oil company service buildings. il plans Heat & Ven 37:12-13 O '40
Village Green, Orange, N.J.; illustrations. Heat & Ven 37:33 Jl '40
Warm air for plant, hot water for offices; Aviation mfg. corp. il Heating-Piping 12: 480 Ag '40

Panel system
Features of a mammoth air conditioning installation; Bankers life co. home office building. il Sheet Metal Worker 31:46+ Ag '40
Heating new Air ministry headquarters in London. il Heating-Piping 12:170, 350+ Mr, Je '40
Old idea is latest in heating; radiant principle, applied by wrought iron piping laid in floors. il diag Business Week p48+ Ap 27 '40
Panel warming and cooling; installation in school. E. L. Weber. il plan Heating-Piping 12:281-4 My '40; Excerpt. Mech Eng 62:687 S '40
Wall warming system complements air conditioning of new building; home office building of the Bankers life co. il Heating-Piping 12:405-9 Jl '40
Wall warming system neutralizes glass loss in office building; home office building of the Bankers life company. il Heat & Ven 37:31-2 Ag '40
What's ahead for panel heating? L. N. Rowley. diags Power 84:482-4 Ag '40

Tables, calculations, etc.
Let's figure radiator heat. diags Dom Eng 156:52-3+ N '40
Water requirements of hot water heating systems; reference data. Heat & Ven 37: 50a-50b O '40

HOT water supply
Block heating for two-family houses. C. Strock. il plan Heat & Ven 37:47-9 My '40
Boiler connections for heating and domestic hot water using an indirect heater. diags Dom Eng 155:49-51+ F '40
Domestic water heaters. diags Consumers' Research Bul (Gen bul ser) 9:16-20 Ap '40; Correction. 9:21 Je '40
It really gets around; circulation of domestic hot water; strong and weak points of different hook-ups. C. E. Pullum. diags Dom Eng 156:50-1 S '40
Korrosion in warmwasserbereitungs-anlagen und ihre verhütung. H. Klas. il Stahl & Eisen 60:41-8 Ja 18 '40
Minneapolis-Honeywell summer-winter controller. il Paper Tr J 109:59 N 30 '39
Novel heating system in chemical plant in Switzerland, employing superheated hot water from electric boiler. C. H. S. Tupholme. diag Ind & Eng Chem News ed 18:549 Je 25 '40
Solar heaters for service water. A. Merle. il diags map Heat & Ven 37:22-6 Ag '40
Summer-winter water heating by coil attachments to central gas heating plant; with cost data. G. C. Beck. Am Gas Assn Proc 1939:337-43
To the doctors' orders; solution to problems in layout of hot water system for medical building. il diags Dom Eng 156:48-9+ Ag '40

See also
Electric water heaters
Gas water heaters

HOT water tanks
Porcelain enameled water tanks. G. H. Spencer-Strong. il Iron Age 145:44-7 My 9 '40
Water heater tank performance. C. S. Alger. Elec West 84:122-5 Je '40
Welding fabrications for porcelain enamel finishes. il Steel 107:64, 66, 68-9+ S 23 '40

Explosions
Hot water tank explosion wrecks school. il Locomotive 43:56-8 Ap '40
Thousands of dollars in damages from hot water tank explosions. il Locomotive 43: 118-21 O '40

HOT weather
Comfort during hot weather. Pub Health Rep 55:1353-4 Jl 26 '40

HOT weather—*Continued*
Summer high temperature. Science 92:sup8+ Ag 2 '40

HOTBEDS, Electric
Electricity as an aid to gardening; soil heating. il Electrician 124:335 My 3 '40
Heating hotbeds with radiant energy from incandescent lamps. R. L. Zahour. bibliog il diag plan Illum Eng 35:591-604 Jl '40

HOTELS
Del Monte offers some of the world's best scenery and food, golf, and glamour. il map Fortune 21:58-67+ Ja '40
Dinner-dance room in metropolitan hotel; Blue Fountain room, La Salle hotel, Chicago; views and plan. Arch Rec 87:98-9 Ja '40
Highway hotel created by H. H. Harris for the Design decade number. diag plan Arch Forum 73:248+ O '40
Hotel credit cards for business travelers. Am Business 10:43 O '40
Hotel credit service; Continental hotel service co., San Francisco. Business Week p28+ My 18 '40
Hotel hopes rise. Business Week p21-2 Je 8 '40
Hotels; building types with case studies and time-saver standards. il plans Arch Rec 88:83-102 Jl '40
Mr Dodge's dilemma; Mountain View house, Whitefield, New Hampshire. il Fortune 22: 70-6, 78, 80 Jl '40
Sanitary standards for hotels. G. E. Arnold. Am Water Works Assn J 32:456-63; Discussion. 464 Mr '40
Statler for Chicago. Business Week p24 F 24 '40
Wrecking a Chicago landmark; Great northern hotel. il Eng N 124:648-51 My 9 '40

See also
Railroads—Hotels
Restaurants

Accounting
Uniform system of accounts for hotels. 3d rev ed 100p $2.50 Hotel assn. of New York city, 221 W. 57th st, New York '39

Advertising
Courtesy card. Inland Ptr 104:34 F '40

Air conditioning
Case histories; gas summer air conditioning on the Delta; steam jet for Roosevelt hotel. G. E. May, R. E. Judd and J. M Guillory il Am Gas Assn Mo 22:337-8 O '40
Gas engine cuts air conditioning power costs 71%; Heidelberg hotel at Jackson, Miss. il Heat & Ven 37:28 Mr '40
Hotel air conditioning; Hotel New Yorker. W. D. Lewis. il Heating-Piping 12:343-7 Je '40
Hotel guest room air conditioning. J. Hertzler. il diags plan Refrig Eng 39.83-8 F '40; Abstract. Heating-Piping 11.740-1 D '39
Hotel guest room air conditioning requires good engineering design. W. D. Lewis. il Heating-Piping 12:417-20 Jl '40
Water consumption in hotels. G. C. St Laurent. Heating-Piping 12:667 N '40

Costs
Hotel power plant; private plants vs purchased power. E. Douglas. Power Pl Eng 44:41-4+ Mr '40

Decoration
Fresco in Frisco; St Francis hotel. M. Pake. il Mod Plastics 17:30-1+ Ja '40

Designs and plans
Hotel near Tavastehus, Finland. il plan Arch Forum 72:410-11 Je '40
Hotel Roanoke goes modern; Norfolk & Western enlarges and improves unique facility. il plan Ry Age 107:820-3 N 25 '39
Hotel-room space requirements. plans Arch Rec 88:87-8 Jl '40
Hotels; case studies. il plans Arch Rec 88: 89-91 Jl '40
Miami; Albion hotel and office building. il diags plans Arch Rec 87:43-8 Mr '40
Modern design embodied in new hotel built by C.N.R. il plan Ry Age 109:150-2+ Jl 27 '40

Directories
Lodging for a night. D. Hines. 3d ed 344p pa $1.50 Duncan Hines, box 538, Bowling Green, Ky. '40

Electric equipment
Hotel Vancouver; electrical plant from Great Britain. F. H. Fullerton. il Elec R (Lond) 126:657 Je 21 '40

Equipment
Another famous kitchen swings to gas; Grove Park inn, Asheville. il Gas Age 85:38 Je 20 '40
Hotel man looks at gas service. R. J. Kief. Am Gas Assn Proc 1939:410-11; Same. Am Gas J 151:50-1 N '39
Hotel New Yorker goes back to coal; advantages of a 2-fuel plant. W. Lewis. Power 84:498-9 Ag '40
Manufacturers cooperate with A.G.A. Industrial section and Consolidated Edison in display at hotel exposition. il Gas Age 84:78+ D 21 '39
Refrigeration vital in large hotel; Seattle's Olympic. il Refrig Eng 40:22-3 Jl '40
Utilities, manufacturers and A.G.A. join hands in selling a giant customer; 24th National hotel exposition, New York. il Am Gas Assn Mo 22:30-2 Ja '40

Heating and ventilation
Florida hotels install heating. J. B. Swift. Heating-Piping 12:238 Ap '40
Hotel reduces steam costs. H. Devol. il diags Power Pl Eng 44:63-4 F '40

Insurance requirements
Promises new rating credits for members of the New Jersey state hotel association. E. L. McManus, jr. Nat Underw 44:20A My 9 '40
Protection given a hotel by each type of insurance; check list. Bankers Mo 57:360 Je '40

Management
Management policies by industries. H. E. Holt and N. D. Stone. il Bankers Mo 57: 356, 358-60+ Je '40

Power
Hotel keeps in step with electrical progress; alternating current from direct current equipment, Hotel Vancouver, Vancouver, B.C. il Elec West 84:80, 82 F '40
Hotel power plant; a stimulant for a five billion dollar convalescent industry. E. Douglas. Power Pl Eng 44:50-3 F; 41-4+ Mr '40; Discussion. R. R. Williams. 44:82 Je '40

Statistics
Average sale per occupied room, rooms occupied, restaurant sales index, 1936-1939. Survey of Cur Business 1940 Sup p86 [supplemented in monthly numbers]
Hotel operations in 1939; operating ratios of 100 hotels located in 51 cities; eighth annual study. 24p Horwath & Horwath, 551 5th av, New York '40
Trend of business in hotels, December. Comm & Fin Chr 150:185 Ja 13 '40 [cont monthly]
Trends in the hotel business; a statistical review of the year 1939. 51p Harris, Kerr, Forster & co, 18 E. 48th st, New York '40

Switzerland
Plight of the Swiss hotels. Economist 138: 683 Ap 13 '40

HOTTINGER, Gustav, 1848-1939
Sketch. por(cover) Am Cer Soc Bul 18:476 D '39

HOUDRY process
Catalytic cracker specializes in 100-octane fuel base. M. G. Van Voorhis. flow chart il plan Nat Pet N 32:R386-8+ O 30 '40

HOUDRY process—*Continued*
Catalytic reforming for the production of aviation gasoline. A. G. Peterkin, J. R. Bates and H. P. Broom. flow diag il Am Pet Inst Proc 20(3):101-8 '39; Abstract. Nat Pet N 31:R517-19 N 29 '39; Discussion. Am Pet Inst Proc 20(3):108-9 '39
Diesel fuel in Houdry distillate close to straight-run quality. W. S. Mount and E. T. Scafe. Nat Pet N 32:R246-9 Jl 10 '40; Abstract. Automotive Ind 83:60-1 Jl 15 '40
Economic factors in catalytic cracking. J. S. Carey and H. W. Ortendahl. Nat Pet N 32:R370-2, R375 O 16 '40; Same. Oil & Gas J 39:55-6+ O 17 '40
New heat transfer medium for high temperatures. W. E. Kirst, W. M. Nagle and J. B. Castner. bibliog Am Inst Chem Eng Trans 36:371-90 Je '40; Same cond. il Chem & Met Eng 47:472-5 Jl '40; Abstract. Nat Pet N 32:R220+ Je 12 '40; Discussion. Am Inst Chem Eng Trans 36:390-4 Je '40
Sun Oil operating large Houdry catalytic gasoline treating unit at Marcus Hook. H. S. Norman. flow chart il Oil & Gas J 38: 106-7, 111+ Mr 28 '40

HOUGH, Benjamin K. jr. 1905-
Sketch. por(p55) Civil Eng 10:57 Ja '40

HOURS of business. See Banks and banking—Hours of business; Staggered hours; Stock exchange—Hours of business

HOURS of labor
Australian endorsement of 44-hour week. Monthly Labor R 49:1447-9 D '39
Defense program found to require extension of work week. L. Wolman. Comm & Fin Chr 151:2740-1 N 9 '40
Earnings and hours of working women in Utah. Monthly Labor R 50:630-4 Mr '40
Express employees demand 44-hour week. Ry Age 109:109+ Jl 20 '40
Extension of hours of work in the U.S.S.R. Int Labour R 42:128-30 Ag-S '40
Generalisation of the reduction of hours of work in industry, commerce and offices. 211p; Supplementary report. 20p $1 Int. labor office '39
Hours and wages in American organized labor. J. M. Viau. 301p bibliog(p273-95) $2.50 Putnam '39
Hours of work in war-time. H. M. Vernon. Engineering 150:94 Ag 2 '40
Hours of work of municipal firemen in the United States. C. P. Brainerd and G. M. Whitright. Monthly Labor R 51:13-26 Jl '40
Increase in working hours and family allowances in Italy. Monthly Labor R 50:57-8 Ja '40
Influence of the war and mobilisation on hours of work and rest periods; various countries. bibliog Int Labour R 41:291-306 Mr '40
Meeting the hours problem. A. W. Delbert. Bankers M 141:24-7 Jl '40
Solution to the 40-hour problem; improvements in operating methods. B. P. Olsen. il Burroughs Clearing House 24:18-20+ Jl '40
Wages and hours of labor. Published in Monthly labor review
Wages, hours, and working conditions of union motortruck drivers, June 1, 1939. F. S. McElroy and H. Cannon. Monthly Labor R 50:709-26 Mr '40; Same, with tabulation of union scales of hours and wages, by cities. U S Bur Labor Statistics Bul 676:1-54 '40
Work and wages in 1939. Monthly Labor R 50: 541-55 Mr '40
Worktime of women and young persons in British factories. Monthly Labor R 50: 1150-2 My '40

See also
Overtime
Woman—Employment

Eight-hour day
Establishment of 8-hour day in Brazilian merchant marine, 1939. W. C. Burdett. Monthly Labor R 51:161 Jl '40

Five-day week
Five-day week policies in New York city. Management R 29:10-11 Ja '40
Salesmen's Saturdays. Management R 29:112 Mr '40

See also
Bank holidays

Law
Application of the wage-hour act to mining. E. F. Andrews. Min Cong J 26:39-41; Discussion. 41-6 Ja '40
Compensating overtime by time off under the Fair labor standards act. Management R 29:92-3 Mr '40
Continuance of existing basic workweek under wage and hour law. Monthly Labor R 51:417 Ag '40
Hours of employment of women and young persons in factories in Great Britain. Int Labour R 41:608-13 Je '40
Hours-of-labor legislation in the United States. Monthly Labor R 51:545-50 S '40
Longer working hours in the Soviet Union. Monthly Labor R 51:419-20 Ag '40
Meeting wage hour law requirements. C. E. Johnson. Bankers M 140:441-2 My '40
New Jersey hours-of-labor law for women upheld. Monthly Labor R 50:1175 My '40
Second year of the Wage and hour act. Monthly Labor R 49:1439-46 D '39
Trustees under the wage and hour law; status, and steps to avoid overtime. Trusts & Estates 71:417-21 O '40
Twenty industrial operations seasonal under wage and hour law. Monthly Labor R 50:1461-4 Je '40
Wartime control of hours and wages in France. Monthly Labor R 49:1368-72 D '39
Wartime modification of Belgian laws on working hours. Monthly Labor R 49:1359-60 D '39

Shift schedules
Survey of shift schedules in continuous-process industries. Management R 28:431-2 D '39
Work schedules in power plants. E. W. Robinson. Power Pl Eng 44:63-4 S '40

Statistics
Annual earnings in knit-goods industries (other than hosiery), 1937. H. E. Riley and others. Monthly Labor R 50:401-9 F '40
Average wages and hours in Korea, 1938. Monthly Labor R 49:1509-11 D '39
Average weekly hours per worker in factories and factory average hourly and weekly earnings, Bureau of labor statistics series, monthly, 1932-Oct. 1939; revision. Survey of Cur Business 20:17 Ja '40
Average weekly hours per worker in factories and factory average hourly and weekly earnings; National industrial conference board series, monthly, 1934-Nov. 1939; revision. Survey of Cur Business 20: 18 Ja '40
Comparative earnings and hours of men and women, March 1939. Monthly Labor R 50: 76-8 Ja '40
Comparative earnings and hours of women and men, September 1939. Monthly Labor R 50:628-30 Mr '40
Earnings and hours in men's neckwear industry, 1939. F. M. Jones and G. E. Votava. Monthly Labor R 50:410-31 F '40
Earnings and hours in the carpet and rug industry. H. E. Riley and E. M. Bunn. Monthly Labor R 51:164-83 Jl '40
Earnings and hours in the iron and steel industry, April 1938. V. S. Baril, H. O. Rogers and A. C. Lakenan. Monthly Labor R 51:421-42, 709-26 Ag-S '40
Earnings and hours in the men's robe industry, 1938. F. M. Jones and G. E. Votava. Monthly Labor R 50:697-708 Mr '40
Earnings and hours in Yokohama, July 1939. Monthly Labor R 49:1508-9 D '39
Earnings of wage earners in Puerto Rico, 1938-39. Monthly Labor R 50:732-4 Mr '40

HOURS of labor—Statistics—*Continued*
Geographical differences in hours and wages. 1935 and 1937; indexes representing wage levels for same types of work. A. F. Hinrichs and A. F. Beal. Monthly Labor R 50: 1204-23 My '40
Hourly earnings in knit-goods industries (other than hosiery), September 1938. H. E. Riley and J. Perlman. Monthly Labor R 49:1173-1202 N '39
Hours and earnings in certain men's-wear industries; caps and cloth hats, neckwear, work and knit gloves, handkerchiefs. U S Women's Bur Bul 163-6:1-22 '39
Hours and earnings in manufacturing industries, 1932 to 1939. Monthly Labor R 49:1466-9 D '39
Statistics of industrial employment, unemployment, and hours of work in various countries, yearly, 1929-39; monthly, Jan. 1939-Jan. 1940. Int Labour R 41:318-28 Mr '40 [cont quarterly]
Union wages, hours, and working conditions in the building trades, June 1, 1939. F. S. McElroy. U S Bur Labor Statistics Bul 674: 1-87 '40; Same abr. Monthly Labor R 49: 1203-26 N '39
Union wages, hours, and working conditions in the printing trades, June 1, 1939. F. S. McElroy. U S Bur Labor Statistics Bul 675:1-69 '40; Excerpts. Monthly Labor R 49:1483-1507 D '39
Wage and hour structure of the furniture-manufacturing industry, Oct. 1937. U S Bur Labor Statistics Bul 669:1-121, pl 1-6 '40
Wages and hours in British Columbia, 1938. Monthly Labor R 49:1226-7 N '39
Wages and hours in drugs and medicines and in certain toilet preparations. A. T. Sutherland. U S Women's Bur Bul 171:1-19 '39
Wages and hours in Palestine, March 1939. Monthly Labor R 49:718-22 S '39
Wages and hours of citrus fruit packers. Monthly Labor R 50:1483-6 Je '40
Wages and hours of labor in Argentina. Monthly Labor R 50:456-70 F '40
Wages and normal hours of work of adult males in certain occupations in various countries in October 1939. Int Labour R 41:404-27 Ap '40
Wages, hours, and productivity of industrial labor, 1909 to 1939; manufactures, mining and railroads. W. Bowden. Monthly Labor R 51:517-44 S '40
Wages, hours, and working conditions in union bakeries, June 1, 1939. F. S. McElroy. Monthly Labor R 50:195-209 Ja '40; Same, with analytical tables. U S Bur Labor Statistics Bul 673:1-39 '40
Wages, hours, and working conditions of union street-railway employees, June 1, 1939. F. S. McElroy. Monthly Labor R 50: 432-52 F '40
Wages in Canada, 1939. Monthly Labor R 51: 189-93 Jl '40

HOUSE boats
Houseboat and river-bottoms people; a study of 683 households in sample localities adjacent to the Ohio and Mississippi rivers. E. T. Hiller. Ill U Studies in the Social Sciences v 24, no 1:1-146 bibliog(p140-1) '39

HOUSE decoration
Decoratively speaking; the essentials and principles of interior decoration. G. Miller. 374p bibliog(p356-61) $4 Doubleday '39
Do it yourself; save money while decorating. W. de Campi. 162p $1 Stokes '40
Harmony in interiors. V. Seeley. 287p bibliog(p269-73) $5 McGraw-Hill '40
House and its care. M. L. Matthews. rev ed 371p bibliog(p354-7) $1.76 Little '40
Mrs Homemaker's question: what color goes with what? R. Leigh. il Ptr Ink Mo 41: 14-15 O '40
Plan your own home. L. P. Sooy and V. Woodbridge. 228p $2.95 Stanford univ. press '40
Whither contemporary design? excerpts from symposium in Interior decorator for Jan. 1940. Arch Forum 72:190-1 Mr '40

See also
Furniture
Interior decoration
Recreation rooms

Exhibitions
America at home; exhibit at the New York world's fair. il Arch Rec 87:92-5 Je '40
American industrial art; fifteenth exhibition. H. Josephs. il Mod Plastics 17:46-8+ Je '40
Contemporary American industrial design on display at New York's Metropolitan museum of art. il Arch Rec 87:88-91 Je '40

HOUSE lighting
Fluorescent lamp applications in the home. M. Fahsbender and R. G. Slauer. il diags Illum Eng 35:669-91 S '40
Home lighting; light conditioning. W. E. Potter. Elec West 84:90-1 Je '40
Influence of fluorescent lighting on the colors of decorations and furnishings. A. H. Taylor. Illum Eng 35:625-8 Jl '40
Light in the black-out. J. B. Harris. Electrician 124:238 Mr 29 '40
Lighting in the home; counteracting black-out depression. M. Forrest. il Elec R (Lond) 127:197 S 6 '40
More recognition of human factor in residential illumination; abstract. W. A. Kimbel. Illum Eng 35:575-6 Jl '40
New lamps for old. M. R. Kynaston. Pub Util 25:142-8 F 1 '40
Recommended practice for the illumination performance of residential ceiling luminaires. Illum Eng 35:523-6 Je '40
Relation of lighting to interior design. R. W. Irvin. Illum Eng 35:544-50 Je '40
Rights of the eye. H. G. Rowell. Edison Elec Inst Bul 8:353-5+ Jl '40
Standards for lighting. il diags Arch Rec 87:98-9 Mr '40
Steady does it in home-lighting promotion. C. Hudson. Elec W 114:237 Jl 27 '40
Survey and analysis of the present lighting condition in homes. E. W. Commery. il Illum Eng Soc Trans 34:1003-23; Discussion. 1023-4 N '39

Bibliography
Current articles on home lighting. Published in monthly numbers of Illuminating engineering

HOUSE organs
Continuous contact with 5,000 prospects; The Hoover sphere. F. A. Lennox. il Ptr Ink Mo 40:14-15 F '40
Do they like your house organ? Moore-McCormack daily, The good neighbor. Ptr Ink Mo 40:35 My '40
House organ handbook and review, 1939-40. F. R. Groves and others. 288p bibliog(p288) (15s) Inst. of house organ editors, London '40
House organ in difficult field; Ciba pharmaceutical products, inc. Ptr Ink Mo 41:21-2 Jl '40
Industrial house organ editors to meet Oct. 13; first national convention, St Louis. Oil Paint & Drug Rep 138:34 S 16 '40
Public relations house organ; State farm insurance companies, Bloomington, Ill. issues special edition of agents' magazine for policyholders. il Ptr Ink Mo 40:48 Je '40
Small presses produce A1 house-organ. J. N. Cronk. il Inland Ptr 105:48-50 Ap '40
Stuart's house magazine celebrates an anniversary. il Inland Ptr 105:44 My '40
Survey, 596 house magazines; Printers Ink Monthly special study. Ptr Ink Mo 41:21-4, 42+ O '40
This house magazine carries most of load in mail selling program; International fibre board, Ottawa. il Ptr Ink 190:78-9 F 9 '40

See also
Employees' magazines
Salesmen's magazines

HOUSE organs—*Continued*

Directories

New house magazine list; names, company names and addresses checked, augmented, brought up to date. Ptr Ink Mo 39:57-62 N; 62-5 D '39; 40:44 Ja '40

Printing

House magazine goes letterpress from planograph, Seng company, Chicago; abstract. G. A. Bentley. Inland Ptr 105:30 Ag '40

HOUSE painting

Chalking of titanium dioxide pigmented exterior finishes; outside house paints. R. E. Troutman and W. G. Vannoy. il Ind & Eng Chem 32:232-7 F '40

F.H.A. approves use of two-coat paint system. Oil Paint & Drug Rep 137:4+ F 12 '40

House paints for exterior wood surfaces. Consumers' Research Bul (Gen bul ser) 10:17-20 O '40

Inert materials for admixture with paint pigments. W. R. Fuller. Oil Paint & Drug Rep 138:5+ Ag 26 '40

Moisture peeling of house paints; effect of structural details. J. W. Iliff and R. B. Davis. il diags map Ind & Eng Chem 31: 1407-12 N '39; Same. Metal Ind 38:240-4, 300-1 Ap-My '40

Moisture peeling of house paints; mechanism of moisture peeling. J. W. Iliff and R. B. Davis. il Ind & Eng Chem 31:1446-50 D '39

Paint style trends in homes revealed at Color styling show, New York, April 1. Oil Paint & Drug Rep 137:3+ Ap 8 '40

Painting at Callaway; methods employed in mill and village. il Textile World 90:68-70 My '40

HOUSE plants

Gas heat ideal for growing house plants. H. L. Jacobs. il Gas Age 86:32-3+ S 26 '40

HOUSE-to-house selling. See Canvassing

HOUSEHOLD budget. See Budget, Household

HOUSEHOLD employees. See Servants

HOUSEHOLD finance corporation

Earnings, 1936-39. Comm & Fin Chr 150:996 F 10 '40

HOUSEHOLD products industries

Mrs Homemaker's question: what color goes with what? R. Leigh. il Ptr Ink Mo 41: 14-15 O '40

See also
Washing machines

Securities

Household products and appliances, 1937-39. Mag of Wall St Manual p39 Mr 2 '40

HOUSES

All about houses. G. Conklin. 194p $2 Julian Messner, 8 W. 40th st, New York '39

Asbestos siding featured in full value homes; Garling homes for Ford workers in Dearborn. J. H. Hawkins. il plans Am Bld 62: 62-4 O '40

Better homes for industrial workers; Wilmington construction company builds and sells modern 6-room houses for Du Pont employees; with standard specifications. J. B. Mason. il plans Am Bld 62: 50-3+ Jl '40

Building types; standards for houses with illustrated case studies. Arch Rec 87:93-108 Mr '40

Construction tricks for low cost housers taught by a Pennsylvania lumber dealer. il plans Arch Forum 72:374-5+ My '40

Cotton's uses in relation to housing and construction. C. K. Everett. il Manuf Rec 108: 19+ D '39

18 sold in two days; $2625 houses in Chester, Pa.; with TruCost figures. J. B. Mason. il plans Am Bld 62:44-5+, 116 My '40

Engineer air conditions his home; gas fired equipment uses Freon 113 for heating and cooling. C. F. Boester. il diag plan Heat & Ven 37:15-18 F '40

Good lumber house; how to specify and build it. diags Am Bld 62:58-61 Ja '40

Houses. il diags plans Arch Rec 88:49-60 Ag '40

Houses with from two to four bedrooms. il plans Arch Rec 87:53-66 F '40

Houses with two bedrooms; problem includes site, local custom, climate, etc. il plans Arch Rec 87:57-66 My '40

How a builder makes his houses fit pocketbooks; on the less than $2,000 level. J. Hawkins. il plans Am Bld 62:54-5 Jl '40

How builder O'Neill has averaged 300 houses yearly for 30 years; with TruCost figures. il diags plans Am Bld 62:40-1+, 89 N '40

How complete wall sections are made horizontally on the job by a builder in Washington, D.C. il diag plan Am Bld 62:64-5 Jl '40

Insulation board for home building. il diags plans Am Bld 61:43-71 D '39

Low cost house is plugged by a newspaper in Bridgeport, Conn.; with cost data and construction outline. il plan Arch Forum 72: 131+ F '40

Low cost house; stock designs with and without architectural service. il diags plans Arch Forum 72:211-25 Ap '40

New effects with wood siding. il diags Am Bld 62:64-70 Ja '40

New panel-size plywood siding demonstrated on Oregon home. il diags plan Am Bld 62: 60-1 O '40

New York fair "home of wood" demonstrates plank floors and roof spanning 7 feet between trusses. il diags plans Am Bld 62: 56-7 Ja '40

Power equipment cuts costs of small Stamford houses. il Am Bld 62:66-7+ My '40

Trade-in plan offers better security; William T. Richardson takes old houses in exchange for new. S. A. Lewis. il plans Am Bld 62: 53-5+ O '40

See also

Apartment houses	Country houses
Architecture, Domestic	Historic houses, etc.
	Home ownership
Brick houses	House lighting
Bungalows	Housing
Concrete houses	Steel houses
Cottages	Week-end houses

Mechanical equipment

Design decade. diag Arch Forum 73:273+ O '40

House sense! put equipment in new houses when they're built? C. W. Stuart. Am Bld 62:76+ My '40

Resurfacing

Real salesmanship and sound work build a stucco business; W. E. Nelson stucco company, Minneapolis. R. E. Sangster. il Am Bld 62:50-2 Mr '40

HOUSES, Brick. See Brick houses

HOUSES, Concrete. See Concrete houses

HOUSES, Model

Bob Morrill has the answer; builds model log cabin with modern plumbing and electric equipment. il plan Dom Eng 155:45-7+ Mr '40

Certigrade Californian; a 1940 headliner in home design; with construction outline and TruCost figures. il plans Am Bld 62:62-3 Mr '40

Detroit approves better value models. il plans Am Bld 62:52 O '40

House for 300 clients; Sunset magazine sponsors model house planned by club women. il plans Arch Forum 72:442-4 Je '40

Insulation board adapted to demonstration houses. il diags plans Am Bld 61:51-3 D '39

Life houses; second series, from $4750 to $20,672. il plans Arch Forum 73:1-20 Jl '40

Low cost house trio; experimental models; views, plans and construction outlines. Arch Forum 73:142-4+ Ag '40

Low-cost housing research; John B. Pierce foundation; abstract. il plan Mech Eng 62: 553-4 Jl '40

Model living home in Wells Quarter Village, Conn. il plans Am Bld 62:48-9+ Ag '40

1940 model home by Life magazine. il plans Concrete 48:28 Je '40

HOUSES, Model—*Continued*
Northwest evolves the Puget Sound home; Seattle demonstration of five houses; with TruCost figures. il diags plans Am Bld 62: 53-60 Mr '40
Plywood model home attracts thousands. il diag plan Am Bld 62:58-9+ Je '40
Science builds a low-cost home; non-profit Pierce foundation experimental house at Lebanon, N.J. il Business Week p24+ Ap 13 '40
Terrace house, Rockefeller Center, New York city; views, plans and construction outline. Arch Forum 73:107-10 Ag '40
Twenty million visitors; FHA model homes at New York world's fair. il Dom Eng 155: 34-5+ Je '40

HOUSES, Prefabricated
Experimental house no. 2, John B. Pierce foundation; cost $2600, including built-in furniture but excluding land and builder's overhead and profit. il plan Arch Forum 72:226-7 Ap '40
Factory houses for $2,995 in a Chicago suburb; Standard houses corp. il plan Arch Forum 72:66-7+ Ja '40
G.B. system of sheet-steel building. diags Engineering 150:16-17 Jl 5 '40
Homes from the assembly line in Los Angeles and San Francisco. Business Week p43 F 10 '40
House by Bel Geddes. Business Week p35-6 Ja 13 '40
Houses on Puget Sound, Seattle, Wash.; new regional type known as Puget Sound architecture; views, plans and construction outline. Arch Forum 72:264-73 Ap '40
Low-cost housing research; John B. Pierce foundation; abstract. il plan Mech Eng 62: 553-4 Jl '40
More integration, less prefabrication spells success for American houses, inc; $2,750 houses, $20-per-room apartments il plans Arch Forum 73:69-72+ Jl '40
Navy prefabricates; 50 one-family units at Norfolk base. Business Week p36 S 21 '40
New structural system employs no nails; PHC housing corporation's beam-joist-and-stud system. il plans Arch Rec 88:74-5 Ag '40
Prefabricated housing; PHC housing corp. bridge-frame model. il Business Week p18+ Jl 20 '40
Prefabricated housing seen as aid in meeting defense needs. Eng N 125:518 O 24 '40
Prefabricated vacation homes. il Barron's 20. 5 Ag 12 '40
Prefabrication boosts plywood. P. H. Smith. Sci Am 163:12 Jl '40
Research develops a $2,600 house in sixteen years, builds it in ten days; horizontal construction il diags plan Arch Forum 72: 365-9+ My '40
Science builds a low-cost home; non-profit Pierce foundation experimental house at Lebanon, N.J. il Business Week p24+ Ap 13 '40
Shop built panels to outwit winter; Whyte construction co., Fair Lawn, N.J.; with TruCost figures. J. B. Mason. il diags plans Am Bld 62:42-6+, 89-90 N '40
Still cheaper houses offered by Cairo Sears mill which was bought by employees. il Business Week p38 Mr 9 '40
Try shop-built sections for title I homes at $2,650 in Richmond, Va. il plan Am Bld 62:64-5 Je '40

HOUSES, Remodeled
Building types; does reconditioning pay? with check list of time-saver standards, and case studies. il plans Arch Rec 87:92-108 My '40
Converted residences and the supply of housing; Madison, Wis. study. S. Keyes. J Land & Pub Util Econ 16:47-51 F '40
Modernization for profit and protection. I. J. Harvey, Jr. il Trusts & Estates 71:69-72 Jl '40
Replanning trick houses six families, ups gross income 125%; views, plans, construction outline. Arch Forum 73:212-13 S '40
Survey measures remodeling; 1,362 realtors, financiers, contractors and architects answer. Arch Forum 72:135 F '40

HOUSES, Row
Block heating for two family houses. C. Strock. il plan Heat & Ven 37:47-9 My '40
Chicagoans develop a new trick in building row-houses which are separate above ground. il plans Business Week p20 S 14 '40
English town houses; attached homes in small groups on Long Island; with TruCost figures. il plans Am Bld 62:88+, 119-20 My '40
Six-unit row house for triangular site; with construction outline. il plans Am Bld 62: 40-1+ S '40
Step-back planning gives privacy; Dunsmuir flat building, erected on a 49-ft. Los Angeles inside lot; complete homes for four small families, each with private patio, cross ventilation and sunlight. il diags plans Arch Rec 87:45-7 My '40
USHA's research produces a plan for dressing up the row house, public and private. il plans Arch Forum 72:372-3 My '40
Wellington town houses, Chicago; ten row houses around a court; with construction outline. il plan Arch Forum 72:84-5 F '40

HOUSES, Steel. See Steel houses

HOUSES, Two-family. See Architecture, Domestic—Two-family houses

HOUSING
Economics of building. H. W. Robinson. 162p 10s 6d P. S. King & son, London '39
Housing and architects; a criticism and a reply. A. C. Shire; F. L. Ackerman. Arch Forum 71:464-6 D '39
Housing and health relationships re-examined. B Marquette. bibliog Pub Health Rep 55:547-54 Mr 29 '40
Housing and welfare officials confer. 19p pa 25c Public administration service, 1313 E. 60th st, Chicago '39
Housing policy in wartime. C. M. Wright. Int Labour R 41:3-29 Ja '40
Housing problem as it affects public health nursing activities. M. J. Dunn. bibliog Pub Health Rep 55:1879-84 O 18 '40
Introduction to housing; facts and principles. E. E. Wood. 161p U.S. housing authority, Washington; 30c Supt. of doc. '40
Longshoremen and their homes; the story of a housing case study conducted under the auspices of Greenwich house. E. Ogg. 58p pa 10c Greenwich house, 27 Barrow st, New York '39
Low-rental housing program and city rebuilding. J. Crane and E. Peets. il Civil Eng 10:227-9 Ap '40
New homes for old; public housing in Europe and America. W. V. Reed and E. Ogg. 112p bibliog(p111) 95c; pa 25c Foreign policy assn, 8 W. 40th st, New York '40
Private housing in Greenbelt towns. Monthly Labor R 51:643 S '40
Problems of the used house; proceedings of the annual Educational conference, Ann Arbor, April 23, 1939. R. U. Ratcliff, ed. Univ. of Mich School of Business Administration. Business Papers 5:1-32 '39 (pa $1)
To teach housing is also to teach architecture. C. Feiss. Arch Forum 72:49-50; Reply. E. I. Williams. 50-1 Ja '40
Urban and rural housing. 159p pa 80c Columbia univ. press '39

See also
Apartment houses
Architecture, Domestic
Building—Cost
City planning
Company towns
Housing finance
Housing laws
Housing projects
Lodging houses
Rent
Slums

Bibliography
Bibliography and guide to literature on housing in Latin America. M. E. Mitchell and J. Halkin, eds. 75p pa gratis New York city housing authority, 10 E. 40th st, New York '39

HOUSING—*Continued*

Costs

Differentials in housing costs. D. L. Wickens. Monthly Labor R 49:1094-7 N '39; Abstract. Brick & Clay Rec 96:34 F '40

Small house costs in 79 cities, 1937-April, 1940. Eng N 124:912 Je 20 '40

Statistics

Building operations in principal cities. Published in Monthly labor review

Largest percentage of residential building is in small homes; graph. Brick & Clay Rec 96:22 F '40

New dwelling units provided in non-farm areas of the United States in first half of 1940 increased 8% over year ago. Comm & Fin Chr 151:935 Ag 17 '40

New dwelling units provided in urban areas during 1939 increased 40% over 1938; by private and USHA funds. Comm & Fin Chr 150:1342 Mr 2 '40

1940 housing census shows vacancies. Arch Forum 73:sup52+ O '40

Survey of dwelling units provided during first half of 1940 in nonfarm areas. Am Bld 62: 92-4 O '40

See also
Housing surveys

Ann Arbor, Michigan

Housing status of industrial and university employees in Ann Arbor, Michigan. R. U. Ratcliff. Michigan U. Bur of Business Research Report no5:1-44 '40

Burbank, California

Homes keep pace; growth of the Lockheed aircraft corp. il Dom Eng 156:37+ Jl '40

California

California looks at housing: State planning board recommends FHA continuance. Arch Rec 88:82 Jl '40

Canada

Economics of housing and town planning; how municipalities should save in war time. H. L. Seymour. Can Eng 77:9-10 D 5 '39

Chicago

Tenants too rich; CHA ousts 652 families. Business Week p24+ O 5 '40

Cleveland

Origin and development of a continuous real property inventory. H. W. Green. maps J Land & Pub Util Econ 16:325-34 Ag '40

Copenhagen

Municipal housing in Copenhagen. Monthly Labor R 50:366-8 F '40

Finland

Workers' housing, pulp mill in Sunila, Finland. il plans Arch Forum 72:406-7 Je '40

Flint, Michigan

Diagnosis and suggested treatment of an urban community's land problem; vacant lot problem. E. N. Bacon. maps J Land & Pub Util Econ 16:72-88 F '40

France

Housing agencies in France; functions and organization. J. Biderman. 3d ed 52 numb l bibliog(l 49-52) New York city housing authority, New York '40

Great Britain

British housing progress, 1938-39. Monthly Labor R 49:1419-21 D '39

Four million tenants; a study of English public housing management. K. R. Kidd. 90p pa $2 National assn. of housing officials, 1313 E. 60th st, Chicago '40

London, England

Housing projects of London County council. Monthly Labor R 49:638-9 S '39

Long Beach, California

Houses built to last 60 years; Carmelitos housing project in north Long Beach. il diags Eng N 125:150-3 Ag 1 '40

Long Island

250 largest Long Island developments, with names of builders, price range of houses, etc. il map Am Bld 62:83-5+ Ap '40

Los Angeles

Mass housing at Los Angeles. map Eng N 125:153-4 Ag 1 '40

Madison, Wisconsin

Converted residences and the supply of housing. S. Keyes. J Land & Pub Util Econ 16: 47-51 F '40

Moline, Illinois

Moline houses arsenal workers; private, non-dividend corporation has built 102 low-cost homes, and has 58 more on the way. il Business Week p20+ O 26 '40

Montgomery, Alabama

Defense housing. il plan Eng N 125:574-6 O 24 '40

New York (city)

Banks push white collar housing to stem Manhattan exodus. Business Week p30+ Ja 20 '40

Fifth annual report, New York city housing authority, 1938. 35p pa 25c New York city housing authority, 122 E. 42d st, New York '39

It's heaven, it's paradise; Red Hook houses is also a $12,230,000 USHA project. il map plan Fortune 21:82-9+ Ap '40

Life in one room; a study of the rooming house problem in the borough of Manhattan. 119 l, 16 l pa 50c Community service soc. Committee on housing, 105 E. 22d st, New York '40

Management of New York city housing projects, 1938. Monthly Labor R 50:364-6 F '40

Metropolitan's Parkchester. il diags plans map Arch Forum 71:412-26 D '39

Multiple dwellings in New York city. Monthly Labor R 51:644-6 S '40

New York (state)

Limited-dividend housing in New York; City & suburban home co. Monthly Labor R 50: 362-4 F '40

Status of public housing in New York. Monthly Labor R 50:1168-70 My '40

Philadelphia

Slum clearance by private enterprise; Philadelphia's black belt remodeled. A. Paxton. il Nation's Business 27:29-30, 70-1 D '39

Richmond, Virginia

Try shop-built sections for title I homes at $2,650. il plan Am Bld 62:64-5 Je '40

Scandinavia

Housing in Scandinavia; urban and rural. J. Graham, jr. 223p $2.50 Univ. of North Carolina press, Chapel Hill '40

United States

Broadening the base of public housing. 35p pa 25c National public housing conference, 122 E. 22nd st, New York '40

Builders of 1-family houses in 72 cities. Monthly Labor R 51:732-9 S '40

Building costs too high; residential construction lagging despite shortage. M. Pescatello. Annalist 54:823-4; Discussion. J. Collins. 824 D 28 '39

Housing America; a source unit for the social studies. J. H. Haefner and others. il diags National Council for the Social Studies Bul 14:1-80 bibliog(p62-73) '40 (pa 50c)

Housing, an item of national expense; review of Consumer expenditures in the U.S., by National resources committee. Arch Forum 72:127-30+ F '40

HOUSING—United States—*Continued*
Housing builders called on for $400,000,000 investment. C. F. Palmer. Eng N 125:617 N 7 '40
Housing census includes questions on domestic gas consumption. A. W. von Struve. Am Gas J 152:25-6 Mr '40
Housing potentials of 1940 compared with 1917. Arch Rec 88:112+ O '40
Housing scrap is shaking down. Business Week p20+ O 5 '40
Housing under Farm security administration. Monthly Labor R 49:636-7 S '39
Housing yearbook, 1940. C. Woodbury, ed. 296p $3 National assn. of housing officials, Chicago '40
Industry outgrows housing. il Business Week p30-2 Ag 31 '40
1940 residential building outlook. L. S. Schnitman. Barron's 20:31-3 Ja 15 '40
Noses, houses and contractors to be measured in 1940 census. il Arch Forum 72:132-3 F '40
President Roosevelt says slum areas of country shrivelled last year for first time in half a century. Comm & Fin Chr 150: 770 F 3 '40
Progress of public housing in the United States. M. H. Schoenfeld. Monthly Labor R 51:267-82 Ag '40
Public housing and the USHA. il Arch Forum 72:1-12 Ja '40; Replies. 72:sup28+ Mr '40
Research can re-house America; mass production techniques, new products needed to make better, chesaper homes. J. V. Sherman. Barron's 20:9 Ag 26 '40
Residential construction in the first quarter of 1940. H. B. Byer and S. Jaffe. Monthly Labor R 51:481-7 Ag '40
Senate gives President Roosevelt $100,000,000 to meet housing shortage in defense areas. Comm & Fin Chr 151:1212 Ag 31 '40
Structure and growth of residential neighborhoods in American cities. 178p U.S. Federal housing administration, Washington '39
Survey of dwelling units provided during first half of 1940 in nonfarm areas. Am Bld 62:92-4 O '40
Uncle Sam, real estate operator. R. S. Lusk. Nation's Business 28:78 O '40
USHA defense housing called for permanent construction. Eng N 125:57 Jl 11 '40
United States housing authority national program expanded to include rural areas. Comm & Fin Chr 150:1967-8 Mr 23 '40
What the government is doing in housing; how 10 agencies spend, lend, and insure; tabulation. Business Week p18-19 F 17 '40
Whose cheap housing boom is it? Bureau of standards' tests of low-cost building materials Business Week p15-16 Mr 2 '40
Your best housing market in this decade will have over 50,000,000 customers. L. H. Brown. Brick & Clay Rec 96:40+ My '40

See also
Federal housing administration
Housing laws
Housing projects
Housing projects, Government
Housing surveys
United States housing authority

Defense workers
Congress in defense housing snarl. Business Week p20+ S 14 '40
Defense housing. F. S. Fitzpatrick. J Land & Pub Util Econ 16:344-5 Ag '40
Defense housing at Montgomery. il plan Eng N 125:574-6 O 24 '40
Defense housing plans are still indefinite. Arch Rec 88:76+ Ag '40
Federal housing of war industry workers, 1917-18. Monthly Labor R 51:5-12 Jl '40
First need, defense housing; report of the Twentieth century fund. Dom Eng 156:39+ O '40
Houses as well as armaments are a part of national defense. Arch Forum 73:138-40+ Ag '40
Housing builders called on for $400,000,000 investment. C. F. Palmer. Eng N 125:617 N 7 '40
How defense housing is being handled. Eng N 125:572-3 O 24 '40
How to get defense housing business. il Heat & Ven 37:19-22 N '40
Moline houses arsenal workers; private, non-dividend corporation has built 102 low-cost homes, and has 58 more on the way. il Business Week p20+ O 26 '40
Washington sees imminence of defense housing shortage. Arch Rec 88:108+ S '40

HOUSING, Cooperative
Cooperative subdividing; Crestwood, near Madison, Wis. il plans Arch Forum 72: 136-8 F '40
Co-ops try housing; Twin City group is building 100 homes in program designed as outlet for credit union funds. Business Week p30 Je 1 '40
Self-help cooperative housing; Penn-Craft community and Iona self-help cooperative. Monthly Labor R 49:566-77 S '39

HOUSING finance
Banking's survey; housing and private capital. Banking 32:22-4 F '40
Banks help USHA; make $50,000,000 available for low-rent housing at 0.6%. Business Week p42 N 25 '39
Boomlet in under $2500 houses touched off by FHA's new program. il plans Arch Forum 72:207-9 Mr '40
European insurance companies and real estate; with particular reference to housing. C. L. Parry. bibliog J Land & Pub Util Econ 16:294-305 Ag '40
FHA urges low cost homes; new campaign, with free window display materials available to contractors. il Dom Eng 155:51-2+ Mr '40
Federal inducements for small-house construction. A. M. Weimer. J Land & Pub Util Econ 16:101-2 F '40
Five two-family bungalows; one of FHA's smallest, lowest rent projects, gives Indianapolis builder 14 per cent income; with cost data. il plans Arch Forum 73:140-1 Ag '40
Four decades of housing with a limited dividend corporation. 108p U.S. Federal housing administration, Washington '39
High finance; 1939 home mortgages covering all non-farm property loans of $20,000 and less. Arch Forum 72:sup2 Mr '40
Housing builders called on for $400,000,000 investment. C. F. Palmer. Eng N 125:617 N 7 '40
Housing finance in Great Britain. H. C. Heales and C. H. Kirby. 107p bibliog(p107) 7s 6d Franey & co, London '38
Limited-dividend housing in New York; City & suburban home co. Monthly Labor R 50:362-4 F '40
Low-cost housing under the USHA experiment; cost data. N. Strunk. J Land & Pub Util Econ 16:96-9 F '40
Need of government credit in more liquid form than now. J. N. Pierce. Comm & Fin Chr 151:2742-3 N 9 '40
New F.H.A. program booming low-cost home building. il diag Sheet Metal Worker 31: 52, 54+ Jl '40
Private as well as government resources must be used if real progress in slum clearance is to be made. L. H. Pink. Comm & Fin Chr 150:777-8 F 3 '40
Public housing and the USHA. il Arch Forum 72:1-12 Ja '40; Replies. 72:sup28+ Mr '40
Public housing opening to private investors; local housing authority long-term bonds. Bankers M 140:356-8 Ap '40
Regional banks of FHLBS form plans to cooperate in financing new homes for national defense program. Comm & Fin Chr 151:2118 O 12 '40
Sale of bonds studied by USHA. Eng N 123: 860 D 28 '39
Short-term housing authority loans with private funds. H. D. Ralph. il Burroughs Clearing House 24:17 D '39
Small homes deserve big FHA push; nation-wide education program announced amid criticism of new low cost home requirements. J. B. Mason. il Am Bld 62:36+ Mr '40

HOUSING finance—*Continued*
Three jinx in new apartments are high rents, low working capital and out-of-season completion. il Arch Forum 73:210-12+ S '40
Washington sees imminence of defense housing shortage. Arch Rec 88:108+ S '40
What the government is doing in housing; how 10 agencies spend, lend, and insure; tabulation. Business Week p18-19 F 17 '40

See also
Building—Finance
Building loans
Federal home building service plan
Federal housing administration
Federal national mortgage association
Home loan banks
Home owners' loan corporation
Home ownership—Finance
Mortgages

HOUSING laws
Housing policy in wartime. C. M. Wright. Int Labour R 41:3-29 Ja '40
Law of public housing. W. Ebenstein. 150p $1.75 Univ. of Wisconsin press, Madison '40

See also
Building laws and regulations
Rent—Law

Great Britain
Wartime housing and rent laws in Great Britain. Monthly Labor R 50:608-9 Mr '40

New York (state)
Public housing laws; an outline analysis of the United States housing act, New York state constitution, Public housing law of New York state. J. S. Chinitz and E. B. Drellich. 61p pa 50c Citizens' housing council of New York, 470 4th av, New York '39
Status of public housing in New York. Monthly Labor R 50:1168-70 My '40

United States
Constitutionality of housing legislation. Monthly Labor R 50:104 Ja '40
Federal housing of war industry workers, 1917-18. Monthly Labor R 51:5-12 Jl '40
Public housing laws. J. S. Chinitz and E. B. Drellich. 61p pa 50c Citizens' housing council of New York, 470 4th av, New York '39

HOUSING libraries
Subject headings for housing libraries. K. Malterud and A. Goldfeld, comps. 30 l pa $1 Citizens' housing council of New York, 470 4th av, New York '40

HOUSING of war workers. See Housing—United States—Defense workers

HOUSING projects
Administration of a small project; handbook of operation of Lavanburg homes. A. Goldfeld. 23p pa 50c Fred L. Lavanburg foundation, 132 Baruch pl, New York '40
All-gas cottage flats; South Wales housing experiment. J. Forrester. Gas J (Lond) 230:29 Ap 3 '40
Assembly-line plumbing job; Wyvernwood housing project. il Dom Eng 156:46-7+ S '40
Bayport, Minn. low cost housing provided without subsidy. il plans Am Bld 62:62-3 My '40
Betsy Ross girls help sell homes at New Salem at Port Washington, Long Island. il plans Am Bld 62:88-9+ Ap '40
Better homes for industrial workers; Wilmington construction company builds and sells modern 6-room houses for Du Pont employees; with standard specifications. J. B. Mason. il plans Am Bld 62:50-3+ Jl '40
Blue Grass Village near Philadelphia. H. R. Moyer. il plans Am Bld 62:68-9 F '40
Builder dodges prospects until his 17 houses are built, then sells them in a hurry; views, plans, construction outline. Arch Forum 73: 214-15 S '40
Building Parkchester; world's largest residential community for Metropolitan Life. il plan Am Bld 62:38-42+ Ag '40
Clay products preferred for the world's largest housing projects! il Brick & Clay Rec 96:31-41 Mr '40
Concrete for costs, colonial for sales; subdivider Holmes' low cost houses near Philadelphia. il plans Arch Forum 71:476-7 D '39
Cost summary of selected U.S.H.A.-aided housing projects. Eng N 124:916 Je 20 '40
Defense workers rush to buy security homes at $22 per month at Chicopee. Mass. J. B. Mason. il diags plan Am Bld 62:34-7+ S '40
18 sold in two days; $2625 house in Chester, Pa.; with TruCost figures. J. B. Mason. il plans Am Bld 62:44-5+, 116 My '40
English village, Cranford, N.J.; heating equipment; illustrations. Heat & Ven 37:40 Jl '40
Evolve new technique for Chicago homes; garden court houses to be built in Blue Island, Ill. R. E. Sangster. il plans Am Bld 62:50-2+ Je '40
Expenditures by type of material on 47 PWA low-rent housing projects. Eng N 124:918 Je 20 '40
FHA and the facts about Long Island home building standards. J. B. Mason. il Am Bld 62:64+ Ap '40
50 sold in less than one year; Dover park at Valley Stream, Long Island; with TruCost figures. il plan Am Bld 62:92-3, 120 My '40
Five two-family bungalows; one of FHA's smallest, lowest rent projects, gives Indianapolis builder 14 per cent income; with cost data. il plans Arch Forum 73:140-1 Ag '40
Ford foundation, Dearborn, Mich.; heating and air conditioning equipment. C. Strock. il diags plans Heat & Ven 37:22-5 Jl '40
Glenside homes, Reading, Pa.; views and plans. Heat & Ven 37:34-5 Jl '40
Houses and lots at $1,570 redefine low cost, Owensboro, Ky., project; views, plans, construction outline. Arch Forum 73:208-9 S '40
Houses built to last 60 years; Carmelitos housing project in north Long Beach, Calif. il diags Eng N 125:150-3 Ag 1 '40
Housing development, Seaford, Del.; with construction outline. il plans Arch Forum 73: 166-7 S '40
How builder O'Neill has averaged 300 houses yearly for 30 years; with TruCost figures. il diags plans Am Bld 62:40-1+, 89 N '40
How low-cost housing utilizes concrete. N. Straus. il Concrete 48:16+ Je '40
How to avoid paying $10,500 rent; Saltonstall Manor, East Haven, Conn. il plans Am Bld 62:50-1 O '40
How to subdivide for good, small homes; Garden Oaks of Houston, Texas. il plans Am Bld 62:44-7+ Ag '40
Lone slum-clearer makes money; Mr Binns of Philadelphia turns run-down properties into profitable investments. il Business Week p32-3+ D 9 '39
Lot + a house + good plumbing = a home; plumbing in low-cost houses. il Dom Eng 155:36-8 Ap '40
Marcy village, Indianapolis, Ind.; heating equipment; illustrations. Heat & Ven 37:44 Jl '40
Mass housing at Los Angeles. map Eng N 125:153-4 Ag 1 '40
Metropolitan's Parkchester, The Bronx, New York. il diags plans map Arch Forum 71: 412-26 D '39
Middletown's first all-gas housing project. il Am Gas Assn Mo 22:53 F '40
Modern houses sells a subdivision on Chicago's North shore, feature three-level planning and built-in sales appeal. il plans Arch Forum 72:199-203 Mr '40
Moline houses arsenal workers; private, non-dividend corporation has built 102 low-cost homes, and has 58 more on the way. il Business Week p20+ O 26 '40
More basic houses; partly-finished houses sold in white-collar suburb of Chicago. Business Week p23-4 N 11 '39
Safety drama at Parkchester housing project, Bronx, N.Y. W. L. Clapp. il East Underw 40:96-7+ D 15 '39

HOUSING projects—*Continued*
Security homes appeal to Chicago buyers; Lincolnwood estates. il plans Am Bld 62: 58-9 O '40
Security on an acre of good earth; projects for people who raise part of own food; Borsodi plan. W. W. Newcomb. il plans Am Bld 62:44-5+ O '40
Self-selling details; New Jersey's General properties, inc. complete building service in the $13,000-and-up market. il plans Arch Forum 73:61-5+ Jl '40
Shop built panels to outwit winter; Whyte construction co., Fair Lawn, N.J.; with TruCost figures. J. B. Mason. il diags plans Am Bld 62:42-6+, 89-90 N '40
16 houses on 535 feet x 138 feet plot; 4 single-family houses and 12 semi-detached units grouped around courts. il plans Am Bld 62: 68-9 Je '40
Slum clearance by private enterprise; Philadelphia's black belt remodeled. A. Paxton. il Nation's Business 27:29-30, 70-1 D '39
Sweepstake housing; under construction in South Philadelphia is a 65-unit housing project for Negroes. il Arch Forum 72:sup4 F '40
Three jinx in new apartments are high rents, low working capital and out-of-season completion. il Arch Forum 73:210-12+ S '40
Time and money savers attract Rochester buyers; with TruCost figures. il diags plans Am Bld 62:47-9, 91-2 N '40
Truck-mixers distribute concrete on big housing project; Ida B. Wells low-cost housing project, Chicago. il plan Concrete 48:3-4 Ap '40
250 largest Long Island developments, with names of builders, price range of houses, etc. il map Am Bld 62:83-5+ Ap '40
Two large-scale multifamily projects; FHA Parklane apartments, Houston, Tex. and USHA Holly Courts housing project, San Francisco. il diags plans Arch Rec 88:39-49 O '40
USHA housing; Queensbridge, New York; Brentwood Park, Jacksonville, Fla.; Santa Rita, Austin, Texas; Willert Park, Buffalo, N.Y. il plans Arch Forum 72:13-22 Ja '40
Village Green, Orange, N.J.; illustrations. Heat & Ven 37:33 Jl '40

See also
Apartment houses
Suburban development

HOUSING projects, Company
Workers' housing, pulp mill in Sunila, Finland. il plans Arch Forum 72:406-7 Je '40

HOUSING projects, Government
Another social experiment goes sour; Greenbelt soon to be for sale or lease. E. Thornhill and F. DeArmond. il Nation's Business 28:23-5+ O '40
Defense housing bill passes with but one major change. Eng N 125:448 O 10 '40
Farm hut-clearance; USHA plans to extend program to rural areas. Business Week p16-17 D 23 '39
Housing and the government; excerpts from address before New York building congress, April 23, 1940 B. Barton. Arch Forum 72: 431-2 Je '40; Reply. R. F. Wagner, jr. 432-3 Je '40
It's heaven, it's paradise; Red Hook houses is also a $12,230,000 USHA project. il map plan Fortune 21:82-9+ Ap '40
Labor and unit costs in PWA low-rent housing. H. B. Byer and C. A. Trump. Monthly Labor R 49:578-86 S '39
Planned community appraised; Greenbelt, Md. il Arch Forum 72:62-3+ Ja '40
Reduced insurance and utility rates for public housing projects. Monthly Labor R 49: 1418-19 D '39
Tenant selection for federal housing projects. Monthly Labor R 50:1440-2 Je '40

HOUSING projects, Municipal
Close coordination speeds Buffalo housing project; with cost data. il diag Eng N 123: 822-5 D 21 '39
Designing water, gas and sewerage facilities for low cost housing project in San Antonio. A. Sauer. il diags Pub Works 71:20-3 S '40
Housing projects of London County council. Monthly Labor R 49:638-9 S '39
Low-rental housing program and city rebuilding. J. Crane and E. Peets. il Civil Eng 10:227-9 Ap '40
Municipal housing in Copenhagen. Monthly Labor R 50:366-8 F '40
Tenant too rich; CHA ousts 652 families. il Business Week p24+ O 5 '40

Management
Civil service in relation to housing management personnel. B. G. Rosahn and others. 52p bibliog(p52) pa $1 Citizens' housing council of New York, 470 4th av, New York '40
Management of New York city housing projects, 1938. Monthly Labor R 50:364-6 F '40

HOUSING research
Experimental house no. 2, John B. Pierce foundation; cost $2600, including built-in furniture but excluding land and builder's overhead and profit. il plan Arch Forum 72: 226-7 Ap '40
Low-cost housing research; John B. Pierce foundation; abstract. il plan Mech Eng 62: 553-4 Jl '40
USHA's research produces a plan for dressing up the row house, public and private. il plans Arch Forum 72:372-3 My '40

See also
Building research

HOUSING surveys
Converted residences and the supply of housing; Madison, Wis. study. S. Keyes. J Land & Pub Util Econ 16:47-51 F '40
From tubs to radios; first U.S. housing census will uncover valuable marketing data. V. D. Reed. Ptr Ink 191:40 Ap 5 '40
Housing facilities and expenditures of wage earners and clerical workers. Monthly Labor R 50:807-24 Ap '40
Housing vacancies in U.S. Arch Forum 73: 68+ Jl '40
Origin and development of a continuous real property inventory in Cleveland. H. W. Green. maps J Land & Pub Util Econ 16: 325-34 Ag '40
Study of housing needs of renting families and available rental facilities in Ontario, Oregon. R. P. Chindgren. Oregon State College Thesis Ser 13:1-49, xiii, 2 bibliog(sup 1-2) '40 (pa 35c)
Survey determines defense housing needs; Holden, McLaughlin, and associates evolve procedure for anticipating housing shortages. map Arch Rec 88:106+ S '40
Survey of U.S. housing to accompany population census. Arch Rec 87:10+ Mr '40
Survey shows public is up on its materials. Arch Rec 88:114+ Ag '40
Tentative classification of residential occupance in the United States. M. J. Proudfoot. J Land & Pub Util Econ 15:473-4 N '39
Twentieth century fund's survey of defense housing. Arch Forum 73:sup60+ O '40

HOUSTON, David Franklin, 1866-1940
Sketch. por East Underw 41:3 S 6 '40; Nat Underw (Life ed) 44:1 S 6 '40; Weekly Underw 143:530 S 7 '40; Comm & Fin Chr 151:1377 S 7 '40

HOUSTON, Persis Daniel, 1874-
Incoming president of American bankers association. H. V. Odle. por Burroughs Clearing House 24:11-13+ S '40

HOUSTON, Texas
Houston and the Texas Gulf Coast area. A. B. Groesbeck. il Gas Age 85:38-41+ My 9 '40
Port of Houston. Comm Rep p172 F 17 '40

Architecture
FHA Parklane apartments. il diag plans Arch Rec 88:40-5 O '40

HOUSTON natural gas corporation
Bonds offered. Comm & Fin Chr 151:1574-5 S 14 '40
Ceases to be holding company upon completion of merger of subsidiaries. Comm & Fin Chr 150:3511 Je 1 '40

HOUZE, Leon J. 1857-1940
Sketch. por(cover) Am Cer Soc Bul 19:104-5 Mr '40

HOWE, Herbert L.
Sketch. Special Lib 31:14 Ja '40

HOWE and French
Chemical tourist visits at the hub of New England chemical trade. W. Haynes. il Chem Ind 46:29 Ja '40

HUDGINS, Houlder
Six managers. por(p54) Fortune 22:94 Ag '40

HUDSON bay
Expedition to Hudson bay of the University of Minnesota. E. C. Abbe. Science 90:458-9 N 17 '39

HUDSON River power corporation
To issue $14,455,000 bonds; authorized to absorb affiliate, System properties, inc. Comm & Fin Chr 151:2648 N 2 '40

HUDSON'S Bay company
Annual general court, 271st, London. Economist 138:1032 Je 8 '40
Sea of destiny. H. D. Carter. 236p biblog(p233-6) $3 Greenberg, 67 W. 44th st, New York '40

HUEBNER, Solomon Stephen, 1882-
Testimonial dinner; announcement of S. S. Huebner foundation for insurance education. Nat Underw (Life ed) Daily ed 44:16 S 27 '40; por(p8) East Underw 41:11 S 27 '40

HULL, Cordell, 1871-
Department of state. por Fortune 20:44-50+ D '39

HULSE, George Egbert, 1877-
Sketch. por Mech Eng 62:640 Ag '40

HUMAN body. See Physiology

HUMBLE oil and refining company
Earnings, 1936-39. Comm & Fin Chr 150:3512 Je 1 '40
Standard oil co. (N.J.); men of Humble emerge to manage $2,000,000,000 worth of properties. il Fortune 21:61-3+ Je '40

HUMIDIFIERS
Chicago art institute installs humidifiers to preserve famed paintings. il Dom Eng 155: 64 Ja '40
Evaporative requirements for humidifiers; chart. A. P. Kratz. Power Pl Eng 44:100 S '40
Humidification problem. Sheet Metal Worker 31:58+ Jl '40
Humidification processes. chart Chem & Met Eng 47:315-16 My '40
Humidifying air in homes, a new gas load. O. J. Kuenhold. il diags Am Gas J 153:43-5 O '40
Liquid-gas contactors. H. F. Johnstone. il diags Chem & Met Eng 47:322-4 My '40
Uniform temperature and humidity protect valuable Italian exhibit; Art institute of Chicago. il Heating-Piping 12:5+ Ja '40

HUMIDITY
Atmospheric humidity and the moisture content and regain of textile materials; tentative textile standard. Textile Inst J 31: S3-4 Ja '40
Damp cold better than dry cold. Sci Am 162: 222 Ap '40
Desirable temperatures and humidities for industrial processing; tabulation. Factory Management 98:100, 102 Mr '40
Determination of relative humidity; tentative textile standard. Textile Inst J 31:S5 Ja '40
Determination of relative humidity while measuring respiration in a gas train system. W. W. Jones. diag Science 91:202 F 23 '40
Dimensional changes in paper. H. W. Bialkowsky and T. R. Probst. bibliog flow sheet il Paper Tr J 111:34-8 Jl 11 '40
Drying psychrometry. Chem & Met Eng 47: 332 My '40
Effect of atmospheric humidity on newsprint. D. Jones. diags Paper Tr J 111:35-8 Ag 1 '40; Same. Pulp & Pa of Can 41:725-8 O '40
Effect of humidity of air on the oxidation of a low carbon steel. C. A. Siebert and H. G. Donnelly. bibliog Am Soc for Metals Trans 28:372-7; Discussion. 377-9 Je '40
Equipment for conditioning materials at constant humidities and at elevated temperatures. J. G. Wiegerink. diag J Research Nat Bur Stand 24:639-44, pl 1-3 Je '40
Humidity chart. W. F. Schaphorst. Water Works & Sewerage 87:75 F '40
Humidity damage to buildings and means for its prevention. C. R. Downs and J. W. Spiselman. il diag Chem & Met Eng 47:620-1+ S '40
Humidity held to close limits; Naumkeag steam cotton co. il Textile World 89:94 N '39
Humidity in commercial refrigerators. S. C. Moncher. Refrig Eng 40:96 Ag '40
Humidity standards for paper testing. M. S. Kantrowitz and E. W. Spencer. Paper Ind 22:39-42 Ap '40; Same cond. Ind Stand 11: 261-5 O '40
Moisture relations of textile fibers at elevated temperatures. J. G. Wiegerink. J Research Nat Bur Stand 24:645-64 Je '40
Neenah expansimeter; method for measuring the expansion or contraction of papers caused by change in relative humidity. J. A. Van den Akker. il diag Paper Tr J 109:105-6 N 30 '39
New psychrometric chart; with application to chemical dehydrating and solvent recovery. D. F. Othmer. Chem & Met Eng 47:296-9 My '40
Properties of mixtures of air and saturated water vapor for barometric pressures from 22 in. to 32 in. of mercury; tables. W. Goodman. Heating-Piping 11:445-6, 505-6, 567-8, 627-8, 689-90, 755-6; 12:185-6, 253-4, 311-12, 373-4, 435-6 Jl-D '39, Mr-Jl '40
Psychrometric chart; its application and theory. W. Goodman. diag Heating-Piping 11: 357-60, 421-4, 485-7, 549-51, 613-15+, 671-4, 749-52; 12:6-9, 107-10, 171-3, 239-42, 303-5, 367-9, 431-3, 486-8 Je '39-Ag '40
Psychrometric charts, high and low range. D. B. Brooks. Metal Prog 38:588-9 O '40
Radiation and psychrometry; abstract. D. Dropkin. Mech Eng 62:145-6 F '40
Regain of textiles and humid atmosphere changes. A. B. D. Cassie. Textile Inst J 31:T17-30 F '40
Relative humidity and vapor pressure; chart. D. B. Brooks. Power Pl Eng 44:84 Ag '40
Study of changes in the temperature and water vapor content of respired air in the nasal cavity. L. E. Seeley. il diags Heating-Piping 12:377-88 Je '40
Supplementary report of activities of the A.S.R.E. physics committee; measuring humidities at low temperatures. Refrig Eng 39:241 Ap '40
There's moisture in the air. M. Landau. Sheet Metal Worker 30:44, 46+ N; 36, 38+ D '39
Thermometry in hygrometric measurements. A. W. Ewell. bibliog Refrig Eng 40:27-9 Jl '40
Types of psychrometric charts. Chem & Met Eng 47:293-6 My '40
Use of lithium chloride solutions for humidity control; abstract. E. A. Windham. diag Chem & Met Eng 47:228, 229 Ap '40
Use of psychrometric principles. E. J. Barta and H. J. Garber. bibliog il charts Chem & Met Eng 47:287-93 My '40
Why humidity is a problem in freezers. V. H. Greene. il Refrig Eng 39:300+ My '40

See also
Air conditioning
Dampness in buildings
Dehumidifiers
Hygrometers
Moisture

HUMM, Doncaster G. 1887-
Sketch. por Sales Management 47:23 N 15 '40

HUMM-WADSWORTH temperament scale
Selection of employees for good public relations. D. G. Humm. Pub Util 26:663-71 N 7 '40

HUMMING birds
Humming-bird; probably the most skillful of all flying creatures; abstract. W. M. Tyler. Science 92:sup7-8 Ag 23 '40

HUNGARY
See also
Chemical industries —Hungary

Economic conditions

Economic outlook. Economist 138:466-7 Mr 16 '40
Hungarian economic year book, 1940. G. Gratz, E. Zemplényi and H. S. Lambert, eds. 162p $2 Columbia univ. press '40
Hungary in 1939. Economist 138:sup 17-18 F 17 '40
Hungary's war economy. Economist 138:13 Ja 6 '40
National income of Hungary, 1924/25-1936/37. M. Matolcsy and S. Varga. 116p 15s P. S. King & son, London '38

Foreign relations

Papers and documents relating to the foreign relations of Hungary. v. 1, 1919-1920. F. Deák and D. Ujváry, eds. 1079p $5; ¾ lea $6 Columbia univ. press '40

HUNTER, Summers, 1856-1940
Sketch. por Engineer 169:66 Ja 19 '40

HUNTER paper museum. See Massachusetts institute of technology—Dard Hunter paper museum

HUNTINGTON, Collis Potter
Sold: a shipyard and a tradition; investment trusts and bankers acquire Newport News enterprise. il Business Week p24+ My 18 '40

HUPP motor car corporation
Consolidated income account for calendar years, 1936-1939; earnings for 3 and 6 months ended June 30, 1939-1940. Comm & Fin Chr 151:1145 Ag 24 '40

HURRICANES
Grading for the windstorm hazard. T. Z. Franklin. Weekly Underw 143:488+ S 7 '40
Hurricane across Nova Scotia and 1938 storm over New England. Science 92:sup12 S 27 '40
Hurricane floods of September 1938. C. G. Paulsen and others. maps U S Geol S Water-supply Pa 867:1-562, pl 1-20 '40
Hurricane in South expected to bring many damage claims; preliminary report. D. A. Fraser. East Underw 41:1+ Ag 16 '40
Hurricane intelligence; ozone stimulant during test. H. N. Glick. Science 91:450 My 10 '40
Hurricane losses in South. Nat Underw 44: 3+ Ag 15; 4 Ag 22 '40; Ins Field (Fire ed) 69:13-14 Ag 15 '40; Spectator (Property ed) 6:15 Ag 22 '40; Weekly Underw 143:487 S 7 '40
Insurance men rush to aid Charleston; losses from hurricane estimated at $1,000,000. M. R. McGruder. Weekly Underw 143:321+ Ag 17 '40
Lessons from floods and hurricane at Ware, Mass. G. F. Merrill. N E Water Works Assn J 54:186-90 Je '40
Ozone in the '38 hurricane. C. A. Peters. Science 90:491 N 24 '39
Preparing gas plants for floods and hurricanes. G. F. Tyler. plan map Gas Age 85:21-6 Je 20 '40
Tropical storm does wide damage in the southeastern states. il Eng N 125:253 Ag 22 '40

HUSBAND and wife
Don't be a tax spendthrift! when and how husband and wife should file a joint return. L. J. Freeman. Barron's 20:20 Mr 11 '40
Liability of insured for spouse's injury; New York Supreme court decides in case of woman who married defendant during action's pendency. East Underw 41:35 Ja 19 '40
See also
Community property

HUTCHINS, Robert Maynard
Portrait. Trusts & Estates 70:475 My '40

HUYCK, Edmund Niles, preserve
Biological research division of the Edmund Niles Huyck preserve. Science 90:534 D 8 '39

HUYGENS ocular. See Lenses

HYDANTOINS
Alkaline hydrolysis of condensation products of hydantoin with aldehydes. H. R. Henze, W. B. Whitney and M. A. Eppright. bibliog Am Chem Soc J 62:565-8 Mr '40
5-[α-(s-Butoxy)]-ethyl-5-alkyl hydantoins. R. J. Speer and H. R. Henze. Am Chem Soc J 61:3376-7 D '39
Differences observed in the behavior of unsaturated hydantoins under the action of bromine. M. J. McLean and D. R. Seeger. bibliog Am Chem Soc J 62:1416-19 Je '40
5,5-Dimethylhydantoins containing a -NRR' substituent. H. R. Henze and J. W. Magee. bibliog Am Chem Soc J 62:912-13 Ap '40
Ring closure of acylic ureides resulting from the elimination of alcohol; a study of the esters of beta-phenylalanine-N-acetic acid and related compounds. D. A. Hahn, M. J. McLean and M. M. Endicott. bibliog Am Chem Soc J 62:1087-91 My '40
Some new 5,5-disubstituted hydantoins. D. Marsh and C. L. Lazzell. Am Chem Soc J 62:1306 My '40
Synthesis of 5,5-disubstituted hydantoins from *sym*-dialkoxypropanones and related compounds. B. G. Rogers and H. R. Henze. Am Chem Soc J 62:1758-60 Jl '40

HYDE, Charles G. 1874-
Sketch. por Civil Eng 9:752 D '39

HYDNOCARPUS anthelmintica
Analysis of chaulmoogra oils; hydnocarpus anthelmintica oil; Taraktogenos kurzii (chaulmoogra) oil. H. I. Cole and H. T. Cardoso. bibliog Am Chem Soc J 61:3442-5 D '39

HYDRANTS
Efficient utilization of water for fire fighting. C. Goldsmith. Am Water Works Assn J 31:2030-2 D '39
Fire hydrant flow tests. H. E. Nunn. Water Works & Sewerage 87:437-9 S '40
Flow in pipe grid systems. R. G. Tyler. Water Works & Sewerage 87:sup44-6 Ap '40
Valves and hydrants; abstract. J. E. Hornshaw. Water Works & Sewerage 86:440 N '39

Standards

Standard specifications for fire hydrants for ordinary water works service. Am Water Works Assn J 32:sup1-11 Ag '40

HYDRATES
Complete dehydration facilities at Continental's K.M.A. plants. D. H. Stormont. flow diag il Oil & Gas J 39:34-6 Je 6 '40
Constitution of the alleged Thiessen hydrates. H. B. Weiser, W. O. Milligan and W. J. Coppoc. bibliog diag J Phys Chem 43:1109-20 D '39
Freezing of natural gas regulators. W. C. Mitchell, S. Cromer and R. L. Huntington. bibliog il diags Gas Age 85:17-21+ Ja 4 '40
Gas dehumidification prevents hydrate freezing troubles. E. G. Hammerschmidt. bibliog Nat Pet N 32:R162-3, R167-8 My 15 '40; Same. Oil & Gas J 39:61, 64+ My 23 '40
Salt hydrates and deuterates; correlation of heats of dissociation and structure. J. Bell. Chem Soc J p72-4 Ja '40
Some unusual hydrates of quaternary ammonium salts. D. L. Fowler and others. Am Chem Soc J 62:1140-2 My '40
See also
Carbohydrates

HYDRATION
Calculation of chemical equilibrium at high pressures; with applications to methanol synthesis, hydration of olefins, and reaction of nitrogen and acetylene to give hydrogen cyanide. R. H. Ewell. bibliog Ind & Eng Chem 32:147-53 F '40

HYDRATION—*Continued*

Catalytic hydration of acetylene and of some alkylacetylenes. R. E. Schaad and V. N. Ipatieff. bibliog Am Chem Soc J 62:178-80 Ja '40

Hydration mechanism of the clay mineral montmorillonite saturated with various cations. S. B. Hendricks, R. A. Nelson and L. T. Alexander. bibliog Am Chem Soc J 62:1457-64 Je '40

Hydration of unsaturated compounds; the rate of hydration of β,β-dimethylacrylic acid; the rates of dehydration and decarboxylation of β-hydroxyisovaleric acid. D. Pressman and H. J. Lucas. bibliog Am Chem Soc J 62:2069-80 Ag '40

Hydrolysis of bromine; the hydration of the halogens; the mechanism of certain halogen reactions. H. A. Liebhafsky. Am Chem Soc J 61:3513-19 D '39

Kinetics of isotopic exchange between carbon dioxide, bicarbonate ion, carbonate ion and water. G. A. Mills and H. C. Urey. bibliog Am Chem Soc J 62:1019-26 My '40

Water bound to gelatin as shown by molecular studies. O. L. Sponsler, J. D. Bath and J. W. Ellis. il diags J Phys Chem 44:996-1006 bibliog(52 references, p1005-6) N '40

HYDRATION, Heat of

Heat of hydration of calcium sulfates; direct and heat-of-solution measurements. J. C. Southard. bibliog diag Ind & Eng Chem 32:442-5 Mr '40

HYDRAULIC brakes. See Brakes, Hydraulic

HYDRAULIC control

Hydraulic electric automobile window lifting mechanism. Steel 107:36 Jl 1 '40

Hydraulic remote controls; Lockheed equipment. il diags Engineer 168:634-8 D 29 '39

Meyers continuous water feed controller. S. E. Meyers. diags Paper Tr J 110:12-14 My 2 '40

New automatic doorman; Yale door closer equipped with electrically-operated hydraulic controls. il Ry Age 107:851 D 2 '39

New system of hydraulic remote operation for control valves. E. B. Ball, jr. diags Inst Mech Eng J & Proc 142:37-41 F '40

Quick starting turbines. J. T. Moffett. il diags Power Pl Eng 44:93-4, 96 My '40

Servomotors control double-extraction turbines. O. N. Bryant. diag Power 84:580-2 S '40

Surface control booster for large aircraft. E. W. McDonough. diags Aero Digest 37: 76+ Ag '40

HYDRAULIC conveying

Effects of rifling on four-inch pipe transporting solids. G. W. Howard. il diags Am Soc C E Proc 65:1591-1603 N '39; Discussion. il diags 66:537-40, 770-2, 991-4, 1324-6 Mr-My, S '40

Pumping of granular solids in fluid suspension. H. Chatley. Engineering 149:230-1 Mr 1 '40

HYDRAULIC engineering

Delaware aqueduct; controlling the flow. il diags plans Eng N 125:109-13 Jl 18 '40

Technical aspects of the silt problem on the Colorado river. C. P. Vetter. il Civil Eng 10:698-701 N '40

See also

Aqueducts
Bridges—Foundations and piers
Caissons
Canals
Cofferdams
Colorado River aqueduct
Culverts
Dams
Dikes (engineering)
Docks
Drainage
Dredging
Flood control
Gates, Hydraulic
Harbors
Hydraulic conveying
Hydraulic excavation
Hydraulic filling
Hydraulic mining
Hydraulic models
Hydraulics
Hydrodynamics
Hydroelectric plants
Intakes
Irrigation
Irrigation canals
Jetties
Levees
Locks (hydraulic engineering)
Pumping
Pumping machinery
Pumping stations
Pumps
Reclamation of land
Reservoirs
Rivers—Regulation
Spillways
Stream flow
Stream measurement
Tunnels and tunneling, Subaqueous
Turbines
Water
Water conduits
Water flow
Water power
Water supply
Water supply engineering
Waterworks
Wells
Wharves

Tables, calculations, etc.

Computing hydraulic elements of irregular cross-sections. Z. P. Kirpich. Eng N 124:335 F 29 '40

Design of a high-head siphon spillway. E. Rock. diags Am Soc C E Proc 65:607-18 Ap '39; Discussion. 65:1098-1100, 1469-72, 1641-6; 66:666-70 Je, O-N '39, Ap '40

Design of an open-channel control section to measure the flow of water. K. R. Kennison. diags Am Soc C E Proc 65:763-70 My '39; Discussion. il 65:1283-8, 1447-8; 66: 143-9 S-O '39, Ja '40

Methods of calculating water-hammer pressures. F. M. Dawson and A. A. Kalinske. bibliog diags Am Water Works Assn J 31:1835-64 N '39

Model studies of overflow spillway sections. A. S. Offitzeroff. Civil Eng 10:523-6 Ag '40

Pressure-momentum theory applied to the broad-crested weir. H. A. Doeringsfeld and C. L. Barker. il Am Soc C E Proc 65:1719-31 D '39; Discussion. 66:563-70, 804-8, 1119-29 Mr-Ap, Je '40

See also

Hydraulics—Tables, calculations, etc.

HYDRAULIC excavation

Moving earth at 2½c. per yard by hydraulic sluicing; highway between Weaverville and Junction City, Calif. Eng N 123:754 D 7 '39

HYDRAULIC filling

Core control in hydraulic sluicing operations; Kingsley dam. W. J. Turnbull. il Civil Eng 10:623-6 O '40

Hydraulic filling ended at Fort Peck. il Eng N 123:659 N 16 '39

Hydraulic stowing in India. L. J. Barraclough and S. B. Hall. Mech Handling 26:355-6 D '39

Modern construction methods on earth dams. O. N. Floyd. il Civil Eng 10:487-90, 586-9 Ag-S '40

HYDRAULIC gates. See Gates, Hydraulic

HYDRAULIC jacks

Buda hydraulic two-speed journal jack. il Ry Mech Eng 114:416 O '40

Deformation controlled; handling system using hydraulic jacks for aligning parts of huge tanks during field erection. W. A. Sandberg. il Steel 107:50, 52+ Ag 12 '40

Hydraulic static testing of airplane structures. C. Tilgner, jr. il diags Aero Digest 36:51-6 Ja '40

New Atlas journal jack. il Ry Mech Eng 114:199 My '40

Sperry hydraulic piston-rod parter. il Ry Mech Eng 114:421 O '40

HYDRAULIC laboratories

Pocket hydraulics laboratory; Washington university. W. L. Blankenburg. il diag Eng N 125:337-9 S 12 '40

Studying sediment loads in natural streams; Enoree River laboratory of the Soil conservation service. G. C. Dobson and J. W. Johnson. il diags Civil Eng 10:93-6 F '40

HYDRAULIC machinery

Bijur hydraulic lubricator pumps. il Automotive Ind 82:162-3 F 15 '40

800-ton hydraulic testing machine. il diags Engineering 150:201-3, 210, pl 14 S 13 '40

Handbook on hydraulic & pneumatic leather packings. rev ed 157p $1 E. F. Houghton & co, 240 W. Somerset st, Philadelphia '40

Hydraulic fluids. N. E. Miller. Product Eng 11:407-10, 450-4 S-O '40

HYDRAULIC machinery—*Continued*
Oilgear two-way, three-position, electric controlled variable displacement pumps. il Automotive Ind 83:260-1 S 15 '40
Racine variable volume hydraulic pump. il diags Automotive Ind 82:518-19 Je 1 '40
Recent developments in the use of hydraulic power. H. C. Town. diags Inst Mech Eng J & Proc 143:Proc 129-41 My '40

See also
Hydraulic presses
Hydraulic transmission
Pumps
Turbines
Valves, Hydraulic

Cavitation

Hydraulic turbine practice; model and prototype tests. L. M. Davis. Am Soc C E Proc 65:1577-83 N '39; Discussion. 66:181-2, 1373-8 Ja, S '40
Welding waterwheels; also metal spraying. A. P. Newberry. Elec West 85:46-7 Ag '40

Design

Design of hydraulic machinery for modern production demands. R. W. Andrews, jr. il diags Mech Eng 62:583-7 Ag '40

Tables, calculations, etc.

Hydraulic power-lift chart. W. F. Schaphorst. Water Works & Sewerage 87:46 Ja '40

HYDRAULIC mining
Breaking down coal at the face with new hydraulic mining process. il diag Min Cong J 26:39-41 Ap '40
Hydraulic breaking unit supplies coal for two loading machines; New Monarch mine of Consolidated coal co, Herrin, Ill. C. H. Lambur, jr. il plan Coal Age 45:67-70 Ap '40
Hydraulicking for gold at Poverty Hill. J. M. Ehrhorn. il Eng & Min J 141:65-8 Ag '40
Hydraulicking found cheapest aid to stripper in deep overburden spots at Bobolink mine. I. A. Given. il Coal Age 45:41-3 N '40

See also
Gold dredging
Gold mines and mining—Placer mining

HYDRAULIC models
L'étude sur modèle réduit des ouvrages de rupture de charge; expériences de l'usine du Carcanet. L. Escande. il diags Génie Civil 115:429-33 D 16 '39
Hydraulic model studies solve backwater gate design; Detroit sewage disposal project. G. E. Hubbell. il diags Eng N 124:645-6 My 9 '40
Model tests of large sluice gates at high velocities of approach and with different pier noses. J. B. Macphail and R. Boucher. diags Civil Eng 10:592-4 S '40
Runoff coefficients by model tests; useful in design of sewerage systems. I. Gutmann. diags Water Works & Sewerage 86:506-8 D '39
Two hydraulic models; spillways of Idanha and Pego do Altar dams. il diags plan Engineer 170:212-14 O 4 '40

HYDRAULIC presses
American broach and machine co.'s two-ton vertical hydraulic press. il Engineering 149: 182 F 16 '40
Clearing 500-ton hydraulic press. il Mach 46:133-4 Ag '40
Colonial Senior line of presses. il Mach 47: 160-1 O '40
Cottonseed pressure-cooking research; pilot plant at Engineering experiment station, University of Tennessee. R. W. Morton. flow sheet il Mech Eng 62:731-5 O '40
Denison knee type hydraulic press. il Mach 46:138-9 Ag '40
Design of hydraulic machinery for modern production demands. R. W. Andrews, jr. il diags Mech Eng 62:583-7 Ag '40
Extrusion press for stainless steel, ferrous and non-ferrous tubing and rods. il Mach 47:144 S '40
Farrel-Birmingham hydraulic press forms duralumin aircraft parts. il Am Mach 84: 550 Jl 24 '40; Automotive Ind 83:29, 30+ Jl 1 '40; Mach 46:217 Jl '40; Aero Digest 37:167 S '40
Farrel-Birmingham 2,000-ton hydraulic press permits extrusion of steel and nickel alloys. il Am Mach 84:687-8 S 4 '40
Hydraulic and mechanical methods of forging shells. F. G. Schranz. Mach 47:145-6 O '40
Hydraulic press mfg. co. cartridge case heading press incorporates six-station turret table. il Am Mach 84:107 F 21 '40; Steel 106:80 Mr 4 '40
Hydraulic press mfg. co. 250-ton Fastraverse press. il Mach 46:137 My '40
Hydraulic presses with sensitive control. il Engineering 149:569 Je 7 '40
Hydraulic 650-ton triple-action blankholder press. il Am Mach 84:776 O 2 '40
Kunstharz-pressstoffbuchsen an hydraulischen kunstharzpressen. H. C. Kling. diag V D I 84:39-40 Ja 13 '40
Lake Erie 1700-ton, double-slide press. il Mach 47:162 O '40
Modern machinery for the production of aircraft and engines. il Aero Digest 36:67-8, 71 Ja '40
Pressure analysis chart for a hydraulic press; rubber molding. P. B. Hunt. India Rubber W 102:48-9 S '40
Production of oil pans is geared for continuous conveyors; hydraulic press work, Ford plant. il Steel 106:62+ F 26 '40
Recent developments in the use of hydraulic power. H. C. Town. diags Inst Mech Eng J & Proc 143:Proc 129-30 My '40
Reinforced concrete press. C. Von Moltke. diag Am Mach 84:60 F 7 '40
Remote control for 1,500-ton power press. il Engineering 150:127 Ag 16 '40
Special hydraulic presses built easily; Epworth mfg. co. il Steel 107:50 Jl 22 '40
Stretching press for aircraft sheathing; Glenn L. Martin co. R. B. Gray. il Metal Prog 37:560-1 My '40
Triple play by motorizing pumps; Puritan rubber company. G. A. Hess. il Elec W 114:269-70 Jl 27 '40
Use of rubber for producing sheet metal parts. C. J. Frey and S. S. Kogut. il diags Aero Digest 37:129-30, 133-4 N '40 (to be cont)
Use of the hydraulic press. H. O. Thweatt. il Aero Digest 36:36-7+ Ja '40
Watson-Stillman hydraulic flanging press. il Am Mach 84:68 F 7 '40
What's new in presses. F. J. Oliver. il Iron Age 145:56-9 My 9 '40
Woodhead power presses. il diag Automobile Eng 30:101-4 Ap '40

Repair

Repair by welding of a cast-steel hydraulic cylinder. il diag Engineering 149:475-7, pl 25 My 10 '40
Thermit weld saves press cylinder. il Iron Age 146:34 Ag 1 '40

HYDRAULIC propulsion. See Jet propulsion

HYDRAULIC research
American society of civil engineers special committee on hydraulic research 6th annual report. il Civil Eng 10:185-7, 252 Mr-Ap '40
Investigation of the discharge and coefficients of small circular orifices. F. W. Medaugh and G. D. Johnson. diag Civil Eng 10:422-4 Jl '40

See also
Hydraulic laboratories

HYDRAULIC transmission
Adjusting centrifugal-pump speed cuts operating costs; use of hydraulic coupling. A. Peterson. il Power 84:426-7 Jl '40
American blower corp. fluid drive applied to process equipment. il diag Paper Ind 22:508 Ag '40
Another new era in motoring; fluid flywheel for autos. il Business Week p40-2 My 18 '40
Chrysler automatic drive. diags Product Eng 11:466-8 O '40

HYDRAULIC transmission—*Continued*
Combined hydraulic and electric drives; Barber-Colman type V vertical hobber. il diags Product Eng 11:248-50 Je '40
Dodge de luxe and custom series 1941; new gear-shifting mechanism. il Automotive Ind 83:457+ O 15 '40
Everybody's pleased; Chicago motor coach company first year's results with Diesel-hydraulics. il Transit J 84:198-9 Je '40
Fluid drive in Canadian paper mills for speed control of rotating screen cylinders of vacuum filters. il diag Paper Tr J 111:14-15 Jl 11 '40
Hydra-matic gear box. diags Automobile Eng 30:50-1 F '40
Hydra-matic transmission. diags Mech Eng 61:922-3 D '39
Hydra-matic transmission; abstract. H. T. Youngren. S A E J 46:sup16+ My '40
Hydraulic circuits utilizing cam-operated valves. J. C. Cotner. diags Product Eng 11: 228-9, 274-5, 412-13 My-Je, S '40
Hydraulic control for machine tool applications. diags Automobile Eng 30:251-2 Ag '40
Hydraulic coupling for variable speed machines. il diag Pulp & Pa of Can 41:698-700 S '40
Hydraulic couplings for internal-combustion-engine application; abstract. N. L. Alison, R. G. Olson and R. Nelden. Automotive Ind 83:61 Jl 15 '40
Hydraulic drive shifts into high; Transmission division, General Motors. R. W. Warnock. il diags Am Mach 84:280-2 My 1 '40
Hydraulic fluids. N. E. Miller. Product Eng 11:407-10, 450-4 S-O '40
Hydraulic remote controls; Lockheed equipment. il diags Engineer 168:634-8 D 29 '39
Hydraulic torque converters. il diags Iron Age 145:44-6 My 16 '40
Hydraulic transmission; abstract. H. M. Rugg. Oil & Gas J 38:15 Ja 18 '40
Hydraulic transmission differential. C. A. Norman. diags Automotive Ind 83:247 S 15 '40
Hydrodynamic power transmission for motor cars. W. Spannhake. diags S A E J 45:433-43 O '39; Excerpts. Automotive Ind 82:288 Mr 15 '40
Inverseur de marche, actionné par de l'huile sous pression. diag Génie Civil 116:173 Mr 9 '40
Mathematical consideration of the fluid coupling. P. M. Heldt. diags Automotive Ind 82:360-2+ Ap 15 '40; Discussion. H. A. Huebotter. 82:470-1 My 15 '40
New processes adapted to mass production of Olds transmissions. J. Geschelin. il Automotive Ind 83:150-8 Ag 15 '40
Operation of new fluid drives. A. H. Allen. Steel 107:35-6 S 23 '40
Power transmissions for buses. G. A. Green. il diags S A E J 46:5-9 Ja '40
Producing Oldsmobile's sensational drive. C. O. Herb. il Mach 46:110-15 Ap '40
Proposed combustion-turbine locomotive; combined with hydraulic torque converter and coupling, and worm-gear drive. diag plan Ry Mech Eng 114:144-8 Ap '40; Same cond. Ry Age 108:588-90 Mr 30 '40
Railcar driven through hydraulic torque converter; built for commuter service on the New York, Susquehanna & Western. il diags Product Eng 11:495-7 N '40
Recent developments in the use of hydraulic power. H. C. Town. diags Inst Mech Eng J & Proc 143:Proc 129-41 My '40; Discussion. 143:Proc 363 O '40
Susquehanna installs modern rail cars; powered by oil burning engine with hydraulic-mechanical drive. il plan Ry Age 109:135-8+ Jl 27 '40; Ry Mech Eng 114:303-9 Ag '40
Twin Disc develops a hydraulic torque converter. diag Automotive Ind 82:161 F 15 '40
Vulcan-Sinclair new hydraulic coupling obviates need for friction clutch. diag Automotive Ind 83:122 Ag 1 '40
Weiss hydrodynamic transmission improved. diags Automotive Ind 82:469 My 15 '40

See also
Airplanes—Hydraulic equipment
Hydraulic control

HYDRAULICS
Abhängigkeit der geschiebebewegung von kornform und temperatur. H. Wittmann. V D I 84:147 Mr 2 '40
Le calcul de la résistance des piles de ponts à la poussée cinématique d'un courant. A. Broïkos. Génie Civil 116:87-9, 102-4 F 3-10 '40
Fire hydrant flow tests. H. E. Nunn. Water Works & Sewerage 87:437-9 S '40
Henri Pitot, pioneer in practical hydraulics; with condensed translation of Description of a machine for measuring the velocity of running water and the speed of vessels. R. S. Kirby. diags Civil Eng 9:738-40 D '39
Hydraulic problems of the pulp and paper industry. M. L. Edwards. il plan Mech Eng 62:665-9 S '40
Hydraulics in connection with water and sewage works. M. L. Crist. Water Works & Sewerage 87:433-5; Discussion. E. R. Stapley. 435-6 S '40
Mechanics of liquids; an elementary text in hydraulics and fluid mechanics. R. W. Powell. 271p $3.50 Macmillan '40
Proceedings of Hydraulic conference. J. W. Howe, ed. il diags maps plans Iowa Univ Studies in Engineering Bul 20:1-247 '40 (pa $1)
Some simple ideas on hydraulics for the paper mill operator. M. L. Edwards. diags Pulp & Pa of Can 40:688-90 N '39
Velocity distribution of fluids in turbulent flow. H. T. Bates. Am Inst Chem Eng Trans 36:269-84 Ap '40; Discussion. 36:657-73 O '40

See also
Flow meters
Fluids
Hydraulic engineering
Hydrodynamics
Intakes
Liquids
Nozzles
Oil flow
Rivers—Regulation
Stream flow
Stream measurement
Turbines
Water
Water distribution
Water flow
Water power
Wells

Study and teaching

Demonstrational lecture method of teaching hydraulics. L. G. Straub. J Eng Educ 30: 295-7 N '39

Tables, calculations, etc.

Application of flow figures to computation of seepage through earth fills; tr. by I. F. Morrison and H. R. Webb. R. Muller. diags Can Eng W & S 78:14-20+ Jl '40
Artesian-well hydraulics by unit-head-loss method. M. A. Churchill. Civil Eng 10:307-9 My '40
Curved flow in conduits of constant cross-section. C. H. Nordell. diags Oil & Gas J 39:117, 119-20, 123-4 My 16 '40
Free discharge of fluids through small circular orifices. H. L. Roy and N. K. Sen-Gupta. bibliog diag Ind & Eng Chem 32: 288-90 F '40
Hydraulics and water works engineering. H. N. Lendall. diags Am Water Works Assn J 31:2073-84 D '39
Hydraulics of surface runoff. L. K. Sherman. diag Civil Eng 10:165-6 Mr '40
Recherches sur l'écoulement de l'eau à l'entrée d'un canal découvert. L. Escande. il Génie Civil 116:152-4, 164-6 Mr 2-9 '40
Relation of the statistical theory of turbulence to hydraulics. A. A. Kalinske. diags Am Soc C E Proc 65:1387-1406 O '39; Discussion. bibliog diags 66:165-6, 352-6, 581-3, 709-16, 967-79, 1229-36 Ja-Je '40
Theory of meandering. H. Chatley. Engineering 149:628-9 Je 28 '40

See also
Pumping—Tables, calculations, etc.

HYDRAZIDES
Associating effect of the hydrogen atom; the acid hydrazides. H. T. Hayes and L. Hunter. Chem Soc J p332-6 Mr '40

HYDRAZINE
Conversion of arylbismuth halides to triarylbismuth compounds. H. Gilman and H. L. Yablunky. Am Chem Soc J 62:665-6 Mr '40
Potentiometric estimation of hydroxylamine and hydrazine in alkaline solution. H. T. S. Britton and M. Königstein. Chem Soc J p673-6 My '40
Surface conditions of silver halides and the rate of reaction; reduction of silver chloride by hydrazine. T. H. James. bibliog Am Chem Soc J 62:1654-8 Jl '40
Surface tension in the system hydrazine—water at 25°. N. B. Baker and E. C. Gilbert. bibliog Am Chem Soc J 62:2479-80 S '40

HYDRAZINES
Interaction of arylhydrazines with halogenated aldehydes. H. Irving. Chem Soc J p813-17 Je '40

HYDRAZOIC acid
Action of ethyl azide and phenyl azide on fuming sulfuric acid. K. W. Sherk, A. G. Houpt and A. W. Browne. bibliog Am Chem Soc J 62:329-31 F '40
Dissociation constant calculated. Chem Age (Lond) 43:5 Jl 6 '40

HYDRAZONES
Associating effect of the hydrogen atom; nitroarylhydrazones. L. Hunter and J. A. Marriott. Chem Soc J p166-70 F '40

HYDRINDENE. See Indan

HYDRINDONE. See Indanone

HYDRIODIC acid
Peroxide effect in the addition of reagents to unsaturated compounds; the addition of hydrogen iodide to propene, 1-bromopropene, allyl chloride, and allyl bromide. M. S. Kharasch, J. A. Norton and F. R. Mayo. bibliog Am Chem Soc J 62:81-6 Ja '40
Photochemical decomposition of solid hydrogen compounds at low temperatures. L. Farkas, Y. Hirshberg and L. Sandler. bibliog diag Am Chem Soc J 61:3393-6 D '39

HYDROBROMIC acid
Addition of hydrogen bromide to methyl methacrylate. C. C. Price and E. C. Coyner. Am Chem Soc J 62:1306-7 My '40
Addition of hydrogen bromide to non-terminal double bonds; the isopropylidene group; crotonic acid. D. C. Grimshaw, J. B. Guy and J. C. Smith. Chem Soc J p68-71 Ja '40
Catalytic effect of osmium compounds on the reduction of perchloric acid by hydrobromic acid. W. R. Crowell, D. M. Yost and J. D. Roberts. Am Chem Soc J 62:2176-8 Ag '40
Elimination of hydrogen bromide from stigmasterol 22,23-dibromide. E. Fernholz, W. L. Ruigh and H. E. Stavely. Am Chem Soc J 62:1554-6 Je '40
Fine structure of the X-ray absorption limits of bromine and chlorine. T. M. Snyder and C. H. Shaw. bibliog Phys R 57:881-6 My 15 '40
K-absorption edges of Br (35) and Kr (36). C. H. Shaw. Phys R 57:877-81 My 15 '40
Partial pressure of hydrogen bromide from its solutions in some aprotic solvents at 25°; comparison with hydrogen chloride. S. J. O'Brien and E. G. Bobalek. bibliog Am Chem Soc J 62:3227-30 N '40
Peroxide effect in the addition of reagents to unsaturated compounds and in rearrangement reactions. F. R. Mayo and C. Walling. Chem R 27:351-87 O '40
Peroxide effect in the addition of reagents to unsaturated compounds; the effect of metals on the addition of hydrogen bromide to allyl bromide. M. S. Kharasch, W. R. Haefele and F. R. Mayo. Am Chem Soc J 62:2047-51 Ag '40
Reaction between ammonia and $SeO_2.2HCl$ and $SeO_2.2HBr$. J. Jackson and G. B. L. Smith. bibliog Am Chem Soc J 62:543-4 Mr '40

HYDROCARBON chemical and rubber company
New company is organized to make synthetic rubber. Rubber Age 47:323 Ag '40

HYDROCARBONS
Action of fluorine upon some simple aliphatic chlorinated hydrocarbons. W. T. Miller. bibliog diag Am Chem Soc J 62:341-4 F '40
Alkylation and its influence on the utilization of natural gasoline. E. W. Gard, A. L. Blount and K. Korpi. bibliog il diags Oil & Gas J 38:42-3, 51+ D 14; 46-8 D 21 '39
API hydrocarbon research project. D. P. Barnard. il Am Pet Inst Proc 20(3):42-54 '39; Same. Oil & Gas J 38:117-18+ N 17 '39; Abstract. Oil Paint & Drug Rep 136:61 N 20 '39; Discussion. Am Pet Inst Proc 20(3):55-6 '39
Assemble thermodynamic data to stimulate new activity; A.C.S. Petroleum division symposium. Nat Pet N 32:R130+ Ap 17 '40
Autoxidation and gum-forming tendencies of certain hydrocarbons. B. Berger and R. W. Bost. bibliog Oil & Gas J 38:81-4+ Mr 28 '40
Boiling point, molecular weight chart for higher hydrocarbons. D. S. Davis. Ind & Eng Chem 32:1148 Ag '40
Boiling point relationships among aliphatic hydrocarbons. G. Egloff, J. Sherman and R. B. Dull. bibliog J Phys Chem 44:730-45 Je '40
Butyl rubber; new hydrocarbon product. R. M. Thomas and others. bibliog il Ind & Eng Chem 32:1283-92 O '40
Calculation of boiling points of aliphatic hydrocarbons. C. R. Kinney. bibliog Ind & Eng Chem 32:559-62 Ap '40
Catalytic cracking of aliphatic hydrocarbons. G. Egloff and others. bibliog Am Chem Soc J 61:3571-80 D '39
Catalytic dehydrogenation field is surveyed; abstract. A. G. Oblad, R. F. Marschner and L. Heard. Nat Pet N 32:R157 My 1 '40
Catalytic dehydrogenation of representative hydrocarbons. A. G. Oblad, R. F. Marschner and L. Heard. bibliog diag Am Chem Soc J 62:2066-9 Ag '40
Catalytic dehydrogenation process (gaseous paraffins to olefins). A. V. Grosse and others. flow diags il Am Pet Inst Proc 20(3):110-20 '39; Same. Oil & Gas J 38:53, 55-6 N 23 '39; Same cond. Nat Pet N 31:R520-1 N 29 '39
Catalytic vapor-phase oxidation of aliphatic kerosene fraction. W. G. Parks and E. F. Story. bibliog diag Oil & Gas J 39:54, 56+ S 5 '40
Causes, prevention and control of fires on light liquid hydrocarbons. H. A. Heiss. il Oil & Gas J 38:135+ Mr 28 '40
Chemical equilibria, free energies, and heat contents for gaseous hydrocarbons. K. S. Pitzer. Chem R 27:39-57 bibliog(41 references, p56-7) Ag '40
Conversion of naphthenic acids to naphthene hydrocarbons; chemical constitution. G. E. Goheen. bibliog flow diag Ind & Eng Chem 32:503-8 Ap '40
Critical solution temperatures and aniline points of some butane hydrocarbons. C. G. Ludeman. bibliog diag Ind & Eng Chem Anal ed 12:446-8 Ag 15 '40
Dehydrogenation and nitration of hydrocarbons of the cyclopentane series. E. Berl and R. Raab. Ind & Eng Chem Anal ed 12:177 Mr 15 '40
Direct synthesis of CO and H; synthetic hydrocarbon production; a French patent. Chem Age (Lond) 43:101 Ag 31 '40
Equilibrium cell for investigating properties of fluids from petroleum and natural-gas reservoirs; with a section on hypothetical phase relations of natural hydrocarbon mixtures. K. Eilerts, R. V. Smith and R. C. Wright. bibliog pls U S Bur Mines Rep of Invest 3514:1-30 '40
Evaluation of certain normal alkylated benzenes as Diesel fuels. G. Shen, C. E. Wood and F. H. Garner. Inst Pet J 25:695-703 O '39

HYDROCARBONS—*Continued*
Filtration of hydrocarbons; a simplified Dutch method. Chem Age (Lond) 43:7 Jl 6 '40
Gas imperfection; experimental determination of second virial coefficients for seven unsaturated aliphatic hydrocarbons. E. E. Roper. bibliog diag J Phys Chem 44:835-47 O '40
Gas-liquid equilibrium constants; methane-decane system. H. M. Lavender, B. H. Sage and W. N. Lacey. bibliog diag Oil & Gas J 39:48-9 Jl 11 '40
Halogenation of hydrocarbons. H. P. A. Groll and others. bibliog il diags Ind & Eng Chem 31:1239-44, 1413-19, 1530-7 O-D '39
Heats of formation of gaseous hydrocarbons. F. D. Rossini. Chem R 27:1-16 bibliog(p15-16) Ag '40
High-octane aviation fuel by the sulfuric-acid alkylation process. bibliog flow diags il Am Pet Inst Proc 20(3):89-100 '39; Same. Oil & Gas J 38:104-8 N 17 '39; Same cond. Nat Pet N 31:R512-14, R516 N 29 '39; Same cond. Can Chem & Process Ind 24:58-63 F '40
Hydrocarbon decomposition and conversion processes. flow diag Oil & Gas J 38:90-1 My 9 '40
Hydrogen bonds involving the C-H←F link. C. S. Marvel, M. J. Copley and E. Ginsberg. bibliog Am Chem Soc J 62:3263-4 N '40
Hydrogen bonds involving the C-H link; effect of structure on bonding of donor and acceptor molecules. C. S. Marvel, M. J. Copley and E. Ginsberg. bibliog Am Chem Soc J 62:3109-12 N '40
Hydrogen bonds involving the C-H link; the solubility of donor solutes in halogenated hydrocarbons. C. S. Marvel, F. C. Dietz and M. J. Copley. bibliog Am Chem Soc J 62:2273-5 S '40
Individual fuel properties to be guide in engine design; abstracts. J. M. Campbell. Nat Pet N 32:R35-6 F 7 '40; Automotive Ind 82:115 F 1 '40
Induced pyrolysis of methane. W. J. Hessels, D. W. van Krevelen and H. I. Waterman. bibliog diag Soc Chem Ind J 58:323-7 N '39
Industrial synthesis of hydrocarbons from hydrogen and carbon monoxide. A. J. V. Underwood. il Ind & Eng Chem 32:449-54 Ap '40
Infrared absorption studies of some hydrocarbons. F. T. Wall and G. W. McMillan. bibliog Am Chem Soc J 62:2225-7 Ag '40
Interactions between polycyclic hydrocarbons and sterols in mixed surface films at the air-water surface. W. W. Davis, M. E. Krahl and G. H. A. Clowes. Am Chem Soc J 62:3080-98 N '40
Isolation of 3-methylhexane, *trans*-1,2-dimethylcyclopentane, and *trans*-1,3-dimethylcyclopentane from petroleum. A. R. Glasgow, jr. bibliog J Research Nat Bur Stand 24:509-29 F '40
Mechanism of the synthesis of hydrocarbons from water gas. S. R. Craxford and E. K. Rideal. Chem Soc J p1604-14 O '39
Neohexane for 100-octane plus; new synthetic hydrocarbon made by thermal alkylation surpasses iso-octane. M. E. Clark. flow diag il Chem & Met Eng 47:225-7 Ap '40
Nitration of aliphatic hydrocarbons. P. G. Stevens and R. W. Schiessler. Am Chem Soc J 62:2885-6 O '40
Nouvelles synthèses catalytiques des hydrocarbures. V. N. Ipatieff. Chimie & Ind 42: 215-22 Ag '39; Same (New catalytic synthesis of hydrocarbons). Chem Age (Lond) 41:343-4, 371-3 N 18, D 2 '39
Octane ratings of a number of pure hydrocarbons and some of their binary mixtures; C.F.R.-A.S.T.M.-motor method. J. Smittenberg and others. Inst Pet J 26:294-303 Je '40
Partial volumetric behavior of lighter paraffin hydrocarbons in the gas phase; methane, ethane, propane, *n*-butane in binary mixtures. B. H. Sage and W. N. Lacey. bibliog Oil & Gas J 38:189-92+ N 17 '39
Phase equilibria in hydrocarbon systems; Joule-Thomson coefficients for gaseous mixtures of methane and *n*-butane. R. A. Budenholzer, B. H. Sage and W. N. Lacey. bibliog Ind & Eng Chem 32:384-7 Mr '40
Phase equilibria in hydrocarbon systems; methane-decane system. B. H. Sage, H. M. Lavender and W. N. Lacey. bibliog Ind & Eng Chem 32:743-7 My '40
Phase equilibria in hydrocarbon systems; methane-*n*-butane system in the gaseous and liquid regions. B. H. Sage, R. A. Budenholzer and W. N. Lacey. bibliog Ind & Eng Chem 32:1262-77 S '40
Phase equilibria in hydrocarbon systems; methane-*n*-butane system in the two-phase region. B. H. Sage, B. L. Hicks and W. N. Lacey. bibliog Ind & Eng Chem 32:1085-92 Ag '40
Phase equilibria in hydrocarbon systems; propane-*n*-pentane system. B. H. Sage and W. N. Lacey. bibliog Ind & Eng Chem 32: 992-6 Jl '40
Phase equilibria in hydrocarbon systems; the methane-ethane system in the gaseous region. B. H. Sage and W. N. Lacey. bibliog Ind & Eng Chem 31:1497-1509 D '39
Phase equilibria in hydrocarbon systems; the propane-*n*-butane system in the critical region. C. N. Nysewander, B. H. Sage and W. N. Lacey. bibliog diags Ind & Eng Chem 32:118-23 Ja '40
Physical properties of some purified aliphatic hydrocarbons. D. B. Brooks, F. L. Howard and H. C. Crafton, jr. bibliog J Research Nat Bur Stand 24:33-45 Ja '40
Plastics and resins from hydrocarbons. P. K. Frolich and others. il diags Ind & Eng Chem 32:293-323 Mr '40
Polymerization of unsaturated hydrocarbons particularly styrene and α-methyl styrene. H. M. Stanley. bibliog Chem & Ind 58:1080-3 D 16 '39
Preparation and properties of some aliphatic hydrocarbons. L. Schmerling, B. S. Friedman and V. N. Ipatieff. Am Chem Soc J 62:2446-9 S '40
Preparation of some pure hydrocarbons for the purpose of testing the physical methods in use for the examination of hydrocarbon mixtures. H. I. Waterman, J. J. Leendertse and others. Inst Pet J 25:801-12 D '39
Refinery gas; a raw material of growing importance. R. E. Wilson. Chem & Ind 58: 1095-1101 D 23 '39; Same cond. Nat Pet N 31:R541-2+ D 13 '39; Abstract. Ind & Eng Chem News ed 17:697-8 N 20 '39
Simple proof of the thermodynamic stability of materials taken up by solutions containing solubilizers such as soap. J. W. McBain and J. J. O'Connor. diags Am Chem Soc J 62:2855-9 O '40
Solubility of methane in benzene. E. P. Schoch and others. il diags Ind & Eng Chem 32:788-91 Je '40
Solubility of methane in cyclohexane. E. P. Schloch, A. E. Hoffmann and F. D. Mayfield. bibliog diag Ind & Eng Chem 32:1351-3 O '40
Solvent effects with optically active saturated hydrocarbons. A. W. H. Pryde and H. G. Rule. Chem Soc J p345-7 Mr '40
Some free-energy data for typical hydrocarbons containing six or more carbon atoms. G. S. Parks. bibliog Chem R 27: 75-83 Ag '40
Some observations on the thermodynamics of hydrocarbons and related compounds. J. G. Aston. il Chem R 27:59-73 bibliog(p72-3) Ag '40
Specific heat ratios for hydrocarbons. W. C. Edmister. Ind & Eng Chem 32:373-5 Mr '40
Study of the fate in the organism of some chlorinated hydrocarbons. H. M. Barrett, J. G. Cunningham and J. H. Johnston. bibliog J Ind Hygiene 21:479-90 D '39
Suggested use for atomic hydrogen; treatment of liquid hydrocarbons. diag Chem Age (Lond) 42:334 Je 22 '40
Les supercarburants et les superlubrifiants au congrès de l'Association française pour l'avancement des sciences (Liége, 17-22 juillet 1939). Génie Civil 116:183-5 Mr 16 '40

HYDROCARBONS—*Continued*
Synthesis of 4',8'-dihydroxy-1,2,5,6-dibenzanthracene and its relation to products of metabolism of the hydrocarbon. J. Cason and L. F. Fieser. bibliog Am Chem Soc J 62:2681-7 O '40
Synthesize octanes for anti-knock tests. Nat Pet N 32:R322 S 4 '40
Thermal alkylation and neohexane. G. G. Oberfell and F. E. Frey. bibliog il diag Am Pet Inst Proc 20(3):78-88 '39; Same. Oil & Gas J 38:50-1 N 23; 70, 73-4+ N 30 '39; Same cond. Nat Pet N 31:R502-3+ N 29 '39
Thermodynamic properties of paraffins and olefins. R. H. Ewell. bibliog Ind & Eng Chem 32:778-83 Je '40
Toxicity and potential dangers of aliphatic and aromatic hydrocarbons; a critical review of the literature. W. F. von Oettingen. (Pub. health bul. 255) 135p 20c Supt. of doc. '40; Review. Pub Health Rep 55:1833-4 O 4 '40
Type III surface tension curves with minimum in dilute solution in pure hydrocarbons. M. E. L. McBain and L. H. Perry. Am Chem Soc J 62:989-91 Ap '40
Vapor pressures of certain unsaturated hydrocarbons. A. B. Lamb and E. E. Roper. bibliog diag Am Chem Soc J 62:806-14 Ap '40
Velocity of compressional waves in petroleum fractions at atmospheric and elevated pressures. R. Matteson and C. J. Vogt. bibliog diag J Ap Phys 11:658-65 O '40
Viscosity of hydrocarbon solutions; methane—ethane—crystal oil system. B. H. Sage and W. N. Lacey. bibliog Ind & Eng Chem 32:587-9 Ap '40
Viscous flow of large molecules. W. Kauzmann and H. Eyring. bibliog diag Am Chem Soc J 62:3113-25 N '40
Volumetric and phase behavior of hydrocarbons. B. H. Sage and W. N. Lacey. 299p $5 Stanford univ. press '39

See also
Acetylene
Benzene
Butane
Ethane
Fischer-Tropsch process
Methane
Naphthalene
Olefins
Paraffins
Petroleum
Petroleum refining
Propane
Propylene
Styrene
Terpenes
Toluene

Analysis

Analysis of some factors involved in geochemical prospecting. W. V. Howard. bibliog maps Oil & Gas J 39:33-4 Jl 4 '40
Application of graphical and statistical methods of hydrocarbon analysis to Diesel fuels. J. C. Vlugter, H. I. Waterman and H. A. van Westen. bibliog Inst Pet J 25:678-83 O '39
Determination of saturated hydrocarbons; aliphatic, aromatic, and hydroaromatic hydrocarbons of the cyclohexane series. E. Berl and W. Koerber. diags Ind & Eng Chem Anal ed 12:175-6 Mr 15 '40
Determination of unsaturation in aliphatic hydrocarbon mixtures by bromine absorption. J. B. Lewis and R. B. Bradstreet. Ind & Eng Chem Anal ed 12:387-90 Jl 15 '40
Determining presence of oil by estimation of hydrocarbon content of soil. M. LeBaron. diags Oil & Gas J 38:43+ Ja 11 '40
Isolate eight new hydrocarbons in analysis project; reports to American chemical society. Nat Pet N 32:136+ Ap 17 '40
Kraft- und schmierstoffprüfung durch ultraviolett-absorption. V D I 83:1290-1 D 16 '39
Quantitative determination of aromatic hydrocarbons by new method; based on measurement of specific dispersion. A. V. Grosse and R. C. Wackher. bibliog il Ind & Eng Chem Anal ed 11:614-24 N 15 '39

See also
Paraffins—Analysis

HYDROCARBONS, Aromatic
Action of aluminum chloride on aromatic hydrocarbons; the 1,3-dimethyl-4-propylbenzenes. D. Nightingale and B. Carton, jr. bibliog Am Chem Soc J 62:280-3 F '40
Catalytic cyclization of aliphatic hydrocarbons to aromatics. A. V. Grosse, J. C. Morrell and W. J. Mattox. bibliog il diag Ind & Eng Chem 32:528-31 Ap '40
Condensation of esters with aromatic hydrocarbons by means of aluminum chloride. J. F. Norris and P. Arthur, jr. Am Chem Soc J 62:974-7 Ap '40
Cycli-alkylation of aromatic compounds by the Friedel and Crafts reaction. H. A. Bruson and J. W. Kroeger. Am Chem Soc J 62:36-44 Ja '40
Ketene in the Friedel-Crafts reaction; direct acetylation of aromatic hydrocarbons with ketene. J. W. Williams and J. M. Osborn. bibliog Am Chem Soc J 61:3438-9 D '39
Mechanism of aromatization and xylene thermal isomerization. A. F. Dobryanskii and F. Y. Saprykin. il Oil & Gas J 39:48 Ag 8 '40
Oxidation of aromatic hydrocarbons. C. R. Downs. bibliog il Ind & Eng Chem 32:1294-8 O '40
Polycyclic aromatic hydrocarbons. G. M. Badger, J. W. Cook and F. Goulden. Chem Soc J p16-18 Ja '40
Polycyclic aromatic hydrocarbons. J. W. Cook and R. H. Martin. Chem Soc J p1125-7 Ag '40
Polycyclic aromatic hydrocarbons. J. W. Cook and Mrs A. M. Robinson. Chem Soc J p303-4 Mr '40
Polycyclic aromatic hydrocarbons. C. L. Hewett. Chem Soc J p293-303 Mr '40
Polycyclic aromatic hydrocarbons; 1- and 2-alkyl derivatives of 3:4-benzphenanthrene. J. L. Everett and C. L. Hewett. Chem Soc J p1159-62 Ag '40
Polymethyl aromatic hydrocarbons; synthesis of 1,2,4-trimethylnaphthalene and 1,2-, 1,3- and 1,4-dimethylnaphthalene. M. C. Kloetzel. bibliog Am Chem Soc J 62:1708-13 Jl '40
Quantitative determination of aromatic hydrocarbons by new method; based on measurement of specific dispersion. A. V. Grosse and R. C. Wackher. bibliog il Ind & Eng Chem Anal ed 11:614-24 N 15 '39
Separation of the aromatic hydrocarbons, and the isolation of *n*-dodecane, naphthalene, 1-methylnaphthalene, and 2-methylnaphthalene, from the kerosene fraction of petroleum. B. J. Mair and A. J. Streiff. bibliog diags J Research Nat Bur Stand 24:395-414 Ap '40
Structure of aromatic compounds; halogeno-nitro-compounds of styrene, phenanthrene, diphenyl, hydrindene, fluorene, and acenaphthene. N. Campbell, W. Anderson and J. Gilmore. Chem Soc J p446-51 Ap '40
Synthesis of lubricating oils by condensation reactions; the condensation of chlorinated paraffin wax with aromatic hydrocarbons. W. R. Wiggins, T. G. Hunter and A. W. Nash. bibliog Inst Pet J 26:129-45 Mr '40

See also
Anthracene
Benzene
Naphthalene

HYDROCARBOSTYRIL
3,3,5,6,7-Pentamethylhydrindone and 4,4,5,6,8-pentamethylhydrocarbostyril. L. I. Smith and W. W. Prichard. Am Chem Soc J 62:778-80 Ap '40

HYDROCELLULOSE
Hydrocellulose and oxycellulose. Am Dyestuff Rep 29:157-8 Ap 1 '40
Polysaccharides; hydrocellulose. H. C. Carrington and others. Chem Soc J p1901-4 D '39
Polysaccharides; hydrocellulose; fibre and powder. W. N. Haworth, S. Peat and W. J. Wilson. Chem Soc J p1904-8 D '39

HYDROCHLORIC acid
Action of nitrous acid on *p*-nitrodimethylaniline in hydrochloric acid. H. M. Halliday and T. H. Reade. Chem Soc J p138-41 F '40

HYDROCHLORIC acid—*Continued*
Action of sodium nitrite on Michler's hydrol in hydrochloric acid. A. C. Hutchison and T. H. Reade. Chem Soc J p93-6 Ja '40
Apparent and partial molal volumes of sodium chloride and hydrochloric acid in mixed solutions. H. E. Wirth. bibliog Am Chem Soc J 62:1128-34 My '40
Chlorinates; temperature-concentration equilibria in the system hydrogen chloride-chlorine; the hydrogen perchlorides. J. A. Wheat, 2d and A. W. Browne. Am Chem Soc J 62:1577-8 Je '40
Color phenomena associated with quinquevalent molybdenum solutions; absorption spectra in solutions of various hydrochloric acid concentration. C. F. Hiskey and V. W. Meloche. Am Chem Soc J 62:1819-24 Jl '40
Combination of wool protein with acid and base; hydrochloric acid and potassium hydroxide. J. Steinhardt and M. Harris. Am Dyestuff Rep 29:103-7, 121-7, 131-4, 147-9 bibliog (p149) Mr 4-18 '40; Same. J Research Nat Bur Stand 24:335-67 Mr '40
Distribution of protons between water and other solvents. L. S. Guss and I. M. Kolthoff. bibliog Am Chem Soc J 62:1494-6 Je '40
Extraction of ferric iron from hydrochloric acid solutions by dichloroethyl ether and the formula of the iron compound in the ether. J. Axelrod and E. H. Swift. Am Chem Soc J 62:33-6 Ja '40
Heat of dilution of aqueous hydrochloric acid at 25°. J. M. Sturtevant. Am Chem Soc J 62:584-7, 3265-6 Mr, N '40
Heat of hydration of calcium sulfates; direct and heat-of-solution measurements. J. C. Southard. bibliog diag Ind & Eng Chem 32: 442-5 Mr '40
Heat of neutralization of sodium hydroxide with hydrochloric acid. G. Kegeles. bibliog Am Chem Soc J 62:3230-2 N '40
Heats of solution of alkali halides and of hydrogen chloride in water-methyl alcohol solutions at 25°. C. M. Slansky. bibliog diags Am Chem Soc J 62:2430-4 S '40
Increases in the acid strength of hydrogen chloride in dioxane brought about by phenols and alcohols. P. D. Bartlett and H. J. Dauben, jr. bibliog Am Chem Soc J 62: 1339-44 Je '40
New Belgian pickling process saves acid for continual reuse; de Lattre process. A. McLeod. diags Steel 107:40-2, 44+ S 2 '40
Partial pressure of hydrogen bromide from its solutions in some aprotic solvents at 25°; comparison with hydrogen chloride. S. J. O'Brien and E. G. Bobalek. bibliog Am Chem Soc J 62:3227-30 N '40
Partial pressure of hydrogen chloride from its solutions in *o*-nitrotoluene, *m*-nitrotoluene and *n*-hexane at 25°. S. J. O'Brien and C. L. Kenny. bibliog Am Chem Soc J 62:1189-92 My '40
Partial pressure of hydrogen chloride from its solutions in the mono-halobenzenes at 25°. S. J. O'Brien and J. B. Byrne. bibliog Am Chem Soc J 62:2063-5 Ag '40
Portland acid-cleans boiler; using inhibited muriatic acid. D. L. Brown, W. E. Briggs and C. E. Coryea. diag Power 84:80-2 F '40
Reaction between ammonia and $SeO_2.2HCl$ and $SeO_2.2HBr$. J. Jackson and G. B. L. Smith. bibliog Am Chem Soc J 62:543-4 Mr '40
Removal of chlorides and sulfates by synthetic resins. M. C. Schwartz, W. R. Edwards, jr. and G. Boudreaux. bibliog(48 references) Ind & Eng Chem 32:1462-6 N '40
Study of the kinetics of the reactions in the zinc-hydrogen irreversible cell. J. I. Jolley and H. V. Tartar. diag Electrochem Soc Trans 78 (preprint 10):139-59 O '40
Treating incrusted wells. J. R. Goetz and F. L. Coventry. il Water Works & Sewerage 87:376-7 Ag '40

Manufacture

Absorption chambers for HCl; use of tantalum in France. diag Chem Age (Lond) 41:318 N 4 '39

HYDROCHLORIDES
Detergents from kerosene; alkyl amine hydrochlorides. A. R. Padgett and E. F. Degering. bibliog Ind & Eng Chem 32:486-8 Ap '40

HYDROCINNAMIC acid
Microtome measurements of the adsorption of hydrocinnamic acid in the surface of its aqueous solutions. J. W. McBain, T. F. Ford and G. F. Mills. bibliog il Am Chem Soc J 62:1319-24 Je '40
Observations of surface tension in the Pockels-Langmuir-Adam-Wilson-McBain trough. J. W. McBain, J. R. Vinograd and D. A. Wilson. bibliog Am Chem Soc J 62:244-8 F '40
Studies of solutions of hydrocinnamic acid and of lauryl sulfonic acid with the film balance. J. W. McBain and W. V. Spencer. Am Chem Soc J 62:239-44 F '40

HYDROCOUMARIN
Chemistry of vitamin E; the reaction between Grignard reagents and coumarins and hydrocoumarins. L. I. Smith and P. M. Ruoff. bibliog Am Chem Soc J 62:145-8 Ja '40

HYDROCULTURE. See Plants—Soilless culture

HYDROCYANIC acid
Calculation of chemical equilibrium at high pressures; with applications to methanol synthesis, hydration of olefins, and reaction of nitrogen and acetylene to give hydrogen cyanide. R. H. Ewell. bibliog Ind & Eng Chem 32:147-53 F '40
Effects of cyanogen on manufactured gas. E. J. Murphy. bibliog il Gas Age 84:23-7 N 23 '39; Same. Am Gas J 151:9-13. 41 D '39
Hydrogen cyanide gas fumigation; experience at Fort Peck. J. E. O'Donnell and others. J Ind Hygiene 22:253-75 bibliog(p274-5) S '40
Studies on hydrogen cyanide; the asymmetry of the tetrapolymer of hydrogen cyanide. L. E. Hinkel and T. I. Watkins. Chem Soc J p1206-8 Ag '40
Studies on hydrogen cyanide; the constitution of the double compound of hydrogen cyanide and aluminium chloride. L. E. Hinkel and T. I. Watkins. Chem Soc J p407-9 Ap '40

HYDRODYNAMICS
Aspects théoriques de l'écoulement de l'eau dans un canal comportant des obstacles. A. Brolkos. Génie Civil 116:356-9 Je 1 '40
Calculation of particle trajectories. C. E. Lapple and C. B. Shepherd. bibliog Ind & Eng Chem 32:605-17 My '40
Dynamic and thermal behavior of water drops in evaporative cooling processes. H. B. Nottage and L. M. K. Boelter. Heating-Piping 12:326-32 My '40
Hydrodynamics and the morphology of nebulae. F. Zwicky. Phys R 58:478 S 1 '40
Mathematical theory of irrotational translation waves. G. H. Keulegan and G. W. Patterson. bibliog J Research Nat Bur Stand 24:47-101 Ja '40
Modern developments in fluid dynamics; an account of theory and experiment relating to boundary layers, turbulent motion and wakes. S. Goldstein, ed. 2v $16 Oxford '38
Resistance to the uniform motion of a solid through a viscous liquid; mixtures of glycerine and methyl alcohol. R. B. Block. bibliog J Ap Phys 11:635-42 O '40
Sedimentation in the laboratory; design data from laboratory experimentation. H. T. Ward and K. Kammermeyer. bibliog il Ind & Eng Chem 32:622-6 My '40
Theoretical study of the moment on a body in a compressible fluid. C. Kaplan. diags U S Nat Advisory Com for Aeronautics 1939:581-98 '40
Viscous force between almost-coaxial cylinders. D. R. Inglis. bibliog Phys R 56:1041-4 N 15 '39

See also
Aerodynamics
Drops
Hydraulic machinery —Cavitation
Hydraulics
Ship resistance
Viscosity
Water flow

HYDROELECTRIC plants
Alcoa to build dam as part of own Tennessee project. Business Week p20 Ag 3 '40

HYDROELECTRIC plants—*Continued*
Design of Hiwassee dam; engineering details. C. E. Pearce. diags Civil Eng 10: 436 Jl '40
Progress in power generation, 1933-39. il Elec Eng 59:16-20 Ja '40
See also
Colorado river—Boulder Dam project
Dams
Hydroelectric power
Turbines

Automatic operation
New hydro plant at Swinging Bridge. L. G. Raper and A. L. Mixer. il diags plans map Power Pl Eng 44:40-5 Ag '40
Relay scheme starts hydro station. plan Elec W 113:915 Mr 23 '40
Unattended power station, remotely controlled by carrier current; Axelfors station. S. Anker-Rasmussen. il diag Elec R (Lond) 126:541-2 My 17 '40

Combination with Diesel engine stations
Diesels team with hydro; Sturgis, Mich. il diag plan Power 84:275-7 My '40
Year's service record shows gas-Diesel economy; Coolidge Standby generating station, San Carlos irrigation project. R. G. Hornberger. il diag Power 84:724-7 N '40

Combination with steam plants
Load pickup and steam standby. F. G. Philo. Gen Elec R 42:520-4 D '39
Steam station designed as hydro adjunct; Orem station, Utah power & light company. S. B. Flagg. il diags plan Elec W 114:522-5+ Ag 24 '40
Would the Supreme court OK federal steam-power operations? Pub Util 25:421-2 Mr 28 '40

Construction
L'aménagement du Haut-Rhône français; projet définitif et travaux du barrage de Génissiat. P. Calfas. il diags plan Génie Civil 116:21-7 Ja 13 '40
Batching, mixing and placing concrete on great Santee-Cooper project in South Carolina. il Concrete 48:3-4 O '40
Parker Dam power project. J. A. Fraps. il diags plan Civil Eng 10:634-7 O '40

Control
Seminoe's control typical of newer U.S. Bureau of reclamation plants. E. C. Schurch. il diag Elec West 84:40-4 Ja '40

Cost
Marshall Ford dam power plant, Texas; unit prices. Eng N 124:sup 146 F 29 '40
Pinopolis power plant, South Carolina; unit prices. Eng N 125:445 O 3 '40

Design
Design and operating features of the Winfield hydro development. P. Sporn and E. L. Peterson. il diags map Power Pl Eng 44:36-42+ F '40
Grand Coulee power plant; left powerhouse; plan. Elec West 84:44 My '40
New French hydro-electric station at Vintron. il Electrician 123:301 S 29 '39
New hydro plant at Swinging Bridge. L. G. Raper and A. L. Mixer. il diags plans map Power Pl Eng 44:40-5 Ag '40

Equipment
Boost plant capacity at cost of $5 per kw; larger diameter impellers add 6,000 kw; Dix Dam plant of the Kentucky utilities company. E. W. Brown. diag Elec W 112:1441 N 18 '39
Etzel welded high pressure pipeline, Switzerland. il Engineer 169:118 F 2 '40; Elec R (Lond) 126:128 F 2 '40
Heaters prevent condensation on hydro station generators. J. E. Housley. il Elec W 113: 1054-6 Ap 6 '40
Hydroelectric projects built or on order in the United States and Canada in 1939-40; tabulation. F. A. Annett. Power 84:568-71 S '40
Modify tunnel design to stop sand trouble. diag Elec W 113:2067 Je 29 '40
Penstocks for hydro-electric power plants. P. J. Bier. diags Engineering 149:349-52, pl 19-20 Ap 5 '40
Protective coatings for hydro structures. L. J. Pospisil. Elec West 84:127-8 Je '40
Ring bus effects savings at Boulder. T. J. Lovell. il diags Elec W 114:554 Ag 24 '40
Safe Harbor hydro plant meters water flow. J. M. Mousson. il diags Power 84:650-2, 708-10 O-N '40
Seminoe's control typical of newer U.S. Bureau of reclamation plants. E. C. Schurch. il diag Elec West 84:40-4 Ja '40
Signal scheme warns of fouled trash rack. il diags Elec W 112:1462 N 18 '39
Vargön power station of the Royal Swedish board of waterfalls. il diag map Engineering 149:27-30, 38, pl 2-3 Ja 12 '40
Warning; simple device watches water levels at hydro plant. diag Elec West 83:26 D '39
See also
Turbines

Finance
Boulder's expanding service; financial data. Power Pl Eng 44:124+ Jl '40

Government ownership
Bonneville still seeks customers. il map Business Week p45-7 D 9 '39
Columbia power administration seeks powers thus far denied federal agencies. E. R. Abrams. Annalist 56:533-4 O 24 '40
Does public ownership swamp private enterprise? T. Nettleton. Pub Util 25:728-35 Je 6 '40
Federal power projects, 1939. map Elec W 113:122 Ja 13 '40
Funds for government power projects smaller; budget estimates. Elec W News ed 113:833-4 Mr 16 '40
Hydro keeps step with steam in both kw and kwhr; hydroelectric projects being built and operated by governmental agencies; location and capacity of government projects. map Power 84:572-4 S '40
Look at little TVA; Nebraska power districts. L. W. W. Morrow. il plan map Elec W 112:1601-3+ D 2 '39
Nebraska power projects. H. T. Dobbins. Pub Util 25:270-7 F 29 '40
Powering the great valley; means of getting power from Central Valley project's plant to California's breadbasket. L. S. Ready. map Elec West 84:42-4 Ap '40
President Roosevelt coordinates marketing of power at Bonneville and Grand Coulee dams. Comm & Fin Chr 151:1211 Ag 31 '40
Public ownership and the Central Valley, California, project. J. H. Collins. Pub Util 26:195-206 Ag 15 '40
Recent newspaper series on government in business. Pub Util 25:41-5 Ja 4 '40
Restricting markets for federal power; free flow of public funds to promote public ownership of local electric utilities has been stopped. G. E. Doying. bibliog Pub Util 25:67-79 Ja 18 '40
Roosevelt names Raver power marketing agent; executive order consolidating sale and distribution of power from Bonneville and Grand Coulee dams. Elec W News ed 114:601 Ag 31 '40
Shasta to be operated by Reclamation bureau. Eng N 125:374 S 19 40
Uncle Sam in a swamp; Santee-Cooper project. H. Corey. Pub Util 26:647-56 N 7 '40
Uncle Sam power company, inc.; two billions for competition with private utilities. V. C. Royster. Barron's 20:13-14 Je 3 '40
Utility struggle in decisive phase; climax approaching in Pacific Northwest. J. Maguire. Barron's 20:18 O 28 '40
Wanted: a coördinated federal power rate policy. T. L. North. Pub Util 25:594-602 My 9 '40
What the administrator says about Bonneville; interview with P. J. Raver. G. C. Tenney. map Elec West 84:27-9 Ja '40

HYDROELECTRIC plants—Government ownership—*Continued*
Will the reclamation power program be continued? G. W. Lineweaver. Pub Util 25:13-25 Ja 4 '40

See also
Columbia river—Bonneville dam
Columbia river—Grand Coulee dam
Hydroelectric plants—Nebraska
Tennessee Valley project

Irrigation water use
Nebraska power district signs energy sale pact with Iowa-Nebraska light & power co. Elec W 112:1457 N 18 '39

Protection
Trash racks use stainless steel; Holtwood hydro plant of Pennsylvania water & power co. il Elec W 114:702+ S 7 '40

Reconstruction
Small, antiquated hydro salvaged for modest outlay; High Falls plant of the Central New York power corporation. W. G. Fielder. il plans Elec W 114:687-9 S 7 '40

Small plants
Miniature plant voltage regulation by means of Thyrite resistors. R. J. Mather. diag Elec W 113:2070 Je 29 '40

Storage type
Planned operation of a reservoir system. V. Thiemann. Edison Elec Inst Bul 8:479-84 O '40
Power storage in the Ruhr; the Herdecke and Brauweiler units and their contribution to electric steel production. diag map Electrician 125:46-7 Jl 26 '40

Tables, calculations, etc.
Water supply on upper Salt river, Arizona; data and methods used to determine economical storage requirements and power outputs of a proposed hydroelectric plant. J. Girand. map Am Soc C E Proc 65:1675-86 D '39; Discussion. 66:553-6, 777-8 Mr-Ap '40

Trash racks
See Hydroelectric plants—Protection

California
Parker Dam power project. J. A. Fraps. il diags plan Civil Eng 10:634-7 O '40

Canada
Hydro-electric progress in Canada in 1939. T. A. Crerar. il Can Eng 77:4-7 D 26 '39; Same cond. Engineering 149:185 F 16 '40
Hydroelectric projects built or on order in 1939-40; tabulation. F. A. Annett. Power 84:570-1 S '40
Importance of Canada's vast power resources in mobilization for war. H. Janes. map Annalist 55:136-8 Ja 25 '40
Water power in Canada; progress during 1939. Elec R (Lond) 126:223 F 23 '40
Water-power resources of Canada. Engineering 149:518 My 24 '40

France
L'aménagement du Haut-Rhône français; projet définitif et travaux du barrage de Génissiat. P. Calfas. il diags plan Génie Civil 116:21-7 Ja 13 '40
Genissiat dam. il diags plan Engineer 168: 510-12, 520 N 24 '39
New French hydro-electric station at Vintrou. il Electrician 123:301 S 29 '39

Germany
Power storage in the Ruhr; the Herdecke and Brauweiler units and their contribution to electric steel production. diag map Electrician 125:46-7 Jl 26 '40

Idaho
Utah power & light co. builds a big wood pipe. il Elec W 112:1864-5 D 30 '39

India
India's hydro-electric projects. Elec R (Lond) 127:70 Jl 26 '40

Ireland
Water-power in Eire. il Elec R (Lond) 127: 237 S 20 '40
Water-power in Eire; abstract. O. J. Friel. Elec R (Lond) 125:803 D 22 '39

Kentucky
Guntersville, 5th in TVA chain; illustrations. Power 84:659-60 O '40

Mexico
Two dams in Mexico; Salinillas lake and Madero. il Engineer 169:54, 64 Ja 19 '40

Morocco
Electricity in Spanish Morocco. il Elec R (Lond) 125:786 D 22 '39
L'équipement électrique et hydraulique du Maroc; la production et la distribution de l'énergie électrique. J. Thomas. il map Génie Civil 116:77-82 F 3 '40

Nebraska
Look at little TVA. L. W. W. Morrow. il plan map Elec W 112:1601-3+ D 2 '39
Nebraska power district signs energy sale pact with Iowa-Nebraska light & power co. Elec W 112:1457 N 18 '39
Nebraska power projects. H. T. Dobbins. Pub Util 25:270-7 F 29 '40
Nebraska's public power projects; heavy losses reported despite federal subsidies. H. T. Dobbins. Barron's 20:15 Je 3 '40

New York (state)
New hydro plant at Swinging Bridge. L. G. Raper and A. L. Mixer. il diags plans map Power Pl Eng 44:40-5 Ag '40

New Zealand
Electricity in New Zealand. il Elec R (Lond) 126:366 Mr 29 '40

North Carolina
North Carolina High court upholds orders halting High Point power project. Eng N 124:563 Ap 25 '40

Northwestern states
Future of power use in the Pacific Northwest. H. V. Carpenter. Mech Eng 62:663-4+ S '40

Norway
Hydro-electricity in Norway. Elec R (Lond) 126:464 Ap 19 '40

Ontario
Expansion of hydro service in northern Ontario mining districts. T. C. James. il map Can Min J 60:811-16 D '39

Oregon
Cheap Bonneville power should attract electrometallurgical industries. W. W. R. May. il Min & Met 21:327-9 Jl '40
Portland utility signs Bonneville power pact. map Elec W News ed 112:1676 D 9 '39

Pennsylvania
Safe Harbor hydro plant meters water flow. J. M. Mousson. il diags Power 84:650-2, 708-10 O-N '40

Quebec
Canada's largest engineering project nearing completion; St Maurice power corporation's development at La Tuque. il Can Eng 77: 9+ D 19 '39
Canadian hydro-electric development; La Tuque Falls. Engineer 169:374 Ap 19 '40
More kilowatts for Brown; hydroelectric plant at La Tuque owned jointly by Brown corp. and Shawinigan water & power co. H. G. Cochrane. il Pulp & Pa of Can 40:723-6 D '39

South Carolina
Constructing an electric power plant in the South; Buzzards Roost project. J. H. Moore and E. B. Miller. il Manuf Rec 109:34-5 Ag '40
Developing the Santee and Cooper rivers; combined power and navigation project in South Carolina. il diags map Eng N 124: 706-11 My 23 '40

HYDROELECTRIC plants—South Carolina— *Continued*
Uncle Sam in a swamp; Santee-Cooper project. H. Corey. Pub Util 26:647-56 N 7 '40

Sweden

Developing Sweden's water-power. S. Anker-Rasmussen. il Elec R (Lond) 126:566 My 24 '40
Low head produces high capacity; Vargön hydro plant. G. Willock. il diags Power 83:744-6 D '39
La station hydro-électrique de Vargön, sur le Göta (Suède). il diags maps Génie Civil 116:337-40 My 25 '40
Unattended power station, remotely controlled by carrier current; Axelfors station. S. Anker-Rasmussen. il diag Elec R (Lond) 126:541-2 My 17 '40
Vargön power station of the Royal Swedish board of waterfalls. il diag map Engineering 149:27-30, 38, pl 2-3 Ja 12 '40
Water-power dam in Sweden formed of concrete monoliths. diags Eng N 123:703-4 N 23 '39

Switzerland

Etzel welded high pressure pipeline. il Engineer 169:118 F 2 '40; Elec R (Lond) 126:128 F 2 '40
Quelques constructions récentes de l'industrie mécanique; la conduite forcée de l'usine hydro-électrique de l'Etzel. R. Sulzer. il diags map Soc Ing Civils Mémoires 91:855-64 N '38

Tennessee valley

See also
Tennessee Valley project

United States

Hydro keeps step with steam in both kw and kwhr; hydroelectric projects being built and operated by governmental agencies; location and capacity of government projects. map Power 84:572-4 S '40
Hydro-electric power, 1939. N. A. Bowers. il Eng N 124:240-2 F 15 '40
Hydroelectric projects built or on order in 1939-40; tabulation. F. A. Annett. Power 84:568-70 S '40
Major projects of 1939; power and irrigation. il Eng N 124:272 F 15 '40

Vermont

Vermont Marble's four-station, interconnected hydro system. F. A. Westbrook. il map Power 84:730-1 N '40

Virginia

Concrete aggregate development on the Claytor hydro project. G. W. Hutchinson. il Am Concrete Inst J 11:273-95 Ja '40; Discussion. C. A. G. Weymouth. 12:sup296¹-296³ S '40

Washington (state)

L'aménagement de la Skagit river pour la fourniture de l'électricité à la ville de Seattle (Washington, É.-U.); le barrage Ross. P. Caufourier. il plan map Génie Civil 116:177-9 Mr 16 '40
Grand Coulee dam and the Columbia Basin reclamation project. S. E. Hutton. il plan map Mech Eng 62:651-60 S '40
Rush job for increased aluminum needs; first plant to utilize hydro-electric power for producing aluminum in Northwest, Vancouver, Wash. il Eng N 125:630-1 N 7 '40

West Virginia

Design and operating features of the Winfield hydro development. P. Sporn and E. L. Peterson. il diags map Power Pl Eng 44: 36-42+ F '40

Western states

Will the reclamation power program be continued? G. W. Lineweaver. Pub Util 25:13-25 Ja 4 '40

Wyoming

Seminoe's control typical of newer U.S. Bureau of reclamation plants. E. C. Schurch. il diag Elec West 84:40-4 Ja '40

HYDROELECTRIC power
Administration to push Roosevelt's idea of development of steel industry in the West through utilization of cheap water power. L. W. Moffett. Iron Age 144:54+ N 30 '39
Case for light and power; review of the accomplishments of the industry, with an interpretation of developments in public policy. il map Nation's Business 28:33-64 Mr '40
Federal water power and electrochemical industries. C. G. Fink. bibliog il Elec Eng 59:59-62 F '40
Hydro-electric power, 1939. N. A. Bowers. il Eng N 124:240-2 F 15 '40
Power's contribution to Canadian mining. H. G. Cochrane. il Can Min J 60:725-31 N '39

See also
Colorado river—Boulder Dam project
Columbia river—Bonneville dam
Hydroelectric plants
St Lawrence waterway and power project

HYDROFLUORIC acid
7-Cholanthroic acid. L. F. Fieser and G. W. Kilmer. bibliog Am Chem Soc J 62:1354-60 Je '40
Correcting ignited silica precipitates for nonvolatile material. J. S. Billheimer, P. H. Faust and E. H. Swift. bibliog Ind & Eng Chem Anal ed 12:409-11 Jl 15 '40
Further observations on the use of hydrogen fluoride in acylations and cyclizations. L. F. Fieser and E. B. Hershberg. bibliog Am Chem Soc J 62:49-53 Ja '40
Handling hydrofluoric acid. il Chem & Met Eng 47:542-3 Ag '40
Hydrofluoric acid (aqueous); hazards and precautions. Nat Safety N 42:38, 40+ N '40
Hydrogen fluoride as a condensing agent; reactions of di- and triisobutylene with phenol. J. H. Simons and S. Archer. Am Chem Soc J 62:451 F '40
Hydrogen fluoride as a condensing agent; reactions of methyl, ethyl and phenyl compounds with benzene and its derivatives. J. H. Simons and H. J. Passino. Am Chem Soc J 62:1624 Je '40
Hydrogen fluoride as a condensing agent; rearrangements. J. H. Simons, S. Archer and D. I. Randall. Am Chem Soc J 62:485-6 Mr '40
Hydrogen fluoride as a condensing agent; the reaction of alcohols and ethers with benzene. J. H. Simons and S. Archer. Am Chem Soc J 62:1623-4 Je '40
Pickling alloy steels; a new method of employing hydrofluoric acid. Automobile Eng 30:261 S '40
Potential use of hydrogen fluoride in organic chemical processes. J. H. Simons. bibliog il Ind & Eng Chem 32:178-83 F '40; Abstract. Chem Age (Lond) 42:117-18 F 24 '40

HYDROGEN
Adsorption of hydrogen by copper dispersed in calcium oxide. J. R. Lewis, L. J. E. Hofer and H. Whitehead. Am Chem Soc J 61:3580-3 D '39
Angular distribution of fast neutrons scattered by hydrogen, deuterium and helium. H. H. Barschall and M. H. Kanner. bibliog il diags Phys R 58:590-6 O 1 '40
Application of the hydrogen-bridge theory to sorption from solution by silica gel. A. L. Elder and R. A. Springer. bibliog J Phys Chem 44:943-9 O '40
Arrangement of phases in palladium-hydrogen. D. P. Smith and C. S. Barrett. Am Chem Soc J 62:2565-6 S '40
Associating effect of the hydrogen atom; nitroarylhydrazones. L. Hunter and J. A. Marriott. Chem Soc J p166-70 F '40
Associating effect of the hydrogen atom; the acid hydrazides. H. T. Hayes and L. Hunter. Chem Soc J p332-6 Mr '40
Breakdown potentials of gases under alternating voltages. G. W. Fox and D. O. McCoy. diag J Ap Physics 11:592-5 S '40
Catalytic interaction of acetylene and hydrogen on platinum. A. Farkas and L. Farkas. Am Chem Soc J 61:3396-401 D '39

HYDROGEN—*Continued*
Catalytic oxidation of hydrogen on platinum; a search for chemiluminescence and ionization. R. Potvin and C. Ouellet. bibliog diags J Phys Chem 44:235-46 F '40
Chemisorptions of gases on iron synthetic ammonia catalysts. S. Brunauer and P. H. Emmett. bibliog Am Chem Soc J 62:1732-46 Jl '40
Cross section for change of charge and ionization by high velocity metallic ions in hydrogen and helium. C. W. Sherwin. bibliog diags Phys R 57:814-21 My 1 '40
Diffusion of hydrogen from water through steel. F. J. Norton. diags J Ap Phys 11: 262-7 Ap '40
Diffusion of hydrogen in iron. A. Günther-schulze and H. Betz. Engineer 169:sup[Metallurgist] 89-90 F 23 '40
Effect of bubbles of gas on mixtures of sewage and activated sludge; amount of organic carbon removed with bubbles of air, oxygen, hydrogen, and nitrogen. E. Williams. Soc Chem Ind J 59:39-41 F '40
Effect of hydrogen-ion concentration on the growth of hydrogen and carbon monoxide bacteria. G. W. Jones and G. S. Scott. U S Bur Mines Information Circ 7133:1-5 '40
Equilibrium FeO + H_2 = Fe + H_2O at temperatures up to the melting point of iron. J. Chipman and S. Marshall. bibliog diags Am Chem Soc J 62:299-305 F '40
Explosion hazards in storage-battery rooms. G. W. Jones and others. il plan U S Bur Mines Tech Pa 612:1-16 '40
Hydrogen anode. M. deK. Thompson and H. V. Fairbanks. diags Electrochem Soc Trans 78 (preprint 23):327-35 O '40
Hydrogen bond. H. J. Emeléus. Chem & Ind 59:583-5 Ag 17 '40
Hydrogen bonds involving the C-H← F link. C. S. Marvel, M. J. Copley and E. Ginsberg. bibliog Am Chem Soc J 62:3263-4 N '40
Hydrogen bonds involving the C-H link; effect of structure on bonding of donor and acceptor molecules. C. S. Marvel, M. J. Copley and E. Ginsberg. bibliog Am Chem Soc J 62:3109-12 N '40
Hydrogen bonds involving the C-H link; nitriles and dinitriles as solvents for hydrogen containing halogenated methanes. M. J. Copley, G. F. Zellhoefer and C. S. Marvel. Am Chem Soc J 62:227-8 Ja '40
Hydrogen bonds involving the C-H link; the solubilities of completely halogenated methanes in organic solvents. M. J. Copley, G. F. Zellhoefer and C. S. Marvel. Am Chem Soc J 61:3550-2 D '39
Hydrogen bridging in cellulose as shown by infrared absorption spectra. J. W. Ellis and J. Bath. bibliog il Am Chem Soc J 62:2859-61 O '40
Hydrogen exchange reactions of esters in relation to reactivity in condensation reactions with deuteroalcohol. W. G. Brown and K. Eberly. Am Chem Soc J 62:113-15 Ja '40
Hydrogen, flakes and shatter cracks; correlated abstract. C. A. Zapffe and C. E. Sims. il Metals & Alloys 11:145-51, 177-84 bibliog(p 148-51, 184); 12:44-51, 145-8 My-Ag '40
Hydrogen prominences on the sun; viewed with telescope attachment, quartz monochromator. J. Stokley. Science 92:sup10 O 25 '40
Hydrogenation of oil; suggested natural source of hydrogen. E. T. Heck. Am Assn Pet Geologists Bul 24:1475-8 Ag '40
Infrared absorption studies; bonding of hydrogen in nitrogen compounds. A. M. Buswell, J. R. Downing and W. H. Rodebush. bibliog Am Chem Soc J 61:3252-6 D '39
Infrared absorption studies; NH-N and NH-O bonds. A. M. Buswell, J. R. Downing and W. H. Rodebush. bibliog Am Chem Soc J 62:2759-65 O '40
Metallurgical aspects of hydrogen in electroplating; abstracts. C. A. Zapffe and C. L. Faust. Iron Age 145:43 Je 27 '40; Metals & Alloys 12:334-5 S '40
Method for separating para-hydrogen from oxygen and carbon monoxide. E. Bergmann, L. Farkas and L. Sandler. Am Chem Soc J 62:445 F '40
Oxygen, hydrogen, molten-iron system. H. Lepp. bibliog Iron & Steel Inst J 141:329-37; Discussion. 338-9 no 1 '40
Performance of packed towers; liquid film data for several packings. T. K. Sherwood and F. A. L. Holloway. bibliog diag Am Inst Chem Eng Trans 36:39-69; Discussion. 69-70 F '40
Permeability of elastic polymers to hydrogen. T. P. Sager. J Research Nat Bur Stand 25:309-13 S '40
Phase segregation and its relation to the properties of the system palladium-hydrogen. D. P. Smith. bibliog diags Electrochem Soc Trans 78 (preprint 5):53-66 O '40
Photochemical oxidation of hydrogen. H. A. Smith and A. Napravnik. bibliog Am Chem Soc J 62:385-93 F '40
Photochemical studies; the photochemical reaction between nitrous oxide and hydrogen. J. W. Zabor and W. A. Noyes, jr. bibliog Am Chem Soc J 62:1975-81 Ag '40
Positive point-to-plane corona in pure A, H_2 and N_2. G. L. Weissler. Phys R 57:340-1 F 15 '40
Relation of defects in enamel coatings to hydrogen in steel. C. A. Zapffe and C. E. Sims. il diags Am Cer Soc J 23:187-219 bibliog(219 titles, p215-19) Jl '40; Discussion. 23:291-6; Reply. 296-300 O '40
Relative effect of inhibitants on adsorption and on catalytic activity. E. B. Maxted and H. C. Evans. Chem Soc J p1750-4 N '39
Replacement of the diazo-group by hydrogen. H. H. Hodgson and E. Marsden. Chem Soc J p207-8 F '40
Resonances in the emission of neutrons from the reaction $C^{12}+H^2$. T. W. Bonner, E. Hudspeth and W. E. Bennett. Phys R 58: 185-6 Jl 15 '40
Resonances in the emission of protons from the reaction $C^{12}+H^2$. M. M. Rogers and others. Phys R 58:186 Jl 15 '40
Rotational magnetic moments of H_2, D_2, and HD molecules; the rotational radiofrequency spectra of H_2, D_2, and HD in magnetic fields. N. F. Ramsey, jr. bibliog Phys R 58:226-36 Ag 1 '40
Sensitisation of the hydrogen-oxygen reaction by nitrous oxide. C. J. Danby and C. N. Hinshelwood. Chem Soc J p464-8 Ap '40
Spectroscopic evidence for hydrogen bonds: SH, NH and NH_2 compounds. W. Gordy and S. C. Stanford. bibliog Am Chem Soc J 62:497-505 Mr '40
Spectroscopic evidence for hydrogen bonds: the hexyl alcohols. S. C. Stanford and W. Gordy. bibliog Am Chem Soc J 62:1247-51 My '40
Townsend ionization coefficients for Ni and Al cathodes in an atmosphere of hydrogen. D. H. Hale. bibliog diag Phys R 56:1199-1202 D 15 '39

See also
Hydrogenation
Protons

Analysis

Accuracy and precision of microanalytical determination of carbon and hydrogen; a statistical study. F. W. Power. bibliog Ind & Eng Chem Anal ed 11:660-73 D 15 '39
Apparatus for semimicrodetermination of carbon and hydrogen. C. Niemann and V. Danford. il diags Ind & Eng Chem Anal ed 12:563-6 S 15 '40
Estimation of hydrogen in steel and other metals. W. C. Newell. bibliog diag Iron & Steel Inst J 141:243-53, pl 7 no 1 '40; Same cond. Engineering 149:479-80 My 10 '40; Discussion. Iron & Steel Inst J 141:254-62 no 1 '40
Hydrogen analysis apparatus. R. H. Müller. il diags Ind & Eng Chem Anal ed 12:610-12 O 15 '40
Microdetermination of carbon and hydrogen; use of Abrahamczik absorption tubes. R. O. Clark and G. H. Stillson. bibliog il diags Ind & Eng Chem Anal ed 12:494-8 Ag 15 '40

HYDROGEN—Analysis—*Continued*
Microgravimetric determination of active hydrogen by the Grignard reagent; application to analysis of impregnated paper insulating tapes. R. N. Evans, J. E. Davenport and A. J. Revukas. bibliog diag Ind & Eng Chem Anal ed 12:301-3 My 15 '40
Potentiometric determination of exchangeable hydrogen in unsaturated soils. K. A. Maehl. diag Ind & Eng Chem Anal ed 12: 24-7 Ja 15 '40

Atomic hydrogen

Atomic hydrogen, for welding hot strip off the 30-in. mill at the Otis plant. R. M. Fenton and E. W. Dougherty. il diag Iron Age 146:40-2 Jl 18 '40
Suggested use for atomic hydrogen; treatment of liquid hydrocarbons. diag Chem Age (Lond) 42:334 Je 22 '40

Industrial applications

Ford installs 110,000-kilowatt hydrogen-cooled generator. D. S. Snell. il plans Power 84: 29-31 Ja '40
Hydrogen-cooled generators. diags Power Pl Eng 44:93 Ap '40
Hydrogen-cooled turbine generator. D. S. Snell. bibliog il diags Elec Eng 59:Trans 35-45; Discussion. Trans 45-50 Ja '40
Hydrogen-cooled turbine generators. M. D. Ross and C. C. Sterrett. bibliog il diags Elec Eng 59:Trans 11-16; Discussion. Trans 16-17, 48-9 Ja '40
Turbo-generators; hydrogen cooling. Electrician 124:302-3 Ap 19 '40
12 years of hydrogen cooling. P. Sporn and F. M. Porter. il Power 84:161 Mr '40

See also
Electric welding, Arc —Hydrogen process

Isotopes

Binding energy of H^3. F. W. Brown. Phys R 56:1107-10 D 1 '39
Catalytic hydrogenation with deuterium. D. Rittenberg, S. Ratner and H. D. Hoberman. Am Chem Soc J 62:2249-50 Ag '40
Decay constant of H^3. R. D. O'Neal and M. Goldhaber. Phys R 58:574-5 S 15 '40
Electrical quadrupole moment of the deuteron; the radiofrequency spectra of HD and D_2 molecules in a magnetic field. J. M. B. Kellogg and others. bibliog Phys R 57:677-95 Ap 15 '40
Method for preparing *ortho*-deuterium. L. Farkas and L. Sandler. diag Am Chem Soc J 62:2877-8 O '40

See also
Deuterium compounds — Water—Heavy water

Manufacture

La conversion du méthane en hydrogène et en oxyde de carbone; procédés de la Société belge de l'azote, à Renory. C. Berthelot. il diags Génie Civil 115:461-4 D 30 '39
Hydrogen from dissociated ammonia for atomic hydrogen welding. J. H. Gettig. il diags Steel 106:58-9 Ap 22 '40
Hydrogenation; economic aspects. L. A. Stengel and R. N. Shreve. Ind & Eng Chem 32:1212-14 S '40
Methane cracking; improved installation in Belgium. il diag Chem Age (Lond) 42:183 Mr 30 '40

HYDROGEN azide. See Hydrazoic acid

HYDROGEN bromide. See Hydrobromic acid

HYDROGEN chloride. See Hydrochloric acid

HYDROGEN compounds
Condensations of certain active hydrogen compounds effected by boron trifluoride and aluminum chloride. D. S. Breslow and C. R. Hauser. bibliog Am Chem Soc J 62: 2385-8 S '40
Ketene acetals; the reaction of ketene diethylacetal with various compounds containing an active hydrogen. H. M. Barnes, D. Kundiger and S. M. McElvain. Am Chem Soc J 62:1281-7 My '40
Photochemical decomposition of solid hydrogen compounds at low temperatures. L. Farkas, Y. Hirshberg and L. Sandler. bibliog diag Am Chem Soc J 61:3393-6 D '39

See also
Deuterium compounds
Hydrocarbons

HYDROGEN cyanide. See Hydrocyanic acid

HYDROGEN fluoride. See Hydrofluoric acid

HYDROGEN halides

See also
Hydriodic acid — Hydrochloric acid
Hydrobromic acid — Hydrofluoric acid

HYDROGEN iodide. See Hydriodic acid

HYDROGEN ion concentration
Alumina floc; X-ray diffraction study. H. B. Weiser, W. O. Milligan and W. R. Purcell. il Ind & Eng Chem 32:1487-90 N '40
Bactericidal properties of commercial antiseptics; further study of the effect of pH. W. A. Bittenbender and others. bibliog Ind & Eng Chem 32:996-8 Jl '40
Calculation of the distribution of carbon dioxide between water and steam. A. M. Amorosi and J. R. McDermet. Am Soc T M Proc 39:1204-17; Discussion. 1218-20 '39
Cambridge electron-ray pH meter. il India Rubber W 101:52 Mr '40
Colloidal chemistry in water treatment. E. S. Hopkins. bibliog il diags Ind & Eng Chem 32:263-7 F '40
Determination of the pH value of clay by means of the glass electrode. F. W. Selfridge. il Rubber Age 46:287-8 F '40
Durability of glass, estimating dissolved alkali by pH determination. R. F. Doran and S. R. Scholes. Am Cer Soc J 23:91-2 Mr '40
Effect of hydrogen-ion concentration on the growth of hydrogen and carbon monoxide bacteria. G. W. Jones and G. S. Scott. U S Bur Mines Information Circ 7133:1-5 '40
Few facts about pH. A. S. Park. il Comp Air M 44:6016-20 N '39
Function of pH in water treatment. C. E. Imhoff. il diags Paper Tr J 110:37-44 Ap 4 '40
How to use available recorders for continuous records with indicating pH meters. V. F. Hanson. diags Chem & Met Eng 47:169-70 Mr '40
How to use pH. G. A. Perley. il Power 83:738-9 D '39
pH change in gold sol formation; reduction of alkaline solution of potassium aurate by formaldehyde. C. L. Throckmartin and C. H. Sorum. J Phys Chem 44:247-55 F '40
Hydrogen ion concentration and pentosans; report of cooperative tests of TAPPI subcommittee on chemical methods. P. F. Wehmer. Paper Tr J 111:33-5 S 19 '40
Hydrogen ion control in water treatment; tests in the Tugela river. G. W. Bond. Chem Age (Lond) 41:327-8 N 11 '39
pH, dissolved iron concentration and solid product resulting from the reaction between iron and pure water at room temperature. R. C. Corey and T. J. Finnegan. il diags Am Soc T M Proc 39:1242-53 bibliog(p1252-3); Discussion. 1254-60 '39
pH of sodium dichromate solutions; dilution effects. H. J. Kaufmann, W. B. Lauder and R. K. Kepner. bibliog Ind & Eng Chem 32:423-6 Mr '40
pH test for paper. J. E. Minor and M. Farmer. Paper Ind 22:565-8 S '40
Hydrolysis of salts in solution. H. F. Brown and J. A. Cranston. diag Chem Soc J p578-83 My '40
Importance of pH and catalysts in bleachery operations. J. D. Rue. Paper Tr J 110:98-101 Je 27 '40; Same. Pulp & Pa of Can 41:661-4 S '40
Indicator properties of 8-hydroxyquinoline-5-sulfonic acid and its derivatives. H. B. Feldman and A. L. Powell. bibliog Am Chem Soc J 62:3107-9 N '40
Ion adsorption by pectin. G. H. Joseph. J Phys Chem 44:409-11 Ap '40

HYDROGEN ion concentration—*Continued*
Lime-chlorine system in the preparation of calcium hypochlorite. F. W. O'Neil and J. D. Rue. Paper Tr J 109:39-42 D 7 '39
Measurement and control of pH; Chem. & Met. report. bibliog il diags Chem & Met Eng 47:553-60 Ag '40
Method for measuring and recording continuously the pH of the circulating blood. C. E. King and E. W. Benz. diag Science 92:409-10 N 1 '40
Methods of measuring pH in alkaline cyanide plating baths. M. R. Thompson. J Research Nat Bur Stand 24:423-34 Ap '40
New laboratory method for determining the organic matter in washed fine aggregates. I. Paul. il Am Soc T M Proc 39:892-8; Discussion. 899 '39
Oxidation of thiophen-sulphur by calcium hypochlorite solutions. E. G. R. Ardagh, W. H. Bowman and A. S. Weatherburn. Soc Chem Ind J 59:27-8 F '40
Potentiometric method for the accurate measurement of hydrogen-ion activity. W. J. Hamer and S. F. Acree. bibliog 2pls diags J Research Nat Bur Stand 23:647-62 D '39
Practical answer to a feedwater problem; amount of soda ash needed to give suitable pH value. Power 84:173 Mr '40
Retention of aluminum ion and hydrogen ion in papers. H. F. Launer. bibliog J Research Nat Bur Stand 23:663-74 D '39; Same. Paper Tr J 110:29-34 Mr 7 '40
Review of the interpretation of pH. M. Gorman. J Chem Educ 17:343-5 Jl '40
Second ionization constant and related thermodynamic quantities for malonic acid from 0° to 60°C. W. J. Hamer, J. O. Burton and S. F. Acree. bibliog J Research Nat Bur Stand 24:269-92 Mr '40
Sörensen memorial lecture. E. K. Rideal. Soc Dyers & Col J 56:398-9 S '40
Stability of bacteria in relation to pH. J. G. Baumgartner and G. G. Knock. Soc Chem Ind J 59:53-6 Mr '40
Studies on silicic acid gels; the effect of a change of pH upon the time of set of some acid gels. C. B. Hurd and H. W. Paton. bibliog J Phys Chem 44:57-62 Ja '40
Studies on silicic acid gels; the time of set of gel mixtures containing high concentrations of mineral acids. C. B. Hurd and R. W. Barclay. bibliog J Phys Chem 44: 847-51 O '40
Ultra-violet absorption spectra of nitrogenous heterocyclic compounds; effect of *p*H and irradiation on the spectrum of adenine. J. R. Loofbourow and M. M. Stimson. Chem Soc J p844-8 Jl '40
Ultra-violet absorption spectra of nitrogenous heterocyclic compounds; effect of pH and irradiation on the spectrum of barbituric acid. J. R. Loofbourow and M. M. Stimson. Chem Soc J p1275-7 S '40
Universal pH meter and simplified vacuum tube electrometer. F. M. Goyan, C. L. Barnes and H. W. Hind. diags Ind & Eng Chem Anal ed 12:485-8 Ag 15 '40
Water plant control as affected by stream pollution. I. N. Carter. Am Water Works Assn J 32:576-82 Ap '40
What is pH? G. A. Perley. Power 83:678-9 N '39; Same cond. Chem Age (Lond) 42:5 Ja 6 '40

See also
Buffer action
Buffer mixtures

Control

Automatic pH control at the machine. A. L. Chaplin and W. N. Greer. il Paper Ind 22: 490+ Ag '40
Instrumentation pays; benefits of automatic process control. il Rayon 21:434-5 Jl '40

HYDROGEN peroxide
Activated carbon as a catalyst in certain oxidation-reduction reactions; decomposition of hydrogen peroxide; autoxidation of stannous chloride and potassium urate. E. C. Larsen and J. H. Walton. bibliog J Phys Chem 44:70-85 Ja '40
Bleaching wool yarns and fabrics; some practical features of the peroxide bleach. Textile Col 62:549-50 Ag '40
Catalysis by metallized bentonites; hydrogen peroxide decomposition. G. Broughton. J Phys Chem 44:180-4 F '40
Determination of ruthenium by thionalide; absorption of ruthenium tetroxide with hydrogen peroxide. W. J. Rogers, F. E. Beamish and D. S. Russell. bibliog Ind & Eng Chem Anal ed 12:561-3 S 15 '40
Fire hazards of bleaching; fires in furniture factories caused by hydrogen peroxide. Safety Eng 79:33-4 F '40
Hydrogen peroxide theory of electrolytic oxidation. S. Glasstone and A. Hickling. bibliog Chem R 25:407-41 D '39
Modern methods of handling hydrogen peroxide; stainless steel tanks. R. L. Ericsson. il Am Dyestuff Rep 29:343-5 Jl 8 '40
Oxidation of sulfanilic and arsanilic compounds by nascent hydrogen peroxide. G. Barkan. Science 92:107 Ag 2 '40
Photochemical oxidation of hydrogen. H. A. Smith and A. Napravnik. bibliog Am Chem Soc J 62:385-93 F '40
Possible source of error in gravimetric determinations involving use of hydrogen peroxide followed by nitron. R. C. Young and P. M. Bernays. Ind & Eng Chem Anal ed 12:90 F 15 '40
Removal of phosphates from solutions of hydrogen peroxide. S. R. Dickman and R. H. Bray. Ind & Eng Chem Anal ed 12:279 My 15 '40
Solid hydrogen peroxide. H. Goldschmiedt. Oil Paint & Drug Rep 138:4+ O 21 '40
Stability of peroxidized titanium solutions. G. H. Ayres and E. M. Vienneau. bibliog Ind & Eng Chem Anal ed 12:96 F 15 '40
Über die durch pervanadinsäure katalysierte wasserstoffperoxyd-oxydation cyclischer verbindungen. W. Treibs. bibliog Angew Chemie 52:698-700 D 9 '39
Use of hydrogen peroxide in steep water; abstract. C. Enders and others. Food Ind 12: 87 N '40

HYDROGEN selenide
Organic derivatives of sulphur, selenium, and tellurium. D. T. Lewis. Chem Soc J p831-2 Jl '40
Reaction between hydrogen selenide, formaldehyde, and secondary amines. A. H. Binz, F. E. Reinhart and H. C. Winter. Am Chem Soc J 62:7-8 Ja '40

HYDROGEN sulfide
Application of catalytic desulfurization process. M. W. Conn. flow diags Oil & Gas J 39: 40, 42, 45+ O 24 '40
Burnt oxide for H_2S removal. G. E. Thompson. Gas J (Lond) 229:190 Ja 24 '40
Conductance of solutions of organosubstituted ammonium chlorides in liquid hydrogen sulfide. E. E. Lineken and J. A. Wilkinson. bibliog diags Am Chem Soc J 62:251-6 F '40
Effect of gases containing hydrogen sulphide on iron and some iron alloys; abstract. W. Baukloh and E. Spetzler. Metals & Alloys 12:344+ S '40
High-pressure vapor-liquid equilibrium for the systems propylene-isobutane and propane-hydrogen sulfide. E. R. Gilliland and H. W. Scheeline. bibliog Ind & Eng Chem 32:48-54 Ja '40
Hydrogen sulfide detector. F. B. Behrens. il Oil & Gas J 38:86 Mr 28 '40
Incidence of hydrogen sulfide at Kilauea solfatara preceding the 1940 Mauna Loa volcanic activity. J. H. Payne and S. S. Ballard. Science 92:218-19 S 6 '40
Inhibition of sulphate-reducing bacteria by dyestuffs T. H. Rogers. Soc Chem Ind J 59:34-9 F '40
Investigation of antitarnish paper. H. W. Rowe and O. Kress. bibliog Paper Tr J 110: 33-6 Ja 11 '40
Organic derivatives of sulphur, selenium, and tellurium. D. T. Lewis. Chem Soc J p831-2 Jl '40
Photochemical decomposition of the cystine in wool. H. A. Rutherford and M. Harris. bibliog J Research Nat Bur Stand 23:597-601 N '39; Same. Am Dyestuff Rep 28: 655-6+ N 13 '39

HYDROGEN sulfide—*Continued*
La récupération du soufre dans les usines de carbonisation de la houille et dans les raffineries de pétrole. C. Berthelot. Génie Civil 116:6-7 Ja 6 '40
Relative effect of inhibitants on adsorption and on catalytic activity. E. B. Maxted and H. C. Evans. Chem Soc J p1750-4 N '39
Removal of hydrogen sulphide from natural gas; Girbotol process. flow sheets il Chem & Met Eng 47:37-40 Ja '40
Something new in generating hydrogen sulfide. A. H. Prezioso. diag J Chem Educ 17:399 Ag '40
Sulphide hazards shown by Department of labor report. Oil Paint & Drug Rep 137:3+ My 27 '40
Thiodiglycol; unit process and operations involved in its synthesis from ethylene oxide and hydrogen sulfide. D. F. Othmer and D. Q. Kern. diags Ind & Eng Chem 32:160-9 F '40
Vulcanization of rubber compounds; effect of hydrogen sulfide on the rate of vulcanization. E. W. Booth and D. J. Beaver. Ind & Eng Chem 32:1006-8 Jl '40
Wastes problems of the iron and steel industries. W. W. Hodge. Ind & Eng Chem 31: 1364-5 N '39

See also Water purification—Hydrogen sulfide removal

Analysis

Determination and recording of carbon disulfide and hydrogen sulfide in the viscose-rayon industry. G. M. Reece, B. White and P. Drinker. bibliog flow diag il diags J Ind Hygiene 22:416-24 N '40
Determination of hydrogen sulphide. G. Martin. diags Water Works & Sewerage 86:501 D '39
Determination of organic sulfur in gases by the catalytic hydrolysis method. L. T. Jilk. il diags Am Soc T M Proc 39:1159-68; Discussion. 1169-70 '39
Sulfide determinations by improved methods. R. Pomeroy. Water Works & Sewerage 87: supl73-4 Ap '40

HYDROGEN telluride
Organic derivatives of sulphur, selenium, and tellurium. D. T. Lewis. Chem Soc J p831-2 Jl '40

HYDROGENATION
Carbonization with hydrogen under pressure; patent. diags Gas J (Lond) 230:389 My 22 '40
Catalytic hydrogenation with deuterium. D. Rittenberg, S. Ratner and H. D. Hoberman. Am Chem Soc J 62:2249-50 Ag '40
Catalytic toxicity and chemical structure; simple anions containing toxic elements. E. B. Maxted and R. W. D. Morrish. Chem Soc J p252-6 Mr '40
Catalytic toxicity and chemical structure; the poisoning of platinum catalysts by metals. E. B. Maxted and A. Marsden. Chem Soc J p469-74 Ap '40
Coal by-products; properties of hydrogenated indene-coumarone resins. W. H. Carmody and H. E. Kelly. il Ind & Eng Chem 32: 771-5 Je '40
Coal by-products; the hydrogenation of indene-coumarone resins. W. H. Carmody and H. E. Kelly. flow sheet bibliog il diags Ind & Eng Chem 32:684-92 My '40
Destructive hydrogenation of high-molecular-weight polymers; isobutene polymer, butadiene polymer, and natural rubber. V. N. Ipatieff and R. E. Schaad. il Ind & Eng Chem 32:762-4 Je '40
Le développement des applications techniques de l'hydrogénation. E. F. Armstrong and K. A. Williams. Chimie & Ind 42:234-42 Ag '39; Same (Development of the technical applications of hydrogenation). Chem Age (Lond) 41:271-2, 285-8 O 14-21 '39; Same. Chem & Ind 59:3-9 Ja 6 '40
Hydrogenated coal-tar chemicals. G. R. Lawson. Chem Ind 45:679-81 D '39
Hydrogenation and petrography of some low-rank coals from the western United States. A. Eisner and others. 2 pls map U S Bur Mines Rep of Invest 3498:1-21 bibliog(40 titles p19-21) '40
Hydrogenation and petrography of subbituminous coals and lignites. L. L. Hirst and others. bibliog il diags Ind & Eng Chem 32:1372-9 O '40
Hydrogenation-cracking of tars; the operation of a semi-technical scale plant. Chem & Ind 58:1055-6 D 2 '39
Hydrogenation; economic aspects. L. A. Stengel and R. N. Shreve. bibliog Ind & Eng Chem 32:1212-15 S '40
Hydrogenation in cracking aviation gas, described; abstracts. E. V. Murphree. Nat Pet N 32:16 Je 19 '40; Oil & Gas J 39:19 Je 20 '40
Hydrogenation of a Pittsburgh seam coal; kinetics of hydrogen consumption, oxygen removal, and liquefaction. H. H. Storch and others. bibliog Ind & Eng Chem 32:346-53 Mr '40
Hydrogenation of acetophenone to cyclohexylmethylcarbinol in the presence of solvent. V. N. Ipatieff and B. B. Corson. Am Chem Soc J 61:3292 D '39
Hydrogenation of aldehydes in the presence of ammonia. C. F. Winans. Am Chem Soc J 61:3566-7 D '39
Hydrogenation of aniline. C. F. Winans. bibliog Ind & Eng Chem 32:1215-16 S '40
Hydrogenation of coumarin and related compounds. P. L. de Benneville and R. Connor. bibliog Am Chem Soc J 62:283-7 F '40
Hydrogenation of 1,3-diketones to ketols. P. S. Stutsman and H. Adkins. bibliog Am Chem Soc J 61:3303-6 D '39
Hydrogenation of ethylene at surfaces of certain oxides; molybdenum oxide compounds. J. F. Woodman, H. S. Taylor and J. Turkevich. Am Chem Soc J 62:1397-9 Je '40
Hydrogenation of ethylene at surfaces of certain oxides; zinc oxide and zinc chromite. J. F. Woodman and H. S. Taylor. bibliog Am Chem Soc J 62:1393-6 Je '40
Hydrogenation of fats. O. H. Wurster. flow sheet il diags Ind & Eng Chem 32:1193-9 S '40
Hydrogenation of lignin in aqueous solutions with nickel catalyst. E. E. Harris, J. Saeman and E. C. Sherrard. Ind & Eng Chem 32:440-1 Mr '40
Hydrogenation of oil; suggested natural source of hydrogen. E. T. Heck. Am Assn Pet Geologists Bul 24:1175-8 Ag '40
Hydrogenation of peat char; abstract. T. E. Warren, K. W. Bowles and R. E. Gilmore. Chem Age (Lond) 43:124 S 14 '40
Hydrogenation of petroleum. E. V. Murphree, C. L. Brown and E. J. Gohr. flow sheets bibliog il Ind & Eng Chem 32:1203-12 S '40
Hydrogenation of petroleum fractions, employing a large percentage of catalyst. H. I. Waterman and C. Van Vlodrop. Inst Pet J 26:452-6 S '40
Hydrogenation of quinone with palladium and platinum catalysts. E. F. Rosenblatt. Am Chem Soc J 62:1092-4 My '40
Hydrogenation of some substituted coumarins. P. L. de Benneville and R. Connor. bibliog Am Chem Soc J 62:3067-70 N '40
Hydrogenation of typical North American splint coals. A. Eisner and others. bibliog il Ind & Eng Chem 32:73-8 Ja '40
Hydrogenation of wood. H. P. Godard, J. L. McCarthy and H. Hibbert. Am Chem Soc J 62:988 Ap '40
Hydrogenation process. Gas J (Lond) 228: 503 D 6 '39
Hydrogenation; role of the catalyst. H. Adkins. bibliog Ind & Eng Chem 32:1189-92 S '40
Inhibition of the hydrogenation of ethylene by nitric oxide. H. D. Burnham and R. N. Pease. Am Chem Soc J 62:453 F '40
Liquid-phase hydrogenation of *p*-cymene. K. A. Kobe and A. Vittone. bibliog Ind & Eng Chem 32:775-7 Je '40
Mixed catalysts promise optimum in hydrogenation of benzene. V. N. Ipatieff. il Nat Pet N 32:R280-2 Ag 7 '40

HYDROGENATION—*Continued*
Mixed copper-chromium oxide hydrogenation catalysts. V. N. Ipatieff, B. B. Corson and J. D. Kurbatov. bibliog J Phys Chem 44: 670-9 My '40
Motor fuels of the present and future. G. Egloff. W Soc E J 45:86-8 Ap '40
Nature of the surface of catalytic nickel; poisoning by ethylene and by methane decomposition. W. W. Russell and W. V. Loebenstein. Am Chem Soc J 62:2573-80 O '40
Nickel as a catalyst for the hydrogenation of aromatic halogen compounds. C. F. Winans. bibliog Am Chem Soc J 61:3564-5 D '39
Preparation of certain amines. E. J. Schwoegler and H. Adkins. bibliog Am Chem Soc J 61:3499-502 D '39
Preparation of some pure hydrocarbons for the purpose of testing the physical methods in use for the examination of hydrocarbon mixtures. H. I. Waterman, J. J. Leendertse and others. Inst Pet J 25:801-12 D '39
Quantitative hydrogenation of substituted azo compounds with Raney nickel at normal temperature and pressure. W. F. Whitmore and A. J. Revukas. Am Chem Soc J 62: 1687-93 Jl '40
Relative effect of inhibitants on adsorption and on catalytic activity. E. B. Maxted and H. C. Evans. Chem Soc J p1750-4 N '39
Study of gelsemine; the reduction of gelsemine. T. T. Chu and T. Q. Chou. Am Chem Soc J 62:1955-7 Ag '40
Synthesis of 3-(4-hydroxycyclohexyl)-propanol-1, a product of the hydrogenation of lignin. E. Bowden and H. Adkins. bibliog Am Chem Soc J 62:2422-3 S '40
Les turbocompresseurs à gaz légers pour les usines d'hydrogénation et les fabriques d'ammoniaque synthétiques. diags Génie Civil 116:32-3 Ja 13 '40
Utilization of waste lignin; current chemical research. E. E. Harris. bibliog il Ind & Eng Chem 32:1049-52 Ag '40

See also
Coal liquefaction
Dehydrogenation
Fischer-Tropsch process
Gasoline—Manufacture—Hydrogenation process

HYDROGRAPHIC surveying
Novelty in marine surveying. C. S. Lawton. il diag Franklin Inst J 230:455-69 O '40

HYDROLOGY. See Water

HYDROLYSIS
Action of almond emulsin on α-phenyl-*d*-lyxoside. W. W. Pigman. bibliog Am Chem Soc J 62:1371-4 Je '40
Alkaline hydrolysis of condensation products of hydantoin with aldehydes. H. R. Henze, W. B. Whitney and M. A. Eppright. bibliog Am Chem Soc J 62:565-8 Mr '40
Alkanolamines; reducing and hydrolyzing action of the ethanolamines on the dichloronitrobenzenes. C. B. Kremer and A. Bendich. Am Chem Soc J 62:1279-81 My '40
Alpha and beta methyl lyxosides, mannosides, gulosides, and heptosides of like configuration. H. S. Isbell and H. L. Frush. pls J Research Nat Bur Stand 24:125-51 bibliog (p151) F '40
Catalytic hydrolysis of chlorobenzene in the vapor phase. A. A. Vernon and F. X. Thompson. bibliog J Phys Chem 44:727-30 Je '40
Chemistry of lignin; existence of a chemical bond between lignin and cellulose. A. J. Bailey. bibliog il Paper Tr J 110:29-34 Ja 4 '40
Cyclic methyleneimines; hydrolysis of quaternary compounds and preparation of aliphatic secondary amines. R. Blundell and J. Graymore. Chem Soc J p1787-9 N '39
Determination of organic sulfur in gases by the catalytic hydrolysis method. L. T. Jilk. il diags Am Soc T M Proc 39:1159-68; Discussion. 1169-70 '39
Effect of mercuric bromide on the hydrolysis of alkyl bromides in acetone. D. R. Read and W. Taylor. Chem Soc J p1872-8 D '39
Electrostatic influence of substituents on reaction rates. F. H. Westheimer and M. W. Shookhoff. bibliog Am Chem Soc J 62: 269-75, 1892-5 F, Ag '40
Energy and entropy of activation of the hydrolysis of ethyl orthoformate in deuterium oxide. F. Brescia and V. K. LaMer. bibliog Am Chem Soc J 62:612-14 Mr '40
Hydrolysis of peanut hulls. F. C. Vilbrandt, C. B. Mather and R. S. Dicks. bibliog Ind & Eng Chem 32:169-72 F '40
Hydrolysis of salts in solution. H. F. Brown and J. A. Cranston. diag Chem Soc J p578-83 My '40
Hydrolysis of stannous ion in stannous perchlorate solutions. M. Gorman. Am Chem Soc J 61:3342-4 D '39
Influence of alkyl groups upon reaction velocities in solution; the alkaline and acid hydrolyses of the ethyl esters of the lower saturated aliphatic acids in aqueous acetone. G. Davies and D. P. Evans. Chem Soc J p339-45 Mr '40
Interaction of litharge with carboxylic esters and with linseed oil. M. P. Balfe and H. W. Chatfield. Soc Chem Ind J 59:31-4 F '40
Ionization constants and hydrolytic degradations of cyameluric and hydromelonic acids. C. E. Redemann and H. J. Lucas. bibliog Am Chem Soc J 61:3420-5 D '39
Mechanism of substitution at a saturated carbon atom; hydrolysis of *tert.*-butyl bromide in acidic moist acetone. L. C. Bateman, K. A. Cooper and E. D. Hughes. Chem Soc J p913-20 Jl '40
Mechanism of substitution at a saturated carbon atom; pts. 11-25. L. C. Bateman, E. D. Hughes, C. K. Ingold and others. Chem Soc J p913-1029 Jl '40
Mechanism of the hydrolysis of αγ-dimethylallyl chloride. C. L. Arcus and J. W. Smith. Chem Soc J p1748-9 N '39
Relations between electrostatic potentials and reaction velocities. H. O. Jenkins. Chem Soc J p1780-4 N '39
Separation and determination of isomeric menthols; saponification by use of potassium hydroxide in diethylene glycol. R. T. Hall, J. H. Holcomb, jr. and D. B. Griffin. Ind & Eng Chem Anal ed 12:187-8 Ap 15 '40
Simplification of certain calculations based on the mass law. J. D. Parent. J Chem Educ 17:186-7 Ap '40
Steric course of the hydrolysis of α-phenylethyl chloride in acetone containing mercuric chloride. D. R. Read and W. Taylor. Chem Soc J p679-83 My '40
Why not modernize the textbooks also? hydrolysis and its relation to ionic charge and radius. L. S. Foster. bibliog J Chem Educ 17:509-12 N '40

HYDROMECHANICS
Le calcul de la résistance des piles de ponts à la poussée cinématique d'un courant. A. Broîkes. Génie Civil 116:87-9, 102-4 F 3-10 '40
Elementary fluid mechanics. J. K. Vennard. 351p $3.50 Wiley '40
Mechanics of liquids. R. W. Powell. 271p $3.50 Macmillan '40

See also
Hydraulic engineering
Hydraulics
Hydrodynamics

HYDROMELONIC acid
Ionization constants and hydrolytic degradations of cyameluric and hydromelonic acids. C. E. Redemann and H. J. Lucas. bibliog Am Chem Soc J 61:3420-5 D '39

HYDROMETERS
Simple petroleum tables for use with density hydrometers. V. Stott. Inst Pet J 26:235-45 My '40

HYDRONAPHTHALENE
Dehydrogenation; the formation of naphthols from alcohols and ketones of the hydronaphthalene group. R. P. Linstead and K. O. A. Michaelis. Chem Soc J p1134-9 Ag '40

HYDROPLANES
Models
Plastics competition; award to Reuhl products, inc. il Mod Plastics 18:77, 98 O '40
HYDROPONICS. See Plants—Soilless culture
HYDROQUININE
Rates of the thermal reduction of dichromic acid by quinine, hydroquinine, and cinchonine in dilute sulfuric acid at 0 to 60°. L. J. Heidt. diags Am Chem Soc J 61:3455-8 D '39
HYDROQUINONE
Action of tyrosinase on hydroquinone. D. C. Gregg and J. M. Nelson. bibliog Am Chem Soc J 62:2510-12 S '40
Chemistry of vitamin E; dealkylation of hydroquinone ethers related to the tocopherols. L. I. Smith, H. E. Ungnade and W. B. Irwin. bibliog Am Chem Soc J 62:142-4 Ja '40
Mechanism of photographic development; development by hydroquinone. T. H. James. bibliog J Phys Chem 44:42-57 Ja '40
HYDROSOLS. See Colloids
HYDROSTATICS
Effects of internal hydrostatic pressure on the shearing strength of soils. L. W. Hamilton. diags Am Soc T M Proc 39:1100-21 '39
See also
Fluids
Gases
HYDROTHERAPY
Story of baths and bathing. G. R. Scott. 290p bibliog(p279-82) 12s 6d T. W. Laurie, London '39
HYDROURACIL
Reaction of thiourea with 5,5-dibromoxyhydrouracil and 5,5-dibromobarbituric acid. T. B. Johnson. Am Chem Soc J 62:2269-71 S '40
HYDROXAMIC acids
Hydroxamic acids in qualitative organic analysis. D. Davidson. bibliog J Chem Educ 17:81-4 F '40
HYDROXIDES
Electrometric studies of the precipitation of hydroxides; the amphoteric nature of vanadium tetroxide. H. T. S. Britton and G. Welford. Chem Soc J p758-61 Je '40
Electrometric studies of the precipitation of hydroxides; vanadous hydroxide; the nature of vanadous chloride and sulphate solutions. H. T. S. Britton and G. Welford. Chem Soc J p761-4 Je '40
See also
Potassium hydroxide
Sodium hydroxide
HYDROXY compounds
Preparation of phenylarsenoxides; derivatives of amino- and hydroxy-phenylarsenoxides. G. O. Doak, H. Eagle and H. G. Steinman. bibliog Am Chem Soc J 62:3010-11 N '40
Reversibility of the rearrangement of *o*-hydroxy-sulphones. R. R. Coats and D. T. Gibson. Chem Soc J p442-6 Ap '40
Analysis
Analytical procedures employing Karl Fischer reagent; the determination of alcoholic hydroxyl. W. M. D. Bryant, J. Mitchell, jr. and D. M. Smith. Am Chem Soc J 62: 1-3 Ja '40
HYDROXYAMINOPHENYLARSINE oxide
2-Hydroxy-4-aminophenylarsine oxide and related oxides. C. K. Banks and C. S. Hamilton. Am Chem Soc J 62:3142-4 N '40
HYDROXYBENZALDEHYDE
Reactions of ketene with salicylaldehyde and *p*-hydroxybenzaldehyde. J. W. Williams and A. Sadle. Am Chem Soc J 62:2801-3 O '40
HYDROXYBENZALDIACETOPHENONE
Reaction of *o*-hydroxybenzhydrylacetophenone and *o*-hydroxybenzaldiacetophenone with phenylmagnesium bromide. T. A. Geissman. bibliog Am Chem Soc J 62:1363-7 Je '40
HYDROXYBENZENEDIAZONIUM chloride
Decomposition of *p*-hydroxybenzenediazonium salts by alcohols. H. H. Hodgson and C. K. Foster. Chem Soc J p1150-3 Ag '40
HYDROXYBENZOHYDRYLACETOPHENONE
Reaction of *o*-hydroxybenzhydrylacetophenone and *o*-hydroxybenzaldiacetophenone with phenylmagnesium bromide. T. A. Geissman. bibliog Am Chem Soc J 62:1363-7 Je '40
HYDROXYBENZOPYRENE
Synthesis of 6-hydroxy-3,4-benzpyrene and 8-isopropyl-1,2-benzanthracene from 9,10-dihydrophenanthrene. L. F. Fieser and W. S. Johnson. Am Chem Soc J 62:575-7 Mr '40
HYDROXYCROTONIC acid
dl-Threonic acid from 3-hydroxy-crotonic acid. J. W. E. Glattfeld and E. C. Lee. bibliog Am Chem Soc J 62:354-6 F '40
HYDROXYCYCLOHEXANONE
Synthesis of compounds related to the antirachitic vitamins. J. B. Aldersley and others. Chem Soc J p10-16 Ja '40
HYDROXYDIAROYLMETHANE
Chromones of the naphthalene series; transformation of *o*-aroyloxyacetoarones into *o*-hydroxydiaroylmethanes. V. V. Virkar and T. S. Wheeler. Chem Soc J p1679-81 N '39
HYDROXYEQUILENONE
Synthesis of 6-hydroxy-17-equilenone (an isomer of equilenin) and two of its homologs. W. E. Bachmann and D. W. Holmes. bibliog Am Chem Soc J 62:2750-7 O '40
HYDROXYISOANDROSTERONE
Sterols; oxidation of the diacetate of cholestanediol-3,6. R. E. Marker and others. Am Chem Soc J 62:645-6 Mr '40
HYDROXYISOVALERIC acid
Hydration of unsaturated compounds; the rate of hydration of β,β-dimethylacrylic acid; the rates of dehydration and decarboxylation of β-hydroxyisovaleric acid. D. Pressman and H. J. Lucas. bibliog Am Chem Soc J 62:2069-80 Ag '40
HYDROXYMETHOXYFLAVONE
Synthesis of 5-hydroxy-8-methoxyflavone (primetin monomethyl ether). W. Baker, N. C. Brown and J. A. Scott. Chem Soc J p1922-7 D '39
HYDROXYPANTOTHENIC acid
Pantothenic acid; the biological activity of hydroxypantothenic acid. H. K. Mitchell, E. E. Snell and R. J. Williams. bibliog Am Chem Soc J 62:1791-2 Jl '40
HYDROXYPHENYLANTHRONE
Hydroxy- and methoxyphenylanthrones. F. F. Blicke and R. J. Warzynski. bibliog Am Chem Soc J 62:3191-4 N '40
HYDROXYQUINOLINE
Catalytic action of 8-hydroxyquinoline on the oxidation of *p*-phenylenediamine. F. Bernheim and P. Handler. Am Chem Soc J 62: 984 Ap '40
Determination of magnesium in biological materials; an oxidation method. J. P. Nielsen. Ind & Eng Chem Anal ed 11:649-51 D 15 '39
HYDROXYQUINOLINE sulfonic acid
Indicator properties of 8-hydroxyquinoline-5-sulfonic acid and its derivatives. H. B. Feldman and A. L. Powell. bibliog Am Chem Soc J 62:3107-9 N '40
Inner complex salts of the 8-hydroxyquinoline-5-sulfonic acid. J. Molland. Am Chem Soc J 62:541-2 Mr '40
HYDROXYSTEARIC acid
Separation on hydroxy from non-hydroxy fat acids by means of a dibasic acid anhydride. F. E. Kurtz and P. S. Schaffer. Am Chem Soc J 62:1304-5 My '40
HYDROXYL group
Determination of hydroxyl groups with Grignard reagent. W. Fuchs, N. H. Ishler and A. G. Sandhoff. diag Ind & Eng Chem Anal ed 12:507-9 S 15 '40
Reactivity of atoms and groups in organic compounds; the effect of substituents on the relative reactivities of the hydroxyl group in derivatives of benzoic acid. J. F. Norris and A. E. Bearse. bibliog diag Am Chem Soc J 62:953-6 Ap '40
Stereochemistry of biphenyls; comparison of the interference of a methoxyl and an hydroxyl group. R. Adams and H. M. Teeter. bibliog Am Chem Soc J 62:2188-90 Ag '40

HYDROXYL group—*Continued*
Sterols; the position of the hydroxyl groups in chlorogenin. R. E. Marker and others. bibliog Am Chem Soc J 62:3006-9 N '40
Unesterified primary hydroxyls in acetone soluble cellulose acetate. F. B. Cramer and C. B. Purves. bibliog Am Chem Soc J 61: 3458-62 D '39
Unesterified secondary hydroxyls in acetone soluble cellulose acetate. F. B. Cramer, R. C. Hockett and C. B. Purves. bibliog Am Chem Soc J 61:3463-4 D '39

HYDROXYLAMINE
Chalkones: production of *iso*oxazoles from some chalkone derivatives. R. B. Shenoi, R. C. Shah and T. S. Wheeler. Chem Soc J p247-51 F '40
Potentiometric estimation of hydroxylamine and hydrazine in alkaline solution. H. T. S. Britton and M. Königstein. Chem Soc J p673-6 My '40
Preparation of sulfamic acid by the hydroxylamine-sulfur dioxide reaction. H. H. Sisler and L. F. Audrieth. Am Chem Soc J 61: 3389-91 D '39
Surface conditions of silver halides and rate of reaction; rate of reduction of precipitated silver chloride. T. H. James. bibliog Am Chem Soc J 62:536-40 Mr '40
Surface conditions of silver halides and the rate of reaction; reduction of nucleated silver chloride. T. H. James. bibliog Am Chem Soc J 62:1649-54 Jl '40

HYDROXYLATION
Action of lead tetraacetate upon hydroxylated fat acids and related compounds; hydroxylated oleic acid, ethyl oleate and oleyl alcohol. J. T. Scanlon and D. Swern. bibliog Am Chem Soc J 62:2305-9 S '40
Action of lead tetraacetate upon hydroxylated fat acids and related compounds; hydroxylated ricinoleic acid and castor oil. J. T. Scanlon and D. Swern. Am Chem Soc J 62:2309-11 S '40
Hydroxylation of unsaturated substances; the catalytic hydroxylation of cyclopentadiene. N. A. Milas and L. S. Maloney. bibliog Am Chem Soc J 62:1841-3 Jl '40

HYGIENE
Americans, live longer! W. W. Bauer. 219p $2 Bobbs '40
College textbook of hygiene. D. F. Smiley and A. G. Gould. 3d ed 539p $2.50 Macmillan '40
Elementary hygiene, general and naval. R. Hayden. 417p bibliog(p405) $2.50 U.S. Naval inst, Annapolis, Md. '39
Fundamentals in personal euthenics; an outline for the study of hygiene in teachers' colleges. M. S. Dixon. rev ed 143 numb l $2 Burgess pub. co, Minneapolis '39
Fundamentals of personal hygiene. W. W. Krueger. 3d ed rev 304p $1.75 Saunders '40
Health, diet and commonsense. C. M. Scott. 191p bibliog(p180-1) $2 S. J. Reginald Saunders, 84 *Wellington st, W, Toronto* '40
It is your life; keep healthy, stay young, live long. M. M. Rosenberg. 450p $2.50 Scholastic book press, New York '40
Living. T. B. Rice. 464p $2.25 Scott, Foresman and co, Chicago '40
Making life healthful. J. G. Fowlkes, L. Z. Jackson and A. S. Jackson. 400p 96c John C. Winston co, Philadelphia '40
Man and his health; a guide to medical and public health exhibits at the New York world's fair 1939, together with information on the conservation of health and the preservation of life. 96p 50c American museum of health, 30 Rockefeller plaza, New York '39
More years for the asking. P. J. Steincrohn. 218p $2 Appleton-Century '40
New handbook of health, with first aid. B. Macfadden. 188p $1 Macfadden book co, New York '40
Picture of health. J. Clarke. 125p 60c Macmillan '40
Study of health materials in high-school chemistry texts. J. O. Frank and C. A. Discher. J Chem Educ 17:236-40 My '40

See also
Air conditioning—*Hygienic aspects*
Air pollution
Diet
Disinfection and disinfectants
Exercise
Fatigue
Food
Humidity
Nutrition
Physical examinations
Public health
School hygiene
Sickness
Temperature—Physiological effect
Ventilation
Water pollution
Water purification
Water supply

HYGIENE, Industrial
Activities of Air hygiene foundation. Ind & Eng Chem News ed 18:296-8 Ap 10 '40
Air hygiene foundation fall meeting, Pittsburgh, Nov. 14-15. Weekly Underw 141:1222 D 9 '39
Business sense and health; practices of St Joseph lead co. A. Fletcher. il Safety Eng 78:40-2 D '39; Same cond. India Rubber W 101:43-4 F '40; Same cond. Min Cong J 26: 18-20 Mr '40
Can dust and fumes be controlled? abstracts. H. B. Meller and F. S. Mallette. il Safety Eng 79:53-4, 57-8 Ap '40; Nat Safety N 41: 18-19+ My '40
Chemical and physiological investigation of electric arc welding; bare, washed welding rods. G. C. Harrold, S. F. Meek and C. P. McCord. bibliog il J Ind Hygiene 22:347-78 O '40
Control of tuberculosis; pulmonary tuberculosis in applicants for employment, Metropolitan life insurance company, 1928-1939. A. C. Reid. bibliog J Ind Hygiene 22:303-14 O '40
Control of tuberculosis, pulmonary tuberculosis in employes; Metropolitan life insurance company, 1930-1939. A. C. Reid. J Ind Hygiene 22:408-15 N '40
Course of disabling morbidity among industrial workers, 1921-38. W. M. Gafafer. bibliog Pub Health Rep 55:962-74 My 31 '40
Disabling morbidity among employees in the slaughter and meat packing industry, 1930-34. H. P. Brinton, H. E. Seifert and E. S. Frasier. bibliog Pub Health Rep 54:2196-219 D 15 '39
Disabling morbidity among industrial workers, third quarter and the first 9 months of 1939. W. M. Gafafer. Pub Health Rep 55:1-3 Ja 5 '40
Disabling morbidity among industrial workers, final quarter of 1939 and the entire year. W. M. Gafafer. Pub Health Rep 55: 650-2 Ap 12 '40
Disabling morbidity among male and female employees in mail order stores, 1930-34, inclusive. H. P. Brinton and E. S. Frasier. bibliog Pub Health Rep 55:1163-78 Je 28 '40
Disabling morbidity among male and female industrial workers during 1938 and 1939, and among males during the first quarter of 1940, with an inquiry into the occurrence of multiple attacks of disabling sickness and non-industrial injuries, 1939. W. M. Gafafer. bibliog Pub Health Rep 55:1402-6 Ag 2 '40
Dust control in industry. F. F. Kravath. Heat & Ven 37:38-41 Mr '40
Dust, foe of management, employe and machine. il diags Br.ck & Clay Rec 96:24-8 Ap '40
Economics of health in chemical industries. E. R. Hayhurst. il Chem Ind 45:518-21 N '39
Employee health pays dividends; dusts, fumes, chemicals. J. F. McMahon. il Sci Am 162:278-81 My '40
Evaluation of the industrial hygiene problem of the state of Colorado. 32p bibliog(p32) Colorado state board of health, Denver '39
Evaluation of the industrial hygiene problems of Illinois. 258p Illinois. Dept. of public health, Division of industrial hygiene, Chicago '39

HYGIENE, Industrial—*Continued*
Evaluation of the industrial hygiene problems of the state of Idaho. S. Weissross. 38p, 62p bibliog(p62) Idaho. Dept. of public welfare, Boise '38
Eye tests in the industries; abstract. H. S. Kuhn. Science 92:sup10 O 11 '40
Good housekeeping standards of atmospheric dusts. il Concrete (mill sec) 48:236-8 S '40
Guarding against rheumatism, and care for eyes and ears. Concrete (mill sec) 47:275 D '39
Hazards in linoleum manufacturing; abstract. E. J. Kessler. Heat & Ven 37:59 N '40
Health and safety of worker as part of national defense. Concrete (mill sec) 48:240 S '40
Health hazards; control measures in New York state Department of labor. F. S. Miller. Safety Eng 79:45-6 Ap '40
Health hazards in electroplating. J. P. Russell. Metal Finishing 38:321-4+ Je '40
Health programs in industry; abstract. C. E. Payne. Management R 29:17-18 Ja '40
Healthy worker in a safe plant is a better producer. il Factory Management 98:70-1 F '40
Hygiène et protection des ateliers de manipulation des solvants. R. Barthe. bibliog Chimie & Ind 43:259-68 F 5 '40
Impact of employees' health on industrial and public relations; abstract. C. C. Carr. Concrete (mill sec) 48:217 Ag '40
Industrial dermatitis. Safety Eng 79:35-7 Je '40
Industrial health; a department for physicians, nurses and laymen. Published in monthly numbers of National safety news
Industrial health; abstract. J Ind Hygiene 22:sup91-2 My '40
Industrial health affects public good will; abstract. V. P. Ahearn. Concrete (mill sec) 48:226 Ag '40
Industrial health agencies. W. J. McConnell. Personnel J 18:335-9 Mr '40
Industrial health agency directory. W. J. McConnell. Personnel J 19:73-5 Je '40
Industrial health, asset or liability. C. O. Sappington. 227p $3.75 Industrial commentaries, 160 N. La Salle st, Chicago '39
Industrial health defense. Safety Eng 80:35-6 Ag '40
Industrial health hazards; tables; reference data. Heat & Ven 37:58a-58b N '40
Industrial hygiene. A. J. Lanza and J. A. Goldberg, eds. 743p $8.50 Oxford '39
Industrial nursing. R. J. Webster, ed. Published in monthly numbers of Safety engineering
It takes health plus safety to do the job; Westinghouse electric & mfg. co. M. L. Robb. il Steel 107:44-5+ Jl 15 '40
Job for public relations; publicizing industrial hygiene. C. C. Carr. Safety Eng 78:25 D '39
Labor's attitude on prevention of occupational disease. R. J. Watt. Concrete (mill sec) 48: 201-2 Jl '40
Large plants and small have a health job to do. H. C. Beaver. Factory Management 98:72-3 F '40
Lead-bearing steels; control of possible health hazards during fabrication. J. W. Halley and E. D. Martin. il diag Metal Prog 37: 412-18 Ap '40
Lead poisoning; protective measures in plant manufacturing molten lead, lead oxides, white lead and lead dry-colors. F. W. Eckfeldt. il Safety Eng 80:8-10 Jl '40
Medical aspects of the protection of indigenous workers in colonies. L. Mottoulle. Int Labour R 41:361-70 Ap '40
No guardian angel; National safety council headquarters enjoys no immunity from common office hazards. A. W. Herdman. Nat Safety N 41:80-1 Ap '40
Occupational health hazards; study by Department of labor, New York; abstract. Mech Eng 62:550-1 Jl '40
Personal hygiene and the washroom. E. L. Root. Safety Eng 80:70 O '40
Pickling, ventilation; exhaust systems and inhibitors control health hazards in operation of pickling tanks. M. A. Snell. diags Steel 106:66, 68+ My 20 '40
Proposed dust control code for New York state. Rock Prod 43:30 Ag '40
Protecting the employee's health. R. C. Heard. Gas Age 86:27 S 26 '40
Report, Industrial health research board; abstract. J Ind Hygiene 22:sup138-9 S '40
Safe skin cleansers. J. V. Klauder and E. R. Gross. il Nat Safety N 41:22-3, 60+ Ja '40
Sickness among male industrial employees, 1939. Monthly Labor R 51:679-81 S '40
Skin-deep; cleanliness as preventive of skin diseases. Safety Eng 79:40+ Mr '40
Skin hazards in American industry. L. Schwartz. Review. Pub Health Rep 55:473-4 Mr 15 '40
Skin troubles and machine tools. A. Duckham. Engineer 169:501-2 My 31 '40
Source of illness among plant workers is mainly on outside. C. O. Sappington. Concrete (mill sec) 48:238+ S '40
Studies on the duration of disabling sickness; duration of disability from sickness and nonindustrial injuries among the male and female memberships of 25 industrial sick benefit organizations, 1935-37, inclusive. W. M. Gafafer and E. S. Frasier. bibliog Pub Health Rep 55:1892-1903 O 18 '40
Syphilis in industry. T. Rosenthal. Safety Eng 79:38 My; 80:37-8+ Jl '40
They get the dust before it gets them; Edison-Emark battery division. B. F. Morris. il Factory Management 98:82-3 Mr '40
Work of an industrial hygiene division in a state department of labor. J. A. Flexner. 24p pl U. S. Dept. of labor; pa 10c Supt. of doc. '39
Wrote finis to lead poisoning; Briggs manufacturing company, Detroit. H. J. Roesch. il Factory Management 98:60-2+ N '40
Zinc and its relation to hygiene; brief summary of report. C. K. Drinker and L. T. Fairhall. Safety Eng 80:40 Jl '40

See also
Air conditioning
Benzene poisoning
Cleanliness
Diseases, Industrial
Dust
Dust removal
Eye—Examination
Factories—Lighting
Factory inspection
Fatigue
Lavatories
Lead poisoning
Lungs—Dust diseases
Medical service, Industrial
Miners—Diseases and hygiene
Noise
Physical examinations
Poisons, Industrial
Posture
Rest periods
Safety devices and measures
Temperature—Physiological effect

also American industrial hygiene association

Bibliography
Abstract of the literature of industrial hygiene and toxicology. Published in monthly numbers of Journal of industrial hygiene and toxicology

HYGIENE, Public. See Public health

HYGIENE, Rural
Mortality rates and economic status in rural areas. H. F. Dorn. Pub Health Rep 55: 3-12 Ja 5 '40

HYGRADE Sylvania corporation
Preferred stock offered. Comm & Fin Chr 151:2352 O 19 '40

HYGROMETERS
Determination of relative humidity; tentative textile standard. Textile Inst J 31:S5 Ja '40
Improved electric hygrometer for measurement of upper-air humidities. F. W. Dunmore. 2pls diags J Research Nat Bur Stand 23:701-14 D '39

HYGROMETERS—*Continued*
Improved electric hygrometer for measuring upper-air humidities. F. W. Dunmore. Gas Age 85:25 Ap 25 '40; Same abr. Heat & Ven 37:45 My '40; Same. Refrig Eng 39:295 My '40
Thermometry in hygrometric measurements. A. W. Ewell. bibliog Refrig Eng 40:27-9 Jl '40
See also
Humidity

HYODESOXYCHOLIC acid
Sterols; oxidation of the diacetate of cholestanediol-3,6. R. E. Marker and others. Am Chem Soc J 62:645-6 Mr '40
Sterols; progesterone from hyodesoxycholic acid. R. E. Marker and J. Krueger. bibliog Am Chem Soc J 62:79-81 Ja '40

HYPERICIN
Absorption spectrum of hypericin. N. Pace and G. Mackinney. Am Chem Soc J 61:3594-5 D '39

HYPNOTICS
α-Alkylsulfonylamides. A. Pomerantz and R. Connor. bibliog Am Chem Soc J 61:3386-8 D '39
Dialkylacetyl biurets. A. J. Hill and W. M. Degnan. bibliog Am Chem Soc J 62:1595-6 Je '40
Substituted vinyl barbituric acids; derivatives containing a primary 1-alkenyl group. A. C. Cope and others. bibliog Am Chem Soc J 62:1199-1201 My '40
Synthesis of 5,5-disubstituted hydantoins from *sym*-dialkoxypropanones and related compounds. B. G. Rogers and H. R. Henze. Am Chem Soc J 62:1758-60 Jl '40
See also
Sedatives

HYPOCHLORITES
Bleaching procedure design for high white, high strength kraft pulps. W. A. Chilson. Paper Tr J 109:29-31 D 21 '39
Chlorite vs. hypochlorite for bleaching. J. F. White and G. P. Vincent. bibliog Paper Tr J 111:39-44 S 19 '40
Methods and practices in sterilizing newly laid mains; use of liquid chlorine, hypochlorates, and dry gas chlorinators. il Pub Works 70:24-6 N '39

HYPOPHOSPHITES
Catalytic toxicity and chemical structure; simple anions containing toxic elements. E. B. Maxted and R. W. D. Morrish. Chem Soc J p252-6 Mr '40

HYPOSULFITES
Hydrosulphites and their derivatives; structure, development and use in the textile industry. G. S. Ranshaw. Chem Age (Lond) 41:359-60 N 25 '39

HYPOTHALAMUS
Hypothalamus and central levels of autonomic function. J. F. Fulton, S. W. Ranson and A. M. Frantz, eds. 980p $10 Williams & Wilkins '40; Review, by C. J. Herrick. Science 91:619-21 Je 28 '40

HYSTERESIS
Location of hysteresis phenomena in Rochelle salt crystals. W. P. Mason. bibliog diags Phys R 58:744-56 O 15 '40
Magnetism; the hysteresis loop. Electrician 124:425 Je 14 '40
Rotational and alternating hysteresis losses in electrical sheet steel. L. P. Tarasov. Phys R 56:1170 D 1 '39

HYSTERESIS (mechanics)
Damping capacity of steel and its measurement. G. P. Contractor and F. C. Thompson. bibliog diags Iron & Steel Inst J 141: 157-201, pl 5-6; Discussion. 202-18 no 1 '40
Hysteresis in crystallization of stretched vulcanized rubber from X-ray data; correlation with stress-strain behavior and resilience. G. L. Clark and others. il Ind & Eng Chem 32:1474-7 N '40
Influence of magnetic fields on damping capacity. E. R. Parker. bibliog il Am Soc for Metals Trans 28:661-8; Discussion. 668-70 S '40

I

ICE
Air conditioning with ice in 1939. E. Brandt. Heat & Ven 37:77 Ja '40
Heat of fusion of ice, a revision. N. S. Osborne. J Research Nat Bur Stand 23: 643-6 D '39
Ice cubes, walnut or egg? F. E. Kunkel. Refrig Eng 40:94 Ag '40
Ice refrigerated precoolers. H. L. Lincoln. il plans Refrig Eng 40:217-20 O '40
See also
Cold storage
Electric lines—Sleet problem
Freezing
Gas holders—Ice protection
Glacial geology
Glaciers
Roads—Ice control

Manufacture
Important changes in refrigeration practice; comparison between 1939 and 1904. A. Baer. Refrig Eng 39:14+ Ja '40
See also
Ice plants

Testing
Ice melting and freezing rates. A. H. Willis, B. E. Short and W. R. Woolrich. diags Refrig Eng 39:307-10 My '40

ICE caves
Desert refrigerator; crystal ice cave in New Mexico. E. R. Harrington. il Refrig Eng 40:11+ Jl '40

ICE cream
Burri technique for examination of ice cream; abstract. H. F. Long and B. W. Hammer. Food Ind 12:84-5 N '40
Comparison of gelatine and sodium alginate as stabilizers in ice cream; abstract. P. H. Tracy and S. L. Tuckey. Food Ind 12:94-5 Ap '40; Correction. 12:94 Jl '40
Ice cream production, revision; monthly, 1923-June, 1940. Fed Res Bul 26:851 Ag '40
Progress in the ice cream industry; ice cream maker combines plant, truck body and cabinet refrigeration. R. A. Brodesser. Refrig Eng 39:377-8 Je '40

Manufacture
Dextrose in commercial ice-cream manufacture. W. J. Corbett and P. H. Tracy. Ill U Agric Exp Sta Bul 452:347-80 bibliog(p378-9) '39
Formulas for ice cream with reduced carbohydrate content. W. J. Corbett and P. H Tracy. Univ of Illinois, Agric Exp Sta and Ext Service in Agric and Home Economics Circ 498:1-8 '39
Fresh flavor assured by prompt freezing; ice cream quality improved. R. E. Heyl and P. H. Tracy. il Food Ind 12:39-40 Ja '40
New refrigerating methods for old; unit coolers applied to ice-cream hardening rooms. C. T. Baker. diags Power 84:364-5 Je '40

ICE cream cabinets
Dealers specify design on Frigidaire ice cream cabinets. Refrig Eng 39:33 Ja '40
Progress in the ice cream industry. R. A. Brodesser. Refrig Eng 39:378 Je '40
Servicing ice cream cabinets. W. E. Weaver. Refrig Eng 39:293 My '40

ICE cream cans
Hot-dip tinning of milk cans and ice cream cans. W. G. Imhoff. Metal Ind 37:573-6 D '39

ICE cream delivery
Progress in the ice cream industry; truck body refrigeration. R. A. Brodesser. Refrig Eng 39:377-8 Je '40

ICE crusher-slinger
Snow icing makes rapid progress. il Refrig Eng 39:301-2 My '40

ICE cutters
New Thermo Cuber ice cutter; new use for gas-heated water. il Gas Age 86:56 S 26 '40

ICE industry
Iceman's comeback. Business Week p41-2 N 11 '39
See also
Ice plants

ICE palaces
Saint Paul's winter carnival ice palaces. il Illum Eng 35:485-7 Je '40

ICE plants
See also
Cold storage warehouses

Power
Diesel ice plant costs; Springdale ice & coal co. il Power Pl Eng 44:67-8 Mr '40
Diesel ice plant data. il Power Pl Eng 44:62-3 O '40
Diesel installation in ice plant pays for itself in six months. il Refrig Eng 40:46 Jl '40
Improved gas engine waste-heat utilization; report by A.G.A. committee. Gas Age 85: 13-14 F 15 '40; Same. Oil & Gas J 38: 57 F 29 '40; Same. Power Pl Eng 44:65-6 Mr '40; Same. Refrig Eng 39:383 Je '40
Oil and gas power; refrigeration. il Power 84:344-5 Je '40

ICE rinks. See Skating rinks

ICEBERGS
Blasting icebergs; illustrations. Explosives Eng 17:331-4 N '39
1940 ice patrol season. Science 91:sup8 Mr 8 '40

ICELAND
Great Britain occupies Iceland; says action is to protect country from Germany. Comm & Fin Chr 150:2963 My 11 '40
United States government acts with regard to Iceland and Greenland. Comm & Fin Chr 150:2499-500 Ap 20 '40
See also
Geology—Iceland

ICONOSCOPE
Ham television; new transmitting tube available to amateurs. il Sci Am 163:146-7 S '40
Scanning the mosaic in an iconoscope with an electron beam leaves the elements positively charged. Electrician 125:49 Jl 26 '40

IDAHO
See also
Geology—Idaho
Gold mines and mining—Idaho
Mines and mineral resources—Idaho

IDEAS in business
Get on top of the eight ball. G. K. Parsons. Ptr Ink Mo 40:55 Ap '40
Ideas are weapons; copy writing as successfully used by famous advertisers. R. Tinsman. Ptr Ink 193:13-14 O 11 '40
Ideas, the essence of development. C. M. Ashley. il Product Eng 11:511-12 N '40
Other fellow's grass; it looks greener; maybe, because he cultivates it better. A. H. Little. Ptr Ink 190:97-8+ Mr 29 '40
Policies of 100 corporations in considering ideas from outsiders. Sales Management 46: 18-20+ Ja 15 '40; Abstract. Management R 29:126-7 Ap '40
See also
Advertising campaigns
Advertising copy
Products, New
Suggestion systems, Customers'

IDENTIFICATION
Identification problems; criminal and civil. I. Castellanos. 215p bibliog(p212-15) $2 for sale by Police journal, 1123 Broadway, New York '39
Photography in crime detection. J. E. Hoover. il Sci Am 162:71-4 F '40
President Roosevelt says Alien registration act is for protection of country and loyal aliens residing here. Comm & Fin Chr 151: 182 Jl 13 '40
See also
Fingerprints

IDLENESS, Industrial
Recorders find lost machine time. H. M. Scherr. il Factory Management 98:58-9 Je '40
Things to do about idle plant; survey shows what 24 concerns in different industries do to keep track of idle equipment. W. P. Fiske. Factory Management 98:57+ Je '40

IGNEOUS rocks. See Rocks, Igneous

IGNITION
Examination of the mechanism by which cool flames give rise to normal flames; the physical characteristics of the two-stage process of ignition of ether-oxygen mixtures. M. Maccormac and D. T. A. Townend. Chem Soc J p143-50 F '40
Experimental study of the ignition of firedamp-air mixtures by explosives. E. Audibert. diag U S Bur Mines Rep of Invest 3518:1-6 '40
Ignition and ignitibility. H. C. Porter. bibliog il Ind & Eng Chem 32:1034-6 Ag '40
Ignition in beds of solid fuel. M. A. Mayers and H. G. Landau. bibliog Ind & Eng Chem 32:563-8 Ap '40
Ignition of the safety match. R. S. Siegel. J Chem Educ 17:515 N '40
Phenomena in the ignition of firedamp by explosives; particles from the detonation. S. L. Gerhard and W. J. Huff. diag pls U S Bur Mines Tech Pa 603:1-17 '40
See also
Automobile engines—Ignition
Combustion
Electric ignition
Explosions
Flame propagation
Inflammable mixtures
Motor bus engines—Ignition devices
Spontaneous combustion

IGNITRON
British Thomson-Houston ignitron contactor for the control of spot welders. il diag Engineering 149:275 Mr 15 '40; Elec R (Lond) 126:348 Mr 22 '40; Electrician 124: 190 Mr 8 '40
Condensation of mercury in mercury-arc tubes. J. Slepian and W. M. Brubaker. diags Elec Eng 59:Trans 381-4 Jl '40
Ignitron contractor control of resistance welding. W. C. Hutchins. il diags Gen Elec R 42:544-7 D '39
Ignitrons for the transportation industry. J. H. Cox and G. F. Jones. bibliog il diags Elec Eng 58:Trans 618-22; Discussion. Trans 622-4 D '39
Mercury-arc rectifiers in the coal-mining industry. D. E. Renshaw. Elec Eng 59:Trans 242-4; Discussion. Trans 244 Ap '40
New ignitron firing circuit; application of direct as well as alternating current to a saturable-core reactor. H. Klemperer. bibliog il diags Electronics 12:12-15 D '39
Single-anode tank rectifier substation; automatic substation of the New York central railroad. il Elec W 112:1887-8 D 30 '39
Spot-welding machines with ignitron control for dealing with aluminium. il Engineering 148:509 N 3 '39

ILION, New York

Water supply
Water improvements at Ilion include softening. E. J. Trimble. il Pub Works 71:15-16 F '40

ILLEGITIMACY
Changing care of children born out of wedlock. A. K. Hanna. bibliog Ann Am Acad 212:159-67 N '40

Bibliography
List of references on illegitimacy. 12 numb l; Supplementary list. 3 numb l U.S. Children's bur, Washington '39

ILLINOIS
See also
Accounting—Illinois
Clay—Illinois
De Witt county, Illinois
Geology—Illinois
Petroleum industry and trade—Illinois
Population—Illinois
Unemployment—Illinois

Economic conditions
Illinois segment of the nation's economy for 1935; a bookkeeping picture. F. G. Dickinson and F. Eakin. Ill U Bur Business Research Bul 60:1-132 '40 (pa $1)

ILLINOIS—*Continued*

Insurance department

Insurance department and the appropriation requested of the legislature. E. Palmer. Nat Underw 44:6+ Mr 7 '40; Same. Nat Underw (Life ed) 44:7 Mr 8 '40

ILLINOIS and Michigan canal

Canal restored for pleasure use. Eng N 123: 704 N 23 '39

ILLINOIS Bell telephone company

Earnings, 1936-39. Comm & Fin Chr 150:996 F 10 '40

ILLINOIS central railroad

General traffic statistics and income statement, 1936-39. Comm & Fin Chr 150:3050 My 11 '40

Illinois Central bonds decline sharply; system's earnings record, 1929-39. A. Jansen. Barron's 20:19 My 27 '40

Low price, active leverage stocks; thumbnail appraisal. Mag of Wall St 65:621 F 24 '40

$1,967,000 RFC loan. Comm & Fin Chr 151: 2648 N 2 '40

Tonnage regained; Illinois Central rate experiments. Business Week p25-6 Je 8 '40

ILLINOIS Institute of technology

Armour and Lewis institutes to merge. Ind & Eng Chem News ed 17:700 N 20 '39

Armour and Lewis join to form new Illinois Tech. Eng N 125:257 Ag 22 '40

Armour Tech opens school for industry; summer graduate school. Oil Paint & Drug Rep 137:5+ Je 24 '40

Organization. Oil Paint & Drug Rep 138:5 Ag 19 '40

Scholarships of Institute's department of fire protection engineering. Weekly Underw 143:430 Ag 31 '40

ILLINOIS master plumbers association

Annual meeting, 47th, Rockford, Jan. 15-18. Dom Eng 155:30-1+ F '40

ILLINOIS *mining* institute

Annual meeting, 47th, Springfield, Nov. 10. Coal Age 44:130, 132-4+ D '39

Summer meeting, June 7-9. Coal Age 45:82, 86-7 Jl '40

ILLINOIS river

Accomplishments in the Illinois River valley; abstract. C. W. Klassen. Water Works & Sewerage 86:498 D '39

The Illinois. J. Gray. 355p bibliog(p337-43) $2.50 Farrar '40

ILLINOIS state academy of science

Annual meeting, 33d, Galesburg, May 3-4. Science 92:40-1 Jl 12 '40

ILLINOIS university

Cyclotron for the University of Illinois. Science 91:sup9 Je 21 '40

Dedication of the Natural resources building. Science 92:326-7 O 11 '40

ILLINOIS zinc company

Annual report. Comm & Fin Chr 149:3263-4 N 18 '39

Findings and opinion of the Securities and exchange commission J Account 69:419-24 My '40

Recent pronouncements of the Securities and exchange commission. W. H. Bell. J Account 69:435-6 Je '40

ILLITE

Investigation of the effect of heat on the clay minerals illite and montmorillonite. R. E. Grim and W. F. Bradley. bibliog il Am Cer Soc J 23:242-8 Ag '40

ILLIUM

Illium available in new forms. il Iron Age 145:46 Je 27 '40

Illium thermocouple protection tubes. il Metals & Alloys 11:MA244 My '40

ILLNESS. See Sickness

ILLUMINATING engineering (term)

What's in a name? M. Luckiesh. Illum Eng 35:193-4 Mr '40; Discussion. 35:396-8 My '40

ILLUMINATING engineering society

Annual meeting, 34th, Spring Lake, N.J. Elec W 114:863-4 S 21 '40; Illum Eng 35: 727-32 N '40

Dawn of a new day for illuminating engineering. D. W. Atwater. Illum Eng Soc Trans 34:993-1001 N '39

General secretary's report, 1938-1939. H. M. Sharp. Illum Eng Soc Trans 34:1135-64 D '39

Officers elected. Illum Eng 35:572-4 Jl '40

Pacific Coast conference, Los Angeles, April 26-27. Elec West 84:146-7 Je '40; Elec W News ed 113:1447-8 My 11 '40

ILLUMINATING engineering society, London

Meeting, London, Nov. 14. Light & Lighting 32:230-2 N '39

ILMENITE

River-borne sands of India; ilmenite, monazite and zircon. Chem Age (Lond) 42:101 F 17 '40

IMIDODISULFONATES

Sulfamic acid, sulfamide, and related aquoammonosulfuric acids. L. F. Audrieth and others. Chem R 26:84-7 F '40

IMMIGRATION and emigration

Canada

Canada, 1763-1841, immigration and settlement. N. Macdonald. 577p bibliog(p531-59) $8.40 Longmans '39

Replace lost markets; finance European immigration to Canada out of excessive gold holdings of the United States. J. V. Walters. Bankers M 141:147-8 Ag '40

India

Indian labour in Ceylon, Fiji, and British Malaya. bibliog Int Labour R 42:57-76 Jl '40

United States

Atlantic migration, 1607-1860. M. L. Hansen. 391p bibliog(p309-71) $3.50 Harvard univ. press '40

Immigration and national welfare. F. S. Cohen. 40p bibliog(p38) pa 15c League for industrial democracy, New York '40

Immigration and naturalization, 1938-39. Monthly Labor R 50:165-8 Ja '40

Refugees build U.S. industries; survey by National refugee service. Business Week p18+ Ap 27 '40

Report of the Special committee on immigration and naturalization, submitting a research on Conquest by immigration, a study of the United States as the receiver of old world emigrants who became the parents of future-born Americans. H. H. Laughlin. 267p $1 Chamber of commerce of the state of New York, New York '39 [free to libraries]

IMMUNITY

Constitutional barriers to involvement of the nervous system by certain viruses. A. B. Sabin. Science 91:84-7 Ja 26 '40

Immunity to experimental pneumococcal infection with an artificial antigen containing a saccharide of synthetic origin. W. F. Goebel. Science 91:20-1 Ja 5 '40

Immunity to the Lansing strain of poliomyelitis as revealed by the protection test in white mice. V. H. Haas and C. Armstrong. Pub Health Rep 55:1061-8 Je 14 '40

Nutrition as a factor in the development of constitutional barriers to involvement of the nervous system by certain viruses. A. B. Sabin and C. E. Duffy. bibliog Science 91:552-4 Je 7 '40

Synthetic immunochemistry. C. R. Harington. Chem Soc J p119-28 F '40

See also

Antigens and antibodies
Infectious diseases
Vaccines

IMMUNITY (law)

New York Appellate division denies immunity to lawyers in court investigations. Comm & Fin Chr 150:1072 F 17 '40

IMPACT

Effect of impact on reinforced concrete beams. T. D. Mylrea. il Am Concrete Inst J 11:581-94 Je '40

Effect of service stresses on impact resistance, X-ray diffraction patterns, and microstructure of 25S aluminum alloy. J. A. Kies and G. W. Quick. il diags U S Nat Advisory Com for Aeronautics 1939: 343-8 '40

IMPACT—*Continued*
Energy losses in impact testing. N. Davidenkoff. il Metal Prog 38:297 S '40
European developments in the study of impact and fatigue in structures. F. H. Frankland. bibliog Civil Eng 10:208-10 Ap '40
Factors affecting notched-bar impact tests on steel at low temperatures. W. Crafts and J. J. Egan. bibliog diag Am Soc T M Proc 39:659-71; Discussion. 672-3 '39
Failure of press tools under fatigue and impact. C. E. Bretney. il diags Metal Prog 36:751-4 D '39
High speed impact testing. N. Davidenkoff. Metal Prog 38:69-70 Jl '40
Impact properties of some low alloy nickel steels at temperatures down to -200 degrees Fahr. T. N. Armstrong and A. P. Gagnebin. bibliog diag Am Soc for Metals Trans 28: 1-19; Discussion. 19-24 Mr '40
Impact strength of transparent and translucent fused silica and of recrystallised alumina. B. Moore. Soc Chem Ind J 59:119-20 Je '40
Shocks and impacts in machinery having jointed elements. F. Franz. diag Product Eng 11:501-2 N '40
Stress raisers. G. Sachs. bibliog Iron Age 146:34-7 Ag 8 '40
Stress-strain characteristics of the torsion impact test. O. V. Greene and R. D. Stout. bibliog il diag Am Soc for Metals Trans 28: 277-98; Discussion. 298-305 Je '40
Study of the influence of speed on the torsion impact test. O. V. Greene and R. D. Stout. il diags Am Soc T M Proc 39:1292-8 '39
Sub-size Charpy relationships at sub-zero temperatures. H. Habart and W. J. Herge. il diags Am Soc T M Proc 39:649-58 '39

See also
Elasticity
Strains and stresses

IMPEDANCE
Direct-reading impedance bridge; abstract. L. Chrétien. diags Electronics 13:100-1 Ap '40
Impedance of bimolecular films. R. B. Dean, H. J. Curtis and K. S. Cole. Science 91:50-1 Ja 12 '40
Impedance of the magnetron in different regions of the frequency spectrum. A. F. Harvey. bibliog Inst E E J 86:297-306 Mr '40
Science of balancing an impedance bridge. G. B. Hoadley. diags Franklin Inst J 228: 733-54 D '39
Symbolic representation of impedance and admittance. Wireless Eng 17:1-3 Ja '40
Twin-T; new type of null instrument for measuring impedance at frequencies up to 30 megacycles. D. B. Sinclair. il diags Inst Radio Eng Proc 28:310-18 Jl '40
Vector-type impedance analyzer. S. Godet and H. R. Meahl. il diags Gen Elec R 42:548-51 D '39
Zero-phase-sequence characteristics of transformers. A. N. Garin. bibliog diags Gen Elec R 43:131-6, 174-9 Mr-Ap '40

IMPERIAL chemical industries, limited
Annual general meeting, 13th, London. Economist 138:949-50 My 25 '40
Annual report for 1939. Chem Age (Lond) 42:285 My 18 '40
Extracts from the chairman's speech. H. D. McGowan. Chem & Ind 59:379-81 Je 1 '40
Parent company's profits, 1937-39 and consolidated statements for 1938 and 1939. Economist 138:902-3 My 18 '40
Progress; profits, 1937-39. Economist 138:630 Ap 6 '40

IMPERIAL college of science and technology. See London university—Imperial college of science and technology

IMPERIAL college of tropical agriculture, St Augustine, Trinidad
Chemistry in tropical agriculture; annual report. Chem Age (Lond) 42:160 Mr 16 '40

IMPERIAL institute, London
Imperial institute as an information centre. H. Lindsay. Assn of Sp Lib & Inf Bur Proc 1939:10-20; Same abr. Engineering 149: 31-3 Ja 12 '40

IMPERIAL tobacco company (of Great Britain and Ireland)
Ordinary general meeting, 38th, Bristol. Economist 138:351 F 24 '40

IMPORTATION of books and periodicals. See Libraries—Importation of books and periodicals

IMPORTING
Accounting
Gain or loss on foreign exchange. J Account 70:74 Jl '40; Discussion. H. S. Benjamin. 70: 267 S '40

IMPORTS
How new British move to avoid Mediterranean affects commodities. Barron's 20:6 My 6 '40
Imports at U.S. ports; list by ports of chemical products with amounts and consigners. Published in weekly numbers of Oil, paint and drug reporter

See also
Commerce
Tariff

Statistics
Chemical imports at New York during 1938 analyzed by Tariff board. Oil Paint & Drug Rep 137:5+ Ja 8 '40
Imports of crude rubber, monthly, 1913-39; revision. Survey of Cur Business 20:18 My '40
Principal sources of U.S. imports of linen products. E. A. Mann. Comm Rep p651+ Jl 27 '40
U.S. imports of crude materials; charts. Comm Rep p1146, 1147 D 9 '39; p296, 297 Mr 30 '40
U.S. imports of finished manufactures; charts (cont). Comm Rep p1224 D 30 '39; p370, 371 Ap 20 '40
U.S. imports of foodstuffs and beverages; charts (cont). Comm Rep p1172, 1173 D 16 '39; p324, 325 Ap 6 '40
U. S. imports of semimanufactures; charts (cont). Comm Rep p1201 D 23 '39; p344, 345 Ap 13 '40
U.S. imports of textile fibers and manufactures, 1939. E. A. Mann. Comm Rep p612 Jl 13 '40
U.S. imports of wool and hair yarns and woven fabrics, 1939. E. A. Mann. Comm Rep p693 Ag 10 '40
Value of imports by grand divisions, countries, and economic classes, 1936-1939. Survey of Cur Business 1940 Sup p80-1 [supplemented in monthly numbers]
War and United States industrial machinery imports. R. Wilhelm. Comm Rep p1206+ D 23 '39

INCANDESCENT electric lamps. See Electric lamps, Incandescent

INCENDIARY bombs. See Bombs, Incendiary

INCENTIVE taxation. See Taxation—Regulatory taxation

INCENTIVES in industry
See also
Bonus system
Employment management
Profit sharing
Wage payment plans

INCINERATORS. See Refuse incinerators; Sewage incinerators

INCOME
Fortune survey; earnings limited? Fortune 21:98 Mr '40; Excerpt. Bankers M 140:356 Ap '40
Fortune survey; incomes specified; what would be a perfectly satisfactory income? Fortune 21:134 F '40
Income-expenditure relations. E. W. Gilboy. R Econ Statis 22:115-21 Ag '40
Incomes, means tests and personal responsibility. P. Ford. 86p 5s P. S. King & son, London '39
Integration of income and surplus statements. A. C. Littleton. J Account 69:30-40 Ja '40
National income in wartime. Bankers M 141: 413-14 N '40

INCOME—*Continued*

Studies in income and wealth, by the Conference on research in national income and wealth. v 3 479p bibliog(p77-84) $3.50 Nat. bur. econ. research '39

See also

Capital
Farm income
Profit
Salaries
Wages
Wealth

Statistics

Consumer expenditures in the United States at different income levels, 1935-36. Monthly Labor R 50:377-81 F '40

Consumer incomes and family budgetary expenditures; Printers' Ink market explorations; Alabama, Florida, Georgia, Kentucky, Louisiana, Mississippi, North Carolina, South Carolina, Tennessee and Virginia. maps Ptr Ink 193:sup1-55 O 25 '40

Consumer incomes and family budgetary expenditures; Printers' Ink market explorations; Delaware, District of Columbia, Maryland, Ohio, Pennsylvania and West Virginia. Ptr Ink 192:sup3-55 S 27 '40

Consumer incomes and family budgetary expenditures; Printers' Ink market explorations; New England states. maps Ptr Ink 191:sup 1-32 Je 28 '40

Consumer incomes and family budgetary expenditures; Printers' Ink market explorations; New York and New Jersey. maps Ptr Ink 192:sup1-39 Ag 2 '40

Current effective buying income. Sales Management 46:12 Ja 1 '40 [cont in the first number of each month]

Differences in family savings between cities of different size and location, whites and Negroes. H. Mendershausen. map R Econ Statis 22:122-37 Ag '40

Expenditure habits of wage earners and clerical workers; data based on actual incomes and expenditures of 14,469 families in 1 year during the period 1934-36. F. M. Williams and A. C. Hanson. Monthly Labor R 49: 1311-34 D '39

Family income and expenditure in five New England cities, 1935-36; v.1. Family income. A. D. H. Kaplan, F. M. Williams and D. McCamman. map U S Bur Labor Statistics Bul 645:1-351 '39

Family income and expenditure in nine cities of the east central region, 1935-36; v. 1, Family income. A. D. H. Kaplan, F. M. Williams and R. Hellman. map U S Bur Labor Statistics Bul 644:1-538 '39

Family income and expenditure in the southeastern region, 1935-36; v. 1, Family income. A. D. H. Kaplan, F. M. Williams and J. S. Bernard. map U S Bur Labor Statistics Bul 647:1-520 '39

Family income and expenditures; plains and mountain region; pt. 1, Family income. G. S. Weiss, D. Monroe and K. Cronister. il diags map U S Agric Misc Pub 345:1-330 '39

Income payments, 1935-1939. Survey of Cur Business 1940 Sup p6 [supplemented in monthly numbers]

Income payments; revised series; monthly, Jan. 1929-Dec. 1939. Survey of Cur Business 20:17-18 O '40

Income payments to individuals, by states, 1929-38. J. L. Martin. Survey of Cur Business 20:8-15 Ap '40; Excerpts. Monthly Labor R 50:1367-72 Je '40

Income payments to individuals, by states, 1929-39. J. L. Martin. Survey of Cur Business 20:8-12 O '40

Incomes of chiropractors and chiropodists in the United States. Monthly Labor R 50:453 F '40

International survey of recent family living studies; families of unemployed workers. bibliog Int Labour R 41:645-62 Je '40

National income at nearly 70 billion dollars in 1939. R. R. Nathan. Survey of Cur Business 20:6-11 Je '40; Abstract. Monthly Labor R 51:348-51 Ag '40

National income, 1929 to 1938. Monthly Labor R 49:631-5 S '39

Personal and collective budget functions. J. Marschak. bibliog R Econ Statis 21:161-70 N '39

Statistical hocus-pocus and the national income. S. Crowther. Nation's Business 28: 18-20+ Je '40

Canada

Income and expenditures of wage earners' families in Canada, 1938. Monthly Labor R 49:708-11 S '39

Germany

Distribution of wealth and income under the Nazis. M. Y. Sweezy. bibliog R Econ Statis 21:178-84 N '39

Great Britain

Three studies on the national income. A. L. Bowley and J. Stamp. 145p 6s Univ. of London, London school of economics and political science, London '38

Illinois

Illinois segment of the nation's economy for 1935; a bookkeeping picture. F. G. Dickinson and F. Eakin. Ill U Bur Business Research Bul 60:1-132 '40 (pa $1)

United States

America could live much better. il Factory Management 98:A15-A21 Ag '40

Clothing expenditures of wage earners and clerical workers. Monthly Labor R 50:267-85 F '40

Current effective buying income. Sales Management 46:12 Ja 1 '40 [cont in the first number of each month]

Economic status of large urban families; income as related to number of children under 16. Monthly Labor R 50:66-8 Ja '40

Extent of waste from depression unemployment; summaries and excerpts from National resources committee report. Monthly Labor R 49:1075-9 N '39

Good old days are gone but good new days are coming. J. D. C. Weldon. Mag of Wall St 66:15-17+ Ap 20 '40

Income, family size, and the economic level of the family. Monthly Labor R 50:115-34 Ja '40

Income payments to individuals, by states, 1929-38. J. L. Martin. Survey of Cur Business 20:8-15 Ap '40; Excerpts. Monthly Labor R 50:1367-72 Je '40

Income payments to individuals, by states, 1929-39. J. L. Martin. Survey of Cur Business 20:8-12 O '40

Money disbursements of wage earners and clerical workers in the North Atlantic region, 1934-36; v. 2, Eleven cities. F. M. Williams and A. C. Hanson. U S Bur Labor Statistics Bul 637:1-522 '39

Money disbursements of wage earners and clerical workers in eight cities in the east north central region, 1934-36. F. M. Williams and A. C. Hanson. U S Bur Labor Statistics Bul 636:1-443 '40

Money disbursements of wage earners and clerical workers in five cities in the Pacific region, 1934-36. F. M. Williams and A. C. Hanson. maps U S Bur Labor Statistics Bul 639:1-358 '39

National income at nearly 70 billion dollars in 1939. R. R. Nathan. Survey of Cur Business 20:6-11 Je '40; Abstract. Monthly Labor R 51:348-51 Ag '40

National income in the United States placed at $70,000,000,000 by Department of commerce. Comm & Fin Chr 150:3911 Je 22 '40

National income, 1929 to 1938. Monthly Labor R 49:631-5 S '39

Per capita income payments in United States in 1938 amounted to $515. Comm & Fin Chr 150:2506 Ap 20 '40

Problem of low incomes. Nat City Bank p23 F '40

Productivity, wages, and national income. S. Bell. 344p $3 Brookings institution, Washington, D.C. '40; Review. Power Pl Eng 44:126+ O '40

Savings of wage earners and clerical workers, 1934-36. Monthly Labor R 51:119-39 Jl '40

INCOME—United States—*Continued*
Survey of buying power; estimates of 1939 effective buying income and retail sales for sections, states, trading areas, counties and cities, etc. maps Sales Management 46:7-235 Ap 10 '40
Transportation and recreation expenditures of wage earners and clerical workers. Monthly Labor R 50:556-73 Mr '40

INCOME statements
Integration of income and surplus statements. A. C. Littleton. J Account 69:30-40 Ja '40

INCOME tax
How this income tax started. il Banking 32: 37-9 Mr '40
See also
Corporations—Taxation

Accounting
Accrued income for tax purposes; considerations in preparation of decedent's final return by executor. P. G. Evans. Trusts & Estates 71:411-16 O '40
Courts and the theory of interest. R. W. Snyder. J Account 69:266-77 Ap '40
Deductions from income; tabulation. J. K. Lasser. Am Business 10:41-4 Mr '40
Depreciation in relation to income taxes. Am Gas Assn Mo 22:225-7+ Je '40
Exceptions to ordinary methods of accounting for income tax and expenses; tabulation. Am Business 10:44-6 F '40
Federal income tax accounting; a practical course for basic instruction. S. Y. McMullen. 315p, 78p $5 Ronald press '39
Further comments on last-in, first-out. D. R. Anderson; G. A. Wilson. N A C A Bul 21: 459-68 sec 2 D 1 '39
General tax formula. E. Fraser. J Account 69:387 My '40; Discussion. R. I. Mehan. 70: 163-4 Ag '40
Here's a new depreciation ruling in Pittsburgh brewery case; decision dealing with excessive depreciation which had been deducted during loss years. Am Business 10: 39-40 Ja '40
How the law controls trust operations; taxability of funds resulting from involuntary conversion of real estate. L. R. Bloomenthal. bibliog Bankers Mo 56:732-5 D '39
How the law controls trust operations; taxation of short term trusts. L. R. Bloomenthal. bibliog Bankers Mo 57:26-9 Ja '40
Inventories and taxes. E. A. Kracke. J Account 68:369-76 D '39
Last-in, first out; method of inventory valuation for income tax purposes; how it differs from first-in, first-out method. C. Reitell. Factory Management 98:55-6+ My '40
Progress rides the coat-tails of obsolescence; Internal revenue bureau should encourage highest supportable depreciation rates for income tax purposes. E. C. Clarke. Iron Age 145:32-5 My 30 '40
Statements showing inventories and cost of materials consumed on the cost or market basis for the six years 1933 to 1938 inclusive, based upon an actual case in the cotton industry, compared with inventories and cost of materials consumed using the last-in, first-out basis; actual profit and loss; average inventory prices at end of each year. G. A. Wilson. N A C A Bul 21:462-3, 465, 467 sec 2 D 1 '39
See also
Inventories

Bad debt deductions
Don't be a tax spendthrift! when and how to take a deduction for bad debts. L. J. Freeman. Barron's 20:13 Ja 22 '40

Capital gains tax
Capital gains tax awry; improvement by lessee taxable as income. D. Horne. Banking 32:54 Je '40
How the law controls trust operations; taxability of funds resulting from involuntary conversion of real estate. L. R. Bloomenthal. bibliog Bankers Mo 56:732-5 D '39
How to compute your gain or loss on sales and exchanges; tabulation. J. K. Lasser. Am Business 10:44 Mr '40
Investment clinic; reducing your security taxes by proper computation of capital gains and losses. J. S. Williams. Mag of Wall St 65:218-19 D 2 '39
Those year-end security transactions; capital gain and loss sections of federal Revenue act. L. J. Freeman. Barron's 19:3 D 18 '39
What the courts decided in 1939 about buying and selling securities. Am Business 9:40-1 D '39

Australia
Australian income tax amendments. J. H. Barkmeier. Comm Rep p643 Jl 27 '40

British Honduras
Taxation, war surtaxes on incomes. For Comm W 1:149 O 26 '40

Canada
Income tax changes. Comm Rep p603 Jl 13 '40

Chile
New Chilean income-tax law. H. P. Crawford. Comm Rep p406 My 4 '40; Same. Compar Law Ser 3:382-3 Jl '40

Great Britain
Digest of income tax cases, 1937 to 1939. M. L. Gordon. 2d ed 432p $4.75 Age publications, 31 Willcocks st, Toronto '40
Fiscal anti-feminism; income tax of British woman professional worker with a family. Economist 138:373-4 Mr 2 '40
Incidence of income taxes. D. Black. 316p $4 Macmillan (Toronto) '39
Income tax law and practice (and national defence contribution). C. A. Newport. 12th ed 399p 10s 6d Sweet & Maxwell, London '39
Murray & Carter's guide to income-tax practice. A. Murray, R. N. Carter and H. Edwards. 14th ed 1092p 40s Gee & co, London '39
Recent court cases; repairs and renewals. W. Summerfield. Engineering 149:393 Ap 12 '40
Standard rates of the British income tax since 1842; tabulation. W. W. Case. Annalist 54: 660 N 23 '39
Sur-tax and undistributed income; assessment and avoidance. G. B. Burr. 237p Taxation pub. co., First av. house, London, W.C. 1 and Gee & co, London '39
Treatise on the law of income tax, designed for the use of the taxpayer and his advisers. E. M. Konstam. 7th ed lxxxiiip, 768p, 90p 42s Stevens and sons, London '38
U.S. vs. British taxation on personal incomes derived from dividends. Business Week p55 N 18 '39

Iraq
Income tax law of Iraq of July 29, 1939. J. H. Barkmeier. Comm Rep p1220 D 30 '39

Italy
Taxation, extraordinary tax on businessmen and executives. For Comm W 1:109 O 19 '40

New York (state)
Income tax increase proposed by Governor in budget message. Comm & Fin Chr 150: 717-18 Ja 27 '40
Personal income tax law of New York (article 16 of the Tax law) and tax on unincorporated businesses (article 16A of the Tax law) with 1939 amendments. 54p New York (state) Income tax bur, Albany '39

New Zealand
Income taxation in New Zealand. J. H. Barkmeier. Comm Rep p252 Mr 16 '40

Oklahoma
Regulations relating to Oklahoma income tax law of 1935, amended; chapter 66, article 6, Oklahoma session laws, 1935, as amended by House bill no. 603, seventeenth Legislature, 1939. 212p Oklahoma tax commission, Income tax division, Oklahoma City '39

INCOME tax—*Continued*

Sweden

Supplementary levy on Swedish 1939 income tax and other budget measures. F. A. M. Alfsen. Compar Law Ser 3:113-17 F '40

United States

Analysis of Regulations 101 under the Revenue act of 1938. 169p pa $1 Alexander pub. co, 60 Wall st, New York '39

Changes in tax forms for reporting 1939 incomes adopted. Comm & Fin Chr 150:216 Ja 13 '40

Digest of state laws relating to net income taxes, 1938. <Reprinted December 1939 with corrections>. R. H. Holley, comp. 132p U.S. Bur. of the census, Washington '40

Dividends on paid-up policies are subject of Revenue dept. letter. East Underw 41:18 Mr 22 '40

Don't be a tax spendthrift! L. J. Freeman. Barron's 20:7 Ja 15; 13 Ja 22; 8 Ja 29; 18 F 5; 7+ F 19; 18 F 26; 18 Mr 4; 20 Mr 11; 20 Mr 25 '40

Employees' trusts; income tax. Trusts & Estates 70:416 Ap '40

Federal income and estate taxation. p161-364 pa $1 School of law, Duke univ, Durham, N.C. '40

Federal income tax. R. G. Blakey and G. C. Blakey. 640p bibliog(p601-20) $7.50 Longmans '40

Federal income tax, specimen returns, completely worked out for filing in 1940. 84p pa $1 Prentice-Hall '40

Income, estate and gift tax provisions of the Internal revenue code; as amended by the Revenue act of 1940. 241p pa $1 Commerce clearing house '40

Income tax returns, 1936, 1937, 1938; in 132 metropolitan areas, listed by state and city. Ptr Ink Mo 41:29 Jl '40

Introduction to federal taxation (1939 act). G. T. Altman. 3d ed rev & enl 252p $2 Commerce clearing house '40

Inventory definition for U.S. tax changed. Oil Paint & Drug Rep 138:3+ Jl 22 '40

Minimizing taxes on incomes and estates. J. B. Lowe and J. D. Wright. rev ed 138p $2 Barron's, New York '40

1940 explanatory federal income tax returns, calendar year 1939. 20th annual ed 128p Sinclair, Murray & co, 44 Whitehall st, New York '40

Pending tax bill approved by House subcommittee would add 2,000,000 persons to list, as aid to national defense program. Comm & Fin Chr 150:3589-90 Je 8 '40

Procedure for defense plant amortization is announced. Steel 107:23 N 11 '40

Regulations 103 relating to the income tax under the Internal revenue code. 862p U.S. Internal revenue bureau, Washington; pa $1 Supt. of doc. '40

Say please, Mr Tax Collector! peremptory language in the printed form. Nation's Business 28:76-8 Mr '40

Tax collector shadows Santa; when to deduct or include Christmas gifts in returns. L. J. Freeman. Barron's 19:7 D 4 '39

Taxation of small incomes; social, revenue, and administrative aspects. P. J. Strayer. 210p $3 Ronald press '39

Treasury instructs withholding agents to retain increased amounts of federal tax from non-resident aliens. Comm & Fin Chr 150: 4055 Je 29 '40

United States master tax guide, 1940; based on the Internal revenue code and the regulations, rulings and decisions to 1940. 251p pa $1 Commerce clearing house '40

U.S. vs. British taxation on personal incomes derived from dividends. Business Week p55 N 18 '39

Your income tax. J. K. Lasser. new ed 128p pa $1 Simon and Schuster, 386 4th av, New York '40

Decisions

Digest of 1939 court decisions giving taxpayer an opportunity to recover overpayments. J. K. Lasser. Am Business 9:35-7, 40-1 D '39

Lien of unpaid federal income taxes superior to right of prior attaching creditor. Trusts & Estates 70:452-3 Ap '40

Some federal tax rulings; deduction for loss on real estate; capital gains and losses. T. S. Cady. Banking 32:52 F '40

Tax deductions for officers' salaries; criteria for reasonable salaries. L. J. Freeman. Barron's 20:8 Jl 29 '40

Trends in trust taxation; the federal income tax, with case citations. W. E. Barton. Trusts & Estates 70:611-16 Je '40

United States Supreme court reverses Circuit court decision which upheld avoidance of federal surtaxes on income from trust. Comm & Fin Chr 150:1359 Mr 2 '40

Unpaid federal income taxes and life policies; digest of recent cases. J. S. Regan. Spectator (Life ed) 144:14-15 My 9 '40

Wilshire Oil case and the mining industry. E. C. Alvord. bibliog Min Cong J 25:37-8+ D '39

Your taxes. D. Horne. Banking 32:36 My '40

INCOME tax, State

Digest of state laws relating to net income taxes, 1938. R. H. Holley, comp. 133p U.S. Bur. of the census, Washington '38

See also State subdivisions under Income tax

INCONEL. See Nickel alloys

INCORPORATED municipal electrical association

Annual meeting, London, June 20. Electrician 124:445-6 Je 28 '40; Elec R (Lond) 126:673-4 Je 28 '40

Annual report, 45th. Electrician 124:405 Je 7 '40; Elec R (Lond) 126:613 Je 7 '40

INDAN

Further evidence on the Mills-Nixon effect. W. C. Lothrop. bibliog Am Chem Soc J 62:132-3 Ja '40

Further observations on the use of hydrogen fluoride in acylations and cyclizations. L. F. Fieser and E. B. Hershberg. bibliog Am Chem Soc J 62:49-53 Ja '40

Indano-indanes. J. B. Niederl and R. H. Nagel. Am Chem Soc J 62:3070-2 N '40

Ozonization of hydrindene. L. Long, jr. and L. F. Fieser. bibliog Am Chem Soc J 62: 2670-3 O '40

INDANONE

3,3,5,6,7-Pentamethylhydrindone and 4,4,5,6,8-pentamethylhydrocarbostyril. L. I. Smith and W. W. Prichard. Am Chem Soc J 62: 778-80 Ap '40

Polymethylbenzenes; the reaction between dimethylacrylic acid and the trimethylbenzenes. L. I. Smith and W. W. Prichard. bibliog Am Chem Soc J 62:771-7 Ap '40

INDANTHRONE

Identification of indanthrone blues. H. B. Bradley and D. A. Derrett-Smith. Soc Dyers & Col J 56:116-17 Mr '40

INDENE

Coal by-products; properties of hydrogenated indene-coumarone resins. W. H. Carmody and H. E. Kelly. il Ind & Eng Chem 32: 771-5 Je '40

Coal by-products; the hydrogenation of indene-coumarone resins. W. H. Carmody and H. E. Kelly. flow sheet bibliog il diags Ind & Eng Chem 32:684-92 My '40

Coal by-products; the yellowing of indene-coumarone resins. W. H. Carmody. il Ind & Eng Chem 32:525-7 Ap '40

Fatty-acyl-modified resins; dicyclopentadiene, coumarone, and indene types. A. W. Ralston and others. bibliog il Ind & Eng Chem 32:99-101 Ja '40

INDEPENDENT petroleum association of America

Annual meeting, 11th, Dallas, Oct. 16-18. Nat Pet N 32:13+ O 23 '40; Oil & Gas J 39:14-15+ O 24 '40

INDEX numbers (economics)

Advertising upturn indicated by banking operations; a P.I. index study. L. D. H. Weld. Ptr Ink 192:23-5 S 27 '40

Annalist index of business activity. S. L. Miller. Annalist 55:107 Ja 25 '40 [cont monthly]

INDEX numbers (economics)—*Continued*
Annalist index of Canadian business activity. S. L. Miller. Annalist 55:132-5 Ja 25 '40 [cont monthly]
Boeckh index of construction costs, U.S. average, 1926-'29=100; 1913-1939. Eng N 124:884 Je 20 '40
British share prices, 1811-1850; with sources of data and methods of constructing index numbers. A. D. Gayer, A. Jacobson and I. Finkelstein. R Econ Statis 22:90-3 My '40
Building cost indexes; uses and statistical limitations; with thumbnail descriptions of leading indexes and index numbers, 1913-1939. E. Eaves and J. A. Livingston. Annalist 55:590-1 Ap 25 '40
Bureau of labor statistics' new index of cost of living. Monthly Labor R 51:367-404 Ag '40
Business activity index shows sharp decline. S. L. Miller. Annalist 55:294-5+ F 22 '40
Business forecasters; revised money supply-demand indicator and derivative price index decline. F. Salz. Annalist 55:68+, 292, 479, 879; 56:62-3 Ja 18, F 22, Mr 28, Je 20, Jl 11 '40
Business index, weekly and monthly figures, 1937-39. Business Week p28 F 3 '40
Discrepancies in Federal reserve board's new index of industrial production. L. P. Ayres. Comm & Fin Chr 151:1656-7 S 21 '40
Economic changes in the United States. 1854-1908; monthly indexes of business activity, prices, commercial paper rates, bond yields, stock prices. Annalist 55:900 Je 27 '40
Economist index number, yearly averages, 1929-39 and monthly, 1938 and 1939. Economist 138:sup51 F 17 '40
Economist wholesale price index resumed. Economist 137:349-50 D 2 '39
ENR construction cost index, 1913-June, 1940. Eng N 124:870-1 Je 20 '40
Federal building cost index, 1934-1939. Eng N 124:924 Je 20 '40
General indexes of business activity in the past thirty years. F. R. Garfield. Fed Res Bul 26:495-501 Je '40
How's business? cross currents behind the composite index. P. Dobbs. Mag of Wall St 65:281+ D 16 '39
Index numbers of wholesale prices of chemicals and allied products. Monthly Labor R 50:1280-1 My '40
Indexes of construction cost for public utility industries for use in reproduction cost valuations. C. E. Troxel. J Land & Pub Util Econ 16:363-8 Ag '40
Inventory and new order statistics; new order indexes as business forecasters; letter by F. Roe; discussion. Annalist 55:889; 56:63 Je 27, Jl 11 '40
Measurement of production; theory and limitations of the new Federal Reserve index. W. Thomas and M. R. Conklin. Fed Res Bul 26:912-23 S '40
Measures of purchasing power. W. H. Stackhouse. diags Indiana Univ. School of Business, Indiana Business Studies 18:1-83 '39
Monthly industry survey; comprehensive new measures of manufacturers' inventories, orders, and shipments. H. C. Grieves and W. C. Truppner. Survey of Cur Business 20: 7-13 S '40 [tables cont monthly]
New F.R.B. index. chart(p18) Business Week p52 Ag 24 '40
New FRB index compared with old. Barron's 20:1 Ag 19 '40
New Federal Reserve index of industrial production. Fed Res Bul 26:753-71 Ag '40; Excerpts. Survey of Cur Business 20:11 Ag '40; Comm & Fin Chr 151:910-12 Ag 17 '40
New machine tool index. Business Week p22 D 9 '39
New production index defended by Federal reserve board; criticism of Colonel Ayres answered. Comm & Fin Chr 151:2581 N 2 '40
Prospect of a durable goods recovery best in 10 years; statistical survey, index numbers and charts. Steel 106:257-63 Ja 1 '40
Public utility construction cost index, 1913-1939. Eng N 124:880 Je 20 '40
Relationship between cost and selling price indices as a business forecaster. G. M. Ule. Annalist 55:229 F 8 '40
Rise in the Federal Reserve index of production. Fed Res Bul 26:1047-9 O '40
Special building cost indexes, 1913-1939. Eng N 124:874-5 Je 20 '40
Statistics of industrial employment, unemployment, and hours of work in various countries, yearly, 1929-39; monthly, Jan. 1939-Jan. 1940. Int Labour R 41:318-28 Mr '40
Statistics of the general level of wages in various countries; hourly, daily, weekly, or monthly rates; currency and index numbers, yearly, 1929-38; quarterly, March-Sept. 1939. Int Labour R 41:203-13 F '40
Summary table: selected business indicators for specified years and percentage changes, 1929, 1932-33, 1937-39. Survey of Cur Business 20:53-4 F '40
Warns against indiscriminate use of Federal reserve industrial production index. E. G. Draper. Comm & Fin Chr 150:2658 Ap 27 '40
War's effect on building costs. Arch Forum 71:473-4 D '39
Weekly index numbers, measuring business activity. G. Baumgart. J Business 13:234-52 Jl '40

See also
Stocks—Price indexes and averages

INDEX of Christian art. See Princeton university

INDEXES

See also
Periodicals—Indexes

INDEXING
Efficiency in documentation. S. C. Bradford. Engineering 149:217-18 Mr 1 '40
Indexing and filing scientific photographs. J. M. Trefethen. Science 91:24 Ja 5 '40
Practical suggestions for reducing the labor of indexing a text-book. L. H. Warren. Science 92:217-18 S 6 '40

See also
Files and filing (documents, etc.)

INDEXING (machine work)
Adjustable indexing fixture for perforating metal cylinder. J. Waitkus. diags Mach 47: 130-2 S '40
Fixture designed for use in sawing off connecting-rod caps. E. L. Peterson. diags Mach 46:131-2 Je '40
Hardinge collet index fixtures. il Automotive Ind 82:516, 517-18 Je 1 '40; Mach 46:163 Je '40
Indexing fixture speeds calibration of dials. A. Aghazarian. diag Am Mach 84:584 Ag 7 '40
Indexing head that speeds milling jobs. C. R. Stryker. il diag Am Mach 84:289-90 My 1 '40
Indexing milling fixture. diag Mach 46:118 Ag '40
Indexing milling fixture for small production. J. Jergens. diags Am Mach 84:340 My 15 '40
Newall optical circular table. il Engineer 170:31 Jl 12 '40; Automobile Eng 30:249-50 Ag '40
Some work can be indexed in the lathe. J. Berard. diag Am Mach 84:175-6 Mr 20 '40

INDIA
In the wake of a traveling engineer. J. C. Cosgrove. il map Explosives Eng 17:370-4 D '39
India's war potential. Economist 139:363-4 S 21 '40

See also
Chemical industries—India
Electric apparatus industry—India
European war, 1939—India
Purchasing, Government—India

Commerce
Import trade of India. Engineering 149:336 Mr 29 '40

INDIA—Commerce—*Continued*
India's wartime demand for American products. D. C. Bliss. il Comm Rep p66-8 Ja 20 '40
Port of Karachi. il (cover) Comm Rep p490 My 25 '40

Commercial policy

Import license control established over a wide range of products in British India. Comm Rep p500 Je 1 '40
Tariffs and trade controls. For Comm W 1:203 N 2 '40

Economic conditions

Business activity in the final quarter of 1939. Comm Rep p276 Mr 23 '40
Economic position. For Comm W 1:107-8 O 19 '40
Higher commodity prices benefiting agricultural India. D. C. Bliss. Comm Rep p556-7 Je 22 '40
India in 1939. Economist 138:sup22-3 F 17 '40
India's wartime position. D. C Bliss. Comm Rep p1226 D 30 '39

Politics and government

Dangers of communalism. Economist 138:411-12 Mr 9 '40
India and the war. Economist 137:330 D 2 '39

INDIANA
See also
Retail trade—Indiana

INDIANA academy of science
Annual meeting, 55th, Terre Haute, Nov. 9-11. Science 90:593-4 D 22 '39

INDIANA associated telephone corporation
$3,400,000 bonds offered. Comm & Fin Chr 150: 1280 F 24 '40

INDIANAPOLIS
Follow-up telemetering system. diags Electronics 13:47-8+ S '40

Architecture

Indianapolis citizens vote Coliseum outstanding building. il map Arch Rec 87:14, 16 Ap '40
Rigid arch frame spans 250-ft. arena; Indianapolis Coliseum designed for quick conversion from ice rink to livestock pavilion to convention hall. il Arch Rec 88:47 Jl '40

Rapid transit

Modern equipment helps meet emergency conditions; Indianapolis railways. C. W. Chase. il Transit J 84:314-16 S '40
Operating results, small buses vs. cars and trolley coaches; comparison of four years operation in Buffalo and Indianapolis. il Mass Transportation 36:168-70 Ag '40

Sewerage

Indianapolis sewage plant needs enlargement. Eng N 125:358 S 12 '40

Water supply

Blue Ridge tank of Indianapolis. M. Hamilton. il Water Works & Sewerage 86:431-4 N '39
Super-chlorination; break-point and effects of components of natural waters; also report on cupri-chloramination process. C. K. Calvert. bibliog Water Works & Sewerage 87: 299-303 Jl '40
Treatment with copper sulfate, chlorine and ammonia. C. K. Calvert. bibliog Am Water Works Assn J 32:1155-64 Jl '40

INDIANAPOLIS power and light company
Bonds offered. Comm & Fin Chr 151:246-7 Jl 13 '40
Common stock offered. Comm & Fin Chr 150: 2256-7 Ap 6 '40

INDIANS
Economic and social problems of North and South American Indians. Science 91:sup10+ My 10 '40
What is a pre-Amerindian? W. D. Strong. bibliog Science 91:594-6 Je 21 '40

INDIANS (of India) in British Malaya
Indian labour in Ceylon, Fiji, and British Malaya. bibliog Int Labour R 42:57-76 Jl '40

INDIANS (of India) in Ceylon
Indian labour in Ceylon, Fiji, and British Malaya. bibliog Int Labour R 42:57-76 Jl '40

INDIANS of Mexico
Costumes and textiles of the Aztec Indians of the Cuetzalán region, Puebla, Mexico. D. B. Cordry and D. M. Cordry. 60p pa $1 Southwest museum, Highland park, Los Angeles '40
Indian in Mexico. R. Redfield. bibliog Ann Am Acad 208:132-43 Mr '40

INDIANS of North America
Cultural and natural areas of native North America. A. L. Kroeber. 28 maps Univ of Calif Pub in American Archaeology and Ethnology v 38:1-242 '39 ($3.50; pa $3)
Indians of the United States; four centuries of their history and culture. C. Wissler. 319p bibliog(p298) $3.75 Doubleday '40
Population trends among the California Mission Indians. S. F. Cook. 48p pa 50c Univ. of California press, Berkeley '40
See also
Iroquois Indians

Antiquities

Banner-stones of the North American Indian. B. W. Knoblock. 596p bibliog(p577-9) buck $12; ltd de luxe ed $25 Byron W. Knoblock, 325 S. Edgewood st, La Grange, Ill. '39
Essays in historical anthropology of North America. il diags maps plans Smithsonian Misc Coll v 100:1-600 bibliog(p593-600) pl 1-16 pa $2 '40
Two sites on Martha's Vineyard. D. S. Byers and F. Johnson. 104p bibliog(p103-4) pa $1 Robert S. Peabody foundation for archaeology, Phillips academy, Andover, Mass. '40
Was the American mano and metate an invention made during pleistocene time? C. N. Ray. Science 91:190 F 23 '40

Pictorial works

As long as the grass shall grow, photographs by Helen M. Post. O. La Farge. 140p $2.50 Longmans '40

Pottery

Black pottery of Coyotepec. Oaxaca, Mexico. P. Van de Velde and H. R. Van de Velde. 43p pa 75c Southwest museum, Highland park, Los Angeles '39

INDICATION of origin. See Origin, Indication of

INDICATOR diagrams
Design of high speed, two-stroke engines; construction of a theoretical diagram. S. Treves. diags Automotive Ind 83:163-7 Ag 15 '40
Engine combustion and pressure development. G. W. Rassweiler, L. Withrow and W. Cornelius. il S A E J 46:25-48 Ja '40

INDICATORS
Indicators and recorders; their purpose and service. C. H. Butcher. Chem Age (Lond) 43:143-4 S 28 '40
Methods of measurement; dial indicators for shop use. C. C. Street. il diags Am Mach 84:656-7, 700-1, 748-50 S 4-O 2 '40
See also
Flow indicators
Water level indicators

INDICATORS (for gas and oil engines)
Admiralty cathode ray oscillograph engine indicator. F. D. Smith, E. H. Lakey and H. Morgan. diags Inst Mech Eng J & Proc 143:Proc 39-47, pl 1-5 Ap '40; Discussion. 143:Proc 279-87 S '40
Basic principles in the design of cathode ray oscillograph engine indicators. F. D. Smith. bibliog diags Inst Mech Eng J & Proc 143:Proc 48-56 Ap '40; Discussion. 143:Proc 279-87 S '40
Condenser type high speed engine indicator. L. C. Roess. bibliog il diags R Sci Instr 11: 183-95 Je '40

INDICATORS (for gas and oil engines)—*Cont.*
Valuation and tests of electrical engine-indicators. F. Lichtenberger. il diags Automotive Ind 82:368-75; Discussion. Fried and H. J. Schrader. 375 Ap 15 '40

See also
Recording instruments

INDICATORS (for steam engines)
How to indicate a steam engine; illustrations with explanatory text. Power 84:533-4 Ag '40
Measurement of cylinder power of high-speed steam locomotives. L. K. Botteron. Engineering 150:285-6 O 11 '40
Steam-engine indicator adapted to record differential pressure. W. B. Hess. il Instruments 13:211 Ag '40

INDICATORS and test papers
Indicator properties of 8-hydroxyquinoline-5-sulfonic acid and its derivatives. H. B. Feldman and A. L. Powell. bibliog Am Chem Soc J 62:3107-9 N '40
Ionization constants of acid-base indicators in ethanol. L. S. Guss and I. M. Kolthoff. Am Chem Soc J 62:249-51 F '40
Phenolphthalein and methyl orange. C. A. Peters and B. C. Redmon. bibliog J Chem Educ 17:525-8 N '40
Polar structure of some benzein indicators. M. A. Elliott and S. F. Acree. bibliog J Research Nat Bur Stand 23:675-81 D '39
Stable 2,6-dichlorobenzenoneindophenol solutions. I. Stone. bibliog Ind & Eng Chem Anal ed 12:415 Jl 15 '40

See also
Colorimetric analysis
Sulfonphthaleins
Uranin

INDIGO
Benzoyl derivatives of indigo; abstract. H. de Diesbach, O. Jacobi and C. Taddei. Soc Dyers & Col J 56:365-6 Ag '40
Dyeing cotton, linen and wool goods with indigo. diags Textile Col 62:101-3, 194-6, 304-6 F-Mr. My '40

INDIGO carmine
Adsorption at the interface between two fluids; the adsorption of five dyes at a mercury-water interface. C. W. Gibby and C. Argument. diag Chem Soc J p596-600 My '40

INDIGOSOLS
Improved indigosol dyeing process. Textile Col 62:40-1 Ja '40
Vat dye progress. A. J. Hall. Am Dyestuff Rep 29:58-60, 68-71 F 5 '40

INDIUM
Contributions to the chemistry of indium; indium oxalate and oxalatoindates. T. Moeller. bibliog Am Chem Soc J 62:2444-6 S '40
Electrodeposition of indium from sulfate baths. C. G. Fink and R. H. Lester. bibliog diag Electrochem Soc Trans 78 (preprint 14):179-202 O '40
Indium; production and uses. H. B. Linford. Ind & Eng Chem News ed 18:624 Jl 25 '40
Radiations from radioactive indium (116). B. R. Curtis and J. R. Richardson. bibliog Phys R 57:1121-4 Je 15 '40
Radioactive isotopes of indium. J. L. Lawson and J. M. Cork. bibliog Phys R 57: 982-94 Je 1 '40
Radioactive isotopes of indium from alpha-bombardment of silver. L. D. P. King and W. J. Henderson. Phys R 56:1169 D 1 '39
Resonance levels of rhodium and indium. J. Hornbostel, H. H. Goldsmith and J. H. Manley. bibliog Phys R 58:18-23 Jl 1 '40

Analysis

Determination of indium by micromethods. G. L. Royer. bibliog Ind & Eng Chem Anal ed 12:439-40 Jl 15 '40

INDIUM oxalate
Contributions to the chemistry of indium; indium oxalate and oxalatoindates. T. Moeller. bibliog Am Chem Soc J 62:2444-6 S '40

INDIUM plating
Electrodeposition of indium from sulfate baths. C. G. Fink and R. H. Lester. bibliog diag Electrochem Soc Trans 78 (preprint 14):179-202 O '40

INDIUM sulfate
Electrodeposition of indium from sulfate baths. C. G. Fink and R. H. Lester. bibliog diag Electrochem Soc Trans 78 (preprint 14):179-202 O '40

INDIUM triphenyl
Triphenylindium. H. Gilman and R. G. Jones. bibliog Am Chem Soc J 62:2353-7 S '40

INDIVIDUALISM
Fortune survey; American is an entrepreneur. Fortune 21:20+ F '40

INDO-CHINA, French
Economic resources of French Indochina. Comm Rep p801-2 S 21 '40
In the wake of a traveling engineer. J. C. Cosgrove. il map(p58) Explosives Eng 18: 59-61 F '40
Indo-China thrust alarms U.S. Business Week p59-60 S 28 '40

See also Labor laws and legislation—Indo-China, French

INDOLE
Action of nitric acid on polycyclic indole derivatives; indeno(2' : 3' : 2 : 3)indole. N. M. Beyts and S. G. P. Plant. Chem Soc J p1534-6 O '39
Presence of indole in practical α-methylnaphthalene. M. S. Kharasch, S. S. Kane and H. C. Brown. Am Chem Soc J 62:2242-3 Ag '40
Structural problems in the indole group; an alternative method for determining the structure of nitro-compounds. S. G. P. Plant and W. D. Whitaker. Chem Soc J p283-6 Mr '40
Syntheses in the indole series; synthesis of indolyl-3-glyoxylic acid and of r-3-indolylglycine. J. W. Baker. Chem Soc J p458-60 Ap '40

Analysis

Quantitative determination of indole; modification of Ehrlich's reaction. L. H. Chernoff. bibliog Ind & Eng Chem Anal ed 12:273-4 My 15 '40

INDORSEMENT

See also
Checks—Indorsement

INDUCTANCE
A. c. magnet coils; reference book sheet. G. L. Moses. Product Eng 11:97-8 F '40
Dual bridge for the measurement of self inductance in terms of resistance and time. H. L. Curtis and L. W. Hartman. diags J Research Nat Bur Stand 25:1-13 Jl '40
Effective inductance and resistance of screened coils. A. G. Bogle. diags Inst E E J 87:299-316 S '40
Inductance of hollow rectangular conductors. T. J. Higgins. Franklin Inst J 230:375-80 S '40
Measurement of incremental inductance. H. D. Short. diags Electronics 13:32+ Ja '40
Self-induction. A. O'Rahilly. diags Inst E E J 86:179-87 F '40
Shunt-peaking compensation; graphical method of determining shunt inductance in plate circuit of wide-band video amplifier; reference sheet. W. H. Freeman. diag Electronics 13:35-6 Ja '40

See also
Mutual inductance

INDUCTANCE coils
Compressed powdered molybdenum permalloy for high quality inductance coils. V. E. Legg and F. J. Given. bibliog il Bell System Tech J 19:385-406 Jl '40; Same cond. Metal Prog 38:284+ S '40
Effective inductance and resistance of screened coils. A. G. Bogle. diags Inst E E J 87:299-316 S '40
Electrical stability of tubular inductance coils with deposited conductors. H. A. Thomas. Inst E E J 86:471-2 My '40

INDUCTANCE coils—*Continued*
Short wave inductance chart. F. C. Everett. Electronics 13:33 Mr '40

See also
Mutual inductance

INDUCTION motors. See Electric motors, Induction

INDUSTRIAL accident boards and commissions, International association of. See International association of industrial accident boards and commissions

INDUSTRIAL accidents. See Accidents, Industrial

INDUSTRIAL advertising. See Advertising—Industries, Appeal to

INDUSTRIAL alcohol institute
Plea for industrial alcohol in valedictory bulletin of Institute. J. P. McGovern. Oil Paint & Drug Rep 137:5 Ja 1 '40

INDUSTRIAL arts
Exploring the arts and industries. W. R. Williams, jr. 275p $1.60 International textbook co, Scranton, Pa. '40
Henley's Twentieth century book of formulas, processes and trade secrets. G. D. Hiscox, ed. 1940 rev & enl ed 857p, 25p $4 Henley '40

See also
Agriculture
Architecture
Building
Business
Chemical engineering
Chemistry, Technical
Commerce
Design
Dyes and dyeing
Electric engineering
Engineering
Factories
Foundry practice
Glass manufacture
Industry
Inventions
Machine shop practice
Machine shops
Machinery
Machinery in industry
Manufactures
Masonry
Mechanical engineering
Metal work
Metallurgy
Painting, Industrial
Paper making
Patents
Photography
Plumbing
Pottery
Printing
Production
Rubber
Shipbuilding
Soap
Technical education
Technology
Textile industry
Waste products
Weaving

Biography

Stories of great craftsmen. S. H. Glenister. 235p 5s; school ed 2s 9d G. G. Harrap & co, London '39

History

Exploring the arts and industries. W. R. Williams, jr. 275p $1.60 International textbook co, Scranton, Pa. '40
New Wonder book of knowledge. H. C. Hill, comp. 600p $1.89 John C. Winston co, Philadelphia '40

Study and teaching

Teaching problems in industrial arts. E. E. Ericson. rev ed 433p $2.75 Manual arts press '40

INDUSTRIAL bridges. See Bridges, Industrial

INDUSTRIAL buildings
Bird's-eye planning: new factor in industrial building design? protection against air raids. il diags plans Arch Rec 88:74-9+ S '40
Building costs are not comparable on a square foot basis. C. A. Haynes. Power Pl Eng 44:130+ Ja '40
Design decade. il Arch Forum 73:222-31 O '40
General electric institute, Bridgeport, Conn.; building intended primarily for use of visitors to the company's plant; views, plans and construction outline. Arch Forum 72:360-2 My '40
Industrial plant buildings; sixth annual special section. il diags plan Factory Management 98:B35-B66+ Ap '40
Pre-fabricated buildings; 20 panel-type utility structures and buildings at Irvin works of Carnegie-Illinois steel corp. il Steel 106:44-5 Ja 15 '40
Prefabricated steel panel system for industrial buildings; Lindsay structure. il diags Am Bld 62:110+ Ap '40
Shop-built all-steel utility buildings at new Irwin works of Carnegie-Illinois steel corporation, Pittsburgh. il diags Am Bld 62: 64-5+ My '40
Small commercial structure in Seattle is designed for all-wood construction; modern treatment of sales and warehouse building. il diags plan Am Bld 62:74-5 Je '40

See also
Automobile factories
Bottling plants
Chemical plants
Concrete construction
Factories
Foundries
Laundries
Machine shops
Metallurgical plants
Petroleum refineries
Printing offices
Warehouses

INDUSTRIAL chemistry. See Chemical industries—United States; Chemistry, Technical

INDUSTRIAL cooperation
York rates a star on defense map; city industrialists work together, sharing machinery and dividing business. Business Week p16+ S 28 '40

INDUSTRIAL councils
Conditions of employment; Joint industrial council decisions enforceable. A. H. Banks. Elec R (Lond) 127:168-9 Ag 30 '40

INDUSTRIAL design. See Design

INDUSTRIAL diamonds. See Diamonds, Industrial

INDUSTRIAL diseases. See Diseases, Industrial

INDUSTRIAL editors, American association of. See American association of industrial editors

INDUSTRIAL education
America trains her industrial army; accounts of seven successful company programs. il Factory Management 98:42-8 N '40; Excerpt. Management R 29:399-400 N '40
Apprenticeship; a necessary investment for the future. W. F. Patterson. il Dun's R 48: 5-8 Je '40
Breaking the labor bottlenecks; programs to up-grade or refresh existing skills and apprentice training. Business Week p30+ S 28 '40
Labor army marshaled for defense. il Business Week p45-8 Je 22 '40
Labor's approach to job training; International printing pressmen and assistants' union. P. L. Garman. Personnel J 18:358-64 Ap '40
Tool operator-training program to ease skilled labor shortage. C. S. Stilwell. Steel 106:22 Mr 25 '40
Training for better jobs; training school in Canton division of Champion paper and fibre company. G. W. Phillips. il Paper Ind 22:43+ Ap '40
Training for industry featured at tool engineers meeting. Iron Age 146:41-3 O 24 '40

See also
Apprentices
Employees, Training of
Engineering education
Foremen—Training
Salesmen—Training
Salesmen, Retail—Training
School shops
Technical education
Textile education
Trade schools
Trade unions—Educational work
Vocational education

Cooperative plan

Helping schools help industry. W. W. Whipp. il Am Mach 84:493-4 Jl 10 '40
Joins school and mill training; cooperative course at Georgia Tech. J. E. McDaniel. il Textile World 90:50 Mr '40
Quick-action, Yankee plan gets results in call for skilled workers; Connecticut job-training program. B. K. Price. il Steel 107: 21-3 Ag 19 '40; Abstract. Management R 29:366-7 O '40
So that the brick industry has men to lay its product; Structural clay products institute training program. il Brick & Clay Rec 96:35-6 F '40

INDUSTRIAL education—Cooperative plan— *Continued*

Tool engineers develop training plan to alleviate labor shortage. Steel 107:40 N 4 '40

Training people for factory work; how Cleveland, with cooperation of industry, school authorities, and government agencies, is training learners. J. W. Vanden Bosch. il Factory Management 98:54-60 S '40

Training schoolboy recruits; cooperative system, Cole trade school. R. Parkinson. il Factory Management 98:67-8 My '40

Great Britain

English training program; South east London technical institute, London, England. G. A. Robinson. Personnel J 18:245-8 Ja '40

Future of technical training and the cotton industry. J. Read. Textile Inst J 31:P47-50 Ap '40

Government training centres. il plans Engineer 169:393-4, 398, 470-1, 476; 170:2-4 Ap 26, My 24, Jl 5 '40

Training unemployed for armament industries. J. S. Trevor. il Iron Age 146:53-6 O 10 '40

INDUSTRIAL engineering

Chemical engineering and industry. C. M. A. Stine. Am Inst Chem Eng Trans 36:417-32 Je '40; Same. Chem Ind 46:699-704 Je '40

Economics for industrial engineers. G. D. Wilkinson, jr. Advanced Management 5:116-19+ Jl-S '40

Engineer and labor. E. A. Holbrook. Civil Eng 10:613-14 O '40

Engineering administration in a small manufacturing company. C. T. Burke. Inst Radio Eng Proc 28:17-22 Ja '40

Engineering and construction for pulp and paper mills. H. K. Ferguson and G. W. Dodge. Paper Tr J 111:15-16+ O 3 '40

Leistungssteigerung in betrieben durch grosszahlforschung. E. Franke. V D I 83:1179-83 N 4 '39

Principles of industrial organization. D. S. Kimball and D. S. Kimball, jr. 5th ed 478p $4 McGraw-Hill '39

To start methods study, sell it. L. S. Whitson. il Factory Management 98:55-6+ Jl '40

What belongs in the methods study program. L. S. Whitson. il diags Factory Management 98:50-2 S '40

See also

Chemical engineering
Factories—Maintenance and repair
Industrial management
Motion study
Power plants
Time study

Study and teaching

Administrative training for the chemical engineer. E. S. Byng. Inst Chem Eng Trans 17:109-18; Discussion, 118-28 '39

Training engineers to handle men. M. H. Clark. J Eng Educ 30:855-9 Je '40

INDUSTRIAL engineers

Reports

Industrial surveys and reports. W. Rautenstrauch. 189p bibliog(p184-5) $2.50 Wiley '40

INDUSTRIAL heating. See Heating, Industrial

INDUSTRIAL hospitals. See Hospitals, Industrial

INDUSTRIAL hygiene. See Hygiene, Industrial

INDUSTRIAL hygiene association, American. See American industrial hygiene association

INDUSTRIAL insurance. See Insurance, Industrial

INDUSTRIAL insurers conference

Annual convention, 31st, Jacksonville, Fla. Ins Field (Life ed) 69:5 My 17; 8-10 My 24 '40; Nat Underw (Life ed) 44:1+ My 18; 1+ My 24 '40

Semi-annual session held in Atlanta. Nat Underw (Life ed) 44:19 O 4 '40

Semi-annual session of the executive committee. Weekly Underw 143:930 O 19 '40

INDUSTRIAL laws and legislation

Defense rewrites the laws. Business Week p23-4+ N 9 '40

See also

Competition, Unfair
Factory laws and legislation
Labor laws and legislation
Patent laws and legislation
Trade marks—Law

Spain

New Spanish law for the regulation and defense of industry. R. M. Scotten. Compar Law Ser 3:355-63 Jl '40

Regulations of new industries in Spain. R. H. Ackerman. Compar Law Ser 3:27-34 Ja '40

INDUSTRIAL libraries. See Technical libraries

INDUSTRIAL lighting. See Factories—Lighting; Lighting, Industrial

INDUSTRIAL management

Depressions challenge management. J. R. Weaver. Iron Age 145:112-13+ Ja 4 '40

Economic effects of cost reductions; impact of technological change upon labor; efficiencies and improvements from joint management-union research of production problems. C. S. Golden. Advanced Management 5:104-9 Jl-S '40

Engineering approach to management. H. A. Hope. Management R 29:207-8 Je '40

Engineering reorganization. J. J. Gillespie. 268p $4 Pitman '40

Industrial management. R. H. Lansburgh and W. R. Spriegel. 3d ed 666p bibliog(p647-56) $4.50 Wiley '40

Leadership and direction in industry. W. Ayre. Engineer 170:270 O 25 '40

Management planning in the federal government. B. L. Gladieux. Advanced Management 5:77-85 Ap-Je '40

Next decade in textiles; how to make money make more money. Textile World 90:96-110 F '40

Organized labor and production; next steps in industrial democracy. M. L. Cooke and P. Murray. 277p bibliog(p266-70) $2.50 Harper '40

Principles of industrial management for engineers. L. P. Alford. 531p $4.50 Ronald press '40

Principles of industrial organization. D. S. Kimball and D. S. Kimball, jr. 5th ed 478p $4 McGraw-Hill '39

Society for the advancement of management, meeting, Cleveland, April 11-12. Steel 106: 76-7 Ap 22 '40

Trends in cost reduction; methods engineering; human element; training. H. B. Maynard. Advanced Management 5:26-30 Ja-Mr '40

Vermilye medal; speech of acceptance. L. H. Brown. Franklin Inst J 228:773-9 D '39

See also

Bonus system
Budget, Business
Business management
Coal mines and mining—Management
Controllers
Efficiency, Industrial
Employees' representation in management
Employment management
Employment systems
Factory management
Foremen
Foundry management
Gas companies—Management
Gasoline service stations—Management
Hygiene, Industrial
Industrial engineering
Industrial relations
Inspection
Insurance, Business
Inventories
Iron works—Management
Job analysis
Machine shop management
Machinery, Replacement of
Mine management
Motion study
Motor trucks—Management
Office management
Organization in industry
Overhead expense
Planning
Purchasing
Railroads—Management
Rationalisation
Standardization
Time study
Traffic management, Industrial
Wage payment plans

INDUSTRIAL management—*Continued*

Bibliography

Management index; abstracts. Published in monthly numbers of Management review

Study and teaching

Development of the teaching of management to engineers. C. W. Lytle. J Eng Educ 30: 677-85 Ap '40

English training program; South east London technical institute, London, England. G. A. Robinson. Personnel J 18:245-8 Ja '40

Management and engineering education. W. E. Hotchkiss. Mech Eng 62:605-8 Ag '40; Discussion. 62:826-7 N '40

INDUSTRIAL market

Are your sales and promotion efforts geared to the rapid changes in industry; Aluminum corp. of America sales in the period ending last December, as compared with the last five years of the twenties; pictograph. Sales Management 46:42-3 My 15 '40

Barrel-rolling contest does a whopping job for Magnus chemical co., Garwood, N.J. il Sales Management 47:96-8 O 10 '40

Industrial marketing. R. T. Kent. Mech Eng 62:621-2 Ag '40

Market research in introducing new industrial products. R. L. Gibson. Mech Eng 62:217-18 Mr '40

Marketing movement in mechanical engineering. J. R. Bangs, jr. Mech Eng 62: 215-16 Mr '40

What motivates business buyers. D. J. Duncan. Harvard Business R 18 no 4:448-54 [Jl] '40

See also

Advertising—Industries, Appeal to Equipment industries

Railroads—Purchasing

INDUSTRIAL medicine. See Medical service, Industrial

INDUSTRIAL mobilization

American industry gets behind national defense. il Mach 47:109-40 N '40

American industry, the war and defense. il Factory Management 98:44-50 Je '40

Bank credit available for defense needs; commercial banks ready to loan $3,000,000,000. Fed Res Bul 26:1050-1 O '40

Banking's part in national defense; opportunities among minor industries. R. G. Smith. il Burroughs Clearing House 24:14-16 S '40

Business rushes to government's aid in preparedness crisis; contrast of present conditions with 1917. D. Wilhelm. Ptr Ink 192:11-14 Ag 16 '40

Canada's great defense program gaining momentum. C. M. Short. il Annalist 56:80-1 Jl 18 '40

City planner's responsibility in the preparedness program. J. R. Hartzog. il Civil Eng 10:142-4 Mr '40

Coming changes in production. H. W. Barclay. Management R 29:216-17 Je '40

Cooperation between government, labor, industry and public is prime requisite of defense production, says National association of manufacturers. Comm & Fin Chr 150:4059 Je 29 '40

Co-ordinated policy, price control advocated for mobilization plan. Steel 107:33 O 7 '40

Defense blueprints speeded up. il Business Week p17-18 Je 22 '40

Defense; is democracy up to it? W. R. Burgess. Inv Banking 10:6-9 O '40

Defense program remodels the economic system. E. B. George. il Dun's R 49:5-22+ O '40

Defense: results vs. expectations. Business Week p15-16 O 26 '40

Defense; what of its aftermath? M. Nadler. Inv Banking 10:10-13 O '40

Delays in production in Britain. Economist 139:92-3 Jl 20 '40

Drafted! both business and man power drawn on by conscription. H. L. Stephen. Ptr Ink 192:65-7 S 20 '40

Economic control in Japan; mobilisation of resources and industries. Int Labour R 40: 822-36 D '39

Emphasis on tanks, planes revises M-day plans for Detroit industry. il Iron Age 145: 80-2 Je 6 '40

Expansion of private business can prevent post-armament crash. M. Shields. Ptr Ink 193:9-12, 72-7 O 11 '40

Financial statesmanship; the banks and industrial mobilization. A. W. Atwood. il Banking 33:25-7 Ag '40

Financing the national defense program. W. R. Burgess. Comm & Fin Chr 151:30-3 sec 2 O 12 '40; Same abr. Bankers M 141:386-90 N '40

Fortune forum of executive opinion. Fortune 22:73+ S '40

Gearing a business for national defense. M. Bower. Harvard Business R 19 no 1:66-71 [S] '40; Excerpts. Management R 29:353-5 O '40

Government's priority organisation. Engineer 169:422-3 My 3 '40

How big a job is national defense? C. J. Stillwell. il Iron Age 146:25-7 O 24 '40

How industries would shift from peace to war. Business Week p23 Je 1 '40

How not to win a war; 1917-18 mistakes in production. L. F. Hellmann. Nation's Business 28:21-2+ Ag '40

How U.S. army prepares industrially; educational orders program well under way. L. C. Duncan. Barron's 20:18 Ap 22 '40

How U.S. pays for defense plants. Business Week p16-17 O 5 '40

Industrial mobilization; business reserves and the flow of money into war preparations, by J. W. Lewis as told to H. M. Hitchcock. Trusts & Estates 71:147-50 Ag '40

Industrial mobilization; if war comes. A. H. Hooker, jr. Chem Ind 46:572-4 My '40

Industrial problems of defense; obstacles in the way of real trade boom before 1941. L. C. Duncan. Barron's 20:3 My 27 '40

Industry can do the job if; industrial resources pledged to revitalization of defense program. Steel 106:21-2 Je 3 '40

Industry gets educated; printing press manufacturer gets order for anti-aircraft gun parts. il Am Mach 84:409-12 Je 12 '40

Investor's stake in peace. H. D. Steinmetz. Mag of Wall St 65:207-9+ D 2 '39

Knudsen, Sloan and others speak on mobilizing Americas economic strength. Comm & Fin Chr 151:2287-8 O 19 '40

Labor army marshaled for defense. il Business Week p45-8 Je 22 '40

Labor weighs its patriotism. C. M. Wright. il Nation's Business 28:15-16+ N '40

La limitation des bénéfices des entreprises industrielles et commerciales. Génie Civil 116:166-70 Mr 9 '40

M-day and the business man. L. M. Cherne. Trusts & Estates 71:184-5 Ag '40

M day; and what it means to you. L. M. Cherne. 103p pa $1 Simon & Schuster, New York '40

M-day and your bank. A. P. Woolfson. Bankers M 141:192-6 S '40

M day; banking and finance. A. P. Woolfson. 116p pa $2.50 Brady pub. corp, 465 Main st, Cambridge, Mass. '40

M-day; if war comes, what your government plans for you. D. E. Keyhoe. 96p pa $1 Dutton '40

Machine tool industry in high; manufacturers buckle down to defense job. Business Week p27+ Je 15 '40

Management problems of mobilization. L. M. Cherne. Advanced Management 5:120-4 Jl-S '40

Manpower and Mr Hillman; load of national defense being adjusted to make best use of available skills and to absorb the unemployed. il Fortune 22:66-70+ N '40

Manual of arms for business. H. M. Bratter. il Nation's Business 27:15-18+ D '39

Mr Knudsen goes to Washington; Mr Stettinius, too. Factory Management 98:46-9 Jl '40

Mobilizing America's economic strength. Inv Banking 10:26-30 N '40

Mobilizing civilian America. P. W. Bidwell. Trusts & Estates 71:178-9 Ag '40

INDUSTRIAL mobilization—*Continued*
Mobilizing civilian America. H. J. Tobin and P. W. Bidwell. 276p bibliog(p259-68) $2.75 Council on foreign relations, 45 E. 65th st, New York '40
Mobilizing sub-contracting facilities; experience of the Connecticut aeronautical development commission. H. L. Williams. Aviation 39:50-1+ Ag '40
Must industry be conscripted? J. C. Cresswill. il Mag of Wall St 66:563-5+ Ag 24 '40
National defense policies. Monthly Labor R 51:564-71 S '40
National defense: the sinews. il maps Fortune 22:52-8+ O '40
National industrial conference board finds 40% of durable goods production can be diverted to defense needs. Comm & Fin Chr 151:2288 O 19 '40
Navy's emergency bill founders. Business Week p17 Ja 13 '40
Organisation of employment in Japan to meet wartime requirements. T. Ogishima. Int Labour R 41:134-51 F '40
Our chemical industry in the next war. C. S. Robinson. Am Inst Chem Eng Trans 35:789-96 D '39; Same. Chem & Met Eng 46:754-6+ D '39
Production aspects of the national defense program. A. P. Sloan, jr. Automotive Ind 83:95-6+ Ag 1 '40
U.S. can prepare without scrapping its economic system. R. S. Desvernine. Ptr Ink 192:19-21, 140-1 S 27 '40; Excerpts. Comm & Fin Chr 151:1823-4 S 28 '40
War industries board, 1917-18. J. L. Tyson. Fortune 22:supp 1-16 S '40
Wartime regimentation creating many new problems for Canadian businessmen. W. A. McKague. Annalist 54:758 D 14 '39
Washington: both sides of the curtain; effects of U.S. attempt to match Hitler's efficiency. E. Blair. Barron's 20:4 My 27 '40
What's holding up defense? Business Week p15-17 Ag 31 '40
Where to spend 10 billion defense dollars; geographical placing of orders. A. W. Atwood. Banking 33:30-1+ N '40
Will compromise plant draft; Burke-Wadsworth bill. Business Week p15-16 S 7 '40
York rates a star on defense map; city industrialists work together, sharing machinery and dividing business. Business Week p16+ S 28 '40
See also
Priorities, Industrial

INDUSTRIAL museums
This museum sells industry; Worcester pressed steel company's industrial museum, Worcester, Mass. il Am Business 10:19 Mr '40
See also Museum of science and industry, Chicago

INDUSTRIAL office buildings. See Office buildings, Industrial

INDUSTRIAL pensions. See Pensions, Industrial

INDUSTRIAL poisons. See Poisons, Industrial

INDUSTRIAL priorities. See Priorities, Industrial

INDUSTRIAL psychology. See Psychology, Industrial

INDUSTRIAL rayon corporation
First 4½s at new high. Barron's 19:19 D 18 '39
Income account for calendar years 1936-39. Comm & Fin Chr 150:997 F 10 '40

INDUSTRIAL relations
Addresses on industrial relations, 1940. 121p Bur. of industrial relations, Univ. of Mich, Ann Arbor '40
Advising on relations; Chicago group headed by former Sears official will offer labor service on retainer basis. Business Week p28 D 23 '39
Americans first! appeal to business men, labor unions and politicians to quit name-calling. P. G. Hoffman. Ptr Ink 193:15-18 O 4 '40; Excerpts. Comm & Fin Chr 151:1981 O 5 '40
Collaboration between public authorities and organizations of workers and employers. Monthly Labor R 51:613-21 S '40
Collective bargaining, by employers; San Francisco employers' council report to executives. il Business Week p39-46 O 26 '40
Collective bargaining here to stay; abstract. W. L. Batt. S A E J 46:sup 18-20 F '40
College in a factory; labor relations studied in Oakland plant of the Paraffine companies, San Francisco. il Business Week p37-8 Mr 16 '40
Company and community relations. C. S. Slocombe. Personnel J 18:203-10 D '39
Conference on contemporary problems in labor law and relations, proceedings, January 12-14, 1940, Washington, D.C. 177 l pa $1.25 National lawyers guild, 1653 Pennsylvania av, N.W. Washington, D.C. '40
Development of a sound public relations program in industry; American rolling mill company. C. H. Murray. Advanced Management 5:98-103 Jl-S '40
Economic factors affecting industrial relations policy in the war period. S. H. Slichter. 32p pa $1 Industrial relations counselors, New York '39
Employee's viewpoint toward personnel industrial relations and training; proceedings of the Industrial personnel institute held at Purdue university, June 21-24, 1939. J. E. Walters and R. J. Greenly, eds. Purdue Univ Eng Extension Dept, Extension Ser 45:1-109 '39
Evolution of management attitudes as applied to the employe, the customer, the stockholder, to government and the public. C. C. Conway. Advanced Management 4 no5:141-4 '39
Fortune survey; boss and worker hand in hand; or are interests by nature, opposed. Fortune 21:133 F '40
Fortune survey; the employers' fairness as to hours, wages, working conditions, promotions, collective bargaining. Fortune 21: 59-60 Je '40
Fruits of industrial peace; union-management cooperation in steel mills. H. J. Ruttenberg. Harvard Business R 18 no 3:285-94 [Ap] '40
Has TVA been fair to labor? J. King. Pub Util 25:492-4 Ap 11 '40
Hidden labor costs; opposition to socially desirable legislation and failure to take advantage of their benefits. E. F. Andrews. Dun's R 48:5-8 F '40
How industry, labor, and government can help America. il Factory Management 98: A28-A44 Ag '40
Human relations in business. Published in monthly numbers of American business
Industrial conflict: a psychological interpretation. G. W. Hartmann and T. Newcomb, eds. 583p $2.75 Cordon co, 225 Lafayette st, New York '40
Industrial disputes and federal legislation; with special reference to the railroad, coal, steel and automobile industries in the U.S. since 1900. T. R. Fisher. 370p bibliog(p357-61) $4.75 Columbia univ. press '40
Industrial-relations machinery in democratic foreign countries. M. H. Schoenfeld. Monthly Labor R 49:1050-74 N '39
Industry and advocacy. A. Crawford. Textile Inst J 30:P447-9 D '39
Labor problems. G. S. Watkins and P. A. Dodd. 3d ed 1128p $3.75 Crowell '40
Management and government. W. L. Batt. Management R 29:198-204 Je '40
Management and organized labor; dialog. M. L. Cooke and P. Murray. Advanced Management 5:31-7 Ja-Mr '40
Management prerogatives. H. B. Bergen. Harvard Business R 18 no 3:275-84 [Ap] '40
Manufacturers association gets labor relations plan. Oil Paint & Drug Rep 136:3 N 27 '39
My one-man poll of worker opinion. W. Williams. Factory Management 97:36-8+ D '39
Out of the red; industrial relations plan of Scott-McHale shoe co. of London, Can. H. F. Unger. Manuf Rec 109:52 F '40

INDUSTRIAL relations—*Continued*

Racine finds peace; goodwill campaign, unifying labor and management. Business Week p37 My 18 '40

Social responsibility of management five years hence; worker's point of view. L. Meltzer. Advanced Management 5:129+ Jl 8 '40

Study in management prerogatives; Hart Schaffner & Marx and the C.I.O. M. Kestnbaum. Harvard Business R 19 no 1: 88-98 [S] '40

Symposium on industrial relations; a review of certain problems in business management and executive leadership. 88p bibliog (p87-8) pa $1 Junior chamber of commerce, 523 Lemcke bldg, Indianapolis '40

Why can't they get together? views of employee, employer, and commentator. Am Business 10:29 Ag '40

Why Endicott-Johnson employees voted six to one against the unions; with excerpts from statements made twenty years ago by George F. Johnson. il Am Business 10:18-19+ F '40

See also

Arbitration, Industrial
Associated farmers of the Pacific coast
Building trades—Labor conditions
Coal miners
Collective bargaining
Company unions
Employees
Employees, Reports to
Employees' ownership
Employees' representation in management
Employment management
Industrial management
Labor and laboring classes
Labor disputes
Layoff systems
National labor relations board
Open and closed shop
Profit sharing
Safety devices and measures
Strikes
Trade agreements
Trade unions
Unemployment
Wage payment plans
Welfare work in industry

Bibliography

Industrial relations in wartime: Great Britain, 1914-1918; annotated bibliography of materials in the Hoover library on war, revolution, and peace. W. Chamberlin, comp. 239p $3 Stanford univ. press '40

INDUSTRIAL relations counselors

Filing defense material. L. H. Morley. Special Lib 31:362-3 O '40

INDUSTRIAL research

Business wants these things invented. Adv & Sell 33:40+ N '40

Chemistry adds new tricks in 1939. H. E. Howe. il Nation's Business 28:20-2+ F '40

Cooperative welding research. C. A. Adams. Metal Prog 38:484-5 O '40

Executive and the technologist. E. C. Williams. Ind & Eng Chem News ed 18:191-4 Mr 10 '40; Same. Chem Ind 46:297+ Mr '40; Excerpts. Chem & Met Eng 47:157-9 Mr '40; Chem & Ind 59:436-8 Je 22 '40

Executive and the technologist; a proper understanding between them. W. B. Bell. Ind & Eng Chem News ed 18:185-90 Mr 10 '40; Same. Chem Ind 46:296+ Mr '40; Abstract. Chem & Met Eng 47:156-7 Mr '40

Fifth annual modern plastics competition, the presentation dinner; address. C. F. Kettering. Mod Plastics 18:40-1, 94+ N '40

Futurama; copy writers, years hence will be writing about more than 1,000 new products and materials. E. Peterson. Ptr Ink 193:69-70 N 8 '40

How laboratory tests spark copy ideas. J. Thompson. il Adv & Sell 33:19-21+ Ap '40

Industrial research. il Manuf Rec 109:35+ Mr '40

Industrial research and changing technology. G. Perazich and P. M. Field. 81p Work projects administration, Washington, D.C. '40; Review. Franklin Inst J 229:518 Ap '40

Industrial research in educational institutions; survey by Association of consulting chemists and chemical engineers, Inc. Ind & Eng Chem News ed 18:847-9 O 10 '40

Industrial research in India. Chem Age (Lond) 42:116 F 24 '40; Same cond. Ind & Eng Chem News ed 18:362-3 Ap 25 '40

Industrial research in 1939. W. A. Hamor. il Ind & Eng Chem News ed 18:1-13, 49-58 Ja 10-25 '40

Industrial research in your own business. L. W. Waters. il Dun's R 48:5-7+ S '40; Same. Ind & Eng Chem News ed 18:1001-2 N 25 '40

Industrial research; its functions and its demands. W. J. Baeza. Chem Ind 47:140-2 Ag '40

Industrial research progress at Armour research foundation 1939-40. il Ind & Eng Chem News ed 18:933-40 N 10 '40

Industry's challenge to research; new products, processes or materials that research might develop. Ind & Eng Chem News ed 18:887-9, 954-6 O 25-N 10 '40 (to be cont)

Inventors challenged; bank's research service finds out what manufacturers would like to have developed. Business Week p37 O 26 '40

Let science pick the growth issues; number of researchers employed by firms used as criterion. J. V. Sherman. Barron's 20:3 S 2 '40; Same cond. Management R 29:390-2 N '40

More new industries needed. C. F. Kettering. Manuf Rec 109:22-3 Ag '40

National industrial council begins survey of inventive America. Comm & Fin Chr 151:931 Ag 17 '40

New uses for old materials; how modern research has improved glass, paper and rubber. J. V. Sherman. Barron's 20:13 Je 10 '40

News: TVA aids private business; vast experimental empire, dedicated to economic reconstruction of the South. il Business Week p26+ My 25 '40

Organizing research for profit. T. M. Rector. il Food Ind 12:29-31+ N '40

Les possibilités d'organisation collective des recherches industrielles, sur le plan professionnel. Génie Civil 116:33-4 Ja 13 '40

Practical applications of research. E. S. Lee. Power Pl Eng 44:104+ Ag '40

Pure and applied science research at Mellon institute, 1939-40. W. A. Hamor. Science 91:407-10 Ap 26 '40

Pure research as an aid to industrial progress. L. W. Bass. il Chem Ind 47:18-20 Jl '40

Research determines industrial progress; the executive and the technologist. W. B. Bell and E. C. Williams. Oil Paint & Drug Rep 137:5+ F 19 '40

Research in industry. E. S. Lee. il Paper Tr J 110:101-4 Je 27 '40

Research profits. H. D. Steinmetz. il Mag of Wall St 65:600-1+ F 24 '40

Research study and promotion attract variety of attention. Oil Paint & Drug Rep 137:5+ F 5 '40

Researches of Mellon institute 1939-40. il Ind & Eng Chem News ed 18:287-300 Ap 10 '40

Role of science in the electrical industry. M. W. Smith. il Elec Eng 59:63-7 F '40

Schools and industrial research; abstracts. Mech Eng 62:615-16 Ag '40

Science points the investor's way; he can have stake in new industries on technological frontier. J. V. Sherman. Barron's 20:3 My 6 '40

Scientific and industrial research in Australia. Engineer 170:6-7 Jl 5 '40

Scientific and industrial research in Australia. Engineering 150:235 S 20 '40

Significance of the industrial research laboratories for chemistry; Paraffine companies. R. H. Shainwald. il Chem Ind 45:659-60 D '39

Survey of research in industry. Science 90: 535 D 8 '39

Survey of research in industry. Science 91: 196-8 F 23 '40

Survey of research in industry to be made by National resources planning board. Ind & Eng Chem News ed 18:256 Mr 25 '40

32 inventions needed by the food industries. Food Ind 12:35 N '40

$215,000,000 spent for industrial research; abstract. W. A. Hamor. Steel 106:33 Ja 15 '40

INDUSTRIAL research—*Continued*
U.S. takes lead in research. C. M. Macko. Barron's 20:40 Ja 15 '40
Urges business to spend 2 per cent on research. K. T. Compton. Am Business 10:49 O '40
Youth's opportunity in the foundry industry. N. K. B. Patch. Foundry 68:29, 90+ Jl '40

See also
Battelle memorial institute
Cement research
Chemical research
Coal research
Dye research
Gas research
Glass research
Iron research
Laboratories
Leather research
Market research
Metallurgical research
Paper research
Petroleum research
Rubber research
Scientific research
Steel research
Textile research

Bibliography
List of the books, bulletins, journal contributions, and patents by members of Mellon institute, 1911-1938. 242p Mellon inst, 4400 5th av, Pittsburgh '39

Directories
Directory of the New England research agencies, consulting services, and colleges and universities available to New England's industrial, commercial and other interests. 118p pa $2 Engineering societies of New England, 715 Tremont temple, Boston '39

INDUSTRIAL research institute
Meeting, Swampscott, Sept. 27-28. Science 92: 373-4 O 25 '40
Second annual meeting. Science 91:379 Ap 19 '40

INDUSTRIAL statistics
Durable goods expenditures in 1937-1939; producers' and consumers' expenditures for plant and equipment. G. Terborgh. Fed Res Bul 26:116 F '40
Geographical differences in hours and wages, 1935 and 1937; indexes representing wage levels for same types of work. A. F. Hinrichs and A. F. Leal. Monthly Labor R 50:1204-23 My '40
Industrial areas and their relation to metropolitan areas with data for production, wage earners and payrolls; Printers' Ink market explorations. map Ptr Ink Mo 40: 34-5, 37-9 Je '40
Industrial output higher. S. L. Miller. Annalist 56:498-9 O 17 '40
Inventories during the World war; record of 111 companies and trends, 1913-1922. W. L. Thorp and H. B. Russell. il Dun's R 48:17-22 F '40
Monthly business indexes of Board of governors of Federal reserve system for December. Comm & Fin Chr 150:346 Ja 20 '40 [cont monthly]
Monthly industry survey; comprehensive new measures of manufacturers' inventories, orders, and shipments. H. C. Grieves and W. C. Truppner. Survey of Cur Business 20:7-13 S '40 [tables cont monthly]

See also
Employment—Stability
Employment—Statistics
Labor and laboring classes—Statistics
Market statistics
Occupations—Statistics
Production—Statistics
Wages—Statistics
also subdivision Industries and resources under names of countries, e.g. Great Britain—Industries and resources
also subdivision Statistics under names of industries, e.g. Petroleum industry and trade—Statistics

Bibliography
Sources of data. Survey of Cur Business 1940 Sup p239-40

INDUSTRIAL surveys
Industrial surveys and reports. W. Rautenstrauch. 189p bibliog(p184-5) $2.50 Wiley '40

INDUSTRIAL towns. See Company towns

INDUSTRIAL unions. See Congress of industrial organizations

INDUSTRIAL waste. See Trade waste

INDUSTRIAL welfare. See Welfare work in industry

INDUSTRY
Aims and responsibilities of management today. H. Coonley. Mech Eng 62:201-2+ Mr '40
Beaver hats of tomorrow offer bright future for industry despite waste of war; roundup of editorial opinion as to current technical development in next two years. Ptr Ink 191:11-13, 65-9 Je 7 '40
Behavior of industrial earnings; stability and growth trends. R. L. Johnson. Banking 32: 25-6 Mr '40
Changing profit perspective in new industrial outlook. W. Gates. Mag of Wall St 66:454-6+ Jl 27 '40
Congress of American industry, New York, Dec. 6-8. Steel 105:15-18 D 11; 42-3 D 18 '39
Future of American industry. M. H. Aylesworth. Min & Met 21:139-42 Mr '40
How 21 industries line up at start of 1940; tabulation. Barron's 20:21-2 Ja 15 '40
Industrial news digest. Published in weekly numbers of Barron's
Industry must meet the challenge of war. F. L. Spangler. il Manuf Rec 109:34+ S '40
Industry's social responsibilities; employment one of present-day charges. W. D. Fuller. Credit & Fin Management 42:9-10 Jl '40
Less plant? what industry needs is more. J. G. Rosebush. Factory Management 98: 58-9+ My '40
Let science pick the growth issues; number of researchers employed by firms used as criterion. J. V. Sherman. Barron's 20:3 S 2 '40; Same cond. Management R 29:390-2 N '40
Making more jobs; initiative, price policies and research. C. Francis. il Dun's R 48:7-10 Ja '40
Manufacturers declare objectives. Factory Management 98:52-3+ Ja '40
Nation-wide inventory to make known industry's potentialities in defense program announced by National association of manufacturers. H. W. Prentis, jr. Comm & Fin Chr 151:1657-8 S 21 '40
New outlook in business. B. Batchelor, ed. 323p $3 Harper '40
Program for U.S. recovery is offered by Congress of American industry. Iron Age 144: 90+ D 14 '39
Round the world in industry. G. Collins. 179p $2 Chemical pub. co. '40
Social responsibility of management five years hence; symposium. Advanced Management 5:125-9+ Jl-S '40
Too big. M. L. Ernst. 314p $2.75 Little '40
What industry can do for America. il Factory Management 98:3-305 Ag '40 (pa $2)
What's ahead for industry as the war area widens. Factory Management 98:46a-46d My '40

See also
Business
Chemical industries
Cities and towns—Industries
Clay industries
Commerce
Corporations
Dairying
Diversification in industry
Dye industry
Economic conditions
Economic planning
Efficiency, Industrial
Electric industries
Employees' representation in management
Equipment industries
Factories
Gas industry
Gasoline industry
Government regulation of industry
Handicraft
Industrial market
Industrial mobilization
Industrial relations
Industrial research
Industry and state
Iron industry and trade
Labor and laboring classes
Machinery in industry
Manufactures
Mineral industries
Moving picture industry
Moving pictures in industry
Oil industries
Organization in industry
Paper industry and trade

INDUSTRY—See also—*Continued*
Petroleum industry and trade
Production
Rationalization
Rubber industry and trade
Stabilization in industry
Standardization
Steel industry and trade
Stocks
Textile industry
Trade associations
Unemployment
Woman—Employment
also National association of manufacturers

Classification

Industrial classification for reports from individuals. B. Fels and P. K. Whelpton. Am Statis Assn J 35:74-85 Mr '40
Standard classification of industries in the United States. V. S. Kolesnikoff. Am Statis Assn J 35:65-73 Mr '40

Decentralization

Distribution of the industrial population. Engineering 149:174-5 F 16 '40
London letter: de-urbanizing Britain. C. W. Stokes. Adv & Sell 33:69-70+ Je '40
Pattern of industry in Britain. Economist 138:49-50 Ja 13 '40
Recommendations for relocation of industrial population of Great Britain. Monthly Labor R 50:1124-7 My '40
Strategy for defense is to decentralize. C. P. Wood. il Nation's Business 28:27-8+ N '40

History

Economic life of primitive peoples. M. J. Herskovits. 492p bibliog(p469-92) $5 Knopf '40

Migration

Conference held at Albany to seek means toward halting of movement of industry from New York. Comm & Fin Chr 151:334 Jl 20 '40
Industrial Pennsylvania stages a comeback; work of Department of commerce in preventing exodus of industries. R. P. Brown. Mech Eng 62:133-4 F '40

INDUSTRY and state

Collaboration between public authorities and organizations of workers and employers. Monthly Labor R 51:613-21 S '40
Evolution of management attitudes as applied to the employe, the customer, the stockholder, to government and the public. C. C. Conway. Advanced Management 4 no5:141-4 '39
Government and economic life [interpretative summary of 2 volumes with this title]. L. S. Lyon and V. Abramson. 66p pa 25c Brookings institution, Washington, D.C. '40
Industry and government in France and England, 1540-1640. J. U. Nef. 162p pa $2 Am. philosophical soc, Independence sq, Philadelphia '40
Management and government. W. L. Batt. Management R 29:198-204 Je '40
National welfare and business stability; the permanent functions of public spending. J. Bauer. 182p bibliog(p179-80) $2 Harper '40
To amend the law of supply and demand; price agreements should be permitted to each industry, subject to approval by a special federal court. C. R. Stevenson. Advanced Management 4 no5:115-21 '39

See also
Commercial policy
Economic planning
Economic policy
Government loans to industry
Government ownership
Government regulation of industry
Industrial mobilization
Labor laws and legislation
Paternalism
Public utilities
Public utilities—Regulation
Public utilities commissions
Railroads and state
Tariff

Canada

Control of competition in Canada. L. G. Reynolds. 324p bibliog(p313-18) $3.50 Harvard univ. press '40

Cuba

Exclusive industrial privileges in Cuba; text of constitutional provision. J. L. Brown. Comm Rep p703-4 Ag 17 '40; Same. Oil Paint & Drug Rep 138:3+ Ag 26 '40

South Africa

State interference in South Africa. F. J. Van Biljon. 322p 15s P. S. King & son, London '39

United States

At the same shrine; government must change its attitude toward industry. W. L. Willkie. Trusts & Estates 71:169-70 Ag '40
Can business and government work together today? radio symposium broadcast from Town Hall, New York, Dec. 7. Comm & Fin Chr 149:3652-3 D 9 '39
Emergency powers threaten industry. L. W. Moffett. Iron Age 145:77, 80-1+ Ja 4 '40
How business and government can work together; reprinted from Printers' ink March 2, 1939. W. L. Willkie. Ptr Ink Mo 41:5 Ag '40
How government regulates business; an explanation of the principal federal and state laws. M. Eisner and others. 120p $2 Dynamic America press, New York '39
How industry, labor, and government can help America. il Factory Management 98:A28-A44 Ag '40
Industry, labor and government urged to get together. R. W. Lawrence. Comm & Fin Chr 150:49 Ja 6 '40
Is industrial self-government possible? O. Tead. Advanced Management 5:21-5+ Ja-Mr '40
Looking to 1950. L. Nejelski and others. Oil Paint & Drug Rep 138:60+ O 14 '40
Property conscription; symposium. F. R. Coudert and others. Trusts & Estates 71: 257-9 S '40
Windows of Washington; what lies in store for industry at the hands of the government in 1940. L. M. Lamm. Steel 106:178, 180, 182 Ja 1 '40

INERTIA, Moments of. See Moments of inertia

INFANT mortality

Changes in infant and child mortality rates. H. F. Dorn. Ann Am Acad 212:32-7 N '40
Infant death rates in the United States, by states, for 1938 and prior years. Pub Health Rep 55:602-4 Ap 5 '40
Provisional birth and infant mortality statistics for 1939. Pub Health Rep 55:1131-2 Je 21 '40
Studies in childbirth mortality; age and parity as factors in puerperal fatality. J. Yerushalmy, C. E. Palmer and M. Kramer. bibliog Pub Health Rep 55:1195-1220 Jl 5 '40
Studies in childbirth mortality; puerperal fatality and loss of offspring. J. Yerushalmy, M. Kramer and E. M. Gardiner. bibliog Pub Health Rep 55:1010-27 Je 7 '40

INFANTILE paralysis

Care during the recovery period in paralytic poliomyelitis. H. O. Kendall and F. P. Kendall. il pls U S Pub Health Service Bul 242:1-96 '39
Cerebrospinal pathology of experimental poliomyelitis in the eastern cotton rat, sigmodon hispidus hispidus, and in the white mouse, mus musculus. R. D. Lillie and C. Armstrong. Pub Health Rep 55:718-25, pl 1-4 Ap 25 '40
Distribution of poliomyelitis in Louisiana. A. E. Casey and B. J. Aymond. Science 91:17 Ja 5 '40
Experimental poliomyelitis. M. Schaeffer and R. S. Muckenfuss. 158p bibliog(p144-58) gratis National foundation for infantile paralysis, New York '40
Geographic distribution of disease; a decade of poliomyelitis in Louisiana. A. E. Casey and B. J. Aymond. Pub Health Rep 55:1295-1300 Jl 19 '40
Immunity to the Lansing strain of poliomyelitis as revealed by the protection test in white mice. V. H. Haas and C. Armstrong. Pub Health Rep 55:1061-8 Je 14 '40
Infantile paralysis; abstract. J. E. Kempf and M. H. Soule. Science 92:sup8 Jl 26 '40

INFANTILE paralysis—*Continued*
Infantile paralysis; question whether it can be spread by bathing in sewage-polluted waters; abstract. Ellsworth. Eng N 125: 410 S 26 '40
Infantile paralysis; view of how the disease conquers, gained by anatomical study; abstract. J. A. Toomey. Science 92:sup12+ S 6 '40
Infantile paralysis; water supply and sewerage as factors in infection. Eng N 124:668 My 9 '40
More than $1,500,000 raised; text of President Roosevelt's address. Comm & Fin Chr 150: 782 F 3 '40
National foundation for infantile paralysis, inc., annual report, 1939. 40p The Foundation, 120 Broadway, New York '39
Operations to correct deformities of infantile paralysis reported; abstract. H. G. Hill. Sci Am 162:297-8 My '40
Pathology in monkeys of the Lansing strain of poliomyelitis virus before and after passage in the cotton rat. J. H. Peers. Pub Health Rep 55:726-7 Ap 25 '40
Pathology of poliomyelitis experimentally induced in the eastern cotton rat, sigmodon hispidus hispidus. R. D. Lillie and C. Armstrong. Pub Health Rep 55:115-19, pl 1-4 Ja 19 '40
Prevalence of poliomyelitis in the United States in 1939. C. C. Dauer. bibliog map Pub Health Rep 55:955-61 My 31 '40
Spread of infantile paralysis. J. Stafford. Science 91:sup6+ Ja 26 '40
Successful transfer of the Lansing strain of poliomyelitis virus from the cotton rat to the white mouse. C. Armstrong. Pub Health Rep 54:2302-5 D 29 '39
Susceptibility of infantile paralysis; abstract. C. Armstrong. Science 92:sup8+ O 11 '40
Vitamin E; treatment of diseases of muscle weakness and nerve degeneration; abstract. F. Bicknell. Science 91:sup6 F 9 '40

INFANTS, Premature
Defect in the metabolism of aromatic amino acids in premature infants; the role of vitamin C. S. Z. Levine, E. Marples and H. H. Gordon. bibliog Science 90:620-1 D 29 '39

INFANTS' clothing

Advertising
World's series letters; timely mailings from Snuggle products, inc. Ptr Ink 193:36 O 18 '40

INFANTS' shoes, Plating of
Plating on baby shoes, leather and other materials. A. V. Re. il Metal Ind 38:82-3 F '40; Discussion. 213 Ap '40

INFECTION
Diminishing response of the skin to frequently repeated reinfection with invasive bacteria. F. Duran-Reynals and E. Estrada. Science 92:41-2 Jl 12 '40
Dynamics of inflammation; an inquiry into the mechanism of infectious processes. V. Menkin. 244p bibliog(p207-32) $4.50 Macmillan '40
Infection of injuries in mining industry of Ontario. C. H. Hair. Can Min J 61:376-8 Je '40
Only a scratch. il Safety Eng 80:39-40 S '40
Scratch the surface; preventing infection in industry. J. E. Nichols. il Safety Eng 80: 22+ O '40
Study of the role of ventilating systems in the transmission of bacteria. J. M. DallaValle and A. Hollaender. Pub Health Rep 55: 1268-72, pl 1 Jl 12 '40

See also
Disinfection and disinfectants
Insects as carriers of infection

INFECTIOUS diseases
Administrative factors involving effectiveness of communicable disease control. E. A. Lane. Pub Health Rep 55:711-17 Ap 26 '40
Apparatus for the study of experimental airborne disease. W. F. Wells. diags Science 91:172-4 F 16 '40
Communicable diseases. A. M. Stimson. pls 111p U.S. Pub. health service; pa 25c Supt. of doc. '39
History of contagious disease care in Chicago before the great fire. C. B. Webb. 169p bibliog(p151-4) pa $1.25 Univ. of Chicago press '40
Institutional outbreak of pneumonitis. J. W. Hornibrook and K. R. Nelson. bibliog plan Pub Health Rep 55:1936-54, pl 1-6 O 25 '40
Manual of the common contagious diseases. P. M. Stimson. 3d ed rev 465p $4 Lea & Febiger, Philadelphia '40
Susceptibility and resistance of certain species of American deer mice, genus peromyscus, and other rodents to leptospira icterohaemorrhagiae. A. Packchanian. bibliog Pub Health Rep 55:1389-1402, pl 1-2 Ag 2 '40
Unidentified disease in Nevada believed to be transmitted by rodents. Pub Health Rep 55:988 My 31 '40
Virus and rickettsial diseases. 907p $6.50 Harvard univ. press '40

See also
Anaplasmosis
Bacteria, Pathogenic
Cold (disease)
Epidemics
Immunity
Infantile paralysis
Influenza
Malaria
Meningitis
Plague
Rheumatic fever
Rocky Mountain spotted fever
Scarlet fever
Smallpox
Tuberculosis
Tularemia
Typhoid fever
Typhus fever
Viruses
Yellow fever

Statistics
Notifiable diseases in the United States, 1938; morbidity and mortality summaries for certain important communicable diseases. Pub Health Rep 55:423-9 Mr 8 '40
Prevalence of disease; current weekly state and city reports. Published in weekly numbers of Public health reports
Prevalence of poliomyelitis in the United States in 1939. C. C. Dauer. bibliog map Pub Health Rep 55:955-61 My 31 '40
World distribution of cholera, plague, smallpox, typhus fever, and yellow fever. Pub Health Rep 55:182-6 Ja 26 '40 [cont monthly]

INFLAMMABLE liquids
Automatic smothering of liquid fires. P. W. Eberhardt. diags India Rubber W 103:45-6 N '40
Explosion hazards; gases, vapors, liquids, dusts. Nat Safety N 41:126-7 Mr '40
Fire-hazard properties of certain flammable liquids, gases and solids; tabulation. Chem & Met Eng 47:31 Ja '40
Fire prevention in chemical plants. G. A. Shattuck. il Chem Ind 47:274-6 S '40
Flammable liquids; characteristics which determine hazards. Safety Eng 79:31-2 Mr '40
How to fight liquid fires. il Safety Eng 79:8-9 My '40
Precautions in the use of organic finishing materials. R. F. Peabody. il diag Metal Finishing 38:462-4 Ag '40
Properties of flammable liquids, gases, and solids; tabulation. Ind & Eng Chem 32:880-4 Je '40
Use of gas to smother plant fires. P. W. Eberhardt. il Am Dyestuff Rep 29:575-6 O 14 '40
We fight fire with gas; S. C. Johnson & son, inc. J. Collier. il Factory Management 98: 71-3 S '40

See also
Gasoline
Gasoline handling
Petroleum

INFLAMMABLE materials
Fire-hazard properties of certain flammable liquids, gases and solids; tabulation. Chem & Met Eng 47:31 Ja '40
Ignition and ignitibility. H. C. Porter. bibliog il Ind & Eng Chem 32:1034-6 Ag '40
Properties of flammable liquids, gases, and solids; tabulation. Ind & Eng Chem 32: 880-4 Je '40
Recommended practice for handling nitrocellulose. Chem & Met Eng 47:619 S '40

INFLAMMABLE mixtures
Aluminium paint as a fire hazard. Gas J (Lond) 230:387 My 22 '40
Annual report of the Explosives division, fiscal year 1939. W. J. Huff. pls U S Bur Mines Rep of Invest 3490:1-36 '40
Combustion explosions in pressure vessels. W. D. Halsey. il Locomotive 43:14-19 Ja '40
Experimental study of the ignition of fire-damp-air mixtures by explosives. E. Audibert. diag U S Bur Mines Rep of Invest 3518:1-6 '40
Explosion hazards in storage-battery rooms. G. W. Jones and others. il plan U S Bur Mines Tech Pa 612:1-16 '40
Explosive properties of cyclopropane; prevention of explosions by dilution with inert gases; hazards of gases and vapors used in anesthesia. G. W. Jones, R. E. Kennedy and G. J. Thomas. bibliog pl U S Bur Mines Rep of Invest 3511:1-17 '40
Fire hazards with aluminium paint. Gas J (Lond) 231:171 Jl 24 '40; Same abr. Engineer 170:62 Jl 26 '40; Same cond. Engineering 150:88 Ag 2 '40
Industrial uses of flameproof electric motors. il Engineering 150:85-6, 90 Ag 2 '40; Engineer 170:109-11 Ag 16 '40
Inflammable ranges of ethylene-air mixtures at atmospheric and reduced pressures and the influence of small amounts of nitrogen peroxide thereon. J. S. Forsyth and D. T. A. Townend. Engineering 149:127 F 2 '40; Excerpt. Chem Age (Lond) 41:386 D 9 '39
New fire hazards. R. E. Maginnis. il Safety Eng 79:39-40+ Ap '40
Violent reactions; behavior of explosives and flammable chemicals. E. Berl. il Nat Safety N 41:12-13+ F '40
Warning! perchloric reagents may explode. M. E. Merchant. Metal Prog 37:559 My '40
Wild fires; flammable chemicals. R. M. L. Russell. il diags Nat Safety N 42:66-7+ O '40

See also
Dust explosions
Explosions
Flame propagation

INFLAMMATION
Dynamics of inflammation. V. Menkin. 244p bibliog(p207-32) $4.50 Macmillan '40
Nature of the leukocytosis-promoting factor of inflammatory exudates. V. Menkin. Science 91:320-1 Mr 29 '40

INFLATION (finance)
Curtain ringing up on inflation; abstract. T. A. Falco. Management R 29:333-4 S '40
Defense; an inflation threat? H. G. Moulton. Inv Banking 10:3-6 O '40
Don't expect inflation. H. M. Fleming. Trusts & Estates 71:390 O '40
Economic aspects of British conscription of assets; danger of inflation. G. Reimann. bibliog Annalist 55:291+ F 22 '40
How imminent is inflation? M. Nadler. Barron's 19:3 D 25 '39; Excerpts. Trusts & Estates 70:93-4 Ja '40
Inflation and full employment imminent? L. M. Hostetler. Barron's 20:7+ S 23 '40
Inflation and price control. S. Weintraub. Harvard Business R 18 no 4:429-36 [Jl] '40
Inflation possibility factors. J. H. Taggart. Bankers M 139:493-5 D '39
Is inflation inevitable? abstract. M. Ezekiel. Trusts & Estates 71:199 Ag '40
Is it inflation? Economist 139:389-91 S 28 '40
Keeping the lid on inflation. P. C. Hatmaker. Barron's 20:18 N 4 '40
No war inflation; why? N. T. Carruthers. Mag of Wall St 66:611-13+ S 7 '40
Price inflation. F. L. Thomsen. Bankers M 141:228-9 S '40
Technique of inflation; possible methods of British war finance. Economist 138:136-7 Ja 27 '40
Three per cent. war; discussion of a war loan policy for Britain. Economist 138:88-9 Ja 20 '40
What is inflation? What does it do? A. A. Mol. Barron's 20:8+ N 11 '40
What the coming European inflation means to us. V. L. Horoth. il Mag of Wall St 67:82-4+ N 2 '40
What will inflation and devaluation mean to you? D. G. Ferguson and others. 144p pa $1 Am. inst. for economic research, Cambridge, Mass. '40

See also
Business
Gold as money
Money

INFLORESCENCE
Conifer inflorescence again. G. R. Wieland. Science 91:262-3 Mr 15 '40

INFLUENZA
Complex vaccine effective against different strains of influenza virus. F. L. Horsfall, jr. and E. H. Lennette. Science 91:492-4 My 24 '40
Histopathological changes in mice inoculated with influenza virus. A. A. Nelson and J. W. Oliphant. bibliog Pub Health Rep 54: 2044-54, pl 1-6 N 17 '39
Inactivation of epidemic influenza virus by nasal secretions of human individuals. T. Francis, jr. Science 91:198-9 F 23 '40
Influenza vaccine. W. Davis. Science 92:sup6 Ag 16 '40
New type of virus from epidemic influenza. T. Francis, jr. bibliog Science 92:405-8 N 1 '40
Pathologic histology of experimental virus influenza in ferrets. T. L. Perrin and J. W. Oliphant. bibliog Pub Health Rep 55: 1077-86, pl 1-2 Je 14 '40
Use of chick embryo cultures of influenza virus in complement fixation tests. C. Nigg, J. H. Crowley and D. E. Wilson. bibliog Science 91:603-4 Je 21 '40

INFORMATION service
Where to get information about Latin America. Business Week p17 Ag 24 '40

See also
Business information
Hooper-Holmes bureau
Investment advisers
Libraries, Special
Library service

INFORMATION service, Government
Imperial institute as an information centre. H. Lindsay. Assn of Sp Lib & Inf Bur Proc 1939:10-20; Same abr. Engineering 149: 31-3 Ja 12 '40
Informational hand book. 44p Office of government reports, 45 Broadway, New York '40

INFORMATION tests
How to keep mentally fit. L. Thomas. 248p $2 Howell, Soskin & co, 17 E. 45th st, New York '40
Information, please! D. Golenpaul, ed. 1941 ed 295p $2 Random house, 20 E. 57th st, New York '40
Question-time: handbook of general information; what? why? how? when? where? W. J. Maguire. 165p 2s 6d William J. Maguire, 34 Lindsay rd, Dublin, Ireland '39
Using tests as a medium for health education. M. Derryberry and A. Weissman. Pub Health Rep 55:485-9 Mr 22 '40

INFRARED rays
Apparatus for a long optical path in a restricted space. F. T. Rogers, jr. diag Opt Soc Am J 29:479 N '39
Infra-red plane detector. Science 92:sup6 Ag 30 '40
Infra-red transmission of thin films of various organic materials. A. J. Wells. J Ap Phys 11:137-40 F '40
Rays in aircraft defense; infrared rays utilized to detect enemy aircraft; abstract. D. W. F. Mayer. Mech Eng 62:403 My '40
Transmission of infra-red light by fog. J. A. Sanderson. bibliog Opt Soc Am J 30: 405-9 S '40
Transmission of infra-red radiation through fog. P. N. Smith and H. V. Hayes. Opt Soc Am J 30:332-7 Ag '40

Industrial applications
Ault & Wiborg infra-red finishes for use with infra-red baking equipment. il Metal Finishing 38:420 Jl '40

INFRARED rays—Industrial applications— *Continued*
Chart temperature around infra-red lamp. E. D'Olive. Elec W 113:1394 My 4 '40
Conveyor-baking setup; fabrication of sheet-metal furnace and air-conditioning cases; Forest City foundries co. W. L. Seelbach. il plan Steel 107:52+ Jl 22 '40
Drying and baking with radiant energy. Steel 107:48-51 O 28; 68-9+ N 4; 48-50 N 11 '40
Drying ink with infrared lamps; utilization data sheet. T. N. Hunt and A. Gruber. il Elec West 85:50 S '40
Drying of inks by infra-red rays. F. W. Grantham. Inland Ptr 105:40 S '40
Drying with infra-red radiation; comparing industrial heating by gas and by electricity. H. A. Clark. Am Gas J 152:43-5+ My '40
Enameling in nine minutes with infra-red lamps. W. A. Howe. il plan Factory Management 98:64-5 O '40
For us, infra-red drying; Lonergan manufacturing company. C. H. Newton. il Factory Management 98:58-9+ N '40
Industrial data sheet; infra-red dryer; auto painting. J. R. Hedge. il Elec West 84:41 My '40
Infra-red demonstration kit. E. R. D'Olive. il Elec W 113:926+ Mr 23 '40
Infra-red dryer for enameled strip. il Iron Age 146:34 O 17 '40
Infra red drying oven. Can Min J 60:845-6 D '39
Infra-red finishing of burner parts. il Iron Age 146:64 N 7 '40
Infra-red halves glue drying time; manufacture of radio loud speakers. il Elec W 113:1556 My 18 '40
Infra-red halves refinishing costs. il Elec W 113:1740 Je 1 '40
Infra-red heat for gluing. il Elec W 114: 1030 O 5 '40
Infra-red in industry. J. Sasso. il diags Am Mach 84:741-4, 867-9 O 2, 30 '40
Infra-red lab aids Boston industries. il Elec W News ed 114:150 Jl 20 '40
Infra-red lamp banks for drying finishes and materials. il Product Eng 11:307-10 Jl '40
Infra-red lamps replace heaters for warming bakelite preparatory to punching. il Elec W 113:1242 Ap 20 '40
Infra-red lamps speed up drying operations. il Automotive Ind 82:376-7 Ap 15 '40
Infra-red oven is adaptable; Canadian Westinghouse plant, Hamilton. D. P. Brown. il Elec W 113:310+ Ja 27 '40
Infra-red speeds paint shop schedules. il Elec W 113:612 F 24 '40
New drying lamps announced by Mazda lamp manufacturers. Illum Eng 35:305-6 Ap '40
Paint baking with near infra-red. H. J. Bennett and H. Haynes. il Chem & Met Eng 47:106-8 F '40
Paint jobs speeded; infra-red rays find an increasing variety of uses in auto, rubber, and other industries. il Business Week p36+ Ag 10 '40
Prolonging insulation life; dipping and baking motor fields and armatures; infra-red lamps for heaters. G. L. Moses. il Transit J 84:280-1 Ag '40
Promote infra-red with trial lamp bank. il Elec W 112:1478 N 18 '39
Radiant energy drying and baking for organic finishing. D. J. Stedtefeld. il Metal Ind 38:294-6 My '40
Radiant heat drying of paperboard. R. W. K. Ulm. Paper Tr J 111:25-7 O 31 '40; Excerpt. Paper Ind 22:484+ Ag '40
Reflector surfaces for infra-red lamps. E. R. D'Olive. diags Elec W 112:1890+ D 30 '39
Run infra-red tunnel for 49 cents an hour; Steel storage file company; enamel-drying tunnel. D. Aitken. il Elec W 114:566 Ag 24 '40
Sunlamps for crops; infra-red rays controlled thermostatically to avert freezing and hasten maturity. Business Week p31-2 Je 22 '40
Ultra-violet and infra-red radiations; uses on the electrified farm of the future; abstract. L. C. Porter. Science 90:sup8-9 D 15 '39
Using lamps for industrial heating. H. Haynes. il Iron Age 145:52-3 Ap 4 '40

Physiological effect
Infrared transmission of the human body; abstract. C. H. Cartwright, J. Daniel and A. Petrauskas. Science 91:420 My 3 '40

INFRARED spectrum. See Spectrum, Infra-red

INGALLS, Robert Ingersoll, 1882-
Portrait. Marine Eng 45:38 F '40

INGALLS shipbuilding corporation
All-welded shipbuilding in Mississippi. il Manuf Rec 109:28-9+ My '40
New Ingalls shipyard. A. J. Grassick. il Marine Eng 45:39-55 F '40

INGERSOLL, Ralph McAllister, 1900-
P.M. now sure of its birthday; Ingersoll's much-publicized new tabloid. Business Week p38-40 Mr 23 '40

INGERSOLL-RAND company
Earnings, 1936-39. Comm & Fin Chr 150:3513 Je 1 '40
Leaders in the machine tool industry; thumbnail appraisal. Mag of Wall St 66:29 Ap 20 '40

INGOTS
Continuous casting. T. W. Lippert. il diags Iron Age 145:31-9 Ap 4 '40
Continuous castings; scheme removes heat from congealing metal fast enough to avoid rupture of solidifying skin; Williams engineering co. E. R. Williams. il Steel 106: 48-9+ Ap 8 '40
See also
Steel ingots

INHERITANCE and succession
Cases and materials on the New York law of succession. W. K. Laidlaw. 478p $5 Foundation press, Chicago '40
Disposition of real and personal property upon death of minor intestate who was beneficiary of testamentary trust created by father. Trusts & Estates 70:220-2 F '40
Distribution; establishment of claim to estate through an illegitimate. Trusts & Estates 70:334-5 Mr '40
Why community property? critical analysis of its theory, taxation and transfer in California. R. W. Smith. Trusts & Estates 69:607-12 D '39
See also
Executors and administrators
Inheritance tax
Life tenants and remaindermen
Trusts and trustees
Wills

INHERITANCE tax
Contemplation of death redefined by Treasury department. Trusts & Estates 70:255 Mr '40
Death and taxes are certain, but what of domicile. H. Tweed and C. S. Sargent. Trusts & Estates 69:568-71 N '39
Division of death taxes among beneficiaries; statute suggested to ease burden on residuary estate. T. W. Chrystie. bibliog Trusts & Estates 69:535-8 N '39
Estate planning to minimize taxes. M. Garwood. 269p $3.50 Prentice-Hall '40
Estate tax apportionment in New York; federal and state taxes. H. D. Greeley. J Account 70:309-20 O '40
Estate taxation of insurance proceeds; reversal of decision in Bailey case. G. L. Kappes. Trusts & Estates 69:622-4 D '39
Estate taxation of trusts of non-residents; extension of reciprocal exemption statutes urged. J. Y. Scott. bibliog Trusts & Estates 69:636-8 D '39
Extra domiciliary death taxes on intangibles. J. F. McCloy. Trusts & Estates 71:284-8 S '40
Federal income and estate taxation. p161-364 pa $1 School of law, Duke univ, Durham, N.C. '40
Hallock decision modified by Treasury regulation. Trusts & Estates 71:469 O '40
Holds companies liable for estate tax on proceeds; B.T.A. ruling applies only to funds held under options. Nat Underw (Life ed) 44:3 O 18 '40

INHERITANCE tax—*Continued*
How the law controls trust operations; corporate securities and the estate tax. L. R. Bloomenthal. bibliog Bankers Mo 57:149-51+ Mr '40
How the law controls trust operations; recent developments in the taxation of trusts. L. R. Bloomenthal. bibliog Bankers Mo 57: 282-4 My '40
Income, estate and gift tax provisions of the Internal revenue code; as amended by the Revenue act of 1940. 241p pa $1 Commerce clearing house '40
Inheritance; tax computed on basis of remainder interests in more distant relatives although spouse exercised right to cut off these interests in her favor. Trusts & Estates 70:680-1 Je '40
Integration of gift and estate taxes; single transfer tax would obviate litigation over inter vivos gifts. G. T. Altman. Trusts & Estates 69:627-30 D '39
Leasehold estate on real property located outside of state of domicile not taxable by state of domicile. Trusts & Estates 69: 578 N '39
Making foreign travel safe for intangibles; statute recommended to outlaw multiple death taxation. L. S. Headley. Trusts & Estates 70:171-4 F '40
Minimizing taxes on incomes and estates. J. B. Lowe and J. D. Wright. rev ed 138p $2 Barron's, New York '40
Modernizing our death tax viewpoint. M. Elrod, jr. Trusts & Estates 70:383-5 Ap '40
New Jersey transfer inheritance tax, with outline of federal estate and gift taxes. L. M. Rogers. 603p $10 Baker, Voorhis & co, New York '40
Priority of federal estate tax lien as against trust deed made by executor. Trusts & Estates 69:687-8 D '39
Taxability of revertible trust income; new decisions on estate levy suggest possible current savings. L. J. Freeman. Barron's 20:7 O 21 '40
Trends in trust taxation; federal gift and estate taxes; with case citations. W. E. Barton. Trusts & Estates 71:19-24 Jl '40
Viewing the possibility of a reverter; Bailey vs. the U.S. situation clarified. F. L. Morton. Ins Field (Life ed) 69:16 O 25 '40; Same. Spectator (Life ed) 145:26+ O 24 '40; Same. Weekly Underw 143:1239+ N 23 '40; Abstracts. East Underw 41:7 O 25 '40; Nat Underw (Life ed) 44:1+ O 25 '40
When gifts must pay estate taxes. L. J. Freeman. Barron's 20:8 S 30 '40

Accounting

Tax computation in an estate with a charitable remainder. E. L. Eastman. J Account 69:175-7 Mr '40

New York (state)

Estate tax apportionment in New York; federal and state taxes. H. D. Greeley. J Account 70:309-20 O '40

Ontario

Ontario succession duties. W. L. Knowlton. Trusts & Estates 69:496 N '39

INHIBITORS
Inhibiting action of minute amounts of sodium hexametaphosphate on the precipitation of calcium carbonate from ammoniacal solutions. R. F. Reitemeier and T. F. Buehrer. bibliog il J Phys Chem 44:535-74 My '40
Pickling inhibitor; cresolsulphonic acid added to stannous chloride. Steel 107:70-1 O 28 '40
Tests of corrosion inhibitors for water treatment in air-conditioning equipment. J. H. Wilson and E. C. Groesbeck. pl diags J Research Nat Bur Stand 24:665-76 Je '40
Thermal polymerisation of styrene and its inhibition. S. G. Foord. diag Chem Soc J p48-56 Ja '40

See also
Antioxidants

INHIBITORS of corrosion. See Corrosion and anti-corrosives

INJECTIONS, Hypodermic
Injection treatment of hernia, hydrocele, ganglion, hemorrhoids, prostate glands, angioma, varicocele, varicose veins, bursae, and joints. P. Riddle. 290p $5.50 Saunders '40

INJECTIONS, Intravenous
Food by vein. B. M. Newman. il Sci Am 162:220-1 Ap '40

INJUNCTIONS
Busch jewelry stores labor injunction. J. H. Mariano. 238p $2.50 Christopher pub. house, Boston '40

INJURIES. See Accidents; First aid in illness and injury

INJURIES (law). See Damages; Personal injuries

INK
Anilin ink for letterpress. Inland Ptr 104: 61-2 Ja '40
Application of gas to the quick drying of printing ink. R. P. Wilson. Am Gas Assn Proc 1939:370-1; Discussion. 371-2
Cold-set printing process blazes trail with gas-burning system. H. W. Smith, jr. il Am Gas Assn Mo 22:316-18 S '40
Controlling ink flow. Inland Ptr 105:70-1 S '40
Differ in drying speed. J. Stark. Inland Ptr 105:29 Ap '40
Differentiation of inks and their chloride and sulfate migrations. J. Finn and R. E. Cornish. il Ind & Eng Chem News ed 18: 174 F 25 '40
Drying ink with infrared lamps; utilization data sheet. T. N. Hunt and A. Gruber. il Elec West 85:50 S '40
Drying of inks by infra-red rays. F. W. Grantham. Inland Ptr 105:40 S '40
Ink freezes to surface of paper. Inland Ptr 105:24-5 Ap '40
Inks. C. E. Waters. U S Nat Bur Stand Circ C426:1-77 bibliog(p76-7) '40
Microchemical examination of prussian blue writing ink. C. L. Wilson. Chem & Ind 59: 163 Mr 9 '40
More facts about cold-set inks. il Inland Ptr 105:30-2 Je '40
Multilith ink troubles. Inland Ptr 106:62 O '40
Printing inks, their chemistry and technology. C. Ellis. 560p $7 Reinhold pub. corp. '40
Printing process freezes ink. Sci Am 162: 226-7 Ap '40
Process of printing. A. C. Rogers. Pulp & Pa of Can (Convention no) 41:98-103 [F] '40
Silver rubs off. E. St John. Inland Ptr 105:33 Jl '40
Split-second ink drying. Inland Ptr 104:37 F '40
Sticking bronze. J. Stark. Inland Ptr 104:51-2 D '39
Trade tricks in using gloss ink. D. M. MacMaster. Inland Ptr 106:50-1 O '40
Velo cold set process in printing and its relationship to paper. F. G. Breyer. Paper Tr J 110:27-9 Je 13 '40; Abstract. Ind & Eng Chem News ed 18:274 Mr 25 '40
What about the ink for offset? Inland Ptr 104:74 Mr '40

See also
Color printing

Analysis

Oxidation of ferrous iron in iron gall ink; measures age of ink. H. T. F. Rhodes. Chem & Ind 59:143-5 Mr 2 '40

Manufacture

Formulation of printing inks. C. F. Mason. il Chem Ind 46:166-8 F '40

Testing

Ink consistency now measured by new mechanical instrument. Inland Ptr 104:73-4 F '40
Testing of news inks. G. E. Carlsson. il Pulp & Pa of Can 41:238-42, 286-91 F-Mr '40

INK, Luminous
Fluorescence comes to the industry; spectacular printing effects expected from development of inks that glow; plant will benefit from fluorescent lamps. D. M. MacMaster. Inland Ptr 105:31-2 My '40

INK, Perfumed
Perfumed advertising; some cases on record. Ptr Ink 192:75-6 Ag 16 '40
Pine-scented ink used; booklet from the Seattle chamber of commerce. Inland Ptr 105:65 Ag '40
Weekly paper scents perfume publicity. Inland Ptr 105:28 Ap '40

INKROOT. See Statice

INLAND daily press association
Newspaper-agency program. Ptr Ink 190:20 Mr 1 '40

INLAND marine underwriters association
New officers and committeemen. Weekly Underw 142:1267 My 25 '40

INLAND navigation. See River traffic; Waterways

INLAND power and light corporation
SEC to hold hearings on financing plan. Comm & Fin Chr 151:2047 O 5 '40

INLAND steel company
Bonds offered. Comm & Fin Chr 150:2426-7 Ap 13 '40
Edward L. Ryerson, jr. succeeds L. E. Block as chairman. Blast F & Steel Pl 28:482 My '40
No signature needed; Inland Steel collective bargaining decision. Business Week p41 Ja 13 '40
Statistics of income, capital, stock earnings, etc. 1929-39. Annalist 55:237 F 8 '40
United States Circuit court of appeals at Chicago reverses NLRB decision on Inland steel co. pact. Comm & Fin Chr 150:361-2 Ja 20 '40

INLAND waterways corporation
Annual report, 1939. Ry Age 108:950 My 25 '40
Hits federal barge phony accounts; Chamber of commerce of the United States. Ry Age 108:676+ Ap 13 '40

INOCULATION. See Immunity

INOSITOL
Nature of the anti-alopecia factor. D. W. Woolley. Science 92:384-5 O 25 '40
Preparation and properties of derivatives of inositol. F. A. Hoglan and E. Bartow. bibliog Am Chem Soc J 62:2397-400 S '40
Relationship of inositol, thiamin, biotin, pantothenic acid and vitamin B_6 to the growth of yeasts. R. J. Williams, R. E. Eakin and E. E. Snell. bibliog Am Chem Soc J 62:1204-7 My '40

INQUIRIES
See also
Advertising—Inquiries

INSANITY. See Mental diseases

INSECT traps
Electric insect traps often kill beneficial insects. Consumers' Research Bul (Gen bul ser) 9:8 Je '40
Make cockroaches walk the plank. E. Hardy. bibliog il Food Ind 12:47 Jl '40

INSECTICIDE and disinfectant manufacturers, National association of. See National association of insecticide and disinfectant manufacturers

INSECTICIDES
Advances in entomology. C. H. Richardson. il Ind & Eng Chem News ed 18:64-7, 70-2 bibliog(93 titles, p 71-2) Ja 25 '40
Agricultural insecticide price-fixing charged. Oil Paint & Drug Rep 137:3+ Je 3 '40
Chemistry and toxicology of insecticides. H. H. Shepard. 383p $4 Burgess pub. co, Minneapolis '39
Distribution of nicotine between water and petroleum oils. L. B. Norton. bibliog Ind & Eng Chem 32:241-4 F '40
DuPont plans laboratory for insecticide research. Oil Paint & Drug Rep 137:3+ F 26 '40
Insecticide, disinfectant makers discuss raw materials supply. Oil Paint & Drug Rep 136:3+ D 11 '39
New insect poison; Chinese thunder god vine; tripterygium wilfordii. Science 92: supl0 N 8 '40
Non-crystalline constituents of tephrosia virginiana roots. L. D. Goodhue and H. L. Haller. Am Chem Soc J 62:2520-2 S '40
Recent developments in the fumigation of buildings, stored foods, and other materials. A. B. P. Page and O. F. Lubatti. bibliog Chem & Ind 58:1001-6 N 11 '39; Discussion. 58:1040 N 25 '39
Recent experiments on fumigation. A. B. P. Page and O. F. Lubatti. bibliog diags Chem & Ind 59:172-9 Mr 16 '40
Swat the fly campaign made a profitable market for some oil companies. il Nat Pet N 32:25-6+ My 8 '40
What you can use; parasiticides. Oil Paint & Drug Rep 138:48 S 23; 41 S 30; 52 O 7; 36 O 14; 52 O 21 '40
See also
Hydrocyanic acid
Pyrethrins

Testing
Fly farms raise toughest breeds to test insecticide quality. il Nat Pet N 32:28+ My 8 '40

INSECTS
Major cycle in insect flights. J. M. Valentine. Science 91:544 Je 7 '40

Collection and preservation
Entomology at Dartmouth college; Henry Clinton Fall fund. Science 91:184 F 23 '40

INSECTS, Fossil
Carboniferous insects from the Stanton formation, Kansas. F. M. Carpenter. diag Am J Sci 238:636-42, pl 1 S '40
Fossil insects in Russian deposits. Science 92:sup8 Ag 23 '40

INSECTS, Injurious and beneficial
Air conditioned insects save pest infested crops; Dominion of Canada entomological building, Belleville. Heat & Ven 37:140 Ja '40
Ghost forests; number one forest enemy; pine bark beetles. R. Ringle. il Sci Am 162:348-9 Je '40
Insect quarantine; Midway and Canton islands have pest control stations. il Sci Am 163:13 Jl '40
Insect transmission of plant diseases. J. G. Leach. 615p $6 McGraw-Hill '40
See also
Blowflies
Chiggers
Chinch bugs
Cockroaches
Fleas
Flour beetles
Insecticides
Japanese beetles
Mosquitoes
Spiders
Spruce sawfly
Termites

INSECTS as carriers of infection
Experimental transmission of trypanosoma cruzi infection in animals by triatoma sanguisuga ambigua. A. Packchanian. bibliog Pub Health Rep 55:1526-32, pl 1-2 Ag 23 '40
Natural infection of triatoma heidemanni with trypanosoma cruzi in Texas. A. Packchanian. bibliog Pub Health Rep 55:1300-6, pl 1-2 Jl 19 '40
See also
Flies as carriers of infection
Mosquitoes

INSERTS, Package. See Package inserts

INSIGNIA. See United States—Air service, Navy—Insignia

INSPECTION
Castings must pass many tests. M. D. Johnson. il Foundry 68:28-33+ S '40
Electromagnetic feeler-gage control; new method used in inspection measurements of small parts and in automatic control of grinding machine. diags Mach 46:119-21 Ag '40

INSPECTION—*Continued*
Equipment halves inspection cost; glass used in automobile door and window panels flows by inspector. L. G. Jacques. il Factory Management 98:68+ Je '40
Fifteen thousand inspections per hour on Ford crankshafts. il diag Mach 46:128-32 Ap '40
Heald machine company air conditions a portable gauge and inspection room. il Heat & Ven 37:38 N '40
How to tell a good weld. G. G. Landis. il Marine Eng 45:71-3 S '40
Inspection simplified; dial indicators for checking Rayon machinery corp.'s machine parts. L. A. Corey. il diags Am Mach 83: 1084-5 D 27 '39
Inspectors are born that way. C. A. Drake. il Factory Management 98:44-5+ Ap; 57+ My '40
Inspectors on piece rates up quality, output, and earnings; Hoover ball & bearing co, Ann Arbor, Mich. D. W. Saxton. il Factory Management 98:50-1 F '40
Measuring cost of conveyor belt inspection. G. Lowe. Mech Handling 26:319-21 N '39
Production pace set by quality control. J. Geschelin. il Automotive Ind 83:284-95, 366-7+ O 1 '40
Telescope detects defects in gun barrels. il Steel 107:77 N 11 '40
Tolerances at the vanishing point; on the production line of American Bosch injection pumps. H. E. Blank, jr. il diag Automotive Ind 81:564-72 D 1 '39
We have 140 inspections for maintenance. H. L. Stackhouse. il Factory Management 98: 86-8 My '40
X-rays put clincher on quality control. il Food Ind 12:43-5 O '40

See also
Boiler inspection
Boiler inspectors
Car inspection
Factory inspection
Highway inspection
Magnetic testing
also subdivision Inspection under special subjects, e.g. Automobiles—Inspection; Locomotives—Inspection; Motor vehicles—Inspection; Paper—Inspection

INSPECTION cars. See Cars, Inspection

INSPECTORS

Testing

Inspectors are born that way. C. A. Drake. il Factory Management 98:44-5+ Ap; 57+ My '40

INSPIRATION consolidated copper company
Fast-moving low price stocks; thumbnail appraisal. Mag of Wall St 65:556 F 10 '40
Rights to subscribe to $5,910,000 bonds. Comm & Fin Chr 149:3874 D 16 '39

INSTALMENT plan
Consumers credit. K. R. Cravens. Comm & Fin Chr 151:70-2 sec 3 O 12 '40
Distribution and the finance company. W. H. Grimes. Harvard Business R 18 no 2:199-206 [Ja] '40
English Hire-purchase act, 1938. J. E. Hamm. 59p pa 50c Russell Sage foundation, New York '40
General motors corp. and Ford motor co. ordered to cease using 6% in instalment plan advertisements. Comm & Fin Chr 149: 3800 D 16 '39
Hire purchase; need for continued sales of appliances. Gas J (Lond) 228:388-90 N 22 '39
How easy are easy payments? a tract for teachers. L. R. Foster. 28p pa 10c Pollak foundation for economic research, Newton, Mass. '40
How expenses and profits vary with retail credit policies; comparisons of operating ratios for typical retail stores according to the proportion of merchandise sold on cash, charge account, and installment credit terms. W. L. Mitchell, jr. Dun's R 48:26-32+ N '40
Instalment credit census. G. E. Anderson. Banking 32:51 D '39
Installment selling may have reached peak. Credit & Fin Management 42:42-3 O '40
Meeting obstacles in building refrigeration load; Philadelphia electric company. A. Monty. Edison Elec Inst Bul 8:139-40+ Ap '40
One hundred problems in consumer credit; for junior and senior high schools, and for college courses in the mathematics of finance. C. H. Mergendahl and L. R. Foster. 55p bibliog(p53-5) pa 10c Pollak foundation for economic research, Newton, Mass. '40
Philippine Islands; installment sales, leases of personalty. For Comm W 1:113 O 19 '40
Reaching the low-use customer. H. W. Reed. Gas Age 84:33-5 N 9 '39; Same. Am Gas Assn Mo 22:27-9 Ja '40; Same. Am Gas Assn Proc 1939:283-6
Spending next year's income; economic aspects of instalment credit. H. D. Steinmetz. il Mag of Wall St 65:659-61+ Mr 9 '40
There must be no standing still; instalment selling of gas appliances. Gas J (Lond) 229:237-8 Ja 31 '40
Who buys what on the installment plan? R. A. Young and B. Bernstein. il Dun's R 48: 9-16 F '40

Finance

Adventure in bank teamwork; New England commercial banks cooperate in interchange of instalment paper. J. J. Scanlon. Banking 33:30 Ag '40
Banking invasion of the consumer credit field; credit buying on increase. S. L. Miller. Annalist 56:171-2 Ag 8 '40
Banks and finance companies purchased $2,700,000,000 of retail instalment notes in 1939. Comm & Fin Chr 151:2285 O 19 '40
Commercial banks and consumer instalment credit. J. M. Chapman and others. 313p $3 Nat. bur. econ. research '40
Over 29% of loans finance consumers; Kanabec state bank, Mora, Minn. F. P. Powers. Bankers Mo 57:549-50 O '40
Personal finance companies and their credit practices. R. A. Young and others. 170p $2 Nat. bur. econ. research '40
Problems of hire-purchase finance in wartime. Economist 138:382-3 Mr 2 '40
Sales finance companies and their credit practices. W. C. Plummer and R. A. Young. 298p $3 Nat. bur. econ. research '40; Review, by M. V. Ayres. Banking 33: 61 S '40
Will banks capture sales financing? census survey shows trend in that direction. V. D. Reed. Credit & Fin Management 42:14-15 N '40

See also
Finance companies
Travelers' credit corporation

Laws and regulations

Brazil; installment sales provisions of new code. Comm Rep p7 Ja 6 '40
English Hire-purchase act, 1938. J. E. Hamm. 59p pa 50c Russell Sage foundation, 130 E. 22d st, New York '40
Hire purchase and mechanical handling; decisions under the Courts (emergency powers) act, 1939. F. E. Sugden. Mech Handling 27: 130-1 Je '40

Statistics

Consumer credit; estimated receivables of consumer credit agencies at the close of each year, 1923 to 1937; tabulation. Business Week p34 N 25 '39
Consumer credit; instalment and other debts; charts. Banking 33:52-3 S '40
Facts about instalment credit; who uses it; for what; where; charts and tables, 1929-38. Business Week p34-5 S 14 '40
How time sales rank; furniture leads field. Business Week p37 N 25 '39
Installment sales, New England department stores, 1936-1939. Survey of Cur Business 1940 Sup p30 [supplemented in monthly numbers]

INSTALMENT plan—Statistics—*Continued*
Pattern of consumer debt, 1935-36; a statistical analysis. B. Bernstein. 238p $2.50 Nat. bur. econ. research '40
Picture of buy today, pay tomorrow; pictograph. Sales Management 45:35 D 15 '39
Retail installment paper held by insured commercial banks December 30, 1939, by geographic divisions, states, and cities. Fed Res Bul 26:526, 586-7 Je '40; Correction. 26: 778 Ag '40
Slump in hire purchase finance in Britain. Economist 139:218-19 Ag 17 '40
Volume of consumer instalment credit, 1929-38. D. M. Holthausen, M. L. Merriam and R. Nugent. 133p $1.50 Nat. bur. econ. research '40; Review, by O. C. Lorenz. Banking 33:32 N '40

INSTITUTE of ceramic engineers
Officers, finances, etc. Am Cer Soc Bul 19: 155-7 Ap '40
Reports of officers and committees. Am Cer Soc Bul 19:227-9 Je '40

INSTITUTE of food technologists
Annual meeting, 1st, Chicago, June 16-19. Food Ind 12:39-41 Jl '40
First meeting, June 17-19, Chicago. Science 91:309-10 Mr 29 '40
Plans for the first annual meeting, Chicago, June 17-19. Science 91:497 My 24 '40
Program, first annual meeting, Chicago, June 16-19. Food Ind 12:74 Je '40

INSTITUTE of home office underwriters
Annual meeting, Chattanooga, Tenn. East Underw 41:6 S 6 '40; Nat Underw (Life ed) 44:6 S 6; 1+ S 13 '40

INSTITUTE of life insurance
Annual meeting, 1st, New York. East Underw 40:34B D 15 '39; Ins Field (Life ed) 68:7+ D 15 '39; Weekly Underw 141:1253+ D 16 '39; Nat Underw (Life ed) 43:13 D 15 '39
Clip sheet and list of members. Nat Underw (Life ed) 44:8 S 27 '40
Election of officers for 1940. East Underw 40:8 D 22 '39; Spectator (Life ed) 143:32 D 21 '39
Forward steps; purpose of the Institute. H. J. Johnson. Weekly Underw 142:90 Ja 6 '40

INSTITUTE of marine engineers
Annual meeting, 51st, London, March 15. Engineering 149:313-14 Mr 22 '40

INSTITUTE of metals
Annual meeting, 32d, London, March 6. Engineering 149:285-6 Mr 15 '40

INSTITUTE of paper chemistry. See Lawrence college—Institute of paper chemistry

INSTITUTE of petroleum
Twenty-sixth annual report, 1939. Inst Pet J 26:304-20 Je '40

INSTITUTE of radio engineers
Annual convention, 15th, Boston, June 27-29. Electronics 13:17-21+ Jl '40
Annual meeting, 15th, Boston, June 27-29; program and summaries of papers. Inst Radio Eng Proc 28:239-53 My '40
Constitution and bylaws. Inst Radio Eng Proc 27:796-9 D '39
Pacific Coast convention, 4th, Los Angeles, Aug. 28-30; program and summaries of papers. Inst Radio Eng Proc 28:280-6 Je '40
Report of the secretary, 1939. Inst Radio Eng Proc 28:153-4 Mr '40
Rochester fall meeting; abstracts of papers. Electronics 12:20-5 D '39
What the Institute does for its members. R. A. Heising. Inst Radio Eng Proc 28:278-80 Je '40

INSTITUTE of scrap iron and steel
Annual meeting, 12th, Pittsburgh, Jan. 9-11. Steel 106:24-5 Ja 15 '40; Iron Age 145:52-3, 53A-53B Ja 18 '40

INSTITUTE of standards
Business backs consumer testing. il Business Week p30-1 Jl 27 '40
Institute has ad circles buzzing; new product testing project of McCall's. Business Week p40+ S 7 '40
McCall's launches new plan for product standards. Sales Management 47:58 Ag 1 '40
Manufacturers are invited to join new consumer standards institute being organized under the temporary sponsorship of McCall's magazine. Ind Stand 11:206-7 Ag '40
Membership of manufacturers solicited. Ptr Ink 192:18 Jl 26 '40

INSTITUTE of the aeronautical sciences
Annual meeting. Aviation 39:42-3+ Mr '40
Annual meeting, 8th, New York, Jan. 24. J Aeronautical Sci 7:168-72 F '40
Paul Kollsman library endowment to provide lending collection. J Aeronautical Sci 7: 405-6 Jl '40
Summer meeting, 2d, Pasadena, June 24-26. Aviation 39:101-2 Ag '40

INSTITUTE on accounting
Proceedings of the second annual Institute on accounting held at the Ohio state university, May 19-20, 1939. 90p pa gratis College of commerce and administration, Ohio state univ, Columbus '39

INSTITUTES, Technical. See Technical education

INSTITUTION of chemical engineers
Annual meeting and luncheon. Chem Age (Lond) 42:209-11 Ap 13 '40

INSTITUTION of civil engineers
Institution of civil engineers; functions in wartime. C. D. M. Hindley. Engineering 148:551 N 17 '39; Same cond. Engineer 168: 502-3 N 17 '39

INSTITUTION of electrical engineers
History of the I.E.E.; Commander Appleyard's account of its foundation and achievements. Electrician 123:505 D 8 '39
I.E.E.'s history; a review of Rollo Appleyard's interesting narrative. A. Russell. Elec R (Lond) 125:671-2 N 24 '39
Report of the council for the year 1939-1940. Inst E E J 86:575-89 Je '40

INSTITUTION of gas engineers
Annual meeting papers. Gas J (Lond) 230:549-85 Je 12 '40
Extract from the 5th report of the research executive committee, 1938-39. Gas J (Lond) 228:445-8+ N 29 '39; Abstract. Engineering 149:87-8 Ja 26 '40

INSTITUTION of mechanical engineers
Annual general meeting, London, Feb. 16. Engineering 149:205-6 F 23 '40
Annual report of the council for the year 1939. Inst Mech Eng J & Proc 143:Proc 11-38 Ap '40

INSTITUTION of naval architects
Annual meeting, London, March 13. Engineering 149:311-12 Mr 22 '40

INSTITUTIONS, Public
History of the State board of control of Wisconsin and the state institutions, 1849-1939. B. O. Odegard and G. M. Keith. 264p State board of control, Madison, Wis. '39
Typical institutionals installed or on order since January, 1939; tabulation. L. N. Rowley. Power 84:567 S '40
See also
Hospitals
Prisons

INSTRUCTION in use of product
Selling technique in instruction book; Spry recipes. il Ptr Ink Mo 41:14-15 N '40
Swirls and hidden K's; today's instruction book ought to instruct. A. H. Little. Ptr Ink 191:33, 36+ Ap 12 '40
Turret lathe operators service bureau. C. S. Stilwell. il Automotive Ind 82:558-9 Je 15 '40
Warner & Swasey launches turret lathe operators' service bureau. Steel 106:22 My 20 '40; Iron Age 145:86 My 23 '40; Mach 46: 141 Je '40

INSTRUCTIONS
How to prepare a job manual; with summary of analysis of water gas maker's job; Hudson Valley fuel corporation, Troy, N.Y. R. D. Williams. Personnel J 18:219-26 D '39; Same. Am Gas Assn Proc 1939:73-6
Instructions, not rules. R. Burrell. Textile World 90:85-6 Ag '40

INSTRUCTIONS—*Continued*
Memo to staff of a new advertising agency. D. Dunne. Ptr Ink Mo 41:19 O '40

See also
Employees' manuals
Safety instructions and training

INSTRUMENT board. See Automobiles—Instrument board

INSTRUMENTS
Accelerated flow method for rapid reactions; design, construction, and tests. B. Chance. il Franklin Inst J 229:737-66 Je '40
American apparatus, instruments, and instrumentation. R. H. Müller. bibliog il diags Ind & Eng Chem Anal ed 12:571-630 O 15 '40
Basic concepts of instrument savings. W. H. Pezold. Instruments 13:7 Ja '40
Cantilever beams; design for given deflection at any point. C. C. Street. diag Product Eng 11:18-19 Ja '40
Directory of instruments and related apparatus. Ind & Eng Chem Anal ed 12:sup19-50 O 15 '40
Instrumentation studies (cont). bibliog Paper Tr J 110:44-50 Ja 25; 29-37 F 15; 27-33 Je 6 '40
Instruments. il diags Metal Prog 38:549-69 O '40
Instruments and control equipment at Chemical exposition. il diags Chem & Met Eng 46:705-10, 780-1 N-D '39
Instruments safeguard progress; power plant instruments during past ten years. il diags Power Pl Eng 44:68-70 Ja '40
Intelligence and instruments. L. W. Wallace. Instruments 13:184-5 Jl '40
Review of power and mechanical equipment; meters and instruments. il diags Power 83:809-13 Mid-D '39
Saving with instruments in lime plants. V. J. Azbe. il Rock Prod 43:53-4 F '40
Second annual instrumentation contest; instruments save money. il Instruments 13:2-23 Ja '40
Total of instrument-made jobs always exceeds number of displaced workers. P. R. Ewald. Instruments 13:10+ Ja '40
Wanted—a broader view of industrial plant instrumentation. W. H. Sayler. Instruments 13:161+ Je '40

See also
Aeronautic instruments
Balances
Control equipment
Electric apparatus and appliances
Electric instruments
Measuring instruments
Optical instruments
Physical instruments
Profilometers
Radio instruments
Recording instruments
Scientific apparatus and instruments
Stroboscopic instruments
Surgical instruments and apparatus
Surveying instruments
Verniers

Directories
1940 Instruments index. Instruments 13:1-64 pt 2 Ja '40

Manufacture
Job shop for miniature parts; Custom parts division, Waltham watch company. P. Dumaine. diags Am Mach 84:88-9 F 21 '40
Manufacturing small-arms ammunition and instruments at Frankford arsenal. E. D. Bricker. il Mach 46:157-8 Ja '40
Precision parts for instruments, gages, etc; Custom parts division of the Waltham watch company. P. Dumaine and E. E. Cederholm. il diags Product Eng 11:260-3 Je '40

INSULATING board. See Fiber board

INSULATING bricks. See Bricks, Insulating

INSULATING bushings. See Bushings, Insulating

INSULATING materials
Ceramic insulating materials. H. Thurnauer. bibliog il Elec Eng 59:451-9 N '40
Ceramic insulators for spark plugs. F. H. Riddle. il diag S A E J 46:236-42 Je '40
Chemist and electrical insulation; abstracts. L. Massey. Chem Age (Lond) 42:114 [130] Mr 2 '40; Chem & Ind 59:151 Mr 2 '40
Complete shockproofing; the use of plastics. G. E. Moore. Elec R (Lond) 127:107-8 Ag 9 '40
Compressed magnesia as electrical insulator. A. Gemant and F. A. Glassow. Franklin Inst J 230:471-81 O '40
Development of a pre-stressed glass insulator. P. M. Hogg. diags Engineering 149:449 Ap 26 '40; Abstract. Elec R (Lond) 126:426 Ap 12 '40
Developments in insulating materials. J. F. Gillies. bibliog Inst E E J 86:66-70 Ja '40
Dielectric properties of organic compounds; relation to chemical composition and physical structure. S. O. Morgan and W. A. Yager. bibliog Ind & Eng Chem 32:1519-28 N '40
Electrical conduction in dielectric liquids. R. W. Dornte. bibliog diags Ind & Eng Chem 32:1529-34 N '40
Electrical properties of thermoplastics; five phenolics and one benzyl alcohol resin investigated. L. Hartshorn, N. J. L. Megson and E. Rushton. Soc Chem Ind J 59:129-33 Jl '40
Electrical uses for synthetic mica; Alsifilm. Elec W 112:1893 D 30 '39
Electrochemical potential differences at the boundary copper-insulating liquids. A. Gemant. bibliog diags Electrochem Soc Trans 78 (preprint 21):297-309 O '40
Fiberglas-insulated motor much smaller than standard type. il Mach 46:274 D '39
Fluid filling-media for electrical apparatus. F. Meyer. diags pl Inst E E J 86:313-20 Ap '40; Abstract. Elec R (Lond) 125:703 D 1 '39; Discussion. Inst E E J 86:320-6 Ap '40
Glass as an electrical insulator. C. J. Phillips. bibliog J Ap Phys 11:173-81 Mr '40
Glass fiber. W. L. Schneider. Textile Col 62: 246-7 Ap '40
Glass fibre as a wire covering. Electrician 125:19 Jl 12 '40
Glass fibre electrical insulation. R. Quarendon. Engineer 169:538-9 Je 14 '40
Glass insulation; advantages and limitations. Elec R (Lond) 126:9 Ja 5 '40
Insulating materials, 1939. A. R. Dunton. il Electrician 124:57 Ja 26 '40
Motor capacity boosted 100 per cent; fiber glass insulations. il Rayon 20:724 D '39
New sheet insulating material; Alsifilm. H. A. Harrison. Elec R (Lond) 126:41 Ja 12 '40
Okonite develops new insulations. il Transit J 84:248 Jl '40
Shortcomings of mica insulation for aviation spark plugs. V. Cronstedt. il diags S A E J 46:233-5+ Je '40; Abstract. Automotive Ind 82:108 F 1 '40
Significance of glass insulation. G. L. Moses. il Power Pl Eng 44:50-2 Mr '40
Titanium compounds; abstract. S. Suzuki. Am Cer Soc J 23 (Cer A 19):118-19 My '40
Vulcanized fibre. il diags Product Eng 11: 292-6 Jl '40

See also
Glass fibers
Oil, Insulating
Paper, Insulating
Porcelain, Insulating
Rubber

Manufacture
Sillimanite in spark plugs; pictorial story of insulator production. Can Chem & Process Ind 24:392-3 Ag '40

Testing
A.S.T.M. standards on electrical insulating materials. 309p pa $2 Am. soc. for testing materials, 260 S. Broad st, Philadelphia '39
Behaviours of porcelain and glass insulators under test conditions; abstracts. A. E. Helden and others. Elec R (Lond) 126:426-7 Ap 12 '40; Electrician 124:321 Ap 26 '40; Engineering 149:434 Ap 26 '40
Electrical insulating oil deterioration; chemical and electrical tests. J. C. Balsbaugh, A. H. Howell and A. G. Assaf. bibliog il Ind & Eng Chem 32:1497-1510 N '40

INSULATING materials—Testing—*Continued*
Electrical stability of oil-impregnated paper; relation to the properties of the oil. C. E. Trautman and W. N. Arnquist. bibliog Ind & Eng Chem 32:1535-9 N '40
H.F. insulation materials; results of laboratory tests of synthetic plastics. P. Mabb. Electrician 123:453-4 N 24 '39
Impulse strength of cable insulation. E. W. Davis and W. N. Eddy. bibliog il diags Elec Eng 59:Trans 394-9; Discussion. Trans 399-402 Jl '40
Insulating paper in the telephone industry. J. M. Finch. bibliog il Ind & Eng Chem 32: 1021-8 Ag '40
Some thoughts on the scientific approach to textile problems. A. C. Walker. Rayon 21: 345-6 Je '40

INSULATING oil. See Oil, Insulating

INSULATING paper. See Paper, Insulating

INSULATING porcelain. See Porcelain, Insulating

INSULATION (electric)
Basic impulse insulation levels. P. Sporn and C. A. Powel. Elec Eng 59:Trans 596-8 O '40
Chemical groups hold electrical insulation symposium. Elec Eng 59:244 Je '40
Co-ordination of electrical equipment with basic insulation levels. J. H. Foote and J. R. North. bibliog Elec Eng 59:Trans 585-9 O '40
Current progress in electrical-insulation research reflected at National research council conference. Elec Eng 59:33-6 Ja '40
Glass insulation aids motor design. J. S. Askey. Elec W 113:924 Mr 23 '40
Methods of controlling radio interference. C. V. Aggers. il diags Elec Eng 59:Trans 194, 198-9 Ap '40
Modern insulators; five years' developments in high-voltage outdoor type. J. S. Forrest. diags Elec R (Lond) 126:473-4 Ap 26 '40
Pole riser cables with corona-resisting compound. T. J. Brosnan. il Elec W 113:568-70 F 24 '40
Radio-frequency high-voltage phenomena. A. Alford and S. Pickles. diags Elec Eng 59: Trans 129-36; Discussion. Trans 136-7 Mr '40
Radio-proof 24-kv. urban line. R. D. Iden. il Elec W 114:1182 O 19 '40
Rationalization of transmission-system insulation strength; margins between basic insulation levels and protectable levels. P. Sporn and I. W. Gross. bibliog Elec Eng 59:Trans 591-5 O '40
Some aspects of electrical insulation. Engineering 148:503-4 N 3 '39
Spool insulator eliminates danger of flashovers. diag Coal Age 45:62 Jl '40
Thin wall insulation gets code approval. Elec W 112:1756 D 16 '39
Transmission line interference cures. J. C. Fear. Elec W 113:450+, 598+ F 10-24 '40
Triple alliance in electrical insulation; review of progress achieved by physicists, chemists, and electrical engineers. L. J. Berberich. bibliog Elec Eng 59:23-32 Ja '40
What, where and how of the new building wires. E. A. Brand. Elec W 113:1517-20+ My 18 '40
Your fault if insulation fails. W. H. Ruehlin. il Factory Management 98:77-8 My '40

See also
Dielectrics
Electric cables
Electric resistance
Electric wiring
Insulating materials
Oil, Insulating
Porcelain, Insulating
Power factor, Dielectric

Testing
Differential amplifier with oscillograph as detector of discharges in insulation. il diag Engineer 169:320-1 Ap 5 '40
Enclosed spark gaps. W. E. Berkey. bibliog il diags Elec Eng 59:Trans 429-33 Ag '40
Fabric abrasion testing; evaluation of electric insulation. K. N. Mathes. il Gen Elec R 43:467-70 N '40
Insulation resistance, direct current motors. F. A. Annett. diags Power 84:102 F '40
Insulation resistance tests; Megohm bridge developed by General radio co. il diags Power Pl Eng 44:59-60+ Je '40
Power-factor testing of transformer insulation. F. C. Doble and G. H. Browning. il diags Elec W 112:1583-4+ D 2 '39
Put the insulation tester on it. il Factory Management 98:60-1 Ap '40
Recommendations for high-voltage testing. diag Elec Eng 59:Trans 598-602 O '40
Resistance tester for control cable. diag Elec W 113:1908+ Je 15 '40
Test truck for high-voltage service. J. H. Merriman. il Elec W 114:272 Jl 27 '40
Testing insulators; substitution of vacuum glow-discharge for water as interior electrode. W. Subak. diags Elec R (Lond) 127: 217-18 S 13 '40
Testing of transmission-line insulators under deposit conditions. W. J. John and C. H. W. Clark. bibliog diags Inst E E J 85:590-609, pl 1-3 N '39; Excerpts. Electrician 122:202 F 17 '39; Abstract. Elec R (Lond) 124:247 F 17 '39; Discussion. Inst E E J 85:609-24 N '39
Tests on wood poles; determining shock and fire risks. G. T. Garwood. il Elec R (Lond) 126:423-5 Ap 12 '40
What wood may add to primary insulation for withstanding lightning. J. T. Lusignan, jr. and C. J. Miller, jr. diags Elec Eng 59: Trans 534-40 S '40

INSULATION (heat)
Basement condensation and a remedy. Sheet Metal Worker 31:26 Mr '40
Canadian National method for lagging application; locomotive boilers. il diags Ry Mech Eng 114:161 Ap '40
Celotex finds a way to demonstrate savings achieved by insulation. G. D. Andrews. il Sales Management 46:25-6+ F 1 '40
Cold storage insulating material from forest waste; redwood bark wool. N. C. Jones. Chem & Ind 59:69-70 F 3 '40
Concrete walls eliminate condensation in dairy buildings. G. B. Hanson. diags Concrete 48:16+ Ag '40
Data on heating and sheet metal; typical base wall of frame construction; insulated and not insulated stucco. A. M. Daniels. diags Sheet Metal Worker 31:131-2 Ja; 57-8 Mr; 61 My '40
Diminishing effectiveness of successive thicknesses of insulating materials. P. D. Close. plans Heating-Piping 12:191-4 Mr '40; Abstract. Heat & Ven 37:53-4 F '40
Heat insulation on cylindrical surfaces. C. Turner. il Ind & Eng Chem 32:904-6 Jl '40
How hot is the ceiling? T. D. Phillips. il Dom Eng 156:42+ O '40
How to estimate building insulation requirements; abstracts. R. K. Thulman. maps Sheet Metal Worker 31:62-4 Jl '40; Heat & Ven 37:34-6 Ag '40
How to insulate a duct. il Sheet Metal Worker 31:40 Ag '40
Importance of insulation to mortgage lender; abstract. G. H. Fallin. Sheet Metal Worker 31:66 Jl '40
Insulating air ducts against heat loss and noise. il diags Sheet Metal Worker 31:36-8 Je '40
Insulating material for ship structures; Firefoil. Marine Eng 44:568 D '39
Insulating materials for refrigeration work. E. Griffiths. Inst Mech Eng J & Proc 142: 187-8 N '39
Insulation against heat, humidity and sound; abstract. P. D. Close. Heat & Ven 37:61 Jl '40
Insulation and heat loss; abstract. E. S. Draper. Science 90:sup10 N 17 '39
Insulation board for home building. il diags plans Am Bld 61:43-71 D '39
Insulation economics. E. J. Rodee. il map Arch Forum 72:161-6 Mr '40
Loose fill insulation proves practical in hollow brick wall; abstract. O. T. Bowles. diags Brick & Clay Rec 97:19-20 O '40
Low temperature insulation hints. W. F. Schaphorst. Am Gas J 153:23 S '40

INSULATION (heat)—*Continued*
Minerals, combustibles and chemicals used in making insulating materials. J. O. Knizek. il Brick & Clay Rec 97:52-4 N; 46-7 D '40
New development lessens winter hazards of wet seal gas holders. il Am Gas J 153:58 O '40
New marine insulating material; fiberglas. G. Slayter. il Marine Eng 45:60-5 F '40
Optimum thickness of insulation for Canadian homes; abstract. J. D. Babbitt. Am Water Works Assn J 32:1420-1 Ag '40
Pipe-insulation heat loss; table; data sheet. Power 84:259 Ap '40
Process heating uses oil for heat transfer; insulation board production; Fir-Tex insulating board company use Gilsonite as covering. R. M. Hermann. il diag Elec W 114:1319-20 N 2 '40
Properties of heat insulating materials. E. A. Allcut. Can Chem & Process Ind 24:11 Ja '40
Savings from insulation in low-cost housing; Tennessee Valley studies. W. H. Purnell. il Heat & Ven 37:31-3 O '40
Slow cooling of ingots; use of limestone and magnesia for thermal insulation. W. J. Rees. diag Iron & Steel Inst J 139:315-18; Discussion. 319-20 no 1 '39
Special insulation used in poultry freezing plant. Refrig Eng 38:362 D '39
Study of heat-insulation problems in steam power plants. E. T. Cope and W. F. Kinney. il diags Mech Eng 62:465-70 Je '40; Excerpt. Heating-Piping 12:524-6 S '40
Symposium on thermal insulating materials. 123p Am. soc. for testing materials, Philadelpia '39
These salesmen use blocks in third dimension insulation selling. il Ptr Ink 190:23-4 F 9 '40
13 don'ts for air conditioning ducts. J. M. High. il Dom Eng 154:36-7 D '39
Up-to date insulation of hot blast stoves. E. H. Younglove. diags Blast F & Steel Pl 28:461-3 My '40
Utilization data sheet; heating asphalt and gilsonite for insulating board. A. L. Apperson. plan Elec West 84:43 Mr '40
Water heating problems; is the use of expensive insulation justified? Electrician 124: 364 My 17 '40
Water in refrigeration insulation; tests, using fiberglass. T. T. Tucker and G. A. Robertson. il diags plan Refrig Eng 39:364-6 Je '40
What thickness insulation? heating costs analyzed. W. T. Miller. Am Bld 62:86+ O '40

See also
Asbestos
Bricks, Insulating
Building—Heating aspects
Refrigeration and refrigerating machinery
Refrigerator cars

Testing

Field tests prove insulation value; research on TVA houses. Arch Rec 88:108+ Jl '40
Thermal test coefficients of aluminum insulation for buildings. G. B. Wilkes, F. G. Hechler and E. R. Queer. diags Heating-Piping 12:68-72 Ja '40

INSULIN
Effects of steroid glycosides and cortin on insulin convulsions and blood sugar. R. L. Zwemer, K. L. Pines and B. E. Lowenstein. bibliog Science 91:600-2 Je 21 '40
Factors affecting the insulin content of pancreas. R. E. Haist and C. H. Best. Science 91:410 Ap 26 '40
Method of studying the availability of various substrates for human brain metabolism during therapeutic insulin shock. J. Wortis and W. Goldfarb. bibliog Science 91:270-1 Mr 15 '40
Morphological and functional recovery of the pancreatic islands in diabetic cats treated with insulin. F. D. W. Lukens and F. C. Dohan. Science 92:222-3 S 6 '40
Preparation of crystalline insulin. R. G. Romans, D. A. Scott and A. M. Fisher. bibliog il Ind & Eng Chem 32:908-10 Jl '40
Pressure-soluble and pressure-displaceable components of monolayers of native and denatured proteins. I. Langmuir and D. F. Waugh. diags Am Chem Soc J 62:2771-93 O '40
Starvation treatment of wildly growing cancer cells; abstract. R. H. Steckel and J. R. Murlin. Science 91:sup8 Mr 22 '40

INSULITE company
Structural properties of Insulite wall and Insulite partition constructions sponsored by the Insulite co. H. L. Whittemore, A. H. Stang and T. R. C. Wilson. bibliog il diags U S Nat Bur Stand Report BMS81:1-52 '39

INSULUX. See Glass blocks

INSURABLE interest
Agreement to support and pay expenses of last sickness and burial of insured creates an insurance interest. Weekly Underw 142: 117 Ja 6 '40

INSURANCE
Democratic platform includes insurance plank. Ins Field (Fire ed) 69:4 Jl 25 '40; Ins Field (Life ed) 69:9 Jl 26 '40
How safe is insurance; abstracts. L. H. Pink. Comm & Fin Chr 151:2288 O 19 '40; East Underw 41:26 O 18 '40; Ins Field (Fire ed) 69:8+ O 17 '40; Ins Field (Life ed) 69:8-9 O 18 '40; Nat Underw 44:21+ O 17 '40; Nat Underw (Life ed) 44:2+ O 18 '40; Spectator (Property ed) 6:28 O 17 '40
Insurance men members of Congress. East Underw 41:3+ Ap 12 '40
Insurance policy sales and survey analyzer. W. D. Lynn. 89p $2 National underwriter co. Cincinnati '39
Part insurance must play in present emergency. P. L. Haid. Nat Underw 44:5+ O 3 '40
Pointers in merchandising insurance. T. H. Ross. Ins Field (Fire ed) 69:22-4 D 12 '40; Abstract. Nat Underw 44:23+ N 7 '40
Quiz conducted at meeting of New Jersey underwriters at Atlantic City. Weekly Underw 143:628 S 21 '40

See also
Benefit societies
Insurance companies and other subjects beginning Insurance
Rural electrification administration—Insurance requirements

Adjustment of claims

Building good will through claim service. T. E. Hickey. Weekly Underw 143:916-18 O 19 '40
Claim men can assist with public relations. W. A. Barr. East Underw 40:34 D 8 '39
Claim settlements; chiseling attacked. E. B. Sims. East Underw 41:27 Jl 12 '40; Same cond. Ins Field (Fire ed) 69:8-9 Jl 11 '40
Court rules against rehearing sought by Birmingham bar association in case against companies and adjusters. Ins Field (Fire ed) 69:8-9 Je 20 '40; Nat Underw 44:15 Je 20 '40
Doctor and his records are vital in claim work. W. J. Brown. Nat Underw 44:25 F 22 '40
Prejudice in insurance litigation; digest of recent cases. J. L. Roesch. Spectator (Property ed) 5:32-3 Ja 11 '40
Report of California state bar association committee on claims adjusters. Nat Underw 44:22+ S 19 '40; East Underw 41:53 S 27 '40
Some present day claim problems; abstracts. H. D. Combs. East Underw 41:38 O 25 '40; Nat Underw 44:23 O 24 '40
Value of claim man. C. W. Young. Weekly Underw 141:1272+ D 16 '39; Excerpts. East Underw 40:108 D 15 '39
Waiver and estoppel doctrine after occurrence of loss. H. O. Wolfe. Nat Underw 44:25+ Je 20 '40
What companies seek in field attorneys; abstracts. H. S. Don Carlos. East Underw 41:13+ S 6 '40; Weekly Underw 143:518+ S 7 '40

See also subdivision Adjustment of claims under various Insurance headings, e.g. Insurance, Accident—Adjustment of claims
also National association of independent insurance adjusters

INSURANCE—*Continued*

Advertising

Printed advertising will always need impetus of face-to-face salesmanship. H. G. Helm. East Underw 40:109 D 15 '39

Public relations by radio; script of broadcast in Philadelphia on life, fire and casualty insurance. Ins Field (Fire ed) 69:20-1 Je 27 '40; Same. Ins Field (Life ed) 69:14-15 Jl 5 '40

Air raid risks

Diversity of views on desirability of bombardment cover. Nat Underw 44:1 Jl 25 '40

Lloyd's scores success with air raid coupons; British offices want to administer war damage insurance plan. East Underw 41:23 O 11 '40

Property insurance. Economist 139:450-2 O 12 '40

Bibliography

Digest of insurance literature; index of articles in current periodicals. Published in weekly numbers of Weekly underwriter

Insurance; abstracts. Published in monthly numbers of Management review

Cancellation

See also
Insurance, Fire—
Cancellation

Coverage

Credit executive points out need for adequate coverage. E. B. Moran. Nat Underw 44:29 S 19 '40

Credit man sees great future for the fact-finder form for survey of insurance requirements. E. B. Moran. Nat Underw 44:5 Mr 14 '40

Insurance check list for credit studies; insurance needs of 31 industries and definitions of 88 coverages. bibliog Bankers Mo 57:143-6 Mr '40

Insurance protection for a fuel dealer; check list. Bankers Mo 57:563 O '40

Maintain an insurance coverage in line with your current needs. C. R. Rosenberg, jr. Inland Ptr 104:58 Ja '40

Material damage insurance. H. G. Eberle and H. W. Ervin. Banking 32:28-9 D '39

More comprehensive forms of insurance held trend of today. D. C. Bowersock. East Underw 41:1+ O 11 '40

Protection given a hotel by each type of insurance; check list. Bankers Mo 57:360 Je '40

Protection given a job printer by each type of insurance; checklist. Bankers Mo 57:302 My '40

Protection given a paper manufacturer by each type of insurance; check list. Bankers Mo 57:31-2 Ja '40

Protection given a plumbing and heating contractor by each type of insurance; checklist. Bankers Mo 57:512 S '40

Protection given a soft drinks bottler by each type of insurance; checklist. W. B. Leonard and N. D. Stone. Bankers Mo 57:155-6 Mr '40

Protection given a steel casting manufacturer by each type of insurance; checklist. O. E. Mount. Bankers Mo 57:98, 100 F '40

Credit aspects

Bank and its customers' insurance. K. C. Bell. Weekly Underw 142:1224-8 My 18 '40; Excerpts. East Underw 41:29+ My 10 '40; Nat Underw 44:3 My 9 '40; Trusts & Estates 71:73 Jl '40

Bank's interest in borrowers' insurance. K. C. Bell. Bankers M 141:297-300 O '40

Basis for loans to real estate operators; with checklist of insurable hazards. M. L. Fitch. il Bankers Mo 57:464-5 Ag '40

Credit executive speaks to insurance men; insurance companies should furnish coverage information to credit interchange bureaus. G. C. Klippel. Credit & Fin Management 41:13-15 D '39; Excerpts. Nat Underw 43:28+ N 16 '39

Credit man and insurance. E. D. Lawson; abstracts. Ins Field (Fire ed) 69:21 F 15 '40; Nat Underw 44:5 F 15 '40

Credit man sees great future for the fact-finder form for survey of insurance requirements. E. B. Moran. Nat Underw 44:5 Mr 14 '40

Credit men approve Fact finder plan. East Underw 41:28 My 24 '40; Ins Field (Fire ed) 69:17-18+ My 23 '40; East Underw 44: 1+ My 23 '40

Fact finder form; credit men's survey of insurance requirements. Spectator (Property ed) 5:22 Je 13 '40

Insurance check list for credit studies; insurance needs of 31 industries and definitions of 88 coverages. bibliog Bankers Mo 57:143-6 Mr '40

Insurance for borrowers. H. G. Eberle and H. W. Ervin. Banking 33:37-8 Ag '40

Insurance man talks on credits. A. W. Pardew. Credit & Fin Management 42:19-20+ Ja '40

Insurance needed by a home owner. Bankers Mo 57:599 N '40

Insurance pointers for credit men. C. A. Reid. East Underw 40:22 D 22 '39

Insurance should do better job. E. B. Moran. Weekly Underw 142:1253+ My 25 '40

Management policies by industries; canvas goods manufacture; insurance checklist. S. T. Jessop. Bankers Mo 56:726 D '39

National association of credit men, and insurance; abstracts. L. E. Falls. Ins Field (Fire ed) 69:21 Ap 25 '40; Weekly Underw 142:1017+ Ap 27 '40

Talk to credit men about protection of borrowers. W. A. Earls. East Underw 41:18 Jl 26 '40

360 million dollar market; get credit men to require adequate coverage. D. C. Campbell. Ins Field (Fire ed) 69:22-3+ F 15 '40; Excerpts. East Underw 40:30 D 8 '39

Use and occupancy insurance as basis of credit. H. P. Winter. Nat Underw 44:11 My 2 '40

Washington agents hear Laurence E. Falls discuss possible aid to credit men. Weekly Underw 143:327+ Ag 17 '40

Exhibits

Companies play vital role in New York world's fair. L. Casey. il Weekly Underw 142:78-9 sec 2 My 11 '40

New York fair exhibits, 1940. Ins Field (Life ed) 69:9 My 3 '40

Fraudulent claims

See also subdivision Fraudulent claims under various Insurance headings, e.g. Insurance, Accident—Fraudulent claims; Insurance, Automobile—Fraudulent claims

Government policies

Amendments to H.O.L.C. contract needed to make it comply with Wisconsin laws. M. Duel. Ins Field (Fire ed) 69:7 Ag 22 '40

Comments on HOLC insurance bids. W. H. Bennett. Ins Field (Fire ed) 69:8 F 29 '40

Commissioners await official word on HOLC deal; correspondence of A. V. Gruhn and Superintendent Pink of New York on 25 percent refund. Nat Underw 44:4 My 9 '40; Ins Field (Fire ed) 69:7 My 9 '40

Contracts for HOLC insurance must be submitted by February 15. East Underw 41:35 Ja 26 '40; Ins Field (Fire ed) 69:8 Ja 25 '40; Nat Underw 44:3+ Ja 25 '40; Weekly Underw 142:181+ Ja 20 '40

Cover on planned residential communities and public housing projects. E. P. Murphy. Weekly Underw 142:244-5 Ja 27 '40

Danger of disturbing plan in HOLC coverage. J. D. Saint. Nat Underw 44:8+ F 1 '40

Facts regarding HOLC insurance plan. E. A. Teaf. Nat Underw 44:10 My 30 '40

Farm security administration invites insurance bids Dec. 8 on supervised holdings throughout country. Weekly Underw 141: 1153+ D 2 '39

Federal loan board confers with agents on new HOLC contracts. Weekly Underw 141: 1365+ D 30 '39

HOLC abandons insurance on properties it owns; replies to mutuals' attack on service fee. Nat Underw 44:3+ My 2 '40; Ins Field (Fire ed) 69:9 My 2 '40

INSURANCE—Government policies—*Continued*
HOLC action protested by Ohio local agents. W. A. Earls. Weekly Underw 142:701+ Mr 23 '40; Excerpts. Nat Underw 44:6 Mr 28 '40
HOLC contract subject of fiery debate by commissioners. Nat Underw 44:1+ Jl 4 '40
HOLC decision awaited on bids for new fire contracts. East Underw 41:1+ Mr 1 '40; Nat Underw 44:5 F 22 '40
HOLC insurance problems. R. W. Sheehan. il Spectator (Property ed) 5:10-13+ F 22 '40
HOLC property risk is less than ordinary; special rates possible in Nebraska; opinion of Commissioner Smrha. Weekly Underw 142:292 F 3 '40; Excerpts. East Underw 41: 31 F 2 '40
Insurance bids made minus list of risks. East Underw 41:24 N 8 '40; Nat Underw 44:6 N 7 '40
Insurance of federal agencies is being shifted; problems arising. Nat Underw 43:3+ N 2; 1+ N 30; 5 D 21; 3+ D 28 '39
Mutuals stir state officials on HOLC decision. Nat Underw 44:4+ Ap 25 '40
Ohio agents association offers HOLC plan for financed property. Nat Underw 44:13 Ap 11 '40
Policies on HOLC properties not cancellable, whatever outcome of present bidding. W. H. Bennett. Ins Field (Fire ed) 69:11 Mr 14 '40; Same. Weekly Underw 142:645+ Mr 16 '40
Procedure; how stock company association handles H.O.L.C. loans. R. D. Voss. Ins Field (Fire ed) 69:18 Jl 11 '40
Reduced insurance and utility rates for public housing projects. Monthly Labor R 49:1418-19 D '39
Stock company association tells companies of changes in insurance procedure of HOLC. G. C. Morgan. East Underw 41:25 Je 21 '40; Same. Ins Field (Fire ed) 69:7-8 Je 20 '40; Abstract. Nat Underw 44:11 Je 20 '40
Stock company association to write all risks placed by the HOLC. East Underw 41:1+ Ap 19 '40; Ins Field (Fire ed) 69:7 Ap 18 '40; Nat Underw 44:1+ Ap 18 '40; Weekly Underw 142:969 Ap 20 '40

Instalment premiums

Installment buying, recent development, problem for accounts department. E. G. Crasper. Weekly Underw 141:1164-5 D 2 '39

International aspects

Foreign insurance; British to use insurance abroad as invisible export; particular needs in wartime. J. C. Stamp. Weekly Underw 142:1268 My 25 '40

Law

See Insurance law

Municipal policies

Municipal insurance costs and practices; a summary of available data. H. B. Wilson. 51p pa $1 American municipal assn, 1313 E. 60th st, Chicago '39

See also
Insurance, Fire—
Municipal policies

Periodicals

Association of casualty and surety executives to publish monthly Casualty and surety journal. Spectator (Property ed) 5:9 Ja 25 '40
Mutual competition or the decline of capitalism; editorial comment on new Casualty & surety journal. Weekly Underw 142:1293 My 25 '40

Policies

Insurance; a practical guide for various forms of coverage. S. B. Ackerman. rev ed 599p bibliog(p559-64) $4.50 Ronald press '39

Premium financing

Empire trust company has new premium financing service for life insurance policyholders. Nat Underw (Life ed) 44:5 Mr 15 '40
Financing of premium plan of Groninger & co; three types of plans used. East Underw 41:37 Ap 13 '40
First Bancredit corp. sees 1940 banner year in premium financing. East Underw 41:31 Ap 26 '40
Saving the day by financing; illustrative case history. Ins Field (Fire ed) 69:20-1 Ja 18 '40
Trend toward financing. A. C. Stevens. Ins Field (Fire ed) 69:20 Ja 4 '40

Premiums, Payment of

Collections are good; local agent personalizes and puts humor in his collection efforts. Ins Field (Fire ed) 68:20 N 30 '39
Extension of credit by agents for premium payment; ruling of Attorney General of California. Weekly Underw 143:7 Jl 6 '40
Millers National makes awards for collection letters. Nat Underw 44:4 Ja 18 '40
Misappropriation of funds by agents, brokers and solicitors; California ruling. Weekly Underw 142:892 Ap 13 '40
Top-ranking collection letters published by Millers National. East Underw 41:26 F 23 '40
Whipping the collection problem. C. S. Whitner. il Ins Field (Fire ed) 69:18-19+ Je 20 '40

Purchasing

American management association insurance division meeting, New York. Spectator (Property ed) 5:10-14+ D 14 '39; East Underw 40:95+ D 15 '39; Nat Underw 43:5+ D 14 '39
Buyers' meeting is provocative; Controllers congress of the National retail dry goods association. Nat Underw 44:5+ Je 20 '40
Comment on an insurance buyer's criticism made. J. E. Reimann. Nat Underw 43:6 N 16 '39
Criticism of local agency practices and salesmanship by an unbiased buyer. A. C. Bryant. Ins Field (Fire ed) 69:16-17 Jl 4 '40
Greater responsiveness to needs urged by buyer. J. G. Reese. Nat Underw 44:15 Jl 4 '40
Insurance buyer looks at insurance agents. L. H. Wiggers. Weekly Underw 143:782+ O 5 '40; Abstract. East Underw 41:22 O 4 '40
Selecting an insurance carrier; points to check on financial stability. T. J. V. Cullen. Spectator (Property ed) 6:10-13 Jl 11 '40; Same abr. Credit & Fin Management 42:18-19 Je '40
Standard Oil man tells buyers principles that govern decision. J. W. Myers. Nat Underw 44:20+ My 9 '40
Will the agent survive? prominent insurance buyer says yes. A. P. Lange. Ins Field (Fire ed) 69:16-17+ F 8 '40

Rating bureaus

Canadian rate bureau recommended as step to aid stabilization of fire and casualty business. East Underw 40:1+ N 24 '39

Reinsurance

American reinsurance market being enlarged; National reinsurance corporation of New York to be formed. East Underw 40:22 D 1 '39; Spectator (Property ed) 5:7 D 14 '39; Weekly Underw 141:1157 D 2 '39
Excess of loss contracts. G. W. Ingrey. Weekly Underw 143:136-8 Jl 20 '40
Re-insurance in unauthorized companies; Attorney-General of Ohio gives opinion. T. J. Herbert. Weekly Underw 143:555 S 14 '40
Reinsurance rule is formulated by Ohio Supreme court; no liability on treaty until loss is paid by reinsured carrier in cash. Nat Underw 43:11-12 N 30 '39
War may expand U.S. reinsurance market. Ins Field (Fire ed) 69:8 Je 6 '40; Nat Underw 44:3+ Je 6 '40

Social aspects

Insurance doctors the countless ills of humanity. G. E. Allen. East Underw 40:37 N 24 '39; Excerpt. Comm & Fin Chr 149:3488 D 2 '39

INSURANCE—*Continued*

Study and teaching

Alabama short course. M. R. McGruder. Weekly Underw 143:378 Ag 24 '40

American association of university teachers of insurance, annual meeting, Philadelphia. Weekly Underw 141:1272+ D 30 '39; Ins Field (Fire ed) 69:8 Ja 4 '40; Ins Field (Life ed) 69:10 Ja 5 '40

American college surveys insurance instruction in colleges and universities of this country. East Underw 41:6 Mr 8 '40; Ins Field (Life ed) 69:17 Mr 8 '40; Ins Field (Fire ed) 69:28 Mr 14 '40; Nat Underw 44:5 Mr 7 '40; Nat Underw (Life ed) 44:9 Mr 8 '40; Spectator (Life ed) 144:14 Mr 28 '40

College and university courses in insurance and related subjects; a survey. D. McCahan and A. M. Kelly. 36p pa 35c Am. college of life underwriters, Philadelphia '40

Education as a means of eliminating unqualified insurance representatives. S. O. Smith. Weekly Underw 142:596+ Mr 9 '40

Education effort gaining friends; success of recent Georgia short course. M. R. McGruder. il Weekly Underw 143:217-18+ Ag 3 '40

Education for insurance. W. A. Hamlin. Spectator (Property ed) 5:10-14+ Je 13; 6: 10-15+ Ag 8 '40

Education is the key to better agencies. A. C. Goerlich. East Underw 41:23 Je 7 '40

Educational plans of the National association of insurance agents. A. J. Smith. East Underw 40:20 N 17 '39

Faculty selected for insurance short course, Illinois university's college of commerce at Urbana, March 28-30. Nat Underw 44:11 Mr 14 '40

Field goes to a school; a review of Mississippi's school held at Jackson, July 17-19. Ins Field (Fire ed) 69:16-17 Jl 25 '40

Florida short course offers lively sessions. M. R. McGruder. Weekly Underw 143:119+ Jl 20 '40

Hartford colleges of law and insurance in their new home. East Underw 41:1+ S 20 '40

Insurance courses. Weekly Underw 143:541 S 7 '40

Insurance courses in New York area. Weekly Underw 142:450-1 F 17 '40

Insurance institute of America courses for 1940-41. E. R. Hardy. East Underw 41:17+ Jl 19 '40

Insurance society of New York offers three new courses; on legal principles, fire insurance inspection and rating and casualty payroll auditing. East Underw 41:16 Ag 16 '40

Intensive Michigan educational plans under way. W. O. Hildebrand. Nat Underw 44:35 O 17 '40

More background, fewer rules needed, buyer tells teachers of insurance. A. V. Miller. Nat Underw 43:4+ D 28 '39; Same cond. Nat Underw (Life ed) 43:3+ D 29 '39

New England agents planning broad expansion of educational programs. C. I. Fisher East Underw 41:25+ Je 28 '40

New home; option taken for Hartford colleges of law and insurance. East Underw 41:1+ Mr 29 '40

New Jersey production forums start in November. East Underw 41:25 O 25 '40

New York insurance society opens fall courses. East Underw 41:30 O 4 '40

Rapid growth in educational work by state associations. L. P. McCord. East Underw 41:40 S 20 '40

Report of the committee on publicity and education, NAIA. Ins Field (Buffalo Conv Daily ed) 69:2+ S 18 '40; Nat Underw Conv no 44:6+ S 20 '40

South Carolina course successful. Weekly Underw 143:165+ Jl 27 '40

State insurance schools meet with great success. Nat Underw 44:15+ Jl 25 '40

Up-to-date study courses for various fire and casualty coverages offered by National Underwriter. Nat Underw 44:11 O 10 '40

Vocational education in the insurance business. D. J. Bloxham. Trusts & Estates 70: 533 My '40

Why should you study? H. T. Holland. Ins Field (Fire ed) 69:22-3 Je 13 '40

Wisconsin plans to extend educational activity schedule for agents. Nat Underw 44:39 Ap 25 '40

See also

American association of university teachers of insurance
Hartford college of insurance
Insurance society of New York

War risks

Actuaries weigh effects of war on casualty line. Nat Underw 43:15+ N 23 '39

Britain presents bill to restrict advertising of war risk insurance. East Underw 40:26 D 8 '39

British government insuring more risks not suitable for companies. East Underw 41: 18 N 8 '40

Broader demand for vandalism insurance covering war risks. East Underw 41:1+ My 31 '40

Chart shows coverage of losses arising out of war. J. C. O'Connor. Nat Underw 43: 17 N 30 '39

Compulsory plan desired in Britain to cover war risks to property. East Underw 41:31 Ja 19 '40

Exempted commodities increased in Britain; uninsurable list not requiring coverage. Weekly Underw 142:1033+, 1271 Ap 27, My 25 '40

Full land war risk insurance available for fixed property; Explosion conference's new policies. E. A. Cordes. East Underw 40:1. 65+ D 15 '39

Insurance against war hazards in Britain. Economist 139:79 Jl 20 '40

Mechanical handling, business evacuation and war damage. F. E. Sugden. Mech Handling 27:209-10 S '40

New war risk clauses completed for insurance of Canadian risks. East Underw 41:38 Ja 26 '40

Sea and land war risk problems studied by American management association. East Underw 40:91+ D 15 '39; Nat Underw 43:3+ D 14 '39

Security Broadside lists good prospects for land war risk protection. East Underw 41: 18 Ag 16 '40

Summary of vandalism and war coverages available. Nat Underw 44:1 Je 20 '40

United Kingdom; commercial law digests. For Comm W 1:117-18 O 19 '40

War damage insurance. Elec R (Lond) 126: 185 F 16 '40; Electrician 124:121 F 16 '40

War damage to property in Britain; discussion of legislation. Economist 137:461 D 23 '39

War insurance for property. Economist 139: 342-3 S 14 '40

War risk and bombardment insurance; abstracts. H. C. Baker. Weekly Underw 141: 1061+ N 18 '39; Ins Field (Fire ed) 68:16-17+ D 21 '39

War risk, bombardment and malicious mischief; A.M.A. session. H. C. Klein; R. W. Cauchois. Spectator (Property ed) 5:28 D 14 '39

See also

Insurance, Military and naval service

Canada

Rating bureau recommended as step to aid stabilization of fire and casualty business. East Underw 40:1+ N 24 '39

Finland

Assaying insurance loss in Finland. Nat Underw 44:16 Je 6 '40

France

British view of French insurance collapse. East Underw 41:22 Ag 9 '40; Same abr. Weekly Underw 143:238 Ag 3 '40

INSURANCE—*Continued*

Great Britain

See also
Insurance companies —Great Britain

Illinois

Insurance operations in 1938. East Underw 41: 34 Ja 5 '40

Latin America

Closer ties between South American countries and United States. G. A. Moszkovski. Ins Field (Fire ed) 69:4 Jl 4 '40; Same. East Underw 41:24 Je 21 '40

New York (state)

See also
Insurance law—New York (state)

Tennessee

All companies should be on an equal basis in Tennessee declares commissioner. J. M. McCormack. East Underw 41:26 Je 21 '40

United States

Alien underwriters. Management R 29:266-7 Jl '40

American insurance, a British export. Economist 139:81-2 Jl 20 '40

Case for insurance; lengthening shadow of government. il Nation's Business 28:34-64 Ja '40

Contracts of British companies operating in the United States secure. E. C. Stone. Weekly Underw 142:1452, 1490+ Je 15-22 '40

Foreign insurers in U.S. safe; abstracts. L. H. Pink. East Underw 41:16 My 24 '40; Ins Field (Fire ed) 69:10 My 23 '40; Ins Field (Life ed) 69:6-7 My 24 '40; Nat Underw 44:7 My 30 '40

Freezing of credits doesn't affect daily work of Danish, Norwegian and Dutch insurers in U.S. Nat Underw 44:4 My 16 '40

Lend support to alien companies; United States policyholders not endangered by war conditions abroad. W. V. Knott. East Underw 41:35 O 18 '40

New lines grow out of restrained administration; flexibility in American insurance. E. W. Sawyer. Nat Underw 43:19 D 14 '39

Savings banks assn. backs foreign insurers. R. B. McGaw. East Underw 41:15 Ag 23 '40; Same. Ins Field (Fire ed) 69:10 Ag 29 '40; Same. Nat Underw 44:3 Ag 22 '40; Same. Weekly Underw 143:373 Ag 24 '40

Status of alien insurance companies in the United States. L. H. Pink. Comm & Fin Chr 150:3289 My 25 '40

Stock insurance on way to giving greater service. C. C. Hannah. East Underw 41:13+ Ag 9 '40; Same. Weekly Underw 143:274+ Ag 10 '40; Excerpts. Nat Underw 44:4 Ag 8 '40

War and the foreign insurance companies operating in the United States. Bankers Mo 57:468 Ag '40

What does the future hold? Is business to be throttled? V. Cullen. Ins Field (Fire ed) 69:18-19 F 8 '40

Year just past and the shape of things to come. C. G. Hale. il Spectator (Property ed) 5:10-14+ D 28 '39

Virgin Islands

Insurance opportunity. H. B. Hark. Weekly Underw 142:1254 My 25 '40

INSURANCE, Accident

A.&H. club of New York associates itself with National accident & health association. East Underw 41:36 O 25 '40

Accident and health companies averting government insurance. R. H. Matthias. East Underw 41:40-1 S 13 '40

Accident and health coverage for service men considered by Bureau of personal accident and health underwriters. Weekly Underw 143:786 O 5 '40; East Underw 41:37 O 4 '40; Nat Underw 44:25 O 3 '40; Spectator (Life ed) 145:13 O 10 '40

Accident & health-fore! national observance. D. Porter. Spectator (Life ed) 144:6-11+ Ap 25 '40; Same. Spectator (Property ed) 5:10-14+ Ap 18 '40

Accident and health insurance week observance, April 22-27. East Underw 41:37 Mr 22; 34+ Ap 19 '40; Ins Field (Fire ed) 69: 15-16 Mr 21 '40; Ins Field (Life ed) 69: 25-6 Mr 22; 5-6 Ap 26 '40; Nat Underw 44:23+ Mr 21; 25 Ap 25 '40; Weekly Underw 142:729+ Mr 23 '40

Accident and health insurance week plans. East Underw 41:36 F 2 '40; Weekly Underw 142:321 F 3 '40

California association of accident & health managers' clubs 14th annual convention, San Francisco. East Underw 41:13 N 1 '40; Nat Underw 44:26+ O 24 '40

Club activity aids accident and health line; Accident & health club of New York. W. T. Hammer. Weekly Underw 142:84-6 Ja 6 '40

Continental Casualty takes liberal attitude on draftees' coverage; accident and health policies will be continued in force. Nat Underw 44:28 S 26 '40; East Underw 41:55+ S 27 '40

Current problems discussed at Cincinnati accident & health association forum. Nat Underw 44:21+ O 17 '40

Draftees protected; Federal life, Chicago provides liberal treatment for policyholders. East Underw 41:15 O 18 '40

Greater preparedness in A. & H. field urged. H. R. Gordon. Nat Underw 44:25 O 24 '40

Group accident and health aids employer, employe. G. F. Johnston. Nat Underw 44: 24 F 1 '40; Same abr. Nat Underw (Life ed) 44:13 F 2 '40

Group A. and H. best way to meet plans for federal action. Nat Underw 44:26 O 10 '40

Health and accident underwriters conference convention, 39th, Minneapolis, June 10-13. East Underw 41:36+, 38-41 Je 14 '40; Ins Field (Fire ed) 69:9+ Je 13; 11 Je 20 '40; Ins Field (Life ed) 69:9+ Je 14; 9-10 Je 21 '40; Nat Underw (H. & A. conference no) 44:2-13 Je 14 '40; Weekly Underw 142:1457 Je 15 '40

How, when and why to sell accident insurance. Nat Underw 44:31+ F 1 '40

Many bright spots in accident and health insurance. W. L. Clapp. East Underw 41:25+ Ag 9 '40

Massachusetts Commissioner Harrington's order held to be a handicap; employer's contribution to group policies. Weekly Underw 142:374 F 10 '40; East Underw 41:42 F 16 '40

More companies announce position on covering drafted policyholders. Nat Underw 44: 37+ O 10 '40

National accident and health association, mid-year meeting, St Louis. East Underw 41: 40-2 Ja 26; 38+ F 2 '40; Ins Field (Fire ed) 69:14+ F 1 '40; Ins Field (Life ed) 69:10-11 F 2 '40; Nat Underw 44:17+ F 1 '40; Nat Underw (Life ed) 44:6 F 2 '40; Spectator (Property ed) 5:10 Ja 25 '40; Weekly Underw 142:258 Ja 27 '40

Personal accident is reduced to simple formula. H. Prevost. East Underw 41:30 Jl 19 '40

Proper relations between home office and field. J. M. Powell. Ins Field (Fire ed) 69: 22-4 Je 6 '40; Same. Ins Field (Life ed) 69:20-2 Je 7 '40; Excerpts. Weekly Underw 142:1392 Je 8 '40

Review of regulatory laws governing the writing of accident and health insurance in the United States. R. H. Matthias. Nat Underw 44:24+ S 5 '40

See also
Insurance, Automobile
Insurance, Casualty
Insurance, Disability
Insurance, Hospitalization
Insurance, Liability
Insurance, Life—Disability provisions
Insurance, Workmen's compensation
also Bureau of personal accident and health underwriters

Adjustment of claims

Court holds insured, struck attempting to board truck, "standing in highway" when one foot was on ground. Weekly Underw 142:168 Ja 13 '40

INSURANCE, Accident—Adjustment of claims —*Continued*
Death and dismemberment policy decision given in Louisiana. Nat Underw 43:34 N 16 '39
Demand for autopsy within six days of receiving notice of alleged accidental death held reasonable. Weekly Underw 142:574 Mr 2 '40
Dental injury; breakage of jaw bone while extracting tooth held to come within terms accidental means. East Underw 41:35 Ja 19 '40
Insurance litigation as claim man sees it. H. S. Don Carlos. Weekly Underw 143:518+ S 7 '40
Language of insurance contracts; accidental means; digest of recent cases. J. S. Regan. Spectator (Life ed) 143:16-17 D 21 '39
Murphy v. National life & accident ins. co.; proof of illness; physician's certificate. Weekly Underw 143:364 Ag 17 '40
Person seeing insured wounded by gunshot fall from car held eye witness within meaning of accident policy. Weekly Underw 143:677 S 21 '40
Selling accident and health insurance. E. C. Budlong. Ins Field (Fire ed) 68:22 N 23 '39
Selling accident and health insurance; infected wound claims. E. C. Budlong. Ins Field (Fire ed) 68:19 D 14 '39

Advertising

Maryland casualty company's personal accident drive features bad luck, broken mirror. East Underw 41:52 Mr 15 '40
Power of advertising. D. C. Gibson. East Underw 41:34 My 24 '40

Agents

Accident and health sellers tell how they overcome wide variety of sales resistance. East Underw 41:37-8 O 25 '40
Advantages of building personal accident insurance. F. L. Templeman. Nat Underw 44:35 F 8 '40
Building public good will often means telling prospects truth about provisions of policy. J. C. Higdon. Weekly Underw 142:438-9 F 17 '40
Chicago accident and health sales congress. East Underw 41:35 F 16 '40; Nat Underw 44:19+ F 15 '40; Weekly Underw 142:428 F 17 '40
Classify prospects according to their trade. F. T. Curran. East Underw 41:41 N 1 '40
Closing and delivering. J. M. Belwood. Ins Field (Fire ed) 69:18-19 F 1 '40; Same. Ins Field (Life ed) 69:18-19 F 2 '40
Company men heard at mid-year convention, National accident & health association, St Louis. E. B. Fuller; J. C. Higdon. East Underw 41:42 F 9 '40
Find your trouble; suggestions for successful selling. E. Davis. Ins Field (Fire ed) 69:20-1 F 1 '40; Same. Ins Field (Life ed) 69:20-1 F 2 '40
Hit the bullseye; prepared sales talks are important. A. W. Lorenz. Ins Field (Fire ed) 69:20-1 Jl 11 '40; Same. Ins Field (Life ed) 69:16-17 Jl 26 '40
How are you doing? H. L. Bice. Ins Field (Fire ed) 69:18 Ap 18 '40
Income protection first. L. W. Hermann. Ins Field (Fire ed) 69:20 Je 6 '40; Discussion. E. Davis. 69:22-3 Jl 25 '40
Methods that have enabled him to sell 1,200 policyholders. C. D. Holman. Ins Field (Life ed) 69:14-15+ N 1 '40; Abstract. Nat Underw 44:33 O 24 '40
New York sales congress. East Underw 41: 33+ Ap 19 '40
Personal accident insurance. F. L. Templeman. Ins Field (Fire ed) 69:16-19 Ag 29 '40
Professional men are best accident and health buyers. F. T. Curran. East Underw 40:33 D 1 '39
Protection offered assureds; sales arguments. Weekly Underw 142:674-6 Mr 16 '40
Sales experiences of an A. & H. star. R. K. Lake. East Underw 41:32-3 pt 2 My 10 '40
Selling A. & H. E. C. Budlong. Ins Field (Fire ed) 69:19 Ap 18 '40; Same. Ins Field (Life ed) 69:15 Ap 19 '40
Selling accident and health insurance. J. S. Miller. 193p $2.50 Prentice-Hall '40
Telephone approach to accident and health insurance sales. H. R. Adelmann. East Underw 41:42 Mr 8 '40
Thoughts on practical and profitable prospecting for A. & H. D. Mead. Ins Field (Life ed) 69:14-15+ O 4 '40
Why I sell accident and health insurance. F. F. Sale. Ins Field (Fire ed) 69:16+ Ap 18 '40; Same. Ins Field (Life ed) 69: 12+ Ap 19 '40
Why I'm sold on A. & H. E. W. Popp. East Underw 41:25 pt 2 My 10 '40

Agency management

Agency angle to sale of accident cover. J. Powell. Weekly Underw 141:1342-3 D 23 '39
Illuminating results of a questionnaire. O. F. Davis. Ins Field (Fire ed) 69:20-1+ Je 20 '40; Same. Ins Field (Life ed) 69: 16-17+ Je 21 '40

Aviation risks

Air accident cover is neglected line. J. R. Graham. Nat Underw 43:19 N 9 '39

Fraudulent claims

Use of camera; cine-surveillance of disability claims. C. E. Anstett. Weekly Underw 142: 430 F 17 '40

Hospital indemnity

Hospital insurance is a fastest growing line. J. M. Smith. East Underw 41:37-8 F 23 '40

Policies

Accident and health; death, dismemberment and reimbursement policy. Spectator (Property ed) 5:22 Ap 18 '40
Building public good will often means telling prospects truth about provisions of policy. J. C. Higdon. Weekly Underw 142: 438-9 F 17 '40
New policy to protect foreign agents of American firms; repatriation indemnity. East Underw 41:1 Je 28 '40; Nat Underw 44: 24 Je 27 '40; Weekly Underw 142:1575 Je 29 '40
Phases of accident cover; limited policies harmful; abstracts. R. A. Payne. Ins Field (Fire ed) 69:18-19 O 17 '40; Nat Underw 44:27 O 17 '40; Weekly Underw 143:910 O 19 '40
Tuition indemnity for parents introduced in U.S. by A. W. G. Dewar. Nat Underw 44: 15 Ag 1 '40

Preventive work

Accident prevention advancing on basis of it being good business. J. J. Roe, jr. East Underw 41:40 S 20 '40
Prevention work pays big dividends; averting accidents purpose of National conservation bureau. J. J. Hall. Weekly Underw 143:914-15 O 19 '40
Public relations and public service in the casualty and surety fields; abstracts. H. K. Philips. East Underw 41:37 N 1 '40; Weekly Underw 143:971+ O 26 '40
Safety work is stabilizing factor; address to Illinois local agents. J. D. Hall. Nat Underw 44:25 O 31 '40
Safety zone insurance service is offered by Zurich. Ins Field (Fire ed) 69:16 O 24 '40

Reinsurance

Actions in New York against Massachusetts Accident stayed; undergoing rehabilitation. East Underw 41:33+ Ap 19 '40
Reinsurance plan for Massachusetts accident co. risks; merger with Union Mutual Life. East Underw 41:34 F 9; 36 Ap 5 '40; Nat Underw 44:21+ F 8; 27 Mr 7 '40; Nat Underw (Life ed) 44:1+ F 9; 8 Mr 8 '40; Weekly Underw 142:372 F 10 '40

Risks

Accident age limit. Nat Underw 43:20 D 14 '39

Statistics

Accident and health writings and loss experience for first half of 1940. East Underw 41: 32 Ag 16 '40

INSURANCE, Accident—Statistics—*Continued*
1939 accident and health results; net premiums and net losses paid. East Underw 41: 37 F 23 '40

War risks

Accident policies, war risk clauses receive attention of insurance commissioners. Nat Underw 43:19+ D 14 '39
War risk insurance by instalments; Lloyds' personal accident insurance against war risks. Economist 139:305-6 S 7 '40

Great Britain

British insurance in 1939. Economist 139:90-1 Jl 20 '40

United States

Accident and health in 1939; leaders view trends. W. L. Clapp. East Underw 41: 32+ Ja 19 '40

INSURANCE, Accountants' liability
Accountants' liability insurance and claims. Spectator (Property ed) 5:25 Ja 11 '40
Surety liability held cumulative in Iowa; case of shortage by accountant. Nat Underw 44:33 O 17 '40; Weekly Underw 143: 976 O 26 '40

INSURANCE, Accounts receivable
Charred record helps to boost accounts receivable insurance. East Underw 41:35 O 25 '40

INSURANCE, Agricultural
Crop insurance; an experiment in farm-income stabilization. J. C. Clendenin. J Land & Pub Util Econ 16:277-85 Ag '40
Farmers taking U.S. crop cover increase 128%. Nat Underw 44:11 My 2 '40
Federal insurance projects; live stock and crop indemnity. R. A. Griffin. Nat Underw 44:5 Ag 1 '40
Florida citrus loss; American of Newark coverage. East Underw 41:1+ Mr 8 '40; Nat Underw 44:19 Mr 7 '40
Insurance of federal agencies is being shifted. Nat Underw 43:3+ N 2; 1+ N 30 '39
New Orleans court rules against insurer in freeze policy on fruits. East Underw 41:33 Mr 29 '40
1940 wheat claims total 6,655,000 bu. Spectator (Property ed) 6:27 Ag 22 '40
1941 crop insurance program is announced. East Underw 41:20 Jl 12 '40
President Roosevelt vetoes bill extending crop insurance to cotton. Comm & Fin Chr 150:2973 My 11 '40

See also
Insurance, Corn
Insurance, Cotton
Insurance, Fire—Farm policies
Insurance, Hail

INSURANCE, Art
Insurance ceases on $30,000,000 of N.Y. world's fair art masterpieces. D. Porter. il Ins Field (Fire ed) 69:24-6 O 31 '40

INSURANCE, Assessment
Assessment feature offers but small protection. L. H. Pink. Nat Underw 44:5+ Mr 14 '40
California Chapter Nine companies case. East Underw 41:10 Ag 23; 12 Ag 30 '40; Ins Field (Life ed) 69:5-6 Ag 23 '40; Nat Underw (Life ed) 44:8 Ag 23 '40
California licenses renewed; Intercoast hospitalization of Sacramento and the California mutual life of Oakland, chapter 9, life and disability companies. Nat Underw (Life ed) 44:4 Ag 2 '40
Commissioner Caminetti moves against chapter 9 companies in California; life and disability assessment companies. Nat Underw (Life ed) 44:2 Je 14; 3+ Je 21; 4 Je 28; 11 Jl 5; 7 Jl 12; 4+ Jl 19 '40; East Underw 41:10-11 Jl 19 '40; Ins Field (Life ed) 69:8 Jl 5 '40
Fraternal life insurance. 208p bibliog(p200) $2 Insurance research and review service, Indianapolis '38
Fraternal orders, assessment life and accident associations; business of 1939 and condition Dec. 31, 1939; tabulation. Weekly Underw 142:75 sec 2 My 11 '40
Important move in Central Mutual case; filing claim puts assured under court, test near. Nat Underw 44:27 S 26 '40
Receiver of Citizens Mutual Fire gets good results from assessment. Nat Underw 44:4 Je 13 '40
Societies of National fraternal congress show loss of total in force. Nat Underw (Life ed) 44:29 O 4 '40

See also
Benefit societies

INSURANCE, Automobile
Automobile accident toll up, bad liability experience feared. Nat Underw 44:20C F 22 '40
Automobile insurance situation. J. W. Randall. Ins Field (Fire ed) 69:20-1 S 19 '40
Automobile liability insurance. C. Ramsett. bibliog Weekly Underw 143:652-7 S 21 '40
Automobile rate quotation blanks used with profit. D. F. Giberson and C. F. Daniels. Nat Underw 44:23 Ag 1 '40
Casualty and liability course; automobile insurance; physical damage to one's own car. W. H. Griffith. Weekly Underw 143:347-51 Ag 17 '40
Effect of automobile problem on insurance business; new social hazard. M. McClintock. Nat Underw (Auto ins no) 44:14 Ap 22 '40
Estimates indicate jump in percentage of cars insured. Nat Underw 44:5 O 10 '40
Failure of motorists to insure puzzles Virginia editor. Weekly Underw 142:825 Ap 6 '40
Life carriers may write auto public liability; dispute in Minnesota settled. Weekly Underw 143:757+ O 5 '40; Ins Field (Life ed) 69:8-9 O 4 '40; Nat Underw 44:25 O 3 '40
National Automobile seeks reconciliation; decides to sever connection with Golden state automobile club. Nat Underw 44:5+ F 8 '40
Outside control of insurers by auto finance companies. C. F. J. Harrington. Nat Underw 44:1+ Jl 4 '40

See also
Insurance, Motor truck
Insurance, Taxicab
also National automobile underwriters association

Adjustment of claims

Ætna companies reveal unusual ways in which cars are damaged; files of claims. East Underw 41:40 N 1 '40
After paying policy limit automobile liability insurer cannot be required to defend any further action against insured. Weekly Underw 141:1142 N 25 '39; Nat Underw 43: 16+ N 23 '39
Assured refusing to permit insurer to repair car may recover minimum estimated cost of repairs. Weekly Underw 142:1006 Ap 20 '40
Assured's statement that injured party would be taken care of held not assumption of liability. Weekly Underw 143:1001 O 26 '40
Auto case resubmitted to jury on question of fixing real value. East Underw 41:35 O 18 '40
Auto finance co. not required to buy comprehensive cover for car; decision in Texas court. East Underw 41:46 S 20 '40
Carrier loses point in unusual suit; court holds that company, as subrogee can't compel contribution to damages. Weekly Underw 143:1096 N 9 '40
Cases of loss under comprehensive automobile policy that led to controversy. G. B. Raine. Ins Field (Fire ed) 68:20-1 N 30 '39
Chauffeur taking and operating automobile for own purposes held not driving with permission of owner. Weekly Underw 141: 1188 D 2 '39
Companies insuring against different causes of loss must bear their proportion if damage by each cause can be distinguished. Weekly Underw 141:1397 D 30 '39
Conditional purchaser not sole owner of automobile destroyed; decision by Illinois appellate court. East Underw 41:30 O 4 '40
Court holds insurer has right to use lowest bid for repair of car. East Underw 41:24 My 31 '40

INSURANCE, Automobile—Adjustment of claims —*Continued*
Court rules that theft must show intent to keep permanently. East Underw 41:23 My 31 '40
Danger of action against estate; personal liability in connection with automobile insurance. Nat Underw 43:43 N 16 '39
Dental and jaw injuries slighted by claim men. L. S. Morvay. il East Underw 41:34 Ap 5 '40
Doctrine of joint enterprise as a defense in negligence actions. C. A. DesChamps. Weekly Underw 142:205-6 Ja 20 '40
Each insurer required to pay for specific damage insured against. East Underw 41: 35 F 2 '40
High auto limits become small in big Massachusetts case against General Mills. Nat Underw 44:23+ Mr 14 '40
Insurer held not liable for fraud of claimant's attorney in settling claim against assured. Weekly Underw 142:758 Mr 23 '40
Insurer not relieved by insured's failure to act; obligation to third party claimant ruled on in Maryland. W. L. Henderson. Weekly Underw 143:956 O 26 '40
Insurer recovers loss paid when subrogation rights are destroyed. East Underw 41: 31 F 23 '40
Lack of express provision covering assured's negligence causing death of wife held no bar to recovery on policy. Weekly Underw 143:601 S 14 '40
Livery use held not shown by voluntary payments to assured by fellow students for transportation to and from school. Weekly Underw 142:277 Ja 27 '40
Misrepresentations of employee driving assured's car do not bind assured unless made while acting as agent of assured. Weekly Underw 142:1124 My 4 '40
Motor vehicle financial responsibility act; New Jersey case of Ambrose vs. Indemnity insurance company of North America: digest of recent cases. J. L. Roesch. Spectator (Property ed) 5:32-3 N 16 '39
Motorist sues pedestrian; digest of recent case. J. L. Roesch. Spectator (Property ed) 5:36-7 Mr 21 '40
Non-waiver agreement upheld; digest of recent cases. J. L. Roesch. Spectator (Property ed) 5:22-3 My 30 '40
Omnibus endorsement held to render ambiguous a liability policy requiring sole ownership of automobile as condition of liability. Weekly Underw 142:1064 Ap 27 '40
Ownership of motor vehicles within meaning of automobile policies; digest of recent cases. J. L. Roesch. Spectator (Property ed) 6:26-7 O 17 '40
Peculiarities of Wisconsin comparative negligence law. O. B. Sullivan. Nat Underw 44: 21 F 22 '40
Purchaser of automobile under conditional sales contract held not sole and unconditional owner. Weekly Underw 143:258 Ag 3 '40
Ratio of suits to earned premium of companies licensed in Illinois. Nat Underw (Auto ins no) 44:21 Ap 22 '40
Recovered car must go back to point of theft. Nat Underw 44:12 O 31 '40
Refusal to permit insurer to defend under non-waiver agreement does not constitute breach of cooperation clause. Weekly Underw 143:940 O 19 '40
Resident and non-resident motorists; digest of recent cases. J. L. Roesch. Spectator (Property ed) 5:30-1+ F 22 '40
Spouse not covered unless named specifically; parties married during pendency of action. East Underw 41:34 N 8 '40
Theft not shown where evidence failed to disclose felonious intent in the taking and use. Weekly Underw 142:221 Ja 20 '40
Theft policy does not cover damages to automobile resulting from temporary use by third party without permission. Weekly Underw 142:814 Mr 30 '40
Truck and trailer held to be one unit in case over cause of damage. East Underw 40:29 D 1 '39 .
Two companies pay on collision claim; question of direct damage. East Underw 41:29+ Ag 2 '40; Weekly Underw 143:177 Jl 27 '40
Use of car for transporting whiskey held felonious purpose within exception of policy although car empty when stolen. Weekly Underw 142:945 Ap 13 '40
Variety of claims. Nat Underw 44:23 Ag 29 '40
What price defense? J. L. Roesch. Spectator (Property ed) 5:28-9+ Ap 18 '40

Agents
Agent asked to reach insurable uninsured motorist. R. I. Catlin. Nat Underw 43:19 N 9 '39
Agents at hearing protest licensing of automobile dealers in Oregon as insurance representatives. Ins Field (Fire ed) 69:9+ Mr 28 '40
Auto finance opinion of Oregon Attorney General placed in N.A.I.A. record. Ins Field (Fire ed) 69:18 My 2 '40
Auto liability production. E. C. Stone. Ins Field (Fire ed) 69:22-3 My 9 '40
California ruling holds finance dealers within law. Ins Field (Fire ed) 69:11-12 Jl 18 '40
Coercion; Ohio association of insurance agents interested in General Motors antitrust suit regarding financed automobiles. W. A. Earls. Ins Field (Fire ed) 68:12 D 7 '39; Same. Weekly Underw 141:1208 D 9 '39
Develop your problem angle in selling; three sales talks. Nat Underw (Auto ins no) 44: 6+ Ap 22 '40
Every auto policy in last 5 years was for excess limits. F. A. Gould. Nat Underw 44:33 O 24 '40
Fight compulsory specter by selling more auto public liability. G. W. Dyer. Nat Underw 44:23+ O 10 '40
Hearing held in Portland, Ore. on licensing auto dealers as agents. Nat Underw 44:5+ Mr 28 '40
Hearing on license renewal of Automobile insurance agency of the Cincinnati automobile club. Nat Underw 44:15 Je 6 '40; Weekly Underw 142:1389 Je 8 '40
License requirements and rebates subjects of ruling by Insurance department of California. Weekly Underw 142:960 Ap 20 '40
Ohio club license; ruling made by Supt. Lloyd in case of Automobile insurance agency, Cincinnati. Weekly Underw 143:271 Ag 10 '40
Oregon agents fight licensing of Motors insurance corp., General Motors affiliate. East Underw 40:35 N 24 '39; Ins Field (Fire ed) 68:29 N 16 '39
Oregon car dealers licensed despite agents' protest. Ins Field (Fire ed) 69:11 Mr 7 '40
Overcome fear of competition in automobile lines. E. W. Prodehl. Nat Underw 44:41 O 31 '40
Sell automobile liability. H. D. Sherwood. Ins Field (Fire ed) 69:16-17+ Jl 11 '40
Sell uninsured auto owners by driving home fear of getting in the clutches of lawyers. Nat Underw (Auto ins no) 44:8 Ap 22 '40
Selling non-ownership liability. C. Cleavenger. Ins Field (Fire ed) 69:16-17 F 29 '40
Supt. Lloyd of Ohio denies license to Automobile insurance agency, inc, adjunct of the Cincinnati automobile club. Ins Field (Fire ed) 69:14 Je 13 '40; Nat Underw 44: 15 Je 13 '40; Weekly Underw 142:1450+ Je 15 '40
Talk protection in soliciting clients instead of price. W. A. Williams. Nat Underw 44: 23 S 5 '40
What an agent can do for safety. E. J. Hughes. Nat Underw 44:25+ O 24 '40
Young agent has opportunity to build shock proof business. R. E. Richman. Nat Underw (Auto ins no) 44:3+ Ap 22 '40

Commissions
Agents, company men hold parley on finance plan to reduce rates and commissions. Nat Underw 44:3 Ap 18 '40
Agents to get commissions under auto assigned risk plan recommended in Illinois. Nat Underw 44:18 My 30 '40

INSURANCE, Automobile—Agents—Commissions—*Continued*
Automobile issue (financed cars) to be discussed at meeting of National automobile underwriters association. Nat Underw 44: 5+ Mr 28 '40
Brokers present financed risk views; proposed rate reductions. Weekly Underw 142: 664+ Mr 16 '40
Brokers protest new auto finance proposal; commission reduction. East Underw 41:18 Je 14 '40
California department rules on auto dealer agents and finance companies. Nat Underw 44:39 Ap 4 '40
Decisive vote turns down auto finance plan suggested; National automobile underwriters association meeting. Nat Underw 44:1+ Je 20 '40
Finance plan is not put to vote at N.Y. meeting; referred back to committee by N.A.U.A. members. Nat Underw 44:3+ Ap 4 '40
Financed car plan is attacked by producers; proposes reducing rates and commissions. Spectator (Property ed) 5:9 Mr 21 '40
General agents fight proposed auto finance plan to reduce rates and commissions. Nat Underw 44:3+ Mr 21 '40
Massachusetts brokers consider rating change on financed cars; commission reductions. Weekly Underw 142:774+ Mr 30 '40
Prominent head of agency comments on acquisition cost. Nat Underw 43:17+ N 9 '39
Solving the auto finance situation. L. E. Falls. Weekly Underw 143:269, 277+ Ag 10 '40; Same cond. East Underw 41:13+ Ag 9 '40; Same. Ins Field (Fire ed) 69:22-3+ Ag 15 '40; Same cond. East Underw 41:13+ Ag 9 '40; Same cond. Nat Underw 44:3+ Ag 8 '40
Test Palmer's authority; suits in Cook County court; order reducing commissions cancelled. East Underw 40:21 N 17; 18 D 1 '39; Ins Field (Fire ed) 68:9 N 16; 7-8 N 30 '39; Weekly Underw 141:1076, 1153+ N 18, D 2 '39; Nat Underw 43:4+ N 16; 1+ N 30 '39

Compulsory liability

Abuse of assigned risk plan in Massachusetts. F. L. Armstrong. East Underw 41:46 Ja 26 '40
Bill introduced in Senate. East Underw 41: 35+ Mr 29 '40; Nat Underw 44:19+ Mr 28 '40; Weekly Underw 142:772+ Mr 30 '40
Cincinnati Bar group vetoes compulsory cover. Ins Field (Fire ed) 69:20 O 10 '40
Compulsory auto cover. H. Justice. Ins Field (Fire ed) 69:22 Jl 11 '40
Compulsory auto cover opposed in Connecticut. J. C. Blackall. Ins Field (Fire ed) 69: 28-9 Ap 11 '40
Compulsory auto insurance problems in New York. East Underw 41:18 S 20 '40
Compulsory auto insurance scheme. H. Levant. Nat Underw 44:2+ Ag 22 '40
Compulsory automobile insurance. S. O. Smith. Weekly Underw 143:638 S 21 '40
Compulsory automobile insurance for New York state. T. A. Sharp; L. H. Pink. East Underw 41:19+ My 17 '40
Compulsory bill debated in N.Y; suggest measure patterned on New Hampshire law. East Underw 41:40 O 18 '40
Compulsory bill introduced in New York state legislature; major provisions. Ins Field (Fire ed) 69:28-9 Mr 28 '40
Compulsory cover defended. L. H. Pink. Nat Underw 44:16 Jl 4 '40
Compulsory insurance opposed in New Jersey. E. C. Graff. Ins Field (Fire ed) 69:27-8 Mr 21 '40; Abstract. Spectator (Property ed) 5:6 Ap 4 '40
Compulsory insurance plans of New York department; abstracts. L. H. Pink. East Underw 41:35 Mr 8 '40; Ins Field (Fire ed) 69:9-10 Mr 7 '40; Nat Underw 44:25+ Mr 7 '40; Spectator (Property ed) 5:10-11+ Mr 7 '40; Weekly Underw 142:589+ Mr 9 '40
Compulsory insurance; some New York executives and agents resigned to trend. D. Porter. Spectator (Property ed) 5:12-13+ Mr 7 '40
Compulsory law for New York; comments. Nat Underw 44:17+ Je 6 '40
Compulsory plan in New York automobile field incites interest. Nat Underw 44:21+ Mr 21 '40
Connecticut doctors in favor of compulsion. Weekly Underw 142:916 Ap 13 '40
Facts and fancies concerning compulsory automobile liability insurance; abstracts. E. C. Stone. Weekly Underw 143:970, 977+ O 26 '40; Nat Underw 44:23+ O 24 '40
Fight compulsory specter by selling more auto public liability. G. W. Dyer. Nat Underw 44:23+ O 10 '40
How stock casualty companies view compulsory insurance. H. J. Drake. East Underw 41:47 O 11 '40
I may be wrong but—; what price compulsory insurance? East Underw 41:42 Ap 26; 30 My 31; 27+ Jl 26 '40
Massachusetts and her auto problem. D. Porter. Spectator (Property ed) 5:22+ Je 27 '40
Massachusetts rate revision hearing mild affair. Weekly Underw 143:907 O 19 '40
Massachusetts rates mildly criticised by stock companies; merit rating system wanted by motorists. Nat Underw 44:24 O 24 '40
New York compulsory insurance act; text of principal provisions. Spectator (Property ed) 5:10-14+ Ap 4 '40
Prominent Minnesota agent comments on New York compulsory measure. Nat Underw (Auto ins no) 44:13+ Ap 22 '40
Reaching the big new market in New York if auto insurance becomes compulsory. J. G. Bacon. East Underw 41:42 Ap 26 '40
Rejected auto risk plan is effected in Massachusetts. Nat Underw 43:15 N 23 '39
To kill and pay; or not to kill; abstracts. E. P. Schaefer. East Underw 41:35 My 17 '40; Nat Underw 44:21 My 16 '40; Weekly Underw 142:1208+ My 18 '40
Various aspect of assigned risk problem worry officials of companies as well as Massachusetts producers. Weekly Underw 142:196 Ja 20 '40
Work of Massachusetts companies praised; compulsory automobile law. L. H. Pink. Weekly Underw 142:653 Mr 16 '40
Would get voluntary insurance in New York by offering incentives. E. C. Stone. East Underw 41:26+ Ag 30 '40

Deferred payment protection

See Insurance, Automobile—Financed automobiles

Finance

American automobile insurance company, St Louis; analysis. Spectator (Property ed) 6:30-1 O 31 '40
American fire and casualty company analysis. Spectator (Property ed) 5:25, 28-9 My 30 '40
American states insurance company analysis. Spectator (Property ed) 5:26-8 Ap 4 '40
Economy auto insurance company, Freeport, Illinois; company analysis. Spectator (Property ed) 5:28-9 N 16 '39
Government employees insurance company, Washington, D.C.; company analysis. Spectator (Property ed) 5:28-9 Mr 7 '40

Financed automobiles

Auto finance men explain position on controlled business. Nat Underw 44:50 S 12 '40
Auto finance problem most perplexing; there may be local answer. W. H. Bennett. Weekly Underw 142:1216+ My 18 '40
Automobile association trying new finance plan in several states. East Underw 41: 36 N 1 '40; Nat Underw 44:5 O 31 '40
Automobile finance insurance. W. S. Mays. East Underw 41:30 Ja 26 '40
Big Baltimore finance company buys own insurer; Commercial credit corporation gets Pennsylvania indemnity fire. Nat Underw 43:3+ D 21 '39
Finance auto angles; insurance on financed accounts is unsettled problem. S. O. Smith. Weekly Underw 143:638+ S 21 '40

INSURANCE, Automobile—Financed automobiles—*Continued*
Finance companies discuss insurance at convention of American finance conference, Chicago. Nat Underw 43:8 N 9; 6+ N 16 '39
Finance executive presents position before committee of the National association of commissioners. F. V. Chew. Nat Underw 43:3+ D 14 '39
Financed cars must comply; ruling by Commissioner Gontrum of Maryland. Nat Underw 43:4 N 2 '39
Growing evil of finance company ownership of insurance companies. C. F. J. Harrington. Weekly Underw 142:129+ Ja 13 '40; Same. Spectator (Property ed) 5:14-15 Ja 25 '40; Excerpts. Ins Field (Fire ed) 69:7 Ja 11 '40
Local banks and agents desire to cooperate on auto finance business. East Underw 41:37 Ap 26 '40
National automobile underwriters association defers action on financed auto cover. Ins Field (Fire ed) 69:22 Ap 4 '40
Republic insurance co. (Texas) organizes finance company. Comm & Fin Chr 150: 852 F 3 '40
Support in agency circles for new proposal for auto finance insurance through local banks. East Underw 41:18 My 17 '40
Washington plan to recapture insurance on financed automobiles for agents. East Underw 41:50 S 27 '40
Wholesale rate for auto finance risks held discriminatory by many. East Underw 40: 27 D 22 '39
Would treat auto finance business as marine risk. W. R. Ruegnitz. Nat Underw 44:7 S 19 '40

Financial responsibility laws
Facts and fancies concerning compulsory automobile liability insurance; abstracts. E. C. Stone. Weekly Underw 143:970, 977+ O 26 '40; Nat Underw 44:23+ O 24 '40
First hand glimpse of working of Kansas responsibility law. H. C. Cunningham. Nat Underw 44:26+ O 10 '40
How responsibility law of New Hampshire works; abstracts. A. B. White. East Underw 41:27+ Ag 23 '40; Nat Underw 44: 11+ Ag 22 '40
Judgment feature in responsibility law in New Jersey. G. Schwoebel. East Underw 41:30 Jl 26 '40
Motor vehicle financial responsibility act; New Jersey case of Ambrose vs. Indemnity insurance company of North America; digest of recent cases. J. L. Roesch. Spectator (Property ed) 5:32-3 N 16 '39
New Hampshire financial responsibility law and assigned risk automobile insurance plan. A. B. White; W. Leslie. East Underw 41:53 S 20 '40
New Hampshire insurance regulations under financial responsibility act effective Feb. 1. Weekly Underw 142:253 Ja 27 '40
To make Nebraska law similar to New Hampshire act. East Underw 41:42 O 18 '40

Fleet coverage
Automobile fleets, coverage and rates; forum. Spectator (Property ed) 5:24+ D 14 '39
Buses in fleet policy; individually owned school buses excluded; ruling in Indiana. Weekly Underw 143:760 O 5 '40

See also Insurance, Automobile—Rates—Fleet rates

Fraudulent claims
Faked liability claims ring smashed by federal authorities. Ins Field (Fire ed) 69:12 S 26 '40
N. Y. loan co. officials face conspiracy charges; forced borrowers to insure automobiles mortgaged as security. Ins Field (Fire ed) 69:8-9 Ap 18 '40

Fraudulent statements
Cancelling of policy affirmed in auto case; insured misrepresented occupation and ownership. Nat Underw 44:26 S 26 '40

Garage owners' and dealers' liability policies
Parking lots; recent rulings that the proprietor is responsible for automobiles parked for a fee. Ins Field (Fire ed) 68:20 D 7 '39
True or false? quiz on garage keepers' legal liability insurance. Weekly Underw 142: 1450+ Je 15 '40

Guest liability
Automobile liability insurer not liable where parties married before plaintiff recovered judgment. Weekly Underw 142:633 Mr 9 '40
Indiana agents' casualty committee seeks some modifications in policies. A. W. Jenkins. Nat Underw 43:33 N 16 '39

Policies
American Automobile of St Louis releases broadened new policy. East Underw 41:32 My 3 '40; Ins Field (Fire ed) 69:25 My 2 '40; Nat Underw 44:19+ My 2 '40; Weekly Underw 142:1101 My 4 '40
Anchor casualty of St Paul broadens auto liability form. Ins Field (Fire ed) 69:18 O 17 '40; Nat Underw 44:23 O 17 '40
Auto fire and theft policy. F. C. Clement, jr. Ins Field (Fire ed) 69:16-19 Ag 22 '40
Automobile medical payment to be attached to liability policy, builds business. Nat Underw 44:19 O 10 '40
Automobile medical payments coverage points a new way. J. R. Yore. Spectator (Property ed) 5:22-3+ F 22 '40
Bureau broadens coverage; increases auto medical payments limits. Nat Underw 44:19 Mr 28 '40
Canadian superintendents report on auto law changes and policy forms. East Underw 41: 27+ Ag 23 '40
Combination automobile policy. Spectator (Property ed) 6:22 S 5 '40
Maine requires standard medical payments endorsement form. Nat Underw 43:17 D 28 '39; Weekly Underw 142:185 Ja 20 '40
Medical payments riders for automobile liability policies. A. D. Spring. Nat Underw 44:4+ O 31 '40
New Hampshire broad form endorsement. R. S. Perkins. Nat Underw 44:5+ O 31 '40
New Hampshire broad form of drive other car coverage. A. J. Rouillard. Weekly Underw 143:1015+ N 2 '40; Abstract. East Underw 41:42 N 1 '40
New standard policy of National automobile underwriters association. East Underw 41: 16+ Jl 19 '40; Ins Field (Fire ed) 69:12-13 Jl 18 '40; Nat Underw 44:1+ Jl 18; 1+ Jl 25 '40; Weekly Underw 143:127 Jl 20 '40
No-release form of medical expense approved in Illinois; endorsement to the automobile liability policy. Nat Underw 44:22 F 8 '40
Non-ownership liability coverage has wide sales possibilities. G. Dyer. Nat Underw 44: 27 Ag 8 '40
Revisions proposed in Canadian auto theft policy to aid assured. East Underw 41:25 Ag 23 '40
Schedule auto liability policy released; one contract available for concerns owning auto fleets, hired auto, non-ownership liability. East Underw 41:48 S 20 '40; Nat Underw 44:23 S 19 '40; Ins Field (Fire ed) 69:30 S 19 '40; Spectator (Property ed) 6:38-9 S 19 '40; Weekly Underw 143:640 S 21 '40
Some Canadians want driver's policy treated as secondary cover. Nat Underw 43:17 D 28 '39
Standard auto liability policy being broadened at no extra cost. East Underw 41:32 Ap 5 '40; Ins Field (Fire ed) 69:26 Mr 21 '40; Nat Underw 44:17+ Ap 4 '40; Spectator (Property ed) 5:20-1 Ap 4 '40; Weekly Underw 142:855 Ap 6 '40
Standard automobile policy and comprehensive combination. Spectator (Property ed) 6:26-7 Jl 25 '40
Standard policy is kept up to date. J. C. O'Connor. Nat Underw (Auto ins no) 44:5 Ap 22 '40
Thousand dollar policy appeals to smaller income man. R. G. Waters. Nat Underw 44: 19 Ja 18 '40

INSURANCE, Automobile—Policies—*Continued*
Transition period in auto coverage; trend is towards all-risk contract. R. B. Mitchell. Nat Underw (Auto ins no) 44:4 Ap 22 '40
Yetka approves medical expense endorsements for Minnesota with certain restrictions. Nat Underw 44:13 Ag 22 '40; Weekly Underw 143:384 Ag 24 '40

Premiums, Payment of

Plan of industrial automobile insurance to increase number covered by bodily injury liability insurance. A. J. Engelman. Weekly Underw 142:554 Mr 2 '40

Preventive work

Hartford Accident's own safety campaign. Nat Underw 44:20 F 15 '40; Weekly Underw 142:425 F 17 '40
New Jersey agents organizing safe walker clubs in state. East Underw 41:38 Mr 22 '40
Schools are chief field for safety endeavor. J. J. Hall. Weekly Underw 142:484+ F 24 '40
Travelers strikes again at automobile traffic problem; Smash Hits, 1939 safety booklet. East Underw 41:33 Mr 1 '40; Nat Underw 44:19 F 29 '40; Spectator (Property ed) 5:7 Mr 7 '40; Weekly Underw 142:549+ Mr 2 '40
What an agent can do for safety. E. J. Hughes. Nat Underw 44:25+ O 24 '40

Rates

Auto liability rules promulgated; National bureau of casualty & surety underwriters provides additional interests coverage. Nat Underw 44:25 S 26 '40
Automobile association trying new finance plan in several states. East Underw 41:36 N 1 '40; Nat Underw 44:5 O 31 '40
Commercial car rates reduced in New York; bodily injury and property damage. East Underw 41:36 Ja 5 '40; Spectator (Property ed) 5:8 Ja 11 '40; Weekly Underw 142:69 Ja 6 '40
Commissioners' committee to study resolution about rates. Nat Underw 43:19+ D 14 '39
Company men frown on proposal of R. G. Waters to rate automobile risks on same basis as workmen's compensation. Nat Underw 43:17 D 21 '39
Cut rate is offered by New York state bankers association on automobiles financed by members. Ins Field (Fire ed) 69:18 My 2 '40
Data on Canadian rates. East Underw 40:35 D 8 '39
Massachusetts 1941 auto rates are little reduced. Nat Underw 44:26 O 10 '40
Massachusetts rates mildly criticised by stock companies; merit rating system wanted by motorists. Nat Underw 44:24 O 24 '40
National Board reduces liability rates on some commercial cars; makes other revisions. Ins Field (Fire ed) 69:26 Mr 14 '40; Spectator (Property ed) 5:11 Mr 21 '40
New auto rate manuals become operative in Illinois. Nat Underw 44:2 My 23 '40
New automobile liability rates in North Carolina to be revised. Ins Field (Fire ed) 68:29 N 16 '39
New Hampshire rates now effective. East Underw 41:37 F 16 '40
New motor car values may influence Canadian rates. D. Taylor. East Underw 41:28 Jl 5 '40
New rate plan of large Canadian company; on mileage and driver basis. East Underw 41:34 Ap 12 '40
Simplified rate card accompanies new auto manuals. Nat Underw 44:4 My 30 '40
Texas auto rates cut 11.8 to 19%. Nat Underw 44:35 O 31 '40
Trend in car rating. L. H. Pink. Weekly Underw 141:1333 D 23 '39
Virginia commission orders rate cuts. Ins Field (Fire ed) 69:12 Ap 25 '40; Nat Underw 44:27 Ap 25 '40

Fleet rates

Automobile fleets, coverage and rates; forum. Spectator (Property ed) 5:24+ D 14 '39
Equity rating ban in Illinois. Nat Underw 44: 15+ Jl 25; 15+ Ag 1; 17+ Ag 8 '40
Illinois brokers will contest equity rating. Weekly Underw 143:336 Ag 17 '40; Nat Underw 44:13+ Ag 22 '40
Illinois fleet rate hearing. East Underw 41: 35 Mr 8 '40; Ins Field (Fire ed) 69:30 Mr 7 '40; Nat Underw 44:22 Mr 21 '40; Spectator (Property ed) 5:32 Mr 21 '40; Weekly Underw 142:605 Mr 9 '40
New York saves on insurance; state adopts general rating plan for its motor vehicles, becoming part self-insurer. East Underw 41:35 O 4 '40
Palmer battles equity rating. Weekly Underw 143:613+ S 21 '40; Reply. E. Palmer. 143: 780 O 5 '40
Palmer charges objector breaches manual filings; Court answer claims policy in evidence covers fictitious fleet. Nat Underw 44:23 O 3 '40
Palmer's answer filed in Illinois auto rate suit; test of director's power looms as issues are joined. Nat Underw 44:25 S 26 '40
Yetka given opinion on fictitious fleets in Minnesota. Weekly Underw 142:1569 Je 29 '40

Safe driver rating plans

Merit rating plan; one man's idea of how to solve the automobile insurance and accident situation. C. Pittenger. Ins Field (Fire ed) 69:20-1 Ag 1 '40
No liability rate increase, says National Bureau. Spectator (Property ed) 5:30 N 16 '39

Rating bureaus

Plan for complete revision of method of gathering automobile insurance experience for rate making purposes. R. G. Waters. Ins Field (Fire ed) 68:14 D 7 '39; Same. East Underw 40:32 D 8 '39

Risks

Assigned risk coverage plan under new Illinois responsibility act. Weekly Underw 143: 282 Ag 10 '40
Connecticut assigned risk plan; abstracts. J. C. Blackall. East Underw 41:32 Jl 19 '40; Ins Field (Fire ed) 69:11 Jl 18 '40; Nat Underw 44:14+ Jl 18 '40; Weekly Underw 143:139 Jl 20 '40
Illinois adopts assigned risk plan. Nat Underw 44:17+ Ag 1 '40; Spectator (Property ed) 6:24 Ag 8 '40
Rejected auto risk now problem in Illinois. Nat Underw 44:24 Mr 14 '40
Spread of assigned risk plan foreseen. P. N. Counsell. Nat Underw 44:20 My 9 '40

Statistics

Automobile casualty experience, countrywide, 1935-1939. Ins Field (Fire ed) 69:28 My 9 '40
Automobile premiums and losses of full coverage stock companies, 1938-39. Nat Underw (Auto ins no) 44:19 Ap 22 '40
Automobile premiums and losses of stock casualty companies, reciprocals, and Lloyds, 1937-39. Nat Underw (Auto ins no) 44:15-16 Ap 22 '40
Automobile premiums and losses of stock fire companies, 1938 and 1939. Nat Underw (Auto ins no) 44:18+ Ap 22 '40
Automobile premiums of fire companies, 1939; comparison with 1936-38. East Underw 41:35-41 Ap 26 '40
Casualty companies' automobile writings for 1939; comparison with 1936-38. East Underw 41:44-6 Ap 26 '40
Five year automobile insurance experience exhibit, 1935-39. Nat Underw (Auto ins no) 44:3 Ap 22 '40
Fleets writing $500,000 or more are graded; tabulation. Nat Underw (Auto ins no) 44:10, 12 Ap 22 '40
Lag in auto liability protection; percentage of premiums written to potential; with tabulation. Spectator (Property ed) 5:50 Je 27 '40
Mutual auto premiums and losses in 1937-39. Nat Underw (Auto ins no) 44:22-4 Ap 22 '40

INSURANCE, Automobile—Statistics—*Cont.*
New York department's automobile analysis of '39; tabulation. Nat Underw 44:19 My 2 '40
New York state volume of stock casualty companies from 1936 to 1939. East Underw 41:48-50+ Ap 26 '40
1939 net premiums and net losses paid, by companies; tabulation. East Underw 41: 19+ Mr 8 '40
Number of suits outstanding per $100,000 of earned premiums of liability business, third period-policy years 1937-1938-1939 as of December 31, 1939; tabulation. Spectator (Property ed) 5:34 Je 27 '40
Ratio of suits to earned premium of companies licensed in Illinois. Nat Underw (Auto ins no) 44:21 Ap 22 '40

War risks

Auto war clause legislation up in Canada. Nat Underw 44:5 Ag 22 '40

Canada

Driver's insurance primary in settling claims in Canada. East Underw 41:34 Ag 16 '40
War problems; use of private passenger automobiles and trucks for military purposes. East Underw 40:33 D 8 '39

Great Britain

Car owner and his insurance. Economist 137: 516-17 D 30 '39
Worries Britishers; Merle Oberon case establishes third party negligence precedent. Weekly Underw 142:789 Mr 30 '40

Illinois

Analysis of Illinois assigned risk plan. H. A. Miller. Nat Underw 44:12 Ag 22 '40
Assigned risk plan. Nat Underw 44:18 My 30 '40
Assigned risk plan prepared for Illinois. East Underw 41:34 Ag 16 '40; Weekly Underw 143:384 Ag 24 '40
Illinois bars equity plan; also auto fleet curb: other rulings. East Underw 41:27 Jl 26 '40; Nat Underw 44:13+ Jl 18 '40; Spectator (Property ed) 6:28 Jl 25 '40
Illinois brokers to oppose Palmer rule voiding equity and retrospective rating of automobile fleets and comprehensive liability insurance. Nat Underw 44:15 Ag 15 '40
Illinois department paves way for important rulings. Nat Underw 44:21+ F 8 '40

Kentucky

Kentucky farm bureau organizes new motor car carrier. Weekly Underw 142:1397 Je 8 '40
Sun-Democrat cites bad Kentucky car cremation record. Nat Underw 44:29 N 7 '40

Louisiana

Automobile rates and rules. Weekly Underw 141:1367 D 30 '39

Massachusetts

Assignment plan for risks adopted. East Underw 40:31 D 1 '39; Spectator (Property ed) 5:30 D 14 '39; Weekly Underw 141:1122 N 25 '39

New Hampshire

Broad form of drive other car coverage; agricultural truck endorsement. A. J. Rouillard. Weekly Underw 143:1015+ N 2 '40; Abstract. East Underw 41:42 N 1 '40
New Hampshire financial responsibility law and assigned risk automobile insurance plan. A. B. White; W. Leslie. East Underw 41:53 S 20 '40

New York (state)

Compulsory insurance plans of New York department; abstracts. L. H. Pink. East Underw 41:35 Mr 8 '40; Ins Field (Fire ed) 69:9-10 Mr 7 '40; Spectator (Property ed) 5:10-11+ Mr 7 '40; Nat Underw 44:25+ Mr 7 '40; Weekly Underw 142:589+ Mr 9 '40
Facts and fancies concerning compulsory automobile liability insurance; suggestions for New York. E. C. Stone. Weekly Underw 143:970, 977+ O 26 '40
Provisions of safety responsibility bill as recommended by New York association of local agents; abstracts. T. A. Sharp. East Underw 41:38 O 25 '40; Nat Underw 44:24 O 24 '40
Report on legislation in N.Y. L. L. Saunders. East Underw 41:46 O 11 '40

North Carolina

Commissioner Boney's rating views; urges agents to issue binders for two months. Weekly Underw 141:1064 N 18 '39

Oregon

Insurance agents oppose licensing of Motors insurance corporation of New York, General Motors affiliate. Ins Field (Fire ed) 68:29 N 16 '39

Texas

Texas auto rates cut 11.8 to 19%. Nat Underw 44:35 O 31 '40

United States

Miscellaneous laws affecting automobile liability and liability insurance. 3d ed rev 124p $1.50 Assn. of casualty and surety executives, New York '39

INSURANCE, Aviation
Aircraft coverage developing rapidly; background and opportunities. A. C. Harris. Nat Underw 44:34 O 31 '40
Aviation insurance premiums face considerable expansion in volume; abstracts. C. A. Sanford. East Underw 41:19+ Ja 12 '40; Ins Field (Fire ed) 69:16-17 Ja 11 '40; Nat Underw 44:18+ Ja 18 '40
Aviation Underwriters buy new Stinson 105. il Weekly Underw 143:329+ Ag 17 '40
Big impetus to air insurance seen in student training program. East Underw 40:31 D 1 '39
CAA pilot training program. Nat Underw 44:15 Je 20 '40; Nat Underw (Life ed) 44:1+ Je 21 '40
Civilian pilot training act significant. D. C. Beebe. Weekly Underw 142:36 Ja 6 '40
Employers Liability sets up aviation underwriting dept.; Newhouse & Sayre has U.S. franchise. Nat Underw 44:23+ O 24 '40
Installment aviation policies now offered. Ins Field (Fire ed) 69:16 S 12 '40
More carriers said to be contemplating writing aviation. Nat Underw 44:35 O 31 '40
Newcomers nibble at aviation market. Nat Underw 44:19 N 7 '40
Non-college CAA pilot courses give agents new field. Nat Underw 44:13 Ag 22 '40
Only mild premium boom expected from President Roosevelt's aviation proposals. Nat Underw 44:2+ My 23 '40
Present day aviation insurance and its problems. J. B. B. Parker. East Underw 40:75+ D 15 '39
Proposed uniform aviation liability act. W. J. Davis. Aero Digest 36:134, 137 Je '40

See also
Insurance, Accident—Aviation risks
Insurance, Life—Aviation risks

Adjustment of claims

Airliner crash puts tragic end to safety record. Nat Underw 44:21 S 5 '40

Agents

Air accident cover is neglected line. J. R. Graham. Nat Underw 43:19 N 9 '39
Aviation training for civilians opens wide field for insurance. A. J. Gariepy. East Underw 41:35 O 25 '40

Finance

Airplane loss ratio on hulls satisfactory in 1939. Nat Underw 44:3 Mr 7 '40

Policies

Aero insurance underwriters offers single limit liability and all-risk hull policies. East Underw 41:20 F 2 '40; Weekly Underw 142:294+ F 3 '40
All-risk hull policy issued by Aero insurance underwriters. Nat Underw 44:5+ F 1 '40; Spectator (Property ed) 5:28 F 8 '40

INSURANCE, Aviation—Policies—*Continued*
Aviation accident riders issued by Aero insurance underwriters. Spectator (Property ed) 6:22 O 31 '40
Aviation hull and liability. Spectator (Property ed) 6:22-3 O 17 '40
Broader protection for aircraft owners; U.S. aviation underwriters' comprehensive hull policy. East Underw 41:1+ Ja 10 '40; Nat Underw 44:3+ Ja 18 '40; Spectator (Property ed) 5:24 Ja 25 '40
Continental casualty company new aviation accident policy available to pilots. East Underw 41:28 Jl 26 '40; Spectator (Life ed) 145:16 Ag 1 '40
New policy announced by Associated aviation underwriters. Weekly Underw 143:1096 N 9 '40
Single-limit air liability ($5000) issued by Aero insurance underwriters. Spectator (Property ed) 5:29 F 8 '40

Rates
Accident coverage for pilots in training; premiums reduced. D. H. Connolly. Spectator (Property ed) 6:24 O 3 '40
CAA accident rate reduced by groups. Nat Underw 44:32 S 12 '40
Insurance rates for C.P.T.P. students reduced again; premium now $9 for $3,000. Civil Aero J 1:434 O 1 '40
Pilot training program has great importance. East Underw 41:33 Je 28 '40; Weekly Underw 142:1433+ Je 15 '40

Risks
Aviation mortality; Actuarial society of America committee report. East Underw 41:14 Ag 16 '40
Civil aeronautics board tries to speed up transmission of weather information. Nat Underw 44:30+ S 12 '40

Great Britain
How war conditions have affected British aviation insurance. A. G. Lamplugh. East Underw 41:35 O 11 '40

Illinois
Aircraft insurance prospects outlined. J. R. Graham. Nat Underw 44:24 O 31 '40

INSURANCE, Bailees' customers
Insurance charges by cleaners, dyers and laundrymen forbidden in New York state. L. H. Pink. East Underw 40:33 N 24 '39; Same. Weekly Underw 141:1111 N 25 '39; Excerpts. Ins Field (Fire ed) 68:10 N 23 '39; Nat Underw 43:4 N 23 '39; Spectator (Property ed) 5:28 N 30 '39
Insurance of bankrupt processer held for benefit of customers. East Underw 41:16 Jl 26 '40

INSURANCE, Boiler
Equity rating plan for boiler line to be given trial. Nat Underw 44:23 Ap 18 '40; Correction. 44:28 Ap 25 '40
Steam boiler explosion coverage; abstract. N. C. Spitz. Management R 29:338-9 S '40

INSURANCE, Bridge
Multi-risk marine bridge builder's risk insurance. Weekly Underw 141:1375 D 30 '39

INSURANCE, Builders' risk
Insuring your construction program; comparative merits of various forms of fire protection-liability policies should be checked. C. T. Hubbard. Barron's 20:9 S 2 '40; Same cond. Management R 29:378-80 O '40
National Fire group has new coverage; completed value builders' risk coverage. East Underw 41:30 Mr 8 '40

INSURANCE, Builders' risk marine
Lines increasing. East Underw 41:1+ F 16 '40
Marine builders' risk lines grow. East Underw 41:29 Ag 2 '40
Ship construction program analyzed; relationship to underwriter's liability. S. D. Livingston. Weekly Underw 142:64 Ja 6 '40

INSURANCE, Building collapse
Building collapse cover not much in evidence. Nat Underw 44:10 S 26 '40

INSURANCE, Burglary
Burglary and robbery coverage. H. D. Sherwood. Ins Field (Fire ed) 69:22-5 O 24 '40
Burglary survey in 47 cities made by Aetna Casualty. Nat Underw 44:14+ Jl 18 '40; Weekly Underw 143:113+ Jl 20 '40
Campaigns get business; residence burglary campaign. Ins Field (Fire ed) 69:16-17 F 22 '40
Enlarging field. J. J. Moore. Nat Underw 44: 29 My 9 '40
National Bureau revises rules and rates. Nat Underw 44:23 S 5 '40; East Underw 41: 30 S 6 '40; Ins Field (Fire ed) 69:15 S 5 '40; Spectator (Property ed) 6:14 S 5 '40
War burglars; underwriting conditions being encountered in Great Britain. Weekly Underw 142:488 F 24 '40

Adjustment of claims
Blood stains from employee's fingers on doors of safe held not chemicals within meaning of safe burglary policy. Weekly Underw 141: 1309 D 16 '39
Manager taken to store and forced to open safe held not custodian on duty within robbery policy. Weekly Underw 143:310 Ag 10 '40
Recent constructions of burglary policies; digest of recent cases. J. L. Roesch. Spectator (Property ed) 5:32-3 F 8 '40
Robbery decision of Arizona Supreme court in case of A. J. Bayless markets. Nat Underw 44:36 O 10 '40

Agents
Can increase burglary lines. J. J. Moore. Ins Field (Fire ed) 69:22 Je 20 '40; Same. Nat Underw 44:29 My 9 '40
Wide field for mercantile open stock burglary insurance. J. A. Magovern. East Underw 41:36 Mr 1 '40

Policies
Broadened burglary-robbery coverage. East Underw 41:36 My 24 '40; Ins Field (Fire ed) 69:11-12 My 16 '40; Nat Underw 44:19+ My 16 '40; Spectator (Property ed) 5:27 My 30 '40; Weekly Underw 142:1220-1 My 18 '40
General merchandising conditions make open stock burglary cover attractive. J. H. Dittman. Weekly Underw 141:1087 N 18 '39
Messenger, paymaster and interior robbery policies broadened, countrywide, Bureau announces. Weekly Underw 141:1124 N 25 '39; East Underw 40:36 N 24 '39; Nat Underw 43:17+ N 23 '39
Residence burglary (1832). Spectator (Property ed) 5:23 Ap 18 '40
Residence burglary policy. Spectator (Property ed) 5:26 N 30 '39

INSURANCE, Business
Big cases the exception in business coverage. H. C. Lawrence. East Underw 41:23 Ja 26 '40
Business insurance. L. G. Simon. Trusts & Estates 70:385-7 Ap '40
Business insurance agreements; four typical forms. Spectator (Life ed) 144:6-8 Ap 11 '40; Same. Trusts & Estates 71:94-6 Jl '40
Business insurance opportunities. Nat Underw (Life ed) 44:31 Mr 1 '40
Business insurance sales at high level. L. G. Simon. Nat Underw (Life ed) 44:1 S 27 '40
Business insurance trust in estate planning. E. D. La Rue. East Underw 41:116+ pt 2 O 4 '40
Business life insurance agreements. L. G. Simon. East Underw 41:4 My 10 '40
Business life insurance; how it fits in general credit picture. L. G. Simon. Credit & Fin Management 42:12-14 O '40
Ideas that click; selling business insurance. C. H. Emanuelson. East Underw 41:8 My 31 '40
Insurance trusts; enforceability of corporation's agreement to purchase shares of its own stock belonging to deceased stockholder. Trusts & Estates 70:447-8 Ap '40
Laboratory analysis of a business insurance case. J. E. Rappoport. Trusts & Estates 71:435-40 O '40

INSURANCE, Business—*Continued*

Proper practice for the handling of income from business insurance. J Account 69:211-12 Mr '40

Some business insurance tax angles. B. Cox. East Underw 41:108 pt 2 O 4 '40

Tailor-made insurance trusts; some thoughts on business purchase agreements. R. H. Lawthers. Trusts & Estates 70:592 Je '40

Accounting

Cash-surrender value of life insurance on balance-sheet. J Account 69:390-1 My '40

Agents

Accuracy, brevity, and continuity; slogan in writing business life insurance; abstracts. R. Sanborn. Nat Underw (Life ed) Daily ed 44:42 S 26 '40; East Underw 41:4 S 27 '40

Business insurance. J. W. Bishop. Ins Field (Life ed) 68:20-1 D 8 '39

Business insurance in small towns. R. S. Bernhard. Ins Field (Life ed) 69:14-15 F 2 '40

Essential factors in business cover sale analyzed. W. H. Burns. Nat Underw (Life ed) Daily ed 44:23 S 26 '40

Partnership trend used as source of income. K. G. Allen. Nat Underw (Life ed) 44:27 Ja 19 '40

Policies

Issuing the business insurance policies for stock retirement purposes. S. A. Monroe. East Underw 41:34 pt 2 O 4 '40

INSURANCE, Business interruption. See Insurance, Use and occupancy

INSURANCE, Casualty

Actuaries weigh effects of war on casualty line. Nat Underw 43:15+ N 23 '39

Behind the scenes in preparation of the Casualty experience exhibit. East Underw 41: 32 My 17 '40

Casualty lines likely to produce underwriting profit. E. M. Ackerman. Ins Field (Fire ed) 69:9 Ja 4 '40

Company and the agent; discussion of the stock casualty situation. H. P. Stellwagen. Ins Field (Fire ed) 69:22-3, 28-30 S 26 '40

Cook County acquisition cost council adopts a constitution. East Underw 41:34 My 17 '40; Ins Field (Fire ed) 69:9 My 16 '40; Nat Underw 44:20 My 16 '40

Factors for prosperity; casualty insurance great success story. C. M. Chester. East Underw 41:42 O 11 '40

Great Lakes Casualty becomes Dearborn National Casualty. Ins Field (Fire ed) 69:10 Jl 18 '40

HOLC reports on fire, windstorm and hail losses on insured risks, from 1935 to June, 1940; abstracts. F. W. Catlett. East Underw 41:30 O 18 '40; Nat Underw 44:33 O 17 '40

Indiana conference on fire and casualty insurance held at Indiana university. Ins Field (Fire ed) 69:18-19 My 23 '40

Low cost cover demanded; abstract. J. A. Diemand. Weekly Underw 143:817+ O 12 '40; East Underw 41:38 O 11 '40; Nat Underw 44:25+ O 10 '40

Pittsburgh insurance day. East Underw 41: 32-3 F 23 '40; Nat Underw 44:3, 16-18 F 22 '40

Program to help lower the difference in cost between stock and mutual companies; abstracts. W. D. O'Gorman. East Underw 41:41 O 11 '40; Weekly Underw 143:837 O 12 '40

Recent casualty changes outlined at Ohio agents' meeting. Nat Underw 44:17+ My 30 '40

Statistical methods as applied to casualty insurance. M. Kormes. bibliog Am Statis Assn J 35:47-54 Mr '40

United Casualty of Westfield, Massachusetts, purchased by Craftsman co. of Boston. Weekly Underw 142:1570 Je 29 '40; East Underw 41:29 Je 28 '40

Volume pickup expected but warning note sounded due to disturbed times. W. L. Clapp. East Underw 41:28-9 Jl 19 '40

See also

Insurance, Accident
Insurance, Automobile
Insurance, Aviation
Insurance, Burglary
Insurance, Liability
Insurance, Motor truck
Insurance, Plate glass
Insurance, Surety and fidelity
Insurance, Tornado
Insurance, Workmen's compensation

Adjustment of claims

Alabama Supreme court rules against blanket injunction suits brought by Birmingham bar association in adjuster action. Nat Underw 44:17 Ap 11 '40

Birmingham bar association petitions Alabama Supreme court for rehearing in suit against insurance companies and adjusters. Ins Field (Fire ed) 69:10 Ap 18 '40; Nat Underw 44:24 Ap 18 '40

Casualty lines competition getting severe; part that claim men play. H. G. Evans. Weekly Underw 143:5+ Jl 6 '40

Claim division is of high importance in company work. M. P. Cornelius. Nat Underw 44:19+ My 23 '40

Improving public relations through arbitration; experiences of companies using this plan. L. H. Pink. Weekly Underw 142:1517 Je 22 '40

New Illinois Appellate case permits asking if jurors hold policies. Nat Underw 44:18+ Ap 4 '40

Public relationships of the casualty business. A. Crawford. Ins Field (Fire ed) 69:18-19 Je 6 '40

Advertising

Applying modern marketing methods to casualty-surety production. A. Broughton. East Underw 41:34 Mr 1 '40

Agents

Afternoon spent with two casualty special agents. East Underw 41:24-5 pt 2 My 10 '40

California casualty fieldmen's association first meeting. Ins Field (Fire ed) 69:13 O 3 '40

Convention by mail; Hardware mutual casualty company inexpensively drags in some profitable between-seasons business. il Ptr Ink 190:21-3 Mr 8 '40

Holding a one-man sales meeting with yourself. N. B. McCulloch. East Underw 41:18 pt 2 My 10 '40

Royal-Liverpool companies expand survey idea; called planned protection. East Underw 41:20 S 20 '40; Ins Field (Fire ed) 69:24 S 19 '40; Weekly Underw 143:620 S 21 '40

Survey beneficial both to agent and assured. W. A. Boone. Nat Underw 44:33 Ja 25 '40

Surveys are important. W. A. Boone and T. K. Hawbecker. Ins Field (Fire ed) 69:18-19 F 29 '40

Trends in casualty insurance production; producer should analyze program. C. H. Bokman. Weekly Underw 142:991-3 Ap 20 '40

Twenty-five sales tips which sold $50,000 in premiums. R. A. Duffus. East Underw 41: 27 pt 2 My 10 '40

Commissions

Agents suggest new survey of acquisition cost factors. Nat Underw 44:25 O 10 '40

Chicago agents attack acquisition cost rules. Ins Field (Fire ed) 69:13 Mr 21 '40

Chicago cost control situation. Nat Underw 44:19 Ja 18; 24 F 1; 21 F 8 '40

Cook County acquisition cost situation. East Underw 41:35+ F 16; 32-3 Mr 1 '40; Ins Field (Fire ed) 69:17 F 15 '40; Nat Underw 44:19+ F 15; 24 F 22 '40

Dead-line; voluntary or state control choice in cost controversy. Ins Field (Fire ed) 69:12 Ja 18 '40

General agents ask cost council voice in Chicago. Nat Underw 44:25 Mr 14; 17 Ap 4 '40

INSURANCE, Casualty—Agents—Commissions —*Continued*
National association of insurance agents to cooperate with companies on new study of casualty-surety production costs. East Underw 41:52+ S 27 '40

Training

Casualty business dynamic and constantly changing. C. E. Blake. Weekly Underw 142: 1571 Je 29 '40

Coverage

Consolidation of large accounts is trend; gives the assured as complete protection as possible in as few contracts as possible. Nat Underw 44:26 Mr 7 '40

Finance

Aetna casualty and surety company analysis. Spectator (Property ed) 6:30-1 Jl 25 '40
Bankers indemnity insurance company, Newark; analysis. Spectator (Property ed) 6: 22-3 O 3 '40
Century indemnity company, Hartford, Connecticut; company analysis. Spectator (Property ed) 5:42-3 F 8 '40
Company analysis; Manufacturers' casualty insurance company. Spectator (Property ed) 5:32-3 Je 13 '40
Company analysis; Pennsylvania casualty company. Spectator (Property ed) 6:30-2 Jl 11 '40
Company assets and liabilities; abstracts. F. S. Perryman. East Underw 41:32+ My 24 '40; Nat Underw 44:19+ My 23 '40
Connecticut report on casualty results. Weekly Underw 143:1096 N 9 '40
Lumbermens mutual casualty company analysis. Spectator (Property ed) 5:26-7 Ja 11 '40
Metropolitan Casualty examination results as of December 1939. East Underw 41:38 O 25 '40; Weekly Underw 143:971 O 26 '40
Place for additional capital in casualty company field. J. C. Blackall. East Underw 41: 40 O 11 '40
Results of the operations of casualty companies for the year ending December 31, 1939, and comparisons with 1938; tabulation. Spectator (Property ed) 5:18 F 8; 28 F 22 '40
Review of the casualty insurance business for 1939. J. C. Blackall. East Underw 41:29 N 8 '40
Underwriting and investment profits and losses of 100 casualty, surety and miscellaneous companies, 1930-1939; tabulation. Spectator (Property ed) 6:24-5 O 31 '40
Yorkshire indemnity company analysis. Spectator (Property ed) 5:30-1 Mr 21 '40

Fraudulent claims

Activities of fake accident ring in Southwest ended. Weekly Underw 142:289 F 3 '40
Argument to give buyers of insurance; what the companies are doing to protect the premium dollar against fraud. B. Ten Eyck. Weekly Underw 142:1565+ Je 29 '40
Campaign of executives association against claim fakers in various states successful. Weekly Underw 142:1041 Ap 27 '40
Claims bureau, fraud detection department of the Association of casualty & surety executives, will take over the New Jersey claim investigation. East Underw 40:27 D 29 '39; Weekly Underw 141:1334 D 28 '39
Claims bureau reports 91 convictions in 6 months. Spectator (Property ed) 6:15 Ag 22 '40
Insurance fraud ring in Omaha is convicted. Weekly Underw 142:1040 Ap 27 '40

Policies

Casualty cover developments. E. I. Fiery. Nat Underw 43:17+ N 9 '39
Comprehensive dishonesty, disappearance and destruction policy. E. C. Lunt. Weekly Underw 143:32-3 Jl 6 '40
5-in-1 policy simplifies casualty and fidelity coverages; comprehensive dishonesty, disappearance and destruction policy. Ins Field (Fire ed) 69:11-12 Jl 4; 16-17 Ag 8 '40; Nat Underw 44:15+ Jl 4 '40; Spectator (Property ed) 6:26-7 Jl 11 '40
Idea for new comprehensive dishonesty, disappearance and destruction policy credited to F. S. Garrison. East Underw 41:31 Ag 16 '40
Indiana agents' casualty committee seeks some modifications in policies. A. W. Jenkins. Nat Underw 43:33 N 16 '39
Policy revisions; abstracts. J. M. Sweitzer. East Underw 41:30 S 6 '40; Weekly Underw 143:518 S 7 '40

Policy dividends

Oklahoma hearings on participating policies postponed. Ins Field (Fire ed) 69:8-9 Mr 21 '40

Preventive work

Mending business fences; talk to credit men; abstracts. S. Welton. Ins Field (Fire ed) 69:20+ F 15 '40; Nat Underw 44:5 F 15 '40
Misdirected accident efforts are deplored; definition and kinds of accidents. H. W. Heinrich. Weekly Underw 142:561 Mr 2 '40
National conservation bureau 7th engineering forum, New York, Jan. 26. Spectator (Property ed) 5:36 Ja 25 '40
Prevention work pays big dividends; averting accidents purpose of National conservation bureau. J. J. Hall. Weekly Underw 143:914-15 O 19 '40
Safety drama at Parkchester housing project, Bronx, N.Y. W. L. Clapp. il East Underw 40:96-7+ D 15 '39

Rates

Urges graded costs to recapture mutual business; abstracts. E. J. Bond, jr. Nat Underw 44:21+ O 31 '40; East Underw 41:30 N 15 '40

Statistics

Aggregates of mutual casualty insurance companies for 1939; tabulation. Spectator (Property ed) 6:13 S 5 '40
Aggregates of stock casualty, surety and miscellaneous companies for 1939; tabulation. Spectator (Property ed) 6:11 S 5 '40
Business written by stock casualty companies in 1939. Spectator (Property ed) 5:17 Mr 21 '40
Casualty experience exhibit for 1939. East Underw 41:32 My 3 '40; Ins Field (Fire ed) 69:16 My 2 '40; Nat Underw 44:17 My 2 '40; Spectator (Property ed) 5:9 My 16 '40; Weekly Underw 142:1102 My 4 '40
Casualty insurance companies; business of 1939 and condition Dec. 31, 1939. Weekly Underw 142:986-90 Ap 20 '40
Casualty premiums and losses, 1939. Ins Field (Fire ed) 69:16 Mr 14; 28 Mr 28; 28 Ap 11 '40
Casualty-surety writings in New Jersey in 1939. East Underw 41:46-9 Mr 15 '40
Companies ranked by assets as at Dec. 31, 1939; tabulation. Nat Underw 44:23 Mr 14 '40
Comparative financial and operating results of casualty, surety and miscellaneous companies for first six months ending June 30, 1940. Spectator (Property ed) 6:9 Jl 25 '40
Comparative financial and operating results of fire and casualty companies for first six months ending June 30, 1940. Spectator (Property ed) 6:25 Ag 8 '40
Countrywide experience of stock casualty companies. Nat Underw 44:20, 31-2 My 2 '40
Country-wide underwriting results, 1935-39, of companies licensed in New York state. East Underw 41:5-7+, 9+ pt 2 My 10 '40
June 30, 1940 statement figures filed in Georgia; tabulation. Nat Underw 44:16 Ag 29; 22 S 19 '40
Net premiums and paid losses in California in 1939. Nat Underw 44:30 Mr 7; 28 Mr 14 '40
Net premiums and paid losses in Florida in 1939. Nat Underw 44:22 Ap 4 '40
Net premiums and paid losses in 1939 in Georgia. Nat Underw 44:24 Mr 28 '40
Net premiums and paid losses in 1939 in Illinois. Nat Underw 44:27-8 Mr 21 '40
Net premiums and paid losses in 1939 in Indiana. Nat Underw 44:30-1 Mr 21 '40

INSURANCE, Casualty—Statistics—*Continued*
Net premiums and paid losses in 1939 in Iowa. Nat Underw 44:30+ Ap 11 '40
Net premiums and paid losses in 1939 in Kansas. Nat Underw 44:31-2 Ap 25 '40
Net premiums and paid losses in 1939 in Michigan. Nat Underw 44:24-5 Mr 21 '40
Net premiums and paid losses in 1939 in Minnesota. Nat Underw 44:30-1 Mr 14 '40
Net premiums and paid losses in 1939 in Missouri. Nat Underw 44:29-30 Ap 18 '40
Net premiums and paid losses in 1939 in New Jersey. Nat Underw 44:32-3 Mr 14 '40
Net premiums and paid losses in 1939 in Ohio Nat Underw 44:18+ Ap 11 '40
Net premiums and paid losses in 1939 in Pennsylvania. Nat Underw 44:26, 28 Mr 14 '40
Net premiums and paid losses in 1939 in Texas. Nat Underw 44:29-30 My 2 '40
Net premiums and paid losses in West Virginia in 1939. Nat Underw 44:19 Ap 4 '40
Net premiums and paid losses in 1939 in Wisconsin. Nat Underw 44:21-2 Mr 28 '40
1939 casualty-surety results of all companies for New York state by lines. East Underw 41:15-17+ pt 2 My 10 '40
1939 underwriting and investment exhibit; Argus chart tabulation. Nat Underw 44:26 Mr 21 '40
Premiums and losses by classes, 1939 experience; tabulation. Weekly Underw 142:490-1, 552, 672, 732, 801, 861 F 24-Mr 2, 16-Ap 6 '40
Ranking of casualty companies by premiums, 1937-39; tabulation. Nat Underw 44:26 Mr 7 '40
Underwriting and investment profit and loss exhibit for 1939; 192 stock casualty, surety and miscellaneous companies; tabulation. Spectator (Property ed) 6:12 S 5 '40
Underwriting and investment profit and loss exhibit for 1939, 100 mutual casualty companies, 25 reciprocals, inter-insurers and Lloyds organizations; tabulation. Spectator (Property ed) 6:14 S 5 '40
Underwriting and investment profits and losses in 1939; record of 100 leading casualty, surety and miscellaneous insurance companies; tabulation. Spectator (Property ed) 5:13-14 Je 27 '40

Study and teaching

Casualty and liability course. R. Bond and others. bibliog Weekly Underw 143:188-93+, 347-51, 652-7, 919-23, 1158-65 Jl 27, Ag 17, S 21, O 19, N 16 '40 (to be cont)
Famous casualty training course is brought up to date. Nat Underw 44:18+ Ap 4 '40
Program for training by correspondence; National Underwriter co. casualty and surety sales training course. Nat Underw 44:32 Je 6 '40
Texas agents pack Dallas casualty-surety school. Nat Underw 44:15 Ja 18 '40

Southern states

Southern insurance review. M. R. McGruder. Ins Field (Fire ed) 68:23 D 28 '39

Tennessee

Experience for 1939; tabulation. Nat Underw 44:20B My 9 '40

United States

Casualty lines outlook for 1940. E. C. Stone. Weekly Underw 142:72, 74+ Ja 6 '40
Companies having satisfactory experience in 1940; analysis by A. M. Best company. Nat Underw 44:29+ S 12 '40
Major casualty developments in 1939. W. L. Clapp. East Underw 40:28-9 D 22 '39
1939 results. H. P. Jackson. East Underw 41:34 Ja 19 '40

INSURANCE, Child. See Insurance, Life—Children's policies

INSURANCE, Combination residence
Blanket residence insurance. B. C. Taylor. Ins Field (Fire ed) 69:22-3, 26-8 O 31 '40

INSURANCE, Contractors' equipment floater
National Fire group has new coverage. East Underw 41:30 Mr 8 '40

INSURANCE, Contractors' public liability
Liability coverage needed by contractors and manufacturers. Weekly Underw 142:436-8 F 17 '40
Liability of contractor; independent operator responsible and leaning heavily on insurance. J. G. Shapiro. East Underw 41: 58 S 27 '40

INSURANCE, Cooperative
See also
Benefit societies

INSURANCE, Corn
Federal insurance; CCC regulations regarding the insurance on the 1939 corn crops. Nat Underw 43:1 N 30 '39
Iowa agents find corn premiums up. Ins Field (Fire ed) 69:15-16 O 17 '40

INSURANCE, Cotton
Cotton cover. E. G. Seibels; G. D. Suter. Weekly Underw 142:1081-2 My 4 '40
Cotton cover topic of Southern agents conference. Weekly Underw 142:131 Ja 13 '40
Insurance of federal agencies is being shifted. Nat Underw 43:3+ N 2 '39
New British war risk plan for insuring higher value of cotton. East Underw 41:36 O 11 '40
Problems of the cotton underwriter. E. G. Seibels. Ins Field (Fire ed) 69:20-1 Je 13 '40

INSURANCE, Deferred payment
Instalment insurance. Management R 29:69 F '40
See also
Insurance, Automobile—Financed automobiles

INSURANCE, Depreciation
Questions regarding obsolescence and property life insurance. L. J. Ackerman. Nat Underw 43:16 D 28 '39

INSURANCE, Disability
Legislation to provide benefits for disabled introduced by Senator Wagner. Ins Field (Life ed) 69:8 My 10 '40; Weekly Underw 142:1140 My 11 '40
See also
Insurance, Accident
Insurance, Health
Insurance, Hospitalization
Insurance, Life—Disability provisions

Adjustment of claims

Stay denied in Massachusetts accident co. litigation; company undergoing rehabilitation held not operating in New York. East Underw 40:33 D 8 '39

Agents

Continental Casualty holds eastern disability division convention. East Underw 41:39-40 Mr 8 '40

INSURANCE, Earthquake
Effect of structural engineering on insurance; abstract. H. F. Badger. Eng N 123:820-1 D 21 '39
Larger earthquake losses foreseen following new trends in California building; abstracts. H. F. Badger. East Underw 41:30+ F 9 '40; Nat Underw 44:3+ F 8 '40; Weekly Underw 142:355 F 10 '40

INSURANCE, Elevator
Tips on elevator inspections. G. Stocksseth. Nat Underw 44:21 F 22 '40

INSURANCE, Employers' liability
Bureau broadens coverage; employers' liability endorsement. Nat Underw 44:19 Mr 28 '40
See also
Insurance, Principal's protective liability
Insurance, Workmen's compensation

Adjustment of claims

Lead poisoning contracted by reason of unusual circumstances connected with employee's work held accidental injury. Weekly Underw 143:362 Ag 17 '40

INSURANCE, Extra expense
Business interruption insurance. H. C. Baker. J Account 70:148-50 Ag '40
Coverage needed where services must be continued. East Underw 41:33 Je 7 '40

INSURANCE, Fidelity. See Insurance, Surety and fidelity

INSURANCE, Fire

Affiliated companies deserve preference of agency system. E. H. Born. Nat Underw 44:3+ Je 20 '40

Agreement reached by N.A.I.A., Home of N. Y., Paramount Fire. Ins Field (Fire ed) 68:7 D 28 '39; Weekly Underw 141:1321+ D 23 '39

American way; as capital stock insurance merchants you must support merchants in other lines. B. P. Carter. Ins Field (Fire ed) 68:16-17 D 14 '39

Better days are predicted for fire insurance business in '40. Ins Field (Fire ed) 69:9-10 Ja 4 '40

Binders, cancellations, carriers. T. F. Myring. bibliog Weekly Underw 143:773-6+ O 5 '40

Brief filed by Stock company association in N.Y. answers HOLC contract objections. East Underw 41:25 O 18 '40; Ins Field (Fire ed) 69:7+ O 17 '40; Nat Underw 44:3+ O 17 '40

Comments on HOLC insurance bids. W. H. Bennett. Ins Field (Fire ed) 69:8 F 29 '40

Commissioners study brief of Stock company association. Weekly Underw 143:1015 N 2 '40

Contracts for HOLC insurance must be submitted by February 15. East Underw 41:35 Ja 26 '40; Ins Field (Fire ed) 69:8 Ja 25 '40; Nat Underw 44:3+ Ja 25 '40; Weekly Underw 142:181+ Ja 20 '40

Economic usefulness of stock insurance; abstracts. F. D. Layton. East Underw 41:1+ My 24 '40; Ins Field (Fire ed) 69:9+ My 23 '40; Weekly Underw 142:1253+ My 25 '40

Federal insurance; bids for FSA coverage. Nat Underw 43:1+ N 30 '39

Federation of mutual fire insurance companies annual meeting, Cleveland. Nat Underw 43:4+ N 23 '39

Fire insurance inspection and underwriting; an encyclopedic handbook. C. C. Dominge and W. O. Lincoln. 5th ed 1072p $6.50 Spectator, Philadelphia '39

Fire insurance underwriting. P. B. Reed. 380p bibliog(p317) $4 McGraw-Hill '40

Fire underwriters association of the Pacific annual meeting, San Francisco. East Underw 41:26, 30-1 F 9 '40; Ins Field (Fire ed) 69:9-10 F 8 '40; Nat Underw 44:3+ F 8 '40

First half year satisfactory to fire companies. Nat Underw 44:3 Jl 11 '40

Future of American fire insurance agencies. L. E. Falls. Spectator (Property ed) 6:32 O 17 '40

HOLC abandons insurance on properties it owns; replies to mutuals' attack on service fee. Nat Underw 44:3+ My 2 '40; Ins Field (Fire ed) 69:9 My 2 '40

HOLC contract illegal in West Virginia and Missouri. Ins Field (Fire ed) 69:7-8 S 19 '40

HOLC contract subject of fiery debate by commissioners. Nat Underw 44:1+ Jl 4 '40

HOLC decision awaited on bids for new fire contracts. East Underw 41:1+ Mr 1 '40; Nat Underw 44:5+ F 22 '40

HOLC gives instructions to home owners where loans are made. Nat Underw 44:4 Ag 1 '40

HOLC insurance problems. R. W. Sheehan. il Spectator (Property ed) 5:10-13+ F 22 '40

HOLC stands aloof in Stock company association contract tilt in Wisconsin and Missouri. Ins Field (Fire ed) 69:8 S 5 '40; Nat Underw 44:3 S 5 '40

How new taxes affect fire insurance firms. E. A. Van Deusen. Barron's 20:20 O 28 '40

Indiana conference on fire and casualty insurance held at Indiana university. Ins Field (Fire ed) 69:18-19 My 23 '40

Insurance to assist national survey of industrial plants incident to rearmament program. East Underw 41:14 Jl 26 '40

Merger of the Rhode Island and the Merchants Fire of Providence, R.I. Ins Field (Fire ed) 68:10 N 30 '39; Spectator (Property ed) 5:20 N 30 '39

Modern fire underwriter. C. F. Rupprecht. 2 pts 114p, 334A p $6 Spectator, Philadelphia '40

Mutuals stir state officials on HOLC decision. Nat Underw 44:4+ Ap 25 '40

North British & Mercantile history. W. J. Traynor. il Weekly Underw 142:30+ Ja 6 '40

Ohio farmers indemnity co. gives résumé of new HOLC procedure. Nat Underw 44:6 Ag 8 '40

Paramount Fire controversy. Nat Underw 43:5 D 21; 4+ D 28 '39

Policies on HOLC properties not cancellable, whatever outcome of present bidding. W. H. Bennett. Ins Field (Fire ed) 69:11 Mr 14 '40; Same. Weekly Underw 142:645+ Mr 16 '40

Precedent abandoned in Pacific Board election. Ins Field (Fire ed) 69:9 My 16 '40

Stock company association to write all risks placed by the HOLC. East Underw 41:1+ Ap 19 '40; Ins Field (Fire ed) 69:7 Ap 18 '40; Nat Underw 44:1+ Ap 18 '40; Weekly Underw 142:969 Ap 20 '40

Underwriters salvage company of Chicago becomes asset again. Nat Underw 43:3 D 21 '39

Value of Business development office. H. P. North. Weekly Underw 142:358 F 10 '40

Views on current problems. F. A. Gantert. East Underw 40:26 N 17 '39

See also

Arson
Insurance, Builders' risk
Insurance, Extra expense
Insurance, Forest
Insurance, Inland marine
Insurance, Marine
Insurance, Use and occupancy

also National board of fire underwriters; Underwriters' laboratories

Adjustment of claims

Broker held responsible for policy error; Minnesota Supreme court decides in case of oral application submitted to agent of company. East Underw 41:30 Ja 12 '40

California Fair loss; $125,000 on Golden Gate fire. Weekly Underw 143:769 O 5 '40

Church occupancy; court holds very purpose of building implies non-use for worship under certain contingencies. East Underw 41:29 Ja 5 '40

Company prevents condemnation of insured partly burned building in Marinette, Wis. East Underw 40:29 N 17 '39

Conviction of insured admissible in fire policy suit; digest of recent cases. J. L. Roesch. Spectator (Property ed) 6:22-4 Jl 11 '40

Corporation which is dissolved has no right to secure insurance. East Underw 40:26 D 22 '39

Fall of building clause in fire policies; digest of recent cases. J. L. Roesch. Spectator (Property ed) 5:24-5 My 16 '40

Few fire claims are litigated. L. Bowen. Nat Underw 43:8 N 16 '39; Same abr. Weekly Underw 141:1206 D 9 '39

Fire and marine insurance; loss adjustments by agents and brokers. P. B. Reed. Weekly Underw 143:1030-4 N 2 '40

Fire company recovers payment from third party judged negligent. East Underw 41: 24 Ag 23 '40

Fixing cost of replacement; bid of single contractor, made to insurance company, need not be limit of liability. East Underw 41:26 Je 7 '40

Insured paid overdue premium after property was destroyed; company held not to be liable. East Underw 41:22 N 8 '40

Insurer causing adjuster to inspect premises and investigate extent of loss waives formal verified proof of loss. Weekly Underw 142: 689 Mr 16 '40

Insurer waived formal assignment of policy. Nat Underw 44:6 Ja 18 '40

Insurers win warehouse issue against Warroad potato growers association. Nat Underw 44:23 F 22 '40

Los Angeles blasting causes extended coverage losses. Nat Underw 44:4 Mr 21 '40

INSURANCE, Fire—Adjustment of claims —*Continued*

New York court in fire insurance case permits company to take oral testimony of witnesses in California. East Underw 40:1+ D 22 '39

New York Supreme court rules lightning was direct cause; lightning clause of a fire insurance policy. Weekly Underw 142:298 F 3 '40

Novel settlement in General Mills factory fire loss. Nat Underw 44:19 Ap 18 '40

One year limit for suit in policy doesn't apply to lightning loss. East Underw 41:29 Jl 12 '40

Processing concern's customers not covered; New Jersey court finds that in spite of endorsements only named assured was protected. East Underw 41:30 Ap 19 '40

Public relations in claim adjustments. G. M. Wight. Weekly Underw 142:294+ F 3 '40

Public relations work in loss adjusting; abstracts. P. L. Haid. East Underw 41:18 My 31 '40; Nat Underw 44:2 My 30 '40; Spectator (Property ed) 5:14 My 30 '40

Recovery under policy on property sold before partial loss by fire. East Underw 41:29 Ja 5 '40

Sole ownership clause considered in two cases; New York standard fire policy. Nat Underw 44:11 Ap 11 '40

Tobacco warehouse policies held to cover beyond receiver's interests. East Underw 41: 30 Mr 29 '40

Unconditional and sole ownership clause in fire insurance policies; digest of recent cases. J. L. Roesch. Spectator (Property ed) 5:32-3 D 28 '39; 34-5 Ja 25 '40

Vacancy clause in school policy held ambiguous as to occupancy. East Underw 41:26 Ag 16 '40

Advertising

National Fire group gives agents powerful visual sales weapon. il Ins Field (Fire ed) 68:24 N 16 '39; Nat Underw 43:25 D 21 '39

Agents

Agents key to fire insurance. R. P. Barbour. 5th ed 616p $3.50 Spectator, Philadelphia '39

Agents should reflect full confidence in their business; abstracts. H. C. Conick. East Underw 41:18+ Je 28 '40; Weekly Underw 142:1553+ Je 29 '40

Agents urged to support cooperation. A. J. Smith. East Underw 41:18 Jl 19 '40

Appraises agency's future value; rests on four main points. L. E. Falls. East Underw 41:45 S 20 '40

C. R. Hewitt writes $12,000 premiums in tiny Minnesota community. East Underw 41:56 S 27 '40

Federal loan board confers with agents on new HOLC contracts. Weekly Underw 141: 1365+ D 30 '39

Fundamental selling steps in meeting competition; sausage factory illustration. D. Perry. Nat Underw 43:27 N 23 '39

HOLC action protested by Ohio local agents. W. A. Earls. Weekly Underw 142:701+ Mr 23 '40; Excerpts. Nat Underw 44:6 Mr 28 '40

HOLC situation confused, agents charge raiding. Nat Underw 44:15 Mr 21 '40

Modest homes need insurance. W. S. Byler. Weekly Underw 143:236 Ag 3 '40

Much concern felt by agency forces over federal bodies' insurance. Nat Underw 43:5 D 21; 3+ D 28 '39

1940 production problems. A. J. McDavid. Ins Field (Fire ed) 69:20-1 My 30 '40

Ohio agents association offers HOLC plan for financed property. Nat Underw 44:13 Ap 11 '40

Procedure; how stock company association handles H.O.L.C. loans. R. D. Voss. Ins Field (Fire ed) 69:18 Jl 11 '40

Royal-Liverpool companies expand survey idea; called planned protection. East Underw 41:20 S 20 '40; Ins Field (Fire ed) 69:24 S 19 '40; Weekly Underw 143:620 S 21 '40

Stock company association tells companies of changes in insurance procedure of HOLC. G. C. Morgan. East Underw 41:25 Je 21 '40; Same. Ins Field (Fire ed) 69:7-8 Je 20 '40

Agency management

Successful special agents. R. W. Michael. Ins Field (Fire ed) 69:20-1 F 29 '40

Commissions

Chicago fire commission control efforts renewed. Nat Underw 44:3+ F 1 '40; Weekly Underw 142:360 F 10 '40

Commission flare-up hits Philadelphia; companies appoint agents for reinsurance at commissions exceeding that for local business. Ins Field (Fire ed) 69:11 Mr 7 '40

Flat commission contract. F. R. Lanagan. Nat Underw 44:3+ O 24 '40

Law in Pennsylvania to control commissions. C. F. C. Arensberg. East Underw 41:34 O 11 '40

Cancellation

Cancellation of fire policy on mortgaged premises; digest of recent cases. J. L. Roesch. Spectator (Property ed) 6:20-2 Ag 22 '40

Rules on cancelation of World's fair risks; insurance reduces automatically to closing date. East Underw 41:27 O 4 '40

Coinsurance

History of the coinsurance clause and its practical application; talk given in 1908 still timely. F. M. Crittenden. East Underw 41:20+ Ag 16 '40

Material damage insurance. H. G. Eberle and H. W. Ervin. Banking 32:29 D '39

So, you think you know co-insurance. A. Goldberger. East Underw 41:18 Ag 9 '40

Coverage

Talk to credit men about protection borrowers should have. W. A. Earls. East Underw 41: 18 Jl 26 '40

See also

Insurance, Building collapse

Excess policies

Excess coverage plan is contrary to the Iowa insurance laws. East Underw 41:26 Mr 1 '40

Farm policies

Commission gold in the soil; opportunities for increasing farm insurance business. R. Carter. Ins Field (Fire ed) 69:16-17+ Je 27 '40

Country agents' work among the farmers. H. H. Dunning. Nat Underw 43:6 N 9 '39

Farm and the city; link through insurance is emphasized in N.A.I.A. forum. A. Case. Ins Field (Fire ed) 69:26-7 My 2 '40

Farm insurance must be sold. L. C. Warder. Ins Field (Fire ed) 69:16-17 My 30 '40

Joint responsibility of companies and agents highly necessary in farm underwriting. B. R. Walinder. Nat Underw 44:30 O 31 '40

Outlook of the farm writing agent; abstracts. B. R. Walinder. Nat Underw 44:19 O 3 '40; East Underw 41:31 N 1 '40

Rebuilding clause cuts rural losses in Canadian field. W. J. Scott. East Underw 41:1+ Ag 9 '40

Suggests change in commissions; points on farm underwriting. F. J. Marshall. East Underw 41:24 O 18 '40

Underwriting farm property. G. C. Cundiff. Nat Underw 44:10 My 30 '40

Finance

American fire and casualty company analysis. Spectator (Property ed) 5:25, 28-9 My 30 '40

Annual fire and marine insurance report of the Connecticut insurance department. J. C. Blackall. Weekly Underw 143:1016+ N 2 '40; Same. East Underw 41:24 N 1 '40

British fire insurance in the United States; results of twenty-one British groups. Economist 137:219 N 11 '39

Business development office analysis of premium income and losses by types of carriers for fire and allied lines, 1935-1939; tabulation. Nat Underw 44:6 O 31 '40

INSURANCE, Fire—Finance—*Continued*
Company analysis; merger of Rhode Island insurance company with Merchants fire insurance company. Spectator (Property ed) 5:24-5, 32 My 2 '40
Comparative financial and operating results of casualty, surety and miscellaneous companies for first six months ending June 30. Spectator (Property ed) 6:12-13 Ag 22 '40
Figures from Dec. 31, 1939 statements; tabulation. Nat Underw 44:5 F 1; 6 F 8; 6 F 15; 6 F 22; 6 F 29; 6 Mr 7 '40
Fire companies aggregates for 1938; cost items analyzed by New York department. Nat Underw 43:5-6, 22 D 28 '39
Fire insurance aggregates, 1935-1938, companies licensed in New York state. Ins Field (Fire ed) 68:8 D 28 '39; Same. East Underw 40:17 D 29 '39
Fire insurance in the United States in 1939; with tabulation. Spectator (Property ed) 5:12-16 Mr 21 '40
Further gains for fire insurance companies in 1939. E. A. Van Deusen. Barron's 20:18 F 12 '40
How new taxes affect fire insurance firms. E. A. Van Deusen. Barron's 20:20 O 28 '40
Law's statistical tables 1940, fire and marine insurance companies. 39th annual ed. H. Law, comp. pa $5 Harrison Law, Nutley, N.J. '40
Mechanics and traders insurance company, Hartford, Conn.; company analysis. Spectator (Property ed) 5:24-5+ N 30 '39
Mutual companies' 1939 figures; tabulation. Nat Underw 44:8 F 1; 8 F 8; 14 F 15; 23 F 22; 12 F 29 '40
Pacific national fire insurance company analysis. Spectator (Property ed) 6:30-1 O 17 '40
Piedmont fire insurance co. of Charlotte, N.C.; analysis. Spectator (Property ed) 6: 25-7 S 5 '40
Results of the operations of fire insurance companies for the year ending December 31, 1939, and comparisons with 1938; tabulation. Spectator (Property ed) 5:17 F 8; 14-15 F 22 '40
Southern insurance review. M. R. McGruder. Ins Field (Fire ed) 68:22-3 D 28 '39
Underwriting and investment profits and losses of one hundred leading fire insurance companies, Jan. 1, 1930-Jan. 1, 1940. Spectator (Property ed) 6:14-15, 20 O 17 '40

History
Fire insurance history; rating. A. M. Reager. Ins Field (Fire ed) 69:24-5 Mr 21 '40
Sun insurance office of London, 230 years old; history of company. East Underw 41:21 F 9 '40

Inspection
Canada requests that all insurance inspectors be British subjects. East Underw 41:29 My 24 '40
Country agents' work among the farmers. H. H. Dunning. Nat Underw 43:6 N 9 '39
Emphasis is again placed on town inspections in the Western actuarial bureau territory. Nat Underw 43:5+ N 9 '39

Moral hazard
Changeable character and relentless ratios; checking the moral hazard of fire insurance risks. R. A. Foulke. il Dun's R 47:10-16 D '39
What about the moral hazard? circumstances with which fire insurance engineers should familiarize themselves. R. C. Steinmetz. Weekly Underw 141:1161-4 D 2 '39

Mortgagee interest
As interest may appear, held to mean debt owed to mortgagee. East Underw 41:16 Jl 26 '40
Bank's stand on unearned premium control commented on. A. C. Stevens. Ins Field (Fire ed) 69:8-9 Ap 11 '40
54 life companies sign Ohio non-coercion pledge for mortgaged properties. Ins Field (Fire ed) 69:10-11 Je 27 '40; Ins Field (Life ed) 69:8 Jl 5 '40; Nat Underw 44:9 Je 27 '40
Governor Lehman signs favored broker bill; prohibits designation of a particular insurance broker by corporations lending money on real property. Spectator (Property ed) 5:33 Mr 21 '40
Mortgagee may be held liable to mortgagor for failure to exercise due diligence in collecting proceeds of fire policy. Weekly Underw 142:1529 Je 22 '40

Multiple location policies
Get to know the general cover; field man will do well to specialize in the reporting form. I. J. Holmgren. Ins Field (Fire ed) 69:24-5 Mr 14 '40

Municipal policies
Minnesota survey claims too much fire coverage; competitive bidding and long term insurance at lower rates suggested. A. Miles. Weekly Underw 143:324 Ag 17 '40; Same abr. Ins Field (Fire ed) 69:12 Ag 22 '40
Stretching the city fire insurance dollar. 12p pa 50c Am. municipal assn, 1313 E. 60th st, Chicago '40

Policies
Agreed amount clause is debated in Chicago. Nat Underw 44:1+ My 2 '40
Approval of standard policy sought. L. H. Pink. Weekly Underw 142:652+ Mr 16 '40
Arguments against new fire policy. J. H. Doyle. por East Underw 41:17+ Jl 5 '40
Coverages and modifications; extended coverage endorsement, consequential coverage, reporting forms. W. C. Howe, jr. bibliog Weekly Underw 143:498-506 S 7 '40
Danger points of fire policy outlined by buyer. W. A. Sullivan. Nat Underw 44:12+ S 5 '40
Difference of opinion at fire policy hearing in New York. East Underw 41:16 Je 28 '40
Fire and marine insurance; standard fire insurance policy. J. Lucas. bibliog Weekly Underw 143:231-6, 432-6 Ag 3, 31 '40
Fire insurance clauses most commonly misunderstood by local agents. J. P. Young, jr. Ins Field (Fire ed) 69:22-4 S 19 '40
Fire policy revision forum held in New York. East Underw 41:32-3 O 18 '40; Ins Field (Fire ed) 69:9-10 O 24 '40; Nat Underw 44:4 O 17 '40
Further study to be given to the standard policy; hearings at commissioners convention. Nat Underw 44:2+ Jl 4 '40
Legislative committee backs Pink on revised fire policy for New York. East Underw 41: 18+ Mr 8 '40
Material damage insurance. H. G. Eberle and H. W. Ervin. Banking 32:28-9 D '39
Mississippi changes former premium rule; establishes condition previously untried in country. Weekly Underw 143:323 Ag 17 '40
Much sentiment is seen for revised standard policy. Nat Underw 44:3+ Mr 7 '40
Mutuals seek further changes in revised standard fire contract. C. M. Smith. East Underw 40:28 D 8 '39; Same cond. Weekly Underw 141:1158 D 2 '39
New fire insurance policy bill before New York legislature. East Underw 41:1+ F 2 '40
N.Y. department suggests provisions to replace standard policy. Ins Field (Fire ed) 69:7 Ag 29 '40; Nat Underw 44:6 Ag 29 '40; Spectator (Property ed) 6:23 S 5 '40
Paragraph by paragraph analysis of the standard fire insurance contract. J. P. Young, jr. Ins Field (Fire ed) 69:22-3+ S 12 '40
Pink's move on the standard policy seems mystifying. Nat Underw 44:5 S 5 '40
Proposal for standard provisions explained; abstracts. L. H. Pink. East Underw 41: 20 S 13 '40; Ins Field (Fire ed) 69:7-8 S 12 '40; Nat Underw 44:6 S 12 '40; Spectator (Property ed) 6:39 S 19 '40; Weekly Underw 143:634 S 21 '40
Proposed standard form. W. A. Earls. Nat Underw 44:4 F 15 '40
Reply to Doyle on changes proposed in standard fire policy. J. Lucas. East Underw 41: 19+ Jl 12 '40

INSURANCE, Fire—Policies—*Continued*
Reporting form for single location introduced in West; changes in other forms. Nat Underw 44:3+ F 29 '40
Reporting forms for fluctuating values. Management R 29:67-8 F '40
Representative of buyer discusses proposed New York fire policy; abstracts. R. Fleming. East Underw 41:27 My 10 '40; Nat Underw 44:5+ My 9 '40; Weekly Underw 142:1145 My 11 '40
Revise provisional reporting form in use by Pacific board companies. H. W. Nason. Nat Underw 44:5 Ja 18 '40
Revision of single state reporting forms expected. Nat Underw 44:3+ Ja 25 '40
Standard fire policy; present and proposed New York forms. Spectator (Property ed) 5:22-3+ Mr 7 '40
Standard policy revision considered from companies' viewpoint. Ins Field (Fire ed) 69:23+ Mr 21 '40
Standard provisions for fire insurance suggested for N.Y.; text of proposed bill. East Underw 41:1+ Ag 30 '40
Standard provisions in fire policies; abstract. Management R 29:339-40 S '40

Extended coverage endorsements
Extended coverage endorsement correspondence. M. K. Doehler, jr.; E. A. Cordes. Weekly Underw 143:63 Jl 13 '40
Extended coverage endorsement no. 4. E. A. Cordes. Weekly Underw 142:1323-8 Je 1 '40; Excerpts. East Underw 41:21-2 My 17; Correction. 41:24 Je 7 '40; Ins Field (Fire ed) 69:24-5+ My 16 '40; Nat Underw 44:29 My 23 '40
Extended coverage reviewed. J. P. Young, jr. Ins Field (Fire ed) 69:18-21 Jl 18 '40
Mortgagees learn value of extended coverage. J. C. O'Connor. Nat Underw 43:17 N 30 '39
New England new extended cover form and rules. Nat Underw 43:3+ D 28 '39
Supplemental contract premiums in East; first six months of 1940. S. Rhoades. East Underw 41:16 Jl 26 '40; Same. Nat Underw 44:2 Jl 25 '40

Policy adjustment
No return premium where an FHA loan had been secured. Nat Underw 44:4 Ja 25 '40

Policy dividends
Factory mutuals cut refund dividends. Ins Field (Fire ed) 69:9 F 29 '40; Nat Underw 44:8 F 29 '40; Weekly Underw 142:530 Mr 2 '40
Oklahoma hearings on participating policies postponed. Ins Field (Fire ed) 69:8-9 Mr 21 '40
Stock carriers shy at participation in company profits. Nat Underw 44:3+ Je 13 '40

Premium financing
Texas finance plan to use endorsement to fire policy is opposed by most companies writing in Texas. East Underw 40:28 D 8 '39

Preventive work
Fire insurance engineering is effective tool for local agents. T. G. Linthicum. Ins Field (Fire ed) 69:18-22 Jl 25 '40
Hazards constantly lessened by National board of fire underwriters. East Underw 41:26 N 8 '40
Milwaukee salvage patrol discontinued. Nat Underw 44:33 F 1 '40
National board of fire underwriters activities; abstracts. F. S. Dauwalter. East Underw 41:18 O 25 '40; Nat Underw 44:5+ O 24 '40
National board sets up Navy department service. Nat Underw 44:4 N 7 '40; Weekly Underw 143:1024 N 2 '40
National board sets up War department advisory bureau at Washington, D.C. Ins Field (Fire ed) 69:7 O 10 '40; Nat Underw 44:3 O 10 '40; Spectator (Property ed) 6:9 O 17 '40
Needlework concerns to revive Policyholders protective association in N.Y. East Underw 41:1+ Jl 19 '40

Public buildings policies
Erie county risks go to eight Buffalo agents. East Underw 41:24 Ja 5 '40

Purchasing
Danger points of fire policy outlined by buyer. W. A. Sullivan. Nat Underw 44:12+ S 5 '40
Points to check when selecting a fire insurance company; interview with F. S. Dauwalter. Credit & Fin Management 42:26-7+ Ap '40; Same abr. East Underw 41:30 Ap 26 '40
Stretching the city fire insurance dollar. 12p pa 50c Am. municipal assn, 1313 E. 60th st, Chicago '40

Rates
Armistice; state-wide rate war was averted in Texas. Ins Field (Fire ed) 68:10 N 16 '39
Cover on planned residential communities and public housing projects. E. P. Murphy. Weekly Underw 142:244-5 Ja 27 '40
Danger of disturbing plan in HOLC coverage. J. D. Saint. Nat Underw 44:8+ F 1 '40
Detroit's mayor demands fire rate decrease. Ins Field (Fire ed) 69:15 S 19 '40
Fire insurance costs less; Dallas agents find comparison with other commodities is very favorable. A. Johnson. charts Ins Field (Fire ed) 69:18-19 Ja 25 '40
Fire rate reductions in two Canadian provinces. East Underw 41:30 N 1 '40
Flat commission contract; revising the rate structure. F. R. Lanagan. Nat Underw 44:3+ O 24 '40
HOLC property risk is less than ordinary; special rates possible in Nebraska; opinion of Commissioner Smrha. Weekly Underw 142:292 F 3 '40; Excerpts. East Underw 41:31 F 2 '40
How towns and cities are classified for fire insurance rating. A. H. Gent. In Purdue Univ Eng Extension Dept, Extension Ser 46:68-72 '40
Missouri state courts to return impounded premiums. Ins Field (Fire ed) 69:11 S 26 '40
Mutual banks want special deal on their fire insurance rates. R. B. McGaw. Nat Underw 44:2 My 23 '40; Same. Weekly Underw 142:1497 Je 22 '40
New all-time low record for average rate of fire premiums. Weekly Underw 142:1351-3 Je 1 '40
Ontario rate reduction announced. Nat Underw 44:12 F 29 '40
Principles of rate making. L. A. Watson. bibliog Weekly Underw 143:875-7 O 12 '40
Rate-making science. P. F. McKown. Weekly Underw 142:356 F 10 '40
Texas commissioners order rate reductions. Ins Field (Fire ed) 69:11-12 S 26 '40

Rating bureaus
Boston board of fire underwriters annual meeting. East Underw 41:18 Ja 12 '40; Weekly Underw 142:136 Ja 13 '40
Boston board puts off decision on lease of its rating powers to New England fire insurance rating association. Nat Underw 44:4 O 10 '40; Ins Field (Fire ed) 69:16 O 10 '40
California rating committee reports progress on new fire rating system. Ins Field (Fire ed) 69:16 O 10 '40
Fire insurance history; rating. A. M. Reager. Ins Field (Fire ed) 69:24-5 Mr 21 '40
New England fire insurance rating association. R. Sweetland. East Underw 41:25+ Jl 5 '40; Abstract. Weekly Underw 142:1558 Je 29 '40
1939 activities of Syracuse division of rating association. L. Daw. East Underw 41:20-1 Ja 19 '40

Reinsurance
Fire reinsurance facilities in U.S. ample; foreign companies set up U.S. affiliates to take over liability. East Underw 41:1+ O 18 '40
Liberty Fire is re-insured by Newark. Ins Field (Fire ed) 69:9-10 My 30 '40; Nat Underw 44:3 My 30 '40; Weekly Underw 142:1320 Je 1 '40

INSURANCE, Fire—Reinsurance—Continued
New reinsurance agreement form to comply with section 77 in N.Y. East Underw 41: 22 Jl 5 '40
Reinsurance transactions of big companies. Nat Underw 44:4+ Mr 7 '40
Tokio and Meihi of Japan in reinsurance deal; Standard of New York takes over fire business of both companies. Nat Underw 44:4 O 3 '40

Risks

Aircraft factories called good risks; abstracts. J. H. Rea. Nat Underw 44:4 F 8 '40; Weekly Underw 142:354+ F 10 '40
Aviation companies will require huge amount of insurance. E. H. Rupp. East Underw 41: 1+ O 25 '40; Same. Nat Underw 44:3+ O 24 '40
Buffalo loss in fireproof building; new reinforced concrete plant of General Mills co. East Underw 41:1+ F 23 '40; Nat Underw 44:15 F 22 '40
Earth as a building material; adobe houses as fire insurance risks. W. H. Rodda. il diag Weekly Underw 142:302-3 F 3 '40
New developments in the paper industry; desirability of southern mills as insurance risks. H. E. Adams. Weekly Underw 143: 770-2 O 5 '40
Special hazards in dwellings. E. W. Elwell. Weekly Underw 142:542-3 Mr 2 '40

Self insurance

Kenvil munitions plant self-insurer; no fire or explosion cover carried by Hercules powder co. Nat Underw 44:8 S 19 '40
La Guardia self-insurance report is criticised. Nat Underw 44:11 Ag 15 '40

Statistics

Aggregates of stock fire and marine insurance companies for 1939. Spectator (Property ed) 6:10-12 Jl 25 '40
Comparative financial and operating results of fire companies for first six months ending June 30, 1940. Spectator (Property ed) 6:25 Ag 8; 28 S 5 '40
Division of fire losses between buildings and contents analyzed. East Underw 41:24 F 23 '40
Domestic and alien fire insurance companies business of 1939 and condition December 31, 1939. Weekly Underw 142:903-11 Ap 13 '40
18-year fire experience of capital stock fire insurance. H. Junker. Ins Field (Fire ed) 69:28+ My 9 '40
Experience in 1939 by lines; tabulation. Nat Underw 44:19 F 8; 15 F 15; 4+ F 29 '40
Fire rate reductions keeping pace with drop in losses. H. Junker. East Underw 41:18 My 3 '40; Same. Nat Underw 44:1+ My 2 '40
June 30, 1940 statement figures filed in Georgia; tabulation. Nat Underw 44:3 Ag 22; 6 Ag 29; 10 S 19 '40
Leading fire companies graded by premiums and assets, 1929-39. Nat Underw 44:3 F 29 '40
Nationwide fire insurance net premiums and losses paid in 1939. East Underw 41:20 Mr 8 '40
New all-time low record for average rate of fire premiums. Weekly Underw 142:1351-3 Je 1 '40
1939 fire insurance results; Western underwriters association. S. M. Buck. East Underw 41:20 Ap 19 '40
Premium income by groups of fire insurance companies in 1939. Spectator (Property ed) 5:20 Mr 7 '40
Premiums and losses by classes, 1939 experience; tabulation. Weekly Underw 142: 361 F 10 '40
Premiums and losses by companies, 1939. Ins Field (Fire ed) 69:22 F 29; 28 Mr 7; 13 Mr 14; 30 Mr 21; 13 Mr 28; 10 Ap 11 '40
Specialty lines of fire companies show varying results for 1939, by company. East Underw 41:26 Mr 8 '40
Stock company premiums and losses from 1940 Argus fire charts. Nat Underw 44:14, 18-19 Mr 7 '40
Total premiums and losses by all classes, 1939 experience; tabulation. Weekly Underw 142:708, 781, 845 Mr 23-Ap 6 '40
Trend of fire insurance. F. B. Simpson. Weekly Underw 142:34 Ja 6 '40
Trend upward noted in most fire lines. Spectator (Property ed) 5:36 Je 27 '40
Underwriting and investment exhibit, 1939; Argus chart. Nat Underw 44:6, 8 Mr 14 '40
Underwriting and investment profits and losses in 1939; record of 100 leading fire insurance companies as reported to the New York insurance department; tabulation. Spectator (Property ed) 5:12, 15-16 Je 27 '40

Study and teaching

Fire and marine insurance; course no. 1. W. C. Howe, jr. and others. Weekly Underw 143:20-3+, 231-6, 432-6, 498-506, 773-6+, 875-7, 1030-4 Jl 6, Ag 3, 31-S 7, O 5-12, N 2 '40 (to be cont)

Taxation

Florida gets ruling on pension proposal; reciprocals taxable for firemen's relief and pension funds. Weekly Underw 142:408 F 17 '40
How new taxes affect fire insurance firms. E. A. Van Deusen. Barron's 20:20 O 28 '40
Louisville premiums tax voided by Court of appeals. Ins Field (Fire ed) 69:14 O 24 '40

Unearned premium policies

Errors in use of unearned premium cover. T. F. Buchanan. East Underw 41:25 Jl 19 '40

Valuation of property

Appraisal procedure and theories. E. M. Talcott. Nat Underw 44:29 O 31 '40
How to fix insurable values; common errors and omissions. P. B. Reed. Nat Underw 43: 9+ D 14 '39; Same abr. Management R 29:28-9 Ja '40
Physical depreciation and insurable values; abstract. F. H. Dow. Management R 29: 108-9 Mr '40
What is insurable value? case of McAnarney v. Newark fire insurance co. Management R 29:27-8 Ja '40

Canada

Canadian experience analyzed for 5 years. Weekly Underw 142:778 Mr 30 '40
Canadian fire funds in strong position. East Underw 40:20 D 8 '39
Canadian losses in 1939. East Underw 41:37 Ja 26 '40
Fire writings up; premium gain not proportionate. Nat Underw 44:44 O 10 '40
1939 premiums. Ins Field (Fire ed) 69:12 Mr 21 '40
Proposals for changes in fire statutes are considered in Canada. East Underw 41:1+ S 6 '40
Quebec fire losses in 1939, 37% of total in Canada. East Underw 41:26 O 18 '40

Connecticut

Annual fire and marine insurance report of the Connecticut insurance department. J. C. Blackall. Weekly Underw 143:1016+ N 2 '40; Same. East Underw 41:24 N 1 '40

Great Britain

British insurance in 1939. Economist 139:88-90 Jl 20 '40
Fire insurance in war. Economist 138:298-9 F 17 '40

Idaho

H.O.L.C. contract with Stock company association violates Idaho statutes. Weekly Underw 143:896+ O 19 '40

Illinois

1939 fire premiums and losses. Nat Underw 44:4+ Ap 11; 44 Ap 18 '40

Iowa

Iowa fire insurance volume in 1939. Nat Underw 44:4 Ap 18 '40

INSURANCE, Fire—*Continued*

Missouri

Court sues O'Malley, McCormack for contempt; Missouri fire rate case. Ins Field (Fire ed) 69:11 My 23 '40; Nat Underw 44:3+ My 23 '40; Weekly Underw 142:1381 Je 8 '40

Distributing Missouri refund may stump post office. Ins Field (Fire ed) 69:14-15 O 17 '40

Missouri decision in rate case; companies ponder next step. Ins Field (Fire ed) 69:12-13 Ag 22 '40; Nat Underw 44:1+ Ag 22 '40

Missouri state courts to return impounded premiums. Ins Field (Fire ed) 69:11 S 26 '40

Pendergast, O'Malley, McCormack indicted. Ins Field (Fire ed) 69:8 Jl 18 '40; Nat Underw 44:1+ Jl 18 '40

Special master files Missouri rate case report. East Underw 41:20 F 2 '40; Nat Underw 44: 5 F 1 '40

Supt. Lucas outlaws HOLC-SCA deal. Nat Underw 44:3 Ag 29 '40

Nebraska

Nebraska leaders in 1939. Nat Underw 44:33 Ap 11 '40

New Jersey

HOLC section 116 (a) approved in New Jersey. East Underw 41:12 Ag 9 '40

1939 net premiums and losses incurred. East Underw 41:22 Mr 15 '40; Nat Underw 44:10 Mr 14 '40

New York (city)

New York board report, 1939. East Underw 41:20 Mr 1 '40

Stock premiums off 3.67% in New York. Nat Underw 44:6 F 29 '40

New York (state)

Net premiums and losses, 1939. East Underw 41:24-5 Mr 8 '40; Nat Underw 44:8+ Mr 7 '40

Standard provisions in fire policies; abstract. Management R 29:339-40 S '40

San Francisco

San Francisco brokers threaten Board break; may place business with all fire companies regardless of Pacific underwriters membership. Weekly Underw 141:1112 N 25 '39

Tennessee

Experience for 1939; tabulation. Nat Underw 44:33-4 Ap 4 '40

Texas

Fire companies show 46% loss ratio in 1939. Ins Field (Fire ed) 69:10 My 16 '40

Record of fire companies, 1939; tabulation. Nat Underw 44:36 My 16 '40

Texas commissioners order rate reductions. Ins Field (Fire ed) 69:11-12 S 26 '40

Texas fire insurance department. A. R. Davis. Am Water Works Assn J 32:1001-8 Je '40

United States

Fire reinsurance facilities in U.S. ample; foreign companies set up U.S. affiliates to take over liability. East Underw 41:1+ O 18 '40

Foreign fire insurance companies. R. B. McGaw. Banking 33:62 O '40

Satisfactory year draws to close. G. A. Watson. Nat Underw 43:3 D 21 '39

Wisconsin

H.O.L.C. plan criticized. M. Duel. East Underw 41:16 Ag 23 '40; Same. Ins Field (Fire ed) 69:7 Ag 22 '40

INSURANCE, Forest

Forest fire insurance in the northeastern states. H. B. Shepard. diags maps U S Agric Tech Bul 651:1-46 bibliog(p45-6) '39

INSURANCE, Forgery

Bank given decision in forgery bond case; contribution clause status. East Underw 41: 30 Je 28 '40

Bank recovers on depositor's forgery policy; establishes precedent under contract promulgated by surety association. East Underw 41:36 F 16 '40

Bankers forgery bond (lenders form) explained. E. C. Lunt. Weekly Underw 142: 148 Ja 13 '40

Bankers' forgery bond (lenders form) protects lending institutions against loss through forgery of finance paper. East Underw 41:32+ Ja 5 '40; Ins Field (Fire ed) 69:22 Ja 4 '40; Spectator (Property ed) 5:24-5 Ja 11 '40; Weekly Underw 142:150-1 Ja 13 '40

Depositors' insurance. K. C. Bell. Bankers M 141:251-2 S '40

Finance paper forgery protection; Bankers forgery bond lenders form. Banking 32:82 F '40

How to be dishonest; methods of bank employees. W. K. Mendenhall. Ins Field (Fire ed) 69:16-18 Ja 18 '40; Abstract. Nat Underw 44:20 Ja 18 '40

Ten loopholes for forgery. H. G. Eberle and H. W. Ervin. Banking 32:33+ Je '40

With annual check forgery losses in excess of $200,000,000 the need for insurance is apparent. Weekly Underw 142:1514-16+ Je 22 '40

INSURANCE, Fur

Jewelry-fur floater and the selling of fur insurance. Spectator (Property ed) 5:22 D 28 '39

INSURANCE, Furriers' customers

Furriers' customers insurance. E. M. Holmgren. Weekly Underw 142:1330 Je 1 '40

Selling furriers' customers in March, April, May. Nat Underw 44:45 Mr 7 '40

INSURANCE, Group

Aetna mortality experience under group life insurance policies. E. E. Cammack. Spectator (Life ed) 145:15 N 7 '40

Broader and more liberal blanket coverage of Bankers national life of Montclair, N.J. attracts producers. Weekly Underw 142: 1234 My 18 '40

Central motor freight association of Chicago becomes unit for wider extension of group coverage. Business Week p25 N 16 '40

Development and sale of group and hospitalization insurance. A. E. Armstrong. Nat Underw 44:21+ O 3 '40; Same. Nat Underw (Life ed) 44:6 O 4 '40

Group accident and health aids employer, employe. G. F. Johnston. Nat Underw 44: 24 F 1 '40; Same abr. Nat Underw (Life ed) 44:13 F 2 '40

Group A. and H. best way to meet plans for federal action. Nat Underw 44:26 O 10 '40

Group insurance growth. T. I. Parkinson. Nat Underw (Life ed) 44:14 O 4 '40

Group insurance now at its highest point. T. I. Parkinson. Weekly Underw 143:526 S 7 '40

Group insurance; possibilities for selling by local agent. A. E. Armstrong. Ins Field (Fire ed) 69:21 O 17 '40

Group life starts new year briskly; Equitable society writings. East Underw 41:15 F 23 '40; Nat Underw (Life ed) 44:6 F 23 '40

Management thinking on group insurance; abstracts. W. J. Graham. East Underw 41:4 My 10 '40; Nat Underw (Life ed) 44: 1+ My 10 '40

Massachusetts Commissioner Harrington's order held to be handicap; employers' contribution to group accident and health policies. Weekly Underw 142:374 F 10 '40; East Underw 41:42 F 16 '40

Metropolitan Life latest paper for field covers group; every type of industry now purchasing group insurance plan. East Underw 41:1 O 18 '40

Pension plans and social security; shift to group-annuity plan; abstract. F. B. Brower. Management R 29:24-5 Ja '40

Record-breaking group sales figures are released by Equitable life of N.Y. T. I. Parkinson. Ins Field (Life ed) 69:9+ Ja 12 '40; Same. Weekly Underw 142:110 Ja 6 '40; Same abr. Spectator (Life ed) 144:28 Ja 4 '40; Excerpts. East Underw 41:13 Ja 5 '40

INSURANCE, Group—*Continued*
Union insurance; Chicago Amalgamated clothing workers set up life, health, accident plan. Business Week p32 Ap 13 '40

See also
Insurance, Hospitalization

Creditors' policies

Creditor's policies; approval by Supt. A. F. Jordan of District of Columbia, July 2, 1940. Weekly Underw. 143:615 S 21 '40

INSURANCE, Hail
European farmers use hail rockets; sale of hail insurance. F. J. Weiss. Nat Underw 44: 6+ Ja 25 '40
Hail insurance; digest of recent cases. J. L. Roesch. Spectator (Property ed) 5:34-5 Mr 7 '40
Record of hail insurance in Canada. Nat Underw 44:8 F 1 '40

INSURANCE, Health
Insurance of the expense of medical service. W. A. Milliman. East Underw 41:3+ My 17 '40
Reasons against governmental health proposals. E. H. O'Connor. Nat Underw 44: 18+ F 1 '40
Tuition indemnity for parents introduced in U.S. by A. W. G. Dewar. Nat Underw 44:15 Ag 1 '40

See also
Insurance, Disability
Insurance, Hospitalization
National accident and health association

Agents

Selling accident and health insurance. J. S. Miller. 193p $2.50 Prentice-Hall '40

Medical indemnity

See also Medical indemnity corporations

Great Britain

Modification of British health insurance and pensions. Monthly Labor R 50:609-12 Mr '40
National health insurance acts, 1936-1938; with explanatory notes, reported cases, decisions of the minister of health, and statutory rules and orders. H. Lesser, ed. 1284p 37s 6d Stone & Cox, London '39

New York (state)

Compulsory health insurance bill introduced in legislature. East Underw 41:36 Mr 8 '40; Ins Field (Fire ed) 69:29 Mr 7 '40; Ins Field (Life ed) 69:26 Mr 22 '40

INSURANCE, Hospital liability. See Insurance, Malpractice liability

INSURANCE, Hospitalization
Associated hospital service of New York city; annual financial statement. Science 91:285-6 Mr 22 '40
Cleveland group's finances under fire; Mutual hospitalization association of Cleveland. Nat Underw 43:18 D 28 '39
Companies slowly meeting hospital competition. Spectator (Property ed) 5:6 N 30 '39
Dependents' benefit spurs boom in hospital cover. Nat Underw 43:21+ N 2 '39
Development and sale of group and hospitalization insurance. A. E. Armstrong. Nat Underw (Life ed) 44:6 O 4 '40; Same. Nat Underw 44:21+ O 3 '40
Great strides made in hospital expense insurance; plans cover more than 1,000,000 employes. G. W. Fitzhugh. East Underw 41:13 N 1 '40
Hospital and medical plans. East Underw 41: 35 Mr 8 '40
Hospital and medical plans need strict regulation. J. T. Hammond. East Underw 41: 33 Ag 16 '40
Hospital association results in New York state. Nat Underw 44:17 Mr 21 '40
Hospital associations; abstracts. A. Sommer. il Ins Field (Fire ed) 69:22-3 F 1 '40; Ins Field (Life ed) 69:16-17 F 2 '40; Nat Underw 44:18 F 1 '40
Hospital cover; actuaries' comments. Nat Underw 44:19 My 30 '40
Hospital insurance is fastest growing line. J. M. Smith. East Underw 41:37-8 F 23 '40
Hospitalization cover granted all employees of the Employers' group companies. E. C. Stone. Weekly Underw 142:856 Ap 6 '40
Hospitalization for low income class. C. R. Rorem. Nat Underw 44:18 Je 20 '40
Hospitalization insurance. J. M. Smith. Ins Field (Fire ed) 69:22-3+ My 23 '40; Same. Ins Field (Life ed) 69:12-13+ My 31 '40; Abstracts. East Underw 41:28 My 31 '40; Nat Underw 44:22 My 23 '40
Hospitalization is being demanded in group plans underwritten by life and casualty companies. Nat Underw 44:19 Ap 11 '40; Nat Underw (Life ed) 44:7 Ap 12 '40
Hospitalization plans; New York insurance superintendent's report. L. H. Pink. Spectator (Property ed) 5:20+ Mr 7 '40
Michigan medical plan held not insurance; corporation administering service has no legal liability in event of negligence. J. Panchuk. East Underw 41:57 S 27 '40
National Casualty has new hospital expense policy. East Underw 41:28 Jl 26 '40
Non-profit hospital and medical plans invade private insurance sphere. C. A. Togut. East Underw 41:33+ My 17 '40
Opinion of Ohio Attorney General regarding taxation of hospital service corporations. T. J. Herbert. Weekly Underw 142:1492, 1516-17 Je 22 '40
United States Life hospitalization insurance. Spectator (Life ed) 145:24-5 Jl 4 '40

See also
Insurance, Accident—Hospital indemnity

INSURANCE, Industrial
Advantages of industrial over ordinary. H. E. Niles. Nat Underw (Life ed) Conv no 44:11-12 O 12 '40
Astute timing marks release of SEC-WPA study of 2,132 families in the greater Boston area. Nat Underw (Life ed) 44:3+ Ag 30 '40
Central motor freight association of Chicago becomes unit for wider extension of group coverage. Business Week p25 N 16 '40
Charges against industrial insurance; analysis of SEC report to TNEC. L. A. Mack. Weekly Underw 143:799-802 O 5 '40
Commissioner Harrison of Georgia obtains opinion on rights of fraternals. Weekly Underw 143:820+ O 12 '40
42 years of increasing industrial policy benefits. R. V. Carpenter. East Underw 40:34A D 15 '39
Industrial cover important in nation's economic life. M. Fisher. Nat Underw (Life ed) 44:3 My 3 '40
Interpretation of WPA insurance survey in Boston by SEC challenged; abstracts. H. J. Johnson. Ins Field (Life ed) 69:7+ O 25 '40; Nat Underw (Life ed) 44:3+ O 25 '40
SEC prods life insurance again; WPA case-study in low-income brackets. Business Week p18+ Ag 31 '40
TNEC head denies favoring government competition. J. C. O'Mahoney. East Underw 40:1+ N 24 '39; Same. Weekly Underw 141:1109+ N 25 '39; Same abr. Comm & Fin Chr 149:3488 D 2 '39; Excerpts. Ins Field (Life ed) 68:7-8 N 24 '39; Ins Field (Fire ed) 68:7 N 23 '39

Adjustment of claims

Agreement to support and pay expenses of last sickness and burial of insured creates an insurance interest. Weekly Underw 142: 117 Ja 6 '40
Conflicting claims on industrial life proceeds; digest of recent cases. J. S. Regan. Spectator (Life ed) 144:22-3 F 15 '40
Facility of payment clause; digest of recent cases. J. S. Regan. Spectator (Life ed) 144: 16-17 Ap 25 '40
Lapse affects right to proceeds. East Underw 41:7 Je 28 '40
Payment under facility of payment clause to party paying premium discharges insurer from liability to wife named as beneficiary. Weekly Underw 142:1240 My 18 '40

INSURANCE, Industrial—*Continued*

Agents

Conversion of industrial insurance into ordinary insurance; abstracts. J. G. Bruce. Nat Underw (Life ed) 44:20 O 11 '40; East Underw 41:11 O 11 '40

How to increase a debit. M. Burke. Ins Field (Life ed) 69:14-15 My 17 '40

How to reduce finals; problem of selecting agents. E. B. Smith. Ins Field (Life ed) 69:18-19 My 24 '40

Industrial man finds himself. W. O. Williamson. Ins Field (Life ed) 69:18-19 F 9 '40

Lessons from the man on the debit. J. D. Moynahan. Spectator (Life ed) 143:18-19 N 23 '39

Opportunities for industrial men. W. F. Szwed. Ins Field (Life ed) 69:16-17 Ag 2 '40

Premium arrears; Commissioner King of South Carolina rules on payment by agents and on twisting. Weekly Underw 142:1256 My 25 '40

Prospecting for industrial insurance. A. E. Fleming. Ins Field (Life ed) 69:14-15 Jl 19 '40

Special agent tells how; interview with a successful industrial man. R. G. Hicks. Ins Field (Life ed) 69:14-15 O 18 '40

Wage and hour issue as to insurance is again studied. Nat Underw (Life ed) 44:4 N 8 '40

Fraudulent statements

Concealment of fact renders policy void. East Underw 40:8 D 1 '39

Policies

Comments on industrial endowments. L. H. Pink. Weekly Underw 141:1138-9 N 25 '39

Canada

Sharp drop noted; new business and total in force, 1938 and 1939. East Underw 41:15 My 17 '40

New York (state)

Joint legislative committee hearings. Ins Field (Life ed) 68:10 N 17 '39; Weekly Underw 141:1090-1 N 18 '39

INSURANCE, Inland marine

Adaptation of inland marine covers to the particular risks. A. W. Bartheimes. Ins Field (Buffalo Conv Daily ed) 69:6+ S 19 '40; Abstracts. East Underw 41:36 S 20 '40; Weekly Underw 143:636-7 S 21 '40

Future of inland marine insurance; abstracts. D. C. Bowersock. Weekly Underw 143:831-2 O 12 '40; East Underw 41:1+ O 11 '40

Increase your income with inland marine cover. G. Richards. Weekly Underw 142:1387-8 Je 8 '40

Inland marine coverage a growing, vital branch. J. H. McKinney. Weekly Underw 142:1269-70 My 25 '40

Inland marine lines lead to agency growth. K. L. Daniels. Weekly Underw 142:194 Ja 20 '40

Jones & Whitlock rolls up a century; famous inland marine specialty house. R. Rhodes. il Weekly Underw 142:1095-6+ My 4 '40

Marine underwriting. F. J. Shields. Ins Field (Fire ed) 68:18-19 D 7 '39

Present trends in inland marine. S. O. Smith. Weekly Underw 142:972-3 Ap 20 '40

Several marine issues. M. V. Campbell. Nat Underw 43:4+ N 9 '39

See also

Insurance, Fur
Insurance, Motor truck contents
Insurance, Parcel post

Adjustment of claims

Cargo adjustments in 1939. T. D. Helprin. Weekly Underw 142:66 Ja 6 '40

North America not liable under jewelry form in Schweinert case. East Underw 41:32 O 25 '40; Weekly Underw 143:972 O 26 '40

Agents

Great opportunity to increase income. E. D. Johnson. Weekly Underw 142:1563 Je 29 '40

Inland marine as source of additional income. A. J. Huneke. East Underw 41:33 Mr 8 '40

Inland marine lines and their selling points. L. C. Stoll. Ins Field (Fire ed) 69:22-3+ Mr 7 '40

Inland marine sales graph and monthly reminder for soliciting insurance. Weekly Underw 142:366 F 10 '40

Opportunities offered through inland marine. A. J. Huneke. Weekly Underw 142:785+ Mr 30 '40; Same. Ins Field (Fire ed) 69: 22-3+ Mr 28 '40

Suggestions on the creation of business. G. Linke. Nat Underw 43:31 N 2 '39

Wide field is open for solicitation. R. E. Wessendorf. Nat Underw 44:45+ S 12 '40

Commissions

Crisis in I.M.U.A. because of exceptions in commissions allowed. Nat Underw 44:3+ F 15 '40

May conciliate on Fireman's fund's resignation from I.M.U.A. Nat Underw 43:5+ N 9 '39

North America not to resign from I.M.U.A.; complete harmony is sought. East Underw 41:22 F 23 '40; Ins Field (Fire ed) 69:8 F 22 '40

Policies

All-risks coverage; abstract. H. W. Melville. Weekly Underw 143:279 Ag 10 '40

Fluctuating values and changing locations; pointers on handling risks. D. E. Carlson. Weekly Underw 143:1036-7 N 2 '40

Inland marine forms. R. J. Crocker. East Underw 40:35 N 24 '39

Radio property damage and use and occupancy. Spectator (Property ed) 5:23 N 16 '39

Sales pointers on some of less well known inland marine forms. East Underw 41:39 Mr 15 '40

Selling inland marine insurance; transportation policy also called annual shippers' insurance. East Underw 41:21+ Jl 26 '40

Transportation insurance for shippers. D. E. Carlson. East Underw 40:31 D 8 '39; Same. Weekly Underw 141:1267-8 D 16 '39

Personal property floater

Illinois approves $15 deductible clause for the personal property floater. Nat Underw 44:53 Mr 7 '40

I.M.U.A. ruling which permits scheduling certain types of property used in the business, profession or occupation. Nat Underw 43: 22 N 30 '39

Nation-wide definition adopted by Missouri; modification for personal property floater risks. Weekly Underw 142:1449 Je 15 '40

North Carolina amends nationwide definition relative to personal property floaters. Weekly Underw 142:423 F 17 '40

Personal property changes effective December 1, 1939. Spectator (Property ed) 5:27 N 30 '39; Nat Underw 43:5+ N 23 '39

Value of personal property form. R. M. Adams. Nat Underw 44:41 O 31 '40

Prospects

Inland marine prospects; tabulation. Spectator (Property ed) 5:23 D 28 '39

Rates

Resolution adopted by I.M.U.A.; certain rates to be higher than tariff fire rate for property at regular location. Weekly Underw 142:251 Ja 27 '40

Statistics

Premium writings for 1939; comparison with other years. East Underw 41:29-30+ Mr 15 '40

Study and teaching

Inland marine course to be sponsored in Rhode Island. Weekly Underw 142:143 Ja 13 '40

War risks

War risk exclusion clause and endorsement adopted by I.M.U.A. East Underw 41:19 Ja 5 '40; Ins Field (Fire ed) 69:10 Ja 4 '40; Weekly Underw 141:1376 D 30 '39

INSURANCE, Inland marine—*Continued*

Arizona

Nation-wide definition adopted for Arizona on insuring powers of marine and transportation underwriters. Weekly Underw 141: 1074 N 18 '39

INSURANCE, Jewelers' block

Jewelers' block policy highly desirable form of protection. D. E. Carlson. East Underw 40:33 N 17 '39

Subrogation to owners' rights against bailee upheld by court. East Underw 41:28 S 6 '40

INSURANCE, Jewelry

Jewelry-fur floater and the selling of jewelry insurance. Spectator (Property ed) 5:22 D 28 '39

North America not liable under jewelry form in Schweinert case. East Underw 41:32 O 25 '40; Weekly Underw 143:972 O 26 '40

INSURANCE, Laundry bundle

Blackall prohibits laundry insurance in Connecticut. Ins Field (Fire ed) 69:8 Mr 21 '40; Same. Weekly Underw 142:524 Mr 2 '40

Insurance charges by cleaners, dyers and laundrymen forbidden in New York state. L. H. Pink. East Underw 40:33 N 24 '39; Same. Weekly Underw 141:1111 N 25 '39; Excerpts. Ins Field (Fire ed) 68:10 N 23 '39; Nat Underw 43:4 N 23 '39; Spectator (Property ed) 5:28 N 30 '39

INSURANCE, Leasehold

Insurable interest in leasehold as distinguished from tenancy. East Underw 41:22 Jl 26 '40

INSURANCE, Liability

Contractual liability insurance. M. S. Dunne. 42p bibliog(p42) pa 25c Insurance inst. of America, 80 John st, New York '39

Coverage in new manuals broadened. East Underw 41:26-7+ Ag 23 '40; Ins Field (Fire ed) 69:14+ Ag 29 '40; Nat Underw 44:11+ Ag 22 '40; Spectator (Property ed) 6:26 Ag 22 '40; Weekly Underw 143:373+ Ag 24 '40

Insuring your construction program; comparative merits of various forms of fire protection-liability policies should be checked. C. T. Hubbard. Barron's 20:9 S 2 '40; Same cond. Management R 29:378-80 O '40

Study of accidents 1933-1939 in Philadelphia office building makes evident need for liability coverage. T. I. Howe. Weekly Underw 142:1512 Je 22 '40; Same. Nat Underw 44:22 Jl 11 '40

See also

Insurance, Accountants' liability
Insurance, Automobile
Insurance, Contractors' public liability
Insurance, Employers' liability
Insurance, Malpractice liability
Insurance, Motor truck
Insurance, Owners', landlords' and tenants' public liability
Insurance, Principal's protective liability
Insurance, Product liability
Insurance, Workmen's compensation

Adjustment of claims

Agent's insertion of false address in application for liability policy estopped insurer from claiming cancellation. Weekly Underw 143:102 Jl 13 '40

Assault and public liability policies; digest of recent cases. J. S. Regan. Spectator (Property ed) 6:26-7 O 3 '40

Carelessness and public liability policies; digest of recent cases. J. L. Roesch. Spectator (Property ed) 5:34-5 Ap 4 '40

Liability for inducing breach of contract; digest of recent cases. J. L. Roesch. Spectator (Property ed) 6:32-3 S 19 '40

Liability of insured for spouse's injury; New York Supreme court decides in case of woman who married defendant during action's pendency. East Underw 41:35 Ja 19 '40

Mistake in identity of insurer does not excuse delay in giving notice of accident. Weekly Underw 142:1297 My 25 '40

Non-waiver agreements under liability policies. C. M. Horn. Weekly Underw 143: 516 S 7 '40

Refusal to defend action against assured held breach of policy contract where complaint shows claim covered by policy. Weekly Underw 143:46 Jl 6 '40

Risk on money in transit held to attach when given to the carrier. East Underw 41:27 Je 21 '40

Agents

Liability insurance opens large field for business. H. P. Reinhold. Nat Underw 44:25 F 29 '40

Policies

Airport liability policy. Spectator (Property ed) 5:25 Ja 25 '40

All-risk liability forms nearly ready for New York approval. W. Leslie. Nat Underw 44: 17+ Je 27 '40

Broad forms for cemetery associations soon to be available; abstracts. E. W. Sawyer. Nat Underw 44:14+ Jl 18 '40; East Underw 41:30 Jl 26 '40

Broad liability form brought out in Canada. East Underw 41:48 S 20 '40

Broadening of liability covers; trend toward comprehensive coverage. E. W. Sawyer. Nat Underw 44:25 O 3 '40

Combined effort needed against hold harmless agreements in construction projects. E. W. Sawyer. Nat Underw 44:24 F 1 '40

Comprehensive bodily injury liability and family liability; synopsis of policies issued by General accident, fire & life assurance corp. Spectator (Property ed) 5:26 Mr 21 '40

Comprehensive liability as seen by the insurance agent. W. L. Clapp. East Underw 41:13 pt 2 My 10 '40

Comprehensive liability insurance. E. W. Sawyer. Weekly Underw 141:1279-82 D 16 '39; Excerpts. East Underw 41:32+ Ja 5 '40; Abstract. Management R 29:186-7 My '40

Comprehensive liability insurance cover. E. W. Sawyer. Weekly Underw 143:1042+ N 2 '40; Abstracts. East Underw 41:30+ N 8 '40; Nat Underw 44:35+ O 31 '40

General Accident announces all risk liability policies. Ins Field (Fire ed) 69:17+ F 29 '40; Nat Underw 44:19 F 29 '40

Insurance democracy at work; all-risk liability policy. E. W. Sawyer. Nat Underw Conv no 44:10 S 20 '40; Same. Ins Field (Buffalo Conv Daily ed) 69:17-19 S 19 '40; Same. Weekly Underw 143:648-50 S 21 '40; Abstracts. East Underw 41:25 S 20 '40; Nat Underw 44:23 S 19 '40

Legal liability insurance protection for banks. H. G. Eberle and H. W. Ervin. Banking 32:30-1 F '40

Liability coverage needed by contractors and manufacturers. Weekly Underw 142:436-8 F 17 '40

Loyalty group issues new liability contracts. Weekly Underw 143:708 S 28 '40

Much advantage in comprehensive policy. D. H. Freeman. Nat Underw 44:34 O 31 '40

Need of new type of liability coverage by trustees; abstracts. W. A. Stark. Nat Underw 44:21+ Ja 25 '40; East Underw 41: 39 F 16 '40

New schedule policies and changes in the manual. East Underw 41:38 My 24 '40; Ins Field (Fire ed) 69:12-13 My 16 '40; Nat Underw 44:19+ My 16; 21+ My 23 '40; Spectator (Property ed) 5:26 My 30 '40; Weekly Underw 142:1276-7 My 25 '40

Progress is made on comprehensive liability form. J. M. Gillet. Nat Underw 44:20C+ F 22 '40

Public liability risk practice broadened; three-year coverage. East Underw 41:25 Ag 9 '40; Nat Underw 44:17 Ag 8 '40; Weekly Underw 143:290 Ag 10 '40

Recent developments in liability policies; abstracts. E. W. Sawyer. Spectator (Property ed) 6:20 O 3 '40; East Underw 41:54 S 27 '40

Residence liability insurance and allied lines. B. C. Taylor. Ins Field (Fire ed) 69:22-3, 26-8 O 31 '40

INSURANCE, Liability—Policies—*Continued*
Special policy on Pacific coast differs from national program; standard comprehensive liability contract. Nat Underw 44:17+ F 29 '40
Stability needed for all-risk liability insurance; abstracts. E. W. Sawyer. East Underw 41:45 Ja 26 '40; Ins Field (Fire ed) 69:14 Ja 25 '40; Nat Underw 44:21+ Ja 25 '40; Weekly Underw 142:260 Ja 27 '40
Trinity Universal comprehensive personal liability policy gets good response. Nat Underw 44:34 O 10 '40

Rates

New rating credits promised for members of the New Jersey state hotel association. E. L. McManus, jr. Nat Underw 44:20A My 9 '40

Statistics

Developed loss experience by companies, 1934-39. Nat Underw 44:27 Mr 7 '40
Liability experience in 1939. Nat Underw 44:34 Mr 21 '40
Number of suits outstanding per $100,000 of earned premiums of liability business, third period-policy years 1937-1938-1939 as of December 31, 1939; tabulation. Spectator (Property ed) 5:34 Je 27 '40

Study and teaching

Casualty and liability course. R. Bond and others. bibliog Weekly Underw 143:188-93+, 347-51, 652-7, 919-23, 1158-65 Jl 27, Ag 17, S 21, O 19, N 16 '40 (to be cont)

INSURANCE, Libel
Radio libel and slander policies. Spectator (Property ed) 5:22 N 16 '39

INSURANCE, Life
Appeal for simplicity in selling. W. Montgomery. East Underw 41:20 O 18 '40
Bankers life of Des Moines building dedication. East Underw 41:7+ Ap 19 '40; Ins Field (Life ed) 69:5 Ap 19 '40; Nat Underw (Life ed) 44:3+ Ap 19 '40
Boston representation of National Life to be changed after 87 years with Phelps co. Weekly Underw 143:40 Jl 6 '40
Canada Life's United States business not affected by war. S. C. McEvenue. Weekly Underw 142:930 Ap 13 '40
Case for insurance; lengthening shadow of government. il Nation's Business 28:34-64 Ja '40
Collective responsibility; address before Boston life underwriters assn. G. S. Van Schaick. Spectator (Life ed) 145:8-11 Ag 15 '40; Excerpts. Ins Field (Life ed) 69:7-8 Je 14 '40; Nat Underw 44:3+ Je 13 '40; Nat Underw (Life ed) 44:1+ Je 14 '40
Comments on federal supervision, the budget, and social security; abstracts. M. A. Linton. East Underw 40:19-20 D 15 '39; Spectator (Life ed) 143:6-9, 11+ D 21 '39; Weekly Underw 141:1253+ D 16 '39; Annalist 54:825-6+ D 28 '39
Commissioners should defend insurance business from critics. C. J. Zimmerman. Weekly Underw 141:1201+ D 9 '39; Excerpts. Ins Field (Life ed) 68:7+ D 8 '39
Comparison of life insurance and automobile production. G. E Lackey. East Underw 41:21 N 1 '40
Current economic situation and its relation to life insurance; abstracts. C. L. Benner. East Underw 41:8 O 11 '40; Ins Field (Life ed) 69:21-2 O 11 '40; Nat Underw (Life ed) 44:9 O 11 '40; Nat Underw (Life ed) Conv no 44:4+ O 12 '40; Spectator (Life ed) 145:6+ O 10 '40; Weekly Underw 143:860+ O 12 '40
Defends life insurance status. J. A. Beha. Weekly Underw 143:1014 N 2 '40
Effect of draft on life insurance sales. Nat Underw (Life ed) 44:7 Ag 16 '40
Effect of low interest returns being seen. Nat Underw (Life ed) 44:1 Ag 16 '40
Effects of higher average age on demands for life insurance; abstracts. P. M. Hauser. East Underw 41:10 O 11 '40; Ins Field (Life ed) 69:17-18 O 11 '40; Nat Underw (Life ed) Conv no 44:20-1 O 12 '40
End of a decade of life insurance. M. J. Cleary. Weekly Underw 142:938 Ap 13 '40
Franklin Life and Great American unite. Ins Field (Life ed) 69:6 S 6 '40; Weekly Underw 143:525 S 7 '40; Spectator (Life ed) 145:32 S 12 '40
German victory would affect many phases of insurance. Nat Underw (Life ed) 44:3+ Ag 23 '40
Huge task raised by presidential order; companies must report present value of insurance policies involving war nationals. East Underw 41:1+ My 17 '40
Keep politics out of life insurance. R. B. Hull. East Underw 41:12 O 25 '40
Life carriers may write auto public liability; dispute in Minnesota settled. Weekly Underw 143:757+ O 5 '40; Nat Underw 44:25 O 3 '40; Ins Field (Life ed) 69:8-9 O 4 '40
Life insurance, a great invention. H. H. Jackson. Weekly Underw 141:1286+ D 16 '39
Life insurance a significant product of American spirit of free enterprise. F. E. Gannett. Weekly Underw 142:4 sec 3 My 11 '40
Life insurance as a private institution. M. E. Tydings. Nat Underw (Life ed) 44:3+ Ap 5 '40
Life insurance can't be stopped by critics. M. J. Cleary. East Underw 41:3+ Ja 12 '40
Life insurance in the United States today; a free competitive enterprise; abstracts. H. J. Johnson. Nat Underw (Life ed) Conv no 44:5 O 12 '40; Weekly Underw 143:851+ O 12 '40
Life insurance looks ahead; abstracts. R. G. Engelsman. East Underw 41:10 N 8 '40; Nat Underw (Life ed) 44:3+ N 8 '40
Life insurance performs miracles; policyholders are army mobilized for security and peace. T. W. Collens. East Underw 41:14 O 11 '40
Life insurance plan suggested by Benjamin Franklin; excerpts from Office for the assurance of widows. Nat Underw (Life ed) 44:15 O 4 '40
Life insurance promotes initiative, thrift, free enterprise, say insurance company heads. East Underw 41:24, 26-7+ pt 2 O 4 '40
Life insurance stronghold for democracy. H. J. Johnson. Nat Underw (Life ed) Daily ed 44:6+ S 27 '40; Abstracts. East Underw 41:23 S 27 '40; Weekly Underw 143:732+ S 28 '40
Life production in the social security era. P. Speicher. East Underw 41:54+ pt 2 O 4 '40
Many problems facing companies reviewed before A.L.C. C. A. Craig. Ins Field (Life ed) 69:7, 25-6 O 11 '40; Abstract. Weekly Underw 143:851 O 12 '40
N.A.L.U. administration report. C. J. Zimmerman. Spectator (Life ed) 145:22-3+ S 26 '40
New and retired life companies in 1939. Spectator (Life ed) 144:21 F 29 '40
1939 legislation affecting life carriers. R. H. Kastner. Weekly Underw 142:162-4 Ja 13 '40
No cause for concern as to future of insurance. J. L. Loomis. East Underw 41:1+ Ja 12 '40
Occidental Life takes over bankers' FHA loans; attempts to sell borrowers life policies. Nat Underw (Life ed) 44:6 O 11 '40
Our way to better business; abstracts. J. C. Higdon. Ins Field (Life ed) 69:22-3 O 11 '40; East Underw 41:11 O 11 '40; Nat Underw (Life ed) Conv no 44:2+ O 12 '40; Weekly Underw 143:863 O 12 '40
Pacific Mutual Life notes on war and life insurance. Spectator (Life ed) 144:12 Je 6 '40
Pathfinder Life granted permanent injunction; policyholder not entitled to bring action for an accounting. Nat Underw (Life ed) 44:9 N 8 '40; Weekly Underw 143:1109 N 9 '40
Peculiar business; abstracts. E. E. Rhodes. East Underw 41:3 O 11 '40; Ins Field (Life ed) 69:19-21 O 11 '40; Nat Underw (Life ed) Conv no 44:14-15 O 12 '40; Spectator (Life ed) 145:23 O 24 '40; Weekly Underw 143:854 O 12 '40

INSURANCE, Life—*Continued*
Pledges support of agents of country on preparedness; comments on government competition. C. J. Zimmerman. East Underw 41:3 Je 21 '40; Same abr. Weekly Underw 142:1489+ Je 22 '40
Protection for wage-earners through life insurance. R. A. Hohaus. Weekly Underw 142:26-7+ sec 2 My 11 '40
Public confidence is chief insurance asset. C. Adams. Weekly Underw 142:1017+ Ap 27 '40
Question of company size is discussed. H. A. Hopf. Nat Underw (Life ed) 44:1+ Mr 15 '40
Rackets in insurance. F. W. Brock. Weekly Underw 143:879 O 12 '40
Resolve no. 1 for business in 1940. C. A. Craig. Ins Field (Life ed) 69:7 Ja 19 '40
Ringing message by Equitable's chief. T. I. Parkinson. Nat Underw (Life ed) 44:1+ My 10 '40
Roosevelt order relieves companies; asked to report values of matured life policies in invaded countries. Nat Underw (Life ed) 44:9 My 24 '40
Safeguarding life insurance proceeds. W. J. Wheeler and T L. Todd. 193p $2.50 McGraw-Hill '40
Savings bank life insurance; a series of twelve lectures. 256p $1.50 New York chapter, Am. inst. of banking, 233 Broadway, New York '39
Some 1939 actuarial highlights. H. R. Bassford. East Underw 40:16 D 15 '39
This concerns 100,000,000 persons; what the new dealers have done to insurance. F. Gannett. Weekly Underw 142:1121+ My 4 '40
War and its effect on life insurance. Nat Underw (Life ed) 44:3+ Je 7 '40
War not to affect U.S. policyholders of Sun Life of Canada. A. B. Wood. Nat Underw (Life ed) 44:9 Ap 12 '40
We have with us today; interesting personalities in the life insurance business. East Underw 40:8+ D 15 '39
What price life insurance? not how but what to sell or buy, and why. W. E. Schilling. 209p $3 William Edgar Schilling, 20 W. 36th st, Kansas City, Mo. '39
When men buy insurance they give uplift to civilization and to themselves, say six governors. East Underw 41:13-14 pt 2 O 4 '40
Why the life insurance business is permanent. C. Woods. Ins Field (Life ed) 69:14-15 O 25 '40
Winners of N.A.L.U. contest on how Americans have benefited from life insurance or annuities. Ins Field (Life ed) 69:5+ Ap 26 '40

See also
Annuities
Benefit societies
Insurance, Business
Insurance, Group
Insurance, Industrial
Insurance, Military and naval service
Insurance trusts
Mortality
Savings banks—Insurance selling
also Association of life insurance presidents; National benefit life insurance company

Accounting

Methods of calculating unit expenses for asset shares. E. H. Wells and C. B. Laing. Spectator (Life ed) 145:16 N 7 '40

Actuaries

Actuaries have conferred for more than century; historical note. W. A. Hutcheson. East Underw 41:3 Mr 15 '40
Demand exists for additional actuaries. E. B. Whittaker. East Underw 40:1+ D 8 '39
Tasks of actuaries will continue to grow. R. A. Hohaus. East Underw 41:3 N 1 '40

Adjustment of claims

Age adjustment clause and contestability law held not inconsistent; Equitable Life v. First National bank of Birmingham. East Underw 41:9 O 11 '40
Age discrepancies not important social evil. J. C. Blackall. East Underw 41:1+ Je 21 '40
Amendment making application for original policy apply to subsequently issued policy held not attached to policy by being folded therein. Weekly Underw 142:1478 Je 15 '40
Annuity contract cannot be rescinded solely on ground that annuitant was suffering with fatal disease at time of issuance. Weekly Underw 141:1353 D 23 '39
Beneficiary's denial of correctness of statements in coroner's certificate renders certificate inadmissible to prove cause of death. Weekly Underw 143:805 O 5 '40
Change of beneficiary; digest of recent cases. J. S. Regan. Spectator (Life ed) 144:16-17 Mr 28 '40
Change of beneficiary; insured died before endorsement could be made; court holds change completed. East Underw 41:11 My 31 '40
Change of beneficiary not effected where insured retained executed form for change and failed to notify company. Weekly Underw 142:877 Ap 6 '40
Control of policy options; digest of recent cases. J. S. Regan. Spectator (Life ed) 144: 20-1 F 1 '40
Court interprets meaning of occasional use of intoxicants. East Underw 41:9 My 31 '40
Disability must be proved while policy is in force. East Underw 41:41 N 1 '40
Distinction made by courts in fraternal and old line company decisions. A. A. McKinley. Nat Underw (Life ed) 44:9-10 My 17 '40
Distribution of policy proceeds; digest of recent cases. J. S. Regan. Spectator (Life ed) 145:12-13 Ag 1 '40
Double-entity settlements; digest of recent cases. J. S. Regan. Spectator (Life ed) 145: 16-17 Ag 15 '40
Duplicate policies ruled no evidence of negligence. East Underw 41:13 Ag 16 '40
Extension of credit for premium payment not nullified by death of insured; digest of recent case. J. S. Regan. Spectator (Life ed) 145:16-17 O 10 '40
Insanity and options; digest of recent cases. J. S. Regan. Spectator (Life ed) 145:20-1 Jl 4 '40
Language of insurance contracts; accidental means; digest of recent cases. J. S. Regan. Spectator (Life ed) 143:16-17 D 21 '39
Laws establishing simultaneous death no legal presumption of survivorship; abstracts. B. P. Sears. East Underw 40:20 D 15 '39; Nat Underw (Life ed) 43:7 D 15 '39
Legal digest; cases involving cancellation suit, change of beneficiary, disability case. W. M. Strong. East Underw 41:11 Ag 16 '40
Litigation problems confronting home office attorneys; abstracts. L. W. Dawson. Weekly Underw 143:473+ S 7 '40; Nat Underw 44: 21+ S 5 '40; Nat Underw (Life ed) 44:1+ S 6 '40; East Underw 41:3+ S 20 '40
Medical treatment not compulsory; company loses suit involving total and permanent disability. East Underw 40:20 N 24 '39
Missouri automatic loan rule held valid by Supreme court. East Underw 41:12 Jl 19 '40
Misstatement of age held no defense after expiration of contestable period despite inclusion of age adjustment clause in policy. Weekly Underw 142:1184 My 11 '40
Paying premiums by check; digest of recent cases. J. S. Regan. Spectator (Life ed) 143:16-17 N 23 '39
Payment despite lapse. Spectator (Life ed) 144:16-17 Ap 11 '40
Proof of age is increasing problem. East Underw 41:1+ Ja 26 '40
Protection from forfeiture and lapse; mailing notice to last-known address; digest of recent cases. J. S. Regan. Spectator (Life ed) 144:16-17 Ja 18 '40
Provision of life policy against other insurance held inapplicable to policy issued on application of son of insured. Weekly Underw 142:452 F 17 '40
Rights to proceeds in case of common death. East Underw 41:12 Mr 15 '40

INSURANCE, Life—Adjustment of claims— *Continued*
Stress of circumstances and delinquent payment of premiums; digest of recent cases. J. S. Regan. Spectator (Life ed) 144:16-17 My 23 '40
Support of claim men essential to business; abstracts. R. H. Kastner. East Underw 40:13 N 24 '39; Ins Field (Life ed) 68:8 N 24 '39; Nat Underw (Life ed) 43:8 N 24 '39
Texas and New York laws conflict on transfer of insurance by divorce. East Underw 41:14 O 18 '40
Two life companies settle on Judge Crater's policies. D. Porter. Spectator (Life ed) 144:12-13 Ja 18 '40
Verbal assignment upheld despite clause in policy. East Underw 41:9 Ag 16 '40
What companies seek in field attorneys; abstracts. H. S. Don Carlos. East Underw 41:13+ S 6 '40; Weekly Underw 143:518+ S 7 '40
Widow's rights as beneficiary under policy assigned as collateral security held superior to those of executor paying insured's indebtedness. Weekly Underw 141:1241 D 9 '39
Without consent of beneficiary; digest of recent cases. J. S. Regan. Spectator (Life ed) 143:14-15 D 7 '39

Advertising

Advertising compaign of Lincoln national life. il Ins Field (Life ed) 69:20 F 9 '40
Advertising campaigns; Great National's good will builder is a "congratulations" outdoor display. il Ins Field (Life ed) 69:18 Ag 9 '40
Are we getting it; full value of insurance advertising depends on planning. S. S. Larmon. East Underw 41:3 O 18 '40
Commonwealth life of Louisville, during the Kentucky state fair records individual's blood pressure readings in pamphlet. Ins Field (Life ed) 69:20 S 20 '40
Definite sales method with direct mail preapproach. H. E. Wuertenbaecher. Weekly Underw 142:63+ sec 2 My 11 '40
Direct mail must build customer-company bonds. A. R. Gould. East Underw 41:17 O 18 '40
Distribution of Institute film, Yours truly, Ed Graham. il Ins Field (Life ed) 69:8 Ja 5 '40; Weekly Underw 142:90 Ja 6 '40
Envelope stuffers and their function; abstracts. C. E. Yorke. Nat Underw (Life ed) 44:6 S 13 '40; Ins Field (Life ed) 69:16 O 4 '40; Weekly Underw 143:664 S 21 '40
General American life of St Louis will test in three St Louis papers. Weekly Underw 143:790 O 5 '40
Holgar J. Johnson invites public to ask him questions; Monday morning column appears in daily newspapers throughout country. East Underw 41:1 Ap 26 '40
How new advertising of Institute will help producers; Institute's broadside. East Underw 41:8 Ap 12 '40
Illustrations help tell the story; examples of effective life insurance advertisements. Weekly Underw 142:47-50 sec 2 My 11 '40
Institute of life insurance announces a newspaper advertising campaign. Nat Underw (Life ed) 44:10 Mr 22 '40; Weekly Underw 142:702 Mr 23 '40
Life advertisers association Southern round table meeting, New Orleans. Weekly Underw 142:996+ Ap 20 '40; Ins Field (Life ed) 69:10 Ap 12; 8-9 Ap 19 '40; Nat Underw (Life ed) 44:1+ Ap 19 '40; East Underw 41:8 Ap 12 '40
Life advertisers hold eastern round table. East Underw 41:4 Mr 8 '40; Ins Field (Life ed) 69:9-10 Mr 8 '40; Nat Underw (Life ed) 44:1+ Mr 8 '40; Weekly Underw 142:585+ Mr 9 '40
Life institute preparing radio spot; local associations of life underwriters will cooperate. H. J. Johnson. East Underw 41:3 S 27 '40
Life insurance advertisers association 8th annual convention, Washington, D.C. Oct. 14-16. East Underw 41:3, 8, 16-17, 20 O 18 '40; Ins Field (Life ed) 69:10-12+ O 18 '40; Nat Underw (Life ed) 44:1+ O 18 '40; Spectator (Life ed) 145:6-9+ O 24 '40; Weekly Underw 143:893, 926-9 O 19 '40
Massachusetts Mutual social security film shown at Atlantic City meeting. East Underw 41:3 My 31 '40
Merchandising annual report brings results; experiment by Home life of New York. R. B. Helser. East Underw 41:4 O 18 '40
Mutual Life ads to stress June as Youth month. East Underw 41:13 My 31 '40
New film, American portrait, is a tribute to all salesmen. il East Underw 41:8 Mr 1 '40; Ins Field (Life ed) 69:6-7 Mr 1 '40; Weekly Underw 142:564-5 Mr 2 '40
New film; work begun on "American portrait," second Institute picture. Ins Field (Life ed) 69:7 Ja 12 '40
Old prints sell life insurance. il Ptr Ink Mo 40:13+ F '40
Outdoor bulletin board for public relations work. Nat Underw (Life ed) 44:7 Ag 16 '40
Penn Mutual ads in Saturday evening post strike note of patriotism. Nat Underw (Life ed) 44:6 O 11 '40
Pioneer user of outdoor advertising by Universal life assurance and annuity company of Winnipeg. Spectator (Life ed) 144:28 F 29 '40
Public's stake in insurance to be shown by Life institute. H. J. Johnson. East Underw 41:4 Ap 12 '40
Putting the power in manpower; direct mail advertising to help salesman. G. A. Harper. East Underw 41:16 O 18 '40
Radio insurance critics sue Metropolitan life insurance company and Prudential insurance company. Ptr Ink 189:20 D 8 '39
Second film produced by Institute of life insurance; American portrait. Spectator (Life ed) 144:32 Ap 11 '40
Should life insurance advertising go in for mechanics and showmanship? discussion at North Central round table, Life advertisers association. East Underw 41:14 My 17 '40
What life companies have been advertising in 1940. J. A. Peirce. East Underw 41:127 pt 2 O 4 '40
What management expects from its advertising dollar. A. H. Thiemann. East Underw 41:3+ O 18 '40; Excerpts. Weekly Underw 143:893+ O 19 '40; Abstract. Spectator (Life ed) 145:8 O 24 '40
Winners of L.A.A. exhibit awards. East Underw 41:3 O 18 '40; Nat Underw (Life ed) 44:2 O 18 '40; Spectator (Life ed) 145:9 O 24 '40
Your job and mine; ways for advertisers to get public approval. H. J. Johnson. East Underw 41:16 O 18 '40

Advisers

See Insurance advisers

Agents

Abundant field in agent's job; agency head must have firm conviction of the potentialities; abstracts. R. B. Coolidge. Nat Underw (Life ed) Daily ed 44:14-15+ S 26 '40; East Underw 41:28 S 27 '40
Advantage in social security. R. E. Myer. East Underw 40:14 N 24 '39
Advantages of industrial over ordinary. H. E. Niles. Nat Underw (Life ed) Conv no 44: 11-12 O 12 '40
Advertising head talks to agents. D. Francisco. Nat Underw (Life ed) 44:9 S 27 '40
Advice to agents on attitude toward TNEC quiz. H. W. Foskett. Nat Underw (Life ed) 44:9 Ag 16 '40
Agency system has been justified. C. J. Zimmerman. Nat Underw (Life ed) 43:7 N 3 '39
Agent goes only half-way in the sale if he has only sold the policy and collected the commission. R. Pirnie. Weekly Underw 141: 1238 D 9 '39
Agent is looking to headquarters for leadership. J. Clark. Nat Underw (Life ed) 43: 1+ N 3 '39
Agent's part in beneficiary designations. C. G. Dougherty. East Underw 41:30+ pt 2 O 4 '40
Appeal story; birthday gifts for daughter as long as she lives. N. C. Christie. Ins Field (Life ed) 69:16 N 1 '40

INSURANCE, Life—Agents—*Continued*
Approach and close are important selling factors. R. E. Habermann. Nat Underw (Life ed) 44:23 O 18 '40
Approach; most important single moment of sale; abstracts. C. L. Kluss. East Underw 41:31 S 27 '40; Nat Underw (Life ed) Daily ed 44:48 S 26 '40
Are we salesmen? H. W. Abbott. Ins Field (Life ed) 69:18-19 Ja 26; 16-18 F 9; 16-18 F 16 '40; Same abr. Spectator (Life ed) 145: 6-8+ Jl 4 '40
At 73, Sam Sturm led all producers of his company in 1939. J. S. Daniel. East Underw 41:57 pt 2 O 4 '40
Blind man lauds life insurance and decides on selling career. East Underw 40:47 D 15 '39
Bureau reports fewer Canadian life agents. East Underw 41:5 My 31 '40
Closing the case starts from the time the agent enters prospect's office. W. Laramore. Weekly Underw 142:939 Ap 13 '40
Comments on phases of current agency practice. G. W. Diggs. Nat Underw (Life ed) 44:2 O 4 '40
Common denominator of success; do what failures won't. A. E. N. Gray. Nat Underw (Life ed) Daily ed 44:10+ S 27 '40; Same. Spectator (Life ed) 145:6-8+ D 5 '40 Excerpts. East Underw 41:35 S 27 '40
Contract terms viewed broadly in agents' unemployment insurance. Nat Underw (Life ed) 44:13-14 Mr 1 '40
Contribution of the life underwriter to American security. D. McCahan. Weekly Underw 142:386-7+ F 10 '40
Contributions made to human welfare by lawyers and insurance agents; abstracts. R. Dechert. East Underw 41:29 S 27 '40; Nat Underw (Life ed) Daily ed 44:10 S 26 '40
Data on Penn Mutual's four first year leaders. Nat Underw (Life ed) 44:10 N 1 '40; Same. Weekly Underw 143:1068 N 2 '40
Definite sales method with direct mail preapproach. H. E. Wuertenbaecher. Weekly Underw 142:63+ sec 2 My 11 '40
Developing a major sales talk; important to have a basic sales story. A. K. Deutsch. Ins Field (Life ed) 69:16 Ag 23 '40
Developing centers of influence; a challenge. H. A. Schmidt. Weekly Underw 142:24-5+ My 11 '40
Do sales helps help? yes, nine reasons why. K. Ljung. Ins Field (Life ed) 69:16 O 4 '40
Drama of life insurance real stimulus to agents; human interest stories. J. R. Robbins. Nat Underw (Life ed) 44:3+ Mr 29 '40
Effective program approach; help men understand their objectives. J. Todd. Nat Underw (Life ed) 44:31-2 O 4 '40
Emotional motivation necessary to agent and prospect. G. T. Vermillion. Nat Underw (Life ed) 44:16 O 18 '40
Exchanging the identity of assets caught attention of prospect; abstracts. E. M. Lillis. East Underw 41:35 S 27 '40; Spectator (Life ed) 145:19 O 24 '40
Fortifying and utilizing your technical knowledge; selling requires telling. S. M. Gamble. East Underw 41:11 O 18 '40
Frank and friendly relationship between agents and company. H. T. Wright. Weekly Underw 142:23 sec 2 My 11 '40
General agent analyzes buildup on a big case. H. F. Gray. Nat Underw (Life ed) 44:32 Ap 5 '40
Gold book of life insurance selling. East Underw 41:13-137 pt 2 O 4 '40
Hopeless cases are not always hopeless; experience story. S. Mingione. Ins Field (Life ed) 69:18 Ag 16 '40
How to prevent over counter buying; programming. W. P. Worthington. Weekly Underw 141:1061+ N 18 '39; Same. East Underw 40:10 N 24 '39
How to sell effectively. H. T. Wright. Weekly Underw 142:1348+ Je 1 '40
I hit the jackpot. M. Monroe. Weekly Underw 142:1179+ My 11 '40
If I were to start as an agent again. J. A. Fulton. East Underw 41:48+ pt 2 O 4 '40
Importance of high grade personnel stressed; abstracts. J. A. Stevenson. East Underw 41:6+ N 1 '40; Weekly Underw 143:1170 N 16 '40
Important problem of maintaining morale. J. A. Hawkins. Ins Field (Life ed) 69:30 O 11 '40
Improving prospecting; abstracts. W. K. Wise. Weekly Underw 143:1106 N 9 '40; East Underw 41:18 N 1 '40
Insurance as aid to democracy; why the life underwriter? H. D. Hart. East Underw 41:6 Jl 26 '40
Is the agent a parasite? analysis of life insurance costs. L. P. Rock. Ins Field (Life ed) 69:16-17 My 17 '40
Issued as applied for; a guide to life underwriting in the field. H. W. Cook and H. W. Cook, jr. 148p $2 Prentice-Hall '40
John Hancock leaders get sales pointers. Nat Underw (Life ed) 44:23-4 S 13 '40
Keen selling devices; technique. L. E. Simon. Nat Underw (Life ed) Daily ed 44:10+ S 25 '40; Excerpts. East Underw 41:26+ S 27 '40
Key to life insurance; a complete, loose-leaf, classified, indexed work in question and answer form. 5th ed rev 332p $6.75 Nat. underwriter co, Cincinnati '39
Langford Anderson's policyholders include 410 Coast guard officers. P. Troth. East Underw 41:6 F 23 '40
Lawrence Priddy has retired from insurance; most colorful life insurance agent in America. East Underw 41:6 N 8 '40
Leading producers always keep up a good pace. H. B. Berwick. Nat Underw (Life ed) 44:31 N 1 '40
Let's decide; cause of deterioration of salesmen; abstracts. D. R. Mason. Nat Underw (Life ed) Daily ed 44:6+ S 27 '40; East Underw 41:23 S 27 '40
Letters will work for you; two tested rules for writing successful letters. H. D. Shaw. East Underw 41:126-7 pt 2 O 4 '40
License renewal in Ohio. J. A. Lloyd. Weekly Underw 143:115 Jl 20 '40
Life agent's qualification handbook. 2d ed C. C. Robinson. 178p $1.50 Rough notes co, Indianapolis '40
Life insurance agent; well-paid career; abstracts. R. B. Coolidge. East Underw 41:11 O 11 '40; Ins Field (Life ed) 69:23-4 O 11 '40; Nat Underw (Life ed) 44:9+ O 11 '40; Nat Underw (Life ed) Conv no 44:6 O 12 '40; Weekly Underw 143:859+ O 12 '40
Life underwriter, 1940 model. C. J. Zimmerman. Weekly Underw 142:21 sec 2 My 11 '40
Life underwriting as a professional career. T. B. Sweeney. 45p 75c Harper '40
Mechanics of an organized sales procedure. East Underw 41:78+ pt 2 O 4 '40
Men left on base never win ball games; strength in joint work. H. M. Faser, jr. Weekly Underw 142:38-9 sec 2 My 11 '40
Military tactics in selling. R. LeCraw. Weekly Underw 142:66-7 sec 2 My 11 '40
Million dollar round table member tells why he entered life insurance and how he operates. O. E. Carlin. Spectator (Life ed) 145:30+ S 26 '40
Million dollar round table producers answer questions on methods. East Underw 41:33 S 27 '40; Nat Underw (Life ed) Daily ed 44:7+ S 26 '40; Spectator (Life ed) 145:24-5, 36-7 S 26 '40
Million dollar producers session, NALU. Nat Underw (Life ed) Daily ed 44:7+ S 25 '40
Modern methods in life underwriting; questions and answers on problems. L. Behr. Weekly Underw 142:388-9 F 10 '40
Morale mainspring in agents' success. J. M. Holcombe, jr. Nat Underw (Life ed) 44:19-20 N 8 '40
New pioneering type for decade just ahead. C. O. Fischer. Weekly Underw 142:1288 My 25 '40
New York company seeks to raise income level of agents by insisting on a minimum production level. Nat Underw (Life ed) 44: 1+ Mr 15 '40

INSURANCE, Life—Agents—*Continued*
1940-41 million dollar round table. Ins Field (Life ed) 69:7 Ap 19 '40; Weekly Underw 142:1174+ My 11 '40; East Underw 41:9 Jl 26 '40; Nat Underw (Life ed) 44:2+ Jl 26 '40
1939 leaders of 55 companies tell how they succeeded. Ins Field (Life ed) 69:15 F 9; 15 F 16; 15 F 23; 15+ Mr 1 '40
Objectives and work plan advised in opening Work habits seminar. G. Taggart. Nat Underw (Life ed) Daily ed 44:8 S 26 '40
Old policyholders and new business. W. Hemman. Spectator (Life ed) 145:18-19 Jl 4 '40
Outsider's view is presented; planning for improved salesmanship. A. H. Morrill. Nat Underw (Life ed) 44:4 Mr 29 '40
Personality flaws that cause failure. A. W. Leonard. Nat Underw (Life ed) 44:23 O 18 '40
Plan which sold $50,000. R. Sanders. Nat Underw (Life ed) Daily ed 44:18 S 25 '40
Poll shows successful men approve agency system and selling methods; abstracts. A. W. Atwood. East Underw 41:20 N 1 '40; Nat Underw (Life ed) 44:2 N 1 '40; Weekly Underw 143:1013+ N 2 '40
Preparing for program interview. J. L. Bishop. Spectator (Life ed) 145:18 N 7 '40
Production leaders for 1939 announced by companies. Nat Underw (Life ed) 44:6 F 9 '40
Progress in selection; plan of Connecticut general life for eliminating unsuccessful agents; abstracts. F. H. Haviland. East Underw 41:20 N 1 '40; Nat Underw (Life ed) 44:1+ N 1 '40
Promoting personal prestige in life insurance. K. H. Mathus. 105p $1 Mutual underwriter co, Rochester, N.Y. '39
Prospecting, morale and simple approach stressed at Illinois meeting. Nat Underw (Life ed) 44:19 N 8 '40
Put social security act to work. L. A. Beers. Ins Field (Life ed) 68:31-2 D 29 '39
Responsibility and accountability is theme of Massachusetts association of life underwriters conference. F. L. Armstrong. East Underw 41:8+ S 20 '40
Sales ideas and suggestions. Published in weekly numbers of National underwriter (Life ed)
Sales presentation and closing methods; prize winning efforts. W. H. McGrath. Weekly Underw 143:300-1 Ag 10 '40
Samuel W. Sturm has $36,000,000 in force with Mutual benefit life. East Underw 41:3 F 9 '40
SEC attaché reveals that life field men might get social security numbers. Nat Underw (Life ed) 44:3+ My 31 '40
Self-organization. H. R. McCoy. Ins Field (Life ed) 69:16-17 Ag 16 '40
Selling political candidates. T. G. Schimpff. Ins Field (Life ed) 69:16 Ag 9 '40
Selling with facts; an approach and a presentation. S. E. Martin. Ins Field (Life ed) 69:14-16+ My 31 '40
Seven point selling program, from Manhattan Life. Spectator (Life ed) 145:19 O 10 '40
She didn't believe in life insurance; agent agreed and sold the case. W. B. Angell. Ins Field (Life ed) 69:18+ O 25 '40
Showmanship unnecessary; what life insurance men should do and don't. Z. Kaufman. Ins Field (Life ed) 69:17 O 25 '40
Shows selling techniques to underwriters association; questions on procedure answered; abstracts. L. Behr. East Underw 41:6 O 25 '40; Nat Underw (Life ed) 44:23 O 25 '40
Social security act; observations on not using it as a life insurance builder. B. A. Hedges. Nat Underw (Life ed) 43:12 N 10 '39
Social security act should be understood by agents. J. C. McFarland. Nat Underw (Life ed) 44:31 Mr 1 '40
Social security from the life underwriter's viewpoint. I. Bendiner. Spectator (Life ed) 144:12-16+ F 15; 28 F 29 '40
Soliciting business outside state, agent loses workmen's compensation suit against company. East Underw 41:12 Jl 5 '40
Some agents love to be complex; two foolproof policies. I. Bendiner. East Underw 41:3+ My 31 '40
Some 100-case-a-year men. East Underw 41: 100, 102+ pt 2 O 4 '40
Southern agents arraign TNEC delve. Weekly Underw 142:1310 Je 1 '40
Steps in $124,000 business sale. J. J. Kellam. Nat Underw (Life ed) Daily ed 44:8+ S 26 '40
Strange case of competition; selling a real estate agent who also represented life insurance company as agent. R. E. Darby. Ins Field (Life ed) 69:16 Ag 16 '40
Successful sales ideas; abstracts. W. K. Wise. Weekly Underw 143:741+ S 28 '40; Spectator (Life ed) 145:23 O 10 '40
Successful selling. Published in weekly numbers of Insurance field (Life ed)
Super-salesman at work. C. O. Fischer. Spectator (Life ed) 144:18-19 Ap 11 '40
TNEC investigation; testimony. C. J. Zimmerman. Spectator (Life ed) 144:12-13 Mr 14 '40
That very important first interview. J. C. Krause. Spectator (Life ed) 144:20-1 My 23 '40
Took his bad luck philosophically; C. M. Castagne's physicians estate control plan. East Underw 41:12 S 20 '40
Tribute to American college of life underwriters. L. A. Lincoln. Nat Underw (Life ed) Daily ed 44:10+ S 26 '40; Excerpts. East Underw 41:31 S 27 '40
23 practical approaches. A. D. Hemphill. Ins Field (Life ed) 69:14 S 20 '40
Way to approach a man and sell him a million-dollar policy. H. F. Gray. Ins Field (Life ed) 69:31+ O 11 '40
What is the pay off? your goal in life. H. W. Storck. Spectator (Life ed) 144:6+ Mr 14 '40
What management expects from its advertising dollar; abstracts. A. H. Thiemann. East Underw 41:3+ O 18 '40; Spectator (Life ed) 145:8 O 24 '40; Weekly Underw 143:893+ O 19 '40
When the wife objects. F. A. Eades. Ins Field (Life ed) 69:18 Ja 12 '40
Why I think it is smart to encourage better selling. R. Thierbach. Weekly Underw 142: 46+ sec 2 My 11 '40
Why life underwriters should co-operate with the U.S. Chamber of commerce. J. S. Myrick. Ins Field (Life ed) 69:12 Ag 30 '40

Agency management

Aetna Life agency, R. H. Keffer, general agent. East Underw 41:18-20 pt 2 Jl 12 '40
Agency building theme of speakers at Indianapolis management conference. Nat Underw (Life ed) 44:1+ Ap 26 '40
Agency practices code is signed by 66 companies. Ins Field (Philadelphia Conv Daily ed) 69:8 S 27 '40
Agency trends. J. Clark. East Underw 41:17 Ap 19 '40
Alumni association of Research bureau seminar on agency building. Weekly Underw 142:802+ Mr 30 '40; Nat Underw (Life ed) 44:1+ Mr 29 '40
Analysis of agency management figures. G. L. Hunt. Nat Underw (Life ed) 44:31-2 N 1 '40
Behind the scenes in Massachusetts Mutual Life expansion of its agency department activity. C. O. Fischer. Nat Underw (Life ed) 43:8 N 3 '39
Boston supervisors hold second seminar. Weekly Underw 142:504-5 F 24 '40
Building an agency. H. T. Burnett. Nat Underw (Life ed) 44:19 N 8 '40
Color charts gain in popularity to picture records of agencies; interview with Walter L. Stannard. K. H. Mathus. East Underw 41:15 Ap 12 '40
Decrease in agency force in last five years; figures by Research bureau. Nat Underw (Life ed) 44:1 My 3 '40; Weekly Underw 142:1114 My 4 '40
Defects in present agency system. S. D. Weissman. Nat Underw (Life ed) 44:2+ Ag 9 '40

INSURANCE, Life—Agents—Agency management—*Continued*
Factors in getting veterans back into production. E. B. Thurman. Nat Underw (Life ed) 44:31-2 F 23 '40
Fundamental course; advice on agency procedure; abstracts. P. F. Clark. Nat Underw (Life ed) 44:3, 19 N 1 '40; East Underw 41:17 N 1 '40
General agency management costs analyzed. L. S. Morrison. Nat Underw (Life ed) 44:5 Mr 22 '40
Getting reasonably persistent volume at reasonable cost; Midland Mutual procedure. J. A. Hawkins. Nat Underw (Life ed) 43:12 N 3 '39
Good management in life insurance selling. G. H. Young. Weekly Underw 143:441+ Ag 31 '40
Home Life as laboratory in seminar on methods. J. A. Fulton. East Underw 41:4 Mr 29 '40
Ideas brought out at John Hancock general agents meeting. Weekly Underw 142:441+ F 17 '40
Importance of programming in an agency; plans for a meeting must be analyzed. S. D. Bonner. Weekly Underw 142:793+ Mr 30 '40
Improving work habits. G. Dunbar. East Underw 41:19 N 1 '40
Just what is a good life agency? C. T. Cravens. Weekly Underw 142:54-5+ sec 2 My 11 '40
Less men, more business; story of Leland F. Lyons. Ins Field (Life ed) 69:12-13 S 27 '40
Management factor. V. Coffin. Ins Field (Life ed) 69:12-13+ My 17 '40
Management in action; abstracts. J. M. Holcombe, jr. Nat Underw (Life ed) 44:8 N 1 '40; East Underw 41:17+ N 1 '40; Weekly Underw 143:1052+ N 2 '40
Manager domination charge in National association of life underwriters. C. J. Zimmerman. Nat Underw (Life ed) Daily ed 44:18+ S 26 '40
Monroe doctrine for insurance needed to define its sphere of influence. J. Clark. Nat Underw (Life ed) 43:6 N 24 '39
Morale building and management; abstracts. J. A. Giffin. East Underw 41:18 N 1 '40; Weekly Underw 143:1240 N 23 '40
New decade looks good; talk to general agents. J. H. Wood. East Underw 41:8+ F 16 '40
Persistency rating study issued by Life insurance sales research bureau. Ins Field (Life ed) 69:7 Ap 5 '40
Personnel factor in agency building. C. O. Fischer. Weekly Underw 142:1171 My 11 '40
Progress in agency practices. D. G. Hunter. East Underw 41:12 N 1 '40
Pulling in horns found less painful than anticipated; reducing scale of operations. Nat Underw (Life ed) 44:1 Jl 19 '40
SEC letter sent to 10,000 agents regarding sales and agency practices. East Underw 41:5 F 16 '40
Supervisors grouped in three categories for successful agency management. W. E. Hays. East Underw 41:8 O 25 '40
TNEC hears agents' views in response to SEC questionnaire. East Underw 41:1+ Mr 1 '40; Nat Underw (Life ed) 44:1+ Mr 1 '40
Value of intimate supervision; abstracts. J. A. Ramsay. Nat Underw (Life ed) 44:23-4 F 16 '40; Weekly Underw 142:443 F 17 '40
Why men who meet standards of selection fail as life insurance salesmen. G. Dunbar. Weekly Underw 144:160-1 Ja 11 '40; Abstract. East Underw 41:19 N 1 '40
Work program needed to put older men back into successful production. J. F. Oates. Nat Underw (Life ed) 44:24 F 16 '40

Agency managers

Broad educational program outlined. S. S. Huebner. Ins Field (Philadelphia Conv Daily ed) 69:2, 22-3 S 27 '40; Same. Nat Underw (Life ed) Daily ed 44:7, 34 S 27 '40; Same cond. East Underw 41:8+ S 27 '40
Problem of selecting successful managers; abstracts. A. K. Kurtz. East Underw 41:20 N 1 '40; Nat Underw (Life ed) 44:5 N 1 '40
Qualities of heart create morale in agency. L. S. Morrison. Nat Underw (Life ed) 43: 8 N 3 '39
Sun Life plan of building managerial reserve. S. C. H. Taylor. Nat Underw (Life ed) 43:9 N 3 '39

Commissions

Agency compensation; Northwestern National Life plan. Nat Underw (Life ed) 43:2+ N 3; 5-6 N 10 '39
Agents' compensation committee report sets up basis for study. East Underw 41:1+ Ap 5 '40; Nat Underw (Life ed) 44:3+ Ap 5 '40; Weekly Underw 142:826+ Ap 6 '40
Agents' compensation problem surveyed; recommendations by National association of life underwriters. Weekly Underw 143:724+ S 28 '40; East Underw 41:3 S 27 '40
Assigned commissions not taxable to agent; Gerald Eubank wins income tax case. East Underw 41:5+ Ap 5 '40
Claims for renewal commissions on premiums paid receiver denied; Peoria Life liquidation. East Underw 41:11 My 10 '40
Commission revision proposal given approval by Life agency officers-Sales research bureau. Nat Underw (Life ed) 44:1+ N 8 '40
Compensation of agent; discussion. Nat Underw (Life ed) 44:1+ Ap 12 '40
Compensation of life agents. M. A. Linton. Weekly Underw 143:1050, 1054+ N 2 '40; Abstracts. East Underw 41:17 N 1 '40; Nat Underw (Life ed) 44:1+ N 1 '40
Compensation plan for agents to be subject of study by Life insurance sales research bureau. Nat Underw (Life ed) 43:1+ D 22 '39
Data being sought on agents' compensation by NALU. East Underw 41:6 Ap 5 '40; Nat Underw (Life ed) 44:14 Ap 5 '40; Weekly Underw 142:825+ Ap 6 '40; Ins Field (Life ed) 69:5+ Ap 5 '40
Established men of New York Life average better than $3,100. Nat Underw (Life ed) 44:2 Je 14 '40
Incomes of insurance agents as compared to incomes in Canada; abstracts. S. C. McEvenue. East Underw 41:11 My 3 '40; Nat Underw (Life ed) 44:1+ My 3 '40; Weekly Underw 142:1077 My 4 '40
Life underwriter's potential income at four levels of daily sales; tabulation. Ins Field (Life ed) 68:23 D 8 '39
Northwestern National Life's plan for compensating agents; discussion by O. J. Arnold and S. E. Mooers. Spectator (Life ed) 143: 11-12 D 7 '39
Northwestern National says its men like Arnold plan of renewal commissions. East Underw 40:49 D 15 '39
Payment of commission; ruling by California Attorney-General. Weekly Underw 142: 133 Ja 13 '40
Plan for agent's compensation. C. J. Zimmerman. Nat Underw (Life ed) 44:13 N 1 '40
Plan for compensation of life insurance agents. L. S. Morrison. Weekly Underw 143:1055-6+ N 2 '40; Abstracts. East Underw 41:17 N 1 '40; Nat Underw (Life ed) 44:1+ N 1 '40
Proposed commission scale of committee on agents' compensation; abstracts. E. M. McConney. East Underw 41:20 N 1 '40; Nat Underw (Life ed) 44:12 N 1 '40
Proposed compensation plan for life men; outlines recommendations to Philadelphia convention. C. J. Zimmerman. Weekly Underw 143:689+ S 28 '40
Security for agents; Life insurance sales research bureau to study agents' compensation. Business Week p26-7 N 25 '39
Unauthorized assignment of renewals forfeits agent's rights thereto. East Underw 41:11 F 9 '40
Weissman's views on agents bring criticism. Nat Underw (Life ed) 44:2 Ag 16 '40

INSURANCE, Life—Agents—*Continued*

Conventions

California state association of life underwriters annual convention, Santa Monica. Ins Field (Life ed) 69:9-10 Je 28 '40

Fidelity mutual life, Leaders' club, annual convention, Hot Springs, Va. Weekly Underw 143:661+ S 21 '40

Georgia state association of life underwriters annual meeting, Augusta. Weekly Underw 142:1580 Je 29 '40

Illinois association of life underwriters 16th annual meeting, Springfield. Ins Field (Life ed) 69:13 My 24 '40; Nat Underw (Life ed) 44:17 My 24 '40

Kansas state association of life underwriters annual meeting, Wichita. Ins Field (Life ed) 69:9+ Ap 19 '40

Life underwriters' association of New York annual luncheon meeting, New York, June 13. Weekly Underw 142:1469 Je 15 '40

Mid-year meeting of N.A.L.U. National council, Atlanta. East Underw 41:7 Ap 12 '40; Ins Field (Life ed) 69:5-7 Ap 5; 5-7 Ap 12 '40; Nat Underw (Life ed) 44:1+ Ap 12 '40; Spectator (Life ed) 144:12-13+ Ap 11 '40; Weekly Underw 142:825+, 928+ Ap 6-13 '40

New York state association of life underwriters meeting, Bronxville. East Underw 40:3 N 17 '39; Spectator (Life ed) 143:10 N 23 '39

New York state life underwriters association annual meeting, Syracuse. Nat Underw (Life ed) 44:1+ My 24 '40

North Carolina association of life underwriters annual meeting, Durham. Ins Field (Life ed) 69:10 Je 28 '40

Ohio association of life underwriters annual convention, Toledo. Ins Field (Life ed) 69: 10+ My 10 '40; Nat Underw (Life ed) 44: 3+ My 10 '40

Texas association of life underwriters 15th annual convention, Austin. Ins Field (Life ed) 69:12+ Je 14 '40; Nat Underw (Life ed) 44:1+ Je 14 '40

Wisconsin state association of life underwriters annual meeting, Milwaukee. Ins Field (Life ed) 69:8-9 Je 21 '40

Examinations

Delays caused by N.Y. agents' exams assailed. Nat Underw (Life ed) 44:3+ Ag 16 '40

Exam dates of New York agents fixed at conference. East Underw 41:5 Je 21 '40

Managers seek changes in agents' examination in New York. G. Lewis. East Underw 41:6 Je 28 '40

New York agents' examination requirement a drastic but salutary step. Nat Underw (Life ed) 43:3+ D 1 '39

Part-time agents

Michigan commissioner upholds recent ruling; part-time agents restricted. East Underw 41:12 Je 21 '40

Pensions

Agents' pensions much discussed. Nat Underw (Life ed) 44:7 My 31 '40

Agents' retirement plans; tabulation. F. E. Huston. Nat Underw (Life ed) 44:4 Je 28 '40

Company-agency relationships; Lincoln National financial security plan for agents. A. J. McAndless. East Underw 41:3+ Ja 19 '40

Compensation plan for agents proposed by National association committee; pension plans. East Underw 41:3 S 27 '40; Weekly Underw 143:724+ S 28 '40

Proposed compensation plan for life men; outlines recommendations to Philadelphia convention. C. J. Zimmerman. Weekly Underw 143:689+ S 28 '40

Provident Mutual announces veteran agents' fees. East Underw 41:22 S 27 '40; Same. Ins Field (Life ed) 69:8 O 4 '40; Same. Nat Underw (Life ed) 44:8 O 4 '40; Same. Weekly Underw 143:719 S 28 '40

Retirement plan for agents of Bankers life of Nebraska. H. S. Wilson. Nat Underw (Life ed) 44:4 Je 14 '40; Same. Weekly Underw 142:1528 Je 22 '40

Retirement plan for agents; philosophy behind retirement commissions. W. E. Bixby. Ins Field (Life ed) 69:14-15 Ag 23 '40

Salaries

Agents' compensation committee report sets up basis for study. East Underw 41:1+ Ap 5 '40; Nat Underw (Life ed) 44:3+ Ap 5 '40; Weekly Underw 142:826+ Ap 6 '40

Equitable of Iowa has new adjusted compensation plan for new agents. Nat Underw (Life ed) 44:9 F 2 '40

Equitable of Iowa plan of new agent compensation. H. P. Cooley. East Underw 41: 7 F 23 '40

Phoenix Mutual financed agents' production is raised. Nat Underw (Life ed) 44:1+ Ag 2 '40

Sales conventions

Chicago sales congress. East Underw 41:17 Mr 29 '40; Nat Underw (Life ed) 44:3+ Mr 22 '40

Enthusiastic congress held in North Dakota. Nat Underw (Life ed) 44:17 O 18 '40

First west Texas sales congress. Weekly Underw 143:1107 N 9 '40

Illinois life underwriters association annual sales congress, Springfield. Nat Underw (Life ed) 44:23 My 24 '40

Life underwriters association of Peoria annual sales congress. Nat Underw (Life ed) 44:1 N 8 '40

New York sales congress. East Underw 41:7+ Mr 29 '40; Nat Underw (Life ed) 44:2 Mr 29 '40; Ins Field (Life ed) 69:7-8 Ap 5 '40

New York state association of life underwriters annual meeting and sales congress, Syracuse, May 16-17. East Underw 41:3+ My 24 '40; Nat Underw (Life ed) 44:6 My 24 '40

Opportunities for better salesmanship pointed out; Cincinnati sales congress. Nat Underw (Life ed) 44:23 Mr 29 '40

Philadelphia association of life underwriters sales conference. Weekly Underw 142:752-3 Mr 23 '40

Selection

Agency selection in last three years bears fruit for John Hancock. Nat Underw (Life ed) 44:1+ F 16 '40

Aptitude index is deemed vital tool. H. J. Cummings. Nat Underw (Life ed) 43:16 N 3 '39

Connecticut Mutual will recruit fewer men; new plan. V. B. Coffin. East Underw 40: 12 N 17 '39; Same. Ins Field (Life ed) 68: 8 N 17 '39; Same. Weekly Underw 141: 1089 N 18 '39

Fire unfit agents now; would make sales easier. H. T. Wright. East Underw 41:19 O 18 '40

Fundamental course; companies should recruit college men. P. F. Clark. Nat Underw (Life ed) 44:3, 19 N 1 '40

Inducing college men into life insurance; plan approved by Philadelphia convention includes special study courses. Weekly Underw 143:726 S 28 '40

Managers minimize effect of draft on recruiting new men. Nat Underw (Life ed) 44:4 S 27 '40

NALU, Managers section, discuss recruiting. Nat Underw (Life ed) 44:2+ Ap 12 '40

New life agent requirement in N.Y. L. A. Cerf, jr. Nat Underw (Life ed) 44:32 O 4 '40

Planned recruiting. W. P. Worthington. East Underw 41:4+ Mr 29 '40

Problems regarding recruiting of new men. F. B. Summers. Weekly Underw 142:1232 My 18 '40

Progress in selection; companies' cooperation in testing praised; abstracts. F. H. Haviland. East Underw 41:20 N 1 '40; Nat Underw (Life ed) 44:1+ N 1 '40; Weekly Underw 143:1176 N 16 '40

Questions on recruiting and training. East Underw 41:34 S 27 '40

Suggestions on recruiting men over 30. M. R. Orr. Nat Underw (Life ed) 43:31 D 22 '39

INSURANCE, Life—Agents—*Continued*

Service

Accent on service. H. W. Baird. Weekly Underw 142:64-5 sec 2 My 11 '40
Effective approach and close. R. Sanders. Spectator (Life ed) 145:18 O 24 '40
Using social security to tie up the protection package; programming insurance. N. E. Horelick. East Underw 41:50 pt 2 O 4 '40
What's in a name? how a name grew into a center of influence. R. J. Katz. Spectator (Life ed) 145:6-9+ S 12 '40

Training

Aetna shows its new educational picture. East Underw 41:50 S 27 '40
Analagraph selling system is proving its worth; Mutual Benefit Life's production rises. Nat Underw (Life ed) 44:3 Je 21 '40
Companies need underwriting training of agents. M. J. Cleary. Nat Underw (Life ed) 44:3+ My 24 '40
Dodging silly alibis; step-by-step interview should be laid out for salesmen. H. P. Cooley. East Underw 41:12 Ap 12 '40
Don't love 'em and leave 'em. H. G. Kenagy. Weekly Underw 142:28-9 sec 2 My 11 '40
Forum on training and retraining. Nat Underw (Life ed) 44:2+ N 1 '40
Improving selling techniques. F. L. Merritt. East Underw 41:19 N 1 '40
Life insurance salesman; C.L.U. movement. L. A. Lincoln. Spectator (Life ed) 145:23+ S 26 '40
New agents must have training before they interview; views of general agents. C. F. Gay and others. East Underw 40:27+ D 15 '39
New training course of Massachusetts Mutual Life contains valuable material. Weekly Underw 141:1141 N 25 '39
Questions on recruiting and training. East Underw 41:34 S 27 '40
Random notes on training. E. F. Colborn. Weekly Underw 142:58-9 sec 2 My 11 '40
Schools for agents; experience of Equitable company. V. L. Bushnell. East Underw 41: 18 N 1 '40
Syllabus covers principles of New York state required examinations. East Underw 41:15 Ja 5 '40
Think, man, think. G. H. Young. Ins Field (Life ed) 68:20-1+ D 1 '39
Training brings sales. E. W. Brailey. Nat Underw (Life ed) 43:35 D 15 '39
Training for the New York state exams. Spectator (Life ed) 144:13 Mr 14 '40
Training made continuous process under Home Life plan. J. H. Evans. East Underw 41:14 Mr 29 '40
Trends in training and retraining; summary of forum papers. B. N. Woodson. East Underw 41:19 N 1 '40

Women agents

Address at women's $250,000 round table dinner. J. A. McLain. Nat Underw (Life ed) Daily ed 44:6+ S 26 '40; Excerpts. East Underw 41:24 S 27 '40
Beneficiary-agent tells of life insurance in action. R. Morris. Nat Underw (Life ed) 44:31 F 2 '40
Dorothy Briggs to run Bender women's unit. East Underw 40:5-6 N 24 '39
Financial guide for living; selling plan of successful woman producer. L. L. Blair. Ins Field (Life ed) 69:14-15 Ag 16 '40
4,000 women sell insurance; some careers analyzed. B. Jones. East Underw 41:29 S 27 '40
Heard on the way; paid business record, 1921-39, of Sara Frances Jones, CLU. East Underw 41:10 Ag 30 '40
It comes naturally; woman underwriter explains high production in the juvenile field. Mrs C. M. Powell. Ins Field (Life ed) 69: 16 Ap 12 '40
Leading producer; Miss Rosalie Armistead Higgins. por Ins Field (Life ed) 69:22 Ja 19 '40
Mrs Ray Sundelson's 45th year with Equitable Life, N.Y. as general agent. East Underw 40:6 N 24 '39
Star woman producer places $6,000,000 case; Evelyn C. Schmidt. Weekly Underw 142: 1115 My 4 '40
Survey of women agents of country being made by National assn. of life underwriters committee. East Underw 41:1+ Ap 12 '40
Women do the work; abstracts of addresses at National association of life underwriters convention at Philadelphia. Spectator (Life ed) 145:26-7 S 26 '40
Women underwriters must learn to accept criticism. B. Meistroff. East Underw 41:23 S 27 '40
Women underwriters' work surveyed. Ins Field (Life ed) 69:6 N 8 '40
Women's session, NALU convention, Philadelphia. Nat Underw (Life ed) Daily ed 44:16+ S 25 '40

Agents' wives

Life insurance salesman's wife presents a frank and helpful discussion. F. P. Stancliff. Ins Field (Life ed) 69:12-13 S 20 '40
Your silent partner; how a wife can assist an agent along to success. Mrs R. O. Bickel. Ins Field (Life ed) 69:16-17+ O 18 '40

Air raid risks

Lloyd's scores success with air raid coupons. East Underw 41:23 O 11 '40

Annuities

See Annuities

Applications

Applications declined and accepted in 1939; tabulation. Weekly Underw 142:57 sec 2 My 11 '40

Aviation risks

Air victory against Britain would affect underwriting in U.S. Nat Underw (Life ed) 44: 7+ Jl 19 '40
Aviation mortality; Actuarial society of America committee report. East Underw 41:14 Ag 16 '40
Aviation restrictions are removed by the Home life of New York up to $10,000 on standard plans. Nat Underw (Life ed) 44:22 N 1 '40
Aviation rider held contrary to law by Nebraska court. Nat Underw (Life ed) 44:2 Jl 26; 3+ Ag 2 '40
Aviation risk practices of companies. G. A. Eubank. East Underw 40:55 D 15 '39
Aviation risks. P. Shepherd. Nat Underw (Life ed) 44:5 F 23 '40; Same. Weekly Underw 142:499 F 24 '40
Aviation risks being watched by companies. Ins Field (Life ed) 69:9 Ag 16 '40
Aviation risks; Equitable Life policies. Spectator (Life ed) 145:21 Ag 15 '40
Companies watching applications from the younger men. Nat Underw (Life ed) 44:1+ Ag 9 '40
Equitable, N.Y. removes air travel risk restrictions. East Underw 41:5 Ag 2 '40; Weekly Underw 143:248 Ag 3 '40
Mutual life, New York, broadens aviation insurance. East Underw 41:4 O 25 '40
Mutual life of N.Y. drops air travel bars. East Underw 41:15 S 20 '40; Same. Weekly Underw 143:794 O 5 '40
Nebraska case; 29 companies join in asking for rehearing of aviation clause decision. Nat Underw (Life ed) 44:9 S 6 '40
1940 home office underwriting. P. Shepherd. East Underw 41:40+ pt 2 O 4 '40
Parachute held aerial conveyance in Iowa case. Nat Underw 44:29 Ap 11 '40
Policies may be liberalized. Nat Underw (Life ed) 44:1 Ag 23 '40
Remove restrictions; Pacific mutual life announces new aviation cover rules. Weekly Underw 143:991 O 26 '40
Ruling affirmed by Nebraska court; stands by airplane death insurance rider decision. Ins Field (Life ed) 69:6 O 18 '40
Student pilot rates lowered for third time. D. H. Connolly. East Underw 41:49 O 11 '40

INSURANCE, Life—Aviation risks—*Continued*
U.S. court upholds aeronautic clause. East Underw 41:11 S 20 '40

Bibliography

Literature of life insurance; recent and current books of interest for the general reader. W. H. Hazard. bibliog Harvard Business R 19 no 1:123-32 [S] '40

Brokers

Decision denying broker's claim to share in commissions reversed; E. C. Peebles v. Prudential. Ins Field (Life ed) 69:7-8 Mr 22 '40; Nat Underw (Life ed) 44:8 Mr 15 '40
Improvement seen in quality and persistency of business from New York brokers; symposium. Nat Underw (Life ed) 44:4+ Mr 22 '40
Survey proves worth of brokerage business; New York supervisors panel. East Underw 41:15 Mr 22 '40

Business beneficiaries

See Insurance, Business

Children's policies

Acacia mutual life announces reduction in lower age limit from ten to five. Weekly Underw 143:533 S 7 '40
Colonial Life of Jersey City issues new juvenile policies. East Underw 41:6 Ag 9 '40; Spectator (Life ed) 145:20 Ag 15 '40
It comes naturally; woman underwriter explains high production. Mrs C. M. Powell. Ins Field (Life ed) 69:16 Ap 12 '40
New York bill would limit child insurance. East Underw 41:11 Mr 15 '40
Selling juvenile insurance. C. D. Connell. Ins Field (Life ed) 68:19+ N 17 '39
Why I sell juvenile insurance. N. S. Barrows. il Ins Field (Life ed) 69:14-15 Ap 12 '40

Creditors' groups policies

See Insurance, Group—Creditors' policies

Disability provisions

Arkansas court discusses primary purpose of disability benefit. Nat Underw (Life ed) 43:11 D 1 '39
Assured need not submit to medical treatment in order to recover disability benefits under total disability provisions. Spectator (Life ed) 143:20 D 7 '39; East Underw 40: 20 N 24 '39
Ban on working waived to help disability neurotics. Nat Underw (Life ed) 44:20 Ja 26 '40; Nat Underw 44:21 F 15 '40
Disability clauses in life policies; digest of recent cases. J. S. Regan. Spectator (Life ed) 144:16-17 Ja 4 '40
Disability insurance claims; digest of recent cases. J. S. Regan. Spectator (Life ed) 144:16-17 Je 6 '40
Disability issue in several cases. Nat Underw (Life ed) 44:21 Je 21 '40
Disability results of New York insurers. R. B. Mitchell. table Nat Underw (Life ed) 44:2+ Mr 8 '40
Failure of insured to call one of his three physicians warrants inference that testimony would have been unfavorable. Weekly Underw 142:337 F 3 '40
Irrecoverable loss of sight not shown where vision restored by use of glasses; Home life ins. co. v. Stewart. Weekly Underw 143:1121 N 9 '40
Pastor performing duties of occupation until beyond age limit cannot recover total and permanent disability benefits; decision of Alabama court. Weekly Underw 143:746 S 28 '40
Permanent total disability held proved within meaning of policy at time when disability actually occurred. Weekly Underw 143:154 Jl 20 '40
Proof, during lifetime of insured, held condition precedent to recovery of disability benefits. Weekly Underw 143:410, 411-12 Ag 24 '40
Trends pointed out in decisions on disability cases by committee of International association of insurance counsel. Nat Underw (Life ed) 44:2 Ag 23 '40

Double indemnity provisions

Double indemnity clause to provide full cover; Reliance Life liberalizes rider. Weekly Underw 143:402 Ag 24 '40
Double indemnity questions arise. Nat Underw (Life ed) 44:21 Je 21 '40
Language of insurance contracts; accidental means; digest of recent cases. J. S. Regan. Spectator (Life ed) 143:16-17 D 21 '39
Sidebothom v. Metropolitan life ins. co.; death, cause of; double indemnity. Weekly Underw 143:363-4 Ag 17 '40

Educational endowment policies

Complete sales plan for educational insurance. W. R. Woodward. Ins Field (Life ed) 68:22-3 D 1 '39

Endowment policies

Connecticut general life insurance company single premium insurance. Spectator (Life ed) 145:24 Jl 4 '40
Cutting taxes on endowment policies; Treasury ruling permits saving where proceeds are paid as annuities. L. J. Freeman. Barron's 20:7+ S 16 '40
Life insurance funds permit a group of 51 Philadelphia doctors to purchase and operate a hospital of their own. Nat Underw (Life ed) 44:6 Ag 16 '40

Estate protection

Agent should be familiar with probate procedure; insurance aspects. D. J. A. Hayes. Nat Underw (Life ed) 44:27-8 Ja 26 '40
Conservation of the estate; importance of the $40,000 federal estate tax exemption. F. L. Morton. Spectator (Life ed) 143:24-6 sec 2 D 7 '39
Decision reversed in Bailey case in favor of estate; comment by Albert Hirst. East Underw 40:8 D 8 '39
Developments in Bailey tax case. E. P. Huttinger. Nat Underw (Life ed) 44:9 Mr 29 '40
Equitable's middle-income plan embodies wide study; Extended income plan. Nat Underw (Life ed) 44:4 F 9 '40
Estate analysis. L. D. Stark. Weekly Underw 142:1177 My 11 '40
Fundamental facts of life insurance always interest careful buyers of protection. C. W. Hamlin. Weekly Underw 143:354+ Ag 17 '40
Man of property and property conservation. M. H. Wilner. Weekly Underw 142:44-5 sec 2 My 11 '40
Modernizing our death tax viewpoint. M. Elrod, jr. Trusts & Estates 70:383-5 Ap '40
Planning and selling the basic estate. R. Pirnie. 145p $2 National underwriter co, Cincinnati '39
Sales points on current tax problems. D. Stock. Nat Underw (Life ed) 44:19 Je 21 '40
Simple estate planning; primary needs should be taken care of first. T. M. Divine. Ins Field (Life ed) 69:14-15 N 8 '40
Striking questions arouse interest in tax approach. S. Hoffman. Nat Underw (Life ed) 44:17 N 1 '40
Third decision in Bailey case; significant position of donor of life insurance gift containing possibility of reverter. D. B. Maduro. East Underw 41:9 Mr 15 '40
Three methods of tax avoidance. P. H. Topping. East Underw 41:17 S 13 '40
Tom Jones' life insurance; family income program to fit in with social security. F. B. Peake. Banking 33:40 Jl '40
Two estate planning cases. O. P. Jacobsen. East Underw 41:60 pt 2 O 4 '40
U.S. Chamber of commerce suggests Revenue act changes; plan like that in Lonergan amendment. East Underw 41:15 Ja 12 '40
Viewing the possibility of a reverter; Bailey vs. the U.S. situation clarified. F. L. Morton. Ins Field (Life ed) 69:16 O 25 '40; Same. Spectator (Life ed) 145:26+ O 24 '40; Abstracts. Nat Underw (Life ed) 44:1+ O 25 '40; East Underw 41:7 O 25 '40

See also
Insurance trusts

INSURANCE, Life—*Continued*

Exhibits

Crowds at World's fair Metropolitan exhibit; Equitable garden of security has many visitors. East Underw 41:11 O 25 '40
Metropolitan Life and Equitable at World's fair. East Underw 41:12 My 17 '40

Family group policies

Federal Life brings out new forms. Nat Underw (Life ed) 44:16 Mr 29 '40
North American Union has new family group form. Nat Underw (Life ed) 44:21 O 18 '40
Occidental life of California writing family group form; rates. Nat Underw (Life ed) 44:22 Mr 15 '40
Provident Life and Accident new family policy. Spectator (Life ed) 144:18-19 Je 6 '40

Family income policies

Acacia mutual life insurance company family security agreement. Spectator (Life ed) 144:22-3 My 23 '40
Family income policy meets most needs. J. M. Howell. East Underw 41:120 pt 2 O 4 '40
Family maintenance policies, Midland Mutual. Nat Underw (Life ed) 44:28 O 4 '40
George Washington life insurance company of Charlestown, W.Va. family income endowment policy. Spectator (Life ed) 144:18 My 9 '40
Mutual life, New York, announces family income policy. East Underw 41:4 O 25 '40; Nat Underw (Life ed) 44:18 O 25 '40; Weekly Underw 143:1047 N 2 '40
Popularity of the family income policy. H. F. Gray. Weekly Underw 142:32-3 My 11 '40
Selling family income in college town. W. F. Cook. East Underw 41:134 pt 2 O 4 '40
Sun Life of Canada family maintenance policy. Nat Underw (Life ed) 44:22 Ap 19 '40

Farm problem

See Insurance, Life—Investments

Finance

Analysis of the source of life insurance profits and losses during 1939. Spectator (Life ed) 145:21 O 10 '40
Assets, insurance written, premium collections, 1936-1939. Survey of Cur Business 1940 Sup p55-7 [supplemented in monthly numbers]
Company reports; statements as of December 31, 1939. Spectator (Life ed) 144:32-3 F 1 '40
Disability and annuity results of New York insurers. R. B. Mitchell. table Nat Underw (Life ed) 44:2+ Mr 8 '40
Examination report on the Globe Life. Nat Underw (Life ed) 44:13 O 18 '40
Figures from Dec. 31, 1939 statements; tabulation. Nat Underw (Life ed) 44:2 Ja 19; 2 Ja 26; 2 F 2; 2 F 9; 10 F 16; 10 F 23; 2 Mr 1; 13 Mr 8; 10 Mr 15 '40
Financial figures of companies with 100 million or more ordinary in force; tabulation. Nat Underw (Life ed) 44:4+ My 24 '40
How policyholders' premium dollar is used; tabulation. Spectator (Life ed) 144:8 Ap 11 '40
Insurance market not saturated; TNEC testimony. J. A. Stevenson. Nat Underw (Life ed) 44:13 F 16 '40
Insurance unique in safety. E. J. Howe. East Underw 41:14 F 16 '40
Life payments in 1939. Nat Underw (Life ed) 44:3-69 pt 2 My 17 '40
Low interest earned by companies makes risk scrutiny vital. A. M. Best. Nat Underw (Life ed) 44:10+ S 6 '40
1939 annual statements; brief reports. Nat Underw (Life ed) 44:14B Ja 19; 2+ Ja 26; 15-16 F 2; 2+ F 9; 3+ F 16; 4+ F 23; 2 Mr 1; 6 Mr 8; 10 Mr 15 '40
Radio talk answering Roosevelt accusations on fear spreading. P. M. Fraser. East Underw 41:3+ N 8 '40
Results of the operations of life insurance companies for the year ending December 31, 1939, and comparisons with 1938; tabulation. Spectator (Life ed) 144:38 F 1; 41 F 15 '40
SEC study of 26 companies. T. J. V. Cullen. Spectator (Life ed) 144:6-11+ F 15 '40
Summary of SEC's analysis of company operations. East Underw 41:10+ F 16 '40; Same. Nat Underw (Life ed) 44:2+ F 16 '40; Same abr. Weekly Underw 142:409+ F 17 '40; Same cond. Comm & Fin Chr 150:1208-9 F 24 '40
TNEC eyes life insurance assets; SEC presents much-publicized statistical report. Il Business Week p15-16 F 17 '40
TNEC told failures were due to poor investments. A. M. Best. East Underw 41: 1+ Mr 8 '40
Ten trying years; growth of companies' assets and reserves, 1929-1938. Spectator (Life ed) 144:12-15+ Je 20 '40

First year claims

Examples of large insurance returns for one premium; tabulation. Weekly Underw 142:7 sec 2 My 11 '40
65,000 first-year death claims paid during 1939, with stories of actual cases. Weekly Underw 142:3-5+ sec 2 My 11 '40
Succumbed before premium was deducted from salary. P. T. Aubin. Weekly Underw 142:1418 Je 8 '40
What individual companies paid in first-year claims in 1939. Weekly Underw 142: 15+ sec 2 My 11 '40

Fraudulent statements

Misleading answers in application questionnaire; digest of recent case. J. S. Regan. Spectator (Life ed) 145:20-1 O 24 '40
Right to avoid policy where insured had been treated in institution held not waived by medical examination. Weekly Underw 143: 542 S 7 '40

Government investigation

Another leak occurs on unpublished report; Washington Post excerpts from SEC document. Nat Underw (Life ed) 44:3-4 N 8 '40
Astute timing marks release of SEC-WPA study of 2,132 families in the greater Boston area. Nat Underw (Life ed) 44:3+ Ag 30 '40
Col. Robbins commended for firm stand; refusal to hand over A.L.C. correspondence with members of Congress on the methods of the SEC. East Underw 41:1+ Ja 19 '40; Ins Field (Fire ed) 69:7 Ja 18; 7 Ja 25 '40; Ins Field (Life ed) 69:7-8 Ja 19; 7 Ja 26 '40; Nat Underw (Life ed) 44:1+ Ja 19 '40; Spectator (Life ed) 144:14 Ja 18 '40 Weekly Underw 142:181 Ja 20 '40
Comments on TNEC; abstracts. C. J. Zimmerman. Nat Underw 44:6 O 24 '40; Nat Underw (Life ed) 44:2 O 25 '40; Weekly Underw 143:953 O 26 '40
Comments upon TNEC inquiry; abstracts. L. H. Pink. East Underw 41:1+ F 23 '40; Ins Field (Life ed) 69:7-8 F 23 '40; Nat Underw (Life ed) 44:2+ F 23 '40; Spectator (Life ed) 144:17+ F 29 '40
Developments in SEC study. Spectator (Life ed) 144:12-13+ F 1 '40
Failure of SEC actuaries explain principles of life insurance in its recent inquiry. J. A. Laird. Comm & Fin Chr 151:2742 N 9 '40
Final report of T.N.E.C. not to be ready until near end of year, says Senator O'Mahoney. Ins Field (Life ed) 69:7-8 F 9 '40; Nat Underw (Life ed) 44:1+ F 9 '40; Weekly Underw 142:353 F 10 '40
Fiscal officers of larger companies to be questioned by Temporary national economic committee. C. B. Dickson. Weekly Underw 142:6 Ja 6 '40
Hidden theme of SEC report told in Herald Tribune article. N. P. Gregory. Nat Underw (Life ed) 44:1+ Ag 16; 1+ Ag 23 '40; Same, pt 2. East Underw 41:4 Ag 23 '40
Institution of life insurance and the T.N.E.C.; address at American life convention; abstracts. J. C. O'Mahoney. East Underw 41:18 O 18 '40; Ins Field (Fire ed) 69:7-8+ O 17 '40; Ins Field (Life ed) 69:5-6+ O 18 '40; Nat Underw 44:21-2+ O 17 '40; Nat Underw (Life ed) 44:3+ O 18 '40; Nat Underw (Life ed) Conv no 44:2+ O 12 '40; Weekly Underw 143:852 O 12 '40

INSURANCE, Life—Government investigation —*Continued*
Insurance market not saturated; TNEC testimony. J. A. Stevenson. East Underw 41: 10+ F 16 '40
Interpretation of WPA insurance survey in Boston by SEC challenged; abstracts. H. J. Johnson. Ins Field (Life ed) 69:7+ O 25 '40; Nat Underw (Life ed) 44:3+ O 25 '40
Life insurance and TNEC; report to executives. il Business Week p49-60 Mr 16 '40
Life insurance not like every business; scores SEC methods; abstracts. J. M. Laird. East Underw 41:3 N 1 '40; Nat Underw (Life ed) 44:3, 18 N 1 '40; Weekly Underw 143:1013+ N 2 '40
Life men continue to be vigilant following TNEC investigation. R. B. Hull. Nat Underw (Life ed) 44:4 Mr 15 '40; Same. Weekly Underw 142:645+ Mr 16 '40
Moley articles on TNEC; abstracts. East Underw 41:19 Mr 29 '40; Weekly Underw 142:770 Mr 30 '40; East Underw 41:13 Ap 19 '40; Nat Underw (Life ed) 44:3+ Ap 19 '40
Monopoly committee resumes investigation of insurance companies. Comm & Fin Chr 150:1217, 1362-3 F 24-Mr 2 '40
Monopoly inquiry. J. L. Loomis. East Underw 41:17 F 2 '40
Neslen and Gesell letters; Insurance commissioners' president and SEC special counsel discuss insurance questionnaire. Nat Underw (Life ed) 43:2 D 1 '39
O'Mahoney gives out Rhodes letter and his reply on TNEC. East Underw 41:1+ Ap 19 '40; Ins Field (Life ed) 69:5-6 Ap 19 '40; Nat Underw (Life ed) 44:1+ Ap 19 '40
Parkinson and Coburn grilled at TNEC hearing. Nat Underw (Life ed) 43:3, 18-19 N 3 '39
Promise + performance = permanence; comments on life insurance and the TNEC investigation. W. Montgomery. Spectator (Life ed) 144:6-10+ Mr 28 '40; Excerpts. Nat Underw (Life ed) 44:3+ Mr 22 '40
Ramifications of the T.N.E.C. investigation of insurance. R. H. Kastner. Ins Field (Fire ed) 69:16+ My 16 '40; Same. Ins Field (Life ed) 69:5-6 My 17 '40; Same. Nat Underw 44:22 My 16 '40; Same. Nat Underw (Life ed) 44:3+ My 17 '40; Same Weekly Underw 142:1197+ My 18 '40
Release to press of SEC's reports on T.N.E.C. probe censured; abstracts. C. J. Zimmerman. Ins Field (Life ed) 69:7-8 S 6 '40; Nat Underw (Life ed) 44:3+ S 6 '40
Report of SEC experts contains old material. H. J. Johnson. Weekly Underw 142:406+ F 17 '40; Same cond. Ins Field (Life ed) 69: 9-10 F 23 '40
SEC pries into conversion of Illinois Bankers Life. Nat Underw 43:15+ D 28 '39
SEC prods life insurance again; WPA case-study in low-income brackets. Business Week p18+ Ag 31 '40
S.E.C. still after insurance; Col. Robbins of American life convention refuses access to private letter files of executives. Nation's Business 28:90-1 F '40
SEC uses FBI during insurance sales probe, says Metropolitan life. East Underw 41:13 Ja 26 '40; Ins Field (Life ed) 69:7-8 Ja 26 40'; Nat Underw (Life ed) 44:1+ Ja 26 '40; Weekly Underw 142:290 F 3 '40
Senator O'Mahoney again reassures insurance as to TNEC objectives. East Underw 41:8 F 2; 1+ F 9 '40; Ins Field (Fire ed) 69:7-8 F 1 '40; Ins Field (Life ed) 69:7-9 F 2 '40; Nat Underw (Life ed) 44:3+ F 9 '40
Size and its economic aspects; excerpt from statement submitted to T.N.E.C. by committee representing 151 life insurance companies. Spectator (Life ed) 145:4-7+ Ag 29 '40
Statement to TNEC on life insurance filed by 155 companies. East Underw 41:1+ Ag 23 '40; Ins Field (Life ed) 69:5-6+ Ag 30 '40; Nat Underw (Life ed) 44:1+ Ag 23 '40; Weekly Underw 143:452-3 Ag 31 '40
Super vision or supervision; TNEC probe. O. J. Arnold. Spectator (Life ed) 144:6-11+ F 29 '40; Excerpts. East Underw 41:15 F 23 '40; Nat Underw 44:4+ F 22 '40; Nat Underw (Life ed) 44:1+ F 23 '40; Weekly Underw 142:465, 469 F 24 '40
T.N.E.C. aims. J. C. O'Mahoney. Ins Field (Life ed) 69:5 Je 14 '40; Same. Nat Underw (Life ed) 44:5+ Je 14 '40
TNEC desires to help business; abstracts. J. C. O'Mahoney. East Underw 41:19 Mr 1 '40; Ins Field (Fire ed) 69:7-8 F 29 '40; Ins Field (Life ed) 69:7-9 Mr 1 '40; Nat Underw 44:5 F 29 '40; Nat Underw (Life ed) 44:6 Mr 1 '40; Weekly Underw 142:522 Mr 2 '40
TNEC hearings; comments about pooling experience. J. M. Laird. East Underw 40:6 N 17 '39
TNEC hearings continue. Nat Underw (Life ed) 43:3, 20-3 D 15; 4, 7-10 D 22; 1+ D 29 '39; East Underw 40:3+ D 15 '39; Ins Field (Life ed) 68:11-12 D 15; 8-4, 7-10 D 22 '39
TNEC hearings end. Ins Field (Fire ed) 69:10 Mr 7 '40; Ins Field (Life ed) 69:7-8 Mr 8 '40; Nat Underw (Life ed) 44:1+ Mr 8 '40
TNEC hearings of fall and late summer sessions reviewed. East Underw 40:6+ D 15 '39
TNEC inquiry; the Field's sales editor analyzes the investigation as it affects the agent. F. C. Crowell, jr. Ins Field (Life ed) 69:20-1+ Ja 26 '40
TNEC investigation; centralized power in government. L. H. Pink. Weekly Underw 141:1321+ D 23 '39; Excerpts. Spectator (Life ed) 144:12-13 Ja 4 '40
T.N.E.C. investigation evils condemned; presents constructive plan for eliminating unfair practices in studies. J. T. Young. Nat Underw (Life ed) Daily ed 44:5+ S 26 '40
TNEC probe's purposes. Ins Field (Fire ed) 69:7-8 Ja 4 '40; Same. Ins Field (Life ed) 69:9 Ja 5 '40; Same. Weekly Underw 142: 88+ Ja 6 '40; Same abr. East Underw 41:8 Ja 5 '40; Same abr. Spectator (Life ed) 144:12 Ja 4 '40
Views on TNEC, war clauses; abstracts. C. A. Craig. East Underw 41:1+ O 11 '40; Nat Underw (Life ed) Conv no 44:3+ O 12 '40
Warns of broader activities by TNEC. W. H. Bennett. East Underw 41:20 Ja 12 '40
Washington winds; the TNEC or monopoly committee investigation. Spectator (Life ed) 143:10-11 D 7 '39
Yetka points out state departments' position in SEC study. Nat Underw 44:4+ Mr 7 '40; Same. Nat Underw (Life ed) 44:3 Mr 8 '40; Same. Weekly Underw 142:586 Mr 9 '40

History

Philadelphia, cradle of life insurance. T. Eagan. il Spectator (Life ed) 145:6-18 S 26 '40
Pioneer life man of 1868 visualizes insurance values; Elizur Wright's discussion of What life insurance is and does. Nat Underw (Life ed) 43:22 N 24 '39
Steps toward invention of life insurance traced. H. H. Jackson. East Underw 40:8 D 22 '39
Tennessee department gets policy signed by Jefferson Davis as president of old Carolina Life. il East Underw 40:33 D 15 '39

Industrial insurance

See Insurance, Industrial

Inspection reports

Commercial report accuracy is revealed. E. King. East Underw 41:13 Ag 30 '40

Investment value

Approaches for investment insurance prospects. M. C. Fray. East Underw 41:25 S 27 '40
Baby bonds and life insurance as investments. W. H. Fissell. Spectator (Life ed) 145:5-7+ Ag 1 '40
Independence at 65; Americans have to be sold on income advantages over lump sum capital. H. P. Bickley. Spectator (Life ed) 145:6-7 Ag 15 '40
Investment selling hints. P. F. Clark. East Underw 41:6 My 3 '40

INSURANCE, Life—Investment value—*Cont.*
Investment that offers comfort and security. J. C. Behan. Weekly Underw 142:15 sec 3 My 11 '40
Investment value of insurance; abstracts. L. L. Joseph. Nat Underw (Life ed) Daily ed 44:41 S 26 '40; Spectator (Life ed) 145:22 O 10 '40
Life insurance, the best investment; abstracts. E. M. Matthews. East Underw 41:32 S 27 '40; Spectator (Life ed) 145:38-9 S 26 '40
Mortgage investment and the widow; life insurance income payments preferable. G. R. Holly. Weekly Underw 142:105 Ja 6 '40
Strength of life insurance stressed. E. W. Marshall. Spectator (Life ed) 145:23 O 10 '40
Unusual investment plan; combination of insurance policies. G. A. Sharpe. Barron's 20: 3 Ja 1 '40

Investments

Action on real estate sales urged; valuation problem. C. F. J. Harrington. Nat Underw (Life ed) 44:3+ Ap 19 '40
Analysis of a small city revenue bond; abstracts. E. A. Camp, jr. Nat Underw (Life ed) 44:23-4 O 11 '40; Spectator (Life ed) 145:22 O 24 '40
Bond amortization basis presents new problem. Nat Underw (Life ed) 44:7 N 1 '40
Capital loans to smaller business by the Equitable life assurance society of the United States G. McHugh. Comm & Fin Chr 150:627 Ja 27 '40
Despite TVA, utility bonds are unsurpassed as investments. J. C. Bonbright. Nat Underw (Life ed) 44:4+ Je 7 '40
Distribution of assets of companies with 100 millions or more ordinary in force; tabulation. Nat Underw (Life ed) 44:cover My 31 '40
End of an era; problems of investment managers; abstracts. D. L. Clarke. Nat Underw (Life ed) Conv no 44:9-10 O 12 '40; Weekly Underw 143:936 O 19 '40
European insurance companies and real estate; with particular reference to housing. C. L. Parry. bibliog J Land & Pub Util Econ 16:294-305 Ag '40
Experience of National life of Vermont with FHA loans. E. S. Brigham. East Underw 41:88 pt 2 O 4 '40
Farm loan operations gone into at TNEC hearings. East Underw 41:13+ F 23 '40; Nat Underw (Life ed) 44:1+ F 23 '40
How life insurance dollars work through bond investments. V. P. Whitsitt. il Weekly Underw 142:12-13 sec 3 My 11 '40
Insurance investment background; TNEC testimony. T. A. Buckner. East Underw 41: 4-6 F 16 '40
Insurance policyholders' stake in the utilities; constructive criticism of present utility long-term bond contracts from the insurance investors' standpoint. F. J. McDiarmid. Pub Util 25:643-52 My 23 '40
Investment problems faced by insurance in a rapidly changing world. L. H. Pink. il Spectator (Life ed) 145:6-9+ Jl 18 '40
Investment query report of SEC to be made public. Nat Underw (Life ed) 44:1+ F 2 '40
Investments of life insurance companies. Dun's R 48:39 Je '40
Investments of Massachusetts Mutual Life. B. J. Perry. Nat Underw (Life ed) 44:4 My 10 '40; Same. Weekly Underw 142:1170 My 11 '40
Jones-Wheeler act would freeze life companies out of the farm mortgage field. Nat Underw (Life ed) 44:5+ Ap 5 '40
Jones-Wheeler bill and 3% farm mortgage money; hearing in Washington. Nat Underw (Life ed) 44:8 Ap 12 '40
Life insurance investments and individual security; abstracts. F. W. Hubbell. East Underw 40:4 D 22 '39; Spectator (Life ed) 143:22 D 21 '39; Nat Underw (Life ed) 43:2+ D 15 '39; charts Weekly Underw 141:1292 D 16 '39
Loan trends of the Oregon mutual life. W. P. Stalnaker. Ins Field (Life ed) 68:10 D 29 '39
Methods with loans to small businesses used by Equitable society. G. McHugh. East Underw 41:6 F 2 '40
Opinion divided on investing with FHA; inquiry among 25 life companies. Nat Underw (Life ed) 44:2+ Jl 26 '40
Outlook for electric utility investments. A. Dow. Weekly Underw 143:935 O 19 '40
Problem in managing investments; net yield, 1929-38, twenty-six companies. Business Week p55 Mr 16 '40
SEC members sees insurance funds as headache to investment bankers. S. T. Pike. Nat Underw (Life ed) 44:4 S 27 '40
SEC study of 26 companies. T. J. V. Cullen. Spectator (Life ed) 144:6-11+ F 15 '40
Summary of SEC's analysis of company operations. East Underw 41:10+ F 16 '40; Same. Nat Underw (Life ed) 44:2+ F 16 '40; Same abr. Weekly Underw 142:409+ F 17 '40; Same cond. Comm & Fin Chr 150: 1208-9 F 24 '40
TNEC hearings. East Underw 41:3+ F 16; 8, 13, 16-17 F 23; 5+, 9 Mr 1 '40; Ins Field (Fire ed) 69:9-10 F 15 '40; Ins Field (Life ed) 69:7-9 F 16 '40; Nat Underw (Life ed) 44:1+ F 16; 1+ F 23; 1+ Mr 1 '40; Spectator (Life ed) 144:18-20 F 15; 12-13+ F 29 '40; Weekly Underw 142:521+ Mr 2 '40
TNEC looks into urban mortgage loans. East Underw 41:3-4 Mr 1 '40
TNEC testimony; part played by life companies in Rock Island reorganization. D. S. Beebe. East Underw 41:3+ Mr 8 '40
Time element in investment situation of life companies. F. W. Rosefeld. East Underw 41:6 Ja 12 '40

Lapses and surrenders

Age factor in the persistency rating chart. H. H. Steiner and L. R. Case, comps. Weekly Underw 142:936-8 Ap 13 '40
Court hears equity suit arguments. Ins Field (Life ed) 69:7 O 18 '40
Early lapse traced to original sale. E. C. Kelly. East Underw 41:14-15 Mr 29 '40
Earnest effort made to promote persistency. H. Bossert, jr. Nat Underw (Life ed) 43: 6+ N 3 '39
15 life companies named in suits; Mutual policyholders committee, three attorneys press claims on lapsed, surrendered or terminated policies. Nat Underw (Life ed) 43: 3+ N 24 '39
For the good of all; preventing lapses. C. I. Palm. Ins Field (Life ed) 68:22-3 D 8 '39
Function of the surrender value in life insurance. J. B. Maclean. East Underw 41:46+ pt 2 O 4 '40
Insurance of those in military service protected against lapse of existing insurance; some provisions of bill. East Underw 41:1+ Ag 16 '40
Just one more lapse. B. L. Monroe. Ins Field (Life ed) 69:12-13+ Ja 5 '40
Lapsation can be cured. G. B. Stackhouse. Ins Field (Life ed) 69:14-15 Ag 2 '40
Lapsed but not frustrated; surrendered but still working; cases from the files of insurance companies. East Underw 41:86-7 pt 2 O 4 '40
Lapsed policies are disappointing legacies. Weekly Underw 142:17-18 sec 2 My 11 '40
Northwestern National survey reveals why policies are lapsed. East Underw 41:10 S 6 '40; Spectator (Life ed) 145:10-11 S 12 '40
Protection from forfeiture and lapse; mailing notice to last-known address; digest of recent cases. J. S. Regan. Spectator (Life ed) 144:16-17 Ja 18 '40
Stress of circumstances and delinquent payment of premiums; digest of recent cases. J. S. Regan. Spectator (Life ed) 144:16-17 My 23 '40
Yetka given opinion on single premium cover surrender charge under Minnesota law. Weekly Underw 142:961 Ap 20 '40

Lawyers' cooperation

Agreement reached on principles by agents and American bar association. East Underw 41:8 Mr 15 '40; Nat Underw (Life ed) 44:9 Mr 15 '40; Trusts & Estates 70: 244, 354 Mr-Ap '40

INSURANCE, Life—Lawyers' cooperation— *Continued*
Have the law on your side. E. G. Duschnes. East Underw 41:82 pt 2 O 4 '40
See my lawyer; relationship between insurance agents and attorneys. F. U. Levy. Weekly Underw 142:60-1 sec 2 My 11 '40

Legal departments

See also
Association of life insurance counsel

Mail order selling

Coronet magazine exposes direct mail unadmitted companies; rackets in insurance. F. W. Brock. Nat Underw 44:15 Ag 1 '40
Hercules Life offers lesson; Sears, Roebuck life insurance business. W. E. Webb. Nat Underw (Life ed) 43:2 N 17; 2 N 24 6+ D 1 '39
Much interest in direct mail plan of Service life of Omaha. Nat Underw (Life ed) 44:5 Ag 30 '40

Medical departments

Changes will come in medical selection; advances in science of life insurance medicine. H. M. Frost. East Underw 41:6 O 18 '40

See also
American life convention

Mortality statistics

See Mortality—Statistics

Mortgage redemption policies

Home buyers are prospects; abstracts. H. H. Hofmeister. Ins Field (Life ed) 69:16-18 Ap 5 '40; East Underw 41:7+ Mr 29 '40
Mortgage retirement field. E. E. Henderson. Nat Underw (Life ed) 44:19 Ag 2 '40

Multiple life policies

Bankers National broadens blanket coverage life insurance plan. Spectator (Life ed) 144:20-1 Mr 28 '40
Broader and more liberal blanket coverage of Bankers national life of Montclair, N.J. attracts producers. Weekly Underw 142: 1234 My 18 '40

Policies

Connecticut general life changes in rates and policy forms. Spectator (Life ed) 145:22 N 7 '40
Federal Life brings out two new forms; the streamliner and family policy. Nat Underw (Life ed) 44:16 Mr 29 '40
Income replacement form without reserves or values advocated. F. M. Hope. Nat Underw (Life ed) 44:2+ F 2; 8 F 23 '40
Life and accident insurance; policy contract, with case citations. G. D. Bleicken and H. J. Taylor. Weekly Underw 143:590-8 S 14 '40
Like a thief in the night. J. B. Epperson. 83p $1 J. B. Epperson, box 612, Los Angeles '39
Most important clause in a life policy; incontestability clause. A. C. Rosenblum. Nat Underw (Life ed) 44:24 S 27 '40
Mutual trust life of Chicago announces policy changes for 1941. East Underw 41:4 O 11 '40; Ins Field (Life ed) 69:15 O 18 '40
North star benefit of Moline, Ill. issues new series of contracts. Nat Underw (Life ed) 44:29 O 4 '40
Pan-American Life announces new policies. Ins Field (Life ed) 69:26 O 25 '40; Same. Nat Underw (Life ed) 44:20 O 18 '40
Precautionary element in policy drafting; attitude which courts assumed towards insurers. J. H. Collins. Weekly Underw 142: 100+ Ja 6 '40; Excerpts. East Underw 40:25 D 15 '39; Nat Underw (Life ed) 43:12 D 15 '39
Prudential makes some changes. Nat Underw (Life ed) 44:18+ N 8 '40
Simplified policy contracts. J. S. Myrick. Weekly Underw 142:43 sec 2 My 11 '40
Trends in policy preferences, 1890-1939; tabulation. Spectator (Life ed) 145:14 Jl 18 '40
War and aviation clause situation and juvenile insurance. R. H. Kastner. East Underw 41:4 O 11 '40
What the common disaster clause is and how it can be used to advantage by life underwriters. D. F. Carden, jr. Ins Field (Life ed) 68:28-9 D 29 '39

Term policies

Pacific Mutual term to 65 policy. Spectator (Life ed) 144:19 Je 6 '40
Renewable term delusion. M. A. Linton. Nat Underw (Life ed) 44:19 Ag 9 '40
United life and accident insurance company new policy; five year renewable term. Spectator (Life ed) 144:21 Ja 4 '40
United States chamber of commerce warns against changing policies. East Underw 41:3 Jl 19 '40; Weekly Underw 143:113+ Jl 20 '40

Policy assignment

Collateral loans on life insurance. R. C. Tait. Bankers M 140:292-4, 296 Ap '40
Despite money rate outlook, banks still seek policy loans. Nat Underw (Life ed) 43:3+ D 1 '39
Information required when Stephens national bank of Freemont, Neb. makes a loan on life insurance cash value. J. M. Sorensen. Banking 33:100 S '40
Questions and answers on A.B.A. form life insurance assignment. Banking 32:55-7 Ja '40
Verbal assignment upheld despite clause in policy. East Underw 41:9 Ag 16 '40

Policy beneficiaries

Agent's part in beneficiary designations. C. G. Dougherty. East Underw 41:30+ pt 2 O 4 '40
Change of beneficiary; digest of recent cases. J. S. Regan. Spectator (Life ed) 144:16-17 Mr 14; 16-17 Mr 28 '40
Change of beneficiary; insured died before endorsement could be made; court holds change completed. East Underw 41:11 My 31 '40
Change of beneficiary not effected where insured retained executed form for change and failed to notify company. Weekly Underw 142:877 Ap 6 '40
Life insurance in action; true stories of the beneficiary dollar. Weekly Underw 142:5+ sec 3 My 11 '40
Safe and sane distribution of life insurance proceeds. W. F. Haldeman. East Underw 41:28+ pt 2 O 4 '40
Texas and New York laws conflict on transfer of insurance by divorce. East Underw 41:14 O 18 '40
Widow's rights as beneficiary under policy assigned as collateral security held superior to those of executor paying insured's indebtedness. Weekly Underw 141:1241 D 9 '39
Without consent of beneficiary; digest of recent cases. J. S. Regan. Spectator (Life ed) 143:14-15 D 7 '39

Policy dividends

Aetna life insurance company, 1940 dividend scale. Spectator (Life ed) 144:20 Ja 4 '40
Application of policyholders' dividends during 1939; tabulation. Spectator (Life ed) 144:32 Mr 28 '40
Berkshire life insurance company, Pittsfield, Mass. 1940 dividend scale. Spectator (Life ed) 145:17 Ag 1 '40
Central life assurance society, Des Moines, Iowa, 1940 dividend scale. Spectator (Life ed) 143:18 D 7 '39
Columbus mutual life insurance company 1940 dividend scale. Spectator (Life ed) 143:19 D 7 '39
Connecticut general life insurance company 1940 dividend scale. Spectator (Life ed) 143: 20 D 21 '39
Connecticut mutual life insurance company, Hartford, Conn. dividends for 1940. Spectator (Life ed) 143:21 N 23 '39
Continental American life insurance company, Wilmington, Del. 1940 dividends. Spectator (Life ed) 144:21 Ja 18 '40
Dividend estimates prohibited by New York Commissioner Pink. East Underw 41:7 Ja 19 '40; Nat Underw (Life ed) 44:1 Ja 19 '40
Dividends on paid-up policies; Revenue dept. letter. East Underw 41:18 Mr 22 '40

INSURANCE, Life—Policy dividends—*Cont.*
Equitable life insurance company, Des Moines, Iowa, 1940 dividend scale. Spectator (Life ed) 144:23 My 23 '40
Equitable society 1940 dividend scale. Nat Underw (Life ed) 43:21 D 22 '39; Spectator (Life ed) 144:27 F 15 '40
Fidelity mutual life insurance company, Philadelphia, 1940 dividend scale. Spectator (Life ed) 144:22 My 23 '40
Home Life of New York 1940 dividend scale. Nat Underw (Life ed) 43:18 D 29 '39; Spectator (Life ed) 144:20 Ja 18 '40
Jefferson standard life insurance company dividend scale. Spectator (Life ed) 144:18 Je 6 '40
John Hancock mutual life insurance company, 1940 dividend scale. Spectator (Life ed) 144: 26 F 15 '40
Metropolitan life insurance company dividend scale Spectator (Life ed) 144:20 Ap 11 '40
Metropolitan Life new dividend scale. Nat Underw (Life ed) 44:6 Ap 5; 22-3 Ap 12 '40
Mutual Benefit scale of dividends, 1940. East Underw 40:33 D 15 '39; Spectator (Life ed) 143:21 D 21 '39; Nat Underw (Life ed) 43: 29 D 15 '39
Mutual life insurance company of New York 1940 dividend scale. Spectator (Life ed) 144:19 Je 6 '40
New York Life 1940 scale of dividends. East Underw 41:4 Ja 19 '40; Nat Underw (Life ed) 44:8+ Ja 26 '40
Pacific mutual life insurance co. dividend scale after May 1, 1940. Spectator (Life ed) 144:21 Mr 28 '40
Penn mutual life insurance co. dividend scale for the year beginning July 1. Spectator (Life ed) 144:20 Mr 28 '40
Phoenix Mutual new dividend scale shows decreases. Nat Underw (Life ed) 44:22 N 1 '40
Policyholders' dividends in Maryland; ruling. J. B. Gontrum. Weekly Underw 143: 60+ Jl 13 '40
Reliance life insurance company, Pittsburgh, Pa. 1940 dividend scale. Spectator (Life ed) 145:25 Jl 4 '40
State mutual life assurance company, Worcester, Mass. 1940 dividend scale. Spectator (Life ed) 144:20 Ap 25 '40
U.S. government insurance dividend record Nat Underw (Life ed) 44:22 F 23 '40

Policy holders

Better premium notices and receipts urged by Institute of life insurance. East Underw 41:14 Ja 5 '40
Conversion of industrial insurance into ordinary insurance; abstracts. J. G. Bruce. Nat Underw (Life ed) 44:20 O 11 '40; East Underw 41:11 O 11 '40
Each company should have one officer to handle policy holders and public relations. R. D. Murphy. East Underw 41:4 Je 7 '40
Insuring the world of entertainment. D. Porter. il Spectator (Life ed) 143:28-9 sec 2 D 7 '39
Life insurance at work; anecdotes of real life. Weekly Underw 142:19+ sec 3 My 11 '40
List of prominent patrons in the United States who are owners of $50,000 or more of life insurance; arranged geographically. Spectator (Life ed) 143:35-98 sec 2 D 7 '39
Living policyholders profit; two examples at opposite ends of the economic scale. O. J. Arnold. Weekly Underw 142:6+ sec 3 My 11 '40
Many perplexing life problems solved with the help of the life underwriter. M. Adam. il Weekly Underw 142:16-18 sec 3 My 11 '40
Owners of a million or more in life insurance. Spectator (Life ed) 143:32-3 sec 2 D 7 '39
Policyholder asks insurers to take militant stand against government control of all insurance. J. R. Clark. Nat Underw 43: 4 D 21 '39; Excerpts. Nat Underw (Life ed) 43:2, 29-30 D 22 '39
Policyholders should organize to save insurance from fate of railroads, utilities. H. D. Hart. East Underw 41:9+ Ap 5 '40
Policyholders speak up; accept invitation of Holgar J. Johnson in Hindsight and foresight newspaper column. East Underw 41: 42+ pt 2 O 4 '40
Prominent policyholder a life insurance crusader; Charles T. Davies of Wyomissing, Pa. Nat Underw (Life ed) 43:14 N 3 '39
What policyholders' paper is meant to do. R. B. Helser. East Underw 41:11 Je 21 '40

Policy loans

Insurance loan check chart. R. A. Bezoier. Banking 33:35-6 O '40
Life insurance suggestions. W. V. Knott. East Underw 41:9 Je 28 '40
Taxing loans; Florida department advised by Attorney-General. Weekly Underw 143:323 Ag 17 '40; East Underw 41:14 S 13 '40

Interest

Life policy loan rate. V. Howell. Weekly Underw 142:646 Mr 16 '40

Policy settlement

Age discrepancies not important social evil. J. C. Blackall. East Underw 41:1+ Je 21 '40
Amounts paid out to policyholders. Spectator (Life ed) 144:24-5 Je 20 '40
Comment on the use of settlement options. H. P. Aiken. Nat Underw (Life ed) 44:15 O 4 '40
Control of policy options; digest of recent cases. J. S. Regan. Spectator (Life ed) 144: 20-1 F 1 '40
Courts protect against undisclosed claimants; abstracts. J. O'Meara, jr. East Underw 41:8 O 11 '40; Nat Underw (Life ed) Conv no 44:6+ O 12 '40
Death of the insured and beneficiary in a common disaster. L. E. Thompson. East Underw 41:94 pt 2 O 4 '40
Distribution of policy proceeds; digest of recent cases. J. S. Regan. Spectator (Life ed) 145:12-13 Ag 1 '40
Double-entity settlements; digest of recent cases. J. S. Regan. Spectator (Life ed) 145: 16-17 Ag 15 '40
Insanity and options; digest of recent cases. J. S. Regan. Spectator (Life ed) 145:20-1 Jl 4 '40
Insured's control over policy; right to change beneficiary; digest of recent cases. J. S. Regan. Spectator (Life ed) 145:26-7 S 12 '40
Interest in case of missing Judge Joseph Force Crater revived. Ins Field (Life ed) 69:9-10 Ag 9 '40
Letters of Mrs Evans; beneficiary agreements helps her. N. Rogers. East Underw 41:62+ pt 2 O 4 '40
Life insurance death claims from automobiles; tabulation. Spectator (Property ed) 5:54 Je 27 '40
New York code fills important gaps in exemption of life insurance, disability income and annuities from creditors' claims. A. Hirst. Nat Underw (Life ed) 44:8 My 3 '40
Optional settlements and annuities. B. Jones. Weekly Underw 143:872-4+ O 12 '40
Paying life insurance proceeds by instalment. L. O. Kinne. East Underw 41:64, 66+ pt 2 O 4 '40
Payment of policy proceeds; six representative settlements. Spectator (Life ed) 143: 27+ sec 2 D 7 '39
Rights of beneficiaries vs. creditors; digest of recent cases. J. S. Regan. Spectator (Life ed) 145:14-15 Ag 29 '40
Safe and sane distribution of life insurance proceeds. W. F. Haldeman. East Underw 41:28+ pt 2 O 4 '40
Settlement option is fruitful source of litigation. Nat Underw (Life ed) 44:14B+ Ja 19 '40
Social security as option determinant; would allow for widow's losing federal benefits through child's death. Nat Underw (Life ed) 44:11 Je 7 '40
Suggested solution for social security snag; use of a settlement option clause. Nat Underw (Life ed) 44:8 Je 14 '40

INSURANCE, Life—Policy settlement—*Cont.*
Unpaid federal income taxes and life policies; digest of recent cases. J. S. Regan. Spectator (Life ed) 144:14-15 My 9 '40
Using income options pays. E. J. Berlet. Weekly Underw 142:34-5 sec 2 My 11 '40
Would lower interest on funds under option. A. G. Hann. East Underw 41:16 Je 7 '40; Same. Weekly Underw 142:1408 Je 8 '40

Unclaimed policies

List of unclaimed funds made public by New York companies. East Underw 41:1+ Je 7 '40
Test of unclaimed funds law dropped by life companies. East Underw 41:1+ My 10 '40
Unclaimed accounts, to be turned over to New York state, far smaller than estimated. Weekly Underw 142:1080 My 4 '40
Unclaimed funds total less than $300,000 in New York. Ins Field (Life ed) 69:6 Je 7 '40

Premiums, Payment of

Extension of credit for premium; payment not nullified by death of the insured; digest of recent case. J. S. Regan. Spectator (Life ed) 145:16-17 O 10 '40
Insurance premium moratorium for conscripts proposed. Nat Underw (Life ed) 44:2+ Ag 16 '40
Monthly debit plan put into effect for ordinary life policies; Equitable life of Washington. G. C. Clark. Nat Underw (Life ed) 44:16 Mr 8 '40
Paying premiums by check; digest of recent cases. J. S. Regan. Spectator (Life ed) 143:16-17 N 23 '39
Soldiers, sailors relief act protects against loss of policies for non-payment of premiums. Nat Underw (Life ed) 44:1 O 11 '40

Prospects

Are you prospecting properly? C. H. Orr. Ins Field (Life ed) 69:14-15 Mr 8 '40
Business begins with responsibility; young men large potential premium markets; abstracts. R. W. Bugli. East Underw 41:33 N 1 '40; Nat Underw 44:12 O 31 '40
Census reports give agent prospect clues. East Underw 41:5 Mr 29 '40
Do you make any of these 7 mistakes in prospecting? H. D. Shaw. Nat Underw (Life ed) 44:32 O 4 '40
Factual prospecting analysis. J. P. Meek. Ins Field (Life ed) 69:16-17 My 10 '40
Getting sales material from census statistics. R. Wright. Weekly Underw 142:76 sec 2 My 11 '40
How cashier can give leads to agents. C. Ludwig. Nat Underw (Life ed) 44:19 Ag 16 '40
How he did it; 10 years of weekly production. P. C. Campbell. Ins Field (Life ed) 68:18+ D 22 '39
How new agents can get prospects. M. M. Stewart. Nat Underw 44:27 Je 27 '40
Ideas that click; centers of influence. P. Troth. East Underw 41:14 Ap 19 '40
Minnesota Mutual works out figures on conscript plan; draftees as prospects. Nat Underw (Life ed) 44:10 N 1 '40
Nuggets in the news. Ins Field (Life ed) 68:19 D 22 '39
Pick type of prospects suitable to you. P. B. West. East Underw 41:19 Mr 22 '40
Prestige prospect concentration is key to Provident Mutual plan. East Underw 41:3 Mr 29 '40
Program your prospecting. A. Rosenthal. Ins Field (Life ed) 69:14-15+ Ag 9 '40
Prospecting habits; tested devices. L. E. Simon. Nat Underw (Life ed) Daily ed 44: 10+ S 25 '40; Excerpts. East Underw 41: 26+ S 27 '40
Prospecting with a purpose. L. B. Fink. Ins Field (Life ed) 69:14-15 Je 14 '40
Social security approach aids in writing $570,000. R. W. Frank. Nat Underw (Life ed) 44:23 S 27 '40
Vigilance in finding prospects. G. Brandwein. East Underw 41:25 S 27 '40
What's in a name? how a name grew into a center of influence. R. J. Katz. Spectator (Life ed) 145:6-9+ S 12 '40

See also
Insurance, Life—
Women as prospects

Purchasing

Advertising agency learns reasons why 500 persons bought insurance. East Underw 41:8 Mr 29 '40
Buyers' survey by the American service bureau. Nat Underw (Life ed) 44:1 Ja 19 '40; Weekly Underw 142:209-10 Ja 20 '40
Can they live without you; Infantry journal article on how to buy policies. G. C. Duehring. East Underw 41:19 O 11 '40
Life insurance from the buyer's point of view, including annuities, and accident and health insurance. E. C. Harwood and B. H. Francis. 262p pa $1 Am. inst. for economic research, 54 Dunster st, Harvard sq, Cambridge, Mass. '40
Pertinent prospecting data shown in sales analysis; tabulation. Nat Underw (Life ed) 44:31 Je 7 '40
Survey of buyers by American service bureau. Ins Field (Life ed) 69:5-6 Jl 19 '40; Nat Underw (Life ed) 44:1+ Jl 19 '40; Weekly Underw 143:113+ Jl 20 '40
Survey on what families spend for life insurance by Bureau of home economics. Ins Field (Life ed) 68:9-10 D 1 '39
What Mr Public expects from insurance man. H. C. Lawrence. Weekly Underw 142:625+ Mr 9 '40
Who bought life insurance in 1939; what kind and for how much. Spectator (Life ed) 144:38-9 Je 20 '40

Rates

Aetna Life announces rate changes. Nat Underw (Life ed) 44:11 Jl 19 '40; Spectator (Life ed) 145:19 Jl 18 '40
A.L.C. rate change survey shows companies' practices. Nat Underw (Life ed) 44:1 N 8 '40
Bankers life company, Des Moines, Iowa five and ten year term annual premium rates per $1,000. Spectator (Life ed) 145:16 Ag 29 '40
Bankers Life of Nebraska increases rates on income contracts. Nat Underw (Life ed) 43: 29 D 15 '39
California-western states, Sacramento, Calif. participating and non-participating regular annual premium rates per $1,000. Spectator (Life ed) 143:20 N 23 '39
Connecticut General new non-participating rates; tables. Nat Underw (Life ed) 44:17 O 25 '40; Nat Underw (Life ed) 44:19 O 18 '40
Continental American life insurance co., Wilmington, Del. participating regular annual premium rates per $1,000, 1940. Spectator (Life ed) 144:20 Mr 14 '40
Country life insurance co., Chicago, rates, 1940. Spectator (Life ed) 144:21 Mr 14 '40
Equitable of N.Y. to change annuity rates; increases made on two types. East Underw 41:14 O 25 '40
Franklin Life in participating field; new rates. Nat Underw (Life ed) 44:22 Ap 19 '40; Spectator (Life ed) 144:21 Ap 25 '40
Franklin life insurance company, Springfield, Ill. participating regular annual premium per $1,000. Spectator (Life ed) 144:19 My 9 '40
Home beneficial association, Richmond, Va. non-participating regular annual premium rates. Spectator (Life ed) 145:22 N 7 '40
Indianapolis life insurance co., Indianapolis, Ind. premium rates, July 1, 1940. Spectator (Life ed) 145:21 Ag 15 '40
Pan American life insurance co., New Orleans; non-participating regular annual premium rates per $1,000. Spectator (Life ed) 145:21 S 12 '40
Piper bill aimed at three New York companies to force premium reductions. East Underw 41:15 Ja 19 '40; Nat Underw (Life ed) 44:2 Ja 19 '40

INSURANCE, Life—Rates—*Continued*
Shenandoah life insurance company, Roanoke, Va. non-participating regular annual premium rates per $1,000. Spectator (Life ed) 145: 17 Ag 29 '40; Nat Underw (Life ed) 44:18 Ag 16 '40
Sterling national life insurance company, Houston, Tex. annual premium rates per $1,000 of insurance (participating). Spectator (Life ed) 144:21 Ap 25 '40
Travelers insurance company non-participating regular annual premium rates. Spectator (Life ed) 145:23 N 7 '40
Travelers' new non-participating life and endowment rates, effective Oct. 1. Nat Underw (Life ed) 44:9 S 13 '40
Wisconsin national life insurance company, Oshkosh, non-participating regular annual premium rates per $1,000. Spectator (Life ed) 144:21 Ap 11 '40

Real estate operations
European insurance companies and real estate; with particular reference to housing. C. L. Parry. bibliog J Land & Pub Util Econ 16:294-305 Ag '40
Housing projects plan is sponsored in California; insurance company investments. Nat Underw (Life ed) 44:5 My 24 '40
New York companies may enter lower rental housing field. Nat Underw (Life ed) 44:2+ Ap 19 '40
New York Life's realistic real estate handling. G. S. Van Schaick. East Underw 41:4+ Ja 19 '40
Out-of-state life insurance companies can't be taxed on mortgages on Georgia land. Nat Underw (Life ed) 44:4 Mr 22 '40
Real estate appraisal. J. G. Emery. East Underw 41:12 Je 28 '40

Receiverships
American united life insurance company of Indianapolis awarded reinsurance contract of American Life of Detroit. Weekly Underw 141:1135 N 25 '39; East Underw 40:18 N 24; 10 D 1 '39; Ins Field (Life ed) 68:7 N 24 '39; Nat Underw (Life ed) 43:1+ N 24 '39
Pathfinder Mutual Life action for appointment of receiver. Nat Underw (Life ed) 44:14 O 25 '40
Rock Island Life placed in liquidation. Nat Underw (Life ed) 44:13 O 18 '40
Solvency record; life companies reinsured, in receivership, or in dissolution, 1930-1938. Spectator (Life ed) 144:16-17+ Je 20 '40

Reinsurance
Alliance Life loses on reinsurance issue; suit in Illinois supreme court. Nat Underw (Life ed) 44:8 O 25 '40
American united life insurance company of Indianapolis awarded reinsurance contract of American Life of Detroit. Weekly Underw 141:1135 N 25 '39; East Underw 40:18 N 24; 10 D 1 '39; Ins Field (Life ed) 68:7 N 24 '39
Life insurance company of Detroit proposed deal is litigated. Nat Underw (Life ed) 44:9 Mr 22 '40
Ohio National Life is absorbing Columbia Life; reinsurance pact. Nat Underw (Life ed) 43:4+ D 22 '39
Policy transfers reviewed by TNEC; rewriting or transfer of business from reinsured or purchased life insurance companies. East Underw 40:1+ D 29 '39; Nat Underw (Life ed) 43:33 D 15 '39
Solvency record; life companies reinsured, in receivership, or in dissolution, 1930-1938. Spectator (Life ed) 144:16-17+ Je 20 '40
Suits dismissed; American life of Detroit. Ins Field (Life ed) 69:5 Je 7 '40
TNEC inquiry digs into Federal Reserve Life affairs. Nat Underw (Life ed) 43:3, 20-3, D 15; 4, 7-10 D 22 '39

Retirement income policies
Grandfather did it differently! selling retirement income. J. M. Stokes. Weekly Underw 142:30-1 sec 2 My 11 '40
Market for retirement income policies. S. P. Davis. Weekly Underw 142:51-3+ sec 2 My 11 '40
Pension trusts and personal employees of wealthy persons. A. J. Ostheimer. East Underw 40:37 D 15 '39
Provident Mutual has new protection-income policy issued only to males. East Underw 41:6 Mr 1 '40; Weekly Underw 142:567 Mr 2 '40
Washington National two new policies. Spectator (Life ed) 144:21 Ja 4 '40

Rewriting
United States Chamber of commerce warns against changing policies. East Underw 41:3 Jl 19 '40; Weekly Underw 143:113+ Jl 20 '40

Risks
How the agent can help in refugee underwriting. W. G. Dowd. East Underw 41: 17 F 16 '40
Laymen misjudge lowered mortality. W. R. Williamson. Nat Underw (Life ed) 44:7-8 Ag 30 '40
Life insurance rejected. map Spectator (Life ed) 144:26 Je 20 '40
Results of tests presented by Aetna Life medical director. D. B. Cragin. Nat Underw (Life ed) 44:8 S 6 '40
Selection and premium rates; substandard risks; interview with Valentine Howell. W. A. Hamlin. Spectator (Life ed) 143:16-17+ sec 2 D 7 '39

See also Home office life underwriters association

Salary savings plan
Method for salary allotment; Mutual Benefit Life builds policy around federal social security. Nat Underw (Life ed) 44:2 Je 21 '40
Salary savings plan of Equitable of Iowa. East Underw 41:14 Mr 15 '40
Selling salary savings. R. W. Emerson. Ins Field (Life ed) 69:18+ Jl 26 '40
Study shows life companies have 77% of pension plans. M. M. Goldstein. Nat Underw (Life ed) 44:2 Mr 22 '40
Travelers expands salary savings plan for trainees. Nat Underw (Life ed) 44:19-20 O 18 '40

Social aspects
Actual vs. political security. J. G. Harbord. East Underw 41:6 Mr 15 '40
Advocates increased human relations research and study; abstracts. H. J. Johnson. East Underw 41:19 N 1 '40; Nat Underw (Life ed) 44:3+ N 1 '40; Weekly Underw 143:1013+ N 2 '40
America believes in life insurance. M. A. Gulick. il Weekly Underw 142:9-11 sec 3 My 11 '40
Contribution of the life underwriter to American security. D. McCahan. Weekly Underw 142:386-7+ F 10 '40
During the 1930s decade life companies put approximately 70 billion dollars in circulation. R. B. Mitchell. Nat Underw (Life ed) 44:6 pt 2 My 17 '40
Huge benefits; ten billions in death claims paid by companies in past ten years. A. G. Borden. Weekly Underw 141:1237-8 D 9 '39
Human life and social values of life insurance. P. Orr, jr. Weekly Underw 143:1115-18 N 9 '40
In the interest of the public. H. J. Johnson. Spectator (Life ed) 144:10-11 Ja 4 '40
Life companies were pioneers of all investors in Middle and Southwest. D. T. Torrens. Weekly Underw 142:14 sec 3 My 11 '40
Life insurance at work; anecdotes of real life. Weekly Underw 142:19+ sec 3 My 11 '40
Life insurance, the great co-operative. W. J. Graham. Weekly Underw 142:3+ sec 3 My 11 '40
Social security is not sole answer; individual and group insurance equally important. R. A. Hohaus. Nat Underw (Life ed) 43:4+ N 3 '39
What is real security? W. H. Fissell. Spectator (Life ed) 144:7-11+ Mr 14 '40

INSURANCE, Life—Social aspects—*Continued*
Your premium dollars at work in the community. H. A. Richmond. il Weekly Underw 142:7-8+ sec 3 My 11 '40

Statistics

Annuity and supplemental contract exhibit of life companies operating in Illinois as of Dec. 31, 1939. Nat Underw (Life ed) 44:25 Ap 26 '40
Applications declined and accepted in 1939; tabulation. Weekly Underw 142:57 sec 2 My 11 '40
Assets, insurance written, premium collections, 1936-1939. Survey of Cur Business 1940 Sup p55-7 [supplemented in monthly numbers]
Distribution of assets of companies with 100 millions or more ordinary in force; tabulation. Nat Underw (Life ed) 44:cover My 31 '40
Financial figures of companies with 100 million or more ordinary in force; tabulation. Nat Underw (Life ed) 44:4+ My 24 '40
Highlights of the life insurance business in 1939; tabulation. Spectator (Life ed) 145: 33 S 26 '40
Insurance in force; ranking of companies, 1939 and 1940. Nat Underw (Life ed) 44:2 Mr 15 '40
Life insurance companies; business of 1939 and condition Dec. 31, 1939. Weekly Underw 142:71-4 sec 2 My 11 '40
Life payments in 1939. Nat Underw (Life ed) 44:3-69 pt 2 My 17 '40
List of prominent patrons in the United States who are owners of $50,000 or more of life insurance; arranged geographically. Spectator (Life ed) 143:35-98 sec 2 D 7 '39
Net cost (ordinary life, age 35) of companies with 100 million or more ordinary in force; tabulation. Nat Underw (Life ed) 44:2+ My 24 '40
Net rate of interest earned and net cost dividend illustrations, by companies; tabulation. Spectator (Life ed) 144:31 F 29 '40
New life insurance totals for first half of 1938-1940. Weekly Underw 143:145 Jl 20 '40; Nat Underw (Life ed) 44:1 Jl 19 '40
1939 and 1938 new business written. Nat Underw (Life ed) 44:3 F 2 '40
Ordinary sales, by states for 1939. Nat Underw (Life ed) 44:2 Ja 26 '40
Owners of a million or more in life insurance. Spectator (Life ed) 143:32-3 sec 2 D 7 '39
Preliminary life totals, new paid business and change in insurance in force, 1938 and 1939. Nat Underw (Life ed) 44:8 Ja 19 '40
Preliminary reports for first six months, 1939 and 1940, by companies. Nat Underw (Life ed) 44:1+ Jl 12; 4 Jl 19; 2 Jl 26 '40; Spectator (Life ed) 145:11 Ag 1 '40
Rank, 1937-39, by assets, income, payments; tabulation. Nat Underw (Life ed) 44:4 Ap 5; 4 Ap 12 '40
Rank of leading life insurance companies on January 1, 1940. Weekly Underw 142:1414-17 Je 8 '40
Sales down in first half of 1940. Ins Field (Life ed) 69:6-7 Jl 19 '40
Sales of ordinary life insurance in United States in 1939 were 1% below 1938. Comm & Fin Chr 150:605 Ja 27 '40
Statistical section. Spectator (Life ed) 144: 11-42 Je 20 '40
Travelers added to billionaire club; private business organizations in the United States having $1,000,000,000 or more in assets. Nat Underw (Life ed) 44:4 Ag 23 '40
Twenty-eight year record of life sales, yearly, 1913-39; monthly, 1937-39. Spectator (Life ed) 144:10 Ap 11 '40
Underwriting and investment exhibit of life insurance companies, 1939. Spectator (Life ed) 144:8-9 Mr 14 '40

Study and teaching

Announcement of S. S. Huebner foundation for insurance education. Nat Underw (Life ed) Daily ed 44:16 S 27 '40
Broad educational program outlined. S. S. Huebner. Ins Field (Philadelphia Conv Daily ed) 69:2, 22-3 S 27 '40; Same. Nat Underw (Life ed) Daily ed 44:7, 34-5+ S 27 '40; Same cond. East Underw 41:8+ S 27 '40
C.L.U. exams completed by 157 this year. Ins Field (Life ed) 69:5-7 Ag 9 '40; Nat Underw (Life ed) 44:3+ Ag 9 '40
C.L.U. movement is revising methods. Nat Underw (Life ed) 44:1 F 9 '40
Composite answers to C.L.U. examination questions. Weekly Underw 143:669-71, 1113-14+ S 21, N 9 '40
Composite answers to 1940 C.L.U. examination questions. Ins Field (Life ed) 69:14+ Ag 30; 17+ S 6; 17+ S 13; 15-16 S 20; 14+ S 27; 18-19 O 4; 32 O 11; 18 O 18; 18-19 N 1; 17-19 N 8; 14-15+ N 15 '40 (to be cont)
Educational plan proposed by National association of life underwriters to attract young college men. East Underw 41:6 S 27 '40
Insurance course for lawyers now started in New York. East Underw 41:11 Ap 12 '40
Insurance society of New York plans expansion of life education program. East Underw 41:14 O 11 '40
Investment seminar of American Life Convention proves highly successful. East Underw 41:1+ Ag 9 '40; Ins Field (Life ed) 69:8-9 Ag 9 '40; Nat Underw (Life ed) 44:1 Ag 9 '40; Weekly Underw 143:302 Ag 10 '40
Life, accident and health course. J. Hill and others. Weekly Underw 143:95-100, 303-7, 590-8, 872-4+, 1115-18, 1284-7, 1320-3 Jl 13, Ag 10, S 14, O 12, N 9, 30-D 7 '40 (to be cont)
Life insurance training course of Insurance society of New York. East Underw 41:8 O 25 '40
L.O.M.A. institute examinations in May for non-technical employes. East Underw 41: 11 Ap 12 '40
Monarch Life extends its training school plan. Nat Underw 44:28 O 17 '40
Plans for officers' investment seminar sponsored by American life convention and Indiana university. East Underw 41:14 Ja 5 '40; Nat Underw (Life ed) 43:4 D 29 '39; Weekly Underw 141:1365+ D 30 '39
Rising tide in underwriter education. D. McCahan. Weekly Underw 142:40-2, 77+ sec 2 My 11 '40
Rural agents to have school at Purdue university; two weeks' course in July. East Underw 41:10 Je 14 '40
School to train agents for state exams sponsored by Life underwriters association of New York city. East Underw 41:4 F 2 '40
17-week advanced course planned by Life underwriters association of New York. East Underw 41:14 O 25 '40
Twenty-five weeks' instruction to be sponsored by C.L.U. in Boston. Weekly Underw 143:880 O 12 '40

Tables

Actuaries praise mortality table committee report. Nat Underw (Life ed) 43:3+ N 10 '39
Comments on mortality table discussion before TNEC. M. A. Linton. East Underw 41:17 F 23 '40; Same. Ins Field (Life ed) 69:17-18+ F 23 '40; Nat Underw (Life ed) 44:3+ F 23 '40; Same. Weekly Underw 142:466+ F 24 '40; Same abr. Spectator (Life ed) 144:34 F 29 '40
Modern mortality tables would affect insurance cost but little. A. N. Guertin. East Underw 41:4 Ja 5 '40
Mortality table is discussed by the commissioners. Nat Underw (Life ed) 43:3, 31-2 D 15 '39
Mortality table Z; study is debated by Chicago actuarial club. Nat Underw (Life ed) 43:7 N 24 '39
Mortality tables; financial measuring rods in life insurance. A. N. Guertin. Am Statis Assn J 35:55-64 Mr '40

INSURANCE, Life—*Continued*

Taxation

Appeal decision on tax basis of gift policy; case involving refund of award. Nat Underw (Life ed) 44:7 O 11 '40

Assignment may bring tax of insurance proceeds. S. J. Foosaner. East Underw 41: 10 My 2 '40

Bailey case. E. P. Huttinger. Nat Underw (Life ed) 43:8 D 29 '39

Bailey case issue submerged; new decision of the U.S. court of claims. Nat Underw (Life ed) 43:9 D 15 '39

Cutting taxes on endowment policies; Treasury ruling permits saving where proceeds are paid as annuities. L. J. Freeman. Barron's 20:7+ S 16 '40

Developments in Bailey tax case. E. P. Huttinger. Nat Underw (Life ed) 44:9 Mr 29 '40

Estate taxation of insurance proceeds; reversal of decision in Bailey case. G. L. Kappes. Trusts & Estates 69:622-4 D '39; Same. East Underw 41:3+ F 2 '40

Federal taxation of life insurance proceeds. J. P. Wenchel. East Underw 41:9+ S 27 '40

Holds companies liable for estate tax on proceeds; B.T.A. ruling applies only to funds held under options. Nat Underw (Life ed) 44:3 O 18 '40

How the law controls trust operations; irrevocable life insurance trusts. L. R. Bloomenthal. bibliog Bankers Mo 57:79-81+ F '40

How to avoid Bailey case dicta; setting up funded trust. G. A. Price. Nat Underw (Life ed) 44:6 My 24 '40

How to revoke reversion; problems arise out of latest decision in Bailey case. D. B. Maduro. Nat Underw (Life ed) 44:1 My 17 '40

Indemnity vs. investment. P. F. Myers. Nat Underw (Life ed) 44:7-8 S 13 '40

Instalments are no longer taxable as income; Canada Supreme court decision. East Underw 40:21 N 24 '39; Nat Underw (Life ed) 43:9 N 24 '39

Insurance valuation; valuing single premium life insurance policies for gift tax purposes. D. Horne. Banking 32:36 My '40

Interest of insured in taxation matters; Bailey case. J. Barker. East Underw 41:6 Ja 5 '40

Michigan intangibles tax does not apply to cash surrender values. Nat Underw (Life ed) 43:10 N 10 '39

Some business insurance tax angles. B. Cox. East Underw 41:108 pt 2 O 4 '40

Tax exemptions. B. Cox. Spectator (Life ed) 145:23 Ag 15 '40

Taxation in its application to life insurance proceeds. Nat Underw (Life ed) 44:2 Jl 19 '40

Taxing of insurance; abstracts. M. Elrod, jr. East Underw 41:11 S 13 '40; Nat Underw (Life ed) 44:7 S 13 '40

Third decision in Bailey case; significant position of donor of life insurance gift containing possibility of reverter. D. B. Maduro. East Underw 41:9 Mr 15 '40

U.S. Chamber of commerce suggests Revenue act changes; plan like that in Lonergan amendment. East Underw 41:15 Ja 12 '40

U.S. court ruling; life and annuity combinations entitled to share in $40,000 exemption. S. A. Monroe. Nat Underw (Life ed) 44:15 Ap 12 '40

Viewing the possibility of a reverter; Bailey vs. the U.S. situation clarified. F. L. Morton. Ins Field (Life ed) 69:16 O 25 '40; Same. Spectator (Life ed) 145:26+ O 24 '40; Same. Weekly Underw 143:1239+ N 23 '40; Abstracts. East Underw 41:7 O 25 '40; Nat Underw (Life ed) 44:1+ O 25 '40

Terminology

Glossary of life insurance terms. Business Week p59 Mr 16 '40

Trust company cooperation

Along two fronts; what life insurance and trustee cooperation means today. C. J. Zimmerman. Trusts & Estates 70:7-8 Ja '40

Cooperation—not competition; fields for life insurance and trust service. C. J. Zimmerman. Trusts & Estates 69:493-5 N '39

Estate planning not job for one person; trust officer's role. E. W. LaRue. East Underw 41:13 My 3 '40

Insurance trust councils effective; organization meeting of the Washington, D.C. life insurance and trust council. Trusts & Estates 70:377-8 Ap '40

Life underwriter-trust officer co-operation. P. H. Conway. Weekly Underw 142:37+ sec 2 My 11 '40

New England conference of life underwriters and trust council, Boston. East Underw 41:12 Mr 22 '40; Nat Underw (Life ed) 44:6+ Mr 22 '40; Trusts & Estates 70:383-9 Ap '40

Twisting

Premium arrears; Commissioner King of South Carolina rules on payment by agents and on twisting. Weekly Underw 142:1256 My 25 '40

Replacement report made by committee; progress made in lessening twisting; abstracts. F. L. Jones. East Underw 41:6 N 1 '40; Nat Underw (Life ed) 44:15 N 1 '40

Unclaimed policies

See Insurance, Life—Policy settlement—Unclaimed policies

Veterans' policies

Compulsory service plan seen as threat to life insurance; would make nearly everyone eligible for $10,000 government benefit. Nat Underw (Life ed) 44:2+ Je 28 '40

Government insurance; Veterans administration facts and figures. H. W. Breining. Nat Underw (Life ed) 44:7 Mr 22 '40

War risks

Actuaries ponder effect of war on insurance. Nat Underw (Life ed) 43:2+ N 10 '39

American life convention seeks rehearing in Nebraska case of Republic National. Nat Underw (Life ed) 44:4 O 4 '40; East Underw 41:8 O 4 '40

Canadian war clause situation remains unchanged. F. J. Jordan. East Underw 41:3 Jl 12 '40; Excerpts. Ins Field (Life ed) 69: 7-8 Jl 19 '40

Chicago Tribune insures correspondents abroad. East Underw 41:14 O 25 '40

Committee of commissioners recommends uniform war clauses. East Underw 41:12 Jl 5 '40; Nat Underw (Life ed) 44:3+ Jl 5 '40

Companies may have to force war clause action; rejection of business if states fail to act. Nat Underw (Life ed) 44:10 N 1 '40

Companies move closer to idea of general war clause. Nat Underw (Life ed) 44:1 Je 14; 1+ Je 21 '40

Connecticut General issues war clause. Nat Underw (Life ed) 44:1 S 20 '40

Connecticut General war clause. Spectator (Life ed) 144:20 Ja 4 '40

Connecticut Mutual has some war restrictions. Nat Underw (Life ed) 44:18 O 25 '40

Despair of greater uniformity in war clause. L. K. Crippen and E. M. Thoré. Nat Underw (Life ed) 44:12+ Je 7 '40

Effect of war conditions on occupational underwriting. M. Pitler. Weekly Underw 141:1235-7 D 9 '39

Effect of war on Canadian business. N. J. Lander. Nat Underw (Life ed) 44:13 O 4 '40

Effect of war on insurance in Canada. A. B. Wood. Weekly Underw 141:1284+ D 16 '39

Effects of war on agency conditions in Canada. J. G. Parker. East Underw 41:6 N 1 '40

French war risk pool established. Ins Field (Life ed) 69:7-8 My 10 '40

Idea of general war exclusion clause is being pondered by actuaries. Nat Underw (Life ed) 44:1+ My 31 '40

INSURANCE, Life—War risks—*Continued*
Increase in sales seen. F. Rothschild. Nat Underw (Life ed) 44:3+ Je 28 '40
Life assurance and war. Economist 137:293-4 N 25 '39
Life companies are giving thought to war clause. Nat Underw (Life ed) 44:7 O 4 '40
Life insurance and the war. L. J. Kavanaugh. Ins Field (Life ed) 69:8-9+ Ag 23 '40
Limited war exclusion clause in Illinois. Nat Underw (Life ed) 44:3 F 9 '40
Maryland issues rules for war risk riders. East Underw 41:16 O 11 '40
Michigan department war clause ruling. Weekly Underw 141:1324 D 23 '39
Nebraska department of insurance on war risk exclusion. Spectator (Life ed) 145:20 Ag 15 '40; Nat Underw (Life ed) 44:3+ Ag 16 '40
New York act is specific on war exclusions. Nat Underw (Life ed) 44:8 Ap 12 '40
N.Y. Attorney-general Bennett now weighs war clause wording. Nat Underw (Life ed) 44:3+ S 20 '40
1940 home office underwriting. P. Shepherd. East Underw 41:40+ pt 2 O 4 '40
No major change in Canadian war rates; war clause queries and Canadian provisions. Nat Underw (Life ed) 44:12, 17 Mr 1 '40
Occidental life insurance co. of California; war clause. Spectator (Life ed) 144:26-7 F 15 '40
Questionnaire reveals lack of unanimity on war clause question. Nat Underw (Life ed) 44:2 Jl 12 '40
Reinsurers feel war and air hazard; war clause hoped for as solution. Nat Underw (Life ed) 44:3+ O 11 '40
Suggested war clause provisions outlined by American life convention. Ins Field (Life ed) 69:7-8 Jl 5 '40; East Underw 41:10 Je 12 '40; Nat Underw (Life ed) 44:1+ Jl 5 '40; Spectator (Life ed) 145:10 Jl 18 '40; Weekly Underw 143:58 Jl 13 '40
Underwriting war risks; effects of current and last world wars on life insurance. C. F. B. Richardson. Spectator (Life ed) 144: 6-9+ Ja 18 '40
War abroad brings problems in U. S. W. H. Dallas. East Underw 40:1+ D 15 '39
War adds new problems to British life companies. East Underw 41:4 My 17 '40
War clause comment by the Nebraska department. J. S. Logan. Nat Underw (Life ed) 44:2 Je 28 '40
War clause is left to state officers for proper action; report of joint committee of American life convention and Association of life insurance presidents. Nat Underw (Life ed) 43:8+ D 15 '39
War clauses. Ins Field (Life ed) 68:9 D 1 '39
War clauses for all policies advocated; abstracts. W. O. Menge. East Underw 41:12+ S 6 '40; Nat Underw (Life ed) 44:4 S 6 '40; Spectator (Life ed) 145:23 S 12 '40
War clauses in life insurance. P. Shepherd. Weekly Underw 142:102+ Ja 6 '40
War risk cover under life policies in Britain. Economist 138:209 F 3 '40

Women as prospects

Financial guide for living; selling plan of successful woman producer. L. L. Blair. Ins Field (Life ed) 69:14-15 Ag 16 '40
How to sell women; woman gives male underwriters suggestions on selling women. L. C. Tidwell. Ins Field (Life ed) 69:16 N 8 '40
Selling women prospects. M. P. Miller. Nat Underw (Life ed) 44:31 F 23 '40; Excerpts. East Underw 41:12 Mr 1 '40
War broadens market for Canadian women. East Underw 41:8 Ag 30 '40

Canada

Americans in Canadian companies fully protected; abstracts. A. B. Wood. East Underw 40:4 D 22 '39; Spectator (Life ed) 143:12-13 D 21 '39; Weekly Underw 141:1284+ D 16 '39; Nat Underw (Life ed) 43:3+ D 22 '39
Canadian business unaffected by war. East Underw 41:11 S 20 '40
Canadian companies; business of 1939 and condition Dec. 31, 1939; tabulation. Weekly Underw 142:74 sec 2 My 11 '40
Canadian organizations hold first joint meeting; Canadian life insurance officers association, Life agency officers section and Life insurance advertisers section. East Underw 41:3-4 Je 7 '40
Effect of war on Canadian business. N. J. Lander. Nat Underw (Life ed) 44:13 O 4 '40
Effects of war in Canada analyzed; interest earnings, mortality rate and expense. E. E. Reid. Nat Underw (Life ed) 44:2 O 25 '40
Effects of war on agency conditions in Canada; abstracts. J. G. Parker. East Underw 41:6 N 1 '40; Nat Underw (Life ed) 44:4 N 1 '40
Excelsior life enters upon 2d half century; anniversary celebration prevented by war. East Underw 41:14 O 18 '40; Weekly Underw 143:934 O 19 '40
Small increase in sales on ordinary life during first year of war. Nat Underw (Life ed) 44:2 S 27 '40
War challenges life insurance. Trusts & Estates 71:391 O '40

Connecticut

Connecticut reports on life transactions for 1939. East Underw 41:11 N 8 '40; Nat Underw (Life ed) 44:5 N 8 '40

Far East

How war affects life insurance in the Far East. C. V. Starr. East Underw 41:12 N 8 '40

Germany

Old German inflation after war is reviewed. East Underw 41:7 Jl 19 '40

Great Britain

British insurance in 1939. Economist 139:82-8 Jl 20 '40
Effect of European war on British insurance. H. S. Fox. Weekly Underw 142:1433+ Je 15 '40
Life assurance new business, 1938 and 1939. Economist 138:67 Ja 13 '40
Life assurance problems. Economist 138:1011-12 Je 8 '40
Refuge assurance company 76th annual ordinary general meeting, Manchester. Economist 138:644-6 Ap 6 '40
Scottish provident institution mutual life assurance, National mutual life assurance society, Scottish life assurance company, annual meetings. Economist 138:490-1 Mr 16 '40
Standard life assurance company 114th annual general meeting, Edinburgh. Economist 138:706 Ap 13 '40
United Kingdom life office annual general meeting, London. Economist 138:542-3 Mr 23 '40

Illinois

1939 new business and business in force; tabulation. Nat Underw (Life ed) 44:25 Ap 19 '40

Iowa

New business and insurance in force, 1939; tabulation. Nat Underw (Life ed) 44:13 My 3 '40

Japan

Life insurance in Japan. H. Leopold. Weekly Underw 142:1178-9 My 11 '40
Nippon Life report covers world affairs; 1939 was successful year. East Underw 41: 15 S 20 '40

Massachusetts

Massachusetts figures, 1939. Nat Underw (Life ed) 44:15 Ap 5 '40
Savings-bank life insurance in Massachusetts and New York, 1939. G. F. Felker. Monthly Labor R 50:787-96 Ap '40

New Jersey

Business written and in force, 1939; tabulation. Nat Underw (Life ed) 44:7 Mr 15 '40

INSURANCE, Life—*Continued*

New York (state)

New York city agencies' 1939 production. East Underw 41:1+ Ja 5 '40
Savings-bank life insurance in Massachusetts and New York, 1939. G. F. Felker. Monthly Labor R 50:787-96 Ap '40

Oklahoma

Oklahoma restricts General of America's policies; participating forms ruled out. Nat Underw 44:7 Ag 8 '40

Ontario

Report on Ontario business, 1939. East Underw 41:11 My 10 '40

Oregon

Record for 1939; tabulation. Nat Underw (Life ed) 44:6 My 10 '40

Palestine

Palestine has five native insurance companies. East Underw 41:16 Mr 29 '40

South America

South American trip; possibilities for American actuaries and agents. T. M. Scott. East Underw 40:10 N 24 '39

Texas

Century Life of Fort Worth, Texas, makes debut. Ins Field (Life ed) 69:7-8 Ja 5 '40

United States

Best co. corrects Roosevelt on his Hartford address. Nat Underw 44:5 N 7 '40; Same. Nat Underw (Life ed) 44:2 N 8 '40
Business review and forecast. C. L. Benner. East Underw 41:10-11+ Ja 26 '40
War and life insurance; figures for 1914-20. A. N. Kemp. East Underw 41:4 My 31 '40
Year just past; review of 1939. C. C. Klocksin. Spectator (Life ed) 144:6-9 Ja 4 '40; Same. Weekly Underw 142:94+ Ja 6 '40; Same. Nat Underw (Life ed) 43:2+ D 29 '39; Same cond. Ins Field (Life ed) 68:7-8+ D 29 '39; Excerpts. East Underw 40:4+ D 29 '39

INSURANCE, Live stock

Federal insurance projects; live stock and crop indemnity. R. A. Griffin. Nat Underw 44:5 Ag 1 '40

INSURANCE, Malpractice liability

Charitable institutions require liability cover; protects hospital funds. D. C. Hawkins. Weekly Underw 142:990 Ap 20 '40
Good market for hospital public liability insurance. D. C. Hawkins. Ins Field (Fire ed) 69:22 Ag 8 '40; Same. Nat Underw 44:14+ Jl 18 '40
High court sustains case against hospital. Weekly Underw 143:241 Ag 3 '40
Malpractice suits and their defense. R. D. Bartlett. Nat Underw 44:31+ S 12 '40
Significance in California decision on hospital liability. A. Crawford. Nat Underw 44:22 Ja 25 '40

INSURANCE, Marine

British companies set up $10,000,000 fund here to protect marine assureds; abstracts. O. D. Duncan. East Underw 41:16 Ag 30 '40; Ins Field (Fire ed) 69:7-8 S 5 '40; Nat Underw 44:6 Ag 29 '40
Great Lakes marine premiums will show large gain in 1940. East Underw 41:1+ Je 21 '40
Great Lakes protective association self-insurance plan. Weekly Underw 142:1097 My 4 '40
Insurance line on steamship America. il East Underw 41:1+ Ag 2 '40
Lake shipping and yacht experience exceptionally good; low claims due to good weather. Nat Underw 44:40 O 24 '40
Loss on seized ship may be averted by agreement; American arrangement with Germany. Nat Underw 44:4 S 12 '40
Marine insurance in 1939. Weekly Underw 142:58-9 Ja 6 '40
Marine premiums from Great Lakes business at high level this year. East Underw 41:35 O 18 '40
Marine underwriting. F. J. Shields. Ins Field (Fire ed) 68:18-19 D 7 '39
Maritime commission o.k.'s British companies fund. Ins Field (Fire ed) 69:7 S 12 '40
Scuttling law. Economist 139:332-3 S 14 '40
To put up deposit to protect assured in United States; non-admitted English marine writers. Nat Underw 44:3+ Jl 25 '40
Wholesale disruption of marine insurance laws in present war; abstracts. J. W. Ryan. East Underw 41:33+ S 13 '40; Weekly Underw 143:563+ S 14 '40

See also
Insurance, Inland marine

Adjustment of claims

British court rules that in store does not mean under cover; insured goods damaged by rain. East Underw 41:1+ Je 7 '40
British prize court decisions on nine vessels issued by Lloyd's. East Underw 41:22 F 23 '40
Cargo adjustments in 1939. T. D. Helprin. Weekly Underw 142:66 Ja 6 '40
Case of Feltre and Luckenbach is decided; mutual fault in the collision. Weekly Underw 142:853 Ap 6 '40
Convoy collision before British courts; case of Hardwicke Grange vs. Escolano. Weekly Underw 143:834 O 12 '40
Court defines "master" as anyone, except pilot, in charge of a ship. East Underw 41:31 Ap 12 '40
Court denies claim for Dauntless loss. Weekly Underw 142:1037 Ap 27 '40
Court finds against Continental insurance company in Morro Castle fire litigation. East Underw 41:33 Mr 22 '40; Weekly Underw 142:660 Mr 16 '40
Damage by contact with unseen objects. Weekly Underw 141:1376 D 30 '39
Difficulties experienced from taint claims; case of Australia Star. Weekly Underw 143:508 S 7 '40
Federal court rules on net new freight in general average suit. East Underw 41:31 Ap 5 '40
Frustration clause interpretation in British cases; comments by D. King-Page. East Underw 41:27 N 8 '40
Important British decision by King's bench division on marine-storage insurance. Weekly Underw 143:238 Ag 3 '40
Insurers held not liable for loss of cargo on scuttled German ships. East Underw 41:36 O 11 '40
Liability of Mandu in collision reduced to one-fifth of damages. East Underw 41:36 N 1 '40
Marine insurer's position upheld in case of lien by substitution. East Underw 41:33 Mr 8 '40
Marine test case to determine liability on scuttled cargoes; risks in German vessels. East Underw 41:1 Ap 5 '40
Negligence of mechanic under Inchmaree clause; case of the yacht Barbara. Weekly Underw 142:1330+ Je 1 '40
Net new freight over general average expense; schooner Rosamond case establishes a precedent. Weekly Underw 142:600 Mr 9 '40
Owner held liable for collision given recourse under hull policy. East Underw 41:27 Ag 16 '40
Question of scuttling being a marine or war loss discussed in British court. Weekly Underw 143:904-6 O 19 '40
Satisfactory packing is required of shippers. Weekly Underw 142:854 Ap 6 '40
Taint damage claim; flour vs. beef casings; negligence not of itself sufficient to establish liability. Weekly Underw 143:701 S 28 '40
Unseaworthiness of barge violates express warranty in marine policy. East Underw 41:27 Ag 16 '40

History

Development of protection and indemnity insurance. E. C. Holden, jr. Nat Underw 43:25 N 9 '39

INSURANCE, Marine—*Continued*

Policies

Advantages of British plan of combined marine policies. East Underw 40:31 D 8 '39
Cover against capture extended by American cargo war risk reinsurance exchange. Weekly Underw 142:661 Mr 16 '40
Criticism of valuation clause leads to change; applicable only to import open policies. E. G. Driver. Weekly Underw 143:1093 N 9 '40
Increasing activity in American ore fleet; Lake marine policy recognizes hazards of post season navigation. Weekly Underw 143:1095 N 9 '40
Marine underwriters ask brokers to include premium in valuation clause. E. G. Driver. East Underw 41:36 N 1 '40; Same. Weekly Underw 143:1035 N 2 '40
War risk changes; war risk essentials. Spectator (Property ed) 6:28-9 Ag 8 '40

Preventive work

New horizons and new outlook; shipowners' protection of employees. E. C. Holden, jr. Weekly Underw 142:60-1 Ja 6 '40

Risks

Fire a major hazard in marine insurance; interesting case cited. Weekly Underw 142: 1333 Je 1 '40

Statistics

1939 net premiums and net losses paid, by companies. East Underw 41:19+ Mr 8 '40

Study and teaching

Marine insurance; digest of lecture notes for evening school of the University of Cincinnati. B. A. Thompson. Weekly Underw 142: 308-9, 364, 422, 481-2, 547-8, 602, 662-3, 725-7, 786, 851-2, 915+, 972, 975-6 F 3-Ap 20 '40

War risks

Advisory war risk rates as to France withdrawn; rates elsewhere quoted. Weekly Underw 142:1502+ Je 22 '40
American exporters can place insurance here; Neutrality act does not prohibit. Weekly Underw 141:1167 D 2 '39
As to a federal war-risk bureau; no need of added government facilities at present. W. A. Hamlin. Spectator (Property ed) 5: 14-15+ F 8 '40
British government war risks office workings. Weekly Underw 141:1073-4 N 18 '39
British pool raises its rates. Nat Underw 44:11 Je 27 '40
British problem of cargoes in German vessels in neutral ports. East Underw 40:1+ D 29 '39
British start actions against German ships in neutral ports. East Underw 41:29 My 17 '40
Cargoes of allies and neutrals in German ships; British underwriters establish a fund for test action to release. Weekly Underw 142:723 Mr 23 '40
Congress passes and President signs bill setting up federal system of marine war-risk insurance. Comm & Fin Chr 151:40-1 Jl 6 '40
Cover for convoys and cargoes in Britain. Economist 139:80 Jl 20 '40
Cut war risk rate on belligerent flag vessels in western hemisphere. Weekly Underw 143: 1035 N 2 '40
English war risks insurance in wartime; influence on costs of transport by sea. F. Kessler. Weekly Underw 142:546 Mr 2 '40
Extended war risk coverage is not much in demand; U.S. hulls calling at neutral ports on western hemisphere. Nat Underw 43:22 N 30 '39
Fruit losses on German ships object of suit. Ins Field (Fire ed) 69:10 O 10 '40
Frustration clause interpretation in British cases comments by D. King-Page. East Underw 41:27 N 8 '40
Greek involvement in war may cancel $4,500,000 premium on Turkish tobacco crop. Nat Underw 44:3 O 31 '40
Heavy gold shipments to U.S. now generally have little insurance. East Underw 41:1+ Jl 12 '40
Higher marine rates justified because of war hazards. W. D. Winter. East Underw 41: 31 Mr 1 '40
How marine war risk committee fixes almost daily schedule. East Underw 40:93 D 15 '39
Insurance information curbed between United States and France on marine risks. Weekly Underw 142:1564 Je 29 '40
Insurance information curbed between United States and Great Britain. Weekly Underw 142:1446 Je 15 '40
Insurance problems arising from British ban on German exports; neutral vessels. East Underw 41:31 Ja 12 '40
Limited coverage against seizure by allies available to importers. East Underw 41:28 Ja 5 '40; Weekly Underw 142:61 Ja 6 '40
London underwriters revise Malayan war risk rates. East Underw 41:36 O 11 '40
Marine offices are concerned over the Far East shipments. Nat Underw 44:3+ Ag 8 '40
Marine risks at contraband control ports covered under war risk forms. East Underw 41:25+ Ap 12 '40
Marine underwriters ask brokers to include premium in valuation clause. E. G. Driver. East Underw 41:36 N 1 '40; Same. Weekly Underw 143:1035 N 2 '40
Marine war risk rates before British courts. Weekly Underw 141:1331 D 23 '39
Mass attack on shipping at control points feared; rate changes. Nat Underw 44:5 F 22 '40
Mine losses bring increase again in war risk premiums. East Underw 40:1+ D 1 '39; Ins Field (Fire ed) 68:9 N 30 '39; Weekly Underw 141:1119-20, 1166 N 25-D 2 '39
New British war risk plan for insuring higher value of cotton. East Underw 41:36 O 11 '40
New French regulations; state insurance for marine war risks. Weekly Underw 141:1169 D 2 '39
New war risk rates show big increase. Nat Underw 44:4 Je 6 '40
No excessive profits gained from war risk underwriting. F. MacCabe. East Underw 41:24 Jl 26 '40
Problems now daily confronting war risk underwriters; abstracts. H. C. Thorn. East Underw 41:33 Ap 26 '40; Nat Underw 44:2+ Ap 18 '40; Spectator (Property ed) 5:22 My 2 '40
Question of scuttling being a marine or war loss discussed in British court. Weekly Underw 143:904-6 O 19 '40
Rate decreases. Nat Underw 44:1+ Ag 22 '40; Spectator (Property ed) 6:14 Ag 22 '40; Weekly Underw 143:381+ Ag 24 '40
Recent war developments bear upon war risk rates. Weekly Underw 143:700 S 28 '40
Resolution signed by President Roosevelt appropriates $40,000,000 to enable United States maritime commission to establish marine and war risk insurance system. Comm & Fin Chr 151:486 Jl 27 '40; East Underw 41:24 Jl 26 '40
Scuttling of ships; marine or war loss. Weekly Underw 142:1097 My 4 '40
Sea and land war risk problems studied by American management association. East Underw 40:91+ D 15 '39
Surface raiders cause apprehension among marine men. Nat Underw 44:7 My 23 '40
Terms of insurance on cargo against war risks. G. F. Elmslie. Weekly Underw 142: 1504-5 Je 22 '40
Troubles of war risk insurance buyers. L. Wiggers. East Underw 41:33 Mr 22 '40; Same. Ins Field (Fire ed) 69:27 Mr 14 '40; Same. Weekly Underw 142:724 Mr 23 '40; Abstract. Nat Underw 44:4+ Mr 14 '40
War and strike clauses of London underwriters. Weekly Underw 142:142 Ja 13 '40
War risk changes; war risk essentials. Spectator (Property ed) 6:28-9 Ag 8 '40
War risk cover on Mediterranean shipments. Weekly Underw 142:1446+ Je 15 '40

INSURANCE, Marine—War risks—*Continued*
War risk insurance abroad; pools and government schemes for hull and cargo insurance. E. C. Stiefel. East Underw 40:64+ D 15 '39
War risk insurance; abstracts. S. D. McComb. East Underw 41:34+ S 13 '40; Nat Underw 44:51-2 S 12 '40; Weekly Underw 143:564+ S 14 '40
War risk measure approved by Roosevelt. Weekly Underw 143:24-5 Jl 6 '40
War risk open policies are now being restricted by American cargo war risk reinsurance exchange. Nat Underw 44:5 Ag 29 '40
War risk rates. Nat Underw 44:12 F 8 '40
War risk rates reduced; new schedule. Weekly Underw 142:67 Ja 6 '40
War risk rates to Far East raised. Nat Underw 44:5+ O 3 '40; East Underw 41:30 O 4 '40; Weekly Underw 143:777-8 O 5 '40
War risks. H. H. Reed. East Underw 40: 21+ D 29 '39

Canada

Recommend study of Marine insurance act; report issued by special committee of Association of superintendents of insurance of provinces of Canada. Weekly Underw 143: 335 Ag 17 '40

Great Britain

Advantages of British plan of combined marine policies. East Underw 40:31 D 8 '39
Arnould on the law of marine insurance and average. J. Arnould. 12th ed 2v bibliog(v 1, pvii-viii) £5 Stevens and sons, London '39
British export credits department announces new insurance plan. East Underw 41:46 S 20 '40
Enemy assured; problem of British underwriters. Weekly Underw 143:701 S 28 '40
Results in 1939, Eagle star insurance co. East Underw 41:24 My 31 '40
Underwriters set up dollar trust fund to cover United States interests. For Comm W 1:214 N 2 '40
Underwriting results of leading British marine companies, 1938 and 1939. Weekly Underw 143:280 Ag 10 '40

United States

Ocean marine shows substantial gain in premium income; unusual conditions have contributed to increase. Nat Underw 44:5 O 17 '40
Role of syndicates in American hull insurance market. J. J. Schieffelin. East Underw 41: 34 F 16 '40
U.S. marine insurance facilities constantly extended to meet needs; abstracts. S. D. McComb. East Underw 41:34+ S 13 '40; Nat Underw 44:51-2 S 12 '40; Weekly Underw 143:564+ S 14 '40

INSURANCE, Medical indemnity. See Medical indemnity corporations

INSURANCE, Military and naval service
Conscripts may buy U.S. war risk insurance. Nat Underw (Life ed) 44:1+ S 20 '40
Excess profits law provision for insurance hits private business. Ins Field (Life ed) 69:28 O 11 '40
Government life insurance provided for military men. Nat Underw (Life ed) 44:1+ O 4 '40
National association of life underwriters to seek change in government war risk plan. Nat Underw (Life ed) 44:3 N 8 '40
National service life insurance provisions. Comm & Fin Chr 151:2259-61 O 19 '40
New plan of insurance for men in services; certificate of indemnification proposed; abstracts. C. J. Zimmerman. East Underw 41: 1+ O 25 '40; Nat Underw (Life ed) 44:3, 10 O 25 '40
Reaction to government insurance given in interviews with life insurance officials. Ins Field (Life ed) 69:5+ O 18 '40

INSURANCE, Motor boat
Marine insurance; yachts and motorboats. B. A. Thompson. Weekly Underw 142:915+ Ap 13 '40
Navy purchases cut yacht insurance market by millions. Nat Underw 44:5 O 10 '40
Practical pointers on yacht coverage. J. P. Kipp. Nat Underw 44:38 Ap 4 '40
Set your jib for added income from yacht insurance. East Underw 41:32 Ap 19 '40
Yacht ownership increases. J. N. Robinson. Ins Field (Fire ed) 69:24-5 My 23 '40; Same. Nat Underw 44:10 My 16 '40; Same. Weekly Underw 142:1214 My 18 '40; Same abr. Spectator (Property ed) 5:30-1 My 16 '40; Excerpts. East Underw 41:25 My 17 '40

Adjustment of claims

Federal court defines engineer as used in marine policy clause. East Underw 41:28 Je 28 '40

INSURANCE, Motor bus

Adjustment of claims

Federal rules of civil procedure do not require company's claim file be disclosed. Nat Underw 44:24 Ap 18 '40
Ocean Accident wins bus line litigation regarding case settled out of court. East Underw 41:30 My 10 '40

INSURANCE, Motor truck
Relationship of trucker and shipper; problems of non-ownership liability. A. Ryder. Nat Underw 44:19+ Mr 28 '40; Excerpts. East Underw 41:35 Mr 29 '40

Adjustment of claims

Court sustains verdict in auto case; Minnesota tribunal discusses use of declaratory judgments act. Weekly Underw 143:1038 N 2 '40
Fraudulent representation of payment of purchase price held defense despite statute voiding provision against encumbrance. Weekly Underw 142:1421 Je 8 '40
Minor operating employer's truck without chauffeur's license obtainable after investigation held not driving in violation of law as to age. Weekly Underw 142:1357 Je 1 '40

Rates

Commercial car rates reduced by Bureau. East Underw 41:42-3 Mr 15 '40; Nat Underw 44: 23+ Mr 14 '40; Weekly Underw 142:669 Mr 16 '40
New Hampshire rates now effective. East Underw 41:37 F 16 '40

Reinsurance

Reinsurance rule formulated by Ohio Supreme court; no liability on treaty until loss is paid by reinsured carrier in cash. Nat Underw 43:11-12 N 30 '39

Illinois

Insurance phases of new Illinois truck act. R. Cohn. Nat Underw 43:21+ N 16 '39
Proof of insurance filings delayed; provisions of Illinois truckers' act. Nat Underw 43:21 D 14 '39
Truckers' act creates many problems. Nat Underw 44:17+ F 1 '40

INSURANCE, Motor truck contents
Extension of truck rule in Illinois predicted. P. E. Mathias. Nat Underw 44:5 Mr 14 '40
Illinois truckers' act creates many problems. Nat Underw 44:17+ F 1 '40
Insurance phases of new Illinois truck act. R. Cohn. Nat Underw 43:21+ N 16 '39
Mutual fire insurers form pool to write truckmen's long-haul risks. East Underw 41:23 Ap 5 '40; Ins Field (Fire ed) 69:22-3 Ap 4 '40; Weekly Underw 142:830+ Ap 6 '40

Adjustment of claims

Adjusting cargo losses. R. R. Connelly. Ins Field (Fire ed) 69:26-7 My 9; 22-3 My 16; 26-7 My 23 '40
Shipper of goods cannot recover from bankrupt carrier's insurer. East Underw 41:34 Je 7 '40

INSURANCE, Municipal
Agents oppose Detroit's self-insurance plan. Nat Underw 44:4+ My 16 '40

INSURANCE, Mutual
Agents suggest new survey of acquisition cost factors. Nat Underw 44:25 O 10 '40
Aggregates of mutual casualty insurance companies for 1939; tabulation. Spectator (Property ed) 6:13 S 5 '40
American way; as capital stock insurance merchants you must support merchants in other lines. B. P. Carter. Ins Field (Fire ed) 68:16-17 D 14 '39
Assessment feature offers but small protection. L. H. Pink. Nat Underw 44:5+ Mr 14 '40
Assessment issue arises over New York Mutual on a non-assessable policy in Georgia. Nat Underw 44:7 O 17 '40
Changes in mutual law recommended by a Denver county grand jury. Nat Underw 44:17+ Ap 11 '40; Nat Underw (Life ed) 44:15 Ap 12 '40; Ins Field (Fire ed) 69:12 Ap 18 '40
Constant pressure of assureds asking for more dividends; abstracts. D. R. Kenney. East Underw 41:25 N 8 '40; Nat Underw 44:22 N 14 '40
Cooperation between stock and mutual interests advocated. A. M. Best. Nat Underw 44:3+ S 26 '40
Country-wide underwriting results, 1935-39, of companies licensed in New York state; tabulation. East Underw 41:9+ pt 2 My 10 '40
Direct writer has problem in man power maintenance. Nat Underw 43:4+ N 2 '39
Judicial review; whether public corporations in Texas may purchase insurance in mutual companies. Ins Field (Fire ed) 68:9-10 N 16 '39
Mutual auto premiums and losses in 1937-39. Nat Underw (Auto ins no) 44:22-4 Ap 22 '40
Mutual casualty insurance companies; business of 1939 and condition Dec. 31, 1939. Weekly Underw 142:989-90 Ap 20 '40
Mutual companies' 1939 figures; tabulation. Nat Underw 44:8 F 1; 8 F 8; 14 F 15; 23 F 22; 12 F 29; 55 Mr 7 '40
Mutual failures under legislative investigation in Massachusetts. Ins Field (Fire ed) 69:17 Mr 28 '40
Mutual fire insurance companies with assets of $100,000 or over; business of 1939 and condition December 31, 1939; tabulation. Weekly Underw 142:908-10 Ap 13 '40
Mutual insurance legality for schools to be tested in Texas. Nat Underw 43:4+ N 16 '39
Permanence of agency system is up to producers; brokers and agents should not represent mutuals. R. H. Bland. Nat Underw 44:19 F 1 '40
Pointers on mutual competition. A. D. Cronin. Weekly Underw 142:701+ Mr 23 '40
Program to help lower the difference in cost between stock and mutual companies; abstracts. W. D. O'Gorman. East Underw 41:41 O 11 '40; Weekly Underw 143:837 O 12 '40
Right of public bodies to patronize mutuals considered. C. W. Meadows. Nat Underw 44:5+ Jl 11 '40
To push limited surplus bill again in Massachusetts. E. S. Oppenheimer. Nat Underw 44:32 O 10 '40
Urges graded costs to recapture mutual business; abstracts. E. J. Bond, jr. Nat Underw 44:21+ O 31 '40; East Underw 41:30 N 15 '40

See also Federation of mutual fire insurance companies; National association of mutual insurance companies

INSURANCE, Owners', landlords' and tenants' public liability
Bureau broadens coverage; employers' liability endorsement. Nat Underw 44:19 Mr 28 '40
General liability course. D. W. LaRocque. Weekly Underw 143:919-23 O 19 '40
Loyalty group issues new liability contracts. Weekly Underw 143:708 S 28 '40
Sales pointers. E. B. Gill. Ins Field (Fire ed) 69:20-1 Ja 25 '40
Specific cases cited to show need for coverage. O. B. Sullivan. Nat Underw 44:37+ Ap 18 '40
Underwriting rules and provisions. J. L. Barter. Ins Field (Fire ed) 69:16-19 Ag 1 '40

INSURANCE, Parcel post
Important coverage. map Weekly Underw 141:1215-16 D 9 '39

INSURANCE, Patent
Patent infringement. Spectator (Property ed) 6:24-5 Ag 22 '40
Patent insurance is now available. Ins Field (Fire ed) 69:7 Ja 25 '40; Nat Underw 44:22 F 8 '40
Seaboard surety company goes into patent insurance field. East Underw 41:25 Jl 26 '40; Nat Underw 44:16 Ag 1 '40

INSURANCE, Personal effects
Big travel year suggests a market. East Underw 41:27 Jl 19 '40

INSURANCE, Plate glass
Maine bars 50-50 plate glass, collision forms. Nat Underw 44:20 Mr 28 '40
Much interest in 50-50 glass plan in Chicago. Nat Underw 44:16-17 Ja 18 '40
Nebraska bans 50-50 glass policy. Nat Underw 44:20 F 15 '40
Plate glass coverage; questions answered by experienced underwriters. Weekly Underw 143:343+ Ag 17 '40
Rates changed by Bureau. East Underw 41:30+ S 6 '40; Ins Field (Fire ed) 69:15-16 S 5 '40; Nat Underw 44:23-4 S 5 '40; Spectator (Property ed) 6:14+ S 5 '40

INSURANCE, Power plant
Boiler and machinery coverage. D. W. Little. Ins Field (Fire ed) 69:18-21 Ag 8 '40
Boiler and machinery insurance presents many angles; inspection service of insurance companies invaluable. D. F. Reese. Weekly Underw 142:1049-51 Ap 27 '40; Abstract. Nat Underw 44:31 Ap 11 '40
Boiler and machinery schedule forms; air conditioners; miscellaneous machines. Spectator (Property ed) 5:23 Je 13 '40
Machinery insurance, 1940. Locomotive 43:22-3 Ja '40
New power plant group form issued. Nat Underw 44:13+ Jl 18 '40

INSURANCE, Principal's protective liability
Bureaus bring out new principal's protective form; liability of employer to workers of indeterminate status. Nat Underw 44:19 My 30 '40
Coverage analyzed and explained. E. W. Sawyer. Ins Field (Fire ed) 69:18-21 O 3 '40
Policy meets problem that confronted workmen's compensation insurers and assureds. E. W. Sawyer. Weekly Underw 143:344-6 Ag 17 '40; Excerpts. East Underw 41:33 Jl 19 '40

INSURANCE, Product liability
Products liability coverage. Management R 28:443-4 D '39

INSURANCE, Prospective earnings. See Insurance, Use and occupancy

INSURANCE, Rain
Selling rain insurance. G. L. Booker. East Underw 41:22 S 6 '40

INSURANCE, Reciprocal
Court holds reciprocal policyholders liable; first decision of its kind. Ins Field (Fire ed) 69:10 Mr 28 '40
Court test of an exchange's liability. Weekly Underw 143:385 Ag 24 '40
Limit of liability by Michigan reciprocal subscribers; Attorney General's opinion. East Underw 40:31 D 22 '39
Michigan charges against reciprocals are dismissed. Nat Underw 44:26 Ap 18 '40
Reciprocal and inter-insurance exchanges, Lloyds, etc. with assets of $100,000 or over; business of 1939 and condition December 31, 1939; tabulation. Weekly Underw 142:911 Ap 13 '40

INSURANCE, Rent
Rental value premium adjustment form adopted in New York state. East Underw 41:34 O 18 '40; Same cond. Spectator (Property ed) 6:23 O 31 '40

INSURANCE, Riot and civil commotion
New war risk clauses completed for insurance of Canadian risks. East Underw 41:38 Ja 26 '40
Riot policy does not cover fire secretly set without disturbance. East Underw 41:26 Jl 19 '40; Weekly Underw 143:205 Jl 27 '40

Vandalism coverage
Cut in rates in some broad vandalism classes. Nat Underw 44:3 Mr 21 '40
Full land war risk insurance available for fixed property; Explosion conference's new policies. E. A. Cordes. East Underw 40:1, 65+ D 15 '39
Summary of vandalism and war coverages available. Nat Underw 44:1 Je 20 '40
War risk and bombardment and vandalism insurance forms. H. C. Baker. Ins Field (Fire ed) 68:16-17+ D 21 '39
War risk, bombardment and malicious mischief; A.M.A. session. H. C. Klein; R. W. Cauchois. Spectator (Property ed) 5:28 D 14 '39

INSURANCE, Robbery. See Insurance, Burglary

INSURANCE, Sickness. See Insurance, Health

INSURANCE, Social
See also
Insurance, Health
Insurance, Unemployment
Insurance, Workmen's compensation
Old age pensions
Social security act, 1935

Bibliography
Social insurance and agriculture. W. S. Hopkins. 93p bibliog(p38-93) pa 50c Social science research council, 726 Jackson place, NW, Washington, D.C. '40

Finance
Financing economic security in the United States. W. Withers. 210p bibliog(p191-6) $2.75 Columbia univ. press '39
Investment of the funds of social insurance institutions. 196p bibliog(p188-9) pa $1.25 Int. labor office '40
What we pay for social security; study of 180 companies; tabulation, showing cost to companies, stockholders and employees. Steel 107:36-7 S 16 '40

Mathematics
Actuarial problems in social insurance; forecasting expenditures. R. A. Hohaus. Am Statis Assn J 35:37-46 Mr '40

Records
Do you give employees the record of their salaries? Am Business 10:38 Ja '40

France
Adjustment of social insurance schemes to war conditions. Int Labour R 40:779-82 D '39

Germany
Adjustment of social insurance schemes to war conditions. Int Labour R 40:782-9 D '39

Great Britain
Adjustment of social insurance schemes to war conditions. Int Labour R 40:789-94 D '39
Modification of British health insurance and pensions. Monthly Labor R 50:609-12 Mr '40

Japan
New social-insurance systems in Japan. Monthly Labor R 49:1395-6 D '39

Latin America
Social insurance in Latin America; with principal provisions of laws. A. L. Whitney. Monthly Labor R 49:535-65 S '39

Mexico
Social insurance proposed. il Ins Field (Fire ed) 69:9 Jl 11 '40; Same. Ins Field (Life ed) 69:5 Jl 12 '40

New Zealand
Amendment of New Zealand social insurance act. Monthly Labor R 50:868-70 Ap '40

Scandinavia
Reciprocity of social insurance and assistance among the northern European countries. G. M. Drachmann. Int Labour R 42:47-57 Jl '40

Sweden
Old-age and invalidity pensions and other benefits in Sweden in 1938. Monthly Labor R 51:72-3 Jl '40

United States
Actuary finds revised act better. R. A. Hohaus. Nat Underw (Life ed) 44:8 Mr 22 '40
Amended social security program in effect. Nat City Bank p6-8 Ja '40
Applicability of Social security act to Federal reserve banks, national banks and state member banks. Fed Res Bul 26:290-2 Ap '40
Behind your social security card; four kinds of benefits, how they are computed and who gets them. G. B. Bryant, jr. Barron's 20:8 Mr 25 '40
Charlie and the banker; how social security's presumptive need theory is working out. G. B. Robinson. Annalist 55:819-20+, 885 Je 13, 27 '40; Discussion. W. R. Williamson. 56:302+ S 5 '40; Reply. 56:531-2+ O 24 '40
Federal social security taxes and banks. T. S. Cady. Banking 32:52 F; 55 Mr '40
History and development of social security. J. J. Corson and W. R. Williamson. Spectator (Life ed) 143:6-9, 14+ N 23; 6-9 D 7 '39
Method of calculating federal social security benefits. East Underw 40:49 D 15 '39
No retreat for social security as result of defense program. A. J. Altmeyer. Comm & Fin Chr 151:929 Ag 17 '40
Security is good business. A. J. Altmeyer. il Dun's R 48:5-9 Mr '40
Security through individual enterprise; the proper role of social insurance. M. A. Linton. Annalist 54:825-6+ D 28 '39
Senator Wagner proposes amendments to Social security act. Comm & Fin Chr 151: 926 Ag 17 '40
Social security and labor mobility. S. H. Slichter. Management R 29:208-9 Je '40
Social security board takes steps to contact potential beneficiaries in 1940. Comm & Fin Chr 149:4105-6 D 30 '39
Social security from the life underwriter's viewpoint. I. Bendiner. Spectator (Life ed) 144:12-16+ F 15; 28 F 29 '40
U.S. social security. W. R. Williamson. East Underw 40:39 N 24 '39
What will social security mean to you? B. H. Francis. 5th ed 96p $1 Am. inst. for economic research, Cambridge, Mass. '40
See also
Social security act, 1935
Social security board

Venezuela
Introduction of a social insurance system in Venezuela. Int Labour R 42:140-4 Ag-S '40

INSURANCE, State
Auditor's report on Wisconsin state fund; summary. Ins Field (Fire ed) 69:7 Jl 25 '40
British government insuring more risks not suitable for companies. East Underw 41:18 N 8 '40
Comments on Wagner's annuity plan. H. J. Johnson. East Underw 40:5 D 1 '39; Same. Ins Field (Life ed) 68:9 N 24 '39; Same. Weekly Underw 141:1135 N 25 '39
Conscripts may buy U.S. war risk insurance. Nat Underw (Life ed) 44:1+ S 20 '40
Difficult to save on annuity costs; Wagner's assertions exposed. L. M. Buckley. East Underw 40:15 D 1 '39
Government annuities plan arouses life men; Ohio association of life underwriters passed strong resolution. Weekly Underw 141:1303 D 16 '39

INSURANCE, State—*Continued*
Government annuities would prove costly to taxpayers; abstracts. R. D. Murphy. East Underw 40:13 D 22 '39; Weekly Underw 141: 1288+ D 16 '39; Nat Underw (Life ed) 43: 6 D 22 '39
Government life insurance provided for military men. Nat Underw (Life ed) 44:1+ O 4 '40
Government plan for annuities has many fallacies; criticisms of C. J. Zimmerman and others. Nat Underw (Life ed) 43:1, 28 N 24 '39
Illusions for sale; proposed government annuities; reprinted from Newsweek, Dec. 11, 1939. R. Moley. Weekly Underw 141:1305 D 16 '39
New plan of insurance for men in services; certificate of indemnification proposed; abstracts. C. J. Zimmerman. East Underw 41:1+ O 25 '40; Nat Underw (Life ed) 44:3, 10 O 25 '40
Pledges support of agents of country on preparedness; comments on government competition. C. J. Zimmerman. East Underw 41: 3 Je 21 '40; Same abr. Weekly Underw 142: 1489+ Je 22 '40
Postoffice annuity plan's weaknesses. C. J. Zimmerman. East Underw 40:18 N 24 '39
State of Washington accident fund (workmen's compensation) deficit $12,000,000. Nat Underw 44:15 Ja 18 '40
Three points of difference; proposed sale of government annuities. H. J. Johnson. Spectator (Life ed) 144:11+ F 1 '40
Two cent stamp and an annuity, please; symposium on government annuities with excerpts from Ray Murray's recent address. F. Ellington. Spectator (Life ed) 144:6-10+ F 1 '40
Wagner annuity proposal being opposed. Weekly Underw 141:1109+ N 25 '39
Wagner bill in U.S. Senate would compensate wage earners disabled outside employment. Weekly Underw 142:1140 My 11 '40; Ins Field (Life ed) 69:8 My 10 '40

See also
Insurance, Military and naval service
Insurance, Unemployment
Insurance, Social

California

State workmen's compensation funds defy arithmetical law. F. J. Creede. Nat Underw 43:16 N 23 '39

Canada

Status of Canadian annuities. H. J. Daniels. Comm Rep p204 Mr 2 '40
Wagner proposal for government annuities has unsuccessful Canadian prototype. Nat Underw (Life ed) 43:10 D 1 '39

Ohio

Casualty people should expose state workmen's compensation fund defects. W. W. Greene. Nat Underw 43:17+ N 23 '39

INSURANCE, Structural *continuance*
Buildings insured for $15,000,000 against weathering; coverage adaptable to large cities. Nat Underw 44:5+ O 24 '40

INSURANCE, Surety and fidelity
Acceptable sureties authorized by the Secretary of the Treasury; with bond limits. Ins Field (Fire ed) 69:27 O 17 '40; Nat Underw 44:23 O 17 '40
Answers to questions about various angles in the production and underwriting of bonds. Weekly Underw 142:993-4 Ap 20 '40
Business would save $200,000,000 annually if every trusted employee was bonded. Weekly Underw 142:1228 My 18 '40
Comprehensive dishonesty, disappearance and destruction policy. E. C. Lunt. Weekly Underw 143:32-3 Jl 6 '40
Cook County acquisition cost council adopts a constitution. East Underw 41:34 My 17 '40; Ins Field (Fire ed) 69:9 My 16 '40; Nat Underw 44:20 My 16 '40
Corporate suretyship by G. B. Crist, jr; book review. E. C. Lunt. Weekly Underw 142:492-8 F 24 '40
Defense program already spurs surety business. Nat Underw 44:21+ Jl 11 '40
Details on many problems of bonding. W. H. Stewart. East Underw 41:53-4 S 20 '40
Difference between insurance and suretyship. L. C. Jones. Weekly Underw 141:1082-3 N 18 '39; Excerpts. Ins Field (Fire ed) 68:12 N 16 '39; East Underw 40:38 D 8 '39; Nat Underw 43:31+ N 16 '39
Discovery bond and prior bond in loss. Nat Underw 44:16 Ag 29 '40
Experience rating for commercial blanket and blanket position bonds. Nat Underw 44:17 Jl 4 '40
Fidelity bonds planned for stock exchange firms. Spectator (Property ed) 5:10 F 8 '40
Fidelity bonds; sales possibilities of blanket position and commercial blanket bonds. F. C. Robertson. Ins Field (Fire ed) 69:24-8 S 26 '40
Fidelity coverage. W. H. Bennem. Weekly Underw 141:1129-30 N 25 '39
Field for writing fidelity bonds; coverage. L. E. Mackall. Nat Underw 44:19+ My 16 '40; Excerpts. East Underw 41:35 My 17 '40; Weekly Underw 142:1206+ My 18 '40
50 years of Fidelity and deposit co. progress. W. L. Clapp and S. C. Doolittle. East Underw 41:32, 34, 38 O 4 '40
5-in-1 policy simplifies casualty and fidelity coverages; comprehensive dishonesty, disappearance and destruction policy. Ins Field (Fire ed) 69:11-12 Jl 4; 16-17 Ag 8 '40; Nat Underw 44:15+ Jl 4 '40; Spectator (Property ed) 6:26-7 Jl 11 '40
Idea for new comprehensive dishonesty, disappearance and destruction policy credited to F. S. Garrison. East Underw 41:31 Ag 16 '40
Lack of cooperation on surety salvage; employers are unwilling to prosecute dishonest employes. J. H. Schisler. Nat Underw 44: 15 Ag 29 '40
Michigan may require bonds from oil well operators. Nat Underw 44:24 O 17 '40
Millions are under bond; millions more ought to be bonded; business of corporate bonding. R. T. Wood. Weekly Underw 143:978-9 O 26 '40
Most dishonesty losses are inside jobs; value and importance of fidelity bonds. F. W. Selsor. Weekly Underw 142:730 Mr 23 '40
New bond protects New York stock exchange firms against customer suits; brokers' liability indemnity. East Underw 40:31 D 1 '39
New York stock exchange asks members for comments on new type of surety bond covering partners; progress report on fidelity insurance made by special group. Comm & Fin Chr 151:922-3 Ag 17 '40
New York stock exchange works on fidelity bond cover for member firms. C. Klem. Ins Field (Fire ed) 69:14 Ag 22 '40
Plan fidelity bonds for Stock exchange partners. East Underw 41:36 Mr 29 '40
Rate cutting in surety field. M. W. Lewis. Nat Underw 44:17+ My 30 '40
Stock exchange bond proposal progresses; surety firms will combine to guarantee partner honesty. Weekly Underw 143:337 Ag 17 '40
Suretyship loses day in 5 billion defense bill. Nat Underw 44:29+ S 12 '40
Three D coverage, dishonesty, disappearance and destruction. C. E. Megargel. Nat Underw 44:26+ O 24 '40
Travelers Indemnity bonding staff men. East Underw 41:34 Je 21 '40; Ins Field (Fire ed) 69:13 Je 13 '40; Nat Underw 44:15 Je 13 '40; Weekly Underw 142:1455 Je 15 '40
Treasury list of acceptable sureties on federal bonds. Ins Field (Fire ed) 69:29 My 9 '40; Nat Underw 44:24 My 2 '40; Weekly Underw 142:1160 My 11 '40

See also
Bankers' blanket bond
Insurance, Forgery

INSURANCE, Surety and fidelity—*Continued*

Adjustment of claims

Joint control; Minnesota Supreme court finds for surety company; holds administrator's account in bank covered. Weekly Underw 142:485 F 24 '40; Excerpts. East Underw 41:51 Mr 15 '40

Agents

Big opportunities for fidelity and surety bond production outlined. F. H. Doenges. Weekly Underw 142:1281-3 My 25 '40

Billion dollars more volume for agents who seek it; abstracts. S. Welton. East Underw 41:42 Mr 29 '40; Nat Underw 44:20 Mr 28 '40; Ins Field (Fire ed) 69:24-5 Mr 28 '40

Bonding field left almost unsolicited; abstracts. S. Welton. East Underw 41:34 Jl 5 '40; Nat Underw 44:19+ Je 27 '40; Weekly Underw 142:1554+ Je 29 '40

Fidelity bond angles. P. Rutherford. Weekly Underw 141:1172 D 2 '39

Fidelity bond should be called honesty insurance. S. G. Drake. East Underw 41:30 N 8 '40

Fidelity bonds are found avenue to increased sales. B. C. Brown. Nat Underw 44:17 O 17 '40

Fidelity bonds offer producers great field for premium building. H. L. Jenness. Weekly Underw 142:556 Mr 2 '40

Field for sale of fidelity coverage. J. C. Brodsky. Nat Underw 44:5+ Mr 14 '40

How to handle non-stock and cut-rate competition in the sale of fidelity bonds. F. H. Doenges. Ins Field (Fire ed) 69:22-3 Ap 11; 30-1 Ap 25 '40; Abstract. East Underw 40: 28 D 29 '39

Meeting competition of non-stock companies in fidelity insurance. J. H. Williams. Ins Field (Fire ed) 68:18-19 N 30 '39

Plenty of prospects for fidelity bonds; sales methods. W. C. Ploeser. Weekly Underw 141:1341-2 D 23 '39; Same. Ins Field (Fire ed) 69:24 Ap 11 '40

Questions and answers regarding various bonding points. Weekly Underw 142:261-4, 314+ Ja 27-F 3 '40

St Louis sales conference, Dec. 1. East Underw 40:36 D 8 '39

Selling fidelity insurance. O. R. Smith. Ins Field (Fire ed) 68:20-1 N 23 '39

Small percentage of employers who have suffered dishonesty losses have been protected by bonds. J. D. Hall. Weekly Underw 141:1340-1 D 23 '39

Takes agents to task for not selling more surety; abstracts. H. E. Charlton. Nat Underw 44:33 O 31 '40; East Underw 41:39 N 1 '40

Where to go to get fidelity and surety business; abstracts. F. H. Doenges. Nat Underw 44:17+ Ap 4 '40; East Underw 41:37+ Ap 12 '40

You don't want more money! agents' fidelity sales; abstracts. S. Welton. Ins Field (Fire ed) 69:32-4 Ap 25 '40; Nat Underw 44:27-8 Ap 25 '40

Commissions

Alarm is expressed over agents' stand on the large bonds. Nat Underw 44:13 Jl 18 '40

Chicago control program; George E. Turner arbiter for acquisition cost conferences. Nat Underw 43:11+ N 30 '39

Dead-line; voluntary or state control choice in cost controversy of casualty and surety companies. Ins Field (Fire ed) 69:12 Ja 18 '40

Massachusetts Bonding wins important Pittsburgh case against Johnston & Harder, inc., its former general agent. Nat Underw 44:24 Mr 14 '40

Progress made on scale of commissions. W. H. Stewart. Nat Underw 44:21 S 19 '40

Some changes made in surety acquisition cost rules for Chicago offices. Nat Underw 43: 31+ N 16 '39

Contract bonds

Bond is written covering $134,000,000 plane contract. Nat Underw 44:24 O 24 '40

Contract bond production and underwriting; facts for producers and underwriters. Weekly Underw 142:740-4, 797-8 Mr 23-30 '40

Contract bonds. A. M. Clark. East Underw 41:29 Jl 5 '40

Fears fade on defense bill; expect insurance coverage of contractors to be undisturbed. Nat Underw 44:22 S 19 '40

Fight to save suretyship from emergency discard; cost plus fixed fee scheme without bonds in big defense bill. Nat Underw 44: 15-16 Ag 29 '40

Government practice and state laws clash; countersigning. W. H. Bennett. East Underw 41:35 O 4 '40

Graded commissions on large bonds voted by insurance organizations. East Underw 41:33 O 25 '40

Huge risk has unusual angles; Pensacola dam near Vinita, Okla. Nat Underw 44:29 F 15 '40

New business potentialities abound in the contracting field in New York. J. F. Helmus. East Underw 40:34 D 22 '39

Not all bonds waived in 5 billion defense act. East Underw 41:47 S 20 '40

Steel institute wants bonds used; committee deplores waiver of suretyship in cost-plus contracts. Nat Underw 44:24 O 24 '40

Sureties busy signing supply contract bonds. Nat Underw 44:24 O 24 '40

Surety bonds; information for agents on construction contract bonds. C. T. Hyre. Ins Field (Fire ed) 69:16-17+ O 3 '40

Surety underwriters take aviation bond risks. Ins Field (Fire ed) 69:16 S 26 '40; East Underw 41:52+ S 27 '40; Nat Underw 44: 26 S 26 '40

Various types of bonds, which producers frequently overlook, can be developed into premiums. Weekly Underw 143:391-4 Ag 24 '40

What's happening to performance bonds under the defense program. V. W. Gallagher. East Underw 41:26+ Ag 23 '40

Fiduciary bonds

Court and fiduciary bonds. J. D. Williams. Ins Field (Fire ed) 69:24-6 O 17 '40

Handling estates needs corporate bonds. A. C. Millikan. Weekly Underw 143:184-6 Jl 27 '40

Progress and legislation concerning personal suretyship for guardians. H. W. Nichols. Weekly Underw 143:710-13 S 28 '40

Finance

Seaboard surety company analysis. Spectator (Property ed) 6:22-3 Ag 8 '40

Judicial bonds

Court and fiduciary bonds. J. D. Williams. Ins Field (Fire ed) 69:24-6 O 17 '40

Underwriting judicial bonds. B. C. Taylor. Ins Field (Fire ed) 69:16-17+ Jl 18 '40

License and permit bonds

Oil burner license bond; New York city requirements. Spectator (Property ed) 5:25 Ja 11 '40

Liquor bonds

Missouri liquor bond cancelling continues. East Underw 41:38 Ja 5 '40

Missouri Supreme court rules in test case on liquor dealer bond. East Underw 40:103 D 15 '39

Rates

Surety rates. M. W. Lewis. Weekly Underw 141:1219 D 9 '39

Rating bureaus

Towner rating bureau 30 years old. East Underw 40:98 D 15 '39

Reinsurance

Salvage and set-off; case of Pink, superintendent of insurance, etc. vs. American surety co. of New York. J. L. Roesch. Spectator (Property ed) 6:20-1+ S 5 '40

INSURANCE, Surety and fidelity—*Continued*

Securities bonds

Ten loopholes for forgery. H. G. Eberle and H. W. Ervin. Banking 32:33+ Je '40

Statistics

Casualty-surety writings in New Jersey in 1939; tabulation. East Underw 41:46-9 Mr 15 '40

Country-wide underwriting results, 1935-39, of companies licensed in New York state. East Underw 41:5-7+, 9+ pt 2 My 10 '40

1939 casualty-surety results of all companies for New York state by lines. East Underw 41:15-17+ pt 2 My 10 '40

Study and teaching

Comprehensive surety course by Insurance education committee of Chicago. Nat Underw 44:28 O 24 '40

Fidelity and surety bonds. J. C. Brodsky and others. biblio Weekly Underw 143: 140-3, 395-400+, 714-18, 980-7, 1223-30, 1505-8; 144:84-5 Jl 20, Ag 24, S 28, O 26, N 23, D 28 '40-Ja 4 '41

New Amsterdam casualty company bond course. J. F. Elerman. East Underw 41: 54 Mr 15 '40

United States

Experience in 1939. H. W. Nichols. Weekly Underw 142:76+ Ja 6 '40

Major developments in 1939. W. L. Clapp. East Underw 40:28-9 D 22 '39

INSURANCE, Taxicab

Illinois taxi rates announced. Nat Underw 43: 21 D 28 '39

Maryland taxi-cab coverage ruling by Gontrum. Weekly Underw 143:219 Ag 3 '40

INSURANCE, Title

Title insurance and the practice of the law; digest of recent cases. J. L. Roesch. Spectator (Property ed) 6:26-7 Ag 8 '40

Title insurance cover ruling in California. E. Warren. Weekly Underw 142:468 F 24 '40

INSURANCE, Tornado

Grading for the windstorm hazard. T. Z. Franklin. Weekly Underw 143:488, 490-2+ S 7 '40

Home not liable in hurricane suit; case of Lily tulip cup corp. East Underw 41:31 N 1 '40

How fireproof hotel withstood Georgia tornado. Nat Underw 44:5+ Ap 11 '40

Insurance engineers busy in Georgia disaster. Weekly Underw 142:405+, 470 F 17-24 '40

Insurance loss in Albany, Ga. tornado. Ins Field (Fire ed) 69:10 F 15 '40; Nat Underw 44:3 F 15; 5 F 22 '40; Weekly Underw 142: 585+ Mr 9 '40

Adjustment of claims

Decision affirmed on a tornado policy in loss of barge-dance hall. Nat Underw 44:8 S 26 '40

INSURANCE, Trade union

Amalgamated clothing workers will write group insurance. East Underw 41:36 Ap 5 '40; Nat Underw 44:28 Ap 4 '40; Ins Field (Life ed) 69:7 Ap 5 '40

Union insurance; Chicago Amalgamated clothing workers set up life, health, accident plan. Business Week p32 Ap 13 '40

INSURANCE, Unemployment

Electric utilities stake in experience-rating under unemployment compensation laws; Wisconsin experience. Edison Elec Inst Bul 8:89-92 Mr '40

Hire new men? or pay overtime? merit-rating principle in unemployment insurance. E. L. Cady. Management R 29:8-9 Ja '40

How experience rating reduces unemployment taxes of public utilities. E. P. Schmidt. Pub Util 25:815-17 Je 20 '40

Profits under the social security system. C. B. Bartlett. Steel 106:38-41 Ap 1 '40

Unemployment benefits no bar to workmen's compensation. Monthly Labor R 50:670-1 Mr '40

Unemployment compensation and life agents' status; abstracts. R. L. Hogg. East Underw 41:21 S 6 '40; Weekly Underw 143:519 S 7 '40; Nat Underw (Life ed) 44:4+ S 13 '40

Unemployment compensation plans. M. Saxe. Banking 32:26-7, 32-3 Ja '40

See also

Social security act, 1935

Finance

Scorecard on unemployment compensation; table shows how much states have paid out, how much they've collected, and reserve funds. Business Week p38 Ag 17 '40

Law

Benefit series; monthly compilation of significant decisions on appealed benefit claims under state unemployment compensation laws. Social security board, Washington, D.C. $5 Supt. of doc.

Unemployment compensation benefit decisions under state unemployment compensation laws. B. Mitchell. Personnel J 19:2-8 My '40

Unemployment compensation interpretation service, Benefit series. Published monthly with semi-annual cumulations by Federal security agency, Social security board, Washington, D.C. $5 a year

Statistics

Labor conditions, employment security operations, monthly, 1939. Survey of Cur Business 1940 Sup p39 [supplemented in monthly numbers]

Unemployment-compensation operations, January 1940. Monthly Labor R 50:654-6 Mr '40 [cont monthly]

California

Social security act; chart of principal features of act as amended. C. W. Six. Min Cong J 26:32-3 Ja '40

Canada

Canada aids jobless. Business Week p49-50 Jl 27 '40

Canadian unemployment insurance; Canada life officers association members testify. East Underw 41:3+ Ag 16 '40

Functions of unemployment insurance scheme. A. D. Watson. East Underw 41:3+ Ag 16 '40

Great Britain

Amendment of British unemployment-insurance law. Monthly Labor R 51:633-5 S '40

British unemployment-insurance fund in 1939. Monthly Labor R 50:1403-8 Je '40

British unemployment insurance scheme broadened. Comm Rep p739 Ag 31 '40

Guide to the unemployment insurance acts. H. C. Emmerson and E. C. P. Lascelles. 5th ed 292p $2 Longmans '39

Unemployment insurance and agricultural labor in Great Britain. W. J. Cohen. 32p pa 50c Social science research council, Washington, D.C. '40

Wartime modification of British unemployment insurance system. Monthly Labor R 49:1376-9 D '39

Indiana

Indiana unemployment compensation law with rules and regulations; Act of 1936, as amended in 1937, 1938 and 1939. 95p Department of treasury, Unemployment compensation division, Indianapolis '39

Kansas

Kansas unemployment compensation law as amended. 81p Kansas. Division of unemployment compensation, Masonic Temple bldg, Topeka '39

Kentucky

Unemployment insurance law of 1940. 30p Unemployment compensation commission, Frankfort, Ky. '40

INSURANCE, Unemployment—*Continued*

Michigan

Chrysler continues efforts to restrain compensation payments. Automotive Ind 82: 534-5 Je 1 '40

Chrysler workers awarded $3,000,000 compensation. Automotive Ind 82:238+ Mr 1 '40

New York (state)

Agents' status still moot question in N.Y.; hearing on unemployment insurance tax. East Underw 41:13 O 4 '40; Nat Underw (Life ed) 44:8 O 4 '40

State employers' conference proposes provisions in unemployment law. Comm & Fin Chr 149:3807 D 16 '39

State unemployment insurance advisory council rejects proposals for expansion of law. Comm & Fin Chr 150:924 F 10 '40

Unemployment insurance in New York state. 154p bibliog(p139-47) pa $2 Cord publishers, 147 4th av, New York '40

Ohio

Agents exempt from compensation law. Ins Field (Fire ed) 69:8 Jl 25 '40

Desk manual of Ohio unemployment compensation. R. R. Berry. 127p pa $2 Kahl bros, 327 6th st, Toledo, Ohio '39

Employment security in Ohio, 1936-1939. 73p Ohio bur. of unemployment compensation, 427 Cleveland av, Columbus '40

Unemployment plan in Ohio explained. H. C. Atkinson. Nat Underw 43:45 N 16 '39

United States

Amended social security program in effect. Nat City Bank p7-8 Ja '40

Benefit series; a monthly compilation of significant decisions on appealed benefit claims under state unemployment compensation laws; ed. by Bureau of employment security, Social security board. $5 Supt. of doc.

Benefits for unemployed must be liberalized. A. J. Altmeyer. Ins Field (Life ed) 69:9-10 Mr 1 '40

Conflicting standards of the Fair labor standards act and unemployment compensation laws. E. P. Schmidt. Annalist 55:36 Ja 11 '40

Do you know the changes in unemployment taxes in 1940? Am Business 10:37-8 Ja '40

Experience rating is under fire; principle of lower tax for employers with record of stability faces test. Business Week p39-40 Mr 2 '40

Jobless railroad men to get increased benefit payments. Ry Age 109:598+ O 26 '40

Operations under Railroad unemployment-insurance act, 1939. Monthly Labor R 50: 640-2 Mr '40

Social security board recommends extension of unemployment insurance if warranted by funds collected by states. Comm & Fin Chr 150:921 F 10 '40

Unemployment-compensation operations, February 1940 and year 1939. Monthly Labor R 50:878-83 Ap '40 [cont monthly]

Wagner bill passed by United States Senate amends Railroad unemployment insurance act of 1938. Comm & Fin Chr 151:631 Ag 3 '40

Wisconsin

Easing the payroll tax burden; experience-rating survey. E. P. Schmidt. Barron's 20:7 Ja 1 '40

Electric utilities stake in experience-rating under unemployment compensation laws. Edison Elec Inst Bul 8:89-92 Mr '40

Towards job stability; benefits from effort to save taxes under experience rating. Business Week p40 Je 29 '40

INSURANCE, Use and occupancy

Adjuster's view. G. M. Blum. Nat Underw 44:25 Je 20 '40

Business interruption insurance. H. C. Baker. J Account 70:142-50 Ag '40

Difficulties under use and occupancy forms. W. G. Rich. Nat Underw 44:29+ Jl 11 '40

Effect of Western changes; new rules for writing gross earnings form on non-manufacturing risks and allowing single state reporting forms at one location adopted in Michigan. Nat Underw 44:4+ Mr 14 '40

Gross earnings form talks in assured's language. H. R. Thiemeyer. Nat Underw 44:23 Ag 1 '40

Informative talk on business interruption. W. A. Gibson, jr. Ins Field (Fire ed) 68:25 N 16 '39

Job insurance merit rating provision provides U. & O. sales opportunity. Nat Underw 44: 3+ O 24 '40

Prospective earnings cover urgently needed today. T. K. Pfaffiin. Nat Underw 44:33 Ja 25 '40

Psychology of use and occupancy solicitation. R. K. Hill. Nat Underw 44:29 S 5 '40

Sales pointers presented by Home of New York. East Underw 41:19 Ag 23 '40

Use and occupancy as basis of credit. H. P. Winter. Nat Underw 44:11 My 2 '40

U. & O. as employment stabilizer; coverage safeguards industry; abstracts. R. K. Hill. Weekly Underw 143:900 O 19 '40; East Underw 41:26 O 18 '40; Nat Underw 44:33 O 17 '40

Use and occupancy quiz. Weekly Underw 142: 1093 My 4 '40

Adjustment of claims

Loss adjustment factors. J. H. Burlingame, jr. Nat Underw 44:5 Mr 7 '40

Advertising

Prospective earnings insurance presented through visual salesmanship. il East Underw 40:66 D 15 '39

Agents

Brokers asked not to regard this cover as mysterious; abstracts. H. C. Klein. East Underw 40:20 D 29 '39; Nat Underw 43:35 D 14 '39

Original plan for selling use and occupancy insurance; abstracts. H. W. Semmelmeyer. East Underw 41:31 F 9 '40; Weekly Underw 142:354+ F 10 '40

Pointers on use and occupancy insurance. F. A. Hughes. East Underw 40:24+ D 22 '39; Abstract. Nat Underw 43:35 D 14 '39

Tuition fee coverage

Tuition fee coverage has scarcely been sold; real hazard exists. Nat Underw 44:5 O 10 '40

Tuition fees insurance valuable protection for schools, colleges. East Underw 41:27 Je 14 '40

INSURANCE, Vandalism. See Insurance, Riot and civil commotion—Vandalism coverage

INSURANCE, War risk. See Insurance—War risks

INSURANCE, Weather. See Insurance, Hail; Insurance, Tornado

INSURANCE, Wheat. See Insurance, Agricultural

INSURANCE, Windstorm. See Insurance, Tornado

INSURANCE, Workmen's compensation

Jurisdiction of federal and state workmen's compensation statutes. W. N. Mullen. East Underw 40:38+ N 24 '39

Limitations of compensation insurance; abstract. L. T. Parker. Management R 29:149-50 Ap '40

Principal's protective liability insurance meets problem that confronted workmen's compensation insurers and assureds. E. W. Sawyer. Weekly Underw 143:344-6 Ag 17 '40

Workmen's compensation insurance. R. W. Forsyth. Ins Field (Fire ed) 69:22-3, 27-8 S 5 '40

Workmen's compensation insurance; including employers' liability insurance. C. W. Hobbs. 2d ed 707p bibliog(p678) $5 McGraw-Hill '39

See also National council on compensation insurance

INSURANCE, Workmen's compensation—*Cont.*

Adjustment of claims

Border line compensation cases. G. H. Detweiler. East Underw 41:51 S 20 '40
Changing insurance carrier troublesome; conflicting binders issued in effect at death of employe. East Underw 41:38 N 1 '40
Compensation claim losses can be reduced. H. M. Grosman. Weekly Underw 143:446 Ag 31 '40
Death of pipe line walker as result of assisting to repair bus held compensable. Weekly Underw 143:462 Ag 31 '40
Employee engaged in cleaning lamps and switches in railroad yards not engaged in interstate transportation. Weekly Underw 143:1069 N 2 '40
Employee on farm used for dairy engaged in agriculture and excluded from compensation. Weekly Underw 143:881, 885 O 12 '40
Evidence of drinking no bar to compensation held by Minnesota industrial commission. East Underw 41:40 N 1 '40
Industrial commission's refusal to approve proposed compensation settlement between employer and employee and wife held proper. Weekly Underw 141:1098 N 18 '39
Injury to leg of waitress; tips considered not part of wages in New Jersey. Weekly Underw 143:365 Ag 17 '40
Reversal of adjuster case by New York Court of appeals; claim investigators are not workmen. East Underw 41:28 My 31 '40; Weekly Underw 142:1336 Je 1 '40
Silicosis decision in Michigan raises question whether workmen who develop silicosis will ever receive compensation. Ins Field (Fire ed) 69:14+ Ja 4 '40; Nat Underw 43:19 D 28 '39
Soliciting business outside state, life insurance agent loses suit against company. East Underw 41:12 Jl 5 '40
State senator can recover compensation for injuries sustained while attending funeral of fellow senator. Weekly Underw 142:510 F 24 '40
Tips and wages are two different things; Minnesota industrial commission makes distinction. Weekly Underw 143:512 S 7 '40; East Underw 41:57 S 27 '40
U.S. Supreme court important decision on compensation; supports the validity of ex-post facto legislation to remove statutory bars to stale claims. Nat Underw 44:18 Ap 4 '40; East Underw 41:34 Ap 12 '40
Verdict threatens to gag doctors; Arizona jury renders $6,000 judgment against expert witnesses Nat Underw 44:17 Je 13 '40
Workmen and operatives defined; insurance investigator not a workman; digest of recent case. J. L. Roesch. Spectator (Property ed) 5:26-7+ Je 13 '40

Agents

Commissions

Agents ask Pink to O.K. compensation changes in New York. Ins Field (Fire ed) 69:15 Je 13 '40; Nat Underw 44:15 Je 13 '40; Spectator (Property ed) 5:9 Je 13 '40
New York brokers file brief with Supt. Pink; graded commissions favored. East Underw 41:42 Je 7 '40
Pink to O.K. 17½% commission on compensation risks. Nat Underw 44:15+ Je 20 '40

Finance

Pacific employers insurance company, Los Angeles, California; company analysis. Spectator (Property ed) 5:26-7 D 14 '39

Industrial diseases

Silicosis decision in Michigan raises question whether workmen who develop silicosis will ever receive compensation. Ins Field (Fire ed) 69:14+ Ja 4 '40; Nat Underw 43:19 D 28 '39
Skin diseases a big factor in occupational cover losses. L. F. Weber. Nat Underw 44: 22 F 22 '40
Underwriting aspects of the industrial dust hazard. A. J. Lanza and R. J. Vane. Weekly Underw 142:1412-13, 1417+ Je 8 '40

Preventive work

Safety engineering relation to underwriting. J. F. Idler. Nat Underw 43:11 N 30 '39
Saving money for Texas taxpayers; safety campaign among Highway department employees. J. Montgomery. il Nat Safety N 40:18-19+ D '39

Rates

Actuaries hear papers on compensation rates. East Underw 40:32 D 1 '39
Base rates on compensation insurance for construction, April 1, 1940; tabulated by kinds of work and by state. Eng N 124:910 Je 20 '40
Compensation reduction in Missouri indicated. Weekly Underw 141:1174 D 2 '39
Doing something about accidents; Constructors association of western Pennsylvania. R. A. MacGregor. il Eng N 125:283 Ag 29 '40
Multi-split compensation plan submitted to commissioners. W. F. Roeber. East Underw 41:32+ Ja 19 '40; Same. Weekly Underw 142:207 Ja 20 '40; Excerpts. Ins Field (Fire ed) 69:12 Ja 18 '40; Nat Underw 44:16 Ja 18 '40
Multi-split experience rating plan acceptable in some states. Ins Field (Fire ed) 69:14 O 3 '40
Multi-split plan. Nat Underw 44:19+ F 1 '40
Multi-split rating plan. D. Porter. Spectator (Property ed) 5:12-13+ Ja 25 '40
Rates in N.Y. state to take 9.3% average decrease on July 1. East Underw 41:28 Je 21 '40; Nat Underw 44:15+ Je 20 '40; Spectator (Property ed) 5:21 Jl 11 '40
Rating methods on compensation risks in N.Y. challenged by Albany packing company. Nat Underw 44:15 N 7 '40
Report to commissioners on work of national council; abstracts. C. W. Hobbs. East Underw 41:29 Je 28 '40; Nat Underw 44:17+ Je 27 '40
Statistical methods as applied to casualty insurance. M. Kormes. bibliog Am Statis Assn J 35:47-54 Mr '40

Retrospective plan

Data on success of retrospective rating. C. W. Hobbs. East Underw 41:33 Jl 12 '40
Minimum premium for retrospective plan is reduced. Nat Underw 44:23+ Mr 21 '40
Minnesota opinion on retrospective cover. Weekly Underw 142:528 Ap 6 '40
National council analyzes experience of risks retrospectively rated. Nat Underw 44:19 My 30 '40
Opportunity to press use of retrospective plan. L. A. Klein. East Underw 41:26 Jl 26 '40
Retrospective rating; perfect answer for producers, assureds and companies. J. H. Eglof. Ins Field (Fire ed) 69:22-3+ N 7 '40; Abstracts. East Underw 41:37 N 1 '40; Nat Underw 44:33+ O 31 '40; Weekly Underw 143:1040 N 2 '40
Retrospective rating plans are in demand; abstracts. W. F. Roeber. East Underw 40:95 D 15 '39; Nat Underw 43:17+ D 21 '39
Stock-mutual battle rages over New York compensation plan. Nat Underw 44:19+ My 9 '40
Waiver of premium in high-low cover causes trouble; Lloyds is forcing rate upward and is applying underwriting restrictions. Nat Underw 44:15+ Je 6 '40

Self insurance

May now write stop loss in Michigan; excess coverage to authorized self-insurers. East Underw 41:31 Je 28 '40
Self-insurance by a municipal water utility, Portland, Me. J. A. Jackson. Water Works & Sewerage 87:408-9 S '40
Stop loss coverage for self-insurers O.K.'d in Michigan. Ins Field (Fire ed) 69:10+ My 30 '40

Statistics

Compensation experience in 1939. Nat Underw 44:34 Mr 21 '40

INSURANCE, Workmen's compensation—Statistics—*Continued*
Compensation results of N.Y. admitted insurers, 1939 and trend in compensation, 1930-1939. Nat Underw 44:18-19 Je 27 '40
Developed loss experience by companies, 1934-39. Nat Underw 44:27-8 Mr 7 '40

Alabama

Important revisions in Alabama law. Nat Underw 44:18 Ag 1 '40

California

Attack on private insurance seen in demand for further rate reductions. Ins Field (Fire ed) 68:13-14 N 23; 8 N 30 '39
California compensation rate attack answered; Attorney-General's ruling. Nat Underw 44:21+ Ja 25 '40
California state fund is pressing for rate cut. East Underw 41:36 F 2 '40
California state fund manager attacks overhead charges; commissioner grants rate reduction. J. C. Stirrat. Nat Underw 43:15+ N 23 '39
Favorable report on compensation rates issued by Caminetti; California state fund proposal would make rates inadequate. Nat Underw 44:20+ My 16 '40
Investigate California state compensation insurance fund's plea for reduction of expense loading. Nat Underw 44:18+ F 1 '40
More time on California rate revision. East Underw 40:34 D 22 '39; Nat Underw 43:17 D 21 '39
No change in California rates on compensation; final hearing. Nat Underw 44:21+ Mr 21 '40
Putting servants under law boosts California writings of workmen's compensation. Nat Underw 43:24 N 2 '39
State funds defy arithmetical law. F. J. Creede. Nat Underw 43:16 N 23 '39
Wants special schedule W; California department orders use of form like that of Pennsylvania for filing in 1941. East Underw 41:34 Jl 19 '40

Connecticut

Complaint that insurer forced dismissal is heard. Nat Underw 44:29 Mr 14 '40

Illinois

Illinois compensation administration, preliminary report for 1939. P. J. Angsten. Weekly Underw 142:152 Ja 13 '40

Michigan

Conflicting binders issued in effect at death of employe; Michigan mutual liability v. John Baker and others. East Underw 41: 38 N 1 '40
Disputed occupational accident plan withdrawn by Hoosier casualty of Indianapolis. Ins Field (Fire ed) 69:16-17 S 26 '40

Minnesota

Assistant Attorney General Devitt, of Minnesota, gives opinion on participating compensation policies. Weekly Underw 142:1312 Je 1 '40
Compensation bureau files reply to employers regarding insurance rates. Ins Field (Fire ed) 69:16 N 7 '40
Industrial report shows disability is very costly since $100 limit was dropped. Weekly Underw 141:1128 N 25 '39
Supreme court of Minnesota rules on part-time employees' status under state workmen's compensation law. Weekly Underw 143:76 Jl 13 '40

New York (state)

Additional hearing on compensation is asked by Risk research institute. Nat Underw 44:17+ My 30 '40
Compensation insurance rating board annual report, 1939; abstracts. L. S. Senior. East Underw 41:36+ F 9 '40; Nat Underw 44: 17+ F 1 '40; Weekly Underw 142:320-1 F 8 '40
Compensation insurance rating board 25th anniversary, New York. East Underw 40:37 N 17 '39; Spectator (Property ed) 5:8 N 16 '39
Dishonest practices; report on investigation of payroll audit division of the state insurance fund; abstracts. B. Botein. Nat Underw 44:20A+ My 9 '40; Weekly Underw 142:1167 My 11 '40
Evidence of insurance required in New York before issuing permit for new construction, alteration or repair. East Underw 41:34 Ag 16 '40
Experience on workmen's compensation insurance in 1939. Weekly Underw 143:134-5 Jl 20 '40
H. D. Sayer selected as general manager of the Compensation insurance rating board of New York. East Underw 41:28 Je 21 '40; Spectator (Property ed) 6:10 Je 27 '40; Weekly Underw 142:1507 Je 22 '40
Hearings on retrospective plan modification, graded commissions and expenses. East Underw 41:34 My 17 '40; Ins Field (Fire ed) 69:7-8 My 16 '40; Nat Underw 44:21+ My 16 '40; Spectator (Property ed) 5:8 My 16 '40
Rule on N.Y. rate in interstate risks. Nat Underw 44:16 Ag 1 '40
Workmen's compensation probe gets under way. East Underw 41:54 Ap 26 '40; Ins Field (Fire ed) 69:15-16 Ap 25 '40; Weekly Underw 142:1045 Ap 27 '40

Ohio

Ohio industrial commission fights attack of Tax league on state fund administration. Ins Field (Fire ed) 69:14+ F 29 '40
Ohio state fund debate; Fondiller's reply to W. W. Greene's criticism and his counter answer. Nat Underw 44:20+ My 23 '40
Premium delinquency to Ohio state fund results in receivership. East Underw 41:38 My 17 '40
Status of Ohio's compensation fund; abstracts. W. W. Greene. East Underw 40:42 N 24 '39; Nat Underw 43:17+ N 23 '39

Pennsylvania

Pennsylvania Federation correspondence with State workmen's insurance fund; competition with private companies. Ins Field (Fire ed) 69:31-2 Mr 7 '40; Nat Underw 44:34 Mr 7 '40; Weekly Underw 142:731+ Mr 23 '40
State fund soliciting hit by Insurance federation of Pennsylvania. H. W. Teamer. East Underw 41:38 My 17 '40

Scandinavia

Reciprocity of social insurance and assistance among the northern European countries. G. M. Drachmann. Int Labour R 42:47-57 Jl '40

United States

Compensation report. C. W. Hobbs. East Underw 40:33 D 22 '39
Progress of state insurance funds under workmen's compensation; a quarter century of American experience. J. B. Andrews. 42p U.S. Dept. of labor; pa 15c Supt. of doc. '39

Washington (state)

Accident fund (workmen's compensation) deficit $12,000,000. Nat Underw 44:15 Ja 18 '40

West Virginia

Decision in West Virginia case of uninsured employer is important. T. H. Pollock. Nat Underw 44:13+ Jl 18 '40

INSURANCE, Yacht. See Insurance, Motor boat

INSURANCE actuaries
Place for actuaries in United States government. D. C. Bronson. East Underw 41:9 My 24 '40

INSURANCE advertising conference
Annual meeting, 18th, Atlantic City. Ins Field (Fire ed) 69:9+ S 12 '40; East Underw 41:20+ S 13 '40; Nat Underw 44:3+ S 12 '40; Spectator (Property ed) 6:12-14+ S 19 '40; Ins Field (Life ed) 69:8+ S 13 '40; Weekly Underw 143:558, 576-7 S 14 '40

INSURANCE advertising conference—*Continued*
Meeting, New York. East Underw 41:38 Mr 8 '40; Ins Field (Fire ed) 69:9+ Mr 7 '40; Ins Field (Life ed) 69:11-12 Mr 8 '40; Nat Underw 44:4+, 5+ Mr 7 '40; Nat Underw (Life ed) 44:3+ Mr 1; 3+ Mr 8 '40; Weekly Underw 142:584+ Mr 2 '40
New officers; with portraits. East Underw 41:54 S 20 '40

INSURANCE advisers
Adjusters and counsellors operating in Los Angeles. Nat Underw (Life ed) 43:13 N 3 '39
Can probe affairs of the counsellors; extension of New York law. R. G. Engelsman. Nat Underw (Life ed) 44:1+ My 24 '40
Chicago counsellor clashes with Better business bureau; draws warning from state's attorney's office. Nat Underw (Life ed) 43:8+ N 24 '39
Counsellor brought into court in New York accused of practicing law. Nat Underw (Life ed) 44:1+ Mr 22 '40
Counselors termed hostile to insurance. J. B. Gontrum. Weekly Underw 141:1210-11 D 9 '39; Excerpts. East Underw 40:34C-D D 15 '39; Nat Underw (Life ed) 43:8+ D 15 '39
Denver counsellor activities checked; court forces return of premium on charges of fraud. Nat Underw (Life ed) 44:3+ My 17 '40
Discuss bill in California to license counsellors. Nat Underw (Life ed) 44:14 N 8 '40
Influence of fee tipsters weakening in New York. East Underw 41:1+ Mr 29 '40
Need of policyholder for outside counsel denied. J. M. McCormack. Weekly Underw 143:476 S 7 '40
Pink gets Attorney General's O.K. on probing counsellors. Nat Underw (Life ed) 44:3+ Ag 16 '40
Property insurance advisers; pros, cons and comments. W. A. Hamlin. Spectator (Property ed) 5:10-11+ N 30 '39
Ridicule is potent weapon in fighting fee counsellors; two Jewish newspapers keep readers informed. Nat Underw (Life ed) 43:1 D 1 '39
Savings bank life league's head is now a fee counsellor. Nat Underw (Life ed) 44:3 F 9 '40
Siegel prepares bill to license all New York insurance advisers. East Underw 40:1+ N 17 '39
Siegels sue, charging general conspiracy. East Underw 40:4 D 8 '39; Ins Field (Life ed) 68:9 D 8 '39
Strong opposition to licensing advisers expressed at Piper joint legislative committee hearing. East Underw 40:4 N 24 '39; Spectator (Life ed) 143:12 N 23 '39; Nat Underw (Life ed) 43:1+ N 24 '39
Suits in New York are recovering counsellors' fees. Nat Underw (Life ed) 43:1+ N 10 '39
Underwriters meeting condemns advisors. Weekly Underw 143:789 O 5 '40

INSURANCE agents
Agency system; vital link in the public acceptance of the insurance business. C. W. Young. Spectator (Life ed) 144:6-10+ Je 6 '40; Excerpts. East Underw 41:37 Je 7 '40; Weekly Underw 142:1393 Je 8 '40
Agent fulfills indispensable function in insurance. R. A. Hohaus. Weekly Underw 142:1286 My 25 '40
Agent objects to bulky rate manuals and their complicated system. S. T. Morrison. Nat Underw 44:24 Je 6 '40
Agents' value wanes unless they follow new road. W. Fetzer, jr. East Underw 41:38 Mr 22 '40
American agency system held to be as vital in New York as nationally. East Underw 40:30 D 1 '39
American insurance must prepare for service. E. M. Allen. East Underw 41:32 Jl 12 '40
Americans all; speech. F. W. Hancock, jr. East Underw 41:32 S 20 '40
Answer to attack on New Jersey agency appointment pledge. H. D. Holmes. Ins Field (Fire ed) 69:7 My 16 '40
Arguments to use against self-insurance scheme. Nat Underw 44:39 O 10 '40
Art of contacting. R. Goodale. East Underw 41:34 My 10 '40
Boring from within tactics scored; future of American agency system; abstracts. E. M. Allen. East Underw 41:25 My 31 '40; Nat Underw 44:20+ My 23 '40
California plan; declaration of guiding principles. Ins Field (Fire ed) 69:9 Ja 25 '40; Nat Underw 44:5 Ja 25 '40; Spectator (Property ed) 5:13 F 8 '40
Chicago firms to protect business of enlisted men. Ins Field (Fire ed) 69:9 O 10 '40
Cleveland board head sees need for set of guiding principles in Ohio. J. W. Barrett. East Underw 41:25 My 3 '40
Clinching sales suggestions. J. M. Joyce. Nat Underw 44:41 O 31 '40
Columbia university reports on present salaries of students in fire insurance scholarship course, 1930-31. R. H. Blanchard. East Underw 41:27 S 6 '40; Same. Nat Underw 44:4 S 5 '40
Company and the agent; discussion of the stock casualty situation. H. P. Stellwagen. Ins Field (Fire ed) 69:22-3, 28-30 S 26 '40
Cooperation plea; abstracts. A. J. Smith. Ins Field (Fire ed) 69:7+ Jl 11 '40; Weekly Underw 143:67 Jl 13 '40
Cover it; look for new perils and odd risks. G. B. Leonard. Ins Field (Fire ed) 68:22-3 N 16 '39
Detroit board has revised set-up. Nat Underw 43:6+ D 23 '39
Economic evolution compels agents to win greater prestige among buyers. W. Fetzer, jr. East Underw 41:3+ pt 2 My 10 '40
Frank C. Curtis and Howard Smith honored by Syracuse field club. East Underw 41:22 Mr 29 '40
Fundamentals of selling; eight factors. N. B. McCulloch. Ins Field (Fire ed) 69:24-8 O 10 '40
Greater responsiveness to needs urged by buyer. J. G. Reese. Nat Underw 44:15 Jl 4 '40
Improved agency qualifications in insurance. J. C. Blackall. Nat Underw Conv no 44:8+ S 20 '40; Same. Ins Field (Buffalo Conv Daily ed) 69:6 S 19 '40
Insurance buyer looks at insurance agents. L. H. Wiggers. Weekly Underw 143:782+ O 5 '40; Abstracts. East Underw 41:22 O 4 '40; Nat Underw 44:19+ O 3 '40
Insurance executives favor proposition for department to aid members in financial distress; abstract. W. A. Earls. Weekly Underw 143:824 O 12 '40; Nat Underw 44:10 O 10 '40
Insurance offers unlimited opportunity. L. E. Falls. Weekly Underw 142:349+ F 10 '40
Leading problems of agents reviewed in administration report. S. O. Smith. East Underw 41:22+ S 20 '40
Local board in action; Kansas City, Kansas, insurors won the Priest cup for activity. Ins Field (Fire ed) 68:18-19 N 23 '39
Local relations by the public agent. P. H. Midyette. Ins Field (Fire ed) 69:28-9 Ap 25 '40
Main factors in modern selling; ideas from N.A.I.A. forum. L. W. Garlichs. Ins Field (Fire ed) 69:22-3 My 2 '40
Middleman, right now; agents should chart future course; abstracts. W. H. Bennett. Weekly Underw 142:769+ Mr 30 '40; East Underw 41:20 Mr 29 '40; Ins Field (Fire ed) 69:9-10+ Mr 28 '40
Model residence display depicts need for complete selling. Nat Underw 44:31 F 15 '40
Mystery of grocers' strange insurance deal; National retail-owned grocers insurance agency, Chicago. Nat Underw 43:11 N 23 '39; 44:5 F 8 '40
National agents' leader reviews 1939. S. O. Smith. Weekly Underw 142:28+ Ja 6 '40
National defense and insurance; how agent can take advantage of opportunities. J. F. Crafts. Weekly Underw 143:1029 N 2 '40
New era of salesmanship. A. H. Morrill. Nat Underw 44:33 Mr 28 '40

INSURANCE agents—*Continued*
New Jersey agents modify appointment pledge to meet company objections. East Underw 41:16 My 10 '40; Ins Field (Fire ed) 69:7-8 My 9 '40; Nat Underw 44:10 My 9 '40; Weekly Underw 142:1142 My 11 '40
New Jersey agents to ask appointment pledge of companies. East Underw 41:1+ Mr 22 '40; Weekly Underw 142:596+ Mr 9 '40
1940 inventory; humorous self-analysis chart. C. B. Petrie. Weekly Underw 142:8-9+ Ja 6 '40
Non-stock competition activity; cross section survey conducted by the Field. Ins Field (Fire ed) 69:20-1, 26 S 5 '40
Ohio association president airs producers problems; abstracts. W. A. Earls. Nat Underw 44:3+ Ja 25 '40; Weekly Underw 142:233+ Ja 27 '40
Outlook of the farm writing agent. B. R. Walinder. Nat Underw 44:19+ O 3 '40
Period of expansion ahead for alert agents. E. C. Stone. East Underw 41:33 O 4 '40
Permanence of agency system is up to producers; brokers and agents should not represent mutuals. R. H. Bland. Nat Underw 44:19 F 1 '40
Pittsburgh agents ask companies' observance of laws. East Underw 41:17 Ag 16 '40
Plea to end compromise for expediency; abstracts. W. A. Earls. Weekly Underw 142:889+ Ap 13 '40; Ins Field (Fire ed) 69:7 Ap 11 '40; Nat Underw 44:17 Ap 11 '40
Pointers for local agents. Published in weekly numbers of National underwriter
Pointers in merchandising insurance. T. H. Ross. Ins Field (Fire ed) 69:22-4 D 12 '40; Abstract. Nat Underw 44:23+ N 7 '40
Pointers on mutual competition. A. D. Cronin. Weekly Underw 142:701+ Mr 23 '40
Problems confronting producers; Ohio association president airs views. W. A. Earls. Weekly Underw 142:1335+ Je 1 '40
Problems of local agents. J. A. Lloyd. Weekly Underw 143:757+ O 5 '40
Public relations begins at home. R. W. Bugli. Ins Field (Fire ed) 69:24-5 F 15 '40
Rural agents; abstracts. R. W. Forshay. Spectator (Property ed) 6:40 S 19 '40; East Underw 41:42 S 27 '40
St Louis Board to consider changes to constitution and by-laws. Nat Underw 43:5 N 22 '39
St. Louis board's new setup and plan for public relations campaign on value of stock insurance; abstracts. J. J. O'Toole. East Underw 41:16 My 31 '40; Ins Field (Fire ed) 69:7-8 My 30 '40; Nat Underw 44:27 My 30 '40
Save the agency system; increasing lack of harmony within insurance ranks. H. C. Stebbins. Ins Field (Fire ed) 69:16-17 Ap 4 '40
Secession stand of Ohio association of insurance agents, Feb. 1939. H. D. Van Gilder. Ins Field (Fire ed) 69:7 Ap 4 '40
Successful selling. Published in weekly numbers of Insurance field (Fire-casualty edition)
Texas conditions reviewed. F. C. Gittinger. Nat Underw 44:10 My 16 '40
Where does the trend compass point for you? C. T. Hubbard. Weekly Underw 142:26+ Ja 6 '40
Where to start selling insurance. Weekly Underw 142:544 Mr 2 '40
Will the agent survive? prominent insurance buyer says yes. A. P. Lange. Ins Field (Fire ed) 69:16-17+ F 8 '40

See also
Insurance associations
Insurance brokers
also subdivision Agents under various forms of insurance, e.g. Insurance, Automobile—Agents
also National association of insurance agents

Advertising

Ad suggestions for insurance agents. il Weekly Underw 141:1384-6; 142:794-6, 1566-8; 143:442-4 D 30 '39, Mr 30, Je 29, Ag 31 '40
Advertising and news; how one local agent links his agency with current events. M. D. Pepperman. Ins Field (Fire ed) 69:16 Ag 8 '40
Agents' advertising can be profitable. E. Miller. East Underw 40:25+ N 24 '39
Brooklyn local agency launches a bold advertising program in the large newspapers. il Ins Field (Fire ed) 68:22 N 30 '39
County fairs pay off; local agent advertising that paid dividends. J. S. Johnson; W. H. Pearson. il Ins Field (Fire ed) 69:26 My 16 '40
Direct mail as a sales tool. C. W. Smitheman. Weekly Underw 141:1165 D 2 '39
Making advertising pay. G. Brown. Ins Field (Fire ed) 69:18 Je 27 '40
National association of insurance agents has new public relations plan; extra copies of Profit and progress. East Underw 41:30 F 16 '40
Postcard did it all; how Ocie Hunt, Bradshaw, Tex. advertises his customers. Ins Field (Fire ed) 69:20 Mr 21 '40
Premiums from advertising. W. N. Hoffman. Ins Field (Fire ed) 69:20 Ap 4 '40
Publicity given in skunk loss. Ins Field (Fire ed) 69:21 O 31 '40
Simple formula for correct use of good direct mail advertising. East Underw 41:32 Je 7 '40
So you want to advertise! why? H. E. Taylor. Weekly Underw 142:849 Ap 6 '40; Same. Ins Field (Fire ed) 69:26 Mr 28 '40; Same cond. East Underw 41:28 Ap 5 '40
Two things one local agency does which help it get new business. R. H. Aaronson, jr. Ins Field (Fire ed) 69:22-3 O 10 '40
Way to offset cooperatives is to remove cause for their existence. R. W. Bugli. East Underw 41:18 Je 21 '40

Agency management

Agency balances. Ins Field (Fire ed) 69:20 S 26 '40
Agency departments comment on what home office production men do on agency visits. East Underw 41:3-4 My 3 '40
Agency operation and management discussed at annual meeting of the National association of insurance agents. Nat Underw 44:37 S 26 '40
Agency saving of $10 a month equals $1,500 a year new business. O. Beling. East Underw 41:25+ Mr 22 '40
Agency system has proven ability to serve public. S. M. Hollander. Weekly Underw 142:204 Ja 20 '40
American association of insurance general agents annual meeting, Dallas. East Underw 41:20-2 Ap 19; 20-1 Ap 26 '40; Nat Underw 44:2+ Ap 18 '40
California panel discusses costs, making small policies profitable, premium financing. Nat Underw 44:5+ N 7 '40
Criticism of local agency practices and salesmanship by an unbiased buyer. A. C. Bryant. Ins Field (Fire ed) 69:16-17 Jl 4 '40
Cutting costs; saving money on special billheads. M. T. Leahy. il Ins Field (Fire ed) 69:17, 20 Ja 11 '40
Defrosting agency correspondence. J. W. Scherr, jr. East Underw 41:37 Mr 1 '40
Four ways to cut costs; local agents present 4 methods. L. O. Meeks; J. T. Talton; F. M. Dayton. Ins Field (Fire ed) 69:18 Ap 4 '40
Geared for production; N.A.I.A. forum on office routine; abstracts. O. Beling. Ins Field (Fire ed) 69:28-9 My 2 '40; Nat Underw 44:33 My 2 '40
General agency business well-organized in Texas. Ins Field (Fire ed) 69:16-18 Ap 11 '40
How agency should make use of telephone. M. A. Cramer. East Underw 41:24 Ag 2 '40
How your office looks to your public, and attention to guest requirements important. R. Bugli. Ins Field (Fire ed) 69:22-3 O 17 '40
Management of agency. O. Beling. Weekly Underw 143:230 Ag 3 '40

INSURANCE agents—Agency management—*Continued*
Motivation is most important job in agency building. E. B. Brink. Nat Underw 44:30 F 1 '40
Motivation—why, when and how? C. F. Lundquist. Ins Field (Fire ed) 69:18-19 Je 13 '40; Same. Ins Field (Life ed) 69:16-17 Je 14 '40; Same. Weekly Underw 142:92-3 Jl 13 '40
Office systems; 10 leading questions. O. Beling. Nat Underw 44:19 O 24 '40
Paviour agency of Rochester prepares for 70th anniversary. East Underw 40:101+ D 15 '39
Plenty of satisfaction in running an insurance agency. D. F. Giberson. East Underw 41:12+ pt 2 My 10 '40
Ploughing deeply is necessary to get better results. S. Welton. Nat Underw 44:23+ Ap 18 '40
Put the printer on the pay-roll; printed forms increase agency business. M. F. Pomeroy. Ins Field (Fire ed) 69:20-1 Mr 14 '40
Salesmen lean on their shovels too often? box score posted weekly prods insurance salesmen. Sales Management 47:58 S 1 '40
Streamlined management; efficient agency office management and routine is essential to show a profit. O. Beling. Ins Field (Fire ed) 69:20-1+ Ag 15 '40
Successful agency operation; a symposium. Ins Field (Fire ed) 69:18-19 Ja 4 '40
Successful agency operation; interview with George R. Teeson, Alexandria, Minn. E. L. Roney. Ins Field (Fire ed) 69:24 Mr 7 '40
Two things one local agency does which help it get new business. R. H. Aaronson, jr. Ins Field (Fire ed) 69:22-3 O 10 '40
What customers expect of an up-to-date local agency. J. B. Hopkins. Ins Field (Fire ed) 69:20-2 Ag 22; 20-2 Ag 29 '40
What it means to build public relations among my customers. C. E. Dalrymple. East Underw 41:33 pt 2 My 10 '40
Which way to stability? W. Meiss. Weekly Underw 141:1382-3 D 30 '39
Whipping the collection problem. C. S. Whitner, il Ins Field (Fire ed) 69:18-19+ Je 20 '40

Commissions

Bennett takes issue with Benjamin Rush; resents commission claims made before American bar association. East Underw 41: 24 S 20 '40
Colorado agents despair of increased commissions. Ins Field (Fire ed) 69:13 My 23 '40
Colorado agents pursue contingent commission demand. Nat Underw 44:3+ F 8 '40
Commission cut is hard but necessary. L. E. Falls. Nat Underw 44:21 O 31 '40
Contingent commissions studied by S.E.U.A. committee. Nat Underw 44:5+ F 15 '40
Contingent demand from agents in Rocky Mountain field. Nat Underw 44:5+ F 15 '40
Dynamite; Illinois insurance situation. Ins Field (Fire ed) 68:7-8 N 23 '39
Graded commission plan recommended for large premiums; committee representing casualty and surety companies. Nat Underw 44:21+ S 19 '40
Graded commissions and expense differ. W. H. Menn. East Underw 41:39 N 1 '40
Graded commissions on large bonds voted by insurance organizations. East Underw 41:33 O 25 '40
Graded commissions; views of producers. S. O. Smith. Weekly Underw 143:613+ S 21 '40
Graded form of commissions sought on high premium risks. Nat Underw 44:29+ S 12 '40
Local board reference weighs problems of direct writing and auto finance. East Underw 41:28 S 20 '40
New rules for Cook county, Illinois, start today; casualty and surety acquisition costs. East Underw 40:30 D 1 '39
Prominent head of agency comments on acquisition cost. Nat Underw 43:17+ N 9 '39
Protective custody has dangers; agents warned against promoting severe restrictive laws. E. M. Allen. Nat Underw 44:18+ F 1 '40
S.E.U.A. rejects contingent commission. East Underw 41:20 Ap 5 '40; Nat Underw 44:5 Ap 4 '40; Ins Field (Fire ed) 69:8-9 Ap 4 '40

Contracts

Contract provision requiring agent to return to company all unearned commissions on policies cancelled held reasonable. Weekly Underw 142:393 F 10 '40
Mutual agent loser in expiration ownership case. Nat Underw 43:5 N 2 '39

Conventions

Agents' state associations convene. Spectator (Property ed) 5:6-7 N 16 '39
Alabama association of insurance agents 44th annual meeting, Montgomery, May 9-10. Ins Field (Fire ed) 69:16-17 My 16 '40; Nat Underw 44:3+ My 16 '40; Weekly Underw 142:1152, 1218 My 11-18 '40
Arizona association of insurance agents annual meeting, Tucson. Nat Underw 43:3+ N 2 '39
Arizona association of insurance agents annual meeting, Phoenix. Nat Underw 44:5+ N 7 '40
Arkansas association of insurance agents 40th annual convention, Hot Springs, May 10-11. Ins Field (Fire ed) 69:18 My 16 '40; Nat Underw 44:1+ My 16 '40
California association of insurance agents annual meeting, Oakland. East Underw 40:27 D 1 '39; Ins Field (Fire ed) 68:14-15+ N 16 '39; Nat Underw 43:3+ N 16; 5+ N 23 '39
California association of insurance agents annual meeting, Los Angeles. Ins Field (Fire ed) 69:9 N 7 '40; Nat Underw 44:3, 27+, 33 O 31 '40
Colorado and Vermont agents hold meetings. Spectator (Property ed) 6:9 O 3 '40
Colorado association of insurance agents annual convention, Colorado Springs, Sept. 13-14. Ins Field (Fire ed) 69:13+ S 19 '40; Nat Underw 44:4+ S 19 '40
Connecticut association of insurance agents annual meeting, New Haven. East Underw 41:20 N 8; 17 N 15 '40; Nat Underw 44:3+ N 7; 4+ N 14 '40
Connecticut association of insurance agents 41st annual meeting, New Haven. East Underw 40:25-6 N 24 '39; Ins Field (Fire ed) 68:8-9+ N 23 '39; Nat Underw 43:3+ N 23 '39
Florida insurance agents association annual convention, Palm Beach. Ins Field (Fire ed) 69:24-6+ Ap 18 '40; Nat Underw 44: 1+ Ap 18 '40
Georgia association of insurance agents annual convention, Tybee Island. Ins Field (Fire ed) 69:11+ My 30 '40; Nat Underw 44:1+ My 30 '40; Weekly Underw 142:1309+ Je 1 '40
Idaho association of insurance agents annual meeting, Hayden Lake. Nat Underw 44:3+ Ag 15 '40
Illinois association of insurance agents annual convention, Springfield. Nat Underw 43:21+ N 16 '39
Illinois association of insurance agents 41st annual convention, Rockford, Oct. 24-25. Ins Field (Fire ed) 69:12-13 O 24 '40; Nat Underw 44:21-2, 23, 24 O 31 '40
Indiana association of insurance agents, 40th annual meeting, Indianapolis. Nat Underw 43:28+ N 16 '39
Indiana association of insurance agents 41st annual meeting, Indianapolis, Oct. 29-30. East Underw 41:24 N 8 '40; Ins Field (Fire ed) 69:9-10+ N 7 '40; Nat Underw 44:28, 31 O 31 '40
Iowa association of insurance agents 34th annual convention, Des Moines. Ins Field (Fire ed) 69:11+ S 12 '40; Nat Underw 44:25-7+ S 12 '40
Kansas association of insurance agents midyear meeting, Wichita. Nat Underw 44:3+ Ap 25 '40

INSURANCE agents—Conventions—*Continued*
Kansas association of insurance agents 20th annual convention, Hutchinson, Oct. 9-10. Ins Field (Fire ed) 69:10-11+ O 17 '40; Nat Underw 44:6+ O 10; 16-17 O 17 '40
Kentucky association of insurance agents 47th annual convention, Lexington, June 19-21. Ins Field (Fire ed) 69:10+ Je 20; 12-13 Je 27 '40; Nat Underw 44:2+ Je 20; 3+ Je 27 '40
Louisiana insurance society meeting, Shreveport. Nat Underw 44:3+ Mr 28; 3+ Ap 4 '40; Ins Field (Fire ed) 69:15-16+ Mr 28; 7-8 Ap 4 '40
Maine association of insurance agents annual meeting, Waterville. Ins Field (Fire ed) 69:12 O 24 '40
Maryland association of insurance agents 4th annual convention, Baltimore, Oct. 24. East Underw 41:29 N 1 '40; Nat Underw 44:3+ O 31 '40
Massachusetts association of insurance agents 41st annual convention, Worcester. East Underw 41:24-5 O 11 '40; Ins Field (Fire ed) 69:13-14 O 10 '40; Nat Underw 44:3+ O 10 '40; Spectator (Property ed) 6:6 O 17 '40; Weekly Underw 143:825-6 O 12 '40
Michigan association of insurance agents annual meeting, Detroit. Nat Underw 44: 5+ S 5; 21-3+ S 12 '40; Ins Field (Fire ed) 69:10+ S 12 '40
Minnesota association of insurance agents 43d annual meeting, Duluth. Ins Field (Fire ed) 69:8 Ag 22; 11+ Ag 29 '40; Nat Underw 44:3+ Ag 29 '40
Mississippi association of insurance agents 42d annual convention, Biloxi. Ins Field (Fire ed) 69:12+ My 30 '40; Nat Underw 44:3+ My 30 '40
Missouri association of insurance agents 41st annual convention, Joplin, Oct. 7-8. Ins Field (Fire ed) 69:11-12+ O 10 '40; Nat Underw 44:22+, 23+ O 10 '40; Spectator (Property ed) 6:6-7 O 17 '40
Montana association of insurance agents annual convention, Lewistown. Nat Underw 44:3+ Ag 22 '40
N.A.I.A. mid-year meeting, Wichita, Kan. Ins Field (Fire ed) 69:17+ Ap 25; 11+ My 2 '40; East Underw 41:1+ Ap 26; 28 My 2 '40; Nat Underw 44:3+ Ap 25; 3+ My 2 '40; Spectator (Property ed) 5:10-12+ My 2 '40; Weekly Underw 142:1022-6 Ap 27 '40
Nebraska association of insurance agents annual meeting, Lincoln. Ins Field (Fire ed) 69:14+ My 30 '40; Nat Underw 44:1+ My 30 '40
New England associations of insurance agents 19th annual convention, Poland Springs, Me., June 26-28. East Underw 41:26-7 Jl 6 '40; Ins Field (Fire ed) 69:9+ Jl 4 '40; Nat Underw 44:5+ Je 27; 3+ Jl 4 '40; Spectator (Property ed) 6:8+ Jl 11 '40; Weekly Underw 142:1552-7 Je 29 '40
New Hampshire association of insurance agents annual meeting, Manchester. Nat Underw 44:5+ O 31 '40
New Jersey association of underwriters 47th annual convention, Atlantic City. East Underw 41:16+ S 6; 21-2 S 13 '40; Nat Underw 44:3+ S 5; 4+ S 12 '40; Ins Field (Fire ed) 69:9-10+ S 12 '40; Weekly Underw 143:556+ S 14 '40
New Jersey association of underwriters meeting, Newark. East Underw 41:18-20, 40, 43 Mr 15 '40; Ins Field (Fire ed) 69:9-10+ Mr 14 '40; Nat Underw 44:3+ Mr 14 '40; Spectator (Property ed) 5:7-8 Mr 21 '40
New Mexico association of insurance agents 7th annual convention, Santa Fe, Oct. 18-19. Ins Field (Fire ed) 69:12+ O 24 '40; Nat Underw 44:5+ O 24 '40
New York state association of local agents 58th annual convention, Syracuse. East Underw 41:1+, 19-23 My 17 '40; Ins Field (Fire ed) 69:14-15 My 16 '40; Nat Underw 44:1+, 3+ My 16 '40; Spectator (Property ed) 5:14-15+ My 16 '40; Weekly Underw 142:1202-7, 1211 My 18 '40
North Carolina association of insurance agents annual convention, Winston-Salem, April 28-30. Ins Field (Fire ed) 69:12-13 My 2 '40; Nat Underw 44:1+ My 2 '40; Weekly Underw 142:1088-9+ My 4 '40
Ohio association of insurance agents annual convention, Cleveland. Nat Underw 44:18-21+ O 3 '40; East Underw 41:16 O 4 '40; Ins Field (Fire ed) 69:9-11+ O 3 '40; Weekly Underw 143:768 O 5 '40; Spectator (Property ed) 6:7 O 17 '40
Ohio association of insurance agents mid-year meeting, Columbus. Nat Underw 44: 1+ My 30 '40
Oklahoma association of insurors 31st annual convention, Enid. East Underw 41:16 My 31 '40; Ins Field (Fire ed) 69:13 My 30 '40; Nat Underw 44:1+ My 30 '40
Ontario fire and casualty insurance agents' association 20th annual meeting, Toronto. East Underw 41:26+ O 25 '40; Nat Underw 44:4+ O 24 '40
Oregon insurance agents association annual meeting, Portland. Nat Underw 44:17, 25-6 Ag 8 '40
Pennsylvania association of insurance agents annual convention, Pittsburgh, Oct. 3-4. Ins Field (Fire ed) 69:9 O 3; 11+ O 10 '40; East Underw 41:25 O 4; 24 O 11 '40; Nat Underw 44:3+ O 3; 3+ O 10 '40; Spectator (Property ed) 6:34 O 17 '40; Weekly Underw 143:829 O 12 '40
Rhode Island association of insurance agents annual meeting, Providence. Nat Underw 44:4+ O 31 '40
South Carolina association of insurance agents 42d annual convention, Charleston, May 16-17. Ins Field (Fire ed) 69:16+ My 23 '40; Nat Underw 44:3+ My 23 '40; Weekly Underw 142:1257 My 25 '40
Southern Illinois agents forum, Belleville. W. A. Scanlon. Nat Underw 44:3, 34-5 F 22 '40
Suburban New York association of local agents annual meeting, New Rochelle. East Underw 41:19 My 3 '40
Tennessee association of insurance agents 47th annual convention, Chattanooga. Ins Field (Fire ed) 69:10 Je 13; 9-10+ Je 20 '40; Nat Underw 44:3+ Je 20 '40; Weekly Underw 142:1495 Je 22 '40
Texas association of insurance agents 43d annual convention, Houston. Ins Field (Fire ed) 69:17+ My 23 '40; Nat Underw 44:14+ My 23 '40; Spectator (Property ed) 5:7 My 30 '40
Utah fire and casualty insurors' association 21st annual convention, Salt Lake City, Aug. 2. Ins Field (Fire ed) 69:7-8 Ag 8 '40; Nat Underw 44:3+ Ag 8 '40
Vermont association of insurance agents annual meeting, Fairlee. Ins Field (Fire ed) 69:14+ S 19 '40; Nat Underw 44:49 S 12 '40
Virginia association of insurance agents 42d annual convention, Virginia Beach, May 30-June 1. East Underw 41:28 Je 7 '40; Ins Field (Fire ed) 69:9+ Je 6 '40; Nat Underw 44:5+ Je 6 '40; Weekly Underw 142:1374+ Je 8 '40
Washington insurance agents league annual meeting, Seattle, Aug. 7-9. Nat Underw 44:5+ Ag 8; 15+ Ag 15 '40; Ins Field (Fire ed) 69:11-12 Ag 15 '40
West Virginia association of insurance agents annual meeting, White Sulphur Springs. Ins Field (Fire ed) 69:7-8 Jl 11 '40; Nat Underw 44:3+ Jl 11 '40; Spectator (Property ed) 6:20 Jl 11 '40
Wisconsin agents 42d annual convention, Fond du Lac, Oct. 17-18. Ins Field (Fire ed) 69:10+ O 17 '40; Ins Field (Fire ed) 69:11+ O 24 '40; Nat Underw 44:19-20 O 24 '40
Wyoming association of insurance agents annual meeting, Casper. Nat Underw 44:3+ S 12 '40

See also
National association of insurance agents

Costs
General agency management costs analyzed. L. S. Morrison. Nat Underw (Life ed) 44:5 Mr 22 '40

INSURANCE agents—*Continued*

Irregular agents

Goodpaster of Kentucky to license only bona fide agents; certain representatives of finance companies and loan associations adversely affected. Weekly Underw 142:1486+ Je 15 '40

Law

Agent liable for losses of unlicensed insurer; verdict of Tennessee supreme court. Nat Underw 44:27 S 28 '40

Agent qualifications improving steadily. J. C. Blackall. East Underw 41:24 S 20 '40

Agents' status still moot question in N.Y.; hearing on unemployment insurance tax. East Underw 41:13 O 4 '40; Nat Underw (Life ed) 44:8 O 4 '40

Annual statements and agents' licenses; requirements in New Hampshire. Weekly Underw 142:237 Ja 27 '40

Associated grocers agree to stop offering free insurance in Missouri. Ins Field (Fire ed) 69:12 My 23 '40

Brokerage of business between agents; North Carolina ruling. Weekly Underw 141:1367 D 30 '39

Colorado restricts agents licensing. Nat Underw 44:3 F 1 '40

Committee on New York state examination of new agents named by Supt Pink. East Underw 41:1+ F 2 '40

Connecticut opinion on agent examination fee. Weekly Underw 142:648+ Mr 16 '40

Contract terms viewed broadly in agents' unemployment insurance. Nat Underw (Life ed) 44:13-14 Mr 1 '40

Countersignature commission law defended. B. C. Hopkins. Nat Underw 44:27+ S 12 '40

Countersignature issue is sharp one in the business. Nat Underw 44:15+ Jl 4 '40

Counter-signature law in Montana to get Supreme court test. Ins Field (Fire ed) 69:12 Je 6 '40

Countersignature model act attacked by the mutuals. Nat Underw 43:4+ D 14 '39

Countersignature right of unlicensed clerical employees; California opinion. Weekly Underw 142:1436 Je 15 '40

Defends trust account law; stricter law for agents necessary to cut misuse of company funds; abstracts. H. D. McNairn. East Underw 41:26 N 1 '40; Nat Underw 44:45-6 O 31 '40

Expect repealer of Montana counter-signature law; W. H. Bennett gives reaction to decision of Supreme court in upholding law. Nat Underw 44:6+ O 24 '40

Finance companies' employees' licenses to be lapsed in Kentucky. Ins Field (Fire ed) 69:8 Je 13 '40

Full efficiency for '41. W. H. Bennett. Weekly Underw 143:613+ S 21 '40; Excerpts. Spectator (Property ed) 6:17+ S 19 '40; Abstract. East Underw 41:26+ S 20 '40

How surplus line law works in Arizona; explanation of Lloyds transactions. Nat Underw 44:3+ N 7 '40

Insurance broker-agent, their status under the laws of the various states. H. Law. 106p pa $1.50 Harrison Law, 44 Whitford av, Nutley, N.J. '39

Kavanaugh's probe brings cancellations in Colorado. Nat Underw 44:37 Mr 28 '40

Kentucky new non-residents law explained; abstracts. S. Goodpaster. Weekly Underw 142:1541+ Je 29 '40; Ins Field (Fire ed) 69:9 Je 27 '40

License renewal; California requirements altered by action of legislature. Weekly Underw 142:1312 Je 1 '40

Louisiana countersignature bill is amended. Nat Underw 44:4 Jl 25 '40

Maine to have new countersigning rule; minimum commission of 10 percent to be paid on casualty and surety business. C. W. Lovejoy. Nat Underw 44:7 O 24 '40

Minnesota issues questionnaire for license applicants. Nat Underw 44:27 Je 6 '40; Weekly Underw 142:1389 Je 8 '40

Misappropriation of funds by agents, brokers and solicitors; California ruling. Weekly Underw 142:892 Ap 13 '40

Missouri agents' leader traces deals of National retailer-owned grocers insurance agency. W. J. Welsh. Nat Underw 44:3+ Ap 18 '40

Missouri reinstates Rhode Island insurance co. license; policy issued to National retail owned grocers cancelled. East Underw 41:27 My 17 '40; Ins Field (Fire ed) 69:8-9 My 16 '40; Nat Underw 44:8+ My 16 '40; Weekly Underw 142:1201 My 18 '40

Missouri; revised procedure for licensing agents and brokers. Ins Field (Fire ed) 69:33 Mr 28 '40

Model licensing law. S. O. Smith. Ins Field (Fire ed) 69:7 Je 6 '40; Same. Nat Underw 44:3+ Je 6 '40; Excerpts. Weekly Underw 142:1376 Je 8 '40

Model non-resident agents bill studied at Commissioners' Biloxi meeting. East Underw 40:107 D 15 '39; Weekly Underw 141:1254+ D 16 '39

Montana agents not enthusiastic over countersignature decision. Nat Underw 44:16 O 31 '40

Montana resident agent law voided. East Underw 41:27 Mr 22 '40; Ins Field (Fire ed) 69:7-8 Mr 21; 10 Mr 28 '40; Nat Underw 44:5+ Mr 21; 4+ Ap 11 '40; Weekly Underw 142:770 Mr 30 '40

Monthly schedule for life agents' examinations aids New York managers. Nat Underw (Life ed) 44:4+ Ja 19 '40

National retail owned grocers insurance scheme run to earth by President Welsh, Missouri agents association. Nat Underw 44:2+ My 30 '40

New Canadian rules are expected to reduce agents' overdue balances; trust accounts required for premiums collected. East Underw 41:44 S 27 '40

New Hampshire will stiffen examinations; local associations might grade their own applicants for membership; abstracts. A. J. Rouillard. East Underw 40:26 D 1 '39; Weekly Underw 141:1155 D 2 '39; Nat Underw 43:7 N 30 '39; Nat Underw (Life ed) 43:9 D 1 '39

New rule on no. 2 agency licensing in Colorado. Nat Underw 44:28 N 7 '40

New Supreme court decisions changing Constitution's drift; Virginia resident agent case, Erie v. Tompkins, etc. S. R. Feller and L. H. Hirsch, jr. East Underw 41:1+ My 3 '40

New York basic data for license examinations; insurance department syllabus. East Underw 41:4 F 2 '40

New York law as to mingling of funds. Nat Underw 44:13 F 15 '40

Ohio licensing is explained. V. S. Martin. Nat Underw 44:3+ Ap 11 '40

Ohio non-resident infractions disclosed in report. Ins Field (Fire ed) 69:9 F 29 '40; Nat Underw 44:37 F 22 '40

Oregon agents fight licensing of Motors insurance corp., General Motors affiliate. East Underw 40:35 N 24 '39; Ins Field (Fire ed) 68:29 N 16 '39

Pennsylvania dept. alters qualification rules for producers. East Underw 41:1+ Je 14 '40

Pennsylvania regulations for qualifying agents. H. R. Teitrick. East Underw 41:34 O 11 '40

Pierce & Sibert sues Pacific board of fire underwriters over the loss of the Hollywood turf club line of insurance. Ins Field (Fire ed) 69:10 My 9 '40

Procedure to secure unemployment compensation tax exemption under Social security act. Nat Underw (Life ed) 44:21 O 25 '40

Progress is made in countersignature law problem. R. Murphy. Nat Underw 44:17+ Ag 8 '40; Same. Weekly Underw 143:269+ Ag 10 '40

Protective custody has dangers; agents warned against promoting severe restrictive laws. E. M. Allen. Nat Underw 44:18+ F 1 '40

Report of California state division of insurance department of license complaints. Ins Field (Fire ed) 68:11-12 N 16 '39

Resident agent law of Montana upheld by U.S. Supreme court. East Underw 41:24 O 18 '40; Nat Underw 44:3 O 17 '40

INSURANCE agents—Law—*Continued*
Resident agents' law asked for Tennessee. J. M. McCormack. Weekly Underw 142: 1437-8 Je 15 '40
Restrictions on countersignature a trying problem; improvement in agency law traced. J. C. Blackall. Nat Underw 44:30 O 31 '40
Rhode Island insurance co. explains its temporary suspension in Missouri; covered the so-called free insurance offered by the National retailer-owned grocers, inc. Ins Field (Fire ed) 69:8 Ap 18 '40
Solicitors' licenses; Ohio renewal ruling. Weekly Underw 143:1084 N 9 '40
Tennessee department examines agents' qualifications. Ins Field (Fire ed) 69:10-11 Ag 22 '40
Thorough checkup on agents planned by Tennessee insurance department. Nat Underw 44:4 Ap 4 '40
Two groups weigh countersignature legislation value; commissioners and company men and agents. Nat Underw 44:15+ Jl 25 '40
Two Virginia agents bills passed. Weekly Underw 142:649 Mr 16 '40
Unauthorized assignment of renewals forfeits agent's rights thereto. East Underw 41:11 F 9 '40
Unemployment compensation and life agents' status; abstracts. R. L. Hogg. East Underw 41:21 S 6 '40; Weekly Underw 143: 519 S 7 '40; Nat Underw (Life ed) 44: 4+ S 13 '40
U.S. Supreme court appeal granted in Virginia suit. Nat Underw 43:17+ N 9 '39
Unqualified Tennessee agents to be denied licenses. Ins Field (Fire ed) 69:9 O 17 '40
Virginia countersignature decision of U.S. Supreme court. C. A. Abrahamson. East Underw 41:33 My 3 '40
Virginia resident agent law upheld by U.S. Supreme court. East Underw 41:52 Ap 26 '40; Ins Field (Fire ed) 69:7-8 Ap 25 '40; Nat Underw 44:3+ Ap 25 '40; Weekly Underw 142:1017+ Ap 27 '40
Virginia resident agents law upheld. J. L. Roesch. Spectator (Property ed) 5:28-9, 36 My 2 '40
Wage and hour issue as to insurance. Nat Underw 44:4 N 7 '40
Watchful waiting policy adopted on countersignature laws. W. A. Earls. East Underw 41:26 My 31 '40

Multiple line selling
Sell more lines; personal liability, combination residence, commercial water damage insurance, and fidelity bonds. F. W. Potter. Ins Field (Fire ed) 69:18-19 My 30 '40

Part-time agents
Michigan ruling hits part-time agents. East Underw 41:18 Ap 5 '40; Ins Field (Fire ed) 69:9 Ap 4 '40; Ins Field (Life ed) 69:8 Ap 26 '40; Weekly Underw 142:960 Ap 20 '40

Prospects
1940 federal census will provide agents with valuable information. East Underw 40:33 D 1 '39; Weekly Underw 141:1153+ D 2 '39; Spectator (Property ed) 5:10 Ja 25 '40

Public relations
Opportunity is being neglected in public relations. C. D. Minor. Nat Underw 44:9 O 10 '40
Public relations moves must combat destructive thinking. R. W. Bugli. East Underw 41:33 N 1 '40
Spotlight of opinion; more self-improvement needed; abstracts. D. A. North. East Underw 41:28 O 18 '40; Nat Underw 44:5+ O 17 '40; Weekly Underw 143:893+ O 19 '40

Records
Record system. B. J. Schmidt. Ins Field (Fire ed) 68:18 D 14 '39

Sales portfolios
Royal-Liverpool companies expand survey idea; called planned protection. East Underw 41:20 S 20 '40; Weekly Underw 143:620 S 21 '40
Visual sales portfolio on survey service issued by National Fire. East Underw 41:22 N 8 '40; Same. Weekly Underw 143:897+ O 19 '40

Service
How agents can extend service. S. Welton. Nat Underw 44:16 Ag 15 '40
In what words, Mr Agent? 16 points of local agent service. C. G. Hallowell. Ins Field (Fire ed) 69:20-1 O 24 '40
Record form for assureds' own use gets business for local agent. A. R. Matthews. Ins Field (Fire ed) 69:22 Mr 21 '40
Service through surveys; local agents should use survey. M. W. Slawson. Ins Field (Fire ed) 69:20-1+ N 7 '40

Show windows
Fireman turned hobby into a job; house models dramatize buyer needs and fire prevention. il East Underw 41:34 My 10 '40
Insurance firm finds window displays effective sales builders. il Sales Management 46:30 Ja 15 '40

Training
New England agents planning broad expansion of educational programs. C. I. Fisher. East Underw 41:25+ Je 28 '40
Rapid growth in educational work by state associations. L. P. McCord. East Underw 41:40 S 20 '40

See also
Insurance—Study and teaching
Insurance, Life—Agents—Training

Unions
Commerce question made issue in Labor board's decision in John Hancock Mutual Life case. East Underw 41:1+ Ag 30 '40; Ins Field (Fire ed) 69:8 Ag 29 '40; Nat Underw 44:15-16 Ag 29; 3+ S 5 '40; Nat Underw (Life ed) 44:1 Ag 30; 1+ S 6 '40
Doubt commerce issue will be raised in agents' union case; both A. F. of L. and CIO claim right to bargain for John Hancock district offices. East Underw 41:1+ My 3 '40
John Hancock signs with agents' union; New York city offices recognize CIO. East Underw 41:9 O 11 '40; East Underw 41:12 O 18 '40; Ins Field (Life ed) 69:28 O 11 '40
NLRB stand may bring court fight. Nat Underw (Life ed) 44:3+ S 13 '40; Same. Nat Underw 44:5+ S 12 '40

Women agents
America's women local agents. Ins Field (Fire ed) 69:24-6 Ag 15 '40
Insurance women to hold national meeting at Denver, June 21-23. Ins Field (Fire ed) 69: 25 Ap 25 '40
Kentucky's women agents. Ins Field (Fire ed) 69:24-5 S 5; 24-5 S 12 '40
Service breeds success; successful woman local agent, Miss Nina Johnson, Rochester, N.Y. Ins Field (Fire ed) 69:22-3 Mr 14 '40

See also
Insurance, Life—Agents—Women agents

Ontario
Defends new law requiring trust accounts. H. D. McNairn. Nat Underw 44:45-6 O 31 '40
Educational courses and licensing regulations recommended for Canadian agents. S. O. Mason. East Underw 41:30 O 25 '40
Ontario agents seek qualification law; other convention resolutions. East Underw 41: 25 N 8 '40

INSURANCE agents, National association of. See National association of insurance agents

INSURANCE as a profession
All the Waggoners are insurance-minded. East Underw 41:10 O 18 '40

INSURANCE as a profession—*Continued*
Development in past 20 years. S. S. Huebner. Nat Underw (Life ed) 44:2 Ap 26 '40
Educational plan proposed by National association of life underwriters to attract young college men. East Underw 41:6 S 27 '40
Insurance as a profession. L. Venables. 144p $1.50 Haynes corp, Los Angeles '39
Los Angeles fathers and sons in insurance business. East Underw 41:36, 38-9 pt 2 O 4 '40
Traveling salesman who became a nationwide premium leader, Jerome Apple. East Underw 41:98+ pt 2 O 4 '40

INSURANCE associations
Appraising agents' associations. L. E. Kietzman. East Underw 41:1+ O 4 '40
By-products of better public service. C. A. Beardsley. Trusts & Estates 70:5 Ja '40
Cashier association showing much activity. East Underw 41:8 Ja 5 '40
Club activity aids accident and health line; Accident & health club of New York. W. T. Hammer. Weekly Underw 142:84-6 Ja 6 '40
Detroit association of insurance agents to have executive secretary; expansion program. Nat Underw 44:4+ Mr 14 '40
Insurance accounting and statistical assn. has 100 member companies. East Underw 41:8 Je 21 '40
Insurance federation of New York state aims to keep government from control of insurance. D. Porter. Spectator (Property ed) 5: 16-17+ My 16 '40
Insurance federation of Pennsylvania annual insurance days, Philadelphia. Ins Field (Fire ed) 69:10+ Je 6 '40; Ins Field (Life ed) 69:7 Je 7 '40; Nat Underw 44:15+ Je 6 '40; Nat Underw (Life ed) 44:5+ Je 7 '40; Weekly Underw 142:1394 Je 8 '40
Insurance federation of the state of New York, 26th annual meeting, New York. East Underw 41:37+ O 11 '40; Ins Field (Fire ed) 69:13 O 10 '40; Nat Underw 44: 28 O 10 '40; Nat Underw (Life ed) 44:6 O 11 '40
Insurance post 1081, American legion, New York; 1940 officers. East Underw 40:28 N 17 '39
Life agency cashiers association of U. S. and Canada growing rapidly. East Underw 41:3 Ag 9 '40
Local associations are best Trojan horse defense. J. A. Monroe. Weekly Underw 142: 1369+ Je 8 '40
New Hampshire will stiffen examinations; local associations might grade their own applicants for membership; abstracts. A. J. Rouillard. East Underw 40:26 D 1 '39; Weekly Underw 141:1155 D 2 '39; Nat Underw 43:7 N 30 '39; Nat Underw (Life ed) 43:9 D 1 '39
Philadelphia association of life underwriters; historical sketch. T. Eagan. Spectator (Life ed) 145:17-18 S 26 '40
Public relations; program for local associations. C. T. Hubbard. Ins Field (Fire ed) 68:20-1 N 16 '39
Spelling bee evening, popular Los Angeles event. Nat Underw 44:4+ Jl 18 '40
State presidents of life associations consider ways of boosting value and efficiency of their organizations. Ins Field (Life ed) 69: 5+ Ap 12 '40; Nat Underw (Life ed) 44:3+ Ap 12 '40; Weekly Underw 142:1058-9 Ap 27 '40
Tennessee association of insurance agents retains manager plan but Mr. Saint is retired. Nat Underw 44:3+ F 15 '40
Texas life underwriters convention speaker stresses importance of local associations. J. A. Monroe. East Underw 41:13 Je 21 '40
Why a state association? H. B. Wells. Ins Field (Life ed) 69:17 Je 7 '40

Legal service departments
Insurance executives favor proposition for department to aid members in financial distress; abstracts. W. A. Earls. Weekly Underw 143:824 O 12 '40; Nat Underw 44: 10 O 10 '40
Suggests legal service department for Ohio association. W. A. Earls. Weekly Underw 143:761+ O 5 '40

INSURANCE brokers
Broker held responsible for policy error; Minnesota Supreme court decides in case of oral application submitted to agent of company. East Underw 41:30 Ja 12 '40
Broker licensing plan worked out in Missouri. Nat Underw 44:4 Mr 28 '40
Case history from a broker's file proves it pays to stick to clients. M. L. Lane. East Underw 41:31 pt 2 My 10 '40
Chicago brokers bonding plan advanced by Clark E. Nolan. Weekly Underw 143:689+ S 28 '40; Ins Field (Fire ed) 69:9 S 26 '40
Chicago daily news attack on political insurance brokers. East Underw 41:19 S 20 '40
Fiduciary capacity of broker sustained in California case; must give liquidator premium paid him by assured. East Underw 41:1+ N 8 '40; Nat Underw 44:27-8 N 7 '40
General brokers' association of metropolitan district 15th annual meeting, New York. East Underw 41:33+ O 25 '40; Nat Underw 44:4+ O 31 '40; Weekly Underw 143:958+ O 26 '40
Illinois brokers to open membership rolls to real estate and other offices writing insurance as brokers. Ins Field (Fire ed) 69:8 N 7 '40
Insurance brokers' assn. would aid drafted brokers. East Underw 41:28 N 1 '40
Liability of company where assured changes brokers; digest of recent cases. J. L. Roesch. Spectator (Property ed) 6:22-4 Jl 25 '40
Lloyd gets ruling on out-of-state brokerage. Ins Field (Life ed) 69:9 Ag 23 '40
New York brokers form new committee from several associations to deal with general legislative problems. Weekly Underw 142: 665 Mr 16 '40
New York court of appeals holds assured can substitute broker. East Underw 41:28+ Ap 26 '40; Nat Underw 44:18 My 2 '40; Weekly Underw 142:1590 Je 29 '40
Palmer plans to fight equity rating suit; Illinois brokers' stand. East Underw 41:43 S 20 '40
San Francisco brokers threaten Board break; may place business with all fire companies regardless of Pacific underwriters membership. Weekly Underw 141:1112 N 25 '39
25 years in Chinatown, New York. H. D. Gilbert. East Underw 40:82+ D 15 '39
Viewpoint of Brooklyn brokers on problems of producers and stock companies; abstracts. J. E. Fries. East Underw 41:22 My 10 '40; Ins Field (Fire ed) 69:19 My 16 '40; Nat Underw 44:10 My 16 '40; Weekly Underw 142:1148+ My 11 '40

INSURANCE brokers association of New York
Annual meeting. East Underw 41:28 Ap 26 '40; Ins Field (Fire ed) 69:24-5 Ap 25 '40; Ins Field (Life ed) 69:7 Ap 26 '40; Nat Underw 44:28 Ap 25 '40; Weekly Underw 142:1039+ Ap 27 '40

INSURANCE commissioners
C. Clarence Neslen of Utah. S. Welton. por East Underw 41:38 Ja 12 '40
C. W. Lovejoy resigns as Maine commissioner. Weekly Underw 143:1084 N 9 '40
Effect of election on state commissioners. Nat Underw 44:4 N 7 '40; Same. Nat Underw (Life ed) 44:2 N 8 '40
Hartley D. McNairn, K. C., of Ontario. S. Welton. East Underw 40:19+ D 1 '39
Indiana commissioner; Frank J. Viehmann appointed. Nat Underw (Life ed) 44:8 Mr 8 '40
John C. Blackall; president of the National association of insurance commissioners. Spectator (Property ed) 6:26+ S 19 '40
Palmer's situation in Illinois uncertain due to assumption of office by Governor Stelle. Nat Underw (Life ed) 44:5 O 18 '40
Six take Colorado commissioner tests. Nat Underw 44:9 O 24 '40; Same. Nat Underw (Life ed) 44:6 O 25 '40

INSURANCE commissioners—*Continued*
Somers E. West appointment stirs up Colorado; insurance interests protest Governor's action in ousting Kavanaugh. Nat Underw 44:4+ O 3 '40; Same. Nat Underw (Life ed) 44:10 O 4 '40
Superintendent John A. Lloyd of Ohio. S. Welten. East Underw 40:38 N 17 '39
William A. Sullivan, insurance commissioner, state of Washington. por Spectator (Life ed) 144:3 Ap 11 '40

INSURANCE companies
Brief review of events occurring in 1939; official changes, new companies, etc. Weekly Underw 142:10-18 Ja 6 '40
Company and the agent; discussion of the stock casualty situation. H. P. Stellwagen. Ins Field (Fire ed) 69:22-3, 28-30 S 26 '40
First reinsurance company of Hartford partially liquidated. Ins Field (Fire ed) 69:12 Mr 7 '40
Frank and friendly relationship between agents and company. H. T. Wright. Weekly Underw 142:28 sec 2 My 11 '40
Globe-Rutgers reinsures Merchants of Providence; takes over $1,250,000 premium liability and agency plant. Weekly Underw 141:1253+ D 16 '39; Nat Underw 43:4 D 14 '39
Halifax suspends in United States; Home fleet companies to replace it in agencies. Weekly Underw 143:5+ Jl 6 '40
Life insurance and TNEC; report to executives. il Business Week p49-60 Mr 16 '40
Millers National leases new home office space in Chicago. Weekly Underw 142:1375 Je 8 '40
New and retired life companies in 1939. Spectator (Life ed) 144:21 F 29 '40
Non-admitted companies to be curbed from broadcasting over California radio stations. Nat Underw 44:18 N 7 '40
Profit motive; insurance aspects. B. P. Carter. Ins Field (Fire ed) 68:16-17 D 7 '39
Strong case for capital stock company insurance. R. Murphy. East Underw 41:42 Mr 29 '40; Excerpts. Spectator (Property ed) 5:6 Ap 4 '40

Accounting
Installment buying, recent development, problem for accounts department. E. G. Crasper. Weekly Underw 141:1164-5 D 2 '39
Internal auditing of life office operations. E. O. Dunlap. East Underw 41:21 S 27 '40
Pink rules on admission of unpaid portions of installment premiums other than life as an admitted asset for statement purposes. Ins Field (Fire ed) 69:10 My 2 '40
Surplus on balance-sheet of insurance company. J Account 70:460 N '40

Advertising
Advertisements must be opinion managing. E. L. Bernays. East Underw 41:5+ Mr 8 '40
Advertising campaigns of the Hartford Fire and the Hartford accident & indemnity co. Ins Field (Fire ed) 68:21 D 28 '39; Weekly Underw 141:1337 D 23 '39; Nat Underw 43:25 D 21 '39
Companies advised to tell their story. E. Corrigan. East Underw 41:38 Mr 8 '40
Convention paper; London assurance group attracts extra attention at yearly trade exhibit by daily paper. Ptr Ink 192:62-3 Jl 5 '40
How are we doin'? insurance company advertising. C. J. Savage. Ins Field (Life ed) 69:16-17 Mr 1 '40; Same. Ins Field (Fire ed) 69:20-1 F 22 '40
Maryland Casualty's advertising gets high praise in trade paper. East Underw 41:35 Mr 22 '40; Ins Field (Fire ed) 69:21 Mr 21 '40
National Surety to continue its middleman ad theme in 1940. il East Underw 41:36 Ja 12 '40; Ins Field (Fire ed) 69:21 Ja 4 '40
Presenting the agent to the public by means of advertising. C. W. Van Beynum. East Underw 40:30 D 15 '39
Preview of new educational slide films in Chicago, on fire and burglary covers. Nat Underw 44:10 Mr 14 '40
Profit motive campaign in reverse; stock insurance companies should discontinue word "co-operative" in their slogans. G. E. Melsha. Weekly Underw 142:40-1 Ja 6 '40
Progress report on national advertising program of the Travelers companies of Hartford. C. W. Van Beynum. East Underw 41:30 Ag 30 '40
Public relations house organ; State farm insurance companies, Bloomington, Ill. issues special edition of agents' magazine for policyholders. il Ptr Ink Mo 40:48 Je '40
Rules on advertising; Pennsylvania law regarding non-admitted carriers. Weekly Underw 142:236 Ja 27 '40

See also
Insurance—Advertising

Branch offices
Casualty and surety branch office competition. W. D. O'Gorman. Weekly Underw 142:597 Mr 9 '40
Florida agents charge Travelers branch office set-up violates American agency system principles. Ins Field (Fire ed) 69:7-8 Je 13 '40; Nat Underw 44:5+ Je 13 '40; Nat Underw (Life ed) 44:3+ Je 14 '40
North America gears service to new needs; decentralized production authority is correlated with multiple line shop; service offices listed; abstracts. L. C. Lewis. Nat Underw 44:3+ O 3 '40; Weekly Underw 143: 1081+ N 9 '40; Spectator (Property ed) 6:10-12 N 14 '40
Opposition to branch offices is reaffirmed; statement of executive committee, N.A.I.A. Ins Field (Buffalo Conv Daily ed) 69:1+ S 19 '40
Production branch offices should be eliminated; abstracts. A. J. Smith. East Underw 40:20+ N 17 '39; Nat Underw 43:3+ N 16 '39
Service office idea; North America and Royal Liverpool program of regional supervision. Nat Underw 44:3 Ja 18; 3+ F 1 '40
Springfield Fire & Marine and Phoenix of Hartford have each set up branches in New York city. Nat Underw 44:3 Jl 18 '40

Consolidation
Company analysis; merger of Rhode Island insurance company with Merchants fire insurance company. Spectator (Property ed) 5:24-5, 32 My 2 '40
Massachusetts court approves Union Mutual's plan for Massachusetts accident company's reinsurance. East Underw 41:32 Mr 1 '40; Ins Field (Fire ed) 69:12 F 29 '40; Ins Field (Life ed) 69:10-11 Mr 1 '40; Nat Underw 44:17+ F 29 '40; Nat Underw (Life ed) 44:3+ Mr 1 '40; Weekly Underw 142: 560 Mr 2 '40
Ohio Casualty takes over Pennsylvania indemnity corp. East Underw 41:34 Ja 19 '40
Rhode Island and Merchants merger now consummated. Nat Underw 44:8 F 8 '40
Union Mutual Life merger with Massachusetts Accident. Weekly Underw 142:372 F 10 '40; East Underw 41:34 F 9 '40; Nat Underw 44:21+ F 8 '40; Nat Underw (Life ed) 44:1+ F 9 '40

Costs
Basic factors affecting the cost of insurance. Spectator (Life ed) 144:18-19 Je 20 '40; Spectator (Property ed) 5:28-9 Je 27 '40
Cost of life insurance; text of statement filed with TNEC by 155 companies. East Underw 41:3-4 Ag 30 '40
Fire companies aggregates for 1938; cost items analyzed by New York department. Nat Underw 43:5-6, 22 D 28 '39
Items of insurance expense which increase cost and should be eliminated. A. V. Gruhn. Weekly Underw 143:822 O 12 '40
Net cost (ordinary life, age 35) of companies with 100 million or more ordinary in force; tabulation. Nat Underw (Life ed) 44:2+ My 24 '40

INSURANCE companies—Costs—*Continued*
Net rate of interest earned and net cost dividend illustrations, by companies; tabulation. Spectator (Life ed) 144:31 F 29 '40
Private companies net cost compared with that of New York banks. East Underw 41:12 Ja 19 '40; Nat Underw (Life ed) 44:4+ Ja 19 '40
SEC's chief financial adviser takes up net cost figures; abstracts. E. J. Howe. Nat Underw (Life ed) 44:1+ Mr 8 '40; East Underw 41:4 Mr 8 '40

Direct selling
Direct writer has problem in man power maintenance. Nat Underw 43:4+ N 2 '39

Employees
Advertisers discuss employers' relations with employees. Weekly Underw 142:590 Mr 9 '40
Aetna Casualty and Surety plans for men in service. East Underw 41:49 O 11 '40
Aetna Life companies on conscription service; details announced by President Brainard. Nat Underw 44:31 S 26 '40
A.L.C. survey shows 47 life companies of 156 have made employe retirement provision. Nat Underw (Life ed) 44:6 Ag 16 '40
Cashiers hear first duty is to public; Life agency cashiers association of New York city meeting. East Underw 41:7 My 31 '40
Companies provide for service men called to colors. Nat Underw 44:6+ S 19 '40; Nat Underw (Life ed) 44:2+ S 20 '40
Company employe has part in public relations. H. J. Johnson. Nat Underw (Life ed) 44:2 My 3 '40
Conference soon on employes called to colors; company officials will endeavor to reach fair agreement. Nat Underw 44:3 S 26 '40
Employers' group plan for military service. East Underw 41:34 O 25 '40
Employes pension plan survey by American life convention. East Underw 41:12 Jl 19 '40
Fireman's fund group retirement plan for employees. Weekly Underw 142:898 Ap 13 '40
General American Life makes plans for service men. East Underw 41:8 O 25 '40
Hospitalization cover granted all employees of the Employers' group companies. E. C. Stone. Weekly Underw 142:856 Ap 6 '40
Insurance offices and conscription. Nat Underw 44:4 Ag 29 '40; Nat Underw (Life ed) 44:4 Ag 30 '40
Insurance women may use some "oomph". J. H. Hines. Weekly Underw 142:1078 My 4 '40
Los Angeles fathers and sons in insurance business. East Underw 41:36, 38-9 pt 2 O 4 '40
Maryland casualty plan for draftees announced. Nat Underw 44:35 O 31 '40; Spectator (Property ed) 6:33 O 31 '40
New York brokers would hold jobs for conscripts. Ins Field (Fire ed) 69:7 S 26 '40; Same. Ins Field (Life ed) 69:6-7 S 27 '40
Plans followed by offices on draft. Nat Underw (Life ed) 44:3+ S 27 '40
Provisions made for military service men by casualty & surety associations. East Underw 41:37 N 1 '40; Nat Underw 44:15 O 31 '40; Weekly Underw 143:1039 N 2 '40
Talk to New York cashiers on service. B. C. Thurman. East Underw 40:4 N 24 '39
Unique record made by woman claims executive; Thelma Bultman. Nat Underw (Life ed) 44:14 Ja 19 '40
Wage and hour issue as to insurance studied. Nat Underw 44:4 N 7 '40; Nat Underw (Life ed) 44:4 N 8 '40

Examination
Expenditure of fees tightened up in Texas. Spectator (Property ed) 5:9 D 28 '39
Insurance company examinations carefully made. L. H. Pink. Weekly Underw 142: 1077+ My 4 '40
Pathfinder Life granted permanent injunction; policyholder not entitled to bring action for an accounting. Nat Underw (Life ed) 44:9 N 8 '40; Weekly Underw 143:1109 N 9 '40
State supervision of insurance is found beneficial, commissioners tell U.S. Chamber. Nat Underw 44:17+ My 3 '40; Nat Underw (Life ed) 44:1, 10-13 My 3 '40

Failures
Kansas examiner involved in alleged insurance deal; T.N.E.C. hearings on life company failures. Nat Underw 43:10+ D 14 '39
Mannos fixes blame for collapse of Canton Mutual Liability. Nat Underw 44:20 My 16 '40
Solvency record; life companies reinsured, in receivership, or in dissolution, 1930-1938. Spectator (Life ed) 144:16-17+ Je 20 '40
TNEC told failures were due to poor investments; abstracts. A. M. Best. East Underw 41:1+ Mr 8 '40; Nat Underw (Life ed) 44: 1+ Mr 8 '40
See also
Insurance companies —Receiverships

Farm problem
Farm loan operations gone into at TNEC hearings. East Underw 41:13+ F 23 '40

Finance
Agricultural insurance company, Watertown, N.Y. company analysis. Spectator (Property ed) 5:24-5+ F 22; 28-9 My 16 '40
Business development office analysis of premium income and losses by types of carriers for fire and allied lines, 1935-1939; tabulation. Nat Underw 44:6 O 31 '40
Comparative financial operating results of casualty and fire companies; tabulation. Spectator (Property ed) 5:12-13 N 30 '39
Dearborn national insurance company, Detroit; company analysis. Spectator (Property ed) 5:26-7 D 28 '39
Employers' liability assurance corp. of London, Eng., United States branch, company analysis. Spectator (Property ed) 6:28-9 Ag 22 '40
Financial structure of insurers. J. J. Magrath. East Underw 41:18 Jl 12 '40
General insurance company of America Seattle, Washington; company analysis. Spectator (Property ed) 6:42-3 S 19 '40
Insurance business analysis of Mackubin, Legg & co. East Underw 41:33-4 Ag 2 '40
Method for test.ng company annual statement. D. M. Wood, jr. Nat Underw 44:23+ Mr 21 '40
Northern insurance company of New York; company analysis. Spectator (Property ed) 5:29-30+ Ja 25 '40
Selecting an insurance carrier; points to check on financial stability. T. J. V. Cullen. Credit & Fin Management 42:18-19 Je '40
Underwriting and investment profits and losses of 100 casualty, surety and miscellaneous companies, 1930-1939; tabulation. Spectator (Property ed) 6:24-5 O 31 '40

Investments
Commissioner Taggart's investment ruling given setback; fought by Pennsylvania carriers. East Underw 41:12 Ag 9 '40; Ins Field (Fire ed) 69:10 Ag 8 '40; Weekly Underw 143:271 Ag 10 '40
Effect of neutrality act on Canadian bonds; right of United States insurance companies to subscribe to the new Canadian loan. Spectator (Life ed) 144:28 F 1 '40
Investment problems faced by insurance in a rapidly changing world. L. H. Pink. il Spectator (Life ed) 145:6-9+ Jl 18 '40
Strength in companies' liquidity; abstracts. L. H. Pink. East Underw 41:9 Je 28 '40; Ins Field (Fire ed) 69:7+ Je 27 '40; Ins Field (Life ed) 69:5+ Je 28 '40; Nat Underw 44:3 Je 27 '40; Nat. Underw (Life ed) 44:1 Je 28 '40; Weekly Underw 142:1542 Je 29 '40; Comm & Fin Chr 150:4059-60 Je 29 '40

Valuation
Action on real estate sales urged; valuation problem. C. F. J. Harrington. Nat Underw (Life ed) 44:3+ Ap 19 '40

INSURANCE companies—Investments—Valuation—*Continued*

Appraisals are discussed by commissioners. Nat Underw (Life ed) 43:9 D 15 '39

Commissioners retain valuations formula. East Underw 41:16 Je 28 '40; Weekly Underw 142:1560+ Je 29 '40

Independent appraiser found most reliable; real estate appraisals and investments of life insurance companies. J. M. McCormack. East Underw 40:4 D 8 '39

Real estate appraisal; abstracts. J. G. Emery. East Underw 41:12 Je 28 '40; Nat Underw (Life ed) 44:2 Jl 5 '40; Weekly Underw 142: 57+ Jl 13 '40

Legal departments

Litigation problems confronting home office attorneys; abstracts. L. W. Dawson. Weekly Underw 143:473+ S 7 '40; Nat Underw 44:21+ S 5 '40; Nat Underw (Life ed) 44: 1+ S 6 '40; East Underw 41:3+ S 20 '40

Legal service

Alabama Supreme court rules against blanket injunction suits brought by Birmingham bar association in adjuster action. Nat Underw 44:17 Ap 11 '40

Birmingham bar association petitions Alabama Supreme court in suit against insurance companies and adjusters. Ins Field (Fire ed) 69:10 Ap 18 '40; Nat Underw 44:24 Ap 18 '40

Court rules against rehearing sought by Birmingham bar association in case against companies and adjusters. Ins Field (Fire ed) 69:8-9 Je 20 '40; Nat Underw 44:15 Je 20 '40

Report of California state bar association committee on claims adjusters. Nat Underw 44: 22+ S 19 '40; East Underw 41:53 S 27 '40

Management

Agency departments comment on what home office production men do on agency visits. East Underw 41:3-4 My 3 '40

Agency system; vital link in the public acceptance of the insurance business. C. W. Young. Spectator (Life ed) 144:6-10+ Je 6 '40; Excerpts. East Underw 41:37 Je 7 '40; Weekly Underw 142:1393 Je 8 '40

Continuous modernization to control costs; State Farm insurance companies. il Am Business 10:33-42 My '40

Low cost cover demanded; abstracts. J. A. Diemand. Weekly Underw 143:817+ O 12 '40; East Underw 41:38 O 11 '40; Nat Underw 44:25+ O 10 '40

New York bill on election of life company directors. East Underw 41:1+ Mr 15 '40; Ins Field (Life ed) 69:5 Mr 15 '40; Nat Underw (Life ed) 44:4+ Mr 15 '40

Records and equipment of the modern home office; practices that will help make for greater efficiency. L. D. Ramsey. Weekly Underw 142:1461-5 Je 15 '40

Viewpoint of Brooklyn brokers on problems of producers and stock companies; abstracts. J. E. Fries. East Underw 41:22 My 10 '40; Ins Field (Fire ed) 69:19 My 16 '40; Nat Underw 44:10 My 16 '40; Weekly Underw 142:1148+ My 11 '40

See also

Life office management association

Officials

Brief review of events occurring in 1939; official changes, new companies, etc. Weekly Underw 142:10-18 Ja 6 '40

Carl Heye's 50 years with Guardian Life. C. Axman. East Underw 40:13+ D 15 '39

Carlsson of London here to manage Pearl. R. Rhodes. Weekly Underw 141:1114-15 N 25 '39

Charles L. Purdin retires after half century in fire insurance. por East Underw 41:24 O 4 '40; Spectator (Property ed) 6:20 O 3 '40; Weekly Underw 143:764 O 5 '40

Charles R. Miller completes fifty years with Fidelity & Deposit. Weekly Underw 143:836 O 12 '40

Col. Bulkeley marks fiftieth anniversary with Aetna Life. East Underw 41:5 O 4 '40

Colonel Godfrey Cheshire. por Spectator (Property ed) 6:28+ S 19 '40

Connecticut Mutual promotions involve four officials. Nat Underw (Life ed) 44:4 S 13 '40; East Underw 41:6 S 13 '40

Director of agencies in West; Walter L. Gottschall of Equitable society. East Underw 41:9 My 24 '40

Fine tributes paid Julian Lucas at testimonial dinners. East Underw 40:30 N 24 '39

Four elected officers of fire companies in America fore group. East Underw 41:22+ Mr 1 '40

Frank Ewing, assistant general counsel Metropolitan Life, to retire Dec. 31. East Underw 40:14 D 15 '39

Geo. L. Harrison to be president of New York Life; A. L. Aiken board chairman. East Underw 41:5+ Ap 12 '40

George F. Manzelmann elected president of North American Accident. por East Underw 41:37 O 18 '40; Nat Underw 44:27 O 10 '40

Guardian Life elections and promotions. East Underw 40:3+ D 22 '39

Harry F. Ogden now president of Fidelity and guaranty fire. East Underw 41:16 My 31 '40; Nat Underw 44:3 My 30 '40; Ins Field (Fire ed) 69:9 My 30 '40; Weekly Underw 142:1313 Je 1 '40

J. B. Levison completes 50 years with Fireman's fund. por East Underw 41:51 S 27 '40; Weekly Underw 143:692+ S 28 '40; Spectator (Property ed) 6:7 O 3 '40

Metropolitan places Edwin C. McDonald in charge of Canadian head office; Glenn E. Rogers made 3d vice-pres. por East Underw 41:3 O 4 '40; Nat Underw (Life ed) 44:3+ O 4 '40; Spectator (Life ed) 145:10 O 10 '40

National Life of Vermont personnel changes. pors East Underw 41:3+ Ja 26 '40

Newspaper experience helped Arthur F. Hall judge men. C. Axman. por East Underw 41: 3+ Ja 19 '40

North American Life officers. pors East Underw 41:3 Ja 5 '40

Portrait of F. W. Lafrentz for American Surety; gift honoring forty-seven years with company. East Underw 41:29 N 8 '40; Weekly Underw 143:1098+ N 9 '40

Promotions announced by Travelers. pors Weekly Underw 143:781+ O 5 '40

R. G. Waters quits board to head United employers casualty co. Ins Field (Fire ed) 69: 7 S 5 '40; Nat Underw 44:21+ S 5 '40

Sidelights on Glens Falls presidents. East Underw 41:27 Ja 26 '40

Sixty years with New York Life; Thomas A. Buckner. por East Underw 41:6 Ap 12 '40

Thomas F. Temple to retire from Hancock after 43 years service. por East Underw 41:10 N 1 '40

We have with us today; interesting personalities in the life insurance business. pors East Underw 40:8+ D 15 '39

William M. Rothaermel appointed Pacific Mutual vice-president. por East Underw 41:4 S 20 '40; Weekly Underw 143:659 S 21 '40

Public relations

Building good will through claim service. T. E. Hickey. Weekly Underw 143:916-18 O 19 '40

Claim men can assist with public relations. W. A. Barr. East Underw 40:34 D 8 '39

Company employe has part in public relations. H. J. Johnson. Nat Underw (Life ed) 44:2 My 3 '40

Each company should have one officer to handle policy holders and public relations. R. D. Murphy. East Underw 41:4 Je 7 '40

Effective public relations effort being carried out by Canadian life companies. Weekly Underw 142:1355 Je 1 '40

Fire and life interests agree to unite in public relations work in Minnesota. Ins Field (Fire ed) 68:7 D 21 '39; Ins Field (Life ed) 68:7-8 D 22 '39; Weekly Underw 141:1322+ D 23 '39

Humanizing of premium notices. F. B. Alldredge. East Underw 41:32 Ag 2 '40

INSURANCE companies—Public relations— *Continued*
Life advertisers' Eastern round table discusses public relations. East Underw 41:4 Mr 8 '40; Ins Field (Life ed) 69:9-10 Mr 8 '40; Nat Underw (Life ed) 44:1+ Mr 8 '40; Weekly Underw 142:585+ Mr 9 '40
Local relations by the public agent. P. H. Midyette. Ins Field (Fire ed) 69:28-9 Ap 25 '40
Maintaining good public relations the job of everybody in any part of any business. C. G. Taylor, jr. Spectator (Life ed) 145:18 O 10 '40
Primary point of public contact; premium notice and receipt forms. Ins Field (Life ed) 68:14 D 15 '39
Public must know. H. J. Johnson. Trusts & Estates 70:137-9 F '40
Public relations. H. W. Semmelmeyer. Ins Field (Fire ed) 69:8-9+ Ag 8 '40; Same abr. Nat Underw 44:15+ Ag 15 '40
Public relations begins at home. R. W. Bugli. Ins Field (Fire ed) 69:24-5 F 15 '40
Public relations moves must combat destructive thinking. R. W. Bugli. East Underw 41:33 N 1 '40
Public relations; program for local associations. C. T. Hubbard. Ins Field (Fire ed) 68:20-1 N 16 '39
Public relations program wins approval at Health & accident underwriters conference. East Underw 41:33 Je 21 '40
Public relations value. H. C. Conick. Weekly Underw 142:968 Ap 20 '40
Public relationships of the casualty business. A. Crawford. Ins Field (Fire ed) 69:18-19 Je 6 '40
Support of claim men essential to business; abstracts. R. H. Kastner. East Underw 40: 13 N 24 '39; Ins Field (Life ed) 68:8 N 24 '39; Nat Underw (Life ed) 43:8 N 24 '39
Value of claim man. C. W. Young. Weekly Underw 141:1272+ D 16 '39; Excerpts. East Underw 40:108 D 15 '39
Wider development of human research urged; abstracts. H. J. Johnson. Nat Underw (Life ed) 44:3+ N 1 '40; East Underw 41:19 N 1 '40; Weekly Underw 143:1013+ N 2 '40

See also
Insurance agents—
Public relations

Rating

Best explains policyholders' ratings in fire-marine reports. East Underw 41:27 Je 7 '40

Real estate operations

Equity investments in low cost housing plans. L. H. Pink. Nat Underw (Life ed) 44:3+ F 2 '40; Spectator (Life ed) 144:29 F 15 '40
Extended functions for institutional landowners; rehabilitation of farm land taken in satisfaction of mortgage debt. C. L. Stewart. J Land & Pub Util Econ 16:357-62 Ag '40
T.N.E.C. hearings continue. Spectator (Life ed) 144:12-13+ F 29 '40
TNEC looks into urban mortgage loans. East Underw 41:3-4 Mr 1 '40

Receiverships

Michigan assets of Lloyds of America not transferable to N.Y. East Underw 41:38 N 1 '40; Same. Ins Field (Fire ed) 69:10 O 10 '40

Records

Annual statements and agents' licenses; requirements in New Hampshire. Weekly Underw 142:236-7 Ja 27 '40
Primary point of public contact; premium notice and receipt forms. Ins Field (Life ed) 68:14 D 15 '39

Regulation

Address before trustees of National association of life underwriters. J. C. O'Mahoney. East Underw 40:5 D 22 '39
All branches of insurance urged to oppose U.S. encroachment. L. A. Lincoln. Nat Underw (Life ed) 43:12-13 N 3 '39
A. L. C. brochure describes advantages of state supervision. Ins Field (Life ed) 68:8 D 29 '39; East Underw 40:3+ D 29 '39; Spectator (Life ed) 144:26 Ja 4 '40
Appeal for state supervision. L. H. Pink. Nat Underw 44:5+ S 12 '40; Same. Nat Underw (Life ed) 44:1+ S 13 '40
Attorney General Bennett of New York gives opinion on associations subject to Department supervision. Weekly Underw 141:1064 N 18 '39
Bar association hears O'Mahoney, Pink, and others on federal regulation. Spectator (Property ed) 6:52 S 19 '40
Best safeguard; state supervision; abstracts. O. J. Arnold. Ins Field (Life ed) 68:12-13 D 15 '39; Spectator (Life ed) 143:32 D 21 '39; Weekly Underw 141:1304 D 16 '39; Nat Underw (Life ed) 43:10+ D 15 '39; East Underw 41:11 Ja 19 '40; Comm & Fin Chr 149:3958 D 23 '39
Block trend of government control! G. Brown. Weekly Underw 142:473 F 24 '40
Collective responsibility; address before Boston life underwriters assn. G. S. Van Schaick. Spectator (Life ed) 145:8-11 Ag 15 '40; Excerpts. Ins Field (Life ed) 69:7-8 Je 14 '40; Nat Underw 44:3+ Je 13 '40; Nat Underw (Life ed) 44:1+ Je 14 '40
Comments upon TNEC inquiry; abstracts. L. H. Pink. East Underw 41:1+ F 23 '40; Ins Field (Life ed) 69:7-8 F 23 '40; Nat Underw (Life ed) 44:2+ F 23 '40
Commissioner Kavanaugh of Colorado takes up the cudgel for state supervision. Nat Underw (Life ed) 44:5+ Ja 19 '40; Same abr. Nat Underw 44:5+ Ja 18 '40
Congressman sees federal control of insurance losing. T. C. Hennings. Nat Underw (Life ed) 44:3+ Ap 26 '40
Federal invasion opposed by Utah life association men. Nat Underw (Life ed) 43:11 D 15 '39
Federal investigation; centralized power in government; abstracts. L. H. Pink. Weekly Underw 141:1321+ D 23 '39; Nat Underw 43:9+ D 28 '39; Nat Underw (Life ed) 43: 5 D 29 '39
Federal officials admit life insurance aims; federal control. Weekly Underw 141:1365 D 30 '39
Future of insurance is future of United States. L. H. Pink. Comm & Fin Chr 150:xi Ap 6 '40
General agents can battle any federal threat. K. S. Dargan. Weekly Underw 142:957+ Ap 20 '40
Hot protests against federal supervision of life insurance. Weekly Underw 141:1110+, 1202+ N 25, D 9 '39
Insurance federation of New York state aims to keep government from control of insurance. D. Porter. Spectator (Property ed) 5:16-17+ My 16 '40
Introduction to the Washington scene; survey of federal bureau activities in the field of insurance. Spectator (Property ed) 5:10-11, 20 Ja 11 '40
Life insurance a bulwark of democracy; opposition to federal control; abstracts. M. E. Tydings. East Underw 40:1+ D 22 '39; Ins Field (Life ed) 68:7 D 22 '39; Weekly Underw 141:1344-5 D 23 '39
Local agents' views; federal vs. state regulation of insurance. S. O. Smith. Weekly Underw 141:1201+ D 9 '39; Excerpts. East Underw 40:1+ D 8 '39; Ins Field (Fire ed) 68:7-8+ D 7 '39; Ins Field (Life ed) 68:8-9 D 8 '39
Nationalization of insurance trend in world. L. H. Pink. Nat Underw 44:17 Je 6 '40; Same. Nat Underw (Life ed) 44:8 Je 7 '40
Necessity of federal ban on unauthorized companies. S. Hobbs. Nat Underw 44:20 My 9 '40; Same. Nat Underw (Life ed) 44:3-4 My 10 '40; Same. Weekly Underw 142:1162 My 11 '40
Need for improvements in state supervision of insurance companies. L. H. Pink. Comm & Fin Chr 151:1511 S 14 '40

INSURANCE companies—Regulation—*Cont.*
New Supreme court decisions changing Constitution's drift; Virginia resident agent case, Erie v. Tompkins, etc. S. R. Feller and L. H. Hirsch, jr. East Underw 41:1+ My 3 '40
New York insurance department rulings and the attitude of the courts thereon. J. S. Andrews. Spectator (Life ed) 144:6-9, 22 My 9; 6-11+ My 23 '40
Objectives of TNEC; abstracts. J. C. O'Mahoney. Weekly Underw 143:559-60 S 14 '40; East Underw 41:14 S 13 '40; Ins Field (Fire ed) 69:12 S 12 '40; Ins Field (Life ed) 69:5 S 13 '40
Outlook for life insurance regulation. C. M. Shanks. Nat Underw (Life ed) 44:4 F 2 '40
Pension group will check federal ownership efforts. F. G. Dickinson. Nat Underw (Life ed) 43:7 D 29 '39; Same abr. Nat Underw 43:7 D 28 '39
Policyholder asks insurers to take militant stand against government control of all insurance. J. R. Clark. Nat Underw 43: 4 D 21 '39
Policyholders of nation should organize to save insurance from fate of railroads, utilities. H. D. Hart. East Underw 41:9+ Ap 5 '40
Power of the state in insurance; abstracts. L. H. Pink. East Underw 41:18 Ap 5 '40; Nat Underw 44:5 Ap 4 '40
Question of federal supervision discussed in Congress. Weekly Underw 142:349 F 10 '40
Results of TNEC investigation; position taken by National association of life underwriters. C. J. Zimmerman. Weekly Underw 143: 722+ S 28 '40
Round-table discussion of insurance company statements and of methods of examination. Comm & Fin Chr 150:2814 My 4 '40
Senator Burke (Neb.) urges fight against U.S. control. Nat Underw 43:3, 10-11 D 28 '39; Nat Underw (Life ed) 43:1, 23-4 D 29 '39
State control; abstracts. E. Palmer. Nat Underw 44:3 S 12 '40; East Underw 41:17 S 13 '40; Nat Underw (Life ed) 44:4 S 13 '40
State insurance supervision. C. C. Neslen. Weekly Underw 141:1290+ D 16 '39; Excerpts. East Underw 40:12 D 22 '39; Nat Underw 43:10 D 14 '39; Nat Underw (Life ed) 43:10-11 D 15 '39
State supervision an aid to democracy. R. O. Hooker. East Underw 40:32 D 1 '39
State supervision is good; successful during depression. W. Basye. Nat Underw (Life ed) 44:18 N 8 '40
State supervision of life insurance satisfactory. R. B. Lucas. Nat Underw (Life ed) 44:2 O 18 '40
State supervision strongly upheld by Illinois federation. Nat Underw 44:20D F 22 '40; Nat Underw (Life ed) 44:14 F 23 '40
State vs. federal supervision of insurance; cross-section of insurance opinion in the early 1920's. G. E. Melsha. Weekly Underw 142:592-5 Mr 9 '40
Statement on state supervision filed with TNEC by 137 companies. East Underw 41:5 My 31 '40; Ins Field (Life ed) 69:5 My 31 '40; Nat Underw (Life ed) 44:1+ My 31 '40
States opposed to federal supervision of insurance companies. L. H. Pink. Comm & Fin Chr 150:1365 Mr 2 '40
Super vision or supervision; TNEC probe. O. J. Arnold. Spectator (Life ed) 144:8-11+ F 29 '40; Excerpts. East Underw 41:15 F 23 '40; Ins Field (Life ed) 69:7 F 23 '40; Nat Underw 44:4+ F 22 '40; Nat Underw (Life ed) 44:1+ F 23 '40; Weekly Underw 142:465, 469 F 24 '40
T.N.E.C. chairman denies government has insurance aims. J. C. O'Mahoney. Weekly Underw 142:259+ Ja 27 '40
T.N.E.C. investigation evils condemned; plan for eliminating unfair practices in studies. J. T. Young. Nat Underw (Life ed) Daily ed 44:5+ S 26 '40
T.N.E.C. members consider federal rule for life insurance. C. J. Zimmerman. Ins Field (Life ed) 68:7+ D 29 '39; Same. Nat Underw (Life ed) 43:1+ D 29 '39
TNEC testimony about action of New York department in crisis. G. S. Van Schaick. East Underw 41:14-15 Mr 1 '40
Threat of federal supervision is analyzed. B. W. Levit. Nat Underw 43:8 N 16 '39
To ignore SEC queries; threat to state supervision. F. Yetka. East Underw 40:5 D 22 '39
Warning against federal control. F. D. Russell. Weekly Underw 142:957+ Ap 20 '40
Warning; approach to federal control of life insurance funds; abstracts. M. A. Linton. East Underw 41:4 Ap 12 '40; Nat Underw (Life ed) 44:3+ Ap 12 '40

See also
Insurance law

Reports

Annual reports need to be humanized; survey by Institute of life insurance. East Underw 41:5 Ja 19 '40; Ins Field (Life ed) 69:9-10 Ja 19 '40; Nat Underw (Life ed) 44:2 Ja 19 '40
Companies' reports show real effort to humanize them; Oregon Mutual and Protective life of Birmingham. Nat Underw (Life ed) 44:1+ Mr 22 '40
Equitable society's annual report a humanized story with pictures. 11 East Underw 41:12 Mr 8; 11 Mr 22 '40; Ins Field (Life ed) 69: 19-20 Mr 8 '40
Equitable's humanized report to policyholders. T. I. Parkinson. Weekly Underw 142:499+ F 24 '40
General American Life reports to laymen. East Underw 41:6 Mr 1 '40
Home Life of New York report asks questions of policyholders; a feature in humanizing. East Underw 41:9 Mr 8 '40; Ins Field (Life ed) 69:19 Mr 8 '40
Humanizing annual financial report; Equitable society and Home life of New York. Nat Underw (Life ed) 44:3+ Mr 8 '40
Humanizing of annual reports; trend of 1939 illustrated. J. M. Blake. East Underw 41:4+ O 18 '40
Improvement noted in manner of presenting statements to policyholders. Ins Field (Life ed) 68:16 D 15 '39; Nat Underw (Life ed) 43:12 D 15 '39
Layman's report made by General American life of St Louis. Ins Field (Life ed) 69:20 Mr 8 '40
Pink rules on admission of unpaid portions of installment premiums other than life as an admitted asset for statement purposes. Ins Field (Fire ed) 69:10 My 2 '40
Report on company unique as it goes to its employes; Bankers national life of Montclair, N.J. Nat Underw (Life ed) 44:6+ Mr 8 '40
Supt. Pink, of New York department, issues memorandum regarding annual company statements. Weekly Underw 142:184+ Ja 20 '40
Western Life report to stockholders. Nat Underw (Life ed) 44:1+ Mr 1 '40

Securities

Bid and asked stock quotations by months, 1939; tabulation. H. W. Cornelius, comp. Nat Underw 44:6 Ja 25 '40
British insurance and bank shares. Economist 139:189-90 Ag 10 '40
Insurance share index, third quarter. Economist 138:70 Ja 13 '40
Insurance stocks deemed attractive by Mackubin, Legg & co, Baltimore. East Underw 41:38 Ap 12 '40
Investment returns in fire insurance in 1939. J. C. Blackall. Spectator (Property ed) 6:28 O 31 '40
Poor's recommends insurance stocks for long-term investments. East Underw 41:29+ Je 14 '40
Registration plan of Standard life of Indianapolis with the SEC. Nat Underw (Life ed) 43:16 D 29 '39

INSURANCE companies—Securities—*Continued*
Security valuation basis set in Canada. East Underw 41:17 S 20 '40
Underwriting and investment profits and losses of 100 casualty, surety and miscellaneous companies, 1930-1939; tabulation. Spectator (Property ed) 6:24-5 O 31 '40

Statistics

Experience in 1939 by lines; tabulation. Nat Underw 44:19 F 8; 15 F 15; 4+ F 29 '40
June 30, 1940 statement figures filed in Georgia. Nat Underw 44:6 S 26 '40
Premiums and losses by classes, 1939 experience; tabulation. Weekly Underw 142:361, 476-7, 539-41, 598, 710-11, 782-3, 842-4 F 10, 24-Mr 9, 23-Ap 6 '40
Property insurance profits and losses, 1939; tabulation, with comment by Robert W. Sheehan. Spectator (Property ed) 5:12-13+ Je 27 '40
Specialty lines of fire companies show varying results for 1939, by company. East Underw 41:26 Mr 8 '40
Stock company premiums and losses from 1940 Argus fire charts. Nat Underw 44:14, 18-19 Mr 7 '40
Transactions 1938 and 1939 between United States branches of foreign companies and their home offices. Nat Underw 44:17, 25 Mr 7 '40

Taxation

Heavy Canadian taxes borne by companies. M. M. Mudie. East Underw 40:6 N 24 '39
Hidden taxes paid by policyholders in 1938. Ins Field (Fire ed) 69:9 F 15 '40; Ins Field (Life ed) 69:7 F 16 '40; Nat Underw 44:6+ F 15 '40; Nat Underw (Life ed) 44:1+ F 16 '40
Highest court upholds Tennessee privilege tax. Spectator (Property ed) 6:9 O 31 '40
Insurance tax laws. H. Law, comp. 78p $2 Harrison Law, Nutley, N.J. '39
Insurance taxes in Mississippi will be doubled if bill of Senator Rice passes. Weekly Underw 142:893 Ap 13 '40
Michigan companies are affected by use tax law. Spectator (Property ed) 5:7 Mr 7 '40
New York bill to tax companies by state expenses' sliding scale unfair. S. R. Feller. East Underw 41:1+ Ap 12 '40
Opinion of Ohio Attorney General regarding taxation of hospital service corporations. T. J. Herbert. Weekly Underw 142:1492, 1516-17 Je 22 '40
Pan-American Life U. S. income tax issue argued. Nat Underw (Life ed) 44:11 Mr 22 '40
Pan-American wins important income tax case; company may deduct 3 ¾% on disability reserve. Nat Underw (Life ed) 44:4 Ap 26 '40
Special state insurance taxes, licenses and fees collected in 1938. Spectator (Property ed) 5:20-1 Je 27 '40; Spectator (Life ed) 144:22-3 Je 20 '40
State insurance taxes and amount spent for state supervision, 1922-38; tabulation. East Underw 41:31 F 16 '40
State minimum tax laws; disadvantage to companies with small premium totals in individual states. F. W. Maasen. Weekly Underw 143:1020 N 2 '40
State starts suits in Colorado to tax annuity premiums. Nat Underw (Life ed) 44:4 Ap 12 '40
U.S. tax situation is disquieting; problem for life companies. W. W. Chambreau. Nat Underw (Life ed) 44:7 F 23; 10-11 Mr 8 '40
You pay a hidden tax on premiums. G. Brown. Weekly Underw 142:1317 Je 1 '40

California

Caminetti scores in chapter 9 case; insurance commissioner remains as conservator of the National Guaranty. Nat Underw (Life ed) 44:7 S 27 '40; Ins Field (Life ed) 69:6 S 27 '40
Chapter Nine companies case. Ins Field (Life ed) 69:5-6 Ag 23 '40; East Underw 41:10 Ag 23; 12 Ag 30 '40; Nat Underw (Life ed) 44:8 Ag 23 '40
Commissioner Caminetti moves against chapter 9 companies in California; life and disability assessment companies. Nat Underw (Life ed) 44:2 Je 14; 3+ Je 21; 4 Je 28; 11 Jl 5; 7 Jl 12; 4+ Jl 19 '40; East Underw 41:10-11 Jl 19 '40; Ins Field (Life ed) 69:8 Jl 5 '40
Renew two more California licenses; Intercoast hospitalization of Sacramento and the California mutual life of Oakland, chapter 9, life and disability companies. Nat Underw (Life ed) 44:4 Ag 2 '40
Rulings favor Caminetti in chapter 9 cases. Nat Underw (Life ed) 44:17 O 11 '40

Canada

Heavy Canadian taxes borne by companies. M. M. Mudie. East Underw 40:6 N 24 '39
Insurance companies take 12% of Canadian war bonds. Ins Field (Fire ed) 69:8-9 S 26 '40; Ins Field (Life ed) 69:6 S 27 '40; East Underw 41:14 S 20 '40
Security valuation basis set in Canada. East Underw 41:17 S 20 '40
War presents personnel problems in Canada. G. E. Brown. East Underw 40:8 D 1 '39
War problems. A. P. Earle. Nat Underw (Life ed) 44:4 Je 14 '40

Europe

European insurance companies and real estate; with particular reference to housing. C. L. Parry. bibliog J Land & Pub Util Econ 16:294-305 Ag '40

Germany

British portfolios in Germany are transferred to German underwriters. Weekly Underw 141:1268 D 16 '39
Munich reinsurance co. of Munich, Bavaria; some 1938-39 figures compared with 1937-38 results. East Underw 40:29 D 8 '39
Munich Reinsurance operations in 1938-39. East Underw 41:30 Ap 5 '40

Great Britain

Alliance Assurance and London and Manchester Assurance annual general meetings. Economist 138:911, 913 My 18 '40
Appraising insurance scene; how war affects London & Lancashire; abstracts. F. P. Rutter. Nat Underw 44:6 Je 6 '40; Weekly Underw 142:1369+ Je 8 '40
Britannic assurance company, limited, Scottish widows' fund and life assurance society, and Sun life assurance society annual general meetings. Economist 138:439-41 Mr 9 '40
British insurance in 1939. Economist 139:82-91 Jl 20 '40
British portfolios in Germany are transferred to German underwriters. Weekly Underw 141:1268 D 16 '39
British underwriters prohibited from transacting any business or correspondence with offices and persons located in Norway, Luxemburg, Holland and Belgium. Weekly Underw 142:1448 Je 15 '40
Commercial union assurance company, Liverpool and London and Globe insurance company, and other annual general meetings. Economist 138:951-3 My 25 '40
Complications over French subsidiary operations. Nat Underw 44:5 S 26 '40
Extensive air raid precautions taken by London home offices. East Underw 41:39 Ja 26 '40
Great Britain drives on German insurance. Weekly Underw 141:1201 D 9 '39
Insurance notes. Economist 138:386-7, 427+, 475, 547, 579+, 628, 693+, 779-80, 819-21, 865-6, 904+, 939+, 1014, 1117 Mr 2-Ap 13, 27-My 25, Je 8, 29 '40
Insurance share index, third quarter. Economist 138:70 Ja 13 '40
Liverpool & London & Globe report for 1939. East Underw 41:30 Je 14 '40
London and Lancashire insurance company, Scottish union and national insurance company and other annual general meetings. Economist 138:874-6 My 11 '40

INSURANCE companies—Great Britain—*Cont.*
London assurance, Equity and law life assurance, Royal exchange assurance, Eagle star insurance co., Caledonian insurance co., Royal London mutual insurance society annual meetings. Economist 138:833-5 My 4 '40
London offices meeting war conditions. Weekly Underw 141:1366 D 30 '39
Records of Royal and Liverpool in 1939. East Underw 41:31 Je 14 '40
Royal insurance company 95th annual general meeting, Liverpool. Economist 138:986-7 Je 1 '40
Stand up and fight for British insurers; analysis of the situation of the British companies. M. T. Jones. Nat Underw 44:6 O 10 '40

Iowa

Merger of Preferred class mutual with the Iowa mutual liability insurance co. upheld. Spectator (Property ed) 6:20 O 17 '40

Japan

Life insurance in Japan. H. Leopold. Weekly Underw 142:1178-9 My 11 '40
Nippon Life report covers world affairs; 1939 was successful year. East Underw 41:15 S 20 '40

Massachusetts

Harrington ordered to incorporate the Fort Hill mutual casualty co. East Underw 40: 34 D 1 '39

Mexico

Mexico; insurance investment of reserves. Comm Rep p778 S 14 '40

Minnesota

Life carriers barred from casualty lines. Ins Field (Life ed) 69:9 Ag 23 '40

Netherlands Indies

Dutch companies transferred to Batavia. Weekly Underw 143:635 S 21 '40
Netherland insurance concerns transferred to Dutch East Indies. Weekly Underw 143: 71 Jl 13 '40

United States

Companies able to cover all insurables; value of an insurance agency tomorrow. L. E. Falls. Nat Underw 44:5+ S 19 '40

INSURANCE company buildings
Aetna's affiliated companies new downtown New York office structure. il Weekly Underw 143:28-9 Jl 6 '40
Air-conditioning new 28-story office building; Metropolitan life insurance co. il diag Sheet Metal Worker 31:44, 46+ O '40
Bankers Life in new building in Des Moines. il East Underw 41:9+ Ap 5 '40; Nat Underw (Life ed) 44:3+ Ap 5 '40; Weekly Underw 142:865 Ap 6 '40
Built with safety; Aetna life affiliated companies building. il Safety Eng 80:9-10 Ag '40
Construction aids air conditioning; Bankers Life building in Des Moines. T. Mitchell. il Refrig Eng 40:18-19 Jl '40
Continental American dedicates its new head office building, Wilmington, Del. il East Underw 41:3-4 Jl 26 '40; Ins Field (Life ed) 69:5-6 Jl 26 '40; Weekly Underw 143: 195+ Jl 27 '40
Engineered for air conditioning; Bankers Life building. il plan Power 84:661-3 O '40
Equitable Society moves into its own building in Chicago. East Underw 41:1+ My 31 '40
Features of a mammoth air conditioning installation; Bankers life co., home office building. il Sheet Metal Worker 31:42, 44, 46+ Ag '40
How Aetna office, New York, will look when completed. il Weekly Underw 142:200 Ja 20 '40
National Fire group new building, Hartford, Conn. il East Underw 41:28 My 17 '40; Nat Underw 44:2 My 16 '40; Weekly Underw 142:1262 My 25 '40
New design features; steel wall surfaces, no interior columns; home office building of Bankers life co. il Steel 107:51 Jl 22 '40
New York's newest insurance structure; Ætna Casualty & Surety's building, also housing affiliated companies. il East Underw 41:4-5+ pt 2 Jl 12 '40
Once in a great while; Bankers life company new home office in Des Moines, Iowa. il diags plans Arch Rec 87:47-68 Je '40
Tops in air conditioning; office building of the Bankers life company, Des Moines. il Dom Eng 156:40-3+ Jl; 53-5+ Ag '40
United life and accident of Concord, N.H. new building. il East Underw 41:30 Ag 9 '40; Ins Field (Life ed) 69:21 Ag 9 '40
Wall warming system complements air conditioning of new building; home office building of the Bankers life co. il Heating-Piping 12:405-9 Jl '40
Wall warming system neutralizes glass loss in office building; home office building of the Bankers life company. il Heat & Ven 37:31-2 Ag '40

INSURANCE company of North America
North America gears service to new needs; decentralized production authority is correlated with multiple line shop; service offices listed; abstracts. L. C. Lewis. Nat Underw 44:3+ O 3 '40; Weekly Underw 143:1081+ N 9 '40; Spectator (Property ed) 6:10-12 N 14 '40

INSURANCE counselors. See Insurance advisers

INSURANCE ethics
Agents' use of incomplete TNEC comparisons denounced. C. J. Zimmerman. Ins Field (Life ed) 69:5 My 31 '40; Same. Nat Underw (Life ed) 44:1+ My 31 '40; Same. Weekly Underw 142:1309+ Je 1 '40; Excerpts. East Underw 41:7 My 31 '40
Life agents of Utah asked to sign pledge designed to place business on high level. East Underw 41:4 Ap 19 '40; Weekly Underw 142:1020 Ap 27 '40
Selling accident and health insurance; watch your ethics. E. C. Budlong. Ins Field (Fire ed) 69:20-1 F 8 '40

INSURANCE Institute of America
Advantages offered to students. L. E. Falls. Weekly Underw 142:38-9 Ja 6 '40
Annual conference, 32d, New York city, Oct. 22. East Underw 41:19 O 25 '40; Ins Field (Fire ed) 69:8-9 O 24 '40; Ins Field (Life ed) 69:9-10 O 25 '40; Nat Underw 44:15 O 24 '40; Nat Underw (Life ed) 44:1+ O 25 '40

INSURANCE law
Companies may have to force war clause action; rejection of business if states fail to act. Nat Underw (Life ed) 44:10 N 1 '40
Coronet magazine exposes direct mail unadmitted companies; rackets in insurance. F. W. Brock. Nat Underw 44:15 Ag 1 '40
Courts protect against undisclosed claimants; abstracts. J. O'Meara, jr. East Underw 41:8 O 11 '40; Nat Underw (Life ed) Conv no 44:6+ O 12 '40
Government practice and state laws clash; countersigning. W. H. Bennett. East Underw 41:35 O 4 '40
Insurance court decisions. F. S. Knight, ed. Published in weekly numbers of Weekly underwriter
Insurance regulations in foreign field. E. C. Stiefel. Weekly Underw 143:167, 181-3 Jl 27 '40
Insurers should have rate-making control; other needless restrictions upon competition; abstracts. B. Rush. East Underw 41: 1+ S 13 '40; Weekly Underw 143:554 S 14 '40
Keeping insurance practices flexible. E. W. Sawyer. East Underw 40:107 D 15 '39
Legislative trend. H. J. Drake. Weekly Underw 142:7+ Ja 6 '40
Lloyd gets ruling on out-of-state brokerage. Ins Field (Life ed) 69:9 Ag 23 '40
Necessity of federal ban on unauthorized companies. S. Hobbs. Nat Underw 44:20 My 9 '40; Same. Nat Underw (Life ed) 44:3-4 My 10 '40; Same. Weekly Underw 142:1162 My 11 '40

INSURANCE law—*Continued*
Precautionary element in policy drafting; attitude which courts assumed towards insurers. J. H. Collins. Weekly Underw 142: 100+ Ja 6 '40
Statutory changes of the common law covering breach of warranty, concealment and representation. J. Alexander. Nat Underw 44:31 S 12 '40
U.S. may study insurance trade barrier question. Nat Underw 44:6 N 7 '40; Same. Nat Underw (Life ed) 44:3+ N 8 '40
Various states ready for active legislation season. Weekly Underw 142:132 Ja 13 '40
Waiver and estoppel as a substitute for payment; abstracts. M. W. Mangus. East Underw 41:10 O 11 '40; Nat Underw (Life ed) 44:22 O 11 '40

See also
Insurance, Automobile—Financial responsibility laws
Insurance agents—Law
Savings banks—Insurance selling

also American bar association—Insurance section; Association of life insurance counsel; International association of insurance counsel

Argentina

Insurance, foreign companies, registration required. For Comm W 1:148 O 26 '40

California

Caminetti calls legislative parleys in California. Nat Underw (Life ed) 44:7 O 25 '40
License requirements and rebates subjects of ruling by Insurance department of California. Weekly Underw 142:960 Ap 20 '40
Voting trust; California law. Weekly Underw 143:615 S 21 '40

Canada

Proposals for changes in fire statutes are considered. East Underw 41:1+ S 6 '40

Colombia

Colombia revises insurance laws. H. J. Daniels. Comm Rep p753 S 7 '40

Colorado

Changes in mutual law recommended by a Denver county grand jury. Nat Underw 44: 17+ Ap 11 '40; Nat Underw (Life ed) 44:15 Ap 12 '40

District of Columbia

New code effective Nov. 9. Nat Underw (Life ed) 44:30 N 1 '40
Proposed fire and casualty act. Ins Field (Fire ed) 68:7 N 30 '39

Europe

Digest of insurance legislation for the protection of policy-holders in continental Europe. F. Hausner. 272p 12s Policy-holder journal co, Manchester, London '39

Georgia

Commissioner Harrison obtains opinion on rights of fraternals. Weekly Underw 143: 820+ O 12 '40

Illinois

Illinois insurance code annotated. 869p $13 Foundation press, Chicago '39
Illinois insurance code including all other special laws relating to insurance, 1939. 293p Ill. Dept. of insurance, Springfield '39

Kentucky

Ruling on giving of insurance as a prerequisite to obtain a loan. S. Goodpaster. Weekly Underw 143:760 O 5 '40

Maryland

Changes in Maryland laws being prepared; adjusters, companies, counsellors affected. East Underw 41:44 O 11 '40
Maryland commissioner proposes law changes. East Underw 41:24 F 9 '40; Ins Field (Fire ed) 69:8 F 8 '40

Massachusetts

Pearl Assurance licensing case. East Underw 41:51 S 27 '40; Ins Field (Fire ed) 69:8-9 S 19 '40; Weekly Underw 143:630 S 21 '40

New Jersey

Failure to countersign held not to void policy in force 5 months; Kramer & co. sued the Century. East Underw 41:26 N 8 '40; Ins Field (Fire ed) 69:13 N 7 '40

New York (state)

Attorney General Bennett of New York gives opinion on associations subject to Department supervision. Weekly Underw 141:1064 N 18 '39
Bills affecting insurance introduced in legislature this session. Weekly Underw 142: 705 Mr 23 '40
Commentaries on the revised insurance law of New York. A. Kaplan and G. I. Gross. 719p $12.50 for sale by Grosby press, 30 Ferry st, New York '40
Compulsory insurance act; text of principal provisions. Spectator (Property ed) 5:10-14+ Ap 4 '40
Dividend estimates prohibited by Commissioner Pink. East Underw 41:7 Ja 19 '40; Nat Underw (Life ed) 44:1 Ja 19 '40
Insurance bills acted on at last legislative session. D. Holbrook. East Underw 41:10, 37 My 17 '40
Insurance department rulings and the attitude of the courts thereon; sixty-five years' record of the New York state insurance department's work. J. S. Andrews. Spectator (Life ed) 144:6-9, 22 My 9; 6-11+ My 23 '40
New York act is specific on war exclusions; action on other measures. Nat Underw (Life ed) 44:8-9 Ap 12 '40
New York Governor forecasts insurance legislation. East Underw 41:32 Ja 12 '40
New York insurance law, annotated; containing all amendments to January 1, 1940. W. E. Baldwin, ed. 34th ed $20 Banks-Baldwin law pub. co. Cleveland; Banks law pub. co, New York '39
New York law as to mingling of funds; agents responsible in a fiduciary capacity. Nat Underw 44:13 F 15 '40
Report on legislation in N.Y.; automobile bill amendments offered to insurance code occasion surprise. L. L. Saunders. East Underw 41:46 O 11 '40
Superintendent Pink's ruling on admission of unpaid portions of instalment premiums other than life as an admitted asset for financial statement purposes. East Underw 41:26 My 17 '40

North Carolina

Brokerage of business between agents; North Carolina ruling. Weekly Underw 141:1367 D 30 '39

Ohio

Company deposits; Ohio legal opinion given. T. J. Herbert. Weekly Underw 142:1492+ Je 22 '40
Ohio insurance laws, annotated, containing all insurance statutes up to and including September 1, 1939. 379p $4.50 W. H. Anderson co, Cincinnati '39

Pennsylvania

Court test of an exchange's liability. Weekly Underw 143:385 Ag 24 '40
Rules on advertising; Pennsylvania law regarding non-admitted carriers. Weekly Underw 142:236 Ja 27 '40
Suggests law in Pennsylvania to control commissions and foreign insurance companies. C. F. C. Arensberg. East Underw 41:34 O 11 '40

Texas

Free insurance held illegal. Ins Field (Fire ed) 69:30 S 5 '40; Ins Field (Life ed) 69: 21 Ag 23 '40

United States

1939 legislation affecting life carriers. R. H. Kastner. Weekly Underw 142:162-4 Ja 13 '40

INSURANCE law—*Continued*

Virginia

Constitutionality of Virginia insurance law. Monthly Labor R 49:1139-40 N '39

INSURANCE libraries

Hardy house; plan for permanent home for Insurance society of New York. W. A. Hamlin. Spectator (Property ed) 5:12-14 Ja 11 '40

Insurance society of New York; permanent building essential for 1,600 students and 40,000-volume library. J. J. King. Weekly Underw 142:24+ Ja 6 '40

N.Y. insurance society space problems for lectures and library. C. Axman. il East Underw 41:21+ Mr 29 '40

INSURANCE library association of Boston

Annual meeting, 53d, Oct. 11. East Underw 41:34 O 18 '40; Weekly Underw 143:939 O 19 '40

INSURANCE research

Can modern market survey techniques aid casualty and surety production? A. Broughton. East Underw 41:11+ pt 2 My 10 '40

Research division of insurance considered. C. C. Hannah. East Underw 40:1+ N 17 '39; Same. Nat Underw 43:3+ N 16 '39; Excerpts. Weekly Underw 141:1117 N 25 '39

INSURANCE society of New York

General revision of courses. East Underw 41: 15 Ag 23 '40; Spectator (Property ed) 6:8 Ag 22 '40

Hardy house; plan for permanent home revealed at unveiling of Edward R. Hardy portrait. W. A. Hamlin. Spectator (Property ed) 5:12-14 Ja 11 '40

Insurance Society membership should be increased. D. C. Beebe. East Underw 41:17 My 10 '40; Same. Weekly Underw 142:1138+ My 11 '40

Life committee meets. Spectator (Life ed) 145:12 O 10 '40

Permanent building essential for 1,600 students and 40,000-volume library. J. J. King. Weekly Underw 142:24+ Ja 6 '40

Plans expansion of life education program. East Underw 41:14 O 11 '40

Society launches $500,000 drive for library building. East Underw 41:18 Ja 5 '40; Weekly Underw 142:5+ Ja 6 '40

Space problems for lectures and library. C. Axman. il East Underw 41:21+ Mr 29 '40

INSURANCE surveys

Advertising agency learns reasons why 500 persons bought insurance. East Underw 41:8 Mr 29 '40

Buyers' survey by the American service bureau. Nat Underw (Life ed) 44:1 Ja 19 '40; Weekly Underw 142:209-10 Ja 20 '40

Insurance surveys, business—personal; a guide for selling and making manufacturing, mercantile and personal risk insurance surveys. R. E. Morrow. 199p $1.50 Rough notes co, Indianapolis '39

Municipal insurance costs and practices; a summary of available data. H. B. Wilson. 51p pa $1 American municipal assn, 1313 E. 60th st, Chicago '39

Survey on what families spend for life insurance by Bureau of home economics. Ins Field (Life ed) 68:9-10 D 1 '39

INSURANCE trusts

Business insurance trust in estate planning. E. D. La Rue. East Underw 41:116+ pt 2 O 4 '40

Estate planning not job for one person; trust officer's role. E. W. LaRue. East Underw 41:13 My 8 '40

How the law controls trust operations; irrevocable life insurance trusts. L. R. Bloomenthal. bibliog Bankers Mo 57:79-81+ F '40

How to avoid Bailey case dicta; setting up funded trust. G. A. Price. Nat Underw (Life ed) 44:6 My 24 '40

Increase in past decade in value of life insurance trust funds administered by Philadelphia trust companies. G. T. Stephenson. Comm & Fin Chr 149:3653-4 D 9 '39; Same. Trusts & Estates 69:606 D '39

Insurance trusts; enforceability of corporation's agreement to purchase shares of its own stock belonging to deceased stockholder. Trusts & Estates 70:447-8 Ap '40

Proceeds of life insurance policies, left in trust, appreciate through proper management; record of Philadelphia banking institutions. G. T. Stephenson. Weekly Underw 142:165 Ja 13 '40

Record of life insurance trusts in Pittsburgh. G. A. Price. Trusts & Estates 71:41-2 Jl '40

Should life insurance trust agreement be filed with the company? O. F. Grahame. East Underw 41:3+ O 25 '40

Tailor-made insurance trusts; some thoughts on business purchase agreements. R. H. Lawthers. Trusts & Estates 70:592 Je '40

Trust co.-insurance agents' relationships; completion of trust plans. A. D. Oliver. East Underw 40:4 D 8 '39

INTAKES

Great Lakes water for Grand Rapids. il diags Eng N 124:448-9 Mr 28 '40

Modify tunnel design to stop sand trouble. diag Elec W 113:2067 Je 29 '40

Proposed new intake for Montreal. C. J. Desbaillets. il diags plan Can Eng W & S 78:9-11 Ja '40

Water works intakes. N. G. McDonald. diags Am Water Works Assn J 32:661-74 Ap '40

INTEGRAL equations

Interreflections. P. Moon. bibliog diags Opt Soc Am J 30:195-205 My '40

INTEGRAPHS

Cinema integraph; a machine for evaluating a parametric product integral. H. L. Hazen, G. S. Brown and W. R. Hedeman, jr. il diags Franklin Inst J 230:19-44, 183-205 Jl-Ag '40

INTEGRATORS

Five-ampere electronic d-c regulator for Cinema integraph, developed at the Massachusetts institute of technology. J. N. Coombs and P. T. Nims. diag Electronics 13:40+ Ja '40

Mechanical integrator for the determination of the illumination from diffuse surface sources. V. H. Cherry, D. D. Davis and L. M. K. Boelter. il diags Illum Eng Soc Trans 34:1085-92; Discussion. 1093-4 N '39

INTELLECT

Intelligence: its nature and nurture. G. M. Whipple, ed. (National soc. for the study of education, 39th yearbook) 2v xviii,471; xviii,409,xxxviip ea $3; pa $2.25 Public school pub. co, 509 N. East st, Bloomington, Ill. '40

Mind through the ages; a history of human intelligence. M. Stevers. 521p $3.75 Doubleday '40

INTELLECTUAL cooperation

Mobilization of knowledge. J. C. Stamp. 28p pa 1s Hodder & Stoughton, London '38

INTELLECTUAL property

See also

Copyright
Ideas in business
Patents
Trade marks

INTELLECTUAL workers

See also

Office workers
Professional workers

INTELLIGENCE. See Intellect

INTELLIGENCE tests. See Ability tests

INTER-AMERICAN bank. See Banks and banking, International

INTER-AMERICAN bar association

Organization. Comm & Fin Chr 150:3909 Je 22 '40

INTER-AMERICAN financial and economic advisory committee

Establishment of Inter-American bank to promote trade approved. Comm & Fin Chr 150:920 F 10 '40

Inter-American clearing house to further exchange stability of American republics considered. Comm & Fin Chr 149:3344 N 25 '39

INTER-AMERICAN financial and economic advisory committee—*Continued.*
Sumner Welles chosen chairman. Comm & Fin Chr 149:3205 N 18 '39

INTER-AMERICAN safety council, Inc.
Safety for Latin-America. P. K. Stiles. Ind Stand 10:282-3 N '39

INTER-AMERICAN society of microbiology
Inter-American society of microbiology; steps taken toward establishment. Science 90:508 D 1 '39
Progress toward formation and organization of committees. F. Duran-Reynals. Science 92:122-3 Ag 9 '40

INTERBOROUGH rapid transit company
Committees urge deposits under unification plan. Comm & Fin Chr 149:3558-9 D 2 '39

INTERCHANGE of students. See Students, Interchange of

INTERCHANGEABLE mechanism
Careful analysis of proposed products simplifies interchangeable manufacture; procedure followed in planning for quantity production of Johnson semi-automatic high-powered rifles. C. B. Gardiner. il Mach 46: 162-4 Ja '40
Design of universal drill jigs. J. I. Karash. il diags Mach 46:161-7, 243-7 N-D '39
Different Diesels from one line; interchangeable tooling for machines in International Harvester plant. il Am Mach 84:910-13 N 13 '40
Suspension of stripper plates; interchangeable punches and dies. J. S. Karash. il diags Am Mach 84:534-6 Jl 24 '40
When precision was young; Captain Hall's early work in rifle manufacture formed the basis of modern interchangeable production. E. E. MacMorland. il Am Mach 83: 1078-9 D 27 '39

INTERCONNECTIONS of power systems. See Electric plants—Interconnection

INTERDISTRICT settlement fund. See Federal reserve banks—Interdistrict settlement fund

INTEREST
America, the war, and interest rates. F. C. James. Trusts & Estates 70:601-3 Je '40
Annual report, 10th, of the Bank for international settlements, year ending March 31, 1940. Fed Res Bul 26:1081-92 O '40
Bank rates to customers; revision, monthly, 1928-39. Survey of Cur Business 20:17 Mr '40
Cheap money and the Federal reserve system; rates, 1929, 1934, 1939. E. A. Goldenweiser. Fed Res Bul 26:385-9 My '40
Commercial loan rates; averages of rates charged customers by banks in principal cities; annual average 1934-1938; monthly, Jan. 1938-Feb. 1939; quarterly, Sept. 1938; March-Sept. 1939. Fed Res Bul 26:39 Ja '40 [cont monthly]
Courts and the theory of interest. R. W. Snyder. J Account 69:266-77 Ap '40
Forces which govern interest rates; supply and demand relations of bank and public funds. S. M. Foster. Trusts & Estates 70: 59-60 Ja '40
Funds unlimited; rates easy. A. M. Pope. Inv Banking 10:22-3 Mr '40
High-grade bonds expected to remain stable despite the war. S. L. Miller. Annalist 55: 116-17+ Ja 25 '40
Industrial bond and preferred stock refundings, 1933-1937. J. B. Hubbard. R Econ Statis 20:161-84; 22:17-44 N '38, F '40
Interest rates on local mortgages in Britain. Economist 138:159 Ja 27 '40
Low interest rates for housing loans. J. K. Barnes. Annalist 54:694 N 30 '39
Low interest to stay. H. H. Allen. Inv Banking 10:14-17 Jl '40
Misleading interest rates objectionable; abstract. P. W. Williamson. Bankers M 140: 267-8 Mr '40
Money and interest rates, 1936-1939. Survey of Cur Business 1940 Sup p51-2 [supplemented in monthly numbers]
Money entitled to a living wage, too; comments on recent article by A. A. Berle, jr. W. Macferran, jr. Bankers M 139: 496-8 D '39
Money rates in foreign countries, May 1939-Nov. 1939. Fed Res Bul 26:71 Ja '40 [cont monthly]
Money rates in 1929-1939 in Britain. Economist 138:22-3 Ja 6 '40
Mortgage money and interest rates. P. W. Kniskern. Trusts & Estates 69:667 D '39
Open-market rates in New York city, monthly, Nov. 1938-Nov. 1939. Fed Res Bul 26:39 Ja '40 [cont monthly]
Outlook for long-term money rates. A. P. Woolfson. Bankers M 140:17-20 Ja '40
Structure of money rates in Britain. Economist 139:48-9 Jl 13 '40
Treasury bill and money rates at par; short-loan rate and tighter money discussions. Economist 138:154, 156 Ja 27 '40
Trend of interest rates. O. P. Wheeler. Bankers M 140:297-302 Ap '40
War and interest rate trends. M. Nadler. Bankers M 141:19-20 Jl '40
War and money rates. M. Nadler. Trusts & Estates 70:98 Ja '40
Whither interest rates? an appraisal of pressures in and from the capital markets. H. H. Allen. 196p $2 Harper '40

See also
Loans, Small—Laws and regulations
Savings deposits—Interest
Usury laws

Tables, etc.
Coffin's interest tables; one dollar to ten thousand dollars, including a master table showing interest at various rates from one-eighth per cent to ten per cent. J. E. Coffin. rev ed 140p $2 John C. Winston co, Philadelphia '40
How many days between January 22 and October 10? Heinz interest and discount time-teller and desk calendar. il Bankers Mo 57:568 O '40
Monthly payment direct reduction loan amortization schedules. 3d enl ed 1024p $8 Financial pub. co, Boston '39

INTERFACES
Adsorption at the interface between two fluids; the adsorption of five dyes at a mercury-water interface. C. W. Gibby and C. Argument. diag Chem Soc J p596-600 My '40
Cybotaxis at interfaces. T. H. Hazlehurst and H. A. Neville. bibliog il diags J Phys Chem 44:592-600 My '40

See also
Electric double layer

INTERFACIAL tension
Detergents from kerosene; alkyl sulfates. A. R. Padgett and E. F. Degering. bibliog Ind & Eng Chem 32:204-8 F '40

See also
Contact angle
Surface tension

INTERFAITH conference on unemployment
Findings of the Interfaith conference on unemployment, Washington, D.C. June 4-6. Monthly Labor R 51:41-3 Jl '40

INTERFERENCE (light)
Model to illustrate isogyres in interference figures. C. A. Chapman. Am J Sci 238:805-10 N '40
Prism and the theory of optical resolution. B. P. Ramsay, O. T. Koppius and E. L. Cleveland. bibliog diags Opt Soc Am J 30: 439-44 S '40

INTERFEROMETERS
Application of the interferometer to the measurement of dimensional changes in rubber. L. A. Wood, N. Bekkedahl and C. G. Peters. bibliog diags J Research Nat Bur Stand 23:571-83 N '39
Complete photoelastic instrument. F. W. Bubb. diag Opt Soc Am J 30:297-8 Jl '40
Direct comparison on a crystal of calcite of the X-ray and optical interferometer methods of determining linear thermal expansion; evidence of differences among calcite crystals. J. B. Austin and others. bibliog Phys R 57:931-3 My 15 '40
Evidence for a nuclear electric quadrupole moment for Sb^{123}. D. H. Tomboulian and R. F. Bacher. Phys R 58:52-4 Jl 1 '40

INTERFEROMETERS—*Continued*
Fabry-Perot interferometers in a parallel arrangement. L. Sturkey. il diag Opt Soc Am J 30:351-4 Ag '40
Optical properties of the grating interferometer. J. H. Schroeder and B. P. Ramsay. Opt Soc Am J 30:355-61 Ag '40
Use of interferometer for two component mixtures; mixtures of carbon tetrachloride and gasoline. G. C. Harrold and L. E. Gordon. il J Ind Hygiene 21:491-7 D '39
Vacuum interferometer for precise measurements; Fabry-Perot interferometer. R. M. Elliott. diags R Sci Instr 11:235-6 Jl '40

INTERFEROMETERS, Sonic
Constant path acoustic interferometer for gases at variable pressure. C. M. Herget. diag R Sci Instr 11:37-9 Ja '40
Fixed path acoustic interferometer for the study of matter. J. C. Hubbard and I. F. Zartman. bibliog diags R Sci Instr 10:382-6 D '39

INTERINSURANCE exchanges. See Insurance, Reciprocal

INTERIOR decoration
Architectural porcelain enamel; Chicago vitreous enamel product co. reception room. il Iron Age 145:49 Ap 25 '40
Beautiful interiors obtained with insulation board products. il Am Bld 61:46-50, 54-5 D '39
Cleopatra would have adored this; Tourneur make-up salon, New York; use of plastics and textural glass. J. Guncheon. il Mod Plastics 17:40-3 Je '40
Color and transparency persist; plastic furniture and accessories. il Mod Plastics 17:31-7 Ap '40
Design decade. il diags plans Arch Forum 73:250-74 O '40
Harmony in interiors. V. Seeley. 287p $5 McGraw-Hill '40
Influence of fluorescent lighting on the colors of decorations and furnishings. A. H. Taylor. Illum Eng 35:625-8 Jl '40
Plastics for interior design. il Mod Plastics 17:38-9+ Mr '40
Pump room in Chicago's Ambassador East. il plan Arch Forum 73:21-4 Jl '40
Relation of lighting to interior design. R. W. Irvin. Illum Eng 35:544-50 Je '40
Y.M.C.A. room revamped at low cost. il diag plans Arch Rec 87:55 My '40

See also
Architecture, Domestic
Carpets
Cars—Decoration
Furniture
Hotels—Decoration
House decoration
Mural painting and decoration
Recreation rooms
Ship decoration

Exhibitions
New York world's fair 1940; America at home. G. Howe. il plans Arch Forum 73:31-9 Jl '40

INTERIOR walls. See Walls, Interior

INTER-ISLAND airways, ltd.
Operations. il map Aero Digest 36:63+ My '40

INTERLAKE iron corporation
High cost producer of pig iron may make a better than usual showing. G. W. Mathis. Mag of Wall St 66:475+ Jl 27 '40

INTERLOCKING devices
Complete control of piping systems eliminates errors at Campana plant. R. D. Frick. il Heating-Piping 12:103-5+ F '40
Co-ordinated electrical control saves foundry space; correlates mold production lines with sand-conditioning towers; International harvester company's motor truck engine factory. H. W. Parthemer. il diags Elec W 113:2041-3+ Je 29 '40
Interlocked motors save regrets. L. E. Markle. diags Factory Management 98:84-6 Jl '40

INTERLOCKING plants. See Electric railroads—Signals; Railroads—Signals

INTERMEDIATE credit banks

See also
Production credit associations

INTER-MOUNTAIN telephone company
Stock offered. Comm & Fin Chr 151:2352-3 O 19 '40

INTERNAL combustion engines. See Gas and oil engines

INTERNAL friction. See Friction, Internal

INTERNAL revenue
Collections for fiscal year ended June 30 totaled $5,340,452,347, compared with $5,181,573,953 in 1939 fiscal year. Comm & Fin Chr 151:1987 O 5 '40

See also
Corporations—Taxation
Excise tax
Income tax
Inheritance tax

INTERNAL revenue law
Mason's Internal revenue code, annotated; presenting the text of the Internal revenue code enacted by Congress February 10, 1939. W. H. Mason and others, eds. 1308p $15 Mason pub. co, St Paul '39

INTERNATIONAL acetylene association
Annual meeting, 40th, Milwaukee, April 10-12. Steel 106:27 Ap 15; 72-4+ Ap 22 '40; Iron Age 145:81B Ap 18 '40

INTERNATIONAL agricultural corporation
Annual report. Comm & Fin Chr 151:1575-6 S 14 '40
Plan of recapitalization; to change name. Comm & Fin Chr 149:3718-19 D 9 '39
Stockholders' committee opposed to plan of recapitalization. Comm & Fin Chr 150:280 Ja 13 '40

INTERNATIONAL association of casualty and surety underwriters
Joint convention with National association of casualty and surety agents, White Sulphur Springs, Oct. 7-10. East Underw 41:37+ O 11 '40; Ins Field (Fire ed) 69:7-8+ O 10; 16-17 O 17 '40; Nat Underw 44:25+ O 10 '40; Spectator (Property ed) 6:10-12+ O 17 '40; Weekly Underw 143:837-44 O 12 '40

INTERNATIONAL association of electrical inspectors
Northwestern section, 14th annual meeting, Great Falls, Montana, Sept. 3-6. Elec West 85:56-7 O '40

INTERNATIONAL association of governmental labor officials
Annual meeting, Tulsa, Okla. Sept. 7-9. Monthly Labor R 49:1125-9 N '39

INTERNATIONAL association of industrial accident boards and commissions
Annual meeting, 26th, Milwaukee, Sept. 25-28. Monthly Labor R 49:1129-30 N '39
Annual meeting, 27th, Richmond, Va. Ins Field (Fire ed) 69:14+ S 19 '40

INTERNATIONAL association of insurance counsel
Annual meeting, White Sulphur Springs, Sept. 4-6. East Underw 41:29+ S 6 '40; Ins Field (Fire ed) 69:9-10 S 5; 13-14 S 12 '40; Ins Field (Life ed) 69:9-10 S 6; 10+ S 20 '40; Nat Underw 44:21+ S 5; 32 S 12 '40; Nat Underw (Life ed) 44:3+ S 6; 6 S 13 '40; Weekly Underw 143:516+, 574 S 7-14 '40

INTERNATIONAL association of machinists
Key unions map drive. Business Week p38-9 S 28 '40

INTERNATIONAL association of printing house craftsmen
Annual convention, 20th, New York, Sept. 24-27. Inland Ptr 104:78-80 N '39
Annual convention, 21st, San Francisco, Aug. 4. Inland Ptr 105:32-6 S '40

INTERNATIONAL association of scientific hydrology

Commission of snow and glaciers
New International commission of snow and glaciers. F. E. Matthes. Science 91:317-18 Mr 29 '40

INTERNATIONAL balance of payments. See Balance of payments

INTERNATIONAL bank. See Bank for international settlements

INTERNATIONAL business machines corporation
Income account, 1936-39. Comm & Fin Chr 150:3513 Je 1 '40
International Business Machines is Mr Thomas J. Watson's temple of the company spirit. il Fortune 21:36-43+ Ja '40

INTERNATIONAL claim association
Annual convention, Colorado Springs, Sept. 9-11. Ins Field (Fire ed) 69:11-12+ S 19 '40; Ins Field (Life ed) 69:21-2 S 20 '40; Nat Underw 44:31+ S 12 '40; Nat Underw (Life ed) 44:3+ S 13 '40; Weekly Underw 143:570-2 S 14 '40
Committees chosen. East Underw 41:38 Jl 12 '40; Ins Field (Fire ed) 69:12 Jl 11 '40; Ins Field (Life ed) 69:7-8 Jl 12 '40; Weekly Underw 143:78 Jl 13 '40

INTERNATIONAL commission of snow and glaciers. See International association of scientific hydrology—Commission of snow and glaciers

INTERNATIONAL commission on illumination
Meeting, 10th, Scheveningen, Holland. Illum Eng Soc Trans 34:981-2 N '39

INTERNATIONAL conferences
International scientific congresses held since 1930, or announced for 1940 or later. 45p pa 25c National research council '40

INTERNATIONAL cooperation
Construction now. L. P. Jacks. 112p 35c S. J. Reginald Saunders, 84 Wellington st, W, Toronto '40
European plans for world order. W. P. Maddox. 44p pa 15c Am. acad. of pol. and soc. sci. '40
International cooperation in science. R. B. Fosdick. Science 91:547-8 Je 7 '40
Peace means more than political adjustment. C. Eagleton. Ann Am Acad 210:35-42 Jl '40
Reciprocity of social insurance and assistance among the northern European countries. G. M. Drachmann. Int Labour R 42:47-57 Jl '40
World unity. M. Garnett. 32p pa 10c Oxford '40

See also
Bank for international settlements
League of nations

INTERNATIONAL electrotechnical commission
United States national committee names C. H. Sharp honorary chairman. H. S. Osborne. Ind Stand 11:66-7 Mr '40
U.S. national committee of IEC elects Crittenden president; other officers. Ind Stand 11:35-6 F '40

INTERNATIONAL federation
Designs for a world order. R. W. Page. Ann Am Acad 210:50-6 Jl '40
Europe's changing economic structure; three major long-run problems. P. F. Drucker. Annalist 56:143 Ag 1 '40
Federal Europe, being the case for European federation, together with a draft constitution of a united states of Europe. R. W. G. Mackay. 323p bibliog(p313-16) 10s 6d M. Joseph, London '40
Federation for western Europe. W. I. Jennings. 208p $2.50 Macmillan '40
Peace through international co-operation; confederation of independent states inside the framework of the League. Viscount Cecil of Chelwood. Ann Am Acad 210:57-65 Jl '40
Science, war and reconstruction. J. S. Huxley. Science 91:151-8 F 16 '40
Union now; the proposal for interdemocracy federal union (shorter version). C. K. Streit. 256p $2 Harper '40

See also
United States of Europe (proposed)

INTERNATIONAL finance. See Finance, International

INTERNATIONAL harvester company
Annual report, year ended Oct. 31, 1939. Comm & Fin Chr 150:1281 F 24 '40
Nest egg for 50,000; retirement plan sets up accounts in which company matches percentage of savings. Business Week p33-4 Mr 30 '40
Savings and extra compensation plan. Monthly Labor R 51:631-3 S '40
Statistics of income, capital, stock earnings, etc. 1929-39. Annalist 55:333 F 29 '40
Strong position in trucks and tractors offsets partial loss of leadership in farm equipment. F. R. Walters. il Mag of Wall St 65:224-6+ D 2 '39

INTERNATIONAL hydro-electric system
Earnings, 1937-39. Comm & Fin Chr 150:2580 Ap 20 '40

INTERNATIONAL illumination commission. See International commission on illumination

INTERNATIONAL labor office
Research facilities of the International labour office available to American libraries. J. B. Rounds. 70p bibliog(p67) pa 75c American library assn, Chicago '39
Transfer of International labor office personnel to Montreal. Monthly Labor R 51: 585-6 S '40

INTERNATIONAL labor organization
I.L.O. in wartime. J. S. Gambs. Monthly Labor R 50:1107-10 My '40
President Roosevelt asks Congress to study draft conventions and recommendations adopted at meeting of International labor organization last year. Comm & Fin Chr 150:4055 Je 29 '40

Conference of American states, Havana, 1939
Conference, 2d, Cuba. Comm & Fin Chr 149: 3353-4, 3655 N 25, D 9 '39
Conference, 2d, Havana, Nov. 21-Dec. 2, 1939. Int Labour R 41:225-68 Mr '40
Conference, 2d, Havana, Nov. 21-Dec. 2, 1939. Monthly Labor R 50:59-61 Ja '40

Permanent agricultural committee
Meeting of the American members, Havana, Nov. 21-Dec. 2, 1939. Int Labour R 41:269-75 Mr '40

INTERNATIONAL ladies' garment workers' union
Bathrobe war ends; New York jurisdictional row. Business Week p30 Mr 23 '40
Big bathrobe battle; Dubinsky's union declares war on Hillman's Amalgamated. Business Week p16 N 25 '39
Broadway record; Pins and needles ends its run with 1105th performance after grossing $1,042,145. Business Week p28 Jl 6 '40
Garment workers' union, votes to return to A.F. of L. Comm & Fin Chr 150:3597 Je 8 '40
History of the Chicago ladies' garment workers' union. W. Carsel. 323p bibliog(p309-16) $2.50 Normandie house, Chicago '40
Rival for I.L.G.W.U.; Dubinky's return to the A.F.L. brings reprisals instead of peace move from the C.I.O. Business Week p38 Je 29 '40

INTERNATIONAL law
Aspects of modern international law; an essay. J. F. Williams. 117p $1.75 Oxford '39
Documentary textbook in international law; with questions and problems. L. Pfankuchen. 1030p bibliog(pxxix-xxxii) $6 Farrar '40
Handbook of international law. G. G. Wilson. 3d ed 623p bibliog(pxvii-xxiii) $5 West '39
International law of John Marshall; a study of first principles. B. M. Ziegler. 386p bibliog(p357-64) $3.50 Univ. of North Carolina press, Chapel Hill '39
Making international law work. G. W. Keeton and G. Schwarzenberger. 219p 6s Peace book co, London '39
Threat to civilization in world conflicts; address before American society of international law; text. C. Hull. Comm & Fin Chr 150:3141-2 My 18 '40

See also
Bombardment
International relations
League of nations
Maritime law
Neutrality

INTERNATIONAL law, Private
Cases on private international law. J. H. C. Morris. 405p $9 Oxford '39

INTERNATIONAL longshoremen's and warehousemen's union
Bridges loses again. Business Week p47+ O 12 '40

INTERNATIONAL mercantile marine company
Bond problem; company faces heavy maturity next year. Barron's 20:19 F 26 '40
Stocks in the low-price range; thumbnail appraisal. Mag of Wall St 65:357 D 30 '39

INTERNATIONAL nickel company of Canada
Annual meeting, Toronto. Economist 138:791 Ap 27 '40
Another look at International Nickel. S. Devlin. il Mag of Wall St 66:225-7+ Je 1 '40
International Nickel to spend $7,800,000 in Canada. Can Chem & Process Ind 24:287 My '40
Profits in 1939. Economist 148:477-8 Mr 16 '40

INTERNATIONAL paper and power company
Annual report. Paper Tr J 110:12-13 Ap 4 '40; Excerpts. Pulp & Pa of Can 41:367 Ap '40
Earnings, 1936-39. Comm & Fin Chr 150:3514 Je 1 '40
International Paper nears profits. P. Dobbs. il Mag of Wall St 65:240-1+ D 2 '39
Reports $5,938,859 for the quarter and $8,899,433 for six months. Paper Tr J 111: 16 Ag 15 '40
Thumbnail stock appraisal. Mag of Wall St 66:682; 67:103 S 21, N 2 '40

INTERNATIONAL paper company
Earnings, 1936-39. Comm & Fin Chr 150:3514 Je 1 '40
International Paper files $2 million offer of first mortgage bonds. Paper Tr J 111:9 Jl 4 '40

INTERNATIONAL printing pressmen and assistants' union of North America
Labor's approach to job training. P. L. Garman. Personnel J 18:358-64 Ap '40

INTERNATIONAL railways of Central America
Earnings, calendar years 1936-39. Comm & Fin Chr 150:1138 F 17 '40

INTERNATIONAL relations
America's stake in the present war and the future world order; Fortune round table. il Fortune 21:70-2+ Ja '40
Elements of international relations. F. A. Middlebush and C. Hill. 498p $3.25 McGraw-Hill '40
For what do we fight? N. Angell. 327p $2.50 Harper '39
International organization. J. T. Shotwell. Ann Am Acad 210:19-23 Jl '40
International security. E. Beneš, A. Feller and R. Coulborn. W. H. C. Laves, ed. 153p $2 Univ. of Chicago press '39
Isolated America. R. L. Buell. 457p $3 Knopf '40
Man or Leviathan? a twentieth century enquiry into war and peace. E. Mousley. 470p $4.50 Norton '39
Principles and problems of international relations. H. A. Steiner. 835p $3.75 Harper '40
Science of international relations, law, and organization. P. Guggenheim; P. B. Potter. 35p pa 40c Columbia univ. press '40
Security, can we retrieve it? J. A. Salter. 390p $3.50 Reynal '39
Turkey at the Straits; a short history. J. T. Shotwell and F. Deák. 196p bibliog(p173-8) $2 Macmillan '40
Twenty years' crisis, 1919-1939; an introduction to the study of international relations. E. H. Carr. 313p $3 Macmillan '39
University teaching of international relations; a record of the eleventh session of the International studies conference, Prague, 1938. A. Zimmern, ed. 253p $2 Columbia univ. press '39

See also
International co-operation
International law
League of nations
Maritime law
Munitions
Pan Americanism
Peace
War
World politics
also subdivision Foreign relations under names of countries, e.g. Germany—Foreign relations; United States—Foreign relations

INTERNATIONAL salt company
How International Salt tackled the problem of excess sales cost. J. L. Ryon. maps Sales Management 47:112-15 O 10 '40

INTERNATIONAL shoe company
Annual report, 1939. Comm & Fin Chr 150:130 Ja 6 '40

INTERNATIONAL silver company
Earnings, 1936-39. Comm & Fin Chr 150:1770 Mr 16 '40

INTERNATIONAL telephone and telegraph corporation
Call for Franco; investments in Spain. Business Week p46-7 Mr 30 '40
Earnings. Pub Util 25:804 Je 20 '40
Earnings, 1938 and 1939. Comm & Fin Chr 150: 3051 My 11 '40
Low price, active leverage stocks; thumbnail appraisal. Mag of Wall St 65:621 F 24 '40
New blow to I.T.&T.; Transylvanian property seized by Hungary. Business Week p60-1 S 28 '40
Orphan of the storm. H. L. Blackburn. il Mag of Wall St 66:297+ Je 15 '40
Statistics of income, capital, stock earnings, etc. 1929-38. Annalist 55:45 Ja 11 '40

INTERNATIONAL trade composition association
Annual convention, 20th, New York, Sept. 29-30. Inland Ptr 104:69-70 N '39

INTERNATIONAL trusts. See Trusts, Industrial—International trusts

INTERNATIONAL union of chemistry
International union of chemistry; work should continue. M. T. Bogert. Science 90:491-2 N 24 '39; Same. Ind & Eng Chem News ed 17:710 N 20 '39

INTERNATIONAL union of geodesy and geophysics
General assembly, 7th, Washington, Sept. 4-15. J. A. Fleming. Science 91:439-42 My 10 '40

INTERNUCLEAR distances. See Molecules

INTERPOLATION
Method of graphic interpolation. J. S. Stock. Am Statis Assn J 34:709-13 D '39

INTERREGIONAL highway plan. See Roads—United States—Interregional highway plan

INTER-SOCIETY color council
Annual report of TAPPI delegates. Paper Tr J 110:37-8 Ja 25 '40
Proceedings of the joint meeting of the Optical society of America with the American physical society and the Inter-society color council, New York, Feb. 21-24; abstracts of papers. Opt Soc Am J 30:265-74 Je '40

INTERSTATE commerce
Are you licensed to do business? can you collect legally in another state? G. B. Sturtz. Credit & Fin Management 42:28 N '40
Commerce clause tax problems. M. M. Mahany. 269p $2.75 Commerce clearing house '40
Dangers lurking in spot stocks; conflict with state corporation laws. Credit & Fin Management 41:23-4 D '39
Diverse local standards bar free trade in many states; testimony submitted to TNEC. A. H. Martin, jr. diags Ind Stand 11:181-4 Jl '40
Highway barriers and the need for cooperation in their removal. C. H. Gray. Am Pet Inst Proc 20(AT):45-7 '39
How standards eliminate trade barriers; testimony by P. G. Agnew before Temporary national economic committee. Ind Stand 11: 81-7 Ap '40
Interstate trade barriers. J. E. Johnsen, comp. Ref Shelf v 14, no2:1-215 bibliog(p201-15) '40 ($1.25)
Liquor barriers hit. Business Week p28-9 Ja 13 '40
Monopoly committee holds hearings on interstate trade barriers. Comm & Fin Chr 150: 1861, 2028 Mr 23-30 '40

INTERSTATE commerce—*Continued*
National selling will disappear if barrier laws spread; pictograph. Sales Management 46: 48 F 15 '40
Opposition to bill regulating water carriers in domestic commerce voiced by Merchants' association of New York. Comm & Fin Chr 150:926-7 F 10 '40
State trade barriers; survey released by WPA. Ptr Ink 190:83-6 F 16 '40
State trade walls found to hamper normal recovery. F. E. Melder. Comm & Fin Chr 149: 3199 N 18 '39
Study of interstate trade barriers proposed by Hopkins; names Paul T. Truitt head of committee. Comm & Fin Chr 149:3484 D 2 '39
Supreme court and interstate barriers. R. H. Jackson. bibliog Ann Am Acad 207:70-8 Ja '40
Tax competition between states. J. W. Martin. bibliog Ann Am Acad 207:62-9 Ja '40
Trade barrier hearings begin. Ry Age 108: 559-60 Mr 23 '40
Trade barrier relief is states problem. Oil Paint & Drug Rep 136:3 D 25 '39
Trade barriers between states. F. E. Melder. bibliog Ann Am Acad 207:54-61 Ja '40
Trade barriers retard economic progress. L. G. Koepfle. Comm Rep p48 Ja 20 '40
Trade barriers within the United States. R. Cassady, jr. bibliog Harvard Business R 18 no 2:231-47 [Ja] '40
War on trade barriers seen as duty of industry. Food Ind 12:66 O '40
Warns states to remove trade barriers or public will demand federal action. O. J. Ross. Comm & Fin Chr 150:217 Ja 13 '40
Work of the commissions on interstate cooperation. H. R. Gallagher. Ann Am Acad 207:103-10 Ja '40

See also
Railroad law
Railroads and state—
United States
Restraint of trade

INTERSTATE commerce commission
Annual report. Comm & Fin Chr 150:623 Ja 27 '40
Annual report. Ry Age 108:126-9 Ja 13 '40
Defense of I.C.C. procedure. J. B. Eastman. Ry Age 109:556-7 O 19 '40
I.C.C. starts after rate and classification data. Ry Age 108:170-1 Ja 20 '40
New price policy for the railroads: quantity or multiple-car rates; the Molasses case. E. A. Smith. bibliog J Land & Pub Util Econ 16:230-3 My '40
Practitioners defend I.C.C. procedure. Ry Age 109:103-5 Jl 20 '40
President wants S. 2009 enacted; favors I.C.C. regulation of water carriers. Ry Age 108: 487-8 Mr 16 '40
Senate committee approves Johnson appointment to I.C.C. Ry Age 108:827 My 11 '40
Transportation and politics; a study of long-and-short-haul policies of Congress and the Interstate commerce commission. C. Crumbaker. 169p pa $1.25 Univ. of Oregon, Eugene '40
Uncle Sam at the throttle. E. Whitmore. Am Business 10:20-2, 50-1 N '40
Uncommon carriers under fire; freight forwarder wages fight for ICC regulation. Business Week p38-9 D 9 '39

Bureau of locomotive inspection
Annual report, year ended June 30, 1939. Ry Age 108:163-5 Ja 20 '40; Ry Mech Eng 114:52-5 F '40
Work of the Bureau of locomotive inspection. J. M. Hall. Ry Mech Eng 113:437-8 N '39

Bureau of motor carriers
Another year of the Motor carrier bureau. Ry Age 108:377-8 F 24 '40
ICC news. Published in monthly numbers of Bus transportation

Bureau of safety
Annual report, year ended June 30, 1939. Ry Age 108:171-3 Ja 20 '40
Mills becomes Safety bureau director. Ry Mech Eng 113:518 N '39

Bureau of water carriers
I.C.C. sets up water bureau. Ry Age 109:492 O 5 '40

INTERSTATE commission on the Delaware River basin
Voluntary regionalism in the control of water resources. D. W. Robinson. bibliog Ann Am Acad 207:116-23 Ja '40

INTERSTATE compacts
Congress authorizes Ohio and Potomac River compacts; first intrastate anti-pollution covenants. J. G. Ellis. Water Works & Sewerage 87:320 Jl '40
Interstate compacts and administrative cooperation. G. C. Routt. bibliog Ann Am Acad 207:93-102 Ja '40
Report of the Joint legislative committee on interstate cooperation. 261p New York (state) Legislature, Joint committee on interstate cooperation, Albany '39

See also Interstate oil compact commission

INTERSTATE cooperation
Interstate compacts and administrative cooperation. G. C. Routt. bibliog Ann Am Acad 207:93-102 Ja '40
Voluntary regionalism in the control of water resources. D. W. Robinson. bibliog Ann Am Acad 207:116-23 Ja '40
Work of the commissions on interstate cooperation. H. R. Gallagher. Ann Am Acad 207:103-10 Ja '40

INTERSTATE department stores, Inc.
Fast moving low price stocks; thumbnail appraisal. Mag of Wall St 65:231 D 2 '39

INTERSTATE oil compact commission
Compact body elects Phillips chairman; meeting, Wichita. Oil & Gas J 38:69 Ja 25 '40; Nat Pet N 32:9+ Ja 24 '40
Quarterly meeting, Oklahoma City. Nat Pet N 32:21 Ap 10 '40; Oil & Gas J 38:12-13+ Ap 11 '40
Quarterly meeting, Oklahoma City. Oil & Gas J 39:6-7 Ag 29 '40; Nat Pet N 32:13+ Ag 28 '40

INTERSTATE underwriters board
New committee members and officers. Ins Field (Fire ed) 69:7 F 8 '40; Spectator (Property ed) 5:13 F 8 '40; Weekly Underw 142:289+ F 3 '40

INTERSTELLAR space. See Space, Interstellar

INTERURBAN railroads

See also
Electric railroads
Street railroads

INTERVIEWING
Business asks the public how it may serve best. il Nation's Business 28:26-8+ My '40
Consistency of information from records and interviews. G. Bancroft. Am Statis Assn J 35:377-81 Je '40

See also
Employment systems—Interviews

INTESTACY. See Inheritance and succession

INTRAVENOUS injections. See Injections, Intravenous

INVAR
Thermostatic bimetals. S. G. Eskin and J. R. Fritze. Engineering 149:212-13, 223-4 F 23-Mr 1 '40

INVENTIONS
Business wants these things invented. Adv & Sell 33:40+ N '40
Disclosing an invention to prove the date of invention. H. A. Toulmin, jr. Product Eng 11:367-8 Ag '40
Du rêve à la réalisation; des inventeurs et des inventions. J. Bethenod. Soc Ing Civils Mémoires 92:475-89 Jl-D '39
Electrical invention and re-invention; abstract. W. T. O'Dea. Engineering 149:314 Mr 22 '40
Engines of democracy; inventions and society in mature America. R. Burlingame. 606p bibliog(p545-72) $3.75 Scribner '40

INVENTIONS—*Continued*
Futurama; copy writers, years hence will be writing about more than 1,000 new products and materials. E. Peterson. Ptr Ink 193:69-70 N 8 '40
Inventions win wars; suggested developments to detect, defeat warplanes, submarines. W. H. Wenstrom. il diags Sci Am 162:324-7 Je '40
Inventor's contribution to engineering progress. S. C. Hollister. il Cornell Eng 5:5-7+ My '40
Marvels of the modern world. H. F. B. Wheeler, ed. 448p $1.98 Halcyon house, New York '40
More on patents; outstanding inventions of past 150 years. Ind & Eng Chem 32:598 My '40
Necessity calls for inventors; abstract. C. F. Kettering. Automotive Ind 82:394+ Ap 15 '40
Research and invention in engineering colleges. A. A. Potter. Science 91:1-7 Ja 5 '40; Same. Mech Eng 62:196-200 Mr '40
Scientific conscience; Benjamin Franklin on balloons and war. I. B. Cohen. Science 91:383-4 Ap 19 '40
Scientific invention and social consciousness. M. F. Ashley-Montagu. Science 90:592 D 22 '39
Stories of useful inventions. S. E. Forman. rev ed 289p $1.20 Appleton-Century '39
32 inventions needed by the food industries. Food Ind 12:35 N '40
What people want invented. Barron's 20:5 Ag 19 '40
See also
Inventors
Patent laws and legislation
Patents

INVENTIONS, Employees'
Legal right of employers to develop and patent employe's inventions. L. T. Parker. Am Gas J 152:22-4 Ja '40
Ownership of patents. H. A. Toulmin, jr. Product Eng 11:271-3 Je '40
Rights of an inventor-employee. H. H. Snelling. bibliog Mech Eng 62:543-7 Jl '40

INVENTIONS board (Canada). See Canada—Inventions board

INVENTORIES
Accounting for governmental supplies. 60p pa 50c Municipal finance officers assn. of the U.S. and Canada, 1313 E. 60th st, Chicago '40
Beware of dead dollars! overloaded inventories. J. E. Bullard. Credit & Fin Management 42:16-18 Ja '40
Budgeting inventories and stabilizing employment; Talon, inc. P. K. Poulton and P. H. Goldsmith. il Factory Management 97:52-5 D '39
Business outlook; inventory situation. D. W. Ellsworth. Annalist 54:721-2 D 7 '39
Commodity stocks in wartime; how inventory companies are affected by price movements. Barron's 20:20 My 20 '40
Engineer's comments on the control of continuing property records. H. R. Martz. Edison Elec Inst Bul 7:545-6 N '39
Experiences with extensions of auditing procedure for inventories. C. O. Wellington. J Account 70:13-24 Jl '40
Extensions of auditing procedure affecting credit analysis; audits of inventories. A. Siegel. Credit & Fin Management 41:41-4 D '39
Finished goods inventory practice; comp. by the Research and technical service department. N A C A Bul 21:927-56 sec 3 Mr 15 '40
Fool's profits. A. Cotter. 174p $2 Barron's, New York '40
Further comments on last-in, first-out. D. R. Anderson; G. A. Wilson. N A C A Bul 21: 459-68 sec 2 D 1 '39
Further rise in sales-inventory ratio. R. S. Driscoll. Annalist 54:631 N 16 '39
Inventories; a preliminary statement by the Research department of the American institute of accountants. J Account 69:438-9 Je '40
Inventories; a tentative statement by the Research department of the American institute of accountants. J Account 70:324-35 O '40
Inventories and receivables of department stores, instalment houses, chain stores, and other retailers; a statement by the committee on auditing procedure of the American institute of accountants. J Account 69:88-90 F '40
Inventories and taxes. E. A. Kracke. J Account 68:369-76 D '39
Inventories during the World war; record of 111 companies and trends, 1913-1922. W. L. Thorp and H. B. Russell. il Dun's R 48: 17-22 F '40
Inventories, 1939. Survey of Cur Business 20:16-17 F '40
Inventories, normal or excessive? survey of steel using industries. D. R. James. Iron Age 145:66-9 Ja 4 '40
Inventories of leading corporations, 1937-39; tabulation. Nat City Bank p33 Mr '40
Inventory control for 45,000 items stocked in 22 branches; United Motors service. R. G. French. il Am Business 10:22-4+ Ap '40
Inventory definition for U.S. tax changed. Oil Paint & Drug Rep 138:3+ Jl 22 '40
Is the inventory too high? how can a credit executive tell from the financial statement. E. S. Benjamin. Credit & Fin Management 42:6-9 F '40
Last-in, first-out. W. A. Paton. J Account 69:354-60 My '40; Discussion. V. Z. Brink. 70:71-2 Jl '40
Last-in, first-out; method of inventory valuation for income tax purposes; how it differs from first-in, first-out method. C. Reitell. Factory Management 98:55-6+ My '40
Last-in, first-out once more; a discussion of certain points raised by Professor Paton. M. E. Peloubet. J Account 69:446-50 Je '40
Managing a small plant. W. F. Dester. il Factory Management 98:66-8 Ja '40
Manufacturers' inventories found not excessive, reports the Conference board. Comm & Fin Chr 149:3936 D 23 '39
Manufacturing inventories stable in first quarter. Comm & Fin Chr 150:2951-2 My 11 '40
Meaning of commercial loans relative to business activity and inventories. S. L. Miller. Annalist 54:693 N 30 '39
Monthly industry survey; comprehensive new measures of manufacturers' inventories, orders, and shipments. H. C. Grieves and W. C. Truppner. Survey of Cur Business 20:7-13 S '40 [tables cont monthly]
Normal base stock method; a case history. R. R. Renner. N A C A Bul 22:103-26 O 1 '40
Organization for the maintenance of continuing property records. W. A. Clader. Edison Elec Inst Bul 7:543-4+ N '39
Overhead costs in inventories; abstract. R. P. Marple. Management R 29:105-6 Mr '40
Present position of the durable goods inventory. G. Terborgh. Fed Res Bul 26:1040-4 O '40
Production and inventory control; Timken-Detroit axle co. S. W. Warner. N A C A Bul 22:43-65 S 15 '40
Purchases are tied to production; North & Judd manufacturing company, New Britain, Conn. W. C. Zinck. Factory Management 98: 70-1+ Mr '40
Sales-inventory ratio, first quarter; revised index. R. S. Driscoll. Annalist 55:750 My 30 '40
Sales-inventory ratio shows further advance despite increase in inventories. R. S. Driscoll. Annalist 55:292 F 22 '40
Several phases of budgeting for an office appliance manufacturer; Monroe calculating machine co, Orange, N.J. S. Zweckbronner. N A C A Bul 21:727-45 F 15 '40
Statements showing inventories and cost of materials consumed on the cost or market basis for the six years 1933 to 1938 inclusive, based upon an actual case in the cotton industry, compared with inventories

INVENTORIES—*Continued*
and cost of materials consumed using the last-in, first-out basis; actual profit and loss; average inventory prices at end of each year. G. A. Wilson. N A C A Bul 21: 462-3, 465, 467 sec 2 D 1 '39
Survey of business trends, 1939; sales and inventories; preliminary report. il Dun's R 43: 10-19 Mr '40
Survey of business trends, 1939; sales and inventories; final report. Dun's R 43:5-16 My '40
To what extent is the last-in, first-out plan being adopted? N A C A Bul 21:500-1 D 15 '39
Trend of sales-inventory ratio less favorable, despite further rise. R. S. Driscoll. Annalist 56:239 Ag 22 '40
Valuation of oil inventories. J Account 69: 140-1 F '40
Valuation or historical cost; some recent developments. G. O. May. J Account 69:14-21 Ja '40; Same abr. Dun's R 43:17-20+ My '40
Verification, how far is too far? opinion of retail store executives on problems of accounts receivable and inventory verifications; abstract. E. H. Scull. Management R 29:335-6 S '40
Watch the inventory dollars. W. H. Conant. Barron's 20:7+ My 13 '40
We're just out of it; lack of goods on hand loses customers; how to check stocks. W. H. Conant. Barron's 20:7 Jl 22 '40
Wholesalers' sales and inventories, by industry and geographic regions, January 1940. Credit & Fin Management 42:46-7 Mr '40 [cont monthly]
Work-in-process inventory. J Account 69:138-9 F '40

See also
Production and sales, Coordination of
Purchasing Stores systems

INVENTORS
American modern pioneers honored on anniversary of U.S. patent system; awards to inventors connected with rubber industry. India Rubber W 101:56 Mr '40; Rubber Age 46:309 F '40
Du rêve à la réalisation; des inventeurs et des inventions. J. Bethenod. Soc Ing Civils Mémoires 92:475-89 Jl-D '39
18 oil inventors are honored as modern pioneers of industry. pors Nat Pet N 32:21-2, 24+ Mr 13 '40
Glassmen honored as modern pioneers. Glass Ind 21:104-5 Mr '40
Industrial pioneers honored on 150th Patent office anniversary; list of men prominent in the metal working industry. Iron Age 145:57-8 F 22 '40
Industry honors modern pioneers at National association of manufacturers banquet in Cleveland. Iron Age 145:81 F 8 '40; Steel 106:21-2 F 12 '40
Inventors, research workers honored as modern pioneers. Steel 106:26+ F 19; 30-3+ F 26; 76 Mr 4 '40
Modern pioneers; awards; list of names in the 1940 A.S.M.E. membership list. Mech Eng 62:317-18 Ap '40
Modern Pioneers dinner held in New York honoring 101 inventors and research workers. Comm & Fin Chr 150:1372 Mr 2 '40
Modern pioneers; list of American chemical society members honored. Ind & Eng Chem News ed 18:184 Mr 10 '40
Modern pioneers receive recognition; list of awards. Power Pl Eng 44:96, 98+ Mr '40
Modern pioneers; textile industry and allied fields. pors Textile World 90:45 Mr '40
National association of manufacturers honors research workers. Oil Paint & Drug Rep 137:5+ Mr 4 '40
Pioneers on the American frontiers of industry. Science 91:234-5 Mr 8 '40
SAE members prominent among modern pioneers. S A E J 46:sup19+ Ap '40
Twentieth century pioneers; portraits of eighteen inventors and research workers honored by N.A.M. Business Week p20 Mr 2 '40; Iron Age 145:78-80 F 29 '40; Steel 106:21-3 Mr 4 '40

See also
Bodmer, John George

INVERSION. See Isomerization; Sugar

INVERTASE
Effect of acids in the general meaning of the term on the activity of invertase. W. A. Wisansky. Am Chem Soc J 61:3330-4 D '39

INVERTEBRATES
Invertebrates; protozoa through ctenophora. L. H. Hyman. 726p $7 McGraw-Hill '40

INVERTEBRATES, Fossil
Invertebrate fauna of the late Permian Whitehorse sandstone. N. D. Newell. diags maps Geol Soc Bul 51:261-335, pl 1-10 biblio(p323-5) F '40

INVERTED amplifier. See Amplifiers, Vacuum tube

INVERTERS, Electric. See Electric inverters

INVESTMENT advisers
How to use advisory investment service; various printed services. R. R. Fairchild. Bankers Mo 57:136-7+ Mr '40
Income analysis of the Siegels; Policyholders advisory council. A. Hirst. Nat Underw (Life ed) 44:3+ Ja 19 '40
Just too many personalities; division of investment counsel business of Young & Ottley between two stock exchange firms. Business Week p56-8 D 9 '39
Letters of an investment counsel to Mr and Mrs John Smith. H. G. Carpenter. 197p $2.50 Harper '40
SEC announces adoption of form for registration of investment advisers as required under Investment advisers act of 1940. Comm & Fin Chr 151:1822 S 28 '40
SEC issues opinion regarding status of over-the-counter brokers under Investment advisers act. C. T. Lane. Comm & Fin Chr 151:2579 N 2 '40
Text of measure as signed by President to provide for regulation by the SEC of investment companies and investment advisers. Comm & Fin Chr 151:1336-52 S 7 '40
Trusts and investment counsel. E. H. Conley. Trusts & Estates 71:441-6 O '40
What modern investment counsel is; service to banks. R. R. Fairchild. Bankers Mo 56: 722-3+ D '39

Accounting
Accounting features of the Investment company act of 1940. J Account 70:336-8 O '40

Directories
SEC announces 605 applications for registration as investment advisers have become effective; names and addresses listed by states. Comm & Fin Chr 151:2736-9 N 9 '40

INVESTMENT bankers association of America
Capital markets in war-time; highlights of 28th annual convention, Del Monte, Cal. Trusts & Estates 69:654-6 D '39
From Del Monte to date; political program of the Association. E. F. Connely. Inv Banking 10:1-6 My '40
Governors-elect; sketches, portraits. Inv Banking 10:13-23 N '40
I.B.A. president asks study leading to fundamental revision of laws administered by SEC; Otis & co. protests. Comm & Fin Chr 150:2195-6 Ap 6 '40
I.B.A. redoubles securities fight. Business Week p48-9 Ag 10 '40
President's year-end statement. Comm & Fin Chr 150:49-50 Ja 6 '40
Program of public information. E. F. Connely. Comm & Fin Chr 150:3594-5 Je 8 '40
Public information program. Comm & Fin Chr 150:3141, 3451-2 My 18, Je 1 '40
Public information program, with organization chart. E. F. Connely. Inv Banking 10: 17-20 O '40
SEC and the Street; I.B.A.'s fight with Commission. Business Week p49 Ap 6 '40

INVESTMENT bankers' conference. See National association of securities dealers

INVESTMENT banking

Bankers challenge the SEC; underwriters campaign to revise regulatory methods and objectives. W. L. Greenway. Mag of Wall St 65:794-5+ Ap 6 '40

Bond club program; should take an aggressive part in shaping public policy. B. Wendell. Inv Banking 10:20-1 Mr '40

Bouquets to bankers; from New York Journal and American, June 6, 1940. L. Gould. Inv Banking 10:25-6 Jl '40

Case for investment banking. Il Nation's Business 28:33-64 F '40; Review. Inv Banking 10:1-2+ Mr '40

Creation of speculative investment companies by government and public proposed, one in each Federal reserve district. J. N. Frank. Comm & Fin Chr 150:2655-6 Ap 27 '40

Financial unpreparedness. B. M. Anderson, jr. Inv Banking 10:6-10 Jl '40

Hearings before TNEC on investment banking business. Comm & Fin Chr 149:3953-5 D 23 '39

I.B.A. declares SEC is exceeding statutory authority in regulation of public utility securities. Comm & Fin Chr 150:1865-6 Mr 23 '40

Investment banking business is in period of crisis due to engagement of many government agencies in its sphere. R. M. Stewart. Comm & Fin Chr 150:1365-6 Mr 2 '40

Investment banking in the party platforms. Inv Banking 10:1 Jl '40

Investment banking inquiry of the Temporary national economic committee. Inv Banking 10:1-5 Ja '40

Investor's dollar holds spotlight; relationships of banker and borrower under TNEC scrutiny. Business Week p17-18 D 23 '39

Is it a matter of honesty? editorial in the Chicago Journal of commerce. P. S. Hanna. Inv Banking 10:19-20 Ja '40

Issue between the I.B.A. and S.E.C. Inv Banking 10:7-9 My '40

Memo on competitive bidding for new issues of corporate securities. H. Stanley. Inv Banking 10:6-11 Ja '40

President Connely answers Stuart Chase in the May Harper's. Inv Banking 10:22-3 My '40

Revision of Securities act needed. A. M. Pope. Comm & Fin Chr 150:2024 Mr 30 '40

SEC publishes statistics on underwriting in 1939. Comm & Fin Chr 150:4057-8 Je 29 '40

SEC publishes statistics on underwriting for first quarter, 1940. Comm & Fin Chr 150: 2968 My 11 '40

SEC publishes statistics on underwriting in second quarter. Comm & Fin Chr 151:626 Ag 3 '40

SEC publishes statistics on underwriting for fourth quarter. Comm & Fin Chr 150:1207-8 F 24 '40

SEC publishes study of cost of flotation of small issues; compares cost for 1935-1938 with 1925-1929 period. Comm & Fin Chr 150: 2977 My 11 '40

SEC regarded as unsympathetic to normal functioning of securities markets. B. M. Anderson, jr. Comm & Fin Chr 150:3291-2 My 25 '40

Speaking simply of investment banking; condensed from booklet What is the use of the investment banker? C. MacVeagh. Inv Banking 10:11-18 Ja '40

Statement presented on Dec. 19 to the TNEC. H. Stanley. Comm & Fin Chr 149:3954-5 D 23 '39

TNEC asked by I.B.A. to conduct broader inquiry into barriers impeding flow of capital to industry. Comm & Fin Chr 149:3960-1 D 23 '39

War finance. J. N. Frank. Inv Banking 10:13-15 O '40

What the underwriting spread covers. C. M. Clark. Inv Banking 10:21-2 Ja '40

Why investment banking grows articulate. Inv Banking 10:10-11 My '40

Bibliography

Reading list. Inv Banking 10:29 Mr '40

INVESTMENT companies

See also
Investment banking
Investment trusts

Accounting

S.E.C. report on investment trusts and investment companies; excerpts of interest to accountants. J Account 69:321-32 Ap '40

INVESTMENT companies, National committee of. See National committee of investment companies

INVESTMENT trusts

First quarter portfolio changes. Barron's 20:4 My 13 '40

45 stocks investment trusts prefer. L. Tomlinson. Barron's 20:9 F 5 '40

45 stocks investment trusts prefer; second quarter transactions. Barron's 20:20 Ag 26 '40

History of investment trusts in Dundee, 1873-1938. J. C. Gilbert. 144p 6s P. S. King & son, London '39

Investment trust third quarter portfolio changes. Barron's 20:20 O 21 '40

Investment trusts and investment companies; a report on fixed and semifixed investment trusts. 432p U.S. Securities and exchange commission, Washington; 40c Supt. of doc. '40

Investment trusts and investment companies; letter from the chairman of the Securities and exchange commission transmitting, pursuant to law, a report on investment trusts in Great Britain. T. Balogh and E. Doblin. 75p pa 10c Supt. of doc. '39

Investment trust's position in the investment field. D. J. Smith. Comm & Fin Chr 150: 529-30 Ja 27 '40

Little change in Lehman corp.'s cash holdings; preference shown in second quarter for auto equipment stocks. Barron's 20:16 Jl 8 '40

Operation of common trust funds as investment trusts for other than strictly fiduciary purposes; recent ruling. Fed Res Bul 26: 393-4 My '40

SEC bill jolts investment trusts. Business Week p16 Mr 23 '40

SEC report on investment trusts; new section submitted to Congress. Comm & Fin Chr 149:3485; 150:214, 915-16, 1072-3 D 2 '39, Ja 13, F 10-17 '40

Some trusts increased cash in first quarter; portfolio changes. Barron's 20:13 Ap 22 '40

Stocks purchased by some investment trusts during the second quarter of 1940. Barron's 20:18 Jl 22 '40

Trustees and investment fund companies use of trust title. Trusts & Estates 70:242 Mr '40

Trusts join hands to aid SEC. Business Week p57 O 12 '40

Utility preferreds and air transports bought by trusts; portfolio changes in first quarter. Barron's 20:18 Ap 15 '40

Utility preferreds bought by trusts; third quarter portfolio changes show predominance of selling in merchandising issues. Barron's 20:20 N 4 '40

Accounting

Accounting features of the Investment company act of 1940. J Account 70:336-8 O '40

S.E.C. report on investment trusts; excerpts of interest to accountants. J Account 69: 321-32 Ap '40

SEC sends new section of study of investment trusts and companies to Congress. Comm & Fin Chr 151:1506-7 S 14 '40

Finance

Alliance trust company annual ordinary general meeting, Dundee. Economist 138:831-2 My 4 '40

Closed-end trusts' ten-year record. Barron's 20:18 F 19 '40

INVESTMENT trusts—Finance—*Continued*
Decade of investment management; yearly records of 36 leading open-end investment trusts since 1929. L. Tomlinson. Barron's 20:18 Ja 29 '40
Investment trust reports. Economist 137:520-1 D 30 '39
Investment trust trends in Britain. Economist 139:14-15 Jl 6 '40
Investment trust trends in Britain, 1937-39. Economist 138:162 Ja 27 '40
Quarterly investment trust gauge; percentage change in net assets a share. L. Tomlinson. Barron's 20:18 Ap 15; 18 Jl 15 '40
Quarterly investment trust gauge; signficance of long-term management records. L. Tomlinson. Barron's 20:5 O 14 '40

Fixed trusts

Members of London stock exchange and unit trusts; may not hold any shareholding or interest in unit trust management companies. Economist 138:160-1 Ja 27 '40
SEC report on investment trusts; fixed and semi-fixed trusts. Comm & Fin Chr 150:915-16 F 10 '40
Unit trust survey supplement. Economist 138: sup3-14 My 4 '40

Regulation

General rules under Investment company act adopted by SEC; rule on custody of investment trust holdings. Comm & Fin Chr 151:2579 N 2 '40
House committee reports to House bill to regulate investment trusts. Comm & Fin Chr 150:3902 Je 22 '40
House passes bill for regulation of investment trusts. Comm & Fin Chr 151:632 Ag 3 '40
Investment company act of 1940; critical analysis. J. G. Mitchell. Annalist 56:364-5 S 19 '40
Investment trust bill and accountancy; statement presented by the American institute of accountants before a subcommittee, Senate committee on banking and currency, on April 22, 1940. J Account 69: 348-53 My '40
Investment trust law unlikely this year; Senator Wagner's bill probably SEC's final major reform proposal. Barron's 20:9 Mr 18 '40
Opposition to Wagner bill for regulation of investment companies voiced by open-end trust leaders. Comm & Fin Chr 150:1690-1 Mr 16 '40
President Roosevelt's statement on signing of bill regulating investment companies and investment advisers; text. Comm & Fin Chr 151:1211-12 Ag 31 '40
Representatives of investment trusts approve bill to regulate their industry; testify before House committee. Comm & Fin Chr 150:3758 Je 15 '40
SEC adopts four rules under investment company act; exemption of intra-state closed-end investment companies. Comm & Fin Chr 151:2735 N 9 '40
SEC adopts rule relating to method of valuing portfolio securities of investment companies. Comm & Fin Chr 151:2735 N 9 '40
SEC adopts rule under Investment company act granting temporary exemption from certain sections of Act to companies issuing periodic payment plan certificates. Comm & Fin Chr 151:2578 N 2 '40
Senate banking committee favorably reports bill to regulate investment trusts. Comm & Fin Chr 150:3588-9 Je 8 '40
Senate passes bill for regulation of investment trusts. Comm & Fin Chr 151:779 Ag 10 '40
Senate subcommittee hearings on bill to regulate investment trusts. Comm & Fin Chr 150:2346-7, 2509-10, 2656, 2809 Ap 13-My 4 '40
Text of measure as signed by President to provide for regulation by the SEC of investment companies and investment advisers. Comm & Fin Chr 151:1336-52 S 7 '40
Trust for trusts in new bill; revised draft of investment trust measure. H. A. Long. Barron's 20:18 Je 10 '40
Trusts outline own regulation bill. Business Week p45-6+ My 4 '40
Wagner bill proposing regulation of investment trusts and investment companies under SEC. Comm & Fin Chr 150:1689-90 Mr 16 '40

Securities

High yields on investment trust preferreds; with tabulation of 16 cumulative issues currently selling at substantial discounts. L. Tomlinson. Barron's 20:18 F 19 '40
Investment trust results; most closed-end companies' stocks still sell at substantial discounts. L. Tomlinson. Barron's 20:20 Ag 26 '40

INVESTMENTS
Accent on safety; the case against common stocks for a widow's investments. Barron's 20:8 Mr 4 '40
Administration of college and university endowments. C. R. Sattgast. 125p biblog (p102-9) $1.85 Teachers college '40
A.B.A. policy commission reports that industry faces enormous expansion; potential market for capital. Comm & Fin Chr 150: 2657-8 Ap 27 '40
Avoiding fashions in widow's investments. T. E. Brittingham, jr.; G. A. Drew; G. Webb. Barron's 20:20 Mr 18 '40
Balanced portfolio of six stocks. J. S. Williams. Mag of Wall St 66:457-9+ Jl 27 '40
Behavior of industrial earnings; stability and growth trends. R. L. Johnson. Banking 32: 25-6 Mr '40
Brass tacks for the investor; brief analysis. Published in Barron's
Business barometers and investment. R. W. Babson. 270p $3 Harper '40
Capital expansion, employment, and economic stability. H. G. Moulton and others. 413p $3.50 Brookings institution, Washington, D.C. '40
Capital *is* needed; saturation-point theory of savings and investment refuted by Economic policy commission of the American bankers association. Inv Banking 10:24-6 My '40
Capitalization of earnings in wartime; based on 1914-18 figures for 110 stocks. J. H. Lewis. Annalist 55:196-7+ F 1 '40
Case for municipal bonds. C. Clark. Barron's 20:18 Jl 29; 16 Ag 12 '40
Coming boom in transportation. H. D. Steinmetz. il Mag of Wall St 67:85-9 N 2 '40
Common stocks as long-run investments. W. J. Eiteman. Annalist 56:331+ S 12 '40
Ebb and flow of investment values. E. S. Mead and J. Grodinsky. 513p $5 Appleton-Century '39
Economic continuity broken, investors face entirely new financial situation. E. W. Axe. Annalist 56:70-1+ Jl 16 '40
Ever-liquid account; acid test of successful investment or speculation. G. M. Loeb. Barron's 20:7 Ap 8 '40
Every man a capitalist. E. F. Light. 112p $1.25 Ernest F. Light, 125 Winsor av, Watertown, Mass '39
Financial security in a changing world. M. S. Rukeyser. 272p $2.50 Greenberg, 67 W. 44th st, New York '40
Financial world of 1940; an interpretation of new deal investment controls. A. W. May. Trusts & Estates 70:283-7 Mr '40
Fitting investment strategy to the coming war economy. J. Lloyd. il Mag of Wall St 66:341-3 Je 29 '40
Flexible investment program for the new year. J. S. Williams. Mag of Wall St 65: 332-3 D 30 '39
High premium bonds; yield advantage often rests with government over corporate issues. B. E. Tibbo. Barron's 20:18 Ap 8 '40
How and when to buy and sell securities. T. Wright. 298p $2 Bobbs '40
Income management for women. L. H. Scott. 298p biblog(p293-4) $3 Harper '40
Increase your income today; attractive yields and suggested switches. G. W. Mathis. Mag of Wall St 66:566-7 Ag 24 '40

INVESTMENTS—*Continued*

Introduction to investment analysis. K. Field. 340p $3.50 Ronald press '40

Investing for a widow; a balanced program. H. C. Bond. Barron's 19:20 N 27 '39

Investing for a widow; a year later; eight contest winners review and revise their 1939 programs. E. M. Kaufmann, jr. and others. Barron's 20:3+ S 9 '40

Investing for a widow, a year later; first year's results in Barron's second contest. Barron's 20:3-4 S 23 '40

Investing for a widow; growth stocks to predominate. P. C. Hatmaker. Barron's 19:20 N 20 '39

Investing for a widow, 1939 style; Barron's contest provided a poll of investor sentiment. L. Tomlinson. Barron's 19:3-4 D 4; 8-9 D 11 '39

Investing for a widow [reprint of a series of articles]. 187p $2 Barron's, New York '40

Investing in growth industries. J. S. Williams. Mag of Wall St 65:474-5+ Ja 27 '40

Investment clinic. J. S. Williams. Published in Magazine of Wall Street

Investment of the funds of social insurance institutions. 196p bibliog(p188-9) pa $1.25 Int. labor office '40

Investment outlook somewhat better despite presence of some very real dangers. E. W. Axe. Annalist 56:493+ O 17 '40

Investment problems of endowed institutions. L. G. Tighe. Trusts & Estates 70:188-9 F '40; Excerpts. Bankers M 140:229-30 Mr '40

Investment results from cushion bonds; current high premiums reduce opportunities for successful averaging. W. W. Amos. Barron's 20:18 Ag 26 '40

Investment, touchstone of prosperity. L. P. Ayres. Management R 29:2-3 Ja '40

Investments and war; Canadian aspects. F. J. Crawford. Bankers M 141:57-8 Jl '40

Investor's stake in government finance. H. L. Lutz. Trusts & Estates 70:129-30 F '40

Leaders in summer recovery; 1940 declines and recoveries of 250 active stocks. L. Tomlinson. Barron's 20:5+ S 16 '40

Long and short-term bond maturities for investment; statistical analysis. G. M. Grinnell and A. P. Maher. Annalist 56:203+ Ag 15 '40

Market action of new issues; a survey of investor experience. O. Lasdon. Comm & Fin Chr 151:1774-80 S 28 '40; Same cond. Inv Banking 10:31-5 N '40

Net income to expense ratio; a new yardstick of investment stability. A. M. Bernstein. Annalist 55:719 My 23 '40

New cyclical leaders; with tabulation of companies and industries exceeding past peaks. J. Lloyd. il Mag of Wall St 66:666-8 S 21 '40

New signposts for industry; population trends vital factor for businessmen and investors. F. H. Sterns. Barron's 20:3 F 5; 20 F 26 '39

No war inflation; why? N. T. Carruthers. Mag of Wall St 66:611-13+ S 7 '40

Principles of investment. J. C. Dolley. 460p $3.50 Harper '40

Principles of investment. G. H. Evans, jr. and G. E. Barnett. 225p $2.25 Houghton '40

Quest for yield; British investors. Economist 138:210-11 F 3 '40

Rail and utility investments under expanding public control. N. L. Smith. bibliog Harvard Business R 18 no 4:397-409 [Jl] '40

Regulated trusts; investment people happy over U.S. control. Business Week p53-5 N 9 '40

Science points the investor's way; he can have stake in new industries on technological frontier. J. V. Sherman. Barron's 20:3 My 6; 13 My 13; 8-9 My 20; 20 My 27; 13 Je 10; 7 Je 17; 9 Je 24; 9 Jl 1; 7 Jl 15; 8 Ag 5; 13 Ag 19; 9 Ag 26; 3 S 2 '40

Security analysis; principles and technique. B. Graham and D. L. Dodd. 2d ed 851p $5 McGraw-Hill '40

Seventeenth century investor problems described by the English historian, Macaulay. Inv Banking 10:24-5 Mr '40

Strategic portfolios for today's conditions. F. K. Dodge. Mag of Wall St 66:268-9+ Je 15 '40

Stretching the widow's income; use of convertible securities; a program for a $20,000 fund. N. Piccirilli and others. Barron's 20: 18 Mr 25 '40

This war and your pocketbook. L. S. Schnitman. 57p pa $1 Vanguard press, 424 Madison av, New York '40

Three unusual investment plans submitted in Barron's recent Investing-for-a-widow contest. G. A. Sharpe; H. I. Weber; N. Young. Barron's 20:3-4 Ja 1 '40

Twenty ways to save money. R. W. Babson. 180p $1 Stokes '40

Uncovering special situations; companies with a future for profit and income. E. A. Barnes. Mag of Wall St 65:806-8; 66:46-8+ Ap 6-20 '40

What investors must know today; answering vital and typical questions raised by the war. W. Gates. Mag of Wall St 66:148-9+ My 18 '40

What makes jobs? a steady flow of new capital into industry. E. M. Queeny. Inv Banking 10:29-31 My '40

What value common stocks? new concepts in appraising various types of securities. J. S. Williams. il Mag of Wall St 67:18-21+ O 19 '40

What war taxes mean to investors. H. D. Steinmetz. Mag of Wall St 66:400-2+ Jl 13 '40

What's a good investment? a simple guide book. G. V. Roussille. 98p bds $1; pa 50c Barron's pub. co, New York '40

Where are the customers' yachts? or, A good hard look at Wall Street. F. Schwed, jr. 215p $1.75 Simon and Schuster, 1230 6th av, Rockefeller center, New York '40

Why Americans speak English; important role of investors and investment dealers in our earliest history. R. Girdler. Barron's 20:7 Ag 26 '40

Why own common stocks? majority of industry groups have shown less favorable results than broad cross-section. J. W. Bridges. Barron's 20:8 Jl 15 '40

Why own common stocks? 25 year record shows twice as many opportunities for profit as for loss. J. W. Bridges. Barron's 20:3 Je 3 '40

Widow's investments: two criticisms. S. R. Thayer; A. B. Morgan. Barron's 19:7+ D 18 '39

Widow's investments: two more criticisms. J. D. Weiss; B. G. Bechhoefer. Barron's 19:7-8 D 25 '39

See also

Arbitrage
Banks and banking—Investments
Bonds
Brokers' loans
Building and loan associations
Chemical industries—Securities
Insurance, Life—Investments
Insurance companies—Investments
Interest
Investment banking
Investment trusts
Mining industry and finance—Securities
Mortgages
Municipal bonds
Petroleum industry and trade—Securities
Public utilities—Securities
Railroads—Securities
Saving
Savings banks—Investments
Securities
Speculation
Stock exchange
Stocks
Trusts and trustees—Investments

Accounting

Theory and procedure for pooled investments in colleges and universities. H. C. Daines. J Account 69:114-30 F '40

Advertising

New approach to new investors. W. T. Mullally. Inv Banking 10:29-30 Ja '40

INVESTMENTS, Foreign

Abrogation of gold-clauses in international loans and the conflict of laws. J. Weigert. 65p pa $1 New York univ, Law quarterly review, 100 Washington sq, E., New York '40

INVESTMENTS, Foreign—*Continued*
Normal and abnormal international capital transfers. M. Fanno. 120p pa $2 Univ. of Minnesota press, Minneapolis '39

See also
Balance of payments

Cuba

Cuba's constitution. Business Week p63-4 O 12 '40

Japan

Economic shakeup on in Far East; United States investments in Japan; Japan's investments in the South seas. map Business Week p62-4 O 26 '40

United States

American investments and business interests in Germany. J. Tenenbaum. 40p Joint boycott council, 145 W. 45th st, New York
American oil investments abroad; war's spread would affect areas where leading companies have stakes. J. Gordon. Barron's 20:8 O 21 '40
Americans in Scandinavia. Business Week p56-7 Ap 20 '40
Canada in the war, and later. F. S. Chalmers. il Nation's Business 28:15-17+ Ap '40
Canada—U.S. trade potentialities. Bankers M 141:428-9 N '40
Canada's credit position. Bankers M 141:241-2 S '40; Same cond. Comm & Fin Chr 151: 787 Ag 10 '40
Dept. of commerce statement shows United States investments in Scandinavia and vice versa. Comm & Fin Chr 150:2350 Ap 13 '40
Economic shakeup on in Far East; United States investments in Japan; Japan's investments in the South seas. map Business Week p62-4 O 26 '40
Financing of foreign trade after war; if dollar is to remain currency of world its value in terms of gold must be fixed. S. Morgan. Comm & Fin Chr 151:2293 O 19 '40
Foreign assets frozen in this country a problem to United States Treasury; American holdings abroad. E. Duffield. Barron's 20:4 Jl 15 '40
Foreign bond outlook darkens. Trusts & Estates 70:548-9 My '40
Foreign bondholders protective council report shows 39.6% of $5,553,517,206 foreign dollar bonds outstanding are in default. Comm & Fin Chr 151:1070 Ag 24 '40
Freezing hot money. H. M. Tremaine. il Mag of Wall St 66:511-13+ Ag 10 '40
International capital transactions of the United States. Published in Federal reserve bulletin
International trade and finance, 1939. Survey of Cur Business 20:45-52 F '40
United States investments in foreign countries at end of 1939. Comm & Fin Chr 151: 488 Jl 27 '40
Will foreign bonds recover? B. C. Rodes. Bankers M 139:489-92 D '39

See also Petroleum industry and trade—United States—Foreign properties

INVESTMENTS, Foreign (in Canada)
Canada—U.S. trade potentialities. Bankers M 141:428-9 N '40
Effect of Europe's war on Canada's utilities. F. J. McDiarmid. Pub Util 26:87-95 Jl 18 '40
Foreign exchange control in Canada; how payments to residents and non-residents are affected. W. R. Dillon. Trusts & Estates 70:260-2 Mr '40

INVESTMENTS, Foreign (in Latin America)
Economic relations with Latin America; proceedings of a conference held as a part of the Institute of Latin American studies, Ann Arbor, August 11-12, 1939. D. M. Phelps, ed. 75p pa $1 Univ. of Michigan, School of business administration, Ann Arbor '40
Third Reich in Latin America: main forces in the coming trade battle. G. Reimann. Annalist 56:72-3+ Jl 18 '40

INVESTMENTS, Foreign (in Mexico)
Foreign investments. E. Turlington. Ann Am Acad 208:103-11 Mr '40

INVESTMENTS, Foreign (in United States)
As Britain mobilizes to buy; England nationalizes holdings of 60 American stocks. Business Week p55-6 F 24 '40
As the trader sees today's market; facts on foreign liquidation. F. K. Dodge. Mag of Wall St 65:732-3+ Mr 23 '40
British mobilization of American securities; with list of securities requisitioned. Fed Res Bul 26:206-7, 408-9 Mr, My '40
British mobilize American securities; with list of securities mobilized. Barron's 20:13 F 26; 13 Ap 22 '40
British Treasury taking over holdings of its nationals in American securities; T. J. C. Gifford to represent Great Britain in United States in sale of securities. Comm & Fin Chr 150:1205-6 F 24 '40
Can the fifth column sit in at directors' meetings? foreign ownership of American securities. J. Lloyd. il Mag of Wall St 66: 460-1+ Jl 27 '40
Combined investment in United States of low countries and Switzerland exceeds $2,500,000,000. Comm & Fin Chr 150:3138 My 18 '40
European investments in the United States. P. D. Dickens. For Comm W 1:3-4 O 5 '40
First requisition of dollar stocks in Britain. Economist 138:342 F 24 '40
Foreign assets frozen in this country a problem to United States Treasury. E. Duffield. Barron's 20:4 Jl 15 '40
Foreign resources of the belligerents; holdings in the United States. Fed Res Bul 25: 1041-3 D '39; Same. Comm & Fin Chr 149: 3948-9 D 23 '39
Freezing hot money. H. M. Tremaine. il Mag of Wall St 66:511-13+ Ag 10 '40
German confiscations of American securities. P. L. Weiden. 41p pa $1 New York univ. Law quarterly review, 100 Washington sq. E., New York '40
International capital transactions of the United States; net capital movement to United States since January 2, 1935. Fed Res Bul 26:1142-4 O '40 [cont monthly]
International trade and finance, 1939. Survey of Cur Business 20:45-52 F '40
President Roosevelt tightens control over wealth in United States of invaded countries; securities bearing foreign stamps subject to Treasury department control. Comm & Fin Chr 151:629-30 Ag 3 '40

INVISIBLE glass. See Glass, Invisible

IODIC acid
Solubility of barium iodate monohydrate in solutions of uni-univalent electrolytes at 25°, and the calculation of the dissociation constant of iodic acid from solubility data. S. Naidich and J. E. Ricci. bibliog Am Chem Soc J 61:3268-73 D '39

IODIDES
Sodium polyiodides. G. H. Cheesman, D. R. Duncan and I. W. H. Harris. Chem Soc J p837-9 Jl '40
Studies on acid iodides; the mechanism of ether cleavage. P. G. Stevens. Am Chem Soc J 62:1801-2 Jl '40

Analysis

Sensitive test for iodide and nitrite. C. L. Wilson. Chem & Ind 59:378-9 Je 1 '40

IODINATION
Photochemistry of diiodoacetylene and tetraiodoethylene. J. W. Tamblyn and G. S. Forbes. bibliog Am Chem Soc J 62:99-104 Ja '40
Preparation of fibrous iodo-cellulose nitrates and the probable distribution of nitrate groups in partly nitrated cellulose. G. E. Murray and C. B. Purves. bibliog Am Chem Soc J 62:3194-7 N '40

IODINE
Beta-spectra of iodine. G. F. Tape. bibliog Phys R 56:965-71 N 15 '39
Equilibrium and kinetics of the thermal isomerization of dichloroethylene catalyzed by iodine. R. E. Wood and R. G. Dickinson. Am Chem Soc J 61:3259-63 D '39

IODINE—*Continued*
Hydrolysis of bromine; the hydration of the halogens; the mechanism of certain halogen reactions. H. A. Liebhafsky. Am Chem Soc J 61:3513-19 D '39
Inactivation of pituitary lactogenic hormone by iodine. C. H. Li and others. bibliog Science 91:530-1 My 31 '40
Iodine metabolism and thyroid function. A. W. Elmer. 605p bibliog(p535-94) $10 Oxford '38
Iodine-sensitized decomposition of methyl alcohol. G. K. Rollefson and W. Garrison. Am Chem Soc J 62:588-90 Mr '40
Iodine shortage in Germany; recovery methods and development of substitutes. Chem Age (Lond) 43:112 S 7 '40; Excerpt. Sci Am 163: 255 N '40
Le marché de l'iode au Japon. L. M. Bernard. map Chimie & Ind 43:439-43 Mr 5 '40
Normal melting and boiling points of iodine. J. D. Parent. J Chem Educ 17:189 Ap '40
Photochemical investigations; the photolysis and iodine sensitized decomposition of gaseous ethylene iodide. W. H. Janneck and E. O. Wiig. Am Chem Soc J 62:1877-8 Jl '40
Polyiodides of ammonium; ammonium iodide and iodine. T. R. Briggs and K. H. Ballard. J Phys Chem 44:322-4 Mr '40
Polyiodides of ammonium; the ternary system ammonium iodide, iodine, and water. T. R. Briggs and others. bibliog J Phys Chem 44:325-50 Mr '40
Polyiodides of potassium; the ternary system potassium iodide—iodine—water. T. R. Briggs and others. bibliog J Phys Chem 44: 350-72 Mr '40
Products of the uranium fission; radioactive isotopes of iodine and xenon. R. W. Dodson and R. D. Fowler. bibliog Phys R 57: 966-71 Je 1 '40
Radioactivity produced by proton bombardment of bromine and iodine. E. C. Creutz and others. il diag Phys R 58:481-6 S 15 '40
Reaction between phosphorus and iodine in carbon tetrachloride solution. D. Wyllie, M. Ritchie and E. B. Ludlam. Chem Soc J p583-7 My '40
Revision of the atomic weight of iodine; the ratio of silver iodide to silver chloride. G. P. Baxter and A. C. Titus. diag Am Chem Soc J 62:1826-8 Jl '40
Revision of the atomic weight of iodine; the ratio of silver to silver iodide; the ratio of silver iodide to silver chloride. G. P. Baxter and O. W. Lundstedt. bibliog Am Chem Soc J 62:1829-34 Jl '40
Specific gravity of iodine pentoxide and the atomic weight of iodine. G. P. Baxter and W. M. Kelley. Am Chem Soc J 62:1824-5 Jl '40
Stabilization of iodine in salt and feedstuffs. F. F. Johnson and E. R. Frederick. Science 92:315-16 O 4 '40
Thermal decomposition of acetone catalyzed by iodine. G. M. Gantz and W. D. Walters. Am Chem Soc J 62:996-7 Ap '40

Analysis

Determination of iodine in thyroid and its preparations by cerate oxidimetry. W. W. Hilty and D. T. Wilson. bibliog Ind & Eng Chem Anal ed 11:637-9 D 15 '39
Improved iodine apparatus. F. X. Gassner. il Ind & Eng Chem Anal ed 12:120 F 15 '40
Improvements in determination of iodine in blood. A. L. Chaney. bibliog diag Ind & Eng Chem Anal ed 12:179-81 Mr 15 '40

IODINE compounds
Addition compounds of iodine with alkali bromides and thiocyanates. H. W. Foote and M. Fleischer. bibliog J Phys Chem 44:640-6 My '40
Kinetic studies on iodine derivatives; the thermal decomposition of acetyl iodide. J. L. Jones. bibliog Am Chem Soc J 61:3284-8 D '39

IODINE number
Wijs iodine method. J. W. McCutcheon. Ind & Eng Chem Anal ed 12:465 Ag 15 '40
Wijs iodine numbers for conjugated double bonds; influence of sample-reagent ratio. W. C. Forbes and H. A. Neville. Ind & Eng Chem Anal ed 12:72-4 F 15 '40

IODINE oxides
Reactions of high energy atoms produced by slow neutron capture. W. F. Libby. Am Chem Soc J 62:1940-1 Ag '40
Specific gravity of iodine pentoxide and the atomic weight of iodine. G. P. Baxter and W. M. Kelley. Am Chem Soc J 62:1824-5 Jl '40

IODOBENZENE
Partial pressure of hydrogen chloride from its solutions in the mono-halobenzenes at 25°. S. J. O'Brien and J. B. Byrne. bibliog Am Chem Soc J 62:2063-5 Ag '40

IODOMETRY
Determination of minute amounts of potassium; iodometric evaluation of the cobaltinitrite precipitate, using ceric sulfate. I. A. Kaye. bibliog Ind & Eng Chem Anal ed 12:310-11 My 15 '40
Determination of organic peroxides. H. A. Liebhafsky and W. H. Sharkey. bibliog Am Chem Soc J 62:190-2 Ja '40
Iodofluoride method for the determination of copper; effects of antimony, aluminum, and calcium. W. R. Crowell and A. T. Spiher. Ind & Eng Chem Anal ed 12:147 Mr 15 '40
Test for residual chlorine; use of adsorption reaction between iodine and alpha-naphthoflavone. F. J. Hallinan. Ind & Eng Chem Anal ed 12:452-3 Ag 15 '40

IODOTOLUENE
Formation of sulfonium compounds from benzyl iodide and organic disulfides. O. Haas and G. Dougherty. Am Chem Soc J 62:1004-5 My '40

ION counters. See Counters (electrons, ions, etc.); Geiger-Müller counters

IONIZATION, Electrolytic
Calculation of equilibria in dilute water solutions. D. S. McKinney. bibliog Am Soc T M Proc 39:1191-1203; Discussion. 1218-20 '39
Conductance, dissociation constant and heat of dissociation of triethylamine in water. J. E. Ablard, D. S. McKinney and J. C. Warner. bibliog Am Chem Soc J 62:2181-3 Ag '40
Determination of mobilities and dissociation constants by means of conductivity titrations. J. P. Philpot, E. C. Rhodes and C. W. Davies. Chem Soc J p84-7 Ja '40
Determination of the thermodynamic dissociation constants of dibasic acids. J. C. Speakman. Chem Soc J p855-9 Jl '40
Dissociation of carbonic acid in ordinary and in heavy water. G. A. Mills. Am Chem Soc J 62:449 F '40
Effect of variation in ionic strength and temperature on the apparent dissociation constants of thirty substituted barbituric acids. M. E. Krahl. bibliog J Phys Chem 44:449-63 Ap '40
Effects of certain salt mixtures on the dissociation of glycine and alanine. A. C. Batchelder and C. L. A. Schmidt. bibliog J Phys Chem 43:1121-32 D '39
Effects of certain salts on the dissociation of alanine; experiments on cells without liquid-junction potentials. A. C. Batchelder and C. L. A. Schmidt. bibliog J Phys Chem 44:880-92 O '40
Effects of certain salts on the dissociation of aspartic acid, arginine, and ornithine. A. C. Batchelder and C. L. A. Schmidt. bibliog J Phys Chem 44:893-909 O '40
Electrochemical potential differences at the boundary copper-insulating liquids. A. Gemant. bibliog diags Electrochem Soc Trans 78 (preprint 21):297-309 O '40
Electron sharing ability of organic radicals; alpha-substituted tetrahydroquinolines. W. Oldham and I. B. Johns. bibliog Am Chem Soc J 61:3289-91 D '39
Electrostatic effects on ionization constants. V. K. LaMer and F. Brescia. Am Chem Soc J 62:617-20 Mr '40

IONIZATION, Electrolytic—*Continued*
Extent of dissociation of salts in water; calcium and barium salts of dicarboxylic acids. N. E. Topp and C. W. Davies. Chem Soc J p87-93 Ja '40
Indicator properties of 8-hydroxyquinoline-5-sulfonic acid and its derivatives. H. B. Feldman and A. L. Powell. bibliog Am Chem Soc J 62:3107-9 N '40
Ionic equilibria in acid salts of dibasic acids. C. W. Davies. Chem Soc J p1850-3 D '39
Ionization constant of monoethanolammonium hydroxide at 25° from electrical conductance measurements. V. Sivertz, R. E. Reitmeier and H. V. Tartar. bibliog Am Chem Soc J 62:1379-82 Je '40
Ionization constants and hydrolytic degradations of cyameluric and hydromelonic acids. C. E. Redemann and H. J. Lucas. bibliog Am Chem Soc J 61:3420-5 D '39
Ionization constants of acid-base indicators in ethanol. L. S. Guss and I. M. Kolthoff. Am Chem Soc J 62:249-51 F '40
Ionization constants of weak acids at 25° from conductance measurements; a method of extrapolating the data. B. Saxton and L. S. Darken. bibliog Am Chem Soc J 62:846-52 Ap '40
Ionization of lactic acid in aqueous sodium chloride solutions from 0 to 37.5°. F. C. Hickey. bibliog diag Am Chem Soc J 62: 2916-19 N '40
Kinetics of isotopic exchange between carbon dioxide, bicarbonate ion, carbonate ion and water. G. A. Mills and H. C. Urey. bibliog Am Chem Soc J 62:1019-26 My '40
Products of ionization by electron impact in methyl and ethyl alcohol. C. S. Cummings, 2d and W. Bleakney. bibliog Phys R 58:787-92 N 1 '40
Second ionization constant and related thermodynamic quantities for malonic acid from 0° to 60°C. W. J. Hamer, J. O. Burton and S. F. Acree. bibliog J Research Nat Bur Stand 24:269-92 Mr '40
Simplification of certain calculations based on the mass law. J. D. Parent. J Chem Educ 17:186-7 Ap '40
Solubility of barium iodate monohydrate in solutions of uni-univalent electrolytes at 25°, and the calculation of the dissociation constant of iodic acid from solubility data. S. Naidich and J. E. Ricci. bibliog Am Chem Soc J 61:3268-73 D '39
Solubility of cadmium and zinc oxalates in salt solutions. W. C. Vosburgh and J. F. Beckman. Am Chem Soc J 62:1028-31 My '40
Solubility product; a demonstration introducing the common ion effect and formation of complex ions. S. Zuffanti. J Chem Educ 17:433 S '40
Studies of ionisation in non-aqueous solvents; the formation of certain sulphides in methyl and in ethyl alcohol. W. L. German and T. W. Brandon. Chem Soc J p1329-33 S '40
Sugar alcohols; a study of the effect of the anhydrides of sorbitol on the dissociation constant of boric acid. F. K. Bell, C. J. Carr and J. C. Krantz, jr. bibliog J Phys Chem 44:862-5 O '40
Temperature dependence of the dissociation constant of deuteroacetic acid. F. Brescia, V. K. LaMer and F. C. Nachod. bibliog Am Chem Soc J 62:614-17 Mr '40
Triple ions and transference numbers. M. Dole. Electrochem Soc Trans 77 (preprint 3):39-48 Ap '40
See also
Activity coefficients

IONIZATION, Gaseous
Absolute value of cosmic-ray ionization at sea level in different gases; comparison with gamma rays. J. Clay. Rs Mod Phys 11:123-7 Jl-O '39
Catalytic oxidation of hydrogen on platinum; a search for chemiluminescence and ionization. R. Potvin and C. Ouellet. bibliog diags J Phys Chem 44:235-46 F '40
Cross section for change of charge and ionization by high velocity metallic ions in hydrogen and helium. C. W. Sherwin. bibliog diags Phys R 57:814-21 My 1 '40
Distribution in energy of the fragments from uranium fission. M. H. Kanner and H. H. Barschall. bibliog il diags Phys R 57:372-8 Mr 1 '40
Electrons arising from the disintegration of cosmic-ray mesotrons. B. Rossi. Phys R 57:469-71 Mr 15 '40
Enclosed spark gaps. W. E. Berkey. bibliog il diags Elec Eng 59:Trans 429-33 Ag '40
High efficiency ion source. A. T. Finkelstein. diags R Sci Instr 11:94-7 Mr '40
Ionization and dissociation of water vapor and ammonia by electron impact. M. M. Mann, A. Hustrulid and J. T. Tate. bibliog diags Phys R 58:340-7 Ag 15 '40
Ionization loss of energy in gases and in condensed materials. E. Fermi. bibliog Phys R 57:485-93 Mr 15 '40
Ionization measurements of the radiations from radioactive substances. C. G. Montgomery and D. D. Montgomery. diags Franklin Inst J 229:585-611 bibliog(p609-11) My '40
Measurement, in roentgens, of the gamma radiation from radium by the free-air ionization chamber. L. S. Taylor and G. Singer. bibliog diags J Research Nat Bur Stand 24: 247-68 Mr '40
Normal electron configuration of singly ionized gadolinium. W. E. Albertson, H. Bruynes and R. Hanau. bibliog Phys R 57:292-3 F 15 '40
Origin of radio fade-outs and the absorption coefficient of gases for light of wavelength 1215.7A. W. M. Preston. bibliog Phys R 57:887-94 My 15 '40
Portable apparatus for recording bursts of cosmic-ray ionization. C. G. Montgomery and D. D. Montgomery. bibliog il diags R Sci Instr 10:350-2 N '39; Same cond. Franklin Inst J 230:122-4 Jl '40
Preferential and initial ionic recombination in gases. N. E. Bradbury. bibliog J Ap Phys 11:267-73 Ap '40
Production of secondary ionizing particles by non-ionizing agents in cosmic radiation. B. Rossi and others. bibliog il diags Phys R 58: 761-6 N 1 '40
Relation of residual ionization to arc-back in thyratrons. K. H. Kingdon and E. J. Lawton. diags Gen Elec R 42:474-8 N '39
Specific ionization of high speed particles. R. B. Brode. bibliog il diags Rs Mod Phys 11:222-9 Jl-O '39
Townsend ionization coefficients for Ni and Al cathodes in an atmosphere of hydrogen. D. H. Hale. bibliog diag Phys R 56:1199-1202 D 15 '39
See also
Electrons

IONIZATION, Heat of
Electrostatic effects on ionization constants. V. K. LaMer and F. Brescia. Am Chem Soc J 62:617-20 Mr '40

IONIZATION chambers
Ionization measurements of the radiations from radioactive substances. C. G. Montgomery and D. D. Montgomery. diags Franklin Inst J 229:585-611 bibliog(p609-11) My '40

IONIZATION gage
American apparatus, instruments, and instrumentation; high vacuum and measurement and control of gases. R. H. Müller. il Ind & Eng Chem Anal ed 12:582 O 15 '40
Ionization gauge circuit. R. M. Bowie. bibliog diags R Sci Instr 11:265-7 Ag '40
New style ionization gauge. R. S. Morse and R. M. Bowie. bibliog diag R Sci Instr 11: 91-4 Mr '40

IONONE
Interaction of β-ionone with halides in the presence of lithium, and a synthesis of 1 : 6-dimethylnaphthalene. F. B. Kipping and F. Wild. Chem Soc J p1239-42 S '40

IONOSPHERE. See Atmosphere, Upper

IONS
Absorption of praseodymium ion in solutions and in the solid state. F. H. Spedding. bibliog Phys R 58:255-7 Ag 1 '40

IONS—*Continued*
Apparently fundamental minimum lethal ion equivalent; abstract. A. Goetz. Science 91: 419-20 My 3 '40
Critical increment of ionic reactions; the influence of dielectric constant and ionic strength. L. Rampino and W. J. Svirbely. Am Chem Soc J 61:3534-7 D '39
Critical increment of ionic reactions; the influence of dielectric constant and ionic strength. W. J. Svirbely and J. Lander. Am Chem Soc J 61:3538-42 D '39
Effect of ions of the lyotropic series on the infrared absorption spectrum of water. A. M. Buswell, R. C. Gore and W. H. Rodebush. bibliog J Phys Chem 43:1181-4 D '39
Entropies of large ions; the heat capacity, entropy and heat of solution of potassium chloroplatinate, tetramethylammonium iodide and uranyl nitrate hexahydrate. L. V. Coulter, K. S. Pitzer and W. M. Latimer. bibliog Am Chem Soc J 62:2845-51 O '40
Formation and maintenance of electron and ion beams. L. P. Smith and P. L. Hartman. diag J Ap Phys 11:220-9 Mr '40
High efficiency ion source. A. T. Finkelstein. diags R Sci Instr 11:94-7 Mr '40
Interaction of ions and dipolar ions; solubility of barium and calcium iodates in glycine and in alanine solutions. R. M. Keefer, H. G. Reiber and C. S. Bisson. bibliog Am Chem Soc J 62:2951-5 N '40
Investigation of the exchange between a metal and ions in solution by using radioactive indicators. B. V. Rollin. Am Chem Soc J 62:86-7 Ja '40
Ionic entropies and free energies and entropies of solvation in water-methanol solutions. W. M. Latimer and C. M. Slansky. bibliog Am Chem Soc J 62:2019-23 Ag '40
Lining of metal capillaries with glass and the application to a capillary positive ion source. I. A. Getting and H. W. Leighton. diags R Sci Instr 11:232-4 Jl '40
Lower limit for the velocities of formation of the tri-halide ions in aqueous solution. R. S. Halford. bibliog Am Chem Soc J 62: 3233-6 N '40
Molecular refraction of ions of *l*-aspartic acid. V. A. Pertzoff. Am Chem Soc J 62:3150-1 N '40
Relative secondary electron emission due to He, Ne, and A ions bombarding a hot nickel target. M. Healea and C. Houtermans. bibliog Phys R 58:608-10 O 1 '40
Ring focusing of negative ions in a cathode-ray beam. C. H. Bachman. bibliog il diags J Ap Phys 11:83-5 Ja '40
Separation method and qualitative test for cadmium ion involving alkaline tartrate complexes. J. P. McReynolds. J Chem Educ 17:532 N '40
Solubility product; a demonstration introducing the common ion effect and formation of complex ions. S. Zuffanti. J Chem Educ 17:433 S '40
Some features of an electrostatic generator and ion source for high voltage research. I. A. Getting, J. B. Fisk and H. G. Vogt. il diags Phys R 56:1098-1104 D 1 '39
Why not modernize the textbooks also? hydrolysis and its relation to ionic charge and radius. L. S. Foster. bibliog J Chem Educ 17:509-12 N '40

See also
Activity coefficients
Chemical reaction—Velocity
Cyclotron
Electrolysis
Electrolytes
Electrons
Hydrogen ion concentration
Ionization, Electrolytic
Ionization, Gaseous

Migration
Surface migration of ions and contact exchange. H. Jenny and R. Overstreet. bibliog diags J Phys Chem 43:1185-96 D '39

Mobility
Determination of mobilities and dissociation constants by means of conductivity titrations. J. P. Philpot, E. C. Rhodes and C. W. Davies. Chem Soc J p84-7 Ja '40

Recombination
Preferential and initial ionic recombination in gases. N. E. Bradbury. bibliog J Ap Phys 11:267-73 Ap '40

IOWA
See also
Roads—Iowa

IOWA academy of science
Annual meeting, 54th, Mount Vernon, April 19-20. Science 91:549 Je 7 '40

IOWA electric light and power company
To sell $14,580,000 bonds privately. Comm & Fin Chr 151:1146 Ag 24 '40

IOWA southern utilities company of Delaware
Bonds offered. Comm & Fin Chr 151:418 Jl 20 '40

IPATIEFF, Vladimir Nikolaevich, 1867-
American contemporaries. W. V. Evans. pors Ind & Eng Chem News ed 18:493-4 Je 10 '40
Awarded Willard Gibbs medal. por Ind & Eng Chem News ed 17:707 N 20 '39; Science 90:486 N 24 '39
1940 Willard Gibbs medal. Science 91:541-2 Je 7 '40
Veteran authority on catalysis awarded Willard Gibbs medal. por Nat Pet N 32:R8 Ja 10 '40

IRAQ
See also
Income tax—Iraq

Economic conditions
Economic position of Iraq. S. Goldberg. For Comm W 1:141-2 O 19 '40
Economic situation, 1939. Comm Rep p270-1 Mr 23 '40

IRELAND
See also
Strikes—Ireland

Defenses
Defense of Ireland. Economist 139:11-12 Jl 6 '40

Economic conditions
Business situation. Comm Rep p1189 D 23 '39; p363-4, 505-6, 717-18 Ap 20, Je 8, Ag 24 '40
Commercial cross currents in wartime Eire. H. R. Hungerford. For Comm W 1:238-9 N 9 '40
Economic trends in Eire. Economist 137:288 N 25 '39
Eire in 1939. Economist 138:sup23-4 F 17 '40

Social life and customs
Family and community in Ireland. C. M. Arensberg and S. T. Kimball. 322p $3.50 Harvard univ. press '40

IRON
Alpha-gamma transformation of iron at high pressures, and the problem of the earth's magnetism. F. Birch. bibliog diag Am J Sci 238:192-211 Mr '40
Chemisorptions of gases on iron synthetic ammonia catalysts. S. Brunnauer and P. H. Emmett. bibliog Am Chem Soc J 62:1732-46 Jl '40
Effect of gases containing hydrogen sulphide on iron and some iron alloys; abstract. W. Baukloh and E. Spetzler. Metals & Alloys 12:344+ S '40
Effect of pressure on the wave-lengths of the International secondary standards in the first spectrum of iron. C. J. Humphreys. bibliog J Research Nat Bur Stand 24:389-93 Ap '40
Equilibrium FeO + H_2 = Fe + H_2O at temperatures up to the melting point of iron. J. Chipman and S. Marshall. bibliog diags Am Chem Soc J 62:299-305 F '40
Ferromagnetic anisotropy of iron and iron-rich silicon alloys. L. P. Tarasov. Phys R 56:1231-40 D 15 '39
Folklore in iron (cont). F. T. Sisco. Min & Met 21:61, 159, 199, 249 Ja, Mr-My '40
Galvano- and thermomagnetic phenomena in iron and nickel. E. H. Butler, jr. and E. M. Pugh. diags Phys R 57:916-21 My 15 '40
Grüneisen's constant for the incompressible metals. J. C. Slater. bibliog Phys R 57: 744-6 Ap 15 '40

IRON—*Continued*

Heats of adsorption of gases on iron synthetic ammonia catalysts at low temperatures. R. A. Beebe and N. P. Stevens. Am Chem Soc J 62:2134-40 Ag '40

pH, dissolved iron concentration and solid product resulting from the reaction between iron and pure water at room temperature. R. C. Corey and T. J. Finnegan. il diags Am Soc T M Proc 39:1242-53 bibliog(p1252-3); Discussion. 1254-60 '39

Iron arc as a standard source for spectrochemical analysis. M. Slavin. bibliog diags Ind & Eng Chem Anal ed 12:131-3 Mr 15 '40

Iron at the earth's core. Min & Met 21:299 Je '40

Mechanism of magnetisation. T. F. Wall. diags Engineer 169:294-7, 318-20, 342-4 Mr 29-Ap 12 '40

Oxidation of ferrous iron in iron gall ink; measures age of ink. H. T. F. Rhodes. Chem & Ind 59:143-5 Mr 2 '40

Partial reduction of acetylenes to olefins using an iron catalyst. A. F. Thompson, jr. and S. B. Wyatt. Am Chem Soc J 62:2555-6 S '40

Photochemical oxidation of oxalic acid sensitized by ferric ion. R. Livingston. bibliog diags J Phys Chem 44:601-11 My '40; Discussion. G. Kornfeld. 44:949 O '40

Physical basis of ferromagnetism; atomic structure of ferromagnetic elements; gyromagnetic effect. R. M. Bozorth. bibliog il diags Bell System Tech J 19:1-39 Ja '40

Preparation of high-purity iron on a large laboratory scale. F. Adcock. Soc Chem Ind J 59:28-31 F '40

Pure irons; ancient and modern. J. G. Thompson. il Min & Met 21:231-4 My '40

Reaction between iron and water in the absence of oxygen. M. deK. Thompson. bibliog diag Electrochem Soc Trans 78 (preprint 24):337-41 O '40

Relative probability for the loss of neutrons and alpha-particles from an excited nucleus. J. M. Cork and J. Halpern. Phys R 57: 667-8 Ap 15 '40

Report on Bartol research foundation; nature of the field in magnetized iron. W. F. G. Swann. il diag Franklin Inst J 230:307-14 S '40

Steels and irons. il diags Metal Prog 38: 373-94 O '40

Temperature effects in secondary emission; emission from iron, nickel, cobalt, and molybdenum. D. E. Wooldridge. Phys R 58: 316-21 Ag 15 '40

Tendering of rayon by iron. H. R. Mauersberger. il Rayon 21:523-4 S '40

Why some ancient irons were corrosion-resistant. F. Hodson. Min & Met 21:293-4 Je '40

See also

Blast furnaces
Cast iron
Charcoal iron
Corrosion and anti-corrosives
Foundry practice
Galvanizing
Iron works
Magnetism
Meteorites
Pickling (metals)
Pig iron
Sheet iron
Steel
Wrought iron

Analysis

Colorimetric determination of iron with salicylaldoxime; a spectrophotometric study. D. E. Howe and M. G. Mellon. Ind & Eng Chem Anal ed 12:448-50 Ag 15 '40

Determination of iron in liquid food products. H. L. Roberts, C. L. Beardsley and L. V. Taylor, jr. il diag Ind & Eng Chem Anal ed 12:365-7 Je 15 '40

Determination of molybdenum in cast iron and steel. C. Sterling and W. P. Spuhr. Ind & Eng Chem Anal ed 12:33-4 Ja 15 '40

Extraction of ferric iron from hydrochloric acid solutions by dichloroethyl ether and the formula of the iron compound in the ether. J. Axelrod and E. H. Swift. Am Chem Soc J 62:33-6 Ja '40

Iron content of bread and bread ingredients. C. Hoffman, T. R. Schweitzer and G. Dalby. bibliog Ind & Eng Chem Anal ed 12: 454-5 Ag 15 '40

Limits of identification of simple confirmatory tests; Prussian blue test. A. A. Benedetti-Pichler and J. R. Rachele. bibliog il diags Ind & Eng Chem Anal ed 12:233-41 Ap 15 '40

Microdetermination of iron with the silver reductor. S. M. Edmonds and N. Birnbaum. Ind & Eng Chem Anal ed 12:60-1 Ja 15 '40

New method for the volumetric determination of ferric iron. F. R. Bradbury and E. G. Edwards. Soc Chem Ind J 59:96-8 My '40

Oxide analysis in iron ore reduction problems. T. L. Joseph, F. W. Scott and M. H. Kalina. bibliog il diag Blast F & Steel Pl 28:975-8, 1073-7 O-N '40

Bibliography

Complete list of Kaiser Wilhelm institute 1939 bulletins. Iron Age 145:74-5 My 23 '40; Same. Blast F & Steel Pl 28:591 Je '40

Review of iron and steel literature for 1939. E. H. McClelland. Blast F & Steel Pl 28: 81C-81D, 101, 171, 194, 196 Ja-F '40 [reprinted by Carnegie library, Pittsburgh]

Survey of literature on the manufacture and properties of iron and steel, and kindred subjects. Iron & Steel Inst J 139:1A-397A no1; 140:1A-368A no 2 '39; 141:1A-321A no 1 '40

Zeitschriften- und bücherschau. Stahl & Eisen 60:78-86 Ja 25 '40 [cont monthly]

Decarburization

Decarburisation of granulated pig iron: the R.K. process. B. Kalling and I. Rennerfelt. diags Iron & Steel Inst J 140:137-60, pl 21-2 no 2 '39; Excerpts. Iron Age 144:40-1 N 2 '39; Mech Eng 62:28-9 Ja '40

Desulfurization

See Iron—Sulfur content

Hydrogen content

Diffusion of hydrogen in iron. A. Günther-schulze and H. Betz. Engineer 169:sup[Metallurgist] 89-90 F 23 '40

Oxygen, hydrogen, molten-iron system. H. Lepp. bibliog Iron & Steel Inst J 141:329-37; Discussion. 338-9 no 1 '40

Inclusions

Method for identification of inclusions in iron and steel; chart. W. Campbell and others. Metal Prog 38:376 O '40

Isotopes

Isotopic weights of chlorine, argon and iron by the doublet method. T. Okuda and others. Phys R 58:578-9 S 15 '40

Metallography

Brittle constituent in chromium-nickel-iron alloys. H. Hougardy. Metal Prog 37:64-5+ Ja '40

Developing special properties by heat treating the malleable irons. R. J. Cowan. il Steel 106:44-7, 72+ Mr 25 '40

Effect of casting temperature on the primary microstructure of cast irons; theories of dendrite formation and of the solidification of iron-carbon alloys. A. L. Norbury. diags Iron & Steel Inst J 140:161-75, pl 23-38; Discussion. 176-80, pl 38a no 2 '39

Electrolytic polishing of iron and steel. Engineer 167:sup [Metallurgist] 39 Je 30 '39; Same. Metal Prog 36:771-2 D '39

Electrolytic preparation of iron and steel micro-specimens. G. E. Pellissier, jr. H. Markus and R. F. Mehl. il diag Metal Prog 37:55-6 Ja '40

Enameling irons; coarse graphite and non-metallic inclusions as cause of blisters. A. S. Hawtin. il Steel 106:66-7+ Mr 25 '40

Etching of cementite in pearlite. F. D. Waterfall. il Metal Prog 37:68-9 Ja '40

Flame hardening cast iron. R. O. Day. il Steel 106:46-9 My 6 '40

Flame hardening standardization. A. L. Hartley. il diags Iron Age 146:25-34 O 17; 34-8 O 24; 34-43 O 31 '40

Iron, iron carbide equilibrium diagram. Metal Prog 38:122 O '40

IRON—Metallography—*Continued*
Making better machine-tool castings. F. J. Dost. il Mech Eng 62:365-9 My '40
Metallographic identification of ferro magnetic phases; colloid pattern technique. H. S. Avery, V. O. Homerberg and E. Cook. bibliog il diag Metals & Alloys 10:353-5 N '39
Microstructure of Ni-resist. il Metal Prog 38: 285 S '40
Pearlitic malleable from the electric furnace. E. F. Cone. il Metals & Alloys 12:150-3 Ag '40
Rapid routine examination for microstructure control; abstract. E. K. Smith. Iron Age 144:76-7 D 14 '39
Relation of carbon nodule size and tensile properties of malleable cast iron. H. A. Schwartz, H. J. Schindler and J. F. Elliott. Am Soc T M Proc 39:583-4 '39
Wear related to structure; abstracts. E. K. Smith. Foundry 68:57 Ja '40; il Steel 106:44+ F 26 '40
X-ray investigation of the iron-rich nickel-iron alloys. A. J. Bradley and H. J. Goldschmidt. bibliog Iron & Steel Inst J 140: 11-27 no 2 '39

Oxygen content
Oxygen, hydrogen, molten-iron system. H. Lepp. bibliog Iron & Steel Inst J 141:329-37; Discussion. 338-9 no 1 '40

Patents
Patentbericht. Published in weekly numbers of Stahl und eisen

Phosphorus content
Pure iron-phosphorus alloys. G. T. Motok. il diags Iron Age 146:27-32 O 31 '40

Prices
Advance in iron and steel prices. Engineer 169:360-3 Ap 12 '40
Advance in iron and steel prices; control order. Engineer 169:145-6 F 9 '40
Comparison of prices; market prices at date, and one week, one month, and one year previous. Published in weekly numbers of Iron age
European iron and steel export prices, 1939; tabulation. Steel 106:275 Ja 1 '40
European iron, steel domestic prices, 1939; tabulation. Steel 106:270 Ja 1 '40
Iron and steel scrap prices; finished and semi-finished iron and steel prices; iron and steel warehouse prices. Published in weekly numbers of Iron age
Market week. Published in weekly numbers of Steel
Monthly price averages for eleven years, 1929-1939; tabulation. Steel 106:284-6 Ja 1 '40
Steel, iron and scrap price composites, 1928-1939; tabulation. Steel 106:291 Ja 1 '40

Protection
See also
Iron, Galvanized

Sulfur content
Desulphurization of pig iron. Iron Age 145: 37 Mr 14 '40
Desulphurizing with fused soda ash; abstract. W. Levi. Iron Age 145:50-1 My 16 '40
Effect of magnesia and low alumina in blast furnace slags on furnace operation and desulphurization. L. F. Sattele. Blast F & Steel Pl 28:659-64 Jl '40
Research under way on hot metal desulphurization by alkali; Pittsburgh steel co. Steel 107:32 S 30 '40

Testing
Pure iron-phosphorus alloys. G. T. Motok. il diags Iron Age 146:27-32 O 31 '40
Test-piece for investigating the yield point in iron and steel. A. M. Baxter and C. F. Elam. Engineering 149:176 F 16 '40
Testing iron by torsion. H. M. Lane. Am Mach 84:192-4 Mr 20 '40

IRON, Effect of sea water on
Deterioration of structures in sea water. Engineering 150:177-8 Ag 30 '40

IRON, Galvanized
Better adherence; laboratory tests on improved adherence of finishes on zinc or zinc-alloys and on zinc-coated metals. H. E. Van Siclen. Steel 105:66, 68-9 N 20 '39
Reaction of zinc and iron in hot-dip galvanizing. H. Bablik. il Metal Finishing 38:486-8, 530-1, 585-6, 632 S-D '40
Welding galvanised iron; application of zinc. H. Seymour. Chem Age (Lond) 42:sup25 Je 1 '40
X-ray analysis of corrosion products from galvanized sheets. F. R. Morral. bibliog Electrochem Soc Trans 77 (preprint 12):147-54 Ap '40

IRON, Molten
Continuous sheets of malleable iron and steel direct from fluid metal. H. Bessemer. il Iron Age 145:48-50 Ap 11 '40
Oxygen, hydrogen, molten-iron system. H. Lepp. bibliog Iron & Steel Inst J 141:329-37; Discussion. 338-9 no 1 '40
Pyrometry of liquid steels and pig irons. G. R. Fitterer. il Instruments 13:157-60 Je '40

IRON, Powdered
Gears of iron powder. il diag Automotive Ind 82:158-9 F 15 '40
Iron powder situation. A. T. Fellows. il Metals & Alloys 12:288-91 S '40
Iron powders in Europe; new pilot plant produces pure powders of metals by spraying. W. D. Jones. Steel 106:48+ Je 3 '40
Oil pump gears, an example of iron powder metallurgy; abstract. F. V. Lenel. il(p471) Metals & Alloys 12:472+ O '40
Powdered iron by gas; Clarkiron co. of California expected to build plant to make 20,000 tons a year. Business Week p29 Jl 13 '40
Powdered iron; uses and manufacturing methods. Engineer 169:25 Ja 5 '40
Researches of Mellon institute 1939-40; electrolytic iron and powdered metals. Ind & Eng Chem News ed 18:291 Ap 10 '40
Sintering iron powder; composite of abstracts. Metals & Alloys 11:MA268+ My '40
Steel powder for iron; could be produced as a by-product of the Kalling-Rennerfelt process. Steel 106:54-5 My 27 '40

IRON age (periodical)
New executive officers. Iron Age 145:179 Ja 4 '40

IRON alloys
Alloy cast irons for refinery equipment; tabulation. Oil & Gas J 38:50 Mr 7 '40
Alloy cast irons in steel plants. A. B. Everest. il Blast F & Steel Pl 28:700-1 Jl '40
Cast irons; the control and improvement of their properties. C. H. Lorig. il Product Eng 11:209-12 My '40
Cupola possibilities and limitations for making high-strength iron; use of Fer X; cost data. H. W. Gillett and C. H. Lorig. bibliog il Iron Age 144:17-23+ D 28 '39
Effect of gases containing hydrogen sulphide on iron and some iron alloys; abstract. W. Baukloh and E. Spetzler. Metals & Alloys 12:344+ S '40
Irons and steels at high temperatures; a composite of abstracts. Metals & Alloys 12:344 S '40
Ladle additions to cast iron. R. Schneidewind. Metal Prog 38:374-5+ O '40
Making better machine-tool castings. F. J. Dost. il Mech Eng 62:365-9 My '40
New SMZ alloy transforms white cast iron to strong gray iron. il Steel 107:57 S 23 '40; Same. Blast F & Steel Pl 28:812-13 Ag '40
Nickel-iron-aluminium permanent-magnet alloys. W. Betteridge. bibliog Iron & Steel Inst J 139:187-208 no 1 '39; Same abr. Engineering 147:632-4 My 26 '39; Discussion. Iron & Steel Inst J 139:209-10 no 1 '39
Pure iron-phosphorus alloys. G. T. Motok. il diags Iron Age 146:27-32 O 31 '40
Titanium in steel and iron. G. F. Comstock. Metal Prog 38:387+ O '40
Vicalloy, a new magnetic alloy. Iron Age 146: 51 Ag 1 '40
See also
Ferroalloys
Meehanite
Permalloy
Steel
Steel alloys

IRON alloys—*Continued*

Carbon alloys

Effect of casting temperature on the primary microstructure of cast irons; theories of dendrite formation and of the solidification of iron-carbon alloys. A. L. Norbury. diags Iron & Steel Inst J 140:161-75, pl 23-38; Discussion. 176-80, pl 38a no 2 '39

Influence of austenitic grain size on the critical cooling rate of high-purity iron-carbon alloys. T. G. Digges. bibliog 8pls diags J Research Nat Bur Stand 24:723-42 Je '40

Transformation of austenite on quenching high-purity iron-carbon alloys. T. G. Digges. pls diags J Research Nat Bur Stand 23:151-62 Jl '39; Same. bibliog Am Soc for Metals Trans 28:575-600; Discussion. 600-7 S '40

Chromium alloys

Alloys of iron and chromium; v.2, High-chromium alloys. A. B. Kinzel and R. Franks. 559p bibliog(p489-521) $6 McGraw-Hill '40

Brittle constituent in chromium-nickel-iron alloys. H. Hougardy. Metal Prog 37:64-5+ Ja '40

Influence of chromium on the oxidation resistance of cast iron. C. O. Burgess. il Am Soc T M Proc 39:604-22; Discussion. 623-5 '39

Properties of the principal Cr-Fe alloys and Cr-Ni-Fe alloys; data sheets. Metal Prog 38:464-5 O '40

See also
Chromium steel

Chromium aluminum alloys

Spectral emissivity (at 0.65μ) of some alloys for electrical heating elements. W. F. Roeser. Am Soc T M Proc 39:780-7 '39

Chromium molybdenum alloys

Flame hardening standardization. A. L. Hartley. il diags Iron Age 146:34-8 O 24; 34-43 O 31; 48-52 N 14 '40

Chromium nickel alloys

Brittle constituent in chromium-nickel-iron alloys. H. Hougardy. Metal Prog 37:64-5+ Ja '40

Heat and corrosion resistant castings. D. W. Talbott. il Steel 107:40-4 Jl 22 '40

High nickel-chromium castings. J. B. Shelby. Metal Prog 38:471 O '40

Magnetic permeability of some austenitic iron-chromium-nickel alloys as influenced by heat treatment and cold work. J. B. Austin and D. S. Miller. diag Am Soc for Metals Trans 28:743-55 S '40

See also
Chromium nickel steel
Iron alloys—Nickel chromium alloys

Cobalt alloys

Ternary iron-cobalt alloys. Engineer 169: sup[Metallurgist] 104-5 Ap 26 '40

Columbium alloys

Niobium-iron alloys. R. Genders and R. Harrison. Iron & Steel Inst J 140:39-37, pl 1-5 no 2 '39; Same cond. Engineering 148: 514-15 N 3 '39

Copper alloys

Copper in cast iron. T. Barlow. il Iron Age 145:19-22 Ja 25; 40-3+ F 1 '40

Electric furnace cast irons containing copper. T. E. Barlow. il Metals & Alloys 12:36-9, 158-65 Jl-Ag '40

Magnetic studies of solid solutions; methods of observations and preliminary results on the precipitation of iron from copper. F. Bitter and A. R. Kaufmann. diag Phys R 56:1044-51 N 15 '39

Structure and ferromagnetism of cold-worked copper containing iron. C. S. Smith. Phys R 57:837 F 15 '40

Manganese alloys

See also
Ferromanganese
Manganese steel

Molybdenum alloys

High-pressure pipe-line valves. Oil & Gas J 39:66 O 17 '40

Molybdenum in iron and steel. T. D. Parker. bibliog Mech Eng 62:793-9 N '40

Molybdenum steels and irons. A. J. Herzig. Metal Prog 38:391-2 O '40

Nickel-molybdenum-iron and related alloys; their physical and corrosion-resistant properties. F. T. McCurdy. bibliog Am Soc T M Proc 39:698-709; Discussion. 710 '39

Nickel alloys

Application of nickel cast irons; reference book sheet. Am Mach 84:177 Mr 20 '40

Effect of pressure on the Curie point of iron-nickel alloys. J. C. Slater. Phys R 58:54-6 Jl 1 '40

Ferromagnetic anisotropy, magnetization at saturation, and superstructure in Ni_3Fe and nearby compositions. E. M. Grabbe. bibliog Phys R 57:728-34 Ap 15 '40

Ferromagnetic anisotropy of low nickel alloys of iron. L. P. Tarasov. Phys R 56:1245-6 D 15 '39

Heat resisting castings, medium nickel type. H. I. Dixon. Metal Prog 38:469+ O '40

Microstructure of Ni-resist. il Metal Prog 38:285 S '40

Nickel-molybdenum-iron and related alloys; their physical and corrosion-resistant properties. F. T. McCurdy. bibliog Am Soc T M Proc 39:698-709; Discussion. 710 '39

Nickel steels and irons. J. W. Sands. Metal Prog 38:387 O '40

Nickel's role in milling equipment. J. E. Kerr. il Eng & Min J 140:54-7 D '39

X-ray investigation of the iron-rich nickel-iron alloys. A. J. Bradley and H. J. Goldschmidt. bibliog Iron & Steel Inst J 140: 11-27 no 2 '39

See also
Nickel steel

Nickel chromium alloys

High nickel-chromium castings. J. B. Shelby. Metal Prog 38:471 O '40

Spectral emissivity (at 0.65μ) of some alloys for electrical heating elements. W. F. Roeser. Am Soc T M Proc 39:780-7 '39

Strengthening anneal developed for nickel-chromium irons. Steel 107:52 N 11 '40; Engineer 170:273 O 25 '40

See also
Chromium nickel steel
Iron alloys—Chromium nickel alloys

Silicon alloys

Dependence of ferromagnetic anisotropy on the field strength. L. P. Tarasov. Phys R 56:1224-30 D 15 '39

Ferromagnetic anisotropy of iron and iron-rich silicon alloys. L. P. Tarasov. Phys R 56:1231-40 D 15 '39

Survey of the high silicon irons. B. N. Reavell. Chem Age (Lond) 42:sup19-20 My 4 '40

Testing

Der einfluss von betriebspausen auf die zeit- und dauerfestigkeit metallischer werkstoffe. F. Bollenrath and H. Cornelius. il diags V D I 84:295-9 My 4 '40

IRON and steel institute

Annual meeting, 71st, London, May 2-3. Engineer 169:433-4 My 10 '40; Engineering 149: 488-9, 508-9, 517-18 My 10-24 '40

Autumn meeting, London, Nov. 28. Engineer 168:549 D 1 '39

IRON carbide

Iron, iron carbide equilibrium diagram. Metal Prog 38:422 O '40

Troostite or fine pearlite (magnetic behavior of iron carbide). O. A. Tesche. il Metal Prog 35:274-6; 36:757-9 Mr, D '39

IRON chlorides

Fractionated coagulation: a new procedure. R. A. Trelles, D. J. Bengolea and A. G. Poccard. Am Water Works Assn J 32:742-50 My '40

IRON compounds
Inner complex salts of the 8-hydroxyquinoline-5-sulfonic acid. J. Molland. Am Chem Soc J 62:541-2 Mr '40

IRON fireman manufacturing company
Small companies with large earnings; thumbnail appraisal. Mag of Wall St 65:492 Ja 27 '40

IRON founding
Alloy iron cylinder blocks for truck engines; pictorial story of operations at Mack manufacturing corp. Metal Prog 36:735-43 D '39
American foundrymen's association meeting; abstracts of papers. Foundry 68:98, 100+ Je; 70+ Jl '40
Barrel-type valve lifters molded in green sand; Eaton-Erb foundry. E. C. Hoenicke. il diags Foundry 68:42-5+ O '40
Canadian foundry; McKinnon industries limited. Engineer 169:134 F 9 '40
Cast iron in the ladle; agents for modifying its properties. A. J. N. Smith. Chem Age (Lond) 41:sup26-7 N 4 '39
Causes of 32 types of gray iron casting defects; tabulation. W. B. McFerrin. Iron Age 146:44-7 S 5 '40
Changes methods to reduce cylinder casting loss. J. E. Olson. diags Foundry 68: 88-9+ My '40
Continuous pig casting; handling facilities; Canadian furnace limited. R. Trautschold. il Steel 107:50+ S 9 '40
Desulphurizing with fused soda ash; abstract. W. Levi. Iron Age 145:50-1 My 16 '40
Faulty castings; application of welding. Automobile Eng 30:189-90 Je '40
Foundry practice at Buick foundry. A. H. Allen. Foundry 68:42+ F '40
Fundamentals of cupola practice. D. J. Reese. il Foundry 68:30-2+ Ap '40
Gray iron foundry practice moves forward; review of technical literature, 1938-1939. C. H. Lorig and V. H. Schnee. il Foundry 68:90-1, 161, 164, 166 bibliog(89 titles, p164, 166) My '40
Making better machine-tool castings. F. J. Dost. il Mech Eng 62:365-9 My '40
Metal penetrated core in long iron roller; question and answer. diag Foundry 68:80+ S '40
New foundry; International harvester co. P. Dwyer. il Foundry 68:22-7, 84+ Ja; 24-7, 84+ Mr; 34-7, 102+ Ap '40
Practical cupola practice; abstract. H. A. Deane. Foundry 68:132 My '40
Pressure-resisting and high-duty iron castings. J. L. Francis. Engineer 170:93-5 Ag 9 '40
Producing cast iron for enameling. T. G. Johnston. il Foundry 68:34+ Ja '40
Producing malleable castings in a modern foundry; Saginaw malleable iron division, General motors corp. il Foundry 67:22-7 D '39
Progress in melting gray iron. D. J. Reese. il Foundry 68:45+ N '40
Rapid delivery is pride of jobbing foundry; Carondelet foundry co. E. Bremer. il diag Foundry 68:24-6, 94+ Ap '40
Study in grey cast iron. H. J. Young. il Inst Mech Eng J & Proc 142:55-60 Mr '40

See also
Cast iron
Cupola furnaces
Foundry practice
Molding machines
Molds (for casting)
Pig iron

IRON founding, Electric
Pearlitic malleable from the electric furnace. E. F. Cone. il Metals & Alloys 12:150-3 Ag '40

IRON in the body
Availability of the iron in dried peas and beans. L. Ascham, M. Speirs and D. Maddox. Science 90:596-7 D 22 '39
Further evidence of sex variation in the utilization of iron by anemic rats. L. Otis and M. C. Smith. bibliog Science 91:146-7 F 9 '40
Radio-iron in plasma does not exchange with hemoglobin iron in red cells. P. F. Hahn and others. Science 92:131-2 Ag 9 '40

IRON industry and trade
Future demand for iron and steel products. N. Yaworski and O. E. Kiessling. Min & Met 21:430-1 S '40
Iron and steel. For Comm W 1:223 N 2 '40
Some ferrous problems in the defense program. G. B. Waterhouse. il Metals & Alloys 12:406-9 O '40

See also
Cast iron
Pig iron
Steel industry and trade

Bibliography
Iron and steel trade. (Business literature v 12, no 6) 2p Business branch, Newark public library F '40

Finance
Interlake iron corp.; high cost producer of pig iron may make a better than usual showing. G. W. Mathis. Mag of Wall St 66:475+ Jl 27 '40
Outlook for merchant pig iron companies. R. Lane. Barron's 20:9 Jl 22 '40

History
Country's oldest industrial concern; Taylor-Wharton iron & steel company. C. H. Vivian. il Comp Air M 45:6049-56 Ja '40
Old stone furnace; Rebecca stack, near Lisbon, Ohio, built in 1807. E. S. Dawson and M. H. Mawhinney. il diag Steel 107:62, 64-5 Jl 8 '40

See also
Iron metallurgy—History

Statistics
Industrial America; iron and steel; Printer's Ink market explorations. P'tr Ink Mo 41:30-1, 33 Ag '40
Iron and steel and their products, 1939. Can Chem & Process Ind 24:510 O '40
Iron and steel, 1936-1939. Survey of Cur Business 1940 Sup p129-34 [supplemented in monthly numbers]
Iron, steel exports and imports of principal countries, 1913, 1936-1939; tabulation. Steel 106:269 Ja 1 '40
Production of iron and steel for sale in 1939; tabulation. Iron Age 145:75 F 29 '40; Same. Steel 106:32 Mr 11 '40
World steel production, spurred by war demands, establishes new record. V. Delport. Steel 106:268-9+ Ja 1 '40

Brazil
Brazil's iron, steel industry expanding. Steel 107:30-1 Ag 26 '40

Canada
Iron and steel and their products in Canada, 1936-1937. 137p pa 50c Canada. Dominion bur. of statistics, Ottawa '40
Iron and steel; imports and exports; Canada, 1939. Can Eng R & B 78:62+ Ap '40
Latest census lists 1391 Canadian factories in iron and steel group. Iron Age 145:67 My 30 '40

Europe
European industry in the war. V. Delport and others. il Steel 106:271-81 Ja 1 '40
Foreign iron blast-furnace practice. W. A. Haven. il Min & Met 21:182-7 Ap '40
Iron and steel industries of Europe. C. W. Wright. map U S Bur Mines Economic Pa 19:1-98 '39; Abstract. Engineering 148:491-3, 573-4, 632-3 N 3, 24, D 8 '39
Some recent developments in the iron and steel industry of European countries. H. A. Brassert. il diags maps Blast F & Steel Pl 28:78-81, 81A-81B+, 147-53+, 262-3, 269-70, 280-1, 341, 347-50+ Ja-Ap '40

Germany
L'économie de guerre de la sidérurgie allemande. Génie Civil 116:345-7 My 25 '40
Loss of Narvik ore supplies will hit German steel trade. Iron Age 145:80 My 9 '40
La politique allemande du charbon, du fer et de l'énergie électrique. H. Doyen. map Génie Civil 116:325-9 My 18 '40
Swedish iron ore vital to Germany. Iron Age 145:79 My 9 '40

IRON industry and trade—*Continued*

Great Britain

Advance in iron and steel prices. Engineer 169:360-3 Ap 12 '40
Advance in iron and steel prices; control order. Engineer 169:145-6 F 9 '40
Britain's iron ore supplies; imports, 1913, 1929, 1937. Economist 138:1051 Je 15 '40
Charcoal-iron industry; 18th century; abstract and discussion. H. G. Jones. Engineering 148:590-1 N 24 '39
Die englische eisenwirtschaft im Weltkriege. J. W. Reichert. Stahl & Eisen 60:149-56 F 22 '40
Iron and steel in 1939. Economist 138:sup40-1 F 17 '40
Iron and steel products control; Minister of supply order. Engineer 168:481-2 N 10 '39

Hungary

Rimamurány-Salgótarján iron works company 58th ordinary general meeting, Budapest. Economist 137:894 D 9 '39

Italy

Aus der italienischen eisenindustrie. Stahl & Eisen 60:439-40 My 16 '40

United States

Blast furnace operation responds to developments of past year. T. L. Joseph. il diags Blast F & Steel Pl 28:31-6+ Ja '40
Review of the iron ore industry, 1939. M. D. Harbaugh. il Min Cong J 26:27-30 F '40

IRON iodides

Iodides of some polyvalent metals. H. W. Foote and M. Fleischer. bibliog J Phys Chem 44:647-52 My '40

IRON mesoporphyrin chloride

Preparation of ferric mesoporphyrin chloride. T. H. Davies. Am Chem Soc J 62:447 F '40

IRON metallurgy

Beitrag zur verwertung der Siegerländer spateisensteinschlämme. W. Luyken and E. Ellerich. diag Stahl & Eisen 60:109-16 F 8 '40
Blast furnace and raw materials conference, Pittsburgh, April 24-26. Steel 106:78+ My 6 '40
Blast furnace in 1939. M. Cox. il Blast F & Steel Pl 28:42-4 Ja '40
Blast furnace operation responds to developments of past year. T. L. Joseph. il diags Blast F & Steel Pl 28:31-6+, 154-60, 247-9 Ja-Mr '40
Blast furnace smelting; as it was in 1915 and as it is in 1940. W. Mathesius. Metal Prog 37:298 Mr '40
Comparative values of iron ore at the blast furnace. G. W. Hewitt. il Blast F & Steel Pl 27:1231-7; 28:50-2+ D '39-Ja '40
Cupola possibilities and limitations for making high-strength iron; use of Fer X; cost data. H. W. Gillett and C. H. Lorig. bibliog il Iron Age 144:17-23+ D 28 '39
Decarburisation of granulated pig iron: the R.K. process. B. Kalling and I. Rennerfelt. diags Iron & Steel Inst J 140:137-60, pl 21-2 no 2 '39; Excerpts. Iron Age 144:40-1 N 2 '39; Mech Eng 62:28-9 Ja '40
Effect of magnesia and low alumina in blast furnace slags on furnace operation and desulphurization. L. F. Sattele. Blast F & Steel Pl 28:659-64 Jl '40
Der einfluss von kieselsäure, titansäure und tonerde auf die zähigkeit einer sauren synthetischen schlacke und berechnung der zähigkeit saurer und basischer hochofenschlacken aus der chemischen zusammensetzung. K. Endell and G. Brinkmann. Stahl & Eisen 59:1319-21 D 7 '39
European experience with low-grade ore; abstract. H. A. Brassert. Steel 105:42+ N 20 '39
Ferrous metals; methods of manufacture, fabrication and heat treatment. J. Fielding. 164 numb l $2.45 Burgess pub. co, Minneapolis '38
Foreign iron blast-furnace practice. W. A. Haven. il Min & Met 21:182-7 Ap '40
Hot metal requirements for today's open hearth; abstract. L. R. Berner. Iron Age 145:55-6 My 2 '40
Iron-ore beneficiation, 1939. J. Rudolph. Eng & Min J 141:83-4 F '40
Manufacture of pig iron in America. W. A. Haven. diags maps Iron & Steel Inst J 141: 405-47, pl 40-51 no 1 '40; Same cond. Blast F & Steel Pl 28:354-7, 410, 418, 483-6, 586-90, 683+ Ap-Jl '40; Excerpts. Elec R (Lond) 126:244 Mr 1 '40; Discussion. Iron & Steel Inst J 141:448-58 no 1 '40
Manufacture of pig iron in America; abstract. W. A. Haven. Engineering 149:489 My 10 '40
Metallurgical progress in the making of cast iron. R. F. Harrington. il Ry Mech Eng 113:535-8 D '39
Moisture removal from blast furnace air. L. L. Lewis. il diags Refrig Eng 39:89-92, 157-60 F-Mr '40
Oxide analysis in iron ore reduction problems. T. L. Joseph, F. W. Scott and M. H. Kalina. bibliog il Blast F & Steel Pl 28: 975-8, 1073-7 O-N '40
Pig-iron manufacture in America; iron ore and its transport. W. A. Haven. il diag Chem Age (Lond) 42:sup9-11 Mr 2 '40
Pig-iron production in America; abstract. W. A. Haven. Elec R (Lond) 126:244 Mr 1 '40
Practical side of blast furnace management in South Africa. R. R. F. Walton. diags Blast F & Steel Pl 28:889-92, 987-9+ S-O '40; Same cond. Engineering 150:299-300, 315 O 11-18 '40
Preparation of high-purity iron on a large laboratory scale. F. Adcock. Soc Chem Ind J 59:28-31 F '40
Die reduktion von titansäure mit festem kohlenstoff und kohlenstoffhaltigem eisen. W. Baukloh and R. Durrer. Stahl & Eisen 60: 12-13 Ja 4 '40
Research under way on hot metal desulphurization by alkali; Pittsburgh steel co. Steel 107:32 S 30 '40
Some ferrous problems in the defense program. G. B. Waterhouse. il Metals & Alloys 12:406-9 O '40
Some recent developments in the iron and steel industry of European countries. H. A. Brassert. il diags map Blast F & Steel Pl 28:78-81, 81A-81B+, 147-53+, 262-3, 269-70, 280-1, 341, 347-50+ Ja-Ap '40
Study in grey cast iron. H. J. Young. il Inst Mech Eng J & Proc 142:55-60 Mr '40
Thirty years of iron sintering. E. W. Shallock. flow sheet Blast F & Steel Pl 28:71-5, 169-70 Ja-F '40
Use of sinter in blast furnace burdens; abstract. J. H. Slater. Iron Age 145:54 My 2 '40
Uses and metallurgy of ferrous scrap metals. M. W. Von Bernewitz. il Blast F & Steel Pl 27:1226-30 D '39
Vanadium in iron and steel; composite of abstracts. Metals & Alloys 11:MA316+ Je '40
Die verarbeitung eisenarmer saurer erze nach dem Krupp-rennverfahren in der grossversuchsanlage der firma Fried. Krupp A.-G. H. Lehmkühler. il diags Stahl & Eisen 59: 1281-8 N 30 '39

See also

Blast furnaces
Case hardening
Cast iron
Foundry practice
Galvanizing
Iron—Sulfur content
Iron alloys
Iron founding
Iron mines and mining
Iron works
Pig iron
Sintering
Slag
Steel metallurgy
Wrought iron

Electrometallurgy

Der elektroschmelzofen in der grauguesserei. T. Klingenstein and H. Kopp. diag Stahl & Eisen 59:1288-91 N 30 '39
Pacific Coast steel industry; electric furnace smelting. T. W. Lippert. il diags Iron Age 145:28-31 Mr 21 '40
Sierra iron co. plans immediate start on electric pig iron plant. Steel 106:24 Mr 4 '40

IRON metallurgy—Electrometallurgy—*Cont.*
Smelting domestic chrome ores in the electric furnace; investigation of high-iron concentrates from Montana and Oregon made to determine chromium recovery, power consumption, and grades of products. Eng & Min J 141:49-51 Jl '40

History

Charcoal-iron industry; 18th century; abstract and discussion. H. G. Jones. Engineering 148:590-1 N 24 '39
Pure irons; ancient and modern. J. G. Thompson. il Min & Met 21:231-4 My '40; Discussion. Min & Met 21:293-4 Je '40

IRON miners
Technology, employment, and output per man in iron mining. N. Yaworski and others. 264p Work projects administration, Washington, D.C. '40; Abstract. Monthly Labor R 51:883-6 O '40

IRON mines and mining
Fundamental principles of electrical safety for open-pit iron mines. L. M. Frazee. il diags Gen Elec R 43:230-6 Je '40

See also
Iron ores

Canada

Canada has timely major iron ore find. J. Montagnes. Barron's 20:2 Ag 26 '40

Eastern states

Eastern magnetite in 1939. H. M. Roche. il Min & Met 21:9 Ja '40

Germany

Beitrag zur verwertung der Siegerländer spateisensteinschlämme. W. Luyken and E. Ellerich. diag Stahl & Eisen 60:109-16 F 8 '40
Die ostdeutschen eisenerzlagerstätten und ihre nutzbarmachung im rahmen des vierjahresplanes. E. Weg. il diags maps Stahl & Eisen 60:21-9 Ja 11 '40

Great Britain

Iron ore extraction in the Midlands. diags Mech Handling 26:353-5 D '39
Restoration of land affected by iron-ore working. Engineering 148:637-8 D 8 '39

Lake Superior region

Ore, ships, and gentlemen; Cleveland's 99 per cent integrated industry. il Fortune 22:43-4+ Jl '40
Safety in raise mining; special set of rules worked out by Oliver iron mining company. W. P. Wolff. diags Min Cong J 26:15-19 Ag '40

Minnesota

Sink-and-float separation applied successfully on the Mesabi; ferrosilicon provides efficient medium. G. J. Holt. flow sheets il Eng & Min J 141:33-8 S '40; Same. Min Cong J 26:25-9, 64 S '40
Truck haulage at the Mahnomen mine. W. H. Gallagher. il Min Cong J 25:28-30 N '39

New Jersey

New Jersey iron boom. il Business Week p22 D 9 '39
New Jersey iron mines producing more ore. Iron Age 144:50G D 28 '39

Ontario

Iron resources for Canada; Steep Rock lake; illustrations. Eng & Min J 141:46-7 Ap '40

Sweden

Iron Klondike above the Arctic circle. O. Odd. Can Min J 61:457-8 Jl '40
Les mines de fer suédoises; le chemin de fer de Lulea à Narvik. diag maps Génie Civil 116:294-6 My 4 '40
Resources of Swedish Lapland. il Comm Rep p351-2 Ap 13 '40

United States

Accidents at iron-ore mines in 1938. Blast F & Steel Pl 27:1178 N '39
Metal mining in 1939. V. D. Johnston. il Min & Met 21:39-40 Ja '40
Technology, employment, and output per man in iron mining. N. Yaworski and others. 264p Work projects administration, Washington, D.C. '40; Abstract. Monthly Labor R 51:883-6 O '40

IRON ores
Blast furnace operation responds to developments of past year. T. L. Joseph. il diags Blast F & Steel Pl 28:31-6+ Ja '40
Centrifugal machine developed for dewatering moisture samples; Mesabi iron ore samples. G. E. Tucker. il diags Eng & Min J 141: 56-7 Je '40
Isotopic composition of oxygen in carbonate rocks and iron oxide ores. M. Dole and R. L. Slobod. Am Chem Soc J 62:471-9 Mr '40
Low-cost ore loading; conveyor system to transfer iron ore from railroad cars to ore boats at Michipicoten Harbour. il plan Steel 107:64, 66+ S 16 '40
Oxide analysis in iron ore reduction problems. T. L. Joseph, F. W. Scott and M. H. Kalina. bibliog il Blast F & Steel Pl 28:975-8, 1073-7 O-N '40
Sink-and-float separation applied successfully on the Mesabi; ferrosilicon provides efficient medium. G. J. Holt. flow sheets il Eng & Min J 141:33-8 S '40; Same. Min Cong J 26: 25-9, 64 S '40

See also
Ilmenite
Iron mines and mining
Magnetite
Pyrite

Prices

Comparative values of iron ore at the blast furnace. G. W. Hewitt. Blast F & Steel Pl 28:50-2+ Ja '40
Lake Superior iron ores, dollars per gross ton, at Lake Erie ports, 1914-1939; tabulation. Iron Age 145:174 Ja 4 '40
Monthly price averages for eleven years, 1929-1939; tabulation. Steel 106:284 Ja 1 '40
Ores prices. Published in weekly numbers of Iron age

Statistics

Iron ore resources and steel output of the belligerents, 1913 and 1938; tabulation. Nat City Bank p142 D '39
Iron ore shipments, revision; monthly, 1923-June, 1940. Fed Res Bul 26:880 Ag '40
Pre-season estimates point to 45,000,000-ton ore movement. il Steel 106:21-2 Mr 25 '40
Raw materials for steel industry; developments in 1939. il Steel 106:248 Ja 1 '40

Transportation

Down to the Lakes in ships. il map Fortune 22:30-42+ Jl '40
Manufacture of pig iron in America. W. A. Haven. map Iron & Steel Inst J 141:416-20. pl 43-5 no 1 '40; Same. Blast F & Steel Pl 28:483-4 My '40

Alabama

Differential grinding of Alabama iron ores for gravity concentration. W. H. Coghill and P. H. Delano. bibliog U S Bur Mines Rep of Invest 3523:1-6 '40; Same cond. Eng & Min J 141:113-14 D '40

British Columbia

Iron discovery at Zeballos. J. S. Stevenson. Eng & Min J 141:43 Jl '40

Europe

European experience with low-grade ore; abstract. H. A. Brassert. Steel 105:42+ N 20 '39

France

Le bassin ferrifère du Lyonnais. V. Charrin. diags maps Chimie & Ind 42:915-18 N '39

Germany

Ability of Germany to secure iron ore has economic and military importance. Chem & Met Eng 47:361 My '40
German steel plant best in Europe, lacks iron ore. Steel 106:280-1 Ja 1 '40
Germany's dependence on Swedish iron. map Economist 138:676-7 Ap 13 '40

IRON ores—Germany—*Continued*
Die gruben des konsortiums Fortuna am Salzgitterer Höhenzug und die dort angewandten aufbereitungsverfahren. K. Kaup. il diags Stahl & Eisen 59:1169-74 O 26 '39
Die ostdeutschen eisenerzlagerstätten und ihre nutzbarmachung im rahmen des vierjahresplanes. E. Weg. il diags maps Stahl & Eisen 60:21-9 Ja 11 '40
Raseneisenerz und weisseisenerz in der nordwestdeutschen tiefebene. H. Schmidt. Stahl & Eisen 59:1364-5 D 21 '39
Steirisches erz im grossdeutschen raum. maps Stahl & Eisen 59:1273-5 N 23 '39

Lake Superior region
Comparative values of iron ore at the blast furnace. G. W. Hewitt. il Blast F & Steel Pl 27:1231-7; 28:50-2+ D '39-Ja '40
Iron ore, Lake Superior, 1936-1939. Survey of Cur Business 1940 Sup p129 [supplemented in monthly numbers]
Manufacture of pig iron in America. W. A. Haven. maps Iron & Steel Inst J 141:408-20, pl 42-5 no 1 '40; Same. Blast F & Steel Pl 28:855-7, 410, 418, 483-4 Ap-My '40
1939 Lake Superior iron ore shipments; tabulation. Eng & Min J 141:72 Ap '40
Ore industry rises to emergency, shipping 64,000,000 tons. il Steel 107:45 N 4 '40
Pig-iron manufacture in America; iron ore and its transport. W. A. Haven. il diag Chem Age (Lond) 42:sup9-11 Mr 2 '40
Pre-season estimates point to 45,000,000-ton ore movement. il Steel 106:21-2 Mr 25 '40
Review of the iron ore industry, 1939. M. D. Harbaugh. il Min Cong J 26:27-9 F '40
Shipments of iron ore from Lake Superior mines, 1938 and 1939; tabulation. Steel 106: 30 Mr 11 '40

Minnesota
Iron-ore beneficiation, 1939. J. Rudolph. Eng & Min J 141:83-4 F '40

Montana
Smelting domestic chrome ores in the electric furnace; investigation of high-iron concentrates from Montana and Oregon made to determine chromium recovery, power consumption, and grades of products. Eng & Min J 141:49-51 Jl '40

Oklahoma
Iron ores. C. A. Merritt. (Mineral report no. 4) Oklahoma geological survey, Norman '40

Ontario
Geophysical work at Steep Rock lake. Eng & Min J 141:36 My '40
Geophysical work at Steeprock lake, 1936-39. A. Brant. Can Min J 61:573-4 S '40
Iron deposits of the Steeprock Lake area; history, general and economic geology and chemical theories. M. W. Bartley. bibliog il map Can Min J 61:566-72 S '40
Iron ore at Steep Rock lake. Min Cong J 26:42 Je '40

Sweden
Germany's dependence on Swedish iron. map Economist 138:676-7 Ap 13 '40
Swedish iron ore. A. F. Rickman. 170p $2.75 Ryerson press '39
Swedish iron ore vital to Germany. Iron Age 145:79 My 9 '40
War in Scandinavia dislocates United States steel exports. map Steel 106:23-4 Ap 15 '40

United States
Manufacture of pig iron in America. W. A. Haven. maps Iron & Steel Inst J 141:407-20, pl 42-5 no 1 '40; Same. Blast F & Steel Pl 28:354-7, 410, 418, 483-4 Ap-My '40

IRON oxides
Assay for platinum metals in ore concentrates. J. Seath and F. E. Beamish. bibliog Ind & Eng Chem Anal ed 12:169-71 Mr 15 '40
Burnt oxide for H_2S removal. G. E. Thompson. Gas J (Lond) 229:190 Ja 24 '40
Cone deformation study in part of the system calcium oxide-iron oxide. K. Rees and H. G. Fisk. bibliog il Am Cer Soc J 23:185-6 Je '40
Constitution of the alleged Thiessen hydrates. H. B. Weiser, W. O. Milligan and W. J. Coppoc. bibliog diag J Phys Chem 43:1109-20 D '39
Coprecipitation of barium ion with hydrous aluminum, chromic and ferric oxides in the presence of ammonium ion. L. Lehrman, J. Been and M. Manes. bibliog Am Chem Soc J 62:1014-18 My '40
Electrolyte coagulation process; the influence of dilution of sol on the adsorption of precipitating ions. H. B. Weiser and W. O. Milligan. bibliog Am Chem Soc J 62:1924-30 Ag '40
Equilibrium $FeO + H_2 = Fe + H_2O$ at temperatures up to the melting point of iron. J. Chipman and S. Marshall. bibliog diags Am Chem Soc J 62:299-305 F '40
Gaging adsorption power of colloidal ferric oxide by dye adsorption; development of a standard test. F. H. Dotterweich and W. J. Huff. bibliog diags Ind & Eng Chem Anal ed 12:277-9 My 15 '40
Iron oxide vs. alumina as a fluxing agent. A. J. Blank. Rock Prod 43:47-50 N '40
Isotopic composition of oxygen in carbonate rocks and iron oxide ores. M. Dole and R. L. Slobod. Am Chem Soc J 62:471-9 Mr '40
Mineral iron oxides in Canada. Can Chem & Process Ind 24:234 My '40
Oxide purification; wartime practices and substitutes. J. M. Dow. Gas J (Lond) 231: 449-50+ S 11 '40
Permanent traffic lines for concrete pavement; use of black magnetic iron oxide for coloring. B. G. Kesting. il Pub Works 71:42 S '40
Prevention of silicosis; experimental investigations on the action of certain non-siliceous dusts and silica in the origin and development of silicosis. C. Naeslund. J Ind Hygiene 22:1-30 bibliog(p28-30) Ja '40

See also
Magnetite
Ocher

Analysis
Oxide analysis in iron ore reduction problems. T. L. Joseph, F. W. Scott and M. H. Kalina. bibliog il Blast F & Steel Pl 28: 975-8, 1073-7 O-N '40

IRON powder. See Iron, Powdered

IRON research
Controlled melting, pouring; vacuum melting and pouring furnace facilitates study of pure metals. il Steel 106:64+ Je 3 '40
Discontinuities in the resistance-temperature curves of commercially pure iron and steel. C. Sykes and F. W. Jones. diag Iron & Steel Inst J 139:435-42 no 1 '39; Same. Engineering 147:574-5 My 12 '39
Iron alloy group ends 10-year study; monographs issued. Iron Age 145:62-3 F 15 '40
Iron alloys research a decade old: program near completion; ten-year progress report. Steel 106:69 F 12 '40
Metallurgical progress in the making of cast iron. R. F. Harrington. il Ry Mech Eng 113: 535-8 D '39
Monographs of the iron alloys committee of the Engineering foundation. Science 91:211 Mr 1 '40
Oxygen, hydrogen, molten-iron system. H. Lepp. bibliog Iron & Steel Inst J 141:329-37; Discussion. 338-9 no 1 '40
Research under way on hot metal desulphurization by alkali; Pittsburgh steel co. Steel 107:32 S 30 '40

IRON sulfates
Effect of ferric sulfate in shortening Kjeldahl digestion. F. M. Stubblefield and E. E. DeTurk. bibliog Ind & Eng Chem Anal ed 12:396-9 Jl 15 '40
New Belgian pickling process saves acid for continual reuse; de Lattre process. A. McLeod. diags Steel 107:40-2, 44+ S 2 '40

IRON sulfates—*Continued*
Super-chlorination with ferrous sulfate dechlorination. W. Strockbine. Am Water Works Assn J 32:1176-82 Jl '40

IRON sulfides
See also
Pyrite

IRON sulfites
Sulfites of aluminum and iron at 30°. W. F. Bartz. Am Chem Soc J 62:2240-1 Ag '40

IRON workers
Earnings and hours in the iron and steel industry, April 1938. V. S. Baril, H. O. Rogers and A. C. Lakenan. Monthly Labor R 51:421-42, 709-26 Ag-S '40
Injury experience in the iron and steel industry, 1937 and 1938. R. F. Fleming. Monthly Labor R 49:1111-20 N '39
Injury experience in the iron and steel industry, 1938 and 1939. G. R. McCormack. Monthly Labor R 51:322-33 Ag '40
See also
Iron miners
Steel workers

Germany
Berufsgliederung der techniker auf eisenhüttenwerken. Stahl & Eisen 59:1248-50 N 16 '39

IRON works
Largest plant for beneficiation of iron ore built in England. il Iron Age 145:191 Ja 4 '40
See also
Blast furnaces
Foundries
Steel works

Costs
Comparative values of iron ore at the blast furnace. G. W. Hewitt. il Blast F & Steel Pl 27:1231-7; 28:50-2+ D '39-Ja '40

Equipment
Derrick casse-fonte de 8 tonnes des usines sidérurgiques Prénat, à Givors (Rhône). il diags Génie Civil 115:424-5 D 9 '39
Manufacture of pig-iron in America; handling equipment. W. A. Haven. diags Mech Handling 27:89-91 Ap '40

Management
Betriebswirtschaftliche massnahmen zur leistungssteigerung in der eisenhüttenindustrie; beispiele aus Siemens-Martin werk, walzwerk, hammerwerk, drahtzieherei, u.s.w. F. Weichselmann. Stahl & Eisen 60:169-73 F 29 '40

Waste
Wastes problems of the iron and steel industries; slag, flue dust, spent pickle liquor. W. W. Hodge. flow sheet il Ind & Eng Chem 31:1364-80 bibliog(139 references, p1379-80) N '39

Alabama
Band- und weissblech-walzwerke der Tennessee coal, iron & railroad co. in Fairfield, Ala. H. Fey. plans Stahl & Eisen 59: 1250-3 N 16 '39

South Africa
Practical side of blast furnace management in South Africa. R. R. F. Walton. diags Blast F & Steel Pl 28:889-92, 987-9+ S-O '40; Same cond. Engineering 150:299-300, 315 O 11-18 '40

Washington (state)
Bonneville's iron mill; Sierra iron co. iron ore reduction plant at Vancouver to use Bonneville power. Business Week p16 Mr 2 '40

IRONING machines, Electric
Sales guide. il Elec West 85:53-6 S '40

Manufacture
Organic finishing of home laundry equipment; Bridgeport works of the General electric co. W. G. Sheane. il plan Metal Ind 38: 118-20 F '40

IRONWORK
Toolsteels for hot working iron and steel; data sheet. H. E. Replogle. Metal Prog 38: 512 O '40

IROQUOIS Indians
Painted Post; annals of Te-car-nase-teo-ah (a hewn sign post). E. Cowles. il maps Comp Air M 44:6010-15 N '39

IRRADIATED food. See Food, Irradiated

IRRADIATION
Apparatus for the study of the photochemistry of sheet materials; such as paper, cellulose acetate, cellophane, rubber, felt cloth, and a paint film. H. F. Launer. bibliog pls diags J Research Nat Bur Stand 24:567-77 My '40

IRRIGATION
Influence of the mechanical mind on the development of irrigation through the ages. E. B. Ball. il diag Inst Mech Eng J & Proc 142:Proc 407-11, pl 1-8 Mr '40; Same. Engineer 169:179-81 F 23 '40; Same. Engineering 149:235-7, pl 11 Mr 1 '40
Irrigation siphons constructed by arc welding methods. il Can Eng W & S 78:14+ S '40
River control and water storage in 1939. il Engineer 169:12 Ja 5 '40
Water requirements for rice irrigation. T. T. Cheng and C. L. Pien. Engineer 170:56-7 Jl 26 '40
See also
Dams
Drainage
Irrigation canals
Irrigation water
Reclamation of land
Sewage irrigation
Water storage

Cost
Canal lining, structures, California; unit prices. Eng N 124:282 F 15 '40
Conchas canal, New Mexico; unit prices. Eng N 124:400 Mr 14 '40

Arizona
Year's service record shows gas-Diesel economy; Coolidge Standby generating station, San Carlos irrigation project. R. G. Hornberger. il diag Power 84:724-7 N '40

California
All-American canal ready for use. il map Eng N 125:308-9 S 5 '40
California reclaims the San Joaquin valley; Central Valley water project. il map Business Week p29 N 18 '39
California's Central Valley reclamation project. C. F. Berry. Pub Util 25:653-9 My 23 '40
Central Valley project takes shape. J. U. Terrell. map Pub Util 26:430-2 S 26 '40
Concrete linings for irrigation canals. C. W. Wood. il Civil Eng 10:29-32 Ja '40
Economic studies for public works, with specific reference to the Central Valley project in California. E. Hyatt and R. Matthew. il Civil Eng 10:705-8 N '40
Friant dam. H. W. Young. il diags Explosives Eng 18:272-5 S '40
How Friant dam is being built. il diags Eng N 125:144-8 Ag 1 '40
Public ownership and the Central Valley project. J. H. Collins. Pub Util 26:195-206 Ag 15 '40

China
Irrigation in China. C. A. M. Smith. il maps Engineer 168:558-61 D 8 '39

Colorado
Reclamation bureau gains in fight over flood control-irrigation job; San Luis project. Eng N 124:553 Ap 18 '40

France
L'aménagement du Haut-Rhône français; réalisations concernant la navigation et l'irrigation. P. Calfas. map Génie Civil 116:45-6 Ja 20 '40

India
Irrigation increased in India. Eng N 124:324 F 29 '40

IRRIGATION—*Continued*

Mexico

Two dams in Mexico; Salinillas lake and Madero. il Engineer 169:54, 64 Ja 19 '40

Montana

Water over the hill; pumping plant for Montana irrigation. il Power 84:33 Ja '40

Morocco

L'équipement électrique et hydraulique du Maroc; l'hydraulique agricole et l'électrification rurale. J. Thomas. il Génie Civil 116: 97-100 F 10 '40

Nebraska

Look at little TVA. L. W. W. Morrow. il plan map Elec W 112:1601-3+ D 2 '39

New Mexico

Pecos River joint investigation; comprehensive governmental survey and analysis. H. M. Stafford. il maps Civil Eng 10:516-19 Ag '40

Texas

Pecos River joint investigation; comprehensive governmental survey and analysis. H. M. Stafford. il maps Civil Eng 10:516-19 Ag '40

Supply canal for lower Rio Grande. map Eng N 124:662-3 My 9 '40

United States

Broad view of reclamation; federal irrigation program. J. C. Page. il Civil Eng 10: 615-18 O '40

Major projects of 1939. il Eng N 124:268-70, 272 F 15 '40

Washington (state)

Grand Coulee dam and the Columbia Basin reclamation project. S. E. Hutton. il plan map Mech Eng 62:651-60 S '40

Work progresses on Yakima project. il Eng N 123:661 N 16 '39

Western states

Development of the Colorado river in the upper basin. T. C. Adams. map Am Soc C E Proc 65:1217-37 S '39; Discussion. 66:956-60, 1079-84 My-Je '40

Will the reclamation power program be continued? G. W. Lineweaver. Pub Util 25:13-25 Ja 4 '40

IRRIGATION canals

All-American canal ready for use. il map Eng N 125:308-9 S 5 '40

Concrete linings for irrigation canals. C. W. Wood. il Civil Eng 10:29-32 Ja '40

Earthquake damage not exaggerated; Alamo canal wrecked. il Eng N 124:759+ My 30 '40

Experimental section built in Contra Costa; asphalt concrete canal lining. il Eng N 123:725 N 30 '39

Flow of water in irrigation and similar canals. F. C. Scobey. il pls U S Agric Tech Bul 652:1-79 bibliog(p75-8) '39

Fresno County's irrigation canals are lined with concrete. I. H. Tielman. Concrete 48: 22 N '40

Irrigation in China. C. A. M. Smith. il maps Engineer 168:558-61 D 8 '39

Maintenance of irrigation canals. W. H. Robinson. Eng N 124:510 Ap 11 '40

Siphon self-supporting in long spans; pipeline carrying Heart Mountain irrigation canal across the Shoshone river. P. J. Bier. il diags Eng N 124:852-5 Je 20 '40

Storm causes floods below Boulder dam. L. J. Foster. Eng N 123:753-4 D 7 '39

Supply canal for lower Rio Grande. map Eng N 124:662-3 My 9 '40

Technical aspects of the silt problem on the Colorado river. C. P. Vetter. il Civil Eng 10:698-701 N '40

IRRIGATION water

Boron creates special problems in Los Angeles' water supply. Eng N 125:113-14 Jl 18 '40

Permissible composition and concentration of irrigation water. W. P. Kelley. Am Soc C E Proc 66:607-13 Ap '40; Discussion. 66: 1368-72, 1721-2 S, N '40

Some economic aspects of the upland watershed lands of the western United States. M. H. Saunderson. J Land & Pub Util Econ 15:480-2 N '39

ISIS (periodical)

Publication of Isis. G. Sarton. Science 92:59-60 Jl 19 '40

ISLE ROYALE national park

Establishment. Science 91:517 My 31 '40

ISOBENZOFURAN

Absorption and fluorescence spectra of certain dihydroisobenzofurans and isobenzofurans. R. Adams and M. H. Gold. Am Chem Soc J 62:2038-42 Ag '40

ISOBUTANE

Catalytic alkylation of isobutane with gaseous olefins. F. H. Blunck and D. R. Carmody. bibliog Ind & Eng Chem 32:328-30 Mr '40

Catalytic dehydrogenation of gaseous paraffins. A. V. Grosse and V. N. Ipatieff. bibliog il Ind & Eng Chem 32:268-72 F '40

Critical solution temperatures and aniline points of some butane hydrocarbons. C. G. Ludeman. bibliog diag Ind & Eng Chem Anal ed 12:446-8 Ag 15 '40

Heat capacity and entropy, heats of fusion and vaporization and the vapor pressure of isobutane. J. G. Aston, R. M. Kennedy and S. C. Schumann. bibliog Am Chem Soc J 62:2059-63 Ag '40

High-octane aviation fuel by the sulfuric-acid alkylation process. bibliog flow diags il Am Pet Inst Proc 20(3):89-100 '39; Same. Oil & Gas J 38:104-8 N 17 '39; Same cond. Nat Pet N 31:R512-14, R516 N 29 '39; Same cond. Can Chem & Process Ind 24:58-63 F '40

High-pressure vapor-liquid equilibrium for the systems propylene-isobutane and propane-hydrogen sulfide. E. R. Gilliland and H. W. Scheeline. bibliog Ind & Eng Chem 32:48-54 Ja '40

Liquefied petroleum gas in the national defense program; use as fuel and as raw material for chemical conversion. H. N. Wade. flow sheet il Chem Ind 47:160-4 Ag '40

Superior making isobutane at Kettleman absorption plant. L. P. Stockman. flow diag il Oil & Gas J 39:50-1, 53-4 Ag 15 '40

Tide Water Associated completes alkylation plant in California. C. K. Viland and J. Seth. Oil & Gas J 39:32+ S 12 '40

ISOBUTENE

Critical solution temperatures and aniline points of some butane hydrocarbons. C. G. Ludeman. bibliog diag Ind & Eng Chem Anal ed 12:446-8 Ag 15 '40

Destructive hydrogenation of high-molecular-weight polymers; isobutene polymer, butadiene polymer, and natural rubber. V. N. Ipatieff and R. E. Schaad. il Ind & Eng Chem 32:762-4 Je '40

Halogenation of hydrocarbons; chlorination of olefins containing an unsaturated tertiary carbon atom. J. Burgin and others. bibliog il diag Ind & Eng Chem 31:1413-19 N '39

Polybutenes; properties and uses in petroleum products. R. M. Thomas and others. bibliog il Ind & Eng Chem 32:299-304 Mr '40

Preparation and structure of high molecular weight polybutenes. R. M. Thomas and others. bibliog Am Chem Soc J 62:276-80 F '40

ISOBUTYL acetate

Evaluation of nitrocellulose lacquer solvents; study of hydrocarbon diluents by the constant-viscosity procedure. V. W. Ware and W. M. Bruner. bibliog Ind & Eng Chem 32: 78-82 Ja '40

ISOBUTYL bromide

Kinetics of exchange reactions; *n*-propyl, *iso*-propyl, and *iso*butyl bromides. G. A. Elliott and S. Sugden. Chem Soc J p1836-8 D '39

ISOBUTYL magnesium bromide

Electrolysis of some higher aliphatic organomagnesium halides in ethyl ether. W. V. Evans, D. Braithwaite and E. Field. Am Chem Soc J 62:534-6 Mr '40

ISOBUTYL methacrylate
Isobutyl methacrylate as a mounting medium for histological preparations. J. M. Hamilton. Science 92:44 Jl 12 '40
Plastic cover glass, isobutyl methacrylate. H. C. O'Brien and R. T. Hance. Science 91:412 Ap 26 '40; Discussion. R. A. Groat. 92:268 S 20 '40

ISOBUTYL propionate
Evaluation of nitrocellulose lacquer solvents; study of hydrocarbon diluents by the constant-viscosity procedure. V. W. Ware and W. M. Bruner. bibliog Ind & Eng Chem 32:78-82 Ja '40

ISOBUTYL tartrate
Influence of solvents and other factors on the rotation of optically active compounds; asymmetric solvent action. T. S. Patterson, A. H. Lamberton and C. Buchanan. Chem Soc J p1453-9 Ag '37; p290-3 Mr '40

ISOBUTYLENE
Rubber from petroleum gases. D. North. il Chem & Met Eng 47:220-4 Ap '40
X-ray examination of polyisobutylene. C. S. Fuller, C. J. Frosch and N. R. Pape. bibliog 2pls diags Am Chem Soc J 62:1905-13 Ag '40

ISOBUTYLIDENE fluorene
Preparation of alkylidene fluorenes from fluorene with aliphatic aldehydes. R. F. Schultz and C. F. Smullin. Am Chem Soc J 62:2904-5 N '40

ISOBUTYRALDEHYDE
Oxidation of aldehydes; the combustion zones of butaldehyde, *iso*butaldehyde, propaldehyde, acetaldehyde, glyoxal, and acraldehyde. D. M. Newitt, L. M. Baxt and V. V. Kelkar. diag Chem Soc J p1703-10 N '39

ISOBUTYRIC acid
Chlorinations with sulfuryl chloride; (a) the peroxide-catalyzed chlorination of aliphatic acids and acid chlorides; (b) the photochemical sulfonation of aliphatic acids. M. S. Kharasch and H. C. Brown. Am Chem Soc J 62:925-9 Ap '40

ISOCAMPHANE
Solvent effects with optically active saturated hydrocarbons. A. W. H. Pryde and H. G. Rule. Chem Soc J p345-7 Mr '40

ISOCANDLES. See Photometry

ISOCHONDRODENDRINE
Curare alkaloids; alkaloids of some chondrodendron species and the origin of radix pareirae bravse. H. King. Chem Soc J p737-46 Je '40

ISOCYANATES
Conjugation of amino acids with isocyanates of the anthracene and 1,2-benzanthracene series. L. F. Fieser and H. J. Creech. bibliog Am Chem Soc J 61:3502-6 D '39

ISOCYANODICHLORIDES
Action of chlorine on aryl thiocarbimides and the reactions of aryl *iso*cyanodichlorides. G. M. Dyson and T. Harrington. Chem Soc J p191-4 F '40

ISOCYTOSINE
New synthesis of isocytosine. W. T. Caldwell and H. B. Kime. Am Chem Soc J 62:2365 S '40

ISOMERISM
Constitution of complex metallic salts; further evidence for the structure of bridged dipalladium derivatives. J. Chatt and F. G. Mann. Chem Soc J p1622-34 O '39
Enediols; *cis-trans* isomerism. R. C. Fuson and others. bibliog Am Chem Soc J 62:2091-4 Ag '40
Enediols; hexaisopropylstilbenediols. R. C. Fuson and E. C. Horning. bibliog Am Chem Soc J 62:2962-4 N '40
Epimeric alcohols of the *cyclo*hexane series; the parachor as a criterion for *cis-trans*-isomerism. D. T. C. Gillespie, A. K. Macbeth and J. A. Mills. Chem Soc J p280-2 Mr '40
Mechanism of nuclear isomer separation process. G. T. Seaborg, G. Friedlaender and J. W. Kennedy. bibliog Am Chem Soc J 62:1309-10 My '40
Methoxymercurials from *cis* and *trans* styryl cyanide. W. H. Brown and G. F. Wright. bibliog Am Chem Soc J 62:1991-4 Ag '40
Nuclear isomerism. R. G. Sachs. bibliog Phys R 57:194-7 F 1 '40
Nuclear isomerism in selenium and krypton. A. Langsdorf, jr. and E. Segrè. bibliog il Phys R 57:105-10 Ja 15 '40
Nuclear isomerism in zinc. J. W. Kennedy, G. T. Seaborg and E. Segrè. bibliog Phys R 56:1095-7 D 1 '39
Observations on the constitution of diazoamino-compounds. A. Mangini. bibliog Soc Chem Ind J 58:327-30 N '39
Some substituted 2,5-dimesitylfurans. R. E. Lutz and C. J. Kibler. bibliog Am Chem Soc J 62:1520-8 Je '40
Stereochemistry of complex inorganic compounds; a study of the stereoisomers of the dichloro-diammino-ethylenediamine cobaltic ion. J. C. Bailar, jr. and D. F. Peppard. Am Chem Soc J 62:105-9 Ja '40
Stereoisomeric oximes of cholestenone. J. O. Ralls. bibliog Am Chem Soc J 62:2459-64 S '40
1,2,4-Trimesityl 1,4-diketones and related compounds, including the stereoisomeric mono and dienols. R. E. Lutz and C. J. Kibler. bibliog Am Chem Soc J 62:360-72 F '40

See also
Mesomerism
Molecular rearrangements
Optical rotation
Tautomerism

ISOMERIZATION
Absorption and re-emission of light by *cis*- and *trans*-stilbenes and the efficiency of their photochemical isomerization. G. N. Lewis, T. T. Magel and D. Lipkin. bibliog Am Chem Soc J 62:2973-80 N '40
Acylation of aldoximes; isomerizations in the benzoylation of *syn*- and *anti*-aldoximes in pyridine. G. Vermillion and C. R. Hauser. Am Chem Soc J 62:2939-42 N '40
Energies of isomerization of the five hexanes. F. D. Rossini and E. J. R. Prosen. Am Chem Soc J 62:2250-1 Ag '40
Equilibrium and kinetics of the thermal isomerization of dichloroethylene catalyzed by iodine. R. E. Wood and R. G. Dickinson. Am Chem Soc J 61:3259-63 D '39
Isomerization accompanying alkylation; the alkylation of benzene with neopentyl chloride and neopentyl alcohol. H. Pines, L. Schmerling and V. N. Ipatieff. bibliog Am Chem Soc J 62:2901-2 N '40
Isomerization equilibrium of *n*-butane and *i*-butane and the third law of thermodynamics. G. H. Messerly, J. G. Aston and R. M. Kennedy. Am Chem Soc J 62:1630-1 Je '40
Mechanism of aromatization and xylene thermal isomerization. A. F. Dobryanskii and F. Y. Saprykin. il Oil & Gas J 39:48 Ag 8 '40
Sterols; acid isomerization of pseudosapogenins to sapogenins. R. E. Marker and E. Rohrmann. bibliog Am Chem Soc J 62:896-8 Ap '40
Sterols; pregnanediols from sarsasapogenin. R. E. Marker and E. Rohrmann. bibliog Am Chem Soc J 62:518-20 Mr '40
Structure of cannabidiol; isomerization of cannabidiol to tetrahydrocannabinol, a physiologically active product; conversion of cannabidiol to cannabinol. R. Adams and others. Am Chem Soc J 62:2402-5 S '40

ISOMERS
Attempted separation of isomeric hexenes by fractional distillation. F. C. Whitmore and others. bibliog Am Chem Soc J 62:795-800 Ap '40
Bromine-bromine distance in the dibromides of *cis*- and *trans*-stilbene. J. D. McCullough. bibliog Am Chem Soc J 62:480-2 Mr '40
Dielectric constants of some pairs of diastereomers. S. Winstein and R. E. Wood. bibliog Am Chem Soc J 62:548-51 Mr '40
Rearrangement of unsaturated 1,4-glycols; *cis* and *trans* forms of 2,5-dimethyl-3-hexene-2,5-diol. J. R. Johnson and O. H. Johnson. bibliog Am Chem Soc J 62:2615-20 O '40

ISOMERS—*Continued*
Separation and determination of isomeric menthols; saponification by use of potassium hydroxide in diethylene glycol. R. T. Hall, J. H. Holcomb, jr. and D. B. Griffin. Ind & Eng Chem Anal ed 12:187-8 Ap 15 '40

Separation of the isomeric hexenes by batch fractionation. A. Rose. bibliog Am Chem Soc J 62:793-5 Ap '40

ISOMIROPINIC acid
Miro resin; the resin acids. C. W. Brandt and L. G. Neubauer. Chem Soc J p683-6 My '40

ISOOCTANE
Boiling points of *n*-heptane and 2,2,4-trimethylpentane over the range 100- to 1,500-millimeter pressure. E. R. Smith. bibliog diag J Research Nat Bur Stand 24:229-34 Mr '40

Physical properties of some purified aliphatic hydrocarbons. D. B. Brooks, F. L. Howard and H. C. Crafton, jr. bibliog J Research Nat Bur Stand 24:33-45 Ja '40

Thermodynamics of *n*-heptane and 2,2,4-trimethylpentane, including heat capacities, heats of fusion and vaporization and entropies. K. S. Pitzer. bibliog Am Chem Soc J 62:1224-7 My '40

ISOOCTYLCYCLOPENTANE
Tetrahydrocitrylidene- and citronellylidene-acetic acids; syntheses of *sec.-iso* octyl*cyclo*pentane derivatives. H. N. Rydon. Chem Soc J p1544-9 O '39

ISOOXAZOLES
Chalkones: production of *iso*oxazoles from some chalkone derivatives. R. B. Shenoi, R. C. Shah and T. S. Wheeler. Chem Soc J p247-51 F '40

ISOPENTANE
Analysis
Determination of the composition of commercial iso-pentane. K. H. Hachmuth and J. W. Tooke. diags Nat Pet N 32:R142-4+ My 1 '40

ISOPRENE
Catalytic dehydrogenation of monoolefins to diolefins; source materials for synthetic rubber and resins. A. V. Grosse, J. C. Morrell and J. M. Mavity. bibliog diag Ind & Eng Chem 32:309-11 Mr '40

Destructive hydrogenation of high-molecular-weight polymers; isobutene polymer, butadiene polymer, and natural rubber. V. N. Ipatieff and R. E. Schaad. il Ind & Eng Chem 32:762-4 Je '40

ISOPROPANOL
Critical increment of ionic reactions; the influence of dielectric constant and ionic strength. L. Rampino and W. J. Svirbely. Am Chem Soc J 61:3534-7 D '39

System isopropyl ether—isopropanol; vapor-liquid equilibrium. H. C. Miller and H. Bliss. bibliog Ind & Eng Chem 32:123-5 Ja '40

ISOPROPENYLCRESOL
Condensation products of phenols and ketones; structure of the dimeric forms of *o*-isopropenylphenols. W. Baker and D. M. Besly. Chem Soc J p1103-6 Ag '40

ISOPROPYL acetate
Condensations; the alkylation of ethyl acetoacetate with isopropyl acetate in the presence of boron trifluoride. D. S. Breslow and C. R. Hauser. bibliog Am Chem Soc J 62:2611-12 O '40

Solvents in industry. Metal Finishing 38:627 N '40

ISOPROPYL alcohol
Catalysis by metallized bentonites; decomposition of 2-propanol. G. Broughton. J Phys Chem 44:180-4 F '40

Isopropyl rubbing alcohol labeling explained by F.D.A. Oil Paint & Drug Rep 137:5+ Ap 8 '40

Isopropyl rubs raise questions for officials. Oil Paint & Drug Rep 137:3+ F 26 '40

Solvents in industry. Metal Ind 37:609 D '39

Ternary system: isopropyl alcohol, toluene and water at 25°. E. R. Washburn and A. E. Beguin. Am Chem Soc J 62:579-81 Mr '40

Ternary systems involving cyclohexene, water, and methyl, ethyl, and isopropyl alcohols. E. R. Washburn and others. Am Chem Soc J 62:1454-7 Je '40

ISOPROPYL benzanthracene
Synthesis of 6-hydroxy-3,4-benzpyrene and 8-isopropyl-1,2-benzanthracene from 9,10-dihydrophenanthrene. L. F. Fieser and W. S. Johnson. Am Chem Soc J 62:575-7 Mr '40

ISOPROPYL bromide
Kinetics of exchange reactions; *n*-propyl, *iso*propyl, and *iso*butyl bromides. G. A. Elliott and S. Sugden. Chem Soc J p1836-8 D '39

Mechanism of elimination reactions; kinetics of olefin elimination from ethyl, *iso*propyl, *tert.*-butyl and α- and β-phenylethyl bromides in acidic and in alkaline alcoholic solution; effects due to, and factors influencing, the two mechanisms of elimination. E. D. Hughes and others. Chem Soc J p899-912 Jl '40

Mechanism of substitution at a saturated carbon atom; hydrolysis of methyl, ethyl, *iso*propyl and *tert.*-butyl bromides in acidic solutions under conditions believed to be conducive to uniformity of mechanism. L. C. Bateman and E. D. Hughes. Chem Soc J p945-8 Jl '40

Mechanism of substitution at a saturated carbon atom; mechanisms operative in the hydrolysis of methyl, ethyl, *iso*propyl, and *tert.*-butyl bromides in aqueous solutions. L. C. Bateman and others. Chem Soc J p925-35 Jl '40

ISOPROPYL ether
System isopropyl ether—isopropanol; vapor-liquid equilibrium. H. C. Miller and H. Bliss. bibliog Ind & Eng Chem 32:123-5 Ja '40

ISOQUINOLINE
3-Methyl-3,4-dihydroisoquinolines and 3-methyl-1,2,3,4-tetrahydroisoquinolines. W. S. Ide and J. S. Buck. bibliog Am Chem Soc J 62:425-8 F '40

Preparation and properties of some 4-substituted isoquinolines. F. W. Bergstrom and J. H. Rodda. bibliog Am Chem Soc J 62:3030-2 N '40

Selenium oxychloro compounds of pyridine, pyridinium chloride and related substances. J. Jackson and G. B. L. Smith. bibliog Am Chem Soc J 62:544-6 Mr '40

Studies in the phenanthrene series; phenolic amino alcohols and naphthisoquinolines derived from 9,10-dihydrophenanthrene. A. H. Stuart and E. Mosettig. bibliog Am Chem Soc J 62:1110-16 My '40

ISOSARSASAPOGENIN
Sterols; conversion of isosarsasapogenin (smilagenin) to tigogenin. R. E. Marker, E. Rohrmann and E. M. Jones. Am Chem Soc J 62:1162-3 My '40

ISOSTASY
Isostatic control of fluctuations of sea level. A. C. Lawson. Science 92:162-4 Ag 23 '40

Leonardo da Vinci on isostasy. J. P. Delaney. Science 91:546-7 Je 7 '40

Strength and structure of the earth. R. A. Daly. 434p $3.50 Prentice-Hall '40

ISOSTERISM
Isosteric parachors. C. N. Copley. Chem & Ind 59:675-7 S 28 '40

ISOTHERMS
Polyiodides of ammonium; the ternary system ammonium iodide, iodine, and water. T. R. Briggs and others. bibliog J Phys Chem 44:325-50 Mr '40

Polyiodides of potassium; the ternary system potassium iodide—iodine—water. T. R. Briggs and others. bibliog J Phys Chem 44:350-72 Mr '40

See also
Adsorption

ISOTHIOCYANATES
Action of methyl isothiocyanate on ethyl acetonedicarboxylate. D. E. Worrall. Am Chem Soc J 62:675 Mr '40

ISOTHIOCYANATES—*Continued*
Aryl isothiocyanates and ethyl acetonedicarboxylate. D. E. Worrall. Am Chem Soc J 62:578 Mr '40

ISOTHIOCYANIC acid
Action of chlorine on aryl thiocarbimides and the reactions of aryl *iso*cyanodichlorides. G. M. Dyson and T. Harrington. Chem Soc J p191-4 F '40

ISOTOPES
Chemical applications of isotopes. E. W. R. Steacie. Chem & Ind 59:637 S 7 '40; Same. Can Chem & Process Ind 24:44 Ja '40
Coefficient of thermal diffusion of methane. A. O. Nier. bibliog Phys R 56:1009-13 N 15 '39
Concentration of isotopes by thermal diffusion; rate of approach to equilibrium. J. Bardeen. bibliog Phys R 57:35-41; 58:94-5 Ja 1, Jl 1 '40
Discussion of the isotopic weight of C^{13}. J. Mattauch. bibliog Phys R 57:1155-9 Je 15 '40
Efficiency of differently designed tubes for the thermal separation of gases and isotopes. A. Bramley and A. K. Brewer. Franklin Inst J 229:390-2 Mr '40
Isotope in der biochemischen forschung. C. Enders. bibliog Angew Chemie 53:28-31 Ja 20 '40
Isotope separation by transient pressure diffusion. E. J. Hellund. Phys R 57:743-4 Ap 15 '40
Isotope shift in magnesium. J. P. Vinti. bibliog Phys R 56:1120-32 D 1 '39
Isotopic identification of induced radioactivity by bombardment of separated isotopes; 37-minute Cl^{38}. J. W. Kennedy and G. T. Seaborg. bibliog Phys R 57:843-4 My 1 '40
Kinetics of isotopic exchange between carbon dioxide, bicarbonate ion, carbonate ion and water. G. A. Mills and H. C. Urey. bibliog Am Chem Soc J 62:1019-26 My '40
Mass spectrometer for routine isotope abundance measurements; isotope analyses of carbon, nitrogen, and other light elements. A. O. Nier. bibliog diags R Sci Instr 11: 212-16 Jl '40
Masses of stable nuclei from Ne^{20} to Fe^{57}. E. Pollard. Phys R 57:1186-7 Je 15 '40
Missing heavy nuclei. L. A. Turner. Phys R 57:950-7 Je 1 '40
New radioactive isotope of masurium, $_{43}Ma^{101}$. R. Sagane and others. bibliog Phys R 57:750 Ap 15 '40
Nuclear fission. K. K. Darrow. bibliog il Bell System Tech J 19:267-89 Ap '40
Nuclear isotope shift in the spectra of HgH^+ and HgD^+. S. Mrozowski. bibliog diags Phys R 58:332-40 Ag 15 '40
Nuclear isotope shift in the spectrum of ZnH. S. Mrozowski. bibliog Phys R 58:597-9 O 1 '40
Possible production of radioactive isotopes of element 85. D. R. Corson, K. R. MacKenzie and E. Segrè. Phys R 57:459 Mr 1 '40
Products of the uranium fission; radioactive isotopes of iodine and xenon. R. W. Dodson and R. D. Fowler. bibliog Phys R 57: 966-71 Je 1 '40
Radioactive determination of protactinium in siliceous terrestrial and meteoritic material. W. C. Schumb, R. D. Evans and J. L. Hastings. bibliog Am Chem Soc J 61: 3451-5 D '39
Radioactive isotopes of calcium and their suitability as indicators in biological investigations. H. Walke, F. C. Thompson and J. Holt. Phys R 57:177-84 F 1 '40
Radioactive isotopes of indium. J. L. Lawson and J. M. Cork. bibliog Phys R 57:982-94 Je 1 '40
Radioactive isotopes of scandium and their properties. H. Walke. bibliog Phys R 57: 163-71 F 1 '40
Radioactive isotopes of Sr, Y and Zr. L. A. DuBridge and J. Marshall. bibliog il Phys R 58:7-11 Jl 1 '40
Radioactive isotopes of tellurium. G. T. Seaborg, J. J. Livingood and J. W. Kennedy. bibliog Phys R 57:363-70 Mr 1 '40
Radioactivity and the periodic table; an introduction to the study of atomic structure and isotopes in elementary chemistry. J. F. King and P. H. Fall. il J Chem Educ 17: 481-2 O '40
Separation of alloys and isotopes by the centrifuge. H. C. Pollock. diags Phys R 57:935-6 My 15 '40
Theory of the separation of isotopes by thermal or centrifugal methods. A. Bramley. Science 92:427-8 N 8 '40
Theory of the thermal diffusion coefficient for isotopes. R. C. Jones. bibliog Phys R 58:111-22 Jl 15 '40
Thermal separation of isotopes. W. W. Watson. diags Phys R 57:899-902 My 15 '40
Thermal separation ratios calculated from viscosity data. H. Brown. bibliog Phys R 57:242-3 F 1 '40
Transmutation of the separated isotopes of neon by deuterons. E. Pollard and W. W. Watson. bibliog diag Phys R 58:12-18 Jl 1 '40
Use of radioactive isotopes of the common elements in physiology. G. Hevesy. Phys R 57:240-1 F 1 '40

See also
Carbon—Isotopes
Hydrogen—Isotopes
Vanadium—Isotopes
Water—Heavy water

ISOXAZOLES
β-Dioximes and trialkylisoxazoles from nitroparaffins. S. B. Lippincott. Am Chem Soc J 62:2604-6 O '40

ISTANBUL. See Constantinople

ITALIANS in the United States
War of nerves: Hitler's helper; Mussolini aims to win five million Italo-Americans for fascism. il Fortune 22:85-7, 108+ N '40

ITALY
Neither liberty nor bread; the meaning and tragedy of fascism. F. Keene, ed. 388p bibliog(p375-88) $3.50 Harper '40
President Roosevelt extends Neutrality act provisions to Italy; American shipping barred from Mediterranean. Comm & Fin Chr 150:3753 Je 15 '40

See also
Budget—Italy
Chemical industries—Italy
European war, 1939—Italy
Fascism
Fertilizer industry—Italy
Labor and laboring classes—Italy
Pensions, Military—Italy

Commerce
Italy's preparations; imports of raw materials. Economist 138:892-3 My 18 '40
Italy's trading position as a neutral. L. L. Schnare. Comm Rep p1143-4 D 9 '39
More opportunities for American producers; Italy and France shut off from Latin American markets. Manuf Rec 109:28-9 Jl '40

Economic conditions
Business situation. Comm Rep p44-6 Ja 20 '40 [cont monthly] [cont as For Comm W O 5]
Business situation at the end of 1939. Comm Rep p179-80 F 24 '40
Conditions just before Italy's entrance as a belligerent into the European war. Comm Rep p597-8 Jl 13 '40
Economic conditions. For Comm W 1:204-5 N 2 '40
For Italy, a gambler's choice; Fascist war problem. map Business Week p16+ My 25 '40
Italy in 1939. Economist 138:sup15 F 17 '40
Large corporations in Italy control wealth, according to study by Columbia university. Comm & Fin Chr 150:2025 Mr 30 '40
Optimism in Italy; rise in share prices. Economist 138:251 F 10 '40

Foreign relations
Italy. C. Pellizzi. 224p bibliog(p224) $2 Longmans '39
Italy and the allies. Economist 137:761-2 Ap 27 '40
Italy's thorny path of neutrality; lacking natural resources, Mussolini feels pressure from both sides. R. Strausz-Hupé. Barron's 20:7 Mr 18 '40

ITALY—Foreign relations—*Continued*

Poland

Will Mussolini pay Hitler's bill? O. Zausmer. Barron's 19:4 D 25 '39

Industries and resources

Foreign nations' insufficiency; German and Italian needs emphasize trade adjustments to follow the war. Manuf Rec 109:32+ Jl '40

IVES medal

Ives medalist for 1939; Dr August Herman Pfund. A. G. Worthing. il Opt Soc Am J 30:177-81 bibliog(52 titles, p181) Ap '40

IVORIES

Megiddo ivories. G. Lound. 25p, 63pl on 40 l $15 Univ. of Chicago press '39

IXODIDAE. See Ticks

IZANT, Robert James, 1887-

Portrait. Business Week p54 N 9 '40; Trusts & Estates 71:511 N '40

J

J-metal. See Stellite

JACKLING, Daniel Cowan, 1869-

Washington award for 1940. il W Soc E J 45: 50-4 Ap '40

JACKS

Air motor operated industrial jack. il Blast F & Steel Pl 28:696-7 Jl '40

JACKS, Hydraulic. See Hydraulic jacks

JACKSON, Robert Houghwout, 1892-

Jack, the giant killer, heir apparent? por Business Week p24 F 10 '40

JACKSON county, Missouri

Equipment maintenance; garage and shops; record system, etc. J. C. Black. il Roads & Sts 83:29-39 Ag '40

JACKSONVILLE, Florida

Port of Jacksonville. Comm Rep p1071-2 N 18 '39

JACOBS, Joseph, 1869-

Sketch. por Civil Eng 9:749-50 D '39

JACOBSEN rearrangements. See Molecular rearrangements

JACOBY, Henry Sylvester, 1857-

Sketch. por Civil Eng 10:60-1 Ja '40

JACQUES, Alfred George, 1896-1939

Sketch. W. J. V. Osterhout. Science 91:133-4 F 9 '40

JAGUARS

Relative growth and vertebrate phylogeny. F. B. Phleger, jr. bibliog Am J Sci 238:643-62 S '40

JAILS. See Prisons

JAMAICA

Foreign trade in 1939. Comm Rep p344-5 Ap 13 '40

JAMES, Frank Cyril, 1903-

Sketch. por Pulp & Pa of Can 41:432 Je '40

JAMES, Lawrence H. 1898-

Personalities in refrigeration. por Refrig Eng 40:232 O '40

JANITORS

In-service training program is of benefit to school engineers; plan of Chicago board of education. J. Howatt. il Heating-Piping 12:90-1 F '40

Less make ready, more do for our janitors; A.C. spark plug division, General motors corp. S. J. Demarest. il Factory Management 98:86, 88 Ja '40

JAPAN

See also

Automobile industry and trade—Japan
Chemical industries—Japan
Insurance, Social—Japan
Investments, Foreign—Japan
Labor and laboring classes—Japan
Labor laws and legislation—Japan
Paper industry and trade—Japan
Petroleum industry and trade—Japan
Trade marks—Japan
Wages—Japan

Commerce

Alarm in Tokyo as trade pact with United States nears end. Business Week p31 D 30 '39

American trade and Japanese aggression. T. A. Bisson. Ann Am Acad 211:123-9 S '40

Japan gets Nazi goods; British pass cargo of German materials. Business Week p38 D 23 '39

Japan plays for higher stakes; with statement by S. Kato explaining his country's position. H. Corey. il Nation's Business 28:23-5+ Ag '40

No embargo, try to get license! Business Week p18+ Ag 3 '40

Philippine base metals have importance for Japan. R. Keeler. il map Eng & Min J 141:51-3 Ap '40

Problem of Japanese trade expansion in the post-war situation. M. S. Farley. 93p $1 Am. council, Inst. of Pacific relations, 129 E. 52d st, New York '40

Tokyo's predicament; Japan sees trade fall off. Business Week p48-9 Je 29 '40

U.S. plans firm course with Japan. Business Week p47-8 Ja 20 '40

Commercial policy

Japanese-American commercial treaty of 1911 expires as result of United States abrogation. Comm & Fin Chr 150:614 Ja 27 '40

Japanese Foreign Minister Arita expresses hope for new treaty with United States. Comm & Fin Chr 150:761 F 3 '40

Tokyo barter moves in Latin America and Spain. Business Week p59 Ap 27 '40

Economic conditions

Business situation. Published in Commerce reports [cont as Foreign commerce weekly, O 5]

Can embargoes stop Japan? Dutch East Indies, British Malaya and Philippines must be considered in U.S. policy. K. Bloch. map Barron's 20:3 S 30 '40

Economic difficulties increase. il Comm Rep p210-11 Mr 2 '40

Japan in 1939. Economist 138:sup26-7 F 17 '40

Japan is worried. Business Week p58-60 N 9 '40

Japan shows strain. Business Week p55-6 Je 22 '40

Japanese ambitions and economic limitations. V. L. Horoth. Mag of Wall St 67:140-2 N 16 '40

Japanese difficulties; is the Chinese war lost? W. W. Case. Annalist 55:324-5+ F 29 '40

Japan's economic woes pile up. Business Week p62+ Mr 16 '40

Rising prices in Japan. Economist 138:146 Ja 27 '40

Seasonal variations in the economic activities of Japan. W. A. Spurr. Univ of Nebraska Studies v 40, no 1:1-129 bibliog(p120-5) '40 (pa $1.50)

Economic policy

Economic control in Japan; mobilisation of resources and industries. Int Labour R 40: 822-36 D '39

Japan reorganizes economic controls. Comm & Fin Chr 150:1350 Mr 2 '40

Organisation of employment in Japan to meet wartime requirements. T. Ogishima. Int Labour R 41:134-51 F '40

Foreign relations

Calling Japan's bluff; more smoke than fire in Nippon's threats of further aggression in the Pacific. T. A. Bisson. il map Mag of Wall St 66:144-7 My 18 '40

Far East may reshape world trade; economic realignment would result from Japanese seizure of Dutch islands. Business Week p51-2 Ag 10 '40

Germany, Italy and Japan sign political, military and economic treaty. Comm & Fin Chr 151:1812 S 28 '40

JAPAN—Foreign relations—*Continued*
Japan among the great powers; a survey of her international relations. S. Hishida. 405p $3.50 Longmans '40
Japan turns south. Economist 139:2-3 Jl 6 '40
Japan's axis alliance seen as threat to East Indian oil. J. P. O'Donnell. il Oil & Gas J 39:17+ O 3 '40
Japan's dilemma. Economist 137:498-9 D 30 '39
Monroe doctrines, Pan-American, Japanese, and German. Economist 139:147-8 Ag 3 '40
Some aspects of the Japanese situation. Comm & Fin Chr 150:325-7+ Ja 20 '40
Tokyo deal shows weakened axis. Business Week p15-16 O 5 '40
Tokyo's squeeze-play may work. Business Week p44-6 Jl 13 '40
What Japan thinks; polls of students' parents find sentiment would support war over East Indies. Business Week p45 Ag 3 '40

Russia

Red star behind the Rising Sun. il map Business Week p44-6 Ja 13 '40
Will reds split China with Japan? new accords with Tokyo on railroad and fishing rights. Business Week p45 Ja 6 '40

United States

Background for war in the Pacific. C. Caldwell. il Aero Digest 36:32-5 Ja '40
Can embargoes stop Japan? Dutch East Indies, British Malaya and Philippines must be considered in U.S. policy. K. Bloch. map Barron's 20:3 S 30 '40
Economic war with Japan; scrapping of treaty. il Business Week p16-18 D 30 '39
Indo-China thrust alarms U.S. Business Week p59-60 S 28 '40
Japanese embassy in Washington announces settlement of American claims in China. Comm & Fin Chr 149:3194 N 18 '39
Japanese spokesman indicates no additional steps toward trade treaty with United States; Senate foreign relations committee divided on question of export embargo. Comm & Fin Chr 150:1204 F 24 '40
Policy of the United States in the Far East. E. B. Schumpeter. Ann Am Acad 210:98-106 Jl '40
Secretary of State Hull's statement on Japanese demands upon French Indo-China and Shanghai defense dispute. Comm & Fin Chr 151:1373-4 S 7 '40
U.S. heads for Tokyo showdown. Business Week p66+ S 14 '40

Industries and resources

Economic control in Japan; mobilisation of resources and industries. Int Labour R 40: 822-36 D '39
Japanese industry; its recent development and present condition. G. C. Allen. 124p $1; pa 75c International secretariat, Institute of Pacific relations, New York '40

Social life and customs

Suye Mura, a Japanese village. J. F. Embree. 354p bibliog(p327-9) $3 Univ. of Chicago press '39

Yearbooks

Japan-Manchoukuo year book, 1940; cyclopedia of general information and statistics on the empires of Japan and Manchoukuo. 1232p bibliog(p1187-1202) Japan-Manchoukuo year book co, Tokyo; $7.50 for sale by Wilson, H.W. '40

JAPANESE beetles
Control of the Japanese beetle. Science 92:sup5 Jl 12 '40

JAPANESE in Seattle
Social solidarity among the Japanese in Seattle. S. F. Miyamoto. maps Univ of Wash Pub in the Social Sciences v 11, no 2:57-129 bibliog(p127-8) '39

JAPANNING
Drying with infra-red radiation; comparing industrial heating by gas and by electricity. H. A. Clark. Am Gas J 152:43-5+ My '40
Useful pointers for the japanning department. F. V. Faulhaber. il Metal Ind 37:541-3; 38: 69-70 N '39, Ja '40

See also
Varnish and varnishing

JARROW, England

Industries and resources

Town that was murdered; the life-story of Jarrow. E. C. Wilkinson. 287p bibliog(p285-7) $2.25 Ryerson press '39

JARS
Stresses in bottles or jars from differences in outside and inside temperatures (static temperature gradient). F. W. Preston. diags Am Cer Soc J 23:119-21 Ap '40

JARVIS, W. B., company
Moderate-priced newcomer to the New York stock exchange; thumbnail appraisal. Mag of Wall St 65:754 Mr 23 '40

JAUNDICE

See also
Weil's disease

JAVA
In the wake of a traveling engineer. J. C. Cosgrove. il map Explosives Eng 18:120-5 Ap '40

JEDLIK, Anyos, 1800-1895
Early electrical pioneers. G. Windred. Engineering 149:274-5 Mr 15 '40

JEFFERSON, Thomas, 1743-1826
Thomas Jefferson; the apostle of Americanism. G. Chinard. 2d ed rev 548p $5 Little '39

Memorials

President Roosevelt's address at laying of Jefferson memorial cornerstone. Comm & Fin Chr 149:3192 N 18 '39

JEFFERSON transportation company
Jefferson transportation company, intercity division, wins Bus Transportation maintenance award; with cost data. Bus Transportation 18:555 N '39

JEFFRIES, Zay, 1888-
Awarded honorary membership in American society for metals. R. S. Archer. Am Soc for Metals Trans 27:1145-7 D '39

JELLY

See also
Colloids
Gelatin

Manufacture

Making jelly by continuous process; layout. G. L. Baker and W. D. Pheteplace, jr. bibliog Food Ind 12:54-6 Jl '40

JELLYFISH
Fresh-water jellyfish in Hawaii. C. H. Edmondson. Science 91:313-14 Mr 29 '40

JENKIN, Charles Frewen, 1865-1940
Sketch. Engineering 150:174 Ag 30 '40

JENKS, John Whipple Potter
Episodes and personalities in the development of biology at Brown. A. D. Mead. Science 91:301-5 Mr 29 '40

JENNERJAHN, Ernest
Meet the champion safe worker. por Nat Safety N 42:25+ Jl '40

JENNINGS, William H. jr.
Bill Jennings, jr. of Rockford, Ill. S. Welton. East Underw 41:20 O 25 '40

JERSEY central power and light company
$38,000,000 1st mtge. 3¼% bonds offered. Comm & Fin Chr 150:4128-9 Je 29 '40

JERSEY CITY, New Jersey

Bridges

Design and erection features mark this bridge job. il diags Ry Age 109:475-8 O 5 '40

Railroads

These concrete retaining walls embody novel features; cantilever-type units built on Erie il diags Ry Age 109:281-5 Ag 24 '40

JERSEY cloth
Consideration of the practical aspects of the dyeing and processing of tubular knit goods; wool, cotton, and rayon. L. Gleklen. il Am Dyestuff Rep 29:182-3, 201-2 Ap 15 '40

JET propulsion
Jet-propelled motor lifeboat for Minehead. il diags Engineer 168:444-6 N 3 '39; Excerpt. Mech Eng 62:26-7 Ja '40

JETAL process. See Steel—Color

JETS
Experiments on fuel jets and gaseous medium density; abstract. R. Kling. Automotive Ind 82:16-17 Ja 1 '40

JETTIES
Barnegat Inlet jetties. C. C. Harrington. il map Comp Air M 45:6088-9 F '40
Jetty repairs, Texas; unit prices. Eng N 124: 128 Ja 18 '40
Submerged barriers for shore protection; lake frontage, Chicago. E. E. R. Tratman. diags map Engineer 169:226-8 Mr 8 '40
Underwater seawall widens Chicago beach; jetties on Lincoln Park lakefront connected by sheetpile wall to form pockets for sand-fill. plan Eng N 123:762-3 D 7 '39

See also
Piers

JEWEL bearings. See Bearings, Jewel

JEWEL tea company
Coaching coaches to coach; plan of doubling sales. H. E. Fleming. il Ptr Ink Mo 41:34, 38+ N '40
Earnings, 1937-39. Comm & Fin Chr 150:997-8 F 10 '40

Library
Business library and its relation to management. C. N. Watkins. Special Lib 31: 245-8 Jl-Ag '40

JEWELRY
5000 years of gems and jewelry. F. Rogers and A. Beard. 309p bibliog(p293-5) $2.50 Stokes '40
Jewels and gems. L. S. McDonald. 288p $2 Crowell '40

See also
Insurance, Jewelry

JEWELRY, Plastic
Costume jewelry way. E. Main. il Mod Plastics 17:32-5+ Jl '40
Trinket fashions. E. Main. il Mod Plastics 17: 48-9 Ap '40

JEWELRY insurance. See Insurance, Jewelry

JEWELRY stores
Ciro of Bond street, inc. New York; views, plans, construction outline. Arch Forum 71: 430-1 D '39
Prodigal product; bringing back men's jewelry items to jewelry stores; Jacques Kreisler manufacturing corporation. E. Peterson. il Ptr Ink 191:23-5 Ap 5 '40
Remodeling in glass attracts attention and dollars; jewelry store for Pugh brothers, Pittsburgh. il plans Arch Forum 72:205 Mr '40

JEWELRY trade
Prodigal product; bringing back men's jewelry items to jewelry stores; Jacques Kreisler manufacturing corporation. E. Peterson. il Ptr Ink 191:23-5 Ap 5 '40
Statistical study of the drawing power of cities for retail trade. J. A. Pfanner, jr. J Business 13:1-79 pt 2 Ap '40

Statistics
Weddings and jewelry sales. Dun's R 43: 39 Je '40

JEWS
Ezekiel to Einstein; Israel's gifts to science and invention. F. J. Oppenheimer. 138p $1 Liveright '40
For the honor of the nation; patriotism of the American Jew hailed by Christian historians. S. W. McCall and others. 256p $2.50 Plymouth editions, 521 5th av, New York '39
Great hatred. M. Samuel. 209p $2 Knopf '40
Jewish contribution to civilization. C. Roth. 420p bibliog(p369-79) $2 Harper '40
Jewish fate and future. A. Ruppin. 386p $6 Macmillan co. of Canada, 70 Bond st, Toronto, 2 '40
Sufferance is the badge; the Jew in the contemporary world. A. L. Sacher. 585p,xiiip bibliog(p581-5) $3.50 Knopf '39

Dietary laws
Kosher code of the orthodox Jew. S. I. Levin and E. A. Boyden. 243p $4.50 Univ. of Minnesota press '40; Review, by H. A. Wolfson and F. T. Lewis. Science 92:173-5 Ag 23 '40

Statistics
Statistics of Jews and Jewish organizations; historical review of ten censuses, 1850-1937. H. S. Linfield. 64p bibliog(p64) Jewish statistical bur. 1181 Broadway, New York '39

JIGS
Combination drill jig and drilling head. J. A. Honegger. diag Am Mach 84:430 Je 12 '40
Design of universal drill jigs. J. I. Karash. il diags Mach 46:161-7, 243-7 N-D '39
Drill jig for small production. W. B. Greener. diags Am Mach 84:585 Ag 7 '40
Elements in jig and fixture design; reference book sheet. Am Mach 84:61 F 7 '40
Jig for drilling ninety-six evenly spaced angular holes in ring. H. Kaffine. diags Mach 46:114 Ag '40
Jigs at Republic aviation corp. il Aviation 39: 36-9 O '40
Jigs for airplane assembly. H. Lasker. il Am Mach 84:570-3, 606-9 Ag 7-21 '40
Jigs for grinding jackhammer bits. il Eng & Min J 141:55 Mr '40
Large assembly jig of magnesium alloy. il Iron Age 145:47 Mr 7 '40
Magnesium alloy frame jig for mounting Buick engine. il Steel 106:38-9 F 26 '40
Paducah shop jigs, fixtures and devices. G. H. Raner. il Ry Mech Eng 114:223-32, 324-6+ Je, Ag '40
Precision for the long haul; Lima locomotive works has devised special boring and inspection jigs. F. H. Colvin. il Am Mach 83:1002-3 N 29 '39
Principles of sheet metal jigging. il diags Sheet Metal Worker 31:27-9 F '40
Quick-acting jig clamp. V. Rosenlund. diags Mach 46:135 Je '40
They stand on their own feet; jigs used in making Harlow all-metal plane. F. A. Hoffman. il Aviation 39:36-7, 90 Ja '40
Tools of cast bronze; jigs, fixtures, punches, dies, etc. use of plaster molds; making ornamental lamps. M. Golden. il Am Mach 84:574-6 Ag 7 '40
Welding in jig time. J. Haydock. il Am Mach 84:277-9 My 1 '40

JIGS (mining)
Jig versus riffle concentration in gold dredging. T. D. Galloway. flow sheet Eng & Min J 141:40-1 Je '40
Recent developments in Idaho dredging. F. A. Kennedy. flow sheet il Min Cong J 26: 22-4 Mr '40
Recovery of lode gold in jigs. J. M. Hague. flow sheets bibliog map Eng & Min J 141: 40-5 Ap; 48-50 My '40

JOB analysis
How to prepare a job manual; with summary of analysis of water gas maker's job; Hudson Valley fuel corporation, Troy, N.Y. R. D. Williams. Personnel J 18:219-26 D '39; Same. Am Gas Assn Proc 1939:73-6
Internal bank management controls. H. N. Stronck. il Bankers Mo 57:506-8 S '40
It pays to blue-print salesmen's jobs. B. R. Canfield. Adv & Sell 33:26-7+ Ap '40
Job evaluation analyzed. K. F. Bradbury. Advanced Management 5:16-20 Ja-Mr '40
Job evaluation and time study; roundtable conference; American foundrymen's association. Steel 106:60 My 20 '40
Job evaluation; formal plans for determining basic pay differentials. 43p bibliog(p43) Nat. ind. conf. bd. '40

JOB analysis—*Continued*
Job evaluation in a paper plant. E. J. Benge. Personnel J 19:42-8 Je '40
Let employees find the answers; Michigan carton company. F. H. Stowitts. il Factory Management 98:61-3 S '40
Right pay for the job; bank salary and promotion plan. E. N. Hay. Banking 32:22-3 Mr '40
Salary administration plan for your business. A. M. Hammond. il Am Business 9:11-13+ N; 24-5+ D '39; 10:30-2 Ja '40
Wage setting based on job analysis and evaluation. C. C. Balderston. 67p bibliog(p67) pa $1 Industrial relations counselors, RKO building, Rockefeller center, New York '40
See also
Motion study

JOB hunters' organization. See Employment

JOB hunting. See Applications for positions

JOB work
Business you might avoid; consignments, cash discounts and job orders usually add little to profits. W. H. Conant. Barron's 20:9 Jl 15 '40
Job shop for miniature parts; Custom parts division, Waltham watch company. P. Dumaine. diags Am Mach 84:88-9 F 21 '40
Production control for a job shop. C. R. Libby. Factory Management 98:158 S '40
Rapid delivery is pride of jobbing foundry; Carondelet foundry co. E. Bremer. il diag Foundry 68:24-6, 94+ Ap '40

JOBBER helps
Distributor accounting procedure for planned profit control; York ice machinery corporation. D. M. Magor. N A C A Bul 21: 621-36 Ja 15 '40
Wholesalers' salesmen have their interest aroused; Dennison manufacturing company issues four page monthly. J. J. Ford. il Ptr Ink Mo 40:50+ F '40

JOBBER relations
Leading sales films of 1939-40 and the results attained; motion pictures; industrial films dealing with retailer and jobber relations. il Sales Management 47:58+ O 10 '40
Live-wire Christmas selling idea; how Bayuk educates jobbers and dealers. A. J. Newman. il Ptr Ink 189:15-18 D 8 '39
Slide films; dealer and jobber relations problems. il Sales Management 47:73-6 O 10 '40
When retailer makes inquiry; follow-up letter plan that works via wholesaler. C. A. Emley. Ptr Ink 191:77-8 My 31 '40
See also
Salesmen, Jobbers'—Bonuses (manufacturers')

JOBBERS
Albrecht stock control plan for wholesalers. il Am Business 9:28-9 D '39
As a banker views wholesale credit; close tie-in with retail collections. H. L. Wuerth. Credit & Fin Management 42:42-4 Ap '40
Can we do without the wholesalers? review of Twentieth century fund's survey Does distribution cost too much. T. R. Carskadon. Credit & Fin Management 42:9-11 S '40
F.T.C. hits limiting number of wholesalers; complaint against Detroit candy & tobacco jobbers association. Oil Paint & Drug Rep 138:3+ S 30 '40
Job for wholesalers; advertising service to retailers. Ptr Ink Mo 40:28 Ap '40
Million dollar business on nuisance lines; wholesale business specializing in flour, sugar, and other short profit lines. R. McDaniel. il Am Business 10:28-30 S '40
Wholesale distribution; the choice before manufacturers. J. Whitehead. Elec R (Lond) 126:38 Ja 12 '40
Wholesaling and the wholesaler. A. Haring. Ann Am Acad 209:39-45 My '40
See also
Marketing
Merchandising
Salesmen, Jobbers'
Wholesale trade—Statistics

Accounting
Distributor accounting procedure for planned profit control; York ice machinery corporation. D. M. Magor. N A C A Bul 21:621-36 Ja 15 '40

Advertising
Billy and Ruth; co-operative merchandising; Supplee-Biddle and other wholesalers to help independent dealers re-sell toys. E. Peterson. il Ptr Ink 189:21-4 D 1 '39

JOBBERS' salesmen. See Salesmen, Jobbers'

JOBS. See Occupations

JOHANNESBURG consolidated investment company
Annual general meeting, Johannesburg. Economist 137:305 N 25 '39

JOHN FRITZ medal. See Fritz, John, medal

JOHN HANCOCK mutual life insurance company
Annual statement, 1939. East Underw 41:1+ F 16 '40

JOHNS-MANVILLE corporation
Annual report. Comm & Fin Chr 150:1770-1 Mr 16 '40
Jobholders annual report. Comm & Fin Chr 150:1939 Mr 23 '40

JOHNSON, George Francis, 1857-
George F. and Uncle Frank. por Ptr Ink Mo 40:9 Mr '40

JOHNSON, Howard
Howard Johnson restaurants. por Fortune 22: 82-7+ S '40

JOHNSON, John Monroe, 1878-
Senate committee approves Johnson appointment to I.C.C. por Ry Age 108:827 My 11 '40

JOHNSON, Laurence A.
American food counter; Johnson's supermarkets, Syracuse, New York. N. Hansell. Ptr Ink Mo 40:5-8+ F '40

JOHNSON, Louis Arthur, 1891-
Resigns as assistant secretary of war. Comm & Fin Chr 151:493-4 Jl 27 '40

JOHNSON, Philip Gustav
Six managers. por(p54) Fortune 22:92+ Ag '40

JOHNSON act. See Loans, Foreign

JOINT tenancy
Damaging effects of joint tenancy. W. H. Sinclair. 12p pa 30c William H. Sinclair, 1142 Glendon av, Los Angeles '40
Dangers of joint tenancy. W. H. Sinclair. Barron's 20:7 My 6 '40
When joint ownership is useful; may save expense and delay in settling estate. J. P. Gilmer. Barron's 20:20 Jl 8 '40

JOINTS
Atomic welding; high strength joints produced between aluminum and aluminum alloys or between ferrous metals; Colaweld process. J. Steel. Steel 106:66+ Ja 15 '40
Bemessung von kehlnahtverbindungen bei wechselbiegebeanspruchung. A. Thum and A. Erker. il diags V D I 83:1293-7 D 23 '39
Crimped copper, expansion and expansion joints; copper roofing. H. H. Doe. il diags Sheet Metal Worker 31:25-6 F; 31-2 Mr; 32-4 Ap '40
Joining and welding; developments in 1939. il Steel 106:210, 212+ Ja 1 '40
Joining practices for aluminum. diags Am Mach 84:628-31 Ag 21 '40
Split-ring connectors at Broken Hill. G. R. Fisher. il diags Eng & Min J 141:53-4 My '40
Strength of dowel joints. G. L. Rosser. 19p Canada. Dept. of mines and resources, Forest products laboratories, Ottawa '39
Timber connectors for stronger joints; Teco system of construction. il diags Am Bld 62:55 Ja '40
Visual stress analysis; use of polarized light and celluloid models. E. W. P. Smith. diag Steel 106:60+ Je 24 '40
Welded connections for tier buildings; diagrams. Metal Prog 38:57 Jl '40

JOINTS—*Continued*
Welded joints analyzed by polarized light. E. W. P. Smith. il Iron Age 146:56-7 N 14 '40

See also
Brazing
Cements
Couplings
Electric cables—Joints
Gaskets
Glass—Joining to metal
Glue
Packing
Pipe joints
Rail joints
Riveted joints
Screws
Solder and soldering
Welding

JOINTS (physiology)

Diseases
Arthritis and allied conditions. B. I. Comroe. 752p $8.50 Lea & Febiger, Philadelphia '40

JOINTS, Universal
Transmissions and universal joints, 1941 cars; specifications tabulated. Automotive Ind 83:447 O 15 '40

JOISTS
Wood joist and rafter sizes; maximum spans; tabulations. Am Bld 62:62-3 Ja '40

JOISTS, Concrete
Carrying stock lengths of precast joists is now practical. D. J. Warsaw. Concrete 48: 14+ My '40; Abstract. Rock Prod 43:67-8 Mr '40
Curing joists by electricity; Columbia concrete products co. il Rock Prod 43:55-6 Jl '40
Full span concrete slabs for floors and roofs; joist system made from vibrated concrete. R. S. Torgerson. il diag Rock Prod 43:59-60 My '40
Machine rolled concrete joists. il diags Am Bld 62:98-101 Mr '40
Mass-production methods in manufacture of precast concrete joists. il diags Concrete 48:24 My '40
Precast concrete joist floors in hospital hold cost within appropriation. R. Lawrie, jr. il Concrete 48:18 Mr '40
Precast joist concrete floor systems; report of A.C.I. committee 711. diags Am Concrete Inst J 11:297-312 Ja '40

JONES, Chase Breese, 1912-
Fathers and sons in chemistry. por Ind & Eng Chem News ed 18:772 S 10 '40

JONES, David Breese, 1879-
Fathers and sons in chemistry. por Ind & Eng Chem News ed 18:772 S 10 '40

JONES, Jesse Holman, 1874-
House of Jesse. pors Fortune 21:44-50+ My '40
Secretary of commerce. por Burroughs Clearing House 25:17 O '40

JONES, John Luther, 1863-1900
Casey Jones; epic of the American railroad. F. J. Lee. 298p $2.50 Southern publishers, Kingsport, Tenn. '39

JONES and Laughlin steel corporation
Income account for calendar years 1937-39. Comm & Fin Chr 150:2102 Mr 30 '40
Status of Jones & Laughlin 4 ¼s, 1961. Barron's 20:19 Jl 22 '40

JOULE-THOMSON effect
Freezing of natural gas regulators. W. C. Mitchell, S. Cromer and R. L. Huntington. bibliog il diags Gas Age 85:17-21+ Ja 4 '40
Phase equilibria in hydrocarbon systems; Joule-Thomson coefficients for gaseous mixtures of methane and *n*-butane. R. A. Budenholzer, B. H. Sage and W. N. Lacey. bibliog Ind & Eng Chem 32:384-7 Mr '40

JOURNALISM
Careers on business papers. B. Hall. 276p bibliog(p265-8) $2.50 Duell, Sloan & Pearce, 270 Madison av, New York '40
Headlining America; 100 of the best news and feature stories of 1938-1939. F. L. Mott and others, eds. 244p $1.50 Dryden press, 103 Park av, New York '40
Labor journalist's handbook.E. S. Cousins. 70 l pa 25c Commonwealth college, Mena, Ark. '40
News gathering and news writing. R. M. Neal. 577p $2.75 Prentice-Hall '40

See also
Newspapers
Periodicals
Reporting

Bibliography
Background readings for journalism; a bibliography of material for information and background for pupils in high schools. G. Horn, comp. 30p pa 35c Wilson, H.W. '40

JOURNALISTS
Cities and men. I. Barnard. 256p $3 Dutton '40
Confessions of an individualist. W. H. Chamberlin. 320p $3 Macmillan '40
Eye witness, by members of the Overseas press club of America. R. S. Benjamin, ed. 306p $2.75 Alliance bk. corp, 212 5th av, New York '40
Great circle; further adventures in freelancing. C. Beals. 358p $3 Lippincott '40
I've met the folks you read about. L. St Clair. 308p $2.50 Dodd '40
Many ports of call. V. S. Haven. 250p $3 Longmans '40
Press pass; a woman reporter's story. K. A. Smallzried. 340p $3 Dutton '40
Protection of professional titles. M. T. Nisot. Int Labour R 41:124-5 F '40

JOURNEAY, Albert
Who's who in trust work. por Trusts & Estates 70:610 Je '40

JOY, Basil Humbert, 1871-1940
Sketch. Engineer 169:66-7 Ja 19 '40

JUGOSLAVIA. See Yugoslavia

JULIANA canal. See Canals—Netherlands

JUNGHANS, Siegfried
Continuous casting. T. W. Lippert. Iron Age 145:31-6 Ap 4 '40

JUNIOR colleges
American association of junior colleges. G. F. Zook. J Eng Educ 30:733-4 Ap '40
Chemistry in public junior colleges; a comparison of 1938 with 1928-29. M. R. Amsden and S. W. Morse. J Chem Educ 17:31-5 Ja '40

JUNIOR directors. See Corporations—Directors, Junior

JUNIOR executive boards. See Corporations—Directors, Junior

JUPITER (planet)
Jupiter and Saturn; triple conjunction. Science 92:sup8 Ag 9 '40

JURISPRUDENCE
Contemporary juristic theory. R. Pound. 83p $1.50 Claremont colleges, Administration office, Claremont, Calif. '40
Jurisprudence. E. Bodenheimer. 357p bibliog (p325-38) $3.50 McGraw-Hill '40
Law in the making. C. K. Allen. 3d ed rev & enl 542p $7 Oxford '39

JUSTICE, Administration of
Law and justice. J. Almaráz. Ann Am Acad 208:39-47 Mr '40
Look at the law; the law is what the layman makes it. P. E. Jackson. 377p $2.75 Dutton '40
Machinery of justice in England. R. M. Jackson. 342p $3.75 Macmillan '40
Widow against the courts. M. R. Vaughn. 161p The author, box 7504, Philadelphia '39
You be the judge. E. Mortenson. 451p bibliog(p441-5) $3.75 Longmans '40

See also
Courts
Legal aid

JUTE
Bleaching and dyeing jute. M. R. Fox. Textile Col 62:475-7+ Jl '40
Chlorinated rubber and jute; abstract. D. D. Pratt and R. Handley. India Rubber W 101: 61 Mr '40
Jute and its utilisation. S. G. Barker. Textile Inst J 31:P12-17 F '40
Jute industries, limited, report and 19th annual general meeting, London. Economist 138:72-3, 121 Ja 13-20 '40

JUTE—*Continued*
Other textile fibres, 1939. Economist 138:sup 39-40 F 17 '40
Plight of Indian jute. Economist 138:900 My 18 '40
Processing of astrakhan fabric. S. Wouble. Textile Col 62:441-4, 525-7+ Jl-Ag '40
Processing of jute rags. S. Wouble. Textile Col 62:297-9 My '40
La protection des sacs de jute. G. Batta and L. Fabry. Chimie & Ind 43:535-8 Ap 5 '40
See also
Dyes and dyeing—Jute

JUVENILE courts
Children in the courts; juvenile-court statistics, year ended December 31, 1937 and federal juvenile offenders, year ended June 30, 1937; tenth report. maps U S Children's Bur Pub 250:1-88 '40
Juvenile court laws of the United States; topical and state by state summaries of their main provisions. G. Cosulich. 2d ed 175p pa $1.25; to members $1 National probation assn, 50 W. 50th st, New York '39

JUVENILE delinquency
Children in the courts; juvenile-court statistics, year ended December 31, 1937 and federal juvenile offenders, year ended June 30, 1937; tenth report. maps U S Children's Bur Pub 250:1-88 '40
Juvenile delinquency in Massachusetts as a public responsibility. 196p pa 50c Massachusetts child council, 41 Mt Vernon st, Boston '39
Juvenile delinquents grown up. S. Glueck and E. Glueck. 330p $2.50 Commonwealth fund, 41 E. 57th st, New York '40
Progress in prevention of juvenile delinquency. B. S. Alper. Ann Am Acad 212: 202-8 N '40

Bibliography
List of references on juvenile delinquency, March 1939. E. Kendall, comp. 41 numb l U.S. Dept. of labor, Children's bur, Washington '39

K

KADENACY engine
Analysis of certain characteristics of a Kadenacy engine. S. J. Davies. il diags Engineering 149:515-17, 557-9, 617-20 My 24, Je 7, 28 '40
Kadenacy engine. il diags Engineering 149: 195-7, pl 10 F 23 '40
Kadenacy system of scavenging. G. F. Mucklow. bibliog diags Engineering 148:187-9 Ag 18 '39; Discussion, 148:207, 357-8; 149:122, 286, 443-4, 509 Ag 18, S 29 '39, F 2, Mr 15, Ap 26, My 17 '40
Oil engine research laboratory; Kadenacy department of the Armstrong Whitworth securities company. il diag Engineer 169: 232, 235-6 Mr 8 '40

KALLING process. See Rennerfelt-Kalling process

KANSAS
See also
Paleontology—Kansas
Petroleum industry and trade—Kansas

Bibliography
Check list of Kansas imprints, 1854-1876. 773p WPA. Historical records survey project, Topeka, Kan. '39

KANSAS academy of science
Annual meeting, 72d, Wichita, March 28-30. Science 91:548-9 Je 7 '40

KANSAS CITY, Kansas
Feud; court restrains Kansas terminal. Business Week p22 Jl 13 '40
Fight over terminals; two Kansas Cities and rival railroad interests. il Business Week p20+ D 16 '39
Food mart unloaded; Kansas City gives up, leases terminal to Greater Kansas City food markets, inc. Business Week p18 S 21 '40
No more coconuts; Federal court restrains Kansas City, and Union Pacific in terminal fight. Business Week p32 Mr 30 '40

Bridges
Timber deck fire wrecks bridge. il Eng N 124:562 Ap 25 '40

Rapid transit
Uncle Sam delivers a trolley bus; Kansas City public service company aided by Reconstruction finance corporation. il Transit J 84:124-5 Ap '40

Water supply
New pumping station at Kansas City. R. L. Baldwin and C. S. Timanus. il diag plan Am Water Works Assn J 32:1341-53 Ag '40; Abstract. Eng N 124:665 My 9 '40

KANSAS CITY, Missouri
Fight over terminals; two Kansas Cities and rival railroad interests. il Business Week p20+ D 16 '39

Rapid transit
Speed up 18½%, revenue 11½%. il Transit J 84:234 Jl '40
Uncle Sam delivers a trolley bus; Kansas City public service company aided by Reconstruction finance corporation. il Transit J 84:124-5 Ap '40

KANSAS CITY southern railway
General statistics and comparative statement of operations, 1936-39. Comm & Fin Chr 150:2428 Ap 13 '40

KANSAS CITY stockyards case. See Live stock—Marketing

KANSAS geological society
Geologists, scouts play big role in Kansas development. Oil & Gas J 39:67+ Je 27 '40

KANSAS power and light company
Preferred stock offered. Comm & Fin Chr 150:2581-2 Ap 20 '40

KAOLIN
All-American hotel china body. G. A. Loomis and W. H. Earhart. Am Cer Soc Bul 19: 287-9 Ag '40
Effect of adsorbed electrolytes on properties of monodisperse clay-water systems. S. Speil. bibliog Am Cer Soc J 23:33-8 F '40
Effect of exchangeable bases on absorption and transverse strength of clay bodies. R. P. Graham and J. D. Sullivan. Am Cer Soc J 23:52-6 F '40
Effect of exchangeable bases on torsion properties of clays. J. D. Sullivan and R. P. Graham. bibliog Am Cer Soc J 23:39-51 F '40
Extraction of alumina from kaolin and other silicates. K. Kammermeyer and A. H. White. bibliog Am Inst Chem Eng Trans 36:683-700 O '40
Length changes of whiteware clays and bodies during initial heating, with supplementary data on mica. R. F. Geller and E. N. Bunting. bibliog diag J Research Nat Bur Stand 25:15-40 Jl '40
Properties of American kaolins and English china clays. T. A. Klinefelter. Am Cer Soc Bul 19:282-3; Discussion. 283-4 Ag '40
Properties of kaolinite as a function of its particle size. C. G. Harman and F. Fraulini. bibliog il Am Cer Soc J 23:252-9 S '40
Residual alaskite kaolin deposits of North Carolina. C. E. Hunter. il map Am Cer Soc Bul 19:98-103 Mr '40
See also
Clay

Testing
Use of North Carolina kaolin in casting bodies. W. H. Earhart. Am Cer Soc Bul 19:163-8 My '40

KAOLINITE
Properties of kaolinite as a function of its particle size. C. G. Harman and F. Fraulini. bibliog il Am Cer Soc J 23:252-9 S '40

KAOLINITE—*Continued*
Staining of clay minerals as a rapid means of identification in natural and beneficiated products; with a general discussion on staining technique. G. T. Faust. bibliog U S Bur Mines Rep of Invest 3522:1-21 '40

KARACHI, India
Port of Karachi. il(cover) Comm Rep p490 My 25 '40

KARYOKINESIS. See Cell division (biology)

KATZ, Joseph, 1888-
Joe Katz remembers. por Adv & Sell 33:21, 40 Jl; 33+ Ag '40

KAURI
Kauri reduction values of alkyds. Oil Paint & Drug Rep 138:51 N 4 '40

KEARNS, Charles Maxwell, jr.
Presentation of the Lawrence Sperry award. por J Aeronautical Sci 7:161-3 F '40

KEESHIN freight lines, incorporated
Keeshin notes get I.C.C. O.K. Ry Age 108: 334-5 F 17 '40

KEILIN, David
Royal medal award. W. Bragg. Science 90: 581-2 D 22 '39

KEITH, Gordon C.
G. C. Keith; secretary-treasurer of the Canadian ceramic society; chronological outline of activities. Am Cer Soc Bul 19:153-4 Ap '40

KEKULE, Friedrich August, 1829-1896
Liebigs experimentalchemie in Kekulés kolleghett. G. Bugge. Angew Chemie 53:17-19 Ja 6 '40

KELLEMS, Vivien
Woman builds big industrial business from small start; Kellems products, inc. E. H. Pearson. Ptr Ink 193:9-12 O 4 '40

KELLER, K. T.
Portrait. Business Week p57 S 7 '40

KELSANITE
Latex molds from Kelsanite. India Rubber W 101:48 F '40

KELVIN bridge
Work's method for balancing the Kelvin double bridge. G. R. Patterson. diags R Sci Instr 11:217-19 Jl '40

KEMPER, James Scott, 1886-
Portrait. Nation's Business 28:34 Je '40

KENETRON
Develop bridge for Kenetron set. diag Elec W 113:1910 Je 15 '40

KENNAMETAL
Variety of wear-resisting parts made from Kennametal. il Mach 46:175 Ja '40
What's new in cutters. il Iron Age 145:38, 40 Mr 14 '40

KENNECOTT copper corporation
Earnings, 1936-39. Comm & Fin Chr 150:2103 Mr 30 '40
Glance at the week's reports. H. Lawrence. Barron's 20:9 Mr 25 '40
Statistics of income, capital, stock earnings, etc. 1929-39. Annalist 55:461 Mr 28 '40

KENNEDY, Joseph Patrick, 1888-
Portrait. Fortune 20:50 D '39

KENNELLY-HEAVISIDE layer
Analysis of the ionosphere. K. K. Darrow. il diags Bell System Tech J 19:455-88 Jl '40; Same abr. Elec Eng 59:272-88 Jl '40

KENTUCKY
See also
Population—Kentucky

Bibliography
Check list of Kentucky imprints, 1811-1820, with notes in supplement to the Check list of 1787-1810 imprints. D. C. McMurtrie and A. H. Allen. 235p pa $3 Historical records survey, Louisville '39

Industries and resources
Gateway to the South's resources. il map Manuf Rec Extra no 109:125-33 S '40

KENTUCKY utilities company
Issues aggregating $26,000,000 offered. Comm & Fin Chr 150:1440-1 Mr 2 '40

KENYA colony
Conditions in Kenya and Uganda adverse during 1939. Comm Rep p694 Ag 10 '40

KEOKUK, Iowa

Water supply
We built a modern water works plant in Keokuk. W. L. Garrison. il Pub Works 71:15 Ja '40

KEPPEL, Frederick Paul, 1875-
Honoring Frederick P. Keppel; Friedsam fellowship and medal. Arch Forum 73: sup60+ Ag '40

KERATITIS
Ocular manifestations of aribofiavinosis. H. D. Kruse and others. bibliog Pub Health Rep 55:157-69 Ja 26 '40

KERLYN oil company
To delist stock. Comm & Fin Chr 151:2353 O 19 '40

KEROGEN
Analysis of the kerogen of oil shales. A. L. Down. bibliog Inst Pet J 25:230-7 Ap '39; Discussion. 25:813-19 D '39

KEROSENE
Catalytic vapor-phase oxidation of aliphatic kerosene fraction. W. G. Parks and E. F. Story. bibliog diag Oil & Gas J 39:54, 56+ S 5 '40
Detergents from kerosene; alkyl amine hydrochlorides. A. R. Padgett and E. F. Degering. bibliog Ind & Eng Chem 32:486-8 Ap '40
Detergents from kerosene; alkyl sulfates. A. R. Padgett and E. F. Degering. bibliog Ind & Eng Chem 32:204-8 F '40
Separation of the aromatic hydrocarbons, and the isolation of *n*-dodecane, naphthalene, 1-methylnaphthalene, and 2-methylnaphthalene, from the kerosene fraction of petroleum. B. J. Mair and A. J. Streiff. bibliog diags J Research Nat Bur Stand 24:395-414 Ap '40

Analysis
Isolate eight new hydrocarbons in analysis project; reports to American chemical society. Nat Pet N 32:136+ Ap 17 '40

Prices
Retail oil markets. Published in weekly numbers of Oil and gas journal

Statistics
Kerosene, 1936-1939. Survey of Cur Business 1940 Sup p121 [supplemented in monthly numbers]
Kerosene production, revision; 1923-June, 1940. Fed Res Bul 26:872 Ag '40

Testing
Burning test for kerosine. diags Inst Pet J 26:91-5 F '40

KERR effect
Properties of Rochelle salt. H. Mueller. bibliog Phys R 58:805-11 N 1 '40

KETENE
Diketene, a new industrial chemical. A. B. Boese, jr. bibliog il Ind & Eng Chem 32: 16-22 Ja '40
Ketene acetals; polymers of ketene diethylacetal. P. R. Johnson, H. M. Barnes and S. M. McElvain. bibliog diag Am Chem Soc J 62:964-72 Ap '40
Ketene acetals; the preparation of ketene acetals from α-bromo-orthoesters. P. M. Walters and S. M. McElvain. bibliog Am Chem Soc J 62:1482-4 Je '40
Ketene acetals; the reaction of ketene diethylacetal with various compounds containing an active hydrogen. H. M. Barnes, D. Kundiger and S. M. McElvain. Am Chem Soc J 62:1281-7 My '40
Ketene and its dimer. C. D. Hurd and A. S. Roe. bibliog Am Chem Soc J 61:3355-9 D '39
Ketene in the Friedel-Crafts reaction; direct acetylation of aromatic hydrocarbons with ketene. J. W. Williams and J. M. Osborn. bibliog Am Chem Soc J 61:3438-9 D '39
Reactions of ketene with salicylaldehyde and *p*-hydroxybenzaldehyde. J. W. Williams and A. Sadle. Am Chem Soc J 62:2801-3 O '40

KETIMINES
Rates of reaction of cyclopropyl ketimines with water. J. B. Cloke. bibliog Am Chem Soc J 62:117-19 Ja '40

KETOLS
Catalyzed cleavage of diacetone alcohol and other ketols and unsaturated ketones. S. H. McAllister, W. A. Bailey, jr. and C. M. Bouton. bibliog Am Chem Soc J 62:3210-15 N '40
Hydrogenation of 1,3-diketones to ketols. P. S. Stutsman and H. Adkins. bibliog Am Chem Soc J 61:3303-6 D '39

KETONES
Acetylation of alpha-bromo ketones and their derivatives. R. P. Barnes and V. J. Tulane. Am Chem Soc J 62:894-6 Ap '40
Addition of methoxyamine to α,β-unsaturated ketones and the rearrangement of β-methoxyaminoketones. A. H. Blatt. Am Chem Soc J 61:3494-9 D '39
Aqueous solubilities of some aliphatic ketones. P. M. Ginnings, D. Plonk and E. Carter. Am Chem Soc J 62:1923-4 Ag '40
alpha-Bromo secondary alkyl ketones; reaction of 3-bromo-3-methyl-2-butanone with methylmagnesium iodide. R. B. Greenburg and J. G. Aston. Am Chem Soc J 62:3135 N '40
alpha-Bromo secondary alkyl ketones; reaction with sodium alcoholates; a new synthesis of tertiary acids by rearrangement. J. G. Aston and R. B. Greenburg. bibliog Am Chem Soc J 62:2590-5 O '40
Catalyzed cleavage of diacetone alcohol and other ketols and unsaturated ketones. S. H. McAllister, W. A. Bailey, jr. and C. M. Bouton. bibliog Am Chem Soc J 62:3210-15 N '40
Chalkones; reactions of *o*-hydroxyphenyl 6-methoxy-2 : 3-benzostyryl ketone and of some derivatives. B. G. Acharya, R. C. Shah and T. S. Wheeler. Chem Soc J p817-19 Je '40
Chloromethylation of aryl ketones. R. C. Fuson and C. H. McKeever. bibliog Am Chem Soc J 62:784-5 Ap '40
Condensation products of phenols and ketones; structure of the dimeric forms of *o-iso*propenylphenols. W. Baker and D. M. Besly. Chem Soc J p1103-6 Ag '40
Conjugation of carbonyl groups and the absorption spectrum of triketopentane. M. Calvin and C. L. Wood. bibliog diags Am Chem Soc J 62:3152-5 N '40
Cyclization of dienynes; ring closures with alpha and beta cyclohexenylacetylene derivatives of octalin. C. S. Marvel, D. E. Pearson and L. A. Patterson. bibliog Am Chem Soc J 62:2659-65 O '40
Cyclization of dienynes; the dodecahydrophenanthrone obtained from dicyclohexenylacetylene. C. S. Marvel, D. E. Pearson and R. V. White. bibliog Am Chem Soc J 62: 2741-3 O '40
α- and β-N-dialkylamino-α,β-unsaturated ketones. N. H. Cromwell. Am Chem Soc J 62:1672-3 Jl '40
β-Diketones; synthesis, structure and bactericidal properties. C. D. Hurd and C. D. Kelso. bibliog Am Chem Soc J 62:2184-7 Ag '40
Experiments on the synthesis of substances related to the sterols; tetracyclic ketones. R. Robinson and J. M. C. Thompson. Chem Soc J p1739-42 N '39
Fries reaction. A. H. Blatt. Chem R 27: 413-36 bibliog(60 references, p435-6) O '40
Fries rearrangement of phenyl laurate and phenyl stearate. H. E. Bell and J. E. Driver. Chem Soc J p835-7 Jl '40
Hexahydroacetomesitylene. E. P. Kohler, T. L. Jacobs and H. M. Sonnichsen. bibliog Am Chem Soc J 62:785-93 Ap '40
Hydrogenation of 1,3-diketones to ketols. P. S. Stutsman and H. Adkins. bibliog Am Chem Soc J 61:3303-6 D '39
Keto-cyclol tautomerism of 1,6-diketones; 1,4-dibromo-1,4-dibenzoylbutane. T. Kao. Am Chem Soc J 62:356-8 F '40
Mixture of ketones used to dewax motor lubricants. A. J. Mueller. flow diag Oil & Gas J 38:54+ Ap 18 '40
Morpholinomethyl ketones. J. P. Mason and S. D. Ross. Am Chem Soc J 62:2882-3 O '40
Physical properties and chemical constitution; alkyl ketones. D. M. Cowan, G. H. Jeffery and A. I. Vogel. diag Chem Soc J p171-6 F '40
Preparation of 4,4'-dicyano-diphenyl and certain diketones of diphenyl. C. de Milt and M. Sartor. Am Chem Soc J 62:1954-5 Ag '40
Production et utilisation des cétones comme carburants à fort indice d'octane. C. Berthelot. Chimie & Ind 42:779-86 N '39
Production of polycyclic aromatic types through the *cyclo*dehydration of unsaturated ketones. W. S. Rapson and R. G. Shuttleworth. Chem Soc J p636-41 My '40
Reaction between quinones and metallic enolates; duroquinone and the enolates of cyanoacetic ester and of β-diketones. L. I. Smith and E. W. Kaiser. bibliog Am Chem Soc J 62:138-40 Ja '40
Reaction between quinones and metallic enolates; trimethylquinone and the enolates of β-diketones. L. I. Smith and E. W. Kaiser. Am Chem Soc J 62:133-8 Ja '40
Reactions of anils; addition of methyl ketones to benzalaniline in the presence of boron fluoride. H. R. Snyder, H. A. Kornberg and J. R. Romig. Am Chem Soc J 61:3556-8 D '39
Reactions of αβ-unsaturated cyclic aldehydes and ketones; *dl*-cryptone and *cis*- and *trans-dl*-cryptol. D. T. C. Gillespie and A. K. Macbeth. Chem Soc J p1531-4 O '39
Relative oxidation potentials of ketones. F. W. Cox and H. Adkins. Am Chem Soc J 61:3364-70 D '39
Ring enlargement of two cyclic alpha-chloroketones. T. R. Steadman. bibliog Am Chem Soc J 62:1606-9 Je '40
Steric hindrance in ketone-naphthol condensations; the condensations of the naphthols with cyclohexanone. J. B. Niederl, V. Niederl and J. Charney. Am Chem Soc J 62:322-3 F '40
Steric hindrance in ketone-phenol condensations; the condensation of guaiacol with cyclic ketones. J. B. Niederl, V. Niederl and J. Grumer. Am Chem Soc J 62:320-2 F '40
Synthesis of a new perhydro-9-phenanthrone. C. S. Marvel and R. V. White. bibliog Am Chem Soc J 62:2739-40 O '40
1,2,4-Trimesityl 1,4-diketones and related compounds, including the stereoisomeric mono and dienols. R. E. Lutz and C. J. Kibler. bibliog Am Chem Soc J 62:360-72 F '40
α,β-unsaturated aminoketones; α- and β-morpholinobenzalacetophenones. N. H. Cromwell. Am Chem Soc J 62:2897-900 N '40

See also
Acetone

KETTERING, Charles Franklin, 1876-
Portrait. Iron Age 145:79 F 29 '40; Steel 106: 21 Mr 4 '40

KETTLES, Steam jacketed
Data on evaporation and drying in a jacketed kettle. H. G. Laughlin. bibliog il Am Inst Chem Eng Trans 36:345-55; Discussion. 356-7 Je '40
How to figure the cost of a process piping shutdown. A. C. Kirkwood. diags Heating-Piping 12:87-9 F '40
Will these piping changes pay? with cost data. A. C. Kirkwood. il Heating-Piping 12:410-11 Jl '40

KETURONIC acids
Isolation of keturonic acids; isolation of crystalline brucine salts of keturonic acids prepared by oxidation of *l*-xylose, *l*-arabinose and *d*-glucosamine. L. T. Crews, J. P. Hart and M. R. Everett. Am Chem Soc J 62:491-3 Mr '40

KEWLEY, James
Retirement from position of chief chemist of the Shell group. J. A. Ouil. por Chem & Ind 59:509-10 Jl 13 '40

KEYNES, John Maynard, 1883-
Development of Keynes' economic theories. T. Greidanus. 40p pa 2s P. S. King & son, London '39

KEYNES plan. See War finance

KEYS and keyways (machinery)
Factors for keyway dimensions; reference book sheet. A. C. Rasmussen. diag Product Eng 11:338 Jl '40
Involute spline standard meets widespread demand. C. H. Stanard and C. K. Lenning. il diags Ind Stand 11:89-91 Ap '40
Involute-spline standards; reference book sheet. diags Am Mach 84:431, 433, 473, 475, 511, 513 Je 12-Jl 10 '40

KEYSER, Mrs C. Naaman
Early German art revived; historic materials used by Mrs Keyser. G. Ramey. Am Cer Soc Bul 19:85-6 F '40

KEYSTONE steel and wire company
Modernization program. il Am Business 10: 35-42 F '40

KHAKI
Correct war colors. Textile Col 62:158 Mr '40

KIDNEYS
High blood pressure; kidney extract gives relief. M. Van de Water. Science 91:sup8 Ja 12 '40
Renal mechanisms controlling composition of the body fluids. D. D. Van Slyke. diag Chem R 26:105-27 bibliog(p126-7) F '40
Sex differences in the structure of Bowman's capsule in the mouse. C. Crabtree. Science 91:299 Mr 22 '40

KIESELGUHR. See Diatomaceous earth

KILBOURNE Hole, New Mexico
Origin of Kilbourne Hole. P. Reiche. bibliog diags maps Am J Sci 238:212-25, pl 1-2 Mr '40

KILNS
China kiln turns to purchased power; induction motors for ventilating and exhaust fans on an oil-fired rotary kiln. il Elec W 113:1240+ Ap 20 '40
Circle system for manufacture of brick and tile; Washington brick company, Muirkirk, Md. J. R. Clark and T. W. Garve. il diags plan Am Cer Soc Bul 19:12-16 Ja '40
Development of a laboratory continuous kiln. C. H. Commons, jr. and E. E. Kunzman. diags Am Cer Soc Bul 19:331-3 S '40
Factors affecting the life of kiln furniture in the whiteware industry. G. S. Diamond. bibliog il diags Am Cer Soc Bul 19:371-8 O '40
Getting large tonnage of hollow tile in new tunnel kiln; New Jersey clay products co. il diag Brick & Clay Rec 95:14-16 D '39
New Thermofor kiln and clay-regeneration processes for maintaining decolorizing clays at high efficiencies. T. P. Simpson and J. W. Payne. il diags Am Pet Inst Proc 20(3):7-14 '39; Same. Nat Pet N 31:R486-7, R490-2 N 15 '39; Same. Oil & Gas J 38:147, 150+ N 17 '39; Same abr. Can Chem & Process Ind 24:397+ Ag '40; Discussion. Am Pet Inst Proc 20(3):14-15 '39
Operator designed his own tunnel kiln and dryer! Fayette brick & tile co. il diags Brick & Clay Rec 97:15-16 O '40
Recirculating radiated waste-heat drier operated under controlled humidity and temperature. H. R. Straight. diags Am Cer Soc Bul 18:427-9 N '39
Stability of a kiln stack. T. W. Garve. diags Am Cer Soc J 23:152-6 My '40
What draft does in burning practice; updraft and down-draft kilns. T. W. Garve. diags Brick & Clay Rec 97:18-21; Discussion. 21-2 Ag; 28-9 S; 24-5, 54 O '40

See also
Brickmaking
Cement kilns
Drying apparatus
Furnaces
Lime kilns
Pyrometric rings

Design
High-temperature gas-fired test furnace. C. L. Thompson and H. G. Wilcox. il diags Am Cer Soc Bul 19:336-7 S '40

Electric heating
Progress reports from the Electrotechnical laboratory, Bureau of mines, at Norris, Tenn. H. Wilson, M. S. Nelson and others. Am Cer Soc Bul 19:92-4 Mr '40

Firing
Burn brick from top and bottom in chamber kiln using gas; Humboldt brick & tile co. il Brick & Clay Rec 97:24-5 N '40
Combination oil burner and blower improves scove kiln firing. il Brick & Clay Rec 96:20 Ja '40
Control of firing in kilns; abstract. Am Cer Soc J 23 (Cer A 19):170 Jl '40
Economies of combustion control in industrial ceramics; fuel waste thru excessive use of air or of time in firing. R. C. Hutchison. bibliog Am Cer Soc Bul 19:295-8 Ag '40
Effect of thermal history on the physical properties of electrical porcelain. E. H. Fritz and H. C. Harrison. bibliog Am Cer Soc Bul 18:420-1 N '39
Effect of thermal process on physical properties; structural clay products. R. Russell, jr. bibliog il Am Cer Soc Bul 19:1-12 Ja '40
Give fire brick good heat soaking in M. D. Valentine new tunnel kiln. il Brick & Clay Rec 97:44-6 Jl '40
New design stack booster fan cuts power cost in half. il Brick & Clay Rec 97:26 O '40
Physical chemistry of gas-producer reactions in relation to ceramic firing. A. W. Gauger. Am Cer Soc Bul 19:365-8 O '40
Problems of firing ceramic ware in tunnel kilns. P. Dressler. diags Am Cer Soc Bul 18:411-16 N '39
Relation of setting face brick in down-draft kilns to heat distribution. F. E. Lobaugh. diags Am Cer Soc Bul 19:361-4 O '40
Some methods of firing fuels in tunnel kilns. G. D. Brush. diags Am Cer Soc Bul 19: 368-71 O '40
Some things you should know about burning natural gas. G. L. Ballard. Brick & Clay Rec 97:22-4 Jl '40; Discussion. 97:29 S; 30+ N '40
Stoker firing of kilns. J. E. Martin. il Am Cer Soc Bul 19:334-5 S '40
Too many brick set in kiln defeat benefit of long flame. J. G. Seanor. Am Cer Soc Bul 19:245-7 Jl '40
Top-fired tunnel kiln uses coal to burn clay-wares economically. P. Dressler. il diag Brick & Clay Rec 96:22-3 Ap '40
Tunnel kiln firing; abstracts of A.C.S. papers. Brick & Clay Rec 96:32-3 My '40

Lining
Decrease firing time and fuel consumption with hot face insulation. diags Brick & Clay Rec 95:55-6+ D '39
Town gas firing and furnace design. L. R. Barrett and A. T. Green. Gas J (Lond) 229:195-6 Ja 24 '40

See also
Cement kilns—Lining

KIMBALL, Dexter Simpson, 1865-
Awarded an honorary membership in the A.S.M.E. Mach 46:196 Ja '40

KIMBERLY-CLARK corporation
$2,000,000 bonds placed privately. Comm & Fin Chr 151:1147 Ag 24 '40

KINDERGARTENS
Benjamin Franklin school, Anaheim, Calif.; with construction outline. il plans Arch Forum 72:385-6 Je '40

KINEMATICS
See also
Mechanical movements
Mechanics
Motion
Vibration

KINESCOPES. See Television receiving apparatus

KING, A. Gordon
A.G.A. names King Technical section secretary. por Gas Age 86:46 Ag 15 '40; Same. Am Gas Assn Mo 22:324 S '40

KING, John J. 1867-
Sketch. C. E. Anstett. por East Underw 40:36-7 N 17 '39
Sketch; abstracts. E. S. Lott. East Underw 40:10+ N 17 '39; Weekly Underw 141:1081, 1086 N 18 '39

KINGS and rulers
Living biographies of famous rulers. H. Thomas and D. L. Thomas. 310p $1.98 Garden City pub. co, 14 W. 49th st, New York '40

KINGSPORT, Tennessee
City manager government in Kingsport (Tennessee). H. A. Stone, D. K. Price and K. H. Stone. 29p pa 25c Public administration service, Chicago '40
Kingsport, Tennessee, a mid-southern center of chemical industry. C. H. Penning. il Chem Ind 46:566-71 My '40

KINKEAD process. See Steel, Stainless clad

KINNEAR, John Charles
Sketch. por Explosives Eng 18:260-1 S '40

KIRKSITE A. See Zinc alloys

KIRKUS, Virginia, bookshop service
Christmas book list. V. Kirkus. Special Lib 30:333-6 D '39

KIRSTEN pipe company
Pipe dream; when doctors told aeronautical engineer to quit smoking, result was nationally advertised product. E. Peterson. il Ptr Ink 192:13-15 S 13 '40

KITCHEN utensils
Design decade. il Arch Forum 73:268-70 O '40
See also
Aluminum ware

KITCHENS
Apartment planning provisions; plans. Arch Rec 88:88 Ag '40
How to arrange kitchens for various types of plan. il diags Am Bld 62:80-5 N '40
Kitchen management in schools, colleges, hotels, etc. E. M. Benson. 172p 5s ($1.75) J. M. Dent & sons, London; Toronto '39
Kitchens. il diags plans Arch Rec 87:81-6 Je '40
See also
Ships—Kitchens

Electric equipment

Electric kitchens move into stores. W. A. Cyr. il Elec West 84:32-3 My '40
School canteens. F. M. Evans. Elec R (Lond) 125:728 D 8 '39

Equipment

Design decade. il Arch Forum 73:266-70 O '40
No! he doesn't sell sinks, but! he does sell kitchens; contractor-dealer. F. A. Kveton. il Dom Eng 155:46-7+ Ja '40
Sales-tested kitchens and basements with gas appliances. il Am Bld 62:51-66 F '40

KJELDAHL apparatus
Semimicro-Kjeldahl distillation apparatus. C. E. Redemann. diags Ind & Eng Chem Anal ed 11:635-6 N 15 '39

KJELDAHL method. See Nitrogen—Analysis

KLAPROTHOLITE
Bornite-klaprotholite relations at Concepcion del Oro, Mexico. P. Krieger. il Econ Geol 35:687-97 S '40

KLEEN-STIK products, Inc., San Francisco
Policies that put Kleen-Stik gummed tape in coast-to-coast markets in 5 years; pressure-sensitive adhesive with a thousand point-of-sale uses. G. J. Weigel. il Sales Management 47:20-2 Jl 1 '40

KLUMPP, Theodore George, 1903-
Portrait. Business Week p33 F 3 '40

KLYSTRON
Electronic generation of electromagnetic oscillations. E. U. Condon. diag J Ap Phys 11:502-6 Jl '40
Electrons dance the rhumba; klystron, generator of powerful ultra high-frequency radio waves; useful in blind landing system for planes. A. R. Boone. il Sci Am 162:20-1 Ja '40
Klystron tube. Science 92:sup12 O 25 '40
Klystrons in operation at Stanford university; illustrations. Electronics 13:25 Ja '40
Ultra-high frequencies. diag Electrician 123: 425-6 N 10 '39
Velocity-modulated beams; the electron density distribution. D. M. Tombs. diags Wireless Eng 17:54-60 F '40; Discussion. 17:110-11, 202-5, 262-3 Mr, My-Je '40

KNIGHT, Percy Henry, d. 1940
In memoriam. B. P. Rowe. Elec Eng 59:437-8 O '40

KNIT goods
Consumer appeal marks new knitted products; illustration. Textile World 90:66-7 Ap '40
Elastic-yarn uses increase. H. P. Galloway. il Textile World 90:71-2 Ap '40
Knitting; developments in 1939. Textile World 90:88-9 F '40
Lastex and elastic knitted fabrics. il Rayon 21:221-2 Ap '40
Processing yarn for ingrain knitting. T. R. Smith. il Am Dyestuff Rep 29:180-2 Ap 15 '40
Rubber in knitwear. J. B. Lancashire. il Textile Col 62:53-4 Ja '40
350 years of knitting. il Textile World 90:68-70 Ap '40
See also
Hosiery
Rayon—Knit goods
Underwear

Manufacture

Consideration of the practical aspects of the dyeing and processing of tubular knit goods; wool, cotton, and rayon. L. Glekien. il Am Dyestuff Rep 29:182-3, 201-2 Ap 15 '40
Finishing warp-knit fabrics. E. S. Dunlap. il Textile World 90:77 Ap '40
Knit outerwear design. L. Miner. il Textile World 89:85 D '39
Spreading knitted fabrics; tables aid in obtaining correct cloth width for minimum shrinkage. F. J. Quillitzsch. Textile World 89:70-1 N '39
See also
Knitting machines
Knitting mills

KNIT goods industry
Annual earnings in knit-goods industries (other than hosiery), 1937. H. E. Riley and others. Monthly Labor R 50:401-9 F '40
Hong Kong's exports of underwear and hosiery increased in 1939. Comm Rep p497 Je 1 '40
Hourly earnings in knit-goods industries (other than hosiery), September 1938. H. E. Riley and J. Perlman. Monthly Labor R 49:1173-1202 N '39

KNITTING
Complete book of progressive knitting. I. R. Duncan. 387p $2.50 Liveright '40
Creation of new tricot fabric styles. il diags Rayon 21:473-4 Ag '40
Lastex and elastic knitted fabrics. il Rayon 21:221-2 Ap '40
Making pattern chains. F. J. Quillitzsch. il Textile World 90:73 Ap '40
Manufacture of rayon knit goods. W. H. Brown. diags Rayon 21:219-21 Ap '40
New outerwear fabrics; use of long-latch cylinder needles. P. W. Niles. il Textile World 90:93-4 Ja '40
Spreading knitted fabrics; calculating correct cloth widths for Swiss-rib, flat-knit, tuck-stitch, etc. F. J. Quillitzsch. il Textile World 90:59 Mr '40
Yarn problems in knitting. L. G. Goldenberg. Textile World 90:98 S '40
See also
Hosiery—Manufacture

Tables, calculations, etc.

Spreading knitted fabrics; tables aid in obtaining correct cloth width for minimum shrinkage. F. J. Quillitzsch. Textile World 89:70-1 N '39

KNITTING arts exhibition
Annual exposition, 36th, Philadelphia, April 15-18. Textile Col 62:341 My '40
Annual knitting arts exhibition, 36th, Philadelphia, April 15-18; detailed description of exhibits. il plan Rayon 21:198-202, 255-6 Ap '40; Textile World 90:140-4 Ap '40

KNITTING arts exhibition—*Continued*
Annual knitting arts exhibition, 36th, Philadelphia, April 15-18; exhibits of special interest to the wet processing branch. Am Dyestuff Rep 29:177-80 Ap 15 '40
Philadelphia show. il Textile World 90:58-9 My '40

KNITTING machines
Jacquard pattern-wheel rib machine. il Textile World 89:70 D '39
Knitting; developments in 1939. Textile World 90:88-9 F '40
Manufacture of warp knit rayon fabrics. il diag Rayon 21:225-6 Ap '40
New England Butt co. knitting loom. il Textile World 89:73 N '39
Textile machine works full-fashioned knitting machine. il Textile World 89:69-70 D '39
Warp-knitting essentials; pointers on the selection, installation and operation of high-speed tricot machines. O. Engelhard. Textile World 89:65 D '39
See also
Hosiery machines

Exhibitions
Annual knitting arts exposition, 36th, Philadelphia, April 15-18. Textile Col 62:341 My '40
Annual knitting arts exhibition, 36th, Philadelphia, April 15-18; detailed description of exhibits. il plan Rayon 21:198-202, 255-6 Ap '40; Textile World 90:140-4 Ap '40
Annual knitting arts exhibition, 36th, Philadelphia, April 15-18; exhibits of special interest to the wet processing branch. Am Dyestuff Rep 29:177-80 Ap 15 '40
Philadelphia show. il Textile World 90:58-9 My '40

History
350 years of knitting. il Textile World 90:68-70 Ap '40

Needles
Fixing hosiery machines; full-fashioned machines, straightening needles. W. A. Simond. il Textile World 90:68-9 Ag '40

KNITTING mills
See also
Hosiery mills

Employees
Annual earnings in knit-goods industries (other than hosiery), 1937. H. E. Riley and others. Monthly Labor R 50:401-9 F '40
Hourly earnings in knit-goods industries (other than hosiery), September 1938. H. E. Riley and J. Perlman. Monthly Labor R 49:1173-1202 N '39

Records
Needle chart insures adequate supply at all times. F. J. Quillitzsch. Textile World 90: 102 My '40

KNIVES
Air conditioning saves knives. Iron Age 146: 57 N 14 '40
Regrinding machine knives. A. Rousseau. il Pulp & Pa of Can 41:476-7 Je '40
Rogers CC-3 circular knife grinder. il Paper Tr J 109:56 N 30 '39

KNIVES, Chipper
Chipper knives. C. P. Robinson. Paper Tr J 110:86-8 Je 27 '40

KNOTS and splices
Encyclopedia of knots and fancy rope work. R. Graumont and J. Hensel. 615p $10 Cornell maritime press, 350 W. 23d st, New York '39

KNOWER, Henry McElderry, 1868-1940
Sketch. R. G. Harrison. Science 92:419-21 N 8 '40

KNUDSEN, William Signius
Knudsen heads machine tool coordination. por Am Mach 84:434c Je 12 '40
Mr Knudsen goes to Washington; Mr Stettinius, too. por Factory Management 98:46-9 Jl '40
Portrait. Barron's 20:4 Ag 5 '40
Production man Knudsen produces. por Business Week p16-17 Jl 6 '40

KOBAYASHI, Ichizo, 1873-
Portrait. Business Week p59 S 28 '40

KODAKS. See Cameras

KOLBE reaction
Kolbe synthesis with alkyl-o-xenols. S. Harris and J. S. Pierce. Am Chem Soc J 62: 2223-5 Ag '40

KOLLSMAN, Paul, 1900-
Paul Kollsman library endowment to provide lending collection; Institute of the aeronautical sciences. por J Aeronautical Sci 7:405-6 Jl '40

KONIMETERS
Dust sampling; device for adjusting nozzle distance in Devers circular konimeter. W. S. Weeks. il diag Can Min J 61:29 Ja '40

KOPPERS company
Earnings, 1936-39. Comm & Fin Chr 150:3516 Je 1 '40

KOREMETRON
Koremetron; an instrument for measuring pupillary diameters. R. C. Jones. il Opt Soc Am J 29:531-4 D '39

KOROSEAL
Clothing for protection against occupational skin irritants. L. Schwartz, L. H. Warren and F. H. Goldman. diags Pub Health Rep 55:1158-63, pl 1-2 Je 28 '40
Korogel for ceramic casting. India Rubber W 103:44 N '40
Koroseal, a raw material for the rubber industry. S. L. Brous. il India Rubber W 101:53-4 D '39
Koroseal as an engineering material; abstract. F. K. Schoenfeld. Can Chem & Process Ind 23:602 D '39

KORT nozzle
Kort nozzle equipped tugboats. H. S. Falk and J. P. Pulliam. il Marine Eng 45:65-7 S '40

KOSHER food. See Jews—Dietary laws

KOTAL
Kotal, a product of industry's waste piles; treating stone aggregate for asphalt road mixes. il Ind & Eng Chem News ed 18:276 Mr 25 '40

KRAFT cheese company
Safeway differential; Coast chain wins lower price scale by reducing delivery cost. Business Week p52 O 26 '40

KRAKOW university
University of Cracow; treatment by the German authorities of the staff. Science 91:72-3 Ja 19 '40

KRAUS, Charles August, 1875-
American contemporaries. F. G. Keyes. por Ind & Eng Chem News ed 18:763-4 S 10 '40
Fathers and sons in chemistry; Kraus trio. por Ind & Eng Chem News ed 18:21 Ja 10 '40

KRESGE, S. S., company
Brass tacks for the investor; brief analysis. Barron's 20:13 F 19 '40
Kresge's; second-largest five-and-ten chain. il Fortune 21:70-6+ Je '40

KRESGE, Sebastian S. 1867-
Portrait. Fortune 21:74 Je '40

KRESGE foundation
Securities offered. Comm & Fin Chr 150:2103 Mr 30 '40

KRESS, Otto
Medal for outstanding service to paper industry. por Paper Tr J 110:101-3 F 22 '40
TAPPI medal to Otto Kress. por Paper Tr J 109:20 N 16 '39

KRESS, S. H., and company
Safe stocks for income and protection. il Mag of Wall St 66:364 Je 29 '40

KROGER grocery and baking company
Another look. Mag of Wall St 65:626 F 24 '40
Brass tacks for the investor; brief analysis. Barron's 20:30 Ja 15 '40
High yield common stocks; thumbnail appraisal. Mag of Wall St 66:420 Jl 13 '40
Taps new profits sources; meat tenderizing process. F. H. McConnell. Barron's 20:7 Je 3 '40

KRYPTON
K-absorption edges of Br (35) and Kr (36). C. H. Shaw. Phys R 57:877-81 My 15 '40
Induced radioactivity of krypton. E. P. Clancy. Phys R 58:88 Jl 1 '40
Nuclear isomerism in selenium and krypton. A. Langsdorf, jr. and E. Segrè. bibliog il Phys R 57:105-10 Ja 15 '40
Radioactivity produced by proton bombardment of bromine and iodine. E. C. Creutz and others. il diag Phys R 58:481-6 S 15 '40
Zeeman effect in krypton and xenon. J. B. Green, D. W. Bowman and E. H. Hurlburt. Phys R 58:381 Ag 15 '40

KYANITE. See Cyanite

KYMOGRAPH
Improvements in the Harvard spring kymograph. H. B. McGlade. diags Science 91:412 Ap 26 '40

L

L.C.L. freight. See Freight car service—Car load

L.C.L. rates. See Railroads—Rates

LABELING
Aluminum labels and foils weaken bottle washing solutions. C. A. Shillinglaw and M. Levine. Food Ind 12:41 Ja '40
Marking rocks, minerals and fossils; celluloid dissolved in acetone protects labels. G. D. Hubbard. Science 90:624 D 29 '39
Permanent labels for commercial glass containers; silk screen process for application of fused-on colours. C. S. Sidebottom. Can Chem & Process Ind 23:541-2 N '39; Same cond. Chem Age (Lond) 42:3-4 Ja 6 '40

LABELING machines
Rapid labeler; 1400 pineapple cans labeled per minute. il Sci Am 163:123-4 S '40

LABELS
Advertisers warned against flouting or fighting consumer movement; P.I. jury of marketing opinion. D. E. Robinson. Ptr Ink 191:15-18 Je 21 '40
Arsenates standards proposed and label control by Department of agriculture. Oil Paint & Drug Rep 137:3+ Ja 15 '40
By-products of informative labels. Ptr Ink Mo 40:31 F '40
Canadian engineering standards association announces plans for labeling electrical appliances. Ind Stand 11:126-7 My '40
Consumer marches on. E. Freedman. Am Dyestuff Rep 29:32-5; Discussion. 35-7 Ja 22 '40
Corn vs. cane sugar; dextrose interests seek to annul Food & Drug regulation. Business Week p33-4+ Jl 13 '40
Drug act label warnings supplied to F.D.A. offices. Oil Paint & Drug Rep 137:3+ Ja 8 '40
Drug act labeling applies to retail repackaging. Oil Paint & Drug Rep 137:5 Ja 29 '40
Drug directions-on-label exemption may be revoked. Oil Paint & Drug Rep 137:3+ Ja 15 '40
Drug ingredients must be adequately shown on label. Oil Paint & Drug Rep 137:3+ Ap 8 '40
Drug label rules apply to dispensing physician. Oil Paint & Drug Rep 137:3 Mr 18 '40
Drug labels lack adequate information; abstract. W. G. Campbell. Oil Paint & Drug Rep 138:4 O 28 '40
Drug law bulk labeling explained; other drug labeling points cleared up by F.D.A. Oil Paint & Drug Rep 137:4+, 5+ F 26 '40
Drug warning statements must be legally adequate. Oil Paint & Drug Rep 137:5+ Ja 22 '40
Federal food, drug and cosmetic act turns sales aid for products. il Sales Management 45:24-5 D 15 '39; 46:58, 60 Ja 1 '40
FTC widens sphere; assumes jurisdiction over misleading labeling. Business Week p44-5 My 11 '40
F.W.D.A. discusses labeling under new drug law. Oil Paint & Drug Rep 137:5+ F 12 '40
Finds labelling each gear aids users; production and marketing of cast iron gears has been instituted by Braun gear corp. Steel 106:66+ Je 10 '40
Higher standards in labeling goods. Barron's 19:5 D 18 '39
House passes bill for labeling woolen products. Comm & Fin Chr 151:1371 S 7 '40
How Kaufmann's uses research to build business; continuous research at Mellon institute and standard of quality labeling. E. G. Thoman. il Am Business 10:26-7+ My '40
How the Infotag helps Sears sell. F. C. Hecht. il Ptr Ink Mo 41:10-12+ Ag '40
Informative labeling; some principles with case studies; a Printers' Ink Monthly special study. il Ptr Ink Mo 40:17-20, 46-7, 50-6 My '40
Is grade labeling perfect? Ptr Ink Mo 41:34 O '40
Labels; functionally designed. il Ptr Ink Mo 41:10-11 O '40
New opal jar meets drug act rules; containers for Edna Wallace Hopper creams have all label information lithographed on closures. il Mod Packaging 14:70 S '40
New vitamin controls; copywriters must watch out for FDA. Business Week p48-9 O 26 '40
New Wool products labeling act; text. Rayon 21:668-70 N '40
Pacific Factag answers the consumer's questions. il Textile World 90:122 My '40
President Roosevelt signs bill requiring labeling of woolen products. Comm & Fin Chr 151:2283 O 19 '40
Problems under informative labeling. F. S. Blanchard, H. Brightman and E. C. Franklin. 23p Am. management assn, New York '39
Product standards and labeling for consumers. A. L. Edwards. 134p bibliog(p125-7) $2.50 Ronald press '40
Proprietary association section studies labeling problems. Oil Paint & Drug Rep 136:5+ D 11 '39
Pyrethrum labeling brought under law. Oil Paint & Drug Rep 137:3 Ja 29 '40
Question grade labels; packers say arbitrary approval plans don't supply adequate data for consumers. Business Week p28-9 Ag 3 '40
Real issue in the sweetener controversy. R. S. McBride. Food Ind 12:36-7 S '40
Require wool labels; House passes measure, okayed by Senate. Business Week p17 S 7 '40
Schuckl and U.S. products co. adopt grade labeling; approved by U.S. Dept. of agriculture Marketing service. il Sales Management 47:23-4 Ag 15 '40
Sell food flavor, not drug properties. Food Ind 12:61 My '40
Speaking of informative labels, here is one that actually tells something; Pacific Mills Factag. F. S. Blanchard. il Ptr Ink 191: 15-18 Je 7 '40
Standardization of packages. C. R. Cosby. U S Nat Bur Stand Misc Pub M165:121-5 '40
Store experiments; Bamberger expands informative labeling. Business Week p46 S 28 '40
Vitamin labeling views presented by U.S. experts and others. Oil Paint & Drug Rep 138:5+ O 14; 5+ O 21; 5+ N 4 '40
Wool act protested. Business Week p46 O 12 '40
Wool labeling bill passed. Textile World 90: 66 O '40

See also
Origin, Indication of
Tags
Trade marks
Union label

LABOR, Casual

See also
Longshoremen
Migration of workers

LABOR, Compulsory
Compulsory labor service in Japan. Monthly Labor R 49:1380-1 D '39
Coordination and utilization of labor in France. Monthly Labor R 50:45-51 Ja '40
German labor measures in Bohemia-Moravia, formerly a part of Czechoslovakia. Monthly Labor R 49:1406-8 D '39
Labor discipline in German forced-labor service. Monthly Labor R 51:584 S '40
Labor policy in Germany. Monthly Labor R 50:1374-6 Je '40
Requisition of labour in Yugoslavia. Int Labour R 42:136-7 Ag-S '40
Requisitioning of labour in wartime. bibliog Int Labour R 41:582-608 Je '40
Women in wartime in Germany. E. A. Dow. Monthly Labor R 50:1147-50 My '40

LABOR agreements. See Trade agreements

LABOR and capital
See also
Arbitration, Industrial
Capitalism
Company unions
Cooperation
Industrial relations
Labor disputes
Strikes
Trade agreements
Trade unions

LABOR and laboring classes
Economics of labor. R. A. Lester. 424p pa $3.50 Washington book store, 4320 University way, Seattle, Wash. '40
See also
Accidents, Industrial
Aeronautic workers
Apprentices
Arbitration, Industrial
Automobile factories—Employees
Bonus system
Building trades—Labor conditions
Chemical workers
Child labor
Coal miners
Company unions
Cooperation
Cooperative associations—Employees
Cotton mills—Employees
Cotton workers
Diseases, Industrial
Education of workers
Efficiency, Industrial
Employees
Employees' representation in management
Employment agencies
Employment management
Employment systems
European war, 1939—Labor problems
Factory inspection
Farm labor
Foundries—Employees
Gas companies—Employees
Government employees
Handicraft
Home labor
Hours of labor
Housing
Hygiene, Industrial
Industrial councils
Industrial education
Industrial management
Industrial relations
Industry
Insurance, Health
Insurance, Industrial
Insurance, Unemployment
Insurance, Workmen's compensation
Iron workers
Labor laws and legislation
Leather workers
Leisure
Longshoremen
Lumber workers
Machinery in industry
Metal workers
Migration of workers
Millinery workers
Miners
Motor bus drivers
Motor truck drivers
Municipal employees
Occupations
Office workers
Old age pensions
Open and closed shop
Petroleum workers
Picketing
Printers
Production
Profit sharing
Radio workers
Railroads—Employees
Road workers
Safety devices and measures
Seamen
Servants
Shoe factories—Employees
Standard of living
Steel workers
Street railroads—Employees
Strikes
Sugar workers
Textile workers
Time study
Trade agreements
Trade unions
Unemployment
Vacations
Wages
Welfare work in industry
Woman—Employment
Workmen's compensation

Bibliography
Book notes. Published in monthly numbers of International labour review
Recent publications of labor interest. Published in Monthly labor review
Selected list of the publications of the Bureau of labor statistics. E. A. Johnson, comp. 1938 ed U S Bur Labor Statistics Bul 661:1-30 '39

Housing
See Housing

International aspects
Inter-American labor conference, 2d, Cuba. Comm & Fin Chr 149:3353-4 N 25 '39
I.L.O. year-book, 1939-40. 10th year of issue 345p $3; pa $2 Int. labor office '40
Second Labour conference of American states members of the International labour organisation, Havana, Nov. 21-Dec. 2, 1939. Int Labour R 41:225-68 Mr '40
Second Labor conference of the American states which are members of the International labor organization, Havana, Nov. 21-Dec. 2, 1939. Monthly Labor R 50:59-61 Ja '40

Periodicals
Inkpots of unionism. Business Week p57-8 O 5 '40

Statistics
Conference on employment and pay roll statistics. E. Wilke. Am Statis Assn J 35: 518-23 S '40
Explanatory notes on periodical statistics of employment, unemployment, hours of work, wages, and cost of living. Int Labour R 41: 88-98 Ja '40
International survey of recent family living studies; families of unemployed workers. bibliog Int Labour R 41:645-62 Je '40
Wages, hours, and productivity of industrial labor, 1909 to 1939; manufactures, mining and railroads. W. Bowden. Monthly Labor R 51:517-44 S '40
See also
Employment—Statistics
Hours of labor—Statistics
Occupations—Statistics
Unemployment—Statistics
Wages—Statistics

Bibliography
Monthly statistics of employment, wages, and hours, issued currently by state labor authorities. 5 l U.S. Dept. of labor library, Washington '39

Africa
Medical aspects of the protection of indigenous workers in colonies. L. Mottoulle. Int Labour R 41:361-70 Ap '40

Argentina
Wages and hours of labor in Argentina. Monthly Labor R 50:456-70 F '40
See also
Wages—Argentina

Arizona
Migratory cotton pickers in Arizona. Monthly Labor R 50:62-5 Ja '40

Australia
Australian endorsement of 44-hour week. Monthly Labor R 49:1447-9 D '39

Baltic states
Labor conditions in the Baltic states. Monthly Labor R 51:591-2 S '40

British Columbia
See also
Wages—British Columbia

California
A.F. launches anti-red crusade; all-out war against unions. Business Week p34-5 Je 8 '40
California replies to Steinbeck; State chamber of commerce offers program stressing need for rehabilitation and adequate housing. Business Week p17 My 11 '40
Coast farmers map war on unions; Senate hearings start. Business Week p29-30 D 2 '39

LABOR and laboring classes—California—*Cont.*
Labor war shifts to farm front around Los Angeles. Business Week p26-7 Ap 6 '40
Migrant households in California, 1938. Monthly Labor R 49:622-3 S '39
Okies, a national problem; California prepares to ask federal government to assume responsibility for migrants. il map Business Week p16-17 F 10 '40
Trampling Grapes of wrath; California farmers assail Steinbeck, concentrate on drive for restrictive labor laws. Business Week p38+ D 16 '39
See also
Labor laws and legislation—California

Canada

Economic welfare of Canadian employees; a study of occupations, earnings, hours and other working conditions, 1913-1937. 144p pa $1.25 Queen's univ, School of commerce & administration, Kingston, Ontario '40
War labor tangle; Canada discovering need of unified control. Business Week p57-8 N 9 '40
Wartime training of personnel and the dilution of labor in Canada. Monthly Labor R 51:27-9 Jl '40
See also
Labor laws and legislation—Canada
Labor supply—Canada
Strikes—Canada
Trade unions—Canada
Trades and labor congress of Canada

Ceylon

Indian labour in Ceylon, Fiji, and British Malaya. bibliog Int Labour R 42:57-63 Jl '40

China

Chinese measures dealing with unemployment. Monthly Labor R 50:1384-5 Je '40

Europe

European labor on a war footing. J. S. Gambs. Monthly Labor R 49:1348-58 D '39

Fiji Islands

Indian labour in Ceylon, and British Malaya. Int Labour R 42:63-4 Jl '40

Finland

Cooperation between employers' and workers' organizations in Finland. H. F. A. Schoenfeld. Monthly Labor R 50:855 Ap '40

France

See also
Labor laws and legislation—France

Germany

Is Germany's secret weapon work? W. K. Smith. il Nation's Business 28:20-2+ N '40
Labor conditions in agriculture in east Prussia. Monthly Labor R 51:313-14 Ag '40
Situation in Germany. Int Labour R 42:146-8 Ag-S '40
Women in wartime in Germany. E. A. Dow. Monthly Labor R 50:1147-50 My '40
See also
Labor laws and legislation—Germany

Great Britain

British labour movement. F. Engels. 47p pa 15c International publishers, New York '40
Changes in working conditions of British labor in 1939. Monthly Labor R 50:863-5 Ap '40
Condition of the workers in Great Britain, Germany and the Soviet union, 1932-1938. J. Kuczynski. 92p 1s 6d; pa 1s V. Gollancz, London '39
Decade of industrial change in Britain; industrial and geographical distribution of insured persons. Economist 138:20-1 Ja 6 '40
Independent labor party and social amelioration in Great Britain during the World war. B. Sacks. 37p Univ. of New Mexico press, Albuquerque '40
Labour conditions, 1939. Economist 138:sup 11 F 17 '40
Labor in Great Britain in the summer of 1940. Monthly Labor R 51:572-9 S '40
Wage policies in war-time. J. H. Richardson. Personnel J 19:20-4 My '40
Worktime of women and young persons in British factories. Monthly Labor R 50:1150-2 My '40
See also
Coal miners—Great Britain
Labor laws and legislation—Great Britain
Labor supply—Great Britain
Trade unions—Great Britain
Unemployment—Great Britain
Wages—Great Britain

Hawaiian Islands

Hawaii: sugar-coated fort. il maps Fortune 22:30-7+, 78, 81-2 Ag '40

Hungary

Family allowances in Hungary. Monthly Labor R 50:360-1 F '40

India

Industrial worker in India. B. Shiva Rao. 263p 10s 6d G. Allen and Unwin, London '39

Italy

Increase in working hours and family allowances in Italy. Monthly Labor R 50:57-8 Ja '40
Increased family allowances in Italy. Monthly Labor R 50:1165-7 My '40
See also
Labor laws and legislation—Italy

Japan

Employment conditions in Japan. Monthly Labor R 51:45-6 Jl '40
Organization of employment in Japan. Monthly Labor R 50:1376-7 Je '40
Organisation of employment in Japan to meet wartime requirements. T. Ogishima. Int Labour R 41:134-51 F '40
See also
Wages—Japan

Korea

See also
Wages—Korea

Latvia

Shortage of agricultural labour in Latvia. P. Starcs. Int Labour R 40:768-78 D '39

Malaya, British

Indian, Chinese and Javanese immigrant labour. bibliog Int Labour R 42:65-76 Jl '40

Maryland

Occupational distribution of employed colored workers in Maryland, 1938. Monthly Labor R 50:350-1 F '40
Occupational shifts of Maryland workers in depression. T. B. Manny and H. G. Clowes. Monthly Labor R 49:1108-10 N '39

Massachusetts

Elections by Massachusetts labor relations boards. Monthly Labor R 50:616-17 Mr '40

Mexico

Labor movement. V. L. Toledano. Ann Am Acad 208:48-54 Mr '40

New York (city)

Age distribution of job applicants in New York city. Monthly Labor R 50:861-2 Ap '40

New York (state)

Conclusions of New York legislative committee on older workers. Monthly Labor R 51:74-9 Jl '40
Elections by New York labor relations boards. Monthly Labor R 50:617-19 Mr '40
See also
Labor laws and legislation—New York (state)
Wages—New York (state)

LABOR and laboring classes—*Continued*

New Zealand

See also
Labor laws and legislation—New Zealand
Strikes—New Zealand

Norway

See also
Wages—Norway

Oregon

Migration into Oregon, 1930-37. V. B. Stanbery. Monthly Labor R 49:1106-8 N '39
See also
Labor laws and legislation—Oregon

Palestine

Wages and hours in Palestine, March 1939. Monthly Labor R 49:718-22 S '39

Pennsylvania

Negro workers in mining and manufacturing in Pennsylvania. Monthly Labor R 50: 638-9 Mr '40

Peru

Labor developments in the Peruvian textile industry, 1940. J. Greenup. Monthly Labor R 51:312-13 Ag '40

Philippine Islands

Wages and working conditions in the Philippines, 1938 and 1939. Monthly Labor R 50: 727-32 Mr '40

Puerto Rico

See also
Wages—Puerto Rico

Russia

See also
Labor laws and legislation—Russia

Scandinavia

Conditions of domestic employment in the Scandinavian countries. Int Labour R 41: 614-33 Je '40

South Africa

Labour problems on European farms in South Africa. bibliog Int Labour R 40:848-57 D '39

Southern states

Labor in the South. Manuf Rec Extra no 109:48, 50 S '40

Sweden

Collective agreements in Sweden, 1938. H. Johnson. Monthly Labor R 49:617 S '39
Conditions of domestic employment in the Scandinavian countries. Int Labour R 41: 614-24 Je '40
Social effects of rationalisation in Sweden. Int Labour R 41:72-8 Ja '40
See also
Unemployment—Sweden
Wages—Sweden

Toledo, Ohio

Effects of unionism in Toledo. Personnel J 19:88-92 S '40

United States

Address to Brotherhood of teamsters declares essential the drafting of industry as well as men as basis of national defense. Comm & Fin Chr 151:1513-14 S 14 '40
Comparative earnings and hours of men and women, March 1939. Monthly Labor R 50: 76-8 Ja '40
Do you know labor? Facts about the labor movement. J. Myers. 139p 50c National home library foundation, Dupont circle bldg, Washington, D.C. '40
Fortune survey: opinion of labor on bosses, the unions, picketing, politics, Communists, and eleven people. Fortune 21:59-60+ Je '40
Hours and earnings in manufacturing industries, 1932 to 1939. Monthly Labor R 49: 1466-9 D '39
Labor problems. G. S. Watkins and P. A. Dodd. 3d ed 1128p $3.75 Crowell '40
Labor problems in America. E. Stein and J. Davis, eds. 909p $3.50 Farrar '40
Look at labor. L. Goodelman. 210p pa 50c Modern age books, New York '40
Manpower and Mr Hillman; load of national defense being adjusted to make best use of available skills and to absorb the unemployed. il Fortune 22:66-70+ N '40
My one-man poll of worker opinion. W. Williams. Factory Management 97:36-8+ D '39
Progress of labor in the United States. S. Uminski. 254p $2.50 House of Field, New York '39
31,000,000 workers; unions a problem for U.S. worker. il Fortune 21:64-7+ F '40
What's past is prologue; reflections on my industrial experience. M. B. Gilson. 307p $3 Harper '40
Work and wages in 1939. Monthly Labor R 50:541-55 Mr '40
See also
American federation of labor
Automobile factories—Employees
Coal miners—United States
Housing—United States
Labor laws and legislation—United States
Labor supply—United States
Migration of workers
Trade unions—United States
Unemployment—United States
Wages—United States
Welfare work in industry

Political aspects

Politics divides armies of labor. Business Week p44-6 F 17 '40
Rupture in C.I.O. over Roosevelt and communism. Business Week p38 S 28 '40
This is no time for politics. W. Williams. Factory Management 98:56-7+ O '40
United mine workers in convention at Columbus refrain from voting on resolution indorsing third term for President Roosevelt. Comm & Fin Chr 150:780 F 3 '40

LABOR banks. See Banks and banking, Trade union

LABOR boards, Municipal

Municipal labor boards of Toledo and Newark. W. L. Nunn. Monthly Labor R 49:1045-9 N '39

LABOR boards, State

Elections by New York and Massachusetts labor relations boards. Monthly Labor R 50:616-19 Mr '40

LABOR camps

Government camps for agricultural workers. Monthly Labor R 50:625-7 Mr '40
See also
Civilian conservation corps
Construction camps
Farm camps

LABOR colleges

See also
Education of workers

LABOR conference of American states. See International labor organization—Conference of American states, Havana, 1939

LABOR contracts

Avoid creating more competitors; employees should sign agreement not to engage in printing business. C. R. Rosenberg, jr. Inland Ptr 105:24-5 Jl '40
Collective labor agreement; how to negotiate and draft the contract. E. Lieberman. 233p bibliog(p220-1) $3 Harper '39; Review, by W. R. Maclaurin. Mech Eng 62:132+ F '40
Gordon's employment and agency agreements. S. Gordon. 548p $6 Prentice-Hall '40
Joint labor contracts. Rock Prod 43:45 My '40
Military service and contracts of employment; Italy, Rumania, Greece. Int Labour R 42:114-18 Ag-S '40
Military service and contracts of employment; right of reinstatement and payment of wages in Belgium, Hungary, and Italy. Int Labour R 41:165-76 F '40

LABOR contracts—*Continued*
Milk drivers' union ordered to pay $10,000 damages to Sheffield farms co. for losses suffered in strike called in violation of labor contract. Comm & Fin Chr 151:490-1 Jl 27 '40
Milk union fined; Sheffield Farms workers penalized. Business Week p35 Jl 27 '40
National service and contracts of employment; reinstatement and payment of wages of mobilised workers. E. Herz and I. Bessling. Int Labour R 42:1-28 Jl '40
Restrictions on individual employment contracts. Monthly Labor R 50:1172 My '40
See also
Open and closed shop
Trade agreements

LABOR cost
Compa-ratio; a means of control of salary expense. E. N. Hay. Advanced Management 5:9-10+ Ja-Mr '40
Detailed labor costs in placing concrete by pumping method; construction of reservoir for Duluth. il Concrete 48:17+ Mr '40
Employment and production in manufacturing industries, 1919 to 1936; review of National research project report. H. Magdoff, I. H. Siegel and M. B. Davis. Monthly Labor R 49:1403-4 D '39
Getting efficiency from WPA labor; job report giving unit cost and other data. Eng N 123:756 D 7 '39
Hourly earnings and unit labor cost in manufacturing. I. H. Siegel. Am Statis Assn J 35:455-60 S '40
Labor cost in lining a small tunnel with a concrete pump. il diags Concrete 48:3-4 My '40
Labor costs and profits in the motor industry. W. Beecher. Mag of Wall St 65:217+ D 2 '39
Unit labor cost in 20 manufacturing industries, 1919 to 1939. V. Perlo and W. Bowden. Monthly Labor R 51:33-7 Jl '40

Accounting
Method of obtaining construction labor performance data. W. G. Pilgrim. Am Gas Assn Proc 1939:251-4
Using records to catch the time jokers in estimating. Sheet Metal Worker 31:36-8 Mr; 29-31 Ap '40

LABOR departments
Appropriations for state and federal labor departments. Monthly Labor R 50:369-72 F '40

LABOR displacement
Economic effects of cost reductions; impact of technological change upon labor; efficiencies and improvements from joint management-union research of production problems. C. S. Golden. Advanced Management 5:104-9 Jl-S '40
Technological changes and employment in the steel industry; testimony at hearing before Temporary national economic committee. Monthly Labor R 50:1112-18 My '40

LABOR disputes
Dave Beck's power is challenged in Seattle; court grants temporary injunction against teamster union. Business Week p26-8 Je 22 '40
Industrial disputes. Published in Monthly labor review
Industrial disputes and federal legislation; with special reference to the railroad, coal, steel and automobile industries in the U.S. since 1900. T. R. Fisher. 370p bibliog(p357-61) $4.75 Columbia univ. press '40
Peaceful settlement is 1940 trend. Business Week p36-7 F 24 '40
Settlement of grievances under union agreements. Monthly Labor R 50:286-311 F '40
Trade disputes in Britain, 1929 and yearly, 1933-1939. Economist 138:218 F 3 '40
See also
Arbitration, Industrial
Strikes

LABOR inspection
Organisation of labour inspection in industrial and commercial undertakings. 419p pa $2 Int. labor office '39

LABOR laws and legislation
Court decisions of interest to labor. Published in Monthly labor review
Digest of state and federal labor legislation, enacted July 1, 1938, to July 1, 1939. U S Labor Standards Bul 32:1-51 '39
Industrial-relations machinery in democratic foreign countries. M. H. Schoenfeld. Monthly Labor R 49:1050-74 N '39
Influence of the war and mobilisation on hours of work and rest periods; various countries. bibliog Int Labour R 41:291-306 Mr '40
Military service and contracts of employment; Italy, Rumania, Greece. Int Labour R 42:114-18 Ag-S '40
Military service and contracts of employment; right of reinstatement and payment of wages in Belgium, Hungary, and Italy. Int Labour R 41:165-76 F '40
National service and contracts of employment; reinstatement and payment of wages of mobilised workers. E. Herz and I. Bessling. Int Labour R 42:1-28 Jl '40
Picketing, free speech, and labor disputes. I. R. Feinberg. (Contemporary law pamphlets, ser. 1, no. 25) 21p pa $1 N.Y. univ. Law quarterly review, 100 Washington sq. E, New York '40
Proceedings of the sixth National conference on labor legislation, Washington, D.C., November 13-15, 1939. 109p U.S. Division of labor standards, Washington '40
Requisitioning of labour in wartime. bibliog Int Labour R 41:582-608 Je '40
See also
Arbitration, Industrial
Child labor laws
Employers' liability
Factory inspection
Hours of labor—Law
Insurance, Workmen's compensation
Minimum wage
Mining law
Pensions, Industrial
Picketing
Strikes
Sunday labor
Wages—Law
Woman—Employment
Workmen's compensation
also National conference on labor legislation

Belgium
Reemployment measures in Belgium Monthly Labor R 50:68-9 Ja '40
Wartime modification of Belgian laws on working hours. Monthly Labor R 49:1359-60 D '39

Bermuda
Public works employment in Bermuda; Service corps act of 1939. H. L. Williamson. Monthly Labor R 50:43-4 Ja '40

Bolivia
Bolivian labor code, 1939. Monthly Labor R 50:105-14 Ja '40

Brazil
Paid vacations in Latin America. E. D. Owen. Monthly Labor R 50:1129-31 My '40
Programs for benefit of Brazilian labor. C. H. Foster. Monthly Labor R 50:1396-1402 Je '40

California
Reversal in California; decision virtually banning closed shop set aside. Business Week p42-3 O 19 '40

Canada
Canadian Wagner act; labor's right to organize without restraint is affirmed by order in Council at Ottawa. Business Week p41 Je 29 '40
Canadian wartime labor policy. Monthly Labor R 51:303-4 Ag '40

Chile
Report on Chilean laws and regulations on private employees and workmen. M. Puga Vega. Compar Law Ser 3:375-81 Jl '40

Colombia
Dismissal compensation and other benefits for Colombian construction workers. Monthly Labor R 51:70-1 Jl '40

LABOR laws and legislation—*Continued*

Connecticut

Labor laws; digests and texts; rev. to July 1, 1939. 270p Connecticut. Dept. of labor and factory inspection, Hartford '39

Cuba

Paid vacations for workmen and the Cuban wage-hour law. D. D. Homer. Min & Met 21:470-1 O '40

Paid vacations in Latin America. E. D. Owen. Monthly Labor R 50:1133-4 My '40

Denmark

Emergency labor legislation in Denmark. J. B. Foster. Monthly Labor R 51:582-4 S '40

Dominican Republic

Minimum wage law of the Dominican Republic, 1940. Monthly Labor R 51:162-3 Jl '40

Ecuador

Labor code of Ecuador, 1938. Monthly Labor R 50:672-83 Mr '40

Europe

European labor on a war footing. J. S. Gambs. Monthly Labor R 49:1348-58 D '39

Finland

Vacations with pay in Finland. Monthly Labor R 51:38 Jl '40

France

Coordination and utilization of labor in France. Monthly Labor R 50:45-51 Ja '40

Regulation of labour in France. Int Labour R 42:125 Ag-S '40

Requisitioning of labour in wartime. bibliog Int Labour R 41:584-90 Je '40

Vacations with pay in France in 1940. Monthly Labor R 51:38-40 Jl '40

Wartime control of hours and wages in France. Monthly Labor R 49:1368-72 D '39

Wartime labor regulations in France. Monthly Labor R 50:605-8 Mr '40

Wartime requisitioning of woman workers in France. R. D. Murphy. Monthly Labor R 50:1373-4 Je '40

Germany

German labor measure in Bohemia-Moravia, formerly a part of Czechoslovakia. Monthly Labor R 49:1406-8 D '39

Labor and industry in war. Manuf Rec 109: 32+ N '40

Labor discipline in German forced-labor service. Monthly Labor R 51:584 S '40

Labor policy in Germany. Monthly Labor R 50:1374-6 Je '40

Regulation of employment in Germany. bibliog Int Labour R 41:387-97 Ap '40

Requisitioning of labour in wartime. bibliog Int Labour R 41:590-4 Je '40

Great Britain

British control of employment act, 1939. Monthly Labor R 49:1374-6 D '39

British emergency powers (defense) act of 1940. Monthly Labor R 51:31-2 Jl '40

Conditions of employment; Joint industrial council decisions enforceable. A. H. Banks. Elec R (Lond) 127:168-9 Ag 30 '40

Labor in the British road-transport industry. Monthly Labor R 50:1464-7 Je '40

Protective legislation for shop & office employees. J. Hallsworth. 3d ed rev 253p $1.50 Oxford (Toronto) '39

Recent legislation and mechanical handling; Trade boards and road haulage wages (emergency provisions) act, 1940. F. E. Sugden. Mech Handling 27:153-4 Jl '40

Social administration. J. J. Clarke. 3d ed 784p bibliog(p723-63) 15s Pitman '39

Wartime changes in labor conditions in Great Britain. Monthly Labor R 50:52-7 Ja '40

Illinois

Laws relating to employment (as amended and in force July 1, 1939). E. J. Hughes, comp. 77p Secretary of state, Springfield, Ill. '39

Wage and hour act upheld. Monthly Labor R 50:102 Ja '40

Indo-China, French

Regulation of labour in Indo-China. Int Labour R 41:78-87 Ja '40

Italy

Extraordinary tax on wages in Italy in establishments normally exempt from income tax. H. P. Crawford. Comm Rep p778 S 14 '40

Wartime production and labor regulations in Italy. Monthly Labor R 51:305-7 Ag '40

Japan

Compulsory labor service in Japan. Monthly Labor R 49:1380-1 D '39

Organisation of employment in Japan to meet wartime requirements. T. Ogishima. Int Labour R 41:134-51 F '40

Latin America

Paid vacations in Latin America. E. D. Owen. Monthly Labor R 50:1128-39 My '40

Malta

Wage and hour regulation in Malta. F. A. Henry. Monthly Labor R 49:715 S '39

Mexico

National agreement in cotton-textile industry in Mexico, 1939. Monthly Labor R 50:1140-6 My '40

Minnesota

Minnesota's year of labor peace; Labor relations act. W. H. Kelty. il Nation's Business 28:30, 32+ Ap '40

New York (state)

Governor Lehman signs bill increasing power of New York state labor relations board. Comm & Fin Chr 150:1694 Mr 16 '40

See also Insurance, Unemployment—New York (state)

New Zealand

Enforcement of New Zealand conciliation and arbitration act. Monthly Labor R 50:620-1 Mr '40

North Dakota

Compiled labor laws of North Dakota. 57p North Dakota. Dept. of agriculture and labor, Bismarck '39

Oregon

Oregon labor peace only a truce; anti-picketing law is fought through the courts. Business Week p18+ N 11 '39

Rumania

Emergency regulation of employment in Rumania. Int Labour R 42:134-5 Ag-S '40

Russia

Extension of hours of work in the U.S.S.R. Int Labour R 42:128-30 Ag-S '40

Longer working hours in the Soviet Union. Monthly Labor R 51:419-20 Ag '40

Regulation of work of foremen in the Soviet Union. Int Labour R 42:137-8 Ag-S '40

South Carolina

Labor laws, rev. October 1, 1939. 34p South Carolina. Dept. of labor, Columbia '39

Spain

Labor policies of Spanish Nationalist government. L. J. Callanan. Monthly Labor R 51: 592-6 S '40

Switzerland

Requisitioning of labour in wartime. Int Labour R 41:605-8 Je '40

United States

Applicability of wage-hour law to engineering employees studied. Eng N 124:549 Ap 18 '40

Attempts to blacklist firms allegedly violating labor act detrimental to defense efforts; abstract. H. W. Prentis, jr. Comm & Fin Chr 151:2289 O 19 '40

LABOR laws and legislation—United States— *Continued*
Attorney General Jackson clarifies ruling on labor act violators. Comm & Fin Chr 151: 2122 O 12 '40
Bill to amend National labor relations act introduced by Chairman Norton of House Labor committee. Comm & Fin Chr 150: 2189-90 Ap 6 '40
Business outlook; economic aspects of the Fair labor standards act. D. W. Ellsworth. Annalist 55:618 My 2 '40
Cases and statutes on labor law. W. H. E. Jaeger. 1124p bibliog(pxliii-xlvi) $6.50 Lawyers co-operative pub. co, Rochester, N.Y. '39
Changes in regulations under wage and hour law. Monthly Labor R 50:945-8 Ap '40
Charges filed against Southern Kraft; action invokes so-called hot goods clause of Fair labor act. Paper Tr J 111:10-11 S 5 '40
Cole bill language strikingly similar to the Labor act; parallelisms in text of Cole bill and text of National labor act. W. R. Wallace. Oil & Gas J 38:18-19 N 30 '39
Conflicting standards of the Fair labor standards act and unemployment compensation laws. E. P. Schmidt. Annalist 55:36 Ja 11 '40
C.I.O. asks revision of NLRB to make violations criminal offenses. Comm & Fin Chr 149:3962 D 23 '39
Continuance of existing basic workweek under wage and hour law. Monthly Labor R 51:417 Ag '40
Coverage of wholesale and retail trade under wage and hour law. Monthly Labor R 50: 1457-8 Je '40
Decision of United States Supreme court places non-operating employees of bus and trucking companies under Wage-hour act. Comm & Fin Chr 150:3443 Je 1 '40
Digest of the Fair labor standards act. Rubber Age 46:169-71 D '39
Do we need the Wagner act? J. Chase. Automotive Ind 82:137-8+ F 15 '40
Exemption of small rural telephone companies from the wage and hour act; switchboard operators. R. Blum. J Land & Pub Util Econ 16:117-20 F '40
Fair labor standards in name only; case histories. W. H. Kelty. il Nation's Business 28:23-4+ Jl '40
Federal labor legislation, 1939. Monthly Labor R 49:674-8 S '39
First legal attack on wage-hour law filed by Opp (Ala.) cotton mills; effect of law on southern mills. Textile World 89:66-7 N '39
First year's operations under Fair labor standards act. Monthly Labor R 50:397-8 F '40
Fundamental principles involved in bill to amend the labor relations act. J. G. Mitchell. Annalist 55:485-6 Ap 4 '40
Hidden labor costs; opposition to socially desirable legislation and failure to take advantage of their benefits. E. F. Andrews. Dun's R 48:5-8 F '40
House continues debate on wage-hour law amendments. Comm & Fin Chr 150:2809-10 My 4 '40
House votes drastic changes in Wagner labor act. Comm & Fin Chr 150:3753-4 Je 15 '40
Independent labor organizations and the National labor relations act. F. T. Bow. 120p $2 Prentice-Hall '40
Industrial disputes and federal legislation; with special reference to the railroad, coal, steel and automobile industries in the U.S. since 1900. T. R. Fisher. 370p bibliog(p357-61) $4.75 Columbia univ. press '40
Jobbers are target of wage-hour drive. Nat Pet N 32:13-14 O 16 '40
Labor decisions of the Supreme court, 1939-40. bibliog Monthly Labor R 51:356-65 Ag '40
La Follette oppressive labor practices act approved by Senate; bars employment to Communists and Nazis, limits jobs for aliens. Comm & Fin Chr 150:3440 Je 1 '40
Legal brakes on national defense. E. S. Cowdrick. Nation's Business 28:15-16+ S '40
Modified interpretation of coverage of wage and hour act. Monthly Labor R 50:170-1 Ja '40; Same. Credit & Fin Management 42:44 Mr '40
National defense and federal labor laws. E. F. Andrews. Dun's R 48:5-7 Ag '40
National labor policy and how it works. J. Rosenfarb. 732p $5 Harper '40
National labor relations act; should it be amended? J. E. Johnsen, comp. Ref Shelf v 18 no 9:1-416 bibliog(p387-416) '40 ($1.25)
New wage-hour law definitions remove some of complaints. H. D. Ralph. Oil & Gas J 39:33 O 17 '40
No overtime pay for these. Business Week p43 O 19 '40
No written contract required by Wagner act; Inland steel company case. Iron Age 145: 77 Ja 18 '40
Packers face test; charge that Swift & co. violates wages and hours law involves practices of whole industry. Business Week p38-9 Mr 2 '40
Procedure and practices under the National labor relations act. W. A. Rinckhoff and H. B. Rector. 202p $7.50 Law research service, 712 Keith bldg, Cincinnati '40
Proceedings, Conference on contemporary problems in labor law and relations, January 12, 13, and 14, 1940, Washington, D.C. 177 numb l pa $1.25 National lawyers guild, 1653 Pennsylvania av, N.W, Washington, D.C. '40
Record-keeping regulations under wage and hour law. Monthly Labor R 51:157-8 Jl '40
Re-examination by Congress of wage-hour law urged by committee of National association of manufacturers. Comm & Fin Chr 149:3648-9 D 9 '39
Right of employer, under Wagner act, to discriminate in employment of union and non-union workers, upheld by United States Circuit court of appeals in New York. Comm & Fin Chr 149:3800-1 D 16 '39
Sand and gravel watchman collects; important U.S. court decision under wages and hours act. Rock Prod 43:40-1 Je '40
Seasonal exemption; sand and gravel industry. Rock Prod 43:43 F '40
Second year of the Wage and hour act. Monthly Labor R 49:1439-46 D '39
Smith amendments to National labor relations act opposed by economists and political scientists. Comm & Fin Chr 151:1217-18 Ag 31 '40
Standards of wage-hour law will be maintained in defense industries says President Roosevelt. Comm & Fin Chr 151:333 Jl 20 '40
They pay their money but they have no choice. J. Chase. il Automotive Ind 81:561-2+ D 1 '39
Truckers are grouped under wage-hour law. Nat Pet N 32:11+ N 6 '40
Trustees under the wage and hour law; status, and steps to avoid overtime. Trusts & Estates 71:417-21 O '40
20 answers on wages and hours. D. J. Needham. Banking 32:31-2 Je '40
Two years of the Fair labor standards act. Monthly Labor R 51:551-63 S '40
United States Supreme court decision allowing inspection of payroll records by wage-hour administrator. Comm & Fin Chr 151: 2577 N 2 '40
Wage and hour law. P. H. Sanders, ed. p321-494 pa 75c Duke univ, School of law, Durham, N.C. '39
Wage and hour law and bank employees. A. L. M. Wiggins. Banking 32:92 Ja '40
Wage-hour administration redefines professional work under the act. Eng N 125:504 O 17 '40
Wage-hour division rules on trucking employes; text. Nat Pet N 32:42, 44-5 Je 26 '40
Wage-hour exemption voted in House for white collars. Nat Pet N 32:11 My 1 '40
Wage-hour issues still smoulder. Business Week p40-3 F 10 '40
Wage-hour law application in the oil industry. G. C. Street, jr. Oil & Gas J 39:66 S 19 '40
Wage-hour law exemptions extended by new rules; text. Oil Paint & Drug Rep 138:3, 42B O 21 '40

LABOR laws and legislation—United States— *Continued*
Wage-hour law in mining; abstracts of papers, Western division, American mining congress. Min Cong J 26:35-6 O '40
Wage-hour law time requirements explained. Oil Paint & Drug Rep 136:5+ D 25 '39
Wage-hour log jam; complaints swamp staff. Business Week p40 Ja 13 '40
Wage-hour official defines exemptions for white collars. Nat Pet N 32:13, 21 O 16 '40
Wage-hour rulings; twenty operations are listed as seasonal. Business Week p39-40 My 18 '40
Wage-law pay covers rest periods. Oil Paint & Drug Rep 137:3 Je 17 '40
Wages and hours. J Account 70:450-2 N '40
Wages and hours and librarians; what special library positions are classed as professional under the FLSA? L. H. Morley. Special Lib 31:51-2 F '40
Wages and hours in banks. D. E. Warrick. Banking 32:50 D '39
Wagner act. J. H. Mariano. 229p $2.50 Hastings house, New York '40
Wagner act and the mining industry. D. A. Callahan. Min Cong J 26:33-7; Discussion. 37-41+ Mr '40
Wagner act changes stymied. Business Week p15-16 Mr 16 '40
Wagner act faces a crisis; Smith amendments, backed by the A.F.L., threaten reorientation. Business Week p24+ Jl 13 '40
Wagner act quiz. J. Tiffin. Factory Management 98:63+ N '40
Walsh-Healey act; a manual for department heads and foremen. L. E. Sanders. 37p pa 50c National foremen's inst, 60 E. 42d st, New York '39
What amendments to the wage and hour law? E. F. Andrews. il Dun's R 48:5-9 Ap '40
Who's an executive? wholesalers try to show wage-hour rulings are too strict. Business Week p34+ Ap 20 '40

See also
Hours of labor—Law
Minimum wage
National labor relations board
Railroads—Pensions

Uruguay

Regulation of home work in Uruguay. Int Labour R 42:132-3 Ag-S '40

Wisconsin

Two-edged labor act; law designed to curb unions held constitutional when invoked against employer. Business Week p38-9 Ap 20 '40

See also
Insurance, Unemployment—Wisconsin

Yugoslavia

Requisition of labour in Yugoslavia. Int Labour R 42:136-7 Ag-S '40

LABOR laws and legislation, International
President Roosevelt asks Congress to study draft conventions and recommendations adopted at meeting of International labor organization last year. Comm & Fin Chr 150:4055 Je 29 '40

LABOR mobility. See Migration of workers

LABOR party (Great Britain)
Labour and the war. Economist 138:562 Mr 30 '40
Plan for democratic Britain. G. D. H. Cole. 255p bibliog(p253-5) 3s 6d Labour book service, London '39

LABOR productivity
Economics for industrial engineers. G. D. Wilkinson, jr. Advanced Management 5:116-19+ Jl-S '40
Employment and production in manufacturing industries, 1919 to 1936; review of National research project report. H. Magdoff, I. H. Siegel and M. B. Davis. Monthly Labor R 49:1397-1404 D '39
Employment in relation to technical progress; labor productivity, employment, output, and prices in the United Kingdom, 1930-35. H. Staehle. R Econ Statis 22:94-100 My '40
Employment, wages, and labor relations in marketing. P. D. Converse. Ann Am Acad 209:149-57 My '40
Hourly earnings and unit labor cost in manufacturing. I. H. Siegel. Am Statis Assn J 35:455-60 S '40
Individual productivity differences. W. D. Evans. Monthly Labor R 50:338-41 F '40
Labor productivity at a Soviet metallurgical plant. For Comm W 1:163 O 26 '40
Mechanization in the brick industry. A. J. Van Tassel and D. W. Bluestone. 83p bibliog(p78-83) Work projects administration, Washington, D.C. '39; Summary. Brick & Clay Rec 96:32-4 F '40
Mechanization in the cement industry. G. Perazich, S. T. Woal and H. Schimmel. 113p Work projects administration, Washington, D.C. '39; Review. Monthly Labor R 51:47-50 Jl '40
Mechanization in the lumber industry; a study of technology in relation to resources and employment opportunity. A. J. Van Tassel and D. W. Bluestone. 201p Work projects administration, Washington, D.C. '40; Review. Monthly Labor R 51:53-61 Jl '40
Mineral technology and output per man studies; rock drilling. C. E. Nighman and O. E. Kiessling. 158p Work projects administration, Washington, D.C. '40
Organized labor and production; next steps in industrial democracy. M. L. Cooke and P. Murray. 277p bibliog(p266-70) $2.50 Harper '40
Production, employment, and output per man in gypsum mining. R. Newcomb and K. Peterson. map U S Bur Mines Information Circ 7134:1-17 '40
Productivity of labor in the rubber tire manufacturing industry. J. D. Gaffey. 204p bibliog(p195-9) $2.50 Columbia univ. press '40
Productivity, wages and national income. S. Bell. Power Pl Eng 44:126+ O '40
Skilled workers for defense industries; output per skilled worker increased. C. S. Slocombe. Personnel J 19:183-6 N '40
Technology, employment, and output per man in copper mining. Y. S. Leong and others. 260p Work projects administration, Washington, D.C. '40; Review. Monthly Labor R 51:50-3 Jl '40
Unit labor cost in 20 manufacturing industries, 1919 to 1939. V. Perlo and W. Bowden. Monthly Labor R 51:33-7 Jl '40
Wages, hours, and productivity of industrial labor, 1909 to 1939; manufactures, mining and railroads. W. Bowden. Monthly Labor R 51:517-44 S '40
War-time labor productivity. E. C. Robbins. Harvard Business R 19 no 1:99-105 [S] '40
Warns of attempts to limit productive labor. N. M. Butler. Comm & Fin Chr 151:1823 S 28 '40
Worker makes as many brick in 9 hours as his grandfather made in 27 hours. Brick & Clay Rec 95:24-6 N '39

See also
Efficiency, Industrial
Labor cost
Labor requirements (for production)
Time study
Wage payment plans

LABOR relations associates
Advising on relations; Chicago group headed by former Sears official will offer labor service on retainer basis. Business Week p28 D 23 '39

LABOR relations boards. See Labor boards, State

LABOR requirements (for production)
Employment prospects in the petroleum and natural-gas industry. H. O. Rogers. bibliog Monthly Labor R 50:1293-1307 Je '40
Labor and unit costs in PWA low-rent housing. H. B. Byer and C. A. Trump. Monthly Labor R 49:578-86 S '39
Mechanization, employment, and output per man in bituminous-coal mining. W. E. Hotchkiss and others. 2v 436p Work projects administration, Washington, D.C. '39; Review. Monthly Labor R 50:341-4 F '40

LABOR requirements (for production)—*Cont.*
Mechanization in the lumber industry; a study of technology in relation to resources and employment opportunity. A. J. Van Tassel and D. W. Bluestone. 201p Work projects administration, Washington, D.C. '40
Mechanization man-power and output measured by federal agencies. Coal Age 45:51 Ja '40
Overhead man-hours in PWA non-federal construction. J. A. Ball and B. H. Topkis. Monthly Labor R 50:334-7 F '40

LABOR saving devices
$5 jig saves a job; carton, packing, sealing of cigarets. R. Davenport. il Factory Management 98:67 Je '40

See also
Accounting—Mechanical aids
Machinery in industry
Mechanical handling
Office appliances

LABOR standards
Digest of the Fair labor standards act. Rubber Age 46:169-71 D '39
Functions of the Federal committee on apprenticeship. M. M. Hanson. Ry Mech Eng 113:439-40 N '39
Standards for employment of women in defense program. Monthly Labor R 51:564-7 S '40

LABOR supply
Apprenticeship; a necessary investment for the future. W. F. Patterson. il Dun's R 48:5-8 Je '40
Employment services to aid in controlling defense labor supply. Steel 107:22-3 N 11 '40

See also
Apprentices
Employment systems
Labor turnover
Unemployment

Canada

Lack of skill feared. Business Week p41-2 Ap 20 '40
Tank job for Canada; industrial expansion is taxing labor supply. Business Week p62-3 O 19 '40
Workers wanted; Canada appoints commission to meet problem. Business Week p34+ N 16 '40

Great Britain

Labour market; minister of labour must use his powers more effectively. Economist 139: 69 Jl 20 '40

United States

Breaking the labor bottlenecks; programs to up-grade or refresh existing skills and apprentice training. Business Week p30+ S 28 '40
Farm-city migration and industry's labor reserve. F. M. Vreeland and E. J. Fitzgerald. 67p Work projects administration, Washington, D.C. '39
Fortune forum of executive opinion; working force and rearmament. Fortune 22:112 S '40
Labor army marshaled for defense. il Business Week p45-8 Je 22 '40
More on skilled workers. L. G. Hines. Business Week p67 O 5 '40
Skilled workers for defense industries. C. S. Slocombe. Personnel J 19:120-58, 160-93 O-N '40
Three-phase labor supply program now in operation. S. Hillman. il Automotive Ind 83:272 S 15 '40
U.S. arsenals hunt skilled men. Business Week p32-4 Ag 24 '40
Wanted, skilled workers. Business Week p63 S 28 '40

LABOR turnover
Factory-labor turn-over, 1931 to 1939. Monthly Labor R 51:696-704 S '40
Labor conditions, 1936-1939. Survey of Cur Business 1940 Sup p39 [supplemented in monthly numbers]
Labor turnover and credit; how loyalty of employees affects stability. J. E. Bullard. Credit & Fin Management 42:19-20 Jl '40
Labor turn-over in foundries and machine shops, 1937 and 1938. Monthly Labor R 49:728-31 S '39
Labor turn-over in manufacturing, December 1939. Monthly Labor R 50:736-40 Mr '40 [cont monthly]
Labor turn-over in sawmills, 1937 and 1938. Monthly Labor R 50:218-21 Ja '40
Labor turn-over in the boot and shoe industry, 1938 and 1939. H. B. Byer. Monthly Labor R 50:1238-41 My '40

See also
Employment management
Employment systems

LABOR unions. See Trade unions

LABORATORIES
Industrial research progress at Armour research foundation 1939-40. il Ind & Eng Chem News ed 18:933-40 N 10 '40
Research company incorporated; Sternson laboratories, Brantford, Ont. il Pulp & Pa of Can 41:266 F '40

See also
Biological laboratories
Chemical engineering laboratories
Chemical laboratories
Electric laboratories
Engineering laboratories
Foundry laboratories
Highway departments—Laboratories
Hydraulic laboratories
Industrial research
Medical laboratories
Mercantile laboratories
Metallurgical laboratories
Moving picture photography—Laboratories
Paint laboratories
Petroleum laboratories
Petroleum refineries—Laboratories
Plumbing laboratories
Sewage disposal plants—Laboratories

also American gas association—Appliance testing laboratory; General foods corporation—Laboratories; New York water service corporation—Laboratory

Equipment

Modern trends in laboratory planning; benching and lighting improvements. C. H. Butcher. Chem Age (Lond) 42:243 Ap 27 '40

See also
Electric furnaces, Laboratory

LABORATORIES, Mercantile. See Mercantile laboratories

LABORATORIES, Traveling
Mobile laboratories for land and water; U.S. Public health service studies Ohio River pollution. il plans Eng N 124:858-60 Je 20 '40

LABORATORY furnaces. See Electric furnaces, Laboratory; Furnaces, Laboratory

LABORATORY work
Correlation of laboratory work in strength of materials with the class room course. G. P. Boomsliter. bibliog J Eng Educ 30:583-8 Mr '40
Experiment in teaching methods for the course in materials laboratory. C. J. Posey. J Eng Educ 30:686-9 Ap '40

LAC
Lac-glycol ethers; esterification and polymerisation. Chem Age (Lond) 42:37 Ja 20 '40

See also
Shellac

Analysis

Volumetric estimation of lac on glazed candies. N. M. Molnar and J. Grumer. bibliog Ind & Eng Chem Anal ed 11:673-4 D 15 '39

LACCASE
Laccase from the wild mushroom, russula foetens. D. C. Gregg and W. H. Miller. bibliog Am Chem Soc J 62:1374-9 Je '40

LACCOLITH
Distribution of heavy accessory minerals in a laccolith. E. C. Dapples. Am J Sci 238: 439-50 Je '40

LACLEDE gas light company
Speculative values in Laclede gas light co. bonds. J. F. Childs. Barron's 20:20 Ap 29 '40

LACQUER and lacquering
Der anstrichfilm als wissenschaftliches problem. A. V. Blom. bibliog Angew Chemie 53: 40-2 Ja 20 '40
Anstrichüberzüge an stelle von metallüberzügen. H. F. Sarx. Angew Chemie 52:715-17 D 23 '39
Apparatus for the study of the photochemistry of sheet materials. H. F. Launer. bibliog pls diags J Research Nat Bur Stand 24:567-77 My '40
Baking and drying; gas-fired baking and drying ovens. J. E. Dare. il diags Steel 105: 59, 62 D 18 '39
Better adherence; laboratory tests on improved adherence of finishes on zinc or zinc-alloys and on zinc-coated metals. H. E. Van Sicien. Steel 105:66, 68-9 N 20 '39
Brittle lacquers as an aid to stress analysis. A. V. de Forest and G. Ellis. il J Aeronautical Sci 7:205-8 Mr '40; Excerpts. Aviation 39:122 Mr '40
Calculating the solids content of reduced organic finishing materials. W. G. Sheane. Metal Ind 38:176-7 Mr '40
Coatings, 1919-1939. J. Marshall. il Chem Ind 46:15-20 Ja '40
Color matching at the Forbes varnish company. R. F. Wysocki and A. K. Gaetjens. il diag Illum Eng 35:343-50 Ap '40
Developments in lacquers and enamels for industrial finishing during 1939. G. Klinkenstein. il Metal Ind 38:61 Ja '40
Drying with infra-red radiation; comparing industrial heating by gas and by electricity. H. A. Clark. Am Gas J 152:43-5+ My '40
Electric oven aids bicycle production; Cleveland welding co. T. A. Driscoll. il Iron Age 145:33 F 22 '40
Enamels for aircraft engine cylinders. M. A. Coler. il Aero Digest 36:46-8+ Ap '40
Ethyl cellulose; constitution, properties, lacquers, compositions. W. Koch. Can Chem & Process Ind 24:200 Ap '40; Same. Chem & Ind 59:329-30 My 11 '40
Evaluation of nitrocellulose lacquer solvents; ester activation by alcohols and the use of alcohols as lacquer diluents. V. W. Ware and W. M. Bruner. bibliog Ind & Eng Chem 32:519-24 Ap '40
Evaluation of nitrocellulose lacquer solvents; study of hydrocarbon diluents by the constant-viscosity procedure. V. W. Ware and W. M. Bruner. bibliog Ind & Eng Chem 32: 78-82 Ja '40
Finishing filing cabinets and allied steel office units. F. V. Faulhaber. il Metal Finishing 38:622-4 N '40 (to be cont)
Finishing metal containers. C. Cleveland. il Metal Finishing 38:619+ N '40
Helpful oven suggestions. F. V. Faulhaber. il Metal Ind 38:179-82 Mr '40
High temperature lacquering. D. J. Stedtefeld. il diags Metal Finishing 38:414-15+ Jl '40
Lacquer coating on form work offers advantages. Concrete 48:22 Je '40
Lacquer paste grinding on 3-roller mill. Oil Paint & Drug Rep 138:51 N 4 '40
Lacquered black plate for containers, to save tin. Steel 107:33 Jl 8 '40
Modernized finishing department for steel cabinets. J. R. Williams. il plan Metal Ind 38:125-6+ F '40
Plastic-on-metal finishes; new type of protection for steel products. il Iron Age 146:48-50 Ag 15 '40
Product surface finishing. G. Klinkenstein. il Mech Eng 62:323-4 Ap '40; Same. Automobile Eng 30:202 Jl '40
Radiant energy drying and baking for organic finishing. D. J. Stedtefeld. il Metal Ind 38:294-6 My '40
Säurehärtende kunstharzlacke. A. Greth. Angew Chemie 52:663-6 N 11 '39
Storing, mixing and reducing of organic finishing materials. il Metal Ind 38:121-3 F '40
Stress-strain analysis from crack formations in brittle lacquer coatings. il Product Eng 11:266-8 Je '40
Surface tension of a solvent-diluent mixture. J. K. Stewart and G. C. Hook. bibliog il Ind & Eng Chem 32:871-6 Je '40
War affects paint solvents. Nat Pet N 32:R326 S 4 '40
See also
Shellac
Varnish and varnishing

LA CROSSE, Wisconsin
Railroads
This station streamlined for beauty and comfort. il plan Ry Age 109:674-6 N 9 '40

LACTIC acid
Acceleration of lactic acid fermentation by heat-labile substances. S. C. Pan, W. H. Peterson and M. J. Johnson. bibliog Ind & Eng Chem 32:709-14 My '40
Chemical changes in phosphoric acid silage. E. Pagé and L. A. Maynard. bibliog Ind & Eng Chem 32:1140-3 Ag '40
Composition of lactic acid; production of a highly concentrated acid. P. D. Watson. Ind & Eng Chem 32:399-401 Mr '40
Flow method for the determination of the effects of soluble chemicals on concrete. D. G. Miller, C. F. Rogers and P. W. Manson. il diag Am Soc T M Proc 39:900-7; Discussion. 908-12 '39
Ionization of lactic acid in aqueous sodium chloride solutions from 0 to 37.5°. F. C. Hickey. bibliog diag Am Chem Soc J 62: 2916-19 N '40
Lactic acid and casein; pictured flow sheet. Chem & Met Eng 47:427-30 Je '40
Lactic acid as a component of synthetic resins. J. T. Stearn, B. Makower and P. H. Groggins. bibliog il Ind & Eng Chem 32:1335-42 O '40
Lactic acid for pickles. F. W. Fabian and C. K. Wadsworth. Food Ind 12:96 Ap; 98 My; 97 Je '40
Lactic esters; preparation and properties. L. T. Smith and H. V. Claborn. bibliog Ind & Eng Chem 32:692-4 My '40
Synthesis of phosphopyruvic acid on oxidation of lactic acid. D. L. Ferdman and S. F. Epstein. Science 91:365-6 Ap 12 '40
Thermal data; the heat capacities and entropies of guanidine carbonate, glutamic acid hydrochloride, ornithine dihydrochloride, *d*-lactic acid and *l*-lactic acid. H. M. Huffman, E. L. Ellis and H. Borsook. Am Chem Soc J 62:297-9 F '40

LACTIC acid bacteria
Nährstoffe und wuchsstoffe der milchsäurebakterien. E. F. Möller. bibliog Angew Chemie 53:204-9 My 11 '40

LACTOBACILLUS casei
Bacterial assay of riboflavin in the urine and tissues of normal and depleted dogs and rats. H. F. Fraser, N. H. Topping and H. Isbell. bibliog Pub Health Rep 55:280-9 F 16 '40

LACTOFLAVIN. See Riboflavin

LACTOMETERS
Nomograph for correction of lactometer readings and calculation of milk solids. L. M. Lampert. bibliog Ind & Eng Chem Anal ed 12:527-8 S 15 '40

LACTONES
Hydrogenation of some substituted coumarins. P. L. de Benneville and R. Connor. bibliog Am Chem Soc J 62:3067-70 N '40
Hydroxy-lactone from *d*-pimaric acid. E. E. Fleck and S. Palkin. bibliog Am Chem Soc J 62:2044-7 Ag '40
Pantothenic acid; the isolation and structure of the lactone moiety. E. T. Stiller, J. C. Keresztesy and J. Finkelstein. Am Chem Soc J 62:1779-84 Jl '40
Some reactions of Δ^b-γ-lactones. E. Walton. Chem Soc J p438-42 Ap '40

LACTONES—*Continued*
Sterols; oxidation products of sarsasapogenin; studies on the C_{28} lactone. R. E. Marker and E. Rohrmann. bibliog Am Chem Soc J 62:76-8 Ja '40
Syntheses of model unsaturated lactones related to the cardiac aglycones. J. Fried and others. Science 91:435-6 My 3 '40

LACTOSE
Browning of autoclaved milk; chemical factors involved. J. P. Kass and L. S. Palmer. bibliog Ind & Eng Chem 32:1860-6 O '40
Casein and lactose from skim milk; abstract. Kato. Chem Age (Lond) 42:258 My 4 '40
Induced slow lactose fermentation in escherichia coli. M. E. Caldwell. Am Water Works Assn J 32:659-60 Ap '40
Oxidation of lactose by activated sludge. S. H. Jenkins and R. Wilkinson. Soc Chem Ind J 59:125-8 Je '40
Physicochemical aspects of bacterial growth; conditions determining stationary populations and growth rates of bact. lactis aerogenes in synthetic media. R. M. Lodge and C. N. Hinshelwood. Chem Soc J p1683-92 N '39

LADDERS
Defects to look for when inspecting wood ladders. W. E. Rossnagel. Factory Management 98:92, 94 Je '40
Flexible ladder mounting saves wooden tanks. M. Pate. il Factory Management 98:96 My '40
New aluminum ladder has side handrails. il Marine Eng 45:58 Mr '40
100-ft. turntable ladder for the London fire brigade. il Engineering 150:155-6 Ag 23 '40
Sam Carbis had an idea; prospered in making aluminum ladders. il Iron Age 146:58-9 N 14 '40

Safety measures
Ladders and scaffolds. il Nat Safety N 41: 68-70 Mr '40
Safe painting steel stacks. W. E. Rossnagel. il diags Power 84:292-4 My '40
Safe stepladder for maintenance. L. B. Lloyd. il Elec W 113:1084 Ap 6 '40
Safe use of ladders. il Safety Eng 80:62-3 O '40
Safety sermonettes: ladderways in mines. W. B. Paton. Can Min J 61:671-3 O '40

LADLES
See also
Foundry ladles

LAEVAN. See Levan

LA FRANCE industries
Reorganization plan. Comm & Fin Chr 149: 3266 N 18 '39

LAGENIOCRINUS
Redescription of lageniocrinus de Koninck. E. Kirk. bibliog diags Am J Sci 238:129-39 F '40

LAGOONS
Lining
Sealing the lagoon lining at Treasure Island with salt. C. H. Lee. il diag map Am Soc C E Proc 66:247-63 F '40; Discussion. 66: 1187-93, 1521-5, 1825-9 Je, O, D '40

LA GUARDIA field. See Airports, Municipal

LAGUNILLAS, Venezuela
Oil men at Lagunillas praised in report on fire. il Oil & Gas J 38:28 D 21 '39

LAISSEZ faire
Your automobile and free enterprise. il Nation's Business 28:33-56 O '40

LAKE, Wisconsin
Combined water tower and municipal building. W. D. Darby. il Civil Eng 10:329-32 Je '40

LAKE colors
Copper lakes of azo-dyes; some further types. W. F. Beech and H. D. K. Drew. Chem Soc J p608-12 My '40
Organic lakes and colors output, 1939. Oil Paint & Drug Rep 138:38 Jl 15 '40
Quadrivalent vanadium lakes of azo-dyes. H. D. K. Drew and F. G. Dunton. Chem Soc J p1064-70 Ag '40
Structure of the aluminium lakes of some azo-dyes and of alizarin. W. F. Beech and H. D. K. Drew. Chem Soc J p603-7 My '40

LAKES
Chemical control of water weeds; algae and larvae in Wisconsin streams and lakes. Eng N 124:34 Ja 4 '40
Limnological studies in Connecticut; contribution to regional limnology. E. S. Deevey, jr. maps Am J Sci 238:717-41 bibliog(p739-41) O '40
Making a water tunnel entrance 165 ft. below lake surface; new fish hatchery at Leavenworth, Wash. diags Eng N 124:371 Mr 14 '40
Studies on Connecticut lake sediments; chemical analyses of a core from Linsley pond, North Branford. G. E. Hutchinson and A. Wollack. bibliog Am J Sci 238:493-517 Jl '40
Symposium on hydrobiology at the University of Wisconsin. Science 92:167-8 Ag 23 '40
See also
Great Lakes
Winnebago, Lake, Wisconsin

LAKEWOOD, Ohio
Sanitary affairs
Garbage collection and incineration costs. Pub Works 71:47 Jl '40

LALOR foundation
Fellows of the Lalor foundation; winners of seven awards. Science 91:425-6 My 3 '40
Program of its fifth series of fellowship awards in chemistry. Science 92:422 N 8 '40

LAMB (meat). See Mutton

LAMBERT company
Low-priced stocks paying dividends; thumbnail appraisal. Mag of Wall St 65:295 D 16 '39

LAMELLIBRANCHIATA, Fossil
Invertebrate fauna of the late Permian Whitehorse sandstone. N. D. Newell. diags maps Geol Soc Bul 51:261-335, pl 1-10 bibliog(p323-5) F '40
Paleozoic pelecypods myalina and naiadites. N. D. Newell. diags Am J Sci 238:286-95, pl 1-2 Ap '40

LAMINATED glass. See Glass, Laminated

LAMINATED plastic materials. See Plastic materials, Laminated

LAMME, Benjamin G., medals
Lamme award to A. A. Potter. J Eng Educ 31:1-2 S '40
Merit in teaching brings Dr Potter 1940 Lamme medal. Blast F & Steel Pl 28:803 Ag '40
1939 medal awarded to Norman W. Storer. Mech Eng 62:402-3 My '40
N. W. Storer awarded 1939 Lamme medal by A.I.E.E. Elec W News ed 113:659 Mr 2 '40
Norman W. Storer; 1939 Lamme medalist; personal tribute by A. M. Dudley; response by Mr. Storer. il Elec Eng 59:322-5 Ag '40
T. A. Boyd awarded Ohio state university Lamme medal. Ind & Eng Chem News ed 17:707 N 20 '39

LA MONT boiler. See Boilers, Water tube—La Mont boiler

LAMOTTE, Bernard, 1903-
Paris at war; sixteen paintings in gouache. Fortune 21:65-72 My '40

LAMOUREUX, Ernest
Appreciation. F. A. Herr. por Metal Ind 38: 155-6 Mr '40

LAMPBLACK
See also
Carbon black

LAMPS
Light without glare; redesigned. il Mod Plastics 17:40 F '40
See also
Electric lamps
Safety lamps

LAMPS—*Continued*

History

Story of the lamp (and the candle). F. W. Robins. 155p bibliog(p149-50) $5 Oxford '39

LANCE formation. See Paleobotany—Wyoming

LAND, Edwin Herbert
Portrait. Steel 106:23 Mr 4 '40

LAND
Land economics. R. T. Ely and G. S. Wehrwein. 512p bibliog(p483-98) $4 Macmillan '40

See also
Agriculture
Drainage
Earth—Surface
Eminent domain
Irrigation
Land banks
Land tenure
National parks and reserves
Oil lands
Public lands
Ranges
Real estate business
Real property
Reclamation of land
Rent

Subdivision

Concrete for costs, colonial for sales; subdivider Holmes' low cost houses near Philadelphia. il plans Arch Forum 71:476-7 D '39

Cook county amends rural subdivision regulations. R. Kingery. J Land & Pub Util Econ 16:218-19 My '40

Cooperative subdividing; Crestwood, near Madison, Wis. il plans Arch Forum 72:136-8 F '40

Graphical method for land subdivision problems. R. Kinslow. Civil Eng 10:526-7 Ag '40

Land subdivision control. Eng N 124:26 Ja 4 '40

Modern houses sells a subdivision on Chicago's North shore, feature three-level planning and built-in sales appeal. il plans Arch Forum 72:199-203 Mr '40

Yardstick of residential lot needs; 22 lots per 100 population. H. C. Monchow. J Land & Pub Util Econ 15:474-7 N '39

China

Land utilization in China: a critique of methodology. C. Hsiang. bibliog J Land & Pub Util Econ 16:226-9 My '40

Mexico

See also
Mexico—Expropriation policy

Oregon

Mapping the status of tax-delinquent private lands and the location of public lands in the rural areas of Oregon. S. A. Wilson. bibliog Oregon State College, Thesis Ser 12:1-21 '40 (pa 15c)

Palestine

Erosion in Palestine; abstract. W. C. Lowdermilk. Science 91:sup6 Ja 26 '40

LAND, Municipal. See Municipal lands

LAND, Public. See Public lands

LAND banks
A.B.A. president answers charge of Secretary Wallace on bill to reorganize land bank system. R. M. Hanes. Comm & Fin Chr 150:2981 My 11 '40

Future of farm credit; loss of independent status of the land banks and the Farm credit administration. E. M. Ehrhardt. Banking 32:32-3 Ap '40

House group approves bill to broaden credit facilities of land bank system and reduce interest rates. Comm & Fin Chr 150:3441 Je 1 '40

Jones bill to change farm-credit system; testimony before House agriculture committee. Comm & Fin Chr 150:2350-1 Ap 13 '40

Land bank bill threatens credit structure. A. L. M. Wiggins. Bankers M 140:445 My '40

Liberalization of Farm credit act approved by Secretary Wallace. Comm & Fin Chr 150:2018-19 Mr 30 '40

Political mortgages? farmers dubious about Jones bill. Business Week p 16-17 Ap 13 '40

President Roosevelt signs bill extending for another two-year period, until June 1, 1942, the authority of the land bank commissioner to continue making mortgage loans for financing farm purchases. Comm & Fin Chr 150:918 F 10 '40

Real issue in the Jones-Wheeler bill. R. M. Hanes. Banking 32:93 Je '40

Retention of federal land bank system urged. C. H. Mylander. Comm & Fin Chr 150:3293 My 25 '40

Secretary of agriculture Wallace explains farm credit policies. Comm & Fin Chr 150: 2506-7 Ap 20 '40

Secretary Wallace asks Senate approval of Farm credit bill. Comm & Fin Chr 150:3756 Je 15 '40

Straight lane to socialism; Jones-Wheeler farm credit bill. H. Corey. il Nation's Business 28:15-17+ Je '40

Threat of socialized credit; implications of the Jones bill and the FCA controversy. A. W. Atwood. Banking 32:19-22 My '40

LAND formations
Origin of the earth's land formations. C. D. Perrine. Science 92:210-12 S 6 '40

LAND settlement
Private homesteads for the Okies; plan for gradual acquisition of idle, repossessed California land by migrant families. il Business Week p24-6 Mr 9; 24-6 Ap 6 '40

See also
Farms for industrial workers
Unemployment—Relief measures—Land settlement

LAND surveying. See Surveying

LAND tenure
Extended functions for institutional landowners; rehabilitation of farm land taken in satisfaction of mortgage debt. C. L. Stewart. J Land & Pub Util Econ 16:357-62 Ag '40

Survey of research in forest land ownership. 93 numb l pa 60c Advisory com. on social and economic research in agriculture, Social science research council, New York '39

See also
Conveyancing
Farm tenancy
Land titles
Leases
Oil lands

Indiana

Study of land use legislation in Indiana. R. Parrish. 65 numb l Bur. of governmental research, Indiana univ, Bloomington, Ind. '38

Ireland

Irish Land league crisis. N. D. Palmer. 340p bibliog(p313-23) $3.50 Yale univ. press '40

Parish councils in Eire? Economist 139:399 S 28 '40

Mexico

Balance of agrarian reform. L. Mendieta y Núñez. Ann Am Acad 208:121-31 Mr '40

New York (state)

Agrarian conflicts in colonial New York, 1711-1775. I. Mark. 237p bibliog(p207-21) $3 Columbia univ. press '40

LAND titles
Local land charges register. R. F. Parrott and T. Alker. 144p $2.40 Pitman '38

Manual for title examiners in Virginia. L. B. Cox. 299p $6 L. B. Cox, 300 Main st, Richmond, Va. '39

Proposed improvements for land surveys and title transfers. P. Kissam. Am Soc C E Proc 65:573-82 Ap '39; Discussion. 65:1267-8; 66:285-6 S '39, F '40

Proposed standards for land descriptions. P. Kissam. Civil Eng 10:696-7 N '40

Quieting title in Colorado. F. E. Williams. 180p $6 Courtright pub. co, 1609 Court pl, Denver '39

Real estate titles and conveyancing. N. L. North and D. Van Buren. rev ed 719p $4.50 Prentice-Hall '40

Registration of surveys needed in most states. P. Kissam. Eng N 124:234 F 29 '40

LAND titles—*Continued*
William Penn's real estate; pictures of record department, Land title bank and trust company, Philadelphia. Banking 32:34-5 Ap '40

See also
Conveyancing

LAND utilization
Diagnosis and suggested treatment of an urban community's land problem; Flint, Mich. and vacant lot problem. E. N. Bacon. maps J Land & Pub Util Econ 16:72-88 F '40
Effect of multiple use of watershed on conservation. C. P. Wilber. Am Water Works Assn J 32:1024-6 Je '40
Land economics. R. T. Ely and G. S. Wehrwein. 512p bibliog(p483-98) $4 Macmillan '40
Land program for Forest county, Wisconsin, based on an analysis of land use problems. V. W. Johnson, S. Henderson and J. H. Marshall. il diags maps U S Agric Tech Bul 687:1-112 '39
Land utilization in China; a critique of methodology. C. Hsiang. bibliog J Land & Pub Util Econ 16:226-9 My '40
Preliminary report on development of economic opportunities in Montana for migratory and stranded families. 88p State planning board, Montana bldg, Helena, Mont. '39
Rural zoning for Missouri? V. Hurlburt. J Land & Pub Util Econ 16:151-8 My '40
Rural zoning in Minnesota. W. F. Musbach and M. C. Williams. bibliog J Land & Pub Util Econ 16:105-9 F '40
Some economic aspects of the upland watershed lands of the western United States. M. H. Saunderson. J Land & Pub Util Econ 15:480-2 N '39
State regulation of flood-plain use. G. F. White. bibliog J Land & Pub Util Econ 16:352-7 Ag '40
State rural land use legislation in 1939. K. Wernimont. bibliog J Land & Pub Util Econ 16:110-16 F '40

See also
Agriculture—United States
Drainage
Farm management
Forest conservation
Irrigation
National parks and reserves
Parkways
Ranges
Reclamation of land
Regional planning
Soil conservation

LAND values
Farm appraisals; abstracts. J. S. Corley. East Underw 41:12 O 11 '40; Nat Underw (Life ed) Conv no 44:17 O 12 '40; Spectator (Life ed) 145:7+ O 10 '40
Graduated farm land transfer stamp tax for checking speculative booms in land values. J. A. Baker. J Land & Pub Util Econ 16:21-9 F '40
Land values hold key to electrification; Wisconsin study. B. E. Miller. map Elec W 113:471 F 10 '40

LANDIS, Walter Savage, 1881-
Personalities in chemistry. A. D. McFadyen. por Chem Ind 47:384 O '40

LANDIS tool company
Landis tool co. holds open house. il Iron Age 144:90-1 D 7 '39

LANDLORD and tenant
Complete law of landlord and tenant; being the 9th ed. of Redman's Landlord and tenant. 926p. 74p 52s 6d Butterworth & co, London '39
Law of landlord and tenant, with forms. J. E. Bennett. 809p $10 Michie co, Charlottesville, Va. '39
Look before you lease; the tenant's home companion. B. Oppenheim. 86p pa $1 Vanguard press, 424 Madison av, New York '40
Rent and mortgage interest restrictions acts, 1920 to 1939. A. Safford, ed. 10th ed 376p 12s 6d Sweet & Maxwell, London '39

See also
Apartment houses
Leases
Real estate business
Rent

LANDON, Alfred Mossman, 1887-
Alf M. Landon, after White House conference urges renunciation of third-term ambitions incident to coalition program. Comm & Fin Chr 150:3295 My 25 '40

LANDSCAPE design
Landscape design. G. Eckbo, D. U. Kiley and J. C. Rose. il plans maps Arch Rec 85:70-7 My; 86:68-74 Ag '39; 87:74-9 F '40

LANDSCAPE gardening
Art of Japanese gardens. L. E. Kuck. 304p bibliog(p291-2) $5 Day '40
Home book of trees and shrubs. J. J. Levison. 424p bibliog(p397-400) $5 Simon and Schuster, New York '40
Landscaping makes the building look its best. il plan Factory Management 98:B64-B65+ Ap '40
Plant handbook; lists of plants for specific landscape uses. H. B. Creighton and P. Pasco, comps. Connecticut arboretum, Connecticut college, New London '40
Planting design. F. B. Robinson. 215p $2.75 McGraw-Hill '40
Siftings. J. Jensen. 110p $2.50 R. F. Seymour, Chicago '39
Trees and shrubs for landscape effects. M. C. Coffin. 169p $3 Scribner '40

See also
Factories—Grounds
Parks
Parkways
Roadside planting

LANDSLIDES
Soil science applied to the construction of embankments. C. E. Beland. Can Eng R & B 78:28, 79-81 Ap '40
Some additional observations on slumping and gully formation. R. H. Mitchell. Science 92: 378-9 O 25 '40
Treatments prevent slides and slipouts in California. O. J. Porter. il diags Roads & Sts 83:57-9+ Ap '40

See also
Mine subsidences

LANE BRYANT, Inc.
Annual report. Comm & Fin Chr 151:1148 Ag 24 '40
Lane Bryant slenderizing idea goes on national basis; department stores licensed to sell. Sales Management 46:57 Ja 1 '40

LANESBOROUGH, Massachusetts

Water supply
Federal construction subsidies for small public water supplies. S. M. Ellsworth. N E Water Works Assn J 54:49-59 Mr '40

LANGUAGE, Universal

See also
Basic English

LANGUAGES, Modern

See also
English language
German language
Proofreading

LANITAL. See Wool, Artificial

LANSING, Michigan

Sewerage
Problems in garbage-sewage treatment. il plan Eng N 125:407-9 S 26 '40

Water supply
Novel design features of the Lansing water conditioning plant. C. R. Erickson. flow diag il plans Am Water Works Assn J 32:1259-1309 Ag '40; Abstract. Eng N 124: 665 My 9 '40

LANTERN projection
Projection of chemical lecture experiments onto the screen. O. W. Richards. il J Chem Educ 17:210-13 My '40

LANTERN slides
Preparation of lantern slides without a camera. L. A. Goldblatt and J. E. Bates. bibliog il J Chem Educ 17:462-5 O '40

See also
Slide films

LANTERNS
Hand lantern of lucite. il Mod Plastics 18: 46 N '40

LANTHANUM chloride
Solubilities of the chlorides of lanthanum, praseodymium, and neodymium. J. N. Friend and R. W. Hale. Chem Soc J p670-2 My '40
Viscosity of solutions of electrolytes as a function of the concentration; potassium bromide and lanthanum chloride. G. Jones and R. E. Stauffer. bibliog Am Chem Soc J 62:385-7 F '40

LANTHANUM hydroxide
Hydrous lanthanum hydroxide as an emulsifying agent. T. Moeller. bibliog J Phys Chem 44:259-63 F '40

LAPPING
Increasing the life of cutting tools by an improved method of grinding. L. J. St Clair. Mach 46:270-1 D '39
Lapping for final finish. H. J. Wills. il Am Mach 83:985-7, 1037-8, 1080-2; 84:5 N 29 '39-Ja 10 '40
See also
Polishing

LAPPING machines
Bowen and company grinding and lapping machine for sintered-carbide tools. il diags Engineering 149:435 Ap 26 '40
Kitchen and Wade hydraulic honing and lapping machine. il Automobile Eng 30:39 F '40
Schraner improved external cylindrical lapping machines. il Am Mach 84:729 S 18 '40

LARCH
Chemistry of wood; the esters and ethers of the water soluble polysaccharides of larch wood. F. C. Peterson and others. Am Chem Soc J 62:2361-5 S '40
Water-soluble gum from larch tree. E. V. White. Oil Paint & Drug Rep 138:54 O 21 '40

LARCHMONT, New York

Water supply
Porous plate filter bottom. H. T. Hotchkiss, jr. bibliog il Water Works & Sewerage 86: 442-4 N '39

LARD
Commercial epitome. Published in weekly numbers of Commercial & financial chronicle
Exports of lard including neutral lard; revision, monthly, 1913-Sept. 1939. Survey of Cur Business 19:16 N '39
Factors influencing carcinogenesis with methylcholanthrene; the effect of solvents. M. B. Shimkin and H. B. Andervont. bibliog Pub Health Rep 55:537-45 Mr 29 '40
Gas sales in food storage locker plants; lard rendering. J. E. Dare. Gas Age 85:61 My 9 '40
Lard definitions issued by Agriculture dept. Oil Paint & Drug Rep 138:5+ Ag 19 '40
Lard's life extended; new keeping qualities. Business Week p34-5 Je 29 '40
Pork and lard production, revision; monthly, 1923-June, 1940. Fed Res Bul 26:854 Ag '40
Refrigeration of fats and oils. H. S. Mitchell. Refrig Eng 40:154-5 S '40
U.S. urged to boost lard prices. Business Week p41-2 Je 1 '40

Analysis
Detection of foreign fats containing tristearin in unhydrogenated pork fats; applicable to detection of beef fat in lard and sometimes referred to as Boemer number. Ind & Eng Chem Anal ed 12:380 Jl 15 '40

LARMOR-THOMAS precession
Spin-orbit coupling in the alpha-model of light nuclei. D. R. Inglis. bibliog Phys R 56:1175-80 D 15 '39

LARNE, Ireland

Harbor
Car ramp at Larne harbour. il diags Engineer 168:524-5 N 24 '39

LARSEN, Roy Edward, 1899-
Gallery, president of Time, inc, publisher of Time, Fortune, Life, and Architectural forum. por Adv & Sell 33:36, 38+ Ja '40

LARVAE
Larvae and crustacea; problem in water purification and corrective measures. R. A. Thuma. Water Works & Sewerage 87:214-15 My '40

LASKER, Albert Davis, 1880-
Cleared of loan blame. Ptr Ink 189:15-16 N 24 '39

LATENT heat of vaporization. See Vaporization, Heat of

LATENT image. See Photography—Latent image

LATEX. See Rubber latex

LATHES
Acme-Gridley six-spindle automatic chucking lathe. il Engineering 149:8 Ja 5 '40
Ateliers de construction Ruti electric capstan lathe. il Automobile Eng 30:243-4 Ag '40
Auxiliary turret that saves time. D. Turner. diags Am Mach 84:142 Mr 6 '40
Bullard vertical turret lathe. Metals & Alloys 11:MA2 Ja '40
Butterworth automatic lathe. il Automobile Eng 30:17-18 Ja '40
C.V.A. 3½-in. centre precision capstan lathe. il Engineering 148:562 N 17 '39; Engineer 168:505 N 17 '39
Dean, Smith and Grace centre lathe. il Automobile Eng 30:125 Ap '40
Electric cycle control. il diags Product Eng 11:154-5 Ap '40
Elektrischer vorschubantrieb im drehbankbau. F. Twelsiek. il diag V D I 84:155-6 Mr 2 '40
Elgin bench lathe and bench lathe unit. il Mach 46:152 Je '40
Engine lathes; hazards and precautions. Nat Safety N 42:51-2 Jl '40
51-in. hole bored on a 27-in. lathe. D. L. Wheeler. il Am Mach 84:339-40 My 15 '40
Gisholt automatic multi-tool lathe operation; machining of a motor-car engine flywheel. il diags Engineering 148:580-2 N 24 '39
Gisholt no. 12 hydraulic automatic lathe. il Automobile Eng 30:217 Jl '40
Gisholt offers improved automatic lathe. il Am Mach 84:345 My 15 '40
Grinding spherical shapes in a lathe. J. W. Gerdel. diags Mach 46:263-4 D '39
Hannifin combined lathe, milling machine and drilling machine. il Engineering 149:600-1 Je 21 '40
Hardinge high-speed precision lathe. il Mach 47:167 O '40
Hunter milling lathe cuts irregular spirals. il Am Mach 84:391 My 29 '40
Lathe attachment for grooving bushings. R. C. Smithyman. il diags Am Mach 84:752-4 O 2 '40
Lathe attachment for machining spherical seats of special valves. S. Porritt. diags Mach 46:116-17 Ag '40
Lathe tail-spindle and center-drill holder. W. S. Rowell. diag Mach 46:118 Ag '40
Making bronze bushings efficiently; Harnischfeger corp. H. Menck. il Steel 107:61+ Jl 15 '40
Millholland universal turret lathe. il(p211) Automotive Ind 83:209-10 S 1 '40; Am Mach 84:777-8 O 2 '40
Morey heavy-duty shell-manufacturing lathe with finger-tip control. il Mach 47:173 N '40
Safe aids for handling lathe chucks. J. R. Longstreet and W. K. Bailey. il Am Mach 84:288-9 My 1 '40
Schauer speed lathes equipped with vacuum chucks. il Mach 46:141 My '40
Schnell-ladeeinrichtung an selbsttätigen revolver-drehbänken. K. Schwendenwein. il diags V D I 84:347 My 18 '40
Simmons gap bed lathe. il Am Mach 84:894 O 30 '40
Small lathe saves big expense on turbine-generator repair. N. D. Jackson. il diag Power 84:739 N '40
Smallpiece multi-cut lathes. il Automobile Eng 30:57-8 F '40
South Bend 10-inch tool-room lathe. il Mach 46:214 Jl '40
Speeds and feeds for turret lathes. Am Mach 84:773 O 2 '40

LATHES—*Continued*
Standard tools are breaking production bottlenecks. W. J. Burger. il Mach 46:110-11 F '40
Tailstock plate aids scribing and indicating. C. Homewood. il Am Mach 83:1004 N 29 '39
Tailstock plate aids scribing and indicating. A. Silvester. Am Mach 84:176 Mr 20 '40
Turret lathe operators service bureau. C. S. Stilwell. il Automotive Ind 82:558-9 Je 15 '40
Turret lathe tooling. J. R. Longstreet and W. K. Bailey. il diags Am Mach 84:79-81, 130-2, 166-8, 202-5, 242-5, 284-7, 334-7, 378-81 F 21-My 29 '40
Turret lathes in tool rooms. il Ry Mech Eng 114:112-13 Mr '40
Using die-grinder on lathe faceplate for planetary grinding job. H. J. Chamberland. diags Mach 46:117 My '40
Variable speed through electronic control; Rivett 1020 cabinet lathe. il diags Product Eng 11:244-7 Je '40
Warner & Swasey launches turret lathe operator's service bureau. Steel 106:22 My 20 '40; Iron Age 145:86 My 23 '40; Mach 46:141 Je '40
Warner & Swasey no. 4 ram-type turret lathe equipped with pre-selector head and brake. il Am Mach 83:1009 N 29 '39; Mach 46:280 D '39; Ry Mech Eng 114:166 Ap '40
Wickes center drive crankshaft lathe. il Am Mach 83:1053 D 13 '39

See also
Machine shop practice
Machine tools
Screw machines
Turning

Manufacture

Routing raises output; Monarch machine tool co. P. A. Abe. il plan Steel 106:66-7+ Mr 18; 50, 52+ Mr 25 '40
Truck-storage units for handling and assembling lathe parts; Monarch machine tool co. il Steel 105:41+ D 25 '39

Models

Miniature model of turret lathe built in complete detail. il Iron Age 144:34 D 28 '39

Standards

Standards of accuracy for engine lathes released by builders. Steel 107:39-40 N 4 '40

Testing

Wear resistance of flame hardened and unhardened lathe bed ways. il Automotive Ind 82:452 My 15 '40

LATIN AMERICA
Commercial travelers' guide to Latin America; pt. 3, Mexico, Central America and Caribbean countries. fold maps U S Bur For & Dom Com, Trade Promotion Ser 208:1-238 '40
Cultural relations with Latin America. S. G. Inman. Ann Am Acad 211:180-5 S '40
Hemisphere handout; proposed loans by Export-import bank would provide only temporary relief. H. M. Bratter. map Barron's 20:20 S 2 '40
Latin American studies in American institutions of higher learning, academic year 1938-1939. R. d'Eça, comp. 96p bibliog(p79-95) Division of intellectual cooperation, Pan American union, Washington, D.C. '40
Latin American tourist dollars. R. S. Hecht. Bankers M 141:360-1 O '40
Peace audit of the Americas. J. Schain. Ann Am Acad 210:133-8 Jl '40
Promotion of inter-American cultural relations. Science 92:349 O 18 '40
South American handbook, 1940; a year book and guide to the countries and resources of Latin-America, inclusive of South and Central America, Mexico, and Cuba. H. Davies, ed. 17th ed 690p $1 Wilson, H.W. '40
Welding the Americas; Nelson Rockefeller gets job of coordinating efforts at closer ties with Latins. Business Week p16-17 Ag 24 '40
Where to get information about Latin America. Business Week p17 Ag 24 '40

See also
Cement industry and trade—Latin America
Central America
Credit—Latin America
Cuba
Insurance, Social—Latin America
Labor laws and legislation—Latin America
Machinery industry—Latin America
Mexico
Pan American conferences
Pan Americanism
Patent laws and legislation—Latin America
South America

Bibliography

Handbook of Latin American studies: 1938. L. Hanke and R. D'Eça, eds. 469p $4 Harvard univ. press '39
Latin America; books for North American readers. B. Adler, comp. map Booklist 37, no 2:47-61 pt 2 O 1 '40

Commerce

Advices to Merchants' association of New York indicate that changes in buying methods of American importers might help in developing Latin American trade. Comm & Fin Chr 151:186 Jl 13 '40
All America trade corporation. Nation's Business 28:25+ Ag '40
Banking opportunities in Latin American trade; with bibliography of reference books. H. F. Koller. Bankers M 141:210-12 S '40
Business discovers Latin America. Business Week p15-17 Ap 6 '40
Business outlook; South American situation. W. W. Case. Annalist 56:201-2 Ag 15 '40
Canada woos Latins. Business Week p50 N 25 '39
Coming Nazi struggle for world trade. M. Palyi. il Am Business 10:14-16+ Ag '40
Economic relations with Latin America. D. M. Phelps, ed. 75p pa $1 Univ. of Michigan, School of business administration, Ann Arbor '40
European war and trade of the United States with Latin America. 25p Inst. of international finance, 90 Trinity place, New York '40
Financing South American trade. J. H. Durrell. il Burroughs Clearing House 24:12-14+ Ap '40
Future of our Latin American trade. R. S. Smith. Comm Rep p307-8 Ap 6 '40
Havana plan up to Washington; hemisphere agreement emerges from Pan American conference. Business Week p44-5 Ag 3 '40
Hemisphere cartel proposed. Barron's 20:6 Je 24 '40
Hemispheric cartel? its meaning to U.S. advertising; German merchandizing, its lessons for the U.S. C. M. Wilson. il Adv & Sell 33:28-30, 60-60a Ag '40
How to enter the Latin-American market. H. P. Clark. il Ptr Ink Mo 40:16-17, 49 Ja '40
Import and export trade of 20 Latin American republics with 6 leading commercial countries; charts. Banking 33:51 S '40
Industry looks to South America for markets in world torn by war. W. A. Phair. il Iron Age 145:62, 65-6 Je 27 '40
Japan plays for higher stakes; with statement by S. Kato explaining his country's position. H. Corey. il Nation's Business 28: 23-5+ Ag '40
Latin America beckons; abstract. J. S. McCain. Management R 28:416-17 D '39
Latin America faces unfavorable trade balance of $125,000,000 in 1940. Iron Age 146:54 S 26 '40
Latin American commodities. M. Downward. Barron's 20:6 Jl 1 '40
Latin American demand for United States products increased sharply by European war; problem of financing imports. Comm & Fin Chr 150:773 F 3 '40
Latin-American economic problems. Nat City Bank p104-7 S '40
Latin American exchange situation. For Comm W 1:95-6+ O 19 '40

LATIN AMERICA—Commerce—*Continued*
Latin American export problems. map Barron's 20:6 Jl 29 '40
Latin American foreign trade; a general survey, 1938. 27p Pan American union, Washington, D.C. '40
Latin American markets for confectionery; relative importance of principal countries, 1937-39 and United States exports, 1938 and 1939. A. S. Nemir. Comm Rep p850+ Ap 13 '40
Latin-American sales mount; new tactics needed to hold them. W. R. E. Baxter. Sales Management 46:50-3 My 1 '40
Latin American trade responsibilities. R. G. Smith. Bankers M 141:213-15 S '40
Latin American trade winds, 1940; credit inquiries and sales. A. O. Stanley. il Dun's R 48:29-30 Ag '40
Latin-American treasure hunt. H. M. Bratter. Banking 32:22-3 D '39
Latin program gets the go sign; U.S. opens hemisphere drive with Export-Import loans to Brazil and Costa Rica. Business Week p63-4 O 5 '40
Look at our economic future. R. Moley. Bankers M 141:112-16 Ag '40
Markets of Latin America. Engineering 149: 497-8 My 17 '40
Medicinal exports to Latin America may exceed $15,000,000 this year. C. C. Concannon. Comm Rep p467 My 18 '40
More opportunities for American producers; Italy and France shut off from Latin American markets. Manuf Rec 109:28-9 Jl '40
National foreign trade week highlights, Latin American trade. L. B. Clark. il map Comm Rep p439-41 My 18 '40
Nazis score in Latin America; cash guarantee of October delivery. Business Week p47-8 Jl 27 '40
New deal discovers South America. K. K. Hoyt. Annalist 54:661 N 23 '39
New markets for Britain; possibility of capturing Germany's markets in Latin America. Economist 137:200-1 N 11 '39
One-third of Latin American exports taken by United States in normal years. E. P. Thomas. Comm & Fin Chr 151:2295 O 19 '40
One year of war, and United States trade with Latin America. L. B. Clark. For Comm W 1:47-8+ O 12 '40
Our Latin American trade. R. L. Kramer, ed. map Ann Am Acad 211:146-96 S '40
Planning Pan-American trade. S. G. Inman. Harvard Business R 18 no 2:137-47 [Ja] '40
Report on foreign trade of Latin America issued by Tariff commission. Comm & Fin Chr 150:3143 My 18 '40
Retailers woo Latins; Retailer's advisory committee to develop South American supply sources. Business Week p26-7 Ag 17 '40
Seeking Latin goods; retailers extend themselves to aid inter-American program. Business Week p42 Jl 6 '40
South American rush; orders during the first nine months of the war. Business Week p46-7 S 21 '40
South of the border; advertising to and by Latin America. J. B. Powers. Adv & Sell 33:40+ S '40
Tariff commission issues reports on trade relations of Venezuela, Bolivia, Ecuador, Paraguay, Peru and Uruguay. Comm & Fin Chr 151:2425 O 26 '40
Third Reich in Latin America: main forces in the coming trade battle. G. Reimann. Annalist 56:72-3+ Jl 18 '40
Total imports; 20 Latin American republics; proportion from Germany, Great Britain and U.S.; charts. Business Week p15-16 Jl 20 '40
Trade of the Americas. Economist 139:401-2 S 28 '40
Trade with Latin America soars; Business Week survey. Business Week p15-16 F 24 '40
Twenty nations and one; the Monroe doctrine, political and economic. Fortune 22:74-6+ S '40
U.S. seeks a hemisphere economy. Business Week p15-16 Je 29 '40
U.S. studies plans to curb forced barter deals in S.A. if Nazis win. Iron Age 145:58 Je 13 '40
War and Latin America. F. M. Stern. Bankers M 140:114-17, 197-200 F-Mr '40
Will the United States regain their lost trade with Latin-America? H. O. Johnson. Am Dyestuff Rep 29:47-8 Ja 22 '40

Bibliography
Markets to the south of us. Cleveland Pub Lib Business Information Bur v 2, no 3:1-4 My '40 (pa 10c)

Economic conditions
Business situation. Published in Commerce reports thru Sept.
Latin America in 1939. Economist 138:sup25-6 F 17 '40
Latin American credits improve; 23d semi-annual survey on market conditions. K. H. Campbell. Credit & Fin Management 42:10-11 F '40
Latin American survey, first half of 1940. K. H. Campbell. Credit & Fin Management 42:20-1 Ag '40

Foreign relations
United States
All-American front. D. Aikman. 344p $3 Doubleday '40
As our neighbors see us. T. H. Reynolds, ed. 317p $2.50 T. H. Reynolds, Stillwater, Okla. '40
Latin-American economic problems. Nat City Bank p104-7 S '40
Monroe doctrine gets new teeth; hemisphere defense plans. Business Week p48-9 Ag 24 '40
President Roosevelt says American republics work in unity to defend ourselves and are determined for peace. Comm & Fin Chr 151:2281-2 O 19 '40
Twenty nations and one; the Monroe doctrine, political and economic. Fortune 22: 74-6+ S '40
See also
Havana pact, 1940

Industries and resources
Economic diversification in Latin America. F. E. Williams. bibliog Ann Am Acad 211: 147-54 S '40

LATIN AMERICAN literature
Bibliography
General bibliography of Uruguayan publications for 1938. 15p pa 25c Inter-American book exchange, 2700 Q st, N.W., Washington D.C. '39

LATVIA
Russian acquisition of Estonia, Latvia and Lithuania. Comm & Fin Chr 151:480-1 Jl 27 '40
See also
Labor and laboring classes—Latvia
Railroads—Latvia

LAUE photographs
Atomic distribution in aluminium-silver alloys during aging. C. S. Barrett and A. H. Geisler. bibliog il diags J Ap Phys 11:733-9 N '40

LAUNCHING
Ingalls yard launches the Exchequer. C. M. Leavitt. il Marine Eng 45:63-6 Jl '40
Launch of the U.S.S. North Carolina. L. Kaplan. il diags Marine Eng 45:59-64 S '40

LAUNCHING of airplanes. See Airplanes—Launching

LAUNDRIES
Laundry drive-in fight. Business Week p43-4 O 12 '40
Now! no more shirts to buy—laundry buys 'em for you; Shreveport laundries, inc. operate Independent shirt service. Am Business 10:32 Ap '40

LAUNDRIES—*Continued*

Advertising

Advertising on laundry wrapping paper. il Inland Ptr 104:28 D '39

Slogan for Americanism, Isn't it great to be an American! Nation's Business 28:74-7 Je '40

These snappy letters pulled in 247 new customers and can be adapted; Kimball laundry company, Omaha. Ptr Ink 191:38, 40 Je 28 '40

Electric equipment

All-electric Irish laundry. il Elec R (Lond) 127:302 O 11 '40

Electric washing machines and laundries. il Electrician 123:389 O 27 '39

Electrified laundry. il Elec R (Lond) 126: 419-21 Ap 12 '40

Equipment

See Laundry equipment; Laundry machinery; Washing machines, Electric

Power

Clean-cut design, careful operation produce results; New England laundry co. il Power 84:665-6 O '40

Motor performance in a laundry. R. Wages and R. Edmond. Elec W 114:1038 O 5 '40

Process steam; how heating and power driving requirements are met; Manor laundry, Camberwell. il Elec R (Lond) 126:207-9 F 23 '40

LAUNDRY

Efficacité des produits employés pour adoucir l'eau destinée au blanchissage domestique et économiser le savon. Génie Civil 115: 368-70 N 18 '39

Fundamental principles that govern the shrinkage of cotton goods by washing. G. E. Collins. il diags Textile Inst J 30:P46-61 Mr '39; Abstract. Textile Col 62:257-8 Ap '40

Recent developments in textile cleaning and finishing; use of chlorinated hydrocarbons. N. C. Cooper. Textile Col 61:811-13 D '39

Sodium metaphosphate in laundering. B. H. Gilmore, C. J. Munter and E. R. Burnett. bibliog Ind & Eng Chem 32:1233-7 S '40

Spun rayons and the laundry. Rayon 21: 455 Ag '40

Standard method of test for shrinkage in laundering of woven cotton cloth; A.S.T.M. designation: D 437-36. Textile Col 62:632-3 S '40

This is cotton shrinkage; Rigmel finish. G. F. Young. Textile Inst J 31:P50-2 Ap '40

Washing dirty linen. K. H. Barnard. Am Dyestuff Rep 29:263-4+ My 27 '40

Woven dress fabrics; testing and reporting; colorfastness to laundering of cotton and linen dress fabrics. Textile Col 62:265, 318-19 Ap-My '40

See also
Laundries
Soap

LAUNDRY equipment

How the laundry industry is being sold through trade clinics; potent builder of sales to owners of laundries and dry cleaning establishments. R. Rockafellow. il Sales Management 46:68-71 F 15 '40

Yearbook of the laundry industry; directory of equipment and supplies; manufacturers' catalog; general reference data. 300p $1 Laundry age pub. co, 330 W. 42d st, New York '39

See also
Laundries—Electric equipment

LAUNDRY machinery

Process steam; how heating and power driving requirements are met; Manor laundry, Camberwell. il Elec R (Lond) 126:207-9 F 23 '40

See also
Electric driving—Laundry machinery
Ironing machines, Electric
Washing machines

LAURIC acid

Adsorption analysis; relation between adsorption isotherm and position on the adsorption column. H. G. Cassidy. Am Chem Soc J 62:3076-9 N '40

Adsorption analysis; the adsorption of higher fatty acids. H. G. Cassidy. bibliog Am Chem Soc J 62:3073-6 N '40

LAURYL sulfonic acid. See Dodecyl sulfonic acid

LAURYLAMINE

Detergents from kerosene; alkyl amine hydrochlorides. A. R. Padgett and E. F. Degering. bibliog Ind & Eng Chem 32:486-8 Ap '40

LAVA

Grooved lava in the cross-section of Big Craters, Idaho. R. L. Nichols and C. E. Stearns. diags map Am J Sci 238:22-31, pl 1-3 Ja '40

Hat Creek lava flow. C. A. Anderson. diags maps Am J Sci 238:477-92, pl 1-2 Jl '40

Magmatic gases. T. A. Jaggar. bibliog Am J Sci 238:313-53, pl 1-5 My '40

Magnetite and hematite veins in Triassic lavas of Nova Scotia. A. P. Hornor, jr. il Econ Geol 34:921-30 D '39

See also
Volcanoes

LAVATORIES

It's wash-up time. A. W. Herdman. il Nat Safety N 42:64-5+ O '40

Personal hygiene and the washroom. E. L. Root. Safety Eng 80:70 O '40

Sanitation and health. G. Swatek. il Safety Eng 79:47-8 Ap '40

Washrooms and locker rooms. il Nat Safety N 41:141-2 Mr '40

LAW

Business man's legal guide (for Texas business men). H. H. Smith. 467p $6 H. H. Smith, Panhandle, Tex. '39

Engineering and law. H. C. Haskell. J Eng Educ 31:152-6 O '40

Law as logic and experience. M. Radin. 171p $2 Yale univ. press '40

Law in the making. C. K. Allen. 3d ed rev & enl 542p $7 Oxford '39

Legal essays and addresses. Lord Wright of Durley. 442p $3.75 Macmillan '40

Legal handbook; questions and answers on twenty of the most important legal subjects for bar study. E. E. Duncan and S. Craven. 373p $2 Kingsport press, Kingsport, Tenn. '38

Look at the law; the law is what the layman makes it. P. E. Jackson. 377p $2.75 Dutton '40

You be the judge. E. Mortenson. 451p bibliog(p441-5) $3.75 Longmans '40

See also
Accounting—Laws and regulations
Administrative law
Advertising—Laws and regulations
Automobile laws and regulations
Banking law
Bankruptcy
Building laws and regulations
Commercial law
Contracts
Copyright
Corporation law
Damages
Debtor and creditor
Domicile
Drugs—Laws and legislation
Engineering law
Food laws and legislation
Forms (law)
Fraud
Government regulation of industry
Immunity (law)
Income tax
Insurance law
Jurisprudence
Labor laws and legislation
Lawyers
Legal aid
Legal ethics
Legislation
Limitation of actions
Maritime law
Master and servant
Medical jurisprudence
Mining law
Mortgages
Motor bus lines—Laws and regulations
Motor vehicles—Law
Naturalization
Partnership
Patent laws and legislation
Patents
Petroleum laws and regulations
Probate law
Public health laws
Public utilities—Law
Railroad law
Real property
Right of way

LAW—See also—*Continued*
Safety laws and regulations
Sales, Conditional
Securities—Law
Social security act, 1935
State laws
Taxation
Trade marks—Law
Trust companies—Legal service
Trusts, Industrial—Law
Trusts and trustees
Wages—Law
Wills
Workmen's compensation

Bibliography
How to find the law. F. A. Eldean. 3d ed 923p $3 West '40

Dictionaries
Cyclopedic law dictionary defining terms and phrases of American jurisprudence, of ancient and modern common law, international law, civil law, the French and Spanish law, and other juridical systems, with an exhaustive collection of legal maxims. W. A. Shumaker and G. F. Longsdorf. 3d ed 1188p $6.50 Callaghan '40

Philosophy
Law as fact. K. Olivecrona. 220p $2.50 Oxford '40
Law as logic and experience. M. Radin. 171p $2 Yale univ. press '40
Law in quest of itself. L. L. Fuller. 147p $2 Foundation press, Chicago '40

Terminology
Law office secretary's manual. J. J. Antus. 343p $5 Prentice-Hall '40

LAW offices. See Lawyers' offices

LAW reporting
Law office secretary's manual. J. J. Antus. 343p $5 Prentice-Hall '40

LAW schools
Trust education in the universities; survey reveals inadequacy of present opportunities. Trusts & Estates 70:545-7 My '40

LAWALL, Charles Elmer, 1891-
Portrait. Min & Met 21:188 Ap '40

LAWN mowers
Powered by 3-4 hp. engine. il Product Eng 11:348 Ag '40

Manufacture
Reduces breakage in cleaning; Pennsylvania lawn mower works. C. C. Herman. il Foundry 68:86 S '40

LAWN sprinklers. See Sprinklers

LAWNS
Better lawns, for homes and parks. H. B. Sprague. 205p $2 McGraw-Hill '40

LAWRENCE, Ernest Orlando, 1901-
Maestro of the atom. L. A. Schuler. Sci Am 163:68-71 Ag '40
Personalities in science. por Sci Am 162:259 My '40
Presentation of the Nobel prize to Professor Ernest O. Lawrence; with response. R. T. Birge. Science 91:323-30 Ap 5 '40

LAWRENCE, Massachusetts

Water supply
Construction and operation of rapid sand filters. A. L. Shaw and E. S. Chase. il diags plan N E Water Works Assn J 53: 412-40 D '39; Excerpts. Eng N 123:828-9 D 21 '39; Abstract. Water Works & Sewerage 86:455 N '39; Discussion. F. H. Kingsbury. N E Water Works Assn J 53:441-3 D '39

LAWRENCE college

Institute of paper chemistry
Medal for outstanding service to paper industry awarded to Dr Otto Kress. Paper Tr J 110:101-3 F 22 '40
Paper chemistry institute awards degrees. Paper Tr J 110:7+ Je 13 '40

LAWYERS
Attorney member aids executive committee of bank board. E. B. Hand. Bankers Mo 57: 131-2+ Mr '40
Bar of other days. J. S. Auerbach. 364p $3.50 Harper '40
Contributions made to human welfare by lawyers and insurance agents; abstracts. R. Dechert. East Underw 41:29 S 27 '40; Nat Underw (Life ed) Daily ed 44:10 S 26 '40
Factors in pension plan for lawyers. H. B. Thompson. Nat Underw (Life ed) 44:5 Ag 16 '40
Lawyer's part in trust administration; responsibility for workable instruments. G. T. Stephenson. Trusts & Estates 70:412-15 Ap '40
New York Appellate division denies immunity to lawyers in court investigations. Comm & Fin Chr 150:1072 F 17 '40
Role of the lawyer in management. P. M. Glick. Advanced Management 5:68-71+ Ap-Je '40

See also
Bar associations
Insurance, Life—Lawyers' cooperation
Legal education
Legal ethics
Patent lawyers
Trust companies—Lawyers' cooperation
Trust companies—Legal service

LAWYERS' offices
Law office management. D. G. McCarty. rev ed 561p $5 Prentice-Hall '40

LAXATIVES. See Purgatives

LAYOFF systems
Layoff policy; abstract. S. H. Slichter. Management R 29:131-2 Ap '40
Merit and seniority; study of the principles of merit and seniority found operative in promotion; demotion and termination policies as applied to field workers in seventeen oil companies in California. D. K. Livingston. Personnel J 19:9-19 My '40
Share-the-work provisions in union agreements. Monthly Labor R 50:1340-8 Je '40

LAYOUT. See Advertisements—Layout; Factories—Layout; Offices—Layout; Shipping rooms—Layout; Workplace layout

LAZURITE
Mineral concentration by oil adhesion in XVth century; manuscript written by Persian scholar Muhammad ibn Mansûr in the year 897 of the hegira (1491 of the Christian era). A. M. Gaudin. bibliog Eng & Min J 141:43-4 O '40

LEAD
Absorption of cosmic rays in lead at a depth of 1000 m water equivalent. J. Barnóthy and M. Forró. Phys R 58:844 N 1 '40
Absorption of high energy electrons. M. M. Slawsky and H. R. Crane. Phys R 56:1203-10 D 15 '39
Application of electromotive force measurements to binary metal systems; lead-bismuth system. H. Seltz. Electrochem Soc Trans 77 (preprint 17):222-30 Ap '40
As it was in 1915 and as it is in 1940. A. J. Phillips. Metal Prog 37:297 Mr '40
Conductivity and mobility of thin lead films. M. G. Foster. bibliog il diags Phys R 57: 42-6 Ja 1 '40
How to remove lead from maple sirup; traces of it and other heavy metals can be precipitated and filtered out. A. Conlin. il plan Food Ind 12:52-3 Ja '40
Initial stage of plastic deformation in lead under compression. W. J. Lyons. J Ap Phys 11:514-21 Ag '40
Internal friction of single metal crystals. T. A. Read. bibliog diags Phys R 58:371-80 Ag 15 '40
Lead anodes for chromium plating. R. Eckhardt. il Metal Finishing 38:313-14 Je '40
Lead seal for Tainter gates. O. N. Floyd. diags Eng N 123:763 D 7 '39
Metallic materials in the telephone system. E. E. Schumacher and W. C. Ellis. il Metal Prog 36:617-19 N '39; Same. Bell System Tech J 19:138-45 Ja '40
New technique for lead cable sheathing. B. B. Reinitz and R. J. Wiseman. bibliog il diags Elec Eng 59:Trans 165-71; Discussion. Trans 171-8 Mr '40
Nuclear excitation of lead by X-rays. B. Waldman and G. B. Collins. Phys R 57:338-9 F 15 '40

LEAD—*Continued*
Redistribution reaction; the relative affinity of mercury and lead for methyl and ethyl radicals. G. Galingaert, H. Soroos and G. W. Thomson. Am Chem Soc J 62:1542-5 Je '40
Rolling and extruding of lead for chemical equipment. F. P. Peters. il Metals & Alloys 11:113-17 Ap '40
Scattering of thermal neutrons by crystals. F. Rasetti. bibliog diag Phys R 58:321-5 Ag 15 '40
Versuche zur verringerung des bleiverschleisses beim schwefelsäure-turm- und kammerverfahren. H. Lohfert. il Chemische Fabrik 12:499-502 D 6 '39

See also
Steel—Lead content
Water pipes, Lead

Analysis

Amperometric (polarometric) titrations; the amperometric titration of lead with dichromate or chromate. I. M. Kolthoff and Y. Pan. bibliog diag Am Chem Soc J 61: 3402-9 D '39
Colorimetric determination of arsenic in ferrous and nonferrous alloys. C. J. Rodden. bibliog diag J Research Nat Bur Stand 24: 7-11 Ja '40
Colorimetric determination of lead chromate by diphenylcarbazide; application of a new method to analysis of lead in blood, tissues, and excreta. T. V. Letonoff and J. G. Reinhold. bibliog Ind & Eng Chem Anal ed 12:280-4 My 15 '40
Emploi de la thiourée pour le dosage du bismuth dans les plombs et les étains affinés. R. Petit and R. Meraux. Chimie & Ind 43:629-31 Ap 20 '40
Estimation of traces of lead and thallium in pharmaceutical chemicals; a simple dithizone limit test. K. Bambach. bibliog Ind & Eng Chem Anal ed 12:63-6 F 15 '40
Photelometric study of the lead-dithizone system at 610 millimicrons. C. L. Guettel. Ind & Eng Chem Anal ed 11:639-40 D 15 '39
Spectrographic analysis of lead and its alloys. J. N. Mrgudich. il Iron Age 146:21-5 Ag 29; 40-3 S 5 '40

History

Historical and industrial discovery of the elements. J. N. Friend. Chem & Ind 59: 24-5 Ja 13 '40

Metallography

Microtome for lead cable sheath. H. P. Nielsen. il Metal Prog 38:178-9 Ag '40

Physiological effect

See also
Lead poisoning

Prices

Lead at New York, cents a pound, monthly, 1919-1939; tabulation. Iron Age 145:175 Ja 4 '40

LEAD acetates
Action of lead tetraacetate upon hydroxylated fat acids and related compounds; hydroxylated oleic acid, ethyl oleate and oleyl alcohol. J. T. Scanlan and D. Swern. bibliog Am Chem Soc J 62:2305-9 S '40
Action of lead tetraacetate upon hydroxylated fat acids and related compounds; hydroxylated ricinoleic acid and castor oil. J. T. Scanlan and D. Swern. Am Chem Soc J 62:2309-11 S '40
Constituents of the leaves of certain leucadendron species; oxidations of leucodrin derivatives with periodic acid and lead tetra-acetate. W. S. Rapson. Chem Soc J p1271-4 S '40
Electrodeposition of lead from lead acetate solutions. F. C. Mathers and J. B. Schwartzkopf. bibliog Metal Finishing 38: 533-6 O '40
Kinetics of the reaction between ethylene glycol and lead tetra-acetate. R. P. Bell, J. G. R. Sturrock and R. L. St D. Whitehead. Chem Soc J p82-4 Ja '40
Oxidation of glycosides by means of lead tetraacetate in aqueous solution. J. M. Gorsheintz. Am Chem Soc J 61:3379-81 D '39
Oxidative cleavage of α-keto acids and α-keto alcohols by means of lead tetraacetate. E. Baer. Am Chem Soc J 62:1597-1606 Je '40

LEAD alloys
Bearing alloys, tin-, lead- and aluminum-base; a composite of abstracts. Metals & Alloys 12:100+ Jl '40
Bearing metals; suitability in relation to modern requirements. M. Melhuish. Automobile Eng 30:304 O '40
Influence of crystal size on the wear properties of a high lead bearing alloy; abstract. J. R. Connelly. il Metal Prog 37:45 Ja '40
Lead-sodium alloy as a drying agent. H. Soroos. diag Ind & Eng Chem Anal ed 11: 657-8 D 15 '39; Same. Chem Age (Lond) 42: 21 Ja 13 '40
Lead-sodium master alloy available. Iron Age 145:52 Je 6 '40
Lead-tin-arsenic wiping solder. E. E. Schumacher and G. S. Phipps. il Metals & Alloys 11:75-6 Mr '40; Same. Bell System Tech J 19:262-6 Ap '40; Discussion. C. L. Barber. il Metals & Alloys 12:301-2 S '40
Metallic materials in the telephone system. E. E. Schumacher and W. C. Ellis. il Metal Prog 36:617-19 N '39; Same. Bell System Tech J 19:138-45 Ja '40
Spectrographic analysis of lead and its alloys. J. N. Mrgudich. il Iron Age 146:21-5 Ag 29; 40-3 S 5 '40
Tellurium lead; advantages in acid plant construction; abstract. J. P. Powell. Chem Age (Lond) 43:164 O 5 '40

LEAD arsenate
Arsenates standards proposed and label control by Department of agriculture. Oil Paint & Drug Rep 137:3+ Ja 15 '40
How toxic is arsenate of lead? effect on humans, algae and bacteria, fungi, seeds, onions, etc. I. D. Cardiff. bibliog J Ind Hygiene 22:333-46 O '40
Industrial uses of chemicals and related materials. Oil Paint & Drug Rep 136:37 D 18 '39
Studies on the detoxication mechanism; the ability of the apple or its constituents to counteract the toxic effects of lead and arsenic. I. A. Manville and others. bibliog J Ind Hygiene 22:36-47 Ja '40

LEAD borate
Industrial uses of chemicals and related materials. Oil Paint & Drug Rep 137:53 Ja 29 '40

LEAD chromate
Industrial uses of chemicals and related materials. Oil Paint & Drug Rep 136:30D D 11 '39
Studies on aging and coprecipitation; the adsorptive properties and the determination of the specific surface of lead chromate. I. M. Kolthoff and F. T. Eggertsen. Am Chem Soc J 62:2125-31 Ag '40

Analysis

Colorimetric determination of lead chromate by diphenylcarbazide; application of a new method to analysis of lead in blood, tissues, and excreta. T. V. Letonoff and J. G. Reinhold. bibliog Ind & Eng Chem Anal ed 12:280-4 My 15 '40

LEAD coating
Copper protection for stone and wood; lead-coated copper at New Rochelle college. il Sheet Metal Worker 31:67-9 Ja '40
Electrodeposition of lead from lead acetate solutions. F. C. Mathers and J. B. Schwartzkopf. bibliog Metal Finishing 38: 533-6 O '40
Striking cast lead and lead coated copper work on large residence. il Sheet Metal Worker 31:56-8 Ja '40

LEAD compounds
Redistribution reaction; R4Pb compounds. G. Calingaert, H. A. Beatty and H. Soroos. bibliog Am Chem Soc J 62:1099-1104 My '40
See also
Tetraethyl lead

LEAD foil
Mounting lead foil for radiographic screens. R. G. Tobey and H. E. Seemann. il diag Metals & Alloys 12:40-3 Jl '40
Multiple scattering of fast electrons; lead foils, carbon laminae and aluminum foil. C. W. Sheppard and W. A. Fowler. bibliog diags Phys R 57:273-80 F 15 '40

LEAD fumes
Lead poisoning; protective measures in plant manufacturing molten lead, lead oxides, white lead and lead dry-colors. F. W. Eckfeldt. il Safety Eng 80:8-10 Jl '40

LEAD halides
Dipole moments of alkyl and phenyl lead halides. G. L. Lewis, P. F. Oesper and C. P. Smyth. bibliog Am Chem Soc J 62:3243-6 N '40
Redistribution reaction; alkyl lead halides. G. Calingaert, H. Soroos and H. Shapiro. bibliog Am Chem Soc J 62:1104-7 My '40

LEAD hydride
Spectra of lead hydride and tin hydride in the near infra-red. W. W. Watson and R. Simon. Phys R 57:708-9 Ap 15 '40

LEAD hydroxide
Industrial uses of chemicals and related materials. Oil Paint & Drug Rep 137:57 Ja 15 '40

LEAD in the body
Age and the lead content of certain human bones; a compilation and statistical analysis of recently published data. H. P. Morris. bibliog J Ind Hygiene 22:100-3 Mr '40
Correlation coefficient between basophilic aggregation test and lead in urine. S. F. Meek, G. R. Collins and G. C. Harrold. bibliog J Ind Hygiene 22:401-7 N '40
Experimental studies on the ingestion of lead compounds; lead content of food materials. R. A. Kehoe and others. bibliog J Ind Hygiene 22:381-400 N '40
Relative retention by growing rats of lead ingested in water and in food, and in soluble and insoluble forms. J. B. Shields, H. H. Mitchell and W. A. Ruth. bibliog J Ind Hygiene 22:199-205 Je '40

LEAD industry and trade
Future of the lead-zinc industry. C. H. Crane. Oil Paint & Drug Rep 138:5+ S 16 '40; Same cond. Min & Met 21:466-7 O '40
Review and status of lead. C. H. Crane. Min Cong J 26:31-2 F '40
Surprise in lead. Business Week p56-7 N 2 '40
See also
St Joseph lead company

Finance

Lead, zinc producers financially analyzed; Federal trade commission report on six companies. Oil Paint & Drug Rep 138:3+ O 28 '40

Statistics

Lead in 1939. Economist 138:sup36-7 F 17 '40
Lead industry in 1939. Ind & Eng Chem News ed 18:440 My 25 '40
Lead, 1939. F. E. Wormser. Eng & Min J 141:45-6 F '40
Lead, 1936-1939. Survey of Cur Business 1940 Sup p136 [supplemented in monthly numbers]
Lead output up 30 percent in 1939. Oil Paint & Drug Rep 137:30C Ja 22 '40
Lead production, revision; monthly, 1923-June, 1940. Fed Res Bul 26:881 Ag '40
Lead shipments, revision; monthly, 1929-June, 1940. Fed Res Bul 26:834 Ag '40
War boomlet turned depression into prosperity for the nonferrous metals. P. E. Barbour. Annalist 55:124, 176 Ja 26 '40

LEAD iodate
Solubility of lead iodate in ammonium acetate solution. S. M. Edmonds and N. Birnbaum. Am Chem Soc J 62:2367-9 S '40

LEAD lining
Laying lead linings. E. Mantius. il Steel 106: 69-70+ Mr 4 '40

LEAD metallurgy
Contributions to the art of smelting lead products. V. Miller, R. Bainbridge and R. Ellison. U S Bur Mines Rep of Invest 3512: 1-12 '40; Abstract. Can Chem & Process Ind 24:344+ Jl '40
De-leading zinc concentrates at the Pend Oreille mill. C. A. R. Lambly and F. R. Milliken. flow sheets il Eng & Min J 141:29-32 Mr '40
Development in base metal smelting and refining in Canada in the last sixty years. il Can Min J 60:721-2 N '39
Lead metallurgy, 1939. G. L. Oldright. Eng & Min J 141:89+ F '40
Metallurgy of lead in 1939. R. G. Bowman. il Min & Met 21:13-14 Ja '40
Modernization marks operations at the Denn mine; 8 per cent copper direct-smelting ore and lead-zinc concentrates. J. B. Huttl. flow sheet il Eng & Min J 141:39-40 Je '40
Unique small-scale smelter; Philippine smelting company. C. A. Weekley and S. W. Norton. flow sheet il diags Eng & Min J 141:77-80 Ag '40

LEAD miners
Profitable protection; industrial hygiene and accident prevention; St Joseph lead company. A. Fletcher. il Nat Safety N 41:20-1+ F '40; Same cond. Concrete (mill sec) 48: 234-5 S '40

LEAD mines and mining
Treating lead-mine effluents. Chem Age (Lond) 42:84, 228 F 10, Ap 20 '40

Canada

Brief history of Canadian mining. W. H. Losee. Can Min J 60:661-3 N '39

England

Geology and development of Mill Close mine, Derbyshire. J. G. Traill. bibliog diags plans map Econ Geol 34:851-89 D '39

France

La zone plombifère et cuprifère des Alpes-Maritimes. map Génie Civil 115:327-8 O 28 '39

Mississippi valley

Contributions to a knowledge of the lead and zinc deposits of the Mississippi Valley region. E. S. Bastin, ed. il pls maps Geol Soc Special Pa no 24:1-156 bibliog(p145-52) '39 (pa $1)

Missouri

See also
St Joseph lead company

New York (state)

Zinc and lead deposits of Shawangunk mountain. A. I. Ingham. il map Econ Geol 35:751-60 S '40

Oklahoma

South of Joplin; story of a tri-state diggin's. L. S. Davidson. 290p $2.75 Norton '39

Yugoslavia

Trepca Mines outlook. Economist 137:521-2 D 30 '39

LEAD molybdate
Determination of molybdenum in cast iron and steel. C. Sterling and W. P. Spuhr. Ind & Eng Chem Anal ed 12:33-4 Ja 15 '40; Same cond. Chem Age (Lond) 42:155-6 Mr 16 '40

LEAD ores
Contributions to a knowledge of the lead and zinc deposits of the Mississippi Valley region. E. S. Bastin, ed. diags maps 4 pls Geol Soc Special Pa no 24:1-156 bibliog(p145-52) '39
Geology and development of Mill Close mine, Derbyshire. J. G. Traill. bibliog diags map Econ Geol 34:851-89 D '39

LEAD oxides
Interaction of litharge with carboxylic esters and with linseed oil. M. P. Balfe and H. W. Chatfield. Soc Chem Ind J 59: 31-4 F '40
Lead sub-oxide. L. L. Bircumshaw and I. Harris. diag Chem Soc J p1637-9 O '39
Recent developments in red lead. H. D. Ward. il Chem Ind 46:191-3 F '40

LEAD pentachlorophenate
Developments in mold and mildew prevention. W. A. Stringfellow. diags Am Dyestuff Rep 29:266-9 My 27 '40

LEAD peroxide
Industrial uses of chemicals and related materials. Oil Paint & Drug Rep 136:50 N 27 '39

LEAD pipes. See Pipes, Lead

LEAD poisoning
Burning old storage battery boxes still a source of lead poisoning in infants and children. Pub Health Rep 55:1278 Jl 12 '40
Conditions covering the installation of lead service pipe. R. L. Ziegfeld. N E Water Works Assn J 54:8-9 Mr '40
Correlation coefficient between basophilic aggregation test and lead in urine. S. F. Meek, G. R. Collins and G. C. Harrold. bibliog J Ind Hygiene 22:401-7 N '40
Effect of vitamin C on lead poisoning; abstract. H. N. Holmes, K. Campbell and E. J. Amberg. J Ind Hygiene 22:sup78 Ap '40
Experimental studies on the ingestion of lead compounds; lead content of food materials. R. A. Kehoe and others. bibliog J Ind Hygiene 22:381-400 N '40
Fatal subacute occupational lead poisoning; abstract. W. Ehrhardt. Am Cer Soc J 23 (Cer A 19):265 Ag '40
How toxic is arsenate of lead? effect on humans, algae and bacteria, fungi, seeds, onions, etc. I. D. Cardiff. bibliog J Ind Hygiene 22:333-46 O '40
Important new health hazard to school children; yellow crayon and lead poisoning. Consumers' Research Bul (Gen bul ser) 8:25 Ap '39; 9:16 Ja; 5 Je '40
Lead-bearing steels; control of possible health hazards during fabrication. J. W. Halley and E. D. Martin. il diag Metal Prog 37: 412-18 Ap '40
Lead poisoning contracted by reason of unusual circumstances connected with employee's work held accidental injury. Weekly Underw 143:362 Ag 17 '40
Lead poisoning; protective measures in plant manufacturing molten lead, lead oxides, white lead and lead dry-colors. F. W. Eckfeldt. il Safety Eng 80:8-10 Jl '40
Lessons from the history of lead poisoning; a review of international experience; abstract. L. Teleky. J Ind Hygiene 22:sup119-21 Je '40
Note sur les accidents de saturnisme dus à l'inhalation des fumées résultant du découpage d'un pont métallique. G. Batta, J. Firket and E. Leclerc. Chimie & Ind 43: 637-8 Ap 20 '40
Pottery plant checks lead hazards; Decalcomania lithograph dept. of the Onondaga pottery company. A. J. Koch. Nat Safety N 41:65 Ja '40
Relative retention by growing rats of lead ingested in water and in food, and in soluble and insoluble forms. J. B. Shields, H. H. Mitchell and W. A. Ruth. bibliog J Ind Hygiene 22:199-205 Je '40
Relative toxicity of lead and some of its common compounds. L. T. Fairhall and R. R. Sayers. (Public health bul. 253) il pls diags 40p bibliog(p30-2, 40) pa 25c Supt. of doc. '40; Review. Pub Health Rep 55:1583-4 Ag 30 '40
Studies on the detoxication mechanism; the ability of the apple or its constituents to counteract the toxic effects of lead and arsenic. I. A. Manville and others. bibliog J Ind Hygiene 22:36-47 Ja '40
They get the dust before it gets them; Edison-Emark battery division. B. F. Morris. il Factory Management 98:82-3 Mr '40
Wrote finis to lead poisoning; Briggs manufacturing company, Detroit. H. J. Roesch. il Factory Management 98:60-2+ N '40

LEAD sulfate
Effect of particle shape of white pigments on opacity; acicular zinc sulfide in the form of wurtzite. H. A. Depew and A. C. Eide. bibliog il diag Ind & Eng Chem 32: 537-40 Ap '40
Versuche zur verringerung des bleiverschleisses beim schwefelsäure-turm- und kammerverfahren. H. Lohfert. il Chemische Fabrik 12:499-502 D 6 '39

LEAD sulfide
Colored silvering of glass; lead sulfide, gold and copper processes. B. Schweig. Glass Ind 21:353-6 Ag '40
Solution and precipitation of lead and zinc sulphides in sodium sulphide solutions. F. G. Smith. bibliog il Econ Geol 35:646-58 Ag '40

LEAD tetraacetate. See Lead acetates

LEAD tetraethyl. See Tetraethyl lead

LEAD work, Architectural
Striking cast lead and lead coated copper work on large residence. il Sheet Metal Worker 31:56-8 Ja '40

LEADERSHIP
Building for business leadership. A. L. Miller. 238p bibliog(p239) $2 Barron's, New York '40
Dilemmas of leadership in the democratic process. C. I. Barnard. 27p pa 15c Herbert L. Baker foundation, Princeton univ, Princeton, N.J. '39
Leadership and direction in industry. W. Ayre. Engineer 170:270 O 25 '40
Leadership for rural life. D. Sanderson. 127p bibliog(p121-4) $1.25 Assn. press, 347 Madison av, New York '40
Origins of business leadership. A. W. Atwood. Barron's 20:7 Ag 5 '40
Requisites for engineering leadership. A. R. Stevenson, jr. Mech Eng 61:903-6 D '39

LEAGUE of nations
Bruce report; economic and social work of the League to be separated from political activities. Economist 138:199-200 F 3 '40
League reform; an analysis of official proposals and discussions, 1936-1939. S. Engel. 282p bibliog(p271-82) pa 80c Columbia univ. press '40
Peace through international co-operation; confederation of independent states inside the framework of the League. Viscount Cecil of Chelwood. Ann Am Acad 210:57-65 Jl '40
President Roosevelt favors carrying out of humanitarian and non-political aims. Comm & Fin Chr 150:3587 Je 8 '40
Russia expelled from League of nations. Comm & Fin Chr 149:3790 D 16 '39
United States and the League, the Labour organisation, and the World court in 1939. 67p pa 40c Columbia univ. press '40

Covenant
Legal technique in international law; a textual critique of the League Covenant. H. Kelsen. 178p pa 40c Columbia univ. press '39

Loans
League loans report. Economist 139:287 Ag 31 '40

LEAKAGE
See also
Gas leakage
Water pipes—Leakage

LEARNED institutions and societies
See also
Scientific societies

LEARNING, Psychology of
Conditioning and learning. E. R. Hilgard and D. G. Marquis. 429p bibliog(p355-417) $2.75 Appleton-Century '40
How we learn. B. H. Bode. 308p $2 Heath '40
Immediate effects of interpolated rest periods on learning performance. J. R. Gentry. 57p bibliog(p55-7) $1.60 Teachers college '40

LEARNING, Psychology of—*Continued*
Mathematico-deductive theory of rote learning; a study in scientific methodology. C. L. Hull and others. 329p bibliog(p327-9) $3.50 Yale univ. press '40
Organizing and memorizing; studies in the psychology of learning and teaching. G. Katona. 318p bibliog(p307-12) $3.50 Columbia univ. press '40
Relation of retention to speed of learning. H. L. Smith and M. T. Eaton. il diags Indiana Univ School of Education Bul 15, no 3:1-105 bibliog(p101-2) '39
Relative efficiency of actual and imaginary practice in five selected tasks. H. M. Perry. 76p bibliog(p76) pa $1.25 Columbia univ, New York '39
Understanding plus. D. B. Prentice. J Eng Educ 30:335-6 D '39

LEASES
Look before you lease; the tenant's home companion. B. Oppenheim. 86p pa $1 Vanguard press, 424 Madison av, New York '40
Recent court cases; repairs and renewals. W. Summerfield. Engineering 149:393 Ap 12 '40
See also
Gasoline service stations—Leasing

LEAST squares
Assumptions implied in least squares demand techniques. L. A. Metzler. R Econ Statis 22:138-49 Ag '40
Example of applying the method of least squares to derivation of average consumption of appliances. Am Gas Assn Proc 1939: 30-1

LEATHER
Drying of fibrous material; vegetable-tanned leather. J. W. Moore and F. C. Vilbrandt. bibliog diags Am Inst Chem Eng Trans 36:579-91 Ag '40
Handbook on hydraulic & pneumatic leather packings, rev ed 157p $1 E. F. Houghton & co, 240 W. Somerset st, Philadelphia '40
Leather fortnightly; prepared by J. G. Schnitzer. [issued on 1st and 15th of each month] $1 a year U. S. Bur. foreign and domestic commerce, Washington
Maintaining leather book bindings. Civil Eng 10:540-1 Ag '40
New trick in leather and textile manufacture; possible dangers in Sanitized process. Consumers' Research Bul (Gen bul ser) 9:26 Je '40
Plating on baby shoes, leather and other materials. A. V. Re. il Metal Ind 38:82-3 F '40; Discussion. 213 Ap '40
See also
Belting
Hides and skins
Tanning
also American leather chemists association

Bibliography
Leather information obtainable from National bureau of standards. Ind Stand 11:187 Jl '40

Manufacture
Leather finishes; their formulation, manufacture and application. J. S. Mudd. 113p $4.25 Chemical pub. co. '39

Testing
Effect of oxygen and moisture on the stability of leather at elevated temperatures. J. R. Kanagy. diags J Research Nat Bur Stand 25:149-59 Ag '40
Effect of speed of pulling jaws on the tensile strength and stretch of leather. R. B. Hobbs. diag J Research Nat Bur Stand 25: 207-14 Ag '40

LEATHER, Artificial
Pyroxylin-coated textiles (artificial leather). 1936-1939. Survey of Cur Business 1940 Sup p157 [supplemented in monthly numbers]

Manufacture
Leather cloth from chemicals. M. E. Clark. il plan Chem & Met Eng 47:544-7 Ag '40

LEATHER industry and trade
Causes of the depressed state of the hide, leather and footwear industries. P. M. Carlisle. Annalist 56:238-9 Ag 22 '40
Leather raw materials and national defense. E. G. Holt. For Comm W 1:97-9 O 19 '40
News by commodities. Published in Foreign commerce weekly
Smart industry promotion opens style markets for leather. il Sales Management 47: 21-3 O 20 '40
See also
Shoe industry and trade

Bibliography
Leather and its manufacture. (Business literature v 12, no 9) 2p Business branch, Newark public library, Newark, N.J. My '40

Securities
Leather and shoe companies, 1937-39. Mag of Wall St Manual p34-5 Mr 2 '40

Statistics
Leather and leather manufactures, 1936-1939. Survey of Cur Business 1940 Sup p123-4 [supplemented in monthly numbers]
Production of leather and products, revision; monthly, 1923-June, 1940. Fed Res Bul 26: 846-9 Ag '40

Great Britain
Leather control. Economist 138:533-4 Mr 23 '40

LEATHER research
Effect of oxygen and moisture on the stability of leather at elevated temperatures. J. R. Kanagy. diags J Research Nat Bur Stand 25:149-59 Ag '40
Latest research on leather; international meeting of leather chemists, London. Can Chem & Process Ind 23:550+ N '39
Leather research continues in Great Britain. Can Chem & Process Ind 24:206 Ap '40

LEATHER work
General leathercraft. R. Cherry. 79p pa 72c McKnight & McKnight, Bloomington, Ill. '40
Leathercraft as a hobby; a manual of methods of working in leather. C. Pyle. 116p $1.75 Harper '40
Leatherwork. I. P. Roseaman. 84p 5s Dryad press, Leicester, England; $2.25 Manual arts press, Peoria, Ill. '39
Smart industry promotion opens style markets for leather. il Sales Management 47: 21-3 O 20 '40

LEATHER workers
Hourly earnings in the leather industry, September 1939. P. L. Jones and others. Monthly Labor R 50:950-73 Ap '40
Wages in Netherlands leather and footwear industries. H. D. Clum. Monthly Labor R 50 471-2 F '40
See also
Tanneries—Employees

LEAVENING agents
New monocalcium phosphate. J. M. Gillet. il Chem Ind 45:662-3 D '39

LEAVES
Engineered lily pad; curious structure cause of strength and buoyancy. H. W. Rickett. il Sci Am 162:155 Mr '40
Labor-saving technique for leaf samples in histological work. W. E. Gordon. Science 91:390 Ap 19 '40
Relation of internal surface to intercellular space in foliage leaves. F. M. Turrell. Science 92:244 S 13 '40
See also
Defoliation

LECITHIN
Lecithin from soy bean; its uses in industry, especially in the textile industry. E. W. K. Schwarz. bibliog Am Dyestuff Rep 29:220, 234-6 Ap 29 '40; Same. Rayon 21:395-6 My '40
Lecithin monopoly charges are denied. Oil Paint & Drug Rep 138:4+ S 30 '40

LECITHIN—*Continued*
Practical model of the animal cell membranes. H. N. Holmes. J Phys Chem 43:1151-3 D '39

Use of lecithin in gasoline; reduces corrosion and effect of sunlight. H. V. Rees, W. S. Quimby and J. C. D. Oosterhout. il Oil & Gas J 39:176+ N 14 '40; Abstract. Nat Pet N 32:R416 N 13 '40

LEDLOY
Lead-bearing steels; control of possible health hazards during fabrication. J. W. Halley and E. D. Martin. il diag Metal Prog 37:412-18 Ap '40

Ledloy production increasing in foreign countries. Blast F & Steel Pl 28:470 My '40

Properties and machinability of a leaded steel. T. J. Dolan and B. R. Price. il diag Metals & Alloys 11:20-7 Ja '40

LEE, Charles Hamilton, 1883-
Sketch. por(p55) Civil Eng 10:56 Ja '40

LEE, Frederic Schiller, 1859-1939
Sketch. H. B. Williams. Science 91:133 F 9 '40

LEE, Robert Edward, 1807-1870
Robert E. Lee, civil engineer; regulating works preserved St Louis as a river port. R. B. Brooks. por Civil Eng 10:167-9 Mr '40

LEE, William, d 1610
350 years of knitting. il Textile World 90: 68 Ap '40

LEE rubber and tire corporation
Small companies with large earnings; thumbnail appraisal. Mag of Wall St 65:492 Ja 27 '40

LEFFINGWELL, Russell Cornell, 1878-
Portrait. Ptr Ink 190:13 Ja 26 '40

LEFT river, China
Native method of river improvement in the upper Left river. W. Li. il diag map Civil Eng 10:539-40 Ag '40

LEGAL advertising
Notice by advertisement in Pennsylvania; a digest of statutes and rules of court. G. J. Campbell and R. M. Blair, comps. 6th ed 404p pa $1.50 Smith bros. co, Pittsburgh '40

Publication laws of New Jersey. C. L. Allen, ed. 192p $3 New Jersey press assn, 23 Van Nest hall, Rutgers univ, New Brunswick '39

LEGAL aid
Employee legal aid; abstract. W. I. Hamilton. Management R 29:228-9 Je '40

Legal aid to the poor in Switzerland. S. B. Jacoby. Monthly Labor R 50:1420-1 Je '40

What arrangements do companies generally make to provide legal aid to their employees? Management R 29:189-90 My '40

LEGAL documents
Stamp taxes on legal documents; levies in various states. W. C. Porth. Credit & Fin Management 41:20-2 D '39

LEGAL education
Legal education and the trust officer. P. J. Wickser. Trusts & Estates 70:502-4 My '40

Legal education in colonial New York. P. M. Hamlin. 262p bibliog(p217-32) $4.50 New York univ, Law quarterly review, 100 Washington sq. E., New York '39

See also
Trust service, Education for

LEGAL ethics
Agreement reached on principles by agents and American bar association. East Underw 41:8 Mr 15 '40; Nat Underw (Life ed) 44:9 Mr 15 '40; Trusts & Estates 70:244, 354 Mr-Ap '40

LEGAL photography. See Photography, Legal

LEGAL responsibility
Responsibility of utilities for criminal use of service; telephone companies and gambling laws. R. J. Beamish. Pub Util 25:586-91; Discussion. W. H. Lamb. 591-8 My 9 '40

LEGAL service
See also
Insurance companies—Legal service
Trust companies—Legal service

LEGIBILITY
How to make type readable. D. G. Paterson and M. A. Tinker. 209p bibliog(p193-201) Harper '40

Summary of researches involving blink-rate as a criterion of ease of seeing. M. Luckiesh and F. K. Moss. bibliog Illum Eng 35:19-32 Ja '40

Work and its illumination. C. E. Ferree and G. Rand. bibliog Personnel J 19:96-8 S '40

LEGISLATION
Cases and materials on legislation. F. E. Horack, jr. 829p $7 Callaghan '40

Law in the making. C. K. Allen. 3d ed rev & enl 542p $7 Oxford '39

Legislative summary, economic laws passed by 67th Congress, 1939. Survey of Cur Business 20:55-7 F '40

Legislative way of life. T. V. Smith. 101p $1.50 Univ. of Chicago press '40

National legislation. K. K. Hoyt. Published in weekly numbers of Annalist

National legislation affecting coal mining. J. D. Conover. il Min Cong J 26:16-21+ My '40

National legislation: cumulative summary, second and third sessions, seventy-sixth Congress. K. K. Hoyt. Annalist 55:854-5+, 887-8; 56:5, 502-3, 534-5 Je 20-Jl 4, O 17-24 '40

1940 audit of new deal laws and their consequences. K. K. Hoyt. Annalist 55:129-31+ Ja 25 '40

Trust officers and federal legislation; abstracts. A. L. M. Wiggins. Trusts & Estates 70:186-7 F '40; Banking 32:87 Mr '40

Uniform legislation in the United States. R. L. Mott. Ann Am Acad 207:79-92 Ja '40

What the Ohio legislature did and how it affects you. A. D. Schultz. 64p Ohio chamber of commerce, Columbus '39

See also
Law
State laws

LEGISLATIVE bodies
See also
State legislatures

LEGISLATURES, State. See State legislatures

LEHIGH university
Evaluating the ability of students to do the work of the upper classes in the engineering colleges; sophomore comprehensive examinations. W. H. Formhals and B. Stoughton. J Eng Educ 30:668-76 Ap '40

LEHIGH university, Anthracite conference of. See Anthracite conference of Lehigh university

LEHIGH Valley railroad
Interest respite nearly over. A. Jansen. Barron's 20:19 O 28 '40

Traffic statistics and comparative income account for years 1936-39. Comm & Fin Chr 150:1772 Mr 16 '40

LEHMAN corporation
Quarterly report. Comm & Fin Chr 151:2196 O 12 '40

Report as of Dec. 31, 1939 and for the six months ended on that date. Comm & Fin Chr 150:131 Ja 6 '40

LEHRS. See Glass furnaces

LEISURE
Leisure, a national issue. E. C. Lindeman. 61p pa 50c Assn. press, New York '39

Less leisure for executives. W. H. Conant. Barron's 20:20 Ag 19 '40

Study of the leisure activities of certain elementary school teachers of Long Island. L. Allard. 117p bibliog(p108-12) $1.60 Teachers college, Columbia univ, New York '39

See also
Hobbies
Recreation

LEITH, Samuel E. 1868-1939
Sketch. por Ptr Ink 189:14 D 22 '39

LEMON juice
Physical and chemical properties of citrus fruit juices; abstract. E. Solarino. Food Ind 12:92-3 S '40

LEMONS
Mountains of oranges: Sunkist's time-tested point-of-sale technique. R. Eller. il Sales Management 47:36-9 S 1 '40
Refrigeration of lemons and grapefruit. H. M. Hendrickson. diag Refrig Eng 40:1-8 sec 2 O '40

Diseases and pests
Diplodia stem-end rot of lemons controlled with sodium ethyl mercuri thiosalicylate. G. H. Godfrey and W. H. Friend. Science 91:94-5 Ja 26 '40

LENGTH of life. See Longevity

LENSES
Bausch & Lomb announces lenses with metallic fluoride coatings. Glass Ind 21:72 F '40
Coated lenses bring new beauty to the screen. il Ind & Eng Chem News ed 18:93-4 F 10 '40
Errors of testing and a new method for surveying optical surfaces and systems. R. Platzeck and E. Gaviola. il diags Opt Soc Am J 29:484-500 N '39
Glass makes highways safer; Traffiscope. il diag Glass Ind 21:323 Jl '40
Induced size effect. K. N. Ogle. diags Opt Soc Am J 30:145-51 Ap '40
Nomogram on the Huygens ocular. C. H. Dwight. Opt Soc Am J 30:140 Mr '40
Personalities in science; E. D. Tillyer. Sci Am 162:3 Ja '40; Am Cer Soc Bul 19:180-1 My '40
Some factors affecting the choice of lenses for television cameras. H. B. DeVore and H. Iams. Inst Radio Eng Proc 28:369-74 Ag '40
Standards control quality in optical manufacture; American optical company. W. H. Lehmberg. il Ind Stand 11:249-51 O '40
Stepping up the lens; invisible glass principle. Business Week p34-5 Je 1 '40

See also
Goggles
Optical instruments
Spectacles
Telescope

LENSES, Photographic
Choosing a photographic lens. Consumers' Research Bul (Gen bul ser) 9:11-12 Ap '40
Design of wide-aperture photographic objectives. R. Kingslake. diags J Ap Phys 11: 56-69 Ja '40
Exact and approximate computation of Schmidt cameras. F. A. Lucy. Opt Soc Am J 30:251-4 Je '40
Invisible glass camera lenses. C. H. Cartwright. Sci Am 162:168-9 Mr '40
Photographic lenses and shutters. R. W. St Clair. 158p 50c Ziff-Davis pub. co, 608 S. Dearborn st, Chicago '40
Treatment of camera lenses with low reflecting films; evaporated fluorite. C. H. Cartwright. il Opt Soc Am J 30:110-14 Mr '40; Abstract. Mech Eng 62:549-50 Jl '40

LENTZ engine
Lentz steam engine. diags Mech Eng 62: 824 N '40

LEONARDO da Vinci, 1452-1519
Exhibition of works of Leonardo da Vinci being brought to the United States. Science 91:497-8 My 24 '40
Leonardo da Vinci exhibit at the Museum of science and industry, Rockefeller Center, New York. il Civil Eng 10:538-9 Ag '40
Leonardo da Vinci, master mind; display of models at New York museum of science and industry. Mach 47:108 S '40
Leonardo da Vinci on isostasy. J. P. Delaney. Science 91:546-7 Je 7 '40
Printing press of Leonardo da Vinci. Science 92:72 Jl 26 '40

LEPROSY
Conquest of leprosy; use of toxoid and antitoxin. T. D. A. Cockerell. Science 92: 173 Ag 23 '40
Leprosy. L. F. Badger and others. 83p bibliog(p75-6) pla U.S. National inst of health, Washington, D.C. '40
Leprosy; vitamin B_1 deficiency and rat leprosy. L. F. Badger, E. Masunaga and D. Wolf. bibliog Pub Health Rep 55:1027-41 Je 7 '40

Bibliography
Leprosy; summary of recent work. p326-44 British Empire leprosy relief assn, 115 Baker st, London, W.1 '40

LEPTOSPIRA icterohaemorrhagiae. See Weil's disease

LERNER stores corporation
Brass tacks for the investor; brief analysis. Barron's 20:9 Mr 11 '40

LESS-than-carload freight. See Freight car service—Car load

LE TOURNEAU, R. G., Inc.
Thumbnail stock appraisal. Mag of Wall St 66:683 S 21 '40

LETTERHEADS
Bank letterheads. I. M. Bennett. Banking 32: 65 D '39

LETTERING
A B C of lettering. J. I. Biegeleisen. 221p bibliog(p213-15) $4 Harper '40
Alphabet source book. O. Ogg. 199p Harper '40
Elements of lettering. J. H. Benson and A. G. Carey. 125p bibliog(p124-5) $3 John Stevens, 29 Thames st, Newport, R.I. '40
How to write signs, tickets and posters. P. N. Hasluck, ed. 160p pa 35c David McKay co, 604 S. Washington sq, Philadelphia '40
Practical signs & posterwork for beginners. H. P. Harshbarger. 79p $1 McKnight & McKnight, Bloomington, Ill. '39
Studio handbook lettering. S. Welo. rev ed 267p $3 Drake '39
Teacher of lettering, show cards, sign painting. D. M. Campana. 134p $1; pa 65c D. M. Campana, Chicago '40

LETTERS

See also
Postscripts

LETTERS, Business. See Commercial correspondence; Sales letters

LETTERS, Collection. See Collecting of accounts

LETTERS of credit
Law relating to commercial letters of credit. A. G. Davis. 199p $4.20 Pitman '39

LETTERS to salesmen. See Sales management —Letters to salesmen

LETTUCE
Handling of produce loans; Salinas national bank, Salinas, Calif. L. E. Wyatt. il Burroughs Clearing House 25:22-4 N '40

LEUCADENDRON
Constituents of the leaves of certain leucadendron species; oxidations of leucodrin derivatives with periodic acid and lead tetra-acetate. W. S. Rapson. Chem Soc J p1271-4 S '40

LEUCEMIA
Treatment of leukemia by X rays; abstract. W. P. Murphy. Science 91:sup9 Je 21 '40

LEUCITE
L'approvisionnement en bauxite et en leucite de l'industrie de l'aluminium et de ses alliages. G. Kimpflin. Génie Civil 116:344-5 My 25 '40

LEUCOCYANIDES
Studies on the reactions of the leucocyanides of the triphenylmethane dyes; the mechanism of the dark reaction following the photolysis of malachite green leucocyanide. F. E. E. Germann and C. L. Gibson. Am Chem Soc J 62:110-12 Ja '40

LEUCODERMA. See Vitiligo

LEUCODRIN
Constituents of the leaves of certain leucadendron species; oxidations of leucodrin derivatives with periodic acid and lead tetra-acetate. W. S. Rapson. Chem Soc J p1271-4 S '40

LEUKEMIA. See Leucemia

LEUKODERMA. See Vitiligo

LEVAN
Polysaccharides; the constitution of certain levans formed by bacterial action. R. R. Lyne, S. Peat and M. Stacey. Chem Soc J p237-41 F '40

LEVEES
Larger levees for Lake Okeechobee. il map Eng N 124:636-9 My 9 '40
Lifting a river over a levee. J. D. Andrews, jr. il diags map Eng N 125:39-42 Jl 4 '40
Lock gate and levees on Lake Okeechobee. il Eng N 124:465 Mr 28 '40
See also
Dikes (engineering)
Cost
Levee work, California; unit prices. Eng N 124:14 Mr 7 '40

LEVELING
Manual of first-order leveling. H. G. Avers. 93p U.S. Coast and geodetic survey, Washington; pa 15c Supt. of doc. '39
Spirit leveling in South Carolina; southern South Carolina, 1896-1938. J. G. Staack. U S Geol S Bul 890-B:1-766, pl 1-2 '40
Spirit leveling in Utah, 1897-1938. J. G. Staack. pl fold map U S Geol S Bul 912:1-222 '40
Tool for leveling. T. A. Ross. diag Civil Eng 10:448 Jl '40
See also
Surveying

LEVELS
Draft specification of engineers' precision levels. Engineering 150:18 Jl 5 '40

LEVENE, Phoebus Aaron Theodor, 1869-1940
Member emeritus of the Rockefeller institute for medical research. L. W. Bass. Science 92:392-5 N 1 '40

LEVER brothers company
Mr Countway takes the job of building Lever Bros.' U.S. business. Fortune 22:94-100+ N '40

LEVERS
Pedals and foot operated levers. F. Adams. diags Product Eng 11:130-1, 180-1, 322-3, 372-3 Mr-Ap, Jl-Ag '40

LEVOGLUCOSAN. See Glucosan

LEWIS, John Llewellyn, 1880-
Can the unions achieve unity? Business Week p14-15 N 16 '40
Crisis in C.I.O. por Business Week p38-40 N 2 '40
Fortune survey; helpful to labor or harmful? Fortune 21:163 Je '40
Indorsement by John L. Lewis of Republican presidential candidate. Comm & Fin Chr 151:2584-5 N 2 '40
Lewis now wears uneasy crown. Business Week p26 Jl 6 '40

LEWIS boiler. See Boilers, Water tube—Lewis boiler

LEWIS institute. See Illinois institute of technology

LEWISTON, Idaho
Water supply
Corrosion control. W. P. Hughes. il Water Works & Sewerage 87:172-5 Ap '40

LIABILITY
Avoid legal losses, and points to observe. L. T. Parker. Am Gas J 153:13-15 Jl '40
Avoid liability for injuries caused by gas appliance explosions. L. T. Parker. Am Gas J 153:26-8 Ag '40
Damage liability of aircraft to passengers and air express. H. Osterhout. Aero Digest 37:136-7 Ag; 152, 155 S '40
Damage liability of aircraft to persons and property on the surface. W. M. Wherry. Aero Digest 36:146, 149 My '40
Law may get you; legal points for airport managers. S. Rothfeld. il Aviation 39:38-9, 108+ Je '40
Liability for dog bites; digest of recent cases. J. L. Roesch. Spectator (Property ed) 6:26-7 O 31 '40
Liability for inducing breach of contract; digest of recent cases. J. L. Roesch. Spectator (Property ed) 6:32-3 S 19 '40
Liability for school accidents. H. N. Rosenfield. 220p bibliog(p143-76) $2 Harper '40
Modern trends in legal liability of water utilities, municipal and private. G. R. Redding. Am Water Works Assn J 32: 1097-1100 Jl '40
Proposed uniform aviation liability act. W. J. Davis. Aero Digest 36:134, 137 Je '40
What price mis-steps by meter readers. L. Childs. Am Gas J 152:18 Mr '40
Yacht owners' liability as respects passengers; case of the Friendship II. Weekly Underw 143:700+ S 28 '40
See also
Bailments
Damages
Employers' liability
Insurance, Liability
Master and servant
Negligence

LIABILITY, Municipal. See Municipal liability

LIABILITY insurance. See Insurance, Liability

LIBBY, McNeill and Libby
Bonds offered. Comm & Fin Chr 150:437-8 Ja 20 '40
Corporate simplification planned; Swift & co. to dispose of holdings. Comm & Fin Chr 149:4032-3 D 23 '39
Libby, McNeill severance from Swift co. approved. Oil Paint & Drug Rep 136:5 N 27 '39

LIBEL and slander
Employer's liability in alleged libel. Management R 29:305-6 Ag '40
Guide to the law of libel and slander. E. Wooll. 214p 3s 6d Blackie & son, London '39

LIBERTY, New York
Sewerage
Biofiltration comes East. flow diag il diag Eng N 125:402-4 S 26 '40
Biofiltration for sewage treatment, flow sheet il plans Pub Works 71:28-30+ Jl; 16-18 O '40

LIBERTY
Civil liberties in Britain. Economist 137:326 D 2 '39
End of living. F. B. Kirkbride. Trusts & Estates 71:209-10 Ag '40
Freedom, American style. A. F. Griffin. 184p $1 Holt '40
Freedom; its meaning. R. N. Anshen, ed. 686p $4 Harcourt '40
Freedom, the mental climate of progress. B. Acheson. Am Pet Inst Proc 20(1):38-42 '39
Lest freedom fail. N. A. Smyth. 138p $1.75 Dodd '40
On liberty, its nature and its problems in the modern world. A. Henkin. 221p $2.50 House of Field, New York '39
Social mobility. J. B. Conant. Banking 32:87 D '39
Stand fast for freedom. L. Thomas and B. Braley. 314p bibliog(p314) $2 John C. Winston co, Philadelphia '40
Twilight of liberty. R. Pound. Nation's Business 28:15-16, 42+ Ag '40
See also
Democracy
Free speech
Freedom of the press

LIBRARIANS
Library personnel and training agencies in Michigan. J. S. Cleavinger. 106p pa $1.25 Am. library assn, Chicago '40
See also
Library schools and training
Library service
Salaries
Public library statistics; salaries in effect November 1, 1939. Am Lib Assn Bul 34: 268-90 Ap '40
Salaries of library employees, 1939. Monthly Labor R 51:442-6 Ag '40

LIBRARIANS, Special
Special librarian: what she is; what she can do; where to find her; how much to pay her. M. L. Alexander. Special Lib 31:248-50 Jl-Ag '40; Abstract. Management R 29: 394-5 N '40

LIBRARIANS, Special—*Continued*
Wages and hours and librarians; what special library positions are classed as professional under the FLSA? L. H. Morley. Special Lib 31:51-2 F '40

Training

Library school undergraduate curriculum; can it be modified to meet needs for training in special librarianship? E. R. Cunningham. bibliog Special Lib 31:15-20 Ja '40

LIBRARIES
Ancient libraries. J. W. Thompson. 120p bibliog(p101-20) $2 Univ. of Calif. press, Berkeley '40
Library workers. A. V. Keliher, ed. (Picture fact books) 56p $1 Harper '40

See also
College libraries
Library architecture
Library science
Library service
also
Philadelphia—Libraries
Roosevelt, Franklin D., library, Hyde Park, New York
Newspaper libraries
Prison libraries
Ship libraries

Air conditioning

Case histories; gas summer air conditioning on the delta; 8 refrigerating units for new Tulane library. G. E. May, R. E. Judd and J. M. Guillory. il diag Am Gas Assn Mo 22:339-41 O '40

Bibliography

Library literature, 1936-1939. M. Shaw, ed. 1748p Wilson, H.W. '40

Book purchasing

Buy your books the cooperative way. G. J. Garrison. Special Lib 31:157-8 My-Je '40

Business branches and departments

Business and the public library; steps in successful cooperation. M. C. Manley, ed. 83p bibliog(p61-79) $2 Special lib. assn. '40
Business branch, supplementary contacts. M. L. Hatch. Special Lib 31:257-8 Jl-Ag '40
Technology and business departments of public libraries in the United States; list by states. B. A. Osborne, comp. Special Lib 31:93-5 Mr '40

Directories

1940 directory of Ohio libraries and the comparative statistics of public libraries for the year 1939. P. A. T. Noon, comp. 27p Ohio state library, Columbus '40

History

Ancient libraries. J. W. Thompson. 120p bibliog(p101-20) $2 Univ. of California press, Berkeley '40

Importation of books and periodicals

Importation of foreign books and periodicals. Science 90:459 N 17 '39

Instruction in use

Guide for students in the use of books and libraries. M. Oliver, J. Foster and G. R. Lyle. 2d rev ed 48p bibliog(p11) pa $1 Antioch college library, Yellow Springs, Ohio '39
Teaching the use of books and libraries; a manual for teachers and librarians. M. Ingles and A. McCague. 3d ed rev 207p bibliog(p187-200) $1.80 Wilson, H.W. '40
Using books and libraries. E. V. Aldrich. 86p pa 75c Prentice-Hall '40

Periodicals

See also
Special libraries (periodical)

Special collections

Survey of special collections in New Jersey libraries; comp. by the Junior members' round table, New Jersey library assn. 113p pa $1.25 Wilson, H.W. '40
W.P.A. and the special collection. R. Todd. Special Lib 31:332-3 S '40

Statistics

Public library statistics; salaries in effect November 1, 1939. Am Lib Assn Bul 34: 268-90 Ap '40

Technology departments

Technology and business departments of public libraries in the United States; list by states. B. A. Osborne, comp. Special Lib 31:93-5 Mr '40

Egypt

Departmental libraries in Egypt and Syria. W. Randall. Special Lib 31:274-7 Jl-Ag '40

Samoa

Unique library for American Samoa; modern engineering principles effectively grafted onto an ancient architectural form. P. J. Halloran. il diags plan Civil Eng 9:734-7 D '39

Syria

Departmental libraries in Egypt and Syria. W. Randall. Special Lib 31:274-7 Jl-Ag '40

LIBRARIES (rooms)
New house and new house units. il diags Arch Rec 87:59-64 Ja '40
Portfolio of architectural plates of Douglas fir plywood paneling. C. F. Gould. il diags Am Bld 62:72-3 My '40

LIBRARIES, Special
Correspondence and research reports in a library; du Pont Jackson laboratory library, Wilmington. H. Woodward. Special Lib 31: 321-4 S '40
Plan for organizing pamphlets and books in a small office. F. C. Bell. Special Lib 30:307-11 N '39
Problems clinic, Baltimore conference. Special Lib 30:263-4, 301 O-N '39
Undeveloped opportunities for special libraries. M. L. Alexander. Special Lib 31: 183-92 Jl-Ag '40

See also
Bank libraries
Business libraries
Gas companies—Libraries
Insurance libraries
Librarians, Special
Newspaper libraries
Religious libraries
Technical libraries
also British broadcasting corporation—Libraries; Public service corporation of New Jersey—Library; United States rubber company—Libraries

Publicity

Publicizing special libraries. R. Gros. Special Lib 31:325-9 S '40

Records

Evaluation of service in a technical library; library statistics; Tennessee Valley authority. H. C. Bauer. Special Lib 30:296-7 N '39

Service

War and preparedness and special libraries; a symposium. Special Lib 31:361-6 O '40

LIBRARIES, Technical. See Technical libraries

LIBRARY administration
Metropolitan library in action; a survey of the Chicago public library. C. B. Joeckel and L. Carnovsky. 466p $3 Univ. of Chicago press '40
State library agency; its functions and organization. 3d ed rev 36 l pa 50c Am. library assn, 520 N. Michigan av, Chicago '39

LIBRARY advertising

See also
Library publicity

LIBRARY architecture
Design decade. diags plan Arch Forum 73: 305+ O '40
Unique library for American Samoa; modern engineering principles effectively grafted onto an ancient architectural form. P. J. Halloran. il diags plan Civil Eng 9:734-7 D '39

LIBRARY associations
See also
American merchant marine library association
LIBRARY buildings
See also
Library architecture
LIBRARY cooperation
Bibliographical planning committee of Philadelphia. M. L. Alexander. Special Lib 30: 328-32 D '39
Cooperation, a concrete example; Denver public library and Denver office library of Bureau of reclamation. D. L. Brechner. Mech Eng 62:800 N '40
Extracts from report of the Joint library committee on library co-operation during twenty years. Chem & Ind 59:721-2 O 26 '40
LIBRARY employees
See also
Librarians
LIBRARY of Congress
Library of Congress and the Special libraries association; cooperation in bibliographical service. Special Lib 31:155-6 My-Je '40
LIBRARY publicity
Visual materials: aids for publicity and display. rev ed 45 l pa 50c Am. library assn, Chicago '39
See also
Libraries, Special—Publicity
LIBRARY records
See also
Libraries, Special—Records
LIBRARY schools and training
Library personnel and training agencies in Michigan. J. S. Cleavinger. 106p pa $1.25 Am. library assn, Chicago '40
Library school undergraduate curriculum; can it be modified to meet needs for training in special librarianship? E. R. Cunningham. bibliog Special Lib 31:15-20 Ja '40
See also
Librarians, Special—Training
LIBRARY science
See also
Bibliography
Cataloging
Classification
Libraries
Bibliography
Library literature, 1936-1939. M. Shaw, ed. 1748p Wilson, H.W. '40
LIBRARY service
Pacific gas and electric company case study; reference and research library. A. G. Reinero. Gas Age 85:49+ F 29 '40
SLA National defense committee report. M. L. Alexander. Special Lib 31:358-60 O '40
LIBRARY staffs
See also
Librarians
LIBRARY standards
New ASA committee starts work on standards for libraries. il Ind Stand 11:119-20 My '40
LIBRARY surveys
Library survey; problems and methods. E. W. McDiarmid, jr. 243p bibliog(p225-35) $3.50 Am. library assn, Chicago '40
LIBRASCOPE
Weight manifest form developed for airlines; for use with Librascope balance computors. diag Aero Digest 37:57 N '40
LIBYA
Libya, hub of Mussolini's new African empire. il Business Week p47 Ja 6 '40
LICENSES
See also
Chemists—Licenses
Engineers—Registration
LIDGERWOOD, North Dakota
Most insurance-minded small town; success of R. A. Trubey, C. Axman. East Underw 41:33-4 pt 2 O 4 '40
LIEBIG, Justus von, 1803-1873
Liebigs experimentalchemie in Kekulés kollegheft. G. Bugge. Angew Chemie 53:17-19 Ja 6 '40
LIEGE
Exhibitions
Lighting effects at Liege exposition. Illum Eng Soc Trans 34:984-5 N '39
LIESEGANG *rings*
Precipitation of silver chromate. A. Van Hook. bibliog J Phys Chem 44:751-64 Je '40
LIFE
Life: a psychological survey. S. L. Pressey, J. E. Janney and R. G. Kuhlen. 654p bibliog (p627-32) $3.25 Harper '39
LIFE (biology)
Adventures of a biologist. J. B. S. Haldane. 281p $2.75 Harper '40
Life's debt to death; nature's attempts to circumvent death may suggest conscious purpose. E. R. Bogusch. il Sci Am 163:271-3 N '40
Making tissues ageless. B. M. Newman. il Sci Am 162:284-5 My '40
Riddle of life; a survey of theories. W. McDougall. 279p $2.50 S. J. Reginald Saunders, 84 Wellington st. W, Toronto '38
Secret of life; cosmic rays and radiations of living beings. G. Lakhovsky. 201p 10s 6d W. Heinemann, London '39
This living world; a college course in science. C. C. Clark and R. H. Hall. 519p $3.25 McGraw-Hill '40
Unresting cells. R. W. Gerard. 439p $3.75 Harper '40
Viruses thought to hold secret of life's origin but discovery of transition point between living and non-living will be difficult; abstract. T. M. Rivers. Science 91:sup10+ Ap 5 '40
See also
Biological chemistry
Biology
Botany
Physiological chemistry
Physiology
Zoology
LIFE advertisers association. See Life insurance advertisers association
LIFE boats. See Lifeboats
LIFE in other worlds
Life on the planet Venus. Science 92:sup10 S 27 '40
LIFE insurance. See Insurance, Life
LIFE insurance advertisers association (formerly Life advertisers association)
Annual convention, 8th, Washington, D.C. Oct. 14-16. East Underw 41:3, 8, 16-17, 20 O 18 '40; Ins Field (Life ed) 69:10-12+ O 18 '40; Nat Underw (Life ed) 44:1+ O 18 '40; Spectator (Life ed) 145:6-9+ O 24 '40; Weekly Underw 143:893, 926-9 O 19 '40
Committees selected. Spectator (Life ed) 144: 40 F 15 '40
Eastern round table meeting, New York. East Underw 41:4 Mr 8 '40; Ins Field (Life ed) 69:9-10 Mr 8 '40; Nat Underw (Life ed) 44:1+ Mr 8 '40; Weekly Underw 142: 585+ Mr 9 '40
New set-up for exhibits. Ins Field (Life ed) 69:7-9 Jl 26 '40
North Central round table, Cincinnati. East Underw 41:8 My 10 '40; Ins Field (Life ed) 69:5-6 My 10 '40; Nat Underw (Life ed) 44:3+ My 17 '40
Southern round table meeting, New Orleans. Ins Field (Life ed) 69:10 Ap 12; 8-9 Ap 19 '40; East Underw 41:8 Ap 12 '40; Nat Underw (Life ed) 44:1+ Ap 19 '40; Weekly Underw 142:996+ Ap 20 '40
LIFE insurance presidents, Association of. See Association of life insurance presidents

LIFE insurance sales research bureau
Joint meeting with Association of life agency officers, 19th, Chicago, Oct. 28-30. East Underw 41:1+, 6+ N 1 '40; Nat Underw (Life ed) 44:1+ N 1 '40; Spectator (Life ed) 145:12-13+ N 7 '40; Weekly Underw 143: 1052-3, 1057 N 2 '40

LIFE office management association
Annual conference, 17th, Des Moines, Sept. 25-27. Nat Underw (Life ed) 44:8 S 27; 4+ O 4 '40; Spectator (Life ed) 145:20-1 O 10 '40
Meeting, New York. East Underw 41:3+ My 10 '40; Ins Field (Life ed) 69:5+ My 10 '40; Nat Underw (Life ed) 44:1+ My 10 '40; Weekly Underw 142:1137+ My 11 '40

LIFE saving
See also
First aid in illness and injury
Mine rescue work
Respiratory apparatus
Resuscitation
Safety devices and measures
Safety movement

LIFE tenants and remaindermen
Apportionment of securities and cash received in reorganization. Trusts & Estates 70:106 Ja '40
Discounts in trust investments; accounting aspects of bonds selling below par. J. Forer. Trusts & Estates 70:211-14 F '40
Liability of corporation issuing stock in name of life tenant individually. Trusts & Estates 70:338 Mr '40
Limitations of powers; life tenant's power to give away corpus; applicability of Wisconsin statute. Trusts & Estates 70:225-6 F '40

LIFE underwriters association of Canada
Annual meeting, Toronto, Jan. 19. East Underw 41:19 Ja 26 '40; Nat Underw (Life ed) 44:3+ Ja 26 '40

LIFEBOATS
Jet-propelled motor lifeboat for Minehead. il diags Engineer 168:444-6 N 3 '39; Excerpt. Mech Eng 62:26-7 Ja '40
Lifeboats for the cabin liner America. il diag Marine Eng 45:72+ Ja '40
Oarless, motorless boat has screw propeller. il Sci Am 163:147 S '40
Propulsion system for liner America lifeboats. il Marine Eng 45:79 O '40
S.S. America; safety equipment. il Marine Eng 45:108-10 Ag '40
Welin completes first Diesel powered lifeboat. il Marine Eng 45:66-7 Je '40

LIFT trucks. See Motor trucks, Industrial—Tiering trucks

LIFTING magnets
Handling coils; multiple lifting magnet. F. W. Jessop. il Steel 106:56+ F 5 '40
P&H model 255 magnet crane for handling scrap metal. il Blast F & Steel Pl 27:1265 D '39
Powerful magnet assembly. il Sci Am 162: 235-6 Ap '40
Sunken cargo of scrap salvaged by electric magnet. D. R. James. il Iron Age 145:50-1 Ja 18 '40

LIGHT
Apparent splitting of light from fluorescent lamps by reflection from thin plates. C. W. Scull. Science 92:236-7 S 13 '40
Apparent splitting of light from fluorescent lamps into component parts by moving objects. C. W. Scull, C. G. Grosscup and E. G. Witting. Science 91:357-8 Ap 12 '40
Arrangement of apparatus for the isolation of monochromatic light of high intensity at λ, 254 mμ. L. J. Heidt. diag Science 90: 473-4 N 17 '39
Behavior of a beam of light in fog. L. M. K. Boelter and F. A. Ryder. bibliog il diags Illum Eng 35:223-35 Mr '40
Diffusion, Brownian movement, Loschmidt-Avogadro's number and light. F. Ehrenhaft. bibliog Phys R 57:1050 Je 1 '40
Doppler effect from moving mirrors. H. E. Ives. Opt Soc Am J 30:255-7 Je '40
Light regulator. B. Chance. il diags Electronics 13:24-5 F '40
Luximeter; photoelectric instrument for measuring light transmission through a liquid. W. L. Carson. il Gen Elec R 43: 91-2 F '40
Physical and astronomical information concerning particles of the order of magnitude of the wave-length of light. F. Ehrenhaft. il diags Franklin Inst J 230:381-93 S '40
Some experimental work on the carbon arc as a standard of light. J. T. MacGregor-Morris. Electrician 125:189 O 11 '40
Submarine illumination in photometric units. C. L. Utterback and R. E. Wilson. map Opt Soc Am J 30:136-9 Mr '40
Text book on light. A. W. Barton. 426p $3 Longmans '39
See also
Absorption of rays
Brightness
Color
Daylight
Dyes, Fastness of
Eye
Fluorescence
Interference (light)
Light projection
Lighting
Luminescence
Optics
Photochemistry
Photoelasticity
Photoelectric cells
Photography
Photometry
Plants, Effect of light on
Polarization (light)
Radiation
Radioactivity
Reflection (optics)
Refractive index
Spectrum
Stroboscopic instruments
Ultraviolet rays
Visibility
X rays

Absorption
See Absorption of rays

Velocity
Is light slowing down? D. W. F. Mayer. Sci Am 161:336-8 D '39

LIGHT, Colored
Fluorescent lamps and their applications. A. B. Oday and R. F. Cissell. il Illum Eng Soc Trans 34:1165-80; Discussion. 1180-8 D '39
Fountain of light at Nela Park, Cleveland. il Illum Eng 35:658-9 S '40; Same. Gen Elec R 43:386 S '40
Lighting the New York world's fair. R. C. Engelken. il diags plan 8 col pls Elec Eng 59:178-203 My '40
Lucite used for luminous ceiling; cocktail lounge at St Francis hotel, San Francisco. il Elec W 114:1354+ N 2 '40
Psychology of color; chromotherapy. I. H. Godlove and E. R. Laughlin. bibliog Paper Tr J 111:43 O 24 '40
Saint Paul's winter carnival ice palaces. il Illum Eng 35:485-7 Je '40

LIGHT, Polarization of. See Polarization (light)

LIGHT, Scattering of
Light scattering in normal human dentine; the calculation of absorption and scattering constants. R. S. Manly, J. F. Bonner and H. C. Hodge. bibliog J Phys Chem 44:745-51 Je '40
Measurement of light scattered by the upper atmosphere from a search-light beam. E. A. Johnson and others. Opt Soc Am J 29: 512-17 D '39
Photoelastic analysis of three-dimensional stress systems using scattered light. R. Weller and J. K. Bussey. bibliog il diags Roy Aeronautical Soc J 44:74-88 Ja '40
Scattering of light by liquid helium. L. I. Schiff. Phys R 57:844-5 My 1 '40
See also
Raman effect

LIGHT filters
Applications and accuracy of three-filter photoelectric colorimetry; abstract. R. S. Hunter. Opt Soc Am J 30:272 Je '40
Light in the darkroom; a shock- and corrosion-proof bakelite housing and separate Plaskon colored filters. il Mod Plastics 18: 43+ S '40

LIGHT projection
Accurate floodlight mirrors. J. G. Holmes. il Light & Lighting 32:253-4 D '39
Aiming floodlights for sports areas. C. J. Vacher. diag Illum Eng 35:659-60 S '40

LIGHT projection—*Continued*
Baltimore stadium job boasts 325 kw. J. C. Fisher. il Elec W 113:1396 My 4 '40
Chicago pioneers permanent fluorescent floodlighting; method of floodlighting buildings without setbacks; Commonwealth Edison company's Northern service building tower. E. D. Tillson and C. Kohler. il diag Elec W 114:1303-4 N 2 '40
Convenient mounting for floodlight projectors. S. H. Coleman. diag Factory Management 98:90+ Ja '40
External plant lighting for safety. D. M. Diggs. il Illum Eng 35:351-60 Ap '40
Floodlighting against sabotage. D. C. Borden. Can Min J 61:264 Ap '40; Same. Pulp & Pa of Can 41:700 S '40
Floodlighting factory grounds and buildings as means of protecting defense production. H. E. Blank, jr. il Automotive Ind 83:458-9 O 15 '40
Floodlights protect apple orchard. il Elec W 113:1740+ Je 1 '40
Glasses help in aligning floodlights. il Elec W 114:1196+ O 19 '40
Hazards of sabotage; use of protective lighting. D. M. Diggs. il Safety Eng 80:6-7 Jl '40
Industrial illumination. D. M. Warren and A. R. Finley. il Steel 106:56+ Ja 29 '40
Lighting for night sports. R. J. Swackhamer and G. G. Bobst. il diags Illum Eng 35:447-57 My '40
Lighting the New York world's fair. R. C. Engelken. il diags plan 8 col pls Elec Eng 59:178-203 My '40
Photos solve light projection problem; lighting murals in state capitol at Salem, Ore. E. R. Fletcher. il Elec W 113:772 Mr 9 '40
Protective lighting for industrial plants. J. A. Summers and D. M. Warren. il diags Steel 107:60, 62-3 Ag 26 '40
Protective lighting of factory grounds. J. A. Summers. diag Iron Age 145:41 Ap 18 '40
Revival of building floodlighting with better load factor; fluorescent floodlights. A. F. Dickerson. il Gen Elec R 43:139 Mr '40
Safety; lights on towers illuminate derrick. il Oil & Gas J 38:38 Mr 7 '40
Wahrnehmungsvermögen im kraftfahrzeugscheinwerferlicht. H. Lossagk. il diags V D I 83:1283-6 D 16 '39

See also
Airports—Lighting
Athletic fields—Lighting
Buildings—Exterior lighting
Moving picture projection

LIGHT signals
Ordinary 110-volt circuit shows when tank is full. W. T. Ziegenhain. diag Oil & Gas J 39:48 S 12 '40
Remotely controlled indicator shows trip position. il Coal Age 44:120 D '39
Simple as rule of road; shaft signals on mine hoist; with wiring diagrams. E. B. Wagner. il Coal Age 45:40-3 My '40

See also
Automobile signal lights

LIGHTHOUSE tenders
Geared-Diesel Coast Guard tenders. il plans Marine Eng 45:50-3 Ap '40
Juniper, light tender. il Marine Eng 45:114+ N '40

LIGHTHOUSES

See also
Buoys

LIGHTING
Architect looks at illumination. W. T. Rolfe. Illum Eng 35:327-32 Ap '40
Casual impressions of lighting abroad. W. C. Brown. il Illum Eng 35:151-61 F '40
Importance of good lighting in war time. G. V. Downer. Chem & Ind 59:590-2 Ag 17 '40
Light in daily life; a manual treating natural and artificial lighting in the service of mankind. J. S. Dow. 127p 3s 6d Technical press, London '39
Lighting and air conditioning; abstract. H. M. Sharp. Heating-Piping 12:140-2 Mr '40
Lighting and eyesight. G. V. Downer. Electrician 125:149 S 20 '40
Lighting in architecture. S. McCandless. Arch Forum 73:25-7 Jl '40
Lighting the Detroit Edison company service building. H. A. Cook. il diags plan Illum Eng Soc Trans 34:1199-1207; Discussion. 1207-8 D '39
Los Angeles Illuminating engineering society meeting. Elec W News ed 113:1447-8 My 11 '40
Mechanics of light flux control by plastics. M. H. Bigelow and A. F. Wakefield. bibliog il diags Illum Eng Soc Trans 34:1189-96; Discussion. 1196-8 D '39
Notes on illuminating engineering abroad (cont). Light & Lighting 32:258; 33:32, 52 D '39, F-Mr '40
Planned lighting for seeing. H. Long. bibliog Elec R (Lond) 125:609-11 N 10 '39
Progress in engineering knowledge during 1939; seeing and lighting. P. L. Alger. bibliog il diags Gen Elec R 43:84-8 F '40
Quality of lighting; abstract. N. A. Halbertsma. Light & Lighting 33:40 Mr '40
Some effects of illumination on reading-efficiency. M. Luckiesh and F. K. Moss. Illum Eng 35:703-7 S '40
Specification points of brightness. H. L. Logan. il diags Illum Eng Soc Trans 34:881-906 S '39; Discussion. Illum Eng 35:244-7 Mr '40
Twin City section I.E.S. photographic contest. il Illum Eng 35:481-3 Je '40
Work and its illumination. C. E. Ferree and G. Rand. bibliog Personnel J 19:55-64, 93-8 Je, S '40
Year's progress in illumination, 1938-1939. il Illum Eng 35:33-71 Ja '40

See also
Airports—Lighting
Automobiles—Lighting
Brightness
Church lighting
Daylight
Electric lamps
Electric lighting
Factories—Lighting
Gas lighting
Hosiery mills—Lighting
House lighting
Light projection
Machine shops—Lighting
New York (city)—World's fair, 1940—Lighting
Office lighting
Photometry
Restaurants—Lighting
Roads—Lighting
School buildings—Lighting
Sheet metal shops—Lighting
Stage lighting
Store buildings—Lighting
Street lighting
Textile mills—Lighting
Windows
also International commission on illumination

Bibliography
Current articles on home lighting. Published in monthly numbers of Illuminating engineering
Literature on lighting. Published in monthly numbers of Light and lighting

Competitions
Ninth I.E.S. prize competition; women's wear shop. il plans Illum Eng 35:311-20 Ap '40

Control
Combining natural and electric lighting. J. F. Springer. il Rayon 21:113-14, 178-9, 314-15 F-Mr, My '40

Exhibitions
I.E.S. school lighting exhibit at A.A.S.A. convention. il Illum Eng 35:299-301 Ap '40

Heating aspects
Cool light; fluorescent Mazda lamps. M. Luckiesh and A. H. Taylor. Gen Elec R 43:410-11 O '40
Design of built-in luminaire constructions for safe thermal operation. W. Rosebraugh. il Illum Eng 35:203-17 Mr '40

LIGHTING—*Continued*

History

Torch of civilization; the story of man's conquest of darkness. M. Luckiesh. 269p $3 Putnam '40

Laws and regulations

See also
Electric lighting—Laws and regulations

Standards

How many footcandles for industrial interiors? recommendations of Illuminating engineering society. Nat Safety N 41:98 Mr '40

Recommended minimum standards of illumination for industrial interiors; tabulation. D. M. Warren and A. R. Finley. Steel 106: 53 Ja 29 '40

Recommended practice for the illumination performance of residential ceiling luminaires. Illum Eng 35:523-6 Je '40

Standards for lighting. il diags Arch Rec 87: 98-9 Mr '40

Street lighting standardization plan. F. W. Nimmer. Edison Elec Inst Bul 7:577-80 D '39

Tables, calculations, etc.

Device for the determination of illumination. B. F. Greenberg. diags Illum Eng 35:629-35 Jl '40

Illumination from extended sources computed by the theory of the integrating sphere. F. Benford. il diags Opt Soc Am J 30:33-40 Ja '40

Mechanical integrator for the determination of the illumination from diffuse surface sources. V. H. Cherry, D. D. Davis and L. M. K. Boelter. il diags Illum Eng Soc Trans 34:1085-92; Discussion. 1093-4 N '39

Prediction of daylight, a scientific method. il diags Arch Forum 73:45-7 Jl '40

Simple graphical method of finding illumination values from tubular, ribbon, and surface sources. E. H. Wakefield. diags Illum Eng 35:142-50 F '40

War measures

A.R.P. lighting; Bikker system. Electrician 124:166 Mr 1 '40

A.R.P. lighting; exhibition at the Lighting service bureau. il Elec R (Lond) 125:585 N 3 '39; Electrician 123:405 N 3 '39

A.R.P. lighting in France. il Light & Lighting 32:234 N '39

A.R.P. lighting in Germany. Engineering 149: 118-19 F 2 '40

A.R.P. lighting; new equipment. il Electrician 123:463-4 N 24 '39

A.R.P. lighting; window, street lighting and sign units. il diags Electrician 124:47 Ja 19 '40

A.R.P. signs. il Electrician 123:502 D 8 '39

A.R.P. street lighting. il Electrician 123:564; 124:10 D 29-Ja 5 '39

Anti-glare measures at foundries. Engineer 169:524 Je 7 '40

Black-out and day-time conditions; wartime factory lighting during daylight working. il Electrician 125:110 Ag 30 '40

Black-out; what can we learn from it? Electrician 124:75 Ja 26 '40

Contrast as an aid to lighting. il Electrician 124:349 My 10 '40

Dazzling effect of low intensity lights. Electrician 123:467 N 24 '39

Draft British standard specification (A.R.P. series) for street lighting under wartime conditions. Gas J (Lond) 228:625-6 D 20 '39

English aids for traffic during blackout periods. Pub Works 71:56-7 Ap '40

Fittings to furnish low illuminations; ultraviolet light and fluorescent materials. W. J. Jones. il Light & Lighting 32:231, 232 N '39

Fluorescent and phosphorescent paint; British standard specification, BS/ARP 18. Light & Lighting 33:10+ Ja '40

Fluorescent paints for A.R.P.; revision of British standard specification A.R.P./18. Electrician 125:165 S 27 '40; Same. Elec R (Lond) 127:304 O 11 '40

Fluorescent shop lighting. J. B. Harris. il Elec R (Lond) 125:706 D 1 '39

Gas street lighting control. diags Gas J (Lond) 228:296-7+ N 8 '39

How to ameliorate some of the inconveniences of another winter's black-out. diag Electrician 125:187 O 11 '40

Light in the black-out. J. B. Harris. Electrician 124:238 Mr 29 '40

Light locks at entrances to buildings. diags Light & Lighting 33:42-3 Mr '40

Lighting in factories; report of Departmental committee. Gas J (Lond) 231:238 Ag 7 '40

Lighting in the home; counteracting blackout depression. M. Forrest. il Elec R (Lond) 127:197 S 6 '40

Lighting in war-time. Electrician 123:305 S 29 '39

Lighting in wartime. N. I. B. Harrison. il diag Elec R (Lond) 126:155-6 F 9 '40

Lighting restrictions. J. F. Stanley. Elec R (Lond) 127:195-6 S 6 '40

Lighting restrictions; chief changes and additions introduced by the Emergency powers defence order no. 74. Light & Lighting 33: 21 F '40

Methods of providing even illumination of low intensity (0.2 foot-candles); summary of specification issued at the request of the Air raid precautions department of the Home office. diags Light & Lighting 32:233 N '39

New street lighting. Electrician 123:555 D 29 '39

Outdoor lighting by permission only! Light & Lighting 32:255 D '39

Plastic materials; their uses in A.R.P. equipment. Electrician 123:348 O 13 '39

Public lighting in war-time; abstract and discussion. C. W. Johnson. Light & Lighting 32:252 D '39

Recent court cases; emergency street lighting; claims for damages in respect of traffic accidents. W. Summerfield. Engineering 150:84-5 Ag 2 '40

Seeing at night; importance during the blackout. R. G. Hopkinson. Elec R (Lond) 126: 241-2 Mr 1 '40

Shop window lighting; new regulations for displays and signs. diags Elec R (Lond) 125: 731 D 8 '39; Electrician 123:501 D 8 '39

Shop window lighting; photometric tests of fitting by A.R.P. department. J. B. Harris. Electrician 124:107 F 9 '40

Small generating sets for A.R.P. lighting. il Electrician 123:464 N 24 '39

Starlight; a convincing demonstration of wartime street lighting. Gas J (Lond) 229:349-50 F 14 '40

Street lighting black-out; is some modification possible without undue risk? Electrician 123:390 O 27 '39

Street lighting in wartime; case for modified system E. E. Hoadley. Elec R (Lond) 127: 200-1 S 6 '40

Street lighting in war time; is central control the solution? E. E. Hoadley. Electrician 123:403 N 3 '39

Street lighting restrictions modified. Elec R (Lond) 125:793 D 22 '39

Street lighting under war conditions (BS/ARP 37). Light & Lighting 33:4-5 Ja '40; Excerpts. Electrician 123:537 D 22 '39

Ventilation in the black-out; attic fan system. Electrician 124:284 Ap 12 '40

Ventilator light traps. E. W. Murray. Light & Lighting 33:39 Mr '40

War regulations; summary of official orders affecting the electrical and allied industries. Electrician 123:253 S 8 '39

War time lighting. Engineer 168:590 D 15 '39

Wartime street lighting. D. G. Sandeman. il diags Elec R (Lond) 125:674 N 24 '39

Wartime street lighting by gas. il diag Gas J (Lond) 229:354, 359-61 F 14 '40

LIGHTING, Architectural

Design of built-in luminaire constructions for safe thermal operation. W. Rosebraugh. il Illum Eng 35:203-17 Mr '40

LIGHTING, Architectural—*Continued*
Light and architecture. Published in monthly numbers of Illuminating engineering
Ninth I.E.S. prize competition; women's wear shop. il plans Illum Eng 35:311-20 Ap '40
Relation of lighting to interior design. R. W. Irvin. Illum Eng 35:544-50 Je '40

LIGHTING, Decorative
Fresco in Frisco; St Francis hotel. M. Pake. il Mod Plastics 17:30-1+ Ja '40
Lighting the New York world's fair. R. C. Engelken. il diags plan 8 col pls Elec Eng 59:178-203 My '40
Lucite used for luminous ceiling; cocktail lounge at St Francis hotel, San Francisco. il Elec W 114:1354+ N 2 '40

See also
Light, Colored

LIGHTING, Electric. See Electric lighting

LIGHTING, Gas. See Gas lighting

LIGHTING, Indirect
Champs Elysees restaurant, New York. il Illum Eng 35:666-7 S '40
New indirect luminaire improves drafting-room illumination; Consolidated Edison company of New York. F. P. Kuhl. il diags Elec Eng 59:68-9 F '40; Discussion. V. L. Dzwonczyk. 59:167-8 Ap '40

See also
Drafting rooms—Lighting
Lighting, Architectural

LIGHTING, Industrial
Contrast as an aid to lighting. il Electrician 124:349 My 10 '40
Designing a lighting system. D. Warren. il Power 84:298-301 My '40
Eyes have it; why vision must be protected and how to do it. D. M. Warren. il Power 84:219-20, 255 Ap '40
Floodlighting against sabotage. D. C. Borden. Can Min J 61:264 Ap '40
Hazards of sabotage; use of protective lighting. D. M. Diggs. il Safety Eng 80:6-7 Jl '40
Industry's newest tool, the fluorescent lamp. C. L. Amick. il Manuf Rec 109:38-9+ My '40
Lighted yards say "keep out." G. G. Bobst. il Factory Management 98:62-3 Ap '40
More light for less expense; offices, stores, display rooms, and work areas. E. M. Shanks. il Am Business 10:23-6, 45-6 N '40
Protective lighting for industrial plants. J. A. Summers and D. M. Warren. il diags Steel 107:60, 62-3 Ag 26 '40
Protective lighting of factory grounds. J. A. Summers. diag Iron Age 145:41 Ap 18 '40
Selling industrial lighting. R. A. Palmer. Edison Elec Inst Bul 8:210-12 My '40

See also
Drafting rooms—Lighting
Factories—Lighting
Factories—Yards—Lighting
Machine shops—Lighting
Sheet metal shops—Lighting
Textile mills—Lighting

Safety aspects
External plant lighting for safety. D. M. Diggs. il Illum Eng 35:351-60 Ap '40
How good lighting can contribute to safety. R. A. Palmer. il diag Illum Eng 35:361-71 Ap '40
How many footcandles for industrial interiors? recommendations of Illuminating engineering society. Nat Safety N 41:98 Mr '40

LIGHTING, Natural. See Daylight

LIGHTING engineers
Professional status for lighting engineers. Electrician 124:419 Je 14 '40

LIGHTING fixtures
Adding to business with sheet metal specialties; lighting fixtures and radiator covers; Residential conditioners, inc. il Sheet Metal Worker 31:27-8 Ag '40
Design of built-in luminaire constructions for safe thermal operation. W. Rosebraugh. il Illum Eng 35:203-17 Mr '40
Fittings for industry. il Elec R (Lond) 127: 191-4 S 6 '40
Goodrich high intensity non-glare illumination; Protecto diffuser. il Blast F & Steel Pl 27:1272 D '39
Institution lighting; modern practice as applied to renaissance architecture; building occupied by the Institution of civil engineers. il Electrician 125:22 Jl 12 '40
Lighting equipment. il diag Electrician 123: 311-12 S 29 '39
Mechanics of light flux control by plastics. M. H. Bigelow and A. F. Wakefield. bibliog il Illum Eng Soc Trans 34:1189-96; Discussion. 1196-8 D '39
New indirect luminaire improves drafting-room illumination; Consolidated Edison company of New York. F. P. Kuhl. il diags Elec Eng 59:68-9 F '40; Discussion. V. L. Dzwonczyk. 59:167-8 Ap '40
Plastic sheeting with louvers for lighting fixtures. il Manuf Rec 109:33+ N '40
Plastics competition; award to the Miller co. for fluorescent tube to light musical scores on a piano and other awards. il Mod Plastics 18:63-6, 95 O '40
Recommended practice for the illumination performance of residential ceiling luminaires. Illum Eng 35:523-6 Je '40
Scores with commercial fixtures; New York power & light corporation. R. P. Wagner. Elec W 114:242-3 Jl 27 '40
Use aisle fixture as conveyor light. il Elec W 113:464+ F 10 '40
What's new in industrial lighting equipment. F. J. Oliver. il Iron Age 145:50-3+ Ap 25 '40

See also
Electric lamps
Street lighting fixtures

Cleaning
It pays to keep clean; cleaning and maintenance of lighting equipment. A. K. Gaetjens. il Paper Ind 22:146-9 My '40

Testing
Investigation of methods for testing diffusing materials, with particular reference to their use in the reduction and redistribution of the brightnesses of tubular sources. il Illum Eng 35:708-13 S '40
Specifications for testing lighting equipment. diags Illum Eng 35:267-75 Mr '40

LIGHTING research
Black-out; what can we learn from it? Electrician 124:75 Ja 26 '40
Specification points of brightness. H. L. Logan. il diags Illum Eng Soc Trans 34:881-906 S '39; Discussion. Illum Eng 35:244-7 Mr '40

LIGHTNING
Amount of electricity in a lightning bolt; abstract. C. F. Wagner. Science 92:sup8+ Jl 5 '40
Engineer discovers lightning radiation. W. E. Berkey. il Sci Am 162:223 Ap '40
Flight during lightning discharges; abstract. E. J. Minser. Sci Am 162:288 My '40
Laboratory study of spark discharge between conducting clouds. L. B. Snoddy and J. W. Beams. il Phys R 57:63 Ja 1 '40
Lightning and lightning protection on distribution systems. R. C. Bergvall and E. Beck. il diag Elec Eng 59:Trans 442-9 Ag '40
Lightning and the premature firing of electrical blasts. plan Eng & Min J 141:52-3 Mr '40
Lightning currents in arresters at stations. L. W. Gross and W. A. McMorris. il diag Elec Eng 59:Trans 417-22 Ag '40
Lightning investigation on transmission lines. W. W. Lewis and C. M. Foust. bibliog Elec Eng 59:Trans 227-32; Discussion. Trans 232-3 Ap '40
Lightning recording instruments; oscillographic and photographic equipment. J. H. Hagenguth. bibliog il diags Gen Elec R 43:195-201, 248-55 My-Je '40
Lightning research, 1939. G. Bartlett. Gen Elec R 43:54 Ja '40

LIGHTNING—*Continued*
Lightning strikes again and again in one place; photographs of strokes on Empire State building. il Gen Elec R 43:262 Je '40
Lightning strokes; results of recent studies in field and laboratory. P. L. Bellaschi. bibliog il diag Electrician 123:271-2 S 15 '39
Mechanism of spark discharge in air at atmospheric pressure. L. B. Loeb and J. M. Meek. il J Ap Phys 11:470-4 Jl '40
Meteorological conditions associated with aircraft lightning discharges and atmospherics. E. J. Minser. Civil Aero J 1:198-9, 202-3 My 1 '40; Same. J Aeronautical Sci 7:51-5 D '39
Playing with lightning. K. B. McEachron and K. G. Patrick. 231p $2.50 Random house, New York '40
Recording voltage surges; abstract. J. L. Chandler. Elec R (Lond) 126:427 Ap 12 '40
Transmission of radio waves; atmospherics. Electrician 124:125-6 F 16 '40
Wave shapes of successive lightning current peaks. K. B. McEachron. il Elec W 113:428-31+ F 10 '40

See also
Lightning protection

LIGHTNING, Artificial
Artificial lightning researches with models. A. Matthias. il diags Electrician 123:287-8 S 22 '39
Big gun of science; Brasch and Lange apparatus, old-timer in splitting atomic nucleus, faces revival in generating artificial lightning. C. W. Sheppard. il Sci Am 162: 342-3 Je '40
Full stroke lightning in the laboratory. P. H. McCauley. Elec W 113:316 Ja 27 '40

LIGHTNING arresters
Enclosed spark gaps. W. E. Berkey. bibliog il diags Elec Eng 59:Trans 429-33 Ag '40
How does arrester location affect transformer protection? E. H. Grosser, jr. diag Elec W 113:278-80 Ja 27 '40
Lightning and lightning protection on distribution systems. R. C. Bergvall and E. Beck. il diag Elec Eng 59:Trans 442-9 Ag '40
Lightning arrester mounting standardized. B. J. Barmack. il diag Elec W 113:911-12 Mr 23 '40
Lightning currents in arresters at stations. I. W. Gross and W. A. McMorris. il diag Elec Eng 59:Trans 417-22 Ag '40
Lightning protection for trolley coaches. R. S. Beers. il diags Mass Transportation 36:85-7 Ap '40
Station-type lightning-arrester performance characteristics. Elec Eng 59:Trans 347-8 Je '40
Vulcanized-fiber-phenolic tubes in high voltage engineering. G. A. Albert. il diags Mod Plastics 17:45-7+ D '39

Testing

Testing of distribution arresters. H. Halperin. Elec Eng 59:Trans 142-8; Discussion. Trans 148-9 Mr '40

LIGHTNING protection
Basic impulse insulation levels. P. Sporn and C. A. Powel. Elec Eng 59:Trans 596-8 O '40
Lightning on the system; modern protection practice and equipment. W. C. Smith. Elec West 83:24-6 D '39
Lightning outage rate reduced 80 per cent; combination of shielding and grounding coordinated with insulation flashover. R. M. Schaefer and W. H. Kuntz. il Elec W 113: 2049-50 Je 29 '40
Lightning-proof transformers. il Engineer 170: 334 O 4 '40
Lightning protection of wood-pole lines. H. K. Sels and A. W. Gothberg. diags Elec Eng 59:Trans 328-31; Discussion. il Trans 331-5 Je '40
Low-cost bird-proof gaps protect rural transformers effectively. C. E. Bathe. il diag Elec W 114:1002-3 O 5 '40
Perfect lightning record on 154-kv. spar-arm line. L. Evans and H. C. Daniels. il diag Elec W 112:1434-5 N 18 '39
Petersen coil protection equals lightning-proofing. R. E. Neidig. Elec W 113:1211+ Ap 20 '40
Protection and operation of rural lines in Southeast. L. C. Flournoy. Elec W 113: 575-6 F 24 '40
Protection by lightning dischargers; abstract. Bodin. Electrician 123:275 S 15 '39
Protector tubes for power systems. H. A. Peterson and others. bibliog diag Elec Eng 59:Trans 282-8; Discussion. Trans 288-91 My '40
Rationalization of transmission-system insulation strength; margins between basic insulation levels and protectable levels. P. Sporn and I. W. Gross. bibliog Elec Eng 59:Trans 591-5 O '40
Reduce ground resistances for better service. F. M. Horth. il diags Elec W 114:106-7+ O 5 '40
What wood may add to primary insulation for withstanding lightning. J. T. Lusignan, jr. and C. J. Miller, jr. diags Elec Eng 59: Trans 534-40 S '40

See also
Electric transient phenomena
Lightning arresters

LIGNIN
Advances in the chemistry of wood, 1938-1939. F. H. Yorston. Pulp & Pa of Can (Convention no) 41:144-8 bibliog(54 references, p 147-8) [F] '40
Are pectic substances precursors to lignin? E. Bennett. Science 91:95-6 Ja 26 '40
Chemistry of butanol lignin. A. Bailey. bibliog Paper Tr J 111:86-9 Ag 29 '40
Chemistry of lignin; the existence of a chemical bond between lignin and cellulose. A. J. Bailey. bibliog il Paper Tr J 110:29-34 Ja 4: 29-32 Ja 11 '40
Crystallite growth during carbonization. H. E. Blayden, H. L. Riley and A. Taylor. Am Chem Soc J 62:180-6 Ja '40
Heterogeneity of lignin. A. Bailey. diag Paper Tr J 111:27-30 Ag 15 '40
Hydrogenation of lignin in aqueous solutions with nickel catalyst. E. E. Harris, J. Saeman and E. C. Sherrard. Ind & Eng Chem 32:440-1 Mr '40
Lignin and wood acquire new importance. J. L. McCarthy. il Pulp & Pa of Can 41: 601-5 bibliog(45 references, p605) Ag '40
Making lignin molding pulp; Marathon paper mills co. Paper Tr J 109:90 N 30 '39
New plastic made from sawdust; lignin plastic. Business Week p29-30 D 23 '39
Nitrosolignin colorimetric test for sulphite waste liquor in sea water. I. A. Pearl and H. K. Benson. bibliog Paper Tr J 111:35-6 O 31 '40
Plastics and chemicals from wood; Masonite products. R. M. Boehm. il Paper Tr J 110:35-8 My 2 '40
Preparation and properties of butanol lignin. A. J. Bailey. bibliog Paper Tr J 111: 27-30 Ag 8 '40
Preparation and properties of Meadol; pure alkali lignin from soda black liquor. M. Plunguian. Ind & Eng Chem 32:1399-1400 O '40
Preparation of desulphonated lignin from calcium lignosulphonate. I. A. Pearl and H. K. Benson. bibliog Paper Tr J 111:29-31 N 7 '40
Recent advances in the chemistry of lignin. F. E. Brauns. il Paper Tr J 111:33-9 O 3 '40
Recent advances in the utilization of lignin in waste sulphite liquor. A. C. Hill. bibliog Pulp & Pa of Can (Convention no) 41: 148-50, 196-7 [F] '40
Recent developments in the field of lignin chemistry; abstract. H. Hibbert. Can Chem & Process Ind 24:64-5 F '40
Relation of lignin content to the strength of paper and boards; preparation of pulps of different lignin content by chlorine dioxide. C. V. Holmberg and E. C. Jahn. bibliog Paper Tr J 111:33-6 Jl 4 '40
Report of the Division of industrial and cellulose chemistry, McGill university, to the Pulp and paper research institute. Pulp & Pa of Can (Convention no) 41:204+ [F] '40

LIGNIN—*Continued*
Studies on lignin and related compounds; fractionation of acetylated cell wall constituents of red oak wood. Q. P. Peniston, J. L. McCarthy and H. Hibbert. bibliog Am Chem Soc J 62:2284-8 S '40
Studies on lignin and related compounds; occurrence of the guaiacyl and syringyl groupings in the ethanolysis products from various plants; California redwood, Douglas fir, red oak, jute, corn stalks, rye straw and bamboo. A. S. MacInnes and others. bibliog Am Chem Soc J 62:2803-6 O '40
Studies on lignin and related compounds; the synthesis of xylosides related to lignin plant constituents. J. H. Fisher, W. L. Hawkins and H. Hibbert. bibliog Am Chem Soc J 62:1412-15 Je '40
Synthesis of 3-(4-hydroxycyclohexyl)-propanol-1, a product of the hydrogenation of lignin. E. Bowden and H. Adkins. bibliog Am Chem Soc J 62:2422-3 S '40
Utilization of waste lignin; current chemical research. E. E. Harris. bibliog il Ind & Eng Chem 32:1049-52 Ag '40

Analysis

Chemical nature of Douglas fir lignin. E. B. Brookbank and F. E. Brauns. bibliog Paper Tr J 110:33-5 F 1 '40
Ethanolysis of western red cedar, Douglas fir and western hemlock. J. S. Brawn, R. D. Heddle and J. A. F. Gardner. Am Chem Soc J 62:3251-2 N '40
Partition of the less easily digested carbohydrate complex of forages. R. E. Davis and C. O. Miller. Ind & Eng Chem Anal ed 11:651-2 D 15 '39

LIGNITE
Cracking tars and distillates from coal. G. Egloff and others. bibliog il diags Ind & Eng Chem 32:39-47 Ja '40
Hydrogenation and petrography of subbituminous coals and lignites. L. L. Hirst and others. bibliog il diags Ind & Eng Chem 32:1372-9 O '40
Lignite development in Devon. Chem Age (Lond) 43:97-9, 109-10 Ag 31-S 7 '40
Lignite progresses, future promising. W. B. Pratt. il Min Cong J 26:30-2 S '40
North Dakota plant carbonizes lignite at mine mouth and briquets resultant char for shipment. R. D. Hall. il Coal Age 45: 47-8 Ag '40
Oil dehydration of North American lignites, pt 1. E. P. Schoch. il diags Ind & Eng Chem 31:1489-96 D '39; Pt2, Plant design. flow sheets diags Am Inst Chem Eng Trans 35:541-59; Discussion. 560-1 Ag '39
Saskatchewan mine; hoisting, handling, crushing methods, etc. R. D. Hall. il Coal Age 45:39-40 Ja '40
Der tellertrockner in braunkohlenbrikettfabriken. E. Heugel. diag V D I 84:193-4 Mr 16 '40

See also
Coal

LILIUM rubrum magnificum
Sterols; steroidal sapogenins of aletris, asparagus and lilium. R. E. Marker and others. Am Chem Soc J 62:2620-1 O '40

LILLIE, Frank Rattray
Presentation of the Agassiz medal to Frank Rattray Lillie. Science 91:413-16 My 3 '40

LILLY, Eli, and company
Consider the Lillys, they toil. R. F. Armstrong. il Nation's Business 28:59-60, 86+ O '40

LIMA beans, Frozen
Performance data determined for new food freezing plant; freezing of lima beans, poultry and packaged products. W. J. Finnegan. il Food Ind 12:48-9 Mr '40

LIMA locomotive works, inc.
Builder of steam locomotives. S. Altschul. Barron's 20:13 S 30 '40

LIME
Adsorption of hydrogen by copper dispersed in calcium oxide. J. R. Lewis, L. J. E. Hofer and H. Whitehead. Am Chem Soc J 61:3580-3 D '39
Chemical treatment of chert-gravels for use in base-course construction. E. A. Willis and P. C. Smith. il Pub Roads 21:65-8+ Je '40
Cone deformation study in part of the system calcium oxide-iron oxide. K. Rees and H. G. Fisk. bibliog il Am Cer Soc J 23:185-6 Je '40
Equilibrium in the system calcium oxide-phosphorus pentoxide—water. K. L. Elmore and T. D. Farr. bibliog Ind & Eng Chem 32:580-6 Ap '40
Further tests on the use of lime in concrete; abstract. W. C. Voss. Concrete 48:35 Je '40
Lime and lime kilns. E. W. Blank. bibliog il J Chem Educ 17:505-8 N '40
Lime as a raw material; symposium. Can Chem & Process Ind 24:144 Mr '40
Lime-chlorine system in the preparation of calcium hypochlorite. F. W. O'Neil and J. D. Rue. Paper Tr J 109:39-42 D 7 '39
Mat glazes and the lime-alumina-silica system. H. Wilson. diags Am Cer Soc Bul 18: 447-54 D '39
Pozzolanic materials; combination of SiO_2 and CaO in the presence of water. Concrete (mill sec) 48:130 F '40
Research on quicklime; abstract. J. C. Olsen and O. G. Direnga. Chem Age (Lond) 43: 145 S 28 '40
Softening plant of the metropolitan water district of southern California; lime reclamation. C. P. Hoover, J. M. Montgomery and W. W. Aultman. flow sheets plans Water Works & Sewerage 87:347-50 Ag '40
Symposium on lime; Columbus regional meeting, American society for testing materials, March 8, 1939. 118p Am. Soc. for testing materials, Philadelphia '40
System calcium oxide—silica—water at 30°; the association of silicate ion in dilute alkaline solution. P. S. Roller and G. Ervin, jr. bibliog Am Chem Soc J 62:461-71 Mr '40
X-ray solves mystery? discoveries concerning plasticity of hydrated limes. N. C. Rockwood. il diag Rock Prod 43:31-2 Ja '40
Zinc-vapor glazing of clays; effect of variable lime and alkalis in clays on zinc-vapor glaze colors. C. M. Lampman and H. G. Schurecht. Am Cer Soc J 23:167-70 Je '40

See also
Cement

Analysis

Detection of lime in magnesite; abstract. F. Schwarz. Am Cer Soc J 23 (Cer A 19):200 Ag '40

Manufacture

How efficient is lime kiln? V. J. Azbe. Rock Prod 42:43-4 D '39
New facts about calcination of limestone. J. E. Conley. Concrete (mill sec) 48:241 S '40
Problems in lime burning; new X-ray approach. G. L. Clark, W. F. Bradley and V. J. Azbe. il Ind & Eng Chem 32:972-6 Jl '40

See also
Lime kilns

Specifications

Lime manufacturers get a hearing on proposed new federal specification for structural hydrated lime. Rock Prod 43:95 Ag '40

LIME industry
Developments and trends in lime. N. C. Rockwood. Rock Prod 43:60 Ja '40

LIME kilns
Distilling limestone, a new industry; Gillette lime kiln, or carbon dioxide generator used by Frozen carbonic corporation. il Rock Prod 43:22-3 Ja '40
Efficient shaft lime kiln. il diags Rock Prod 43:48 Ja '40
Forced draft lime kilns. V. J. Azbe. Rock Prod 43:36+ O '40
How efficient is lime kiln? V. J. Azbe. Rock Prod 42:43-4 D '39
Improving hydrators and rotary kilns. V. J. Azbe. diags Rock Prod 43:55-6 S '40

LIME kilns—*Continued*
Industrial survey of conditions surrounding refractory service in lime burning. il diag Am Soc T M Proc 39:345-8 '39
Kennedy-Van Saun preheater and deheater for rotary kilns. il Rock Prod 43:51 Jl '40
Lime and lime kilns. E. W. Blank. bibliog il J Chem Educ 17:505-8 N '40
Lime kilns like battleships; factors governing the capacity limit follow definite physical laws. V. J. Azbe. Rock Prod 43:47+ Je '40
Making lime in rotary kilns from carbonate sludge; West Virginia pulp & paper co. flow diag il Rock Prod 43:31-2 My '40
Manitou kiln efficiences. Rock Prod 43:51-2 My '40
Saving with instruments in lime plants. V. J Azbe. il Rock Prod 43:53-4 F '40

Firing

Coal requirements for lime. V. J. Azbe. Rock Prod 43:51 My '40
Individual gas producers for lime kilns. V. J Azbe. diags Rock Prod 43:53-4 Mr '40
Natural gas for lime burning; Texas plant finds kiln capacity increased. T. J. Skrabanek. il Am Gas J 153:12-14 Ag '40

LIME oil
Exports of essential oil of limes to the United States from Mexico. For Comm W 1:229 N 2 '40

LIME plants
Lime industry building new plants. V. J. Azbe. flow sheet il Rock Prod 43:45 N '40

Costs

What should it cost to make lime? V. J. Azbe. il diags Rock Prod 43:43-5 Jl '40

Equipment

Improving hydrators and rotary kilns. V. J. Azbe. diags Rock Prod 43.55-6 S '40

See also
Lime kilns

Management

What should it cost to make lime? V. J. Azbe. il diags Rock Prod 43:43-5 Jl '40

LIME putty
Admixture of whipped lime putty improves workability. Concrete 48:18 S '40
Colored plaster winning favor; Florida concern operates quarry, lime putty and ready mixed concrete plants; makes concrete products. N. Caudell. il Rock Prod 43:55 O '40
Lime putty developments. Rock Prod 43:50 Ap '40
Lime putty increasing in favor. il Rock Prod 43:52 Ja '40
Preventing spillage in loading lime putty. il Rock Prod 43:53 Je '40

LIMESTONE
Acidizing Illinois limestones presents many problems. W. W. Love. il diags Oil & Gas J 38:74-6, 79+ Ap 11 '40
Distilling limestone, a new industry; Gillette lime kiln, or carbon dioxide generator used by Frozen carbonic corporation. il Rock Prod 43:22-3 Ja '40
Handling limestone at low cost. R. C. Hill. il Rock Prod 43:48-9 O '40
Lime-secreting algae and algal limestones from the Pennsylvanian of central Colorado. J. H. Johnson. diags Geol Soc Bul 51:571-94 bibliog(p593-5) pl 1-10) Ap '40
Limestone analyses. S. G. English, R. H. Dott and J. O. Beach, comps. Oklahoma geological survey, Norman '40
Limestones of West Virginia. J. B. McCue, J. B. Lucke and H. P. Woodward. 560p il diags map 38pl West Virginia. Geological survey, Morgantown '39
New facts about calcination of limestone. J. E. Conley Concrete (mill sec) 48:241 S '40
New flux stone plant makes 300 tons per hour. il Rock Prod 43:34-5 O '40
Production of reactive gas coke by alkali activation. H. H. Thomas and F. J. Askey. Gas J (Lond) 230:580-5 Je 12 '40
Results of recent field studies in Osage, Washington, and Nowata counties, Oklahoma. M. C. Oakes. map Am Assn Pet Geologists Bul 24:716-30 Ap '40
Slow cooling of ingots; use of limestone and magnesia for thermal insulation. W. J. Rees. diag Iron & Steel Inst J 139:315-18; Discussion. 319-20 no 1 '39
Two blasts at Calaveras cement company. G. S. Wheaton. il Explosives Eng 18:308-11 O '40

See also
Dolomite

LIMITATION of actions
Change open accounts into notes; statutes of limitation. M. Hirsch. Inland Ptr 105:48 My '40
Limitations, being a treatise on the time limit on actions in Canada. E. L. Weaver. 499p buck $12 Canadian law list pub. co, 24 Adelaide st, E. Toronto '39

LIMITATION of production. See Production, Limitation of

LIMNOLOGY. See Lakes

LIMÓN, Costa Rica
Port of Port Limon. il(cover) Comm Rep p432 My 11 '40

LIMONIN
Identity of obaculactone, evodin and dictamnolactone with limonin. M. S. Schechter and H. L. Haller. bibliog il Am Chem Soc J 62:1307-9 My '40

LIMPETS
Sperm agglutination in the keyhole limpet and the sea-urchin. A. Tyler and S. W. Fox. Science 90:516-17 D 1 '39

LINALOOL
Addition of αβ-unsaturated alcohols to the active methylene group; the action of ethyl acetoacetate on linalool and geraniol. M. F. Carroll. Chem Soc J p704-6 Je '40

LINCOLN, Abraham
Hidden Lincoln; from the letters and papers of W. H. Herndon. E. Hertz. 461p $1 Blue ribbon books '40

LINCOLN, James F., arc welding foundation
Details of Lincoln $200,000 award program. Iron Age 145:73-4 Ap 4 '40
Dravo encourages employe participation in Lincoln Foundation program; docking float built in record breaking time. il Marine Eng 45:57-8 Je '40
Industrial progress award program announced by Lincoln foundation. Marine Eng 45:74 Ja '40

LINCOLN, Leroy Alton, 1880-
Named to board of U.S. chamber of commerce. East Underw 41:8 Jl 5 '40; Ins Field (Life ed) 69:8+ Jl 5 '40
Sketch. por East Underw 41:6 O 18 '40

LINCOLN, Illinois

Railroads

Gates at seven Alton crossings; 24-hr. protection. il plan Ry Age 108:410-12 Mr 2 '40

LINCOLN national life insurance company
Convention at Miami marks attainment of a billion dollars of insurance in force. Ins Field (Life ed) 69:7-8 Ja 12 '40; Weekly Underw 142:154 Ja 13 '40
Enters Puerto Rico; assumes business of American National Life. Spectator (Life ed) 145:14 O 24 '40

LINCOLN (Me.) water company
Bonds offered to residents of Maine. Comm & Fin Chr 151:2354 O 19 '40

LINDBERGH, Charles Augustus, 1902-
Fortune survey; Lone Eagle Lindbergh; would you favor having him in some high public office? for the presidency? Fortune 21:57 Ja '40
Urges non-interference in European affairs but would cooperate with Europe in relationships with other peoples. Comm & Fin Chr 151:787-8 Ag 10 '40

LINDEN, New Jersey
Imported from England: shopping centers featuring impressive bulk, main street revival, friendly landlord-tenant relations. il plan Arch Forum 73:133-6+ Ag '40
Main Street remade, by a Briton; new block of stores in Linden. il Business Week p24+ N 11 '39

LINDERSTRØM-LANG, Kai U. 1896-
Sketch. R. E. Oesper. por J Chem Educ 17: 251 Je '40

LINDGREN, Waldemar, 1860-1939
Appreciation. D. H. McLaughlin. por Min & Met 20:571-2 D '39
Sketch. Can Min J 61:47 Ja '40
Sketch. W. H. Newhouse. Science 90:584-5 D 22 '39
Waldemar Lindgren; a memorial. L. C. Graton. por(front) Econ Geol 34:850a-850f D '39

LINED board. See Paper board

LINEMEN'S equipment
Electrical safety appliances. S. W. Winje. il Safety Eng 79:23-4 Ap '40
Experiments with equi-potential rubber gloves and boots. Electrician 123:483 D 1 '39
New hot sticks for armor rods. il Elec W 113: 1727 Je 1 '40

LINEN
Flax and hemp; advances during the past year, and notes on practical processing. F. G. Brown. Textile Col 61:847-9; 62:98-100 D '39, F '40
Linen manufactures; United States imports increased in 1939. Comm Rep p209+ Mr 2 '40; Excerpt. Textile Col 62:275 Ap '40
Machine for the fine cutting of linen and cotton materials preparatory to the determination of solubility number or of the fluidity of their cuprammonium solutions. D. A. Derrett-Smith and R. J. B. Keig. diags Textile Inst J 31:T197-200 Ag '40
Principal sources of U.S. imports of linen products. E. A. Mann. Comm Rep p651+ Jl 27 '40

See also
Bleaching—Linen
Dyes and dyeing—Linen
Flax

LINEN closets. See Closets

LINEN fabrics
Processing of linen piece goods in the United States. O. W. Clark. Am Dyestuff Rep 28: 709-14, 727-9 D 11 '39
Woven dress fabrics; testing and reporting; colorfastness to laundering of cotton and linen dress fabrics. Textile Col 62:265 Ap '40

Creasing
Development of crease-resistance; Tootal and other patents. Textile Col 62:89 F '40

LINEN finishing

See also
Sanforizing

LINEN stores
Mosse, inc. New York; views, plans, construction outline. Arch Forum 71:433 D '39

LINING fabrics
Fabrics for national defense. il Textile World 90:64 O '40

LINK-BELT company
Sells efficiency. G. M. Mathis. il Mag of Wall St 66:238-9+ Je 1 '40

LINOLEIC acid
Wijs iodine numbers for conjugated double bonds; influence of sample-reagent ratio. W. C. Forbes and H. A. Neville. Ind & Eng Chem Anal ed 12:72-4 F 15 '40

LINOLEUM
Fire-resisting qualities of linoleum. Engineering 150:68 Jl 26 '40
How to lay linoleum for most satisfactory service. il diags Am Bld 62:75+ N '40
Sales seminar; two Armstrong trucks travel 20,000 miles on tour to educate retailers. B. McClure. il Ptr Ink 193:13-16 N 1 '40

Manufacture
Hazards in linoleum manufacturing; abstract. E. J. Kessler. Heat & Ven 37:59 N '40

LINOLEYL alcohol
Linoleyl alcohol; preparation, properties, and rearrangement. J. P. Kass and G. O. Burr. bibliog Am Chem Soc J 62:1796-8 Jl '40

LINOLIC acid. See Linoleic acid

LINOTYPE
How crossword is machine-set. L. Warren. il Inland Ptr 105:73 My '40

LINSEED. See Flaxseed

LINSEED oil
Bodying dehydrated castor oil and others. Oil Paint & Drug Rep 138:49 N 4 '40
Bodying of dehydrated castor oil; comparison with linseed oil. J. D. von Mikusch. bibliog il Ind & Eng Chem 32:1061-9 Ag '40
Drying of linseed oil paint; effect of acidity upon rate of oxygen absorption. D. G. Nicholson. bibliog Ind & Eng Chem 32: 1259-61 S '40
Drying oils and resins; reactions involving the carbon-to-carbon unsaturation during the thermal treatment of some esters of unsaturated C_{18} fatty acids. T. F. Bradley and W. B. Johnston. bibliog il diag Ind & Eng Chem 32:802-9 Je '40
Drying oils and resins; ultraviolet absorption study of esters of the acids of drying oils. T. F. Bradley and D. Richardson. bibliog il diag Ind & Eng Chem 32:963-9 Jl '40
Future of linseed oil; effect of war and competitive materials. R. D. Bonney. Can Chem & Process Ind 24:231 My '40
Influence of resins on the heat bodying of oils. R. C. Shuey. bibliog Ind & Eng Chem 32:921-30 Jl '40
Infrared absorption spectra of drying oils. D. L. Gamble and C. E. Barnett. bibliog Ind & Eng Chem 32:375-8 Mr '40
Interaction of litharge with carboxylic esters and with linseed oil. M. P. Balfe and H. W. Chatfield. Soc Chem Ind J 59:31-4 F '40
Linseed oil films; permeability, adsorption, and solubility. H. F. Payne. bibliog il Ind & Eng Chem 32:737-43 My '40
Rapid determination of phosphorus in linseed oil by oxygen bomb. G. T. Piercy, E. K. Plant and M. C. Rogers. diag Ind & Eng Chem Anal ed 12:165 Mr 15 '40
Vegetable oil situation in the United States. O. Eisenschiml. Oil Paint & Drug Rep 137: 5+ Ap 29 '40

Statistics
Oils, fats and waxes. Published in weekly numbers of Oil, paint and drug reporter
Vegetable oils and products, 1936-1939. Survey of Cur Business 1940 Sup p95 [supplemented in monthly numbers]

LINT
Effect of lint on air filter performance. F. B. Rowley and R. C. Jordan. il Heating-Piping 12:61-7 Ja '40

LIONEL corporation
Lionel: an industry in miniature. F. Smith. il Adv & Sell 32:26-8, 62+ D '39

LIP reading
Introduction to lip reading. 66p $1.50 Better living foundation, 19 W. 44th st, New York '39
Silent speech, a language. R. K. Buell. 207p $3 Robert Kingery Buell, 921 Mercy st, Mountain View, Calif. '39

LIPPIA adoensis
Étude des essences de lippia adoensis Hochst. E. Laffitte and J. Rabaté. Chimie & Ind 43. 365-6 Mr 5 '40
Examen d'une huile essentielle de lippia adoensis Hochst. L. Palfray, S. Sabetay and P. Petit. il Chimie & Ind 43:367-70 Mr 5 '40

LIQUEFIED petroleum gas
Activities of Stargas department; Lone Star gas company distributes liquefied petroleum gas in rural districts. E. F. Schmidt. il Gas Age 86:40-1 N 7 '40

LIQUEFIED petroleum gas—*Continued*
Alternative fuel; butane as fuel for road vehicles. L. van Lottom. Automobile Eng 30: 219-20 Jl '40
Blaw-Knox bulk plants for handling liquefied gases. diag Am Gas J 153:42 Jl '40
Bringing gas service to Cape Cod; butane distribution system. T. R. Robinson and A. C. Klein. il map Gas Age 86:18-20 Jl 18 '40
Economics of liquefied petroleum gases. J. W. Vaiden. bibliog Oil & Gas J 39:74, 76+ My 23 '40
Emco develops meter for liquefied petroleum gases. il Gas Age 86:54 S 12 '40
Gas pours out of the bottle; marketing of liquid gas keeps growing. Business Week p32+ O 5 '40
Growing bottled gas industry requires substantial oil marketers. il Nat Pet N 32:25-38 Ag 14 '40
L'industrie et le commerce des gaz liquéfiés du pétrole. N. Pervouchine. Chimie & Ind 43:703-7 Ap 20 '40
Liquefied petroleum gas in 1939. G. G. Oberfell. il Gas Age 85:39-40+ Ja 13 '40
Liquefied petroleum gas in the national defense program; use as fuel and as raw material for chemical conversion. H. N. Wade. flow sheet il Chem Ind 47:160-4 Ag '40; Abstract. Nat Pet N 32:42+ Jl 24 '40
Liquid gas in Germany. Automobile Eng 30: 192 Je '40
Meter for liquefied petroleum gases. il Am Gas J 153:63 O '40
Use of liquefied petroleum gas continues to increase. D. H. Stormont. il Oil & Gas J 39:20-1 Ag 8 '40
L'utilisation en Italie des gaz combustibles naturels ou des gaz résiduels des raffineries de pétrole. Génie Civil 115:408 D 2 '39
Why gas companies should cooperate with LPG (liquefied petroleum gas). L. W. Johnson il Gas Age 86:19-20+ S 12 '40

See also
Gas, Natural—Liquefaction

Safety measures
Storage and handling of butane and propane. C. B. Royal. Weekly Underw 143:227-9 Ag 3 '40

Standards
Liquefied gas standards issued by California natural gasoline association. Nat Pet N 32: R79 Mr 6 '40
New tentative standards issued on liquefied petroleum gas. Oil & Gas J 39:65 Ag 29 '40
Proposed specifications on liquefied gases. Oil & Gas J 39:43 My 23 '40

Statistics
Sales up 35 per cent in 1939; with comparative data. Gas Age 86:29+ Jl 18 '40; Excerpts. Nat Pet N 32:18 Jl 3 '40; Oil Paint & Drug Rep 138:56 Jl 15 '40

LIQUID air
Pioneer compressor for liquefying air. il Comp Air M 45:6067 Ja '40

LIQUID argon. See Argon, Liquid

LIQUID coal. See Coal liquefaction; Fuel, Colloidal

LIQUID crystals
Orientation of liquid crystals by heat conduction. G. W. Stewart, D. O. Holland and L. M. Reynolds. il diag Phys R 58:174-6 Jl 15 '40

LIQUID fuel
Carburants nationaux, combustibles et énergies de remplacement. L. Bacqueyrisse. Soc Ing Civils Mémoires 92:241-86 Mr '39
Catalytic dehydrogenation of gaseous paraffins. A. V. Grosse and V. N. Ipatieff. bibliog il Ind & Eng Chem 32:268-72 F '40
Les combustibles liquides; but essentiel de l'industrie du pétrole. P. Dumanois. Soc Ing Civils Mémoires 92:111-23 Ja '39
Swedish petrol substitutes; terpene and acetone bases. Chem Age (Lond) 41:318 N 4 '39

See also
Acetylene
Airplane engines—Fuel
Alcohol as fuel
Automobile engines—Fuel
Automotive fuel
Benzol (commercial benzene)
Coal liquefaction
Diesel engines—Fuel
Fischer-Tropsch process
Fuel, Colloidal
Gas and oil engines—Fuel
Gasoline
Kerosene
Liquefied petroleum gas
Motor bus engines—Fuel
Motor truck engines—Fuel
Oil burners
Oil fuel

Manufacture
Benzin- und gasolgewinnung mit aktivkohle aus den restgasen der benzinsynthese nach Fischer-Tropsch-ruhrchemie. W. Herbert and H. Ruping. diag Chemische Fabrik 13: 149-53 My 4 '40

Testing
Kraft- und schmierstoffprüfung durch ultraviolett-absorption. V D I 83:1290-1 D 16 '39

LIQUID helium. See Helium, Liquid

LIQUID level control
Apparatus for maintaining constant levels in a water bath and a distilling flask. F. E. Holmes. diags Ind & Eng Chem Anal ed 12:483-5 Ag 15 '40
Fisher interface liquid level controller. diag Am Gas J 152:46 Je '40
Grand-prize award N.G.A.A. kinks contest. D. B. Young. diags Oil & Gas J 39:27 My 23 '40
System of interlocking air-operated controllers applied to oil cracking. S. H. Isaacs. diags Instruments 13:216-17 Ag '40

LIQUID level indicators
Liquid level alarm. diag Engineer 169:385 Ap 19 '40; il Engineering 149:581 Je 14 '40

LIQUID meters

See also
Flow meters
Water meters

LIQUIDITY (economics)
Liquidity and instability. C. C. Brown. 282p bibliog(p269-72) $3 Columbia univ. press '40

LIQUIDS
Boiling point; composition diagram of immiscible and partially miscible liquid systems. M. Randall and W. Avila. J Chem Educ 17:536-7 N '40
Comparison of the use of crystal-reflected and filtered X-rays in liquid diffraction patterns. R. Q. Gregg and N. S. Gingrich. R Sci Instr 11:305-7 O '40
Cybotaxis at interfaces. T. H. Hazlehurst and H. A. Neville. bibliog il diags J Phys Chem 44:592-600 My '40
Dependence of viscosity of liquids on constitution. A. H. Nissan, L. V. W. Clark and A. W. Nash. Inst Pet J 26:155-211 bibliog(97 references, p209-11); Discussion. 212-22 Ap '40
Dielectric constants of polar liquids. J. N. Wilson. bibliog Chem R 25:377-406 D '39
Fine particle suspensions in organic liquids. C. R. Bloomquist and R. S. Shutt. bibliog il diags Ind & Eng Chem 32:827-31 Je '40
Interpretation of atomic distribution curves for liquids. C. A. Coulson and G. S. Rushbrooke. bibliog Phys R 56:1216-23 D 15 '39
Liquid state of the elements. W. Hume-Rothery. bibliog J Phys Chem 44:808-24 Je '40
Messung angreifender oder schwierig zu behandelnder gase und flüssigkeiten. F. Kretzschmer. il diags V D I 84:25-33 Ja 13 '40
Die molekulare struktur der flüssigkeiten im modellversuch. W. Kast and H. A. Stuart. Angew Chemie 53:12-13 Ja 6 '40
Performance of packed towers; liquid film data for several packings. T. K. Sherwood and F. A. L. Holloway. bibliog diag Am Inst Chem Eng Trans 36:39-69; Discussion. 69-70 F '40

LIQUIDS—*Continued*
Properties of liquids in fine capillaries; surface tension and density. L. H. Cohan and G. E. Meyer. diag Am Chem Soc J 62: 2715-16 O '40
Remarks on the study of structural viscosity in liquids, and the derivation of equations for the flux of such liquids through tubes. F. Breazeale. il diag J Ap Phys 11:187-92 Mr '40
Simple apparatus for measuring the dielectric constant of non-conducting liquids. B. E. Hudson and M. E. Hobbs. bibliog diags J Chem Educ 17:366-70 Ag '40
Theory of diffusion in liquids. A. E. Stearn, E. M. Irish and H. Eyring. bibliog J Phys Chem 44:981-95 N '40
Thickness of a liquid film adhering to a surface slowly withdrawn from the liquid. F. C. Morey. bibliog diags J Research Nat Bur Stand 25:385-93 S '40
Tie lines in ternary liquid systems. I. Bachman. Ind & Eng Chem Anal ed 12:38-9 Ja 15 '40
Tie lines in two-liquid-phase systems. A. V. Brancker, T. G. Hunter and A. W. Nash. bibliog Ind & Eng Chem Anal ed 12:35-7 Ja 15 '40
Transmission of heat to boiling liquids. T. H. Insinger, jr. and H. Bliss. bibliog diags Am Inst Chem Eng Trans 36:491-513; Discussion. 513-16 Ag '40
Vapor-liquid equilibrium; carbon tetrachloride-benzene mixtures. G. Scatchard, S. E. Wood and J. M. Mochel. bibliog Am Chem Soc J 62:712-16 Ap '40

See also
Boiling points
Drops
Emulsions
Equation of state
Evaporation
Films
Fluids
Hydraulics
Hydrodynamics
Inflammable liquids
Liquid fuel
Solution (chemistry)
Solvents
Surface tension
Viscosity
Water
Wetting

LIQUOR bonds. See Insurance, Surety and fidelity—Liquor bonds

LIQUOR laws
Gloom behind the bar; Chicago liquor ordinance may be illegal. Business Week p40-1 N 11 '39
Isopropyl rubs raise questions for officials. Oil Paint & Drug Rep 137:3+ F 26 '40
Liquor barriers hit. Business Week p28-9 Ja 13 '40
State liquor control administration; a statutory analysis. D. C. Culver and J. E. Thomas. 80p bibliog(p79-80) pa 50c Bur. of public administration, Univ. of Calif, Berkeley '40
United States Supreme court sustains Kentucky law restricting transportation of liquor to a common carrier. Comm & Fin Chr 149:3192-3 N 18 '39
Unrewarded saloons; Chicago's liquor ordinance. Business Week p32+ O 26 '40

LIQUOR problem
Alcohol and the nation (a contribution to the study of the liquor problem in the United Kingdom from 1800 to 1935). G. B. Wilson. 456p bibliog(p326-9) $7.50 S. J. Reginald Saunders, 84 Wellington st, W, Toronto '40
Old fight in a new arena; a discussion unit of the liquor problem. P. C. Carter and K. Cober. 96p bibliog(p95-6) pa 60c Judson press, Philadelphia '40

LIQUOR traffic
Battle over a bottle; feud between Schenley and National Distillers. Business Week p32 O 26 '40
Collapse of liquor price fixing in New York may improve the distillers' positions. L. Applegate. Annalist 56:430+ O 3 '40
Fair trade in liquor goes haywire. Business Week p44-6 S 28 '40
Fair trade tests; liquor and groceries in New York. Business Week p39-40 N 9 '40
How regulate liquor? state monopoly question. Business Week p18 Mr 2 '40
Liquor industry's compact delayed; committee expands Dr Sturges' control plan. Business Week p18-20 F 17 '40
Liquor men unite; Conference of alcoholic beverage industries. Business Week p42 N 9 '40
Liquor price unpegged. Business Week p50 O 26 '40
New liquor lineup; Schenley pushes new all-industry organization. Business Week p46 Jl 20 '40
Sturges plan dies. Business Week p30+ Mr 30 '40
Without portfolio; liquor salesmen use unusual approach to trade. E. Peterson. il Ptr Ink 193:71, 74, 76 O 4 '40

See also
Beer
Brewing industries
Distilling industries
Liquor laws
Whisky
Wine

Statistics
Production of alcoholic beverages, malt liquor, whiskey, other distilled spirits, rectified spirits, revision; monthly, 1934-June, 1940. Fed Res Bul 26:856-7 Ag '40
Spirits, wine and beer sales in metropolitan areas, 1938; Printers' Ink market explorations. map. Ptr Ink Mo 40:40-1, 43-5 Ap '40

Taxation
Publicans and tax gatherers; historical note on liquor consumption and taxation in England. Economist 138:850-1 My 11 '40
Taxes bring liquor-price crisis. Business Week p44-5 S 7 '40

LIQUORS
Beverages, 1936-1939. Survey of Cur Business 1940 Sup p100-1 [supplemented in monthly numbers]
Grossman's Guide to wines, spirits & beers. H. J. Grossman. 404p bibliog(p388-9) $5 Sherman & Spoerer, 130 W. 46th st, New York '40

See also
Beer
Gin
Whisky
Wine

LISSAJOUS curves
Ultra-high frequency oscillography; ultradynamic Lissajous figures. H. E. Hollmann. bibliog il diags Inst Radio Eng Proc 28:315-19 My '40

LISTERINE
Listerine beleaguered; FTC launches new action. Business Week p39-40 Ag 24 '40
Throat light as premium outpulls all previous deals for Listerine. il Sales Management 47:38+ N 15 '40

LITCHFIELDITE
Petrology of the alkaline intrusive at Blue mountain, Ontario. M. L. Keith. diag map Geol Soc Bul 50:1795-1826, pl 1 D '39

LITHARGE. See Lead oxides

LITHIUM
Accurate measurement of the energy released in the disintegration of Li^8 by protons. G. J. Perlow. bibliog diag Phys R 58:218-25 Ag 1 '40
Binding energy of Li^7. K. G. Carroll. bibliog Phys R 57:791-4 My 1 '40
Distribution in angle of alpha-particles from lithium bombarded with protons. V. J. Young, A. Ellett and G. J. Plain. diag Phys R 58:498-500 S 15 '40
Electric quadrupole and magnetic dipole moments of Li^6 and N^{14}. M. E. Rose. bibliog Phys R 56:1064 N 15 '39
Energy release from $Be^9(d,\alpha)Li^7$ and the production of Li^7. E. R. Graves. bibliog Phys R 57:855-62 My 15 '40
Energy released in the reaction $Li^6(p,\alpha)He^3$ and the mass of He^3. S. K. Allison and others. Phys R 58:178 Jl 15 '40
Excitation of the 455-Kev level of Li^7 by proton bombardment. C. M. Hudson, R. G. Herb and G. J. Plain. diags Phys R 57:587-92 Ap 1 '40
Interaction of β-ionone with halides in the presence of lithium, and a synthesis of 1 : 6-dimethylnaphthalene. F. B. Kipping and F. Wild. Chem Soc J p1239-42 S '40

LITHIUM—*Continued*
Lithium-atmosphere furnaces. il Metals & Alloys 12:176 Ag '40
Lithium atmospheres for heat treating furnaces. il Steel 107:52+ S 30 '40
Lithium for heat treating furnace. Iron Age 146:54 Ag 1 '40
Radiofrequency spectra of atoms; hyperfine structure and Zeeman effect in the ground state of Li^6, Li^7, K^{39} and K^{41}. P. Kusch, S. Millman and I. I. Rabi. bibliog Phys R 57: 765-80 My 1 '40
Reaction between a highly-substituted bromopyridine and lithium. C. F. H. Allen and G. F. Frame. Am Chem Soc J 62:1301 My '40
Spin-orbit coupling in the alpha-model of light nuclei. D. R. Inglis. bibliog Phys R 56: 1175-80 D 15 '39
Theoretical magnetic susceptibilities of metallic lithium and sodium. J. B. Sampson and F. Seitz. bibliog Phys R 58:633-9 O 1 '40

Analysis

Composition of lithium and potassium salts precipitated by uranyl acetate reagents for sodium. E. R. Caley and W. O. Baker. bibliog Ind & Eng Chem Anal ed 11:604-7 N 15 '39
Quantitative analysis of plant tissues for lithium by the ramage flame spectrographic method. N. L. Kent. il diag Soc Chem Ind J 59:148-53 Jl '40

LITHIUM chloride
Gas dehumidification prevents hydrate freezing troubles. E. G. Hammerschmidt. Nat Pet N 32:R167-8 My 15 '40; Same. Oil & Gas J 39:64 My 23 '40
Lithium chloride for absorbing moisture from air. diag Chem & Met Eng 47:302-4 My '40
Use of lithium chloride solutions for humidity control; abstract. E. A. Windham. diag Chem & Met Eng 47:228, 229 Ap '40

LITHIUM compounds
Color tests for some organolithium compounds. H. Gilman and J. Swiss. bibliog Am Chem Soc J 62:1847-9 Jl '40
Dibenzofuran; derivatives of 2,2'-dihydroxybiphenyl. H. Gilman, J. Swiss and L. C. Cheney. bibliog Am Chem Soc J 62.1963-7 Ag '40
Dibenzofuran; isomeric metalation products of some phenols and their methyl ethers. H. Gilman and others. Am Chem Soc J 62: 667-9 Mr '40
Dibenzofuran; the reaction of bromo-ethers with *n*-butyllithium. H. Gilman, J. Swislowsky and G. E. Brown. bibliog Am Chem Soc J 62:348-50 F '40
Dibenzofuran; the two-stage metalation of 2-bromodibenzofuran. H. Gilman, W. Langham and H. B. Willis. bibliog Am Chem Soc J 62:346-8 F '40
Halogen-metal interconversion with *m*- and *p*-bromodimethylanilines. H. Gilman and I. Banner. bibliog Am Chem Soc J 62:344-5 F '40
Metalation of alcohols and amines; butyl lithium. H. Gilman and others. bibliog Am Chem Soc J 62:977-9 Ap '40
Organolithium compounds of pyridine and quinoline. H. Gilman and S. M. Spatz. Am Chem Soc J 62.446 F '40
Reaction of some substituted phenanthrenes with *n*-butyllithium. H. Gilman and T. H. Cook. bibliog Am Chem Soc J 62:2813-17 O '40
Relative reactivities of organometallic radicals; metal-metal interconversion of triphenyllead and of tetraphenyllead with *n*-butyllithium. H. Gilman and F. W. Moore. bibliog Am Chem Soc J 62:3206-8 N '40
Some factors affecting halogen-metal interconversions. H. Gilman and F. W. Moore. Am Chem Soc J 62:1843-6 Jl '40
Some interconversion reactions of organolithium compounds. H. Gilman, W. Langham and F. W. Moore. diags Am Chem Soc J 62:2327-35 S '40

LITHIUM fluoride
Determination of crystal densities by the temperature of flotation method; density and lattice constant of lithium fluoride. C. A. Hutchinson and H. L. Johnston. bibliog Am Chem Soc J 62:3165-8 N '40
Synthetic optical crystals. H. C. Kremers. bibliog il Ind & Eng Chem 32:1478-83 N '40

LITHIUM uranyl acetate
Composition of lithium and potassium salts precipitated by uranyl acetate reagents for sodium. E. R. Caley and W. O. Baker. bibliog Ind & Eng Chem Anal ed 11:604-7 N 15 '39

LITHOCHOLIC acid
Preparation and degradation of lithocholic acid. W. M. Hoehn and H. L. Mason. bibliog Am Chem Soc J 62:569-70 Mr '40

LITHOGRAPHY
Copifyer corporation growth is rapid. Inland Ptr 105:30 My '40
Some side-lights on lithography. J. Stark. Inland Ptr 105:80 My '40

See also
Printing, Offset

Exhibitions

Awards by lithographers. Ptr Ink 193:71 O 11 '40
Notable lithography exhibition. il Ptr Ink Mo 41:36 O '40

LITHOPONE

Manufacture

Manufacture of lithopone; advances in processing, composition, particle size, whiteness and light fastness. E. F. MacTaggart. flow sheet Can Chem & Process Ind 24:107-11 Mr '40

LITHUANIA
Russian acquisition of Estonia, Latvia and Lithuania. Comm & Fin Chr 151:480-1 Jl 27 '40

See also
Chemical industries —Lithuania

Economic conditions

New Lithuania. Economist 138:1006 Je 8 '40

Foreign relations

Russia

Lithuania recovers her capital. map Economist 137:372-3 D 9 '39

LITTLE ROCK, Arkansas

Water supply

Pipe laying record at Little Rock. il Eng N 123:771-2 D 7 '39

LITTLETON, Jesse Talbot
Vice-president of American ceramic society. bibliog and list of patents por Am Cer Soc Bul 19:182-4 My '40

LIVE stock
Hazard on the hoof; preventing injuries to both man and beast; problems of handling live stock. H. R. Smith. il Nat Safety N 42:26-7+ N '40
Livestock, 1936-1939. Survey of Cur Business 1940 Sup p109-10 [supplemented in monthly numbers]
Some economic aspects of western rangeland conservation. M. H. Saunderson. J Land & Pub Util Econ 16:222-6 My '40

See also

Agriculture	Sheep
Cattle trade	Swine
Poultry	

Diseases and pests

Effect on animal health of feeding sewage; swine and cattle in severe six-month test remain in good condition. A. B. Crawford and A. H. Frank. il Civil Eng 10:495-6 Ag '40
Experimental production of hepatic cirrhosis by the seed of amsinckia intermedia. E. C. McCulloch. Science 91:95 Ja 26 '40

Feeding

See Feeding and feeding stuffs

LIVE stock—*Continued*

Marketing

Cooperative marketing of livestock at Cincinnati by the Producers cooperative commission association. H. H. Hulbert. il diags map U S Farm Credit Administration Bul 84:1-180 '39

Funds impounded in Kansas City stock-yards case awarded to commission men; appeal planned. Comm & Fin Chr 150:2817-18 My 4 '40

Transportation

Are stockyards common carriers? I.C.C. examiners put 15 out of 25 into this category. Ry Age 109:688 N 9 '40

Feeder rates stay on stock. Ry Age 108:1068 Je 15 '40

More for the transportation dollar; revolution in freight service. il Ry Age 108:894-5 My 25 '40

See also
Stock cars

LIVE stock exchanges

Assistance to bankers in promoting better livestock; services of new Co-operative livestock exchange. P. V. Ewing. Bankers Mo 56:738+ D '39

LIVER

Distribution of selenium in plasma and liver proteins and its fractionation in tryptic liver digests. B. B. Westfall and M. I. Smith. bibliog Pub Health Rep 55:1575-83 Ag 30 '40

Polysaccharides; the constitution of glycogen from liver and fish muscle. W. N. Haworth, E. L. Hirst and F. Smith. Chem Soc J p1914-22 D '39

LIVER extracts

Effects of a beef liver fraction upon fat synthesis in rats. E. W. McHenry and G. Gavin. bibliog Science 91:171 F 16 '40

LIVERPOOL Institute, 1835-1852

Science teaching at the Liverpool Institute 1835-1852. C. Foster. J Chem Educ 17:136-8 Mr '40

LIVING rooms

Apartment planning provisions; minimum living-room sizes for varying rent levels, varying purposes; plans. Arch Rec 88:89 Ag '40

Making maximum use of minimum space; interior design of minimum apartments and multipurpose rooms. V. Conner. il diags plans Arch Rec 88:61-6 S '40

Units; lounging. il diags plans Arch Rec 87: 67-72 Ap '40

LIVING trusts. See Trusts and trustees—Living trusts

LIVINGSTON, Edward, 1764-1836

Edward Livingston; Jeffersonian Republican and Jacksonian Democrat. W. B. Hatcher. 518p bibliog(p468-97) $3.50 Louisiana state univ. press, University, La. '40

LLOYDS, London

How surplus line law works in Arizona. Nat Underw 44:3+ N 7 '40

Human interest picture of Lloyd's in war time. D. King-Page. East Underw 40:69+ D 15 '39

Lloyd's fund held safe; prompt payment of United States dollar claims. East Underw 41:24 Je 7 '40

Lloyds fund in U.S. can't be upset. Nat Underw 44:5 Ap 11 '40

London Lloyds wins quo warranto case on appeal; court holds licensing of underwriters within Illinois director's authority. Nat Underw 44:5+ Ja 18 '40

Must pay Ottawa, Ill. bank loss. Nat Underw 43:3 N 23 '39

New York department views. L. H. Pink. Weekly Underw 142:900 Ap 13 '40

Peerless casualty co. defends reinsurance in Lloyd's; bankers' blanket bond business in Michigan. Ins Field (Fire ed) 69:12-13 Je 15 '40

Waiver of premium in workmen's compensation high-low cover causes trouble. Nat Underw 44:15+ Je 6 '40

War restrictions hamper operations. Nat Underw 43:13 N 30 '39

LLOYDS bank limited

Ordinary general meeting, 82d, London. Economist 138:270-2 F 10 '40

LOAD (electric plants). See Electric plants (central stations)—Load

LOAD (mechanics)

Allowable eccentric loads on fillet welds; reference book sheet. E. H. Eberhardt. Product Eng 11:241-2 My '40

Calculation of the loads and bending moments in rigid jointed frames with special regard to variation in section of members. J. Morris. Roy Aeronautical Soc J 44:604-21 Jl '40

Clamped rectangular plates with a central concentrated load. D. Young. bibliog Roy Aeronautical Soc J 44:350-4 Ap '40

Combined tension-torsion loadings; abstract. E. A. Davis. Steel 107:42+ Jl 29 '40

Design of reinforced concrete columns under eccentric loads. F. E. Richart. Am Concrete Inst J 11:513-17 Ap '40

Eccentric-load formula. D. B. Hall. Eng N 124:18 Ja 4 '40

Graphical method of analyzing eccentrically loaded concrete sections. P. Andersen. Civil Eng 10:37-9 Ja '40

Load capacities of bearing surfaces; abstract. M. O. Teetor. Automotive Ind 82:566-7 Je 15 '40

Load ranges for simple beams. C. O. Harris. W Soc E J 45:39-43 F '40

Non-axial loads on structural steelwork beams. R. F. Davis. diags Engineering 150: 81-4 Ag 2 '40

Safe loadings for I-beams; chart. W. F. Schaphorst. Water Works & Sewerage 87: 501 O '40

Sonic method of determining the modulus of elasticity of building materials under pressure. L. Obert. diags Am Soc T M Proc 39:987-95; Discussion. 996-8 '39

Tension tests of large riveted joints. R. E. Davis, G. B. Woodruff and H. E. Davis. bibliog il diags Am Soc C E Proc 65:805-57 My '39; Discussion. 65:1289-1304, 1449-62; 66: 673-89, 951-5, 1065-9 S-O '39, Ap-Je '40

Theory of limit design. J. A. Van den Broek. Am Soc C E Proc 65:193-216 F '39; Discussion. 65:928-46, 1130-52, 1269-76, 1431-4, 1795-6; 66:121-4, 287-300 My-Je, S-O, D '39-F '40

LOAD factor

Effect of load factor on operation of power transformers by temperature. V. M. Montsinger. bibliog Elec Eng 59:Trans 632-6 N '40

Influence of load factor on size, type and operation of major power station plant. il Elec R (Lond) 126:631-4 Je 14 '40

See also
Demand meters
Electric plants (central stations)—Load

LOADING and unloading

Loading skips; patent specification relating to means for automatically loading wagons, skips and the like from hoppers. diags Mech Handling 26:336 N '39

Reducing segregation in loading trucks and cars. il Rock Prod 43:73 Ja '40

See also
Coal loading machines
Conveying machinery
Freight handling
Mechanical handling

Barges

Armco barge plant cuts coal-moving cost 87c.; portable conveyors for loading. il plan Coal Age 45:37-40 My '40

Sohio installs unusual barge loading rack on Ohio. il Oil & Gas J 38:60+ N 30 '39

Cars

Costs cut 40 per cent; handling steel axle housings. il Steel 106:64+ F 19 '40

Fork trucks and pallets; General electric co. H. J. Beattie. il diags Steel 107:53-4, 56+ O 7 '40

Freight car specialities for speed. il Ry Age 108:928+ My 25 '40

Towmotor lift truck with short wheelbase. il Ry Age 108:521 Mr 16 '40

LOADING and unloading—*Continued*

Motor trucks

Preventing spillage in loading lime putty. il Rock Prod 43:53 Je '40

Ships

Alabama state docks expands bulkhandling plant. J. B. Converse. il Manuf Rec 109: 34+ My '40

Car ramp at Larne harbour. il diags Engineer 168:524-5 N 24 '39

Collier converted to self-unloader. il Marine Eng 45:62-6 My '40

Go-devil separates oil slugs in 3.5-mile lube pipeline used for transferring stocks from tankers at dock on Detroit river to storage. il Nat Pet N 32:R278-9 Ag 7 '40

Handling limestone at low cost. R. C. Hill. il Rock Prod 43:48-9 O '40

Harnischfeger clamshell for unloading coal. il Marine Eng 45:63 Ap '40

L'installation de manutention des minerais de fer pour le chargement des navires à l'Ile de Chypre. il diags Génie Civil 116: 145-8 Mr 2 '40

Loading stone for shipment by water. plan Rock Prod 43:81 Ag '40

Low-cost ore loading; conveyor system to transfer iron ore from railroad cars to ore boats at Michipicoten Harbour. il plan Steel 107:64, 66+ S 16 '40

Mechanical handling appliances on the Manchester ship canal. R. Parker. Mech Handling 27:35-9 F '40

New coal dumper on the Pennsylvania handles a car a minute. il plan Ry Age 108:624-9 Ap 6 '40

Selection of the most economical pipe and valve size and rate of flow in piping systems; with cost data. S. P. Johnson and F. L. Maker. diags Am Pet Inst Proc 21M(3):19-23 My '40

Ship-loading ropeway. il diags Engineer 168: 568, 572-3 D 8 '39

Shipping large electric locomotives to Brazil. T. F. Perkinson. il Marine Eng 45:75-7 My '40

Shuttle belt conveyor; unloading coal from self-unloading vessel to barge. il plan Steel 105:42+ D 11 '39

Trans-shipping plan for coal; Three Rivers terminal of Dominion coal co. il Steel 106: 60+ Mr 4 '40

See also
Cargo handling
Coal docks

Tank cars

New tank car rack has features adaptable to truck loading racks. il Nat Pet N 32:40+ Jl 10 '40

Tank trucks

Cities Service plant operating unusually safe truck rack. W. T. Ziegenhain. il Oil & Gas J 39:56 Ag 15 '40

Rack handles 16 trucks at once; Home fuel oil co. il Nat Pet N 32:25, 28+ S 18 '40

LOADING machines

Barber-Greene highly portable loader. il Pub Works 71:57 Ja '40

Considerations in selection of mechanical loaders loading broken rock in mines or tunnels. P. M. Sheriger. il Min Cong J 26: 37-8 Ja '40

Loading machines; patent specification. diags Mech Handling 27:165-6 Jl '40

Mechanized loading aids these small operations. diags Eng & Min J 141:61-3 Ag '40

Stocking and reclaiming of coal and coke; Meco-Moore loader. il diag Mech Handling 27:48-50 F '40

See also
Coal loading machines

LOANS

See also
Building loans
Credit
Debts, Public
Government loans and grants
Government loans to industry
Insurance, Life—Policy loans
Interest
Investments
Reconstruction finance corporation
Securities

LOANS, Bank

Analyzing amortized industrial term loans. D. H. Blizzard. Bankers M 140:34-7 Ja '40

Bank loans to commerce, industry and agriculture increase. Nat City Bank p125-6 N '40

Banking's part in national defense; opportunities among minor industries. R. G. Smith. il Burroughs Clearing House 24:14-16 S '40

Banks can meet Production credit association competition. H. A. Bryant. Bankers M 140:453-4 My '40

Basis for loans to real estate operators; with checklist of insurable hazards. M. L. Fitch. il Bankers Mo 57:464-5 Ag '40

British banking since September; advances are reserved first and foremost for war aims. F. B. Makin. Banking 33:32 Jl '40

Credit needs of small business. E. G. Draper. Bankers M 141:159-61 Ag '40

Decentralization forces and mortgage lending. E. M. Fisher. Bankers M 141:439-40 N '40

Examiner's view of loans. C. L. Pitman. Banking 32:100 F '40

Field and future of amortization banking. T. C. Boushall. Bankers M 141:165-8 Ag '40

Film tells how bank loans to farmers rebuilt a community; Southern agriculturist sponsoring dramatization, in color. Sales Management 46:38 Je 15 '40

Fourteen points for increasing bank loans. Bankers M 141:257-60 S '40

Future of bank loan demand. B. F. Pope. Bankers M 140:402-3 My '40

Handling of produce loans; Salinas national bank, Salinas, Calif. L. E. Wyatt. il Burroughs Clearing House 25:22-4 N '40

Home building encouragement by the bank; architect's service and term life insurance. W. P. Straw. Bankers M 140:545-6 Je '40

Increasing commercial bank profits. A. P. Woolfson. Bankers M 139:471-4 D '39

Industrial banking, a phase of consumer credit. M. Grobben. 116p bibliog(p101-10) $1.50 Consumer credit inst. of America, New York '40

Internal bank management controls; fundamentals of loan controls. H. N. Stronck. Bankers Mo 57:86-7+, 147-8+, 204-5+, 275-7+ F-My '40

Liquidity of loans to farmers. C. C. Neumann. Comm & Fin Chr 151:69-70 sec 3 O 12 '40

Loan opportunities. G. S. Eccles. il Burroughs Clearing House 24:9-11+ Ja '40

Loans for better living: Title I modernization loans; benefit to banks. J. Keegan. il Banking 33:76, 78 S '40

Longer term loans; abstract. A. Wall. Banking 32:89 D '39

Meaning of commercial loans relative to business activity and inventories. S. L. Miller. Annalist 54:693 N 30 '39

Mortgage loan officer of 1950. E. M. Fisher. Banking 33:86 Jl '40

Mortgage loans in the bank portfolio. E. M. Fisher. Comm & Fin Chr 151:66-8 sec 3 O 12 '40

Mortgages made to measure. W. P. Straw. Bankers M 141:70 Jl '40

New opportunities of FHA Title I loans. L. Hough. il Burroughs Clearing House 24: 20-2+ S '40

New sources of bank revenue. E. H. Collins. Banking 33:80+ S '40

Portfolio policies of commercial banks in the United States, 1920-1939. P. Hunt. Harvard Univ Graduate School of Business Administration, Bur of Business Research, Business Research Studies 24:1-58 '40 (pa $1.50)

Preferred risk card to be used by other bankers. il Bankers Mo 56:746-7 D '39

Problems in small business credit. A. L. M. Wiggins. Bankers M 141:219-21 S '40

LOANS, Bank—*Continued*

Recovery plan for charge-offs; centralized handling has cut collection costs and netted better results. D. F. Buechner. il Burroughs Clearing House 25:12-14+ O '40

Saying no and making the customer like it. Bankers M 141:74-5 Jl '40

Selecting real estate loans. W. A. Marcus. Banking 33:27 N '40

Simple loan supervision avoids mistakes. E. L. Blaine, jr. Bankers Mo 56:709-11+ D '39

Small borrower becomes a large borrower; encouraging a farmer to develop his business. J. V. Tuttle. Bankers Mo 57:347+ Je '40

Small business wants capital; the Mead bills and the issue between the new deal and the bankers. W. L. Stoddard. bibliog Harvard Business R 18 no 3:265-74 [Ap] '40

Some facts about term loans in New York state. W. H. White. Banking 32:83 F '40

Taking stock of the mortgage portfolio. F. H. Allen. Bankers M 140:311-12 Ap '40

Title I loans for low cost housing; new FHA plan. W. P. Murray. il Burroughs Clearing House 24:18-20+ D '39

Unusual loans for country banks. T. A. Glenn, jr. Banking 32:102 F '40

We help our borrowers to make a success. W. Frame. Bankers Mo 57:453+ Ag '40

See also

Agricultural credit
Banks and banking—Automobile purchase financing
Brokers' loans
Credit, Bank
Federal reserve banks—Loans to industry
Insurance—Credit aspects
Morris plan banks

Collateral

Case histories of inventory loans; Bank of America experience. A. J. Gock. il Burroughs Clearing House 24:12-14+ Jl '40

Collateral loans on life insurance. R. C. Tait. Bankers M 140:292-4, 296 Ap '40

Despite money rate outlook, banks still seek policy loans. Nat Underw (Life ed) 43:3+ D 1 '39

Extra loans on collateral protected by field warehousing; with summary of state laws. J. Y. Beaty. map Bankers Mo 57:202-3 Ap '40

Field warehousing decision; extent of the legal protection afforded by field-warehouse receipts; Heffron v. Bank of America national trust and savings association and Lawrence warehouse company. Banking 33: 102 S '40

Information required when Stephens national bank of Fremont, Neb. makes a loan on life insurance cash value. J. M. Sorensen. Banking 33:100 S '40

Internal bank management controls; control of commercial and collateral loans. H. N. Stronck. Bankers Mo 57:147-8+ Mr '40

New borrowers made eligible for loans to finance operations; raw materials can serve as a basis if protected by field warehouse receipts. J. V. Tuttle. Bankers Mo 57: 554+ O '40

Warehouse receipts collateralize safe loans. J. Y. Beaty. Bankers Mo 57:355+ Je '40

Government insurance

Mead bill for direct loans to business introduced; Industrial loan corporation under the Federal reserve system. H. D. Ralph. il Burroughs Clearing House 24:15-16 D '39

New proposals for government loans to small business. Nat City Bank p137-40 D '39

Small business needs credit; Mead bill plan. J. M. Mead. Bankers M 140:159-60 F '40

Instalment payment

Consumer credit in a small town. A. T. Spitzer, 2d. Banking 32:105 F '40

Installment loan ledgers posted and filed quickly. W. D. Yealland. il Bankers Mo 57: 454-5+ Ag '40

Installment loan policies and procedure. W. B. Hall. Bankers M 140:398-401 My '40

Instalment paper in a small town. F. P. Powers. Banking 32:94 Mr '40

Monthly payment convenience. F. C. Morse. Banking 33:70 N '40

Old loans collected by personal loans; monthly payment method. J. I. Crossett. Bankers Mo 57:8-9 Ja '40

Remedy for late payments. J. E. Moore. Banking 33:59 N '40

Small loans

Are automobile loans, consumer credit loans, etc. the right sort of loans for commercial banks? Banking 33:77 Ag '40

Bank helped save a life. S. Everett. Bankers Mo 57:5 Ja '40

Bank personal loans justified; Cleveland trust company's record of experience. K. R. Cravens. Bankers Mo 57:140-2 Mr '40

Bank profit from consumer loans. W. P. Weimer. il Burroughs Clearing House 24: 14-16+ Ag '40

Banks and finance companies purchased $2,700,000,000 of retail instalment notes in 1939. Comm & Fin Chr 151:2285 O 19 '40; Same. Bankers M 141:455-6 N '40

Banks must be prepared to assume responsibility if they are to solicit business of small borrowers. W. R. White. Comm & Fin Chr 150:2510 Ap 20 '40

Bird's-eye view of consumer credit; consumer credit panel at the Eastern conference, American bankers association. Banking 32: 92-3 Ap '40

Canadian personal loan experience. A. E. Arscott. Bankers M 140:82 Ja '40

Commercial banks and consumer instalment credit. J. M. Chapman and others. 313p $3 Nat. bur. econ. research '40

Consumer credit business development. W. B. Hall. Bankers M 140:544-5 Je '40

Consumer credit in the West. R. Nugent. Banking 33:29+ Jl '40

Consumer credit operation costs. O. C. Lorenz. Bankers M 140:387-9 My '40; Same. Banking 32:34-6 My '40

Consumer credit problem; effect of war and war preparations; Canada's action. W. B. French. Banking 33:57+ S '40

Consumer loans by commercial banks. W. T. Foster. 43p bibliog(p42-3) pa 10c Pollak foundation for economic research, Newton, Mass. '40

Consumers credit. K. R. Cravens. Comm & Fin Chr 151:70-2 sec 3 O 12 '40

Dealer pays for money he doesn't borrow; feed manufacturer tells dealers to send credit customers to the bank. J. V. Tuttle. Bankers Mo 57:290+ My '40

Effect of war on personal loan business; a survey. Bankers M 140:538-9 Je '40

Ideas for building small loan volume. F. R. Sage. il Burroughs Clearing House 24:18-20+ Ap '40

If credit's good, you travel on it; new service enlisting 66 railroads and 950 banks covers rail, steamship, Pullman, baggage, or express costs on monthly-payment basis. Business Week p22+ My 11 '40

Improving our small loan attitude. W. B. French. Bankers M 141:21-3 Jl '40

Industrial banking; a phase of consumer credit. M. Grobben. 116p bibliog(p103-10) $1.50 Consumer credit inst. of America, 233 Broadway, New York '40

Instalment loans in California; analysis of a block of 1,300 personal loans. Banking 32: 87 Ap '40

Main trends in consumer credit; review of Commercial banks and instalment consumer credit, by John M. Chapman and associates. O. C. Lorenz. Banking 32:35-6 Je '40

Make a wish said the Valley national bank, and customers wished for electric refrigerators. C. Bimson. il Bankers Mo 57:348-9+ Je '40

Monthly payment convenience. F. C. Morse. Banking 33:70 N '40

New competition for small loans; commercial banks. K. R. Cravens. Nation's Business 28: 114+ Ap '40

Over 29% of loans finance consumers; Kanabec state bank, Mora, Minn. F. P. Powers. Bankers Mo 57:549-50 O '40

Personal loan analysis. Banking 32:62 D '39

Personal loan delinquency yardsticks. W. H. Kyle. Bankers M 140:528 Je '40

LOANS, Bank—Small loans—*Continued*
Personal loan experience record. K. R. Cravens. Banking 32:94-5 D '39; Excerpt. Bankers M 140:170 F '40
Personal loans increased 300%. E. S. Tallmadge. il Bankers Mo 57:334-6+ Je '40
Personal loans quickly handled with this visible ledger file. R. A. Prosswimmer. Bankers Mo 57:91+ F '40
Risk premiums on personal loans; 5% of loan with refund not consumed by pro rata share of losses. R. W. Manuel. Banking 32: 82-3 Mr '40
Service for small borrowers; convenient checking plan. J. E. Moore. Banking 33:97 S '40
Simplified forms; instalment notes and pledge agreement. Banking 33:53-7 O '40
Small loan experience analysis. Bankers M 141:253-4 S '40
Small loan plan hit; Russell Sage memorandum criticizes Vee Bee system; American surety co. defends it. Business Week p42, 45-6 Je 29 '40
System for consumer credit. E. S. Woolley. il Banking 32:28-9 F '40
Time loans quickly passed with adequate equipment and complete records. E. F. Longinotti. il Bankers Mo 57:407-9 Jl '40
Upon what bases are personal loans granted? Banking 33:69 Jl '40
Visible liability ledger is the basis for safe loans. A. Larschan. Bankers Mo 57:337+ Je '40

Statistics

All banks in the United States; loans and investments. Published in monthly numbers of Federal reserve bulletin
A.B.A. survey, 1939. Comm & Fin Chr 151: sup v-vi Jl 13 '40
A.B.A. survey of bank lending activity during first half of 1939. Comm & Fin Chr 149:3478, 3657, 3947, 4114 D 2-9, 22-30 '39; Bankers M 140:67 Ja '40; Credit & Fin Management 42:24-5 Ja '40
Bank rates to customers; revision, monthly, 1928-39. Survey of Cur Business 20:17 Mr '40
Bankers' defense. Business Week p49-50 D 16 '39
Banking invasion of the consumer credit field; credit buying on increase. S. L. Miller. Annalist 56:171-2 Ag 8 '40
Condition of all member banks; loans and investments. Published in monthly numbers of Federal reserve bulletin
Credit extensions of nearly 40 billion dollars made by country's commercial banks during 1939. R. M. Hanes. Comm & Fin Chr 150:4060 Je 29 '40
Industrial banking companies, instalment loans, monthly, 1929-June, 1940. Survey of Cur Business 20:18 S '40
Loans made by banks during first half of year. R. M. Hanes. Comm & Fin Chr 149: 3655 D 9 '39; Same cond. Bankers M 140:66 Ja '40; Excerpt. Banking 32:60+ Ja '40
New light on bank loan activity; A.B.A. survey. G. Edwards. Banking 32:31 Ja '40
Retail installment paper held by insured commercial banks December 30, 1939, by geographic divisions, states, and cities. Fed Res Bul 26:526, 586-7 Je '40; Correction. 26: 778 Ag '40
Telling the public; ABA questionnaires on loans L. Gibson. Banking 33:98 Ag '40

LOANS, Employees'

See also
Credit unions

LOANS, Foreign

Bill relaxing provisions of Johnson act introduced; Congress indicates opposition to war loans. Comm & Fin Chr 150:3137 My 18 '40
Congressional approval of $500,000,000 fund for loans to aid Latin-American trade urged by Secretary of State Hull; Senate group reports filed. Comm & Fin Chr 151:781-2 Ag 10 '40
Hemisphere handout; proposed loans by Export-Import bank would provide only temporary relief. H. M. Bratter. map Barron's 20:20 S 2 '40
Legislation increasing capital passed by Congress; Finland and China to receive further credits for non-military purposes. Comm & Fin Chr 150:1356 Mr 2 '40
Senate foreign relations committee approves bill increasing capital of Export-Import bank from $100,000,000 to $200,000,000; makes possible further credits of $20,000,000 to Finland and China. Comm & Fin Chr 150:918-19 F 10 '40

See also
Debts, Public
Export-Import bank of Washington
Investments, Foreign

LOANS, Small

Draft bill helps the loan sharks. Business Week p20 Ag 31 '40
Money at 1,131 per cent; practices of illegal money lenders. W. T. Foster. Banking 32:84 F '40
Personal finance companies and their credit practices. R. A. Young and others. 170p $2 Nat. bur. econ. research '40
Small loan problem in South Carolina. W. H. Simpson. 59p Univ. of South Carolina, Extension division, Columbia '40

See also
Credit unions
Household finance corporation
Loans, Bank—Small loans
Morris plan banks
Usury laws

Accounting

Verification of notes in small-loan business. J Account 70:73-4 Jl '40

Laws and regulations

Cut small loan cost? New York and other laws. Business Week p28 F 17 '40
Small loan laws of the United States. L. R. Foster. 3d ed 23p bibliog(p22-3) pa 10c Pollak foundation for economic research, Newton, Mass. '40

LOBBY libraries. See Banks and banking—Lobby libraries

LOBBYING

People's lobby; 1939 Wisconsin legislature felt force of drive. W. A. Freehoff. Nation's Business 28:70+ O '40

LOCAL anesthetics. See Anesthetics, Local

LOCAL government

American local government. R. H. Wells. 200p $1.50 McGraw-Hill '39
Control of expenditures in the local governmental units of Illinois. H. K. Allen. Ill U. Bur of Business Research Bul 61:1-58 '40
Deficiencies in state and local government data. E. R. Gray. Ann Am Acad 207:194-202 Ja '40
Politics of integration in metropolitan areas. V. Jones. Ann Am Acad 207:161-7 Ja '40
Problems in service levels; the readjustment of services and areas in local government. W. S. Carpenter. 234p bibliog(p149-227) $2.50 Princeton univ. press '40
Readjusting governmental areas and functions. W. B. Graves. Ann Am Acad 207:203-9 Ja '40
State centralization in the South. P. W. Wager. bibliog Ann Am Acad 207:144-50 Ja '40
U.S. political system. il Fortune 21:90-3+ F '40

See also
County government
Municipal government
State governments

Finance

English grants-in-aid; a study in the finance of local government. H. R. Bowen. Iowa Univ Studies in Social Science v 11, no 1: 1-156 '39 (pa $1)
Fiscal aspects of state-local relations. G. W. Spicer. bibliog Ann Am Acad 207:151-60 Ja '40

LOCAL government—Finance—*Continued*
Local government finance in Kansas. H. Howe. rev ed 33p Kansas state planning bd, State house, Topeka '40

Great Britain

British local government and the war. Economist 138:5-6 Ja 6 '40
Local government of the United Kingdom. J. J. Clarke. 12th ed 967p bibliog(p903-36) $5 Pitman '39

LOCATING (machine work)
Adjustable stop locating bar for die-shoe. J. Schlinger. diags Mach 47:133 S '40
Design of universal drill jigs. J. I. Karash. il diags Mach 46:243-7 D '39
Guide locating device for multiple-bearing crossheads. diags Ry Mech Eng 114:113 Mr '40
Hole circle layouts; reference book sheet. W. J. Woodworth and J. D. Woodworth. Am Mach 84:257, 259, 303, 305 Ap 17-My 1 '40
Jig for drilling ninety-six evenly spaced angular holes in ring. H. Kaffine. diags Mach 46:114 Ag '40
Locating the high spot on round work. R. S. Alexander. Am Mach 84:90-1 F 21 '40
Locating the high spot on round work. W. S. Rowell. diag Am Mach 83:1046 D 13 '39
Sliding drill jig spaces holes. J. E. Hyler. diag Am Mach 84:708 S 18 '40

See also
Centering (machine work)

LOCATION in business

See also
Advertising agencies—Location
Factories—Location
Industry—Decentralization
Oil bulk stations—Location

LOCKERS, Public

See also
Cold storage lockers

LOCKHEED aircraft corporation
Brass tacks for the investor; brief analysis. Barron's 20:13 Je 17 '40
Building for service; Lockheed asks its customers what they want, builds it, helps in its maintenance. J. R. Hargrove. Aero Digest 37:72, 75-6+ Jl '40
How many planes when? B. Gross. il Fortune 22:48-53, 89-90 Ag '40
Lockheed aircraft admitted to the list; earnings, capital, etc. 1932-39. il Annalist 54: 764-5 D 14 '39
Recent business and earnings growth. E. A. Barnes. il Mag of Wall St 65:488-9+ Ja 27 '40
Selected war beneficiaries. il Mag of Wall St 66:302-3 Je 15 '40
Stock offered. Comm & Fin Chr 150:694-5 Ja 27 '40

LOCKING devices
Quick-acting locking device for hinged machine vise. R. L. Austin. diags Am Mach 84:509 Jl 10 '40

LOCKS (hydraulic engineering)
Albert canal, Belgium. il diags Engineering 148:857-9, pl 25 D 15 '39
Chicago River control works. H. P. Ramey. il diags map Am Soc C E Proc 66:71-103 Ja '40; Discussion. 66:1161-83, 1833-5 Je, D '40
La construction d'une troisième ligne d'écluses sur le Canal de Panama. diag maps Génie Civil 115:435-7 D 16 '39
Foundation conditions and treatment at Guntersville dam. V. Gongwer. il Am Soc C E Proc 66:433-6 Mr '40
New locks for navigation canals to Lake Okeechobee. il plan Eng N 124:474-5 Ap 4 '40
War christens Belgium's Albert canal. Eng N 124:731-2 My 23 '40

Cost

Guide wall extension, Pennsylvania; unit prices. Eng N 124:812 Je 6 '40

LOCKS and keys
Bore-a-hole installation cuts hardware cost; tubular locks. il Am Bld 62:35 O '40

LOCOMOTIVE boiler explosions
Causes of boiler explosions. J. M. Hall. Ry Mech Eng 113:534+ D '39

LOCOMOTIVE boilers
Canadian National method for lagging application. il diags Ry Mech Eng 114:161 Ap '40
Chemical treatment of boiler feedwater; Master boiler makers' association committee report. il Ry Mech Eng 113:450-3 N '39
Cinder cutting of firebox sheets, flues, tubes and smokeboxes. diags Ry Mech Eng 114: 469-71 N '40
Dampflokomotive mit Veloxkessel. E. Born. bibliog V D I 84:40 Ja 13 '40
French locomotive with Velox boiler. il diags Engineer 169:199-202 Mr 1 '40
Heavy passenger engines, South African railways. E. C. Poultney. il diags Engineer 169: 223-4 Mr 8 '40
Lining up locomotive boilers. il Am Mach 84: 86 F 21 '40
Locating height of crown sheet and water-level indicating devices; Master boiler makers' association committee report. diags Ry Mech Eng 113:446-8 N '39
Locomotive boiler questions and answers. G. M. Davies. Published in monthly numbers of Railway mechanical engineer
Means for improving the circulation of water in the boiler; Master boiler makers' association committee report. Ry Mech Eng 113:445-6 N '39
Means to improve water circulation in the boiler; Master boiler makers association, committee report. diags Ry Mech Eng 114: 459-61 N '40
Some problems of boiler maintenance. A. G. Trumbull. Ry Mech Eng 114:451-2 N '40
Study of the locomotive boiler. C. A. Brandt. diag Ry Mech Eng 114:43-51+, 100-6 F-Mr '40

See also
Master boiler makers' association

Blowdown

Automatic blow-off system. diag Ry Mech Eng 114:26-7 Ja '40
Foam-collapsing automatic blowoff. il Ry Age 108:464-5 Mr 9 '40

Corrosion

Pitting and corrosion on firebox sheets back of grate bearers; Master boiler makers' association, committee report. diags Ry Mech Eng 114:457-9 N '40

Failures

Causes and the prevention of embrittlement in boilers. W. C. Schroeder. il Ry Mech Eng 114:182-5 My '40
Flues cracking through bead; tube and flue application; Master boiler makers' association committee report. il Ry Mech Eng 114: 468-9 N '40
Intercrystalline corrosion; report of American railway engineering association. Ry Age 108:855-6+ My 18 '40
Intercrystalline cracks in locomotive boilers. W. C. Schroeder, A. A. Berk and R. A. O'Brien. diags Ry Mech Eng 114:262-5 Jl '40; Same cond. Ry Age 109:25-8 Jl 6 '40
Longitudinal cracking of flues through the beads; Master boiler makers' association committee report. il Ry Mech Eng 113:448-50 N '39

Firing

Berkley locomotive stoker. il Ry Age 108: 1127 Je 22 '40; Same. Ry Mech Eng 114: 414-15 O '40
Locomotive firing practices, coal; Railway fuel and travelling engineers' association committee report. Ry Mech Eng 113:472-3 N '39
Martin locomotive stoker. il Ry Mech Eng 114:412-13 O '40
Oil-burning firing practice, a trip with the fireman; Railway fuel and traveling engineers association committee report. Ry Mech Eng 114:499-500 N '40

LOCOMOTIVE boilers—Firing—*Continued*
Oil-firing practice; Railway fuel and traveling engineers' association committee report. Ry Mech Eng 113:476-7 N '39

See also
Locomotives—Smoke problem

Manufacture

Application of iron, steel and alloy rivets. il diags Ry Mech Eng 114:463-8 N '40

Repair

Boiler patch applied to back head. diag Ry Mech Eng 114:26 Ja '40
Boiler patch to fit offset between two courses. diag Ry Mech Eng 114:232-3 Je '40
Flue repair shop designed for one-man operation. il diag plan Ry Mech Eng 114:76-8 F '40
Improved method of applying boiler patches. diags Ry Mech Eng 114:370-1 S '40
Oxy-acetylene and electric processes in boiler and tender work. il diags Ry Mech Eng 114: 453-7 N '40
Reinforcement of defective boiler shells. E. H. Heidel. diags Ry Mech Eng 114:200-1 My '40
Syphon patch with a spiral seam. il Ry Mech Eng 114:79 F '40
Types of crown-sheet patches. G. M. Davies. Ry Mech Eng 114:411 O '40

LOCOMOTIVE cab signals. See Railroads—Signals

LOCOMOTIVE fireboxes
Cinder cutting of firebox sheets, flues, tubes and smokeboxes. diags Ry Mech Eng 114: 469-71 N '40
L'emploi de l'acier en France pour la construction des foyers de locomotives. Génie Civil 115:377 N 18 '39
Master boiler makers' report on the renewal of fireboxes. R. W. Barrett and others. il diags Ry Mech Eng 113:542-5+ D '39
Pitting and corrosion on firebox sheets back of grate bearers; Master boiler makers' association, committee report. diags Ry Mech Eng 114:457-9 N '40
Steel versus copper fire-boxes. Engineer 170: 175-6 S 13 '40
Study of the locomotive boiler. C. A. Brandt. diag Ry Mech Eng 114:49-51+, 100-6 F-Mr '40

LOCOMOTIVE grates
Equalizing the flow of air through the locomotive grates. S. H. Acker. il diags Ry Mech Eng 114:140-3+ Ap '40
Grates and ash pans; Railway fuel and traveling engineers' association committee report. Ry Mech Eng 113:475-6 N '39
Improved Hulson grate design. il Ry Mech Eng 114:412 O '40

LOCOMOTIVE industry
Baldwin locomotive; speculative stake in armaments, rail equipment and machinery. R. Carleson. il Mag of Wall St 65:476-8 Ja 27 '40
Baldwin locomotive's stake in rearmament. S. Altschul. Barron's 20:13 Jl 15 '40
Builder of steam locomotives; Lima's erratic record. S. Altschul. Barron's 20:13 S 30 '40

See also
American locomotive company

Statistics

Locomotive production, revision; monthly, 1923-June, 1940. Fed Res Bul 26:831 Ag '40
Locomotives, 1936-1939. Survey of Cur Business 1940 Sup p160-1 [supplemented in monthly numbers]

Great Britain

Engineering outlook; locomotives and rolling stock. Engineering 149:299-301 Mr 22 '40

LOCOMOTIVE inspection, Bureau of. See Interstate commerce commission—Bureau of locomotive inspection

LOCOMOTIVE maintenance officers' association
Annual meeting, Chicago, Oct. 22-25. Ry Age 109:644-6 N 2 '40
Annual meeting, Chicago, Oct. 22-25; with papers. Ry Mech Eng 114:432-49 N '40
Annual meeting, Chicago; program. Ry Mech Eng 114:355 S '40

LOCOMOTIVE shops
Enginehouse problems caused by long runs. F. J. Fahey. Ry Mech Eng 113:496-8 N '39
Forgings and their heat treatment. L. B. Herfurth. Ry Mech Eng 113:491-4 N '39
Illinois Central celebrates year without accident. Ry Age 109:177 Ag 3 '40
Scheduling of locomotives for classified repairs. F. B. Downey. Ry Mech Eng 113: 489-91 N '39
Shopmen celebrate a safe year; Illinois Central shops at Paducah. Nat Safety N 42:27+ S '40

See also
Locomotives—Repair
Railroads—Shops

Equipment

Flue repair shop designed for one-man operation. il diag plan Ry Mech Eng 114:76-8 F '40
How the small shop performs driving-box work. il Ry Mech Eng 114:407-9 O '40
Paducah shop jigs, fixtures and devices. G. H. Raner. il Ry Mech Eng 114:223-32, 324-6+ Je. Ag '40
Selecting machinery and tools for locomotive repairs. R. P. Dollard. Ry Mech Eng 113: 494-6 N '39
Tire-turning tool has cutter control. diags Ry Mech Eng 114:75 F '40
Use of machinery and tools in locomotive repairs. D. J. Sheehan. Ry Mech Eng 114:435-7 N '40

Heating and ventilation

Heating of locomotive terminal and shop buildings; American railway bridge and building association committee report. Ry Age 109:582-3 O 26 '40

LOCOMOTIVE smoke boxes
Cinder cutting of firebox sheets, flues, tubes and smokeboxes. diags Ry Mech Eng 114: 469-71 N '40

LOCOMOTIVE tenders
Barco joints improved; metallic connection for air, oil, water and steam lines between locomotives and tenders. il Ry Mech Eng 114:188-9 My '40; Same. Ry Age 108:822 My 11 '40
Heavy passenger engines, South African railways. E. C. Poultney. diags Engineer 169: 248-9 Mr 15 '40
Locomotive tender tank; interlocked baffle plates in water tank are arc welded. W. C. Rockenstire. il diag Steel 105:45-7 D 25 '39
Maintenance of tender cisterns. Ry Mech Eng 114:471+ N '40
Rock Island medallion. il Ry Mech Eng 114: 75 F '40
Tender of L.M.S. Coronation class locomotive; plans. Engineer 168:466 N 10 '39
Union Pacific tenders embody many improved features. il diags Ry Age 109:246-8+ Ag 17 '40; Same. Ry Mech Eng 114:386-8+ O '40
Welding and alloy steel in tender cistern construction; Master boiler makers' association committee report. Ry Mech Eng 113:441-3 N '39

LOCOMOTIVE terminals
Enginehouse problems of the present day. H. E. Hinds. Ry Mech Eng 114:446-9; Discussion. 449 N '40
Windows in this enginehouse are of glass blocks. il diags Ry Age 109:512-15 O 12 '40

See also
Locomotive shops

Heating and ventilation

Heating of locomotive terminal and shop buildings; American railway bridge and building association committee report. Ry Age 109:582-3 O 26 '40

LOCOMOTIVE turntables. See Turntables

LOCOMOTIVE works

Equipment

Precision for the long haul; Lima locomotive works has devised special boring and inspection jigs. F. H. Colvin. il Am Mach 83:1002-3 N 29 '39

LOCOMOTIVES

Are the railroads prepared? survey of opinion among mechanical men. il Ry Age 108:1090-2 Je 22 '40

Baldwin locomotive works. il Fortune 20:52-7+ D '39

Fall peak used freight power almost to full capacity. il Ry Age 108:13-14 Ja 6 '40

4-6-0 type passenger locomotive for Jaipur state railway. il Engineering 149:630 Je 28 '40

Further North American locomotive experiences. E. H. Livesay. il Engineer 170:180-1, 196-7, 260-1, 276-8, 292-4, 308-10 S 20-27, O 25-N 15 '40

Güterzuglokomotive baureihe 45 der Deutschen Reichsbahn. E. Born. il diag V D I 84: 20-1 Ja 6 '40

High-speed lightweight trains; comparison of Diesel-electric and steam locomotives. C. T. Ripley. Inst Mech Eng J & Proc 142: Proc 101-10 D '39; Same. Engineer 168: 455-6, 479-81 N 3-10 '39; Excerpts. Metal Prog 37:74, 76 Ja '40

How to increase terminal locomotive efficiency; steam and Diesel-electric power compared. il Ry Age 108:249-53 F 3 '40

Intensive use of locomotive power. Engineer 170:157 S 6 '40

Locomotive construction; A.A.R. Mechanical division report. Ry Age 109:33-9+ Jl 6 '40; Same. diags Ry Mech Eng 114:271-7 Jl '40; Abstract. Engineer 170:199-200 S 27 '40

Locomotive engineers & fireman's manual of questions and answers to date of November 1939. 2d ed $3.75 M. F. Herrick, Boone, Ia. '39

Locomotive maintenance officers association annual meeting, Chicago, Oct. 22-25. Ry Age 109:644-6 N 2 '40

Locomotive maintenance officers' association annual meeting, Chicago, Oct. 22-25; with papers. Ry Mech Eng 114:432-49 N '40

Locomotives and trains in 1939. il Engineer 169:3-5, supp 8 Ja 5 '40

Mastering momentum in transport. L. K. Sillcox. Engineer 169:461-2 My 17 '40

Men, steam and the driven wheel. E. Yeomans. 173p $1.50 House of Tuttle, 28-30 S. Maine st, Rutland, Vt. '39

Milwaukee buys more 4-8-4 freight power. il Ry Mech Eng 114:216-18 Je '40; Same cond. Ry Age 108:967-8 Je 1 '40

Modern rail transport. A. M. Wright. bibliog Elec Eng 59:400-6 O '40

Modern streamlined railroading; abstract. C. R. Gray, jr. S A E J 45:sup 16 D '39

Molybdenum steels for high-speed locomotive service. Mach 46:230 Jl '40

New technologies in transport. F. G. Gurley. Ry Age 108:208-11+ Ja 27 '40

Les nouvelles locomotives Pacific des chemins de fer de l'Indochine. Génie Civil 115:375 N 18 '39

Provision of engine power on South African railways. Engineer 169:371 Ap 19 '40

Speed in freight service demands horsepower. il Ry Age 108:929-33 My 25 '40

Steam locomotive; its development and present position in railroad transportation. L. H. Fry. bibliog il diags Franklin Inst J 230: 529-65 N '40

Trends in railroad motive power. S. Withington. il Elec Eng 59:141-8 Ap '40; Abstract. Ry Age 108:212-13 Ja 27 '40

Turbine and condensing locomotives; Railway fuel and traveling engineers association committee report. Ry Mech Eng 114:503-4 N '40; Same abr. Ry Age 109:619 N 2 '40

Twenty-five improved Northern type 4-8-4 locomotives for C.N.R. il Ry Mech Eng 114: 187-8 My '40

Utilization of locomotives; Railway fuel and traveling engineers association committee report. Ry Mech Eng 114:490-2 N '40; Excerpt. Ry Age 109:618-19 N 2 '40

See also

Electric locomotives
Motor cars (railroad)
Steam engines
Stokers, Mechanical
Tractors

Axles

Heavy passenger engines, South African railways. E. C. Poultney. diags Engineer 169: 247-8 Mr 15 '40

Bearings

A.A.R. sub-committee report on roller bearings for locomotive and tenders. Ry Age 109:36 Jl 6 '40; Same. Ry Mech Eng 114:273-4 Jl '40

Distribution and sources of journal-box temperature. E. S. Pearce. diags Ry Mech Eng 114:68-9+ F '40

Cleaning

Locomotive and car cleaner; Vapor thermopressure cleaning machine. il Ry Mech Eng 114:331 Ag '40

Cost of operation

Modern locomotives; their influence on railway operation; study of costs of locomotive operation on the Canadian Pacific. J. R. Macken. Ry Age 108:317-19 F 17 '40

Crossheads

Guide locating device for multiple-bearing crossheads. diags Ry Mech Eng 114:113 Mr '40

Design

D. & H. installs articulated freight locomotives. il Ry Age 109:207-13+ Ag 10 '40; Same cond. Ry Mech Eng 114:337-44 S '40

Equalizing the flow of air through the locomotive grates. S. H. Acker. il diags Ry Mech Eng 114:140-3+ Ap '40

French locomotive with Velox boiler. il diags Engineer 169:199-202 Mr 1 '40

Heavy passenger engines, South African railways. E. C. Poultney. il diags Engineer 169:222-4, 246-9 Mr 8-15 '40

Large American Mallet locomotives. H. Coble. il diags Engineer 169:127-8, 153-5 F 9-16 '40

Links in the history of the locomotive; the first four-cylinder locomotive, 1825 E. A. Forward. diags Engineer 170:108-9, 117-18 Ag 16-23 '40

Modern objectives in steam-locomotive design. R. M. Ostermann. diag Mech Eng 62:801-4 N '40

Progress in railway mechanical engineering, 1938-1939. il diags Mech Eng 61:868-71 D '39; Discussion. 62:484 Je '40

Recent developments in steam locomotive design in France. Chan. Engineer 169:522-3 Je 7 '40

Southern Pacific 4-8-8-2 cab-ahead locomotives. il Ry Age 108:239-40+ F 3 '40

Southern Pacific's method for semi-cross-balancing. M. P. Taylor. diags Ry Mech Eng 114:389-90 O '40

Study of the locomotive boiler. C. A. Brandt. diag Ry Mech Eng 114:43-51+, 100-6 F-Mr '40

Twelve coal-burning 2-8-8-4 locomotives for Southern Pacific. il diags Ry Mech Eng 114: 1-7 Ja '40; Same cond. Ry Age 107:918-22 D 16 '39

Vector analysis and locomotive counterbalancing. L. H. Fry. diags Engineer 169:518-19 Je 7 '40

Driving boxes

How the small shop performs driving-box work. il Ry Mech Eng 114:407-9 O '40

Efficiency

Combating locomotive obsolescence; improvements may be effected by reproportioning locomotive parts subject to renewal. J. L. Ryan. diags Ry Mech Eng 114:310-14 Ag '40; Same cond. Ry Age 109:106-9 Jl 20 '40

Equipment

Improved Dri-steam locomotive steam dryer. il Ry Mech Eng 114:373 S '40; Same. Ry Age 109:557 O 19 '40

LOCOMOTIVES—Equipment—*Continued*
Inspection, testing, and cleaning of air reservoirs; Master boiler makers association committee report. il Ry Mech Eng 113:440-1 N '39
Instrument regulates locomotive cut-off; Loco valve pilot. il Sci Am 162:26-7 Ja '40
Locomotive recorder; checks engineer's alertness to signals. il Sci Am 163:218 O '40
New locomotive economy devices; Railway fuel and traveling engineers' association committee report. Ry Mech Eng 113:470-1 N '39
Recent developments for locomotives and cars. il diags Ry Age 108:1127-34 Je 22 '40
Steam consumption of locomotive auxiliaries. E. E. Chapman. Ry Mech Eng 114:492-4 N '40; Excerpt. Ry Age 109:619-20 N 2 '40

Failures

Annual report of Locomotive inspection bureau, year ended June 30, 1939. Ry Age 108:163-5 Ja 20 '40; Ry Mech Eng 114:52-5 F '40
Damaging effects of water in the cylinders. M. D. Franey. Ry Mech Eng 114:361 S '40
Research program covering axles, crank pins and bearings; A.A.R. subcommittee report. Ry Age 109:37-9 Jl 6 '40; Same. Ry Mech Eng 114:274-6 Jl '40
What water treatment has done for the Illinois central. il Ry Age 107:1002-5 D 30 '39

See also
Locomotive boiler explosions

Fireless

See Locomotives, Fireless

Fuel

Coal equivalents of fuels and power; Railway fuel and traveling engineers association committee report. Ry Mech Eng 114:501-3 N '40; Ry Age 109:622-3 N 2 '40
How much locomotive fuel can be saved. J. G. Crawford. Ry Age 109:618 N 2 '40; Same. Ry Mech Eng 114:489-90 N '40
Locomotive firing practices, coal; Railway fuel and traveling engineers' association committee report. Ry Mech Eng 113:472-3 N '39
Making screenings good locomotive coal; Railway fuel and traveling engineers committee report. Ry Age 109:621-2 N 2 '40; Same. Ry Mech Eng 114:500-1 N '40
Oil-burning firing practice, a trip with the fireman; Railway fuel and traveling engineers association committee report. Ry Mech Eng 114:499-500 N '40
Oil-firing practice; Railway fuel and traveling engineers' association committee report. Ry Mech Eng 113:476-7 N '39
Preparation, inspection and utilization of coal; Railway fuel and traveling engineers' association committee report. Ry Mech Eng 113:482-5 N '39
What a chief dispatcher thinks of fuel economy. T. O. Weeks. Ry Age 109:616-18 N 2 '40; Same cond. Ry Mech Eng 114:488-9 N '40

See also
Locomotives, Gas and Oil bunkering stations
Locomotives, Oil fired

Gearing

Inverseur de marche, actionné par de l'huile sous pression. diag Génie Civil 116:173 Mr 9 '40

History

Links in the history of the locomotive; the first four-cylinder locomotive, 1825. E. A. Forward. diags Engineer 170:108-9, 117-18 Ag 16-23 '40
Steam locomotive; its development and present position in railroad transportation. L. H. Fry. biblio il diags Franklin Inst J 230: 529-65 N '40

Inspection

Inspection, testing, and cleaning of air reservoirs; Master boiler makers' association committee report. il Ry Mech Eng 113:440-1 N '39
Responsibility of the locomotive maintenance officer and the federal inspector. J. M. Hall. Ry Mech Eng 114:444-6 N '40
Work of the Bureau of locomotive inspection. J. M. Hall. Ry Mech Eng 113:437-8 N '39

See also
Interstate commerce commission—Bureau of locomotive inspection

Length of service

Economic life of locomotives; effect of low utilization of the larger part of locomotive inventory on maintenance cost. J. R. Macken. Ry Age 109:333-4+ S 7 '40

Lubrication

A.A.R. Mechanical division report on lubrication of cars and locomotives. Ry Age 109: 9-11 Jl 6 '40

Manufacture

Geschweisste lokomotivzylinder. M. Reiter. il V D I 83:1223-4 N 18 '39
Quenched and tempered locomotive forgings. L. E. Grant and J. W. Crossett. il diags Ry Mech Eng 114:219-22 Je '40

Performance

Large American Mallet locomotives. H. Coble. il diags Engineer 169:127-30, 153-5 F 9-16 '40

Reconstruction

Combating locomotive obsolescence; improvements may be effected by reproportioning locomotive parts subject to renewal. J. L. Ryan. diags Ry Mech Eng 114:310-14 Ag '40; Same cond. Ry Age 109:106-9 Jl 20 '40
Dolling-up the Iron Horse; locomotive sheathed to give streamlined appearance. il Iron Age 146:35 S 12 '40

Repair

Economic life of locomotives; effect of low utilization of the larger part of locomotive inventory on maintenance cost. J. R. Macken. Ry Age 109:333-4+ S 7 '40
Improving railroad service. C. B. Hitch. Ry Mech Eng 114:433-5 N '40
Locomotive maintenance for long runs. L. Robinson. Ry Mech Eng 114:443-4 N '40
Master boiler makers' report on the renewal of fireboxes. R. W. Barrett and others. il diags Ry Mech Eng 113:542-5+ D '39
Methods for welding locomotive frames. diags Ry Mech Eng 113:550-1 D '39
Press fits. A. D. Hollis. Ry Mech Eng 114:25 Ja '40
Reconditioning carbon-steel springs; Point St Charles locomotive shops. il Ry Mech Eng 114:201-2 My '40
Scheduling of locomotives for classified repairs. F. B. Downey. Ry Mech Eng 113:489-91 N '39
Selecting machinery and tools for locomotive repairs. R. P. Dollard. Ry Mech Eng 113: 494-6 N '39
Use of machinery and tools in locomotive repairs. D. J. Sheehan. Ry Mech Eng 114:435-7 N '40

See also
Locomotive shops

Rods

Precision for the long haul; Lima locomotive works has devised special boring and inspection jigs. F. H. Colvin. il Am Mach 83:1002-3 N 29 '39
Quenched and tempered locomotive forgings. L. E. Grant and J. W. Crossett. il diags Ry Mech Eng 114:219-22 Je '40
Slotting rod bushings on a shaper. diags Ry Mech Eng 114:202 My '40
Two safety features in rod design. diags Ry Mech Eng 114:24 Ja '40
Whip stress in a locomotive main rod. M. W. Davidson. Engineering 150:117-20 Ag 9 '40

Runs

Enginehouse problems caused by long runs. F. J. Fahey. Ry Mech Eng 113:496-8 N '39
Utilization of locomotives; Railway fuel and traveling engineers' association committee report. Ry Mech Eng 113:471-2 N '39

LOCOMOTIVES—*Continued*

Sand supply

New sand valve for locomotive service. diag Ry Age 108:463-4 Mr 9 '40

Smoke problem

Armco blast plates for protection of concrete surfaces of bridges or tunnels from locomotive exhaust. diags Ry Age 108:459 Mr 9 '40

Handling coal fires in smoke-restricted territory; Railway fuel and traveling engineers association committee report. Ry Mech Eng 114:504-5 N '40

Smoke stacks

Welded smoke stacks replace cast iron. A. H. Carroll. il diags Am Mach 84:706-7 S 18 '40

Statistics

Locomotives ordered in 1939. W. H. Schmidt. il Ry Age 108:78-81 Ja 6 '40

Testing

Equalizing the flow of air through the locomotive grates. S. H. Acker. il diags Ry Mech Eng 114:140-3+ Ap '40

Measurement of cylinder power of high-speed steam locomotives. L. K. Botteron. Engineering 150:285-6 O 11 '40

Transportation

Shipping large electric locomotives to Brazil. T. F. Perkinson. il Marine Eng 45:75-7 My '40

Valves and valve gear

Applying link trunnion bushings in Walschaert valve-gear brackets. A. D. Hollis. diags Ry Mech Eng 114:78 F '40

Vibration

Vibration of rail and road vehicles. B. S. Cain. 258p biblog(p255-6) $5 Pitman '40

Wheels

A.A.R. committee report on wheels. diags Ry Mech Eng 114:251-4 Jl '40; Same, without diags. Ry Age 109:11-13 Jl 6 '40

Heavy passenger engines, South African railways. E. C. Poultney. diags Engineer 169:247-8 Mr 15 '40

Investigation into the occurrence and causes of locomotive tyre failures. C. W. Newberry. diags Inst Mech Eng J & Proc 142:Proc 289-303, pl 1-4 Ja '40; Discussion. 143:Proc 349-62, pl 5-8 O '40

Southern Pacific's method for semi-cross-balancing. M. P. Taylor. diags Ry Mech Eng 114:389-90 O '40

Tire-turning tool has cutter control. diags Ry Mech Eng 114:75 F '40

LOCOMOTIVES, Diesel

Developments in the application of the internal combustion engine to railway traction in Europe and North America; with transmission types and cost data. F. T. Barwell. diag Inst Mech Eng J & Proc 142: 18-20 Ja '40

Diesel engine frames; advantages of welding. M. Essl. il Steel 106:72, 74+ My 20 '40

Diesel engines underground; composition of exhaust gas from engines in proper mechanical condition. J. C. Holtz and others. biblog diags U S Bur Mines Rep of Invest 3508:1-48 '40; Excerpt. Power Pl Eng 44: 106 O '40

Diesel locomotive for Trinidad government railways. il Engineering 150:26-7 Jl 12 '40

Diesel locomotives in gassy mine workings of Belgium. A. Breyre and J. Fripiat. pls U S Bur Mines Rep of Invest 3527:1-17 '40

Hunslet 78-h.p. narrow-gauge oil locomotive for South Africa. il Engineering 148:537 N 10 '39; Engineer 168:504 N 17 '39

Oil-engined locomotive for Trinidad. il Engineer 169:578 Je 28 '40

Performance of Diesel locomotives in switching service; abstract and discussion. M. D. Raymond. il Ry Mech Eng 114:81 F '40

Testing

Water rheostat for testing Diesel locomotives. C. C. Whittaker. diags Ry Mech Eng 114:162-3 Ap '40

LOCOMOTIVES, Diesel-electric

Alco Diesel switchers. il Ry Mech Eng 114: 879-81+ O '40; Same. Ry Age 109:505-7+ O 12 '40

Baldwin builds 1,000 and 660-hp. Diesel-electric switchers. il Ry Age 107:992-5+ D 30 '39; Same. Ry Mech Eng 114:56-9+ F '40

Design, operation and maintenance of Diesel electric locomotives. H. V. Gill. diags Ry Mech Eng 114:437-40 N '40

Design, operation and maintenance of Diesel locomotives; with cost data. H. V. Gill. il Ry Mech Eng 114:131-6+ Ap '40

Diesel-electric locomotives; abstract. H. V. Gill. Mech Eng 62:820-1 N '40

Experience with Diesel-electric locomotives in Seaboard Florida service. E. H. Roy. il Ry Mech Eng 113:523-5; Discussion. 525-7+ D '39

Fuel stations for Diesels have interesting features; six installations on Southern. il plan Ry Age 108:782-3 My 4 '40

High-speed lightweight trains; comparison of Diesel-electric and steam locomotives. C. T. Ripley. Inst Mech Eng J & Proc 142:Proc 101-10 D '39; Same. Engineer 168:455-6, 479-81 N 3-10 '39; Excerpts. Metal Prog 37:74, 76 Ja '40

How to increase terminal locomotive efficiency; steam and Diesel-electric power compared. il Ry Age 108:249-53 F 3 '40

Instructions for maintaining Diesel-electric equipment. Ry Mech Eng 114:202-4, 409-11 My, O '40

Kansas City Southern-Louisiana & Arkansas streamliner Southern Belle. Ry Age 109: 474+ O 5 '40

Largest Diesel-electric passenger locomotive order placed by Atlantic Coast Line. Manuf Rec 109:23+ S '40

New lines in Mexico use Diesel-electric locomotives. T. F. Perkinson. il map Ry Age 108:169-70 Ja 20 '40

Rack-rail Diesel-electric locomotive for Pike's Peak. il Mass Transportation 35:361 D '39

Report of A.A.R. committee on development and use of oil-electric locomotives. Ry Age 109:34-5 Jl 6 '40; Same. Ry Mech Eng 114:272-3 Jl '40

Road foreman and the Diesel-electric locomotive. L. W. Powell. Ry Mech Eng 114: 505-7 N '40; Same cond. Ry Age 109:620-1 N 2 '40

Rock Island gets good results with 44-ton Diesel switchers. il Ry Age 107:879-81 D 9 '39

Speed in freight service demands horsepower. il Ry Age 108:930-3 My 25 '40

Sulzer 1,200-b.h.p. engine for Diesel-electric locomotive. il Engineering 148:597 N 24 '39

Trends in railroad motive power. S. Withington. il Elec Eng 59:144-6 Ap '40

World's first cog-railway Diesel-electric locomotive; Manitou and Pike's Peak railway. Mach 46:149 Ja '40

Cost of operation

Record of Diesel-electric locomotive operation and maintenance cost of selected railroads for a six months' test period; tabulation. Ry Age 109:35 Jl 6 '40; Same. Ry Mech Eng 114:272 Jl '40

LOCOMOTIVES, Electric. See Electric locomotives

LOCOMOTIVES, Fireless

Hochdruck-speicherlokomotive. diags V D I 84:104 F 10 '40

LOCOMOTIVES, Gas and oil

Oil-engined rail traction in 1939. il diags plan Engineer 169:43-5, 56-9, 82-5 Ja 12-26 '40

See also

Locomotives, Diesel

LOCOMOTIVES, Gas turbine
Proposed combustion-turbine locomotive; combined with hydraulic torque converter and coupling, and worm-gear drive. diag plan Ry Mech Eng 114:144-8 Ap '40; Same cond. Ry Age 108:588-90 Mr 30 '40

Turbine and condensing locomotives; Railway fuel and traveling engineers association committee report. Ry Mech Eng 114:503-4 N '40; Same abr. Ry Age 109:619 N 2 '40

LOCOMOTIVES, Industrial
See also
Tractors, Industrial

LOCOMOTIVES, Mine
Diesel engines underground; composition of exhaust gas from engines in proper mechanical condition. J. C. Holtz and others. bibliog diags U S Bur Mines Rep of Invest 3508:1-48 '40; Excerpt. Power Pl Eng 44: 106 O '40

Diesel locomotives in gassy mine workings of Belgium. A. Breyre and J. Fripiat. pls U S Bur Mines Rep of Invest 3527:1-17 '40

Hunslet 78-h.p. narrow-gauge oil locomotive for South Africa. il Engineering 148:537 N 10 '39; Engineer 168:504 N 17 '39

Reclaiming locomotive tires by flame cutting. il diags Coal Age 45:58 Mr '40
See also
Electric locomotives, Mine

LOCOMOTIVES, Oil-electric. See Locomotives, Diesel-electric

LOCOMOTIVES, Steam turbine
Turbine locomotive experiences. E. H. Livesay. il diags Engineer 169:366-8, 390-1, 410-11, 430-2 Ap 19-My 10 '40

LOCOMOTOR ataxia
Vitamin E; treatment of diseases of muscle weakness and nerve degeneration; abstract. F. Bicknell. Science 91:supp6 F 9 '40

LODGE, Sir Oliver, 1851-1940
Sketch. por Engineer 170:139-40 Ag 30 '40; Engineering 150:172-4 Ag 30 '40; Elec R (Lond) 127:169 Ag 30 '40; Mech Handling 27:231 O '40

LODGES (architecture)
Pittsburgh lodge for entertaining. il plan Arch Rec 87:75 Mr '40

Shooting Box, Cat Island plantation, Georgetown, S.C., views, plan and construction outline. Arch Forum 73:168-9 S '40

Winter sports lodge in Vermont. il plan Arch Rec 87:78-80 Mr '40

LODGING houses
Life in one room; a study of the rooming house problem in the borough of Manhattan. 119 l, 16 l pa 50c Community service soc, Committee on housing, 105 E. 22d st, New York '40

LOEFFLER boiler. See Boilers—Loeffler boiler

LOESS
Cleaning of coal by heavy liquids: Staatsmijnen-loess process. diags Mech Handling 26: 334-5 N '39

Iowa road carved through loess bluffs. il diag Eng N 125:277-9 Ag 29 '40

Nebraska in relation to the problems of pleistocene stratigraphy. A. L. Lugn. bibliog diags maps Am J Sci 237:851-84 D '39

LOEW'S, Incorporated
Another look. Mag of Wall St 66:679-80 S 21 '40

Consolidated income account for years ended Aug. 31, 1936-39. Comm & Fin Chr 149:4033 D 23 '39

LOEWY, Raymond Fernand, 1893-
Business consults the industrial designer; Raymond Loewy's work. C. M. Macko. por Barron's 20:20 Jl 15 '40

LOFT, Incorporated
Annual report. Comm & Fin Chr 150:2104-5 Mr 30 '40

Merger planned with Pepsi-Cola co. Comm & Fin Chr 151:2803 N 9 '40

LOG cabins
Bob Morrill has the answer; builds model log cabin with modern plumbing and electric equipment. il plan Dom Eng 155:45-7+ Mr '40

LOGAN-WALTER bill. See Administrative law—Judicial review

LOGANSPORT, Indiana
Family income and expenditure in nine cities of the east central region, 1935-36; v. 1, Family income. A. D. H. Kaplan, F. M. Williams and R. Heliman. map U S Bur Labor Statistics Bul 644:1-538 '39

LOGARITHMS
Trigonometric and logarithmic functions. H. R. Cooley and others. 142p $1.10 New York univ. press book store, New York '40

LOGGING. See Lumbering

LOGIC, Symbolic and mathematical
Mathematical logic. W. V. Quine. 348p bibliog(p333-40) $4 Norton '40

LOGS
To detect metal buried in logs. il Sci Am 162:351 Je '40

Transportation
New developments and trends in logging technique; with cost data. C. R. Townsend. il plan Pulp & Pa of Can 41:736-40 O '40 (to be cont)

One-runner logging sleighs. A. Koroleff. diags Pulp & Pa of Can 41:733-5+ O '40

Skidding with tractor and sulky. J. A. McNally. Pulp & Pa of Can (Convention no) 41:160+ [F] '40

LOGWOOD
Haiti logwood exports. Textile Col 62:388 Je '40

Manufacture of industrial extracts for textiles and leathers. K. Campbell. Chem & Ind 59:145-6 Mr 2 '40

LONDON, England
London in wartime. Economist 138:559-60 Mr 30 '40

Thoughts on decentralization. I. Brown. Arch Forum 72:49 Ja '40

Architecture
Imported from England: shopping centers featuring impressive bulk, main street revival, friendly landlord-tenant relations. il plan Arch Forum 73:133-6+ Ag '40

Bridges
New Wandsworth bridge, London. il diags Engineering 148:707-9, 720, pl 27 D 29 '39

New Waterloo bridge. il Engineering 148:545-6, 556, pl 20 N 17 '39

Roads, bridges, and tunnels in 1939. il diag Engineer 169:21-2, supp 4 Ja 5 '40

County council
Fifty years of the L.C.C. S. P. B. Mais. 160p bibliog (p160) 85c '39 Macmillan (Toronto)

Harbor
Port of London. A. Binns. il Engineering 150: 325-8 O 25 '40; Same. Engineer 170:261-3 O 25 '40

Industries
Industries in and around London. J. Holloway. il diags Engineer 168:537-9 D 1 '39

Rapid transit
British transit carries on. il Transit J 83: 436-8 N '39

London passenger transport; annual report. Engineering 148:504-5 N 3 '39

Transport in London; annual report. Elec R (Lond) 125:590 N 3 '39
See also
London—Subways

Subways
Flood prevention in the tube railways. Engineering 148:420-1 O 13 '39; il Engineer 168:542 D 1 '39

Shunt limit switches for control of London subway floodgates. il Engineer 169:121-2 F 2 '40

LONDON, England—Subways—*Continued*
Tube railway protection; electrically operated floodgates safeguarding the London underground railways. il Elec R (Lond) 126: 333-5 Mr 22 '40

Water supply

London's water supply. il Engineer 169:344-7 Ap 12 '40
Myddelton cup replica; presentation by British Ambassador to American society of civil engineers; a biographical note on Hugh Myddelton. Civil Eng 10:120-1 F '40

LONDON, Midland and Scottish railway
Annual general meeting, London. Economist 138:537-9 Mr 23 '40

LONDON stock exchange
Blueprint for Denham; possible evacuation from the present stock exchange. Economist 139:254 Ag 24 '40
British share prices, 1811-1850. A. D. Gayer, A. Jacobson and I. Finkelstein. R Econ Statis 22:78-93 My '40
Dow theory applied to the London stock exchange. C. B. Ormerod. 92p bibliog(pxiv) $3 Pitman '39
London active security prices and yields. Published in weekly numbers of the Economist
London market perks up. Barron's 20:1 Jl 29 '40
Members and unit trusts; may not hold any shareholding or interest in unit trust management companies. Economist 138:160-1 Ja 27 '40
Quotations of representative stocks. Published in weekly numbers of Commercial & financial chronicle
Stock exchange in wartime; report for the year to March 24, 1940. Economist 139:50-1 Jl 13 '40
Stock exchange, 1939. Economist 138:sup 10-11 F 17 '40
Stock exchanges. Published in weekly numbers of the Economist

LONDON university
Dispersal of schools. Science 92:142 Ag 16 '40
Extract from the report of the principal on the work of the University during the year 1939-1940. Chem & Ind 59:588-90 Ag 17 '40

Galton laboratory

Galton laboratory; new quarters; needs assistance. R. A. Fisher. Science 91:44-5 Ja 12 '40
Galton laboratory; ordered to evacuate. R. A. Fisher. Science 90:436 N 10 '39

Imperial college of science and technology
Annual report. Science 90:558-9 D 15 '39

LONE Star gas corporation
Annual report. Comm & Fin Chr 150:2582-3 Ap 20 '40
Thirty years of natural gas service. il maps Gas Age 86:21-70+ N 7 '40

LONG, George A. T.
Awarded honorary life membership by American foundrymen's association. por(p87) Foundry 68:170 My '40

LONG BEACH, California
City manager government in Long Beach. A. G. Miller. 47p pa 40c Public administration service, 1313 E. 60th st, Chicago '40
Pre-cast concrete piles for canal walls at Long Beach. J. W. B. Blackman. il diags Civil Eng 10:719-20 N '40
Who owns tideland? Business Week p22+ N 18 '39

See also
Housing—Long Beach, California

LONG distance telephone. See Telephone—Long distance

LONG ISLAND railroad
These three grade separations will cost $37,646,000; projects on Long Island railroad. il map Ry Age 108:737-40+ Ap 27 '40
Traffic statistics and operating results for calendar years 1936-39. Comm & Fin Chr 150:2106 Mr 30 '40

LONGEVITY
Geriatrics; newest medical specialty deals with the aging. B. M. Newman. Sci Am 163:190-2 O '40
Heavy water and longevity. H. G. Barbour and F. S. Hammett. Science 90:538-9 D 8 '39
Major causes of death, increase in life expectancy, and population changes in the United States. Pub Health Rep 54:2054-64 N 17 '39
Nutrition and diet; light on the growing-old process; abstract. C. M. McCay. Science 92:sup12+ O 25 '40

LONGITUDE
Laying out a time sight. T. P. Conlon. Aero Digest 35:67-8 D '39

LONGSHOREMEN
Bridges in a corner; strategy in negotiations for longshoremen's contract misses fire against united employers. Business Week p47 S 7 '40
Government control of port activity in Auckland, New Zealand. J. G. Groeninger. Monthly Labor R 50:1377-8 Je '40
International longshoremen's association fires on Bridges. Business Week p52-3 S 14 '40
Labor conditions in coastwise and intercoastal shipping. Monthly Labor R 50:65-6 Ja '40
Longshoremen and their homes. E. Ogg. 58p pa 10c Greenwich house, 27 Barrow st, New York '39
NLRB reverses; Puget Sound decision significant in light of the Labor board's internal troubles. Business Week p37-8 S 21 '40
Southeastern harbors tied-up by longshoremen's strike. Comm & Fin Chr 150:1367 Mr 2 '40
Wage increase for dock workers at Cristobal, Canal Zone. A. B. Sowell. Monthly Labor R 50:1228 My '40

LONGSHOREMEN'S and warehousemen's union, International. See International longshoremen's and warehousemen's union

LOOMS
Cloth faults traceable to reeds and healds. M. M. Taylor. il diag Textile Inst J 30: P450-62 D '39
Clutsom shuttleless loom. il Textile World 90: 89 O '40
High-speed photography and the study of rapid machine motions. V. Sepavich and A. Palmer. il Mech Eng 62:519-24 Jl '40
Improvements in electrical warp stops for looms. E. C. Smith. il diags Rayon 21:38-9 Ja '40
Loom inspection system. E. B. Hofford. Textile World 90:103 My '40
Loom supply costs should be gaged in comparison to efficiency. L. Burgess. Textile World 90:112 Je '40
Loomfixers' manual; cotton (cont). I. Moberg. il diags Textile World 89:89-90 D '39; 90:98-9 Ja; 147 F; 91-3 Mr; 98-9 Ap; 107-8 My; 99-101 Je; 95-6 Jl; 91-2 Ag; 126 S; 111-12 O; 137 N '40
Loomfixers' manual; rayon and silk (cont). H. E. Wenrich. il diags Textile World 89: 88-9 D '39; 90:146-7 F; 99 Ap; 101 Je; 90 Ag; 113 O '40
Loomfixers' manual; wool section (cont). B. F. Hayes. diags Textile World 90:100 Ja; 93 Mr; 108 My '40
Problem of weaving spun rayon fabrics; blended fabrics. A. Palmer. il diags Rayon 21:95-6, 162-4 F-Mr '40; Same cond. Textile World 89:56-8 D '39
Should spun rayons be woven on wide looms? A. Palmer. Rayon 21:361-2+ Je '40
Weaving seersucker; simple devices applicable to any loom. diags Textile World 90:141-2 F '40

See also
Weaving

LOREE, Leonor Fresnel, 1858-1940
Sketch. Comm & Fin Chr 151:1476-9, 1514-15 S 14 '40; Ry Age 109:369-70 S 14 '40

LORENTZ-FITZGERALD contraction
Theory of the double Fizeau toothed wheel. H. E. Ives. diags Opt Soc Am J 29:472-8 N '39

LORILLARD, P., company
Another look. Mag of Wall St 66:99 My 4 '40
Financial statistics; graph. Annalist 55:333 F 29 '40
Low-priced stocks paying dividends; thumbnail appraisal. Mag of Wall St 65:295 D 16 '39

LORING, Frank Curtis, d. 1939
Frank C. Loring. Mrs E. M. Loring. pors Can Min J 61:359-63 Je '40

LOS ANGELES
Nuestro Pueblo; Los Angeles, city of romance; drawings by C. H. Owens, text by J. Seewerker. 185p $2.50 Houghton '40
Port of Los Angeles. Comm Rep p89 Ja 27 '40
See also
Trade unions—Los Angeles

Architecture
Lay votes spotlight Los Angeles buildings. il map Arch Rec 87:16, 18 Mr '40

Bureau of power and light
Blitz hits the Bureau; Ford, Bacon & Davis report. Elec West 85:32-3 O '40

Industries
Los Angeles becomes style center. il Business Week p42+ S 14 '40
Why so much western merchandise is breaking into eastern markets; the Hollywood influence in clothes, furniture, gift wares and novelties. H. W. Wright. il Sales Management 47:16-18+ Jl 1 '40

Lighting
Lifesaving with light. R. T. Dorsey. il Elec West 85:34-5 S '40
Saving lives with light. R. T. Dorsey. Illum Eng 35:218-22 Mr '40
Streets made safer by sodium vapor lighting. il Eng N 125:426 S 26 '40

Railroads
Los Angeles station uses gas heat and power. R. M. Richter. Gas Age 85:19+ F 15 '40

Rapid transit
Ballot box'll get you; employees aid in political campaigns; Los Angeles railway. G. Gifford. Transit J 84:44-6 F '40

Sewerage
Los Angeles plans to spend $32,000,000 for handling sewage. map Eng N 124:315-16 F 29 '40
Sewage situation of the city of Los Angeles, abstract. F. Thomas. Water Works & Sewerage 87:323 Jl '40

Streets
Toll parkway proposed for Los Angeles. il plan map Eng N 124:332-3 F 29 '40

Water supply
Boron creates special problems in Los Angeles' water supply. Eng N 125:113-14 Jl 18 '40
Mono Basin project. il diags plan map Engineer 169:548-9, 566-7, 572 Je 21-28 '40
Mono Craters tunnel construction problems. H. L. Jacques. diags Am Water Works Assn J 32:43-56 Ja '40; Abstract. Eng N 124:325 F 29 '40
Mono Craters tunnel project; pumping and related equipment used. S. M. Dunn. il Am Water Works Assn J 32:1242-58 Ag '40
Quarter century of aqueduct maintenance; Los Angeles aqueduct; interview with J. E. Phillips. il diag Eng N 124:784-7 Je 6 '40
Water supply for infiltration galleries. Eng N 121:670-1 My 9 '40

LOS ANGELES lumber products company
Investor protection in reorganization. J. A. Panuch. Harvard Business R 19 no 1:28-30 [S] '40

LOS ANGELES stock exchange
Weekly record. Published in weekly numbers of Commercial & financial chronicle

LOSS leaders. See Price cutting

LOST customers. See Sales letters—Lost customers

LOTERY, Edward
Imported from England: shopping centers featuring impressive bulk, main street revival, friendly landlord-tenant relations. Arch Forum 73:133-6+ Ag '40

LOUD speaking apparatus
Armchair spectator conveyer-guide; train of moving chairs and sound system; General Motors Futurama at the 1939 New York world's fair. J. Dunlop and W. T. White. il diag Elec Eng 58:512-14 D '39
Broadcast music in workshops; radio, gramophone, loudspeaking apparatus. il Engineer 170:31-2 Jl 12 '40
Broadcasting as an aid to production; system for transmitting music, A.R.P. instructions and orders throughout the works. il Electrician 125:45 Jl 26 '40
Design of a 27-inch loudspeaker for the Lagoon of nations display at the New York world's fair. R. T. Bozak. il diags Electronics 13: 22-4 Je '40
Elaborate public address system for LaGuardia airport. Electronics 13:40+ Je '40
Flat-response battery remote amplifier. E. D. Hilburn. il diag Radio N 24:12-14+ Ag '40
Frequency-selective feedback for audio systems. W. N. Brown, jr. and E. W. Sheridan. Elec Eng 59:460-1 N '40
Interior service telephones; improved two-way loud speaker system. il diag Electrician 124:239 Mr 29 '40
Loud speakers on vehicles; experiences of various transit companies. Transit J 83:489 D '39
Loudspeaker system wraps up the power job at RCA mfg. co. il Power 84:12-13 Ja '40
Loudspeakers keep us all in step; S. C. Johnson & son, Racine. J. Collier. il Factory Management 98:88, 90 Jl '40
Low-voltage systems for schools; sound distribution; time-saver standards. diags Arch Rec 88:104 O '40
Multi-purpose truck is ambassador of good will; equipped to furnish light, power or public-address service; Portland general electric co. W. W. R. May. il Elec W 113: 280-1+ Ja 27 '40
New speaker cuts dead spots. il Radio N 24: 13 Jl '40
1940 full-range amplifier. O. Read and K. A. Kopetzky. il diags Radio N 22:6-9+ D '39; 23:12-15+ Ja; 24+ F '40
Power-supply and public-address systems at the New York fair. P. L. Giering and J. G. Lawrence. il Elec Eng 59:204-5 My '40
Radio phones on elevator cars. W. Devaughn. il Power 84:670 O '40
Serviceman's money page; directory of orchestras using amplifying equipment. Radio N 24:35+ Jl '40
Speak plainer please: bus terminals inadequate public address systems. J. G. McDaniel. Bus Transportation 19:382-3 Ag '40
War comes to the British radio servicemen; loud speakers in air raid protection. E. J. G. Lewis. il diags Radio N 23:6-8+ My '40
See also
Microphones
Radio loud speakers

Testing
Build your own audio oscillator; precision instrument for the public address serviceman. R. P. Turner. il diags Radio N 24:12-14+ O; 19-22+ N '40

LOUDNESS. See Sound—Measurement

LOUISIANA
See also
Petroleum industry and trade—Louisiana

Industries and resources
Louisiana's shrimp industry. il Manuf Rec 109:50 F '40
New industries for Louisiana. il map Manuf Rec Extra no 109:134-42 S '40

LOUISVILLE, Kentucky
Annexation fight; effort to absorb little Shively's big distilleries balked. Business Week p28+ N 16 '40

LOUISVILLE, Kentucky—*Continued*

Architecture

Record poll in Louisville. il map Arch Rec 87:17-20 My '40

LOUISVILLE, Kentucky. University

Centennial history of the University of Louisville, written by Kentucky writers' project of the Work projects administration. 301p bibliog(p267-80) $1.50 Standard ptg. co, Louisville, Ky. '39

LOUISVILLE and Nashville railroad

ICC approves bond financing. Comm & Fin Chr 150:843 F 3 '40

$60,000,000 bonds offered. Comm & Fin Chr 149:4178-9 D 30 '39

Telephone communication on the L. & N. il map Ry Age 108:969-71 Je 1 '40

Traffic statistics and comparative income account for years 1936-39. Comm & Fin Chr 150:2731 Ap 27 '40

LOUNGE cars

Nickel Plate gets two club-lounge cars. il Ry Age 109:584-5 O 26 '40

LOUNGING units. See Living rooms

LOUVERS

Three ways of obtaining louvres shown, production cost reduced; automobile heater. diags Steel 107:73 Ag 12 '40

LOUVERS (lighting)

Plastic sheeting with louvers for lighting fixtures. il Manuf Rec 109:33+ N '40

LOVEJOY, Arthur Oncken, 1873-

Honorary degrees conferred by Princeton university. Science 91:591 Je 21 '40

LOVIBOND glasses

Means of measuring turbidity and fluorescence using the Lovibond tintometer fitted with Rothamsted device. G. S. Fawcett and J. Hewitt. diag Soc Chem Ind J 58:342-4 N '39

LOW melting alloys. See Alloys, Low melting

LOW temperature. See Temperature, Low

LOWELL, Massachusetts

Industries

Lowell; a study of industrial development. M. T. Parker. 238p bibliog(p217-23) $2.25 Macmillan '40

LOYALTY group

Annual statements, 1939. East Underw 41:42 Mr 15 '40

LUBRICATING grease institute, National. See National lubricating grease institute

LUBRICATING greases

Anti-freezing grease. Chem Age (Lond) 42: 185 Mr 30 '40

Development of a new thread lubricant. H. J. Beckert and W. M. Frame. il Am Pet Inst Proc 21M(4):24-37; Discussion. 37-40 My '40

Flow characteristics of lime-base greases. J. F. T. Blott and D. L. Samuel. bibliog diag Ind & Eng Chem 32:68-72 Ja '40

Glycerine in grease lubricants. G. Leffingwell and M. A. Lesser. Mach 46:242 D '39

Grease the conveyor on the move. W. F. Jones. il Factory Management 98:79 My '40

Standard rating adopted for grease consistency. Nat Pet N 31:31 N 29 '39

Analysis

Analysis and testing of lubricating greases. M. W. Webber. Inst Pet J 26:273-83; Discussion. 284-93 Je '40

Manufacture

How specialty lubricants are made; Lubri-Zol corp, Cleveland. D. M. Considine. flow diag il Chem & Met Eng 47:230-3 Ap '40

Versatility in fatty acid selection sharpens control in grease making. D. V. Stingley. bibliog il Nat Pet N 32:R360, R362 O 2 '40

Testing

Analysis and testing of lubricating greases. M. W. Webber. Inst Pet J 26:273-83; Discussion. 284-93 Je '40

Improved mobilometer for measuring consistency of fluid and semifluid greases; Standard inspection laboratory, Bayonne, N.J. K. C. Combes, C. S. Ford and W. S. Schaer. bibliog diags Ind & Eng Chem Anal ed 12:285-7 My 15 '40

Practical methods of testing lubricants for anti-friction bearings. J. H. Evans. pls diags Inst Pet J 25:729-50 N '39

Propose new dropping point test for grease softening quality. diags Nat Pet N 32:R325 S 4 '40

LUBRICATING oil industry

Home, peace-time markets at new high levels in '40. Nat Pet N 32:27-8 Ja 24 '40

New lube contracts limit volume purchasers may order shipped. Nat Pet N 32:31-2+ F 28 '40

1000-mile lube sales campaign. il diags Nat Pet N 32:25-8, 30, 32 Je 26; 25-6, 28, 30+ Jl 10; 25-6+ Jl 24; 25-6+ Ag 7; 32, 34+ Ag 21 '40

Spread of mechanized farming creates huge market for gas, oil and grease, survey shows. il Sales Management 46:25-6 My 1 '40

Suit charges reclaimed oil sold as Penn. Nat Pet N 32:13+ S 11 '40

Statistics

Lubricants, 1936-1939. Survey of Cur Business 1940 Sup p121 [supplemented in monthly numbers]

Lubricating-oil markets level off as stocks increase. Oil & Gas J 38:43 F 22 '40

Lubricating oil production, revision; monthly, 1923-June, 1940. Fed Res Bul 26:871 Ag '40

U.S. lube exports to Europe cut 50%. Nat Pet N 32:21 Je 26 '40

LUBRICATING oils

Aircraft engines and their lubrication. A. Nutt. il S A E J 45:511-12 D '39

Bearing failures accelerated by metallic soap detergents; abstract. H. R. Wolf. Nat Pet N 32:R418 N 13 '40

Bearings and lubrication; composite of abstracts. Metals & Alloys 11:MA278+ My '40

Better oils, frequent changes, cure for varnish. F. F. Kishline. Nat Pet N 32:34, 36-7 Ja 31 '40

Centralized lubrication; paper machines, calenders, and other paper mill machinery. G. H. Kauffeld, jr. Paper Tr J 110:35-6 My 23 '40

Chemistry and physics of lubrication as applied to modern transportation. M. R. Fenske, C. E. Stevenson and R. E. Hersh. Nat Pet N 31:R471, R474, R476-7 N 15 '39

Computation of some physical properties of lubricating oils at high pressures. R. B. Dow and C. E. Fink. J Ap Phys 11:353-7 My '40

Conservation of lubricating oil. A. H. Stuart. Engineering 149:177-8 F 16 '40

Cylinder lubrication with superheated steam. W. G. Forbes. il Power 84:681-2 O '40

Deterioration factors in Diesel lubricants. C. G. A. Rosen. Nat Pet N 32:R152, R154-5 My 1 '40

La disette d'huile de graissage en Allemagne. G. Kimpflin. Génie Civil 116:100-2 F 10 '40

Effect of petroleum products on neoprene vulcanizates; effect of lubricating oils. D. F. Fraser. bibliog il Ind & Eng Chem 32: 320-3 Mr '40

Effect of petroleum products on neoprene vulcanizates; effect of lubricating oils; abstract. D. F. Fraser. Chem & Ind 59:649-50 S 14 '40

Estimating oil viscosity at zero degrees. S A E J 47:sup17 S '40

German lubricating oil. Chem Age (Lond) 42:84 F 10 '40

How to lubricate cylinders on wet steam. W. G. Forbes. il diags Power 84:609-10 S '40

Importance of additives in lubricants; symposium at semiannual meeting of National petroleum association. il Oil & Gas J 38:58+ Ap 25 '40

Longer life for Diesel lube oils. S. S. Hansen. diag Power 84:588-9+ S '40

LUBRICATING oils—*Continued*
Lubricating oil for internal combustion engines; abstract and discussion. L. H. Mullt and F. W. Kavanagh. S A E J 47:sup 12-13 S '40
Lubrication of steam-turbine driven electric generators. F. J. Cowlin. bibliog il diags Inst Mech Eng J & Proc 143:Proc 83-100 My '40
New method for studying the properties of lubricating oils based on the use of a new instrument; automatic recording tensiometer. P. Lecomte du Noüy. Science 91:341-2 Ap 5 '40
95% lubricant satisfaction not enough; utilization of addition agents. G. A. Round. il Nat Pet N 32:R149-50 My 1 '40
Oil and fuel for heavy duty engines; abstracts. C. M. Larson. Automotive Ind 82: 571-2 Je 15 '40; Nat Pet N 32:R224+ Je 12 '40
Oil filtration; general survey and some specific considerations of basic principles. A. H. Stuart. Automobile Eng 30:213-16 Jl '40
Oil oxidation problems; abstract. J. R. Sabina. S A E J 46:sup28 My '40
Oiling oil; wear-prevention by means of addition agents. Sci Am 163:264 N '40
Oxidation inhibitors act 3 ways; abstract. L. L. Davis and others. Nat Pet N 32:R365 O 2 '40
Performance test; lubricants, fuel feeding, etc.; Diesel-electric buses in New York; abstract. W. C. Cumming and C. Brettell. il diag Automotive Ind 82:332-4+ Ap 1 '40
Piston deposits, ring sticking, varnishing and ring clogging. W. A. Gruse and C. J. Livingstone. bibliog Inst Pet J 26:413-29, pl 1-4 S '40; Same. Automobile Eng 30:374-9 N '40; Same cond. Engineer 170:352-3 N 29 '40
Polybutenes; properties and uses in petroleum products. R. M. Thomas and others. bibliog il Ind & Eng Chem 32:299-304 Mr '40
Service performance of eight lubricating oils in automobile engines. H. A. Everett and G. H. Keller. il diags Penn State College, Eng Exp Sta Bul 50:1-39 bibliog(p37-8) '40
Significance of an oil analysis. H. E. Rose. il diags Power Pl Eng 44:57-60 O; 90-2 N '40
Significance of viscosity in the use of petroleum oils. W. L. Nelson. Oil & Gas J 38: 46 N 23 '39
Steam turbine lubrication. W. G. Forbes. il Marine Eng 45:55-6 Je; 82, 84 Jl; 84+ S; 77-8 O '40
Stream-line filters, ltd. il Chem & Ind 59:456-7 Je 29 '40
Study of monolayers of some esters and chlorinated derivatives possibly useful as lubricating addition agents. G. L. Clark and J. V. Robinson. bibliog Am Chem Soc J 62:1948-51 Ag '40
Les supercarburants et les superlubrifiants au Congrès de l'Association française pour l'avancement des sciences (Liége, 17-22 juillet 1939). Génie Civil 116:183-5 Mr 16 '40
Les supercarburants et les superlubrifiants synthétiques au Congrès de l'Association française pour l'avancement des sciences (Liége, 17-22 juillet 1939). C. Berthelot. Chimie & Ind 43:539-48 Ap 5 '40
Turbine oil practice. Elec W 113:1207-8 Ap 20 '40
Über die chemische konstitution der kraft- und schmierstoffe; abstract. H. Bütefisch. Angew Chemie 52:649 O 28 '39
Use of chemical additives in lubricating oils. J. P. Stewart, R. C. Moran and C. M. Reiff. Nat Pet N 32:R88-9 Mr 20 '40
Viscosity index chart for lubricating oils. E. M. Sims. Power Pl Eng 44:88 My '40
Viscosity index of lubricating oils. E. W. Dean, A. D. Bauer and J. H. Berglund. bibliog il Ind & Eng Chem 32:102-7 Ja '40
What makes a good steam-engine-cylinder oil? W. G. Forbes. il diags Power 84:362-4 Je '40

See also
Lubrication and lubricants

Analysis
Detection and determination of ethylene glycol in lubricating oil. H. Lamprey, E. E. Sommer and A. D. Kiffer. bibliog Ind & Eng Chem Anal ed 12:526-7 S 15 '40
Determination of sludge in used or oxidized motor oils. C. G. Ludeman. bibliog Ind & Eng Chem Anal ed 12:520-5 S 15 '40
Longest solvent extraction column used in lubricating oil analysis; abstract. E. R. Weidlein. Nat Pet N 32:R174 My 15 '40
Significance of an oil analysis. H. E. Rose. il diags Power Pl Eng 44:57-60 O; 90-2 N '40

Manufacture
Comb lube oil distillate to sift out undesirables. M. R. Fenske and R. E. Hersh. Nat Pet N 32:R350-2 S 18 '40
Current research work at University of Birmingham, England, on principles and methods of refining lubricating oil and paraffin wax. T. Brown. bibliog Oil & Gas J 38:103+ D 28 '39
Fundamentals of solvent refining operation. E. W. Gard and E. G. Ragatz. diags Oil & Gas J 39:49-50+ Je 6 '40
How specialty lubricants are made; Lubri-Zol corp, Cleveland. D. M. Considine. flow diag il Chem & Met Eng 47:230-3 Ap '40
Lubricants from fatty acids; methods of extraction now in use for the production of synthetic oils. Chem & Ind 59:664 S 21 '40
Mixture of ketones used to dewax motor lubricants. A. J. Mueller. flow diag Oil & Gas J 38:54+ Ap 18 '40
Oil for your automobile engine. C. H. Vivian. il diag Comp Air M 45:6094-101 Mr '40
Refining Pennsylvanian oils with furfural. F. T. Mertens. flow sheet il Oil & Gas J 39: 47-8 N 7 '40
Sinclair adds lube plant to refinery. W. T. Ziegenhain. il Oil & Gas J 39:12 Ag 29 '40
Some variables in filter clays. L. M. Henderson, C. M. Ridgway and W. B. Ross. Am Pet Inst Proc 21M(3):30-6 My '40; Same. Nat Pet N 32:R193, R195, R197-9 My 29 '40; Discussion. Am Pet Inst Proc 21M(3):36-8 My '40
Synthesis of lubricating oils by condensation reactions; the condensation of chlorinated paraffin wax with aromatic hydrocarbons. W. R. Wiggins, T. G. Hunter and A. W. Nash. bibliog Inst Pet J 26:129-45 Mr '40
Thermometric measurement in the refining of Pennsylvania oils. P. M. Robinson. il Ind & Eng Chem News ed 18:441-3 My 25 '40
Voltol process for making high-viscosity lubricating oil; abstract. E. C. Isom. Oil & Gas J 38:49 Ja 4 '40

Prices
Government's service station contracts run higher than current retail prices; with schedule of contracts, by states, July 1, 1940 to June 30, 1941. Nat Pet N 32:34, 36, 38 Jl 10 '40

Rating
Automobile oils, summer grades. Consumers' Research Bul (Gen bul ser) 9:20-1 Je '40

Specifications
Zero-Fahrenheit viscosity of winter lubricating oils. Automotive Ind 83:518+ N 1 '40

Testing
Carbon residue test not closely related to performance. W. T. Nelson. bibliog Oil & Gas J 38:48+ Ja 11 '40
Catalytic effect of metals on the ageing of lubricating oil for Diesel engines. H. L. Matthijsen. pl diags Inst Pet J 26:72-90 bibliog(43 references, p89-90) F '40
Effect of lead in gasoline on crankcase oils. Oil & Gas J 38:54 D 7 '39
Evaluates lube additive in million-mile test. R. D. Best. Nat Pet N 32:R16 Ja 10 '40
How can cylinder oils be tested? Power Pl Eng 43:807 D '39; 44:81-2 F '40
Laboratory method for evaluating the influence of lubricating oils on carbon deposition in internal-combustion engines. H. A. Everett and G. H. Keller. il diags Pennsyl-

LUBRICATING oils—Testing—*Continued*
vania State College Eng Exp Sta Bul 48:1-36 bibliog(p33-5) '39 (pa 50c); Excerpt (table). Nat Pet N 32:R274 Jl 24 '40; Abstract. Engineering 148:676-8 D 15 '39
Motor oil oxidation test developed. Nat Pet N 32:R352 S 18 '40
Oxidation of lubricating oils; abstract. E. A. Evans. Engineer 170:7 Jl 5 '40; Same. Chem Age (Lond) 43:71 Ag 10 '40
Proposed method of test for neutralization number of used aviation oils. Am Soc T M Proc 39:411-13 '39
Show motor oil varnish tendencies with single-cylinder test engines. il diag Nat Pet N 32:R314-15, R317-18+ S 4 '40
Some remarks regarding the testing of engine lubricants. C. A. Bouman. Inst Pet J 25: 771-8 D '39
Static friction of lubricated surfaces. A. Fogg and S. A. Hunwicks. Inst Pet J 26:1-18 Ja '40; Same cond. Engineer 170:206-7, 214-16 S 27-O 4 '40
Synthesis of lubricating oils by condensation reactions; the engine testing of synthetic lubricating oils. W. R. Wiggins, T. G. Hunter and A. W. Nash. Inst Pet J 26: 225-34 My '40
Tentative laboratory test for the ring-sticking properties of lubricants. J. C. McNicol, C. G. Williams and P. V. Lamarque. pls diag Inst Pet J 25:751-9 N '39
Testing oils in small engines; abstract. A. O. Willey and C. F. Prutton. il Automotive Ind 82:571 Je 15 '40

Transportation

Go-devil separates oil slugs in 3.5-mile lube pipeline used for transferring stocks from tankers at dock on Detroit river to storage. il Nat Pet N 32:R278-9 Ag 7 '40

LUBRICATION and lubricants
Barium, a new lubricant for use in X-ray tubes. il Gen Elec R 43:471 N '40
Bearing metals from the point of view of strategic materials. H. W. Gillett, H. W. Russell and R. W. Dayton. bibliog diags Metals & Alloys 12:274-83, 455-63, 629-39 S-N '40
Boundary lubrication explained by polishing and wedging agents; abstract. O. Beeck and others. il Nat Pet N 32:R364-5 O 2 '40
Chemical plant lubrication; Chem. & Met. report. bibliog il diags map Chem & Met Eng 47:169-78 Mr '40
Considerations in valve lubrication. G. F. Scherer. diags Chem & Met Eng 47:164-5 Mr '40
Cylinder-oil lubrication chart. V. J. Kosmatka. Power 84:125 F '40
Fixing hosiery machines; systematic lubrication. J. W. Hughes. diags Textile World 90:67-8 Ag '40
For faster run-in; colloidal graphite added to oil. il Am Mach 84:507 Jl 10 '40
Friction and surface finish; conference at Massachusetts institute of technology, June 6-8. Automotive Ind 82:sup 11+ Je 15 '40
Friction and temperature as criteria for safe operation of journal bearings. S. A. McKee. bibliog J Research Nat Bur Stand 24:491-508 My '40
Fundamental mechanical aspects of boundary lubrication. H. Blok. diags S A E J 46:54-68 F '40
Glycerine as a lubricant. G. Leffingwell and M. A. Lesser. Mach 46:99 F '40
Hypoid-lubricant requirements for passenger-car and truck rear axles. H. R. Wolf. bibliog il Am Pet Inst Proc 20(3):16-22 '39; Same. Oil & Gas J 38:162+ N 17 '39; Same cond. Nat Pet N 31:32-4, 36-7 N 15 '39; Discussion. Am Pet Inst Proc 20(3):22-4 '39
It's not the oil you use that costs; Caterpillar tractor co. E. Appleby. il Factory Management 98:102, 104, 106 F '40
Lubricant must spread over surface; abstract. F. L. Thompson. Coal Age 45:68+ Ag '40
Lubricants and their relation to textile factories. R. Harris. Textile Col 62:307-10 My '40
Lubrication and wear of metals. Min & Met 21:158 Mr '40
Lubrication as part of the maintenance program; contribution by Engineering division of Esso marketers. Ind Chem Ind 45:541-4 N '39
Lubrication in vacuum by vaporized thin metallic films. Z. J. Atlee, J. T. Wilson and J. C. Filmer. il diag J Ap Phys 11:611-15 S '40; Abstract. Sci Am 163:264 N '40
Lubrication of tanks. R. Marsh. Nat Pet N 32:19-20 S 25 '40
Lubrication; safety measures. il Nat Safety N 41:83+ Mr '40
Metallic lubricant for X-ray tubes. Comp Air M 45:6269 O '40
Nature of graphite impurities governs lubricating quality; abstract. E. S. Glauch. Nat Pet N 32:R382 O 16 '40
New gear and bearing lubricant introduced by Sterling motor truck co. Steel 107:69 Ag 12 '40
Oil well; proper lubrication of machine tools and other equipment for reduced maintenance and greater output. H. E. Linsley. il Am Mach 84:568-9 Ag 7 '40
Our oilers are proud of their jobs; AC spark plug division, General motors corporation. E. J. Kelly. Factory Management 98:84-6 S '40
"Plenty of oil" not enough. J. E. Hyler. il Power Pl Eng 44:52-3 Jl '40
Properties and performance of plastic bearing materials. L. M. Tichvinsky. bibliog diags Mod Plastics 17:54-7, 70, 72 My '40
Protection of lubrication in the cement mill. A. F. Brewer. il Rock Prod 43:64,66 Ag '40
Roll neck lubrication. H. D. Kolb. il Blast F & Steel Pl 27:1137-40 N '39
Studies in lubrication; electrolytic models of full journal bearings. F. Morgan, M. Muskat and D. W. Reed. il diags J Ap Phys 11:141-52 F '40
Studies in lubrication; lubrication of plane sliders. F. Morgan, M. Muskat and D. W. Reed. il diags J Ap Phys 11:541-8 Ag '40
Studies in lubrication; the effect of the pressure variation of viscosity on the lubrication of plane sliders. M. Muskat and H. H. Evinger. bibliog diags J Ap Phys 11:739-48 N '40
Studies in lubrication; the lubrication of plane sliders of finite width. M. Muskat, F. Morgan and M. W. Meres. J Ap Phys 11:208-19 Mr '40
Substitute materials in time of war; research in Charlottenburg, 1915-1917. G. Schlesinger. Engineer 170:136 Ag 30 '40
Too hot for oil? suspension of graphite often solves problems. il Am Mach 84:747 O 2 '40

See also
Airplane engines—Lubrication
Automobile engines—Lubrication
Automobiles—Lubrication
Bearings
Graphite
Locomotives—Lubrication
Lubricating greases
Lubricating oil industry
Lubricating oils
Lubricators
Oil reclamation
Rolling mills—Lubrication
Steam turbines—Lubrication
Steam turbines, Marine—Lubrication
Wire rope—Lubrication
also Alemite corporation

Patents

Lubricant additive dispute is brought into court. Nat Pet N 32:R16 Ja 10 '40
Recent patent for lubricants; issued to William L. Evers, of Woodbury, N.J., and assigned to Socony-vacuum oil co. Ind & Eng Chem News ed 18:266 Mr 25 '40
200 lubricant additive patents issued in 1938 and 1939. M. G. Van Voorhis. Nat Pet N 32:R66-7+ Mr 6 '40

Standards

A.S.T.M. standards on petroleum products and lubricants. 336p pa $2 Am. soc. for testing materials, 260 S. Broad st, Philadelphia '39

LUBRICATION and lubricants—*Continued*

Study and teaching

Teaching lubrication. L. J. Bradford. J Eng Educ 30:870-9; Discussion. 879-86 Je '40

Testing

A.S.T.M. standards on petroleum products and lubricants. 336p pa $2 Am. soc. for testing materials, 260 S. Broad st, Philadelphia '39

Axle and transmission lubrication. W. S. James. il diags S A E J 47:312-23; Discussion. 323-4 Ag '40

Behaviour of various engine and gear lubricants in seizure tests. D. Clayton. pls Inst Pet J 25:709-28 N '39

Development of a new thread lubricant. H. J. Beckert and W. M. Frame. il Am Pet Inst Proc 21M(4):24-37; Discussion. 37-40 My '40

Extreme pressure lubricant tests with pretreated test-pieces. J. P. Baxter, C. I. Snow and I. T. Pierce. bibliog Inst Pet J 25:761-70, pl 1-4 D '39; Excerpt. Automobile Eng 30:139 Ap '40

Four-ball apparatus predicts hypoid lube performance. H. R. Kemmerer and F. L. Garton. il diag Nat Pet N 31:R551-2+ D 27 '39

Hypoid lubricants for truck axles. E. W. Upham. Automotive Ind 82:74-5 Ja 15 '40

Influence of various lubricants on the seizure characteristics of hard steel and bronze. D. Clayton. il Engineering 149:131-5, 144 F 9 '40

Lubrication; tests and results; abstracts of ASME papers. Power 83:834 Mid-D '39

Practical methods of testing lubricants for anti-friction bearings. J. H. Evans. pls diags Inst Pet J 25:729-50 N '39

Scope of Pure Oil test laboratories broadened. il Automotive Ind 83:12-17 Jl 1 '40

Some experiments on seizure between lubricated hard steel balls. D. Clayton. bibliog diags Inst Pet J 26:256-71 My '40

Static friction of lubricated surfaces. A. Fogg and S. A. Hunwicks. Inst Pet J 26:1-18 Ja '40; Same cond. Engineer 170: 206-7, 214-16 S 27-O 4 '40

Test laboratory has unique control; regulation of equipment effected from seat of car being tested; automotive laboratory of Atlantic refining company. il Automotive Ind 81:574-6+ D 1 '39

Testing of lubricants; reporter's summary of papers. E. A. Evans. Inst Pet J 25:791-3; Discussion. 793-800, pl 1 D '39

Wear-load characteristic of the four-ball test with various lubricants. R. Schnurmann. Engineering 149:567-8 Je 7 '40; Discussion. 150:115, 216, 236-7 Ag 9, S 13-20 '40

Wear phenomena in lubricated metal surfaces. A. S. T. Thomson and R. Logan. diags Engineer 170:200-1 S 27 '40

See also
Lubricating oils—
Testing

LUBRICATION and lubricants (cutting and grinding)

Cutting fluids for machining operations; data sheets. Mach 46:91 Ag; 47:109 S; 115 O '40

Cutting fluids; recent developments. Automobile Eng 30:175-9 Je '40

Cutting oils and their application; sulfurized oils. T. B. Langdon. Mach 46:93-4 Mr '40

Industrial data sheet; temperature control for piston grinding. G. E. Hersam. il Elec West 84:41 Mr '40

Influence of various lubricants on the seizure characteristics of hard steel and bronze. D. Clayton. il Engineering 149:131-5, 144 F 9 '40

Periodic checking up of cutting oils. W. F. Schaphorst. Mach 46:124 Mr '40

Precise dilution of cutting fluid. Engineering 149:594 Je 14 '40

Skin infections from cutting oils. Nat Safety N 41:146 Mr '40

Skin troubles and machine tools. A. Duckham. Engineer 169:501-2 My 31 '40

Sternopal dilutometer for accurate determination of Sternopal cutting fluid concentrations. il Automobile Eng 30:244 Ag '40

Substitute materials in time of war; research in Charlottenburg, 1915-1917. G. Schlesinger. Engineer 170:136-7 Ag 30 '40

Surface quality of an S.A.E. 3140 steel; profilograph study; various combinations of speeds, structures, and cutting fluids. O. W. Boston and W. W. Gilbert. il Mech Eng 62:787-8 N '40

LUBRICATION and lubricants (metal drawing)

Deep drawing tests for sheet metal. H. S. Swift. diag Iron Age 145:34-7 Je 13 '40

Flow of metals. G. Sachs. diags Iron Age 145: 37-9 F 8 '40

Laboratory control of drawing compounds on porcelain enamel metals. D. J. Benoliel. diag Am Cer Soc Bul 19:259-62 Jl '40

Self-lubricating wire. Iron Age 145:45 Ap 25 '40; Same. Mach 46:129 Ag '40

LUBRICATORS

Automatic lubrication. W. O. Wright. il diags Product Eng 11:60-3 F '40

Automatic lubrication of production machines; International business machines corp. F. M. Hewitt. il Iron Age 145:36-9 F 29 '40

Bijur hydraulic lubricator pumps. il Automotive Ind 82:162-3 F 15 '40

Bromley Mykrofeed lubricator unit. il diag Am Mach 84:70 F 7 '40; Power 84:126 F '40; Steel 106:80 F 19 '40; Chem & Met Eng 47:251 Ap '40

Centralized lubrication; paper machines, calenders, and other paper mill machinery. G. H. Kauffeld, jr. Paper Tr J 110:35-6 My 23 '40

De Laval force feed lubrication system. il Blast F & Steel Pl 27:1167 N '39

Hennessy mechanical lubricator for A.A.R. journals. il Ry Age 108:1130-1 Je 22 '40

Lubrication by force feed. J. I. Clower. il diags Power 84:210-11, 304-5 Ap-My '40

Lubrication of steam-turbine driven electric generators. F. J. Cowlin. bibliog il diags Inst Mech Eng J & Proc 143:Proc 83-100 My '40

Lubricator eliminates coupling troubles. W. Devaughn. il diag Power 84:316-17 My '40

Machine tool oiling; recent developments in high-pressure systems. il Automobile Eng 30:149-51 My '40

Review of power and mechanical equipment; lubricating equipment. il diags Power 83: 804-5 Mid-D '39

Simplex automatic lubricator incorporates neoprene ball. diag Am Mach 84:311 My 1 '40; Sci Am 163:124 S '40

Spinning frame oiled in 1 min. il Textile World 89:105 N '39

LUCAS, George L. 1877-
Sketch. por Civil Eng 9:749 D '39

LUCAS, Julian
Portrait. Weekly Underw 143:434 Ag 31 '40

LUCITE

Lucite used for luminous ceiling; cocktail lounge at St Francis hotel, San Francisco. il Elec W 114:1354+ N 2 '40

See also Methyl methacrylate; Plastic materials, Transparent

LUDLITE

Stainless steel lumber. il Sheet Metal Worker 31:38 Jl '40

LUDLOW FERRY, Maryland

Long piles and floating caissons for Potomac River bridge piers. il diags Eng N 124: 306-10 F 29 '40

LUMARITH

Plastic makes first appearance as semi-structural material. il Arch Rec 86:48 D '39

LUMBER

Lumber requirements for nonfarm residential construction. F. J. Hallauer. diags map U S Agric Misc Pub 347:1-39 '39

Newly perfected lumber process of Joseph A. Hartig. L. S. Schnitman. Barron's 20:5 Je 24 '40

Timber research and timber structures. I. D. S. Kelly. bibliog il Civil Eng 9:727-30 D '39

LUMBER—*Continued*
Wood; new ideas and methods in wood construction and recent improvements in lumber. il diags map Am Bld 62:43-90 Ja '40

See also
Mine timber
Pine
Wood

Grading

Lumber grade-use guide. Am Bld 62:72-5 Ja '40
Order your lumber by grade. diag Am Bld 62:48 Ja '40

Standards

ASTM structural timber grading standard now approved by ASA as American standard. L. J. Markwardt. diags Ind Stand 11: 58-61 Mr '40

LUMBER camps
Care and stabling of horses. J. W. Sutherland. diags plan Pulp & Pa of Can (Convention no) 41:163-4, 166, 168 [F] '40
Jobbers camps. J. N. Fitzgerald. plans Pulp & Pa of Can (Convention no) 41:169-70 [F] '40

LUMBER drying
Air seasoning and kiln drying of wood. H. L. Henderson. 2d ed 332p bibliog(p310) $3.50 J. B. Lyon co, Albany, N.Y. '39

LUMBER handling
Materials handling in the world's largest pine sawmill. D. S. Troy. il Mech Eng 62:813-17 N '40
Watering pulpwood with tractor power. N. C. Donnelly. il Pulp & Pa of Can 41:352-3 Ap '40

LUMBER mills

See also
Sawmills

Accidents

Causes and prevention of accidents in lumber manufacture, 1939. M. D. Kossoris and S. Kjaer. Monthly Labor R 51:663-79 S '40

LUMBER trade
Effect of the war on trade in forest products. R. D. Craig. Pulp & Pa of Can 40:691-2 N '39
House building made easier than you think; promotional work of Hartford lumber dealer. il plans Arch Forum 72:445-7+ Je '40
Lumbermen find sales training best public relations policy; course sponsored by the Merchandising Institute of the National retail lumber dealers assn. Sales Management 47:50-1 O 1 '40
News by commodities. Published in Foreign commerce weekly

See also
Pine

Statistics

Exports of sawmill products, monthly, 1913-39. Survey of Cur Business 20:18 Mr '40
Lumber and manufactures, 1936-1939. Survey of Cur Business 1940 Sup p125-8 [supplemented in monthly numbers]
Lumber, building supply and hardware store sales in metropolitan areas, 1938; Printers' Ink market explorations. maps Ptr Ink Mo 40:40-1, 43-5 F '40
Lumber distribution and consumption in Canada and the United States, 1938. 23p pa 35c Canada. Dominion bur. of statistics, Ottawa '40
Lumber production, revision; monthly, 1923-June, 1940. Fed Res Bul 26:836 Ag '40
Production and shipment of lumber during four weeks ended Dec. 30, 1939. Comm & Fin Chr 150:188 Ja 13 '40 [cont monthly]
Production of lumber and products, revision; monthly, 1923-June, 1940. Fed Res Bul 26: 835 Ag '40
Report of lumber movement. Published in weekly numbers of Commercial & financial chronicle

Borneo

British Borneo timber company 20th annual general meeting, London. Economist 138: 1129 Je 29 '40

British Columbia

Improvement looked for in B.C. A. Christensen. Pulp & Pa of Can 41:366 Ap '40
Timber exports from British Columbia. Engineering 150:287 O 11 '40

California

F.T.C. procedure upheld by court. Oil Paint & Drug Rep 138:3+ O 14 '40

Canada

Lumber industry, 1936-1937. 81p pa 50c Canada. Dominion bur. of statistics, Ottawa '39
Special body studies Canadian forests. Paper Tr J 110:15 Ja 25 '40

Germany

Grossdeutschlands holzversorgung. W. Storck. V D I 84:190-3 Mr 16 '40

Great Britain

Supply and use of timber. Engineering 149: 606 Je 21 '40
Timber supplies in war. Economist 138:576-7 Mr 30 '40

New Brunswick

Miramichi River region in New Brunswick. C. R. Townsend. il Pulp & Pa of Can 41: 404-5 My '40

New England

Blowdown plan blows; hurricane lumber deal falls through. Business Week p28 Ja 20 '40
Hurricane timber deal; Forest Service contract with Eastern pine sales corporation. Business Week p18+ O 5 '40
Timber owners cash in on calamity; sale of hurricane lumber. il Business Week p24-5+ D 9 '39

Northwestern states

Again, trouble in lumber camps; A.F.L.-C.I.O. fight. Business Week p26+ O 19 '40

Southern states

South's lumber industry prepared for war developments. H. C. Berckes. il Manuf Rec 109:39+ Ja '40

United States

Defense committee continues fight against lumber price cost of housing soldiers. il Eng N 125:433 O 3 '40
Lumber situation. Nat City Bank p110-11 O '40
Present position of the lumber industry. W. L. Neubrech. Survey of Cur Business 20:12-16 Ja '40

Western states

Interdependence of the West Coast log family. W. G. Tilton. Paper Ind 22:604+ S '40

LUMBER workers
Again, trouble in lumber camps; A.F.L.-C.I.O. fight. Business Week p26+ O 19 '40
Causes and prevention of accidents in lumber manufacture, 1939. M. D. Kossoris and S. Kjaer. Monthly Labor R 51:663-79 S '40
Lumbermen negotiate. Business Week p32 Ap 6 '40
Mechanization in the lumber industry; a study of technology in relation to resources and employment opportunity. A. J. Van Tassel and D. W. Bluestone. 201p Work projects administration, Washington, D.C. '40; Review. Monthly Labor R 51:53-61 Jl '40
Sets wages of forestry workers; provincial government of Quebec. Paper Tr J 111:7+ Ag 22 '40
They know what to do; first aid trained pulp and paper mill workers of the Pacific coast. W. D. Welsh. il Nat Safety N 42: 58-9+ O '40

LUMBERING
Good roads reduce logging costs. C. M. Upham. Pulp & Pa of Can 40:754 D '39
Lumbering as an industry; visualizing the lumber industry. H. Kahre. bibliog 24p fold map $1.95 University press, box 1066, Des Moines, Iowa '39

LUMBERING—*Continued*
Mechanization in the lumber industry; a study of technology in relation to resources and employment opportunity. A. J. Van Tassel and D. W. Bluestone. 201p Work projects administration, Washington, D.C. '40; Review. Monthly Labor R 51:53-61 Jl '40
Mechanization of our logging operations. A. Koroleff. Pulp & Pa of Can (Convention no) 41:157-9 [F] '40
Mechanized logging. C. R. Townsend. 90p $3 Woodlands section, Canadian pulp and paper assn, Montreal, Can. '38
Miramichi River region in New Brunswick. C. R. Townsend. il Pulp & Pa of Can 41:404-5 My '40
New developments and trends in logging technique; with cost data. C. R. Townsend. il plan Pulp & Pa of Can 41:736-40 O '40 (to be cont)
Pulpwood cutting; technique and equipment. A. Koroleff. Pulp & Pa of Can 41:406-10, 453-6, 458+, 503-7 My-Jl '40
Reducing of wood inventories. H. D. Ruthman. Pulp & Pa of Can (Convention no) 41:191-3 [F] '40
Some economics of motor truck performance. F. O. White. Pulp & Pa of Can 41:511-12 Jl '40
Supervision of jobbers. J. W. Sutherland. Pulp & Pa of Can 40:747-8 D '39
Tractor logging successful. D. McCallum. il Pulp & Pa of Can 41:35 Ja '40

Accidents

Accident prevention program makes progress; annual meeting of Quebec pulp & paper safety association. Pulp & Pa of Can 41:385-8 My '40
Causes and prevention of accidents in lumber manufacture, 1939. M. D. Kossoris and S. Kjaer. Monthly Labor R 51:663-79 S '40
Major problem in woods management; reducing the cost of woods accidents. R. S. Armitage. Pulp & Pa of Can 41:399-403 My '40

Accounting

Analysis of woods overhead expense. L. A. Nix. Pulp & Pa of Can 41:615-18 Ag '40
Costs of tractor logging in southern pine. R. E. Worthington. pls diags U S Agric Tech Bul 700:1-64 '39
Mechanized accounting for woods operations. D. A. Ridout. Pulp & Pa of Can 41:29-30 Ja '40

Costs

Economics of logging various pulpwood lengths. E. R. Goulet. Pulp & Pa of Can 40:749-51 D '39

Germany

Role of mechanized logging in German forest management. A. Ebner. 29p bibliog(p27-9) pa $1.50 Woodlands section, Canadian pulp and paper assn, Montreal '39

LUMBERMENS mutual casualty company
Company analysis. Spectator (Property ed) 5:26-7 Ja 11 '40

LUMINESCENCE
Behavior of willemite under electron bombardment. E. R. Piore and G. A. Morton. il diag J Ap Phys 11:153-7 F '40
Catalytic oxidation of hydrogen on platinum; a search for chemiluminescence and ionization. R. Potvin and C. Ouellet. bibliog diags J Phys Chem 44:235-46 F '40
Cathodoluminescence as applied in television. H. W. Leverenz. bibliog il diags RCA R 5:131-75 O '40
Chemiluminescence or cold light investigations. L. D. Johnson. J Chem Educ 17:295-6 Je '40
Experiments on the thermoluminescence of some common and unusual minerals. M. A. Northup and O. I. Lee. bibliog Opt Soc Am J 30:206-23 My '40
Living light. E. N. Harvey. 328p bibliog(p227-56) $4 Princeton univ. press '40
Luminescence excited by exposure to neutrons. F. G. Wick and M. S. Vincent. Phys R 58:578 S 15 '40
Luminescence of pure radium and barium compounds. D. H. Kabakjian. il Phys R 57:700-5 Ap 15 '40
Luminescence phenomena in the mineral realm; abstract. M. Déribéré. Am Cer Soc J 23 (Cer A 19):27 Ja '40
Optimum efficiency conditions for white luminescent screens in kinescopes; zinc-cadmium sulphide phosphor systems. H. W. Leverenz. bibliog diag Opt Soc Am J 30:309-15 Jl '40
Progress in engineering knowledge during 1939; luminescence and radiation. P. L. Alger. bibliog il Gen Elec R 43:62-3 F '40
Self-luminous materials and their utilisation; zinc sulphide and alkaline earth phosphors. L. Levy and D. W. West. Chem Age (Lond) 42:169-72 Mr 23 '40
Synthetic reverberation; recording fugitive sound pattern of original program signal on rotating phosphor-coated disk by means of modulated light source and simple optical system. P. C. Goldmark and P. S. Hendricks. il diags Inst Radio Eng Proc 27: 747-52 D '39
Theory on cathode luminescence. U. Fano. Phys R 58:544-53 S 15 '40
Triboluminescence of sugar. F. G. Wick. bibliog Opt Soc Am J 30:302-6 Jl '40
Über den leuchtmechanismus von kristallphosphoren. F. Möglich. Angew Chemie 53: 54-6 F 3 '40

See also
Fluorescence

LUMINESCENCE, Biological
Living light. E. N. Harvey. 328p bibliog (p225-56) $4 Princeton univ. press '40

LUMINOSITY
Physical problems associated with gas lighting. L. T. Minchin, A. B. Densham and J. Wright. bibliog Gas J (Lond) 230:241-2 My 1 '40
Spectral luminosity factors. K. S. Gibson. Opt Soc Am J 30:51-61 bibliog(p60-1) F '40

LUMINOUS paint. See Paint, Luminous

LUNAR halos. See Halos (meteorology)

LUNCH wagons
New style in lunch wagons; "chicken koop" for stations. il Nat Pet N 31:10 D 27 '39

LUNCHROOMS and cafeterias, Employees'
British factory speed-up fosters gas canteens. il Gas Age 86:28-9 S 26 '40
Japanese factory canteens. Monthly Labor R 50:1388 Je '40

LUNCHROOMS and cafeterias, Roadside
Howard Johnson restaurants; maker of good ice cream started with leaky soda fountain, developed chain of 132 units. il map Fortune 22:82-7+ S '40

See also
Lunch wagons

LUNCHROOMS and cafeterias, School
School canteens. F. M. Evans. Elec R (Lond) 125:728 D 8 '39

LUNGS

Diseases

Determination of the thoron content of air and its bearing on lung cancer hazards in industry. R. D. Evans and C. Goodman. il diag J Ind Hygiene 22:89-99 bibliog(p98-9) Mr '40
Origin of induced pulmonary tumors in strain A mice. H. G. Grady and H. L. Stewart. Pub Health Rep 55:169-70 Ja 26 '40
Serial chest roentgenograms of 3179 office employes, 1926-1938. H. H. Fellows. J Ind Hygiene 22:157-68 My '40

See also
Pneumonia
Tuberculosis

Dust diseases

Card-room fever; strict control of dust. M. F. Trice. il Textile World 90:68 Mr '40
Dust control in industry. F. F. Kravath. Heat & Ven 37:38-40 Mr '40

LUNGS—Dust diseases—*Continued*
Dust hazards and their effects; abstracts. Published in monthly numbers of Journal of industrial hygiene and toxicology
Health in the cement industry. A. J. R. Curtis. il Rock Prod 42:35-6+ N; 37-8 D '39; 43: 49-50 Mr '40
Pneumoconiosis among mica and pegmatite workers. W. C. Dreessen and others. 74p pa 15c Supt. of doc. '40; Review. Pub Health Rep 55:1459-60 Ag 9 '40
Problem of pneumoconiosis and its relation to tuberculosis; abstract. A. Policard. J Ind Hygiene 22:sup 12-13 Ja '40
Saranac laboratory pushing studies of silica dust. Concrete (mill sec) 48:184 Je '40
Underwriting aspects of the industrial dust hazard. A. J. Lanza and R. J. Vane. Weekly Underw 142:1412-13, 1417+ Je 8 '40
See also
Silicosis

LUNUVA (Ceylon) tea and rubber estates, limited
Annual general meeting, London. Economist 138:914 My 18 '40

LUPANETRIOL
Lupanetriol and its oxidation. E. R. H. Jones and R. J. Meakins. Chem Soc J p456-7 Ap '40

LUPEOL
Lupanetriol and its oxidation. E. R. H. Jones and R. J. Meakins. Chem Soc J p456-7 Ap '40

LUPINES
Lupine studies; the alkaloids of lupinus sericeus Pursh. J. F. Couch. bibliog Am Chem Soc J 62:554-6 Mr '40
Lupine studies; the isolation of anagyrine from lupinus laxiflorus var. silvicola C. P. Smith. J. F. Couch. bibliog Am Chem Soc J 61:3327-8 D '39
Lupine studies; the isolation of nonalupine from lupinus andersonii Wats. J. F. Couch. Am Chem Soc J 62:986-7 Ap '40

LUSTER
Asphalt gloss- and stain meter. A. P. Anderson and T. E. Reamer. il diag Ind & Eng Chem Anal ed 12:423-4 Jl 15 '40

LUTECIUM
Kernmomente des cassiopeiums; abstract. H. Gollnow. Angew Chemie 52:718 D 23 '39

LUTIDINE
Separation of β-picoline, γ-picoline, and 2:6 lutidine from their mixture. A. G. Lidstone. Chem Soc J p241-3 F '40

LUXEMBOURG
Executive order and regulations on transfers of property. Fed Res Bul 26:509-13 Je '40

LUXIMETER
Luximeter; photoelectric instrument for measuring light transmission through a liquid. W. L. Carson. il Gen Elec R 43:91-2 F '40

LYCOPODIUM
Absorption of supersonic waves in water and in aqueous suspensions. G. K. Hartmann and A. B. Focke. Phys R 57:221-5 F 1 '40

LYONS, J., and company
Profits, years ended March 31, 1938-40 and 46th ordinary general meeting. Economist 138:1048, 1125-6 Je 15, 29 '40

LYOTROPIC series
Effect of ions of the lyotropic series on the infrared absorption spectrum of water. A. M. Buswell, R. C. Gore and W. H. Rodebush. bibliog J Phys Chem 43:1181-4 D '39

LYSIDINE
Laboratory experiments for undergraduate organic chemistry; preparation of lysidine, 2,3-dihydro-5,6-diphenylpyrazine and 2,3-diphenylpyrazine. L. H. Amundsen. bibliog J Chem Educ 16:566-7 D '39

LYSINE
Reaction of formaldehyde with amino acids: X-ray diffraction patterns. A. K. Smith, P. Handler and J. N. Mrgudich. bibliog il J Phys Chem 44:874-80 O '40

M

MCANENY, George
First planning medal awarded George McAneny. Eng N 123:738 D 7 '39

MACARONI
Want macaroni declared a surplus commodity. Food Ind 12:66 Ag '40

MCBAIN, James William
Davy medal award. W. Bragg. Science 90: 582 D 22 '39

MCBRYDE, Warren H.
Portrait. Mech Eng 62:42 Ja '40

MCCABE, Thomas B.
Appointed to defense commission. por Paper Tr J 110:9 Je 13 '40

MCCAFFREY, Frank
Top flight craftsmen. por Inland Ptr 105:25 Jl '40

MCCLUNG, Clarence Erwin, 1870-
Dinner in honor of Professor McClung. Science 91:567-8 Je 14 '40

MCCORMACK, John W. 1891-
Named majority leader of House. Comm & Fin Chr 151:1832-3 S 28 '40

MCCORMICK, George, 1872-
Sketch. por Ry Age 108:380-1 F 24 '40

MACCOULL, Neil
Interview with an engine designer who became a fuel and lubricant expert. M. G. Van Voorhis. por(cover) Nat Pet N 32:R24 Ja 24 '40

MCCRORY stores corporation
Brass tacks for the investor; brief analysis. Barron's 20:13 Mr 4 '40
Debentures offered. Comm & Fin Chr 150: 2886 My 4 '40
Fast-moving low price stocks; thumbnail appraisal. Mag of Wall St 65:557 F 10 '40
Stock issue filed. Comm & Fin Chr 151:2803 N 9 '40
Thumbnail stock appraisal. Mag of Wall St 67:34 O 19 '40

MCCULLOCH, Samuel W. 1857-1940
Sketch. Ins Field (Fire ed) 69:19 O 17 '40

MCGARRAH, Gates W. 1863-1940
Sketch Comm & Fin Chr 151:2746 N 9 '40

MCGRAW electric company
Small companies with large earnings; thumbnail appraisal. Mag of Wall St 65:493 Ja 27 '40

MACHINE guns
Camera guns; two types permit economical aerial gunnery practice. il Sci Am 163:81 Ag '40
Our aircraft armaments. H. G. Chapman, jr. diags Aero Digest 36:82+ Je '40

Manufacture

Canada arms Britain. il diags Am Mach 84: 317-28 My 15 '40
Position-thread gage; Canadian-Bren plant. il diags Am Mach 84:932 N 13 '40
Springfield armory tools up for new semi-automatic rifles. G. H. Stewart. il Mach 46:90-2 My '40

MACHINE parts
Alloy cast iron for heavy duty applications; toggles and backing plates in cold heading machines. il diags Product Eng 11:494 N '40
Electroplates as metal-forms in engineering design; composite of abstracts. Metals & Alloys 11:MA280 My '40
Inspection simplified; dial indicators for checking Rayon machinery corp.'s machine parts. L. A. Corey. il diags Am Mach 83: 1084-5 D 27 '39
Meehanite's role in the manufacture of rubber machinery. F. L. Dawes. il Rubber Age 47:247-8 Jl '40
New machines for old; parts of obsolete machine used in new one. E. J. Stone. il Steel 107:66 Jl 8 '40
New parts for old; metal spray restores machine parts worn in service. P. Leder. il Am Mach 84:164-5 Mr 20 '40

MACHINE parts—*Continued*
Photoelastic analysis of two- and three-dimensional stress systems. B. Fried and R. Weller. il diags Ohio State U, Eng Exp Sta Bul 106:1-28 '40 (pa 40c)
Salvaging of equipment by metal spraying. J. E. Hubel. il Metal Ind 37:571-2+ D '39
Steel selection guide; physical properties, machinability, cost, application and heat treatment of machinery steels. A. W. Ainsworth. Steel 106:68-70 Ja 22 '40
See also
Bearings
Bolts and nuts
Cams
Gearing
Washers (machinery)

MACHINE shop management
Can men be measured? A. L. Kress. Am Mach 83:998-1000 N 29 '39
Careful analysis of proposed products simplifies interchangeable manufacture; procedure followed in planning for quantity production of Johnson semi-automatic high-powered rifles. C. B. Gardiner. il Mach 46: 162-4 Ja '40
Die making in the modern manner; tool and die shop; J. C. Ulmer co. F. B. Jacobs. il Steel 106:50-1 My 27 '40
Getting the most out of machines; use of machine loading charts in manufacture of airplane parts by sub-contractors. C. W. S. Parsons. il Aviation 39:54-5+ N '40
It's not the oil you use that costs; Caterpillar tractor co. E. Appleby. il Factory Management 98:102, 104, 106 F '40
Problem of aircraft parts; manufacture shock absorbers for landing gear; Bendix aircraft. R. J. Wenger. il Am Mach 84:876-8 O 30 '40
Routing raises output; Monarch machine tool co. P. A. Abe. il plan Steel 106:66-7+ Mr 18; 50, 52+ Mr 25 '40
Simpler work, so more for defense; Glenn L. Martin company plant, Baltimore. L. K. Urquhart. il Factory Management 98:54-6+ N '40
Skilled workers for defense industries; improved toolroom practices. C. S. Slocombe. Personnel J 19:163-4 N '40
Some factors affecting economic production. J. B. Samson. Engineer 170:181-3 S 20 '40
Tool crib control of carbide tools. G. G. Thompson. il diags Iron Age 146:29-34 S 12 '40
Tool engineering is key factor in boosting production. G. Hubbard. il Steel 106:54-5+ Ap 8 '40
Twin Disc products held to rigid specifications; manufacture of clutches and gearing. J. Geschelin. il Automotive Ind 82:310-19+ Ap 1 '40
See also
Assembling methods
Automobile engines—Manufacture
Industrial management
Inspection
Machine shop practice
Machine shops—Employees
Machinery, Replacement of
Mechanical handling
Steel works
Tools

MACHINE shop practice
American machinists' handbook and dictionary of shop terms. F. H. Colvin and F. A. Stanley. 7th ed rev & enl 1366p $4 McGraw-Hill '40
Automatics in a French airplane factory. il diags Mach 46:182-7 Jl '40
Canada arms Britain; making Bren machine gun and the 40-mm. shell. il diags Am Mach 84:317-32 My 15 '40
Carbide tools; control and use in the shop. G. G. Thompson. diags Iron Age 145:48-54+ My 9 '40
Carbide tools for machining small lots. F. S. Blackall, jr. il Steel 107:54-6 Jl 29 '40
Carbides for small-lot work; Monarch machine tool co. P. A. Abe. il Iron Age 146: 44-5+ Jl 18 '40
Carbides work on small lots; Warner & Swasey company. W. J. Burger. il Am Mach 84:53-4 F 7 '40
Completely controlled conditions feature new aircraft engine plant; Allison division of General motors corp., Indianapolis. il Steel 106:42-4+ F 12 '40
Direct and comparison measurements. R. S. Alexander. Am Mach 84:750 O 2 '40
4,000 die castings daily; fuel pump brackets; Stewart-Warner corp. il Am Mach 84:382-3 My 29 '40
Hydraulic drive shifts into high; Transmission division, General Motors. R. W. Warnock. il diags Am Mach 84:280-2 My 1 '40
Knocking out sprockets; Cleveland tractor company. il diags Am Mach 84:414-15 Je 12 '40
Machine shop training course. F. D. Jones. 2v ea $4; set $6 Industrial press, New York '40
Machine shop work. F. W. Turner and O. E. Perrigo. 5th ed rev 412p $2.75 American technical soc, Chicago '40
Making bronze bushings efficiently; Harnischfeger corp. H. Menck. il Steel 107:61+ Jl 15 '40
Measuring the radius of a half-bore. G. Belbes. diag Am Mach 84:472 Je 26 '40; Discussion. W. S. Rowell. 84:923 N 13 '40
Methods of measurement. C. C. Street. il diags Am Mach 84:565-6, 612-15, 656-7, 700-1, 748-50 Ag 7-O 2 '40
Microscope as a shop tool. J. Dauber. diags Am Mach 84:530-3 Jl 24 '40
Modern machines promote precision in building mechanized ordnance; Rock Island arsenal. N. F. Ramsey. il Mach 45:760-5; 46:235-9 Jl, D '39
Modern methods in gear manufacture; Nuttall works of the Westinghouse electric & mfg. co. G. Young. il diags Mach 47:107-14 O '40
Modern shop practice; a reading course and general reference work. H. M. Raymond, ed. 13th rev ed 9v $34.80 American technical soc, Chicago '40
Multiple scribing of parallel lines on castings. R. S. Alexander. diags Am Mach 84:255 Ap 17 '40
New processes adapted to mass production of Olds transmissions. J. Geschelin. il Automotive Ind 83:150-8 Ag 15 '40
Practical mechanics handbook; facts, figures, tables, and formulæ for the mechanic, fitter, turner, draughtsman, and engineer. F. J. Camm. 400p $2 S. J. Reginald Saunders, 84 Wellington st, W, Toronto '38
Safe-building plant turns to anti-aircraft gun carriages; York safe & lock co. il Mach 47:130-40 N '40
Shop practice for magnesium. diags Am Mach 84:296-9 My 1 '40
Shop shots; practices illustrated. Am Mach 84:662-3, 920-1 S 4, N 13 '40
Short cuts for the small shop (cont). A. H. Waychoff. il Am Mach 83:993, 1083; 84:133, 283, 465, 611, 751 N 29, D 27 '39, Mr 6, My 1, Je 26, Ag 21, O 2 '40
Sines and cosines; trigonometry solves problem of cutting triangular shape. G. Busmac. diags Am Mach 84:746 O 2 '40
Special tooling for machining die castings; Alemite die castings & mfg. division of the Electric auto-lite co. H. Chase. il Iron Age 145:46-9 Je 6 '40
Surface finish control in machine shop practice. R. F. Gagg. Automotive Ind 83:57-9 Jl 15 '40
Tanks by the ton; Rock Island arsenal; diagrams, operation sheets, illustrations, etc. Am Mach 84:710-24 S 18 '40
Tolerances at the vanishing point; on the production line of American Bosch injection pumps. H. E. Blank, jr. il diag Automotive Ind 81:564-72 D 1 '39
Tool engineering the basis of automotive progress. il diags Mach 46:109-56 Ap '40
Turret lathe tooling. J. R. Longstreet and W. K. Bailey. il diags Am Mach 84:79-81, 130-2, 166-8, 202-5, 242-5, 284-7, 334-7, 378-81 F 21-My 29 '40
Unconventional machining often is practical. G. Hubbard. il Steel 105:50-1+ N 20 '39

MACHINE shop practice—*Continued*

United States army tanks from a car-building plant; American car and foundry company. C. O. Herb. il Mach 47:110-21 N '40

Workshop calculations, tables and formulæ for draughtsmen, engineers, fitters, turners, mechanics, patternmakers, erectors, foundrymen, millwrights and technical students. F. J. Camm. 144p $1.50 Chemical pub. co. '39

Wright Aero plans for unprecedented production. P. W. Brown. il Mach 46:134-9 Jl; 47:124-7 S '40

See also

Automobile engines—Manufacture
Bearings—Manufacture
Bending
Broaching
Chucks
Connecting rods—Manufacture
Cylinders (engines, etc.)—Manufacture
Dies
Drafting room practice
Drilling and boring (metal working, etc.)
Electric driving
Forging
Foundry practice
Gages
Grinding
Guns (ordnance)—Manufacture
Hard facing
Indexing (machine work)
Lapping
Lathes
Locomotive shops
Machine shop management
Machine tools
Machinery
Metal cutting
Metal finishing
Milling
Railroads—Shops
Riveting
Rolling mills
Scraping machines (metal work)
Sheet metal work
Welding

Study and teaching

Tool engineering education; symposium at annual meeting of American society of tool engineers. Iron Age 145:45-6 Mr 14 '40

Tool operator-training program to ease skilled labor shortage. C. S. Stilwell. Steel 106: 22 Mr 25 '40

MACHINE shops

Handy men to many industries; R. Steel & sons operates combined forge and machine shop. R. G. Skerrett. il Comp Air M 45: 6143-6 My '40

Passed by Canadian censor; illustrations of shops manufacturing airplanes, machine guns and shells for World war II. Am Mach 84:209-11 Ap 3 '40

Service for the set; machine shop at RKO studios. M. M. Black. il Am Mach 84:252-3 Ap 17 '40

See also

Automobile factories
Electric driving
Electric railroads—Shops
Locomotive shops
Machine shop management
Machine shop practice
Machine tools
Railroads—Shops

Accounting

See Factories—Accounting

Cleanliness

Clean house; cartoons. Am Mach 84:160-1 Mr 20 '40

Electric equipment

Overhead bus-bar system for machine shops. il Engineer 169:541-2 Je 14 '40

Employees

Apprenticeship in the machine-tool industry. E. H. Neff. Mech Eng 62:471-2 Je '40

Bill Smith, jr. learns his trade; Kearney & Trecker apprentice system. R. R. Wiese. il Am Mach 83:1025-7 D 13 '39

Can men be measured? A. L. Kress. Am Mach 83:998-1000 N 29 '39

From learner to skilled operator in five months' time. R. Livingstone. il Factory Management 98:64-6+ My '40

Labor turn-over in foundries and machine shops, 1937 and 1938. Monthly Labor R 49:728-31 S '39

Metal trades group develops machine operator training plan. Steel 107:35 N 11 '40

Monarch study courses for trained shop men. D. H. McKellar. il Mach 46:108-10 Je '40

No apprentices? W. F. Simon. il Am Mach 84:537-9 Jl 24 '40

Skilled workers for defense industries; speeding up training; training on the job; apprentice training cost; Wright aeronautical plan. C. S. Slocombe. Personnel J 19:165-81 N '40

Training in the small shop. E. G. Marshall. il Am Mach 84:745-6 O 2 '40

Training mechanics in the small shop. Am Mach 84:194 Mr 20 '40

Training programs in machine tool plants found satisfactory. il Iron Age 145:80-2 Je 27 '40

Equipment

Electronic indicator for use in making accurate measurements. R. G. Minarik. diag Mach 46:133 Mr '40

Engine governors in the making at Hoof products co. il Automotive Ind 82:556-7 Je 15 '40

Ford operates the world's largest tool and die shop at River Rouge. il Mach 46:108-11 Ag '40

Halves chip disposal cost; sub-floor system removes 5 carloads of chips a day from 50 screw machines; Bower roller bearing co. G. Johnson. il Factory Management 97: 70-1 D '39

High precision manufacture; production methods at Bryce fuel injection ltd. il diags Automobile Eng 30:263-6 S '40

Modern machines for improving production; North American Aviation aircraft machine shop. H. F. Schwedes. il Aero Digest 37:56, 59+ S '40

Modern methods in gear manufacture; Nuttall works of the Westinghouse electric & mfg. co. G. Young. il diags Mach 47:107-14 O '40

Monorail serves every press; U.S. register company plant. il Factory Management 98: 47 S '40

Newall optical circular table. il Engineer 170:31 Jl 12 '40; Automobile Eng 30:249-50 Ag '40

Novel hook-up eliminates necessity for skilled workers; combined boring and duplicating machine for die making. il Steel 107:58 S 23 '40

Portable degreasers cut cleaning costs as much as 60 per cent. il Steel 106:51+ Mr 11 '40

Precision sine table. il Engineering 148:590 N 24 '39

Safe-building plant turns to anti-aircraft gun carriages; York safe & lock co. il Mach 47: 130-40 N '40

Shop equipment review. il diags Am Mach 84: 57-295 Ja 24 '40

Sub-contract production; Laystall engineering co. il Automobile Eng 30:116-18 Ap '40

United States army tanks from a car-building plant; American car and foundry company. C. O. Herb. il Mach 47:110-21 N '40

Universal stock support for punch presses. A. F. Murray. il diags Mach 46:120-1 My '40

What's new in cutters, tools and accessories. il Iron Age 145:38-42 Mr 14 '40

What's new in small tools, cutters, gages and drafting equipment. F. J. Oliver. il diags Iron Age 144:41-6 N 30 '39

See also

Locomotive shops—Equipment
Machine tools

Lighting

Fluorescent lighting for accuracy; Cleveland graphite bronze co. W. H. Kahler. il Iron Age 146:53 S 19 '40

Industrial illumination; lighting of machine tool and press operations. D. M. Warren and A. R. Finley. il Steel 106:49-50, 52-3+ F 5 '40

Lighting, tailored to the task. D. M. Warren. il Am Mach 84:235-7 Ap 17 '40

Records

Carbide tools; control and use in the shop. G. G. Thompson. diags Iron Age 145:48-54+ My 9 '40

MACHINE shops—Records—*Continued*
Equipment record cards; reference book sheet. il Am Mach 84:89, 91 Ja 24 '40
Need of tool records; abstract. J. M. Crawford. Iron Age 145:47 Mr 14 '40
Tool crib control of carbide tools. G. G. Thompson. il diags Iron Age 146:29-34 S 12 '40

Safety devices and measures
Lindsay safety belt-shifting gears. diags Engineering 149:212 F 23 '40
Unsafe practices that are still found in our shops. A. K. Baker. Mach 46:115 F '40

MACHINE tool industry
Apprenticeship in the machine-tool industry. E. H. Neff. Mech Eng 62:471-2 Je '40
Leaders in march of mechanization; output of machine tools and Diesel engines at record-breaking levels. J. V. Sherman. Barron's 20:9 Jl 1 '40
Machine tool dealers discuss procurement rush problems. Steel 106:23 My 20 '40
Mars and machine tools. F. J. Oliver. il Iron Age 145:106+ Ja 4 '40

Advertising
How to be human in industrial advertising; Le Blond machine tool co. K. B. White. il Ptr Ink 192:15-17+ S 20 '40

Directories
Manufacturers of production tools. il Aviation 38:48-50+ D '39

Finance
Bullard earnings soar. G. L. Merton. il Mag of Wall St 67:40-1+ O 19 '40
Leader in machine tools; Niles-Bement-Pond. W. E. Kraemer. il Mag of Wall St 65:424-5+ Ja 13 '40
Machine tool companies have record business; earning power of nine companies compared. R. P. Cooke. Barron's 20:20 Je 17 '40

Securities
Eight leaders in the machine tool industry; thumbnail appraisal. Mag of Wall St 66: 28-31 Ap 20 '40
Why Ex-Cell-O is the market's favorite machine tool stock. E. A. Barnes. Mag of Wall St 66:359+ Je 29 '40

Statistics
Machine tools in peace and war. Mech Eng 62:821-2 N '40
Machine tools, orders, new, 1936-1939. Survey of Cur Business 1940 Sup p139 [supplemented in monthly numbers]
New machine tool index. Business Week p22 D 9 '39
Pay rolls in manufacturing industries; machine tools, monthly, Jan. 1923-Aug. 1940. Survey of Cur Business 20:16 O '40
Production of machine tool accessories in the United States, 1939 and 1937; tabulation. Mach 47:167 N '40
Production of machine tools in 1939 and 1937; tabulation. Mach 47:164-5 N '40

Australia
Committee to control purchase and use of machine tools, including licensing of imports and exports. Comm Rep p410 My 4 '40

Great Britain
Engineering outlook; machine tools. Engineering 149:272-4 Mr 15 '40
Imports and exports of machine tools, 1936-39. Economist 138:639 Ap 6 '40

New England
Machine tool industry at peak, New England survey shows. F. J. Oliver. Iron Age 146: 96-101 S 19 '40

Russia
Soviet machine tool imports. Mach 46:173 Ja '40

South America
Selling machine tools in South America. H. K. Smyth. il Mach 46:132-3 Ja '40

United States
Around the world with American machine tools. C. O. Herb. il Mach 46:109-19 Ja '40
Essential elements of a national defense program; abstracts. J. E. Lovely. Am Mach 84: 892d-892e O 30 '40; Iron Age 146:78-80 O 31 '40
Export restrictions on machine tools relaxed. Automotive Ind 83:175+ Ag 15 '40
Extraordinary position of the machine tool industry; unparalleled foreign and domestic demand. B. Finney. Annalist 55:420-1+ Mr 21 '40
Five-point program for manufacture of machine tools for national defense drafted by W. S. Knudsen and S. Vance. Comm & Fin Chr 150:3591 Je 8 '40
Increasing its output without risking mushroom growth. B. Finney. Annalist 55:851+ Je 20 '40
Industrial problems of defense; obstacles in the way of real trade boom before 1941. L. C. Duncan. Barron's 20:3 My 27 '40
Industry keeps cool; domestic customers given preference. Business Week p34-5 Ja 20 '40
Industry's defense needs; lack of metal-working equipment; abstract. E. F. Connely. Inv Banking 10:10-11 Jl '40
Knudsen heads machine tool coordination. Am Mach 84:434c Je 12 '40
Machine tool boom. H. D. Steinmetz. il Mag of Wall St 66:24-7 Ap 20 '40
Machine tool deliveries to favor U.S. aircraft makers. Iron Age 145:84A F 8 '40
Machine tool industry in high. Business Week p27+ Je 15 '40
Machine tool industry thinks ahead in current modernization. il Steel 105:23-5, 68-70 D 18 '39
Machine tools and national defense; abstract. J. E. Lovely. Steel 106:23-4 Je 3 '40
Machine tools seen as vital factor in national defense. C. J. Stilwell. Iron Age 145:78-81 My 2 '40
Pratt & Whitney; machine-tool maker. il Fortune 21:72-7+ Ap '40
Ratings postpone priorities; preference plan may suffice. Business Week p15-16 S 21 '40
Representatives, conferring with government officials, receive promise of $200,000,000 business in coming year. Comm & Fin Chr 150: 3446 Je 1 '40
Selling for delivery in 1950. A. G. Bryant. Iron Age 146:66-8 O 24 '40
Training programs in machine tool plants found satisfactory. il Iron Age 145:80-2 Je 27 '40
What's a machine tool? Business Week p28-30 Mr 2 '40

MACHINE tools
Aircraft machine tools at the Northrop plant. R. R. Nolan. il Aero Digest 37:84, 87+ S '40
Allison engines built in a shop as modern as flight itself. C. O. Herb. il Mach 46:164-9 Jl '40
American society of tool engineers annual meeting, New York, March 7-9. Steel 106: 50+ Mr 18 '40
Around the world with American machine tools. C. O. Herb. il Mach 46:109-19 Ja '40
Cutting steel with carbides on older machines. J. R. Longwell. Iron Age 146:40 S 12 '40; Same. Aero Digest 37:125 O '40; Same. Steel 107:49+ S 23 '40
Grinding large odd-shaped work on various types of machine tools. il Mach 46:248-9 D '39
Hannifin no. 10 tool room machine. il(p517) Automotive Ind 82:519+ Je 1 '40; Mach 46: 151 Je '40
Hydraulic control for machine tool applications. diags Automobile Eng 30:251-2 Ag '40
Idle time is out in modern machine tools. G. Hubbard. il Steel 105:38-9+ D 11 '39
Ingenious tool engineering in the Buick plant. il Mach 46:136-41 Ap '40
Machine capable of turning shell a minute; abstract. T. Berna. Steel 107:15 O 21 '40
Machine tool improvements continue. il Iron Age 146:60-4 S 19 '40
Machine tools aid planemakers achieve mass production. Steel 106:35 My 13 '40

MACHINE tools—*Continued*

Machining; developments in 1939. il Steel 106: 229-30+ Ja 1 '40

Manual on cutting of metals, single-point lathe tools. 319p bibliog(p287-94) $5 Am. soc. of mechanical engineers, New York '39

Military planes by real production methods. il Mach 46:178-81 Jl '40

Modern machinery for the production of aircraft and engines. il Aero Digest 36:67-8+ Ja '40

Modern machines for improving production; North American Aviation aircraft machine shop. H. F. Schwedes. il Aero Digest 37: 56, 59+ S '40

National broach and machine company's vertical roto-shaving machine. il diags Engineering 148:647 D 8 '39

New production equipment for 1940 Pontiacs. il Mach 46:146-51 Ap '40

Outstanding methods produce Hamilton Standard propellers. A. Nelson. il Mach 46:152-7 Jl '40

Pratt & Whitney's advanced methods of engine building. il Mach 46:174-7 Jl '40

Prescott no. 11 Amalgamated shell turning machine uses former-controlled contour turning attachments. il Am Mach 84:551-2 Jl 24 '40

Reed-Prentice vertical keyseater can be used as vertical miller. il Am Mach 83:1011-12 N 29 '39

Shop equipment review. il Am Mach 84:57-106 Ja 24 '40

Stahlleichtbau bei werkzeugmaschinen; grundlagen und ausführungsbeispiel. C. Krug. il diags V D I 84:11-16 Ja 6 '40

Substitute materials in time of war; research in Charlottenburg, 1915-1917. G. Schlesinger. Engineer 170:135-6 Ag 30 '40

Tool engineering is key factor in boosting production. G. Hubbard. il Steel 106:54-5+ Ap 8 '40

Trends in machine tool development; abstract. B. Lester. Automotive Ind 82:516-17 Je 1 '40

Unconventional machining often is practical. G. Hubbard. il Steel 105:50-1+ N 20 '39

Versatile new machines; illustrations. Steel 105:34-5 D 25 '39

What's a machine tool? Business Week p28-30 Mr 2 '40

What's new in machine tools. F. J. Oliver. il diag Iron Age 144:28-34 D 28 '39; 145: 40-4 F 15; 54-9 Ap 11; 59-64 Je 6; 146:46-50 Jl 18 '40

See also

Bending machines
Broaching machines
Chucks
Cutting tools
Drilling and boring machinery
Feed mechanism
Gear cutting machines
Grinding machines
Lathes
Machine shop practice
Machine tool industry
Metal cutting
Milling cutters
Milling machines
Planing machines
Pneumatic tools
Polishing machines
Press tools
Reamers
Saws, Metal working
Screw machines
Shapers
Shears (machines)
Threading machines
Tool steel

Design

Arc-welded fabrication of machine tools. Engineering 150:265-6, 270, pl 18 O 4 '40

Chip disposal? certainly they've tackled it! G. Hubbard. il Steel 106:33+ Ja 8 '40

Concrete for machine tools. H. Kent-Norris. diag Engineer 170:187 S 20 '40

Design and welding of fabricated machinery. J. H. Cooper. il Iron Age 145:50-2 Je 6; 40-4 Je 13 '40

Design of universal drill jigs. J. I. Karash. il diags Mach 46:161-7, 243-7 N-D '39

Elements in jig and fixture design; reference book sheet. Am Mach 84:61 F 7 '40

Machine design and motion economy. O. W. Habel and G. G. Kearful. il Mech Eng 61: 897-9 D '39

Machine tools; trends and developments in American design. il Automobile Eng 29: 461-6 D '39

Operator fatigue is minimized by modern machine tools. G. Hubbard. il Steel 106: 50-2+ Ap 22 '40

Testing found important in redesign. N. B. MacLaren and L. R. Mayo. il diags Steel 107:38-42 S 30 '40

Electric driving

Boring machine remotored. il Elec W 113: 2068 Je 29 '40

Changing punch from group to unit drive. il Elec W 114:277 Jl 27 '40

Convenience features grinder motor drives. il Elec W 113:920 Mr 23 '40

Convert bolt cutter to individual drive. il Elec W 114:416+ Ag 10 '40

Direct drives serve grinder battery. il Elec W 114:558+ Ag 24 '40

Electrical equipment on machine tools. B. P. Graves. il Elec Eng 59:Trans 18-22; Discussion. Trans 22-4 Ja '40

Machine tool electrification smashes traditions. G. Hubbard. il Steel 106:50-1+ My 13 '40

Motor modernization badly needed. F. Merish. il Steel 106:34-5+ Ja 8 '40

Newman motorised drive unit for machine tools. il Engineering 149:156-7 F 9 '40

Westinghouse stages machine tool forum. Iron Age 145:52-4, 90 My 16 '40; Mach 46:140-1 Je '40

Wide speed control on press power unit. il Power 84:258 Ap '40

Exhibitions

25 companies display tools, equipment at Cleveland show. Steel 107:39 Jl 1 '40

Fixtures

Arbor press broaching fixture. E. B. Wilson. diags Mach 46:166-7 Ja '40

Automatic stacking fixture. W. M. Halliday. diags Am Mach 84:20 Ja 10 '40

Boring fixture designed to accommodate three different parts. F. Server. diag Mach 46:115-16 Ag '40

Box-tool fixture for machining conical point. R. A. Dressler. diags Mach 46:265 D '39

Elements in jig and fixture design; reference book sheet. Am Mach 84:61 F 7 '40

Fixture designed for use in sawing off connecting-rod caps. E. L. Peterson. diags Mach 46:131-2 Je '40

Fixture for grinding eccentric. J. R. Whittles. diag Mach 46:129 Je '40

Fixture for parallel boring of bearings. H. C. Francis. il Am Mach 84:140 Mr 6 '40

Fixture used on boring mill for cutting teeth in large gear segments. J. Waitkus. diags Mach 46:197-8 Jl '40

Fixtures for final machining of die castings. H. Chase. il Am Mach 84:454-5 Je 26 '40

Fixtures step up output; Kinner motors, inc. W. Milka. il Am Mach 84:653-5 S 4 '40

Grinding fixture for several sizes of work. J. I. Karash. il diag Am Mach 84:59-60 F 7 '40

Hardinge collet index fixtures. il Automotive Ind 82:516, 517-18 Je 1 '40; Mach 46:163 Je '40

High cutting speeds demand rigid tool holders. T. Addison. diags Am Mach 84:470 Je 26 '40

Lathe tail-spindle and center-drill holder. W. S. Rowell. diag Mach 46:118 Ag '40

Mass production methods for short-run work; ingenious fixtures. il Steel 107:48+ Jl 8 '40

Odd-shaped cases machined easily on tilting faceplate; manufacturing gear drives at Farrel-Birmingham co. il Steel 106:69 F 5 '40

Paducah shop jigs, fixtures and devices. G. H. Raner. il Ry Mech Eng 114:223-32, 324-6+ Je, Ag '40

Position-thread gage; Canadian-Bren plant. il diags Am Mach 84:932 N 13 '40

Recent developments in broaching automotive parts. il Mach 46:92-4 F '40

Slitting fixture. E. L. Peterson. diags Am Mach 83:1045 D 13 '39

Square holes produced by milling and welding. F. J. Wilhelm. diags Am Mach 84:428 Je 12 '40

MACHINE tools—Fixtures—*Continued*
Straightening fixture for removing twists from rectangular bars. L. Chabrand. diag Mach 47:162 N '40
Tap sharpening fixtures. M. H. Ball. diags Am Mach 84:384 My 29 '40
Turret lathe tooling. J. R. Longstreet and W. K. Bailey. il diags Am Mach 84:79-81, 130-2, 166-8 F 21-Mr 20 '40
Unit punch setups. il diags Steel 105:62, 65-6 D 11 '39

History

Les différentes étapes de l'évolution de la machine-outil dans le passé et dans l'avenir. A. Gabay. Soc Ing Civils Mémoires 92:218-23 Mr '39

Lubrication

Automatic lubrication of production machines; International business machines corp. F. M. Hewitt. il Iron Age 145:36-9 F 29 '40
Correcting machine tool lubricating troubles; reference book sheet. Am Mach 84:771 O 2 '40
It's not the oil you use that costs; Caterpillar tractor co. E. Appleby. il Factory Management 98:102, 104, 106 F '40
Machine tool oiling; recent developments in high-pressure systems. il Automobile Eng 30:149-51 My '40
Oil well; proper lubrication of machine tools and other equipment for reduced maintenance and greater output. H. E. Linsley. il Am Mach 84:568-9 Ag 7 '40

Manufacture

Application of carbide tools in a machine tool plant; Bullard co. B. Merwin. il Mach 46:105-7 Ag; 47:111-15 S '40
Arc-welded fabrication of machine tools. Engineering 150:265-6, 270, pl 18 O 4 '40
Assembling machine tools; National acme co. F. B. Jacobs. il Steel 107:68-9+ Jl 8 '40
Carbides work on small lots; Warner & Swasey company. W. J. Burger. il Am Mach 84:53-4 F 7 '40
Compressed air in the bottleneck industry; Gisholt machine co. J. Hazlewood. il Comp Air M 45:6280-2 N '40
Design and welding of fabricated machinery. J. H. Cooper. il Iron Age 145:50-2 Je 6; 40-4 Je 13 '40
How to control and plan production; Warner & Swasey co. G. V. Black. il Iron Age 146: 34-7 Jl 11 '40
Making better machine-tool castings. F. J. Dost. il Mech Eng 62:365-9 My '40
Niles-Bement-Pond company's Pratt & Whitney division. il Aero Digest 37:43-4, 47-8 S '40
Oxyacetylene process helps machine-tool production. il Steel 107:60-1 S 23 '40
Pratt & Whitney; machine-tool maker. il Fortune 21:72-7+ Ap '40
Upped output 2½ times in 10 months; new handling equipment and faster movement of materials and parts; Kearney & Trecker corporation, Milwaukee. C. R. Hochmuth. il plan Factory Management 98:49-51+ N '40

Testing

Acceptance test charts for machine tools. Engineer 169:371 Ap 19 '40
Dial-gauge research. diags Engineering 148: 725-7 D 29 '39

MACHINE work

Bearbeiten von kupfer mit spanabhebenden werkzeugen. K. Engelhard. V D I 84:162-3 Mr 2 '40
Facing brake pistons 3000 per hr; Doehler die casting co. H. Chase. il Iron Age 145: 41 Ap 25 '40
Fixtures step up output; Kinner motors, inc. W. Milka. il Am Mach 84:653-5 S 4 '40
Flame machining. J. G. Magrath. il diag Am Mach 84:456-9, 503-6 Je 26-Jl 10 '40
Getting the most out of machines; use of machine loading charts in manufacture of airplane parts by sub-contractors. C. W. S. Parsons. il Aviation 39:54-5+ N '40
How to machine 77-mm. shell. C. Grazioso. diags Am Mach 84:668-78 S 4 '40
How to make artillery cartridge cases. F. J. Lerro. il diags Am Mach 84:760-70 O 2 '40
Idle time is out in modern machine tools. G. Hubbard. il Steel 105:38-9+ D 11 '39
Job shop for miniature parts; Custom parts division, Waltham watch company. P. Dumaine. diags Am Mach 84:88-9 F 21 '40
Locking arrangement for work supports. D. A. Baker. diag Am Mach 84:471 Je 26 '40
Machining aluminum anti-aircraft gun recoil mechanism frame. Mach 47:123 O '40
Machining automobile flywheels at the Chevrolet plant; battery of eight Mult-Au-Matics. C. O. Herb. il diags Mach 46:103-7 Je '40
Machining; developments in 1939. il Steel 106: 229-30+ Ja 1 '40
Machining practice for aluminum. diags Am Mach 84:456-9, 503-6 Je 26-Jl 10 '40
Machining Vinylite series V resins. diags Can Chem & Process Ind 24:161-3 Ap '40
Precision broaching, stamping and milling; Toledo scale co. D. R. James. il Iron Age 145:40-2 My 16 '40
Precision machining. A. M. Swigert, jr. il Automotive Ind 83:385-6+ O 1 '40
Precision parts for instruments, gages, etc; Custom parts division of the Waltham watch company. P. Dumaine and E. E. Cederholm. il diags Product Eng 11:260-3 Je '40
Preventing press-work troubles; Marchant calculating machine company. W. Kassebohm. diags Am Mach 84:162-3 Mr 20 '40
Trimmed and drilled at once; machining die castings. H. Chase. il Am Mach 84:907 N 18 '40
L'usinage des alliages légers. Poulain. Génie Civil 116:56 Ja 20 '40
Using microscopes to facilitate accurate machine work. A. Baker. il Mach 46:129 Mr '40
Working of carbon sheet steel; coldworking and machining. diags Am Mach 84:833-6 O 16 '40

See also
Automobiles—Manufacture
Broaching
Centering (machine work)
Drilling and boring (metal working, etc.)
Grinding
Indexing (machine work)
Machine shop practice
Metal cutting
Milling
Polishing
Time study (of machinery)

Tables, calculations, etc.

Hole circle layouts; reference book sheet. W. J. Woodworth and J. D. Woodworth. Am Mach 84:257, 259, 303, 305 Ap 17-My 1 '40

MACHINE works

All-welded machine shop frame designed for rapid erection; Dravo corp. S. H. Newburn. il Eng N 124:445 Mr 28 '40
Announcements of factory additions. il Automotive Ind 83:116-17 Ag 1 '40
Gleason works celebrates 75th anniversary. il Iron Age 145:93B-93D Ap 11 '40; Mach 46:123-5 My '40
Industries in and around London; pneumatic power tools and machines. J. Holloway. il diags Engineer 168:537-9 D 1 '39
Industry gets educated; printing press manufacturer gets order for anti-aircraft gun parts. il Am Mach 84:409-12 Je 12 '40
Landis tool co. holds open house. il Iron Age 144:90-1 D 7 '39
Landis tool co. holds open house in new erecting shop. il Mach 46:195 Ja '40
Machine tool industry thinks ahead in current modernization il Steel 105:23-5, 68-70 D 18 '39
Niles-Bement-Pond company's Pratt & Whitney division. il Aero Digest 37:43-4, 47-8 S '40
Pratt & Whitney; plant at West Hartford, Conn. for the manufacture of machine and small tools. il Factory Management 98:B40-B43+ Ap '40
Pratt & Whitney starts 80th year in new large plant. il Iron Age 145:70-4 Ja 25 '40; Am Mach 84:316b-316c Ja 24 '40; Steel 106: 46-8 F 5 '40; Mach 46:130-1 F '40

See also
Diesel engines—Manufacture
Machine shops
Machinery—Manufacture
Rolling mills

MACHINE works—*Continued*

Accounting

Some applications of duplicating methods in the preparation of payroll records. R. R. Haskell and R. H. Robnett. N A C A Bul 21:1416-24 Jl 15 '40

Electric equipment

Modernizing a heat treating department; Jones & Lamson machine company plant. J. V. Dempsey. il Elec W 114:878 S 21 '40

Employees

Apprenticeship in the machine-tool industry. E. H. Neff. Mech Eng 62:471-2 Je '40

Coordinated training program that has produced results; Warner & Swasey co. il Mach 46:93-7 Ag '40

Monarch study courses for trained shop men. D. H. McKellar. il Mach 46:108-10 Je '40

This plant didn't lose touch; use of cafeteria and auditorium retains intimacy at Monarch. D. H. McKellar. il Am Mach 84:605 Ag 21 '40

See also
Machine shops—Employees

Equipment

Cummins engine company; vapor-laden air from injector tests exhausted through oil separator which reclaims 90% of fuel; heating system. C. Strock. il diags Heat & Ven 37:33-5 My '40

Diesel tank engines and motorized earth drills; Buda company. il Mach 47:122-9 N '40

Different Diesels from one line; interchangeable tooling for machines in International Harvester plant. il Am Mach 84:910-13 N 13 '40

Engine production at Coventry Climax engines limited. il Automobile Eng 30:291-4 O '40

Geared for quality; production of milling machine gears; Kearney & Trecker corporation. il plan Am Mach 84:121-4 Mr 6 '40

Handling built-to-order; R. G. Le Tourneau. W. J. Brooking. il Steel 107:52-3, 79 Jl 8; 48, 50+ Jl 15 '40

New Diesel plant; International harvester co. il Steel 107:50-5 N 4 '40

Tractor production; works of David Brown tractors. il diag plan Automobile Eng 30: 73-80 Mr '40

Twin Disc products held to rigid specifications; manufacture of clutches and gearing. J. Geschelin. il Automotive Ind 82:310-19+ Ap 1 '40

Upped output 2½ times in 10 months; new handling equipment and faster movement of materials and parts; Kearney & Trecker corporation, Milwaukee. C. R. Hochmuth. il plan Factory Management 98:49-51+ N '40

Work positioners reduce weld fabrication time; Simplicity engineering co. il Iron Age 145:41 My 23 '40

See also
Machine shops—Equipment
Machine tools

Layout

Milling machine manufacture; Kearney & Trecker institutes a production line. R. Bingham. Iron Age 146:22-3 S 26 '40

Routing raises output. P. A. Abe. Steel 106: 66 Mr 18 '40

Tractor production; works of David Brown tractors. Automobile Eng 30:76-7 Mr '40

Management

Engineering reorganization. J. J. Gillespie. 268p $4 Pitman '40

How to control and plan production; Warner & Swasey co. G. V. Black. il Iron Age 146:34-7 Jl 11 '40

Milling machine manufacture; Kearney & Trecker institutes a production line. R. Bingham. flow sheet il Iron Age 146:21-7 S 26 '40

Power

Capacitors aid feeders in textile machinery plant; Whitin machine works improves power factor of own generating plant. F. D. Snyder. il Elec W 114:213-14+ Jl 27 '40

New boiler for Morse twist drill and machine co. il plan Power Pl Eng 44:56-8 N '40

Selects glass tube rectifier for shop d.c. supply; Beloit iron works. il diag Elec W 113: 486-7+ F 10 '40

700-kVA substations at the works of Messrs Fielding and Platt, limited. il Engineering 149:291 Mr 15 '40

Safety devices and measures

Little man who was there; Preperin, Whiting corporation's safety symbol; safety program. T. S. Hammond. il Nat Safety N 42:16-17+ S '40

MACHINERY

Shocks and impacts in machinery having jointed elements. F. Franz. diag Product Eng 11:501-2 N '40

See also

Agricultural machinery
Assembling methods
Auger machines
Balancing machines
Balancing of machinery
Ball bearings
Bearings
Belting
Bolts and nuts
Bottling machines
Broaching machines
Calculating machines
Clamps
Clutches
Coal mining machinery
Conveying machinery
Cotton machinery
Couplings
Cranes, derricks, etc.
Crankshafts
Crushing machinery
Cylinders (engines, etc.)
Diesel engines
Dredges
Drilling and boring machinery
Dyeing machines
Electric machinery
Engineering
Excavating machinery
Fans, Mechanical
Feed mechanism
Fits (machinery)
Forging machinery
Friction
Gas and oil engines
Gearing
Hoisting machinery
Hosiery machines
Hydraulic machinery
Hydraulic presses
Inventions
Jigs
Knitting machines
Locomotives
Looms
Lubrication and lubricants
Machine shop practice
Machine tools
Machinery in industry
Mechanical drawing
Mechanical engineering
Mechanical handling
Mining machinery
Packaging machinery
Packing
Paper making machinery
Patents
Pneumatic conveying
Pneumatic tools
Power transmission
Presses
Printing presses
Pulleys
Pumping machinery
Pumps
Rayon machinery
Refrigeration and refrigerating machinery
Road making machinery
Rock drills
Roller bearings
Rubber machinery
Screw machines
Shafts
Shoveling machines
Spinning machinery
Springs (mechanism)
Steam engines
Steam turbines
Testing machines
Textile machinery
Tools
Tractors
Turbines
Valves
Vending machines
Woodworking machinery
Woolen and worsted machinery

Bedplates

Contraction in grey cast iron. E. Longden. Engineer 170:30-1 Jl 12 '40

Cooperative use

York rates a star on defense map; city industrialists work together, sharing machinery and dividing business. Business Week p16+ S 28 '40

Design

Encouraging creative ability in mechanical engineering and designing. A. R. Stevenson, jr. and J. E. Ryan. Mech Eng 62:673-4 S '40

Graduate work in machine design. C. W. Ham. J Eng Educ 30:618-19 Mr '40

MACHINERY—Design—*Continued*
High-speed photography and the study of rapid machine motions. V. Sepavich and A. Palmer. il Mech Eng 62:519-24 Jl '40
High-speed photography applied to the study of machine performance. E. M. Watson. il Product Eng 11:340-3 Ag '40
Increasing the utility of die-castings by inserts. diags Mach 46:110-13 My '40
Location of jam nuts. J. J. Pesqueira. diags Product Eng 11:526-7 N '40
Machine design. L. J. Bradford and P. B. Eaton. 4th ed 275p $3 Wiley '40
Machine design drawing room problems. C. D. Albert. 3d ed 441p $3.50 Wiley '40
Mechanical properties in relation to design. H. W. Swift. Engineering 150:218-20 S 13 '40
Photoelasticity as applied to design problems. O. J. Horger and T. V. Buckwalter. bibliog il diags Iron Age 145:42-50 My 23 '40
Photo-electric and electronic controls in the machinery field. B. W. Steverman. il diags Mach 47:140-4 O '40
Scrapers and wipers; protection of sliding surfaces of a machine. diags Product Eng 11:64-5 F '40
Significance of tension test; background of proposed symposium to discuss relation to design. J. M. Lessells. bibliog Mech Eng 62: 311-14 Ap '40
Solution from China; problem in mechanism involving the laying out of a Whitworth quick-return mechanism. Y. C. Chai. Mech Eng 62:413 My '40
Velocity-graph analysis for solving problems encountered in high-speed motions. H. E. Golber. Product Eng 11:311-13, 369-71 Jl-Ag '40
Vertical shaft design with calculations for high speed rotor effects. A. Brothman. diags Product Eng 11:159-62 Ap '40
Weld-fabrication essentials. L. S. McPhee. il Iron Age 145:42-4 Mr 28 '40

See also
Cams

Erection

Floor for 100-ton machines; erecting floor; William Sellers & company. il Am Mach 84:127 Mr 6 '40

Foundations

Floating foundations for quiet fan operation; use of vibracork. il diag Sheet Metal Worker 30:31-2 D '39
No vibration from these hammers; mounted on heavy concrete blocks supported by springs. E. G. Grant. il Factory Management 98:78-9 Je '40
Rubber mountings for industrial equipment. W. C. Keys. il diag Steel 106:44-7+ Ap 8 '40
Steel-slab foundation cures drive trouble. W. Krotee. il diag Power 84:175 Mr '40

Maintenance and repair

Arc welding ingenuity; machinery repair; illustrations. Iron Age 146:35 S 5 '40
Arc welding used to repair huge 25,000-pound stone crusher jaw. il Steel 106:76 Je 10 '40
Hard facing, a process for the mechanical engineer. E. E. LeVan. il Mech Eng 62:459-64 Je '40
New parts for old; metal spray restores machine parts worn in service. P. Leder. il Am Mach 84:164-5 Mr 20 '40
Rebuilding worn cast iron surfaces; cams and roller trippers for a button drilling machine. il Steel 107:76-7 N 11 '40; Same. Iron Age 146:49 S 5 '40
Reducing mill machinery wear by facing the wearing surface. il diags Blast F & Steel Pl 27:1242-5 D '39
Reducing the cost of metal spraying; new gun uses acetylene, propane, natural gas, or coal gas. E. T. Parkinson. il Steel 107:46-9 S 9 '40
Repair by welding of a cast-steel hydraulic cylinder. il diag Engineering 149:475-7, pl 25 My 10 '40
Salvaging of equipment by metal spraying. J. E. Hubel. il Metal Ind 37:571-2+ D '39
Steel selection guide; physical properties, machinability, cost, application and heat treatment of machinery steels. A. W. Ainsworth. Steel 106:68-70 Ja 22 '40

Manufacture

Angle iron in welded machine construction. J. E. Hyler. diags Power Pl Eng 44:87 S '40
Flame-cutting and electric unionmelt welding in the preparedness program. D. E. Roberts. il Mach 47:122-3 O '40
Increasing the utility of die-castings by inserts. diags Mach 46:110-13 My '40
Stahlleichtbau bei werkzeugmaschinen; grundlagen und ausführungsbeispiel. C. Krug. il diags V D I 84:11-16 Ja 6 '40
Weld-fabrication essentials. L. S. McPhee. il Iron Age 145:42-4 Mr 28 '40
Welded tubular frame solves heavy machine construction problem. E. Walters. il Mach 46:170-1 Ja '40

See also
Assembling methods
Cylinders (engines, etc.)—Manufacture
Machine shops
Machine works

Noise

Rubber mountings for industrial equipment. W. C. Keys. il diag Steel 106:44-7+ Ap 8 '40

Safety devices

Engine lathes; hazards and precautions. Nat Safety N 42:51-2 Jl '40
Guarding the machine; standard materials and dimensions for guards. Nat Safety N 41:106+ Mr '40
Inaccessible gears; safety order of Industrial accident commission of California. Safety Eng 79:34 My '40
Lubrication; safety measures. il Nat Safety N 41:83+ Mr '40
Machine hazards vs. man failure. H. W. Heinrich. il Safety Eng 79:27-8 Ja '40

Speed

Velocity-graph analysis for solving problems encountered in high-speed motions. H. E. Golber. Product Eng 11:311-13, 369-71 Jl-Ag '40

Standards

Blacklash for spur gears; reference book sheet. diag Am Mach 84:63 F 7 '40
Involute spline standard meets widespread demand. C. H. Stanard and C. K. Lenning. il diags Ind Stand 11:89-91 Ap '40
Involute-spline standards; reference book sheet. diags Am Mach 84:431, 433, 473, 475, 511, 513 Je 12-Jl 10 '40

Testing

High-speed photography applied to the study of machine performance. E. M. Watson. il Product Eng 11:340-3 Ag '40

Transportation

Compressors shipped to tropics in airtight cases. il diag Comp Air M 45:6222 Ag '40
Frankenstein trailer for heavy hauling. L. P. Stockman. il Oil & Gas J 38:34 Mr 7 '40
Unitized equipment cuts cost of moving north Texas rotary. D. H. Stormont. il Oil & Gas J 39:46+ Je 20 '40
Wire strapping saves in work, material, freight; no crates used. il Steel 106:71+ My 20 '40

Vibration

Erratic vibration, a case for the specialist. R. P. Kroon. diags Power 84:212-15 Ap '40
Investigation into centrifugal governor vibration. G. R. Allan. diag Inst Mech Eng J & Proc 142:60-2 Mr '40
Investigation of the fretting corrosion of closely fitting surfaces. G. A. Tomlinson, P. L. Thorpe and H. J. Gough. diags Inst Mech Eng J & Proc 141:Proc 223-37, pl 1-8 My '39; Discussion. 141:Proc 238-49; 142: Proc 401-6, pl 9-10 My '39. Mr '40
Lamp performance improved; proper protection from vibration. J. D. Hall. il diags Textile World 90:79 O '40
Machine-vibration isolator announced by Johns-Manville. il Marine Eng 45:67 Je '40; Same. Sci Am 163:121-2 S '40

MACHINERY—Vibration—*Continued*
Rubber mountings for industrial equipment. W. C. Keys. il diag Steel 106:44-7+ Ap 8 '40
Up, down and sideways; use of cork, felt, and springs for isolation of vibratory air conditioning machinery. il diags Dom Eng 155:44-5+ Je '40
Vibration; its effect on heat transfer. W. E. Mason and L. M. K. Boelter. bibliog Power Pl Eng 44:43-4+ Je '40
See also
Compressors—Vibration
Machinery—Noise

MACHINERY, Kinematics of
Acceleration diagrams for mechanisms. E. Giffen. Engineering 150:213-16 S 13 '40
Kinematic synthesis of mechanisms. A. E. R. deJonge. diags Mech Eng 62:537-42 Jl '40
Kinematics of machines. G. L. Guillet. 4th ed 300p $3 Wiley '40
Mechanism and the kinematics of machines. W. Steeds. 319p $5 Longmans '40
See also
Mechanical movements

MACHINERY, Replacement of
Depreciation and replacement of machinery. H. Gutteridge. Mech Handling 27:32 F '40
Don't expect all new equipment to pay out in three years. W. W. Gaylord. Factory Management 98:52 F '40
Economics of investment in new manufacturing equipment, with concrete cases; abstract. J. R. Bright. Mech Eng 62:147 F '40
Progress rides the coat-tails of obsolescence; Internal revenue bureau should encourage highest supportable depreciation rates for income tax purposes. E. C. Clarke. Iron Age 145:32-5 My 30 '40
Relation of depreciation provisions to replacement; testimony of O. L. Altman and A. H. Hansen before the Temporary national economic committee. G. O. May. J Account 69: 341-7; 70:69-70 My, Jl '40
Replacement problem formula. E. H. Freeman. J Eng Educ 30:606-7 Mr '40
Unamortized values in replacement studies. E. P. De Garmo. J Eng Educ 30:65-6 S '39; Discussion. W. E. Goetz. 30:716-18 Ap '40

MACHINERY, Used
New machines for old; parts of obsolete machine used in new one. E. J. Stone. il Steel 107:66 Jl 8 '40

MACHINERY handling
Machine transfer method; special hanger with locking pin permits low-level lift truck to move heavy machines. A. L. Wilkinson. il diags Steel 107:60+, 62-3 S 30 '40; Abstract. Mech Eng 62:741 O '40

MACHINERY in industry
America at the crossroads. S. S. Laucks. 91p pa 50c S. S. Laucks, Central national bank bldg, York, Pa. '40
Benefits of technological developments; abstracts. E. B. Ford. Iron Age 145:71-5 Ap 18 '40; Automotive Ind 82:430-1+ My 1 '40; Inv Banking 10:23-5 Jl '40
Contribution of the engineer; defense of the machine. W. W. Fineren. il Cornell Eng 5:5-8 D '39
Economic effects of cost reductions; impact of technological change upon labor. C. S. Golden. Advanced Management 5:104-9 Jl-S '40
Economics for industrial engineers. G. D. Wilkinson, jr. Advanced Management 5: 116-19+ Jl-S '40
Employment in relation to technical progress; labor productivity, employment, output, and prices in the United Kingdom, 1930-35. H. Staehle. R Econ Statis 22:94-100 My '40
Hook and Ford show TNEC how technological progress has created jobs. Iron Age 145:62+ Ap 18 '40
Industrial mechanisation and its effect on the operative. S. Wyatt. Mech Handling 26:323-5 N '39
Labor saving machines make more jobs. J. W. Macklin. il Nation's Business 28:18-21+ Ja '40
Let's nurture the machine and reduce technological unemployment! C. J. Stilwell. il Iron Age 145:36-9 Je 20 '40
Machinery made misery. J. J. Tigert. Iron Age 145:54-5 Ap 25 '40
Machines and jobs; Caterpillar Tractor problem explodes the theory that technology makes for unemployment. L. J. Fletcher. Ptr Ink 193:77, 80-3 N 15 '40
Man-power. A. Roebuck. Inst Mech Eng J & Proc 143:Proc 215-17 Je '40
Mechanization, employment, and output per man in bituminous-coal mining. W. E. Hotchkiss and others. 2v 436p Work projects administration, Washington, D.C. '39
Mechanization in the brick industry. A. J. Van Tassel and D. W. Bluestone. 83p bibliog(p78-83) Work projects administration, Washington, D.C. '39
Mechanization in the cement industry. G. Perazich, S. T. Woal and H. Schimmel. 113p Work projects administration, Washington, D.C. '39
Mechanization in the lumber industry; a study of technology in relation to resources and employment opportunity. A. J. Van Tassel and D. W. Bluestone. 201p Work projects administration, Washington, D.C. '40
Promise and problem of technological progress. J. Lloyd. il Mag of Wall St 66:78-80+ My 4 '40
Technological changes and employment in the steel industry; testimony at hearing before Temporary national economic committee. Monthly Labor R 50:1112-18 My '40
Technology and labor; a study of the human problems of labor saving. E. D. Smith and R. C. Nyman. 222p $2.50 Yale univ. press '39; Review, by C. A. Myers. Mech Eng 62: 23-4 Ja '40; Review, by S. Barkin. Personnel J 18:237-43 Ja '40
TNEC finds job problems but no simple answer; summary of hearings on technologic change and its effect upon employment. Mech Eng 62:510 Je '40
Temporary national economic committee hearings on effect of machines on men; testimony of Kettering, Ford and Hook. Comm & Fin Chr 150:2353 Ap 13 '40
TNEC told farm mechanization has cut production costs, reduced hours of work. Iron Age 145:64+ My 2 '40
Trade-union policy and technological change. H. Ober. bibliog 129p Work projects administration, Washington, D.C. '40
Unemployment and technological change. C. Gill. 21p gratis Work projects administration, Washington, D.C. '40
Unemployment is the real threat to machine. J. C. O'Mahoney. Iron Age 145:81G-81H Ap 18 '40
What proof is there that mechanization creates jobs; graphs. Factory Management 98:E6-E8 Ag '40
Why America lives as well as it does today. il Factory Management 98:B1-B12 Ag '40
See also
Coal mining machinery
Control equipment
Labor productivity
Machinery, Replacement of

MACHINERY industry
Leaders in march of mechanization; output of machine tools and Diesel engines at record-breaking levels J. V. Sherman. Barron's 20:9 Jl 1 '40
Machinery. For Comm W 1:225-6 N 2 '40
Manufacturers, distributors review problems; triple convention, Dallas, April 22-24. Steel 106:25+ Ap 29 '40
See also
Agricultural machinery industry
Automobile industry and trade
Locomotive industry
Machine tool industry
Motor truck industry
also Allis-Chalmers manufacturing company

MACHINERY Industry—*Continued*

Directories

Index to the manufacturers of aircraft and engine machinery. Aero Digest 36:128+ Ja '40

Manufacturers of production tools. il Aviation 38:48-50+ D '39

Shop equipment review. il diags Am Mach 84: 57-295 Ja 24 '40

Securities

First 100 years were the hardest; Worthington pump and machinery outlook. R. Colston. il Mag of Wall St 66:537+ Ag 10 '40

Machinery and equipment, 1937-39. Mag of Wall St Manual p29-32 Mr 2 '40

Statistics

Industrial America; machinery, not including transportation equipment; Printers' Ink market explorations. Ptr Ink Mo 41:38-9, 41 O '40

Machinery and apparatus, 1936-1939. Survey of Cur Business 1940 Sup p138-40 [supplemented in monthly numbers]

Machinery production, revision; monthly, 1923-June, 1940. Fed Res Bul 26:828 Ag '40

Metal-working machinery exports in 1939 at record level. Mach 46:168 Ap '40

Production of metal-working machinery and equipment (other than machine tools and accessories) 1939 and 1937; tabulation. Mach 47:166 N '40

U.S. metal-working machinery exports at $117,473,885 for '39. Iron Age 145:58 Mr 14 '40

Canada

Special report on machine shops in Canada, 1938. 12p pa 25c Canada. Dominion bur. of statistics, Ottawa '40

France

Anglo-French industrial interests. Engineer 169:392-3 Ap 26 '40

Great Britain

Engineering in 1939. Economist 138:sup41-2 F 17 '40

Engineering outlook. Engineering 149:16-17, 108-11, 135-7, 162-3, 192-4, 218-20, 243-5, 272-4, 299-301, 322-5, 364-6, 379-81 Ja 5, F 2-Ap 12 '40

Export of internal combustion engines; Internal combustion engine manufacturers' association war export group. Engineer 169: 332 Ap 5 '40

Importation of machinery and parts; prohibition orders. P. Bousfield. Engineer 169:210 Mr 1 '40

Licensing of machinery imports. Engineering 148:509 N 3 '39

Latin America

Machinery in Latin America. L. M. Lind. Iron Age 145:120+ Ja 4 '40

United States machinery trade with Latin America continued at high level in 1939. E. H. Young. Comm Rep p313-14 Ap 6 '40

United States

American metal working machinery exports. Manuf Rec 109:34 Ap '40

United States foreign trade in machinery, 1939. E. H. Young. Comm Rep p444+ My 18 '40

War and United States industrial machinery imports. R. Wilhelm. Comm Rep p1206+ D 23 '39

MACHINISTS

Apprenticeship in the machine-tool industry. E. H Neff. Mech Eng 62:471-2 Je '40

See also

Machine shops—Employees

MACHINISTS, International association of. See International association of machinists

MCINTYRE, James

Journal veteran retires from service. C. O. Willson. por Oil & Gas J 39:13 Jl 4 '40

MCKEE, Ralph Harper, 1874-

Fathers and sons in chemistry. por Ind & Eng Chem News ed 18:77-8 Ja 25 '40

MCKEE, William Noyes, 1910-

Fathers and sons in chemistry. por Ind & Eng Chem News ed 18:77-8 Ja 25 '40

MCKENZIE, William H. 1862-

Sixty-three years in the gas business. por Am Gas J 152:29 F '40

MCKESSON and Robbins, Inc.

Directors agree to surrender stock. Oil Paint & Drug Rep 138:5 O 14 '40

McKesson & Robbins comeback. S. Devlin. il Mag of Wall St 66:170-1+ My 18 '40

McKesson & Robbins; its fall and rise. il Fortune 21:72-5+ Mr '40

Protective committee objects to reorganization plans. Oil Paint & Drug Rep 136:30 D 18 '39

Reorganization plan. Comm & Fin Chr 151: 2803 N 9 '40

Reorganization planned for 1940. Oil Paint & Drug Rep 137:3+ My 13 '40

Sales; reorganization progress. Comm & Fin Chr 151:2355 O 19 '40

Seven sentenced. Comm & Fin Chr 150:3363 My 25 '40

Trustee discusses plan for drug firm. Comm & Fin Chr 149:3561 D 2 '39

Trustee files plan of reorganization. Oil Paint & Drug Rep 138:5+ N 11 '40

Trustee outlines reorganization steps. Oil Paint & Drug Rep 136:5+ D 4 '39

Trustees' report. Comm & Fin Chr 150:3518-19 Je 1 '40

United States of America before the Securities and exchange commission in the matter of McKesson & Robbins, inc. 638p U.S. Securities and exchange commission, Washington: 65c Supt. of doc. '39

MCKINLEY, John Milton, 1882-1940

Sketch. bibliog por Am Cer Soc Bul 19:240-1 Je '40

MACLEOD constant

Macleod constant and its dependence on physicochemical factors. D. T. Lewis. bibliog J Phys Chem 44:1007-11 N '40

MACMANUS, Theodore Francis, 1873-1940

Copy's giants. L. R. Alwood. Ptr Ink 193:19-21 N 8 '40

T.F.M.'s last advertisement. Ptr Ink 192:22 S 27 '40

MCNARY, Charles Linza, 1874-

Speech accepting Republican vice-presidential nomination. Comm & Fin Chr 151: 1220-1 Ag 31 '40

MCNELIS, Catherine

McNelis defense begins. Ptr Ink 189:24 D 29 '39

McNelis group found guilty. Ptr Ink 190:21 Ja 5 '40

Tower officials sentenced. Ptr Ink 190:78-9 Ja 19 '40

MACON county, Illinois

Planning progress in Decatur and Macon county. A. N. Buck. In Ill U Eng Exp Sta Circ 41:97-104 '40

MCPHEE, Douglas Gordon, 1902-1940

Business men start Douglas McPhee memorial fund for beloved editor; to be used for scholarship in western university. Am Business 10:41 Ap '40

Sketch. Ptr Ink 190:22 F 16 '40

MACY, R. H., and company

Captain Macy. R. M. Hower. Harvard Business R 18 no 4:472-87 [Jl] '40

Comparative consolidated profit and loss statement, 52 weeks ending Jan. 30, '37 to 53 weeks ending Feb. 3, '40. Comm & Fin Chr 150:3519 Je 1 '40

Macy goods in super-market. Ptr Ink 190: 20 F 2 '40

Macy's branches out; establishes first star item unit in Syracuse. Business Week p37-8 Ag 31 '40

Macy's chain; new unit in Syracuse and another projected for the Bronx. Business Week p54-6 N 16 '40

R. H. Macy and Marshall Field; contrasting trends. P. Dobbs. il Mag of Wall St 65: 814-15+ Ap 6 '40

MACY, R. H., and company—*Continued*
Report on the shares. Mag of Wall St 66:247-8 Je 1 '40
What is retarding R. H. Macy? the problems, and the methods being adopted to solve them. P. Dobbs. il Mag of Wall St 67:160-1+ N 16 '40

MACY, Rowland Hussey, 1822-1877
Captain Macy. R. M. Hower. Harvard Business R 18 no 4:472-87 [J1] '40

MADAGASCAR
In the wake of a traveling engineer. J. C. Cosgrove. il Explosives Eng 17:339-40 N '39

MADEMOISELLE (periodical)
Copy clinic. E. B. Smith. il Adv & Sell 33: 56, 58+ Je '40
Smart young Mlle. Sales Management 47:50 Jl 15 '40

MADISON, Wisconsin
See also
Housing—Madison, Wisconsin

MAGINOT line. See France—Defenses

MAGISTRATES' courts. See New York (city)—Magistrates' courts

MAGMATIC gases. See Volcanic gases

MAGNA carta
Library of Congress receives Magna carta for duration of European war. Comm & Fin Chr 149:3490 D 2 '39

MAGNAFLUX testing. See Magnetic testing

MAGNESIA
Adsorption analysis; the adsorption of higher fatty acids. H. G. Cassidy. bibliog Am Chem Soc J 62:3073-6 N '40
Advances on many fronts; sea water bitterns. il Chem & Met Eng 46:685 N '39
Compressed magnesia as electrical insulator. A. Gemant and F. A. Glassow. Franklin Inst J 230:471-81 O '40
Economic disposal of waste sulphite liquor; chemical and waste heat recovery; use of magnesia. G. H. Tomlinson and L. S. Wilcoxson. flow diags plan Paper Tr J 110:31-8 Ap 11 '40; Same. Pulp & Pa of Can 41:391-8 My '40
Effect of magnesia and low alumina in blast furnace slags on furnace operation and desulphurization. L. F. Sattele. Blast F & Steel Pl 28:659-64 Jl '40
Expansions in the autoclave caused by magnesia. H. H. Vaughan. Rock Prod 43:48-50 Ap '40
Factors affecting adsorptive power of magnesia for carotene. G. S. Fraps, A. R. Kemmerer and S. M. Greenberg. bibliog Ind & Eng Chem Anal ed 12:16-18 Ja 15 '40
Lining a small induction furnace. G. F. Comstock. Metal Prog 36:759-60 D '39
Magnesia from Canadian brucite; possibilities of commercial utilization of deposits. il Can Chem & Process Ind 24:3-5+ Ja '40
Removal of silica from water by hot process. L. D. Betz, C. A. Noll and J. J. Maguire. il diag Ind & Eng Chem 32:1323-9 O '40
Sensitive method of flow control; plant for the production of magnesium oxide from sea-water bittern. M. G. Mastin. diag Instruments 13:214-15 Ag '40
Slow cooling of ingots; use of limestone and magnesia for thermal insulation. W. J. Rees. diag Iron & Steel Inst J 139:315-18; Discussion. 319-20 no 1 '39
Study of the recrystallization of magnesia. H. G. Schurecht and V. D. Fréchette. bibliog il Am Cer Soc J 23:134-6 My '40
Use of magnesite in kiln linings. A. W. Comber. Concrete (mill sec) 48:268+ N '40

MAGNESIA brick
Magnesia brick linings for cement kilns permit use of high temperatures. F. Kremer. Concrete (mill sec) 48:106-7 Ja '40

MAGNESIA cement. See Cement—Magnesia cement

MAGNESITE
Improved magnesite crucible. W. J. Crook, J. R. Cunningham and J. R. Cady. bibliog il diag Ind & Eng Chem Anal ed 12:48-51 Ja 15 '40
Magnesite as a war material; abstract. A. W. Comber. Chem Age (Lond) 41:sup31 D 2 '39
Magnesite output in Manchukuo reviewed. Ind & Eng Chem News ed 17:709 N 20 '39
Modulus of elasticity of magnesite refractories; method of improving mechanical strength of unfired magnesite refractories at ordinary and high temperatures; abstract. S. Kondo and H. Yoshida. Am Cer Soc J 23 (Cer A 19):116 My '40
Study of the recrystallization of magnesia. H. G. Schurecht and V. D. Fréchette. bibliog il Am Cer Soc J 23:134-6 My '40
Use of magnesite in kiln linings. A. W. Comber. Concrete (mill sec) 48:268+ N '40

Analysis
Detection of lime in magnesite; abstract. F. Schwarz. Am Cer Soc J 23 (Cer A 19):200 Ag '40

MAGNESITE brick
Expansion of various refractories. A. M. Morton. il Blast F & Steel Pl 28:665-6 Jl '40
Refractories at Noranda smelter. W. B. Boggs. diags Am Cer Soc Bul 19:338-40 S '40
Spalling and cracking of fireclay and other refractory materials. L. Hickman. Blast F & Steel Pl 28:833-4 Ag '40
Trends in refractories for the basic open-hearth furnace. R. P. Heuer. bibliog il diags Metals & Alloys 11:152-5 My '40
See also
Chromite magnesite brick

MAGNESIUM
Aluminum and magnesium products with corresponding federal, army, navy, S.A.E. and A.S.T.M. specifications; reference book sheet. Product Eng 11:535-6 N '40
Anomalous scattering of fast neutrons. M. R. MacPhail. bibliog Phys R 57:669-76 Ap 15 '40
As it was in 1915 and as it is in 1940. J. A. Gann. Metal Prog 37:293 Mr '40
Dispersion of supersonic waves in cylindrical rods of polycrystalline silver, nickel, and magnesium. S. K. Shear and A. B. Focke. bibliog diags Phys R 57:532-7 Mr 15 '40
Evidence for incorrect assignment of the supposed Si^{27} radioactivity of 6.7-minute half-life. H. A. Bethe and W. J. Henderson. bibliog Phys R 56:1060-1 N 15 '39
Fundamental relation between lattice constants and density. F. Foote and E. R. Jette. bibliog Phys R 58:81-6 Jl 1 '40
Grand Coulee and electrometallurgical industries. A. E. Drucker. Mech Eng 62:661-2 S '40
Isotope shift in magnesium. J. P. Vinti. bibliog Phys R 56:1120-32 D 1 '39
Magnesium and its alloys. L. B. Grant. Metal Prog 38:535+ O '40
Magnesium as a control agent for zinc anodes; abstract. R. O. Hull. Iron Age 145:43-4 Je 27 '40
Magnesium from sea water; plant to be erected by Dow chemical co. Min & Met 21: 246 My '40
Magnesium patents investigated by U.S. Oil Paint & Drug Rep 138:3+ S 2 '40
Mazlo expanding. Business Week p37-8 N 9 '40
Metal from the sea; plant will extract lightweight industrial metal, magnesium, from solution. il Sci Am 163:62-3 Ag '40
Mining magnesium from the sea; Dow chemical co. il Sheet Metal Worker 31:29 Ag '40
Molding and casting magnesium; Adrian plant of Magnesium fabricators inc. A. H. Allen. il Steel 105:36-8 D 25 '39
Nuclear energy levels in magnesium. T. R. Wilkins and G. Wrenshall. Phys R 58:758 O 15 '40
Physicochemical aspects of bacterial growth; influence of magnesium on the lag phase in the growth of bact. lactis aerogenes in synthetic media containing phosphate. R. M. Lodge and C. N. Hinshelwood. Chem Soc J p1692-7 N '39

MAGNESIUM—*Continued*
Le premier Congrès italien de l'aluminium et du magnésium, Milan, 20-22 octobre 1939. R. Dupont. Chimie & Ind 43:449-52 Mr 20 '40
Principal *M*-series emission lines of tungsten and the *K* absorption of magnesium and aluminum. J. H. Munier, J. A. Bearden and C. H. Shaw. bibliog diag Phys R 58: 537-43 S 15 '40
Production of magnesium and manganese; effect of cheap electrical power in Pacific Northwest. W. Davis. Science 91:sup 8-9 Mr 8 '40
Progress reports, Metallurgical division; annual report, fiscal year 1939. R. S. Dean, pls U S Bur Mines Rep of Invest 3480:43-53 '40
Sea water, but pay dirt for Dow; wide variety of strategic minerals from the ocean. Business Week p20, 22-3 S 21 '40
Self-consistent fields and diamagnetic susceptibility for magnesium III. W. J. Yost. bibliog Phys R 58:557-60 S 15 '40
To double output of magnesium; Dow chemical co. extracts minute amounts from sea water. Barron's 20:5 Mr 25 '40

Analysis

Colorimetric microdetermination of magnesium. C. P. Sideris. Ind & Eng Chem Anal ed 12:232-3 Ap 15 '40
Determination of magnesium in biological materials; an oxidation method. J. P. Nielsen. Ind & Eng Chem Anal ed 11:649-51 D 15 '39
8-Hydroxyquinoline as a reagent for the determination of magnesium, especially in carbonate and silicate rocks. C. C. Miller and I. C. McLennan. Chem Soc J p656-9 My '40
Motorized apparatus for the rapid determination of calcium and magnesium in water. W. F. Langelier. bibliog il diag Am Water Works Assn J 32:279-93 F '40
Test for magnesium with *p*-nitrobenzeneazoresorcinol; the effect of diverse ions. J. P. Mehlig and K. R. Johnson. bibliog Ind & Eng Chem Anal ed 12:30-1 Ja 15 '40

MAGNESIUM alloys
Casting magnesium alloys; abstract. W. F. Chubb. Metals & Alloys 12:75-6 Jl '40
Casting magnesium alloys; composite of abstracts. Metals & Alloys 11:MA192-3 Ap '40
Compositions, properties, and designations of American commercial alloys; tabulation. H. S. Jerabek, W. H. Gross and R. T. Wood, comps. Metal Prog 37:159; 38:534 F, O '40
Corrosion of metals used in aircraft. W. Mutchler. bibliog J Research Nat Bur Stand 25:75-82, pl 1-12 Jl '40
Corrosion protection of magnesium and its alloys; abstract. B. Wullhorst. Metals & Alloys 11:MA41 Ja '40
Dowmetal. Ptr Ink 192:71-2 Ag 23 '40
Fatigue of light metals; a composite of abstracts. Metals & Alloys 12:572 O '40
Finishing magnesium alloys; composite of abstracts. Metals & Alloys 11:MA341 Je '40
Forging magnesium alloys; abstract. Metals & Alloys 11:MA89 F '40
Large assembly jig of magnesium alloy. il Iron Age 145:47 Mr 7 '40
Magnesium alloy die castings. A. W. Winston. il diags Am Soc T M Proc 39:284-96 '39
Magnesium alloy frame jig for mounting Buick engine. il Steel 106:38-9 F 26 '40
Magnesium alloys for photoengraving. R. T. Wood. il Metals & Alloys 11:33-41 F '40
Magnesium and its alloys. L. B. Grant. Metal Prog 38:535+ O '40
Magnesium castings used in Germany. Metal Prog 37:63+ Ja '40
Magnesium for aircraft construction. E. W. Conlon. bibliog il diags J Aeronautical Sci 7:252-5 Ap '40
Magnesium for lightness. C. E. Colegrove. il diag Product Eng 11:116-17 Mr '40
Magnesium in aircraft. N. E. Woldmam. bibliog il Metals & Alloys 12:430-5 O '40
Modern aircraft materials and their testing. K. R. Jackman. il S A E J 47:461-73+ N '40
Physical characteristics of typical cast and wrought magnesium-base alloys; tabulation. Am Mach 84:294-5 My 1 '40
Preparation of Grignard reagents from magnesium amalgams. E. G. Rochow. Am Chem Soc J 61:3591 D '39
Primers for magnesium alloys. Oil Paint & Drug Rep 138:50 N 4 '40
Production of magnesium-alloy aircraft parts. L. B. Grant. il S A E J 47:325-31 Ag '40; Same cond. Iron Age 144:36-9 N 2 '39; Excerpts. Aviation 38:36-7+ N '39
Protective coatings for magnesium alloys. T. P. Hoar. Engineer 168:sup[Metallurgist] 67-70 O 27 '39; Abstract. Metal Prog 37:168+ F '40
Punkt- und nahtschweissung von leichtmetallen. C. Haase. il V D I 84:89-96 F 10 '40
Resistance of aluminum-magnesium alloys to attack by sodium carbonate solutions. R. B. Mears and L. J. Benson. bibliog Ind & Eng Chem 32:1343-7 O '40
Stress corrosion of wrought aluminum-magnesium alloys; abstract. A. Mühlenbruch and H. J. Seemann. Metals & Alloys 11: MA99 F '40
Surface treatment of magnesium alloys. L. Grant. Metal Ind 37:544-5, 605-6 N-D '39
To double output of magnesium; Dow chemical co. extracts minute amounts from sea water. Barron's 20:5 Mr 25 '40
Welding magnesium alloy sheets. diags Iron Age 145:48-9 Ja 18 '40
Working of magnesium alloys. diags Am Mach 84:291-302 My 1 '40

Testing

Effect of continuous weathering on light metal alloys used in aircraft. W. Mutchler. bibliog il diags U S Nat Advisory Com for Aeronautics 1939:395-421 '40
Der einfluss von betriebspausen auf die zeit- und dauerfestigkeit metallischer werkstoffe. F. Bollenrath and H. Cornelius. il diags V D I 84:295-9 My 4 '40

MAGNESIUM ammonium chromate
Some further solid solutions of picromerites, at 25°. A. E. Hill, G. C. Soth and J. E. Ricci. bibliog Am Chem Soc J 62:2717-23 O '40

MAGNESIUM ammonium selenate
Some further solid solutions of picromerites, at 25°. A. E. Hill, G. C. Soth and J. E. Ricci. bibliog Am Chem Soc J 62:2717-23 O '40

MAGNESIUM ammonium sulfate
Some further solid solutions of picromerites, at 25°. A. E. Hill, G. C. Soth and J. E. Ricci. bibliog Am Chem Soc J 62:2717-23 O '40
Ternary systems; solid solutions of some picromites at 25°. A. E. Hill, G. S. Durham and J. E. Ricci. bibliog Am Chem Soc J 62:1031-6 My '40

MAGNESIUM bromide
System *n*-butylmagnesium bromide—magnesium bromide—ethyl ether. W. E. Doering and C. R. Noller. Am Chem Soc J 61:3436-7 D '39

MAGNESIUM carbonate
Chemical nature of precipitated basic magnesium carbonate. J. R. I. Hepburn. Chem Soc J p96-9 Ja '40
Factors affecting adsorptive power of magnesia for carotene. G. S. Fraps, A. R. Kemmerer and S. M. Greenberg. bibliog Ind & Eng Chem Anal ed 12:16-18 Ja 15 '40

Analysis

Determination of carbon dioxide in aqueous solution. J. R. I. Hepburn. diag Soc Chem Ind J 58:340-2 N '39

MAGNESIUM chloride
Production of anhydrous magnesium chloride. L. M. Pidgeon and N. W. F. Phillips. bibliog diag Electrochem Soc Trans 78 (preprint 20):273-95 O '40; Same cond. Can Chem & Process Ind 24:502-4 O '40
Les recherches de sels de potasse et de magnésie dans le Bearn (Basses-Pyrénées). G. Vié. Génie Civil 116:267-8 Ap 20 '40

MAGNESIUM chromate
Systems magnesium chromate-water and ammonium chromate-water from 0 to 75°. A. E. Hill, G. C. Soth and J. E. Ricci. Am Chem Soc J 62:2131-4 Ag '40

MAGNESIUM compounds
Organic compounds of tantalum; reaction of tantalum pentachloride with organic magnesium compounds. B. N. Afanasyev. bibliog Chem & Ind 59:631-3 S 7 '40
Reaction between 2,3-dimethyl-1,4-naphthoquinone and phenylmagnesium bromide. H. M. Crawford. Am Chem Soc J 61:3310-14 D '39
Removal of silica from water. A. S. Behrman and H. Gustafson. bibliog il diag Ind & Eng Chem 32:468-72 Ap '40

See also
Grignard reagents

MAGNESIUM halides
Electrolysis of some higher aliphatic organomagnesium halides in ethyl ether. W. V. Evans, D. Braithwaite and E. Field. Am Chem Soc J 62:534-6 Mr '40

MAGNESIUM hydroxide
Adsorption of nitrous oxide on certain pseudomorphs. A. B. Lamb and C. D. West. bibliog Am Chem Soc J 62:3176-80 N '40
Effect of carbonate-ion concentration in water softening. T. E. Larson. bibliog Ind & Eng Chem 32:1240-1 S '40
Prevention of silicosis; experimental investigations on the action of certain non-siliceous dusts and silica in the origin and development of silicosis. C. Naeslund. J Ind Hygiene 22:1-30 bibliog(p28-30) Ja '40
Theoretical limits of the lime-soda method of water softening. T. E. Larson and A. M. Buswell. bibliog il Ind & Eng Chem 32: 130-2 Ja '40
Water softening; sign of the charge on colloidal particles of hydrous alumina, hydrous magnesium, and calcium carbonate. T. E. Larson and A. M. Buswell. bibliog il Ind & Eng Chem 32:132-3 Ja '40

See also
Milk of magnesia

MAGNESIUM iodide
Addition of magnesium iodide to camphor and terpene derivatives. S. T. Bowden and T. F. Watkins. Chem Soc J p1961 D '39
Partially inverted multiplets in MgI. L. Pincherle. Phys R 58:251-4 Ag 1 '40

MAGNESIUM oleate
Studies in water-in-oil emulsions; the effect of the relative phase volumes on the type of emulsions stabilised by magnesium oleate. R. C. Pink. Chem Soc J p211-12 F '40

MAGNESIUM oxide. See Magnesia

MAGNESIUM perchlorate
Magnesium perchlorate explosion. Can Chem & Process Ind 24:478 S '40

MAGNESIUM phosphate
Industrial uses of chemicals and related materials; magnesium phosphate, tribasic. Oil Paint & Drug Rep 138:30 Jl 29 '40

MAGNESIUM potassium selenate
Some futher solid solutions of picromerites, at 25°. A. E. Hill, G. C. Soth and J. E. Ricci. bibliog Am Chem Soc J 62:2717-23 O '40

MAGNESIUM silicates
Gelation of magnesium silicate suspensions by carbon dioxide and other agents. R. Roseman, H. Eisenberg and M. B. Levin. Am Chem Soc J 62:676 Mr '40

See also
Forsterite
Monticellite
Talc

MAGNESIUM sulfate
Modified procedure for testing concrete aggregate soundness by use of magnesium sulfate. C. E. Wuerpel. Am Soc T M Proc 39:882-9; Discussion. 890-1 '39
System magnesium sulfate, cadmium sulfate and water at 25 and 40°. W. C. Vosburgh and others. Am Chem Soc J 62:1472-3 Je '40

MAGNESIUM uranyl acetate
Determination of sodium in the presence of other metals. E. C. Elliott. bibliog Ind & Eng Chem Anal ed 12:416-17 Jl 15 '40

MAGNET wire. See Electric wire

MAGNETIC field
Design of a magnetic beta-ray spectrometer. J. L. Lawson and A. W. Tyler. bibliog diags R Sci Instr 11:6-18 Ja '40
Earnshaw's theorem. L. Tonks. Elec Eng 59:118-19 Mr '40
Effect of hyperfine structure upon the magnetic rotation of the plane of maximum polarization of resonance radiation. B. J. Miller. Phys R 58:258-62 Ag 1 '40
Electric and magnetic fields of a linear radiator carrying a progressive wave. F. M. Colebrook. bibliog diags Inst E E J 86:169-78 F '40; Discussion. 86:484 My '40
Electrical quadrupole moment of the deuteron; the radiofrequency spectra of HD and D_2 molecules in a magnetic field. J. M. B. Kellogg and others. bibliog Phys R 57: 677-95 Ap 15 '40
Electron optics of cylindrical electric and magnetic fields. A. Rose. bibliog il diags Inst Radio Eng Proc 28:30-40 Ja '40
Experimental investigation of resonance and electronic oscillations in magnetrons. J. S. McPetrie and L. H. Ford. bibliog Inst E E J 86:283-92 Mr '40
High frequency behavior of a space charge rotating in a magnetic field. J. P. Blewett and S. Ramo. diags Phys R 57:635-41 Ap 1 '40
Influence of magnetic fields on damping capacity. E. R. Parker. bibliog il Am Soc for Metals Trans 28:661-8; Discussion. 668-70 S '40
Magnetic cooling; the production and measurement of temperatures below 1°K. C. F. Squire. bibliog il diags J Ap Phys 11:232-40 Ap '40
Mechanical model for the motion of electrons in a magnetic field. A. Rose. il diag J Ap Phys 11:711-17 N '40
Method for improving the uniformity of the central magnetic field in a thick solenoid. L. W. McKeehan. bibliog R Sci Instr 10: 371-3 D '39
Production of annular magnetic fields of great uniformity. M. Ference, A. E. Shaw and R. J. Stephenson. il diags R Sci Instr 11:57-62 F '40
Record-breaking magnetic field employed in new mass spectrometer. il Electronics 13: 40+ My '40
Report on Bartol research foundation; nature of the field in magnetized iron. W. F. G. Swann. il diag Franklin Inst J 230:307-14 S '40

See also
Cyclotron
Zeeman effect

MAGNETIC flux
Magnetic flux; a convenient direct-reading meter. G. S. Smith. il diags Electrician 123: 375-6 O 27 '39
Magnetism. diags Electrician 124:353-4, 367 My 10-17 '40
Self-induction. A. O'Rahilly. diags Inst E E J 86:179-87 F '40

MAGNETIC induction
Acceleration of electrons by magnetic induction. D. W. Kerst. Phys R 58:841 N 1 '40
Experiment on electromagnetic induction by linear motion. E. G. Cullwick. diags Inst E E J 85:315-18 Ag '39; Discussion. 86:96-7 Ja '40

See also
Hysteresis
Magnetostriction

MAGNETIC instruments
Production of annular magnetic fields of great uniformity. M. Ference, A. E. Shaw and R. J. Stephenson. il diags R Sci Instr 11:57-62 F '40

MAGNETIC materials
Compressed powdered molybdenum permalloy for high quality inductance coils. V. E. Legg and F. J. Given. bibliog il Bell System Tech J 19:385-406 Jl '40; Same cond. Metal Prog 38:284+ S '40
Heat treating magnetic alloys; composite of abstracts. Metals & Alloys 11:MA138+ Mr '40
Mechanism of magnetisation. T. F. Wall. diags Engineer 169:273-6, 294-7, 318-20, 342-4 Mr 22-Ap 12 '40
Metallic materials in the telephone system. E. E. Schumacher and W. C. Ellis. il Metal Prog 36:620-2 N '39; Same. Bell System Tech J 19:148-50 Ja '40
Metallographic identification of ferro magnetic phases; colloid pattern technique. H. S. Avery, V. O. Homerberg and E. Cook. bibliog il diag Metals & Alloys 10:353-5 N '39
Nickel-iron-aluminium permanent-magnet alloys. W. Betteridge. bibliog Iron & Steel Inst J 139:187-208 no 1 '39; Same abr. Engineering 147:632-4 My 26 '39; Discussion. Iron & Steel Inst J 139:209-10 no 1 '39
Physical basis of ferromagnetism; atomic structure of ferromagnetic elements gyromagnetic effect. R. M. Bozorth. bibliog il diags Bell System Tech J 19:1-39 Ja '40
Sintering of Alnico. G. H. Howe. il Iron Age 145:27-31 Ja 11 '40; Abstract. Metals & Alloys 11:MA204 Ap '40
Transformer steel takes a new turn; silicon steel as core material; new assembly method utilizes directional effect produced by rolling. W. E. Ruder. il diags Steel 106: 58-60 Je 3 '40
Vicalloy, a new magnetic alloy. Iron Age 146:51 Ag 1 '40
See also
Magnetic properties
Magnets

MAGNETIC measurements
Configuration of some cupric, nickelous and cobaltous complexes by means of magnetic measurements. G. N. Tyson, jr. and S. C. Adams. Am Chem Soc J 62:1228-9 My '40
Magnetic energy constants of dipolar lattices. J. A. Sauer. Phys R 57:142-6 Ja 15 '40
Magnetic flux; a convenient direct-reading meter. G. S. Smith. il diags Electrician 123: 375-6 O 27 '39
Magnetism; magnetic measurements. Electrician 124:436 Je 21 '40
See also
Magnetic testing

MAGNETIC mine. See Mines, Submarine

MAGNETIC moment
Electric quadrupole and magnetic dipole moments of Li^6 and N^{14}. M. E. Rose. bibliog Phys R 56:1064 N 15 '39
Magnetic moments of light nuclei. M. Phillips. bibliog Phys R 57:160-1 Ja 15 '40
Magnetic moments of odd nuclei. H. Margenau and E. Wigner. bibliog Phys R 58: 103-10 Jl 15 '40
Magnetic resonance of nonrotating fields. F. Bloch and A. Siegert. Phys R 57:522-7 Mr 15 '40
Neutron's magnetic moment. O. Halpern and M. H. Johnson. bibliog Phys R 57:160 Ja 15 '40
Nuclear magnetic moment of C^{13}. R. H. Hay. bibliog Phys R 58:180-1 Jl 15 '40
Quantitative determination of the neutron moment in absolute nuclear magnetons. L. W. Alvarez and F. Bloch. bibliog diags Phys R 57:111-22 Ja 15 '40
Relativistic magnetic moment of a charged particle. H. Margenau. Phys R 57:383-6 Mr 1 '40
Rotational magnetic moments of H_2, D_2, and HD molecules; the rotational radiofrequency spectra of H_2, D_2, and HD in magnetic fields. N. F. Ramsey, jr. bibliog Phys R 58:226-36 Ag 1 '40

MAGNETIC permeability
Magnetic permeability of some austenitic iron-chromium-nickel alloys as influenced by heat treatment and cold work. J. B. Austin and D. S. Miller. diag Am Soc for Metals Trans 28:743-55 S '40
Outer, initial permeability of nickel from 10 to 70 megacycles. J. B. Hoag and J. L. Glathart. Phys R 57:240 F 1 '40

MAGNETIC properties
Correlation between hardness and the magnetic properties of solid matter. S. R. Williams. bibliog il diags Instruments 13: 188-94 Jl '40
Dependence of ferromagnetic anisotropy on the field strength. L. P. Tarasov. Phys R 56:1224-30 D 15 '39
Ferromagnetic anisotropy, magnetization at saturation, and superstructure in Ni_3Fe and nearby compositions. E. M. Grabbe. bibliog Phys R 57:728-34 Ap 15 '40
Ferromagnetic anisotropy of iron and iron-rich silicon alloys. L. P. Tarasov. Phys R 56:1231-40 D 15 '39
Ferromagnetic anisotropy of low nickel alloys of iron. L. P. Tarasov. Phys R 56:1245-6 D 15 '39
Interpretation of ferromagnetic colloid patterns on ferromagnetic crystal surfaces. W. C. Elmore. bibliog Phys R 58:640-2 O 1 '40
Magnetic properties of metallic cerium. C. Starr and A. R. Kaufmann. Phys R 58:657 O 1 '40
Magnetic studies of solid solutions; methods of observations and preliminary results on the precipitation of iron from copper. F. Bitter and A. R. Kaufmann. diag Phys R 56:1044-51 N 15 '39
Optical and magnetic properties of a magnetite suspension. C. W. Heaps. Phys R 57: 528-31 Mr 15 '40
Optical and magnetic properties of magnetite suspensions; surface magnetization in ferromagnetic crystals. L. W. McKeehan. bibliog Phys R 57:1177-8 Je 15 '40
Paramagnetic relaxation times for titanium and chrome alum. J. H. Van Vleck. bibliog Phys R 57:426-47 Mr 1 '40; Correction. 57: 1052 Je 1 '40
Properties of Rochelle salt. H. Mueller. bibliog Phys R 57:829-39; 58:565-73, 805-11 My 1, S 15, N 1 '40
See also
Magnetic permeability
Magnetic susceptibility
Magnetostriction

MAGNETIC research
Design of powerful electromagnets; new magnet laboratory at M.I.T. F. Bitter. diags R Sci Instr 10:373-81 D '39

MAGNETIC rotation. See Optical rotation

MAGNETIC separation of ores
Concentration of feldspathic waste from a titanium mine near Roseland, Va. D. I. Smith, R. G. O'Meara and T. N. McVay. Am Cer Soc J 23:339-41 N '40

MAGNETIC separators
Handling works waste and sweepings; application of magnetic separator. il Mech Handling 27:59 Mr '40
Magnetic separation; installation in sugar mill. Electrician 124:14 Ja 5 '40
Operation of magnetic-drum separators. Engineering 149:35-6 Ja 12 '40

MAGNETIC storms
Magnetic storm of March 24, 1940; effects in the communication system. L. W. Germaine. map Edison Elec Inst Bul 8:367-8 Jl '40
Magnetic storm of March 24, 1940; effects in the power system; transformer tripping; reactive power surges; voltage dips. W. F. Davidson. Edison Elec Inst Bul 8:365-6+ Jl '40
Magnetic storms. A. G. McNish. il map Edison Elec Inst Bul 8:361-4+ Jl '40; Excerpts. Elec Eng 59:368 S '40
Recent magnetic storm. W. Davis. Science 91:supl0 Ap 5 '40
What causes magnetic storms? not sun-spots but gases erupted from the sun. H. N. Russell. il Sci Am 162:332-3 Je '40

MAGNETIC susceptibility
Dissociation of hexaphenyldiplumbane. R. Freckel and P. W. Selwood. bibliog Am Chem Soc J 62:2765-6 O '40

MAGNETIC susceptibility—*Continued*
Hexa-*p*-alkylphenylethanes; *p*-cyclohexyl derivatives of hexaphenylethane. C. S. Marvel and C. M. Himel. Am Chem Soc J 62:1550-3 Je '40
Magnetic studies of ferrihemoglobin reactions; equilibria and compounds with azide ion, ammonia, and ethanol. C. D. Coryell and F. Stitt. bibliog Am Chem Soc J 62:2942-51 N '40
Magnetic susceptibilities of some complex cyanides with transition element cations. J. Richardson and N. Elliott. bibliog diag Am Chem Soc J 62:3182-3 N '40
Paramagnetic susceptibility of copper-nickel and zinc-nickel alloys. M. A. Wheeler. Phys R 56:1137-45 D 1 '39
Self-consistent fields and diamagnetic susceptibility for magnesium III. W. J. Yost. bibliog Phys R 58:557-60 S 15 '40
Theoretical magnetic susceptibilities of metallic lithium and sodium. J. B. Sampson and F. Seitz. bibliog Phys R 58:633-9 O 1 '40

MAGNETIC testing
Boosting capacity of a magnetic test set. E. B. Ankenman. diag Elec W 114:416 Ag 10 '40
Carbon determination method. H. K. Work and H. T. Clark. il diags Steel 106:62+ F 5 '40
Detecting flaws in steel; Magnaflux method. C. A. McCune. il Nat Safety N 41:52, 54 My '40
La détection magnétique des défauts dans les alliages métalliques. J. Fluvot. il diags Génie Civil 115:333-7, 355-7 N 4-11 '39
Electricity as applied to metallurgy. A. P. M. Fleming. Engineer 169:326 Ap 5 '40; Same. Engineering 149:421 Ap 19 '40
Forgings for aircraft. J. Allison. il Steel 107:49-50 Jl 8 '40
Is the transverse fissure problem growing? H. C. Drake. il diags Ry Age 108:277-81 F 10 '40
Kinetics of precipitation processes as shown in magnetic measurements; abstract. H. Auer. Metals & Alloys 11:MA160+ Mr '40
Magnaflux inspection in the power plants. J. J. Timmons. il Power Pl Eng 44:98, 100+ Ap '40
Magnetic crack detection. il Engineer 170: 191-2 S 20 '40
Magnetic determination of carbon in steel; Carbanalyzer; abstracts. H. K. Work and H. T. Clark. bibliog diags Engineer 170:46-7 Jl 19 '40; Steel 106:62+ F 5 '40; Engineering 150:138-9 Ag 16 '40
Magnetic methods of testing hardness. S. R. Williams. il diag Instruments 13:222-4+ Ag '40
Die magnetinduktive prüfung von rohren. W. Schirp. diags V D I 83:1184-5 N 4 '39
Magnetism measures hardness. R. C. Gibbons. il Am Mach 84:426-7 Je 12 '40
Nondestructive inspection of metals. A. V. de Forest. Min & Met 21:323-6 Jl '40
Nondestructive production test for steel tubing. il Steel 107:38-40+ O 21 '40
Portable magnetic crack detector. Iron Age 145:39 Je 20 '40
Rating of aircraft quality steels; magnaflux inspection. J. B. Johnson. Metal Prog 38: 382-3 O '40
Testing welds; magnetic dust reveals tiny cracks. H. Hirst. Sci Am 163:66 Ag '40
Troostite or fine pearlite (magnetic behavior of iron carbide). O. A. Tesche. il Metal Prog 35:274-6; 36:757-9 Mr, D '39
Die wirtschaftlichkeit der zerstörungsfreien werkstoffprüfung; kosten der Röntgendurchstrahlung von geschweissten stahlbrücken, lokomotiv-feuerbuchsen, kesseln und gusserzeugnissen sowie der magnetpulverprüfung von motoren- und maschinenteilen. A. W. Müller. il Stahl & Eisen 60:221-6 Mr 14 '40

MAGNETISM
Earnshaw's theorem. L. Tonks. Elec Eng 59: 118-19 Mr '40
Effect of pressure on the Curie point of iron-nickel alloys. J. C. Slater. Phys R 58:54-6 Jl 1 '40
Fundamental principles of electric and magnetic circuits. F. A. Fish. 3d ed 229p $3 McGraw-Hill '40
Magnetism. diags Electrician 124:286-7, 303, 326, 340, 353-4, 367, 378-9, 394, 411, 425, 436, 451 Ap 12-Je 28 '40
Magnetism and electricity. A. E. E. McKenzie. 379p $1.75 Macmillan '38
Modern magnetism. L. F. Bates. 339p $4.50 Macmillan '39
Physical basis of ferromagnetism; atomic structure of ferromagnetic elements; gyromagnetic effect. R. M. Bozorth. bibliog il diags Bell System Tech J 19:1-39 Ja '40
Quantum physics of solids; the energies of electrons in crystals. W. Shockley. diags Bell System Tech J 18:704-23 O '39
Thermodynamics and the lowest temperatures; abstracts. C. G. Darwin. Engineering 149:465-6 My 3 '40; Electrician 124:336 My 3 '40; Elec R (Lond) 126:501-2 My 3 '40

See also
Electricity
Electromagnetism
Hysteresis
Magnetization
Magnets

MAGNETISM, Terrestrial
Alpha-gamma transformation of iron at high pressures, and the problem of the earth's magnetism. F. Birch. bibliog diag Am J Sci 238:192-211 Mr '40
Cosmic machinery in an electro-magnetic universe. H. A. Staples. 224p bibliog(p217-19) 12s 6d W. Clowes, London '39
Magnetic survey of south-central South Dakota. W. H. Jordan; E. P. Rothrock. pl diags maps S D State Geol S [Vermillion] Rep of Invest 33:1-19 '40
Practical uses of the earth's magnetism. D. G. Knapp. 19p bibliog(p16-17) U.S. Coast and geodetic survey, Washington '39
Proposed thermoelectric origin of the earth's magnetism. D. R. Inglis and E. Teller. Phys R 57:1154-5 Je 15 '40
Radiesthesia and electricity. N. Macbeth. diags Electrician 123:556+; 124:7+ D 29 '39-Ja 5 '40
Significance of variations in cosmic-ray intensity and their relation to solar, earth-magnetic and atmospheric phenomena. V. F. Hess. bibliog Rs Mod Phys 11:153-7 Jl-O '39
World-wide variations of the earth's magnetic field and the intensity of cosmic radiation. O. Godart. bibliog diag Phys R 56:1074-7 D 1 '39

See also
Magnetic storms

MAGNETITE
Eastern magnetite in 1939. H. M. Roche. il Min & Met 21:9 Ja '40
Iron discovery at Zeballos. J. S. Stevenson. Eng & Min J 141:43 Jl '40
Magnetite and hematite veins in Triassic lavas of Nova Scotia. A. P. Hornor, jr. il Econ Geol 34:921-30 D '39
Magnetite in sulphide ores. G. M. Schwartz and A. C. Ronbeck. il diags Econ Geol 35: 585-610 bibliog(113 titles, p606-10) Ag '40
Optical and magnetic properties of a magnetite suspension. C. W. Heaps. Phys R 57:528-31 Mr 15 '40
Optical and magnetic properties of magnetite suspensions; surface magnetization in ferromagnetic crystals. L. W. McKeehan. bibliog Phys R 57:1177-8 Je 15 '40
Theory of the magnetite light shutter. W. C. Elmore. Phys R 57:842 My 1 '40

MAGNETIZATION
Ferromagnetic anisotropy, magnetization at saturation, and superstructure in Ni_3Fe and nearby compositions. E. M. Grabbe. bibliog Phys R 57:728-34 Ap 15 '40
Ferromagnetic domains and the magnetization curve. W. F. Brown, jr. bibliog il diags J Ap Phys 11:160-72 Mr '40
Magnetic energy constants of dipolar lattices. J. A. Sauer. Phys R 57:142-6 Ja 15 '40
Mechanism of magnetisation. T. F. Wall. Engineer 169:273-6, 294-7, 318-20, 342-4 Mr 22-Ap 12 '40
Optical and magnetic properties of magnetite suspensions; surface magnetization in ferromagnetic crystals. L. W. McKeehan. bibliog Phys R 57:1177-8 Je 15 '40

MAGNETIZATION—*Continued*
Quantum physics of solids; the energies of electrons in crystals. W. Shockley. Bell System Tech J 18:711-18 O '39
Theory of the approach to magnetic saturation. W. F. Brown, jr. diags Phys R 58:736-43 O 15 '40

MAGNETOMETERS
Magnetic methods of testing hardness. S. R. Williams. il diag Instruments 13:222-4+ Ag '40

MAGNETOMOTIVE force
Amplitudes of magnetomotive-force harmonics for fractional-slot windings of three-phase machines. J. F. Calvert. diags Iowa Eng Exp Sta Bul 142:1-76 bibliog(p35) '39

MAGNETON. See Magnetic moment

MAGNETO-OPTICAL rotation. See Optical rotation

MAGNETO-OPTICS
Dispersion of magnetic double refraction in the short infra-red spectrum. F. J. Davis. bibliog diag Opt Soc Am J 30:488-94 O '40

MAGNETOS
Fairbanks-Morse type FM-J magneto. il Automotive Ind 83:491 N 1 '40
Magnetism; electro-magnetic generators. Electrician 124:411 Je 7 '40
Some factors controlling the development of electrical ignition of aero engines. G. E. Bairsto. bibliog il diags Roy Aeronautical Soc J 44:119-62; Discussion. 162-75 F '40

MAGNETOSTRICTION
Magneto striction oscillators. D. C. Stenning. diag Wireless Eng 17:158-60 Ap '40
Mechanism of magnetisation. T. F. Wall. diags Engineer 169:275-6, 294-7 Mr 22-29 '40
Stress measurement by magnetostriction. F. D. Smith and C. A. Luxford. diags Inst Mech Eng J & Proc 143:Proc 56-9, pl 6 Ap '40
To combat noise; Westinghouse device for study of sound determines expansion of metal which makes hum. J. A. Baubie. il Sci Am 162:11 Ja '40

MAGNETRON
Experimental investigation of resonance and electronic oscillations in magnetrons. J. S. McPetrie and L. H. Ford. bibliog Inst E E J 86:283-92 Mr '40
Impedance of the magnetron in different regions of the frequency spectrum. A. F. Harvey. bibliog Inst E E J 86:297-306 Mr '40
Magnetron oscillator with a compound field winding. L. H. Ford. diag Inst E E J 86:293-6 Mr '40
Ultra-high frequency oscillography; electron-optical spectral analysis. H. E. Hollmann. bibliog il diags Inst Radio Eng Proc 28:213-15 My '40

MAGNETS
Door magnet valve grinding tools. E. Rogers. il Transit J 84:28 Ja '40
Geared magnets solve a vacuum problem; device for use in coating aluminum disks, used in photoelectric cells, with vaporized selenium. il Gen Elec R 43:387 S '40; Steel 107:49 S 9 '40
Magnet developed in laboratory lifts 4450 times its own weight; permanent magnet of sintered alnico. Blast F & Steel Pl 28: 178 F '40
Magnetic brain; alnico magnet plays part in function of time standard to be used by Palomar Mountain observatory. Gen Elec R 43:263 Je '40
Permanent magnets. J. F. Kayser. Engineer 170:183 S 20 '40
Reappearance of an ancient absurdity regarding magnets; reply by W. E. Ruder. W. Davis. Science 91:314-15 Mr 29 '40
Remove magnets for meter adjustment. Elec W 113:1082+ Ap 6 '40

See also
Electromagnets
Lifting magnets

MAIL advertising. See Advertising, Mail

MAIL cars. See Postal cars

MAIL handling
Letter-sorting machines at the Brighton general post office. il diags Engineering 148: 459-62, 627-31, 640, pl 17, 24 O 27, D 8 '39
Mechanical handling of mail bags; new electric truck system. il Mech Handling 26: 342-3 D '39
Post office underground railway; driverless electric train at Zurich. il Electrician 125: 60-1 Ag 2 '40

See also
Air mail service

MAIL order business
Catalog comeback; mail-order thrives today as never before. P. H. Erbes, jr. Ptr Ink 191:11-13+ Ap 5 '40
Catalog innovations; Montgomery Ward, Sears, Roebuck and Chicago mail order co. Ptr Ink 190:45-6 F 2 '40
Ten mail-order Americas; Sears, Roebuck's ten sectional catalogs. G. Bijur. Adv & Sell 33:33-4, 54 S '40

See also
Advertising, Mail
Catalogs
Insurance, Life—Mail order selling
Mailing lists
Marketing—Mail order outlets
Montgomery Ward and company
Sears, Roebuck and company

Advertising

Direct-mail advertising and selling. F. Egner and L. R. Walter. 215p $3 Harper '40
How the Infotag helps Sears sell. F. C. Hecht. il Ptr Ink Mo 41:10-12+ Ag '40
Life blood of this business is its letters; Ozark goldfish. Ptr Ink Mo 40:62 Ja '40
Mail order sage of spiritus frumenti, R.F.D. M. Rollins. Adv & Sell 32:44, 46 D '39

Finance

Financial reports, Montgomery Ward, Sears, Roebuck, and Spiegel. Annalist 56:374 S 19 '40
Financial reports, Spiegel, inc., Sears, Roebuck, and Montgomery Ward. Annalist 55:525 Ap 11 '40
Mail houses ring up all-time high. il Business Week p24+ Mr 30 '40
Mail order companies go to town. W. P. Black. Barron's 20:3 F 26 '40
Mail order sales showing expansion despite decrease in business activity; operating results of mail order houses. L. Applegate. Annalist 55:587 Ap 25 '40
Montgomery Ward vs. Sears Roebuck. J. C. Clifford. il Mag of Wall St 67:146-7+ N 16 '40
SEC issues 1939 supplement covering financial operations of mail order houses; survey of American listed corporations. Comm & Fin Chr 151:2735-6 N 9 '40

MAIL order stores. See Chain stores—Mail order stores

MAIL orders

See also
Advertising, Mail

MAILING
How may we avoid errors in mailing printed advertising? S. F. Beatty. Ptg Art 68 no 4:J 17+ '40
How we find ways to cut mailing and letter costs. I. A. Herrmann. il Am Business 9: 26-7 D '39
Speeding up collections by air. J. Farnham. Bankers M 141:10-12 Jl '40
Staggered mailing of statements avoids a month-end peak load. W. H. Wallerich. il Bankers Mo 57:398-9+ Jl '40
Third-class mail idea. V. K. Ulrich. Ptr Ink 192:18 S 20 '40
Two money-saving ideas for the mailing department; Servel, Inc. I. A. Herrmann. il Am Business 10:26-7 Ja '40; Abstract. Management R 29:11-12 Ja '40

MAILING lists
Captain Midnight flight patrol radio serial enrolls 800,000 kids for Skelly oil co; providing a live, responsive prospect mailing list. A. E. Taylor. il Sales Management 46:50, 52 Mr 1 '40
How to get a mailing list. S. Ware. Ptr Ink Mo 40:12+ My '40
Novelty direct mail brings customers to dealers; Shell oil company. H. L. Curtis. il Ptr Ink 190:19-21 Ja 5 '40
Some simple directions for keeping the mailing list alive and accurate. C. A. Emley. Ptr Ink 192:55, 58 Jl 12 '40

MAIN, Charles Thomas, 1856-
Outstanding engineers honored by the A.S.M.E. Mach 46:176 Ja '40

MAINE central railroad
Traffic statistics and comparative income account 1936-39. Comm & Fin Chr 150:3053 My 11 '40

MAJESTIC radio and television corporation
Plan of reorganization. Comm & Fin Chr 150:3980-1 Je 22 '40

MAJORANA theory
Transition probabilities in double beta-disintegration. W. H. Furry. bibliog Phys R 56: 1184-93 D 15 '39

MAKE-READY. See Printing, Practical—Press-work

MALACCOL
Active principles of leguminous fishpoison plants; the isolation of malaccol from derris malaccensis. S. H. Harper. Chem Soc J p309-14 Mr '40

MALACHITE green
Comparison of the cooking stain method and chemical methods for determining the bleachability of pulps. J. F. Hechtman and J. H. Graff. bibliog Paper Tr J 111:30-4 Ag 1 '40
Gaging adsorption power of colloidal ferric oxide by dye adsorption; development of a standard test. F. H. Dotterweich and W. J. Huff. bibliog diags Ind & Eng Chem Anal ed 12:277-9 My 15 '40
Studies on the reactions of the leucocyanides of the triphenylmethane dyes; the mechanism of the dark reaction following the photolysis of malachite green leucocyanide. F. E. E. Germann and C. L. Gibson. Am Chem Soc J 62:110-12 Ja '40

MALARIA
American azures in the preparation of satisfactory Giemsa stains for malaria parasites. M. A. Roe, R. D. Lillie and A. Wilcox. Pub Health Rep 55:1272-8 Jl 12 '40
Anopheles walkeri (Theobald): a wild-caught specimen harboring malarial plasmodia. F. B. Bang, G. E. Quinby and T. W. Simpson. Pub Health Rep 55:119-20, pl 1 Ja 19 '40
Antiplasmodial action and chemical constitution; carbinolamines derived from naphthalene and quinoline. H. King and T. S. Work. Chem Soc J p1307-15 S '40
Antiplasmodial action and chemical constitution; the synthesis of some complex carbinolamines and polyamines. T. S. Work. Chem Soc J p1315-20 S '40
Attempts to find new antimalarials; derivatives of 5 : 6 : 3′ : 2′-pyridoquinoline. W. O. Kermack and A. P. Weatherhead. Chem Soc J p1164-9 Ag '40
Attempts to find new antimalarials; synthesis of some derivatives of 4-carboline and 5:6-benz-4-carboline. W. O. Kermack and W. Tebrich. Chem Soc J p314-18 Mr '40
Brief review of needed research in malaria. Pub Health Rep 55:1801-9 O 4 '40
Invasion of the gambiae; battle of Brazil to repulse carrier of malaria. R. B. Fosdick. il map Dun's R 48:14-15+ S '40
Malaria and colonization in the Carolina low country, 1526-1696. St J. R. Childs. 292p bibliog(p265-76) pa $2.50 Johns Hopkins press, Baltimore '40
Malaria-carrying mosquito in Brazil. Science 91:sup14 Ap 12 '40
Malarial therapy of general paralysis and other conditions. W. H. Kupper. 155p bibliog(p125-49) $2.25 Edwards bros, Ann Arbor, Mich. '39
National research council committee on chemotherapy. Ind & Eng Chem News ed 18: 657-8 Ag 10 '40
Occurrence of anopheles darlingi Root in British Honduras and Guatemala. W. H. W. Komp. bibliog Pub Health Rep 55:693-4 Ap 19 '40; Same. Science 91:522-3 My 31 '40
Quinine substitute intermediate developed; abstract. H. B. Hass and H. C. Huffman. Oil Paint & Drug Rep 138:3+ S 16 '40
Rapid thick film blood stain; Wright-Giemsa method for blood parasites, particularly malaria parasites. L. Michelson and A. Wilcox. Pub Health Rep 55:1221-2 Jl 5 '40
Research work on chemotherapy; committee of National research council to study antimalarials. Science 92:176-8 Ag 23 '40
Some N^4-diethylaminoalkyl-N^1-dialkylsulphanilamides and related compounds. J. Walker. Chem Soc J p686-92 My '40
Sulfanilamide and malaria. Science 90:sup12 D 1 '39

MALAY peninsula

Antiquities
Malays applied the Diesel engine principle a thousand years ago; fire-lighting device. Mach 46:101 My '40

MALAYA, British
British Malaya's war contribution. Economist 138:813 My 4 '40
Business situation. Published in Commerce reports thru September
Economic and commercial conditions. Engineering 149:211 F 23 '40
Economic conditions; exchange and finance. For Comm W 1:52-3, 242-3 O 12, N 9 '40
In the wake of a traveling engineer. J. C. Cosgrove. il map Explosives Eng 18:25-7 Ja '40
Wartime restrictions retard boom developments. C. O. Thompson. Comm Rep p91-2 Ja 27 '40

See also
Labor and laboring classes—Malaya, British
Tin mines and mining—Malaya, British

Commerce
British Malaya offers opportunity for American goods. C. O. Thompson. il Comm Rep p1167+ D 16 '39
Increases imports from the United States. M. M. Bernbaum. Comm Rep p632 Jl 20 '40

MALEATES
Copolymerization of maleic polyesters. J. B. Rust il Ind & Eng Chem 32:64-7 Ja '40
Drying oils and resins; insolubilization of maleic glycol polyesters by additive polymerization. E. L. Kropa and T. F. Bradley. bibliog il diag Ind & Eng Chem 31:1512-16 D '39

MALEIC acid
Analysis of synthetic resins containing maleic acid. E. Sadolin. bibliog Ind & Eng Chem Anal ed 11:608-10 N 15 '39
Dioxymaleic acid oxidase. J. B. Sumner and A. L. Dounce. Science 92:34-5 Jl 12 '40
Synthetic tartaric acid; conversion of maleic acid and malic acid. Chem Age (Lond) 42: 161 Mr 16 '40

MALEIC anhydride
Addition reactions to conjugated systems; caryophyllene and maleic anhydride. N. F. Goodway and T. F. West. Chem Soc J p1853-5 D '39
Application of the diene synthesis to terpenoid compounds; eucarvone and maleic anhydride. T. F. West. Chem Soc J p1162-4 Ag '40
Bicyclic structures prohibiting the Walden inversion; some bicyclo[2,2,2]octane derivatives with substituents at the bridge-head. P. D. Bartlett and S. G. Cohen. bibliog Am Chem Soc J 62:1183-9 My '40
Observations on the condensation products from α-terpinene and the carenes with maleic anhydride. N. F. Goodway and T. F. West. Chem Soc J p702-3 My '40

MALEIC anhydride—*Continued*
Observations on the reactivities of dienes, especially toward maleic anhydride. F. Bergmann and E. Bergmann. bibliog Am Chem Soc J 62:1699-1704 Jl '40
Pyrolysis of diglycolic anhydride. C. D. Hurd and H. G. Glass. Am Chem Soc J 61:3490-1 D '39
Reactions of anils; a new type of Diels-Alder reaction. H. R. Snyder, R. B. Hasbrouck and J. F. Richardson. Am Chem Soc J 61:3558-60 D '39
Reactions of maleic anhydride with abietic acid and rosin. A. G. Hovey and T. S. Hodgins. bibliog Ind & Eng Chem 32:272-9 F '40
Separation of hydroxy from non-hydroxy fat acids by means of a dibasic acid anhydride. F. E. Kurtz and P. S. Schaffer. Am Chem Soc J 62:1304-5 My '40

MALIC acid
Synthetic tartaric acid; conversion of maleic acid and malic acid. Chem Age (Lond) 42:161 Mr 16 '40

MALLEABLE cast iron. See Cast iron

MALLEABLE founders' society
Annual meeting, White Sulphur Springs, June 27-28. Steel 107:33 Jl 8 '40

MALLORY, John Milton, 1873-1940
Sketch. por Am Cer Soc Bul 19:312-13 Ag '40

MALONATOMANGANIATES
Malonatomanganiates. G. H. Cartledge and P. M. Nichols. Am Chem Soc J 62:3057-60 N '40

MALONIC acid
Disproportionation of aryloxymalonic acid syntheses. J. B. Niederl and R. T. Roth. bibliog Am Chem Soc J 62:1154-6 My '40
Second ionization constant and related thermodynamic quantities for malonic acid from 0° to 60°C. W. J. Hamer, J. O. Burton and S. F. Acree. bibliog J Research Nat Bur Stand 24:269-92 Mr '40

MALONIC esters
Introduction of substituted vinyl groups; (primary 1-alkenyl) alkyl malonic esters. A. C. Cope and others. bibliog Am Chem Soc J 62:314-16 F '40

MALT
Malt house and elevator flow sheet. Food Ind 12:39 Ag '40
Saccharification of starchy grain mashes for the alcoholic fermentation industry; comparison of several saccharifying agents; malt, moldy bran, and soybean meal. L. Schoene, E. I. Fulmer and L. A. Underkofler. bibliog Ind & Eng Chem 32:544-7 Ap '40

MALT amylase. See Amylases

MALTA
See also
Labor laws and legislation—Malta

MALTITOL
Melibiotol and maltitol. M. L. Wolfrom and T. S. Gardner. bibliog Am Chem Soc J 62:2553-5 S '40

MALTOSE
Influence of oxygen on the fermentation of maltose and galactose. A. S. Schultz, L. Atkin and C. N. Frey. diag Am Chem Soc J 62:2271-2 S '40
Relative reducing potential of starch. R. W. Kerr. bibliog Am Chem Soc J 62:2735-8 O '40
See also
Aldehydo-maltose octaacetate

MAMARONECK, New York
Sanitary affairs
Incinerator replaces dump and permits development of boat harbor and playground. H. W. Taylor. il diag Pub Works 71:14-16 Mr '40

MAMMALS, Fossil
Names mesotherium and typotherium. G. G. Simpson. Am J Sci 238:518-21 Jl '40
Tie-ins between the marine and continental records in California. J. E. Eaton. Am J Sci 237:899-919 bibliog(p918-19) D '39
See also
Mammoth

MAMMOTH
Pleistocene mammoths in Utah and vicinity. E. Blackwelder. Am J Sci 237:890-4, pl 1 D '39

MAN
Man's earthly future. K. F. Mather. il Sci Am 162:210-12, 274-6 Ap-My '40
See also
Anthropology

MAN, Prehistoric
Early man in America; index to localities, and selected bibliography. E. H. Sellards. diags Geol Soc Bul 51:373-431, pl 1 bibliog(p412-31) Mr '40
Evolution of man; abstract. F. Weidenreich. Science 91:sup13 Ja 5 '40
Folsom man; evidences of economic ups and downs unearthed in Colorado. Science 92: sup10-11 N 8 '40
Geologic antiquity of the Lindenmeier site in Colorado. K. Bryan and L. L. Ray. il pls diags maps Smithsonian Misc Coll v 99, no2:1-76 bibliog(p72-6) '40 (pa 35c)
Mankind in the making. M. C. Borer. 152p $1.50 Frederick Warne & co, New York '39
Pleistocene artifacts and associated fossils from Bee county, Texas. E. H. Sellards. bibliog diags maps Geol Soc Bul 51:1627-57, pl 1-2 N '40
Sandia man; artifacts found in basal layers of cave in New Mexico. F. C. Hibben. il Sci Am 163:14-15 Jl '40
See also
Anthropology
Indians of North America—Antiquities

MAN-marketing clinics. See Employment

MANAGEMENT
See also
Administration, Public
Business management
Efficiency, Industrial
Employment management
Factory management
Farm management
Foundry management
Industrial management
Machine shop management
Mine management
Office management
Organization in industry
Planning
Sales management
also subdivision Management under various headings, e.g. Airports—Management; Department stores—Management; Hotels—Management; Railroads—Management

MANAGEMENT consultants
Management consultants deal with people. R. Donham. Harvard Business R 19 no 1: 33-41 [S] '40
Management counsel profession. J. Dean. 89p 75c Indiana university bookstore '40

MANATI sugar company
Earnings, years ending June 30, 1939, 1940; consolidated balance sheet. Comm & Fin Chr 151:2049 O 5 '40

MANCHESTER, New Hampshire
Industries
Labor and the shut-down of the Amoskeag textile mills. D. Creamer and C. W. Coulter. 342p Work projects administration, Washington, D.C. '39; Review. Monthly Labor R 50:1380-4 Je '40

MANCHESTER ship canal
Mechanical handling appliances on the Manchester ship canal. R. Parker. Mech Handling 27:35-9 F '40
Results for the years to December 31st, 1937-39, and annual meeting. Economist 138:388-9, 399 Mr 2 '40

MANCHURIA
Economic and trade developments. W. T. Turner. il Comm Rep p193-4 F 24 '40

MANCHURIA—*Continued*
Manchukuo under Japanese domination and its bearing on the future of China. K. Bloch. Annalist 56:37+ Jl 11 '40

See also
Agricultural colonization—Manchuria

Commerce

Future of American trade with Manchukuo. R. H. Akagi. Ann Am Acad 211:138-43 S '40
Japanese control of Manchurian trade. Economist 138:378 Mr 2 '40
1940 export trade decreases. M. Pasquet. Comm Rep p637 Jl 20 '40

MANDRELS. See Arbors and mandrels

MANGANAL
Manganal, a tough non-magnetic steel. Iron Age 146:40 O 17 '40; Automotive Ind 83: 547-8 N 15 '40; Mach 47:168 N '40

MANGANESE
Electrolytic manganese opening door to new and unusual alloys; abstract. R. S. Dean. Steel 106:72 Mr 18 '40
Is chemical industry ready? manganese. L. M. Williams, jr. il Ind & Eng Chem 32:1168-9 S '40
Loss of manganese in open hearth. P. Bardenheuer and G. Henke. Iron Age 145:67 Mr 7 '40
Main sources of supply and the principal uses of the strategic metals. H. A. Knight. Annalist 54:724 D 7 '39
Manganese considered one of the United States' important strategic raw materials; sources of supply; abstract. F. S. Norcross, jr. Oil Paint & Drug Rep 137:5+ F 19 '40
Manganese in a thermal spring in west-central Utah. E. Callaghan and H. E. Thomas. bibliog il maps Econ Geol 34: 905-20 D '39
Manganese of high purity. K. M. Leute. Metal Prog 38:531 O '40
Manganese research group named by Defense commission. Oil Paint & Drug Rep 138:4 Jl 29 '40
Metal pile growing; government's Metals reserve co. to get 240,000 tons of concentrated manganese from Anaconda. Business Week p18+ Ag 17 '40
More manganese, Cuban-American will increase Santiago plant capacity. Business Week p46-7 Ag 24 '40
Outlook in strategic raw materials; manganese. L. M. Williams, jr. Chem Ind 47:259 S '40
La production et la consommation des minerais de manganèse dans le monde. Y. Mayor. Génie Civil 116:179-81, 198-200 Mr 16-23 '40
Radioactivity of Mn^{56}. R. H. Bacon, E. N. Grisewood and C. W. Van der Merwe. Phys R 56:1168 D 1 '39
Refining of metal in the basic open-hearth furnace; the influence of fluorspar on the process. W. B. Lawrie. bibliog Iron & Steel Inst J 139:257-80 no 1 '39; Same. il Blast F & Steel Pl 27:675-9, 943-6, 1043-5 Jl, S-O '39; Discussion. Iron & Steel Inst J 139:281-5 no 1 '39
Review of the strategic metals. M. B. Gentry. Metals & Alloys 12:415-16 O '40
Saving switch tongues by welding. H. H. Griffin. il Transit J 83:450-1 N '39
Study of the protons from V, Cu, Mn, and Sc under bombardment by deuterons. W. L. Davidson, jr. bibliog Phys R 56:1062 N 15 '39
Theory and practice of basic open hearth slag control; elimination of manganese. F. M. Washburn and W. O. Philbrook. Iron Age 145:59-60 Mr 7 '40
Welding high sulphur steels; adding manganese to parent metal and electrodes. J. H. Hruska. il Steel 106:40-3 F 26 '40

See also
Plants, Effect of manganese on

Analysis

Determination of small amounts of copper and manganese in dyes and other organic materials. G. F. Palfrey and others. Ind & Eng Chem Anal ed 12:91-6 F 15 '40
Improvement of formaldoxime colorimetric method for manganese. C. P. Sideris. Ind & Eng Chem Anal ed 12:307 My 15 '40
Manganese and chromium in steel; modified persulfate-arsenite method. R. P. Forsyth and W. F. Barfoot. Ind & Eng Chem Anal ed 11:625 N 15 '39
Manganese, chromium, and nickel in 18-8 alloy steels; a rapid sequence titration. L. Silverman and O. Gates. bibliog Ind & Eng Chem Anal ed 12:518-19 S 15 '40
Spectrographic analysis of steel. J. L. Gregg and P. R. Irish. il Iron Age 145:33-7 My 9 '40
Standard method of test for colorimetric determination of small amounts of copper and manganese in textiles. Textile Col 62:554-5 Ag '40

Prices

Monthly price averages for eleven years, 1929-1939; tabulation. Steel 106:284 Ja 1 '40

MANGANESE alloys
Electrolytic manganese opening door to new and unusual alloys; abstract. R. S. Dean. Steel 106:72 Mr 18 '40
Manganese base alloys, new metallurgical development. R. H. Harrington. Steel 107: 162 O 14 '40
New alloy of manganese and copper; abstract. R. S. Dean. Science 91:sup12 Ap 5 '40
Progress reports, Metallurgical division; manganese and its alloys. R. S. Dean and others. bibliog pls U S Bur Mines Rep of Invest 3477:1-47 '39; Abstract. Engineer 169:sup[Metallurgist] 108-11 Ap 26 '40

See also
Ferromanganese
Manganese steel

MANGANESE carbonates
Industrial uses of chemicals and related materials. Oil Paint & Drug Rep 137:49 My 27; 41 Je 3 '40

MANGANESE compounds
Malonatomanganiates. G. H. Cartledge and P. M. Nichols. Am Chem Soc J 62:3057-60 N '40

MANGANESE industry
Manganese and preparedness. Min & Met 21:453-5 O '40; Discussion. 21:528-9 N '40

MANGANESE linoleate
Industrial uses of chemicals and related materials. Oil Paint & Drug Rep 137:31 Je 17 '40

MANGANESE metallurgy
Advances on many fronts; towards manganese self-sufficiency. il Chem & Met Eng 46:683-4 N '39
Electrolytic manganese; manufacture and possible uses; composite abstract. Metals & Alloys 11:MA47-8 Ja '40
Manganese for defense; plant of the Manganese corporation. il Manuf Rec 109:22-3 S '40
Manganese metallurgy advances. R. S. Dean and others. Eng & Min J 140:42 D '39
Natural gas in ferro-manganese production for national defense. Oil & Gas J 39:18 Ag 29 '40
Production of magnesium and manganese; effect of cheap electrical power in Pacific Northwest. W. Davis. Science 91:sup8-9 Mr 8 '40
Progress reports, metallurgical division; manganese and its alloys. R. S. Dean and others. bibliog pls U S Bur Mines Rep of Invest 3477:1-47 '39; Abstract. Engineer 169:sup[Metallurgist] 108-11 Ap 26 '40
Safeguard for steel; manganese supply assured by new electro-chemical process. Business Week p34-5 My 11 '40

MANGANESE mines and mining

Colorado

Mineral industries survey of the United States; Colorado, Lake county; possibilities of manganese production at Leadville, Colo. J. H. Hedges. U S Bur Mines Information Circ 7125:1-23 '40

MANGANESE mines and mining—*Continued*

Montana

Manganese deposits at Philipsburg, Granite county. E. N. Goddard. diags map U S Geol S Bul 922-G:157-204, pl 26-34 '40

New Mexico

Manganese deposits in the Little Florida mountains, Luna county. S. G. Lasky. fold maps U S Geol S Bul 922-C:55-73 '40; Abstract. Eng & Min J 141:53 O '40

Philippine Islands

Some economic aspects of Philippine manganese. W. F. Boericke. il map Eng & Min J 141:54-7 Jl '40

MANGANESE ores

Concentration of manganosiderite ore from Leadville, Colo. F. D. DeVaney and S. M. Shelton. U S Bur Mines Rep of Invest 3513: 1-6 '40

Cuba as a source of manganese ore; abstract. F. S. Norcross, jr. Steel 106:66 F 19 '40

Manganese. Can Min J 61:282 My '40

Manganese deposits at Philipsburg, Granite county, Montana. E. N. Goddard. diags map U S Geol S Bul 922-G:157-204, pl 26-34 '40

Manganese in a thermal spring in west-central Utah. E. Callaghan and H. E. Thomas. bibliog il maps Econ Geol 34:905-20 D '39

Manganese ore in wartime; problems of the supply from the U.S.S.R. D. D. Howat. Chem Age (Lond) 41:sup29-30 D 2 '39

Mineral industries survey of the United States; Colorado, Lake county; possibilities of manganese production at Leadville, Colo. J. H. Hedges. U S Bur Mines Information Circ 7125:1-23 '40

1939 manganese ore imports total 1,404,769,953 pounds. Steel 106:32+ F 19 '40

Some economic aspects of Philippine manganese. W. F. Boericke. il map Eng & Min J 141:54-7 Jl '40

Tungsten-bearing manganese deposit at Golconda, Nevada. P. F. Kerr. diags maps plan Geol Soc Bul 51:1359-89, pl 1-5 bibliog(p1388-9) S '40

MANGANESE oxides

Influence of sol concentration on flocculation values. E. D. Fisher and C. H. Sorum. bibliog J Phys Chem 44:62-70 Ja '40

Reactions of high energy atoms produced by slow neutron capture. W. F. Libby. bibliog Am Chem Soc J 62:1930-6 Ag '40

Silicic acid as a protective colloid for manganese dioxide sols. F. Hazel. bibliog J Phys Chem 44:422-7 Ap '40

MANGANESE poisoning

Chronic manganese poisoning in an ore crushing mill. R. H. Flinn and others. (Public health bul, no247) 77p bibliog 15c Supt. of doc. '40; Review. Pub Health Rep 55:1041-3 Je 7 '40

MANGANESE resinate

Industrial uses of chemicals and related materials. Oil Paint & Drug Rep 138:40 S 9 '40

MANGANESE steel

Case-hardening steels containing manganese. Engineer 169:sup[Metallurgist] 119-20 Je 28 '40

Country's oldest industrial concern; Taylor-Wharton iron & steel company. C. H. Vivian. il Comp Air M 45:6053-6 Ja '40

Germans turn to manganese and silicon for alloying in steel. Metal Prog 38:163-4+ Ag '40

How alloying elements affect high alloy steels. P. Payson. il Iron Age 145:33-4 Ap 18 '40

Increasing life of dipper teeth. il Rock Prod 43:52 Je '40

Low-alloy manganese steels; abstract. Metals & Alloys 11:MA348+ Je '40

Mangan-einsatzstähle mit zusätzen von chrom, silizium oder vanadin. H. Schrader. Stahl & Eisen 60:76-7 Ja 25 '40

Mangan-vergütungsstähle mit zusätzen von silizium, chrom oder vanadin und ihre bewährung. H. Schrader Stahl & Eisen 60:162-3 F 22 '40

Manganal, a tough non-magnetic steel. Iron Age 146:40 O 17 '40; Automotive Ind 83: 547-8 N 15 '40; Mach 47:168 N '40

Oil-hardened and tempered manganese steels. H. Kallen and F. Meyer. Engineer 169: sup[Metallurgist] 114-16 Je 28 '40

Tensile testing of steels with duplex microstructure. H. Hougardy. Metal Prog 37:565-6 My '40

Transformations in manganese steels. F. Wever and K. Mathieu. Engineer 169:sup [Metallurgist] 116-18 Je 28 '40

Ueber die umwandlungen der manganstähle. K. Mathieu. Stahl & Eisen 60:122-3 F 8 '40

MANGANESE sulfate

Industrial uses of chemicals and related materials. Oil Paint & Drug Rep 137:51 My 20 '40

MANGANOUS nitrate

20° isotherm of the ternary system; manganous nitrate—nitric acid—water. W. W. Ewing and C. F. Glick. diags Am Chem Soc J 62:2174-6 Ag '40

MANGOSTEEN

Existence of only one variety of cultivated mangosteen explained by asexually formed seed. C. L. Horn. Science 92:237-8 S 13 '40

MANHOLES

Advantages and economies in installation of precast manholes by the caisson method. E. Williams. il plans Edison Elec Inst Bul 8:107-12 Mr '40

Diving bell keeps manhole motor dry. M. Roach. il Elec W 113:2064 Je 29 '40

English designs for sewer manholes. diags Pub Works 70:17-18 N '39

Manholes by caisson method; Consolidated Edison co. of New York. il Eng N 124:441 Mr 28 '40

Pre-cast manholes; shop construction method employed by Consolidated Edison company. il Am Gas J 153:34 Ag '40

Precast manholes vs. field construction. E. Williams. il Elec W 113:572-4 F 24 '40

Rustproof handles for manhole covers; copper handles. diags Elec W 113:1230 Ap 20 '40

Sewers needn't become clogged; use of stilling basins and suitable manholes. J. H. Stoutenberg. diags Factory Management 98:79 N '40

Shop construction of precast caisson manholes. E. Williams. il Elec W 113:2051 Je 29 '40

Two answers for clogged drain. diags Elec W 113:1730 Je 1 '40

Ventilation of manholes; effect of vertical ducts in combination with openings in manhole covers on the natural ventilation. G. W. Jones, W. E. Miller and J. Campbell. bibliog diag plan U S Bur Mines Rep of Invest 3496:1-7 '40

MANICURING

Just relax! Pro-care manicuring unit. J. G. Vajda. il Mod Plastics 17:33-5+ Je '40

MANIFOLDS

See also
Airplane engines—Manifolds
Automobile engines—Manifolds
Gas and oil engines—Manifolds

MANIKINS

Don't they tickle; plexiglas bathing suit manikin. il Mod Plastics 17:47 Ap '40

MANILA

Port of Manila. il(cover) Comm Rep p714 Ag 17 '40

MANILA elemi

Triterpene group; the minor triterpenoid constituents of Manila elemi resin. I. M. Morice and J. C. E. Simpson. Chem Soc J p795-9 Je '40

MANILA rope. See Rope

MANITOBA

See also
Gold mines and mining—Manitoba

MANN, Horace Tharp, 1881-1940

Appreciation. N. D. Fitz Gerald. Min & Met 21:216 Ap '40

MANNITOL
Electrolytic reduction of sugars. H. J. Creighton. Chem & Ind 59:557 Ag 3 '40

MANNOSE
Glycofuranosides and thioglycofuranosides; crystalline alkyl furanosides and dimethylacetal of d-mannose. A. Scattergood and E. Pacsu. bibliog diags Am Chem Soc J 62: 903-10 Ap '40

Synthesis of certain oligosaccharide acetates in the mannose series. D. D. Reynolds and W. L. Evans. bibliog Am Chem Soc J 62:66-9 Ja '40

2 : 3 : 4-Trimethyl mannose. W. N. Haworth and others. Chem Soc J p1878-80 D '39

MANO. See Stone implements

MANOMETERS
Construction of manometers for measuring flow. A. D. Loring. il diags Ind & Eng Chem Anal ed 11:626-8 N 15 '39

Differential metal bellows manometer for the measurement of blood flow. H. Lawson. diag Science 92:291-2 S 27 '40

Graphical method for determining Warburg vessel constants at various fluid volumes. J. MacLeod and W. H. Summerson. Science 91:201-2 F 23 '40

Piping arrangement for sealing liquid pots used to maintain a constant static liquid head on the flow meter or manometer. diag Oil & Gas J 39:44 Ag 29 '40

Sensitive static vapor pressure apparatus. R. C. Chandler. bibliog diags J Phys Chem 44: 574-83 My '40

Testing orifice meter gages at high pressure with special water manometer. J. T. Cortelyou. diag chart Gas Age 85:27-9 Ap 25 '40

U-tube manometer for fan testing. G. G. McDonald. diags Engineer 170:48-9 Jl 19 '40

Testing

Testing manometer and pitot tube. R. Deane. diag Can Chem & Process Ind 24:266 My '40

MANUAL labor. See Handwork

MANUFACTURERS
See also National federation of small manufacturers

Directories

State industrial directories. 8 1 National commerce group, Special lib. assn. '40

United States

Survey of American listed corporations; reported information on selected manufacturing groups; registrants under the Securities exchange act of 1934 at June 30, 1939. v 1, reports 1-9 291p Work projects administration, Washington, D.C. '40

MANUFACTURERS' agents
Effective distribution through manufacturers' agents. W. A. Allen. 30p pa $1 Walter A. Allen, box 3007, New Haven, Conn. '39

Star salesman gives ten tips on how to sell quality; B. Wallace, purveyor of de luxe food products. Sales Management 47:52, 54-5 O 1 '40

MANUFACTURERS' casualty insurance company
Analysis. Spectator (Property ed) 5:32-3 Je 13 '40

MANUFACTURERS' liability
Automobile manufacturer's and dealer's liability; false advertising of safety features; digest of recent cases. J. L. Roesch. Spectator (Property ed) 5:22-3 N 30 '39

Dermatitis in the courts; idiosyncrasy and supersensitivity. H. E. Cox. Chem & Ind 59:454-5 Je 29 '40; Same. Textile Col 62: 661-2 O '40; Same, without chemical symbols. Oil Paint & Drug Rep 138:3+ Ag 12 '40

See also
Insurance, Product liability

MANUFACTURERS trust company
Annual report to stockholders. H. D. Gibson. Comm & Fin Chr 150:203-4 Ja 13 '40

MANUFACTURES
Department of commerce asks manufacturers to cooperate in monthly industry survey. Comm & Fin Chr 151:185 Jl 13 '40

Effect of manufacturing on the standard of living in Ohio. J. R. Robinson; R. K. Williams. bibliog Ohio State U, Eng Exp Sta Circ 37:1-31 '40

Manufactures census looms. R. C. Willoughby. Nation's Business 27:65 D '39

Manufacturing methods; considerations in large-scale production. il Elec R (Lond) 126: 561-3 My 24 '40

Problem of manufacturing capacity. G. Terborgh. Fed Res Bul 26:639-46 Jl '40

See also

Brickmaking	Labor and laboring classes
Catalogs	Machine shops
Chemistry, Technical	Machinery
Coke manufacture	Metal work
Commerce	Metals
Competition	Paper making
Cost accounting	Patents
Cotton manufacture	Prices
Equipment industries	Priorities, Industrial
Factories	Production
Factory management	Products, New
Foundries	Quality of products
Fuel	Rayon manufacture
Gas manufacture	Silk manufacture
Glass manufacture	Textile fabrics
Industrial mobilization	Trade marks
Industry	Waste products
Inspection	Woolen and worsted manufacture
Knit goods	

also subdivision Manufacture under names of manufactured articles, e.g. Automobiles —Manufacture; Cement—Manufacture; Rubber—Manufacture

Statistics

Annual salaries and wages in Canadian manufacturing, 1937. Monthly Labor R 51: 448-9 Ag '40

Bad-debt loss survey, 1939, wholesalers and manufacturers; comparisons with 1938. A. L. Skinner, W. N. Lawrence and G. R. Smith. Survey of Cur Business 20:8-26 Jl '40; Same abr. Credit & Fin Management 42:22-5+ Ag; 12-15, 40-4 S '40

Conference board indexes of manufacturing inventories, monthly, 1933-1939. Comm & Fin Chr 150:1510 Mr 9 '40

Eight United States counties produced 25% of country's manufactures and spent 25% of total expenditures for materials, fuel and power in 1937. Comm & Fin Chr 150:1073-4 F 17 '40

Employment and production in manufacturing industries, 1919 to 1936; review of National research project report. H. Magdoff, I. H. Siegel and M. B. Davis. Monthly Labor R 49:1397-1404 D '39

Employment trends in manufacturing; abstract. L. M. Spencer. Mech Eng 62:407 My '40

For 36 manufacturing industries, fourteen important financial ratios for 1938; tabulation. R. A. Foulke. Dun's R 47:12-13 D '39

Hours and earnings in manufacturing industries, 1932 to 1939. Monthly Labor R 49: 1466-9 D '39

Inventories during the World war; record of 111 companies and trends, 1913-1922. W. L. Thorp and H. B. Russell. il Dun's R 48: 17-22 F '40

Manufacturers' sales and collections on accounts receivable, November 1939. Credit & Fin Management 42:45 Ja '40 [cont monthly thru August 1940]

Monthly industry survey; comprehensive new measures of manufacturers' inventories, orders, and shipments. H. C. Grieves and W. C. Truppner. Survey of Cur Business 20: 7-13 S '40 [tables cont monthly]

One hundred and thirty years of manufacturing in the United States. Mach 46:131 Mr '40

Production, 1939. Survey of Cur Business 20: 7-12 F '40

MANUFACTURES—Statistics—*Continued*
Production of manufactures, totals, and durable and non-durable; revision, monthly, 1923-June, 1940. Fed Res Bul 26:826, 840 Ag '40
Survey of business trends, 1939; sales and inventories; final report. Dun's R 48:5-16 My '40
Survey of business trends, 1939; sales and inventories; preliminary report. il Dun's R 48:10-19 Mr '40
Unit labor cost in 20 manufacturing industries, 1919 to 1939. V. Perlo and W. Bowden. Monthly Labor R 51:33-7 Jl '40
U.S. exports of finished manufactures; charts. Comm Rep p254, 255. 281 Mr 16-23 '40
Value of manufactured products, the 100,000 group of cities. Sales Management 46:48 Ap 10 '40
See also
Production—Statistics

Canada
British Columbia looks ahead; relations between mining, population and manufacturing. H. G. Nichols. il map Can Min J 61: 584-9 S '40
Geographical distribution of the manufacturing industries of Canada, 1937. 64p pa 25c Canada. Dominion bur. of statistics, Ottawa '39
Manufacturing industries of Canada, 1937; summary report. 131p pa 50c Canada. Dominion bur. of statistics, Ottawa '40

Massachusetts
Notes on Massachusetts manufacturing. C. W. Cobb. 129p Converse memorial library, Amherst college, Amherst, Mass. '39

Russia
Quality of production in Soviet industry. For Comm W 1:116 O 19 '40

United States
Trends of manufacturing employment, 1929 to 1937. A. F. Hinrichs and H. Brenner. Monthly Labor R 50:1308-39 Je '40

MANUFACTURING chemists association of the United States
Annual meeting, 68th, Skytop, Pa. June 6-7. Chem & Met Eng 47:434 Je '40; Chem Ind 46:738+ Je '40; Ind & Eng Chem News ed 18:554-7 Je 25 '40; Oil Paint & Drug Rep 137:3+ Je 10 '40

MANUSCRIPTS

Bibliography
Census of medieval and renaissance manuscripts in the United States and Canada. S. De Ricci and W. J. Wilson. v.3, Indices. 222p $3 Wilson, H.W. '40

MAPLE
Composition of hemicellulose isolated from maple wood. R. L. Mitchell and G. J. Ritter. bibliog Am Chem Soc J 62:1958-9 Ag '40
Northern hard maple flooring. il Am Bld 62: 87 Ja '40
Pulp and paper mill utilization of hardwoods and other little used species. K. D. Running. Pulp & Pa of Can (Convention no) 41:181-3 [F] '40
Structure of the ethanolysis products from spruce and maple wood. L. Brickman and others. Am Chem Soc J 62:986 Ap '40

MAPLE sirup
How to remove lead from maple sirup; traces of it and other heavy metals can be precipitated and filtered out. A. Conlin. il plan Food Ind 12:53-3 Ja '40
Metallic contamination of foods; lead in maple sirup. J. T. Janson and C. E. Allen. Can Chem & Process Ind 24:390 Ag '40

Manufacture
Hot water and paint give effective maintenance; sirup boiling and handling. il Food Ind 12:50 Ag '40

MAPPING
Elements of mapping. R. C. Matson. 96p bibliog(p93) $1.30 R. C. Matson, Houghton, Mich. '40
See also
Vegetation mapping

MAPPING, Aerial
Aerial engineering and public works. H. T. Bruce. il Pub Works 70:20-2 N '39
Aerial photographic surveys valuable on Gulf coast. W. V. Howard. il Oil & Gas J 38: 194-5 Ap 25 '40
Aerial photographs furnish valuable aid to geologists. W. V. Howard. il Oil & Gas J 38:52-3 Ap 18 '40
Aerial photography grows up. H. T. Bruce. il Eng & Min J 141:48-51 Mr '40

MAPS
Atlas for the U.S. citizen; 11 U.S.-centric maps by R. E. Harrison. Fortune 22:43-9, 52-8 S '40
Increasing the usefulness of maps; specifying latitude and longitude. R. L. Edwards. Science 91:169 F 16 '40
Newsmap magazine. Published monthly by Newsmap magazine and the Geographical pub. co, 621 Plymouth court, Chicago [$6 a year; 75c a copy]
See also
Copyright—Maps
Europe—Maps
Geological maps
Road maps
Topographical maps

Shading
Patterns on maps and drawings by the carbon transfer process. C. W. Thornthwaite and C. F. S. Sharpe. diag map Science 91:367-8 Ap 12 '40

MARBLE
Dielectric constant, power factor, and resistivity of marble. A. H. Scott. J Research Nat Bur Stand 24:235-40 Mr '40
Effect of bronze on marble. Franklin Inst J 229:239-40 F '40
See also
Onyx marble

MARBLES

Manufacture
Marble manufacture at Peltier glass company. il Glass Ind 21:64-6 F '40

MARCH, Charles Hoyt, 1870-
FTC in unofficial profile; sketch. S. Rippey. por Adv & Sell 33:21 F '40

MARCHANT, Thomas M. 1880-1939
Sketch. por Textile World 89:50 D '39

MARGARINE. See Oleomargarine

MARGIN buying. See Stocks—Margin buying

MARGINAL income (term)
Further thoughts on the management aspect of accounting control. S. A. Peck. N A C A Bul 21:549-68 Ja 1 '40

MARGINS (printing)
Correct use of white space and margins in both layout and printing. W. Laufer. diags Inland Ptr 105:44-6 S '40

MARGOSA oil. See Neem oil

MARIGOLDS
First colchicine-made flower; tetra marigold. C. F. Greeves-Carpenter. il Sci Am 162:287-8 My '40

MARIHUANA
Chemistry of marihuana; abstract. R. Adams. Science 91:481 My 17 '40
Marihuana. R. Adams. Science 92:115-19 Ag 9 '40
Physiologically active principle from cannabis sativa (marihuana). A. J. Haagen-Smit and others. Science 91:602-3 Je 21 '40
Structure of cannabidiol, a product isolated from the marihuana extract of Minnesota wild hemp. R. Adams, M. Hunt and J. H. Clark. bibliog Am Chem Soc J 62:196-200 Ja '40

MARINAS
For boat basins and municipal marinas; N.F.P.A. good practice requirements. Weekly Underw 143:1098 My 4 '40

MARINE associations
Marine societies. Published in monthly numbers of Marine engineering and shipping review

MARINE biological laboratory, Woods Hole, Massachusetts
Annual meeting of the corporation and trustees. Science 92:213 S 6 '40
Presentation of the Agassiz medal to Frank Rattray Lillie; with response. Science 91: 413-16 My 3 '40

MARINE biology
Ecology of modern marine organisms with reference to paleogeography. T. W. Vaughan. maps Geol Soc Bul 51:433-68 bibliog(p466-8) Mr '40

See also
Diatoms

MARINE boilers. See Boilers, Marine

MARINE borers
New steel shanks for old timber piles; coal tipple pier at Pensacola, Fla. C. G. Cappel. il Civil Eng 10:632-3 O '40

MARINE corps. See United States—Marine corps

MARINE deposits. See Ocean bottom

MARINE engineering
Energy analysis of naval machinery. 2d ed 522p $6 U.S. naval inst, Annapolis, Md. '40
Fifty years of marine engineering. A. L. Mellanby. diags Inst Mech Eng J & Proc 143:Proc328-48, pl 1-2 bibliog(p347-8) O '40; Same cond. Engineering 149:328, 371-3, 381-2, 420 Mr 29-Ap 19 '40; Same cond. Engineer 169:270-2, 307-10 Mr 22-29 '40
Mechanical engineering problems in marine transport. S. B. Freeman. diags Inst Mech Eng J & Proc 142:Proc 1-12 N '39; Same. Engineering 149:153-6 F 9 '40; Same cond. Engineer 169:164-6 F 16 '40; Excerpts. Mech Eng 61:882-4 D '39
Naval engineering developments; brief extracts from annual report of Chief of Bureau of engineering, U.S.N. Marine Eng 45:84+ Mr '40
Questions and answers for marine engineers. Published in monthly numbers of Marine engineering and shipping review
Shipbuilding and marine engineering in 1939. il Engineer 169:18-21, supp 2, 46-8, 59-62 Ja 5-19 '40
Society of naval architects and marine engineers annual meeting, New York, Nov. 16-17. Engineering 149:121, 150, 181-2 F 2-16 '40
Some problems in the design and operation of merchant vessels. R. C. Lee. Inst Mech Eng J & Proc 142:Proc87-91 D '39

See also
Boilers, Marine
Diesel engines, Marine
Gas and oil engines, Marine
Motor ships
Naval architecture
Propellers
Salvage
Ship propulsion
Ship resistance
Shipbuilding
Ships—Electric equipment
Steam turbines, Marine
Steamboats
Warships
also Society of naval architects and marine engineers

Bibliography
New books. Published in monthly numbers of Marine engineering and shipping review

Tables, calculations, etc.
Cross curves of stability. L. A. Baier. diags Marine Eng 44:581-2 D '39

MARINE engines

See also
Boilers, Marine
Diesel engines, Marine
Gas and oil engines, Marine
Gas turbines, Marine
Marine engineering
Motor ships
Ship propulsion
Steam turbines, Marine

MARINE fauna

See also
Fishes

MARINE fauna, Fossil
Ecology of modern marine organisms with reference to paleogeography. T. W. Vaughan. maps Geol Soc Bul 51:433-68 bibliog(p466-8) Mr '40
Marine pleistocene fossils from Newfoundland. H. G. Richards. bibliog Geol Soc Bul 51:1781-8 N '40
Marine pleistocene of Texas. H. G. Richards. Geol Soc Bul 50:1885-98, pl 1-3 bibliog (p1897-8) D '39
Tie-ins between the marine and continental records in California. J. E. Eaton. Am J Sci 237:899-919 bibliog (p918-19) D '39

See also
Mollusks, Fossil

MARINE flora

See also
Diatoms

MARINE hospitals. See Hospitals, Naval and marine

MARINE insurance. See Insurance, Marine

MARINE midland corporation
Earnings, 1936-39. Comm & Fin Chr 150:999 F 10 '40

MARINE museums
Planned marine museum; Franklin institute museum; Hall of marine transportation. C. M. Gay. il Franklin Inst J 229:567-88 My '40

MARINE railways. See Slipways

MARINE sediments. See Ocean bottom

MARINE structures
Concrete for hydraulic structures. G. S. Latin. il diags Engineer 168:527-8, 550-1 N 24-D 1 '39

See also
Concrete construction, Subaqueous
Docks
Harbors
Intakes
Jetties
Piers
Piles and pile driving
Wharves
Wharves, Concrete

MARINE surveying. See Hydrographic surveying

MARINE workers

See also
Longshoremen
Seamen

MARION reserve power company
Securities offered. Comm & Fin Chr 150: 1140 F 17 '40

MARION steam shovel company
Listing. Comm & Fin Chr 149:3412 N 25 '39

MARIONETTES
Puppetry, 1939; an international yearbook of puppets and marionettes. P. McPharlin, ed. v. 10 64p bibliog(p49-54) bds $2.50 Paul McPharlin, 155 Wimbleton drive, Birmingham, Mich. '39

MARITIME commission. See United States—Maritime commission

MARITIME law
British regulations on secrecy of shipping. Weekly Underw 143:1094 N 9 '40
Conduct of vessels in Venezuelan waters. H. P. Crawford. Comm Rep p1082 N 25 '39
English navigation laws; a seventeenth-century experiment in social engineering. L. A. Harper. 503p bibliog(p419-47) $3.75 Columbia univ. press '39
Geolexigraph of the Neutrality act of 1939. S. E. Perkins. map(supp) Comm Rep p1056-8 N 18 '39; Correction. p1082 N 25 '39
Geolexigraph of the Neutrality act of 1939 (transfer of title). S. E. Perkins. Comm Rep p130-1 F 10 '40
Geolexigraph of the Neutrality act of 1939; revision and consolidation of articles in Commerce reports; with text of law, proclamations, regulations, etc. S. E. Perkins. maps Compar Law Ser 3:241-85 My '40
Law of maritime liens. G. Price. 264p bibliog(p1x-xii) 25s Sweet & Maxwell, London '40

MARITIME law—*Continued*
U.S. Maritime commission reports; digest. J. H. Eisenhart, jr. 178p $3.50 Am. maritime cases, 12 W. Madison st, Baltimore '40

See also
Admiralty
Insurance, Marine

MARITIME provinces, Canada

Economic conditions
Studies in the economy of the Maritime provinces. S. A. Saunders. 266p $2 Macmillan co. of Canada, Toronto '39

MARKET, Farm. See Farm market

MARKET, Industrial. See Industrial market

MARKET areas
Grade 850 market by 3 dimensions in Liberty manual. map Sales Management 46:59 Mr 15 '40
High-spot cities; the ratio of city to nation in expected income next month. Sales Management 46:12 My 1 '40 [cont in first number of each month]
How consumer purchases vary with the seasons in 29 regions. L. D. H. Weld. il map Dun's R 48:15-20 Je '40
How to find the plus buying power in America's major urban markets; guide to selective selling. C. E. Bosworth and R. L. Edsall. Sales Management 46:25-6+ Ja 1 '40
Major trading areas and their buying power; tabulation. Sales Management 46:20+ Ap 10 '40
Regional trade barometers. L. D. H. Weld. map Dun's R 48:32-7 Ja '40 [cont monthly]
Ten mail-order Americas; Sears, Roebuck's ten sectional catalogs. G. Bijur. Adv & Sell 33:33-4, 54 S '40

See also
Metropolitan districts
Shopping areas

MARKET research
Advertising agency executives pick best test markets of the country in 3 population groups; test cities and best media for a hypothetical 25-cent mass item to be distributed through drug, variety, and department stores Sales Management 47:29+ Ag 1 '40
American Main Street; Norwalk, Ohio. N. Hansell. il plan map Ptr Ink Mo 40:9-12+ Ap '40
Awards for a research project of independent character, not related specifically to any publication, product or service, which has contributed to the knowledge and advancement of advertising. il Adv & Sell 33:71-2 F 15 '40
Building for service; Lockheed asks its customers what they want, builds it, helps in its maintenance. J. R. Hargrove. Aero Digest 37:72, 75-6+ Jl '40
Business asks the public how it may serve best. il Nation's Business 28:26-8+ My '40
Chicago druggists vote on brands they like to sell most, and least. Sales Management 47:31-4 Jl 1 '40
Consumer market; income, expenditure, and savings. W. Alderson. Ann Am Acad 209: 1-13 My '40
Customer research pays. G. McCrary. Edison Elec Inst Bul 8:395-7+ Ag '40
Does your merchandising match the movements of buying power? L. Jones. map Adv & Sell 33:30-2, 42 O '40
How much can we sell? where? P.I.'s new marketing study gives accurate answer; what the service is and how it works Ptr Ink 192:33, 36, 40+ Ag 2 '40
In agency research, results may be better if these pet don'ts are heeded. D. E. Robinson. Ptr Ink 190:61+ Mr 15 '40
Market analysis from management standpoint. R. T. Kent. Mech Eng 62:791-2+ N '40
Market research and analysis. R. H. Fite, jr. il Edison Elec Inst Bul 8:19-23 Ja '40
Market research in introducing new industrial products. R. L. Gibson. Mech Eng 62: 217-18 Mr '40
Marketing problems of industry; charts showing relative importance of problems for each of three main types of industry. R. Dunne. Ptr Ink Mo 40:12-13 Ja '40
Marketing research. W. L. White. Ann Am Acad 209:183-92 My '40
Marketing research activities of manufacturers. E. S. Moulton. 49p, 4p pa 25c U.S. Bur. of for. & dom. com., Washington '39
Motives as a tool of market research. D. McGregor. Harvard Business R 19 no 1: 42-51 [S] '40
N.Y. grocers (again) tell brands they like to sell most, and least. il Sales Management 47:40, 44-5+ O 1 '40
Ozite's eye-opener for dealers who suffer from a price complex; film presentation. L. H. Regensburg. il Sales Management 46:24-6 My 15 '40
Questionnaire; appliance saturation sampling undertaken by Southern California Edison. Elec West 85:31 Ag '40
Spotting of primary markets essential to profitable advertising emphasis. H. Schwerin. Ptr Ink 192:15-17+ S 27 '40
10th survey of beauty; a study of cosmetic buying trends. 64p Modern magazines, 149 Madison av, New York '40
This plan will cut new product guessing; three sets of questions on competition, market and merchandise. W. Weintz. Ptr Ink 189:35+ D 29 '39
What motivates business buyers. D. J. Duncan. Harvard Business R 18 no 4:448-54 [Jl] '40

See also
Market statistics
Products, New—
Testing

Bibliography
Market research sources, 1940; a guide to information on domestic marketing. R. Bretherton. U S Bur For & Dom Com, Domestic Commerce Ser 110:1-236 '40
Statistics and maps for national market analysis. T. J. Davis, comp. 13p U.S. Bur. of foreign & domestic commerce '40

MARKET statistics
Chicago market. J. D. Ames. Ptg Art 68 no 4: C9 '40
Complete list of cities equaling or exceeding the national average, by sections and per-capita incomes. Sales Management 47:56+ O 1 '40
Consumer expenditures in United States, estimates for 1935-36. (National resources committee) 195p pa 50c Supt. of doc. '39
Consumer incomes and family budgetary expenditures; Printers' Ink market explorations; Alabama, Florida, Georgia, Kentucky, Louisiana, Mississippi, North Carolina, South Carolina, Tennessee and Virginia. maps Ptr Ink 193:sup1-55 O 25 '40
Consumer incomes and family budgetary expenditures; Printers' Ink market explorations; Delaware, District of Columbia, Maryland, Ohio, Pennsylvania and West Virginia. Ptr Ink 192:sup3-55 S 27 '40
Consumer incomes and family budgetary expenditures; Printers' Ink market explorations; New England states. maps Ptr Ink 191:sup 1-32 Je 28 '40
Consumer incomes and family budgetary expenditures; Printers' Ink market explorations; New York and New Jersey. maps Ptr Ink 192:sup1-39 Ag 2 '40
Consumer market data. 88p pa 50c Canada. Dominion bur. of statistics, Ottawa '40
Current effective buying income. Sales Management 46:12 Ja 1 '40 [cont in the first number of each month]
Department store sales in metropolitan areas, 1938; Printers' Ink market explorations. map Ptr Ink Mo 40:30-1, 33-5 My '40
Families and how they live; Printers' Ink market explorations; Alabama, Florida, Georgia, Louisiana, Mississippi and South Carolina. map Ptr Ink 190:sup1-44 F 2 '40
Families and how they live; Printers' Ink market explorations; Arizona, California, Idaho, Nevada, Oregon, Utah and Washington. map Ptr Ink 191:sup1-35 My 31 '40

MARKET statistics—*Continued*
Families and how they live; Printers' Ink market explorations; Arkansas, Colorado, Kansas, Missouri, Nebraska and Wyoming. maps Ptr Ink 190:sup 1-36 Mr 29 '40
Families and how they live; Printers' Ink market explorations; Illinois and Wisconsin. maps Ptr Ink 189:sup1-32 D 29 '39
Families and how they live; Printers' Ink market explorations; Iowa, Minnesota, Montana, North Dakota and South Dakota. maps Ptr Ink 191:sup1-32 Ap 26 '40
Families and how they live; Printers' Ink market explorations; Kentucky, North Carolina, Tennessee and Virginia. maps Ptr Ink 189:sup1-36 N 24 '39
Families and how they live; Printers' Ink market explorations; New Mexico, Oklahoma and Texas. Ptr Ink 190:sup 1-28 F 23 '40
Family expenditures in selected cities, 1935-36; food. map U S Bur Labor Statistics Bul 648 v 2:1-406 '40
Family expenditures in selected cities, 1935-36; travel and transportation. L. A. Epstein; J. R. Wood, jr. map U S Bur Labor Statistics Bul 648:1-165 '40
Finding your market in a metropolis. F. R. Coutant. il map Adv & Sell 33:38, 40, 42+ Mr '40
Follow armament smoke stacks for expanding consumer incomes; orders by states and cities. il Sales Management 47:44, 46, 50 Ag 15 '40
Food store sales in metropolitan areas, 1938; Printers' Ink market explorations. maps Ptr Ink Mo 40:30-1, 33-5 Mr '40
Home market. G. Harrison, F. C. Mitchell and others. 1939 ed. rev. and enl. 151p 12s 6d G. Allen & Unwin, London '39
How much can we sell? where? P.I.'s new marketing study gives accurate answer; what the service is and how it works. Ptr Ink 192:33, 36, 40+ Ag 2 '40
How to find the plus buying power in America's major urban markets; guide to selective selling. C. E. Bosworth and R. L. Edsall. Sales Management 46:25-6+ Ja 1 '40
Income tax returns, 1936, 1937, 1938; in 132 metropolitan areas, listed by state and city. Ptr Ink Mo 41:29 Jl '40
Industrial America; iron and steel; Printers' Ink market explorations. Ptr Ink Mo 41: 30-1, 33 Ag '40
Industrial America; machinery, not including transportation equipment; Printers' Ink market explorations. Ptr Ink Mo 41:38-9, 41 O '40
Industrial areas and their relation to metropolitan areas with data for production, wage earners and payrolls; Printers' Ink market explorations. map Ptr Ink Mo 40: 34-5, 37-9 Je '40
Lumber, building supply and hardware store sales in metropolitan areas, 1938; Printers' Ink market explorations. maps Ptr Ink Mo 40:40-1, 43-5 F '40
Market data sources; to help build more efficient, workable territories. B. Bigelow. Ptr Ink 189:59-60, 62-4 D 22 '39
Marketing data from 1940 business census will be ready by early fall. V. D. Reed. Ptr Ink 190:36 F 16 '40
Marketing pictographs. Sales Management 46: 35-43 Ja 15 '40 [cont monthly]
Marriage market is steady; pictograph. Sales Management 45:38 D 15 '39
Method for marshalling census data. D. C. Whittinghill. il Adv & Sell 33:25-7+ S '40
New and used car sales in metropolitan areas, 1938; Printers' Ink market explorations. map Ptr Ink Mo 40:34-5, 37-9 Ja '40
New census shows city suburbs are fastest growing markets; an analysis of 1940 population trends. A. H. Johnson. Sales Management 47:66, 68, 70+ N 15 '40
1940 census will tell plenty about people who make this country's markets. V. D. Reed. Ptr Ink 190:21-2 Mr 15 '40
1938 retail sales in metropolitan area drug stores; Printers' Ink market explorations. map Ptr Ink Mo 39:34-5, 37-9 D '39
One way to bring down sales costs; concentrating sales effort in the top 626 counties. A. W. Ramsdell. Am Business 10:11-13, 52 N '40
Population characteristics by census tracts, Cincinnati, Ohio, 1930 and 1935. J. A. Quinn, E. Eubank and L. E. Elliott. maps Ohio State Univ, Bur of Business Research, Special Bul X-52:1-88 '40 (pa $1.25)
Selection of typical marketing pictographs. $1 Sales management, inc, 420 Lexington av, New York '40
Spirits, wine and beer sales in metropolitan areas, 1938; Printers' Ink market explorations. map Ptr Ink Mo 40:40-1, 43-5 Ap '40
Statistically speaking; market research on cooking trends. H. Smith. Am Gas Assn Proc 1939:293-7
Survey of buying power; estimates of 1939 effective buying income and retail sales for sections, states, trading areas, counties and cities, etc. maps Sales Management 46: 7-235 Ap 10 '40
What are America's markets? Factory Management 98:C8-C12 Ag '40
What marketers will get from the new census. V. D. Reed. Sales Management 46:48, 50-1 Ja 15 '40
Where goods are bought and where department stores get their business; pictographs. Sales Management 46:46 F 15 '40

See also
Consumption (economics)

MARKET stores
American food counter; Johnson's supermarkets, Syracuse, New York. N. Hansell. il plan maps Ptr Ink Mo 40:5-8+ F '40
How are national-brand foods being price-cut today? R. P. Wolff. il Adv & Sell 33:17-19 Ag '40
Integrated marketing institutions. W. Girdner. Ann Am Acad 209:57-8 My '40
Largest modern air conditioned super-market built in Miami. il Refrig Eng 40:44-5 Jl '40
Planning units for retail stores; food supermarkets. plan Arch Rec 87:108 Je '40
Rise of the super-market and some marketing consequences; price variations of 68 nationally advertised grocery products at super-markets, chain stores, and independent stores in a large southern city. R. P. Wolff. il map Dun's R 48:8-13+ S '40; Abstract. Management R 29:439-41 D '40
Supermarkets and self-service stores; recent facts and figures on where they are, how many, and their turnover percentage of local grocery sales. D. Curtiss. il fold map Adv & Sell 33:22-4 Je '40
Supers claim 20% of food sales. Business Week p52-3 S 28 '40

See also
Shopping centers

Costs
Supers weigh costs; survey of five stores. Business Week p30+ O 5 '40

Statistics
Measure of the trend toward super markets; pictograph. Sales Management 46:40, 43 My 15 '40

MARKET surveys
Domestic sales still open for intensive effort; survey of household fuel users. D. Hartwell. Coal Age 45:78-80 Ap '40
Market survey as a tool of management. L. Ginsburg. Gas Age 86:15-17+ Jl 4; 35-8+ Jl 18; 28-32+ Ag 1; 30-4+ Ag 15; 22-5+ Ag 29 '40
Marketing survey of the United Kingdom and census of purchasing power distribution. C. Chisholm, ed. 2d ed 564p 50s Business publications, London '38
Markets and forecasts. A. H. Jaeger. Elec West 84:75-6 Je '40
Measures of purchasing power. W. H. Stackhouse. diags Indiana Univ, School of Business, Indiana Business Studies 18:1-83 '39
114 markets of South America; Printers' Ink Monthly special study. W. LaVarre. il Ptr Ink Mo 40:17-20+ Mr '40

MARKET surveys—*Continued*
Sales development; a new technique; Market development department. L. Grupelli and J. Miskel. il Chem Ind 47:24-6 Jl '40
Shortest way to sales; customer survey coordinates advertising and selling for domestic gas equipment. W. L. Jones. il Am Gas Assn Mo 22:272-4 Jl-Ag '40
Study of customer load guide to system growth; Kansas City power & light co. compiles information. il Elec W News ed 113:1290 Ap 27 '40

See also
Consumption (economics)
Market research
Market statistics

MARKETING
Cost-minded distribution wins national market in twelve months; Merchants distilling corporation. M. B. Frank. il Ptr Ink 190: 11-14, 75-8 Mr 15 '40
Distribution problems affecting credit. H. S. Almy. Credit & Fin Management 42:6-7+ Ag '40
Distribution problems that affect credit; some legislation that adds to selling costs. H. S. Almy. Credit & Fin Management 42:16-17 N '40
Elements of marketing. P. D. Converse and H. W. Huegy. 2d rev ed 823p, 89p $5; school ed $4 Prentice-Hall '40
How good letters were used to promote distribution in new markets; Pioneer minced sea clams. Ptr Ink 192:109-10 Ag 2 '40
How we put over a product whose price was ten times too high; Pignose faucet washer gets national distribution. K. Hill. il Sales Management 46:29-30, 32 F 15 '40
Industrial marketing. R. T. Kent. Mech Eng 62:621-2 Ag '40
Kelvinator shakes up production, distribution, rolls out more sales. F. R. Pierce and C. T. Lawson. il Sales Management 46:22-3 Ap 1 '40
Looks at consumer and retailer. H. B. Thomas. Oil Paint & Drug Rep 138:68, 68A-68B O 14 '40
Manufacturers' product, package, and price policies; modern merchandise management. A. W. Frey. 429p $4.50 Ronald press '40
Marketing. R. S. Alexander and others. 794p bibliog(p741-88) $4 Ginn '40
Marketing burned-clay products; including an analysis of location, importance and development of the industry. A. H. Chute. 374p bibliog(p361-4) $3.50 Ohio state univ, Columbus '39
Marketing in our American economy. H. T. Hovde, ed. bibliog Ann Am Acad 209:1-198 My '40
Marketing movement in mechanical engineering. J. R. Bangs, jr. Mech Eng 62:215-16 Mr '40
Marketing of drug products. P. C. Olsen. 309p bibliog(p295-301) $3 Harper '40
Marketing problems of industry; charts showing relative importance of problems for each of three main types of industry. R. Dunne. Ptr Ink Mo 40:12-13 Ja '40
Marketing through food brokers. A. U. Shirk. 310p $3.50 McGraw-Hill '39
Merck's 3-way market; doctors, druggists, manufacturers. F. Smith. il Adv & Sell 33: 27-9, 42-3 F '40
Policies that pull Marlin out of the ruck of razor blade makers; 70-year-old firearms firm adds new line; sells by mail order and 30 or more different types of outlets. il Sales Management 46:24+ Ap 1 '40
Policy changes that pulled Blatchford calf meal company back from the brink of bankruptcy. J. E. Sams. il Sales Management 47:18-20 O 1 '40
Prodikal product; bringing back men's jewelry items to jewelry stores; Jacques Kreisler manufacturing corporation. E. Peterson. il Ptr Ink 191:23-5 Ap 5 '40
Sales development, a new technique; Market development department. L. Grupelli and J. Miskel. il Chem Ind 46:564-5, 693-4; 47:24-6 My-Jl '40
Smart industry promotion opens style markets for leather. il Sales Management 47:21-3 O 20 '40
They're still freezing; house-to-house delivery and locker plants for quick-frozen foods. il Ptr Ink Mo 41:5-8+ S '40
Three new trade-marks; Tested papers of America, inc. forms merchandising institute. Ptr Ink 190:95-6 Mr 29 '40
Twelfth Boston conference on distribution, 1940. 103p pa $3.75 Daniel Bloomfield, director, Retail trade board, Boston chamber of commerce, 80 Federal st, Boston '40
Whiting offers packaged stokers, sells through appliance dealers; concentrated sales effort and concentrated advertising in a limited area, coupled with protected-territory distributors. S. H. Hammond. il Sales Management 45:50, 54-5 D 15 '39
Why so much western merchandise is breaking into eastern markets; the Hollywood influence in clothes, furniture, gift wares and novelties. H. W. Wright. il Sales Management 47:16-18+ Jl 1 '40

See also
Advertising
Boston conference on distribution
Brokers
Buying habits
Chain stores
Consignment selling
Containers
Dealer helps
Display of merchandize
Distribution (economics)
Exchanges
Exclusive agencies
Exhibits
Export trade—Marketing
Factors
Farm market
Gasoline service stations—Leasing
Industrial market
Jobbers
Mail order business
Market stores
Merchandizing
Price policies
Private brands
Products, New
Retail trade
Sales management
Sales policies
Salesmanship
Salesmen
Salesmen, Retail
Vegetables—Marketing
Vending machines
Warehouses
Warehousing

Bibliography
Marketing management; abstracts. Published in monthly numbers of Management review

Chain store outlets
Counter cards in the 5 and 10. A. L. Karp. il Ptr Ink Mo 39:9 D '39
Merchandising chemical specialties to chain stores. il Chem Ind 46:598-600 My '40
Packaging specialties for variety chain stores. C. J. Cunneen. il Chem Ind 47:54-5 Jl '40
What chemical specialties do chain stores buy? il Chem Ind 46:468-71 Ap '40

Cost
Analysis and control of distribution costs, for sales executives and accountants. J. B. Heckert. 420p $5 Ronald press '40
Analysis of marketing costs. P. E. Lakin. Nat Pet N 32:36-7 My 1 '40
Competitive struggle for market control. D. R. Craig and W. K. Gabler. Ann Am Acad 209:84-107 My '40
Costs and profits in marketing. N. H. Engle. bibliog Ann Am Acad 209:122-32 My '40
Distribution costs, a new frontier for accounting. D. R. Longman. J Account 70: 232-7 S '40; Abstract. Management R 29: 376-7 O '40
Distribution costs; present methods of cost analysis. D. R. Longman. bibliog J Account 70:431-43 N '40
Role of the accountant in the control of distribution costs. A. C. Brett. N A C A Bul 21:957-72 Ap 1 '40
Sharply challenging questions are here submitted to 20th century fund. L. D. H. Weld. Ptr Ink 190:64, 66-8 F 2 '40

Department store outlets
Department store as an outlet for electric range sales. H. Lutes. Edison Elec Inst Bul 8:162-6 Ap '40
How same product can be sold successfully in more than one store department. Ptr Ink 192:53-4, 56 Ag 9 '40
How to sell more goods to department store employes. J. C. Cumming. il Sales Management 47:22-4 O 1 '40

MARKETING—Department store outlets—*Cont.*
How to sell through department-store chains. E. B. Weiss and J. C. Cumming. il Ptr Ink Mo 41:5-8+ Jl '40

Direct selling

How Chicago Venetian blind co. survived a blitzkrieg of mushroom competition; reorganized sales force, price maintenance, resale plan for dealers, and advertising. D. L. Jacobson. il Sales Management 47:30, 32 S 15 '40
Schick inventory seemed big as a mountain, but smart merchandising moved it; helping retailer sell it. R. J. Cordiner. il Ptr Ink 189:9-12+ D 8 '39

Efficiency

Criteria of marketing efficiency. T. N. Beckman. Ann Am Acad 209:133-40 My '40

Laws and regulations

Manufacturers versus distributors; how Federal anti-trust laws now in effect apply to the refrigeration industry. R. B. Thomas. Refrig Eng 40:75-7+ Ag '40
Marketing legislation. E. T. Grether. bibliog Ann Am Acad 209:165-75 My '40

Mail order outlets

New Ward farm line; will handle Avery implements. Business Week p38 D 2 '39
Ward signs Cletrac. Business Week p36 D 9 '39

Sectional distribution

Hills bros.' formula for cracking and holding metropolitan markets. il Sales Management 46:20-2 Je 15 '40
Parkay goes national. Ptr Ink 190:16 F 9 '40

Small town outlets

American Main street; Norwalk, Ohio. N. Hansell. il plan map Ptr Ink Mo 40:9-12+ Ap '40
Silver firm makes gold strike in small town market; Manchester silver co., Providence. Sales Management 47:34+ O 1 '40

Study and teaching

Education and training for marketing. P. H. Nystrom. Ann Am Acad 209:158-64 My '40

MARKETING, Cooperative
Citrus selevision; machine-made national auction market for Florida oranges interests produce trade. Business Week p28+ Ag 17 '40
How that diamond is branded on walnuts—and Mrs America's mind. C. Thorpe. il Sales Management 46:18-20, 58 My 1 '40
Rift over co-op; A. & P.'s "super" assailed by competitors as lever to gain price control throughout fruit and vegetable market. Business Week p30+ N 2 '40

MARKETS
See also
Chicago—Markets

MARKETS, Farmers'

Advertising

Streamlined bazaar; Farmers public market, Los Angeles, almost doubles sales by mail campaign directed at present customers. il Ptr Ink Mo 41:18 S '40

MARKING
See also
Labels
Steel, Strip—Marking
Origin, Indication of

MARKS, Louis B. 1869-1939
Sketch. por Illum Eng Soc Trans 34:1123-4 D '39

MARKS and Spencer, limited
Chain store shares; Woolworth and Marks and Spencer; some comparisons. Economist 138:860-1 My 11 '40
Profits, years to March 31, 1938-40, and 14th annual general meeting. Economist 138:822, 907, 954-5 My 4, 18-25 '40

MARKS of origin. See Origin, Indication of

MARRIAGE
Decade of marriage counseling. E. R. Groves. Ann Am Acad 212:72-80 N '40

MARRIAGE law
Examination for venereal disease before marriage. Pub Health Rep 55:374-5 Mr 1 '40

MARRIED women
Employment of women after marriage. Monthly Labor R 50:78-82 Ja '40
Employment of women after marriage. H. F. Browne. Management R 29:49-50 F '40
Fiscal anti-feminism; income tax of British woman professional worker with a family. Economist 138:373-4 Mr 2 '40
Hiring and retention of married women. Management R 29:227-8 Je '40
My wife works. Nation's Business 28:23-4, 70+ S '40
Per cent of companies for and against retention of women office employees after marriage; chart. Dun's R 48:44 Mr '40
Should industries bar employment of married women? Pub Util 26:302-4 Ag 29 '40
Should married women work? Business Week p34-5 Jl 27 '40
Women's clubs study employment of married women. Nation's Business 28:75 S '40

MARROW
Some crystalline constituents of the non-saponifiable fraction of bone marrow. H. N. Holmes and R. E. Carbet. Science 90: 518 D 1 '39

MARSEILLES, Illinois

Sewerage

Typical treatment plant for sewage of small city. plan Concrete 47:5+ D '39

MARSH, Othniel Charles, 1831-1899
O. C. Marsh, pioneer in paleontology. C Schuchert and C. M. LeVene. 541p bibliog (p503-26) $5 Yale univ. press '40

MARSH gas. See Methane

MARSHALL, Samuel W. 1891-
Sketch. por Explosives Eng 18:36-7 F '40

MARSHALL FIELD and company
Marshall Field stabilizes jobs; extras are classified. Business Week p18 S 14 '40
R. H. Macy and Marshall Field; contrasting trends. P. Dobbs. il Mag of Wall St 65: 814-15+ Ap 6 '40
Recapitalization. Comm & Fin Chr 149:3721-2 D 9 '39
Union signs up Field; merchandising firm and textile workers reach agreement on five southern mills. Business Week p16 N 25 '39
Youth serves Field's. Business Week p38 Ap 27 '40

MARSHES
Accelerated settlement of embankments by blasting. A. W. Parsons. il diag Pub Roads 20:197-202 D '39
Bog levels. F. C. Gates. Science 91:449-50 My 10 '40
Highway fills over swamps settled quickly by dynamite. il Concrete 48:5 S '40
Marsh buggy for use in Gulf Coast fields. H. F. Simons. il Oil & Gas J 38:71 F 22 '40
New 69-mile Everglades highway. il diag map Eng N 125:270-2 Ag 29 '40
Rotary-rig foundations in Gulf Coast marshes. N. Williams. il plan Oil & Gas J 39:42-3 Ag 8 '40
See also
Drainage

MARTENSITE
Grain size of steel. J. R. Vilella. bibliog il Mech Eng 62:293-307 Ap '40
Kinetics of the austenite to martensite transformation in steel. A. B. Greninger and A. R. Troiano. bibliog il Am Soc for Metals Trans 28:537-63; Discussion. 563-74 S '40

MARTHA'S VINEYARD
See also
Electricity supply—Martha's Vineyard

MARTIN, George W.
New York state Senate votes against removal of Judge George W. Martin of Kings county. N.Y. Comm & Fin Chr 149:3350 N 25 '39

MARTIN, Glenn L., company
Brass tacks for the investor; brief analysis. Barron's 20:13 Je 17 '40
Expansion program under way. Comm & Fin Chr 151:1435 S 7 '40
Glenn L. Martin co.; America's oldest builder of bombing planes. il Fortune 20:73-7+ D '39

MARTIN, Glenn Luther
Glenn L. Martin co. por Fortune 20:73-7+ D '39

MARTIN-PARRY corporation
Thumbnail stock appraisal. Mag of Wall St 66:683 S 21 '40
Volatile low-price stock; thumbnail appraisal. Mag of Wall St 65:817 Ap 6 '40

MARTINIQUE
Foreign trade, 1938; comparison with 1937. J. A. Croghan. Comm Rep p197-8 F 24 '40

MARTINS bank, limited
Annual general meeting, 109th, Liverpool. Economist 138:175-7 Ja 27 '40

MARX, Charles David, 1857-1939
Sketch. por Eng N 124:5 Ja 4 '40; Civil Eng 10:121 F '40

MARX, Karl, 1818-1883
Karl Marx; his life and environment. I. Berlin. 256p bibliog(p251-2) 75c Nelson (Toronto) '39
Marxism; is it science? M. Eastman. 394p bibliog(p351-82) $3 Norton '40

MARXISM. See Communism

MARYLAND
Maryland; a guide to the old line state. 561p bibliog(p535-43) $2.75 Oxford '40

Economic conditions
Consumer incomes and family budgetary expenditures; Printers' Ink market explorations. Ptr Ink 192:sup3-55 S 27 '40

Industries and resources
Manufacturing in Maryland. il map Manuf Rec Extra no 109:143-51 S '40

MASON, Robert H.
Sketch. por Spectator (Property ed) 6:16+ Ag 22 '40

MASON, William Horatio, 1877-1940
Personalities in industry. por Sci Am 163: 247 N '40

MASONITE
Fibre product of many uses. J. N. Stephenson. il Pulp & Pa of Can 41:485-90+ Jl '40
New products from wood. J. A. Lee. il Chem & Met Eng 47:95-8 F '40
New test for patents; Arnold's suit against hardboard industry. Business Week p19-20 Mr 16 '40
Plastics and chemicals from wood; Masonite products. R. M. Boehm. il Paper Tr J 110: 35-8 My 2 '40

MASONITE corporation
Masonite corp. purchases Cellufoam plant. Paper Tr J 109:21 D 7 '39

MASONRY
Concrete masonry construction captures large-scale housing market. W. G. Kaiser. Concrete 48:26+ F '40
Leaky masonry walls haunt U.S. housing jobs. Brick & Clay Rec 95:13 N '39
Masonry design. M. Hirschthal and others. 76p, 35p, 75p $2.10 International textbook co. Scranton, Pa. '38
Masonry, natural and blended cements discussed by engineers. Concrete (mill sec) 48:207-8 Jl '40
Metal-tied cavity walls approved for USHA construction. diags Arch Rec 88:110+ Ag '40
Tests of the resistance to rain penetration of walls built of masonry and concrete; tests of 101 wall specimens built of concrete masonry, cast-in-place concrete and solid brick faced masonry. R. E. Copeland and C. C. Carlson. il diags Am Concrete Inst J 11:169-92 N '39; Excerpts. Concrete 48:22, 24+ Ap '40; Discussion. Am Concrete Inst J 12:sup 192¹-192¹² S '40

See also
Brick construction
Bricks
Bridges—Foundations and piers
Building
Calking
Cement
Concrete
Concrete blocks
Dams
Foundations
Mortar
Plaster and plastering

MASS action, Law of
Simplification of certain calculations based on the mass law. J. D. Parent. J Chem Educ 17:186-7 Ap '40

MASS spectrometers. See Spectrometers, Mass

MASSACHUSETTS
See also
Geology—Massachusetts

Metropolitan district water supply commission
Real estate acquisitions for metropolitan Boston's water supply in the Swift River and Ware River watersheds. J. A. Christenson. il maps N E Water Works Assn J 54:194-255 Je '40

MASSACHUSETTS institute of technology
Design of powerful electromagnets; new magnet laboratory at M.I.T. F. Bitter. diags R Sci Instr 10:373-81 D '39
Fellowships for business executives of the Massachusetts institute of technology. Science 91:210 Mr 1 '40
Massachusetts institute of technology and the national defense program. Science 92:358-9 O 18 '40
Summer conferences. Science 91:452-4 My 10 '40

Dard Hunter paper museum
Ancient art lives on; handmade paper; with comments on exhibits. D. Hunter. il Pulp & Pa of Can 41:279-83 Mr '40

MASSACHUSETTS investors trust
Earnings, 1936-39. Comm & Fin Chr 150: 695-6 Ja 27 '40

MASSACHUSETTS mutual life insurance company
Annual report for 1939. Comm & Fin Chr 150: 438-9 Ja 20 '40; East Underw 41:20 Ja 26 '40; Weekly Underw 142:268 Ja 27 '40

MASSACHUSETTS utilities associates
Income account, 1936-39. Comm & Fin Chr 150:3206 My 18 '40

MASTER and servant
Law of master and servant. F. R. Batt. 3d ed 531p $5 Pitman '39
Weak spot in the contractor's business; responsibility for employees' conduct. C. R. Rosenberg, jr. Heat & Ven 36:16 D '39

See also
Agency (law)
Apprentices
Employers' liability
Servants

MASTER boiler makers' association
Annual meeting, Chicago; program. Ry Mech Eng 114:354 S '40
Annual meeting, 27th, Chicago, Oct. 22-25. Ry Age 109:647-9 N 2 '40
Annual meeting, 27th, Chicago, Oct. 22-25; with papers. Ry Mech Eng 114:450-71+ N '40

MASTER electric company
Uncovering special situations. E. A. Barnes. Mag of Wall St 66:46 Ap 20 '40

MASTERS, Edgar Lee, 1869-
Spoon river twenty-five years after. A. M. Sullivan. por Dun's R 48:18-22+ Ap '40

MASTODON
Mastodon remains found in West Virginia. W. J. Sumpstine and B. R. Weimer. Science 90:539-40 D 8 '39
New pliocene mastodon. E. H. Sellards. diags Geol Soc Bul 51:1659-64 N '40

MASTOIDITIS
Mastoiditis increased by cold climate; abstract. M. G. Lynch. Science 92:sup12+ S 27 '40

MASTS and rigging
Rigging. H. A. Calahan. 276p $3 Macmillan '40

MASURIUM
New radioactive isotope of masurium, $_{43}Ma^{101}$. R. Sagane and others. bibliog Phys R 57: 750 Ap 15 '40

MATAIRESINOL
Constituents of natural phenolic resins; a synthesis of *l*-matairesinol. R. D. Haworth and F. H. Slinger. Chem Soc J p1098-1101 Ag '40

MATANZAS, Cuba
Port of Matanzas. il(cover) Comm Rep p255 Mr 16 '40

MATCHES
Ignition of the safety match. R. S. Siegel. J Chem Educ 17:515 N '40
Match trade; British imports and supplies, 1935, 1938. Economist 138:785 Ap 27 '40

MATÉ
Rival for tea; Brazilian institute organized. Business Week p64 O 5 '40

MATELASSÉ
Study in rayon weaves. il diags Rayon 21: 363-4, 425-7 Je-Jl '40

MATERIA medica
Materia medica, pharmacology and therapeutics. M. B. Muse. 3d ed rev 622p $3 Saunders '40
Materia medica; pharmacy, pharmacology and therapeutics. W. Hale-White. 24th ed rev 550p 12s 6d J. & A. Churchill, London '39
Textbook of materia medica, pharmacology and therapeutics. H. N. G. Wright and M. Montag. 566p $2.75 Saunders '39

See also
Analgesics
Anesthetics
Anesthetics, Local
Drugs
Hypnotics
Medicine
Narcotics
Pharmacology
Pharmacy

MATERIAL control

See also
Inventories
Purchasing
Stores systems

MATERIALS
Condensed review of some recently developed materials, arranged alphabetically by trade names. Mach 47:148-55 O '40
Construction materials explored by research. Eng N 125:105-7 Jl 18 '40
Materials and design; twin keys to profit. G. T. Trundle, jr. il Product Eng 11:354-6 Ag '40
Metals as engineering materials. C. H. Desch. Engineering 149:176-7, 231-2, 312-13 F 16, Mr 1, 22 '40
Patentability of materials. H. A. Toulmin, jr. Product Eng 11:23-4 Ja '40
Selecting the best material for a given application. D. R. Kellogg. Mach 46:113-14 Je '40

See also
Airplanes—Materials
Automobiles—Materials
Bleaching materials
Building materials
Ceramic materials
Granular materials
Insulating materials
Paint materials
Paper making materials
Plastic materials
Raw materials
Refractory materials
Road materials
Strength of materials
Tanning materials

MATERIALS handling. See Handling of materials; Mechanical handling

MATERNAL mortality. See Mortality—Statistics

MATERNAL welfare
Progress in saving maternal and child life. R. A. Bolt. bibliog Ann Am Acad 212:97-104 N '40

MATERNITY hospitals. See Hospitals, Maternity

MATHEMATICAL economics. See Economics, Mathematical

MATHEMATICAL instruments
Electrical method for compounding sine functions; application to structure determinations of gas molecules by electron diffraction. L. R. Maxwell. bibliog diags R Sci Instr 11:47-54 F '40

See also
Calculating machines
Harmonic synthesizer-analyzer
Integraphs
Integrators
Slide rule
Square root extractor

MATHEMATICAL physics
Allowed directions of cosmic rays as an existence problem of mathematical analysis. I. Opatowski. Science 90:463-4 N 17 '39

See also
Aerodynamics
Elasticity
Electricity
Gases
Hydrodynamics
Impact
Magnetism
Sound
Statistical mechanics
Thermodynamics

MATHEMATICAL recreations
Mathematical clubs and recreations. S. I. Jones. 236p $2.75 S. I. Jones co, 1122 Belvidere drive, Nashville, Tenn. '40

MATHEMATICAL statistics
Statistical mathematics. A. C. Aitken. 153p $1.50 Interscience publishers, 215 Fourth av, New York '39

See also
Statistical methods

MATHEMATICAL symbols
Mathematics, a language. E. Thomas. J Eng Educ 30:842-7 Je '40

MATHEMATICIANS

See also
Gregory, James

MATHEMATICS
Applied mathematics. J. F. Johnson. 434p $1.40 Bruce pub. '39
Changes in modern mathematics. G. A. Miller. Science 91:289-90 Mr 22 '40
Chemical computations and errors. T. B. Crumpler and J. H. Yoe. 247p bibliog (p227-9) $3 Wiley '40
College mathematics; a first course. W. W. Elliott and E. R. C. Miles. 396p $3 Prentice-Hall '40
Dozen mathematical errors in the Encyclopaedia britannica. G. A. Miller. Science 90:512-13 D 1 '39
Elementary college mathematics. E. L. Mackie and V. A. Hoyle. 331p, 78p $2.80 Ginn '40
Fundamental laws of operations in mathematics. G. A. Miller. Science 91:571-2 Je 14 '40
Introductory business mathematics. J. S. Georges and W. H. Conley. 326p $2.40 Holt '40
James Gregory; tercentenary memorial volume. H. W. Turnbull, ed. 524p 25s George Bell & sons, London '39
Living mathematics; a first year college course. R. S. Underwood and F. W. Sparks. 365p $3 McGraw-Hill '40
Mathematical methods in engineering; an introduction to the mathematical treatment of engineering problems. T. v. Kármán and M. A. Biot. 505p $4 McGraw-Hill '40
Mathematics and the imagination. E. Kasner and J. Newman. 380p bibliog(p363-8) $2.75 Simon and Schuster, New York '40
Mathematics applied to electrical engineering. A. G. Warren. 384p biblicg(p379) $4.50 Van Nostrand '40
Mathematics for the million. L. Hogben. 2d ed rev & enl 682p $3.75 Norton '40
Mathematics in general education; a report of the Committee on the function of mathematics in general education for the Commission on secondary school curriculum. 423p $2.75 Appleton-Century '40
Mathematics made easy. H. T. Schnittkind. 365p $1.79 Garden City pub. co, New York '40
Mathematics made easy. H. Thomas. 365p $1.79 Garden City pub. co, New York '40
Mathematics of business. H. E. Stelson. 464p $2.50 Houghton '40

MATHEMATICS—*Continued*
Mathematics review exercises, for the Beta and Gamma requirements. D. P. Smith, jr. and L. T. Fagan. 279p $1.28 Ginn '40
Modern agricultural mathematics. M. Nadler. 315p $2 Orange Judd pub. co, New York '40
Practical mathematics. G. M. Hobbs and J. McKinney. 597p $2.40 Am. technical soc. Chicago '40
Six studies in mathematics. J. P. Ballantine and others. 53p pa $1.50 Univ. of Washington, Seattle '40
Some remarks on mathematics from the engineer's viewpoint. T. Von Kármán. Mech Eng 62:308-10 Ap '40; Same. Engineer 170: 310-12 N 15 '40

See also
Algebra
Biomathematics
Calculus
Charts (calculating)
Curves
Economics, Mathematical
Geometry
Probabilities
Statistical methods
Trigonometry
Vector analysis
also Putnam, William Lowell, mathematical competition

Bibliography
Bibliography of mathematical works printed in America through 1850. L. C. Karpinski. 697p bibliog(p613-18) $6 Univ. of Michigan press, Ann Arbor '40; Review by G. A. Miller. Science 92:216-17 S 6 '40
Mathematical reviews. Published by Mathematical reviews, Brown univ, Providence, R.I.

Study and teaching
Basic physics as a part of mathematics. A. Hazeltine. J Eng Educ 30:699-703 Ap '40
Diagnostic study of students' difficulties in general mathematics in first year college work. E. N. Boyd. 152p $1.85 Teachers college '40
Mathematics, a language. E. Thomas. J Eng Educ 30:842-7 Je '40
Mathematics and the engineer. S. G. Hacker. bibliog J Eng Educ 30:394-401 D '39
Problems in teaching secondary-school mathematics. E. R. Breslich. rev ed 348p $3 Univ. of Chicago press '40
Training of mathematics teachers for secondary schools in England and Wales and in the United States. I. S. Turner. 231p bibliog(p227-31) $1.75 Teachers college '39

Tables, calculations, etc.
National research council committee on mathematical tables and aids to computation. R. C. Archibald. Science 92:129-31 Ag 9 '40

Terminology
Multisensual mathematical terms. G. A. Miller. Science 92:400-1 N 1 '40

MATHESIUS, Walther, 1886-
Sketch. por Metal Prog 37:424-6 Ap '40

MATHEWS, Albert Prescott, 1871-
American contemporaries. E. B. Carmichael. por Ind & Eng Chem News ed 18:359-60 Ap 25 '40

MATHIESON alkali works
Leaders in the chemical industry; thumbnail appraisal. Mag of Wall St 65:414 Ja 13 '40

MATRICES
Matrices and dyadics. A. P. Sah. diag Elec Eng 59:329-30 Ag '40
Three-phase vector matrix operators. S. A. Stigant. Electrician 125:75-6, 88-9 Ag 9-16 '40

MATS
Dyeing and printing coir; stencil printing of coir mats. A. E. Cabell. il diag Textile Col 62:591-5+ S '40
Weaving and dyeing in North Africa. J. Gallotti. Textile Col 62:161-4, 237-9+ Mr-Ap '40

MATTER
See also
Adsorption
Atoms
Chemistry
Colloids
Compressibility
Diffusion
Dissociation
Elasticity
Electrons
Gases
Hardness
Ions
Molecules
Physics
Quantum theory
Radioactivity
Solids
Solution (chemistry)
Specific gravity
Transmutation (chemistry)
Viscosity
Wave mechanics

MATTHEWS, Joseph Brown
Portrait. Business Week p18 D 16 '39

MATTOON, Illinois
Family income and expenditure in nine cities of the east central region, 1935-36; v. 1, Family income. A. D. H. Kaplan, F. M. Williams and R. Heliman. map U S Bur Labor Statistics Bul 644:1-538 '39

MATTRESSES
Advertising
Advertising plan can lick an industry's sales problem; Spring-air company. R. K. Mason. Ptr Ink Mo 41:13 Ag '40
Novel mailing pieces aid Simmons dealers. Am Business 10:54 O '40

MAUNA KEA, Hawaiian Islands
Ablation of snow under the vertical sun in Hawaii. C. K. Wentworth. Am J Sci 238: 112-16, pl 1 F '40

MAXIM, Sir Hiram Stevens, 1840-1916
Sketch. Engineering 149:203 F 23 '40

MAY department stores company
Thumbnail stock appraisal. Mag of Wall St 67:157 N 16 '40

MAYARI R. See Steel, Corrosion resisting

MAYAS
Maya and their neighbors. 606p bibliog(p491-594) $6 Appleton-Century '40

MAYER, Julius Robert, 1814-1878
Julius Robert Mayers stellung zur chemie. A. Mittasch. bibliog Angew Chemie 53: 113-18 Mr 16 '40

MAYONNAISE
Effect of air film in emulsification. I. S. Hall and E. H. Dawson. il diags Ind & Eng Chem 32:415-20 Mr '40
Refrigeration of fats and oils. H. S. Mitchell. diags Refrig Eng 40:155-6 S '40

MAZAMA, Mount
Growth of Mount Mazama and the formation of Crater lake; abstract. H. Williams. Science 91:456 My 10 '40

MAZE learning
Kinesthetically controlled maze habit in the rat. W. S. Hunter. Science 91:267-9 Mr 15 '40

MEAD, George Jackson, 1891-
Portrait. Business Week p24 Je 1 '40
Presentation of the Sylvanus Albert Reed award. por J Aeronautical Sci 7:159-61 F '40

MEAD bill. See Loans, Bank—Government insurance

MEAD corporation
Bonds offered. Comm & Fin Chr 150:2106-7 Mr 30 '40

MEADOL
Preparation and properties of Meadol; pure alkali lignin from soda black liquor. M. Piunguian. Ind & Eng Chem 32:1399-1400 O '40

MEASLES
New vaccine for measles. J. Stafford. Science 92:sup10 S 20 '40
Observations made during the epidemic of measles on the Faroe islands in the year 1846. P. L. Panum. 111p $2.50 Am. public health assn. 50 W. 50th st, New York '40

MEASUREMENT
Conversion of units and dimensions. C. J. Posey and J. W. Howe. Civil Eng 10:528-9 Ag '40
Cubic yards in a conical pile; chart. Water Works & Sewerage 86:458 N '39
Depth measurements by means of multiple-strand wire lines. H. E. Gross and J. P. Hays. bibliog diags Am Pet Inst Proc 21M(4):41-7; Discussion. 47-9 My '40

MEASUREMENT—*Continued*
Length of anything coiled or rolled up; how to find. W. F. Schaphorst. chart Am Gas J 153:49 O '40
Messung angreifender oder schwierig zu behandelnder gase und flüssigkeiten. F. Kretzschmer. il diags V D I 84:25-33 Ja 13 '40
Methods of measurement. C. C. Street. il diags Am Mach 84:565-6, 612-15, 656-7, 700-1, 748-50 Ag 7-O 2 '40
Nouvelle méthode pour la mesure rapide de la longueur de contours complexes. L. Glikmann. Génie Civil 115:453-4 D 23 '39
Quick way to estimate length of material in any roll. W. F. Schaphorst. Water Works & Sewerage 87:377 Ag '40
To estimate length of material in any roll. W. F. Schaphorst. il Steel 106:62 Ja 15 '40

See also
Calorimeters and calorimetry
Color measurement
Colorimeters and colorimetry
Electric measurements
Gages
Gas flow
Gas measurement
Magnetic measurements
Measuring instruments
Meters
Micrometers
Photometry
Pressure measurement
Pyrometers and pyrometry
Radio measurements
Sound—Measurement
Statistical methods
Stream measurement
Surveying
Tanks—Measurement
Temperature—Measurement
Thermometers and thermometry
Vibration—Measurement
Viscosity—Measurement
Water flow
Water meters
Weights and measures

MEASURING instruments
American apparatus, instruments, and instrumentation; length and linear displacement. R. H. Müller. il Ind & Eng Chem Anal ed 12:574-6 O 15 '40
Device for measuring degree of curvature. J. S. Burch and W. Thomas. il Roads & Sts 83:60+ O '40
Federgelenke im messgerätebau. H. Stabe. bibliog diags V D I 83:1189-96 N 11 '39
Howe V-belt measuring machine. il Rubber Age 46:238 Ja '40
Simplified multiple scale for measuring instruments. il diag Electronics 13:99 Je '40
Template for measuring curved arcs. B. Hague. il Engineering 150:263-4 O 4 '40
Unique amplifying mechanism for precision measuring instrument. diags Mach 46:127-9 F '40

See also
Comparators
Electric instruments
Flow meters
Gages
Interferometers
Micrometers
Oscillographs
Physical instruments
Pressure gages
Slide rule
Timing devices
Verniers

MEASURING instruments, Electric
Electromagnetic feeler-gage control; new method used in inspection measurements of small parts and in automatic control of grinding machine. diags Mach 46:119-21 Ag '40
Measuring internal diameter of still tubes. W. A. Howard. il diag Oil & Gas J 38:78-80 Mr 28 '40
Methods of measurement; optical and electrical units for comparison magnifying. C. C. Street. il diags Am Mach 84:612-15 Ag 21 '40
Portable wayside device to check train speeds. il Ry Age 108:1065 Je 15 '40
Pratt and Whitney electrolimit gauges. il diags Engineering 149:220-2 Mr 1 '40
Progress in engineering knowledge during 1939; measuring equipment. P. L. Alger. bibliog Gen Elec R 43:76-7 F '40
Sheffield electric gauge. il diags Engineer 170: 95-6 Ag 9 '40
Sheffield multicheck electrigage. il Steel 107: 81 N 11 '40
Varied applications of thickness gages for thin nonmagnetic layers. M. A. Rusher. il diag Gen Elec R 42:486-7 N '39

MEASURING instruments, Optical
Geometry of optical indicators. K. J. DeJuhasz. diags Franklin Inst J 229:53-80 Ja '40
Measurement of heel and trim. T. U. Taylor. il diag Engineering 149:399-401 Ap 12 '40; Same cond. Engineer 169:334-5 Ap 5 '40
Methods of measurement; optical and electrical units for comparison magnifying. C. C. Street. il diags Am Mach 84:612-15 Ag 21 '40
Microscope as a shop tool. J. Dauber. diags Am Mach 84:530-3 Jl 24 '40
Moisture expansivity of paper. il Paper Tr J 110:28-9 Mr 28 '40
Newall optical circular table. il Engineer 170:31 Jl 12 '40; Automobile Eng 30:249-50 Ag '40
Optical devices used by, or of interest to, the meter and measuring instrument engineer. F. E. J. Ockenden. diags Inst E E J 86:452-9, pl 1-2 My '40
Optical measuring tools optical circular table. il diags Engineering 150:166-7 Ag 30 '40
Precision measurements; Taylor, Taylor and Hobson projectors. il Automobile Eng 30: 45-6 F '40
Research on surface finish. G. Schlesinger. il diags Engineering 149:344-5 Mr 29 '40
Taylor, Taylor and Hobson precision optical apparatus. il diags Engineer 169:92-3 Ja 26 '40
Watts circle division tester. il Automobile Eng 30:253 Ag '40
Yarn-levelness test; Silho-graph. H. A. Reehling. il Textile World 90:69 Je '40

See also
Interferometers
Stroboscopic instruments

MEAT
Four-purpose contact; gas range promotion via meat cookery; butchers' cooperation. A. Berry. Am Gas Assn Mo 22:217-18 Je '40
Locker plant meats; amount handled, sold, cut and ground determines cost. A. A. Dowell. Refrig Eng 39:235 Ap '40
Processing and thiamin; abstract. A. Arnold and C. A. Elvehjem. Food Ind 12:96-7 My '40
Researches of Mellon institute 1939-40; meat tenderization: new information in the tenderay process. il Ind & Eng Chem News ed 18:291-2 Ap 10 '40
Some factors affecting the quality and composition of meat. J. Hammond. bibliog il Chem & Ind 59:521-5 Jl 20 '40

See also
Bacon
Beef
Packing houses
Pork
Sausages

Preservation
Changes in nitrite in stored meat pickling salts; abstract. G. Stamm. Food Ind 12: 97 My '40
Haltbarkeit von rinder- und schweinefettgeweben bei tiefen temperaturen. F. Kiermeier. V D I 84:74 F 3 '40
Refrigeration in retail stores and in home refrigerators. R. E. King. Refrig Eng 40:1-2, 4-5 sec 2 Jl '40
Refrigeration, meat and the soil in the South; smaller locker plants advocated. J. P. Ferris. Refrig Eng 40:180+ S '40

Prices
Meat prices defended by packers and retailers. Business Week p31-2 S 21 '40

Storage
Air blast method preferred in meat plant. J. A. Newton. il Refrig Eng 40:151-2 S '40
Modern beef chilling; tenderizing and chill room design, control and operation; Tenderay process. P. B. Christensen. il diags Refrig Eng 39:296-9+ My '40

MEAT—Storage—*Continued*
Tenderizing of beef. A. W. Ewell. bibliog diag Refrig Eng 39:237-40 Ap '40

Transportation

Plane more economical than truck for winter delivery on Canadian border; Peters meat products co., St Paul, coordinated truck plane distribution. il Food Ind 12:68-9 Mr '40

Regaining fresh meat traffic; coordinated service of British railways. il Ry Age 107: 975 D 23 '39

MEAT, Frozen
Chip steak creates acceptance for quick frozen meat. I. C. Miller. il Food Ind 12:64-5 Jl '40

Freezing makes beef tenderer; below zero temperatures most effective. O. G. Hankins and R. L. Hiner. il Food Ind 12:49-51 Ja '40

See also
Poultry, Frozen

MEAT, Smoked
Gas sales in food storage locker plants; smoking of meats. Gas Age 85:61-2 My 9 '40

See also
Fish, Smoked
Smokehouses

MEAT industry and trade
Kroger taps new profits sources; meat tenderizing process. F. H. McConnell. Barron's 20:7 Je 3 '40

Story of meat. R. B. Hinman and R. B. Harris. 291p $1 Swift & co, Chicago '39

See also
Beef
Packing industry
Pork
Pork products
Poultry

Advertising

Meat campaign ready; nation's packers spending $2,000,000 on advertising. Business Week p30-1 S 21 '40

Meat makes its move. Ptr Ink 192:58+ S 13 '40

Vitamins invade the butcher shop; hunt for sales-giving health tips continues, financed by farmers and packers. Business Week p27-8 Mr 16 '40

Statistics

Buying power vs. greater meat supply; with chart. Barron's 20:1 Ja 22 '40

Meat packing, revision; monthly, 1923-June, 1940. Fed Res Bul 26:853-5 Ag '40

Meats, 1936-1939. Survey of Cur Business 1940 Sup p110-11 [supplemented in monthly numbers]

Total exports of meats and meat products, including lard, monthly, 1913-Sept. 1939. Survey of Cur Business 19:16 N '39

Great Britain

Livestock and meat, 1939. Economist 138: sup30-1 F 17 '40

Wartime control troubles British food manufacturers. H. B. Cronshaw. Food Ind 12:46 Ap '40

United States

Outlook for the meat industry. E. F. Wilson. Comm & Fin Chr 150:535 Ja 27 '40

MEAT inspection
Text-book of meat hygiene, with special consideration of antemortem and postmortem inspection of food-producing animals. R. H. Edelmann. 7th rev ed 463p $5.50 Lea & Febiger, Philadelphia '39

MEAT loaf
New wrapper solves problem for packers; thirty companies put meat loaf into pliofilm. il Food Ind 12:42-4 Ag '40

MEAT slicers
Globe slicing machine company; plant at Stamford, Conn. for manufacture of meat slicers. il Factory Management 98:B56-B58 Ap '40

MECHANICAL analogies. See Electric waves—Mechanical analogies

MECHANICAL draft
Draft inducer installed on steamer Sandy Hook. diag Marine Eng 45:62 O '40

Forced draft lime kilns. V. J. Azbe. Rock Prod 43:36+ O '40

See also
Blowers
Fans, Mechanical

MECHANICAL drawing
Applied drawing and design. E. H. Mattingly and E. Scrogin. 224p bibliog(p221-2) pa $1.28 McCormick-Mathers pub. co, 1501 E. Douglas av, Wichita, Kan. '40

Mechanical drawing; a text with problem layouts. T. E. French and C. L. Svensen. 4th ed rev & enl 300p $1.60 McGraw-Hill '40

See also
Drafting room practice
Engineering drawing
Machinery—Design

Study and teaching

Method of grading used in a mechanical drawing course. G. B. Smith. J Eng Educ 30:316-17 N '39

Our raw material; training in mechanical drawing received by over 400 entering students. E. F. Tozer. J Eng Educ 30:437-8 D '39

MECHANICAL engineering
American society of mechanical engineers 60th annual meeting, Philadelphia. Steel 105:27, 78-80 D 11; 72-4 D 18 '39

Contribution of the engineer; defense of the machine. W. W. Fineren. il Cornell Eng 5:5-8 D '39

Hard facing, a process for the mechanical engineer. E. E. LeVan. il Mech Eng 62: 459-64 Je '40

How should engineers describe a surface? various machine parts and their surface requirements. O. R. Schurig. il Mech Eng 62:703-11 O '40

Influence of the mechanical mind on the development of irrigation through the ages. E. B. Ball. il diag Inst Mech Eng J & Proc 142:Proc 407-11, pl 1-8 Mr '40; Same. Engineer 169:179-81 F 23 '40; Same. Engineering 149:235-7, pl 11 Mr 1 '40

Marketing movement in mechanical engineering. J. R. Bangs, jr. Mech Eng 62:215-16 Mr '40

Mechanical engineering problems in marine transport. S. B. Freeman. diags Inst Mech Eng J & Proc 142:Proc 1-12 N '39; Same. Engineering 149:153-6 F 9 '40; Same cond. Engineer 169:164-6 F 16 '40; Excerpts. Mech Eng 61:882-4 D '39

Progress in railway mechanical engineering, 1938-1939. il diags Mech Eng 61:863-75 D '39; Discussion. 62:484 Je '40

Review of forty years' development in mechanical engineering plant for power stations. L. Pearce. diags plans fold charts Inst Mech Eng J & Proc 142:Proc 305-63, pl 1-8 F '40; Same abr. Engineering 149:254, 263-4, 308, 317-19, 397-9, 423-5, 472-3, 492-3, pl 12-13 Mr 8, 22, Ap 12-19, My 3-10 '40; Excerpts. Engineer 169:85-6, 108-9 Ja 26-F 2 '40

See also
Aeronautic engineering
Aeronautics
Automobile engineering
Automobiles
Balancing of machinery
Boilers
Chemical engineering
Electric engineering
Fuel
Hydraulic machinery
Locomotives
Lubrication and lubricants
Machine shop practice
Machine tools
Machinery
Machinery—Design
Marine engineering
Mechanical handling
Mechanics
Motor trucks
Packing
Power (mechanics)
Power transmission
Pumping
Standardization
Steam engines
Trucks

Bibliography

Reviews of books and notes on books received in the Engineering societies library. Published in monthly numbers of Mechanical engineering

MECHANICAL engineering—*Continued*

Exhibitions

See also National exposition of power and mechanical engineering

Study and teaching

Content of the mechanical engineering curriculum. R. E. Flanders. J Eng Educ 30: 803-5 My '40

Do instructional methods used in manufacturing processing laboratories contribute to trade training or to engineering education? comments by various professors. J Eng Educ 30:314-15, 435-6, 529-31 N '39-Ja '40

Electrical engineering courses for mechanical engineering students. L. E. Beck. J Eng Educ 30:382-8; Discussion. 388-91 D '39

Encouraging creative ability in mechanical engineering and designing. A. R. Stevenson, jr. and J. E. Ryan. Mech Eng 62:673-4 S '40

National certificates and diplomas in mechanical engineering. Inst Mech Eng J & Proc 142:212-17 D '39

Pioneering in engineering education at Stevens. H. N. Davis. Engineering 148:633-4 D 8 '39

Postgraduate training of young mechanical engineers. A. G. Christie. Mech Eng 62:5-8 Ja '40; Same cond. Engineering 149:123 F 2 '40

Shop, drawing, and design courses for engineering students. A. L. Townsend. J Eng Educ 30:898-901 Je '40

Teaching lubrication. L. J. Bradford. J Eng Educ 30:870-9; Discussion. 879-86 Je '40

See also Machine shop practice—Study and teaching

Tables, calculations, etc.

Solution from China; problem in mechanism involving the laying out of a Whitworth quick-return mechanism. Y. C. Chai. Mech Eng 62:413 My '40

MECHANICAL engineers

See also American society of mechanical engineers

MECHANICAL equipment of buildings

Bankers Life building, Des Moines; systems. il diags Arch Rec 87:64-8 Je '40

Mechanical systems for comfort and economy in restaurants and bars. il Arch Rec 87:80-3 Ja '40

See also

Air conditioning
Air conditioning equipment
Cooling
Country houses—Mechanical equipment
Electric wiring, Interior
Elevators
Heating
Hot water supply
Lighting
Pipe fitting
Plumbing
Pneumatic conveying
Power plants
Steam pipes
Ventilation

MECHANICAL fans. See Fans, Mechanical

MECHANICAL handling

Adamson forging manipulator. il Engineer 169:383-4 Ap 19 '40

Automatic plating of die castings; Alemite die casting & mfg. co. H. Chase. il Iron Age 145:40-2 Je 27 '40

Basic plant operations improved; handling, sorting, separating and inspection by new methods and equipment devised for walnut factory. R. G. Engel. flow diag il Food Ind 12:32-4 N '40

Blitzkrieg handling methods adopted by Canadian packer. C. B. Cook. il Food Ind 12:49-51 S '40

Bolts and nuts; mechanical handling facilities; Lamson & Sessions co. F. B. Jacobs. il Steel 107:52, 55+ O 21 '40

Buck glass co. modernizes batch handling. il Glass Ind 21:101-3 Mr '40

Conveyors solve the problem; conveyors connected by spiral chutes sort and handle cartons of paint cans; Sherwin-Williams company. E. O. Merkel. il Factory Management 98:64-5+ S '40

Economical handling methods in war-time production. Mech Handling 26:291-2, 317-18, 347-8; 27:40-1+ O-D '39, F '40

Handling built-to-order; R. G. Le Tourneau. W. J. Brooking. il Steel 107:52-3, 79 Jl 8; 48, 50+ Jl 15 '40

Handling for welding. H. Lawrence. il Steel 107:48+ Ag 5 '40

Handling in press work; Reliance electric & engineering co. il Steel 106:66+ My 27 '40; Iron Age 145:33 Je 13 '40

Handling the nation's milk supply. il Mech Handling 27:205-7 S '40

Lower-cost handling, more jobs; Bristol-Myers company, Hillside, N.J. E. W. Love. il Factory Management 98:62-4 Je '40

Machine grades sizes by weight. H. W. Young. il Food Ind 12:53 Je '40

Material handling at GE, Philadelphia. C. C. Hermann. il Iron Age 146:40-2 Jl 25 '40

Material handling progress. il Iron Age 146: 42-6 O 3 '40

Materials handling. il Factory Management 98:61-72 Jl '40

Materials handling; developments in 1939. il Steel 106:203+ Ja 1 '40

Materials handling, feeding and safety at chemical exposition. Chem & Met Eng 46: 714, 781-2 N-D '39

Materials handling in the world's largest pine sawmill. D. S. Troy. il Mech Eng 62:813-17 N '40

Mavor and Coulson gypsum-rock extracting transporter for Messrs Cafferata and company. il diags Engineering 148:517-20, 530, pl 19 N 10 '39; Abstract. Génie Civil 116: 67-9 Ja 27 '40

Mechanical handling and de-rating relief; operation of war concessions under the rating of valuation (apportionment) act. F. E. Sugden. Mech Handling 27:63-5 Mr '40

Mechanical handling appliances on the Manchester ship canal. R. Parker. Mech Handling 27:35-9 F '40

Mighty little man-handling; on core-making job things move mechanically. A. Van Vlissingen. il Factory Management 98:54-5+ Mr '40

Mississippi makeup; Louisiana station of Gulf states utilities co; storage and materials-handling system for chemicals required to treat water. A. C. Klein. il diag Power 84:278-9 My '40

Modernizing handling equipment speeds production, builds profits. F. Merish. Steel 107:71-2, 74+ N 11 '40

New handling, new savings; Hamilton manufacturing co, Two Rivers, Wis. S. R. Teranes. il Factory Management 98:48-9+ F '40

Nonferrous metals smelter; handling system; Federated metals division of American smelting & refining co. H. T. Hansen. il plan Steel 107:60+ Ag 19 '40

Rapid handling of railway containers; Crescent system. Mech Handling 27:12 Ja '40

Recent legislation and mechanical handling; Trade boards and road haulage wages (emergency provisions) act, 1940. F. E. Sugden. Mech Handling 27:153-4 Jl '40

Review of power and mechanical equipment; mechanical transmission and materials handling. il diag Power 83:805-9 Mid-D '39

Self-locking tongs for heavy materials handling. il diags Comp Air M 45:6291 N '40

Shop equipment review; plant service equipment. il diag Am Mach 84:255-9 Ja 24 '40

Transporter for separating gypsum. il Mech Handling 26:351-3 D '39

20 years of progress in glass plant materials handling. F. E. Bardrof. il Glass Ind 21:163-8 Ap '40

Upper output 2½ times in 10 months; new handling equipment and faster movement of materials and parts; Kearney & Trecker corporation, Milwaukee. C. R. Hochmuth. il plan Factory Management 98:49-51+ N '40

War emergency legislation as it concerns mechanical handling; war risk insurance; Courts (emergency powers) act. F. E. Sugden. Mech Handling 26:345-6 D '39

MECHANICAL handling—*Continued*
What's new in material handling apparatus. F. J. Oliver. il Iron Age 145:48-51+ F 8; 146: 47-50 Jl 4 '40

See also
Acid handling
Assembling methods
Brick handling
Cableways
Car dumpers
Cargo handling
Charging machines
Coal handling
Coal loading machines
Coke handling
Conveying machinery
Cranes, derricks, etc.
Electric trucks, Industrial
Freight handling
Gasoline handling
Grain elevators
Grain handling
Gravel handling
Hoisting machinery
Hydraulic conveying
Lifting magnets
Loading and unloading
Lumber handling
Machinery handling
Mine haulage
Mine hoisting
Motor trucks, Industrial
Ore handling
Pneumatic conveying
Sand handling
Sheet metal handling
Steel handling
Trucks

Bibliography

Abstracts. Published in monthly numbers of Mechanical handling

Costs

Costs cut 40 per cent; handling steel axle housings. il Steel 106:64+ F 19 '40

Safety devices and measures

Mechanical equipment; handling material. il Nat Safety N 41:56-9 Mr '40

MECHANICAL laboratories. See Engineering laboratories

MECHANICAL models
Dynamic model of Tacoma Narrows bridge. F. B. Farquharson. il diags Civil Eng 10: 445-7 Jl '40
Mechanical model for the motion of electrons in a magnetic field. A. Rose. il diag J Ap Phys 11:711-17 N '40
Weber research engineer builds world's smallest working compressor. il Refrig Eng 40:322 N '40

See also
Airplane engines—Models
Airplanes—Models
Gas and oil engines—Models

MECHANICAL movements
Adjustable intermittent rotary movement; conveyor belt used on an assembling table. diag Mach 47:122 S '40
Foot-operated mechanism for transmitting rotary and linear movements. F. Hartley. diag Mach 46:109 Mr '40
High-speed intermittent gearing. A. Bassoff. diag Mach 46:103-4 Ag '40
Ingenious mechanical movements. Published in monthly numbers of Machinery
Intermittent gear mechanism; wire fabricating machine. L. Kasper. diags Mach 46:195-6 Jl '40
Link mechanism for increasing angular movement of shaft. J. L. Helminen. diag Mach 46:151 Ja '40
Mechanism for increasing angular movement of shaft. M. Jacker. diag Mach 46:103 My '40
Mechanism for picking up and transferring thin plates. M. Jacker. diags Mach 46:107-9 F '40
Mechanism for tripping a rotating lever. diags Mach 47:142-3 N '40
Mechanisms designed for filling containers with pencil leads and applying covers. diags Mach 46:159-60 Ap '40
Oscillating mechanism for milling machine shaping attachment. L. Kasper. diags Mach 46:107 F '40
Pivoted holder for cam follower rolls provides unusual reciprocating motion on a wire-forming machine. L. Kasper. diag Mach 46:152 Ja '40
Straight-line reciprocating motion for link-supported ram. J. L. Helminen. diag Mach 46:103 Ag '40
Tapering and trimming mechanism. F. Hartley. diags Mach 47:127-8 O '40
Variable-stroke cam-actuated mechanism. A. B. Bassoff. diags Mach 46:196 Jl '40
Variable-stroke toggle-lever mechanism for press. P. Grodzinski. diag Mach 46:109-10 Mr '40

See also
Cams
Gearing
Levers
Pulleys
Stop mechanism

MECHANICS
Contribution au calcul des tensions produites dans un corps immergé; application au cas des sondes de forages pétroliers. M. Geller. Génie Civil 116:307-11 My 11 '40
Engineering mechanics. S. Timoshenko and D. H. Young. 2d ed 523p $4 McGraw-Hill '40
Three hundred years of mechanics of materials. S. C. Hollister. Engineering 148: 524-5 N 10 '39

See also
Acceleration
Aerodynamics
Aeronautics
Deformations (mechanics)
Elasticity
Engineering
Fluids
Friction
Gases
Hydraulics
Hydrodynamics
Hydromechanics
Liquids
Load (mechanics)
Machinery
Mechanical movements
Power (mechanics)
Steam engines
Strains and stresses
Strength of materials
Structures, Theory of
Thermodynamics
Torsion
Vibration
Viscosity
Wave mechanics

Tables, calculations, etc.

Mechanics vest pocket reference book. J. H. Wolfe and E. R. Phelps, comps. rev ed 206p $1 E. R. Phelps, 16835 Sunderland rd, Detroit '39

MECHANICS (persons)
Apprenticeship committee to train many more men for industry; plan of Federal committee on apprenticeship. Am Mach 84:476f Je 26 '40
Ending the instrument dilemma; Rochester athenaeum and mechanics institute trains men to design, install, adjust and maintain automatic controls. C. A. Little. il Power 84:395-6 Je '40
From learner to skilled operator in five months' time. R. Livingstone. il Factory Management 98:64-6+ My '40
Skilled labor requirements; survey by American society of tool engineers. Automotive Ind 83:237-8 S 15 '40
Skilled workers for defense industries; apprentice training costs. C. S. Slocombe. Personnel J 19:178-9 N '40
Skilled workers for defense industries; training on the job; training assistants for foremen; Carnegie-Illinois steel corporation. C. S. Slocombe. Personnel J 19:171-7 N '40
Training in the small shop. E. G. Marshall. il Am Mach 84:745-6 O 2 '40
Training people for factory work; how Cleveland, with cooperation of industry, school authorities, and government agencies, is training learners J. W. Vanden Bosch. il Factory Management 98:54-60 S '40

See also
Machinists

MECHANICS, Analytic
Analysis of symmetrical vibrating systems. L. A. Pipes. diag J Ap Phys 11:279-82 Ap '40

MECHANICS, Applied
Applied mechanics. A. P. Poorman. 4th ed 354p $2.75 McGraw-Hill '40
Cantilever beams; design for given deflection at any point. C. C. Street. diag Product Eng 11:18-19 Ja '40
Clamped rectangular plates with a central concentrated load. D. Young. bibliog Roy Aeronautical Soc J 44:350-4 Ap '40
Mechanics applied to vibrations and balancing. D. L. Thornton. 529p $7.50 Wiley '39

MECHANICS, Applied—*Continued*
Practical mechanics and strength of materials. C. W. Leigh and J. F. Mangold. 3d ed 498p $3 McGraw-Hill '40
Shocks and impacts in machinery having jointed elements. F. Franz. diag Product Eng 11:501-2 N '40
See also
Disks, Rotating
Mechanical engineering

MECHANICS, Celestial
See also
Perturbation
Time measurement

MECHANICS, Statistical. See Statistical mechanics

MECHANICS and traders insurance company, Hartford, Connecticut
Company analysis. Spectator (Property ed) 5:24-5+ N 30 '39

MECHANICS' liens
Mechanics' liens in New Jersey. J. P. Lodge. 580p $8 Soney & Sage co, Newark, N.J. '40

MEDALS
American foundrymen's association awards. Foundry 68:86-7+ My '40
Award of medals of the Royal geographical society. Science 92:55 Jl 19 '40
Award of the medals of the Royal society. W. Bragg. Science 90:580-2 D 22 '39
Beal medal award to Raymond F. Hadley. Am Gas J 153:78 N '40
Columbia awards medals to twelve engineers. Oil Paint & Drug Rep 136:4+ D 4 '39
DeGolyer awarded Lucas gold medal. Min & Met 20:557 D '39
Franklin Institute medal day meeting. Franklin Inst J 230:249-61 Ag '40
Franklin Institute medalists. Ind & Eng Chem News ed 18:444 My 25 '40
James Emmett Gleason awarded the A.S.M.E. medal. Mach 46:153 Ja '40
Medal day of the Franklin institute. Science 91:471 My 17 '40
Medals for invention, discovery awarded by Franklin institute. Steel 106:30 Je 10 '40
National academy of sciences; medal awards. Science 91:413-18 My 3 '40
See also
Chandler medal
Edison electric institute medal
Edison medal
Egleston medals
Fritz, John, medal
Gibbs, Willard, medal
Hoover medal
Lamme, Benjamin G., medals
Melville medal
Morehead medal
Nichols medal
Penrose medal
Perkin medal
Vermilye medal

MEDIATION board, National. See National mediation board

MEDICAGO sativa. See Alfalfa

MEDICAL buildings
To the doctors' orders; solution to problems in layout of hot water system for medical building. il diags Dom Eng 156:48-9+ Ag '40

MEDICAL care. See Medical service

MEDICAL chemistry. See Chemistry, Medical and pharmaceutical

MEDICAL climatology. See Climatology, Medical

MEDICAL colleges
Medical education in the United States, 1934-1939. H. G. Weiskotten and others. 259p pa $1 American medical assn, Chicago '40
See also
Dental colleges
Minnesota university —Medical school
New York university —College of medicine
Queensland university —Medical school

MEDICAL education
Functions of the preclinical sciences in medical education. M. I. Gregersen. Science 91: 305-8 Mr 29 '40
Medical education in the United States, 1934-1939. H. G. Weiskotten and others. 259p Am. medical assn, Chicago '40
Occupational opportunities; is a medical education a wise investment? R. W. Lane. Bankers Mo 57:456-7+ Ag '40
Problem of the interne. Science 92:sup14 S 6 '40
Professions in medicine. A. E. Cohn. Science 92:65-72 Jl 26 '40
Training in industrial medicine; survey covering 30 countries. L. Carozzi. Int Labour R 40:733-67 D '39

MEDICAL geography
State of California; a medico-geographical account. J. Praslow. 86p $3 J. J. Newbegin, San Francisco '39

MEDICAL indemnity corporations
Agricultural workers' health and medical association, California, provides medical service for migratory workers and their families. R. G. Leland. Monthly Labor R 51:333-7 Ag '40
Associated health foundation, inc. and Medical expense fund of New York, inc. formed in New York city. Comm & Fin Chr 149: 3812 D 16 '39
First non-profit medical corporation to receive permit from New York superintendent of insurance; Medical and surgical care, inc. Comm & Fin Chr 149:3488-9 D 2 '39; Oil Paint & Drug Rep 136:3 D 4 '39; East Underw 40:34 D 1 '39; Spectator (Property ed) 5:6 N 30 '39; Weekly Underw 141:1123 N 25 '39
Hospital and medical plans need strict regulation. J. T. Hammond. East Underw 41: 33 Ag 16 '40
Insurance of the expense of medical service; abstracts. W. A. Milliman. East Underw 41:3+ My 17 '40; Nat Underw (Life ed) 44:1+ My 17 '40; Nat Underw 44:23 My 16 '40; Weekly Underw 142:1278 My 25 '40
Medical unit licensed; Associated health foundation, inc., New York. East Underw 41:42 Ap 19 '40; Ins Field (Fire ed) 69:15 Ap 25 '40; Weekly Underw 142:920 Ap 13 '40
New groups formed; non-profit corporations in New York to insure individuals against the expenses of medical care; Associated health foundation, inc. and Medical expense fund of New York, inc. Ins Field (Life ed) 68:10 D 8 '39; Spectator (Property ed) 5:6 D 14 '39; Weekly Underw 141:1278 D 16 '39
Non-profit hospital and medical plans invade private insurance sphere. C. A. Togut. East Underw 41:33+ My 17 '40
State medicine and an answer; three private group health insurance projects launched in New York as state and federal plans are pushed. Business Week p23 D 16 '39
Two non-profit groups licensed in New York state; Utica and Buffalo methods. East Underw 41:41 Mr 8 '40; Spectator (Property ed) 5:6 Mr 7 '40
Voluntary medical service plan in Ontario; Associated medical services, inc. Monthly Labor R 51:337-8 Ag '40

MEDICAL instruments and apparatus
New apparatus for the administration of helium-oxygen mixtures. H. F. Brubach, L. R. Crisp and P. A. Neal. bibliog Pub Health Rep 55:1776-82, pl 1-2 S 27 '40

MEDICAL jurisprudence
Doctor looks at murder. M. E. Marten. 325p $1 Blue ribbon books '40
Forensic medicine. D. J. A. Kerr. 3d ed 331p 15s A. & C. Black, London '39
Legal medicine and toxicology. T. A. Gonzales, M. Vance and M. Helpern. new ed 754p $10 Appleton-Century '40
Medicolegal & industrial toxicology, criminal investigation, occupational diseases. H. J. Ellmann. 324p $3 Blakiston '40

MEDICAL laboratories
See also
Abbott laboratories

MEDICAL laboratories—*Continued*

Equipment

Apparatus for the study of experimental airborne disease. W. F. Wells. diags Science 91:172-4 F 16 '40

MEDICAL libraries

See also
Microfilms

MEDICAL press and circular (periodical)

Medical press and circular, 1839-1939; a hundred years in the life of a medical journal. R. J. Rowlette. 126p 10s 6d Baillière, Tindall & Cox, London '39

MEDICAL research

Appropriations of the Rockefeller foundation for the medical and natural sciences in 1939. Science 91:482-3 My 17 '40

Beit memorial fellowships. Science 91:233-4; 92:166 Mr 8, Ag 23 '40

Brief review of needed research in malaria. Pub Health Rep 55:1801-9 O 4 '40

Fellowships in the medical sciences of the National research council. Science 92:396 N 1 '40

Grants of the committee on scientific research of the American medical association. Science 91:210-11 Mr 1 '40

Ledyard fellowship awards of the New York hospital. Science 91:332-3 Ap 5 '40

Pathways of medical progress. C. J. Wiggers. Science 91:25-31 Ja 12 '40

Phoebus Aaron Theodor Levene; member emeritus of the Rockefeller institute for medical research. L. W. Bass. Science 92: 392-5 N 1 '40

See also

Banting research foundation
Cold (disease)
Dental research
National research council
Puerto Rico university—School of tropical medicine

MEDICAL service

Better health for America. N. B. Van Etten. Science 91:581-5 Je 21 '40

Cutting the doctor's bill to fit; what doctors are doing to make their services available through time payments and insurance. F. DeArmond. il Nation's Business 28:44, 46-7+ N '40

Existence and use of hospital facilities among the several states in relation to wealth as expressed by per capita income. E. H. Pennell, J. W. Mountin and K. Pearson. bibliog Public Health Rep 55:822-46 My 10 '40

Factual data on medical economics. 67p pa 50c Bur. of medical economics, Am. medical assn, Chicago '39

Frequency and volume of doctors' calls among males and females in 9,000 families, based on nation-wide periodic canvasses, 1928-31. S. D. Collins. Pub Health Rep 55:1977-2020 bibliog(p2012) N 1 '40

Government does not intend to socialize medical practice; dedicates National health institute in Maryland. F. D. Roosevelt. Comm & Fin Chr 151:2576-7 N 2 '40

Health is wealth. P. De Kruif. 246p $2 Harcourt '40

Medical care; abstract. H. Cabot. Science 91: sup8 Ja 26 '40

Medical care in the United States; demand and supply, 1939. 140p pa $1 Bur. of medical economics, American medical assn, Chicago '40

Medical care move outlined by President. Oil Paint & Drug Rep 137:3+ Ja 1 '40

New plans of medical service. 72p pa 15c Bur. of cooperative medicine, 5 E. 57th st, New York '40

Non-profit hospital service plans. C. R. Rorem. 130p pa 50c Commission on hospital service, 18 E. Division st, Chicago '40

Patient's dilemma; the quest for medical security in America. H. Cabot. 284p $2.50 Reynal & Hitchcock, 386 4th av, New York '40

See also

European war, 1939—Medical and sanitary affairs
Insurance, Health
Medical indemnity corporations
Physical examinations
Workmen's compensation—Medical care

Group plan

Agricultural workers' health and medical association, California, provides medical service for migratory workers and their families. R. G. Leland. Monthly Labor R 51:333-7 Ag '40

Group medical plan; California physicians' service made available to employed workers. Business Week p32-3 My 11 '40; Same. Management R 29:175 My '40

Ruling on appeal lost by American medical association; opposed activities of a group health association in Washington. Ins Field (Fire ed) 69:29 Mr 7 '40

Socialization

Case for private medicine. il Nation's Business 28:33-56 My '40

President Roosevelt considering plan for hospitals in poorer states. Comm & Fin Chr 149:3948 D 23 '39

Socialized medicine. J. M. Ray, ed. Texas U Pub 3938:1-240 bibliog(p232-40) '39 (pa 35c)

State medicine and an answer; three private group health insurance projects launched in New York as state and federal plans are pushed. Business Week p23 D 16 '39

MEDICAL service, Cost of

Cutting the doctor's bill to fit; what doctors are doing to make their services available through time payments and insurance. F. DeArmond. il Nation's Business 28:44, 46-7+ N '40

Family expenditures for medical care, personal care, and miscellaneous items; including gifts and contributions, education, taxes. Monthly Labor R 50:1062-79 My '40

See also
Insurance, Health

MEDICAL service, Industrial

Control of tuberculosis; pulmonary tuberculosis in employes; Metropolitan life insurance company, 1930-1939. A. C. Reid. J Ind Hygiene 22:408-15 N '40

Five plant health jobs; American optical co; Inland steel co; SKF industries, inc; Crane co; General motors corp. il Factory Management 98:74-7 F '40

Free medical assistance for agricultural labor in Guatemala. Monthly Labor R 49: 1422-3 D '39

Health, hygiene and safety pay their way in the plant of moderate size. G. W. Cannon. Concrete (mill sec) 48:145-6 Mr '40; Same abr. Safety Eng 79:37-8, 40 F '40; Same cond. il Steel 106:46-8 My 13 '40; Excerpt (This health program pays dividends). Management R 29:179-80 My '40

Health programs in small plants. Management R 29:133-4 Ap '40

Helping hand; industrial nursing. J. M. Johnson. Safety Eng 80:72-3 O '40

Indispensable nurse. H. M. James. Nat Safety N 41:34, 36+ Ap '40

Industrial health, asset or liability. C. O. Sappington. 227p $3.75 Industrial commentaries, 160 N. La Salle st, Chicago '39

Industrial nursing. R. J. Webster, ed. Published in monthly numbers of Safety engineering

Large plants and small have a health job to do. H. C. Beaver. Factory Management 98: 72-3 F '40

Major problem in woods management; reducing the cost of woods accidents. R. S. Armitage. Pulp & Pa of Can 41:399-403 My '40

Medical and health programs in industry. 31p Nat. ind. conf. bd. '39

Medical service. il Nat Safety N 41:132-4 Mr '40

Nurse in industry; list of activities. Safety Eng 78:44 N '39

Opportunities for teaching health; for industrial nurses. B. K. Richardson. Nat Safety N 41:34, 36+ F '40

MEDICAL service, Industrial—*Continued*
Profitable protection; industrial hygiene and accident prevention; St Joseph lead company. A. Fletcher. il Nat Safety N 41:20-1+ F '40; Same cond. Concrete (mill sec) 48: 234-5 S '40
Scratch the surface; preventing infection in industry. J. E. Nichols. il Safety Eng 80: 22, 24-6 O '40
Small plant hired nurse—saves; Bull dog electric products company, Detroit. M. G. Holstine. il Factory Management 98:68-9 Mr '40
Survey shows high safety record; survey of sickness, medical care, welfare provisions, etc. in 77 oil companies. J. C. Watkins. Oil & Gas J 38:24+ Mr 7 '40
Training in industrial medicine; survey covering 30 countries. L. Carozzi. Int Labour R 40:733-67 D '39
Transit section drafts health plan. Nat Safety N 42:76 Ag '40
When is he cured? L. J. Goldwater. Nat Safety N 42:36, 38 S '40

See also
Diseases, Industrial
Eye—Examination
Hospitals, Industrial
Hygiene, Industrial
Physical examinations

MEDICAL service, Radio
Use of wireless telegraphy at sea for medical consultations. R. Bernard and J. Haeck. bibliog Int Labour R 42:29-46 Jl '40

MEDICAL statistics
Appraisal form for local health work. 185p $1.60 Am. public health assn, Committee on administrative practice, New York '38
Introduction to medical biometry and statistics. R. Pearl. 3d ed rev & enl 537p $7 Saunders '40

MEDICINE
I remember; the autobiography of Abraham Flexner. 414p $3.75 Simon and Schuster, New York '40
Introduction to medicine. D. C. Sutton. 642p $3.25 C. V. Mosby co, St Louis '40
Medical career, and other papers. H. Cushing. 302p $2.50 Little '40
Professions in medicine. A. E. Cohn. Science 92:65-72 Jl 26 '40
Questions and answers. 478p $2 American medical assn, Chicago '39
Science in 1939. Science 90:sup18 D 22; sup7-8 D 29 '39
Some papers read before the American medical association; abstracts. Science 91:sup9-10 Je 14 '40
Textbook of medicine. J. J. Conybeare, ed. 4th ed 1112p $6.75 Wood '39
Textbook of medicine by American authors. R. L. Cecil and F. Kennedy, eds. 5th ed rev 1744p $9.50 Saunders '40

See also
Anesthetics
Anesthetics, Local
Bacteria, Pathogenic
Bacteriology
Chemistry, Medical and pharmaceutical
Climatology, Medical
Diseases
Drugs
Electrotherapeutics
Hospitals
Hygiene
Infectious diseases
Mental diseases
Nurses and nursing
Pharmacology
Pharmacy
Physicians
Physiology
Public health
Surgery
Veterinary medicine

Dictionaries
Modern home physician; a new encyclopedia of medical knowledge. V. Robinson, ed. rev ed 792p $1; indexed $1.50 W. H. Wise & co, New York '39
Pocket medical dictionary. L. Oakes and T. B. Davie, comps. 4th ed 409p $1 Peter Reilly co, 133 N. 13th st, Philadelphia '40

History
Founders of modern medicine; Pasteur, Koch, Lister. E. Metchnikoff. 387p $3 Walden publications, New York '39
March of medicine. 168p $2 Columbia univ. press '40
Progress in medicine; a critical review of the last hundred years. I. Galdston. 347p $3 Knopf '40
Recent advances in medical science; a study of their social and economic implications. E. Mellanby. 62p 75c Macmillan '39
Recent advances in medicine: clinical, laboratory, therapeutic. G. E. Beaumont and E. C. Dodds. 9th ed 431p $5 Blakiston '39

Great Britain
Changes in medical prescribing; drugs for which substitutes may be used. Science 92:373 O 25 '40

United States
Better health for America. N. B. Van Etten. Science 91:581-5 Je 21 '40
Case for private medicine. il Nation's Business 28:33-56 My '40

See also American medical association

MEDICINE, Chinese
Chinese way in medicine. E. H. Hume. 189p bibliog(p177-82) $2.25 Johns Hopkins press, Baltimore '40

MEDICINE, Clinical
Pathways of medical progress. C. J. Wiggers. Science 91:25-31 Ja 12 '40
Practical bedside diagnosis and treatment. H. Joachim. 828p $7.50 C. C. Thomas, Springfield, Ill. '40

MEDICINE, Naval
Handbook of the Hospital corps, United States navy, 1939. rev ed 1015p U.S. Bur. of medicine and surgery, Washington '39

MEDICINE, Popular
Good health and bad medicine; a family medical guide. H. Aaron. 328p $3 R. M. McBride and co, New York '40

MEDICINE, Preventive
Preventive medicine. M. F. Boyd. 6th ed rev 588p bibliog(p557-63) $5 Saunders '40

See also
Bacteriology
Hygiene
Immunity
Public health administration

MEDICINE, Socialized. See Medical service—Socialization

MEDITERRANEAN region
Mare Nostrum joins the blackout; Italy's war entry shuts off 5% of U.S. exports, 7% of imports. Business Week p16 Je 15 '40
Our stake in Mediterranean trade. Barron's 20:10 Je 3 '40
Real Mediterranean war is on. Business Week p14 N 2 '40

MEDUSAE. See Jellyfish

MEEHANITE
Cast-to-form dies and punches made from Meehanite. Mach 46:170-1 Ap '40
Flame hardening of Meehanite. F. H. Bickford. il diag Iron Age 145:19-21 Ja 11; 31-4 Ja 18 '40
Meehanite housings used for gear drives of C-1 ships. il Marine Eng 45:65-6 O '40
Meehanite's role in the manufacture of rubber machinery. F. L. Dawes. il Rubber Age 47:247-8 Jl '40

MEIN, William Wallace, 1873-
Sketch. por Explosives Eng 18:292-3 O '40

MELAM
Some derivatives of cyameluric acid and probable structures of melam, melem and melon. C. E. Redemann and H. J. Lucas. bibliog Am Chem Soc J 62:842-6 Ap '40

MELAMINE
Cyanamide, dicyandiamide, and melamine; optical and crystallographic properties. T. G. Rochow and others. il Ind & Eng Chem 32:1187-8 S '40
From lab to industry. Business Week p57-9 S 14 '40
Melamine preparation. P. P. McClellan. flow sheet il Ind & Eng Chem 32:1181-6 bibliog(49 titles, p 1186) S '40
New industrial raw material. Chem Age (Lond) 42:53 Ja 27 '40

MELEM
Some derivatives of cyameluric acid and probable structures of melam, melem and melon. C. E. Redemann and H. J. Lucas. bibliog Am Chem Soc J 62:842-6 Ap '40

MELIBIOTOL
Melibiotol and maltitol. M. L. Wolfrom and T. S. Gardner. bibliog Am Chem Soc J 62:2553-5 S '40

MELLON institute of industrial research. See Pittsburgh university. Mellon institute of industrial research

MELMOTH, Frederick A.
American foundrymen's association gold medallist. por Foundry 68:87+ My '40

MELON
Some derivatives of cyameluric acid and probable structures of melam, melem and melon. C. E. Redemann and H. J. Lucas. bibliog Am Chem Soc J 62:842-6 Ap '40

MELTING
Preparation of high melting alloys with the aid of electron bombardment. R. Hultgren and M. H. Pakkala. il diags J Ap Phys 11: 643-6 O '40

MELTING, Heat of. See Fusion, Heat of

MELTING points
Equilibrium $FeO + H_2 = Fe + H_2O$ at temperatures up to the melting point of iron. J. Chipman and S. Marshall. bibliog diags Am Chem Soc J 62:299-305 F '40
Liquid state of the elements. W. Hume-Rothery. bibliog J Phys Chem 44:808-24 Je '40
Melting points of the *p*-bromoanilides of solid fatty acids. D. F. Houston. bibliog Am Chem Soc J 62:1303-4 My '40
Microscope hot stage for determination of melting points; application to carotenoid pigments. F. P. Zscheile and J. W. White, jr. bibliog il diags Ind & Eng Chem Anal ed 12:436-8 Jl 15 '40
Normal melting and boiling points of iodine. J. D. Parent. J Chem Educ 17:189 Ap '40
Vapor pressures, heats of vaporization and melting points of N^{14} and N^{15} ammonias. H. G. Thode. diag Am Chem Soc J 62:581-3 Mr '40

MELVILLE medal
Tank steamer paper wins medal for Atlantic's chief engineer, Lester M. Goldsmith. Nat Pet N 31:R509 N 29 '39

MELVILLE shoe corporation
Growth through filling basic needs. W. Gates. Mag of Wall St 65:292+ D 16 '39
Income account for calendar years 1936-39. Comm & Fin Chr 150:1774 Mr 16 '40
McElwain merger terms. Comm & Fin Chr 149:3413-14 N 25 '39
Safe stocks for income and protection. Mag of Wall St 66:366 Je 29 '40

MEMBRANES
Agaric acid and the Donnan theory of membrane equilibrium. R. J. Hartman, E. W. Kanning and J. E. Weber. Am Chem Soc J 62:1302-3 My '40
Practical model of the animal cell membranes. H. N. Holmes. J Phys Chem 43:1151-3 D '39
Use of zeolite membrane electrodes. C. E. Marshall. bibliog J Phys Chem 43:1155-64 D '39

See also
Films
Osmosis

MEMORIALS
Business men start Douglas McPhee memorial fund for beloved editor; to be used for scholarship in western university. Am Business 10:41 Ap '40

See also
Jefferson, Thomas—Memorials

MEMPHIS, Tennessee
Cotton stamp experiment starts. Textile World 90:110 My '40
First test city for cotton stamp program. Comm & Fin Chr 150:x Ap 6 '40

Sanitary affairs
Culverts for mosquito control; drainage structures in Memphis. il diags Eng N 124:602-3 Ap 25 '40

Sewerage
Building a big sewer in bad ground; compressed air tunneling methods. W. B. Fowler. il diags map Eng N 124:720-3 My 23 '40

MENASHA products company
Money saving ideas from Menasha's new office. il Am Business 10:33-40 Jl '40

MENHADEN oil
Advances in menhaden reduction; centrifugal processing. J. H. Smith. il Chem & Met Eng 47:99-100 F '40

MENINGITIS
Effect of sulfapyridine and sulfanilamide with and without serum in experimental meningococcus infection. S. E. Branham. Pub Health Rep 55:12-22 Ja 5 '40
Lymphocytic choriomeningitis; gray mice, mus musculus, a reservoir for the infection. C. Armstrong, J. J. Wallace and L. Ross. bibliog Pub Health Rep 55:1222-9 Jl 5 '40

MEN'S furnishing goods
Effective pricing and sales promotion. V. Lebow. Ptr Ink Mo 40:12+ F '40
Your customer, to have and to hold; Cluett, Peabody's survey of customers' sales and inventory. L. A. Ernst. Credit & Fin Management 42:6-8 S '40

See also
Clothing trade
Collars
Neckties
Shirts

MEN'S stores
Haberdashery shop, Ed Steckler, inc. New York; view, plan, construction outline. Arch Forum 71:432 D '39

MEN'S suiting fabrics
Cutters want wider fabrics; abstracts. A. C. Abrahams. Textile World 90:74 Ja '40; Rayon 21:84+ F '40
Scouring, bleaching and pre-shrinking suitings having colored yarn effects. C. M. Rabold. Textile Col 62:410-11 Je '40

MEN'S suits
How to sell clothes; Goodall co. studies men's summer apparel trade in laboratory at Miami Beach. Business Week p45-6 My 25 '40
Men's suits; rating. il Consumers' Research Bul (Gen bul ser) 9:4-8 Ap '40

MENSURATION

See also
Gages
Measurement
Measuring instruments
Surveying
Weights and measures

MENTAL diseases
Electric shock treatment for mental patients. Science 91:sup10 Ja 19 '40
Men against madness. L. S. Selling. 342p $3.50 Greenberg, 67 W. 44th st, New York '40
National neuropsychiatric institute proposed. J. Stafford. Science 91:sup8 Ja 12 '40
Psychiatry for nurses. L. J. Karnosh and E. B. Gage. 327p $2.75 C. V. Mosby co, St Louis '40
Shock therapy in the treatment of mental disorders. Elec R (Lond) 126:47 Ja 12 '40
Social and biological aspects of mental disease. B. Malzberg. 360p bibliog(p354-7) $2.50 State hospitals press, Utica, N.Y. '40
Textbook of psychiatry. A. P. Noyes and E. M. Haydon. 3d ed 315p $2.50 Macmillan '40

See also
Personality, Disorders of

Statistics
Patients in hospitals for mental diseases, 1938. Pub Health Rep 55:1537-40 Ag 23 '40

MENTAL hygiene
Beyond the clinical frontiers; a psychiatrist views crowd behavior. E. A. Strecker. 210p bibliog(p202-10) $2 Norton '40
Escape from fear. W. B. Pitkin. 264p $2 Doubleday '40
How to keep mentally fit. L. Thomas. 248p $2 Howell, Soskin & co, 17 E. 45th st, New York '40

MENTAL hygiene—*Continued*
How your mind works. G. Dalrymple. 160p $1.25 Pacific press pub. assn, Mountain View, Calif. '40
Mental health. F. R. Moulton and P. O. Komora, eds. 470p $3.50 Science press, Lancaster, Pa. '39; Review, by A. Meyer. Science 92:271-6 S 27 '40
Mental hygiene; a manual for teachers. J. D. M. Griffin, S. R. Laycock and W. Line. 391p $1.75 Am. book co. '40
Mental hygiene of childhood. G. S. Stevenson. bibliog Ann Am Acad 212:130-7 N '40
Personality and problems of adjustment. K. Young. 868p bibliog(p825-56) $4.25 Crofts '40
State program of mental hygiene; fourth yearbook of the Texas society for mental hygiene. Texas U Pub 4040:1-62 '40 (pa 20c)
Trends in mental hygiene. T. G. Hutton. Special Lib 31:267-71 Jl-Ag '40
See also
Personality

MENTAL hygiene, Industrial
See also
Fatigue

MENTAL tests. See Ability tests

MENTHANE
Liquid-phase hydrogenation of *p*-cymene. K. A. Kobe and A. Vittone. bibliog Ind & Eng Chem 32:775-7 Je '40

MENTHOL
Analysis
Separation and determination of isomeric menthols; saponification by use of potassium hydroxide in diethylene glycol. R. T. Hall, J. H. Holcomb, jr. and D. B. Griffin. Ind & Eng Chem Anal ed 12:187-8 Ap 15 '40

MENTHYL acetate
Influence of solvents and other factors on the rotation of optically active compounds; asymmetric solvent action. T. S. Patterson, A. H. Lamberton and C. Buchanan. Chem Soc J p1453-9 Ag '37; p290-3 Mr '40

MENTHYL chloronitrosobutyrate
Rotatory dispersion and circular dichroism of *l*-menthyl *d*-β-chloro-β-nitrosobutyrate. S. Mitchell and G. K. Simpson. Chem Soc J p784-7 Je '40

MENTHYL compounds
Studies in optical superposition; *l*-menthyl esters of mucic and tetrahydroxyadipic acids. R. W. Lapsley, J. Robertson and T. S. Patterson. Chem Soc J p862-6 Jl '40

MENTHYL esters
Question of intramolecular asymmetric induction. A. McKenzie and A. D. Wood. Chem Soc J p1536-44 O '39

MENUS
Restaurant menu planning. A. Hoke. 333p bibliog(p327) $3.50 Harper '40
Serving of language à la menu; culinary French. E. N. Teall. Inland Ptr 104:52 Ja '40

MERCANTILE buildings
See also
Department stores
Store buildings
Warehouses

MERCANTILE laboratories
Experiences in the field of merchandise control; Sears, Roebuck and company. E. S. Weirick. J Chem Educ 16:585-7 D '39

MERCAPTALS
Acetone derivatives of the mercaptals of some monosaccharides; the 5,6-monoacetone derivative of *d*-galactosedibenzylmercaptal and the 6-methyl derivative of *d*-galactose. E. Pacsu and S. M. Trister. bibliog Am Chem Soc J 62:2301-4 S '40
d-Glucose S-ethyl O-methyl monothioacetal. M. L. Wolfrom, D. I. Weisblat and A. R. Hanze. bibliog Am Chem Soc J 62:3246-50 N '40
Monothioacetals of galactose. M. L. Wolfrom and D. I. Weisblat. bibliog Am Chem Soc J 62:878-80 Ap '40

MERCAPTANS
Action of solutizers in mercaptan extraction. D. L. Yabroff and E. R. White. bibliog Ind & Eng Chem 32:950-3 Jl '40
α-Alkylsulfonylamides. A. Pomerantz and R. Connor. bibliog Am Chem Soc J 61:3386-8 D '39
Caustic wash takes most of load of doctor sweetening process. il diag Nat Pet N 32:R115-16 Ap 3 '40
Caustic washing of gasoline and caustic regeneration. L. M. Henderson, G. W. Ayers, jr. and C. M. Ridgway. bibliog Oil & Gas J 38:114+ Mr 28 '40
Derivatives of aminomethanethiol. A. Binz and L. H. Pence. bibliog Am Chem Soc J 61:3134-9 N '39; Abstract. Franklin Inst J 229:127-30 Ja '40
Extraction of mercaptans with alkaline solutions. D. L. Yabroff. bibliog il Ind & Eng Chem 32:257-62 F '40
Octane number and lead response improved by solutizer sweetening. D. L. Yabroff and A. C. Nixon. bibliog Nat Pet N 32:R56, R58, R60+ F 21 '40; Same. Oil & Gas J 38:74-6 F 22 '40
100 refineries now converting mercaptans with copper salts; Perco processes. M. G. Van Voorhis. il Nat Pet N 32:R122-3, R126, R129 Ap 17 '40
Peroxide effect in the addition of reagents to unsaturated compounds and in rearrangement reactions. F. R. Mayo and C. Walling. Chem R 27:387-94 O '40
Regeneration step in the solutizer process for the extraction of mercaptans. D. L. Yabroff, E. R. White and A. V. Caselli. Am Pet Inst Proc 20(3):57-64 '39
Significance of doctor test for gasoline found negligible. J. Happel and S. P. Cauley. bibliog Nat Pet N 32:R284+ Ag 7 '40; Same. Am Pet Inst Proc 21M(3):96-101 My '40; Discussion (Doctor test has indirect value and saves refiners headaches). W. A. Schulze. Nat Pet N 32:R290+ Ag 7 '40; Am Pet Inst Proc 21M(3):101-4 My '40
Spectroscopic evidence for hydrogen bonds: SH, NH and NH_2 compounds. W. Gordy and S. C. Stanford. bibliog Am Chem Soc J 62:497-505 Mr '40
Sulfhydryl and cysteine derivatives of 1,2-benzanthracene, 10-methyl-1,2-benzanthracene and 3,4-benzpyrene. J. L. Wood and L. F. Fieser. bibliog Am Chem Soc J 62: 2674-81 O '40

MERCAPTOACETIC acid
Effect of thiol compounds on gonadotrophins. H. L. Fraenkel-Conrat, M. E. Simpson and H. M. Evans. bibliog Science 91:363-5 Ap 12 '40

MERCAPTOBENZOTHIAZOLE
Internal corrosion of gasoline pipe lines. L. C. Morris and W. A. Schulze. il diags Oil & Gas J 38:209-10, 212-13 N 17 '39
Organic rubber accelerators. R. L. Sibley. Rubber Age 47:23-4 Ap '40

MERCERIZING
Anniversaries of mercerization. C. F. Goldthwait. il Ind & Eng Chem News ed 18:538-9 Je 25 '40
Degree of mercerization and its meaning. F. G. Brown. Textile Col 62:587-90+ S '40
Mercerisation of various cellulose fibres. J. R. Katz and J. Seiberlich. bibliog Pulp & Pa of Can 41:337-40 Ap '40
Permanent finishing of cellulosic fabrics. C. L. Wall. Textile Col 61:814-16+ D '39
Physical and colloido-chemical aspects of mercerization; abstract. L. Bonnet. Am Dyestuff Rep 29:504-5 S 30 '40
Progress in mercerization. C. F. Goldthwait. il Textile World 90:82-3 O '40
Progress in the historical development and patents of rayon staple fibers. E. C. Worden. bibliog Rayon 21:21-2 Ja '40
Protection of wool in mercerizing for dyeing. Textile Col 62:387-8 Je '40
Study of mercerization. W. Schramek and H. Thomas. Am Dyestuff Rep 29:415-16 Ag 19 '40

MERCHANDIZING

800 millinery manufacturers. il Ptr Ink Mo 41:5-8+ O '40

Formfit lifts product above price dog-fight: sales jump 50%; new product, a new price policy, and some smart advertising. W. H. Lowy. il Sales Management 46:25-6 Je 1 '40

He went after the small coins; James A. Thomas believed that in them lay the wealth of a nation. Ptr Ink Mo 41:18 N '40

Incentive plan for a trading business. H. J. Pratt. N A C A Bul 22:147-56 O 15 '40

Little company cracks big time market; sells 36,000 Ford tractors in year; achievement of Ferguson-Sherman. A. M. Howe. il Ptr Ink 193:21-2+ O 18 '40

Management research; examples from fields of public relations and merchandizing. J. S. Perkins. Harvard Business R 18 no 4:493-5 [Jl] '40

Manufacturers' marketing problems. E. B. George. Ann Am Acad 209:30-8 My '40

Next decade in textiles; how to make money make more money through merchandising. S. J. Kennedy. Textile World 90:106-7+ F '40

Old, but ever new; selling power of packages can be revived and strengthened. C. B. Larrabee. il Ptr Ink 192:13-16 Jl 5 '40

Parsley flakes prosper; reasons: price, package, publicity. R. A. Asmussen. il Sales Management 47:52-3 Ag 15 '40

Policies that put Kleen-Stik gummed tape in coast-to-coast markets in 5 years; pressure-sensitive adhesive with a thousand point-of-sale uses. G. J. Weigel. il Sales Management 47:20-2 Jl 1 '40

Potatoes with trade-marked names make consumers brand conscious. P. C. Miller. il Ptr Ink 191:19-22 Je 7 '40

Sales increase 40-fold in 2 years; advertising cost drops to 6.9% from 15.6%; Early American old spice toiletries. C. J. Swan. il Ptr Ink 191:11-14 Ap 19 '40

Schick inventory seemed big as a mountain, but smart merchandizing moved it; helping retailer sell it. R. J. Cordiner. il Ptr Ink 189:9-12+ D 8 '39

Strategies and policies in marketing. P. T. Cherington and H. A. Roddick. Ann Am Acad 209:79-83 My '40

Success story: how industrial company started small, grew large, still grows; Harvey-Whipple, Master Kraft oil heating and air-conditioning equipment. C. B. Larrabee. Ptr Ink 193:27, 30, 32-3 N 8 '40

Three new trade-marks; Tested papers of America, inc. forms merchandising institute. Ptr Ink 190:95-6 Mr 29 '40

Why millions in orders are now cleared thru Chicago buying channels; mid-winter and mid-summer markets. L. B. Colby. il Sales Management 47:18-20+ Ag 15 '40

See also

Advertising
Buying habits
Catalogs
Chain stores
Christmas business
Consignment selling
Delivery of goods
Department stores—Management
Display of merchandize
Electric apparatus and appliances—Merchandizing
Exhibits, Traveling
Fashion
Gas appliances—Merchandizing
Gas industry—Merchandizing
Guaranty of goods
Jobbers
Mail order business
Marketing
Package goods
Premiums (merchandizing)
Price cutting
Price policies
Purchasing
Retail trade—Store management
Sales management
Sales policies
Salesmanship
Samples (merchandizing)
Seasonal industries

also Kresge, S. S., company

MERCHANT marine

Applied naval architecture. G. C. Manning. 2v $2.75 Van Nostrand '39

Merchant tonnage losses due to the war are only one-third as great as in 1917. Marine Eng 45:56 Mr '40

Ships at work. A. C. Hardy. 240p $3 Chemical pub. co. '40

Some problems in the design and operation of merchant vessels. R. C. Lee. Inst Mech Eng J & Proc 142:Proc87-95 D '39

Les transports maritimes; les tonnages des flottes de guerre et de commerce en janvier 1939. C. Berthelot. Chimie & Ind 43:351-4 F 20 '40

See also

Harbors
Insurance, Marine
Maritime law
Seamen
Shipping
Steamboat lines

also International mercantile marine company, New York

Brazil

Establishment of 8-hour day in Brazilian merchant marine, 1939. W. C. Burdett. Monthly Labor R 51:161 Jl '40

United States

American-flag ships in the Latin-American trade; tonnage, passenger accommodations, services. Comm Rep p168 F 17 '40

Building an American merchant marine. E. S. Land. Ann Am Acad 211:41-8 S '40

Dollar lines again? family group may reacquire control from Maritime commission. Business Week p31 S 14 '40

Labor conditions in coastwise and intercoastal shipping. Monthly Labor R 50:65-6 Ja '40

Merchant marine personnel. H. L. Seward. Marine Eng 45:74, 76 F '40; Discussion. 45:66+ Ja '40

Neutrality restricts the American merchant marine. H. J. Harding. Ann Am Acad 211:102-10 S '40

Propeller club of United States furthers best interests of American shipping. Weekly Underw 143:903+ O 19 '40

Shipping and transportation on the edge of a boom? W. Gates. il Mag of Wall St 65:796-9 Ap 6 '40

Training of merchant marine personnel. Monthly Labor R 49:1413-16 D '39

War, neutrality, and shipping. il Business Week p51 N 18 '39

See also

Shipping—United States

MERCHANT marine library association, American. See American merchant marine library association

MERCHANTS

Pioneer merchant in mid-America. L. E. Atherton. 135p bibliog(p127-35) pa $1.25 Univ. of Missouri, Columbia '39

MERCHANTS and manufacturers securities company

Securities offered. Comm & Fin Chr 151:2196-7 O 12 '40

MERCHANTS' association of New York city

Annual report. Comm & Fin Chr 151:1081 Ag 24 '40

Membership campaign. Comm & Fin Chr 150:1368-9 Mr 2 '40

MERCHANTS fire assurance corporation of New York

Annual statement, 1939. East Underw 41:23 Mr 1 '40

MERCK and company

Merck's 3-way market: doctors, druggists, manufacturers. F. Smith. il Adv & Sell 33: 27-9, 42-3 F '40

MERCURATION

Germicidal mercury derivatives of pyridine. M. W. Swaney, M. J. Skeeters and R. N. Shreve. Ind & Eng Chem 32:360-3 Mr '40

Mercuration of cholesterol. R. H. Levin and M. A. Spielman. bibliog Am Chem Soc J 62:920-1 Ap '40

Mercuration of some simple derivatives of γ-pyrone. J. R. Files and F. Challenger. Chem Soc J p663-70 My '40

MERCURY

Adsorption at the interface between two fluids; the adsorption of five dyes at a mercury-water interface. C. W. Gibby and C. Argument. diag Chem Soc J p596-600 My '40

MERCURY—*Continued*
Condensation of mercury in mercury-arc tubes. J. Slepian and W. M. Brubaker. diags Elec Eng 59:Trans 281-4 Jl '40
Dropping electrode with a constant head of mercury. E. F. Mueller. diag Ind & Eng Chem Anal ed 12:171 Mr 15 '40
Geochemistry of quicksilver mineralization. R. M. Dreyer. bibliog il Econ Geol 35:17-48, 140-57 Ja-Mr '40; Discussion. J. J. Fahey, M. Fleischer and C. P. Ross. 35:465-70 My '40; Reply. 35:905-9 N '40
Hyperfine structure of the quadrupole line 2815A and of some other lines of ionized mercury. S. Mrozowski. bibliog Phys R 57: 207-11 F 1 '40
Influence of external resistance in the cell circuit on the maxima in polarographic current-voltage curves. J. J. Lingane. il Am Chem Soc J 62:1665-9 Jl '40
Many uses of mercury. Mech Eng 61:920-1 D '39
Mercury cathode in metallurgical analysis. A. E. Pavlish and J. D. Sullivan. il Metals & Alloys 11:56-9 F '40
Mercury-sealed vessels for the storage of solutions. F. E. Holmes. bibliog diags Ind & Eng Chem Anal ed 12:425-7 Jl 15 '40
Redistribution reaction; the relative affinity of mercury and lead for methyl and ethyl radicals. G. Calingaert, H. Soroos and G. W. Thomson. Am Chem Soc J 62:1542-5 Je '40
Review of the strategic metals. C. S. Wehrly. Metals & Alloys 12:424-5 O '40
Simple determination of the equivalent weights of mercury, copper, and zinc. W. Seeger. J Chem Educ 16:595 D '39
Why a flask of mercury weighs 76 pounds. P. Hoffman. Comp Air M 45:6267 O '40

See also
Amalgams
Electric lamps, Mercury vapor
Polarography

Analysis
Modification of Rauscher's method for determining mercury. A. Shukis, jr. and R. C. Tallman. Ind & Eng Chem Anal ed 12:123 F 15 '40
Qualitative semimicro-analysis with reference to Noyes and Bray's system: the gold group. C. C. Miller and A. J. Lowe. Chem Soc J p1263-6 S '40

Prices
Mercury mystery. Business Week p56-7 F 24 '40
Quicksilver soars; American market thrown into confusion by manipulations of international cartel. Business Week p54 F 3 '40

MERCURY acetate
Reaction of sulfur with mercuric acetate in glacial acetic acid. R. E. Vollrath. Am Chem Soc J 62:1310 My '40

MERCURY alloys. See Amalgams

MERCURY arc rectifiers. See Electric rectifiers

MERCURY bromides
Effect of mercuric bromide on the hydrolysis of alkyl bromides in acetone. D. R. Read and W. Taylor. Chem Soc J p1872-8 D '39
Mercurous bromide electrode. W. D. Larson. bibliog Am Chem Soc J 62:764-5 Ap '40
Thermodynamics of the silver bromide-mercurous bromide cell. T. W. Dakin and D. T. Ewing. bibliog Am Chem Soc J 62:2280-4 S '40

MERCURY chlorides
Internuclear distances in Se_2, Te_2, and HgCl by electron diffraction. L. R. Maxwell and V. M. Mosley. bibliog diag Phys R 57:21-3 Ja 1 '40
Steric course of the hydrolysis of α-phenylethyl chloride in acetone containing mercuric chloride. D. R. Read and W. Taylor. Chem Soc J p679-83 My '40
Structure of mercurous chloride vapor. P. W. Selwood and R. Preckel. Am Chem Soc J 62:3055-6 N '40

MERCURY compounds
Catalysis in the formation of α-methoxymercurials from ethylenes. A. M. Birks and G. F. Wright. Am Chem Soc J 62: 3413-21 S '40
Constitution of complex metallic salts; bridged compounds containing two different metallic atoms. F. G. Mann and D. Purdie. Chem Soc J p1230-5 S '40
Constitution of complex metallic salts; the structure of the tertiary phosphine and arsine derivatives of cadmium and mercuric halides. R. C. Evans and others. Chem Soc J p1209-30 S '40
Germicidal mercury derivatives of pyridine. M. W. Swaney, M. J. Skeeters and R. N. Shreve. Ind & Eng Chem 32:360-3 Mr '40
Methoxymercurials from *cis* and *trans* styryl cyanide. W. H. Brown and G. F. Wright. bibliog Am Chem Soc J 62:1991-4 Ag '40
Organic mercury derivatives of basic triphenylmethane dyes. L. Chalkley. Science 91:300 Mr 22 '40
Redistribution reaction; alkyl compounds of mercury, tin, silicon and zinc. G. Calingaert, H. Soroos and V. Hnizda. bibliog Am Chem Soc J 62:1107-10 My '40

MERCURY hydride
Nuclear isotope shift in the spectra of HgH^+ and HgD^+. S. Mrozowski. bibliog diags Phys R 58:332-40 Ag 15 '40

MERCURY industry and trade
Outlook in strategic raw materials; mercury. C. S. Wehrly. Chem Ind 47:259 S '40
Quicksilver boom. Business Week p46-7 Je 29 '40

MERCURY iodide
See also
Nessler's reagent

MERCURY metallurgy
Flotation of mercury ores; recent tests. L. H. Shaffer, J. Newton and A. W. Fahrenwald. bibliog diags Eng & Min J 141:40-3 My '40

MERCURY mines and mining

California
Quicksilver deposits in California mapped. Oil Paint & Drug Rep 137:5+ Ja 1 '40
Quicksilver deposits of the Mount Diablo district, Contra Costa county. C. P. Ross. fold maps U S Geol S Bul 922-B:31-54 '40

Nevada
Quicksilver deposits of the Bottle Creek district, Humboldt county. R. J. Roberts. fold maps U S Geol S Bul 922-A:1-29 '40

Oregon
Oregon's quicksilver industry. F. W. Libbey. il map Min Cong J 26:13-17+ O '40

MERCURY nitrate
Determination of methylpropene by means of a modified Denigès reagent. A. Newton and E. J. Buckler. bibliog diags Ind & Eng Chem Anal ed 12:251-4 My 15 '40

MERCURY ores
See also
Cinnabar

MERCURY poisoning
Mercury poisoning. A. C. Giese. bibliog Science 91:476-7 My 17 '40

MERCURY sulfides
See also
Cinnabar

MERCURY thiocyanates
Pyrotechnic snakes. T. L. Davis. il J Chem Educ 17:268-70 Je '40

MERCURY turbines
Mercury turbine increases plant capacity. A. R. Smith. Power Pl Eng 44:112+ F '40

MERCURY vapor electric lamps. See Electric lamps, Mercury vapor

MERRIAM John Campbell, 1869-
Carnegie Institution of Washington and Dr Merriam. W. K. Gregory. Science 90:466-8 N 17 '39

MERRIMACK river
Flood control and its relation to problems of stream pollution. D. F. Horton. Boston Soc C E J 27:49-52 Ja '40

MERSEY river
Road over River Mersey at Stockport. E. Rhodes. il diags plan Engineer 169:284-5 Mr 22 '40

MERTHIOLATE
Diplodia stem-end rot of lemons controlled with sodium ethyl mercuri thiosalicylate. G. H. Godfrey and W. H. Friend. Science 91:94-5 Ja 26 '40

MERYCOIDODONTIDAE
Relative growth and vertebrate phylogeny. F. B. Phleger, jr. bibliog Am J Sci 238: 643-62 S '40

MERZ, Charles H. 1874-1940
Sketch. por Engineer 170:267-8 O 25 '40

MESITIL
Enediols; *cis-trans* isomerism. R. C. Fuson and others. bibliog Am Chem Soc J 62: 2091-4 Ag '40

Enediols; 1,2-dimesitylacetylene glycol. R. C. Fuson, C. H. McKeever and J. Corse. Am Chem Soc J 62:600-2 Mr '40

MESITOYL chloride
Enediols; 1,2-dimesitylacetylene glycol. R. C. Fuson, C. H. McKeever and J. Corse. Am Chem Soc J 62:600-2 Mr '40

MESITYLGLYOXAL
1,2-Diacylethylene glycols. R. C. Fuson, C. H. McBurney and W. E. Holland. bibliog Am Chem Soc J 61:3246-9 D '39

MESITYL group
Some substituted 2,5-dimesitylfurans. R. E. Lutz and C. J. Kibler. bibliog Am Chem Soc J 62:1520-8 Je '40

MESITYL ketones
1,2,4-Trimesityl 1,4-diketones and related compounds, including the stereoisomeric mono and dienols. R. E. Lutz and C. J. Kibler. bibliog Am Chem Soc J 62:360-72 F '40

MESITYLPYRROLINE
Electron sharing ability of organic radicals; *alpha*-thienyl- and *alpha*-mesitylpyrrolidines. J. G. Kirchner and I. B. Johns. bibliog Am Chem Soc J 62:2183-4 Ag '40

MESITYLENE
Hexahydroacetomesitylene. E. P. Kohler, T. L. Jacobs and H. M. Sonnichsen. bibliog Am Chem Soc J 62:785-93 Ap '40

Polymethylbenzenes; the reaction between dimethylacrylic acid and the trimethylbenzenes. L. I. Smith and W. W. Prichard. bibliog Am Chem Soc J 62:771-7 Ap '40

MESNAGER hinges
Design of hinges and articulations in reinforced concrete structures. G. C. Ernst. diags Am Soc C E Proc 66:589-605 bibliog(p605) Ap '40; Discussion. A. A. Eremin. 66:1527-8 O '40

Investigation of rigid frame bridges; tests of structural hinges of reinforced concrete. R. W. Kluge. il diags Ill U Eng Exp Sta Bul 322:1-33 '40 (pa 40c); Excerpts. Can Eng R & B 78:49, 58 Ag '40

MESOMERISM
Benzene formula; resonance and mesomerism. A. G. Byard. diags Chem & Ind 59:593-4 Ag 17 '40

Mesomerism. R. C. Evans. Chem & Ind 59: 518-21 Jl 20 '40

MESONS. See Mesotrons

MESOPOTAMIA, Modern. See Iraq

MESOTHERIUM (term)
Names mesotherium and typotherium. G. G. Simpson. Am J Sci 238:518-21 Jl '40

MESOTRONS
Absorption of mesotrons in air and in condensed materials. E. Fermi. Phys R 56: 1242 D 15 '39

Anomalous absorption of the hard component of cosmic rays in air. M. Ageno and others. bibliog diags Phys R 57:945-50 Je 1 '40

Beta-decay and mesotron lifetime. R. Serber. bibliog Phys R 56:1065 N 15 '39

Connection between the meson decay and the beta-decay. S. Sakata. bibliog Phys R 58:576 S 15 '40

Disintegration of mesotrons. B. Rossi. bibliog Rs Mod Phys 11:296-303 Jl-O '39

Effect of the nuclear Coulomb field on the capture of slow mesons. S. Tomonaga and G. Araki. bibliog Phys R 58:90-1 Jl 1 '40

Electromagnetic self-energy of mesotrons. R. D. Richtmyer. Phys R 57:413-16 Mr 1 '40

Electrons arising from the disintegration of cosmic-ray mesotrons. B. Rossi. Phys R 57: 469-71 Mr 15 '40

Ends of the mesotron tracks observed in an expansion chamber. A. Migdal and J. Pomeranchuk. Phys R 57:934 My 15 '40

Energy distribution and positive excess of mesotrons. H. Jones. il diag Rs Mod Phys 11:235-8 Jl-O '39

Energy loss of electrons in carbon and the decay of the mesotron. H. R. Crane, N. L. Oleson and K. T. Chao. Phys R 57:664 Ap 1 '40

Energy losses of fast mesotrons and electrons in condensed materials. O. Halpern and H. Hall. Phys R 57:459-60 Mr 1 '40

Evanescent mesotron. C. W. Sheppard. Sci Am 163:202-3 O '40

Existence of stationary states of the mesotron field. L. I. Schiff, H. Snyder and J. Weinberg. Phys R 57:315-18 F 15 '40

Further evidence for the existence of mesotron showers. W. F. G. Swann and W. E. Ramsey. Phys R 57:1051 Je 1 '40

Heavy electron pair theory of nuclear forces. R. E. Marshak. bibliog Phys R 57:1101-6 Je 15 '40

Instability of the meson. M. A. Pomerantz. bibliog diags Phys R 57:3-12 Ja 1 '40

Intensity and rate of production of mesotrons in the stratosphere. M. Schein, W. P. Jesse and E. O. Wollan. bibliog il diags Phys R 57:847-54 My 15 '40

Interaction energies in radiation theory. H. Hurwitz, jr. Phys R 58:467-71 S 1 '40

Ionization loss of energy in gases and in condensed materials. E. Fermi. bibliog Phys R 57:485-93 Mr 15 '40

Mean lifetime of the mesotron from electroscope data. H. V. Neher and H. G. Stever. bibliog Phys R 58:766-70 N 1 '40

Measurement of mesotron lifetime. W. M. Nielsen and others. Phys R 57:158 Ja 15 '40

Meson particles of cosmic rays; abstract. H. A. Bethe. Science 91:sup8 Ja 19 '40

Meson theory of nuclear forces. H. A. Bethe. bibliog Phys R 57:260-72, 390-413 F 15-Mr 1 '40

Mesotron production in the atmosphere. M. Schein and V. C. Wilson. bibliog diag Rs Mod Phys 11:292-5 Jl-O '39

Mesotrons disintegrate according to a fixed schedule or life-span. Science 90:sup10 N 24 '39

Narrow cosmic-ray showers. W. Bothe. diags Rs Mod Phys 11:282-7 Jl-O '39

Nature of cosmic-ray particles. S. H. Neddermeyer and C. D. Anderson. bibliog il Rs Mod Phys 11:191-207 Jl-O '39

Neher-Stever experiment. E. Nelson. bibliog Phys R 58:771-3 N 1 '40

New proof of the instability of the mesotron. G. Cocconi. Phys R 57:61-2 Ja 1 '40

Note on *p*-wave anomalies in proton-proton scattering. G. Breit, C. Kittel and H. M. Thaxton. Phys R 57:255-9 F 15 '40

Pair production of mesotrons at 29,000 feet. G. Herzog and W. H. Bostick. il Phys R 58:278 Ag 1 '40

Photographing mesotrons at high altitude. A. Klemin. il Sci Am 162:97 F '40

Photon production of mesotrons. W. M. Powell. il Phys R 58:474 S 1 '40

Positive excess and electron component in the cosmic-ray spectrum. D. J. Hughes. diag Phys R 57:592-7 Ap 1 '40

Production of mesotrons by penetrating nonionizing rays. B. Rossi and V. H. Regener. diag Phys R 58:837-8 N 1 '40

Production of soft secondaries by mesotrons. J. R. Oppenheimer, H. Snyder and R. Serber. bibliog Phys R 57:75-81 Ja 15 '40

MESOTRONS—*Continued*
Report on Bartol research foundation; mesotrons and cosmic-ray showers. W. F. G. Swann. il diags Franklin Inst J 230:315-38 S '40
Report on the work of the Bartol research foundation, 1938-39. W. F. G. Swann. il diags Franklin Inst J 229:281-335 bibliog (p333-5) Mr '40
Shower production by mesotrons in different materials. W. F. G. Swann and W. E. Ramsey. Phys R 57:749 Ap 15 '40; Same. Franklin Inst J 230:511-13 O '40
Significance of variations in cosmic-ray intensity and their relation to solar, earth-magnetic and atmospheric phenomena. V. F. Hess. bibliog Rs Mod Phys 11:153-7 Jl-O '39
Simultaneous penetrating rays from the atmosphere. V. Josephson, D. K. Froman and J. C. Stearns. diags Phys R 57:335 F 15 '40
Some recent experiments on cosmic rays. P. M. S. Blackett and B. Rossi. il diags Rs Mod Phys 11:277-81 Jl-O '39
Theory of meson decay. H. A. Bethe and L. W. Nordheim. Phys R 57:998-1006 Je 1 '40
Variation of the hard component of cosmic rays with height and the disintegration of mesotrons. B. Rossi, N. Hilberry and J. B. Hoag. diags Phys R 57:461-9 Mr 15 '40

MESOZOIC era. See Geology, Stratigraphic—Mesozoic

MESSENGERS
Messenger girls trained for bank careers. S. Ware. il Nation's Business 28:88-90 Ap '40

MESSERSMITH, George S. 1883-
Portrait. Business Week p46 Ja 13 '40

METABOLISM
Apparatus for measuring metabolism and activity in wild animals. W. H. Long. (Univ. of Mich. School of forestry and conservation Circ. no. 5) 35p bibliog(p33-5) Univ. of Michigan press, Ann Arbor '39
Defect in the metabolism of aromatic amino acids in premature infants; the role of vitamin C. S. Z. Levine, E. Marples and H. H. Gordon. bibliog Science 90:620-1 D 29 '39
Interdependence of respiration and glycolysis. O. Rosenthal, M. A. Bowie and G. Wagoner. bibliog Science 92:382-3 O 25 '40
Method of studying the availability of various substrates for human brain metabolism during therapeutic insulin shock. J. Wortis and W. Goldfarb. bibliog Science 91:270-1 Mr 15 '40
Simple gravimetric alcohol check for calibration of metabolism apparatus. W. B. Shelley and A. Hemingway. diag Science 91:99-100 Ja 26 '40
Synthesis of 4',8'-dihydroxy-1,2,5,6-dibenzanthracene and its relation to products of metabolism of the hydrocarbon. J. Cason and L. F. Fieser. bibliog Am Chem Soc J 62:2681-7 O '40
Theory of protein metabolism: the transformation of proteins. C. L. A. Schmidt, F. W. Allen and H. Tarver. bibliog Science 91:18-19 Ja 5 '40
Utilization of l-glucose by mammalian tissues and bacteria. H. Rudney. Science 92:112-13 Ag 2 '40
See also
Nutrition

METACHROME dyeing. See Dyes and dyeing—Metachrome process

METADYNE
Metadyne, and its application to electric traction. G. H. Fletcher and A. Tustin. diags Inst E E J 85:370-84 S '39; Discussion. 85: 384-99; 86:379-82 S '39, Ap '40

METAL cladding
New process for metal coatings; Kinkead methods will be used by Carnegie-Illinois Steel. Business Week p32-4 D 2 '39

METAL cleaning
Alkalis for metal cleaning. T. K. Cleveland. Metal Finishing 38:479-82 S '40
American continuous Wheelabrator Tumblast regulates tumbling speed and flow of work. il Am Mach 84:552 Jl 24 '40; Mach 46:136 Ag '40
American electroplaters' society; résumé of technical papers. Metal Finishing 38:373-4 Jl '40
Cleaning and degreasing; composite of abstracts. Metals & Alloys 11:MA197 Ap '40
Cleaning and finishing zinc-base die castings; composite of abstracts. Metals & Alloys 11: MA338 Je '40
Cleaning metals for electroplating. C. C. Hermann and R. W. Mitchell. il Iron Age 144:45-8+ D 7 '39
Cleaning tinned equipment. Metal Ind 38:33+ Ja '40
Finishing transformer cases; Allis-Chalmers mfg. co. il diag plan Steel 107:70-1 S 9 '40
High-production cleaning, pickling and plating line; Chrysler-Plymouth plant. il Steel 107:50, 52+ S 23 '40
High speed filtration for cleaning and plating solutions. R. J. Green. il Metal Ind 38:203-5 Ap '40
Metal cleaning by sand blasting, tumbling, rolling and burnishing. C. C. Hermann and R. W. Mitchell. il Iron Age 145:54-7 Mr 7 '40
Metal surface cleaners. Product Eng 11:359 Ag '40
New electroplating products and processes developed in 1939; cleaners; degreasing. il diag Metal Ind 38:5-6 Ja '40
Plating and heating of zinc base die castings; abstract. F. F. Oplinger. Iron Age 146:41-2 Jl 4 '40
Shop equipment review; cleaning and finishing. il Am Mach 84:247-51 Ja 24 '40
Spray rinsing. J. D. Tierney. il diags Steel 105:63, 66+ D 4 '39
Sprues are cleaned in tumbling mills. A. H. Allen. il Foundry 68:96-7 My '40
Surface films in metal cleaning. E. C. Rinker. Metal Ind 38:20-1 Ja '40
Tanks for cleaning and plating. C. C. Helmle. il diags Metal Ind 38:263-8 My '40
Ventilation of a trichlorethylene degreaser. W. N. Witheridge and H. T. Walworth. il diags J Ind Hygiene 22:175-87 My '40
What's new in cleaning and finishing equipment for metal products. F. J. Oliver. il Iron Age 144:52-5+ D 14 '39
What's new in polishing, cleaning and finishing apparatus. F. J. Oliver. il diag Iron Age 145:53-7 Ap 18 '40
Wheelabrator abrasion cleaning. il Electrician 124:270 Ap 5 '40
Wheelabrator shot-blast cleaning machine for light work. il Engineering 149:113 F 2 '40
See also
Castings—Cleaning
Pickling (metals)
Sand blast
Steel—Cleaning
Washing machines (for metal parts)

METAL cleaning, Electrolytic
Electric cleaning of metals. C. C. Hermann and R. W. Mitchell. il Iron Age 144:42-5 N 23 '39
Electrolytic degreasing with simultaneous formation of a metallic copper coating; abstract. V. P. Sacchi. Metals & Alloys 11: MA23-4 Ja '40

METAL coating
Developments in metal spraying. W. C. Reid. Metal Prog 38:496 O '40
Electrolytic metallizing on non-metallic surfaces; wood, plaster of Paris, flowers, horn, insects, etc. E. Schore. il Metal Finishing 38:433-7 Ag '40
Fan shaft built up in place by metallizing process. F. F. MacWilliams. il Coal Age 45:95 F '40
Forming molds by spraying metal. il Mod Plastics 17:36-7+ Je '40
Metal sprayed bearings for high speed operation; abstract. H. Shaw. Metals & Alloys 12:346+ S '40
Metal-spraying; a composite of abstracts. Metals & Alloys 12:548-9 O '40
Metal spraying saves expensive replacement; repair of direct current generator. J. E. Hubel. Power Pl Eng 44:89 S '40

METAL coating—*Continued*
Metallizing process for corrosion and wear resistance, etc. R. A. Axline. il diags Aero Digest 37:44-6+ Ag '40
New parts for old; metal spray restores machine parts worn in service. P. Leder. il Am Mach 84:164-5 Mr 20 '40
Pistol that sprays powdered metals and plastics; Schorl pistol. R. G. Skerrett. il diag Comp Air M 45:6057-60 Ja '40
Reducing the cost of metal spraying; new gun uses acetylene, propane, natural gas, or coal gas. E. T. Parkinson. il Steel 107: 46-9 S 9 '40
Salvaging of equipment by metal spraying. J. E. Hubel. il Metal Ind 37:571-2+ D '39
Welding water wheels. E. A. Woodhead. Elec West 84:126-7 Je '40
Welding waterwheels; also metal spraying. A. P. Newberry. Elec West 85:46-7 Ag '40

See also
Alloys, Hard facing
Electroplating
Enamel and enameling
Galvanizing
Metal cladding
Metal protection
Pipe coating
Plating
Silver coating

METAL coloring
Blue gelatine-copper; reprinted from volume 22, Transactions of the American electrochemical society (now the Electrochemical society). W. D. Bancroft and T. R. Briggs. Metal Finishing 38:537-8 O '40
Metal coloring theory and practice; abstract. J. B. Kushner. Metals & Alloys 12:191-2 Ag '40
Rust-proofing in colors. il Iron Age 145:50 Mr 28 '40

METAL construction
Stress analysis of thin metal construction. H. L. Cox. diags Roy Aeronautical Soc J 44:231-72 bibliog(85 titles, p269-72); Discussion. 272-82 Mr '40

See also
Sheet metal buildings
Sheet metal work, Architectural
Steel construction

METAL cutting
Accuracy in aluminum; fabrication of drying reels, part of rayon-yarn processing machines. L. A. Corey. il diags Am Mach 83: 1039-40 D 13 '39
A.S.M.E. manual on cutting of metals; critical review. Iron Age 144:90C-90D N 23 '39
Application of carbide tools in a machine tool plant. B. Merwin. diags Mach 47:111-15 S '40
Atkins curled-chip system of metal cutting. Mach 46:141 Ag '40
Chip disposal? certainly they've tackled it! G. Hubbard. il Steel 106:33+ Ja 8 '40
Cutting oils and their application; sulfurized oils. T. R. Langdon. Mach 46:93-4 Mr '40
Dust-free cuts on cast iron; Buick oil-pump bodies. il diags Am Mach 84:128-9 Mr 6 '40
Influence of various lubricants on the seizure characteristics of hard steel and bronze. D. Clayton. il Engineering 149: 131-5, 144 F 9 '40
Machining of aluminum alloys cast or wrought. W. A. Dean. il Metal Prog 37:169-73 F '40
Machining practice for aluminum. diags Am Mach 84:624-8 Ag 21 '40
Machining with single point tools. M. Kronenberg. bibliog Am Soc for Metals Trans 28:725-42 S '40; Abstract. Engineering 150: 259-60 S 27 '40
Manual on cutting of metals, single-point lathe tools. 319p bibliog(p287-94) $5 Am. soc. of mechanical engineers, New York '39
Mechanical properties of monel, nickel, and inconel in forms used for machining and recommended cuts, feeds, and speeds for turning in lathe; data sheets. Mach 46: 111 Je '40
More metal per grind; proper use of carbide-tipped cutting tools. F. Deak. diags Am Mach 83:1041-3 D 13 '39
Tools and speeds for machining aluminum alloys. W. A. Dean. il diags Metal Prog 37: 553-8 My '40
Trimming flash from die castings; Stewart die casting division of Stewart-Warner corporation. H. Chase. il Am Mach 84:420-2 Je 12 '40

See also
Broaching
Cutting tools
Drilling and boring (metal working, etc.)
Gear cutting
Lubrication and lubricants (cutting and grinding)
Machine tools
Machine work
Milling
Milling cutters
Oxyacetylene cutting
Saws, Metal working
Screw machines
Shears (machines)
Steel cutting
Thread cutting
Threading machines
Tool steel

Cost
Metal cutting costs. W. T. Tiffin and O. R. Eads. Power Pl Eng 44:76 Ap '40

Tables, calculations, etc.
Chart for bar stock calculations. M. A. Markel. Am Mach 84:143, 145 Mr 6 '40
How thick a chip? study of cutting action. A. L. DeLeeuw. il Am Mach 83:991-2 N 29 '39
Metal-cutting power calculations; reference book sheet. P. H. Miller. Am Mach 84:23, 25 Ja 10 '40; Abstract. Metals & Alloys 12: 80+ Jl '40
Speeds and feeds for turret lathes. Am Mach 84:773 O 2 '40
Weight of bar stock; reference book sheet. L. DeL. Berg. Am Mach 84:341, 343, 387 My 15-29 '40

METAL cutting, Subaqueous
Underwater cutting, arc cutting, the oxygen lance, and oxygen de-seaming and machining; a review of the literature to Jan. 1, 1939; abstract. W. Spraragen and G. E. Claussen. Metals & Alloys 11:MA262 My '40

METAL drawing
Deep drawing tests for sheet metal. H. S. Swift. diag Iron Age 145:42-5 Je 6; 34-7 Je 13 '40
Double- vs. single-action drawing presses. A. D. Mundy. diags Am Mach 84:214-15 Ap 3 '40
Drawing and forming deep tapered shells. M. J. Goldstein. il diags Mach 46:95-6 Mr '40
Drawing of aluminum. L. J. Weber and J. T. Weinzierl. il diags Am Soc for Metals Trans 27:1052-71 D '39
Flow of metals. G. Sachs. diags Iron Age 145: 34-7 F 1; 36-9 F 8 '40
How to anneal for superior drawing qualities. J. N. Crombie. il diag Steel 106:44-7 Mr 18 '40
Improving drawability of steel by controlling nitrogen. C. L. Altenburger. Metal Prog 37:639-43 Je '40
Laboratory control of drawing compounds on porcelain enamel metals. D. J. Benoliel. diag Am Cer Soc Bul 19:259-62 Jl '40
Manufacture of seamless ferrous tubes. C. Billingsley. diags Inst Mech Eng J & Proc 143:Proc 61-72, pl 1-2 Ap '40
Residual tin in steel; tin-contaminated steels can be used for deep drawing. P. McKimm. il diags Steel 106:60, 64+ My 13 '40
Some oxygen-free coppers; annealing and drawing characteristics. S. Rolle and H. M. Schleicher. bibliog Metals & Alloys 11:82-7 Mr '40
Tools for pressing and drawing; composite of abstracts. Metals & Alloys 11:MA134+ Mr '40

See also
Wire drawing

METAL finishing
Baking and drying; gas-fired baking and drying ovens. J. E. Dare. il diags Steel 105: 59, 62 D 18 '39
Better adherence; laboratory tests on improved adherence of finishes on zinc or zinc-alloys and on zinc-coated metals. H. E. Van Siclen. Steel 105:66, 68-9 N 20 '39
Broaching spark plugs to improve finish. il diags Mach 46:89 My '40

METAL finishing—*Continued*
Cleaning and finishing zinc-base die castings; composite of abstracts. Metals & Alloys 11: MA338 Je '40
Clear coating material; Microlac. Metal Finishing 38:471 Ag '40
Detective work on metal finishes; testing for invisible activators that cause paint failures. V. M. Darsey. il Metal Ind 38:304-5 My '40
Developments in surface finish. J. M. S. Hutchinson and J. M. Lessells. Metal Prog 38:435 O '40
Economy grades of pre-finished metal. il Iron Age 145:50 Mr 28 '40
Electroplating digest; selected abstracts on plating, finishing, rust proofing, lacquering. Metal Finishing 38:331 Je '40 [cont monthly]
Enamel baking oven; utilization data sheet. H. Van Wyk. il Elec West 85:40 Ag '40
Endurance is skin deep. Engineer 169:561-2 Je 21 '40
Evaluating the surface finish of metals. J. Guild. diags Engineering 150:44-5 Jl 19 '40
Fatigue strength, of members as influenced by surface conditions. O. J. Horger. il Product Eng 11:490-3 N '40 (to be cont)
Finishes for aluminum. Am Mach 84:631-2 Ag 21 '40
Finishing band instruments. F. K. Savage. il Metal Ind 38:132-6 Mr '40
Finishing dies and molds. H. J. Wills. il Iron Age 146:54-5 S 19 '40
Finishing foremanship. P. C. Kramarcik. Metal Finishing 38:483-5 S '40
Finishing system at Allis-Chalmers; production of transformer containers. F. R. Anderson. il Metal Finishing 38:359-60 Je '40
Finishing transformer cases; Allis-Chalmers mfg. co. il diag plan Steel 107:70-1 S 9 '40
Fixtures for final machining of die castings. H. Chase. il Am Mach 84:454-5 Je 26 '40
Foster superfinisher. il Am Mach 84:106 F 21 '40
Foster superfinisher of increased capacity. il Mach 47:165-6 O '40
Friction and surface finish; conference at Massachusetts institute of technology, June 6-8. Automotive Ind 82:sup 11+ Je 15 '40
Gillette abrasive stone comparator. D. H. Harris. il diags Iron Age 146:32-8 Ag 22 '40
Glycerine in metal processing. G. Leffingwell and M. A. Lesser. bibliog Metal Ind 38: 79-81+ F '40
Grading abrasive sticks by the Rockwell test. L. H. Milligan. Iron Age 146:50-2+ S 19 '40; Same. S A E J 47:336-9 Ag '40
Heat treating and finishing. Metal Prog 38: 419-35 O '40
Helpful oven suggestions. F. V. Faulhaber. il Metal Ind 38:179-82 Mr '40
High surface finishes, preparation, specification, and effect on wear and fatigue; conference at Massachusetts institute of technology; reported by R. W. Dayton. il Metal Prog 38:54-6 Jl '40
How should engineers describe a surface? various machine parts and their surface requirements. O. R. Schurig. il Mech Eng 62:703-11 O '40
Infra-red finishing of burner parts. il Iron Age 146:64 N 7 '40
Lapping for final finish. H. J. Wills. il Am Mach 83:985-7, 1037-8, 1080-2; 84:5 N 29 '39-Ja 10 '40
Magnesium alloys; surface treatment and painting. Am Mach 84:302 My 1 '40
Metal finishing; developments in 1939. il Steel 106:238, 240+ Ja 1 '40
Metal finishing; modern units fit into assembly line methods of manufacture; transformer containers produced at Allis Chalmers co. plant, Pittsburgh. W. F. Sherman. il diags plans Iron Age 146:32-6 Jl 25 '40
Michigan toothed-gear finishing machine. il Engineering 148:675 D 15 '39
Micro-honing, a new surface finish; Bower roller bearing co., Detroit. il Automotive Ind 82:75 Ja 15 '40
National broach & machine co.'s Red Ring roto shaving machines. il Automotive Ind 82:18, 19-20 Ja 1 '40
National broach and machine co.'s vertical roto-shaving machine. il diags Engineering 148:647 D 8 '39
New electroplating products and processes developed in 1939. W. R. Meyer, ed. il diag Metal Ind 38:3-11 Ja '40
New finishing methods in polishing and buffing work. Sheet Metal Worker 31:24+ Ap '40
New method for finishing castings. Mach 46: 242 D '39
New method of testing and grading fine abrasives for superfinishing machines. E. L. Hemingway. S A E J 47:332-6; Discussion. il 336-41 Ag '40
Offset blocks used for finishing eccentrics. M. H. Ball. diag Am Mach 84:471-2 Je 26 '40
Organic finishing of home laundry equipment; Bridgeport works of the General electric co. W. G. Sheane. il plan Metal Ind 38: 118-20 F '40
Phœnix small-part finishing machine. il Engineering 149:357 Ap 5 '40
Plating flexibility; finishing department of Spencer lens co. il layout Steel 106:57-8, 60 Ja 29 '40
Precision machining. A. M. Swigert, jr. il Automotive Ind 83:385-6+ O 1 '40
Prefinished metals find many applications. H. W. Lancaster. il Metal Ind 38:252-4 My '40
Problems of metal specialties finishing. F. V. Faulhaber. il Metal Finishing 38:519-22 S '40
Product finishes; causes and remedies for finishing troubles. G. H. Robertson. Product Eng 11:163-4, 217-19, 269-70 Ap-Je '40
Quality finishes for metal products; with tabulated characteristics of finishes by price classes. A. Bregman. il Iron Age 146:28-33 S 26 '40
Radiant energy drying with heat lamps. T. P. Brown and L. S. Ickis, jr. il diag Metal Ind 37:607-8 D '39
Research on surface finish. G. Schlesinger. il diags Engineering 149:343-5 Mr 29 '40
Shop equipment review; cleaning and finishing. il Am Mach 84:247-51 Ja 24 '40
Shop problems. Published in monthly numbers of Metal industry
Speedy method of castings finishing; New Wrinkle dip-process. Metals & Alloys 11: MA1 Ja '40
Story of superfinish. A. M. Swigert, jr. 672p $5 Lynn pub. co. 5106 Buckingham, Detroit '40
Superfinish. D. A. Wallace. il diags S A E J 46:69-92 F '40; Abstract. Metals & Alloys 11:MA206+ Ap '40
Surface finish conference, Massachusetts institute of technology; summary. O. R. Schurig. Mech Eng 62:747 O '40
Surface finish control in machine shop practice. R. F. Gagg. Automotive Ind 83:57-9 Jl 15 '40
Surface profiles in microinches; Brush surface analyzer. il Iron Age 145:32-3 F 15 '40
Surface treatment of aluminium castings. Engineering 150:110 Ag 9 '40
Surface treatment of magnesium alloys. L. Grant. Metal Ind 37:544-5, 605-6 N-D '39
Technical developments of 1939 in supplies and equipment for organic finishing. W. R. Meyer, ed. il Metal Ind 38:58-60 Ja '40
Testing bond hardness of abrasives used on superfinishing machines. E. L. Hemingway. Iron Age 145:30-4 Ap 25 '40
What counts is the finish; superfinishing process has been further refined. A. M. Swigert. il Am Mach 84:8-11 Ja 10 '40
What is surface quality? H. J. Wills. il Am Mach 84:199-200 Ap 3 '40
What's new in cleaning and finishing equipment for metal products. F. J. Oliver. il Iron Age 144:52-5+ D 14 '39
What's new in finishing apparatus. F. J. Oliver. il Iron Age 146:45, 45A-45B, 46 Ag 8 '40
What's new in polishing, cleaning and finishing apparatus. F. J. Oliver. il diag Iron Age 145:53-7 Ap 18 '40

METAL finishing—*Continued*
Why and how of ball burnishing. F. T. Mann. il Iron Age 146:48-51 Ag 1 '40

See also
Bonderizing
Grinding
Honing
Lacquer and lacquering
Metal cleaning
Metal coating
Metal coloring
Metal protection
Pickling (metals)
Polishing
Sand blast
Scraping machines (metal work)
Steel—Finishing

Cost

Calculation of finishing material costs. W. G. Sheane. chart Metal Ind 38:238-9 Ap '40

Metal finishing costs. A. Bregman. il Iron Age 145:28-31 Mr 28; 44-7 Ap 4 '40

Patents

Pickling and polishing of metals; Lucius Pitkin, Inc.; with patent data chronologically arranged. S. Tour. il Iron Age 145:56-60 My 23; 26-30 My 30 '40

Testing

See also
Profilometers

METAL foils

See also
Aluminum foil

METAL fumes
Chemical and physiological investigation of electric arc welding; bare, washed welding rods. G. C. Harrold, S. F. Meek and C. P. McCord. bibliog il J Ind Hygiene 22:347-78 O '40

METAL handling
Nonferrous metals smelter; handling system; Federated metals division of American smelting & refining co. H. T. Hansen. il diag Steel 107:60+ Ag 19 '40

See also
Sheet metal handling

METAL lath
Conduits and outlets in solid partitions of metal lath and cement plaster. il diags Concrete 48:12+ Ja '40

Installing service pipes in partitions of metal lath and plaster. il diags Concrete 48:17-18 Ap '40

METAL products
Prefinished metals find many applications. H. W. Lancaster. il Metal Ind 38:252-4 My '40

Quality finishes for metal products; with tabulated characteristics of finishes by price classes. A. Bregman. il Iron Age 146: 28-33 S 26 '40

Right metal in the right place (cont). A. Bregman. Iron Age 146:29-31 Jl 4 '40

What's new in cleaning and finishing equipment for metal products. F. J. Oliver. il Iron Age 144:52-5+ D 14 '39

Specifications

Aluminum and magnesium products with corresponding federal, army, navy, S.A.E. and A.S.T.M. specifications; reference book sheet. Product Eng 11:535-6 N '40

METAL protection
Anstrichüberzüge an stelle von metallüberzügen. H. F. Sarx. Angew Chemie 52:715-17 D 23 '39

Autovent special fans with protective Heresite coatings. il Refrig Eng 39:126 F '40

Cadmium plating; with cost data and review of properties. A. Bregman. il Iron Age 145:36-40 Ap 18 '40

Cathodic protection for water works equipment. W. D. Loreaux. flow sheet il Water Works & Sewerage 87:sup81-2 Ap '40

Cathodic protection of condensers and coolers utilizing brackish bay water. W. A. S. Wright and J. H. Brooks. diags Am Pet Inst Proc 21M(3):83-5 My '40; Same. Oil & Gas J 39:60+ My 30 '40

Cathodic protection of steel water tanks. E. E. Norman. Am Water Works Assn J 32:1069-74 Jl '40

Chrome plating cylinder bores. Automotive Ind 81:579, 592 D 1 '39

Clear coating material; Microlac. Metal Finishing 38:471 Ag '40

Electroplating rack coating; material of many uses; synthetic resin tape. M. B. Diggin. il Metal Ind 38:36 Ja '40

Finishing magnesium alloys; composite of abstracts. Metals & Alloys 11:MA341 Je '40

Hot spraying of shellac; a new method of coating surfaces. diag Chem Age (Lond) 41:345; 42:314 N 18 '39, Je 8 '40

Junior Motors blackened for protection. il Iron Age 146:33 O 24 '40

Metal finishing; developments in 1939. il Steel 106:238, 240+ Ja 1 '40

Metallizing process for corrosion and wear resistance, etc. R. A. Axline. il diags Aero Digest 37:44-6+ Ag '40

Metcolizing process protects metal exposed to heat. Am Mach 84:268+ Ap 17 '40

New coating widens usage of valves; Merchrome coating. Steel 107:73 Ag 12 '40

9-12 months' life claimed for new rust preventative; Metaseal 494. Iron Age 144: 47 D 14 '39

Piston-ring coatings and their effect on ring and bore wear. M. M. Roensch. il S A E J 46:221-8 My '40; Abstract. Automotive Ind 82:288-9 Mr 15 '40

Platinum-clad metals for sheet, screen, tubing and wire. F. E. Carter. il Steel 106:54-5+ Mr 18 '40

Protect-O-Metal, a compound for use in welding and die-casting. Mach 46:274 D '39

Protective coatings; as it was in 1915 and as it is in 1940. A. Bregman. Metal Prog 37:318 Mr '40

Protective coatings for magnesium alloys. T. P. Hoar. Engineer 168:sup[Metallurgist] 67-70 O 27 '39; Abstract. Metal Prog 37: 168+ F '40

Protective films on tin-plate. il Engineering 149:630 Je 28 '40

Review recent developments in protective coatings for metals at Franklin institute. Steel 106:52+ F 12 '40

Rubber coatings on metals. H. E. Cook. Metal Prog 38:430-1 O '40

Rust-proofing in colors. il Iron Age 145:50 Mr 28 '40

Rust proofing processes; bonderizing, Parkerizing, granodizing and Alumilite, etc. C. Cleveland. il diag plan Metal Ind 38:64-8 Ja '40

Some recent studies of thin oxide films on metals. W. H. J. Vernon. Chem & Ind 59:87-8; Discussion. 88-9 F 10 '40

Surface treatment of magnesium alloys. L. Grant. Metal Ind 37:544-5, 605-6 N-D '39

Das vordringen der kunstharz-anstrichstoffe im korrosionsschutz. G. Koken. Chemische Fabrik 12:502-4 D 6 '39

Wear resisting coatings; abstract. J. E. Jackson. Automotive Ind 82:566 Je 15 '40

Zinc annealed iron. Gas J (Lond) 230:203+ Ap 24 '40

See also
Alloys, Hard facing
Bonderizing
Chromium plating
Corrosion and anticorrosives
Electroplating
Enamel and enameling
Galvanizing
Metal coating
Paint, Protective
Pipe coating
Pipe lines—Protection
Rubber lining
Steel—Protection

METAL spinning
Metal spinner makes good beyond expectations; Theodore Salow. Metal Ind 38:205 Ap '40

METAL spraying. See Metal coating

METAL trade
Bureau of mines surveys strategic mineral supplies; Tariff commission's report on metallic products. Iron Age 144:99B-99C D 7 '39

METAL trade—*Continued*

France jolts the metal markets; prospect of reallocations in world's mineral sources causing widespread concern. Business Week p52-4 Je 22 '40

See also

Copper industry and trade
Hardware
Iron industry and trade
Lead industry and trade
Metal workers
Metals—Prices
Metals, Non-ferrous
Scrap metal
Sheet metal trade
Steel industry and trade
Tin industry and trade
Tin plate
Zinc industry and trade

Advertising

Industrial mailing series and a show me kit; American nickeloid co. il Ptr Ink Mo 41:52 N '40

Finance

Financial reports; Anaconda copper mining company, New Jersey zinc company, American smelting and refining company. Annalist 56:437 O 3 '40

'39 ferromanganese, spiegeleisen output under '37; other metal trade reports. Iron Age 146:97-8 N 7 '40

Statistics

Current metal working activity. Published in Iron age

Growing family of metals; competitive position. J. V. Sherman. Barron's 20:8-9 My 20 '40

Mineral economics in 1939. A. Notman. Min & Met 21:17 Ja '40

Minor metals, 1939. Eng & Min J 141:49-52 F '40

Non-ferrous metals as strategic materials. A. Bregman. Iron Age 145:98, 100, 149-52 Ja 4 '40

Production of metals, revision; monthly, 1923-June, 1940. Fed Res Bul 26:879-82 Ag '40

Germany

Battle of the metals. P. W. Bidwell. Min & Met 21:417-20 S '40

Germany's non-ferrous metals. Economist 138:1108 Je 29 '40

Italy

Italy's metal supplies; net imports of metals, 1936, 1937, 1938. Economist 138:1086 Je 22 '40

Japan

Philippine base metals have importance for Japan. R. Keeler. il map Eng & Min J 141:51-3 Ap '40

United States

Review of the strategic metals. il Metals & Alloys 12:414-25 O '40

War's effect on the metals; symposium, Western division, American mining congress. Min Cong J 26:37-9 O '40

METAL waste

Chip disposal? certainly they've tackled it! G. Hubbard. il Steel 106:33+ Ja 8 '40

Halves chip disposal cost; sub-floor system removes 5 carloads of chips a day from 50 screw machines; Bower roller bearing co. G. Johnson. il Factory Management 97:70-1 D '39

Refining precious metal wastes; gold, silver, platinum metals; a handbook for the jeweler, dentist and small refiner. C. M. Hoke. 362p bibliog(p345-54) $5 Metallurgical pub. co, 123 William st, New York '40

Steel chips, cutting oil reclaimed 100 per cent in efficient system. O. L. Maag. il Steel 106:69 Je 3 '40

Utilization of industrial wastes. H. E. Howe and F. J. Van Antwerpen. Ind & Eng Chem 31:1326 N '39

See also

Scrap metal
Slag
Tailings

METAL work

Aircraft metalwork. D. J. Brimm, jr. 67p, 51p, 44p $1.80 International textbook co, Scranton, Pa. '39

As it was in 1915, and as it is in 1940; survey of progress. Metal Prog 37:284-318 Mr '40

Forming cuts welding costs. E. W. P. Smith. diags Steel 107:62+ Ag 12 '40

Industry needs tape; uses of adhesive tape in metal work. E. J. Tangerman. il Am Mach 84:582-3 Ag 7 '40

Metalwork. H. M. Adam and J. H. Evans. 3d ed 335p $3 Longmans '39

Metal work. R. D. Snively and M. E. Snively. 78p $1.25 Stephen Daye press, Brattleboro, Vt. '40

Rubber for pressing and forming of metals. P. Grodzinski. diags India Rubber W 101: 47-8 Mr '40

20 years of growth. Metal Prog 37:249-70 Mr '40

Working of magnesium alloys. diags Am Mach 84:291-302 My 1 '40

See also

Aluminum work
Brass founding
Bronze
Bronze founding
Copperwork
Dies
Electroplating
Forging
Foundries
Foundry practice
Heat treatment
Machine shop practice
Machine tools
Metal coloring
Metal cutting
Metal drawing
Metal working industries
Metals, Cold working of
Plating
Polishing
Rolling (metal work)
Sheet metal work
Solder and soldering
Stamping
Steel work
Tin plate
Welding

Bibliography

Metallurgical engineering digest: ferrous and non-ferrous; important developments in the world of metals. Published in monthly numbers of Metals and alloys

History

Sons of Vulcan; the story of metals. T. Hibben. 259p $2 Lippincott '40

METAL work (handicraft)

Metal work. R. D. Snively and M. E. Snively. 78p $1.25 Stephen Daye press, Brattleboro, Vt. '40

Simple metalwork. E. Kronquist and A. G. Pelikan. 96p bibliog(p7) $3.50 Studio publications, 381 4th av, New York '40

METAL work, Architectural

See also

Copperwork, Architectural
Lead work, Architectural
Sheet metal work, Architectural

METAL work, Artistic

Artistic metalwork. A. F. Bick. 236p $3.25 Bruce pub. '40

Operations and processes for art metal, jewelry and wrought iron. 20p pa 40c William Dixon, 32 E. Kinney st, Newark, N.J. '40

METAL work, Decorative

Metal decorations in the S.S. America; illustrations. Metals & Alloys 12:284-7 S '40

Stainless steel for decorative effect. C. B. Templeton. Metal Prog 38:461+ O '40

METAL workers

Apprenticeship, 1940; plant training program of Fairbanks, Morse & co. cited by Federal committee on apprenticeship. Business Week p56 S 14 '40

Average hourly earnings of metal workers in the Netherlands, 1939 and 1940. Monthly Labor R 51:195 Jl '40

Can men be measured? A. L. Kress. Am Mach 83:998-1000 N 29 '39

Government training centres. il plans Engineer 169:393-4, 398, 470-1, 476; 170:2-4 Ap 26, My 24, Jl 5 '40

Labor productivity at a Soviet metallurgical plant. For Comm W 1:163 O 26 '40

METAL workers—*Continued*
Learners trained soundly; quick training method of Cincinnati plant. Am Mach 84: 610 Ag 21 '40
Metal machining trades in Philadelphia; an occupational survey. I. L. Horowitz. 129p bibliog(p125-9) pa $1.50 Irving Lewis Horowitz, John Bartram high school, 67th & Elmwood av, Philadelphia '39
NYA and the machinist; National youth administration workshops. il Am Mach 84:417 Je 12 '40
Quick-action, Yankee plan gets results in call for skilled workers; Connecticut job-training program. B. K. Price. il Steel 107:21-3 Ag 19 '40; Abstract. Management R 29:366-7 O '40
Skilled labor requirements; survey by American society of tool engineers. Automotive Ind 83:237-8 S 15 '40
Skilled workers for defense industries; time taken to learn jobs. C. S. Slocombe. Personnel J 19:139-46 O '40
Training people for factory work; how Cleveland, with cooperation of industry, school authorities, and government agencies, is training learners. J. W. Vanden Bosch. il Factory Management 98:54-60 S '40
Wage differentials; a study of wage rates in Philadelphia metal plants. C. C. Balderston. 39p pa $1 Wharton school of finance and commerce, Univ. of Pennsylvania, Philadelphia '39

See also
Foundries—Employees
Iron workers
Machine shops—Employees
Steel workers

Bibliography

Industrial training for the present crisis, with special reference to the metal trades. Cleveland Pub Lib Business Information Bur v 11, no 4:1-4 Jl '40

METAL working industries
Industrial pioneers honored on 150th patent office anniversary; list of men prominent in the metal working industry. Iron Age 145:57-8 F 22 '40

See also
Foundries
Machinery industry
Sheet metal trade

France

Modernized French factories use American machine tools. il Mach 46:126-31 Ja '40

Great Britain

American machines in England's busy shops. il Mach 46:120-5 Ja; 116-22 Mr '40

Japan

Progressive methods in Japanese shops. il Mach 46:144-8 Ja '40

Russia

Russian methods developed around American machines. il Mach 46:138-43 Ja '40

METAL working machinery
American metal working machinery exports. Manuf Rec 109:34 Ap '40
Automatic lubrication of production machines; International business machines corp. F. M. Hewitt. il Iron Age 145:36-9 F 29 '40
Consolidated, biggest builder of flying boats. C. O. Herb. il Mach 46:188-92 Jl '40
Forming steel car parts. il Ry Mech Eng 114:234-5 Je '40
1940 inventory of metal working equipment. il Am Mach 84:355-70, supp My 29 '40
Phœnix small-part finishing machine. il Engineering 149:357 Ap 5 '40
Press brake, a versatile tool. il Steel 106: 48-50 Je 10 '40
Press brake pays dividends in car building. il Iron Age 144:39 D 14 '39
Production of metal-working machinery and equipment (other than machine tools and accessories) 1939 and 1937; tabulation. Mach 47:166 N '40
Vultee methods speed production of fighting planes. H. M. Harrison. il Mach 46:170-3 Jl '40

See also
Forging machinery
Grinding machines
Lathes
Machine tools
Presses
Rolling mills
Scraping machines (metal work)
Sheet metal working machinery
Straightening machines

Statistics

American Machinist 1940 inventory of metal working equipment, by twenty industrial divisions, and by geographical sections; total units and units over 10 years old; tabulations. Am Mach 84:supp My 29 '40

METAL working plants
Aluminum job shop; oldest plant of the Aluminum co. of America. il Iron Age 146: 46-9 S 19 '40
Control of fire hazards; carbon-dioxide systems. P. W. Eberhardt. il diag Steel 106:46-7, 76-7 Ap 15 '40
Cyanide shop revamped; Lindberg steel treating co. il Iron Age 146:41 O 17 '40
New scale plant; more efficient layout; Toledo scale co. il plan Steel 106:54, 56+ Ja 15 '40

See also
Foundries
Iron works
Machine shops
Machine works
Metallurgical plants
Rolling mills
Steel works

Costs

Metal finishing costs. A. Bregman. il Iron Age 145:28-31 Mr 28; 44-7 Ap 4 '40
Organizing a weldery. R. W. Sternke. Steel 106:60+ Ap 1; 68-9+ Ap 8 '40

Electric equipment

Adequate wiring needed badly. F. Merish. Steel 107:46-8 Ag 19 '40
Modern wire drawing; Spencer wire co. il Elec R (Lond) 126:389-91 Ap 5 '40

Employees

See Metal workers

Equipment

Clark's twenty acres of automotive manufacturing. J. Geschelin. il Automotive Ind 83:98-107+ Ag 1 '40
Fine wire from Buffalo; mill of Wickwire Spencer steel co. W. A. Phair. il Iron Age 144:36-9 N 30 '39
Industry's defense needs; lack of metal-working equipment; abstract. E. F. Connely. Inv Banking 10:10-11 Jl '40
Laminated springs; production methods, Jonas Woodhead and sons. il Automobile Eng 30:3-7 Ja '40
Manufacturers' literature. Published in monthly numbers of Metals and alloys
New degreaser installations in southern California. F. Herr. il Metal Finishing 38:465-6 Ag '40
New porcelain-enameling plant; Tappan stove co. il plan Steel 107:54, 56, 59+ Ag 12 '40
New wire mill; Wickwire Spencer steel co. il Steel 105:44-5+ D 11 '39
Paints 400 wheel disks hourly; equipment degreases, dip paints, drains, dries and bakes; Geneva metal wheel co. il diag Steel 107:48+ Ag 26 '40
Sealed Power facilities bring precision. J. Geschelin. il Automotive Ind 83:192-202 S 1 '40
Shop equipment review. il diags Am Mach 84:57-295 Ja 24 '40
Show in print; equipment, accessories and materials at National metal show, Cleveland, Oct. 21-25; with list of exhibitors. il Am Mach 84:794-808 O 16 '40
Spray rinsing. J. D. Tierney. il diags Steel 105:63, 66+ D 4 '39
20 years of growth. Metal Prog 37:249-70 Mr '40
Two million carburetors a year; Carter carburetor corp. J. Geschelin. il diags Automotive Ind 82:404-13+ My 1 '40
What's new in cleaning and finishing equipment for metal products. F. J. Oliver. il Iron Age 144:52-5+ D 14 '39

METAL working plants—Equipment—*Cont.*
What's new in finishing apparatus. F. J. Oliver. il Iron Age 146:45, 45A-45B, 46 Ag 8 '40
What's new in machinery and equipment. il Iron Age 145:32-3 Ja 11 '40
What's new in polishing, cleaning and finishing apparatus. F. J. Oliver. il diag Iron Age 145:53-7 Ap 18 '40

Layout

Metal finishing; modern units fit into assembly line methods of manufacture; transformer containers produced at Allis Chalmers co. plant, Pittsburgh. W. F. Sherman. il diags plans Iron Age 146:32-6 Jl 25 '40
New drives, 15% more production; changing from an old lineshaft drive to combination of unit and small group drives; Dover stamping and manufacturing company. R. Whitney. il Factory Management 98:82-3 O '40
New porcelain-enameling plant; Tappan stove co. il Steel 107:54 Ag 12 '40

Management

Finishing foremanship. P. C. Kramarcik. Metal Finishing 38:483-5 S '40
Problems of metal specialties finishing. F. V. Faulhaber. il Metal Finishing 38:519-22 S '40
Purchases are tied to production; North & Judd manufacturing company, New Britain, Conn. W. C. Zinck. Factory Management 98:70-1+ Mr '40
Setting time standards when machine times vary; automatically recorded data on manually controlled machine jobs; Revere copper & brass. C. B. Carr. il Factory Management 97:48-50 D '39
Some factors affecting economic production. J. B. Samson. Engineer 170:181-3 S 20 '40

Power

Integrated supply improves service to welders; utility substation co-ordinated with plant interlaced bus scheme; Midland steel products company, Detroit. W. B. Hurley and W. Smith. il diags Elec W 113:1198-1200 Ap 20 '40
New drives, 15% more production; changing from an old lineshaft drive to combination of unit and small group drives; Dover stamping and manufacturing company. R. Whitney. il Factory Management 98:82-3 O '40
Oil and gas power; factory. il Power 84:352 Je '40

Safety devices and measures

Safe operation of degreasers. Metal Finishing 38:625 N '40

METALATION
Anomalous metalation of triphenylamine. H. Gilman and G. E. Brown. bibliog Am Chem Soc J 62:3208-10 N '40
Auto-metalation with *m*-tolylsodium. H. Gilman and H. A. Pacevitz. Am Chem Soc J 62:673-4 Mr '40
Benzylalkali compounds. H. Gilman, H. A. Pacevitz and O. Baine. bibliog Am Chem Soc J 62:1514-20 Je '40
Dibenzofuran; derivatives of 2,2'-dihydroxybiphenyl. H. Gilman, J. Swiss and L. C. Cheney. bibliog Am Chem Soc J 62:1963-7 Ag '40
Dibenzofuran; isomeric metalation products of some phenols and their methyl ethers. H. Gilman and others. Am Chem Soc J 62:667-9 Mr '40
Dibenzofuran; the reaction of bromo-ethers with *n*-butyllithium. H. Gilman, J. Swislowsky and G. E. Brown. Am Chem Soc J 62:348-50 F '40
Dibenzofuran; the two-stage metalation of 2-bromodibenzofuran. H. Gilman, W. Langham and H. B. Willis. bibliog Am Chem Soc J 62:346-8 F '40
Halogen-metal interconversion with *m*- and *p*-bromodimethylanilines. H. Gilman and I. Banner. bibliog Am Chem Soc J 62:344-5 F '40
Lateral metalation of methyl phenyl sulfide. H. Gilman and F. J. Webb. Am Chem Soc J 62:987-8 Ap '40
Metalation of alcohols and amines; butyl lithium. H. Gilman and others. bibliog Am Chem Soc J 62:977-9 Ap '40
Metalation of phenoxathiin. H. Gilman and others. bibliog Am Chem Soc J 62:2606-11 O '40
Some interconversion reactions of organolithium compounds. H. Gilman, W. Langham and F. W. Moore. diags Am Chem Soc J 62:2327-35 S '40

METALLOGRAPHY
Amorphous (?) metal. M. Seyt. Metal Prog 36: 654+ N '39
Anodic polishing of metals; preparing specimens for microscopic examination. C. Schaefer. bibliog il diag Metal Ind 38:22-6 Ja '40
Blei-zinn-scheiben als schleifmittelunterlage bei der herstellung metallographischer schliffproben. A. Meyer. Stahl & Eisen 60: 77 Ja 25 '40
Chemical heterogeneity in alloys. A. Portevin. diag Metal Prog 37:69-70 Ja '40
Colored films in micrography. A. Portevin. il Metal Prog 36:761-2+ D '39
Electrolytic etching of brass. G. C. Williams and G. Rieger. bibliog il Electrochem Soc Trans 77 (preprint 20):259-62 Ap '40
Electrolytic polishing of metals; tabulation. G. E. Pellissier, jr, H. Markus and R. F. Mehl. bibliog Metal Prog 37:57 Ja '40
Heat-tinted microsections of non-ferrous metals. H. H. Shepherd. il Metal Prog 37: 436-7 Ap '40
Improved polishing machine for microsections. A. Blainey. diags Engineer 169: sup[Metallurgist] 111-12 Ap 26 '40
Institute of metals focuses its attention on recrystallization. Steel 106:60-1 F 26 '40; Min & Met 21:152-3 Mr '40
Mechanical effects of grain boundaries. M. Seyt. Metal Prog 38:64-5 Jl '40
Method of sclero-grating employed for the study of grain boundaries and of nitrided cases; grain structures revealed by cutting. B. O. W. L. Ljunggren. diags Iron & Steel Inst J 141:341-400, pl 22-39 bibliog(p399-400); Discussion. 401-4 no 1 '40
Microscopic determination of the ore minerals. M. N. Short. 2d ed il diags U S Geol S Bul 914:1-314, pl 1-14 '40
Microscopy, radiography; as it was in 1915 and as it is in 1940. S. L. Hoyt. Metal Prog 37:291 Mr '40
Mixture of bakelite and metal powder for mounting micro specimens. N. J. Finsterwalder. il Metal Prog 38:294-5 S '40
New method of studying metals; microscope and X-ray in combination; abstract. G. L. Clark and W. M. Shafer. Science 92:sup10+ O 25 '40
Nickel-tungsten system. F. H. Ellinger and W. P. Sykes. bibliog il Am Soc for Metals Trans 28:619-43; Discussion. 643-5 S '40
Physical metallurgy; what it is and how it progresses. O. E. Harder. il Min & Met 21:369-75 Ag '40
Plastic deformation; abstract. M. Gensamer. Metal Prog 37:156-7 F '40
Plastic metals; new knowledge of metals' inner nature; problem of work-hardening. S. J. French. diags Sci Am 163:262-4 N '40
Practical microscopical metallography. R. H. Greaves and H. Wrighton. 3d ed rev & enl 272p $6.50 Van Nostrand '40
Properties reflect the structure. A. Portevin. Metal Prog 37:440-2 Ap '40
Recovery and recrystallization; abstract. R. F. Mehl. il Metal Prog 37:158+ F '40
Researches into the structure of alloys. A. J. Bradley, W. L. Bragg and C. Sykes. diags Iron & Steel Inst J 141:63-142, pl 1-4 bibliog(p114-15, 121, 142) no 1 '40; Summary. Engineering 149:488 My 10 '40; Discussion. Iron & Steel Inst J 141:143-56 no 1 '40
Scientific method in metallurgy. S. L. Hoyt. diags Iron Age 146:48-51 O 31 '40
Sorby's pioneering work on the microstructure of rocks and metals. J. H. G. Monypenny. il Metal Prog 38:45-8+ Jl '40

METALLOGRAPHY—*Continued*
Standards for estimating grain size (nonferrous); data sheet. Metal Prog 38:528 O '40
Structure of heavy electrodeposits of copper and nickel. J. W. Cuthbertson. bibliog il diag Electrochem Soc Trans 77 (preprint 8): 93-111 Ap '40
Structure of liquid metals; abstract. A. Latin. Min & Met 21:526 N '40
Superfinish. D. A. Wallace. il diags S A E J 46:80-4 F '40

See also
Alloys
Copper—Metallography
Iron—Metallography
Metals—X ray inspection
Steel—Metallography

METALLURGICAL analysis
A.S.T.M. methods of chemical analysis of metals. 250p $2.50; pa $2 Am. soc. for testing materials, 260 S. Broad st, Philadelphia '39
Analytical methods. T. A. Wright. Metal Prog 38:551-2+ O '40
Laboratory's part in strategic mineral projects; Reno experiment station of the United States Bureau of mines. E. S. Leaver. il Eng & Min J 141:33-5 My '40
Mercury cathode in metallurgical analysis. A. E. Pavlish and J. D. Sullivan. il Metals & Alloys 11:56-9 F '40
Microscopic determination of the ore minerals. M. N. Short. 2d ed il diags U S Geol S Bul 914:1-314, pl 1-14 '40
Modern analysis in the foundry; combustion-type carbon and sulphur determinators, and spectroscope equipment; Fairbanks, Morse & co. G. W. Zabel and J. Schuch. il Iron Age 145:31-7 My 2 '40
Quantitative spectrographic analysis. J. T. M. Malpica. Gen Elec R 43:288-97, 333-5 Jl-Ag '40
Roasting gold-silver sulphide ores; testing and experimental. M. W. von Bernewitz. Can Min J 61:655-7 O '40
Separation of cadmium from zinc by the use of granular aluminum. F. E. Townsend and G. N. Cade, jr. Ind & Eng Chem Anal ed 12:163-4 Mr 15 '40
Some applications of the spectrograph to the quantitative analysis of ferrous and nonferrous metals. F. G. Barker. bibliog Iron & Steel Inst J 139:211-45, pl 6-15 no 1 '39; Same cond. Engineer 167:601-4, 629-32 My 12-19 '39; Same cond. Engineering 147:572-4 605-7 My 12-19 '39; Discussion. Iron & Steel Inst J 139:246-55 no 1 '39; Engineer 167:626 My 19 '39; Engineering 147:586 My 19 '39
Spectrochemical analysis; a composite of abstracts. Metals & Alloys 12:576+ O '40
Spectrochemical analysis of metals. L. Griffith. Can Chem & Process Ind 24:311-12+ Je '40
Technical analysis of ores and metallurgical products. F. G. Hills. 2d ed rev 250p bibliog(pxi) $3 Chemical pub. co. '39

See also
Aluminum—Analysis
Assaying
Copper—Analysis
Iron—Analysis
Lead—Analysis
Magnesium—Analysis
Manganese—Analysis
Metals—Analysis
Mineralogical analysis
Silver—Analysis
Steel—Analysis
Zinc—Analysis

METALLURGICAL apparatus
Differential density separation at Mascot, Tennessee; American Zinc's sink-and-float process. flow sheets il Eng & Min J 141:35-9 Jl '40; Same. Min Cong J 26:21-6 Jl '40
Industrial wastes from the equipment manufacturers' viewpoint; use of chemical, metallurgical, and sanitary engineering equipment. C. L. Knowles. il diag Ind & Eng Chem 31:1338-45 N '39

See also
Ball mills
Classifiers
Crushing machinery
Furnaces, Metallurgical
Magnetic separators
Metallurgical plants—Equipment
Thickeners
Tube mills

METALLURGICAL furnaces. See Electric furnaces, Metallurgical; Furnaces, Metallurgical

METALLURGICAL laboratories
New chemical and metallurgical engineering building at Purdue. J. L. Bray. il Min & Met 21:341 Jl '40; Same cond. Steel 106:38 Je 17 '40
New chemical and metallurgical engineering building at Purdue university. J. L. Bray. il plan Ind & Eng Chem Anal ed 12:375-8 Je 15 '40
New metallurgical experiment station for the Bureau of mines at Salt Lake City, Utah. R. S. Dean and C. Moss. pls U S Bur Mines Information Circ 7116:1-9 '40
Research laboratories of Messrs High duty alloys, limited. il Engineering 149:481-2, 484 My 10 '40; Engineer 169:436, 439 My 10 '40
Research looks to the future; laboratory of Crane co. J. J. Kanter. il Steel 105:48-50 D 18 '39

See also
Foundry laboratories
also United States—Mines, Bureau of—Experiment stations

METALLURGICAL patents
Charcoal as a gold precipitant in conjunction with flotation. M. W. von Bernewitz. diags Eng & Min J 141:43-7 Mr '40
Some recent metallurgical patents. Chem Age (Lond) 42:sup4 Ja 6 '40 [cont monthly]

METALLURGICAL plants
Copper refining; blister copper, electrolytic refining and separation of by-product metals. R. H. Waddington. il Can Chem & Process Ind 24:164-8 Ap '40
De-leading zinc concentrates at the Pend Oreille mill. C. A. R. Lambly and F. R. Milliken. flow sheets il Eng & Min J 141:29-32 Mr '40
Development in base metal smelting and refining in Canada in the last sixty years. il Can Min J 60:713-23 N '39
Manganese for defense; plant of the Manganese corporation. il Manuf Rec 109:22-3 S '40
Modernization marks operations at the Denn mine; 8 per cent copper direct-smelting ore and lead-zinc concentrates. J. B. Huttl. flow sheet il Eng & Min J 141:39-40 Je '40
Some milling hazards; difficulties of small enterprises are often rooted in conditions existing before construction was begun. H. M. Lewers. Eng & Min J 141:72-4 Ag '40

See also
Blast furnaces
Iron works
Ore treatment
Smelting works
Steel works

By-products
Wastes problems in the nonferrous smelting industry; sulfur, arsenic slag, etc. R. E. Swain. il Ind & Eng Chem 31:1358-61 N '39

Costs
Mining and milling methods and costs in the Alma district, Colorado. J. R. Guiteras. pls U S Bur Mines Information Circ 7101:1-63 '40

Equipment
Air force targets in Germany; Bitterfeld aluminium works. il Engineer 170:263-5 O 25 '40
Automatic pulp density controller is perfected. J. A. Adams. il diag Min & Met 21:465 O '40
Concentrating Tri-state ores by differential density cone; Eagle-Picher's central mill. E. Isern. il Min Cong J 26:16-19 F '40
Controller maintains density of pulp in grinding ore. diag Comp Air M 45:6292 N '40
Copper mining and milling at the Chino mine. L. A. Roe. il Explosives Eng 18:54-5 F '40
Designing the small mill; with cost data. E. L. Sweeney. diags plans Eng & Min J 141:69-72 Ag '40
Making alumina at Mobile; straightline flow of materials. J. A. Lee. il Chem & Met Eng 47:674-7 O '40
New Cornelia today; porphyry copper enterprise of Arizona. J. B. Huttl. flow sheet il Eng & Min J 141:45-8 S '40

METALLURGICAL plants—Equipment—*Cont.*
Nickel's role in milling equipment. J. E. Kerr. il Eng & Min J 140:54-7 D '39
Operating a custom mill in the Philippines. D. M. Young. flow sheet il plan Eng & Min J 141:46-51 O '40
Ore concentration and milling in 1939. E. W. Engelmann. il Min & Met 21:36-9 Ja '40
Present milling practice at the Porcupine gold mines. H. Hanson. flow sheets il Can Min J 60:804-9 D '39
Progress in milling practice and equipment. A. W. Fahrenwald. il Min Cong J 26:17-22 Ja '40
Progress in milling practice and equipment; abstract. B. Gore. Min Cong J 26:32-3 O '40
Recovery of lode gold in jigs. J. M. Hague. flow sheets bibliog map Eng & Min J 141: 40-5 Ap; 48-50 My '40
Selecting a crusher. W. Gorman. diags Min Cong J 26:68+ Ap '40
Short history and description of Reno mill. A. C. Norcross. flow sheet Can Min J 61:442-3 Jl '40
Sifting mechanically through standard testing sieves. F. A. W. Davis and D. A. Deaderick. il diags Eng & Min J 141:58 S '40
Sink-and-float separation applied successfully on the Mesabi; ferrosilicon provides efficient medium. G. J. Holt. flow sheets il Eng & Min J 141:33-8 S '40; Same. Min Cong J 26:25-9, 64 S '40
Sixty years of development in ore dressing; with special attention to the last ten years. C. S. Parsons. il Can Min J 60:693-711 N '39
Some milling problems at the Raub Australian plant. E. C. Bitzer and C. B. Nines. flow sheet il Eng & Min J 141:33-8 Je; 57-9 Jl '40
Steam-driven air compressor takes small space, has high efficiency; American smelting & refining co, Garfield, Utah. P. K. Richardson. il Power 84:632-3 O '40
Sullivan concentrator; the development of crushing and grinding practice. A. L. Irwin. flow sheets il plan Can Min J 61:493-508 Ag '40
Summit King mills 70 tons of silver-gold ore daily. P. G. Dobson. flow sheet il diag Eng & Min J 141:51-2 Ag '40
Three years of operation with a Hadsel mill; Demonstration gold mines, in the Philippines. G. A. Bell. flow sheet diag Eng & Min J 141:32-3 Ja '40
What I am trying to do; application of recording instruments to classifiers. H. E. T. Haultain. il Can Min J 61:509-11 Ag '40

See also
Classifiers
Furnaces, Metallurgical

Layout
Making alumina at Mobile; straightline flow of materials. J. A. Lee. il Chem & Met Eng 47:674-7 O '40

Management
In the small cyanide plant; questions of management or organization. C. E. Rodgers. Eng & Min J 141:74-6 Ag '40

Power
Cheap Bonneville power should attract electrometallurgical industries. W. W. R. May. il Min & Met 21:327-9 Jl '40
Grand Coulee and electrometallurgical industries. A. E. Drucker. Mech Eng 62:661-2 S '40
Power demands largest in aluminum production. Elec W 114:1173 O 19 '40; Same abr. Business Week p35-6 O 19 '40
Role of electricity in the Utah Copper enterprise. R. J. Corfield. il Min Cong J 26:12-15 My '40
Rush job for increased aluminum needs; first plant to utilize hydro-electric power for producing aluminum in Northwest, Vancouver, Wash. il Eng N 125:630-1 N 7 '40

Tables, calculations, etc.
Speeds thickening capacity tests. F. C. Bond. Eng & Min J 141:54 Ja '40

Waste
Determination of phenol when present in minute amounts in water containing sodium sulphides. L. S. Renzoni. Can Eng W & S 78:36-8 Mr '40; Same. Am Water Works Assn J 32:1038-41; Discussion. D. Feben. 1042-3 Je '40

METALLURGICAL research
Chromate salts from domestic ores; abstracts. H. A. Doerner and others. flow sheet Eng & Min J 141:50-1+ My '40; Chem & Met Eng 47:688-9 O '40
Combating corrosion through metallurgical research. H. J. Bartlett. il Chem Ind 47:154-5 Ag '40
Controlled melting, pouring; vacuum melting and pouring furnace facilitates study of pure metals. il Steel 106:64+ Je 3 '40
Developments in fatigue, creep, age-hardening, diffusion, microscopy, borocarbides, powders, electrodeposition, and die castings. F. H. Clark. il Min & Met 21:18-23 Ja '40
Industrial research in 1939. W. A. Hamor. il Ind & Eng Chem News ed 18:5-6 Ja 10 '40
Metal mystery; researchers believe they have key to steel's response to cutting tools. Business Week p42 N 16 '40
Metallurgical studies by the Institute of metals. Elec R (Lond) 126:276 Mr 8 '40
Metallurgical studies fostered by engineering societies. A. E. White. il Power Pl Eng 44:71 Ja '40
National defense seen closely tied to metallurgical progress. J. H. Hruska. Steel 107: 160-1 O 14 '40
Ordnance research removes a bottleneck in production. S. B. Ritchie. Metal Prog 38: 507-8 O '40
Physical metallurgy; what it is and how it progresses. O. E. Harder. il Min & Met 21:369-75 Ag '40
Progress reports, Metallurgical division; annual report, fiscal year 1939. R. S. Dean. flow sheets pls U S Bur Mines Rep of Invest 3480:1-98 '40
Scientific method in metallurgy. S. L. Hoyt. diags Iron Age 146:48-51 O 31 '40

See also
Corrosion research
Ore testing
Steel research

METALLURGISTS
Institute members of promise; photographs at turn of century. Min & Met 21:244-5 My '40

METALLURGY
As it was in 1915, and as it is in 1940; survey of progress. Metal Prog 37:284-318 Mr '40
Flash-roasting of sulphides; progress in Canada. D. D. Howat. il diags Chem Age (Lond) 43:155-7 O 5 '40
Investigations in ore dressing and metallurgy, January to June, 1938. 147p pa 50c Canada. Dept. of mines and resources, Ottawa '39
Laboratory of powder metallurgy established at Stevens institute of technology. il Ind & Eng Chem News ed 18:548-9 Je 25 '40
Metallurgy for engineers. E. C. Rollason. 272p bibliog(p263) $3 Longmans '39
Ore concentration and milling in 1939. E. W. Engelmann. il Min & Met 21:36-9 Ja '40
Outline of metallurgical practice. C. R. Hayward. 2d ed 690p $7.50 Van Nostrand '40
Processing trends in powder metallurgy. P. Schwarzkopf and C. G. Goetzel. il Iron Age 146:39-45 S 19 '40; Same abr. Engineer 170:287-8 N 1 '40
Progress reports, Metallurgical division; annual report, fiscal year 1939. R. S. Dean. flow sheets pls U S Bur Mines Rep of Invest 3480:1-98 '40
Sixty years of development in ore dressing; with special attention to the last ten years. C. S. Parsons. il Can Min J 60:693-711 N '39

METALLURGY—*Continued*

20 years of growth. Metal Prog 37:249-70 Mr '40

Uncommon metals, 1939. R. S. Dean and V. H. Gottschalk. Eng & Min J 141:92-3 F '40

See also

Alloys
Aluminum metallurgy
Amalgams
Blast furnaces
Chemistry, Technical
Copper metallurgy
Cyanide process
Electrodeposition of metals
Electrometallurgy
Flotation process
Flue dust
Furnaces, Metallurgical
Gold metallurgy
Iron metallurgy
Lead metallurgy
Manganese metallurgy
Metallography
Metallurgical analysis
Metallurgical plants
Metallurgical research
Metals
Molybdenum
Nickel metallurgy
Open hearth process
Ore treatment
Pickling (metals)
Refractory materials
Silver metallurgy
Sintering
Slag
Smelting
Steel metallurgy
Tailings
Zinc metallurgy

Bibliography

Among the newer books. Published in monthly numbers of Mining and metallurgy

Books. Published in monthly numbers of Metals and alloys

Current institute papers. Published in monthly numbers of Mining and metallurgy

Metallurgical engineering digest; ferrous and non-ferrous; important developments in the world of metals. Published in monthly numbers of Metals and alloys

History

Biringuccio's Pirotechnia, a neglected Italian metallurgical classic. C. S. Smith. il Min & Met 21:189-92 Ap '40

Lazarus Ercker and his Probierbuch; Sir John Pettus and his Fleta minor. E. V. Armstrong and H. S. Lukens. bibliog il J Chem Educ 16:553-62 D '39

Prehistoric metals. H. D. Hibbard. il Metals & Alloys 11:168-72 Je '40

Study and teaching

Content of metallurgical engineering curricula in the United States. H. L. Walker. Min & Met 21:381-2 Ag '40

New course in mineral dressing at Columbia university will include ore dressing, extractive metallurgy and petroleum refining. Eng & Min J 141:45 Ap '40

METALS

Absolute rates of solid reactions; diffusion. A. E. Stearn and H. Eyring. J Phys Chem 44:955-80 bibliog(72 references, p979-80) N '40

Adhesives and cements for metals; abstract. Metals & Alloys 12:558 O '40

Atomic structure of metals; study of stellar radiation; abstract. O. Struve. Science 92: sup6 Jl 26 '40

Catalytic toxicity and chemical structure; the poisoning of platinum catalysts by metals. E. B. Maxted and A. Marsden. Chem Soc J p469-74 Ap '40

Condensed review of some recently developed materials, arranged alphabetically by trade names. Mach 47:148-55 O '40

Cross section for change of charge and ionization by high velocity metallic ions in hydrogen and helium. C. W. Sherwin. bibliog diags Phys R 57:814-21 My 1 '40

Developments in fatigue, creep, age-hardening, diffusion, microscopy, borocarbides, powders, electrodeposition, and die castings. F. H. Clark. il Min & Met 21:18-23 Ja '40

Electrical conductivity of metals. J. Bardeen. diags J Ap Phys 11:88-111 bibliog(p110-11) F '40

Gases and metals; composite of abstracts. Metals & Alloys 11:MA164-5 Mr '40

Growing family of metals; competitive position. J. V. Sherman. Barron's 20:8-9 My 20 '40

Grüneisen's constant for the incompressible metals. J. C. Slater. bibliog Phys R 57: 744-6 Ap 15 '40

Image and Van der Waals forces at a metallic surface. J. Bardeen. bibliog Phys R 58: 727-36 O 15 '40

Metallurgical engineering digest; ferrous and non-ferrous; important developments in the world of metals. Published in monthly numbers of Metals and alloys

Metals and alloys in an air-conditioned automobile. H. Chase. il diag Metals & Alloys 12:141-4 Ag '40

Metals and alloys in home washing machines. H. Chase. il diags Metals & Alloys 11:65-8 Mr '40

Metals are important in fluorescent tube; chart. Steel 106:75 Mr 4 '40

Metals as engineering materials. C. H. Desch. Engineering 149:176-7, 231-2, 312-13 F 16, Mr 1, 22 '40

Metals in 1940. Steel 107:160-4+ O 14 '40

Metals in production. W. L. Nelson. bibliog il diag Oil & Gas J 38:56 Mr 14; 62 Mr 21; 92 Ap 11; 52+ My 2; 70 Je 13 '40

Les méthodes de préparation des cristaux uniques métalliques. L. Guillet, fils. bibliog diags Chimie & Ind 43:283-6 F 20 '40

Modern physics may be key to baffling metallurgical problems; abstract. S. Dushman. Steel 106:58 Mr 4 '40

New uses of the minor metals. C. L. Mantell. Metal Prog 38:527+ O '40

Peroxide effect in the addition of reagents to unsaturated compounds; the effect of metals on the addition of hydrogen bromide to allyl bromide. M. S. Kharasch, W. R. Haefele and F. R. Mayo. Am Chem Soc J 62:2047-51 Ag '40

Plastic metals; new knowledge of metals' inner nature; problem of work-hardening. S. J. French. diags Sci Am 163:262-4 N '40

Progress in metallic materials for mining engineering. P. D. Merica and J. E. Kerr. il Can Min J 60:733-41 N '39

Quantum physics of solids; the energies of electrons in crystals. W. Shockley. il diags Bell System Tech J 18:645-723 O '39

Rare metals in industry; some North Australian sources. Chem Age (Lond) 43:163 O 5 '40

Reaction between metals and molten glass. A. E. Badger and B. Bard. diag Am Cer Soc J 23:326-8 N '40

Recent advances in the applied chemistry of the rare metals. R. H. Atkinson. flow sheets il Chem & Ind 59:191-204 Mr 23 '40

Scratching of glass by metals. L. G. Ghering and J. C. Turnbull. il Am Cer Soc Bul 19: 290-4 Ag '40

Selecting materials of construction. H. L. Maxwell. Chem & Met Eng 47:471 Jl '40

Selecting the best material for a given application. D. R. Kellogg. Mach 46:113-14 Je '40

Semi-conductors & metals; an introduction to the electron theory of metals. A. H. Wilson. 119p pa $2 Macmillan '39

Sliding of metals, frictional fluctuations, and vibration of moving parts. F. P. Bowden, L. Leben and D. Tabor. bibliog il Engineer 168:214-17 Ag 25 '39; Abstract. Metal Prog 37:435+ Ap '40

Some stress-strain studies of metals. R. L. Templin and R. G. Sturm. il J Aeronautical Sci 7:189-98 Mr '40

Strategic metals, other than manganese and chromium. S. M. Shelton. Metal Prog 38: 527 O '40

Stress raisers; their effects on the mechanical properties of metals and alloys. G. Sachs. bibliog diags Iron Age 146:31-4 Ag 1; 34-7 Ag 8 '40

Thermal conductivity of metals. C. C. Bidwell. Phys R 58:561-4 S 15 '40

Uncommon metals, 1939. R. S. Dean and V. H. Gottschalk. Eng & Min J 141:92-3 F '40

Wettability of highly polished metal surfaces by graphite hydrosols. R. Szymanowitz and B. H. Porter. R Sci Instr 11:230-1 Jl '40

METALS—*Continued*

Will plastics displace metals? H. Chase. il Metals & Alloys 11:157-62 Je '40; Excerpts. Mech Eng 62:617 Ag '40

See also

Alloys
Aluminum
Amalgams
Annealing
Antimony
Babbitt metal
Bearing metals
Beryllium
Bismuth
Brass
Bronze
Cast iron
Chromium
Cobalt
Copper
Corrosion and anti-corrosives
Creep of metals
Deformations (mechanics)
Electrodeposition of metals
Electrometallurgy
Electrons—Emission from metals
Fatigue in metals
Films, Metallic
Foundry practice
Geology
Gold
Hardness
Heat treatment
Indium
Iron
Lead
Lithium
Magnesium
Manganese
Mercury
Metal trade
Metallography
Metallurgy
Mines and mineral resources
Molybdenum
Nickel
Ore deposits
Pickling (metals)
Platinum
Platinum metals
Potassium
Precious metals
Radium
Rare earth metals
Sheet metal
Silver
Slag
Sodium
Solder and soldering
Solutions, Solid
Steel
Stellite
Strength of materials
Tantalum
Thallium
Thorium
Tin
Titanium
Tungsten
Uranium
Welding
Zinc

Aging

Age hardening symposium takes an inventory of factual information; National metal congress. il Steel 105:56, 58, 63 N 27; 48-50 D 11 '39

Ageing of high-purity 4 per cent. copper-aluminium alloy; abstract. M. L. V. Gayler and R. Parkhouse. Engineering 149:548 My 31 '40

Developments in age-hardening. F. H. Clark. Min & Met 21:19 Ja '40

Kinetics of precipitation processes as shown in magnetic measurements; abstract. H. Auer. Metals & Alloys 11:MA160+ Mr '40

Nickel-tungsten system. F. H. Ellinger and W. P. Sykes. bibliog il Am Soc for Metals Trans 28:619-43; Discussion. 643-5 S '40

Theory of age-hardening; abstract. K. Honda. Metals & Alloys 11:MA91 F '40

Analysis

A.S.T.M. methods of chemical analysis of metals. 250p $2.50; pa $2 Am. soc. for testing materials, Philadelphia '39

Analysis of organic materials for traces of metallic impurities. T. M. Hess, J. S. Owens and L. G. Reinhardt. bibliog Ind & Eng Chem Anal ed 11:646-9 D 15 '39

Automatic mechanical analyzer for metals; spectrophotometer. Science 92:sup6 Jl 26 '40; Same abr. Sci Am 163:203-4 O '40

Mikroanalytische forschungen in der metallkunde. M. Niessner. il Angew Chemie 52: 721-6 D 30 '39

Polarographic analysis in the plating industry. P. Sherrick. il Metal Ind 37:565-70 D '39

Qualitative semimicro-analysis with reference to Noyes and Bray's system: the tantalum and the tungsten group. C. C. Miller and A. J. Lowe. Chem Soc J p1258-63 S '40

Quantitative spectrochemical analysis by measurement of relative intensities. E. K. Jaycox and A. E. Ruehle. bibliog Ind & Eng Chem Anal ed 12:195-6 Ap 15 '40

See also

Metallurgical analysis

Bibliography

Manufacturers' literature. Published in monthly numbers of Metals and alloys

Coloring

See Metal coloring

Cost

Charts for cost of 10-ft. lengths of flat and bar stock; reference book sheet. L. de L. Berg. Am Mach 84:589 Ag 7 '40

Detection

To detect metal buried in logs. il Sci Am 162:351 Je '40

Dictionaries

Dictionary of metals and their alloys; their composition and characteristics. F. J. Camm, ed. 245p $3 Chemical pub. co. '40

Failure

Corrosion cracking; also data on residual stresses and various types of stress relief; correlated abstract. G. Sachs. il Iron Age 146:21-9 bibliog(p28-9) O 3 '40

Mechanical properties in relation to design. H. W. Swift. Engineering 150:218-20 S 13 '40

Stress, strain, and structural damage. H. F. Moore. il diags Am Soc T M Proc 39:549-70 '39; Same. Ill U Eng Exp Sta Reprint 15: 1-24 '39 (pa 15c)

Fluidity

Flow of metals. G. Sachs. diags Iron Age 145:34-7 F 1; 36-9 F 8 '40

History

Prehistoric metals. H. D. Hibbard. il Metals & Alloys 11:168-72 Je '40

Prices

Annual average metal prices 1898-1939; table. Eng & Min J 141:54 F '40

Daily and average monthly prices of metals, United States and London. Published in monthly numbers of Engineering and mining journal

Market week. Published in weekly numbers of Steel

Metal prices for 1939, by days, including monthly highs and lows and monthly averages; tabulation. Eng & Min J 141:55-6 F '40

Monthly and yearly average prices. Published in monthly numbers of Engineering and mining journal

Specifications

A.S.T.M. adds new standards and specifications for metals; committee reports. Steel 107:64+ Jl 15 '40

Temperature effects

Internal friction at high temperatures. A. H. Barnes and C. Zener. bibliog Phys R 58:87 Jl 1 '40

Mechanical properties of copper and its alloys at low temperatures; a review. C. S. Smith. bibliog Am Soc T M Proc 39:642-8 '39

Metallurgical studies fostered by engineering societies. A. E. White. il Power Pl Eng 44:71 Ja '40

Recherches sur le mécanisme structural du comportement des métaux aux températures élevées. Génie Civil 115:361 N 11 '39

Research looks to the future; laboratory of Crane co. J. J. Kanter. il Steel 105:48-50 D 18 '39

Résumé of round-table discussion on effect of sub-atmospheric temperatures on the properties of metals. F. B. Foley. Am Soc T M Proc 39:637-41 '39

See also

Creep of metals
Steel—Testing—Temperature effects

Testing

American society for testing materials 43d annual meeting, Atlantic City. Iron Age 146: 44-6 Jl 4 '40

Der biegezugversuch, ein neues prüfverfahren für metallische werkstoffe. E. Mohr. il diag V D I 84:49-52 Ja 20 '40

Contribution à l'étude du module d'élasticité des alliages métalliques. L. Guillet, fils. Génie Civil 116:29-32 Ja 13 '40

METALS—Testing—*Continued*

Fatigue failure; effects of stress raisers on the fatigue strength of metals and alloys; correlated abstract. G. Sachs. bibliog il diag Iron Age 146:31-4 S 5; 36-40 S 12 '40

Interpretation of test results. O. W. McMullan. il Iron Age 145:23-6 Mr 14; 40-4 Mr 21 '40

Machinery for mechanical testing. F. G. Tatnall. Metal Prog 38:550-1 O '40

Mechanical testing; as it was in 1915 and as it is in 1940. R. L. Templin. Metal Prog 37:289 Mr '40

Metal parts tested by polarized light; abstract. M. Hetenyi. S A E J 46:sup62 F '40

Metals in thin layers; their microhardness; Knoop indenter. C. G. Peters and F. Knoop. bibliog il diags Metals & Alloys 12:292-7 S '40

Modern aircraft materials and their testing. K. R. Jackman. il S A E J 47:461-73+ N '40

New standards approved by A.S.T.M. committees. Steel 106:53, 56, 61 Mr 25 '40

Nondestructive inspection of metals. A. V. de Forest. Min & Met 21:323-6 Jl '40; Abstract. Oil & Gas J 39:69 O 31 '40

Non-uniform yielding in metals during a tensile test. C. F. Elam. diags Engineering 149:325-7, pl 17 Mr 29 '40

Significance of tension test; background of proposed symposium to discuss relation to design. J. M. Lessells. bibliog Mech Eng 62:311-14 Ap '40

Simple tests for identifying metals; data sheet. Power 84:sup134 N '40

Spark test for metals; data sheet. Metal Prog 38:386A O '40

Sparks form grinding. H. W. Wagner. il Steel 107:85-6 N 4 '40

Static crack strength of metals; its determination and significance. M. Gensamer. il diag Metal Prog 38:59-64 Jl '40: Correction. 38:181 Ag '40; Discussion. D. J. McAdam, jr. 180-1 Ag '40

Die wirtschaftlichkeit der zerstörungsfreien werkstoffprüfung; kosten der Röntgendurchstrahlung von geschweissten stahlbrücken, lokomotiv-feuerbuchsen, kesseln und gusserzeugnissen sowie der magnetpulverprüfung von motoren- und maschinenteilen. A. W. Müller. il Stahl & Eisen 60:221-6 Mr 14 '40

See also

Electric testing of metals
Fatigue in metals
Hardness—Testing
Magnetic testing
Metals—Temperature effects
Metals—Wear
Steel—Testing
Testing machines

Bibliography

Metallurgical engineering digest; testing and control. Published in monthly numbers of Metals and alloys

Wear

High surface finishes, preparation, specification, and effect on wear and fatigue; conference at Massachusetts institute of technology; reported by R. W. Dayton. il Metal Prog 38:54-6 Jl '40

Influence of various lubricants on the seizure characteristics of hard steel and bronze. D. Clayton. il Engineering 149:131-5, 144 F 9 '40

Investigation of the fretting corrosion of closely fitting surfaces. G. A. Tomlinson, P. L. Thorpe and H. J. Goug. diags Inst Mech Eng J & Proc 141:Proc 233-37, pl 1-8 My '39: Discussion. 141:Proc 238-49; 142: Proc 401-6, pl 9-10 My '39, Mr '40

Lubrication and wear of metals. Min & Met 21:158 Mr '40

Tool-joint-wear data kept on simplified records. H. F. Simons. Oil & Gas J 38:39 My 2 '40

Wear-load characteristic of the four-ball test with various lubricants. R. Schnurmann. Engineering 149:567-8 Je 7 '40; Discussion. 150:115, 216, 236-7 Ag 9, S 13-20 '40

Wear of crankshafts with lead-bronze bearings. C. G. Williams and H. Ludicke. il diags S A E J 46:93-9 Mr '40; Abstracts. Automotive Ind 81:24-6 Jl 1 '39; Iron Age 144:54 Ag 3 '39

Wear phenomena in lubricated metal surfaces. A. S. T. Thomson and R. Logan. diags Engineer 170:200-1 S 27 '40

Wear resisting metals. W. A. Gibson. il Rock Prod 43:28 Ag '40

See also

Cylinders (engines, etc.)—Wear

X ray inspection

Analyzing chromium plate by X-ray diffraction. J. T. Wilson. il diag Steel 107:38-42, 66+ Ag 26 '40

Correlation of some mechanical tests of aluminum alloys with X-ray tests. T. A. Triplett and W. L. Howland. il Am Soc T M Proc 39:749-63; Discussion. 764-8 '39

Deformation and fracture of mild steel under cyclic stresses in relation to crystalline structure. H. J. Gough and W. A. Wood. diags Inst Mech Eng J & Proc 141:Proc 175-85, pl 1-4 Ap '39; Discussion. 142:Proc 175-83, pl 5-6 D '39

Electricity as applied to metallurgy. A. P. M. Fleming. Engineer 169:326 Ap 5 '40

Examination and tests of welded parts for steam power plant. A. H. Goodger. bibliog diags Inst Mech Eng J & Proc 142:Proc 261-87, pl 1-12 Ja '40; Discussion. 143:Proc 73-80, pl 13-16 Ap '40

Fine focus radiography, gamma rays; using a bulb of radon. G. E. Doan and M. B. Vordahl. il diag Am Soc T M Proc 39:741-7; Discussion. 748 '39

Getting inside information; portable X ray camera for study of steel castings. il Power Pl Eng 44:34 F '40

Industrial radiography. R. G. Tobey. il diag Iron Age 145:27-30 F 29; 64-7 Mr 7 '40

Möglichkeiten der leuchtschirmphotographie für die Röntgen-grobgefügeuntersuchung. W. Schmitz and W. Wiebe. il Stahl & Eisen 60:423-6 My 16 '40

Nickel-tungsten system. F. H. Ellinger and W. P. Sykes. il Am Soc for Metals Trans 28:635-7 S '40

Portable equipment for weld inspection. V. Hicks. il diags Elec W 114:718+ S 7 '40

Radiographic development in the casting industries. C. W. Briggs. il Metals & Alloys 11:1-5 Ja '40

Repairing defects in welds as revealed by the X-ray. H. Lawrence. il diags Steel 107: 64-5+ Jl 29 '40

Researches into the structure of alloys. A. J. Bradley, W. L. Bragg and C. Sykes. diags Iron & Steel Inst J 141:63-142, pl 1-4 bibliog(p114-15, 121, 142); Discussion. 143-56 no 1 '40

Scientific method in metallurgy. S. L. Hoyt. diags Iron Age 146:48-51 O 31 '40

Stress in electrodeposited copper as determined by X-rays. E. M. Mahla. il Electrochem Soc Trans 77 (preprint 16):207-17 Ap '40

Use of radiography in the development of castings for mass production; abstract. D. M. McCutcheon. Metals & Alloys 11:MA292 My '40

Die wirtschaftlichkeit der zerstörungsfreien werkstoffprüfung; kosten der Röntgendurchstrahlung von geschweissten stahlbrücken, lokomotiv-feuerbuchsen, kesseln und gusserzeugnissen sowie der magnetpulverprüfung von motoren- und maschinenteilen. A. W. Müller. il Stahl & Eisen 60:221-6 Mr 14 '40

X-ray diffraction study of grain boundary inclusions in steel. R. Morgan, S. Steckler and E. B. Schwartz. bibliog Franklin Inst J 229:191-9 F '40

X-ray in an arsenal; Rock Island arsenal X-ray laboratory. il plan Am Mach 84: 930-1 N 13 '40

X-ray inspection; recent developments in industrial radiographic equipment and procedure. H. R. Isenburger. il diags Steel 106: 64, 66-8 Ap 1 '40

METALS—X ray inspection—*Continued*
X-ray investigation of the iron-rich nickel-iron alloys. A. J. Bradley and H. J. Goldschmidt. bibliog Iron & Steel Inst J 140: 11-27 no 2 '39
X-raying nine inches of steel; abstract. R. Berthold, E. Ebert and O. Vaupel. diag Iron Age 146:35 O 17 '40

METALS, Clad
Platinum-clad metals for sheet, screen, tubing and wire. F. E. Carter. il Steel 106:54-5+ Mr 18 '40
See also
Steel, Clad

METALS, Cold treatment of
Refrigeration for duralumin rivets for retarding age hardening. il Engineer 170:81 Ag 2 '40
Refrigeration for rivets used in giant Boeing planes. il Refrig Eng 39:186 Mr '40

METALS, Cold working of
Cold-formed die castings offer unusual advantages. il Steel 105:63 N 20 '39
Cold working of metals; report of lectures sponsored by Carnegie institute of technology. D. W. Smith. il Metal Prog 37: 156-8+ F '40
See also
Steel, Cold working of

METALS, Effect of sea water on
Cathodic protection of condensers and coolers utilizing brackish bay water. W. A. S. Wright and J. H. Brooks. diags Am Pet Inst Proc 21M(3):83-5 My '40; Same. Oil & Gas J 39:60+ My 30 '40
Galvanic series in sea water; abstract. F. L. LaQue and G. L. Cox. Chem & Met Eng 47:691 O '40

METALS, Effect of temperature on. See Metals —Temperature effects

METALS, Heat resisting
Metallurgical studies fostered by engineering societies. A. E. White. il Power Pl Eng 44:71 Ja '40
See also
Steel, Heat resisting

METALS, Molten
Continuous casting. T. W. Lippert. il diags Iron Age 145:31-9 Ap 4; 44-7 Ap 11 '40
Continuous casting; Williams engineering co. E. R. Williams. il Steel 106:48-9+ Ap 8 '40
Direct rolling of strip. C. W. Hazelett. il Steel 106:48, 50+ Ja 29 '40; Same. Engineering 149:139 F 9 '40
Production of strip metal of high melting points directly from molten metal; abstract. C. W. Hazelett. diags Metal Prog 37:43-4 Ja '40
Structure of liquid metals; abstract. A. Latin. Min & Met 21:526 N '40

METALS, Non-ferrous
American society for testing materials; sessions on non-ferrous metals. Metal Finishing 38:439-40 Ag '40
Atmospheric corrosion of non-ferrous metals and alloys. C. W. Borgmann. bibliog Am Soc T M Proc 39:674-84; Discussion. diag 685-90 '39
Casting temperatures for non-ferrous alloys. Iron Age 145:45 Mr 21 '40
Causes of non-ferrous casting defects; tabulation. S. Tour. Iron Age 145:46-7 My 2 '40
Farrel-Birmingham versatile rolling mill for non-ferrous metals. il Iron Age 145:31 Mr 28 '40
Financial reports, Anaconda Copper, American Metal, New Jersey Zinc. Annalist 54: 701 N 30 '39
Financial reports, Kennecott copper corp., American metal company, New Jersey zinc co. Annalist 55:461 Mr 28 '40
Flame cutting non-ferrous metals and non-metallic materials and oxidation of metals at elevated temperatures; a review of the literature to July 1, 1938; abstract. W. Spraragen and G. E. Claussen. Metals & Alloys 11:MA273-4 My '40
Gating nonferrous castings is important. N. K. B. Patch. diags Foundry 68:40-1, 90+ N '40
Heat-tinted microsections of non-ferrous metals. H. H. Shepherd. il Metal Prog 37: 436-7 Ap '40
Heat treatment of non-ferrous alloys; as it was in 1915 and as it is in 1940. D. K. Crampton. Metal Prog 37:310 Mr '40
Hints on melting nonferrous metals. N. K. B. Patch. Foundry 68:37+ S '40
Manufactures of the non-ferrous metals in Canada, 1937 and 1938. 101p pa 50c Canada. Dominion bur. of statistics, Ottawa '40
New antislip material may be important new outlet for metals; Ten-Lox. il Steel 106:41 Ja 8 '40
Non-ferrous metals. il Metal Prog 38:527-40 O '40
Nonferrous metals absorb gas during melting. N. K. B. Patch. Foundry 68:48+ Je '40
Non-ferrous metals; abstract of papers at meeting of American institute of mining and metallurgical engineers. Iron Age 145: 42-3 F 22 '40
Non-ferrous metals as strategic materials. A. Bregman. Iron Age 145:98, 100, 149-52 Ja 4 '40
Non-ferrous metals in the defense program. C. F. Lindsay. il Metals & Alloys 12:410-13 O '40
Non-ferrous metals; restrictions on their use by the German electrical industry. Electrician 124:21 Ja 12 '40
Nonferrous metals smelter; handling system; Federated metals division of American smelting & refining co. H. T. Hansen. il plan Steel 107:60+ Ag 19 '40
Nonferrous practice problems are studied at American foundrymen's association; abstracts of papers. Foundry 68:95+ Je '40
Nonferrous scramble; suppliers ration copper, lead, and zinc. Business Week p58 S 28 '40
Physical properties and applications of forging metals; non-ferrous metals; data sheet. Mach 46:242A, 362A D '39-Ja '40
Rare metals and minerals in 1939; splitting of uranium atom. Z. Jeffries. il Min & Met 21:10-12 Ja '40
Review of the strategic metals. il Metals & Alloys 12:414-25 O '40
Right metal in the right place (cont). A. Bregman. il Iron Age 146:29-31 Jl 4 '40
Some minor or rare elements and their uses; abstract. L. Lortie. Chem & Ind 58:1122-3 D 30 '39
Valves and valve seat material; tables. S. D. Heron, O. E. Harder and M. R. Nestor. Metal Prog 37:541 My '40
See also
Aluminum
Beryllium
Brass
Bronze
Copper
Furnaces, Non-ferrous melting
Gold
Lead
Magnesium
Platinum metals
Silver
Zinc

Prices
Annual average metal prices, 1897-1926; tabulation. Eng & Min J 141:supp F '40
Average monthly quotations in 1939; tabulation. Steel 106:266 Ja 1 '40
Non-ferrous metals; monthly average prices, 1919-1939; tabulation. Iron Age 145:175 Ja 4 '40
Non-ferrous prices. Published in weekly numbers of Iron age
Statistical and graphical record of metal prices; monthly, 1927-1938; daily, 1939; chart and tables. Eng & Min J 141:supp F '40

Statistics
Copper, lead, zinc and tin markets. Published in weekly numbers of Commercial & financial chronicle
Domestic shipments of non-ferrous metals, monthly, Jan. 1939-Jan. 1940. Comm & Fin Chr 150:1515 Mr 9 '40
Germany's non-ferrous metals. Economist 138:1108 Je 29 '40

METALS, Non-ferrous—Statistics—*Continued*
Mineral economics in 1939. A. Notman. Min & Met 21:17 Ja '40
Minor metals, 1939. Eng & Min J 141:49-52 F '40
Die nichteisenmetalle im jahre 1938. Stahl & Eisen 59:1235-6 N 9 '39
Nonferrous metal smelting, revision; monthly, 1923-June, 1940. Fed Res Bul 26:832 Ag '40
Nonferrous metals and products, 1936-1939. Survey of Cur Business 1940 Sup p135-8 [supplemented in monthly numbers]
Non-ferrous metals; mining companies and copper companies, 1937-39. Mag of Wall St Manual p27-8 Mr 2 '40
Production of nonferrous metals and products, revision; monthly, 1923-June, 1940. Fed Res Bul 26:832 Ag '40
War boomlet turned depression into prosperity for the nonferrous metals. P. E. Barbour. Annalist 55:124-5 Ja 25 '40
World production of major non-ferrous metals, 1935-1939 by countries; tabulations. Eng & Min J 141:supp F '40
World production of the principal metals, 1882-1939; tabulation. Eng & Min J 141:supp F '40

METALS, Powdered
Compressed powdered molybdenum permalloy for high quality inductance coils. V. E. Legg and F. J. Given. bibliog il Bell System Tech J 19:385-406 Jl '40; Same cond. Metal Prog 38:284+ S '40
Diffusion alloying seen as most likely metal powder process. G. J. Comstock. Steel 107: 190 O 14 '40
Extrusion of metal powders is advanced by new technique. R. H. Leach. Steel 107:164 O 14 '40
Gear powders. Engineer 169:230 Mr 8 '40
Laboratory of powder metallurgy established at Stevens institute of technology. il Ind & Eng Chem News ed 18:548-9 Je 25 '40
Metal powders; effect of time, temperature and pressure on density; abstract. F. C. Kelley. Iron Age 145:36-7 F 22 '40
Mixing vehicles and metallic powders. il Metal Finishing 38:618 N '40
Mixture of bakelite and metal powder for mounting micro specimens. N. J. Finsterwalder. il Metal Prog 38:294-5 S '40
Pistol that sprays powdered metals and plastics; Schori pistol. R. G. Skerrett. il diag Comp Air M 45:6057-60 Ja '40
Powder metallurgy; as it was in 1915 and as it is in 1940. Z. Jeffries. Metal Prog 37: 314 Mr '40
Powder metallurgy in 1939. F. H. Clark. il Min & Met 21:20, 21-2 Ja '40
Powder metallurgy; report of the M.I.T. summer conference. bibliog Metals & Alloys 12:471-2, 474-6+ O '40
Powdered metal and bakelite bearings. M. Melhuish. Engineer 170:240-1 O 11 '40
Powdered metal compact bonds babbitt to steel back. R. P. Koehring. il Metal Prog 38:173-6+ Ag '40
Powdered metal developments continue, but at slower pace. W. B. Scott. Steel 107:164 O 14 '40
Powdered metals in composite bearings. il diag Steel 107:46-7+ Ag 5 '40
Problems connected with the fabrication of metal parts from powders. H. E. Hall. Metal Prog 38:531-2 O '40
Processing trends in powder metallurgy. P. Schwarzkopf and C. G. Goetzel. il Iron Age 146:39-45 S 19 '40; Same abr. Engineer 170:287-8 N 1 '40
Sintered powdered metals help make high grade bearings. C. M. Heath. Steel 107:162 O 14 '40
Sintering of Alnico. G. H. Howe. il Iron Age 145:27-31 Ja 11 '40; Abstract. Metals & Alloys 11:MA204 Ap '40
Steel back babbitt bearing for Buick engines. il diag Automotive Ind 83:160-2+ Ag 15 '40
See also
Iron, Powdered

METALS, Rare earth. See Rare earth metals

METALS reserve company
Metal pile growing; government's Metals reserve co. to get 240,000 tons of concentrated manganese from Anaconda. Business Week p18+ Ag 17 '40

METAMETER. See Telemetering

METAMORPHISM
Adirondack igneous rocks and their metamorphism. A. F. Buddington. (Memoir 7) 354p, 21 pls bibliog(p334-42) Geological soc. of America, New York '39
Metamorphism in the southern Sierra Nevada northeast of Visalia, California. C. Durrell. il diags maps Univ of Calif Bul of Dept of Geological Sciences v 25 no 1:1-117 '40 (pa $1.25)
Reconnaissance of the contact metamorphism of the Katahdin and Squaw Mountain intrusives, Maine. S. S. Philbrick. map Am J Sci 238:710-16, pl 1 O '40

METANETHOLE
Structure of metanethole. W. Baker and J. Enderby. Chem Soc J p1094-8 Ag '40

METAPHOSPHATES
Nachweis und bestimmung von ortho-, pyro- und metaphosphation nebeneinander. B. Wurzschmitt and W. Schuhknecht. diag Angew Chemie 52:711-15 D 23 '39

METASOMATISM
Metasomatism associated with tertiary mineralization in New Guinea. N. H. Fisher. maps Econ Geol 34:890-904 D '39

METASTABLE state
Time-lag analysis of the Townsend discharge in argon with activated caesium electrodes. R. W. Engstrom and W. S. Huxford. bibliog diags Phys R 58:67-77 Jl 1 '40

METCALF, Haven, 1875-1940
Sketch. S. F. Acree. Science 92:98-9 Ag 2 '40

METCALF, Maynard Mayo, 1868-1940
Sketch. R. A. Budington. Science 91:494-5 My 24 '40

METEORITES
New light on the Glorietta, New Mexico, meteorite. H. H. Nininger. Am J Sci 238:56-60, pl 1 Ja '40
Origin of the earth's land formations. C. D. Perrine. Science 92:210-12 S 6 '40
Radioactive determination of protactinium in siliceous terrestrial and meteoritic material. W. C. Schumb, R. D. Evans and J. L. Hastings. bibliog Am Chem Soc J 61:3451-5 D '39
Two new constituents of meteoritic gases. J. D. Buddhue. Am J Sci 238:569-72 Ag '40

METEOROLOGICAL instruments
See also
Radio meteorographs

METEOROLOGICAL optics
See also
Halos (meteorology)
Mirage

METEOROLOGICAL stations
Automatic operation
Automatic weather station. H. Diamond and W. S. Hinman, jr. bibliog diags 8 pls J Research Nat Bur Stand 25:133-48 Ag '40

METEOROLOGY
Air and its mysteries. C. M. Botley. American ed 302p bibliog(p293-6) $3 Appleton-Century '40
Electron-dominance theory of cycles. H. P. Gillette. Roads & Sts 82:39-40 D '39
11-year and 27-day solar periods in meteorology. H. H. Clayton. maps Smithsonian Misc Coll v 99, no 5:1-20 '40
Further investigations of the air mass effect on cosmic-ray intensity. D. H. Loughridge and P. F. Gast. Phys R 58:583-5 O 1 '40
Influence of topography on weather forecasting at Salt Lake City, Utah. G. F. Taylor. maps J Aeronautical Sci 7:18-21 N '39
Introduction to the study of air mass analysis, by J. Namias; Characteristic properties of North American air masses, by H. C. Willett; The Norwegian wave-theory of cyclones, by B. Haurwitz. 4th ed rev & enl 122p bibliog(p57-65) pa 75c; to members 60c Am. meteorological soc, Milton, Mass. '38

METEOROLOGY—*Continued*
Meteorological results of the Byrd Antarctic expeditions, 1928-30, 1933-35; tables. G. Grimminger and W. C. Haines. maps 377p U.S. Weather bur. '39

Weather analysis and forecasting; a textbook on synoptic meteorology. S. Petterssen. 505p $5 McGraw-Hill '40

See also
Air
Atmosphere, Upper
Droughts
Floods
Halos (meteorology)
Humidity
Lightning
Magnetic storms
Magnetism, Terrestrial
Rain and rainfall
Solar radiation
Sunspots
Tornadoes
Weather forecasting
Winds

Dictionaries

Meteorological glossary. 3d ed 251p Great Britain. Meteorological office, London '39; $3 Chemical pub. co. '40

Terminology

Glossary of meteorological terms. 18p U.S. Weather bur, Washington; pa 5c Supt. of doc. '39

METEOROLOGY, Aeronautic
Automatic weather station. H. Diamond and W. S. Hinman, jr. bibliog diags 8 pls J Research Nat Bur Stand 25:133-48 Ag '40

Developments in meteorological sounding by radio waves. A. W. Friend. il J Aeronautical Sci 7:347-50; Discussion. 350-2 Je '40

Improvements in radio sonde. Franklin Inst J 229:102-3 Ja '40

Meteorological conditions associated with aircraft lightning discharges and atmospherics. E. J. Minser. Civil Aero J 1:198-9, 202-3 My 1 '40; Same. J Aeronautical Sci 7:51-5 D '39

Meteorology for aviators. R. C. Sutcliffe. 305p $4 Chemical pub. co. '40

Notes on aeronautical meteorology. R. C. Binder. 96 l bibliog Purdue univ, Mechanical engineering school, Lafayette, Ind. '39

Problems in weather map analysis and forecasting in connection with transatlantic flying. H. C. Willett. J Aeronautical Sci 7:248-51 Ap '40

Recent progress in aeronautics. A. F. Spilhaus. Mech Eng 62:115-16 F '40

Trans-Atlantic weather station now in operation; radio station WSY. Civil Aero J 1:67 Mr 1 '40

Weather to fly or whether to wait. F. Smith. il map Aero Digest 37:51-2+ S '40

METEORS
Perseid meteor shower. Science 92:sup8 Ag 9 '40

METER readers
What price mis-steps by meter readers. L. Childs. Am Gas J 152:18 Mr '40

METER reading
Continuous transfer of meter reading route sheets. G. W. Fuchs. Am Gas Assn Proc 1939:143-7

Cost of reading water meters. Pub Works 71:41 Ja '40

METERS
Detecting moisture with meters. il Metal Ind 38:178 Mr '40

How to get the most dollars from your metering penny. P. Swain. diags Power 84:272-4 My '40

Meters, the watch dogs of plant operation. R. R. Frederick. il Power 84:14-15 Ja '40

Meyers consistency controller and volumetric stock meter. S. E. Meyers. diags Paper Tr J 110:13-16 F 1 '40

Petroleum division A.S.M.E. and fluid-metering conference. Oil & Gas J 38:26+ Ap 18 '40

Review of power and mechanical equipment; meters and instruments. il diags Power 83:809-13 Mid-D '39

Some fundamental considerations in the design and application of displacement meters for measuring liquid hydrocarbons. E. W. Jacobson. Oil & Gas J 39:36, 39-40 Je 20 '40

See also
Dynamometers
Electric meters
Flow meters
Gages
Gas meters
Manometers
Meter reading
Micrometers
Orifices
Tachometers
Venturi meters
Viscosimeters
Water meters

METHANE
Alfa Romeo methane gas engine. diags Automobile Eng 30:302 O '40

Alternative motor fuels; with cost data; abstracts. C. M. Walter. Gas J (Lond) 229:516-19 Mr 6 '40; Automobile Eng 30:121-3 Ap '40; Discussion. Gas J (Lond) 229:519 Mr 6 '40

Analytical calculations of thermodynamic properties. H. M. Robinson and H. Bliss. bibliog Ind & Eng Chem 32:396-8 Mr '40

Can gaseous fuel replace petrol? the sources and distribution of methane. H. T. F. Rhodes. il Chem Age (Lond) 42:33-4 Ja 20 '40

Chlorination of methane for the preparation of carbon tetrachloride. A. I. Kiprianov and T. S. Kusner. bibliog diag Oil & Gas J 38:49-50 Ja 18 '40

Coefficient of thermal diffusion of methane. A. O. Nier. bibliog Phys R 56:1009-13 N 15 '39

Combustion of methane; displacements of mixtures giving maximum flame velocities. A. R. T. Denues and W. J. Huff. bibliog Am Chem Soc J 62:3045-7 N '40

Concentration of carbon 13 by thermal diffusion. A. O. Nier. bibliog diag Phys R 57:30-4 Ja 1 '40

La conversion du méthane en hydrogène et en oxyde de carbone; procédés de la Société belge de l'azote, à Renory. C. Berthelot. il diags Génie Civil 115:461-4 D 30 '39

Gas-liquid equilibrium constants; methane-decane system. H. M. Lavender, B. H. Sage and W. N. Lacey. bibliog diag Oil & Gas J 39:48-9 Jl 11 '40

Index of refraction of methane in the infrared and the dipole moment of the CH bond. R. Rollefson and R. Havens. bibliog diag Phys R 57:710-17 Ap 15 '40

Induced pyrolysis of methane. W. J. Hessels, D. W. van Krevelen and H. I. Waterman. bibliog diag Soc Chem Ind J 58:323-7 N '39

Influence of pressure upon the water-gas and other equilibria. G. Sartori and D. M. Newitt. Engineering 149:157 F 9 '40

Infra-red spectra of polyatomic molecules. D. M. Dennison. Rs Mod Phys 12:175-214 bibliog(p213-14) Jl '40

Investigation of carbides by the methane synthesis method. R. Schenck, F. Kurzer and H. Wesselkoch. Engineer 170:sup[Metallurgist] 135-6 O 25 '40

Isothermal changes in enthalpy for some gases. R. York, jr. and H. C. Weber. bibliog Ind & Eng Chem 32:388-92 Mr '40

Methane cracking; improved installation in Belgium. il diag Chem Age (Lond) 42:183 Mr 30 '40

Nature of the surface of catalytic nickel; poisoning by ethylene and by methane decomposition. W. W. Russell and W. V. Loebenstein. Am Chem Soc J 62:2573-80 O '40

Partial volumetric behavior of lighter paraffin hydrocarbons in the gas phase; methane, ethane, propane, *n*-butane in binary mixtures. B. H. Sage and W. N. Lacey. bibliog Oil & Gas J 38:189-92+ N 17 '39

Phase equilibria in hydrocarbon systems; Joule-Thomson coefficients for gaseous mixtures of methane and *n*-butane. R. A. Budenholzer, B. H. Sage and W. N. Lacey. bibliog Ind & Eng Chem 32:384-7 Mr '40

Phase equilibria in hydrocarbon systems; methane-*n*-butane system in the gaseous and liquid regions. B. H. Sage, R. A. Budenholzer and W. N. Lacey. bibliog Ind & Eng Chem 32:1262-77 S '40

METHANE—*Continued*
Phase equilibria in hydrocarbon systems; methane—*n*-butane system in the two-phase region. B. H. Sage, B. L. Hicks and W. N. Lacey. bibliog Ind & Eng Chem 32:1085-92 Ag '40
Phase equilibria in hydrocarbon systems; methane-decane system. B. H. Sage, H. M. Lavender and W. N. Lacey. bibliog Ind & Eng Chem 32:743-7 My '40
Phase equilibria in hydrocarbon systems; the methane-ethane system in the gaseous region. B. H. Sage and W. N. Lacey. bibliog Ind & Eng Chem 31:1497-1509 D '39
Raising the calorific value of gas for motor transport. J. I. Graham and D. G. Skinner. Gas J (Lond) 229:39-41; Discussion. 41 Ja 3 '40
Solubility of methane in benzene. E. P. Schoch and others. il diags Ind & Eng Chem 32: 788-91 Je '40
Solubility of methane in cyclohexane. E. P. Schoch, A. E. Hoffmann and F. D. Mayfield. bibliog diag Ind & Eng Chem 32:1351-3 O '40
Thermal separation of isotopes. W. W. Watson. diags Phys R 57:899-902 My 15 '40
Viscosity of gases and vapors at high pressures. E. W. Comings and R. S. Egly. bibliog Ind & Eng Chem 32:714-18 My '40
Viscosity of hydrocarbon solutions; methane—ethane—crystal oil system. B. H. Sage and W. N. Lacey. bibliog Ind & Eng Chem 32:587-9 Ap '40
See also
Chlorofluoromethanes

METHANOL
Acid-base equilibria in methyl alcohol. M. Kilpatrick and W. H. Mears. bibliog Am Chem Soc J 62:3047-51 N '40
Addition of oxy compounds to acetylenic alcohols. J. F. Froning and G. F. Hennion. Am Chem Soc J 62:653-5 Mr '40
Barium chloride from barite and calcium chloride; factors affecting production. R. N. Shreve and R. K. Toner. bibliog Ind & Eng Chem 32:568-73 Ap '40
Chemical preparation of colloidal suspensions in non-aqueous solvents; methyl alcohol and benzene. A. A. Vernon and H. A. Nelson. bibliog J Phys Chem 44:12-20 Ja '40
Dissociation catalytique et synthèse du méthanol. O. Kostelitz and G. Hensinger. Chimie & Ind 42:757-73 N '39
Distribution of protons between water and other solvents. L. S. Guss and I. M. Kolthoff. bibliog Am Chem Soc J 62:1494-6 Je '40
Freezing points of the system ethylene glycol-methanol-water. F. H. Conrad, E. F. Hill and E. A. Ballman. bibliog Ind & Eng Chem 32:542-3 Ap '40
Heats of solution of alkali halides and of hydrogen chloride in water-methyl alcohol solutions at 25°. C. M. Slansky. bibliog diags Am Chem Soc J 62:2430-4 S '40
Hindered rotation in methyl alcohol. J. S. Kochler and D. M. Dennison. Phys R 57: 1006-21 Je 1 '40
Iodine-sensitized decomposition of methyl alcohol. G. K. Rollefson and W. Garrison. Am Chem Soc J 62:588-90 Mr '40
Ionic entropies and free energies and entropies of solvation in water-methanol solutions. W. M. Latimer and C. M. Slansky. bibliog Am Chem Soc J 62:2019-23 Ag '40
Kinetics of the reaction of *p*-methoxybenzhydryl chloride with methanol in dilute nitrobenzene solution. P. D. Bartlett and R. W. Nebel. bibliog Am Chem Soc J 62:1345-9 Je '40
Mutarotation of d-glucose in absolute methanol. H. H. Rowley and S. D. Bailey. bibliog Am Chem Soc J 62:2562-3 S '40
Photochemical decomposition of solid hydrogen compounds at low temperatures. L. Farkas, Y. Hirshberg and L. Sandler. bibliog diag Am Chem Soc J 61:3393-6 D '39
Products of ionization by electron impact in methyl and ethyl alcohol. C. S. Cummings, 2d and W. Bleakney. bibliog Phys R 58: 787-92 N 1 '40
Resistance to the uniform motion of a solid through a viscous liquid; mixtures of glycerine and methyl alcohol. R. B. Block. bibliog J Ap Phys 11:635-42 O '40
Studies of ionisation in non-aqueous solvents; the formation of certain sulphides in methyl and in ethyl alcohol. W. L. German and T. W. Brandon. Chem Soc J p1329-33 S '40
Ternary systems involving cyclohexene, water, and methyl, ethyl, and isopropyl alcohols. E. R. Washburn and others. Am Chem Soc J 62:1454-7 Je '40

Manufacture
Calculation of chemical equilibrium at high pressures; with applications to methanol synthesis, hydration of olefins, and reaction of nitrogen and acetylene to give hydrogen cyanide. R. H. Ewell. bibliog Ind & Eng Chem 32:147-53 F '40

Statistics
Methanol, 1936-1939. Survey of Cur Business 1940 Sup p88 [supplemented in monthly numbers]

METHEMOGLOBIN
Heats of organic reactions; new calorimeter and the denaturation of methemoglobin by alkali. J. B. Conn, G. B. Kistiakowsky and R. M. Roberts. diag Am Chem Soc J 62: 1895-1905 Ag '40
Magnetic studies of ferrihemoglobin reactions; equilibria and compounds with azide ion, ammonia, and ethanol. C. D. Coryell and F. Stitt. bibliog Am Chem Soc J 62:2942-51 N '40

METHOCEL. See Methyl cellulose

METHOXYACETONAPHTHALIDE
Nitration of 6- and 7-methoxyaceto-2-naphthalide. D. H. Hey and S. E. Lawton. Chem Soc J p384-7 Mr '40

METHOXYAMINE
Addition of methoxyamine to α,β-unsaturated ketones and the rearrangement of β-methoxyaminoketones. A. H. Blatt. Am Chem Soc J 61:3494-9 D '39

METHOXYBENZOHYDRYL chloride
Kinetics of the reaction of *p*-methoxybenzhydryl chloride with methanol in dilute nitrobenzene solution. P. D. Bartlett and R. W. Nebel. bibliog Am Chem Soc J 62: 1345-9 Je '40

METHOXYETHANOL
Determination of carbon disulfide in air by means of copper and diethylamine in 2-methoxyethanol. F. F. Morehead. bibliog il Ind & Eng Chem Anal ed 12:373-4 Je 15 '40

METHOXYPHENYLANTHRONE
Hydroxy- and methoxyphenylanthrones. F. F. Blicke and R. J. Warzynski. bibliog Am Chem Soc J 62:3191-4 N '40

METHOXYSTYRENE
Condensation of α-methoxystyrene with halogen compounds. C. W. Mortenson and M. A. Spielman. bibliog Am Chem Soc J 62:1609-10 Je '40

METHOXYL group
Stereochemistry of biphenyls: comparison of the interference of a methoxyl and an hydroxyl group. R. Adams and H. M. Teeter. bibliog Am Chem Soc J 62:2188-90 Ag '40

METHYL acetylenedicarboxylate
Reactions of anils; the reactions of benzalaniline and cinnamalaniline with methyl acetylenedicarboxylate. H. R. Snyder, H. Cohen and W. J. Tapp. Am Chem Soc J 61: 3560-1 D '39

METHYL acrylate
Lactic acid as a component of synthetic resins. J. T. Stearn, B. Makower and P. H. Groggins. bibliog il Ind & Eng Chem 32: 1335-42 O '40

METHYL alcohol. See Methanol

METHYLALLYL chloride
Synthesis of polyenes; reactions of β-methylallyl chloride with sodamide in liquid ammonia. M. S. Kharasch, W. Nudenberg and E. Sternfeld. Am Chem Soc J 62:2034-6 Ag '40

METHYL atropate
Action of Grignard reagents on methyl *r*-tropate and on methyl atropate. A. McKenzie and E. R. Winton. Chem Soc J p840-4 Jl '40

METHYL azacholanthrene
20-Methyl-4-azacholanthrene. L. F. Fieser and E. B. Hershberg. bibliog Am Chem Soc J 62:1460-5 Jl '40

METHYL benzanthracene
9-Methyl- and 10-methyl-1,2-benzanthracene. C. K. Bradsher. Am Chem Soc J 62:1077-8 My '40
Sulfhydryl and cysteine derivatives of 1,2-benzanthracene, 10-methyl-1,2-benzanthracene and 3,4-benzpyrene. J. L. Wood and L. F. Fieser. bibliog Am Chem Soc J 62:2674-81 O '40
Synthesis of growth-inhibitory polycyclic compounds. G. M. Badger and J. W. Cook. Chem Soc J p409-12 Ap '40
Synthesis of 1'-methyl-1,2-benzanthracene and 5-methylchrysene. W. E. Bachmann and R. O. Edgerton. bibliog Am Chem Soc J 62:2550-3 S '40

METHYL benzofluorene
9-Methyl-3,4-benzfluorene. L. F. Fieser and L. M. Joshel. Am Chem Soc J 62:957-8 Ap '40

METHYL benzohydryl chloride
Mechanism of substitution at a saturated carbon atom; a kinetic demonstration of the unimolecular solvolysis of alkyl halides; kinetics of, and salt effects in, the hydrolysis of *p*-monoalkylbenzhydryl halides in aqueous acetone. M. G. Church and others. Chem Soc J p971-4 Jl '40

METHYL benzophenanthrene
Synthesis of 2-methyl-3,4-benzphenanthrene. M. S. Newman and L. M. Joshel. bibliog Am Chem Soc J 62:972-4 Ap '40

METHYL benzopyrene
9-Methyl-3,4-benzpyrene. L. F. Fieser and F. C. Novello. bibliog Am Chem Soc J 62:1855-9 Jl '40

METHYL boric acid
Methylboric acid and its anhydride; the methylboron fluorides. A. B. Burg. diag Am Chem Soc J 62:2228-34 Ag '40

METHYL boric anhydride
Methylboric acid and its anhydride; the methylboron fluorides. A. B. Burg. diag Am Chem Soc J 62:2228-34 Ag '40

METHYL bromide
Mechanism of substitution at a saturated carbon atom; hydrolysis of methyl, ethyl, *iso*propyl and *tert.*-butyl bromides in acidic solutions under conditions believed to be conductive to uniformity of mechanism. L. C. Bateman and E. D. Hughes. Chem Soc J p945-8 Jl '40
Mechanism of substitution at a saturated carbon atom; mechanisms operative in the hydrolysis of methyl, ethyl, *iso*propyl, and *tert.*-butyl bromides in aqueous solutions. L. C. Bateman and others. Chem Soc J p925-35 Jl '40

Physiological effect
Response attending exposure of laboratory animals to vapors of methyl bromide. D. D. Irish and others. J Ind Hygiene 22:218-30 bibliog(p229-30) Je '40

METHYL carbamates
Some alkamine esters of disubstituted methylcarbamic acids. J. J. Donleavy and J. English, jr. bibliog Am Chem Soc J 62:218-19 Ja '40

METHYL cellulose
Methocel; properties and suggested uses in the paper industry. R. M. Upright and F. C. Peterson. Paper Tr J 110:31-5 My 2 '40

METHYL chloride
Chlorinates; temperature-concentration equilibria in the systems methylene chloride-chlorine and methyl chloride-chlorine; the perchlorides of methylene and of methyl. J. A. Wheat, 2d and A. W. Browne. diag Am Chem Soc J 62:1575-7 Je '40
Heat capacity and entropy, heats of fusion and vaporization and the vapor pressure of methyl chloride. G. H. Messerly and J. G. Aston. bibliog Am Chem Soc J 62:886-90 Ap '40
Pressure drop in refrigerant liquid lines. E. Gygax and K. S. Willson. Refrig Eng 39: 103-6 F '40

METHYL cholanthrene
Factors influencing carcinogenesis with methylcholanthrene; lack of effect of foster nursing. M. B. Shimkin and H. B. Andervont. bibliog Pub Health Rep 54:2080-5 N 24 '39
Factors influencing carcinogenesis with methylcholanthrene; the effect of solvents. M. B. Shimkin and H. B. Andervont. bibliog Pub Health Rep 55:537-45 Mr 29 '40
Further study of the mode of action of methylcholanthrene on normal tissue cultures. W. R. Earle and C. Voegtlin. bibliog Pub Health Rep 55:303-22, pl 1-9 F 23 '40
New methyl and dimethyl derivatives of cholanthrene. L. F. Fieser and D. M. Bowen. bibliog Am Chem Soc J 62:2103-8 Ag '40
Sarcomata and carcinomata induced in cottontail rabbits by methylcholanthrene. J. T. Syverton and G. P. Berry. Science 91:298 Mr 22 '40

METHYL chrysene
5-Methylchrysene. L. F. Fieser and L. M. Joshel. Am Chem Soc J 62:1211-14 My '40
Synthesis of 5-methylchrysene and related compounds. M. S. Newman. bibliog Am Chem Soc J 62:870-4 Ap '40
Synthesis of 1'-methyl-1,2-benzanthracene and 5-methylchrysene. W. E. Bachmann and R. O. Edgerton. bibliog Am Chem Soc J 62:2550-3 S '40

METHYL cinnamic acid
Asymmetric reduction of β-methylcinnamic acid by *d*-glucose in the presence of Raney nickel. T. D. Stewart and D. Lipkin. Am Chem Soc J 61:3297-300 D '39
Preparation and asymmetric reduction of β-methylcinnamic acid. D. Lipkin and T. D. Stewart. bibliog Am Chem Soc J 61:3295-6 D '39

METHYL crotonaldehyde
Studies in the polyene series. E. Barraclough and others. Chem Soc J p1549-54 O '39

METHYL cyclobutene
Reaction of benzene with methylcyclobutene and methylenecyclobutane in the presence of sulfuric acid. V. N. Ipatieff and H. Pines. Am Chem Soc J 61:3374-6 D '39

METHYL cyclohexane
Hydrogenated coal-tar chemicals. G. R. Lawson. Chem Ind 45:679-81 D '39
Physical properties and chemical constitution; methyl*cyclo*hexane and the multiplanar structure of the methyl*cyclo*hexane ring. D. M. Cowan, G. H. Jeffery and A. I. Vogel. Chem Soc J p1862-5 D '39
Spiral screen packing for efficient laboratory fractionating columns. H. S. Lecky and R. H. Ewell. bibliog il diag Ind & Eng Chem Anal ed 12:544-7 S 15 '40

METHYL cyclopentane
Simple proof of the thermodynamic stability of materials taken up by solutions containing solubilizers such as soap. J. W. McBain and J. J. O'Connor. diags Am Chem Soc J 62:2855-9 O '40

METHYL dichloramine
Molecular structures of dimethyl chloramine and methyl dichloramine. D. P. Stevenson and V. Schomaker. Am Chem Soc J 62: 1913-16 Ag '40

METHYL diethylbenzene
Certain trialkylated benzenes and their compounds with aluminum chloride and with aluminum bromide. J. F. Norris and J. N. Ingraham. Am Chem Soc J 62:1298-1301 My '40

METHYL eleostearate
Formation and deterioration of paint films; changes in films of methyl esters of several unsaturated fatty acids under exposure to ultraviolet light. J. L. Overholt and A. C. Elm. bibliog Ind & Eng Chem 32:378-83 Mr '40

METHYL eleostearate—*Continued*
Infrared absorption spectra of drying oils; changes caused by exposure of esters to ultraviolet light and oxygen, and the effect of polymerization on the spectra. D. L. Gamble and C. E. Barnett. bibliog Ind & Eng Chem 32:375-8 Mr '40

METHYL ethylchrysene
Aromatic cyclodehydration; 6-methyl- and 5-methyl-6-ethylchrysene. C. K. Bradsher and A. S. Burhans. Am Chem Soc J 62:3140-1 N '40

METHYL ethyl group
Action of selenium at high temperatures on *gem*-methylethyl groups. R. L. Barker and G. R. Clemo. Chem Soc J p1277-9 S '40

METHYL ethyl ketone. See Butanone

METHYL group
Les applications de l'oxyde de sélénium à l'oxydation des composés organiques. Y. Mayor. bibliog Chimie & Ind 43:188-94 F 5 '40
Dehydrogenation; elimination and migration of methyl groups from quaternary carbon atoms during catalytic dehydrogenation. R. P. Linstead and S. L. S. Thomas. Chem Soc J p1127-34 Ag '40
Direct introduction of the angular-methyl group. R. B. Woodward. bibliog Am Chem Soc J 62:1208-11 My '40
Free radicals and radical stability; methyltriphenylmethyls. S. T. Bowden and T. L. Thomas. Chem Soc J p1242-9 S '40
Free radicals and radical stability; the influence of the methyl group on the stability of triphenylmethyl. S. T. Bowden and D. L. Clarke. diags Chem Soc J p883-7 Jl '40

METHYL halides
Infra-red spectra of polyatomic molecules. D. M. Dennison Rs Mod Phys 12:175-214 bibliog(p213-14) Jl '40

METHYL heptamethyl aldobionate
Constitution of arabic acid; the isolation of methyl heptamethyl aldobionate from methylated degraded arabic acid. J. Jackson and F. Smith. Chem Soc J p71-8 Ja '40

METHYL hexane
Isolation of 3-methylhexane, *trans*-1,2-dimethylcyclopentane, and *trans*-1,3-dimethylcyclopentane from petroleum. A. R. Glasgow, jr. bibliog J Research Nat Bur Stand 24: 509-29 F '40

METHYL hydrindanone
Fused carbon rings; further investigations of model substances of the sexual hormone type. V C. E. Burnop and R. P. Linstead. Chem Soc J p720-7 Je '40

METHYL hydroxycoumaran
Chemistry of vitamin E; a new synthesis of 2,4,6,7-tetramethyl-5-hydroxycoumaran and of 2-methyl-5-hydroxycoumaran; oxidation products of the tetramethylcoumaran. L. I. Smith, H. H. Hoehn and A. G. Whitney. bibliog Am Chem Soc J 62:1863-9 Jl '40

METHYL iodide
Interaction of β-ionone with halides in the presence of lithium, and a synthesis of 1 : 6-dimethylnaphthalene. F. B. Kipping and F. Wild. Chem Soc J p1239-42 S '40

METHYL isocyanate
Molecular structures of methyl isocyanate and cyanic acid by the electron diffraction method; the structural chemistry of cyanic acid and its derivatives. E. H. Eyster, R. H. Gillette and L. O. Brockway. bibliog Am Chem Soc J 62:3236-43 N '40

METHYL linoleate
Formation and deterioration of paint films; changes in films of methyl esters of several unsaturated fatty acids under exposure to ultraviolet light. J. L. Overholt and A. C. Elm. bibliog Ind & Eng Chem 32:378-83 Mr '40

METHYL lyxosides
Alpha and beta methyl lyxosides, mannosides, gulosides, and heptosides of like configuration. H. S. Isbell and H. L. Frush. pls J Research Nat Bur Stand 24:125-51 bibliog(p 151) F '40

METHYL magnesium iodide
alpha-Bromo secondary alkyl ketones; reaction of 3-bromo-3-methyl-2-butanone with methylmagnesium iodide. R. B. Greenburg and J. G. Aston. Am Chem Soc J 62:3135 N '40

METHYL methacrylate
Addition of hydrogen bromide to methyl methacrylate. C. C. Price and E. C. Coyner. Am Chem Soc J 62:1806-7 My '40
Denture base material: acrylic resins. W. T. Sweeney. il diags Mod Plastics 17:43-7, 74+ F '40
Fresco in Frisco; St Francis hotel. M. Pake. il Mod Plastics 17:30-1+ Ja '40
Traditional transition; sixth annual public exhibition of 65 decorators' interiors, sponsored by Grosfeld house. E. Main. il Mod Plastics 17:30-3+ My '40
Viscosity variations in methacrylic ester polymer solutions. D. E. Strain. Ind & Eng Chem 32:540-1 Ap '40

METHYL naphthalene
Presence of indole in practical α-methylnaphthalene. M. S. Kharasch, S. S. Kane and H. C. Brown. Am Chem Soc J 62:2242-3 Ag '40
Separation of the aromatic hydrocarbons, and the isolation of *n*-dodecane, naphthalene, 1-methylnaphthalene, and 2-methylnaphthalene, from the kerosene fraction of petroleum. B. J. Mair and A. J. Streiff. bibliog diags J Research Nat Bur Stand 24:395-414 Ap '40
Thermal data on organic compounds; modern combustion data for some non-volatile compounds containing carbon, hydrogen and oxygen. J. W. Richardson and G. S. Parks. bibliog Am Chem Soc J 61:3543-6 D '39

METHYL naphthohydroquinone
Vitamin K-active derivatives of 2-methyl-1,4-naphthohydroquinone. S. Ansbacher, E. Fernholz and M. A. Dolliver. bibliog Am Chem Soc J 62:155-8 Ja '40

METHYL nonane
Thermal data on organic compounds; modern combustion data for two methylnonanes, methyl ethyl ketone, thiophene and six cycloparaffins. G. E. Moore, M. L. Renquist and G. S. Parks. bibliog Am Chem Soc J 62:1505-7 Je '40

METHYL oleate
Antioxidants and the autoxidation of fats; autoxidation of oleic acid, methyl oleate, oleyl alcohol, and *cis*-9-octadecene. F. E. Deatherage and H. A. Mattill. bibliog diag Ind & Eng Chem 31:1425-31 N '39
Formation and deterioration of paint films; changes in films of methyl esters of several unsaturated fatty acids under exposure to ultraviolet light. J. L. Overholt and A. C. Elm. bibliog Ind & Eng Chem 32:378-83 Mr '40
Industrial uses of chemicals and related materials. Oil Paint & Drug Rep 138:38 S 23 '40
Infrared absorption spectra of drying oils; changes caused by exposure of esters to ultraviolet light and oxygen, and the effect of polymerization on the spectra. D. L. Gamble and C. E. Barnett. bibliog Ind & Eng Chem 32:375-8 Mr '40

METHYL orange
Distribution of protons between water and other solvents. L. S. Guss and I. M. Kolthoff. bibliog Am Chem Soc J 62:1494-6 Je '40
Phenolphthalein and methyl orange. C. A. Peters and B. C. Redmon. bibliog J Chem Educ 17:525-8 N '40

METHYL pentane
Pressure-volume-temperature relations of *n*-hexane and of 2-methylpentane. E. A. Kelso and W. A. Felsing. bibliog Am Chem Soc J 62:3132-4 N '40

METHYL pentanol
Thermodynamic properties of the hexyl alcohols; 3-methylpentanol-1 and 2-methylpentanol-5. F. Hovorka, H. P. Lankelma and I. Schneider. bibliog Am Chem Soc J 62:1096-8 My '40

METHYL pentanol—*Continued*
Thermodynamic properties of the hexyl alcohols; 2-methylpentanol-3 and 3-methylpentanol-3. F. Hovorka, H. P. Lankelma and A. E. Axelrod. bibliog Am Chem Soc J 62: 187-9 Ja '40

METHYL phenanthrene
Phenanthrene derivatives; acetylation of 4-methylphenanthrene. W. E. Bachmann and R. O. Edgerton. bibliog Am Chem Soc J 62:2219-23 Ag '40

METHYL phenyl sulfide
Lateral metalation of methyl phenyl sulfide. H. Gilman and F. J. Webb. Am Chem Soc J 62:987-8 Ap '40

METHYL phytylnaphthoquinone
Synthesis of vitamin K_1. L. F. Fieser. Am Chem Soc J 61:3467-75 D '39

Synthesis of vitamin K_1. L. F. Fieser. Science 91:31-6 Ja 12 '40

Vitamin K. E. A. Doisy and others. bibliog Science 91:58-62 Ja 19 '40

METHYL propene
Addition of N-haloamides to olefins. M. S. Kharasch and H. M. Priestley. Am Chem Soc J 61:3425-32 D '39

Analysis

Determination of methylpropene by means of a modified Denigès reagent. A. Newton and E. J. Buckler. bibliog diags Ind & Eng Chem Anal ed 12:251-4 My 15 '40
ricinoleic acid by fractional crystallization

METHYL propylene
Gas imperfection; experimental determination of second virial coefficients for seven unsaturated aliphatic hydrocarbons. E. E. Roper. bibliog diag J Phys Chem 44:835-47 O '40

METHYL pyrene
Synthesis of 3,4-benzphenanthrene and 1-methylpyrene. W. E. Bachmann and R. O. Edgerton. bibliog Am Chem Soc J 62:2970-3 N '40

METHYL ricinoleate
Studies on the chemistry of the fatty acids; the preparation of methyl ricinoleate and ricinoleic acid by fractional crystallization procedures. J. B. Brown and N. D. Green. bibliog Am Chem Soc J 62:738-40 Ap '40

METHYL stearate
Study of monolayers of some esters and chlorinated derivatives possibly useful as lubricating addition agents. G. L. Clark and J. V. Robinson. bibliog Am Chem Soc J 62:1948-51 Ag '40

METHYL styrene
Polymerization of unsaturated hydrocarbons particularly styrene and α-methyl styrene. H. M. Stanley. bibliog Chem & Ind 58:1080-3 D 16 '39

METHYL tetralone
Preparation of 3-methyl-1-tetralone and β-[1 - (3-methyl-1,2,3,4,-tetrahydronaphthyl)]-ethyl alcohol. W. E. Bachmann and W. S. Struve. Am Chem Soc J 62:1618-19 Je '40

METHYL tropate
Action of Grignard reagents on methyl γ-tropate and on methyl atropate. A. McKenzie and E. R. Winston. Chem Soc J p840-4 Jl '40

METHYL valeric acid
Acid catalyzed esterification of aliphatic acids. H. A. Smith. bibliog Am Chem Soc J 62:1136-40 My '40

METHYL vinyl ketone
Mechanism of the polymerization of vinyl acetate and methyl vinyl ketone. H. W. Melville, T. T. Jones and R. F. Tuckett. Chem & Ind 59:267-72; Discussion. 272 Ap 20 '40

METHYL yellow. See Methyl orange

METHYLATION
Acetolysis of methylated starch. S. Peat and J. Whetstone. Chem Soc J p276-80 Mr '40

Constitution of arabic acid; methylated arabic acid. F. Smith. Chem Soc J p1035-51 Ag '40

Constitution of arabic acid; the isolation of methyl heptamethyl aldobionate from methylated degraded arabic acid. J. Jackson and F. Smith. Chem Soc J p74-8 Ja '40

Constitution of pectic acid; methylation of pectic acid and the isolation of the methyl ester of 2 : 3-dimethyl methylgalacturonoside. S. Luckett and F. Smith. Chem Soc J p1106-14 Ag '40

Esters of alginic acid. H. J. Lucas and W. T. Stewart. bibliog Am Chem Soc J 62:1070-4 My '40

Hydrogen fluoride as a condensing agent; reactions of methyl, ethyl and phenyl compounds with benzene and its derivatives. J. H. Simons and H. J. Passino. Am Chem Soc J 62:1624 Je '40

Polysaccharides; hydrocellulose. H. C. Carrington and others. Chem Soc J p1901-4 D '39

Polysaccharides; the methylation of cellulose in air and in nitrogen. W. N. Haworth and others. Chem Soc J p1885-98 D '39

Polysaccharides; the methylation of cellulose in an inert atmosphere. W. N. Haworth, R. E. Montonna and S. Peat. Chem Soc J p1899-1901 D '39

See also
Chloromethylation

METHYLENE benzanthracene
o-Halide synthesis of 10-methyl-1',9-methylene-1,2-benzanthracene. L. F. Fieser and J. Cason. bibliog Am Chem Soc J 62:432-6 F '40

Synthesis of 4,5-methylenechrysene and 1',9-methylene-1,2-benzanthracene from 4,5-methylenephenanthrene. L. F. Fieser and J. Cason. bibliog Am Chem Soc J 62:1293-8 My '40

METHYLENE blue
Adsorption at the interface between two fluids; the adsorption of five dyes at a mercury-water interface. C. W. Gibby and C. Argument. diag Chem Soc J p596-600 My '40

Semiquinone radicals of the thiazines. L. Michaelis, M. P. Schubert and S. Granick. diags Am Chem Soc J 62:204-11 Ja '40

Studies on aging and formation of precipitates; the determination of the specific surface of silver bromide by the radioactive and dye methods. I. M. Kolthoff and A. S. O'Brien. bibliog Am Chem Soc J 61:3409-14 D '39

Analysis

Ash in organic compounds; determination by microtechnique with automatic combustion. A. R. Norton, G. L. Royer and R. Koegel. il Ind & Eng Chem Anal ed 12:121-3 F 15 '40

METHYLENE chloride
Chlorinates; temperature-concentration equilibria in the systems methylene chloride-chlorine and methyl chloride-chlorine; the perchlorides of methylene and of methyl. J. A. Wheat, 2d and A. W. Browne. diag Am Chem Soc J 62:1575-7 Je '40

Condensations by sodium; reactions of disodium compounds with ethylidene and methylene chlorides. A. A. Morton and J. T. Massengale. bibliog Am Chem Soc J 62:120-3 Ja '40

Hydrogen bonds involving the C-H link; nitriles and dinitriles as solvents for hydrogen containing halogenated methanes. M. J. Copley, G. F. Zellhoefer and C. S. Marvel. Am Chem Soc J 62:227-8 Ja '40

Hydrogen bonds involving the C-H link; the solubilities of completely halogenated methanes in organic solvents. M. J. Copley, G. F. Zellhoefer and C. S. Marvel. Am Chem Soc J 61:3550-2 D '39

METHYLENE chrysene
Synthesis of 4,5-methylenechrysene and 1',9-methylene-1,2-benzanthracene from 4,5-methylenephenanthrene. L. F. Fieser and J. Cason. bibliog Am Chem Soc J 62:1293-8 My '40

METHYLENECYCLOBUTANE
Reaction of benzene with methylcyclobutene and methylenecyclobutane in the presence of sulfuric acid. V. N. Ipatieff and H. Pines. Am Chem Soc J 61:3374-6 D '39

METHYLENE green
System activated sludge-oxygenated water; controlled adsorption. D. Dickinson. bibliog Soc Chem Ind J 59:78-80 Ap '40

METHYLENE group
Les applications de l'oxyde de sélénium à l'oxydation des composés organiques. Y. Mayor. bibliog Chimie & Ind 43:188-94 F 5 '40
Some condensation products of *m*-dialkylaminobenzaldehydes with compounds containing reactive methylene groups. W. Cocker and D. G. Turner. Chem Soc J p57-9 Ja '40
Tetra alkyl methylene immonium salts. H. G. Reiber and T. D. Stewart. Am Chem Soc J 62:3026-30 N '40

METHYLENEIMINE
Cyclic methyleneimines; hydrolysis of quaternary compounds and preparation of aliphatic secondary amines. R. Blundell and J. Graymore. Chem Soc J p1787-9 N '39

METHYLENE phenanthrene
Synthesis of 4,5-methylenechrysene and 1',9-methylene-1,2-benzanthracene from 4,5-methylenephenanthrene. L. F. Fieser and J. Cason. bibliog Am Chem Soc J 62:1293-8 My '40

METRIC system
Weights of metric steel sizes in English units; conversion table for round, square, and hexagonal stock and for flat stock; reference book sheets. H. S. Cameron. Am Mach 84:545, 547 Jl 24 '40

METRO-GOLDWYN-MAYER studios

Research department
Movies use research. R. R. Bruce. Special Lib 30:291-4 N '39

METROPOLITAN casualty insurance company
Examination results by New York insurance department, Dec. 1939. East Underw 41:38 O 25 '40; Weekly Underw 143:971 O 26 '40

METROPOLITAN districts
Finding your market in a metropolis. F. R. Coutant. il map Adv & Sell 33:38, 40, 42+ Mr '40
Food store sales in metropolitan areas, 1938; Printers' Ink market explorations. maps Ptr Ink Mo 40:30-1, 33-5 Mr '40
Income tax returns, 1936, 1937, 1938; in 132 metropolitan areas, listed by state and city. Ptr Ink Mo 41:29 Jl '40
Lumber, building supply and hardware store sales in metropolitan areas, 1938; Printers' Ink market explorations. maps Ptr Ink Mo 40:40-1, 43-5 F '40
New and used car sales in metropolitan areas, 1938; Printers' Ink market explorations. map Ptr Ink Mo 40:34-5, 37-9 Ja '40
New census shows city suburbs are fastest growing markets; an analysis of 1940 population trends. A. H. Johnson. Sales Management 47:66, 68, 70+ N 15 '40
1938 retail sales in metropolitan area drug stores; Printers' Ink market explorations. map Ptr Ink Mo 39:34-5, 37-9 D '39
Politics of integration in metropolitan areas. V. Jones. Ann Am Acad 207:161-7 Ja '40
Possible use of Ohio conservancy act for developing and operating water and sewerage facilities in metropolitan areas. F. H. Waring. Am Water Works Assn J 32:570-5 Ap '40
Statistical study of the drawing power of cities for retail trade. J. A. Pfanner, jr. bibliog J Business 13:1-81 pt 2 Ap '40

See also
Chicago—Metropolitan district

METROPOLITAN life insurance company
New publication; Group news. East Underw 41:1 O 18 '40
1940 field convention. East Underw 41:3-4+ Ap 26 '40; Nat Underw (Life ed) 44:1+ Ap 26 '40

METZGER, Jacob Elry, 1882-1939
Sketch. T. B. Symons. Science 91:208 Mr 1 '40

MEXICANS in the United States
Money disbursement of wage earners and clerical workers, 1934-36; Mexican families in Los Angeles. F. M. Williams and A. C. Hanson. U S Bur Labor Statistics Bul 639: 85-109 '39

MEXICO
Audit in Mexico. G. R. Mercader. J Account 70:151-7 Ag '40
Commercial travelers' guide to Latin America; pt. 3, Mexico, Central America and Caribbean countries. fold maps U S Bur For & Dom Com, Trade Promotion Ser 208: 1-58 '40
Mexican earth. T. Downing. 337p $3 Doubleday '40
Mexican regulations for transborder visiting cards on northern frontier of Mexico with the exception of lower California. H. P. Crawford. Comm Rep p494 Je 1 '40
Mexico today. A. P. Whitaker, ed. maps Ann Am Acad 208:1-186 bibliog(p181-6) Mr '40

See also
Advertising—Mexico
Copyright—Mexico
Irrigation—Mexico
Labor laws and legislation—Mexico
Mines and mineral resources—Mexico
Mining industry and finance—Mexico
Petroleum industry and trade—Mexico
Railroads—Mexico
Taxation—Mexico

Bibliography
Bibliography on Mexico today. Ann Am Acad 208:181-6 Mr '40
Mexican imprints, 1544-1600, in the Huntington library; an exhibition prepared and described by H. R. Wagner. 35p pa 25c Henry E. Hunting library and art gallery, San Marino, Calif. '39

Commerce
Mexico's trade trends; recent perplexities and present outlook. A. J. Powers. For Comm W 1:235-7+ N 9 '40

Economic conditions
Business situation, 1939. Comm Rep p5-6 Ja 6 '40
Eye-witness of Mexico. R. H. K. Marett. 268p $3 Oxford '39

Expropriation policy
Denials of justice. 167p Standard oil company (N.J.) 30 Rockefeller plaza, New York '40
Expropriation in Mexico; the facts and the law. R. B. Gaither. 204p $2 Morrow '40
Hull asks settlement of Mexican oil case. Oil Paint & Drug Rep 137:3+ Ap 15 '40
Mexican court rules on expropriated oil properties' value. Comm & Fin Chr 151:1364 S 7 '40
Mexican courts uphold oil seizure. Business Week p59-60 D 9 '39
Mexican expropriations. J. L. Kunz. 64p pa $1 New York univ, Law quarterly review, 100 Washington sq. E., New York '40
Mexican oil seizures before Mexican Supreme court; justice submits opinion to court holding government's action valid. Comm & Fin Chr 149:3185 N 18 '39
Mexican Supreme court upholds government's seizure of foreign owned oil properties. Comm & Fin Chr 149:3637 D 9 '39
Mexico announces signature of agreement with Sinclair oil co.; rejects arbitration in oil expropriation case. Comm & Fin Chr 150: 2964-6 My 11 '40
Mexico holds aces in oil dispute; silver, however, may be a club. Business Week p51-2 My 11 '40
Mexico offers to pay. Business Week p17-18 Ag 31 '40
Mexico pays $1,000,000 to United States on account of American claims of seized lands. Comm & Fin Chr 151:37 Jl 6 '40
Present status of the Mexican oil expropriations. 170p Standard oil co. (N.J.) 30 Rockefeller plaza, New York '40

MEXICO—Expropriation policy—Continued
United States asks Mexico for immediate arbitration of oil expropriation claims; note by Secretary Hull. Comm & Fin Chr 150: 2348-9 Ap 13 '40

Foreign relations

Mexico's foreign relations. R. Beteta. Ann Am Acad 208:170-80 Mr '40

See also
Mexico—Expropriation policy

Industries and resources

Mexican steel; as demonstrated by Harry Wright's La Consolidada of Mexico City, now planning to expand into Texas. il map Fortune 22:81-7+ O '40

Social conditions

War and the acculturation of the masses. M. Gamio. Ann Am Acad 210:28-34 Jl '40

MEYER, Eugene, 1875-
Portrait. Fortune 21:50 My '40

MIAMI, Florida
Monuments for municipal surveys. E. M. Rader. il diags Eng N 124:27-8 Ja 4 '40

Architecture

Albion hotel and office building. il diags plans Arch Rec 87:43-8 Mr '40

Bridges

Miami bascule span is south Florida's largest. il Eng N 124:133 Ja 25 '40

MIAMI copper company
Another look. Mag of Wall St 66:680 S 21 '40

MICA
Don't forget mica; Far Eastern situation may put it in the news. Business Week p57-8 O 19 '40

Length changes of whiteware clays and bodies during initial heating, with supplementary data on mica. R. F. Geller and E. N. Bunting. bibliog diag J Research Nat Bur Stand 25:15-40 Jl '40

Mica industry in Canada, 1939. 11p pa 25c Canada. Dominion bur. of statistics, Ottawa '40

Mica production in North Carolina. il Manuf Rec 109:58 F '40

Pneumoconiosis among mica and pegmatite workers. W. C. Dreessen and others. 74p pa 15c Supt. of doc. '40; Review. Pub Health Rep 55:1459-60 Ag 9 '40

Shortcomings of mica insulation for aviation spark plugs. V. Cronstedt. il diags S A E J 46:233-5+ Je '40; Abstract. Automotive Ind 82:108 F 1 '40

See also
Muscovite

MICA, Substitutes for
See also
Alsifilm

MICARTA
Laminating phenolic plastic; Westinghouse micarta plant at Trafford, Pa. flow sheet il Chem & Met Eng 47:183-6 Mr '40

Micarta as a bearing material to carry heavy loads in ball mills. Mach 46:250 D '39

MICE
Lymphocytic choriomeningitis; gray mice, mus musculus, a reservoir for the infection. C. Armstrong, J. J. Wallace and L. Ross. bibliog Pub Health Rep 55:1222-9 Jl 5 '40

New factor of the vitamin B complex required by the albino mouse. E. R. Norris and J. Hauschildt. bibliog Science 92:316-17 O 4 '40

Sex differences in the structure of Bowman's capsule in the mouse. C. Crabtree. Science 91:299 Mr 22 '40

MICELLES
Intermicellar hole and tube system in fiber structure. H. Mark. il diags J Phys Chem 44:764-88 bibliog(118 references, p785-8) Je '40

Der micellare aufbau der cellulose und ihrer derivate. O. Kratky. bibliog il diags Angew Chemie 53:153-62 Ap 13 '40

MICHAEL reaction
β-benzohydrylglutaric acid. M. S. Newman, L. M. Joshel and P. H. Wise. bibliog Am Chem Soc J 62:1861-3 Jl '40

Condensations brought about by bases; the Michael type of condensation with certain esters and α,β-unsaturated keto compounds. C. R. Hauser and B. Abramovitch. bibliog Am Chem Soc J 62:1763-6 Jl '40

Some Michael condensations involving benzyl cyanide. R. W. Helmkamp, L. J. Tanghe and J. T. Plati. bibliog Am Chem Soc J 62:3215-19 N '40

MICHELIN, Edouard, 1856-1940
Sketch. Rubber Age 47:406 S '40

MICHIGAN
Land nobody wanted. W. Sibley. Paper Ind 22:546 S '40

Michigan migrations; pick any vacation, find it in Michigan. il Ind & Eng Chem News ed 18:531-3 Je 25 '40

See also
Petroleum industry and trade—Michigan

MICHIGAN, Lake
Lake Michigan water for Grand Rapids, Mich.; with cost data. A. W. Consoer and J. A. Fulkman. il plan Civil Eng 10:3-6 Ja '40

Taste and odor control on Lake Michigan. N. A. Thomas. Am Water Works Assn J 32:1183-6 Jl '40

MICHIGAN alkali company
Fiftieth anniversary. Oil Paint & Drug Rep 138:3+ O 21 '40

Honors 567 veteran employees. il Oil Paint & Drug Rep 138:5+ O 28 '40

MICHIGAN Bell telephone company
Earnings, 1936-39. Comm & Fin Chr 150:1140 F 17 '40

MICHIGAN public service company
Securities offered. Comm & Fin Chr 151:2356-7 O 19 '40

MICHIGAN university
Detroit center. Science 91:308-9 Mr 29 '40
Symposium in theoretical physics at the University of Michigan. Science 91:426-7 My 3 '40

MICHLER'S hydrol
Action of sodium nitrite on Michler's hydrol in hydrochloric acid. A. C. Hutchison and T. H. Reade. Chem Soc J p93-6 Ja '40

MICHLER'S ketone
Coördinate compounds in the color test for organometallic compounds. H. Gilman and R. G. Jones. bibliog Am Chem Soc J 62:1243-7 My '40

MICKEL, Jesse Eugene, 1870-
Uncle Jesse's school did it! story behind the frontispiece. por Inland Ptr 104:25-6 Ja '40

MICROANALYSIS
Accuracy and precision of microanalytical determination of carbon and hydrogen; a statistical study. F. W. Power. bibliog Ind & Eng Chem Anal ed 11:660-73 D 15 '39

Anorganische chromatographie als hilfsmethode der mikroanalyse. G. M. Schwab and A. N. Ghosh. diag Angew Chemie 53:39-40 Ja 20 '40

Anwendung elektrometrischer methoden in der mikrochemie. U. Ehrhardt. diags Angew Chemie 53:125-8 Mr 16 '40

Apparatus for semimicrodetermination of carbon and hydrogen. C. Niemann and V. Danford. il diags Ind & Eng Chem Anal ed 12: 563-6 S 15 '40

Ash in organic compounds; determination by microtechnique with automatic combustion. A. R. Norton, G. L. Royer and R. Koegel. il Ind & Eng Chem Anal ed 12: 121-3 F 15 '40

Colorimetric microdetermination of magnesium. C. P. Sideris. Ind & Eng Chem Anal ed 12:232-3 Ap 15 '40

MICROANALYSIS—*Continued*
Determination of carbon disulfide in air by means of copper and diethylamine in 2-methoxyethanol. F. F. Morehead. bibliog il Ind & Eng Chem Anal ed 12:373-4 Je 15 '40
Determination of indium by micromethods. G. L. Royer. bibliog Ind & Eng Chem Anal ed 12:439-40 Jl 15 '40
Determination of ruthenium by thionalide; absorption of ruthenium tetroxide with hydrogen peroxide. W. J. Rogers, F. E. Beamish and D. S. Russell. bibliog Ind & Eng Chem Anal ed 12:561-3 S 15 '40
Determination of saturated hydrocarbons; aliphatic, aromatic, and hydroaromatic hydrocarbons of the cyclohexane series. E. Berl and W. Koerber. diags Ind & Eng Chem Anal ed 12:175-6 Mr 15 '40
Determination of sulfur in organic compounds; a new microchemical method for compounds containing no other elements than carbon, hydrogen, nitrogen, sulfur, and oxygen. E. W. D. Huffman. bibliog diags Ind & Eng Chem Anal ed 12:53-8 Ja 15 '40
Determination of the carbon content of organic materials; a simple micromethod. B. E. Christensen, R. Wong and J. F. Facer. bibliog diag Ind & Eng Chem Anal ed 12: 364-5 Je 15 '40
Electrochemical methods in microchemistry. E. B. Ashcraft. bibliog Electrochem Soc Trans 78 (preprint 9):127-35 O '40; Same. Can Chem & Process Ind 24:525-6, 528, 530 bibliog(p530) O '40; Discussion. Electrochem Soc Trans 78 (preprint 9):135-7 O '40
Equivalent weights of salts of organic acids; microdetermination by electrodialysis. K. H. Dittmer and R. G. Gustavson. diags Ind & Eng Chem Anal ed 12:297-9 My 15 '40
Estimation of submicroquantities of calcium. A. E. Sobel and I. A. Kaye. Ind & Eng Chem Anal ed 12:118-20 F 15 '40
Field and laboratory microanalysis by means of a portable drop reaction kit. P. W. West and L. Smith. il diags J Chem Educ 17: 139-45 Mr '40
Flat-bottomed microcups as weighing bottles and reaction vessels for Kjeldahl analyses of viscous liquids. G. E. Ferguson and L. Schefian. Ind & Eng Chem Anal ed 12:553 S 15 '40
Fundamentals of semimicro qualitative analysis. E. B. Kelsey and H. G. Dietrich. 350p $2.75 Macmillan '40
Furnace for micro-Carius determination. J. A. Kuck and M. Griffel. il diags Ind & Eng Chem Anal ed 12:125-6 F 15 '40
Handbook of chemical microscopy; v. 2, Chemical methods and inorganic qualitative analysis. E. M. Chamot and C. W. Mason. 2d ed 438p bibliog(p425-6) $5 Wiley '40
Limits of identification of simple confirmatory tests. A. A. Benedetti-Pichler and J. R. Rachele. bibliog il diags Ind & Eng Chem Anal ed 12:233-41 Ap 15 '40
Method for the determination of carbonate in small amounts of materials. F. E. Jones. diags Soc Chem Ind J 59:21-3 Ja '40
Microanalysis of gases; acetylene, benzene, and some procedure modifications. F. E. Blacet, A. L. Sellers and W. J. Blaedel. diag Ind & Eng Chem Anal ed 12:356-7 Je 15 '40
Micro-analytical methods as applied to inorganic substances; abstract. I. H. Hadfield. Chem & Ind 59:236-7 Ap 6 '40
Micro-Carius halogen and sulfur determination. J. B. Niederl and others. bibliog diags Ind & Eng Chem Anal ed 12:428-31 Jl 15 '40
Microchemical kits. R. D. Cool. bibliog il J Chem Educ 17:283-6 Je '40
Micro-determination of bromine in foodstuffs. W. P. Ford and others. bibliog Soc Chem Ind J 59:177-80 Ag '40
Microdetermination of carbon and hydrogen; use of Abrahamczik absorption tubes. R. O. Clark and G. H. Stillson. bibliog il diags Ind & Eng Chem Anal ed 12:494-8 Ag 15 '40
Microdetermination of cholesterol in serum. H. K. Alber and J. T. Bryant. Franklin Inst J 229:113-25 Ja '40
Microdetermination of iron with the silver reductor. S. M. Edmonds and N. Birnbaum. Ind & Eng Chem Anal ed 12:60-1 Ja 15 '40
Microdetermination of organic carbon by the wet method. E. F. Degering and T. Z. Ball. bibliog diags Ind & Eng Chem Anal ed 12: 124-5 F 15 '40
Microdetermination of sulfate obtained from combustion of organic compounds; tetrahydroxyquinone as an indicator in a volumetric method. L. T. Hallett and J. W. Kuipers. bibliog Ind & Eng Chem Anal ed 12:360-3 Je 15 '40
Microdetermination of sulfur in organic compounds; an absorption apparatus for use with the combustion method. L. T. Hallett and J. W. Kuipers. diags Ind & Eng Chem Anal ed 12:357-9 Je 15 '40
Micro-diffusion analysis and volumetric error. E. J. Conway. 306p bibliog(p294-8) $6 Van Nostrand '40
Microgravimetric determination of active hydrogen by the Grignard reagent; application to analysis of impregnated paper insulating tapes. R. N. Evans, J. E. Davenport and A. J. Revukas. bibliog diag Ind & Eng Chem Anal ed 12:301-3 My 15 '40
Microscopic determination of the ore minerals. M. N. Short. 2d ed diags U S Geol S Bul 914:173-314, pl 1-14 '40
Microscopic identification of certain sugars and polyhydric alcohols. J. A. Quense and W. M. Dehn. bibliog il Ind & Eng Chem Anal ed 12:556-60 S 15 '40
Microscopic method for portland cement in dust samples. I. A. Pearl. il Ind & Eng Chem Anal ed 12:492-3 Ag 15 '40
Microtechnique of organic qualitative analysis; group tests for compounds of carbon, hydrogen, and oxygen. D. G. Foulke and F. Schneider. bibliog diags Ind & Eng Chem Anal ed 12:554-6 S 15 '40
Microtitration of selenium as applied to abnormal amounts of selenium in urine. G. Wernimont and F. J. Hopkinson. bibliog il diag Ind & Eng Chem Anal ed 12:308-10 My 15 '40
Mikroanalytische forschungen in der metallkunde. M. Niessner. il Angew Chemie 52: 721-6 D 30 '39
Mikroskopische methoden zur identifizierung organischer substanzen. L. Kofler. Angew Chemie 53:167-8 Ap 13 '40
Die mikro-stickstoffbestimmung nach Dumas-Pregl. F. Fischer. bibliog il diag Chemische Fabrik 13:154-6 My 4 '40
New apparatus for qualitative semimicro-analysis. H. H. Barber. diags Ind & Eng Chem Anal ed 12:58-60 Ja 15 '40
New method for the micro-analysis of gases. R. Spence. diags Chem Soc J p1300-3 S '40
Pantothenic acid; evidence for structure of non-β-alanine portion. H. K. Mitchell and others. bibliog Am Chem Soc J 62:1776-9 Jl '40
Photographic silver-gelatin paper as a reagent in spot analysis. G. Schwarz. Ind & Eng Chem Anal ed 12:369-72 Je 15 '40
Portable laboratory for the microscopist. G. Weingarten. il J Chem Educ 17:293-5 Je '40
Precision of the microelectrolytic determination of copper. W. M. MacNevin and R. A. Bournique. bibliog Ind & Eng Chem Anal ed 12:431-3 Jl 15 '40
Scheme for qualitative chemical analysis employing spot tests. W. C. Davies. J Chem Educ 17:231-4 My '40
Systematic qualitative organic microanalysis; determination of the refractive index of liquids. H. K. Alber and J. T. Bryant. bibliog diag Ind & Eng Chem Anal ed 12:305-7 My 15 '40

Study and teaching
Semi-micro qualitative analysis for college freshmen. J. L. Dalton. bibliog J Chem Educ 17:182-6 Ap '40

MICROBIOLOGY. See Microorganisms
MICROBIOLOGY, Inter-American society of. See Inter-American society of microbiology

MICROCHEMISTRY

American chemical society; Division of microchemistry; abstracts of papers. Chem & Ind 59:662-3 S 21 '40

Chemical microscopy to-day; applications in many branches of chemical industry. C. L. Wilson. il Chem Age (Lond) 42:239-43 bibliog(98 titles, p242-3) Ap 27 '40

Electrochemical methods in microchemistry. E. B. Ashcraft. bibliog Electrochem Soc Trans 78 (preprint 9):127-35 O '40; Same. Can Chem & Process Ind 24:525-6, 528, 530 bibliog(p530) O '40; Discussion. Electrochem Soc Trans 78 (preprint 9):135-7 O '40

Friedrich Emich. A. A. Benedetti-Pichler. Ind & Eng Chem Anal ed 12:226-9 bibliog(53 references, p229) Ap 15 '40

Handbook of chemical microscopy; v. 2, Chemical methods and inorganic qualitative analysis. E. M. Chamot and C. W. Mason. 2d ed 438p bibliog(p425-6) $5 Wiley '40

Micro-chemical methods; abstract. W. Doran. Chem & Ind 59:75 F 3 '40

New Sartorius-Ramberg micro-balance. J. Kuck and E. Loewenstein. bibliog il diag J Chem Educ 17:171-6 Ap '40

See also
Microanalysis

MICRODENSITOMETER. See Densitometers

MICROFILMS

Design decade. diags plan Arch Forum 73: 305+ O '40

Medicofilm service of the army medical library. Science 92:280 S 27 '40

Micro-film development. D. G. Rogers. Special Lib 31:235-6 Jl-Ag '40

Microfilm with the 35-millimeter candid camera. J. D. Reid. Science 91:555-6 Je 7 '40

Simple method for the filing of microfilm records in short length strips. H. P. Brown and J. A. Austin. Science 90:573-4 D 15 '39

MICROGRAM (term)

Microgram and millimicrogram. Ind & Eng Chem Anal ed 12:359 Je 15 '40

MICROMETERS

Convenient electrical micrometer. R. Gunn. diag R Sci Instr 11:204 Je '40

Direct and comparison measurements. C. C. Street. il Am Mach 84:565-6 Ag 7 '40

Electrical micrometer; abstract. R. Gunn. diag Automotive Ind 82:16 Ja 1 '40

Electronic micrometer and its use in mechanical measurements. diag Electronics 13: 72 S '40

Guyer sheet gauger; mechanical micrometer. il Blast F & Steel Pl 27:1263 D '39

Micrometer attachment for measuring coil springs. H. Moore. diag Mach 46:112 Ag '40

New electrical micrometer measures. R. Gunn. Science 90:supl0 D 8 '39

MICROORGANISMS

Effects of storage on microbial content of spices. H. W. Smith. Food Ind 12:52+ N '40

Industrial microbiology. S. C. Prescott and C. G. Dunn. 541p $5 McGraw-Hill '40

Living organisms in gas purification. G. E. Seil. Gas Age 85:36+ Je 6 '40

Microbes by the million. H. Nicol. 247p pa 6d Penguin books, Harmondsworth, Eng. '39

Microbiology applied to nursing; a combined text book and laboratory guide. J. Broadhurst and L. I. Given. 4th ed rev 653p bibliog(p611-13) $3 Lippincott '39

Microscopic world. F. Thone. 245p $3 Julian Messner, 8 W. 40th st, New York '40

Report of proceedings of the third International congress for microbiology, New York, September 2-9, 1939. M. H. Dawson, ed. 883p $5 The congress, K. Goodner, treas, Hospital of the Rockefeller inst, York av. & 66th st, New York '40

Sur la fabrication industrielle des enzymes microbiennes. I. A. Effront. bibliog Chimie & Ind 43:3-12 Ja 5 '40

Textbook of microbiology; 2d ed. of A textbook of bacteriology. K. L. Burdon. 638p bibliog(p605-11) $2.75 Macmillan '39

See also
Bacteria
Fermentation
Fungi
Microscope and microscopy
Mildew
Viruses

MICROORGANISMS, Pathogenic

Flip of a switch; use of Sterilamp to destroy harmful microorganisms. T. R. Porter. il Safety Eng 80:15-16 S '40

Introduction to the microbiology of water and sewage for engineering students. P. L. Gainey. 283p spiral binding $3 Burgess pub. co, Minneapolis '39

Microbiology and nursing. E. C. Piette and J. M. White. 331p $3 Davis '40

Microbiology and pathology. C. F. Carter. 2d ed 755p 165il $3.25 C. V. Mosby co, St Louis '39

Microbiology and pathology. C. G. Sinclair. 5th rev ed 393p $2.60 Davis '40

Microbiology, pathology, and nursing. E. C. Piette and J. M. White. 567p $3.50 Davis '40

See also
Bacteria, Pathogenic
Fungi, Pathogenic

MICROPHONES

Condenser type high speed engine indicator. L. C. Roess. bibliog il diags R Sci Instr 11:183-95 Je '40

Double microphone effects. J. Stokley. Science 92:supl4 S 27 '40

Multi-pattern cardioid microphone. il diags Electronics 13:109 Ap '40

Shure brothers dynamic (cardioid type). il diag Radio N 24:29 N '40

See also
Loud speaking apparatus
Radio apparatus
Radio broadcasting
Sound—Recording and reproduction

MICROPHOTOGRAPH (term)

Microphotographs and photomicrographs. Engineering 149:566 Je 7 '40

MICROPHOTOGRAPHY

Microphotography in 1939. L. A. Sayce. Assn of Sp Lib & Inf Bur Proc 1939:77-83

See also
Microfilms
Photomicrography

MICROSCOPE and microscopy

Chemical microscopy to-day; applications in many branches of chemical industry. C. L. Wilson. il Chem Age (Lond) 42:239-43 bibliog(98 titles, p242-3) Ap 27 '40

Cross sections of pulp fibers. J. H. Graff, M. A. Schlosser and E. K. Nihlen. il Paper Tr J 111:75-80 Ag 29 '40

Dry-ice freezing unit for cutting frozen sections. K. U. Smith. diag Science 92:364 O 18 '40

Elements of botanical microtechnique. J. E. Sass. 222p bibliog(p215-16) $2.50 McGraw-Hill '40

Home-made toolmakers' microscope. E. W. Pennington. il Am Mach 84:460-1 Je 26 '40

Labor-saving technique for leaf samples in histological work. W. E. Gordon. Science 91:390 Ap 19 '40

Laboratory space for chemical microscopy. C. E. Otto. il diags J Chem Educ 17:331-3 Jl '40

Microdissection of paper pulp fibers. C. W. Hock and W. Seifriz. il diag Paper Tr J 110:31-2 F 1 '40

Microscope. R. M. Allen. 286p bibliog(p247-53) $3 Van Nostrand '40

Microscope aids "mike"; steel examined to determine causes of cutting difficulties. R. C. Gibbons. il Am Mach 84:170-3 Mr 20 '40

Microscope as a shop tool. J. Dauber. diags Am Mach 84:530-3 Jl 24 '40

Microscope hot stage for determination of melting points; application to carotenoid pigments. F. P. Zscheile and J. W. White, jr. bibliog il diags Ind & Eng Chem Anal ed 12:436-8 Jl 15 '40

Microscopic determination of the ore minerals. M. N. Short. 2d ed il diags U S Geol S Bul 914:1-314, pl 1-14 '40

MICROSCOPE and microscopy—*Continued*
Microscopic examination of cotton fibers in cuprammonium hydroxide solutions. C. W. Hock and M. Harris. bibliog 6 pls J Research Nat Bur Stand 24:743-8 Je '40; Same. Am Dyestuff Rep 29:287-92 Je 10 '40
Microscopic method for portland cement in dust samples. I. A. Pearl. il Ind & Eng Chem Anal ed 12:492-3 Ag 15 '40
Microscopy in the resin industry; application of micromethods in study of typical resins for various commercial uses. T. G. Rochow. il Ind & Eng Chem Anal ed 11:629-34 N 15 '39
Microtome for lead cable sheath. H. P. Nielsen. il Metal Prog 38:178-9 Ag '40
Nature of the glass in portland cement clinker. H. Insley. bibliog pls J Research Nat Bur Stand 25:295-300 S '40; Excerpts. Concrete (mill sec) 48:270+ N '40
Optical devices used by, or of interest to, the meter and measuring instrument engineer; microscope for inspection of jewel bearings and pivots. F. E. J. Ockenden. diags Inst E E J 86:457-9, pl 2 My '40
Petrographic methods and their application to the examination of nonmetallic materials. G. T. Faust and A. Gabriel. bibliog(45 titles) U S Bur Mines Information Circ 7129:1-15 '40
Plant microtechnique. D. A. Johansen. 523p bibliog(p493-502) $4.50 McGraw-Hill '40
Polarizing comparison-microscope for use in petrographic measurements. G. T. Faust. pls U S Bur Mines Rep of Invest 3503:1-7 '40; Abstract. Can Chem & Process Ind 24:256 My '40
Spatulate pipette serving as section lifter. E. M. Schleicher. diag Science 92:182 Ag 23 '40
Speedier and less costly method of concentration in nitro-cellulose imbedding. H. W Jensen. diag Science 91:509-10 My 24 '40
Spencer stereoscopic microscope. il Paper Tr J 110:14 My 9 '40
Textile fiber atlas. W. von Bergen and W. Krauss. il Rayon 21:17-20, 85-8, 149-53, 285-9, 349-53, 409-12, 469-72 Ja-Mr, My-Ag '40
Use of a translongitome in making and interpreting alternate transverse and longitudinal serial sections. D. M. Crooks. diags Science 91:150 F 9 '40
Using microscopes to facilitate accurate machine work. A. Baker. il Mach 46:129 Mr '40

See also
Metallography
Microanalysis
Microchemistry
Photomicrography
Stains and staining (microscopy)

Electron microscope
Electron microscope. V. K. Zworykin. il diags Instruments 13:151 Je '40
Electron microscope; abstract. M. Benjamin. Chem & Ind 59:314-15 My 4 '40
Electron microscope and television. J. Stokley. Science 92:sup8 N 1 '40
Electron microscope for the research laboratory. V. K. Zworykin. il diags Science 92: 51-3 Jl 19 '40
Electron microscope reveals size and shape of ultimate particles of carbon black. Ind & Eng Chem News ed 18:492 Je 10 '40
Electrons extend the range. V. K. Zworykin. il diags Elec Eng 59:441-3 N '40
Fresnel diffraction of electrons as a contour phenomenon in electron supermicroscope images. J. Hillier. il Phys R 58:842 N 1 '40
New electron microscope. L. Marton. il diag Phys R 58:57-60 Jl 1 '40
New electron microscope. L. Marton, M. C. Banca and J. F. Render. il diags RCA R 5: 232-43 O '40
New electron microscope developed at Camden. il diag Electronics 13:38+ My '40
Particle size and shape of colloidal carbon as revealed by the electron microscope. bibliog il Rubber Age 47:309-16 Ag '40
Physikalisch-chemische untersuchungen mit dem Universal-elektronenmikroskop; abstract. D. Beischer. Angew Chemie 53:237 My 25 '40
Report on the development of the electron supermicroscope at Toronto. E. F. Burton, J. Hillier and A. Prebus. il Phys R 56:1171-2 D 1 '39
Seeing with electricity. J. Harrington. il diags Sci Am 163:20-2+ Jl '40
Untersuchungen von katalysatoren mit dem Universal-elektronenmikroskop. M. v. Ardenne and D. Beischer. il Angew Chemie 53:103-7 Mr 2 '40
Who ever dares say never? Sci Am 163:9 Jl '40

Lighting
Practical and useful microscope light. W. Farrar. il diag Min & Met 21:332 Jl '40

MICROSCOPIC slides
Cellophane cover slips and a method for mounting. I. Bucholtz. Science 92:436 N 8 '40
Isobutyl methacrylate as a mounting medium for histological preparations. J. M. Hamilton. Science 92:44 Jl 12 '40
Plastic cover glass, isobutyl methacrylate. H. C. O'Brien and R. T. Hance. Science 91:412 Ap 26 '40; Discussion. R. A. Groat. 92:268 S 20 '40
Use of plastic as a substitute for cover glasses; cellulose acetate, Vue Pak. V. Suntzeff and I. Smith. Science 92:17-18 Jl 5 '40

MICROTOMES. See Microscope and microscopy

MID-CONTINENT airlines, inc.
Stock offered. Comm & Fin Chr 150:1286 F 24 '40
Stock offered. Comm & Fin Chr 151:2651-2 N 2 '40

MID-CONTINENT petroleum corporation
Earnings, 1936-39. Comm & Fin Chr 150:3666 Je 8 '40
Low-priced stocks paying dividends; thumbnail appraisal. Mag of Wall St 65:296 D 16 '39
Where Mid-Continent stands today. P. Dobbs. il Mag of Wall St 66:421-2+ Jl 13 '40

MIDDLE age
Americans, live longer! W. W. Bauer. 219p $2 Bobbs '40

See also
Age
Old age

MIDDLE classes
Fortune survey; U.S. is middle class. Fortune 21:14+ F '40
Middle classes in American politics. A. N. Holcombe. 304p bibliog(p289-99) $2.50 Harvard univ. press '40
Poor and the rich too heavily taxed; middle class should pay more. R. B. Pettengill. Annalist 56:271 Ag 29 '40
Who pays the biggest bill? pictograph. Sales Management 46.36 Ja 15 '40

MIDDLE WEST
Unfair to Midwest; seeking war plants. Business Week p16 Ag 3 '40

See also
De Witt county, Illinois

MIDDLE WEST corporation
Annual report. Comm & Fin Chr 150:2887-8 My 4 '40
SEC offers suggestions on integration. Comm & Fin Chr 151:109 Jl 6 '40
Test case for holding company integration. map Pub Util 26:162-3 Ag 1 '40

MIDLAND bank limited
Ordinary general meeting, London. Economist 138:220-2 F 3 '40

MIDVALE company
Baldwin locomotive; speculative stake in armaments, rail equipment and machinery. R. Carleson. il Mag of Wall St 65:476-8 Ja 27 '40

MID-WEST architectural conference
Annual conference, 2d, Bloomfield Hills, Mich. Arch Rec 88:10 O '40

MIDWEST defense conference
Midwest is quieted; Kansas City parley becomes educational show. Business Week p17 S 7 '40

MIDWEST power conference
Conference, Chicago, April 9-10. Power 84: 330-1+ My '40; Power Pl Eng 44:66-8+ My '40; Elec W 113:1220 Ap 20 '40

MID-WEST refineries, Incorporated
Preferred stock offered. Comm & Fin Chr 151:1579 S 14 '40

MIDWEST wildlife conference
Annual meeting, 6th, Urbana, Nov. 14-16. Science 92:396-7 N 1 '40

MIDYETTE, Payne H.
President of National association of insurance agents. por East Underw 41:21 S 20 '40

MIGRANT problem
Agricultural workers' health and medical association, California, provides medical service for migratory workers and their families. R. G. Leland. Monthly Labor R 51:333-7 Ag '40
California replies to Steinbeck; State chamber of commerce offers program stressing need for rehabilitation and adequate housing. Business Week p17 My 11 '40
Government camps for agricultural workers. Monthly Labor R 50:625-7 Mr '40
House creates committee to study interstate migration of destitute citizens. Comm & Fin Chr 150:2652 Ap 27 '40
Interstate conference on migratory labor. Monthly Labor R 50:857-8 Ap '40
Medical care for migratory workers; abstract. R. G. Leland. J Ind Hygiene 22:sup 71-2 Ap '40
Migrant households in California, 1935. Monthly Labor R 49:622-3 S '39
Migration and social welfare. P. E. Ryan. 114p bibliog(p99-110) pa 50c Russell Sage foundation, 130 E. 22d st, New York '40
Migratory strawberry pickers of McCracken county, Kentucky, and White county, Arkansas in 1939. R. G. Fuller. Monthly Labor R 50:1416-17 Je '40
Okies, a national problem; California prepares to ask federal government to assume responsibility for migrants. il map Business Week p16-17 F 10 '40
Private homesteads for the Okies; plan for gradual acquisition of idle, repossessed California land by migrant families. il Business Week p24-6 Mr 9; 24-6 Ap 6 '40
Rural migration in the United States. C. E. Lively and C. Taeuber. 192p bibliog(p177-83) Work projects administration, Washington, D.C. '39

MIGRATION
See also
Farm population
Immigration and emigration

MIGRATION of industry. See Industry—Migration

MIGRATION of workers
American exodus; a record of human erosion. D. Lange and P. S. Taylor. 158p $2.75 Reynal & Hitchcock, New York '39
Caravans to the Northwest. J. Blanchard. 123p bibliog(p120) $1.90; pa $1.24 Houghton '40
Farm-city migration and industry's labor reserve. F. M. Vreeland and E. J. Fitzgerald. 67p Work projects administration, Washington, D.C. '39
Men on the move. N. Anderson. 357p bibliog(p343-9) $3 Univ. of Chicago press '40
Migration into Oregon, 1930-37. V. B. Stanbery. Monthly Labor R 49:1106-8 N '39
Migratory cotton pickers in Arizona. Monthly Labor R 50:62-5 Ja '40
Move on, youth! T. O. Nall. 181p bibliog (p179-81) $1; pa 60c Friendship press, 156 5th av, New York '40
See also
Migrant problem

MIKKOLA, Erkki, d 1940
Tribute; with excerpt from letter to his wife. R. F. Flint. Science 91:611-12 Je 28 '40

MILDEW
Developments in mold and mildew prevention. W. A. Stringfellow. diags Am Dyestuff Rep 29:266-9 My 27 '40
Molds; development, identification, prevention; abstract. J. Rière. Am Dyestuff Rep 29:211-12 Ap 15 '40

MILEPOSTS, Nautical
Hartley measured mile. Engineering 148:497-9 N 3 '39

MILITARY aeronautics. See Aeronautics, Military

MILITARY airplanes. See Airplanes, Military

MILITARY art and science
Inventions win wars; suggested developments to detect, defeat warplanes, submarines. W. H. Wenstrom. il diags Sci Am 162:324-7 Je '40
Twentieth century warfare. L. M. Limpus. 205p bibliog(p197-8) $1.75 Dutton '40
See also
Aeronautics, Military
Chemical warfare
Mines, Submarine

MILITARY aviators. See Aviators, Military

MILITARY camps. See Military training camps

MILITARY cloths. See Army fabrics

MILITARY education
Sharp increase in military training; Northwestern National Life survey. Spectator (Life ed) 145:11 Jl 4 '40
See also
West Point military academy

MILITARY engineering
Einsatz der technischen kommandos in Warschau. P. Münch. il V D I 84:125-9 F 24 '40
See also
Concrete construction, Military

MILITARY geography
World in arms, rev. to Mar. 15, 1940. R. E. Dupuy. 2d ed 103p $2 Military service pub. co, Harrisburg, Pa. '40

MILITARY insurance. See Insurance, Military and naval service

MILITARY motor trucks. See Motor trucks, Military

MILITARY pensions. See Pensions, Military

MILITARY posts
Buildings administration starts defense housing work; Ft. Knox project. Eng N 125:591 N 7 '40
Clay tile solves wall cracking problem; adopted for buildings at U.S. army posts in Texas. il Brick & Clay Rec 95:23 N '39
Concrete masonry is well adapted to army-navy housing. il diags Concrete 48:10-11 N '40
Construction work at Fort Knox reservation. il Pub Works 71:34-5 O '40
Fort Knox defense housing heated with hot water. il Heat & Ven 37:43-5 O '40
Gas service for the modern army. il Gas J (Lond) 230:487-8 Je 5 '40
See also
Military training camps

MILITARY service
Allowances to families of mobilized men in European countries. Monthly Labor R 49: 1362-8 D '39
Allowances to families of mobilised men in Sweden. Int Labour R 42:155-6 Ag-S '40
Canadian restrictions on recruiting. Monthly Labor R 49:1361-2 D '39
Clause protects draftees; International typographical union. Business Week p46-7 Ag 10 '40
Compensation scheme for Swiss soldiers. L. Harrison. Monthly Labor R 50:847-8 Ap '40
Draft bill helps the loan sharks. Business Week p20 Ag 31 '40
Family allowances for mobilized men. Monthly Labor R 49:1362-8; 50:601-4, 843-4 D '39, Mr-Ap '40

MILITARY service—*Continued*
Family allowances for soldiers in the Soviet Union. Monthly Labor R 50:328 F '40
Family allowances in the United States army and navy in the World war. Monthly Labor R 51:454-5 Ag '40
Family allowances to men in armed forces of New Zealand. Monthly Labor R 51:32 Jl '40
Increases in family allowances for British soldiers. Monthly Labor R 50:325-6 F '40
Pay of enlisted personnel in the United States army and navy. Monthly Labor R 51:1-4 Jl '40
Policies governing military leave. Management R 29:263-4 Jl '40
Policy of FHA as to insured loans to those in military service. S. McDonald. Comm & Fin Chr 151:20 sec 3 O 12 '40
Position of mobilised public servants in Belgium, France, Germany, and Britain. Int Labour R 40:807-19 D '39
Position of mobilised public servants in Hungary, Italy, Netherlands, Rumania, Switzerland. Int Labour R 41:64-71 Ja '40
Soldiers' and sailors' civil relief act of 1940. Banking 33:40, 93 N '40
Technique of calling up in Britain. Economist 138:139 Ja 27 '40
Wartime personnel policies in Britain. Management R 29:32-3 Ja '40
When conscription comes, will you be caught napping? C. Norton. Sales Management 47: 62-4 S 1 '40

See also
Conscientious objectors

Credit aspects

Conscription and retail credit. Management R 29:372-3 O '40
Consumer credit problem; effect of war and war preparations; Canada's action. W. B. French. Banking 33:57+ S '40
Time sales vs. draft. Business Week p38-9 O 19 '40
Union of South Africa hire-purchase agreement, moratorium. For Comm W 1:162 O 26 '40

Insurance aspects

Accident and health coverage for service men considered by Bureau of personal accident and health underwriters. Weekly Underw 143:786 O 5 '40; East Underw 41:37 O 4 '40; Ins Field (Fire ed) 69:4+ O 3 '40; Nat Underw 44:25 O 3 '40; Spectator (Life ed) 145:13 O 10 '40
Connecticut Mutual has some war restrictions. Nat Underw (Life ed) 44:18 O 25 '40
Continental Casualty outlines procedure on draftees. Ins Field (Fire ed) 69:15-16 S 26 '40; East Underw 41:55+ S 27 '40; Nat Underw 44:28 S 26 '40; Weekly Underw 143:707 S 28 '40
Draftees protected; Federal life, Chicago provides liberal treatment for policyholders. East Underw 41:15 O 18 '40
Government life insurance provided for military men. Nat Underw (Life ed) 44:1+ O 4 '40
Insurance of those in military service protected against lapse of existing insurance; some provisions of bill. East Underw 41:1+ Ag 16 '40
Insurance premium moratorium for conscripts proposed. Nat Underw (Life ed) 44:2+ Ag 16 '40
Life companies are giving thought to war clause. Nat Underw (Life ed) 44:7 O 4 '40
More companies announce position on covering drafted policyholders. Nat Underw 44: 37+ O 10 '40
New civil relief act summarized; Veterans' administration will protect policies up to $5,000. Ins Field (Life ed) 69:5 N 8 '40; Nat Underw (Life ed) 44:1 O 11 '40
New plan of insurance for men in services; certificate of indemnification proposed; abstracts. C. J. Zimmerman. East Underw 41: 1+ O 25 '40; Nat Underw (Life ed) 44:3, 10 O 25 '40
Reaction to government insurance given in interviews with life insurance officials. Ins Field (Life ed) 69:5+ O 18 '40
Standard Accident rules governing service men. T. Hook. East Underw 41:49 O 11 '40

See also
Insurance, Military and naval service

Labor problems

Absence of employees for military training; abstract. D. G. Donovan. Management R 29:212 Je '40
Company policies regarding drafted employees surveyed by Conference board; many will contribute some compensation. Comm & Fin Chr 151:2286-7 O 19 '40
Conscription; bank officers discuss problems. A. Van Vlissingen. il Burroughs Clearing House 25:11-13+ N '40
Employers show generosity toward workers called to colors. Steel 107:33 N 4 '40
Firms pay guardsmen. Business Week p37 Ag 3 '40
How conscription affects payrolls. Credit & Fin Management 42:30, 44-6 O '40
How much for draftee? Business Week p54 O 5 '40
Johns-Manville guarantees jobs to all employees called for national defense. L. H. Brown. Refrig Eng 40:162 S '40
Manufacturers association group prepares plan dealing with employees during draft period. Comm & Fin Chr 151:2426 O 26 '40
Marketers build second defense to replace personnel called in draft. Nat Pet N 32:29-34 O 30 '40
Military service and contracts of employment; right of reinstatement and payment of wages in Belgium, Hungary, and Italy. Int Labour R 41:165-76 F '40
Military service and contracts of employment; Italy, Rumania, Greece. Int Labour R 42:114-18 Ag-S '40
Military service of employees. 20p Nat. ind. conf. bd. '40
Military training and jobs. L. M. Spencer and R. K. Burns. 64p bibliog(cover) pa 50c Science research associates, 1700 S. Prairie av, Chicago '40
National service and contracts of employment; reinstatement and payment of wages of mobilised workers. E. Herz and I. Bessling. Int Labour R 42:1-28 Jl '40
New York stock exchange to consider employees called for military duty on leave of absence. Comm & Fin Chr 151:1501 S 14 '40
Seniority and military service. Management R 28:405-6 N '39
Supplementing draftees' army pay; questionnaire survey of 29 representative companies. Management R 29:341-3 S '40
What companies are doing about the draft. Business Week p22 O 26; 38-40 N 16 '40
Will the draft pinch your sales force? J. Klein. Adv & Sell 33:30+ N '40

MILITARY service, Compulsory
Business effects of conscription. P. T. Cherington. il Adv & Sell 33:22-4+ S '40
C. A. Dykstra takes oath of office as draft director. Comm & Fin Chr 151:2293-4 O 19 '40
Compulsory military training and service bill introduced in Senate. Comm & Fin Chr 150:3899 Je 22 '40
Conference committee reports compromise conscription bill to both Houses. Comm & Fin Chr 151:1504 S 14 '40
Conscription for employers and employees; questions and answers. Business Week p24 S 21 '40
Draft and you. E. Celler. 82p pa $1 Viking press '40
Draft exempts no one who's fit. Business Week p50-1 O 12 '40
Draft lottery; procedure to be followed. Comm & Fin Chr 151:2425-6 O 26 '40
Draft need not upset U.S. economic picture to any great extent; study of 1917 conscription effects; some suggestions for management. H. L. Stephen. Ptr Ink 192: 9-11, 64+ Ag 9 '40
Draft order numbers drawn at ceremony in Washington. Comm & Fin Chr 151:2580 N 2 '40

MILITARY service, Compulsory—*Continued*
Drafted! both business and man power drawn on by conscription. H. L. Stephen. Ptr Ink 192:65-7 S 20 '40
Fortune survey; would you favor a term of compulsory military service for all young men of eighteen or nineteen? Fortune 20: 116 D '39
Get set for a shake-up. H. B. Bergen. Management R 29:318-20 S '40
How 1940 draft will build new markets; important comparisons with 1917. H. L. Stephen. Ptr Ink 192:123-5, 128 S 27 '40
How the draft worked in U.S. during World war; a report of provost marshal general covering all industries. Ptr Ink 192:66-7, 70 Ag 9 '40
If your skilled men are drafted. Factory Management 98:50 Jl '40
John L. Lewis and William Green both opposed to peacetime conscription. Comm & Fin Chr 151:1375 S 7 '40
Johnny gets his gun, keeps job. Business Week p15-16 Ag 17 '40
Only the strong may continue to live in freedom and peace; speech at draft lottery. F. D. Roosevelt. Comm & Fin Chr 151: 2575-6 N 2 '40
President Roosevelt issues order establishing machinery for draft registration. Comm & Fin Chr 151:1817-18 S 28 '40
President Roosevelt says conscription was imposed upon us by those who threaten world with war. Comm & Fin Chr 151:2282 O 19 '40
President Roosevelt signs compulsory military training bill, proclaims Oct. 16 as registration day. Comm & Fin Chr 151:1651-2 S 21 '40
Selective training and service act of 1940; text. Comm & Fin Chr 151:1629-32 S 21 '40
Senate committee approves compulsory military training bill for men between 21 and 31. Comm & Fin Chr 151:779-80 Ag 10 '40
Senate debates compulsory military training bill. Comm & Fin Chr 151:925-6 Ag 17 '40
Senate passes compulsory military training bill. Comm & Fin Chr 151:1212-13 Ag 31 '40
21 to 35; what the draft and army training mean to you. W. H. Baumer, jr. and S. F. Giffin. 143p pa $1 Prentice-Hall '40
Universal military training. E. R. Rankin, comp. Univ of North Carolina Extension Bul v 20, no 1:1-102 bibliog(p96-102) '40 (pa 50c)
Which personnel will be deferred? Management R 29:362-3 O '40

Bibliography
Conscription of men, material resources and wealth in time of war; with select references on war profiteering. M. A. Matthews, comp. rev ed 15p Carnegie endowment '40

MILITARY tanks. See Tanks, Military

MILITARY television. See Television, Military

MILITARY training camps
Army signs contracts with utilities for power. Elec W News ed 114:1237 O 26 '40
Cantonments rising for new army; work at Fort Dix forecasts methods to be used at other camps. il Business Week p34+ S 21 '40
Health protection and army training camps; abstract. W. F. Draper. Science 92:sup8+ O 18 '40
Housing the new army. il diags plans Eng N 125:537-41 O 24 '40
Winter air conditioning for camp buildings. Sheet Metal Worker 31:38+ O '40

MILITARY transportation. See Transportation, Military

MILITARY uniforms. See Uniforms, Military

MILITIA. See United States—Militia

MILK
Care and handling of milk. H. E. Ross. rev & enl ed 417p $4 Orange Judd pub. co, New York '39
Cooked flavor in milk; abstract. D. V. Josephson and F. J. Doan. Food Ind 12: 94 Ap '40
Filled milk act held valid; Kansas Supreme court. Pub Health Rep 55:1834-5 O 4 '40
Milk product specialties increase consumption; chocolate flavored milk. il Refrig Eng 39:153 Mr '40
Milk secretion; physiology and biochemistry involved. D. L. Thomson. Can Chem & Process Ind 24:92 F '40

See also
Butter
Casein
Cheese
Dairies
Whey

Analysis
Component glycerides of a typical cow milk fat. T. P. Hilditch, S. Paul and others. Soc Chem Ind J 59:138-44 Jl '40
Composition and properties of goat's milk as compared with cow's milk. J. A. Gamble, N. R. Ellis and A. K. Besley. il diags U S Agric Tech Bul 671:1-72 bibliog(p66-72) '39
Nomograph for correction of lactometer readings and calculation of milk solids. L. M. Lampert. bibliog Ind & Eng Chem Anal ed 12:527-8 S 15 '40
Standard methods for the examination of dairy products, bacteriological, bioassay and chemical. 7th ed 190p $2.50 Am. public health assn, New York '39

Bacteriology
Bacteria in relation to the milk supply. C. H. Chalmers. 2d ed 209p 6s E. Arnold & co, London '39
Milk bacteria in bread; abstract. Food Ind 12:90 S '40
Standard methods for the examination of dairy products, bacteriological, bioassay and chemical. 7th ed 190p $2.50 Am. public health assn, New York '39
Streptococci; their descriptions, classification, and distribution, with special reference to those in milk. W. D. Frost and M. A. Engelbrecht. 172p bibliog(p151-66) $4.25 Willdof book co, box 2049, Madison, Wis. '40
What is satisfactory bacteriological quality in foods? M. E. Parker. il Food Ind 12:44-6+ Jl '40

Chlorination
Sterilizing quality of chlorine solutions under different conditions; abstract. F. M. Scales and M. Kemp. Food Ind 12:90 F '40

Coloration
Browning of autoclaved milk; chemical factors involved. J. P. Kass and L. S. Palmer. bibliog Ind & Eng Chem 32:1360-6 O '40

Pasteurization
Luximeter; photoelectric instrument for measuring light transmission through a liquid; use in phosphatase test. W. L. Carson. Gen Elec R 43:92 F '40
Short-time pasteurization as it looks to the milk plant operator. W. D. Dotterer. il plan Food Ind 12:46-8 F; 74-5 Mr '40
Short time pasteurization of milk as it looks to the health officer. F. M. Keller. il diag Food Ind 12:48-50 Ap '40; Correction. 12:44 Je '40

Preservation

See also
Milk, Dried
Milk, Frozen

Prices
Arnold wins, and loses; threatens new suit when Chicago milk prices rise. Business Week p 40-1 O 12 '40
Truth about milk prices; reply to "Let 'em drink grade A." E. F. Brown. Nation's Business 28:78-80 F '40
What should be the price of milk. C. G. Morris. 190p $2 Olsen pub. co, Milwaukee '40

Transportation
Demountable milk tank to cut Borden costs 16 per cent. il Food Ind 12:59-61 Ja '40

MILK—Transportation—*Continued*
Rail-truck tanks; Borden using them in handling bulk milk. Business Week p34-5 Ja 6 '40
Stainless steel tanks to haul bulk milk on rail-truck system. il Steel 106:27 F 19 '40

MILK, Condensed
Condensed and evaporated milk, 1936-1939. Survey of Cur Business 1940 Sup p102-3 [supplemented in monthly numbers]

MILK, Dried
Laboratory spray-drying machine. R. Waite. diags Chem & Ind 59:659-61 S 21 '40
Production of canned and dried milk, revision; monthly, 1923-June, 1940. Fed Res Bul 26:853 Ag '40

MILK, Evaporated
Browning of autoclaved milk; chemical factors involved. J. P. Kass and L. S. Palmer. bibliog Ind & Eng Chem 32:1360-6 O '40

MILK, Frozen
How quick freezing affects keeping quality of milk and cream. C. L. Roadhouse and J. L. Henderson. il Food Ind 12:54-5 Je '40

MILK, Homogenized
Lipolysis in raw milk; influence of homogenization temperature. I. A. Gould. bibliog Ind & Eng Chem 32:876-7 Je '40

MILK, Skimmed
Utilization of skim milk in a new potato product. B. H. Webb. flow diag il Food Ind 12:48-9 My '40

MILK cans
Hot-dip tinning of milk cans and ice cream cans. W. G. Imhoff. Metal Ind 37:573-6 D '39

Cleaning

When is cleaned equipment really clean? studies on milk-can washing show need for acid rinse. M. E. Parker. il diag Food Ind 12:39-42 O '40

MILK containers
Causes for the recent interest in bacteria in paperboard. H. C. Fisher. Paper Tr J 110: 77-81 Je 27 '40
Found: milk bottle with a spout; fiber containers. il Nation's Business 28:26 F '40
Germicidal properties of hot paraffin. F. W. Tanner and H. F. Lewis. bibliog Food Ind 12:57-8 Ap '40
Manufacture of cartons for the distribution of milk. il Engineering 148:687, 692 D 22 '39
New milk container lowers retail price; two-quart size paper container introduced in New York city. il Food Ind 11:703-4 D '39
Paper milk bottles invade New York. il Glass Ind 20:457+ D '39
Paper milk container claimed to be success. Food Ind 12:66 Ja '40
Paper milk containers now used in Chicago. Paper Tr J 111:10 O 31 '40
Paper vs. glass. Business Week p32+ N 2 '40
Promoting satisfactory bacteriological conditions in the paper mill. R. F. Huntley and R. H. Torrey. Paper Tr J 110:108-10 F 22 '40
Significance of bacterial control in paper. C. M. Baker. Paper Tr J 110:33-5 Ap 18 '40

See also
Milk cans
Milk tanks

MILK cooling
Refrigeration in milk plants. E. H. Paulsen. diags Refrig Eng 39:1-6 sec 2 My '40
Successful farm refrigerator fills many uses. F. Erbach. il diags Refrig Eng 39:361-3 Je '40

MILK of magnesia

Manufacture

Unit operations in drug manufacture; Norwich pharmacal co. G. W. Bengert. flow sheet il Ind & Eng Chem 32:461-4 Ap '40

MILK plants
New station for milk in transit; milk-receiving station at Enfield, N.H. il diag plan Arch Rec 87:51-2 F '40

Equipment

Handling the nation's milk supply. il Mech Handling 27:205-7 S '40
Refrigeration in milk plants. E. H. Paulsen. diags Refrig Eng 39:1-6 sec 2 My '40

MILK products
Apple-milk confection for partial utilization of surplus and cull apples; with cost estimate. F. C. Vilbrandt and R. D. Sieg. bibliog Ind & Eng Chem News ed 18:897-8 O 25 '40
Chemurgy and the dairy industry. F. C. Atwood. Oil Paint & Drug Rep 138:5+ S 30; 61 O 7 '40
Production of canned and dried milk, revision; monthly, 1923-June, 1940. Fed Res Bul 26:853 Ag '40
Utilization of milk by-products. H. E. Barnard. Oil Paint & Drug Rep 138:54 O 21 '40

See also
Dairy products

MILK sugar. See Lactose

MILK supply
Disease outbreaks resulting from faulty environmental sanitation. L. C. Frank. bibliog Pub Health Rep 55:1373-83 Ag 2 '40
Milk distribution as a public utility. W. P. Mortenson. 221p bibliog(p211-13) $2.50 Univ. of Chicago press '40
Report on market-milk supplies of certain urban communities. Pub Health Rep 55:121-5 Ja 19 '40
Report on market-milk supplies of certain urban communities. Pub Health Rep 55: 1383-9 Ag 2 '40

Clean milk

When is cleaned equipment really clean? studies on milk-can washing show need for acid rinse. M. E. Parker. il diag Food Ind 12:39-42 O '40

Laws and regulations

Filled milk act held valid; Kansas Supreme court. Pub Health Rep 55:1834-5 O 4 '40
Legal possibilities and limitations of milk distribution as a public utility. W. P. Mortenson. bibliog J Land & Pub Util Econ 15:438-47; 16:61-71 N '39-F '40
Milk sellers held liable in action for damages on account of contraction of undulant fever. Pub Health Rep 55:1920-1 O 18 '40
Provision of milk ordinance prohibiting sale of milk which has had cream line increased by artificial means construed, Washington Supreme court. Pub Health Rep 55:1229-30 Jl 5 '40
What is satisfactory bacteriological quality in foods? M. E. Parker. il Food Ind 12:44-6+ Jl '40

See also
Milk trade—Chicago

Great Britain

Policy for milk. Economist 138:436 Mr 9 '40

New York (city)

Relief milk distribution plan approved. Comm & Fin Chr 151:2741 N 9 '40

MILK tanks
Demountable milk tank to cut Borden costs 16 per cent. il Food Ind 12:59-61 Ja '40
Rail-truck tanks; Borden using them in handling bulk milk. Business Week p34-5 Ja 6 '40

MILK trade

See also
Borden company
Dairying

Advertising

Elsie's Moos-paper club; is it mailed fist in velvet glove or service to media? Borden asks newspapers cooperation and checks them on performance. il Sales Management 46:25+ Mr 15 '40

Regulation

See Milk supply—Laws and regulations

MILK trade—*Continued*

Statistics

Condensed and evaporated milk, fluid milk, powdered milk, 1936-1939. Survey of Cur Business 1940 Sup p102-3 [supplemented in monthly numbers]

Chicago

Arnold wins, and loses; threatens new suit when Chicago milk prices rise. Business Week p40-1 O 12 '40

Federal judge refuses government's plea for injunction against Chicago dairy. Comm & Fin Chr 150:1071-2 F 17 '40

Fewer milk drivers? Chicago labor award hits firms already pinched by vendors. Business Week p25-6 S 14 '40

Milk trust case ends; consent decree signed. Business Week p29 S 21 '40

Milkmen veto cuts; Chicago drivers reconsider move to fight store competition by reducing own wages. Business Week p29 F 10 '40

New acts don't void trust law; Chicago milk case. Business Week p15-16 D 9 '39

New Chicago milk war. il Business Week p30 Ja 13 '40

U.S. Supreme court unanimously upholds federal government in suit against Chicago milk distributors. Comm & Fin Chr 149: 3643 D 9 '39

Great Britain

Milk, from cow to consumer. J. Bulmer and P. Vinter. 48p pa 1s V. Gollancz and the New Fabian research bur, London '38

New York (city)

Milk men fight for Grade A; New York decrees single standard effective Sept. 1. Business Week p40-2 Ja 20 '40

Single-milk-grade system in New York city would mean added costs to consumers, farmers and dealers. E. F. Brown. Comm & Fin Chr 150:1698 Mr 16 '40

San Francisco

Milker war ended; Coast contract between farmers and teamster unit. Business Week p25-6 My 4 '40

United States

See also

Milk—Prices

MILK waste. See Dairy waste

MILKY way

Cosmic static. G. Reber. il Inst Radio Eng Proc 28:68-70 F '40

Dust clouds of space. H. N. Russell. Sci Am 162:12-13 Ja '40

Rotation of the Milky way; research program at Lick observatory. Science 92:sup 8-9 Ag 9 '40

MILL villages. See Company towns

MILLER, Fred J. 1857-1939

Sketch. por Am Mach 83:1048l D 13 '39

MILLER, William Lash, 1866-1940

Teaching and research at University of Toronto. L. E. Westman. por Can Chem & Process Ind 24:476-8 S '40

MILLER, William Snow, 1858-1939

Sketch. C. H. Bunting. Science 91:182-3 F 23 '40

MILLER and Hart, incorporated

Readjustment plan. Comm & Fin Chr 151: 2505 O 26 '40

MILLERS national insurance company

75th milestone. Weekly Underw 142:412-13 F 17 '40

MILLIAMMETERS

Milliammeter protective relay. E. V. Lackey. diag Transit J 84:28-9 Ja '40

MILLIBAR

Use of the millibar in Weather bureau reports. C. H. Sharp. Elec Eng 59:124 Mr '40

MILLINE

Milline rate is not measure of advertising cost; how to use it properly. R. Dunne. Ptr Ink 189:30+ D 15 '39

MILLINERY

800 millinery manufacturers. il Ptr Ink Mo 41:5-8+ O '40

MILLINERY workers

Millinery wage under Fair labor standards act. Monthly Labor R 50:399-400 F '40

MILLING

Contour milling of aircraft connecting rods now automatic. il Steel 107:68 Jl 22 '40

How thick a chip? study of cutting action. A. L. DeLeeuw. il Am Mach 83:991-2 N 29 '39

Indexing head that speeds milling jobs. C. R. Stryker. il diag Am Mach 84:289-90 My 1 '40

New die-milling method; abstract. F. J. Trecker. diags Mech Eng 62:740-1 O '40

Production contour milling with automatic duplicator control. il diag Mach 46:167 Je '40

Square holes produced by milling and welding. F. J. Wilhelm. diags Am Mach 84:428 Je 12 '40

See also

Profiling

MILLING cutters

Adjustable hollow mill. M. Haas. diags Am Mach 83:1087-8 D 27 '39

How thick a chip? study of cutting action. A. L. DeLeeuw. il Am Mach 83:991-2 N 29 '39

Testing found important in redesign. N. B. MacLaren and L. R. Mayo. il diags Steel 107:38-42 S 30 '40

Sharpening

Barber-Colman automatic hob-sharpening machine. il Mach 46:175 Ap '40; Am Mach 84:221 Ap 3 '40; Automotive Ind 82:280-1 Mr 15 '40

Grinding carbide cutters. F. W. Lucht. il diags Am Mach 84:603-5, 658-61 Ag 21-S 4 '40

MILLING machinery. See Crushing machinery

MILLING machines

Adjustable collar aligns straddle mills quickly. S. M. Elonka. diag Am Mach 84:870 O 30 '40

Brown and Sharpe omniversal milling machine. il Automobile Eng 30:142-8 My '40

Cincinnati dial type milling machines. il Am Mach 84:307-8 My 1 '40; Automotive Ind 82:423-4 My 1 '40; Mach 46:135-6 My '40

Cincinnati planer-type milling machine. il Am Mach 83:1049 D 13 '39; Mach 46:279-80 D '39

Duffy Univertical milling machine. il Sci Am 163:254-5 N '40

Gorton high-speed light vertical milling machines. il diags Engineering 148:498, 499 N 3 '39

Grinding large work on a milling machine. C. W. Hinman. diag Am Mach 84:585-6 Ag 7 '40

Hannifin combined lathe, milling machine and drilling machine. il Engineering 149:600-1 Je 21 '40

Hardinge precision toolroom miller. il Am Mach 84:309 My 1 '40; Mach 46:138 My '40

Herbert knee-type vertical milling machine. il Engineering 149:591 Je 14 '40; Engineer 169:543 Je 14 '40; Automobile Eng 30:243 Ag '40

Hey cam milling machine. il Automobile Eng 30:273-4 S '40

Kent-Owens milling machine designed to handle long work. il Mach 46:182 Ap '40; Automotive Ind 82:282, 283 Mr 15 '40

Kent-Owens no. 1-14 hydraulic milling machine. il Automotive Ind 83:117-18 Ag 1 '40; Mach 46:136-7 Ag '40; Am Mach 84: 637 Ag 21 '40

Lees-Bradner thread milling machine for heavy work. il Mach 47:155 S '40

Lineal graduating in the milling machine. M. B. Seyffert. diag Am Mach 84:254-5 Ap 17 '40

Modern machinery for the production of aircraft and engines. il Aero Digest 36:76, 79-80 Ja '40

MILLING machines—*Continued*
New York tool co. high-speed vertical profiler and milling machine. il Mach 46:139 My '40
Practical treatise on milling and milling machines. 388p $1.50; pa $1 Brown & Sharpe mfg. co, 58 Park st, Providence, R.I. '40
Reed-Prentice vertical miller and die sinker. il Am Mach 84:261 Ap 17 '40
Setting the miller table at the spindle center. C. Homewood. diags Am Mach 84:340 My 15 '40
Snyder contour milling machine. il Am Mach 84:515 Jl 10 '40
Square holes in machine table are broached. W. G. Porter. diags Am Mach 84:256 Ap 17 '40
Wickman-Holroyd spar-boom milling machine. il diags Engineer 170:168-9 S 13 '40

Fixtures

Automatic fixture for milling piston pins. W. H. Hawley. il Am Mach 84:254 Ap 17 '40
Fixture for fluting small taps and reamers. H. M. Darling. diags Am Mach 83:1086 D 27 '39
Fixture for match milling. H. Scribner. diags Am Mach 83:1044-5 D 13 '39
Fixture for use in milling beveled work. R. C. Dickey. diags Mach 46:111 Mr '40
Fixture for use in sawing off connecting-rod caps. E. L. Peterson. diags Mach 47:137-8 O '40
Fray universal milling attachment. Engineering 149:19 Ja 5 '40
Indexing milling fixture for small production. J. Jergens. diags Am Mach 84:340 My 15 '40
Milling fixture for cutting irregular shapes. L. Kasper. diags Mach 46:200 Jl '40
Oscillating mechanism for milling machine shaping attachment. L. Kasper. diags Mach 46:107 F '40
Quick-acting fixture for notch-milling. R. T. Coyle. diags Mach 46:198 Jl '40
Shearing attachment for the milling machine. C. Homewood. diag Am Mach 84:428-9 Je 12 '40
Study in nozzle-tip fixture design. C. G. Williams. diags Am Mach 84:142 Mr 6 '40
Work-holding fixture with weighing device that indicates amount of stock to be milled off. il Mach 46:154 Mr '40

Gearing

Geared for quality; production of milling machine gears; Kearney & Trecker corporation. il plan Am Mach 84:121-4 Mr 6 '40

Manufacture

Milling machine manufacture; Kearney & Trecker institutes a production line. R. Bingham. flow chart il Iron Age 146:21-7 S 26 '40

MILLIS, Harry Alvin, 1873-
Call for Dr Millis; public relations work for labor unions. por Business Week p36-8 S 28 '40
Madden gets a job, temporary; Millis may get NLRB post. Business Week p42 O 19 '40

MILLS, Shirley N. 1885-
Mills becomes I.C.C. Safety bureau director. por Ry Mech Eng 113:518 N '39

MILLS-NIXON effect
Further evidence on the Mills-Nixon effect. W. C. Lothrop. biblio g Am Chem Soc J 62:132-3 Ja '40

MILLS, Ball. See Ball mills

MILLS, Tube. See Tube mills

MILWAUKEE

See also
Electric plants (central stations)—Milwaukee

Harbor

Port of Milwaukee. rev ed 130p U.S. Engineer dept. Washington; pa 55c Supt. of doc. '40

Rapid transit

Modernization of North avenue line. il Transit J 84:235 Jl '40
Transport in Milwaukee coordinated. il Mass Transportation 36:3-8 Ja '40

Sewerage

Testing for sewer gas. Eng N 124:800 Je 6 '40

Water supply

High-efficiency, high-capacity water-pumping plant for Milwaukee. A. Rynders. il Power 84:286-8 My '40
Milwaukee's water purification plant. J. P. Schwada. il diags plan Water Works & Sewerage 87:137-45, 195-200 Ap-My '40
Tuning up the new Milwaukee filtration plant. J. E. Kerslake. Am Water Works Assn J 32:1310-20 Ag '40; Excerpts. Eng N 125: 339-40 S 12 '40

MIMEOGRAPH
Handbook of mimeograph technique. B. Stencil. 37p pa 25c Workers book shop, 50 E. 13th st, New York

MIMUSOPS heckelii
Fatty acids and glycerides of solid seed fats; mimusops heckelii (baku) kernel fat. D. Atherton and M. L. Meara. Soc Chem Ind J 59:95-6 My '40

MINE accidents
Accident experience at pebble-phosphate operations in Florida, 1930-38. F. E. Cash and G. W. Colbert. U S Bur Mines Information Circ 7100:1-13 '40
Accidents at iron-ore mines in 1938. Blast F & Steel Pl 27:1178 N '39
Accidents caused by the breaking of drill steel. R. H. Cleland. Can Min J 61:453-4 Jl '40
Accidents from falls of rock or ore in metal mines. E. H. Denny. U S Bur Mines Miners' Circ 41:1-21 '40
Chute pulling; accident experience and prevention. R. H. Cleland. diags Can Min J 61:113-16 F '40
Infection of injuries in mining industry of Ontario. C. H. Hair. Can Min J 61:376-8 Je '40
Lightning and the premature firing of electrical blasts. plan Eng & Min J 141:52-3 Mr '40
Manual of first-aid instruction. 361p U.S. Bur. of mines, Washington; pa 45c Supt. of doc. '40
Metal-mine accidents in the United States during the calendar year 1937. W. W. Adams and M. E. Kolhos. U S Bur Mines Bul 428:1-54 '40
National safety competition of 1939; with list of awards, 1925-1939 and honorable mention, 1939. W. W. Adams. il map Explosives Eng 18:202-11 Jl '40

See also
Coal mines and mining—Accidents and explosions
Coal mines and mining—Safety measures
Mine hoisting—Safety measures
Mine rescue work
Mining engineering—Safety measures

Cost

Workmen's compensation in Ontario; mining industry's experience from January 1, 1920 to January 1, 1938. T. N. Dean. Can Min J 61:30-4 Ja '40

MINE accounting
Daily cost statements for mechanised mining. G. B. Southward. Min Cong J 26:28-9 Je '40
Operating the small mine. C. F. Jackson. Eng & Min J 141:42, 44 Ag '40
System of accounts for the small enterprise. M. E. Peloubet. Eng & Min J 141:31-3 Ag '40

MINE air
Air hygiene in the mining industry. L. U. Gardner. il Min Cong J 26:34-6 Ja '40
Ammonia clears mine air of nitrous fumes. Comp Air M 45:6136 Ap '40
Cooling mine air during summer months to prevent roof falls. C. A. Herbert. diags U S Bur Mines Information Circ 7098:1-14 '40

MINE air—*Continued*
Flame as an indicator of oxygen depletion and deficiency. W. S. Weeks and R. K. Byerts. Eng & Min J 141:44-5 O '40
Mine air often whirls around like a Kansas tornado. Coal Age 45:168 O '40
More air conditioning for gold mines; Robinson Deep mine, Johannesburg, South Africa. J. A. Bentley. Heating-Piping 12:347 Je '40
Underground cooling at the Magma mine. C. B. Foraker. il Min Cong J 26:49-50 S '40

See also
Mine dust
Mine ventilation

MINE cages
Cages versus skips. J. D. Cumming. diags Can Min J 61:150 Mr '40
Progress in metallic materials for mining engineering. P. D. Merica and J. E. Kerr. Can Min J 60:733-4 N '39

MINE cars
Babbitt ring poured in hub reclaims car wheels. il Coal Age 45:64+ Ag '40
Cars for transporting explosives. C. W. Owings. diags 6 pls U S Bur Mines Information Circ 7115:1-6 '40; Same. Can Min J 61:429-34 Jl '40
Development of automatic couplings for mine haulage. E. Larsson. il diags Min Cong J 25:42-3 N '39
Loaders and shuttle cars handle coal at Jefferson No. 20. I. A. Given. il diags Coal Age 45:55-8 Ap '40
Man-trip brake blocks cars on seven-percent slope. diags Coal Age 45:66 Ja '40
Rubber-tired haulage, 1939. il Coal Age 45: 60-2 F '40
Skid with hinged horn stops car two ways. il Coal Age 45:62+ Jl '40
Springing of colliery tubs; buffer springing and spring drawbar gear. diags Mech Handling 27:163-4 Jl '40
Standardization simplifies use of antifriction bearings. E. C. Reither. diags Min Cong J 26:21 Mr '40
Transportation; southern Illinois deep mines. il Coal Age 45:96-9 O '40
Two 20-ton gunboats deliver all coal mined at Packer no. 4 to belt feeding Weston breaker, Shenandoah. il plan Coal Age 45: 44-6 Ag '40

MINE chutes. See Ore chutes

MINE construction
Metal-mining practice; mine development. C. F. Jackson and J. H. Hedges. bibliog pls diags plans U S Bur Mines Bul 419:76-168 '40
Mining methods at East Malartic. N. J. Thompson. il plans Can Min J 61:203-10 Ap '40
Practical stope support in deep mine workings; with discussion and cost data on granite masonry. W. J. Bichan. il diag Can Min Cong J 25:50-1 D '39

See also
Mine roofs
Mine shafts
Mine timbering
Ore chutes
Steel construction in mines

MINE cooling. See Mine air

MINE doors
Angle iron placed on mine door stops trailing of trips. L. E. Walker. diag Coal Age 45:68 N '40
Iron fastener for mine doors. diags Coal Age 45:64 Ja '40

MINE drainage
Carlton drainage tunnel. G. T. Kearns, jr; photographs by T. J. Barbre. Explosives Eng 18:171-82 Je '40
Carlton drainage tunnel to give Cripple Creek new life. C. H. Vivian. il diag plan Comp Air M 45:6162-9 Je '40
Carlton tunnel; abstract. A. H. Bebee. Min Cong J 26:36-7 O '40
Carlton tunnel progresses at record speed. il Min Cong J 25:50-1 D '39
Cripple Creek digs for comeback; $2,000,000 tunnel system to drain off underground streams. il Business Week p21-2 D 23 '39
Deeper drainage for Cripple Creek district; Carlton tunnel. M. I. Signer. il Eng & Min J 140:34-6 D '39
Driving the Elton tunnel. J. B. Huttl. il diags Eng & Min J 141:33-6 Ap '40
Getting all the fan's air to working face without leakage; air and water problems closely related. diags plans Coal Age 45:51, 54-5 Ag '40
Pumping and drainage at northern West Virginia mechanical mines. il Coal Age 44:110-13 D '39

See also
Mine pumping
Mine water

MINE dust
Dust count technique in Tri-state mines. H. C. Chellson. il Eng & Min J 140:29-33 D '39
Methods of sampling and analyzing coal-mine dusts for incombustible content. C. W. Owings, W. A. Selvig and H. P. Greenwald. U S Bur Mines Information Circ 7113:1-12, pl 1-4 '40
Relative air dustiness during cycle of operations at Mount Weather testing adit. J. A. Johnson and W. G. Agnew. plan U S Bur Mines Rep of Invest 3453:1-7 '39; Excerpts. Concrete (mill sec) 48:124+ F '40
Silicosis: Tri-state dust storm; report on Oklahoma, Kansas, and Missouri mines. Business Week p51-2 D 9 '39
Stemming in metal mines. J. A. Johnson, W. G. Agnew and M. Mosier. pl U S Bur Mines Rep of Invest 3509:1-27 bibliog(p26-7) '40
Ventilation and dust control at Climax Molybdenum. J. W. Feiss. il diags plans Min Cong J 26:12-19 Jl '40

See also
Coal dust
Silicosis

MINE equipment
Advance in diamond drill core bits. il Eng & Min J 141:89-90 O '40
Electric equipment for mines. il Can Min J 60:743-8 N '39
Exposition to feature new and time-tested equipment; American mining congress. il Min Cong J 26:43-8 S '40
Garson gangway chute. K. E. Gustafson. diags Can Min J 61:275-82 My '40
Hard-facing for modernization. R. L. Lerch. il Min Cong J 26:16 Je '40
Lengthening the life of wearing parts with steel and cast iron welding rods. il Can Min J 61:590-3 S '40
List of permissible mine equipment approved to January 1, 1940. L. C. Ilsley. U S Bur Mines Information Circ 7110:1-27 '40
Metal mining practice over sixty years. C. F. Jackson. il diags Can Min J 60:673-91 N '39
Mining copper in Cuba. T. G. Murdock. bibliog il map Comp Air M 45:6233-6 S '40
New developments and equipment in metal mining; abstract. R. S. Lewis. Min Cong J 26:31-2 O '40
New equipment and improved practice in metal mining. L. Eaton. il Min Cong J 25: 15-20; Discussion. 20-1+ N '39
1939 equipment. H. C. Chellson. Eng & Min J 141:97-9+ F '40
Progress in metallic materials for mining engineering. P. D. Merica and J. E. Kerr. il Can Min J 60:733-41 N '39
Standardization simplifies use of antifriction bearings. E. C. Reither. diags Min Cong J 26:21 Mr '40

See also
Airplanes in mining
Coal mines and mining—Equipment
Electric locomotives, Mine
Electricity in mining
Fans, Mine
Locomotives, Mine
Mine cars
Mine hoisting
Mining machinery
Rock drills

MINE explosions

See also
Coal mines and mining—Accidents and explosions

MINE fans. See Fans, Mine

MINE filling
Hydraulic stowing in India. L. J. Barraclough and S. B. Hall. Mech Handling 26:355-6 D '39
Pneumatic stowing in collieries on the increase. A. M. Hoffmann. il diags Comp Air M 44:6021-2 N '39
Practical stope support in deep mine workings; with discussion and cost data on granite masonry. W. J. Bichan. il diag Can Min J 60:799-803 D '39

MINE fires
Coal-mine explosions and coal- and metal-mine fires in the United States during the fiscal year ended June 30, 1939. D. Harrington and W. J. Fene. U S Bur Mines Information Circ 7092:1-21 '39

See also
Coal mines and mining—Fires and fire protection
Inflammable mixtures

MINE foremen
Decision! desirable trait in mine foremen. J. J. Rutledge. il Explosives Eng 18:337-8 N '40
First grade mine foremen's examination, Pennsylvania, April 4, 1939. Coal Age 45: 60-1 N '40
Mine foreman who has energy. J. J. Rutledge. Explosives Eng 17:342-3 N '39
Mine foreman who knows when he is licked. J. J. Rutledge. il Explosives Eng 18:278-9 S '40
Mine foreman who makes the employes keep in step. J. J. Rutledge. Explosives Eng 18: 29-30 Ja '40
Mine foremen's examination, Iowa, June 11-12, 1940; questions and answers on mine gases and sealing of mine fires. Coal Age 45:170+ O; 60 N '40
Safety-mindedness is essential characteristic in successful foreman; abstract. H. C. Knox. Coal Age 45:88 Jl '40
Second grade mine foremen's examination, Pennsylvania, April 3, 1939; questions and answers on drainage, timbering, first aid, costs. Coal Age 45:172 O '40
Slow mine foreman. J. J. Rutledge. Explosives Eng 17:377-8 D '39
Status-quo mine foreman. J. J. Rutledge. Explosives Eng 18:190-1 Je '40
Surroundings affect the mine foreman. J. J. Rutledge. Explosives Eng 18:214-15 Jl '40
Why some mine foremen do not advance. J. J. Rutledge. Explosives Eng 18:252-4 Ag '40

MINE gases
First grade mine foremen's examination, Pennsylvania, April 4, 1939. Coal Age 45: 60-1 N '40
Gaseous products from explosives. J. C. Holtz. U S Bur Mines Rep of Invest 3507: 1-14 '40
How dangerous is gas? W. B. Paton. Can Min J 61:527-9 Ag '40
Mine foremen's examination, Iowa, June 11-12, 1940; questions and answers on mine gases and sealing of mine fires. Coal Age 45:170+ O '40
Stemming in metal mines; progress report 2. J. A. Johnson, W. G. Agnew and M. Mosier. U S Bur Mines Rep of Invest 3528:1-39, pl 1-2 '40

See also
Carbon monoxide
Methane
Mine ventilation

MINE geologists. See Geologists, Mine

MINE haulage
Construction of portable electrical overhead systems for stripping and dumping operations. L. W. Birch. il diag Min Cong J 26:32-3 Jl '40
Development of the Morenci open pit. H. M. Lavender. il Min Cong J 25:14-16 D '39
Driving the Elton tunnel. J. B. Hutti. il diags Eng & Min J 141:33-6 Ap '40
Haulage with and without tracks. il Coal Age 45:67-9 Je '40
Jerk line; pioneer mining; wagons drawn by sixteen to twenty horses. C. J. Hutchinson. il diags Eng & Min J 141:35-9 Ja '40
Mining methods and mechanical loading; southern Illinois deep mines. il diags plans Coal Age 45:76-88 O '40
Mobile loading machines; abstracts of papers, American mining congress, Coal division. Min Cong J 26:32-3 My '40; Coal Age 45: 58-60 Je '40
Preliminary engineering at Morenci open pit; preparing for the development of a 230,000,000-ton deposit of copper ore in Arizona. W. C. Lawson. il Civil Eng 10:510-13 Ag '40
Recover 3-ft. seam with 23-yr. shovel at Clemens 22; semi-trailers used for haulage. il Coal Age 45:49-50 Ja '40
Rubber-tired haulage, 1939. il Coal Age 45:60-2 F '40
Rubber-tired haulage supplements loading machines at new Paradise mine. il plan Coal Age 45:48-51 Mr '40
Scooters in thin coal produce 9 tons per man-shift at Gauley Mountain mine. J. H. Edwards. il diags Coal Age 45:47-50 S '40
Service haulage for truck mounted mechanical loading. map Min Cong J 26:40-1 Jl '40
Shuttle haulage for mechanical loading; review of development. H. B. Husband. il Min Cong J 26:34-5 Jl '40
Transportation; southern Illinois deep mines. il diags Coal Age 45:96-103 O '40
Truck haulage at the Mahnomen mine. W. H. Gallagher. il Min Cong J 25:28-30 N '39
Truck transport serves Tri-state mining. W. F. Netzeband. il Eng & Min J 141:34 Ja '40
2,300 cars in 7 hours delivered with speed and safety by the New Orient transportation system; with cost data. B. K. Wentworth and A. G. Shaffer. il diag Coal Age 45:35-8 Ja '40
Underground transportation of coal; progress report. A. L. Toenges and F. A. Jones. pls U S Bur Mines Rep of Invest 3519:1-62 '40

See also
Cableways
Electric locomotives, Mine
Locomotives, Mine
Mine cars
Mine hoisting
Mine tracks
Ore handling

Cost
Aerial tramways in the metal-mining industry; construction and operating costs. O. H. Metzger. diags map U S Bur Mines Information Circ 7095:1-47 '40; Same. Eng & Min J 141:111-12 Ap; 113-14 My; 107-8 Je; 107-8 Jl; 147-8 Ag; 117-18 S; 109-10 O; 113-14 N; 114 D '40
Open-pit transport on the Mesabi range; truck haulage. L. C. Moore. il diag map Eng & Min J 141:40-2 Ja '40

MINE hoisting
Borehole ropeways at Mount Isa. V. I. Mann. il diags Eng & Min J 141:48-9 Ap '40
Brown and sons helical gearing for a mine winder. il Engineer 169:167 F 16 '40
Cages versus skips. J. D. Cumming. diags Can Min J 61:150 Mr '40
Canadian mine hoists. H. V. Haight and G. M. Dick. il diags Mech Eng 61:885-91 D '39; Discussion. 62:618-20 Ag '40
Copper mine's wire rope practice. Eng & Min J 141:57 Jl '40
Improving service from hoist ropes. F. L. Spangler. Min Cong J 26:19-20 Jl '40
Metal mining practice over sixty years. C. F. Jackson. Can Min J 60:688-9 N '39
More detailed data needed on hoist rope service. F. L. Spangler. il Min Cong J 26: 42 Ap '40
Saskatchewan mine. R. D. Hall. Coal Age 45:39 Ja '40
Skip winding for collieries. G. W. Davidson. il Mech Handling 27:67-70 Mr '40
Skip winding; patent specification. diags Mech Handling 27:127-18 S '40
Slusher ropes. J. J. Fitzgerald. il Min Cong J 26:45-6 F '40

MINE hoisting—*Continued*
Steel wire hoist ropes; results of investigations. Mech Handling 27:61-2 Mr '40
Survey of wire-rope practice yields interesting facts. F. S. McNicholas. Eng & Min J 141:44-5 My '40
Transportation; southern Illinois deep mines. il Coal Age 45:96-8 O '40

See also
Mine haulage
Mine shafts

Safety measures

Inspection and maintenance of mine hoisting ropes. L. C. Ilsley and M. Mosier. il diags U S Bur Mines Tech Pa 602:1-27 bibliog(p26-7) '39; Abstract. Safety Eng 79:27 Mr '40
Investigation into the permissible load-carrying capacity of steel wire ropes for hoisting with special reference to deep-level winding on the Witwatersrand goldfields. J. J. P. Dolan and W. G. Jackson. bibliog diag Inst Mech Eng J & Proc 142:Proc 225-60 Ja '40
Novel safety hook. diag Eng & Min J 141:59 My '40
Safety devices on electric hoists used in Ontario mines. D. P. Douglass. il diags Can Min J 61:229-34 Ap '40
Simple as rule of road; shaft signals on mine hoist; with wiring diagrams. E. B. Wagner. il Coal Age 45:40-3 My '40
Wire rope for slusher operation. F. L. Spangler. il Nat Safety N 41:65 Ap '40

MINE hoisting, Electric
Brown Boveri mine hoist in France. il Engineer 169:423 My 3 '40
Construction and equipment of no. 5 shaft at Lake Shore mine, limited; with cost data. J. C. Adamson. il diags Can Min J 61: 24-8 Ja '40
Control of mine winders; abstract. H. Freeman. Elec R (Lond) 125:789 D 22 '39
Electrical engineering in 1939. Engineering 169:50 Ja 12 '40
Hoist-operated loaders; Cranberry No. 1 mine. J. H. Edwards. il diags Coal Age 45:29-32 My '40
Homestake's new Yates shaft. H. A. Walker. il diags Min Cong J 26:20-4 S '40
Means of providing controlled acceleration and deceleration and also controlled regenerative emergency braking on Ward-Leonard mine hoists. H. Freeman. diags Inst E E J 85:713-18 D '39; Discussion. 86: 501-5 My '40
New hoisting shaft cuts cost of disposing of mine rock and improves Vesta ventilation efficiency. I. A. Given. il Coal Age 45:61 Ja '40
Overwind protective device. R. Taschereau. diag Can Min J 61:35 Ja '40
Remotely controlled indicator shows trip position. il Coal Age 44:120 D '39
Safety devices on electric hoists used in Ontario mines. D. P. Douglass. il diags Can Min J 61:229-34 Ap '40

MINE inspection
Inspection system of West Virginia state department of mines shows discipline determines accident rate. N. P. Rhinehart. il Coal Age 45:37-9 S '40
What safety inspectors at anthracite mines should look for during their visits. C. A. Peterson. Coal Age 45:58-9 N '40

MINE inspectors' institute of America
Annual meeting, 31st, Indianapolis, May 27-29. Coal Age 45:72, 74+ Jl '40

MINE lighting
Coal mine illumination. T. Allen. il Min Cong J 26:59-61+ Ap; 44-7 My '40

MINE locomotives. See Locomotives, Mine

MINE management
Application of the wage-hour act to mining. E. F. Andrews. Min Cong J 26:39-41; Discussion. 41-6 Ja '40
Drainage and development at a Utah mine; Park City consolidated mines company. G. M. Wiles and others. il diag map Eng & Min J 141:58-61 Ag '40
Operating the small mine. C. F. Jackson. bibliog Eng & Min J 141:42-6 Ag '40
Ore theft. T. A. Rickard. Eng & Min J 140: 37-9 D '39; 141:44-7 Ja '40
Safety at Climax. J. K. Richardson. il Eng & Min J 141:44-7 Jl '40

See also
Coal mines and mining—Management
Mine foremen

MINE models
How barodynamics knocks guess out of roof control by using small-scale models of mine strata. P. B. Bucky. il Coal Age 45:40-3 Jl '40; Same. Eng & Min J 141:40-3 Jl '40
How photoelastics pictures mine-structure stresses by use of small-scale transparent models. P. B. Bucky. il diag Coal Age 45:54-7 N '40

MINE pumping
Drainage and development at a Utah mine; Park City consolidated mines company. G. M. Wiles and others. il diag map Eng & Min J 141:58-61 Ag '40
Mine pumping now and in 1834. il Comp Air M 45:6267 O '40
Pumping and drainage at northern West Virginia mechanical mines. il Coal Age 44:110-13 D '39
Pumping, southern Illinois deep mines. il Coal Age 45:107 O '40

MINE pumps
Determining pump data aided by chart. P. C. Ziemke. Coal Age 45:86 Je '40
Electrified colliery; South Wales coalite co. Elec R (Lond) 125:698 D 1 '39
Permissible electrically operated pumps. L. C. Ilsley, E. J. Gleim and H. B. Brunot. U S Bur Mines Rep of Invest 3497:1-23, pl 1-5 '40
Strip-pit pump requirements for efficient dewatering. F. W. Richart. il Coal Age 45: 87 Je '40

MINE reports
How to write a report (example of how *not* to write report on mining property). E. Z. Toxall. Can Min J 61:156-7 Mr '40

MINE rescue work
Central mine rescue stations. J. J. Forbes and others. il diags plans maps U S Bur Mines Miners' Circ 39:1-55 '39
Mine rescue work in the Coeur d'Alenes. il diags Eng & Min J 141:49-50 Ap '40

MINE roofs
Chocks for roof support. il Mech Handling 27:141-2 Je '40
Cooling mine air during summer months to prevent roof falls. C. A. Herbert. diags U S Bur Mines Information Circ 7098:1-14 '40
How barodynamics knocks guess out of roof control by using small-scale models of mine strata. P. B. Bucky. il Coal Age 45:40-3 Jl '40; Same. Eng & Min J 141:40-3 Jl '40
How photoelastics pictures mine-structure stresses by use of small-scale transparent models. P. B. Bucky. il diag Coal Age 45:54-7 N '40
Roof action in pillar recovery with mechanized mining. G. B. Southward. diags Min Cong J 26:60-1 S '40
Roof drill operation aided by hydraulic jack and arm. R. Andrews. diags Coal Age 45:63 N '40
Roof, face and rib testing if closely studied will reveal hazards with more certainty. J. E. Jones. diags Coal Age 45:62-4 S; 166+ O; 70 D '40
Roof support problems in coal mining; abstract. F. G. Smith. Min Cong J 26:27 My '40
Steel roof supports for mechanical loading in western Pennsylvania. G. B. Southward. il diags Min Cong J 25:18-20 D '39

MINE sanitation
Cesspool overflow problem inexpensively solved. Coal Age 45:70 Ja '40
Evaluation of the industrial hygiene problems of Illinois. 258p Illinois. Dept. of public health, Division of industrial hygiene, Chicago '39

MINE shafts
Construction and equipment of no. 5 shaft at Lake Shore mine, limited; with cost data. J. C. Adamson. il diags Can Min J 61:5-28 Ja '40
Hazleton shaft deepened. R. D. Hall. diags Coal Age 45:37-9 Mr '40
Homestake Yates shaft nearing completion. il Min Cong J 26:70 F '40
Homestake's new Yates shaft. H. A. Walker. il diags Min Cong J 26:20-4 S '40
Mining methods of Garson mine. J. A. Bardswich. diags Can Min J 61:575-82 S '40
New hoisting shaft cuts cost of disposing of mine rock and improves Vesta ventilation efficiency. I. A. Given. il diags Coal Age 45:58-61 Ja '40
Shaft-bottom fans still hold replacement advantages; answers to objections. R. Mancna. il diags Coal Age 45:51-3 My '40
Shaft sinking through overburden at Lapa Cadillac. D. H. Sharp. il plans Can Min J 61:287-91 My '40
See also
Mine hoisting
Mine ventilation

MINE shops
Maintenance and supplies at northern West Virginia mechanical mines. il Coal Age 44: 100-6 D '39

MINE signals
Block-signal switch built from locomotive parts. P. C. Ziemke. diags Coal Age 45:60 Jl '40
Emergency system for shaft signaling. C. C Heinrich. diag Eng & Min J 141:59 My '40
Novel track signal system. diag Eng & Min J 141:58 My '40
Signal system at the Emma Nevada mine of Consolidated coppermines corporation has contributed to safer haulage. diags Eng & Min J 141:58-9 S '40
Simple as rule of road; shaft signals on mine hoist; with wiring diagrams. E. B. Wagner. il Coal Age 45:40-3 My '40

MINE stowage. See Mine filling

MINE subsidences
Ground movement and subsidence; review of 1939 G. S. Rice. il Min & Met 21:8-9 Ja '40
Robbing mine supports may have caused Shenandoah subsidence. E. J. Cleary. il plans Eng N 124:358-60 Mr 14 '40
Studies of roof movement in coal mines; Gibson mine of the Hillman coal & coke co. E R. Maize, E. Thomas and H. P. Greenwald. U S Bur Mines Rep of Invest 3506:1-9, pl 1-19 '40

MINE surveying
Instrument for obtaining levels uses gage glasses and tubing. diag Coal Age 45:66+ N '40
Reconnaissance and mapping speeded by tables; useful in work with Brunton transit. W. B. Phillips. Eng & Min J 141:55-6 My '40

MINE taxation
Economic effect of present taxes on the mining industry. W. H. Hoover. Min Cong J 25:31-4; Discussion. L. G. Kelly. 34-5 N '39
Union of South Africa tax modification. J. H. Barkmeier. Comm Rep p721 Ag 24 '40
Wilshire Oil case and the mining industry. E. C. Alvord. bibliog Min Cong J 25:37-8+ D '39

MINE timber
Efforts being made in Great Britain to reduce mine-support wastes; abstract. A. M. Bryan, M. A. Hogan and J. A. S. Ritson. Coal Age 45:56 Ag '40

MINE timbering
Efficient round timber framing. R. D. Gilbert. diag Min & Met 21:230 My '40
How photoelastics pictures mine-structure stresses by use of small-scale transparent models. P. B. Bucky. il diag Coal Age 45:54-7 N '40
Loader efficiency increased by jacks set at angle. il diag Coal Age 45:102 F '40
Practical stope support in deep mine workings; with discussion and cost data on granite masonry. W. J. Bichan. il diag Can Min J 60:799-808 D '39
Some information on timbering bituminous-coal mines. J. J. Forbes and C. W. Owings. il pl plans U S Bur Mines Miners' Circ 40: 1-37 '39
Split-ring connectors at Broken Hill. G. R. Fisher. il diags Eng & Min J 141:53-4 My '40
Use of steel timbering in Ellsworth mines. T. R. Johns. il Min Cong J 26:15-17 Mr '40
See also
Mine roofs
Ore chutes

MINE tracks
Block-signal switch built from locomotive parts. P. C. Ziemke. diags Coal Age 45:60 Jl '40
Haulage with and without tracks. il Coal Age 45:67-9 Je '40
Latches and special ties used for quick track extension. E. E. Jones. diags Coal Age 45:63-4 N '40
Modernization program at Puritan mine in West Virginia. J. H. Edwards. il Coal Age 45:59-61 S '40
Motor ramp obviates much excavation in rebuilding bottom; handling and dumping cars at mine of Island Creek coal co. il plan Coal Age 45:64+ Mr '40
Movable continuous track-shifting machines as an aid to rational production in open-pit mines. A. Ziffzer. il diags Eng & Min J 140:40-1 D '39
Novel track signal system. diag Eng & Min J 141:58 My '40
Ore transfer layout. O. F. Heizer. plan Eng & Min J 141:59 S '40
Periodic testing of rail-bond return circuits unmasks bad joints. H. P. Chandler. il diag Coal Age 45:51-3 S '40
Preliminary engineering at Morenci open pit; preparing for the development of a 230,000,000-ton deposit of copper ore in Arizona. W. C. Lawson. il Civil Eng 10:510-13 Ag '40
Report on rail bonding. L. W. Birch. diags Min Cong J 26:49 Ja '40
Service haulage tracks. il plans Min Cong J 26:52-3 F '40
Thought in trestle design cuts cost over the years. E. A. Smith. diags Coal Age 45:60+ Jl '40
Transportation at northern West Virginia mechanical mines. il Coal Age 44:77-83 D '39
2,300 cars in 7 hours delivered with speed and safety by the New Orient transportation system; with cost data. B. K. Wentworth and A. G. Shaffer. il diag Coal Age 45:35-8 Ja '40

MINE transportation
Aerial tram at Sherritt Gordon; with cost data. L. C. Smith. il diags plan Can Min J 61:563-5 S '40
Metal mining practice over sixty years. C. F. Jackson. il Can Min J 60:685-8 N '39
Metal-mining practice; transportation of ore and waste. C. F. Jackson and J. H. Hedges. bibliog diags U S Bur Mines Bul 419:169-223 '40
Progress in transportation. H. G. Cochrane. il Can Min J 60:754-7, 760-1 N '39
Transportation at northern West Virginia mechanical mines. il Coal Age 44:77-83 D '39
Transportation; southern Illinois deep mines. il diags Coal Age 45:99-102 O '40
Transportation, southern Illinois strip mines. il Coal Age 45:112-15 O '40
See also
Airplanes in mining
Mine cars
Mine haulage
Mine hoisting
Mine tracks

MINE valuation
Metal-mining practice; estimation of ore reserves. C. F. Jackson and J. H. Hedges. U S Bur Mines Bul 419:58-76 '40
Mine valuation in the Philippines. W. F. Boericke. il Can Min J 61:644-7 O '40

MINE ventilation
Air flow at discharge of fan-pipe lines in mines; 10-inch line in development end. G. E. McElroy. pl U S Bur Mines Rep of Invest 3531:1-14 '40
Better mine ventilation; boring circular shafts by means of Calyx core drill. Comp Air M 45:6242 S '40
Drillholes for air; abstract. J. W. Anstead. Coal Age 45:76 Ja '40
Getting all the fan's air to working face without leakage; air and water problems closely related. diags plans Coal Age 45:51, 54-5 Ag '40
Materials for safe operation, ventilating aids. il Coal Age 45:77-8 Je '40
Metal mining practice over sixty years. C. F. Jackson. Can Min J 60:690 N '39
Mine foremen's examination, state of Iowa, June 11-12, 1940. Coal Age 45:60 N '40
Return of air to mine should be prevented by providing entrances and exits remote from one another. diags Coal Age 45:46-9 Je '40
Streamlined ventilation at Sunshine. J. Edgar and A. W. Knoerr. il diags plans Min Cong J 26:23-6 Ag '40
Ventilation and dust control at Climax Molybdenum. J. W. Feiss. il diags plans Min Cong J 26:12-19 Jl '40
Ventilation at northern West Virginia mechanical mines. il Coal Age 44:107-9 D '39
Ventilation, southern Illinois deep mines. il Coal Age 45:104-5 O '40
See also
Fans, Mine

MINE waste
Treating lead-mine effluents. Chem Age (Lond) 42:84, 228 F 10, Ap 20 '40

MINE water
How water breaks in Wabash River valley operations are checked and sealed off at Saxton mine. il diag Coal Age 45:49-50 Ag '40
See also
Cement, Effect of mine water on
Mine drainage
Mine pumping

MINER, Carl Shelly, 1878-
Fathers and sons in chemistry. W. L. Lewis. por Ind & Eng Chem News ed 18: 719 Ag 25 '40

MINERAL industries
Changing aspects of world mineral situation. J. S. McGrath. Min Cong J 26:43-4 F '40
Developments and trends in cement, lime and gypsum. N. C. Rockwood. Rock Prod 43: 35+ Ja '40
Industrial minerals in 1939. M. M. Leighton. il Min & Met 21:45 Ja '40
Industrial minerals, 1939. S. H. Dolbear. Eng & Min J 141:95-6 F '40
Marketing industrial minerals. O. Bowles. il Min & Met 21:507-11 N '40
Message to young engineers. D. C. Jackling. Min & Met 21:462-4 O '40
Minerals and war. P. M. Tyler. bibliog Harvard Business R 19 no 1:1-13 [S] '40
Price policies of the cement and allied industries. N. C. Rockwood. Min & Met 21:425-7 S '40
See also
Aggregates
Asbestos
Coal trade
Feldspar
Iron industry and trade
Lime industry
Limestone
Metal trade
Metallurgy
Mines and mineral resources
Mining industry and finance
Petroleum industry and trade
Phosphates
Potash
Quarries and quarrying
Rock products industry
Salt
Silicates
Sodium nitrate
Stone, Crushed
Sulfur industry and trade
United States—Mines, Bureau of

Statistics
Production, employment, and productivity in the mineral extractive industries, 1880-1938. V. E. Spencer. 168p Work projects administration, Washington, D.C. '40
Production of minerals, revision; monthly, 1923-June, 1940. Fed Res Bul 26:877-82 Ag '40

Canada
Annual report on the mineral production of Canada during the calendar year, 1938. 295p pa 50c Canada. Dominion bur. of statistics, Ottawa '40
Canadian mineral production. Chem Age (Lond) 42:214 Ap 13 '40
Canadian mineral production in 1939. Chem Age (Lond) 42:100 F 17 '40
Mineral production of Canada during the calendar year 1937. 333p pa 50c Canada. Dominion bur. of statistics, Ottawa '39
Preliminary estimate of Canada's mineral production, 1939. Can Chem & Process Ind 24:13-14 Ja '40; Chem & Ind 59:26 Ja 13 '40
Report on the miscellaneous non-metallic minerals in Canada, 1939. 31p pa 25c Canada. Dominion bur. of statistics, Ottawa '40

United States
Minerals and national defense; abstracts of papers, Western division, American mining congress. Min Cong J 26:28-31 O '40
More jobs for minerals. P. M. Tyler. U S Bur Mines Information Circ 7118:1-19 '40
Nonmetallic mineral industries in 1939. P. M. Tyler and O. Bowles. U S Bur Mines Information Circ 7106:1-27 '40
Recent progress in the nonmetallics. O. Bowles. il Min & Met 21:95-100 F '40
Strategic buying planned. R. S. McBride. Eng & Min J 141:33-4 Jl '40
U.S. foreign trade active in minerals and mining machinery; with statistical data, 1938-May 1940. Eng & Min J 141:91-2 Ag '40

Yugoslavia
Government control of Yugoslav mining products. H. P. Crawford. Comm Rep p99 F 3 '40

MINERAL lands
See also
Mines and mineral resources
Oil lands

MINERAL waters
See also
Hot springs

MINERAL wool
Inorganic fibres. D. Wolochow. il Can Chem & Process Ind 24:333-5 Jl '40
Making walls sound-proof; radio and moving picture studios. M. Rettinger. diags Eng N 124:723-5 My 23 '40
Mineral wool trust via patents alleged. Oil Paint & Drug Rep 138:5+ Jl 1 '40
Rock wool opportunities for manufacturing in Georgia. A. S. Furcron, A. C. Munyan and F. W. Smith. 18 l Division of mines, mining and geology, Dept. of natural resources, 425 State capitol, Atlanta, Ga. '39
Rock wool possibilities in Oklahoma. F. C. Wood. flow sheet il diags plan Oklahoma Geol S Bul 60:1-125 '39

MINERALOGICAL analysis
Impurities in minerals of Picher district. F. B. Barrett. Eng & Min J 141:47 Ja '40
Methodology of grain size and mineral analyses of pelites (on the basis of research on elutriation analysis and roentgenographical and microscopical studies of different deposits); abstract. H. J. Harkort. Am Cer Soc J 23 (Cer A 19):172-3 Jl '40
Microscopic determination of the ore minerals. M. N. Short. 2d ed il diags U S Geol S Bul 914:1-314, pl 1-14 '40
Minor elements in sphalerite. R. E. Stoiber. bibliog Econ Geol 35:501-19 Je '40
Petrographic methods and their application to the examination of nonmetallic materials. G. T. Faust and A. Gabriel. bibliog(45 titles) U S Bur Mines Information Circ 7129:1-15 '40

MINERALOGICAL analysis—*Continued*
Portable cabinets for materials used in mineral determinations. K. G. Skinner. 4 pls U S Bur Mines Information Circ 7127:1-6 '40
Staining of clay minerals as a rapid means of identification in natural and beneficiated products; with a general discussion on staining technique. G. T. Faust. bibliog U S Bur Mines Rep of Invest 3522:1-21 '40

See also
Rocks—Analysis

MINERALOGICAL laboratories
Laboratories of Quebec Bureau of mines. M. Archambault. il plan Can Chem & Process Ind 24:471-3+ S '40

MINERALOGY
Distinction between calcite and dolomite on polished surfaces. J. Rodgers. bibliog Am J Sci 238:788-98 N '40
Identification of some Maine minerals. J. M. Trefethen. map Maine Technology Exp Sta Bul 36:1-53 '40
Model to illustrate isogyres in interference figures. C. A. Chapman. Am J Sci 238: 805-10 N '40
Outline of mineralogy. L. F. Leonard. 88p $2.50 Edwards bros, Ann Arbor, Mich. '39
Petrographic methods and their application to the examination of nonmetallic materials. G. T. Faust and A. Gabriel. bibliog (45 titles) U S Bus Mines Information Circ 7129:1-15 '40
Possibilities of heavy-mineral correlation of some Permian sedimentary rocks, New South Wales. D. Carroll. bibliog map Am Assn Pet Geologists Bul 24:636-48 Ap '40
Rocks and minerals of Michigan. O. F. Poindexter and H. M. Martin. 81p Mich. Dept. of conservation, Geol. S. div, Lansing, Mich. '39

See also
Coal
Crystallography
Geology
Metals
Mineralogical analysis
Minerals
Mines and mineral resources
Rocks

History
Mineral concentration by oil adhesion in XVth century; manuscript written by Persian scholar Muhammad ibn Mansûr in the year 897 of the hegira (1491 of the Christian era). A. M. Gaudin. bibliog Eng & Min J 141:43-4 O '40

MINERALS
Annual report of the nonmetals division, fiscal year 1939; electrostatic separation of minerals. O. C. Ralston and others. In U S Bur Mines Rep of Invest 3473:32-4 '39; Same. Rock Prod 43:60+ Ja '40
Experiments on the thermoluminescence of some common and unusual minerals. M. A. Northup and O. I. Lee. bibliog Opt Soc Am J 30:206-23 My '40
Marketing industrial minerals. O. Bowles. il Min & Met 21:507-11 N '40
Mineral raw materials and present production. Can Chem & Process Ind 24:402-3+ Ag '40
Minerals and war. P. M. Tyler. bibliog Harvard Business R 19 no 1:1-13 [S] '40
Minerals, combustibles and chemicals used in making insulating materials. J. O. Knizek. bibliog il Brick & Clay Rec 97:52-4 N; 46-7 D '40
Minerals used in welding. O. C. Ralston and M. W. von Bernewitz. pls U S Bur Mines Information Circ 7121:1-56 '40
More jobs for minerals. P. M. Tyler. U S Bur Mines Information Circ 7118:1-19 '40
Nonmetallic mineral industries in 1939. P. M. Tyler and O. Bowles. U S Bur Mines Information Circ 7106:1-27 '40
Petrology of the alkaline intrusive at Blue mountain, Ontario. M. L. Keith. bibliog diag map Geol Soc Bul 50:1795-1826, pl 1 D '39
Polarizing comparison-microscope for use in petrographic measurements. G. T. Faust. pls U S Bur Mines Rep of Invest 3503:1-7 '40
Recent progress in the nonmetallics. O. Bowles. il Min & Met 21:95-100 F '40
Role of minerals in the present war. C. K. Leith. Min & Met 21:520 N '40
Theory of mineral sequence in hypogene ore deposits. M. C. Bandy. il Econ Geol 35:359-81, 546-70 bibliog(51 titles, p568-70) My-Je '40

See also
Aggregates
Asbestos
Asphalt
Bentonite
Chromite
Clay
Coal
Feldspar
Flotation process (for non-metals)
Glauconite
Kaolin
Magnetite
Metals
Metasomatism
Mica
Mineral industries
Mines and mineral resources
Ore deposits
Petroleum
Potash
Quartz
Rocks
Salt
Sand
Silicates
Sulfur
Topaz
Vermiculite

MINERS
Application of the wage-hour act to mining. E. F. Andrews. Min Cong J 26:39-41; Discussion. 41-6 Ja '40
Wages, hours, and productivity of industrial labor, 1909 to 1939; manufactures, mining and railroads. W. Bowden. Monthly Labor R 51:517-44 S '40
Wagner act and the mining industry. D. A. Callahan. Min Cong J 26:33-7; Discussion. 37-41+ Mr '40

See also
Coal miners
Copper miners
Gold miners
Mine foremen
Mine rescue work

Diseases and hygiene
Air hygiene in the mining industry. L. U. Gardner. il Min Cong J 26:34-6 Ja '40
Dust count technique in Tri-State mines. H. C. Chellson. il Eng & Min J 140:29-33 D '39
Health and safety; abstracts of papers, Western division, American mining congress. Min Cong J 26:26-8 O '40
Living and working conditions in the Tri-state mining district. E. Just. bibliog il Min Cong J 25:44-5 N '39
Profitable protection; industrial hygiene and accident prevention; St Joseph lead company. A. Fletcher. il Nat Safety N 41:20-1+ F '40; Same cond. Concrete (mill sec 48: 234-5 S '40
Silicosis; Tri-state dust storm; report on Oklahoma, Kansas, and Missouri mines. Business Week p51-2 D 9 '39
Sunny side up; therapeutic use of ultra-violet lamps by Bunker Hill and Sullivan mining and concentrating company. S. A. Easton. Safety Eng 79:41 F '40; Same. il Min Cong J 26:43-4 My '40
Two new hospitals built by Phelps Dodge. il Min & Met 21:330-1 Jl '40

Training
See Mining schools and education

Canada
Six decades of progress in safety and welfare. W. B. Paton. il Can Min J 60:749-53 N '39

Kansas-Oklahoma-Missouri district
Living and working conditions in the Tri-state mining district. E. Just. bibliog il Min Cong J 25:44-5 N '39

Ontario
Workmen's compensation in Ontario; mining industry's experience from January 1, 1920 to January 1, 1938. T. N. Dean. Can Min J 61:30-4 Ja '40

Sweden
Man-made sunlight for miners; Boliden gold mine in Swedish Lapland, [illegible] equipped with ultra-violet and infra-red lamps. H. Lundbergh. Sci Am 162:234-5 [illegible] '40

MINERS—*Continued*

United States

Production, employment, and output per man in gypsum mining. R. Newcomb and K. Peterson. map U S Bur Mines Information Circ 7134:1-17 '40

Wage-hour law in mining; abstracts of papers, Western division, American mining congress. Min Cong J 26:35-6 O '40

MINERS' phthisis

Report upon the work of the Miners' phthisis medical bureau for the three years ended 31st July, 1938; abstract. J Ind Hygiene 22: sup147-8 S '40

MINES, Submarine

Mine and countermine. A. M. Low. 224p $2.75 Sheridan house, 386 4th av, New York '40

Mystery of the magnetic mine. C. E. Milbury. il diag Sci Am 162:156-7 Mr '40

MINES and mineral resources

Bureau of mines surveys strategic mineral supplies; Tariff commission's report on metallic products. Iron Age 144:99B-99C D 7 '39

France jolts the metal markets; prospect of reallocations in world's mineral sources causing widespread concern. Business Week p52-4 Je 22 '40

Minerals in the peace settlement. C. K. Leith. 9p Geological soc. of America '40

Strategic minerals; abstract. C. Williams. Can Chem & Process Ind 24:495 O '40

World mineral problem. C. K. Leith. Min & Met 20:552-3 D '39

See also

Aluminum
Antimony
Asbestos
Clay
Coal
Coal mines and mining
Copper mines and mining
Geology
Gold mines and mining
Graphite
Hydraulic mining
Iron mines and mining
Iron ores
Lead mines and mining
Lignite
Manganese
Mercury mines and mining
Metals
Mine management
Minerals
Miners
Mining engineering
Mining industry and finance
Mining law
Molybdenum
Oil shales
Ore deposits
Petroleum
Petroleum supply
Phosphates
Potash
Precious metals
Prospecting
Quarries and quarrying
Silver mines and mining
Sulfur
Talc
Tantalum
Tin mines and mining
Tungsten
Zinc mines and mining

Bibliography

Among the newer books. Published in monthly numbers of Mining and metallurgy

Small mines

Small mine number. flow sheets il diags plans maps Eng & Min J 141:42-87 Ag '40

Alabama

Bentonite now commercially developed in Alabama. E. Bowles. Min & Met 21:341 Jl '40

Alaska

Alaskan development at Goodnews bay; placer mining of platinum metals. W. W. Spencer. il map Min & Met 21:132-5 Mr '40

How the Geological survey serves Alaska. P. S. Smith. map Eng & Min J 141:54-6 Ap '40

Mineral industry of Alaska in 1938. P. S. Smith. fold map U S Geol S Bul 917-A:1-113 '39

Mining in Alaska in 1939. Min Cong J 26:47 Ag '40

Platinum deposits of the Goodnews Bay district. J. B. Mertie, jr. maps U S Geol S Bul 910-B:115-45, pl 2 '39

Arizona

Cut-and-fill stoping at Arizona Magma. G. G. Wald. diags Eng & Min J 141:48-9 Jl '40

Modernization marks operations at the Denn mine; 8 per cent copper direct-smelting ore and lead-zinc concentrates. J. B. Huttl. flow sheet il Eng & Min J 141:39-40 Je '40

See also

Copper mines and mining—Arizona

Bibliography

Bibliography of the geology and mineral resources of Arizona. E. D. Wilson. Arizona Bur of Mines Bul 146:1-164 '39 (pa 35c)

Arkansas

State mineral survey in Arkansas. G. C. Branner. map Econ Geol 35:761-71 S '40

Australia

Australia, 1939. P. G. Tait. Eng & Min J 141: 69-71 F '40

Borehole ropeways at Mount Isa. V. I. Mann. il diags Eng & Min J 141:48-9 Ap '40

Bolivia

Bolivia for strategic minerals; tin, tungsten, antimony. P. H. Reagan. il Eng & Min J 141:54-8 O '40

South America as a source of strategic minerals. C. W. Wright. il Min & Met 21: 283-6 Je '40

British Columbia

British Columbia looks ahead. H. G. Nichols. il map Can Min J 61:444-50, 584-9, 662-7 Jl, S-O '40

Mineral resources, Hazelton and Smithers areas, Cassiar and coast districts. E. D. Kindle. diags pls map plans Canada Geol S Memoir 223:1-107 '40 (pa 25c)

Mineral wealth of British Columbia. Engineering 150:270 O 4 '40

Mining in British Columbia during 1939. H. G. Nichols. il Can Min J 61:102-7 F '40

Sullivan concentrator; the development of crushing and grinding practice. A. L. Irwin. flow sheets il plan Can Min J 61:493-508 Ag '40

California

Mineral industries survey of the United States; California; mines of the southern Mother Lode region, Tuolumne and Mariposa counties. C. E. Julihn and F. W. Horton. pls diags maps plans U S Bur Mines Bul 424:1-179 '40

See also

Mercury mines and mining—California
Petroleum industry and trade—California

Bibliography

Revised list of publications available for distribution, July, 1939. 30p California. Dept. of natural resources, Division of mines, San Francisco '39

Canada

Brief history of Canadian mining. W. H. Losee. il Can Min J 60:643-71 N '39

Canada, 1939. J. B. DeMille. Eng & Min J 141:61-3+ F '40

Canada's mineral deficiences and strategic minerals. J. E. Hawley. Can Min J 61:211-14 Ap '40

Canada's mineral industry in 1939. W. H. Losee. il Can Min J 61:73-8 F '40

Canadian mine hoists. H. V. Haight and G. M. Dick. il diags Mech Eng 61:885-91 D '39: Discussion. 62:618-20 Ag '40

Extraction of radium from Canadian pitchblende. A. Kuebel. flow sheet il J Chem Educ 17:417-21 S '40

Field program of the Canadian Bureau of geology and topography. Science 92:5-6 Jl 5 '40

Finally revised statistics on the mineral production of Canada, 1939. 9p pa 25c Canada. Dominion bur. of statistics, Ottawa '40

Metal and mineral producers at Winnipeg. Can Chem & Process Ind 24:115+ Mr '40

MINES and mineral resources—Canada—*Cont.*
Mineral raw materials and present production. Can Chem & Process Ind 24:402-3+ Ag '40
Sixty years of Canadian mining. il diags Can Min J 60:641-768 N '39

See also
Gold mines and mining—Canada
Mineral industries—Canada

Colorado

Concentration of manganosiderite ore from Leadville. F. D. DeVaney and S. M. Shelton. U S Bur Mines Rep of Invest 3513:1-6 '40
In the La Platas. R. H. Toll. il map Eng & Min J 141:38-41 Mr '40
London company, at Alma, finds loader effective in development. H. L. Tedrow. Eng & Min J 141:62 Ag '40
Mining and milling methods and costs in the Alma district. J. R. Guiteras. pls U S Bur Mines Information Circ 7101:1-63 '40
Ore deposits at Camp Albion, Boulder county. E. E. Wahlstrom. il maps Econ Geol 35: 477-500 Je '40
Tungsten deposits of Boulder county. T. S. Lovering. diags fold maps U S Geol S Bul 922-F:135-56 '40
Zonal mineralization and silicification in the Horseshoe and Sacramento districts. R. D. Butler and Q. D. Singewald. bibliog il diag maps Econ Geol 35:793-838 N '40

Cuba

Cuba as a source of manganese ore; abstract. F. S. Norcross, jr. Steel 106:66 F 19 '40

Czechoslovakia

Les richesses minérales de la Bohême et de la Moravie. Patteisky. Génie Civil 116:123-4 F 17 '40

France

Le bassin ferrifère du Lyonnais. V. Charrin. diags maps Chimie & Ind 42:915-18 N '39
Les ocres et matières similaires en France. V. Charrin. map Chimie & Ind 43:171-4 Ja 20 '40
Les zones métallifères de la région de Marvejols (Lozère). Génie Civil 116:141 F 24 '40

See also
Copper mines and mining—France

France (colonies)

Ce que le sous-sol de la France d'outre-mer peut fournir à l'industrie métropolitaine. Génie Civil 116:347 My 25 '40

Germany

Der aufbau der industrie Oberschlesiens im wechsel der zeiten und wirtschaftsräume. G. Behaghel. Stahl & Eisen 60:89-100 F 1 '40
La politique allemande du charbon, du fer et de l'énergie électrique. H. Doyen. map Génie Civil 116:325-9 My 18 '40

See also
Iron ores—Germany
Petroleum industry and trade—Germany

Great Britain

British Empire's metal resources. Economist 137:378-9 D 9 '39

Hawaiian Islands

Geologic maps and guide of the island of Oahu, Hawaii (with a chapter on mineral resources). H. T. Stearns. il diags Hawaii Dept of Public Lands, Division of Hydrography, Bul 2:1-75, pl 1-6 '39

Idaho

Aikinite and silver enrichment at the St Louis mine, Butte county. A. L. Anderson. il Econ Geol 35:520-33 Je '40
Use of sedimentation features and cleavage in the recognition of overturned strata. P. J. Shenon and R. H. McConnel. bibliog il diags Econ Geol 35:430-44 My '40

Illinois

Fine-grained molding sand resources of northern Illinois. H. B. Willman. maps Ill State Geol S Rep of Invest 57:1-53 '39
Record activity brings prosperity to Illinois-Kentucky fluorspar district. S. Snook. il Min & Met 21:513-17 N '40

See also
Petroleum industry and trade—Illinois

India

Chromite mining in Jojohatu, India. B. S. Bhaduria. Eng & Min J 141:51 O '40

Kentucky

Record activity brings prosperity to Illinois-Kentucky fluorspar district. S. Snook. il Min & Met 21:513-17 N '40

Latin America

Latin America and our strategic war materials. S. H. Ball. map Eng & Min J 141: 39-41 S '40

Manitoba

Mining in Manitoba. J. S. McDiarmid. Can Min J 60:sup298 N '39
Mining in Manitoba during 1939. J. P. de Wet. il Can Min J 61:87-93 F '40

See also
Gold mines and mining—Manitoba

Mexico

Mexico, 1939. A. H. Hubbell. Eng & Min J 141:66-7 F '40

See also
Mining industry and finance—Mexico

Mississippi

Winston county mineral resources: geology. F. F. Mellen. il diags fold map Miss State Geol S Bul 38:1-169 bibliog(p89) '39
Yazoo county mineral resources; Geology by F. F. Mellen; Tests by T. E. McCutcheon. il maps Mississippi State Geol S Bul 39:1-182 bibliog(p72) '40

Montana

Petrographic province of central Montana. E. S. Larsen. diags map Geol Soc Bul 51: 887-948 bibliog(p946-8) Je '40
Significance of Montana's mineral industry. F. A. Thomson. il Min Cong J 26:10-13 Je '40
Summary of occurrence, properties, and uses of vermiculite at Libby, Montana. W. W. Kriegel. il Am Cer Soc Bul 19:94-7 Mr '40

See also
Coal—Montana
Manganese mines and mining—Montana

Nevada

Copper leads Nevada's 1939 mine output. Min Cong J 26:43-4 Ag '40
Development and preliminary studies of pinite; a rock composed of hydrous aluminum silicates. G. A. Page, F. F. Raine and V. R. Sullivan. bibliog il Am Cer Soc J 23:71-7 Mr '40
Geology of the Searchlight district, Clark county. E. Callaghan. diags plans map U S Geol S Bul 906-D:135-88, pl 41-52 bibliog (p138-9) '39
Goldbanks mining district, Pershing county. R. M. Dreyer. (Univ of Nevada Bul v 34, no 1) 38p 30c Nevada Bur. of Mines, Reno '40
Pinitized tuff of ceramic importance. P. F. Kerr. il diags map Am Cer Soc J 23:65-71 Mr '40
Reconnaissance of mining districts in Churchill county. W. O. Vanderburg. map U S Bur Mines Information Circ 7093:1-57 '40
Tungsten-bearing manganese deposit at Golconda. P. F. Kerr. diags maps plan Geol Soc Bul 51:1359-89, pl 1-5 bibliog(p 1388-9) S '40

See also
Mercury mines and mining—Nevada

MINES and mineral resources—*Continued*

New Brunswick

Mining in New Brunswick in 1939. W. E. McMullen. Can Min J 61:111-12 F '40

New Mexico

Black Hawk, at Mogollon, adapts mining method to shovel loading. I. L. Wright. diags Eng & Min J 141:61-2 Ag '40

Chalchihuitl; early turquoise mining. E. R. Harrington. il Eng & Min J 141:57-8 Je '40

Geology and ore deposits of northeastern New Mexico (exclusive of Colfax county). G. T. Harley. diags maps New Mexico School of Mines, State Bur of Mines and Mineral Resources Bul 15:1-102 bibliog(p17-18) '40 (pa 60c)

New York (state)

Colored slates of Vermont and New York. D. M. Larrabee. il diags map Eng & Min J 140:47-53 D '39; 141:48-53 Ja '40

Mining and quarry industries of New York state for 1934 to 1936; Natural gas developments in New York state for the period 1935 to 1938. D. H. Newland and C. A. Hartnagel. maps N Y State Museum Bul 319:1-158 bibliog(p156) F '39

North Carolina

Mica production. il Manuf Rec 109:58 F '40

Pegmatites of the Spruce Pine district. C. S. Maurice. il maps Econ Geol 35:49-78, 158-87 bibliog(p185-7) Ja-Mr '40

Norway

Mining flourishes in Norway. K. L. Böckman. Eng & Min J 141:41-2 Mr '40

Norway's minerals and metals. Economist 138:722-3 Ap 20 '40

Nova Scotia

Mining in Nova Scotia during 1939. Can Min J 61:108-11 F '40

Ontario

Developing Canada's nepheline syenite. C. M. Nicholson. bibliog flow sheets il map Can Min J 61:135-46 Mr '40

Expansion of hydro service in northern Ontario mining districts. T. C. James. il map Can Min J 60:811-16 D '39

Fluorspar ores of Madoc. C. L. Emery. Can Min J 61:667-8 O '40

Mining in Ontario during 1939. H. Browning. il Can Min J 61:79-81 F '40

Safety devices on electric hoists used in Ontario mines. D. P. Douglass. il diags Can Min J 61:229-34 Ap '40

See also
Gold mines and mining—Ontario

Oregon

Chromite deposits of Grant county, Oregon; a preliminary report. T. P. Thayer. il fold maps U S Geol S Bul 922-D:75-113, pl 12-20 '40

Peru

Airplane transport to remote Peruvian mines. C. W. Wright. il Min & Met 21:241 My '40

Philippine Islands

Philippine base metals have importance for Japan. R. Keeler. il map Eng & Min J 141:51-3 Ap '40

Philippine chromite. D. F. Frasche. il maps Min Cong J 25:22-7 D '39

Philippines, 1939. R. Keeler. Eng & Min J 141:71-2 F '40

See also
Manganese mines and mining—Philippine Islands

Quebec

Mining in Quebec during 1939. N. R. Arthur. il Can Min J 61:82-6 F '40

Preliminary report on southern part of Calumet Island and the adjacent mainland. F. F. Osborne. Can Min J 60:818-19 D '39

See also
Gold mines and mining—Quebec

Russia

Soviet mineral wealth. Chem Age (Lond) 42: 293 My 25 '40

South Africa

Purchases of mines' stores in South Africa. Can Min J 60:824 D '39

See also
Gold mines and mining—Transvaal

South America

South America as a source of strategic minerals. C. W. Wright. il Min & Met 21: 283-7 Je '40

South Dakota

Bentonite in southwestern South Dakota. R. C. Spivey. pls diags maps S D State Geol S [Vermillion] Rep of Invest 36:1-56 '40

Bentonites of the Belle Fourche district. M. E. Wing. il diag map S D State Geol S [Vermillion] Rep of Invest 35:1-29 bibliog(p29) '40

Mining of feldspar and associated minerals in the southern Black Hills. J. R. Guiteras. flow sheets maps U S Bur Mines Information Circ 7112:1-104 bibliog(p92-104) '40

Southern states

Dixieland's mineral industry; its phenomenal growth in the 20th century. O. H. Reinholt. Min Cong J 26:27-9 Ag '40

Minerals and mining in the South. P. M. Tyler. il map Manuf Rec Extra no 109: 66-8, 70 S '40

South's materials for the country's defense; survey by states. Manuf Rec 109:28-35, 52+ Je '40

Spain

Underground mining at Rio Tinto, Spain. C. R. Julian. diag Engineering 148:731-3 D 29 '39

Texas

South's materials for the country's defense; Texas. E. H. Sellards and V. E. Barnes. il Manuf Rec 109:33-5+ Je '40

See also
Petroleum—Texas

Turkey

La Turquie minière. C. Berthelot. map Chimie & Ind 43:785-8 My 5 '40

United States

Conservation of mineral resources. R. J. Lund. il Min Cong J 25:35-40 O '39; Same. J Eng Educ 30:232-43 N '39

Domestic sources of deficient minerals. D. F. Hewett. il Min Cong J 26:26-9 Ja '40

In quest of strategic mineral supplies in the field. C. F. Jackson. il Eng & Min J 140:43-6 D '39

Laboratory's part in strategic mineral projects; Reno experiment station of the United States Bureau of mines. E. S. Leaver. il Eng & Min J 141:33-5 My '40

Latin America and our strategic war materials. S. H. Ball. map Eng & Min J 141:39-41 S '40

Main sources of supply and the principal uses of the strategic metals. H. A. Knight. Annalist 54:724 D 7 '39

Metal mining in 1939. V. D. Johnston. il Min & Met 21:39-40 Ja '40

Phosphate deposits of the United States. G. R. Mansfield. bibliog maps Econ Geol 35: 405-29 My '40

Strategic minerals investigations by the Bureau of mines. J. W. Finch. il Min Cong J 25:28-31+ D '39

Strategic minerals investigations; procedure followed by the Bureau of mines. J. W. Finch. U S Bur Mines Information Circ 7097:1-5 '39

Strategic minerals investigations pushed. Min Cong J 25:57 N '39

Strategic minerals, 1939. C. H. Segerstrom. il Min Cong J 26:36-9 F '40

Uncle Sam prospects for strategic minerals. A. W. G. Wilson. Can Min J 61:435-6 Jl '40

MINES and mineral resources—United States —*Continued*
United States, 1939. H. C. Chellson. Eng & Min J 141:58-60+ F '40
United States Geological survey's program last year marked by strategic mineral studies. Eng & Min J 141:53 Mr '40

See also
Coal mines and mining—United States
Iron mines and mining—United States
Petroleum—United States
United States—Mines, Bureau of

Bibliography
Supplement to List of publications, Bureau of mines, July 1, 1938, to June 30, 1939, with subject and author index. 27p U.S. Bur. of mines '40

Utah
Manganese in a thermal spring in west-central Utah. E. Callaghan and H. E. Thomas. bibliog il maps Econ Geol 34:905-20 D '39
Recent developments at the New Park mining co. C. L. Wilson. il Min Cong J 26:18-21 O '40

Vermont
Colored slates of Vermont and New York. D. M. Larrabee. il diags map Eng & Min J 140:47-53 D '39; 141:48-53 Ja '40

Washington (state)
Bibliography
Bibliography and index of geology and mineral resources of Washington, 1814-1936. W. A. G. Bennett. Washington (State) Dept of Conservation and Development, Division of Geol Bul 35:1-140 '39

West Virginia
Greenbrier county. P. H. Price and E. T. Heck. 846p West Virginia. Geological survey, Charleston '39

Western states
Output of gold, silver, copper, lead, and zinc in the western states, 1938 and 1939; tabulation. Min & Met 21:102 F '40

Wyoming
Occurrence of a deposit of trona; Sweetwater county. W. C. Mendenhall. Science 91:11-12 Ja 5 '40

Yukon territory
Mining industry of Yukon, 1938. H. S. Bostock. pls Canada Geol S Memoir 220:1-21 '39 (pa 10c)

MINIATURE models. See Models, Miniature

MINIMUM wage
Effect of minimum wage in New York beauty parlors. Monthly Labor R 50:948-9 Ap '40
Effects of the 25-cent minimum wage on employment in the seamless hosiery industry. A. F. Hinrichs. Am Statis Assn J 35: 13-23 Mr '40
Millinery wage under Fair labor standards act. Monthly Labor R 50:399-400 F '40
Minimum wage for British agricultural workers. Monthly Labor R 51:418-19 Ag '40
Minimum wage for Chilean textile industry, 1940. Monthly Labor R 51:162 Jl '40
Minimum wage for cotton industry under wage and hour act. Monthly Labor R 49: 1446-7 D '39
Minimum wage law of the Dominican Republic, 1940. Monthly Labor R 51:162-3 Jl '40
Minimum-wage legislation as of January 1, 1940. Monthly Labor R 50:891-909 Ap '40
Minimum wage rates for Brazil, 1940. Monthly Labor R 51:158-60 Jl '40
Minimum wages and maximum hours. Published in Monthly labor review
Minimum wages for Puerto Rican sugarcane laborers announced. Comm & Fin Chr 150: 2133 Mr 30 '40
Progress of state minimum-wage legislation in 1939. L. Stitt and F. P. Smith. Monthly Labor R 50:312-23 F '40

See also
Wages—Law

MINING costs
Aerial tramways in the metal-mining industry; construction and operating costs. O. H. Metzger. diags map U S Bur Mines Information Circ 7095:1-47 '40; Same. Eng & Min J 141:111-12 Ap; 113-14 My; 107-8 Je; 107-8 Jl; 147-8 Ag; 117-18 S; 109-10 O; 113-14 N; 114 D '40
Cutoff point for ore grade; a rule by Hamilton Smith. C. A. Chase. Min & Met 21:240 My '40; Discussion. 21:347, 432 Jl, S '40
Favorable financial results attend new gold-mine development in Canada. J. L. Maury. il Min & Met 20:409-11 S '39; Discussion. 20: 512; 21:101 N '39, F '40
Guysborough is producing 600 oz. of gold per month. R. Charlick. Eng & Min J 141:56 Ag '40
Metal-mining practice. C. F. Jackson and J. H. Hedges. bibliog flow sheets pls diags plans U S Bur Mines Bul 419:1-512 '40
Mining and milling methods and costs at Knob Hill mine, Republic, Wash. C. L. Cooper. flow sheet U S Bur Mines Information Circ 7123:1-29 '40
Mining and milling methods and costs at the Ash Peak mine of the Veta mines, inc., Duncan, Ariz. H. L. Lines. pls U S Bur Mines Information Circ 7119:1-26 '40
Mining and milling methods and costs in the Alma district, Colorado. J. R. Guiteras. pls U S Bur Mines Information Circ 7101:1-63 '40
Mining methods and costs at the South Burns shaft of Golden conqueror mines, inc, Cripple Creek, Colo. A. S. Konselman. diags maps U S Bur Mines Information Circ 7094: 1-13 '40
Vaucluse gold mine, Orange county, Va. C. E. Bass. Econ Geol 35:89-90 Ja '40

See also
Gold dredging—Cost
Mine accidents—Cost
Mine haulage—Cost

MINING engineering
Aerial photography grows up. H. T. Bruce. il Eng & Min J 141:48-51 Mr '40
How barodynamics knocks guess out of roof control by using small-scale models of mine strata. P. B. Bucky. il Coal Age 45:40-3 Jl '40; Same. Eng & Min J 141:40-3 Jl '40
Materials; observations on various phases of engineering. R. C. Rowe. Can Min J 61:283-6 My '40
Metal-mining practice. C. F. Jackson and J. H. Hedges. bibliog flow sheets pls diags plans U S Bur Mines Bul 419:1-512 '40
Metal mining practice over sixty years. C. F. Jackson. il diags Can Min J 60:673-91 N '39
Mining practice, 1939. G. J. Young. Eng & Min J 141:74-6 F '40
Photoelasticity; mining engineer's new tool. il Min & Met 21:94 F '40
Preliminary engineering at Morenci open pit; preparing for the development of a 230,000,000-ton deposit of copper ore in Arizona. W. C. Lawson. il Civil Eng 10:510-13 Ag '40
Progress in metallic materials for mining engineering. P. D. Merica and J. E. Kerr. il Can Min J 60:733-41 N '39

See also
Blasting
Coal mines and mining
Copper mines and mining
Drilling and boring (earth and rocks)
Electricity in mining
Gold mines and mining
Hydraulic mining
Iron mines and mining
Lead mines and mining
Mine drainage
Mine haulage
Mine hoisting
Mine management
Mine shafts
Mine timbering
Mine ventilation
Mines and mineral resources
Mining machinery
Mining methods
Mining schools and education
Ore handling
Prospecting
Quarries and quarrying
Rock drills
Tin mines and mining
Tunnels and tunneling
Zinc mines and mining

MINING engineering—*Continued*

Bibliography

Current institute papers. Published in monthly numbers of Mining and metallurgy
Supplement to List of publications, Bureau of mines, July 1, 1938, to June 30, 1939, with subject and author index. 27p U.S. Bur. of mines '40

Power

Power for the small mine; illustrations. Eng & Min J 141:86-7 Ag '40
Power's contribution to Canadian mining. H. G. Cochrane. il Can Min J 60:725-31 N '39

See also
Coal mines and mining—Power
Electricity in mining

Safety measures

Accidents from falls of rock or ore in metal mines. E. H. Denny. U S Bur Mines Miners' Circ 41:1-21 '40
Brief on explosive handling. J. C. Mason. Can Min J 61:650 O '40
Chute pulling; accident experience and prevention. R. H. Cleland. diags Can Min J 61: 113-16 F '40
Education in safety; foremen and shift bosses key in effective training. C. E. McKnight. Can Min J 61:669-71 O '40
Engineering for safety. G. S. Jarrett. Can Min J 61:594-8 S '40
Factors for and against safety. W. Padgett. Min Cong J 25:17 D '39
Flame as an indicator of oxygen depletion and deficiency. W. S. Weeks and R. K. Byerts. Eng & Min J 141:44-5 O '40
Health and safety; abstracts of papers, Western division, American mining congress. Min Cong J 26:26-8 O '40
Health and safety in 1939. C. M. Fellman. il Min & Met 21:24 Ja '40
How dangerous is gas? W. B. Paton. Can Min J 61:527-9 Ag '40
How photoelastics pictures mine-structure stresses by use of small-scale transparent models. P. B. Bucky. il diag Coal Age 45: 54-7 N '40
Mine accident prevention. W. Edgeworth. Can Min J 61:300-3 My '40
Mine inspectors' institute of America 31st annual meeting, Indianapolis, May 27-29. Coal Age 45:72, 74+ Jl '40
National safety competition of 1939. W. W. Adams and T. D. Lawrence. U S Bur Mines Rep of Invest 3526:1-36 '40
National safety competition of 1939; with list of awards, 1925-39 and honorable mention, 1939. W. W. Adams. il map Explosives Eng 18:202-11 Jl '40
New slants on miners' safety and health stir interest at National safety congress. Coal Age 45:72+ N '40
Overwind protective device. R. Taschereau. diag Can Min J 61:35 Ja '40
Practical stope support in deep mine workings; with discussion and cost data on granite masonry. W. J. Bichan. il diag Can Min J 60:799-803 D '39
Right way; rules, training, discipline and protective equipment. A. J. Bartlett. il Nat Safety N 42:24-5 Ag '40
Safety at Climax. J. K. Richardson. il Eng & Min J 141:44-7 Jl '40
Safety in raise mining; special set of rules worked out by Oliver iron mining company. W. P. Wolff. diags Min Cong J 26:15-19 Ag '40
Safety sermonettes. W. B. Paton. Can Min J 61:304-5, 374-6, 598-600, 671-3, 749-51, 816-18 My-Je, S-D '40
Sentinels of safety trophies presented. il Explosives Eng 17:323-30, 344-5 N '39
Sentinels of safety trophies presented. il Explosives Eng 18:297-307 O '40
Shaft sinking in quicksand; safe procedure. E. S. Tillinghast. il Eng & Min J 141:37-9 My '40
Six decades of progress in safety and welfare. W. B. Paton. il Can Min J 60:749-53 N '39
Why safety meetings? experience of Snyder mining company. A. C. Borgeson. Nat Safety N 41:26-7+ Ap '40

See also
Coal mines and mining—Safety measures
Holmes safety association
Mine hoisting—Safety measures
Mine rescue work

Study and teaching

Douglas memorial building for mines and metallurgy. il Min Cong J 26:35 Je '40
Student interest in coal mining furthered. N. G. Alford. Min & Met 21:35+ Ja '40
Suggestions for the improvement of mining education. J. L. Maury. Min & Met 21: 469-70 O '40

See also
Mining schools and education

MINING engineers

Institute members of promise; photographs at turn of century. Min & Met 21:244-5 My '40
Study of the activities of graduates of the School of mines and metallurgy, University of Minnesota. E. H. Comstock. J Eng Educ 30:708-13 Ap '40
Young engineer wonders if he needs a union. R. B. Bailey. Min & Met 21:291-2 Je '40; Discussion. 21:346, 387-8, 432-3 Jl-S '40; Reply. 21:471-2 O '40

See also
Mining schools and education

MINING industry and finance

Cutoff point for ore grade; a rule by Hamilton Smith. C. A. Chase. Min & Met 21:240 My '40; Discussion. 21:347, 432 Jl, S '40
Financing primary mining ventures; five causes contributing to difficulties. C. J. Trauerman. Min Cong J 26:69-72 Ap '40
New deal beneficiary; United States smelting, refining and mining co. J. J. Faggiano. Barron's 20:13 S 9 '40
Policy of Surcease mine, Yankee Hill, Calif. a conservative one. A. E. Jones. flow sheets il Eng & Min J 141:46-9 Ag '40
World's great mining properties; table. J. Calhoun. Barron's 20:20 S 30 '40

See also
Coal trade
Copper industry and trade
Iron industry and trade
Metal trade
Mine taxation
Mineral industries
Mines and mineral resources
Mining costs
Silver industry and trade
also St Joseph lead company

Securities

Canadian gold mines maintain earnings; data for 20 representative companies. A. T. Christie. Barron's 20:20 O 7 '40
Newmont Mining; stake in metals and oils. J. C. Clifford. il Mag of Wall St 65:504-5+ Ja 27 '40
Non-ferrous metals; mining companies and copper companies, 1937-39. Mag of Wall St Manual p27-8 Mr 2 '40
Position of leading metal stocks. Mag of Wall St 65:608; 66:578 F 24, Ag 24 '40

Arizona

Small operator organizes; Arizona small mine operators association. A. L. Flagg. Eng & Min J 141:84-5 Ag '40

Canada

Canada, 1939. J. B. DeMille. Eng & Min J 141:61-3+ F '40
Canada's mineral industry in 1939. W. H. Losee. il Can Min J 61:73-8 F '40

Mexico

Mexico, 1939. A. H. Hubbell. Eng & Min J 141:66-7 F '40

Ontario

Workmen's compensation in Ontario; mining industry's experience from January 1, 1920 to January 1, 1938. T. N. Dean. Can Min J 61:30-4 Ja '40

MINING industry and finance—*Continued*

Philippine Islands

Philippines, 1939. R. Keeler. Eng & Min J 141: 71-2 F '40

Transvaal

See also
Gold mines and mining—Transvaal

United States

Economic effect of present taxes on the mining industry. W. H. Hoover. Min Cong J 25:31-4; Discussion. L. G. Kelly. 34-5 N '39

See also
Mine taxation

MINING law

See also
Mine taxation
Petroleum laws and regulations

Canada

Mining laws of Canada; a digest of dominion and provincial laws affecting mining. A. Buisson, comp. rev ed 110p pa 25c Canada. Dept. of mines and resources, Ottawa '39

Louisiana

Mineral rights in Louisiana. H. S. Daggett. 427p $5 Louisiana state univ. press, University, La. '39

Paraguay

Amending the mining law of Paraguay. H. P. Crawford. Comm Rep p738 Ag 31 '40

MINING machinery

Building up wear resistance; flame-hardened molybdenum steels meet exacting requirements. il Steel 106:60, 63 Mr 18 '40

Considerations in selection of mechanical loaders loading broken rock in mines or tunnels. P. M. Sheriger. il Min Cong J 26: 37-8 Ja '40

Cornucopia Gold holds maintenance low on its mucking machine. A. V. Quine. diags Eng & Min J 141:63 Ag '40

Distance between mining machinery shaft centers. Can Min J 61:643 O '40

Kennecott's Ray mines experiment with shaker conveyor. R. W. Thomas. il diag Min Cong J 26:62-3 Ap '40

Materials; observations on various phases of engineering. R. C. Rowe. Can Min J 61:283-6 My '40

Mechanical shoveling in underground metal mines. M. Mosier and J. H. Steinmesch. pls diags U S Bur Mines Bul 423:1-97 '40

Mechanized loading aids these small operations. diags Eng & Min J 141:61-3 Ag '40

Mining industry notes many advances in equipment at machinery exposition; 7th annual metal mining convention, American mining congress. il diag Eng & Min J 141: 87-9 O '40

Movable continuous track-shifting machines as an aid to rational production in open-pit mines. A. Ziffzer. il diags Eng & Min J 140:40-1 D '39

Slope mucking with a mechanical loader. L. H. Jeffries. il Min & Met 21:56 Ja '40

Tomorrow's mining methods. M. A. Smith. diags Eng & Min J 141:33-7 Mr '40

U.S. foreign trade active in minerals and mining machinery; with statistical data, 1938-May 1940. Eng & Min J 141:91-2 Ag '40

See also
Coal mining machinery
Electricity in mining
Excavating machinery
Hoisting machinery
Mine haulage
Mine hoisting
Rock drills
Shoveling machines

MINING methods

Big stope at Buffalo-Ankerite; mining methods adapted to peculiar conformation of orebody. F. K. McKean. diags Can Min J 61:639-43 O '40

Black Hawk, at Mogollon, adapts mining method to shovel loading. I. L. Wright. diags Eng & Min J 141:61-2 Ag '40

Burn cut versus diamond cut. G. D. Thomas. diags Can Min J 61:512-15 Ag '40

Classification of surface mining methods. Min & Met 21:326 Jl '40

Cornucopia Gold holds maintenance low on its mucking machine. A. V. Quine. diags Eng & Min J 141:63 Ag '40

Cut-and-fill stoping at Arizona Magma. G. G. Wald. diags Eng & Min J 141:48-9 Jl '40

Drainage and development at a Utah mine; Park City consolidated mines company. G. M. Wiles and others. il diag map Eng & Min J 141:58-61 Ag '40

Kennecott's Ray mines experiment with shaker conveyor. R. W. Thomas. il diag Min Cong J 26:62-3 Ap '40

London company, at Alma, finds loader effective in development. H. L. Tedrow. Eng & Min J 141:62 Ag '40

Metal-mining practice. C. F. Jackson and J. H. Hedges. bibliog flow sheets pls diags plans U S Bur Mines Bul 419:1-512 '40

Metal mining practice over sixty years. C. F. Jackson. il diags Can Min J 60:673-91 N '39

Mining and milling methods and costs at Knob Hill mine, Republic, Wash. C. L. Cooper. flow sheet U S Bur Mines Information Circ 7123:1-29 '40

Mining and milling methods and costs at the Ash Peak mine of the Veta mines, inc., Duncan, Ariz. H. L. Lines. pls U S Bur Mines Information Circ 7119:1-26 '40

Mining and milling methods and costs in the Alma district, Colorado. J. R. Guiteras. pls U S Bur Mines Information Circ 7101:1-63 '40

Mining methods and costs at the South Burns shaft of Golden conqueror mines, inc, Cripple Creek, Colo. A. S. Konselman. diags maps U S Bur Mines Information Circ 7094: 1-13 '40

Mining methods at East Malartic. N. J. Thompson. il plans Can Min J 61:203-10 Ap '40

Mining methods of Garson mine. J. A. Bardswich. diags Can Min J 61:575-82 S '40

Mining practice, 1939. G. J. Young. Eng & Min J 141:74-6 F '40

New developments and equipment in metal mining; abstract. R. S. Lewis. Min Cong J 26:31-2 O '40

New equipment and improved practice in metal mining. L. Eaton. il Min Cong J 25: 15-20; Discussion. 20-1+ N '39

Operations at the Haile gold mine, Kershaw, S.C. E. Newton, D. B. Gregg and M. Mosier. U S Bur Mines Information Circ 7111:1-42, pl 1-12 '40

Safety in raise mining; special set of rules worked out by Oliver iron mining company. W. P. Wolff. diags Min Cong J 26:15-19 Ag '40

Slusher ropes. J. J. Fitzgerald. il Min Cong J 26:45-6 F '40

Stemming in metal mines. J. A. Johnson, W. G. Agnew and M. Mosier. pl U S Bur Mines Rep of Invest 3509:1-27 bibliog(p26-7); 3528:1-39, pl 1-2 '40

Stoping methods at Levack mine. G. O. Brown. diags Can Min J 61:347-54 Je '40

Tomorrow's mining methods. M. A. Smith diags Eng & Min J 141:33-7 Mr '40

Tomorrow's mining methods as suggested by slusher mining practice at Consolidated Coppermines. M. A. Smith. il diags Eng & Min J 141:33-7 O '40

Underground mining at Rio Tinto, Spain C. R. Julian. diag Engineering 148:731-3 D 29 '39

See also
Blasting
Coal mines and mining—Methods
Copper mines and mining
Gold mines and mining—Placer mining
Hydraulic mining
Iron mines and mining
Lead mines and mining
Mercury mines and mining
Mine haulage
Mine hoisting
Mine timbering
Mining engineering
Ore chutes
Quarries and quarrying

MINING methods—*Continued*

Frozen ground

Lode mining in frozen ground. J. R. Eagle; T. C. Mathews. Min & Met 21:344-5 Jl '40

Stripping operations

Bingham Canyon operations of Utah copper company; photographs by W. M. Rittase. Explosives Eng 18:9-24 Ja '40

Construction of portable electrical overhead systems for stripping and dumping operations. L. W. Birch. il diag Min Cong J 26:32-3 Jl '40

Development of Morenci pit proceeds on schedule. J. B. Hutti. il Eng & Min J 141: 46-7 My '40

Development of the Morenci open pit. H. M. Lavender. il Min Cong J 25:12-17 D '39

Fundamental principles of electrical safety for open-pit iron mines. L. M. Frazee. il diags Gen Elec R 43:230-6 Je '40

Iron ore extraction in the Midlands. diags Mech Handling 26:353-5 D '39

Movable continuous track-shifting machines as an aid to rational production in open-pit mines. A. Ziffzer. il diags Eng & Min J 140:40-1 D '39

New Cornelia today; porphyry copper enterprise of Arizona. J. B. Hutti. il Eng & Min J 141:44-5 S '40

New equipment and improved practice in metal mining. L. Eaton. il Min Cong J 25: 15-17 N '39

Open-pit mining and milling methods and costs at the Yellow Aster mine, Randsburg, Calif. A. W. Ffolli. flow sheets diags plans U S Bur Mines Information Circ 7096:1-46 '40

Preliminary engineering at Morenci open pit; preparing for the development of a 230,000,000-ton deposit of copper ore in Arizona. W. C. Lawson. il Civil Eng 10:510-13 Ag '40

Restoration of land affected by iron-ore working. Engineering 148:637-8 D 8 '39

Truck haulage at the Mahnomen mine. W. H. Gallagher. il Min Cong J 25:28-30 N '39

See also Coal mines and mining—Stripping operations

MINING research

Centrifuge for testing mines and bridges in new Columbia school of engineering research. W. Davis. Science 90:sup8 N 17 '39

Measurement of pressures on rock pillars in underground mines; sound-velocity method. L. Obert. pls diags U S Bur Mines Rep of Invest 3444:1-15 bibliog(p14-15) '39; 3521:1-11 '40; Same (pt 1). Can Min J 60:264-71 My '39

MINING schools and education

Beginnings of engineering education; connection with the mineral industry in Germany. T. T. Read. bibliog J Eng Educ 30:348-53 D '39

Education for the mineral industries. T. T. Read. Min & Met 21:282 Je '40

Education training in the coal industry; abstract. H. R. Wheeler. Min Cong J 26:25-6 My '40

Mineral industry education. F. A. Thomson. il Min & Met 21:25-6 Ja '40

Mining education in England; annual report of Imperial college of science and technology, South Kensington. Science 90:558-9 D 15 '39

Post-education in the coal industry; program of Pittsburgh coal co. H. R. Wheeler. Min & Met 21:289-90 Je '40

Specialized curricula in mineral dressing. P. C. Emrath. J Eng Educ 30:704-7 Ap '40

See also
Colorado school of mines

MINING society of Nova Scotia

Annual meeting, 53d, Sydney and Glace Bay, June 20-21. Coal Age 45:68, 70, 72+ Ag '40

MINISTERS of the gospel. See Clergy

MINNEAPOLIS

Minneapolis improves its Mississippi parkway system; illustrations. Eng N 124:344-5 Mr 7 '40

See also
Printing trade—Minneapolis

Architecture

Twin Cities vote on recent architectural examples. il map Arch Rec 87:20, 22 Je '40

Harbor

Minneapolis harbor; waterway fans cheered by U.S. report. il Business Week p18 Ja 27 '40

Lighting

Development of multiple street lighting system in Minneapolis. D. M. Bunn and H. G. Conant. il diags map Edison Elec Inst Bul 8:61-8 F '40

Sewerage

Sludge disposal at Minneapolis; abstracts. G. J. Schroepfer. Water Works & Sewerage 86:495-6 D '39; il Eng N 124:394-6 Mr 14 '40

MINNEAPOLIS and St Louis railroad

Doctors were wrong; Minneapolis & St Louis, pronounced hopeless by experts, gives evidence of vigorous life. il map Ry Age 108:1000-6 Je 8 '40

ICC rejects reorganization plan. Comm & Fin Chr 150:2584 Ap 20 '40

I. C. C. throws out R. F. C. plan for M. & St. L. Ry Age 108:711-12 Ap 20 '40

MINNESOTA

Rural zoning in Minnesota. W. F. Musbach and M. C. Williams. bibliog J Land & Pub Util Econ 16:105-9 F '40

See also
Iron mines and mining—Minnesota
Water supply—Minnesota

MINNESOTA and Ontario paper company

Earnings, 1938-39; balance sheet Dec. 31, 1939. Comm & Fin Chr 151:2506 O 26 '40

Reorganization. Comm & Fin Chr 151:1579 S 14 '40

MINNESOTA university

Medical school

Semi-centennial celebration. M. B. Visscher. Science 90:494-5 N 24 '39

School of mines and metallurgy

Study of the activities of graduates of the School of mines and metallurgy. E. H. Comstock. J Eng Educ 30:708-13 Ap '40

MINORITIES

Human dynamite; the story of Europe's minorities. H. C. Wolfe. 96p 95c; pa 25c Foreign policy assn, 8 W. 40th st, New York '39

Problem of minorities; or, Communal representation in India. K. B. Krishna. 359p 15s G. Allen and Unwin, London '39

Southern Dobruja; territorial dispute between Rumania and Bulgaria. map Economist 138: 566-7 Mr 30 '40

MINOT, Hooper and company

First 100 years. Textile World 90:57 Ja '40

MINSHALL, Robert J.

Presentation of the Musick memorial trophy. por J Aeronautical Sci 7:407 Jl '40

MINT Canyon formation

Mint Canyon flora of southern California; a preliminary statement. D. I. Axelrod. bibliog Am J Sci 238:577-85 Ag '40

MIRAGE

Remarkable example of polar mirage. W. H. Hobbs. Science 90:513-14 D 1 '39

MIROPINIC acid

Miro resin; the resin acids. C. W. Brandt and L. G. Neubauer. Chem Soc J p683-6 My '40

MIRRORS

Accurate floodlight mirrors. J. G. Holmes. il Light & Lighting 32:253-4 D '39

Colored silvering of glass; lead sulfide, gold and copper processes. B. Schweig. Glass Ind 21:353-6 Ag '40

MIRRORS—*Continued*
Doppler effect from moving mirrors. H. E. Ives. Opt Soc Am J 30:255-7 Je '40
Glass takes on color; new fields opened for plate glass. E. Aiken. il Sci Am 162:152 Mr '40

See also
Telescope—Mirrors

Advertising

Dealer follow-up; systematic mail plan gets retailers to build immediate sales out of consumer inquiries; Nurre mirrors. Ptr Ink 193:83-6 N 1 '40

Manufacture

Method of silvering. C. S. Walton. Sci Am 163:33-4 Jl '40
New mirror process; Libbey-Owens-Ford buys control of new method of silvering mirrors by spraying. il Business Week p37-8 Ja 27 '40
Revolutionary process of mirror manufacture; by which a pure silver-reflecting film can be produced by spraying a solution of silver nitrate on glass. il Ind & Eng Chem News ed 18:199-200 Mr 10 '40

MIRRORS, Telescope. See Telescope—Mirrors

MISBRANDING
Suit charges reclaimed oil sold as Penn. Nat Pet N 32:13+ S 11 '40

MISCH metal
Investigation into the gettering powers of various metals for the gases hydrogen, oxygen, nitrogen, carbon dioxide and air. L. F. Ehrke and C. M. Slack. diag J Ap Phys 11:129-37 F '40

MISPRINTS. See Errors, Typographical

MISSION corporation
Volatile low priced equities; thumbnail appraisal. Mag of Wall St 65:688 Mr 9 '40

MISSISSIPPI

See also Petroleum industry and trade—Mississippi

Industries and resources

Demise of Bawl; Mississippi's balance agriculture with industry program dies June 1. Business Week p23-4 Ap 13 '40
Mississippi, heart of the South. il map Manuf Rec Extra no 109:152-9 S '40

MISSISSIPPI river
Big river to cross; Mississippi life today. B. L. Burman. 294p $3 Day '40
Bridging the Mississippi river. J. A. Fox. il map Manuf Rec 109:28-9 F '40
Improving Mississippi River navigation; beneficial effects of cutoffs and channel work. G. R. Clemens. map Civil Eng 10:359-61 Je '40
Nine-ft. canalization of upper Mississippi river completed. il map Eng N 124:550-1 Ap 18 '40
Oil barges push farther up Mississippi waterway. il Nat Pet N 31:34-6, 40 D 13 '39
Quaternary history of Louisiana. R. J. Russell. maps Geol Soc Bul 51:1199-1233 bibliog(p1230-3) Ag '40
Regulation of the upper Mississippi. il diags map Engineering 150:41-3, pl 4-5 Jl 19 '40
Triangulation along the Mississippi river; Vicksburg to New Orleans and Atchafalaya river. 657p pa $1.25 U.S. Engineer dept. Washington, D.C. '39

Flood control projects

New agricultural empire opened for development in the South; reclaimed alluvial valley of the Mississippi river. J. A. Fox. il map Manuf Rec 109:34-7+ Jl '40
Response of Mississippi river to channel changes. W. E. Elam. maps Civil Eng 10:235-7 Ap '40

MISSISSIPPI valley
Critiques of research in the social sciences; III; Appraisal of Walter Prescott Webb's The great plains: a study in institutions and environment. F. A. Shannon. 254p pa $1 Social science research council, 320 Park av, New York '40
New agricultural empire opened for development in the South; reclaimed alluvial valley of the Missfssippi river. J. A. Fox. il map Manuf Rec 109:34-7+ Jl '40

MISSISSIPPIAN system
Mississippian border of estern interior basin. J. M. Weller and A. H. Sutton. maps Am Assn Pet Geologists Bul 24:765-858 bibliog(102 titles, p 855-8) My '40

MISSOURI
Regulation or development for the Missouri Ozarks. C. H. Hammar. J Land & Pub Util Econ 16:159-67 My '40
Rural zoning for Missouri? V. Hurlburt. J Land & Pub Util Econ 16:151-8 My '40
Transit traverse in Missouri; central Missouri, 1902-37. J. G. Staack. maps U S Geol S Bul 916-G:869-1024, pl 1 '40
Transit traverse in Missouri; east-central Missouri, 1903-37. J. G. Staack. pl maps U S Geol S Bul 916-C:297-439 '39
Transit traverse in Missouri; northeastern Missouri, 1900-37. J. G. Staack. maps U S Geol S Bul 916-F:733-868, pl 1 '40
Transit traverse in Missouri; northwestern Missouri, 1911-37. J. G. Staack. pl U S Geol S Bul 916-D:1-563 '40
Transit traverse in Missouri; south-central Missouri, 1908-37. J. G. Staack. maps U S Geol S Bul 916-B:1-10, 125-295, pl 1 '39
Transit traverse in Missouri; southeastern Missouri, 1903-37. J. G. Staack. maps U S Geol S Bul 916-A:1-124, pl 1 '39
Transit traverse in Missouri; southwestern Missouri, 1900-37. J. G. Staack. maps U S Geol S Bul 916-E:565-732, pl 1 '40

Industries and resources

Economic forces in the development of Missouri. il map Manuf Rec Extra no 109: 160-8 S '40

MISSOURI-Kansas-Texas railroad
Annual report. Comm & Fin Chr 150:2108 Mr 30 '40

MISSOURI Pacific railroad
Enigma of defaulted rail bonds; hidden earning power due to abnormal charges for maintenance. E. S. Brooks. Barron's 20:3 Mr 4 '40
Findings and opinion of the Securities and exchange commission. J Account 69:72-80 Ja '40
I.C.C. lets bondholders take all in Missouri Pacific revamping. Ry Age 108:166-8 Ja 20 '40
New hope for defaulted rail bonds; drastic proposal of I.C.C. examiner ignored by commission. A. Jansen. Barron's 20:19 Ja 29 '40
Reorganization plan. Comm & Fin Chr 150: 439-40 Ja 20 '40
Running passing tracks save train stops; high-speed turnouts with spring switches and signals at meeting points on single track on Missouri Pacific. il diag Ry Age 108:745-6 Ap 27 '40
To purchase equipment; stock control of terminal companies approved. Comm & Fin Chr 151:2652-3 N 2 '40
Traffic statistics and income account for calendar years 1936-39. Comm & Fin Chr 151:249 Jl 13 '40

MISSOURI river
Development and maintenance of a navigable channel in the Missouri river. D. R. Neff. il Civil Eng 10:578-81 S '40
Sioux City greets oil barges opening new river channel. il Nat Pet N 32:24 Jl 17 '40

MISSOURI valley
Frontiers of the Northwest; a history of the upper Missouri valley. H. E. Briggs. 629p bibliog(p595-612) $5 Appleton-Century '40

MITES

See also
Chiggers

MITOSIS. See Cell division (biology)

MIXERS
Controlled mixing and blending of coating materials; tests made with Simpson intensive mixer. E. M. Rupp. il Paper Tr J 111:10-11 Ag 8 '40

MIXERS—*Continued*
Further developments in dry mixing of ceramic bodies. F. A. Fix. Am Cer Soc Bul 19:90-1 Mr '40
Laboratory Banbury mixer equipped with four-speed motor. il India Rubber W 102:54 S '40
Mixers, blenders and colloid mills at chemical exposition. il diag Chem & Met Eng 46: 716-18, 782-3 N-D '39
Practical approach to the choice of mixing and blending equipment. C. R. Lockard. il diag Chem Ind 45:567-8 N '39
Rebuilt batch plant at Thatcher manufacturing company incorporates automatic weighing; new mixer and mixed batch distribution. il diag Glass Ind 21:347-52 Ag '40
Simpson intensive mixers. il Paper Tr J 110: 14 My 23 '40
Traveling mixing plants. H. H. Barber. Can Eng 77:8-10 D 26 '39
Welding service for the renewal of Banbury parts. il India Rubber W 102:59 Ap '40

See also
Concrete mixers
Food mixers
Gas mixing
Proportioning equipment

MIXING
Further developments in dry mixing of ceramic bodies. F. A. Fix. Am Cer Soc Bul 19:90-1 Mr '40

See also
Concrete mixing
Gas mixing
Gasoline—Blending

MIXING, Heat of
Hydrogen bonds involving the C-H → F link. C. S. Marvel, M. J. Copley and E. Ginsberg. bibliog Am Chem Soc J 62:3263-4 N '40
Hydrogen bonds involving the C-H link; effect of structure on bonding of donor and acceptor molecules. C. S. Marvel, M. J. Copley and E. Ginsberg. bibliog Am Chem Soc J 62:3109-12 N '40

MIXTURES
Activity of the constituents in mixtures of *n*-butyl alcohol and water at 30°C. M. Randall and H. P. Weber. diag J Phys Chem 44:917-20 O '40
Graphic determination of batch distillation curves for binary mixtures. E. H. Smoker and A. Rose. bibliog Am Inst Chem Eng Trans 36:285-93 Ap '40; Discussion. 36:675-7 O '40
Eine neue physikalisch-chemische methode zur bestimmung von einzelbestandteilen in gemischen; unter besonderer berücksichtigung ihrer anwendung auf die untersuchung von mineralölen, synthetischen ölen und teerfraktionen. G. Ibing. diag Angew Chemie 53:60-5 F 3 '40; Discussion. L. Ebert. 53: 128 Mr 16 '40
Phase equilibria in hydrocarbon systems; the propane-*n*-butane system in the critical region. C. N. Nysewander, B. H. Sage and W. N. Lacey. bibliog diags Ind & Eng Chem 32:118-23 Ja '40
Quaternary system acetic acid—chloroform—acetone—water at 25°C. A. V. Brancker, T. G. Hunter and A. W. Nash. diags J Phys Chem 44:683-98 Je '40
Spreading of binary mixtures of volatile organic liquids on water. C. P. Keim and E. R. Washburn. bibliog Am Chem Soc J 62:2318-20 S '40
Surface tension of a solvent-diluent mixture. J. K. Stewart and G. C. Hook. bibliog il Ind & Eng Chem 32:871-6 Je '40
Thermodynamics of irreversible processes; fluid mixtures. C. Eckart. Phys R 58:269-75 Ag 1 '40
Tie lines in ternary liquid systems. I. Bachman. Ind & Eng Chem Anal ed 12:38-9 Ja 15 '40
Tie lines in two-liquid-phase systems. A. V. Brancker, T. G. Hunter and A. W. Nash. bibliog Ind & Eng Chem Anal ed 12:35-7 Ja 15 '40
Vapor-liquid equilibrium; carbon tetrachloride-benzene mixtures. G. Scatchard, S. E. Wood and J. M. Mochel. bibliog Am Chem Soc J 62:712-16 Ap '40

See also
Gasoline—Alcohol mixtures
Inflammable mixtures
Solution (chemistry)

MOBILE, Alabama
Family income and expenditure in the southeastern region, 1935-36; v.1, Family income. A. D. H. Kaplan, F. M. Williams and J. S. Bernard. U S Bur Labor Statistics Bul 647: 1-520 '39
Mobile builds a vehicle tunnel for Gulf Coast highway traffic. il diags map Eng N 124: 572-6 Ap 25 '40
New vehicle tunnel. Eng N 124:509 Ap 11 '40

MOBILE river
Under Mobile river; vehicular tunnel built on land, floated into place. R. G. Skerrett. il Sci Am 163:135-6 S '40

MOBILIZATION, Industrial. See Industrial mobilization

MOBILOMETER
Improved mobilometer for measuring consistency of fluid and semifluid greases; Standard inspection laboratory, Bayonne, N.J. K. C. Combes, C. S. Ford and W. S. Schaer. bibliog diags Ind & Eng Chem Anal ed 12:285-7 My 15 '40

MOCKMORE, Charles A. 1891-
Sketch. por(p55) Civil Eng 10:56 Ja '40

MODEL houses. See Houses, Model

MODELS
Life-size model tests control board. H. A. Johnson and G. Metz. il diags Power 84: 370-1 Je '40
Photoelastic study of the stresses in wing ribs. T. J. Dolan and D. G. Richards. bibliog il diags J Aeronautical Sci 7:340-6 Je '40
Visual stress analysis; use of polarized light and celluloid models. E. W. P. Smith. diag Steel 106:60+ Je 24 '40

See also
Airplanes—Models
Bridges—Model testing
Hydraulic models
Piping (power plants)—Models
Railroads—Models
Structural engineering—Models

MODELS, Miniature
Junior Motors demand precise manufacture. C. C. Hermann. il Iron Age 145:48-50 Je 20 '40
Miniature model of turret lathe built in complete detail. il Iron Age 144:34 D 28 '39
Miniature oil industry at Caracas exhibition. il Oil & Gas J 38:19 Ap 11 '40
Toy models of machines sell next generation of buyers. il Sales Management 47:28+ N 1 '40

MODERNIST art. See Art, Modernist

MODJESKI, Ralph, 1861-1940
Sketch. por Eng N 125:2 Jl 4 '40

MOHAIR
Setting twist in mohair. Textile World 90: 89-90 Mr '40
Textile fiber atlas. W. von Bergen and W. Krauss. il Rayon 21:85-6 F '40

See also
Astrachan fabric
Dyes and dyeing—Mohair

MOHAWK carpet mills, Inc.
Fast-moving low price stocks; thumbnail appraisal. Mag of Wall St 65:557 F 10 '40

MOHR circle diagram
Circles of strain. J. A. Wise. bibliog J Aeronautical Sci 7:488-40 Ag '40

MOISTURE
Detecting moisture with meters. il Metal Ind 38:178 Mr '40
Determination of moisture in native and processed cellulose; titrimetric determination using Karl Fischer reagent. J. Mitchell, jr. bibliog Ind & Eng Chem Anal ed 12:390-1 Jl 15 '40

MOISTURE—*Continued*
Easy way to tell when to stop drying process; gage quickly measures moisture content of product; canning plant of Atlantic coast fisheries co. H. E. Rue. diags Food Ind 12:40-1 Ag '40
Electrical moisture meters; tabulated by dealers and makers, types, etc. R. D. Gibbs. Pulp & Pa. of Can 41:33 Ja '40
Halbselbsttätiger feuchtigkeitsmesser. K. Göhde. diag V D I 83:1307 D 23 '39
Moisture content and regain calculation charts. J. Tankard. Textile Inst J 31:T201-5 Ag '40

See also
Cotton—Moisture content
Dampness in buildings
Evaporation
Humidity
Paint—Moisture absorption
Paper—Moisture content
Textile fibers—Moisture content
Water
Water vapor
Wood—Moisture content
Wool—Moisture content

MOLASSES
Acceleration of lactic acid fermentation by heat-labile substances. S. C. Pan, W. H. Peterson and M. J. Johnson. bibliog Ind & Eng Chem 32:709-14 My '40
Blackstrap molasses as raw material for biochemical industries. W. L. Owen. 113p $3.50 Palmer publications, 95 River st, Hoboken, N.J. '39
Power alcohol from molasses; government action in India. Chem Age (Lond) 42:185 Mr 30 '40
Spontaneous combustion of Egyptian sugar cane molasses. C. A. Browne. il Ind & Eng Chem News ed 17:734-6 D 10 '39
Surplus molasses to be used for power alcohol in India. A. P. Som. Ind & Eng Chem News ed 18:500 Je 10 '40

MOLDED products
Continuous length extrusion. J. E. Pierce. il Mod Plastics 18:49+ N '40
5000 dozens sold in 8 weeks; molded parts of Tenite for broom; Rich & France. il Mod Plastics 17:49+ Je '40
From A to Z; molded letters, in complete sets of various sizes. il Mod Plastics 17:36+ Mr '40
Increasing intricacy of electrical mouldings. Electrician 123:261 S 8 '39
Inspection molded, 2-minute cycle; portable register for United autographic register co. made of Tenite II. D. Szantay. il Mod Plastics 17:38+ Je '40
Just relax! Pro-care manicuring unit. J. G. Vajda. il Mod Plastics 17:33-5+ Je '40
Molded airplanes for defense. il Mod Plastics 17:25-31, 78+ Jl '40
Molding photographic history; economies made possible with molded plastics. C. R. Simmons. il Mod Plastics 17:43-6, 86, 88 Ap '40
New vinyl molding materials; copolymerization of vinyl acetate and vinyl chloride; vinylite; abstracts. L. K. Merrill. Mod Plastics 17:64-5+ Ap '40; Chem & Ind 46:330-1 Mr '40; Ind & Eng Chem News ed 18:496-7 Je 10 '40
On the air. il Mod Plastics 18:31-7, 86-88, S '40
Plastic materials; some new mouldings. Electrician 124:365 My 17 '40
Plastics in review. il Published in monthly numbers of Modern plastics
Polystyrene. A. J. Weith, V. H. Turkington and I. Allen, jr. bibliog il Ind & Eng Chem 32:1301-4 O '40
Sunshade and adapter of cellulose acetate to be used with any camera. il Mod Plastics 18:55+ S '40
Taking it head on! economically molded plastics for football headgear. J. Riddell, jr. il Mod Plastics 18:42-3+ N '40
Timm 2-place trainer; made of laminated spruce plywood heavily impregnated with phenol formaldehyde. il Aviation 39:53 Ja '40
Triple threat to molars; three-in-one dental unit uses plastics for improved lighting and appearance. il Mod Plastics 18:44+ N '40

See also
Plastic materials
Resinous products

Manufacture
Ford and plastics. W. T. Cruse. il Mod Plastics 17:23-9 Ja '40
Modern plastics. H. E. Otto. il diag Cornell Eng 5:12-15, 21 N '39
Molded plastics made to match; Chrysler's 1940 panel board. il Am Mach 84:333 My 15 '40
Plastic bodywork; new technique developed in Germany. F. C. Sheffield. diags Automobile Eng 30:229-34 Ag '40
Plastic mouldings; making use of existing presses and machines for increasing production. Electrician 125:17-18 Jl 12 '40
Slush molding. E. S. Horsman. il Mod Plastics 17:35 D '39
Tenite stocks for guns. il Scf Am 161:362-3 D '39
Thermal measurements and control in molding plastics. J. Delmonte. diags Mod Plastics 17:50-4+ Mr '40
What plastic to use. C. W. Blount. Iron Age 145:36-8 Mr 21 '40

See also
Molding machines (for plastics)
Molds (for plastics)

Testing
Einfluss der pressbedingungen und des aufbaues auf die eigenschaften geschichteter kunstharz-pressstoffe; kunstharz-pressholz, zellstoff- und gewebebahnen-pressstoff. W. Küch. il V D I 83:1309-16 D 30 '39

MOLDED products, Mechanical
Austauschwerkstoffe in walzenlagern; neue erfahrungen, insbesondere mit pressstoffen. E. Rohde. bibliog diags V D I 83:1209-16 N 18 '39
Cutting cloth and costs; portable electric cloth cutter; molded motor housing. il Mod Plastics 17:29, 100 Ag '40
Kunstharz-pressstoffbuchsen an hydraulischen kunstharzpressen. H. C. Kling. diag V D I 84:39-40 Ja 13 '40
New material for speed cams; combination of molding and laminating phenolic. G. O. Small. il Mod Plastics 17:30-1, 76+ D '39
Plastics as engineering materials. H. V. Potter. Engineering 149:519-20 My 24 '40
Plastics for mechanical handling; a war-time development in conveyor construction. J. S. Trevor. Mech Handling 27:155-7 Jl '40
Plastics in engineering. J. Delmonte. 616p $7.50 Penton pub. co. '40
Precision assembly, 18 molded parts; Warner-Patterson portable motor analyzer. il Mod Plastics 17:43+ Jl '40
Properties and performance of plastic bearing materials. L. M. Tichvinsky. bibliog diags Mod Plastics 17:54-7, 70, 72 My '40
Seaworthy pump; molded phenolic protects the housing from salt water corrosion and electrolytic action; Fleming electric bilge pump. il Mod Plastics 17:39+ Jl '40
Tiny swing arm assembly. il Mod Plastics 18:56 S '40
Versuche mit pressstofflagern an hydraulischen pumpen. W. Hensky. diag V D I 84:159-60 Mr 2 '40

See also
Bearings, Non-metallic

MOLDING
Plastic materials; methods adopted to speed up the output. Electrician 124:438 Je 21 '40
Plastics and their uses in the automotive industry. G. M. Kline. il S A E J 46:210-14 My '40; Same. Mod Plastics 18:64-7, 90, 92+ S '40; Discussion. S A E J 46:214+ My '40
Plastics in engineering. J. Delmonte. 616p $7.50 Penton pub. co. '40
Thermal efficiency in injection molding. L. K. Merrill. il diag Mod Plastics 18:65-7 N '40

MOLDING—*Continued*
Thermal measurements and control in molding plastics. J. Delmonte. diags Mod Plastics 17:50-4+ Mr '40

See also
Molds (for plastics)

Costs

How do costs compare? injection and compression molding. D. A. Dearle. Mod Plastics 17:28-9+ F '40

Patents

Looking at patents on molding. J. F. Smith. Mod Plastics 17:59-61+ Ap '40
More about plastics patents; earlier patent of Emil E. Novotny. diag Mod Plastics 17:46+ Jl '40

MOLDING (metals). See Foundry practice; Molds (for casting)

MOLDING machines
Milwaukee molding machine. il Foundry 68: 97 Jl '40
Modern permanent mold casting; Eaton Erb foundry. E. C. Hoenicke. il Iron Age 144: 47-50 N 23 '39

MOLDING machines (for plastics)
Cropp 12-ton automatic molding press. il Mach 47:176-7 N '40
Farrel-Birmingham hydraulic presses for molding plastics. il Mach 46:146 My '40; Am Mach 84:345 My 15 '40
Hannifin plastic molding press. il Mach 46: 146 Mr '40
Hydraulic press mfg. co.'s plastic injection molding press. il Am Mach 84:348 My 15 '40; Mach 46:155 Je '40; Aero Digest 37:175 Jl '40
Improvements in injection molding press equipment. H. J. Williams. il Mod Plastics 17:49+ F '40
Injection cylinder unit. W. H. Schwartz. diags Mod Plastics 17:48-9+ D '39
Plastic laboratory, Hydraulic press mfg. co. H. E. Blank, jr. il Automotive Ind 83: 296-7 O 1 '40
Plastics progress during 1939; molding presses. G. K. Scribner. Mod Plastics 17: 43-4 Ja '40
Stokes plastic molding machine forms threaded parts. il Am Mach 84:686 S 4 '40
Watson-Stillman hydraulic compression and injection molding machines. il Mach 46: 179-80 Ap '40; Am Mach 84:261-2 Ap 17 '40

Patents

Looking at patents on molding; automatic operation. Mod Plastics 17:60-1+ Ap '40

MOLDS (botany)
Bactericidal filtrates from a mold culture: aspergillus flavus. E. C. White. Science 92: 127 Ag 9 '40
Developments in mold and mildew prevention. W. A. Stringfellow. diags Am Dyestuff Rep 29:266-9 My 27 '40
Effect of chlorine substitution on the fungistatic properties of acetic and propionic acids. C. Hoffman, T. R. Schweitzer and G. Dalby. Am Chem Soc J 62:988-9 Ap '40
Fungistatic properties of the fatty acids and possible biochemical significance; abstract. C. Hoffman, R. T. Schweitzer and G. Dalby. Food Ind 12:97 Ap '40
Molds; development, identification, prevention; abstract. J. Rière. Am Dyestuff Rep 29:211-12 Ap 15 '40
Storage of mold cultures. W. G. Chace. Am Dyestuff Rep 29:429-30 Ag 19 '40
Testing mold-resistant properties of oil paints; a laboratory method. A. M. Partansky and R. R. McPherson. bibliog il Ind & Eng Chem Anal ed 12:443-5 Ag 15 '40

See also
Aspergillus oryzae
Fungi

MOLDS (for casting)
Barrel-type valve lifters molded in green sand; Eaton-Erb foundry. E. C. Hoenicke. il diags Foundry 68:52-5+ O '40
Blows molding sand into molds; system of sand-conveying and mold making developed in Great Britain. diags Foundry 68:78+ S '40
Changes methods to reduce cylinder casting loss. J. E. Olson. diags Foundry 68:88-9+ My '40
Gating nonferrous castings is important. N. K. B. Patch. diags Foundry 68:40-1, 90+ N '40
Methods of testing bonding clay. N. J. Dunbeck. Foundry 67:30+ D '39
Molds made without bottom boards. E. Grant. il Foundry 68:76 Ag '40
New foundry builds truck engines; International harvester co. P. Dwyer. il Foundry 68:34-7, 102+ Ap '40
Semi-permanent molds. F. Hudson. diags Iron Age 146:41 S 12 '40
Tools of cast bronze; jigs, fixtures, punches, dies, etc. use of plaster molds; making ornamental lamps. M. Golden. il Am Mach 84:574-6 Ag 7 '40

See also
Cores
Sand, Foundry
Steel ingots—Molds

Cement-sand molds

Expands facilities for producing precision iron, steel castings; Randupson process, Birdsboro steel foundry & machine co. il Steel 106:64+ Mr 18 '40
Molding sand; automatic system reclaims both clay and cement bonded sand; used in Randupson process at foundry of Farrel-Birmingham co. W. A. Phair. il diag plan Iron Age 145:48-52 Mr 7 '40

Permanent molds

Aluminum alloy castings. il Product Eng 11: 28-31 Ja '40
Modern permanent mold casting; Eaton Erb foundry. E. C. Hoenicke. il Iron Age 144: 47-50 N 23 '39

MOLDS (for ceramics)
Korogel for ceramic casting. India Rubber W 103:44 N '40
Serviceability of pottery plasters; relation of physical properties to serviceability. J. F. McMahon and H. G. Schurecht. Am Cer Soc Bul 18:454-7 D '39
Some factors affecting plaster mold life. M. C. Dailey and B. Nies. il Am Cer Soc Bul 19:323-9 S '40

MOLDS (for glass)
Glass molds present many problems. R. M. Scafe. il Foundry 68:30-1+ Ag; 36+ S '40
Making moulds at Swindell brothers, inc. il Glass Ind 21:471-4 N '40
Metallurgical study of cast-iron glass molds. W. H. Bruckner, L. R. Kovac and A. B. Wilder. il Am Cer Soc Bul 19:58-61 F '40
20 years of progress in glassware moulds. Glass Ind 21:180-1 Ap '40

MOLDS (for plaster casts)
Latex in paleontology; casting bones of fossil animals. J. H. Quinn. il Rubber Age 47:237-41 Jl '40
New method for making vulcanized latex molds for plaster casting. A. Silver. il diags Rubber Age 48:31-4 O '40

MOLDS (for plastics)
Cast resin forms. il Mod Plastics 17:44 D '39; 41 Ja; 41 F '40
Latex molds from Kelsanite. India Rubber W 101:48 F '40
Plating protects plastic molds. E. Smith. il Am Mach 83:1072-3 D 27 '39
Practical molds for plastics. G. P. Lehmann. diags Am Mach 84:489-92 Jl 10 '40
Slush molding. E. S. Horsman. il Mod Plastics 17:35 D '39
Stock molds. Published in monthly numbers of Modern plastics
Two aspirins please; mold maker's headaches are never included in the cost of the die. il Mod Plastics 17:37, 76+ Mr '40

Manufacture

Forming molds by spraying metal. il Mod Plastics 17:36-7+ Je '40

MOLDS (for plastics)—Manufacture—*Continued*
Hard plating of plastic molds. A. W. Logozzo. il Metal Finishing 38:579-84 N '40
Hobbing molds in the General Electric plastics department. C. O. Herb. il Mach 46:87-91 F '40

MOLDS (for rubber)
Casting prevulcanized latex in plaster molds. A. Silver. il diags Rubber Age 47:161-4 Je '40
Casts aluminum lining for giant tire mold. P. Dwyer. il Foundry 68:50-1+ O '40
Molds by electro-forming; Ekko process. il Sci Am 162:89 F '40

Lubrication

Soaps in the rubber industry; evaluation of lubricants; zinc salts in compounding. T. L. Garner. Chem Age (Lond) 42:111 F 24 '40

MOLECULAR association
Associating effect of the hydrogen atom; the acid hydrazides. H. T. Hayes and L. Hunter. Chem Soc J p332-6 Mr '40
Influence of a solvent on the strength of the hydrogen bridge. E. A. Moelwyn-Hughes. Chem Soc J p850-5 Jl '40
Interactions between polycyclic hydrocarbons and sterols in mixed surface films at the air-water surface. W. W. Davis, M. E. Krahl and G. H. A. Clowes. Am Chem Soc J 62:3080-98 N '40
Kinetics of a diene association under constant volume conditions. D. M. Newitt and A. Wassermann. Chem Soc J p735-7 Je '40

See also
Polymerization

MOLECULAR rearrangements
Acid catalysis in non-aqueous solvents; the rearrangement of *N*-chloroacetanilide in chlorobenzene solution at 100°. R. P. Bell and P. V. Danckwerts. Chem Soc J p1774-6 N '39
Action of aluminum chloride on aromatic hydrocarbons; the 1,3-dimethyl-4-propylbenzenes. D. Nightingale and B. Carton, jr. bibliog Am Chem Soc J 62:280-3 F '40
Addition of methoxyamine to α,β-unsaturated ketones and the rearrangement of β-methoxyaminoketones. A. H. Blatt. Am Chem Soc J 61:3494-9 D '39
Allylic rearrangements; the reproducibility of the standard methods for the preparation of butenyl bromide mixtures. W. G. Young and K. Nozaki. Am Chem Soc J 62:311-13 F '40
alpha-Bromo secondary alkyl ketones; reaction with sodium alcoholates; a new synthesis of tertiary acids by rearrangement. J. G. Aston and R. B. Greenburg. bibliog Am Chem Soc J 62:2590-5 O '40
Claisen rearrangement; a kinetic study of the rearrangement of allyl 2,6-dimethylphenyl ether in diphenyl ether solution. D. S. Tarbell and J. F. Kincaid. bibliog Am Chem Soc J 62:728-31 Ap '40
Elimination and metathetical reactions and the electronic theory of rearrangements. C. R. Hauser. bibliog Am Chem Soc J 62:933-41 Ap '40
Fries rearrangement of phenyl laurate and phenyl stearate. H. E. Bell and J. E. Driver. Chem Soc J p835-7 Jl '40
Hydrogen fluoride as a condensing agent; rearrangements. J. H. Simons, S. Archer and D. I. Randall. Am Chem Soc J 62:485-6 Mr '40
Introduction of substituted vinyl groups; a rearrangement involving the migration of an allyl group in a three-carbon system. A. C. Cope and E. M. Hardy. Am Chem Soc J 62:441-4 F '40
Jacobsen reaction; polyethylbenzenes. L. I. Smith and C. O. Guss. Am Chem Soc J 62:2631-5 O '40
Molecular rearrangement of tertiary aryl alkyl anilines. P. J. Drumm, W. F. O'Connor and J. Reilly. Am Chem Soc J 62:1241-3 My '40
Molecular rearrangements in the sterols; the structure of 4-cholestanone. K. Ladenburg, P. N. Chakravorty and E. S. Wallis. bibliog Am Chem Soc J 61:3483-7 D '39
Peroxide effect in the addition of reagents to unsaturated compounds and in rearrangement reactions. F. R. Mayo and C. Walling. Chem R 27:399-407 O '40
Pinacol rearrangement of *cis-* and *trans-*7,8-diphenylacenaphthenediols-7,8. P. D. Bartlett and R. F. Brown. bibliog Am Chem Soc J 62:2927-32 N '40
Rearrangement of the triphenylmethyl ether of ortho cresol: direct synthesis of 3-methyl- 4 -methoxyphenyltriphenylmethane. H. A. Iddles and H. L. Minckler. bibliog Am Chem Soc J 62:2757-9 O '40
Rearrangement of the triphenylmethyl ethers of ortho cresol and brominated ortho cresols. H. A. Iddles, W. H. Miller and W. H. Powers. Am Chem Soc J 62:71-3 Ja '40
Rearrangement of unsaturated 1,4-glycols; *cis* and *trans* forms of 2,5-dimethyl-3-hexene-2,5-diol. J. R. Johnson and O. H. Johnson. bibliog Am Chem Soc J 62:2615-20 O '40
Researches on pyrimidines; the molecular rearrangement of 4-methyl-5-*n*-propyl-2,6-dimethoxypyrimidine. Y. Chi, S. Wei and M. Liang. Am Chem Soc J 61:3377-9 D '39
Reversibility of the rearrangement of *o*-hydroxy-sulphones. R. R. Coats and D. T. Gibson. Chem Soc J p442-6 Ap '40
Studies in the omega-camphor series; on the synthesis of 2-keto-apocamphane-1-acetic acid. T. Hasselstrom and B. L. Hampton. Am Chem Soc J 61:3445-8 D '39
Walden inversion and the Hofmann rearrangement. S. Archer. bibliog Am Chem Soc J 62:1872 Jl '40

See also
Isomerization

MOLECULAR refraction. See Refraction, Molecular

MOLECULAR volume
Apparent and partial molal volumes of sodium chloride and hydrochloric acid in mixed solutions. H. E. Wirth. bibliog Am Chem Soc J 62:1128-34 My '40
Molal volumes of solutes. O. Redlich. J Phys Chem 44:619-29 bibliog(52 titles, p628-9) My '40
Relation of fluidity to volume in organic liquids. E. C. Bingham and P. W. Kinney. J Ap Phys 11:192-202 Mr '40

MOLECULAR weights
Apparent molecular shape and molecular weight of proteins, from viscosity and diffusion measurements. H. Neurath and G. R. Cooper. Am Chem Soc J 62:2248-9 Ag '40
Boiling point; molecular weight chart for higher hydrocarbons. D. S. Davis. Ind & Eng Chem 32:1148 Ag '40
Calculation of weight average molecular weights during the course of decomposition of homogeneous linear polymers. W. H. Durfee and Z. I. Kertesz. bibliog Am Chem Soc J 62:1196-8 My '40
Effect of solvation upon molecular weight determinations by means of ultracentrifugal methods. E. O. Kraemer. Franklin Inst J 229:531-8 Ap '40
Factor *C* in the performance of ejectors as a function of molecular weights of vapors. L. T. Work and A. Miller. diags Ind & Eng Chem 32:1241-3 S '40
Fluorochloroethanes as solvents for the cryoscopic determination of molecular weights. J. Bernstein and W. T. Miller. bibliog Am Chem Soc J 62:948-9 Ap '40
Improved form of vapor density apparatus. J. M. Hendel and O. Ochsenreiter. diag J Chem Educ 17:533-5 N '40
Influence of size of molecule on the properties of industrial thermo-plastics. E. G. Couzens, J. A. Hetherington and L. W. Turner. bibliog Chem & Ind 59:209-13; Discussion. 213-14 Mr 30 '40
Kinetics of polyesterification; a study of the effects of molecular weight and viscosity on reaction rate. P. J. Flory. bibliog Am Chem Soc J 61:3334-40 D '39
Molecular basis of resin behavior. E. O. Kraemer. Franklin Inst J 230:405-10, 514-18, 664-9 S-N '40

MOLECULAR weights—*Continued*
Molecular weight by isothermic distillation. J. B. Niederl and A. M. Levy. diag Science 92:225-6 S 6 '40
Nomographic chart for precise determination of mol fractions from weight percentages. H. S. Winnicki and L. N. Chellis. Chem & Met Eng 47:694-5 O '40
Über eine neue apparatur zur mikro-molekulargewichtsbestimmung nach Pregl-Beckmann. K. Bürger. diag Chemische Fabrik 13:54-5 F 10 '40
Viscosities of polyester solutions and the Staudinger equation. P. J. Flory and P. B. Stickney. bibliog Am Chem Soc J 62:3032-8 N '40

See also
Atomic weights
Boiling points

MOLECULES
Apparatus for the determination of the electric moment of molecules. M. E. Hobbs, J. W. Jacokes and P. M. Gross. bibliog diags R Sci Instr 11:126-33 Ap '40
Apparent molecular shape and molecular weight of proteins, from viscosity and diffusion measurements. H. Neurath and G. R. Cooper. Am Chem Soc J 62:2248-9 Ag '40
Breaking theory of detonation. L. R. Carl. bibliog Franklin Inst J 230:207-27, 355-74 Ag-S '40
Bromine-bromine distance in the dibromides of *cis-* and *trans-*stilbene. J. D. McCullough. bibliog Am Chem Soc J 62:480-2 Mr '40
Constitution of complex metallic salts; bridged compounds containing two different metallic atoms. F. G. Mann and D. Purdie. Chem Soc J p1230-5 S '40
Cybotaxis at interfaces. T. H. Hazlehurst and H. A. Neville. bibliog il diags J Phys Chem 44:592-600 My '40
Dipole moments and structures of the esters of some fatty and some inorganic acids. G. L. Lewis and C. P. Smyth. bibliog Am Chem Soc J 62:1529-33 Je '40
Disproportionation of aryloxymalonic acid syntheses. J. B. Niederl and R. T. Roth. bibliog Am Chem Soc J 62:1154-6 My '40
Effect of solvation on frictional constants and frictional ratios as determined with the ultracentrifuge and by diffusion. E. O. Kraemer. Franklin Inst J 229:680-7 My '40
Electrical quadrupole moment of the deuteron; the radiofrequency spectra of HD and D_2 molecules in a magnetic field. J. M. B. Kellogg and others. bibliog Phys R 57:677-95 Ap 15 '40
Electron diffraction investigation of the molecular structure of tellurium tetrachloride. D. P. Stevenson and V. Schomaker. Am Chem Soc J 62:1267-70 My '40
Electron photographs of molecular structure; abstract. P. Debye. Science 91:sup 12 Ap 19 '40
Evidence for a skew structure of benzil. C. C. Caldwell and R. J. W. Le Fèvre. diags Chem Soc J p1614-22 O '39
Fundamentals of science relating to electroplating. Metal Finishing 38:545-6 O '40
Hydrogen bond. H. J. Emeléus. Chem & Ind 59:583-5 Ag 17 '40
Image and Van der Waals forces at a metallic surface. J. Bardeen. bibliog Phys R 58:727-36 O 15 '40
Influence of size of molecule on the properties of industrial thermo-plastics. E. G. Couzens, J. A. Hetherington and L. W. Turner. bibliog Chem & Ind 59:209-13; Discussion. 213-14 Mr 30 '40
Infra-red spectra of polyatomic molecules. D. M. Dennison. Rs Mod Phys 12:175-214 bibliog(p213-14) Jl '40
Infrared studies of the porphyrin molecule. C. S. Vestling and J. R. Downing. bibliog Am Chem Soc J 61:3511-13 D '39
Interatomic distances in proteins and related substances. R. B. Corey. bibliog Chem R 26:227-36 Ap '40
Intermicellar hole and tube system in fiber structure. H. Mark. il diags J Phys Chem 44:764-88 bibliog(118 references, p785-8) Je '40
Internuclear distances in Se_2, Te_2, and HgCl by electron diffraction. L. R. Maxwell and V. M. Mosley. bibliog diags Phys R 57:21-3 Ja 1 '40
Intramolecular folding of polypeptide chains in relation to protein structure. H. Neurath. bibliog il J Phys Chem 44:296-305 Mr '40
Investigation of synthetic linear polymers by X-rays. C. S. Fuller. il diags Chem R 26: 143-67 bibliog(76 references, p165-7) Ap '40
Ionic character and dipole moments. F. T. Wall. Am Chem Soc J 62:800-3 Ap '40
Ionization and dissociation of water vapor and ammonia by electron impact. M. M. Mann, A. Hustrulid and J. T. Tate. bibliog diags Phys R 58:340-7 Ag 15 '40
Molecular basis of resin behavior. E. O. Kraemer. Franklin Inst J 230:405-10, 514-18, 664-9 S-N '40
Molecular nature of a dielectric. E. B. Moullin. bibliog diags Inst E E J 86:113-28 F '40
Molecular size distribution in ethylene oxide polymers. P. J. Flory. bibliog Am Chem Soc J 62:1561-5 Je '40
Molecular structure of sulfur dioxide. V. Schomaker and D. P. Stevenson. Am Chem Soc J 62:1270-2 My '40
Molecular structures of dimethyl chloramine and methyl dichloramine. D. P. Stevenson and V. Schomaker. Am Chem Soc J 62:1913-16 Ag '40
Molecular structures of glyoxal and dimethylglyoxal by the electron diffraction method. J. E. LuValle and V. Schomaker. bibliog Am Chem Soc J 61:3520-5 D '39
Molecular structures of methyl isocyanate and cyanic acid by the electron diffraction method; the structural chemistry of cyanic acid and its derivatives. E. H. Eyster, R. H. Gillette and L. O. Brockway. bibliog Am Chem Soc J 62:3236-43 N '40
Molecular structures of sulfuryl fluoride and thiophosphoryl fluoride. D. P. Stevenson and H. Russell, jr. bibliog Am Chem Soc J 61:3264-8 D '39
Nature of the chemical bond and the structure of molecules and crystals. L. C. Pauling. 2d ed 450p $4.50 Cornell univ. press, Ithaca, N.Y. '40
Nature of the intermolecular forces operative in biological processes. L. Pauling and M. Delbrück. Science 92:77-9 Jl 26 '40
Reactions of high energy atoms produced by slow neutron capture. W. F. Libby. bibliog Am Chem Soc J 62:1930-43 Ag '40
Recent contributions of electron diffraction to the chemistry of molecules in the gaseous state. A. L. G. Rees. bibliog Chem & Ind 59:685-9 O 5 '40
Rotational magnetic moments of H_2, D_2, and HD molecules; the rotational radiofrequency spectra of H_2, D_2, and HD in magnetic fields. N. F. Ramsey, jr. bibliog Phys R 58:226-36 Ag 1 '40
Some relations between molecular structure and plasticizing effect. A. Kirkpatrick. J Ap Phys 11:255-61 Ap '40
Structure of cellulose. W. H. Hayford, jr. bibliog Rayon 21:355-6, 416-17 Je-Jl '40
Structure of water and the water molecule. F. J. Llewellyn. Chem & Ind 59:619-22 Ag 31 '40
Symposium on optical methods for study of molecular structure. B. E. Warren and others. bibliog il diags Opt Soc Am J 30:369-404 S '40
Viscosity and molecular structure. H. Mark and R. Simha. Soc Dyers & Col J 56:357-8 Ag '40
Viscosity and the shape of protein molecules. J. W. Mehl, J. L. Oncley and R. Simha. Science 92:132-3 Ag 9 '40
Viscous flow of large molecules. W. Kauzmann and H. Eyring. bibliog diag Am Chem Soc J 62:3113-25 N '40
Water bound to gelatin as shown by molecular structure studies. O. L. Sponsler, J. D. Bath and J. W. Ellis. il diags J Phys Chem 44:996-1006 bibliog(52 references, p1005-6) N '40

MOLECULES—*Continued*
X-ray studies of the porphins. I. Woodward Chem Soc J p601-3 My '40
See also
Atoms
Avogadro number
Crystallography
Isomerism
Molecular rearrangements
Polarization, Dielectric
Polymers
Polysaccharides
Stereochemistry

Models
Lantern demonstration of a rotating-vibrating diatomic molecule. C. L. Wilson. diags J Chem Educ 17:187-9 Ap '40
Die molekulare struktur der flüssigkeiten im modellversuch. W. Kast and H. A. Stuart. Angew Chemie 53:12-13 Ja 6 '40

Rotation
Dielectric evidence of molecular rotation in the crystals of certain benzene derivatives. A. H. White, B. S. Biggs and S. O. Morgan. bibliog Am Chem Soc J 62:16-25 Ja '40
Dielectric evidence of molecular rotation in the crystals of certain non-aromatic compounds. A. H. White and W. S. Bishop. bibliog diag Am Chem Soc J 62:8-16 Ja '40
Far infra-red absorption spectrum and the rotational structure of the heavy water vapor molecule. N. Fuson, H. M. Randall and D. M. Dennison. bibliog il Phys R 56: 982-1000 N 15 '39
Fundamental rotation-vibration band of nitric oxide. R. H. Gillette and E. H. Eyster. bibliog Phys R 56:1113-19 D 1 '39
Hindered rotation in methyl alcohol. J. S. Koehler and D. M. Dennison. Phys R 57: 1006-21 Je 1 '40
Molecular rotation and polymorphism in the methyl chloromethanes. A. Turkevich and C. P. Smyth. bibliog Am Chem Soc J 62:2468-74 S '40
Molekulare rotation und dielektrische relaxation in flüssigkeiten; abstract. E. Fischer. Angew Chemie 52:717-18 D 23 '39
Rotation-vibration energies of tetrahedrally symmetric pentatomic molecules. W. H. Shaffer, H. H. Nielsen and L. H. Thomas. Phys R 56:895-907, 1051-9 N 1-15 '39
Solubility and molecular rotation of certain tetra-, penta- and hexa-substituted benzenes. C. P. Smyth and G. L. Lewis. bibliog Am Chem Soc J 62:949-52 Ap '40
Ultraviolet absorption spectra of organic molecules; the dependence upon restricted rotation and resonance. M. T. O'Shaughnessy and W. H. Rodebush. Am Chem Soc J 62:2906-11 N '40

Vibration
Fundamental rotation-vibration band of nitric oxide. R. H. Gillette and E. H. Eyster. bibliog Phys R 56:1113-19 D 1 '39
Present status of the statistical method of calculating thermodynamic functions. E. B. Wilson, jr. Chem R 27:17-38 bibliog(182 references, p34-8) Ag '40
Water vapor molecule. B. T. Darling and D. M. Dennison. bibliog Phys R 57:128-39 Ja 15 '40

MOLINE, Illinois
See also
Housing—Moline, Illinois

MOLLUSKS
See also
Limpets
Teredos

MOLLUSKS, Fossil
Fossiliferous esker-like deposit. J. M. Trefethen and J. N. Harris. diag Am J Sci 238: 408-12, pl 1 Je '40
Neocomian faunas of northern Mexico. R. W. Imlay. diags maps Geol Soc Bul 51:117-90, pl 1-21 bibliog(p166-8) Ja '40
Notes on the upper tertiary and pleistocene molluska of peninsular Florida. W. C. Mansfield. pls maps Florida Dept of Conservation, Geol Bul 18:1-75 bibliog(p59) '39
See also
Gasteropoda, Fossil
Lamellibranchiata, Fossil

MOLYBDENITE
Ore concentration and milling in 1939. E. W. Engelmann, Min & Met 21:38 Ja '40

Analysis
Determination of rhenium in molybdenite minerals; a modified distillation and modified colorimetric technique. C. F. Hiskey and V. W. Meloche. bibliog Ind & Eng Chem Anal ed 12:503-6 S 15 '40

MOLYBDENUM
Artificial radioactivity induced in Zr and Mo. R. Sagane and others. Phys R 57:1179-80 Je 15 '40
Characteristics of 5.0 and 7.0 per cent chromium steels with varying molybdenum and vanadium content. W. G. Hildorf, C. L. Clark and A. E. White. il Am Soc for Metals Trans 27:1090-1114; Discussion. 1114-17 D '39
Compressed powdered molybdenum permalloy for high quality inductance coils. V. E. Legg and F. J. Given. bibliog il Bell System Tech J 19:385-406 Jl '40; Same cond. Metal Prog 38:284+ S '40
Metallurgy of tungsten and molybdenum. W. P. Sykes. il diags J Chem Educ 17:190-2 Ap '40
Molybdenum in iron and steel. T. D. Parker. bibliog Mech Eng 62:793-9 N '40
New lines and terms in the arc and first spark spectra of molybdenum: Mo I and Mo II. Sister M. R. Schauls and R. A. Sawyer. bibliog Phys R 58:781-3 N 1 '40
Safety at Climax. J. K. Richardson. il Eng & Min J 141:44-7 Jl '40
Stainless steels containing silver and molybdenum. Engineering 150:8 Jl 5 '40
State department asks manufacturers of aluminum and molybdenum to bar sales to nations which bomb indiscriminately. Comm & Fin Chr 149:3951 D 23 '39
Temperature effects in secondary emission: emission from iron, nickel, cobalt, and molybdenum. D. E. Wooldridge. Phys R 58: 316-21 Ag 15 '40
Ventilation and dust control at Climax Molybdenum. J. W. Feiss. il diags plans Min Cong J 26:12-19 Jl '40

Analysis
Color phenomena associated with quinquevalent molybdenum solutions; absorption spectra in solutions of various hydrochloric acid concentration. C. F. Hiskey and V. W. Meloche. Am Chem Soc J 62:1819-24 Jl '40
Determination of molybdenum in cast iron and steel. C. Sterling and W. P. Spuhr. Ind & Eng Chem Anal ed 12:33-4 Ja 15 '40; Same cond. Chem Age (Lond) 42:155-6 Mr 16 '40

MOLYBDENUM alloys
Nickel-molybdenum-iron and related alloys; their physical and corrosion-resistant properties. F. T. McCurdy. bibliog Am Soc T M Proc 39:698-709; Discussion. 710 '39

MOLYBDENUM compounds
Hydrogenation of ethylene at surfaces of certain oxides; molybdenum oxide compounds. J. F. Woodman, H. S. Taylor and J. Turkevich. Am Chem Soc J 62:1397-9 Je '40
Molybdenum in enamels; adherence produced with molybdenum compounds. K. Kautz. il Am Cer Soc J 23:283-7 O '40

MOLYBDENUM oxides
Heteropoly-acids as catalysts for the vapor phase partial oxidation of naphthalene. M. M. Marisic. bibliog Am Chem Soc J 62: 2312-17 S '40

MOLYBDENUM steel
Building up wear resistance; flame-hardened molybdenum steels meet exacting requirements. il Steel 106:60, 63 Mr 18 '40
Carbon-moly piping. R. W. Emerson. diags Heating-Piping 12:651-2 N '40
Classification of high-speed steels by manufacturer and trade name. Am Mach 84:96 F 21 '40
Design of large high-pressure steel valves. F. D. Cotterman and R. E. Falls. il Engineer 170:229-30 O 11 '40

MOLYBDENUM steel—*Continued*
Hardenability of molybdenum S.A.E. steels. R. M. Parke and A. J. Herzig. bibliog il Metals & Alloys 11:6-13 Ja '40
High-temperature creep strength checked for low-alloy steels. R. F. Miller, W. G. Benz and W. E. Unverzagt. Nat Pet N 32:R306, R309-12 Ag 21 '40
How alloying elements affect high alloy steels. P. Payson. il Iron Age 145:35-40 Ap 25 '40
Molybdenum important element in new aircraft alloy steels. A. J. Herzig. Steel 107:163 O 14 '40
Molybdenum in iron and steel. T. D. Parker. bibliog Mech Eng 62:793-9 N '40
Molybdenum steels and irons. A. J. Herzig. Metal Prog 38:391-2 O '40
Molybdenum steels for high-speed locomotive service. Mach 46:230 Jl '40
Oxy-acetylene welding procedure for high pressure and temperature piping; abstracts. R. M. Rooke, F. C. Saacke and A. N. Kugler. il diags Heating-Piping 12:308-10+ My '40; Oil & Gas J 39:49 Je 20; 69 Jl 11 '40; Power 84:432-4 Jl '40
Reaction chambers; all-welded molybdenum-bearing steel fabrications permit shell thickness to be reduced; Babcock & Wilcox co. il Steel 105:51-2 D 18 '39
Relation of grain size to creep strength of carbon-molybdenum steel. S. H. Weaver. il Gen Elec R 43:357-64 S '40
Report on torsion creep tests for comparison with tension creep tests on a carbon-molybdenum steel. F. L. Everett and C. L. Clark. il diags Am Soc T M Proc 39:215-24 '39

Analysis

Rapid determination of copper by α-benzoin oxime in ferromolybdenum, calcium molybdate, etc. L. Silverman. bibliog Ind & Eng Chem Anal ed 12:343-4 Je 15 '40
Spectrographic analysis of steel. J. L. Gregg and P. R. Irish. il Iron Age 145:33-7 My 9 '40

MOLYBDENUM thiocyanate
Nature of the thiocyanate complex of molybdenum. C. F. Hiskey and V. W. Meloche. Am Chem Soc J 62:1565-74 Je '40

MOMENTS of inertia
Effective moment of inertia of a riveted plate girder. S. B. Lilly and S. T. Carpenter. il diags Am Soc C E Proc 65:1407-21 O '39; Discussion. 65:1807-18; 66:167-75, 357-62, 541-5, 984-9, 1089-96 D '39-Mr, My-Je '40
Messung des massenträgheitsmomentes von rädern und wellen in getrieben. F. Gutmann. diag V D I 83:1235-6 N 25 '39
Section moduli and moments of inertia of flat bar sections. R. H. Macy. charts Marine Eng 45:74-5 S '40

MONARCH machine tool company
Leaders in the machine tool industry; thumbnail appraisal. Mag of Wall St 66:30 Ap 20 '40
Stock priced at five to eight times earnings; thumbnail appraisal. Mag of Wall St 66:741 O 5 '40

MONAZITE
Rare metals in industry; some North Australian sources. Chem Age (Lond) 43:163 O 5 '40
River-borne sands of India; ilmenite, monazite and zircon. Chem Age (Lond) 42:101 F 17 '40

MONEL metal
Engineering properties of monel metal; data sheet. Metal Prog 38:468 O '40
Heat treatment of K monel and Z nickel; abstract. Metals & Alloys 11:MA210+ Ap '40
Lining steel tanks with monel. F. Flocke. diags Metals & Alloys 12:227 Ag '40
Mechanical properties of monel, nickel, and inconel in forms used for machining and recommended cuts, feeds, and speeds for turning in lathe; data sheets. Mach 46:111 Je '40
Metal lining a large concrete sunken tank. il diags Sheet Metal Worker 31:27-30 Jl '40
Monel metal to solve corrosion problems in park shelters. il Sheet Metal Worker 31:20-1 F '40
New rust proof nail outholds screw. Marine Eng 45:65 O '40
Nickel, inconel, monel. H. E. Searle. Metal Prog 38:466-7 O '40
Pickling of K monel. Metal Ind 38:33 Ja '40
Rust proof nail for boats. il Sci Am 163:155 S '40
Suggested feeds and speeds for drilling monel, nickel, and inconel; recommended feeds and speeds for machining R-monel; data sheets. Mach 46:201 Jl '40
Thermal conductivities of some industrial alloys of copper and of nickel. J. W. Donaldson. Engineering 148:539-40 N 10 '39
Trawler Brookline fitted with alloy shaft. il Marine Eng 45:55 Ja '40

MONEY, Roland Herbert
Personalities in refrigeration. por Refrig Eng 40:164 S '40

MONEY
Contributions of Lord Overstone to the theory of currency and banking. L. A. Helms. 142p bibliog(p137-42) pa $1.50 Univ. of Illinois press, Urbana '39
Easy money; doctrine and results. J. B. Hubbard. Harvard Business R 19 no 1:52-65 [S] '40
Economics of money, credit and banking. F. C. James. 3d ed rev & enl 745p $4 Ronald press '40
History of monetary and credit theory from John Law to the present day. C. Rist. 442p $4.90 Macmillan '40
Introduction to monetary theory. L. V. Chandler. 216p bibliog(p206-14) $1.50 Harper '40
Monetary equilibrium. G. Myrdal. 214p 12s 6d W. Hodge & co, London '39
Monetary nationalism and international stability. F. A. von Hayek. 2d ed 94p $2 Longmans '39
Monetary proposals for social reform. M. G. Myers. 191p bibliog(p181-4) $2.25 Columbia univ. press '40
Money. M. Rose and R. L. Horne. rev ed 44p bibliog(p44) pa 25c Univ. of Chicago press '39
Money and banking. J. I. Bogen and others. rev ed 733p $5; school ed $4 Prentice-Hall '40
Money and banking. C. L. Prather. rev ed 903p $4 R. D. Irwin, Chicago '40
Money and banking, 1939-40. v. 1, Monetary review. 101p pa 75c Columbia univ. press '40
Studies in the theory of money and capital. E. Lindahl. 391p $3 Farrar '40

See also

Banks and banking
Capital
Credit
Finance
Foreign exchange
Gold as money
Index numbers (economics)
Inflation (finance)
Investments
Precious metals
Prices
Silver as money
Tokens
Wealth

Bibliography

Selected bibliography of money, credit, banking and business finance. R. B. Westerfield. 136p pa $1.50 Bankers pub. co, 465 Main st, Cambridge, Mass. '40

Devaluation

Revaluation of the gold stock of the Netherlands bank. Fed Res Bul 26:544 Je '40

Examinations

Questions on money and banking. W. E. Dunkman. 97p $1 Columbia univ. press '40

History

From barter to banking; the story of the world's coinage and money. J. Leeming. 138p $2 Appleton-Century '40
Our country's money. F. Majer. 121p $2 Crowell '39
Time and money; chronological highlights. T. D. MacGregor. Banking 32:25 F '40

MONEY—*Continued*

International aspects

Dollar supplanting pound as principal international currency, says Guaranty trust co. of New York. Comm & Fin Chr 150:4052-3 Je 29 '40

Restrictions on sterling cause formation of a new dollar exchange standard. S. L. Miller. Annalist 55:154-5 Ja 25 '40

See also
Bank for international settlements
Foreign exchange

Argentina

Argentine peso under control; regulations as of July, 1940. E. C. Stiefel. Annalist 56: 207+ Ag 15 '40

Canada

Canadian dollar under control: an outline of regulations as of June 27. E. C. Stiefel. Annalist 56:6 Jl 4 '40

Forecast of Canadian-United States dollar parity just another Wall Street rumor. S. L. Miller. Annalist 56:308-9 S 5 '40

China

Defending China's currency. Economist 138: 856-7 My 11 '40

Germany

Dr Puhl of Reichsbank ties gold to mark plan; finds clearing and metallic systems could operate on regular trade basis. Comm & Fin Chr 151:1812-13 S 28 '40

Remnants of the reichsmark. Economist 138: 815-16 My 4 '40

Great Britain

British exchange control after 1 year of operation. T. R. Wilson. Comm Rep p762-3 S 7 '40

British profit by drop in pound. Business Week p43 Mr 30 '40

Currency in the Colonial empire; advantages of a Currency board. Economist 138:861-2 My 11 '40

Depreciation of the pound sterling. A. Maffry. Survey of Cur Business 19:11-15 N '39

Flighty pound worries traders. Business Week p46 N 18 '39

Free and controlled pounds. Economist 138: 608-9, 626 Ap 6 '40

Price of wheat and the gold value of sterling, 1259-1939; chart showing effect of various wars. Annalist 56:71 Jl 18 '40

Small change; fuller use of the farthing as an aid in price control. Economist 138:509-10 Mr 23 '40

Sterling under control: an outline of regulations. E. C. Stiefel. Annalist 55:589+ Ap 25 '40

See also
Gold as money—Great Britain

Mexico

Inflation and revolution; Mexico's experience of 1912-1917. E. W. Kemmerer. 173p bibliog(p155-8) $2.50 Princeton univ. press '40

Netherlands

Netherlands joins Anglo-French monetary agreement. Comm & Fin Chr 150:3279-80 My 25 '40

United States

Asks end of President's power to change gold content of dollar and to buy silver. E. K. Kemmerer. Comm & Fin Chr 150:2980 My 11 '40

Currency function of the Federal reserve banks. Fed Res Bul 26:655-7 Jl '40; Same. Comm & Fin Chr 151:635-6 Ag 3 '40

Honest money year book and directory, 1940. 224p bibliog(p224) $2 Honest money founders 111 W. Washington st. Chicago '39

Kinds of money in circulation, monthly, Nov. 1938-Nov. 1939. Fed Res Bul 26:29 Ja '40 [cont monthly]

Monetary management under the new deal; the evolution of a managed currency system, its problems and results. A. W. Crawford. 382p bibliog(p365-76) $3.75; pa $3.25 Am. council on public affairs, 1734 Eye st, Washington, D.C. '40

Monetary statistics, 1936-1939. Survey of Cur Business 1940 Sup p59 [supplemented in monthly numbers]

Money and banking. Published in monthly numbers of National city bank

Money in circulation and monetary gold stocks. Published in weekly numbers of Annalist

Objections to issuance of currency against gold and silver stocks indicated by Under-Secretary of Treasury Bell. Comm & Fin Chr 151:782-3 Ag 10 '40

Our American money; a collector's story. J. Coffin. 153p bibliog(p151-3) $1.75 Coward-McCann, 2 W. 45th st, New York '40

Paper currency, by denominations, and coin in circulation, monthly, Nov. 1938-Nov. 1939. Fed Res Bul 26:29 Ja '40 [cont monthly]

Problem of our excessive banking reserves. L. H. Seltzer. Am Statis Assn J 35:24-36 Mr '40

Putting gold in circulation as means of restoring confidence; monetary policy. W. R. Burgess. Comm & Fin Chr 150:628-9 Ja 27 '40; Same abr. Banking 32:90-1 Mr '40

Stock of money in the country, Dec. 31, 1939. Comm & Fin Chr 150:767 F 3 '40 [cont monthly]

Treasury and monetary policy, 1933-1938. G. G. Johnson, jr. 230p $2.75 Harvard univ. press, Cambridge, Mass. '39

Treasury currency outstanding, monthly, Nov. 1938-Nov. 1939. Fed Res Bul 26:29 Ja '40 [cont monthly]

U.S. dollar; intricate, abused, distorted, U.S. monetary system becomes refuge for the world. il Fortune 21:88-9+ F '40

U.S. price program seen as beating back revival in business; effects of controlled money and planned economy. R. C. Leffingwell. Ptr Ink 190:11-14, 139-40+ Ja 26 '40

See also
Gold as money—United States
Silver as money—United States

MONEY, Counterfeit. See Counterfeits and counterfeiting

MONEY market

Factors governing the money market. M. Nadler. Bankers M 140:529-30 Je '40

How to read the New York money market. (Bul. no. 109) 27p Inst. of international finance, 90 Trinity place, New York '40

Money market in Britain in 1939. Economist 138:sup6-8 F 17 '40

Sharp decline in money bond prices because of outbreak of European war not warranted. J. T. Madden. Comm & Fin Chr 150:2022 Ap 6 '40

World's money market and the present conflict in Europe. S. H. Logan. Comm & Fin Chr 150:518 Ja 27 '40

See also
Brokers' loans
Commercial paper
Federal reserve banks
Interest
Money

MONEY orders, Bank. See Bank money orders

MONEY rates. See Interest

MONGOLS

Mongol empire; its rise and legacy. M. Prawdin. 581p bibliog(p559-64) $5 Macmillan '40

MONKEYS

Rhesus monkeys (macaca mulatta) for American laboratories. C. R. Carpenter. Science 92:284-6 S 27 '40

See also
Chimpanzees

MONO Craters tunnel. See Tunnels and tunneling

MONOCHROMATORS

Focal isolation monochromator for the Schumann region. A. B. F. Duncan. diag R Sci Instr 11:260-1 Ag '40

MONOCHROMATORS—*Continued*
High current capillary mercury arc sources for large monochromators. F. M. Uber. diag R Sci Instr 11:300 S '40
Hydrogen prominences on the sun; viewed with telescope attachment, quartz monochromator. J. Stokley. Science 92:sup10 O 25 '40
Intensity-scale monochromatic sensitometer. C. H. Evans. il diags Opt Soc Am J 30:118-27 Mr '40

MONOLAYERS. See Films

MONONGAHELA railway
Earnings, 1936-39. Comm & Fin Chr 150:3365 My 25 '40

MONOPOLIES
Arnold vs. Pullman. Business Week p17-18 Jl 20 '40
Bottlenecks of business. T. W. Arnold. 335p $2.50 Reynal & Hitchcock, New York '40
Brimstone game; monopoly in action. R. H. Montgomery. 94p $1.25 Vanguard press, 424 Madison av, New York '40
Celotex corp. faces charges of violation of section 7 of the Clayton act. Paper Tr J 109:66 N 30 '39
Democracy and monopoly. F. A. Fetter. 22p pa 15c Princeton univ, Univ. extension fund, Herbert L. Baker foundation, Princeton, N.J. '39
Dividends to pay. E. D. Kennedy. 288p $2.50 Reynal & Hitchcock, New York '39
Lecithin monopoly charges are denied. Oil Paint & Drug Rep 138:4+ S 30 '40
Mineral wool trust via patents alleged. Oil Paint & Drug Rep 138:5+ Jl 1 '40
Monopolies for Cuba; exclusive manufacturing rights will be granted. Business Week p49-50 Ag 24 '40
Monopolistic competition and general equilibrium theory. R. Triffin. 197p $2.50 Harvard univ. press '40
Monopoly and big business. I. Lipkowitz. 56p bibliog(p54-6) pa 20c League for industrial democracy, 112 E. 19th st, New York '40
Organized scarcity and public policy; monopoly and its implications. H. D. Gideonse. 52p bibliog(p52-3) pa 25c Univ. of Chicago press '39
To amend the law of supply and demand; price agreements should be permitted to each industry, subject to approval by a special federal court. C. R. Stevenson. Advanced Management 4 no5:115-21 '39

See also
Competition
Corporation law
Patents—Licensing
Restraint of trade
Trusts, Industrial

MONOPOLY investigation. See Government investigations—Monopoly investigation

MONORAIL conveyors
Conveyor-baking setup; fabrication of sheet-metal furnace and air-conditioning cases; Forest City foundries co. W. L. Seelbach. il plan Steel 107:52+ Jl 22 '40
Drying oven on roof is feature of enlarged finishing plant; De Foe finishing co. H. H. Slawson. il Steel 107:42, 44+ O 21 '40
Mass production of standardized aircraft; Piper aircraft corp. A. S. Peirce. il plans Steel 107:74, 76-7+ S 23 '40
Mechanical handling in the Maginot line. il Mech Handling 27:99-101 My '40
Monorail conveyor; Thynne's Victoria tile works. il Mech Handling 27:176 Ag '40
Monorail serves every press; U.S. register company plant. il Factory Management 98: 47 S '40
Monorails for aircraft; plant 2 of Boeing aircraft co. il Steel 106:56, 58+ Mr 11 '40
Nonferrous metals smelter; handling system; Federated metals division of American smelting & refining co. H. T. Hansen. il diag Steel 107:60+ Ag 19 '40
Pre-selective discharging conveyor. il diag Engineer 170:13-14 Jl 5 '40
Rebuilt batch plant at Thatcher manufacturing company incorporates automatic weighing; new mixer and mixed batch distribution. il diag Glass Ind 21:347-52 Ag '40

MONROE doctrine
Holes in hemisphere defense; plan for American economic union faces wide differences among governments at Havana conference. map Business Week p15-17 Jl 20 '40
Monroe doctrine and the Havana conference. Comm & Fin Chr 151:1042-6 Ag 24 '40
Monroe doctrine and world peace. E. S. Scudder. 176p 2s Nelson '39
Monroe doctrine gets new teeth; hemisphere defense plans. Business Week p48-9 Ag 24 '40
Monroe doctrines, Pan-American, Japanese, and German. Economist 139:147 Ag 3 '40
Problem of Canada; number one obligation in the enforcement of the Monroe doctrine. H. M. Tremaine. il Mag of Wall St 66:346-7+ Je 29 '40
State department makes public German note replying to United States warning against acquiring land in western hemisphere. Comm & Fin Chr 151:36-7 Jl 6 '40
Twenty nations and one; the Monroe doctrine, political and economic. Fortune 22:74-6+ S '40
United States warns Germany and Italy against acquiring land in western hemisphere. Comm & Fin Chr 150:3900 Je 22 '40

MONSANTO chemical company
Leaders in the chemical industry; thumbnail appraisal. Mag of Wall St 65:414 Ja 13 '40

MONTAN wax
Identification of commonly used waxes in admixture. S. Zweig and A. Taub. bibliog Ind & Eng Chem Anal ed 12:9-14 Ja 15 '40
Lignite development in Devon. Chem Age (Lond) 43:97-8 Ag 31 '40

MONTANA

See also
Coal—Montana
Copper mines and mining—Montana
Geology—Montana
Iron ores—Montana
Manganese mines and mining—Montana

Economic conditions
Preliminary report on development of economic opportunities in Montana for migratory and stranded families. 88p State planning board, Montana bldg, Helena, Mont. '39

MONTANA university
New chemistry-pharmacy building at Montana state university. J. W. Howard. il Ind & Eng Chem Anal ed 12:441-2 Jl 15 '40

MONTEREY peninsula, California
Del Monte offers some of the world's best scenery and food, golf, and glamour. il map Fortune 21:58-67+ Ja '40

MONTERREY, Mexico
Brief review of 1939. Comm Rep p172 F 17 '40

MONTGOMERY county, Ohio
Montgomery county survey. 529p $3.50 Public administration service, 1313 E. 60th st, Chicago '40

MONTGOMERY Ward and company
Avery takes over. Business Week p36+ My 4 '40
Earnings, years ended Jan. 31, 1937-40. Comm & Fin Chr 150:1941 Mr 23 '40
How to sell through department-store chains; retail organization of Montgomery Ward & co. E. B. Weiss and J. C. Cumming. Ptr Ink Mo 41:7-8 Jl '40
Mail order companies go to town. W. P. Black. Barron's 20:3 F 26 '40
Montgomery Ward vs. Sears Roebuck. J. C. Clifford. il Mag of Wall St 67:146-7+ N 16 '40
Statistics of income, capital, stock earnings, etc. 1929-31, and years to Jan. 31, 1933-40. Annalist 56:374 S 19 '40

MONTICELLITE
Bibliography on orthosilicates of alkaline earths. G. E. Seil and others, comps. Am Cer Soc J 23 (Cer A 19):289-90 N '40

MONTMORILLONITE
Die abhängigkeit des kationenaustausches und der quellung bei montmorillonit von der vorerhitzung. U. Hofmann and J. Endell. bibliog Angew Chemie 52:708-9 D 16 '39
Hydration mechanism of the clay mineral montmorillonite saturated with various cations. S. B. Hendricks, R. A. Nelson and L. T. Alexander. bibliog Am Chem Soc J 62:1457-64 Je '40
Investigation of the effect of heat on the clay minerals illite and montmorillonite. R. E. Grim and W. F. Bradley. bibliog il Am Cer Soc J 23:242-8 Ag '40

MONTREAL
Water supply
Proposed new intake for Montreal. C. J. Desbaillets il diags plan Can Eng W & S 78:9-11 Ja '40

MONTREAL curb market
Weekly record. Published in weekly numbers of Commercial & financial chronicle

MONTREAL stock exchange
Weekly record. Published in weekly numbers of Commercial & financial chronicle
Weekly transactions. Published in weekly numbers of Annalist

MONUMENTS, Survey. See Survey markers

MOON
How big does the moon look? why it seems larger near horizon. H. N. Russell. Sci Am 163:194-5 O '40
Temperature
Ideal experiment; taking the moon's temperature during an eclipse reveals phenomenally big drop. H. N. Russell. Sci Am 163:74-5 Ag '40
Rate of cooling at a lunar eclipse; abstract. E. Pettit. Science 91:supp6 Je 28 '40

MOORE, Hugh Kelsea, 1872-
Sketch. Chem & Ind 59:114 F 17 '40

MOORE, Thomas Verner, 1907-
Heads Petroleum division of the A.I.M.E. por Nat Pet N 32:4 F 21 '40
Sketch. por Min & Met 21:519 N '40

MOOSE JAW, Saskatchewan
Water supply
Caron water-storage project; Moose Jaw to be supplied with water thru open ditch, 68 miles long. J. I. Strong. il Can Eng 77: 2-6 N 14 '39

MORAINES
Glaciation in the Wasatch plateau, Utah. E. M. Spieker and M. P. Billings. bibliog il maps Geol Soc Bul 51:1173-97, pl 1-5 Ag '40
Glaciation of the Grays Lake, Illinois, quadrangle. W. E. Powers and G. E. Ekblaw. bibliog maps Geol Soc Bul 51:1329-35 S '40

MORATORIUM
Moratorium in New Zealand. For Comm W 1:208 N 2 '40

MORDANTS. See Dyes and dyeing—Mordants

MOREHEAD medal
Otto C. Voss receives Morehead medal for 1939. Steel 106:82 Ap 1 '40

MORGAN, Sir Gilbert Thomas, 1870-1940
Life-work of a great research chemist. por Chem Age (Lond) 42:87 F 10 '40; Chem & Ind 59:97-8 F 10 '40
Sketch. D. D. Pratt. por Soc Dyers & Col J 56:400-2 S '40

MORGAN, J. P., and company
House of Morgan, trustee. Trusts & Estates 70:250 Mr '40
Morgan incorporates for flexibility. il Business Week p16-17 F 24 '40
Organization meeting. Comm & Fin Chr 150: 2027 Mr 30 '40
To incorporate business under New York state laws pertaining to trust companies. Comm & Fin Chr 150:1065-6 F 17 '40
To form trust company. Trusts & Estates 70:140 F '40

MORGAN, Thomas Hunt
Copley medal award. W. Bragg. Science 90: 580-1 D 22 '39

MOROCCO
L'équipement électrique et hydraulique du Maroc. J. Thomas. il map Génie Civil 116: 77-82, 97-100 F 3-10 '40
See also
Hydroelectric plants —Morocco

MORPHENOL
Attempted synthesis of morphenol. A. Burger and S. Avakian. Am Chem Soc J 62:226-7 Ja '40

MORPHINE
Enzymatic deacetylation of heroin and closely related morphine derivatives by blood serum. C. I. Wright. Science 92:244-5 S 13 '40
Morphine addiction in chimpanzees. S. D. S. Spragg. (Comparative psychology monographs, v.15, no.7) 132p bibliog(p128-32) pa $1.75 Johns Hopkins press, Baltimore '40

MORPHOLINE
Alpha, omega-amino alcohols; morpholino alcohols; derivatives of morpholine. G. W. Anderson and C. B. Pollard. Am Chem Soc J 61:3440-1 D '39
Electric moments of morpholine and some halogenated toluenes. A. A. Maryott, M. E. Hobbs and P. M. Gross. bibliog Am Chem Soc J 62:2320-4 S '40
4-Morpholinomethyl alkyl ethers and N-substituted morpholines. J. P. Mason and M. Zief. Am Chem Soc J 62:1450-2 Je '40
Morpholinomethyl ketones. J. P. Mason and S. D. Ross. Am Chem Soc J 62:2882-3 O '40
Reaction of *bis*-β-chloroethyl ether with ethylenediamine. M. E. Hultquist and E. H. Northey. Am Chem Soc J 62:447-8 F '40
Some physical properties of morpholine-water solutions. H. B. Friedman and others. Am Chem Soc J 62:2366-7 S '40

MORPHOLINOBENZALACETOPHENONE
α,β-unsaturated aminoketones; α- and β-morpholinobenzalacetophenones. N. H. Cromwell. Am Chem Soc J 62:2897-900 N '40

MORPHOLINOETHYL chloride
Ethers and amines from β-4-morpholinoethyl chloride. J. P. Mason and S. Malkiel. bibliog Am Chem Soc J 62:1448-50 Je '40
Preparation and polymerization of β-4-morpholinoethyl chloride. J. P. Mason and H. W. Block. bibliog Am Chem Soc J 62:1443-8 Je '40

MORPHOLINOMETHYL ethyl ether
4-Morpholinomethyl alkyl ethers and N-substituted morpholines. J. P. Mason and M. Zief. Am Chem Soc J 62:1450-2 Je '40

MORRELL, Jacque C. 1893-
Personalities in chemistry. A. D. McFadyen. por Chem Ind 47:73 Jl '40

MORRELL, John, and company
Results of the year, 1939. T. H. Foster. Comm & Fin Chr 150:510 Ja 27 '40

MORRIS, Philip, and company
Another look. Mag of Wall St 65:627 F 24 '40
Can Philip Morris maintain growth? F. H. McConnell. Barron's 20:13 Ap 15 '40

MORRIS, William, 1834-1896
Morris and company, 1861-1940. Arch Forum 73:104 Ag '40

MORRIS plan banks
Industrial banking; a phase of consumer credit. M. Grobben. 116p bibliog(p103-10) $1.50 Consumer credit inst. of America, 233 Broadway, New York '40
Industrial banking companies, instalment loans, monthly, 1929-June, 1940. Survey of Cur Business 20:18 S '40

MORRISDALE coal mining company
Eighty years of operation. il Explosives Eng 18:135-7 My '40

MORRISON, Edwin, 1861-1939
Sketch. C. W. Chapman and O. L. Snow. Science 91:283-3 Mr 22 '40

MORSE, Samuel F. B.
Del Monte offers some of the world's best scenery and food, golf, and glamour. por Fortune 21:58-67+ Ja '40

MORTALITY
Physiological alterations as the cause of senile debility and senile mortality. H. S. Simms. Science 91:7-9 Ja 5 '40

See also
Insurance, Life
Longevity

Statistics

Accident deaths decline in 1939. W. G. Johnson. map Nat Safety N 41:14-16+ Je '40
Accidental deaths in 1939. T. J. V. Cullen. Spectator (Life ed) 145:6-10 N 7 '40; Same. Spectator (Property ed) 6:10-14, 21 O 31 '40
Cancer mortality in the United States according to site, by sex and age, 1938. Pub Health Rep 55:731-5 Ap 25 '40
Cancer mortality in the United States; 1, Trend of recorded cancer mortality in the death registration states of 1900, from 1900 to 1935; 2, Recorded cancer mortality in geographic sections of the death registration states of 1920, from 1920 to 1935. M. Gover. (Pub. health bul. no. 248, 252) U.S. Public health service, Washington; pa ea 10c Supt. of doc. '39-'40; Review. Pub Health Rep 55:1541-3 Ag 23 '40
Cases and days of illness among males and females, with special reference to confinement to bed; based on 9,000 families visited periodically for 12 months, 1928-31. S. D. Collins. bibliog(p83-4) Pub Health Rep 55: 47-93 Ja 12 '40
Deaths during week in certain large cities of the United States. Published in weekly numbers of Public health reports
Diabetes mortality: a statistical analysis. C. W. Altshuler. Am Statis Assn J 35:341-6 Je '40
Disabling morbidity, and mortality from cancer among the male employees of an oil refining company with reference to age, site, and duration, 1933-38, inclusive. W. M. Gafafer and R. Sitgreaves. bibliog Pub Health Rep 55:1517-26 Ag 23 '40
Geographical distribution of diphtheria mortality in the United States. C. C. Dauer. maps Pub Health Rep 55:622-8 Ap 12 '40
Health of industrial policyholders, 1939. Monthly Labor R 51:681-4 S '40
Major causes of death, increase in life expectancy, and population changes in the United States. Pub Health Rep 54:2054-64 N 17 '39
Mortality data for 1938, by cause. Pub Health Rep 55:211-14 F 2 '40
Mortality rates and economic status in rural areas. H. F. Dorn. Pub Health Rep 55:3-12 Ja 5 '40
Mortality trends among insureds; abstracts. W. E. Thornton. East Underw 40:22 D 15 '39; Nat Underw (Life ed) 43:6+ D 15 '39; Spectator (Life ed) 143:23 D 21 '39
Preliminary mortality summary for large cities, 1939. Pub Health Rep 55:208-11 F 2 '40
Provisional mortality rates for the first half of 1940. Pub Health Rep 55:2021-7 N 1 '40
Provisional mortality rates for the first 9 months of 1939. Pub Health Rep 55:245-53 F 9 '40
Provisional mortality rates for the first quarter of 1940. Pub Health Rep 55:1346-52 Jl 26 '40
Provisional mortality statistics, by states, for 1939. Pub Health Rep 55:1086-8 Je 14 '40
Provisional natality and mortality figures for 1939. Pub Health Rep 55:508-9 Mr 22 '40
Rheumatic heart disease in Philadelphia hospitals; fatal rheumatic heart disease and subacute bacterial endocarditis. O. F. Hedley. Pub Health Rep 55:1707-40 bibliog (p1739-40) S 20 '40
Rheumatic heart disease in Philadelphia hospitals; influence of season and certain meteorological conditions. O. F. Hedley. Pub Health Rep 55:1809-31 bibliog(p1830-1) O 4 '40
Studies in childbirth mortality; age and parity as factors in puerperal fatality. J. Yerushalmy, C. E. Palmer and M. Kramer. bibliog Pub Health Rep 55:1195-1220 Jl 5 '40
Studies in childbirth mortality; puerperal fatality and loss of offspring. J. Yerushalmy, M. Kramer and E. M. Gardiner. bibliog Pub Health Rep 55:1010-27 Je 7 '40
Trend of morbidity and mortality during 1939 and recent preceding years. Pub Health Rep 55:801-21 My 10 '40
Trends, geographical and racial distribution of mortality from heart disease among persons 5-24 years of age in the United States during recent years (1922-1936); preliminary report. O. F. Hedley. bibliog maps Pub Health Rep 54:2271-97 D 29 '39
Typhoid in large cities of the United States in 1939. Am Water Works Assn J 32:1394-1407 Ag '40
Vital statistics summary for the United States, 1938. maps Pub Health Rep 55:933-42 My 24 '40

See also
Infant mortality

MORTAR
Full mortar joints most important to prevent leaky walls. L. A. Palmer. il Brick & Clay Rec 96:50, 52, 54, 56; Discussion. 56, 58 Ap '40
Illinois clay manufacturers discuss large clay units-mortar mix-research program. Brick & Clay Rec 95:33 N '39
Method for estimating mixing water in the determination of mortar strength of sands. H. A. Pratt. Univ of Maine Technology Exp Sta Pa 26:1-13 '39
Rôle of sulphates in the decay of building stones, mortars, and bricks. T. McLachlan. il Soc Chem Ind J 59:133-8 Jl '40
Silicate of soda affects mortar strength. Brick & Clay Rec 96:56 Je '40
Thermal volume change and elasticity of aggregates and their effect on concrete. T. F. Willis and M. E. De Reus. il diags Am Soc T M Proc 39:919-28; Discussion. 929 '39

Testing

Application of vibrators for measuring mortar consistency and fabricating mortar cubes. R. L. Blaine and J. Tucker, jr. pl diags J Research Nat Bur Stand 24:103-23 F '40
Effect of variations in method upon the results of freezing and thawing mortars. B. Myers. il Am Soc T M Proc 39:930-6 '39
Specimens made in metal molds not a fair mortar test. F. O. Anderegg. Rock Prod 43:78 Ag '40
Statistical analysis of compression tests on mortar cylinders, cubes and prisms. H. W. Leavitt and H. A. Pratt. bibliog Am Soc T M Proc 39:851-8; Discussion. 859 '39
Strength of refractory mortars. Franklin Inst J 229:790-1 Je '40
Vibrator for mortar tests. diag Eng N 125: 175 Ag 1 '40

MORTARS (ordnance)
Untersuchung einer mittelalterlichen steinbüchse aus schmiedeeisen. A. Pomp and F. Spies. il diag Stahl & Eisen 60:207-9 Mr 7 '40

MORTGAGE bankers association of America
Annual convention, 27th, Chicago, Oct. 2-4. Comm & Fin Chr 151:2131-2 O 12 '40

MORTGAGE banks

See also
Home owners' loan corporation

MORTGAGE conference, New York
Mortgagees probe and improve New York construction, cease lending in the dark. Arch Forum 72:371-2+ My '40

MORTGAGE participation certificates
Mortgages valuable to small accounts; comparisons of mortgage investment funds with common trust funds. C. F. W. Hespenheide. Trusts & Estates 70:361-5 Ap '40

MORTGAGE redemption policies. See Insurance, Life—Mortgage redemption policies

MORTGAGES
Amendments to Regulation F relating to trust powers of national banks to permit operation of common trust funds invested principally in mortgages. Fed Res Bul 26: 502-9 Je '40

MORTGAGES—*Continued*
Basic concepts in mortgage lending. E. M. Fisher. Trusts & Estates 69:631-2 D '39
Decentralization forces and mortgage lending. E. M. Fisher. Bankers M 141:439-40 N '40
Economists of FHLBB report home mortgage debt placed on revolving basis through monthly-payment amortized loans. Comm & Fin Chr 151:2588 N 2 '40
Federal housing administration, home mortgage insurance, and new mortgage loans by all savings and loan associations, 1936-1939. Survey of Cur Business 1940 Sup p22-3 [supplemented in monthly numbers]
Geography of FHA mortgages; charts. Banking 33:41 Ag '40
High finance; 1939 home mortgages covering all non-farm property loans of $20,000 and less. Arch Forum 72:sup2 Mr '40
Home mortgage structure in transition; urban one-family to four-family dwellings. L. Grebler. Harvard Business R 18 no 3:357-71 [Ap] '40
Importance of insulation to mortgage lender; abstract. G. H. Fallin. Sheet Metal Worker 31:66 Jl '40
Insured mortgage yield tables; revised February 1, 1940. 18p Federal housing administration, Washington; pa 5c Supt. of doc. '40
Interest rates on local mortgages in Britain. Economist 138:159 Ja 27 '40
Internal bank management controls; control of real estate and other loans. H. N. Stronck. Bankers Mo 57:204-5+ Ap '40
Legal aspects of mortgages as trust investments. F. A. Nagel. Trusts & Estates 71: 328-33 S '40
Loans outstanding of agencies under the Federal home loan bank board, 1936-1939. Survey of Cur Business 1940 Sup p23 [supplemented in monthly numbers]
Modification provisions of corporate mortgages and trust indentures. C. H. Haines, jr. Trusts & Estates 69:677-9 D '39
Money for home mortgages, costs lowest in history. Banking 33:96 S '40
Mortgage application form. C. K. Withers. Banking 32:40 Je '40
Mortgage loan officer of 1950. E. M. Fisher. Banking 33:86 Jl '40
Mortgage loans in the bank portfolio. E. M. Fisher. Comm & Fin Chr 151:66-8 sec 3 O 12 '40
Mortgage money and interest rates. P. W. Kniskern. Trusts & Estates 69:667 D '39
Mortgage money plentiful. Arch Rec 88:82+ Jl '40
Mortgage portfolio of the future. F. H. Allen. Trusts & Estates 70:293-4 Mr '40
Mortgage salvage operations; New York statute establishes new principles. J. A. Foley. Trusts & Estates 71:350-1 S '40
Mortgagees probe and improve New York construction, cease lending in the dark; Mortgage conference. il Arch Forum 72:371-2+ My '40
Mortgages and real estate as trust investments. B. W. Utter. Trusts & Estates 70: 151-3 F '40
Mortgages made to measure. W. P. Straw. Bankers M 141:70 Jl '40
New F.H.A. regulations for low-cost homes. il Burroughs Clearing House 24:17 Ja '40
Non-farm home mortgages aggregated $17,-721,000,000 at end of 1939. Comm & Fin Chr 149:3202-3 N 18 '39
1,362,794 home mortgages recorded in 1939. Comm & Fin Chr 150:931 F 10 '40
Real estate mortgages. J. M. Dodge. Comm & Fin Chr 151:66 sec 3 O 12 '40
Real estate mortgages as we know them; considered as trust investments. C. E. Karn. Trusts & Estates 69:511-13 N '39
Selecting real estate loans. W. A. Marcus. Banking 33:27 N '40
Small scale; slum rehabilitation gets needed federal mortgage insurance. Arch Forum 72: sup2+ Mr '40
Taking stock of the mortgage portfolio. F. H. Allen. Bankers M 140:311-12 Ap '40
TNEC looks into urban mortgage loans. East Underw 41:3-4 Mr 1 '40

See also
Bonds, Real estate
Chattel mortgages
Land titles
also Federal national mortgage association

Foreclosures

Downward movement in non-farm real estate foreclosures continued during nine months of this year, reports FHLBB. Comm & Fin Chr 149:3346 N 25 '39
Fair value and the deficiency judgment. J. L. Tierney. bibliog J Land & Pub Util Econ 16:181-95 My '40
Foreclosures, 1936-1939. Survey of Cur Business 1940 Sup p23 [supplemented in monthly numbers]
Mortgage outlook. H. A. Moore. Nat Underw (Life ed) Conv no 44:18 O 12 '40
Non-farm real estate foreclosures in first half of 1940 28% below same period in 1939, reports FHLBB. Comm & Fin Chr 151:934 Ag 17 '40
Uncle Sam's real estate holdings decline. G. E. Anderson. Barron's 20:5 Ap 29 '40

History

History of the real estate mortgage. M. L. Fitch. Bankers Mo 57:570-2 O '40

Law

What attorneys might do toward improving state mortgage laws. M. Duane. East Underw 40:22+ D 15 '39

Rating

Analysis of mortgage security; how FHA's mortgage risk rating system affects builders, borrowers and lenders. il Arch Forum 72:437-9+ Je '40

MORTGAGES, Farm
Agricultural finance in the United States. H. W. Torgerson. bibliog map J Land & Pub Util Econ 16:196-206, 318-24 My-Ag '40
Bureau of agricultural economics reports marked decrease in farms lost through foreclosures and tax sales in last five years. Comm & Fin Chr 149:3646 D 9 '39
Extended functions for institutional landowners; rehabilitation of farm land taken in satisfaction of mortgage debt. C. L. Stewart. J Land & Pub Util Econ 16:357-62 Ag '40
Farm mortgages recorded in 1939 totaled $729,000,000, reports FCA. Comm & Fin Chr 151:1075 Ag 24 '40
Jones bill to change farm-credit system; testimony before House agriculture committee. Comm & Fin Chr 150:2350-1 Ap 13 '40
Life companies and mortgage men talk of new farm loans. S. M. Waters. Nat Underw (Life ed) 44:3 O 11 '40
Political mortgages? farmers dubious about Jones bill. Business Week p 16-17 Ap 13 '40
President Roosevelt signs bill extending for another two-year period, until June 1, 1942, the authority of the land bank commissioner to continue making mortgage loans for financing farm purchases. Comm & Fin Chr 150:918 F 10 '40
Secretary of agriculture Wallace explains farm credit policies. Comm & Fin Chr 150: 2506-7 Ap 20 '40

See also
Agricultural credit

MORTUARY chapels
Inexpensive solution of a tricky air-conditioning problem. D. R. Nordwall. plans Heat & Ven 37:48-9 Mr '40

MOSCOW
Transport jam; deterioration of auto transportation. Business Week p52 Ag 10 '40

MOSES, Harry Morgan, 1896-
Sketch. por Explosives Eng 18:228-9 Ag '40

MOSES, Robert, 1888-
Robert Moses. por Arch Forum 72:141 Mr '40

MOSQUITOES
Anopheles walkeri (Theobald): a wild-caught specimen harboring malarial plasmodia. F. B. Bang, G. E. Quinby and T. W. Simpson. Pub Health Rep 55:119-20, pl 1 Ja 19 '40
Culverts for mosquito control; drainage structures in Memphis. il diags Eng N 124:602-3 Ap 25 '40
Malaria-carrying mosquito in Brazil. Science 91:sup14 Ap 12 '40
Occurrence of anopheles darlingi Root in British Honduras and Guatemala. W. H. W. Komp. bibliog Pub Health Rep 55:693-4 Ap 19 '40; Same. Science 91:522-3 My 31 '40
Variation in the eggs of anopheles punctipennis Say. W. K. Lawlor. Pub Health Rep 55:371-3, pl 1-2 Mr 1 '40
Viability of aëdes aegypti eggs. J. H. Le Van. Pub Health Rep 55:900 My 17 '40

Extermination

Cooperative investigations of the relation between mosquito control and wildlife conservation. Science 92:201-2 Ag 30 '40
Disinsectization of aircraft. C. L. Williams. diags Pub Health Rep 55:1005-10, pl 1-2 Je 7 '40
Invasion of the gambiae; battle of Brazil to repulse carrier of malaria. R. B. Fosdick. il map Dun's R 48:14-15+ S '40
Mosquito control; practical methods for abatement of disease vectors and pests. W. B. Herms and H. F. Gray. 317p bibliog (p298-303) pa $3.50 Commonwealth fund, New York '40
Mosquito control in the Ottawa district; with cost data. A. K. Hay and C. R. Twinn. il Can Eng W & S 78:12-13+ Jl '40
Mosquitoes in the Tennessee valley. F. Thone. Science 92:sup10 S 6 '40

MOST favored nation clause. See Favored nation clause

MOTHPROOFING preparations
Present status of mothproofing. H. F. Herrmann. Am Dyestuff Rep 29:539-40 O 14 '40

Testing

Use of black carpet beetles in the testing of moth-proofed materials; abstract. R. E. Slabaugh. Oil Paint & Drug Rep 138:56 O 28 '40

MOTION
Equations of motion in electrodynamics. L. Infeld and P. R. Wallace. Phys R 57:797-806 My 1 '40
Science in your life. J. Pfeiffer. 109p 60c Macmillan '39

See also
Dynamics of a particle
Lorentz-Fitzgerald contraction
Mechanical movements
Mechanics
Velocity

MOTION pictures. See Moving pictures

MOTION study
Basic plant operations improved; handling, sorting, separating and inspection by new methods and equipment devised for walnut factory. R. G. Engel. flow diag il Food Ind 12:32-4 N '40
Cases in work simplification; simultaneous two-hand or alternate left- and right-hand operation in making Rubberset brushes. J. J. Baer. il Factory Management 98:58-9 O '40
Changed layout saves $2,500; motion study on a hand-wrapping operation; Kraft Walker cheese co, Melbourne, Australia. E. O. Pelling. il diags Factory Management 98:64-5+ F '40
Crane for better motion pictures; camera set up anywhere in the motion study laboratory. G. B. Carson. il Factory Management 98:55-6 Je '40
Four typists do the work of 35; office efficiency system developed by TVA. il Business Week p26-7 D 30 '39
Machine design and motion economy. O. W. Habel and G. G. Kearful. il Mech Eng 61:897-9 D '39
Motion and time study. R. M. Barnes. 2d ed 390p bibliog(p379-82) $3.75 Wiley '40
Motion economy on labeling operations. C. A. Barnes. diags Factory Management 97:59-60 D '39
Motion study research; study of simultaneous, symmetrical hand motions. R. M. Barnes and M. E. Mundel. il diags Factory Management 97:47-50 Ag; 56-8 D '39
Motion study research; time used to position small parts; one-handed operation faster. R. M. Barnes and J. M. MacKenzie. il diags Factory Management 98:63-6 Mr '40
Power and velocity developed in manual work. C. A. Koepke and L. S. Whitson. il Mech Eng 62:383-9 My '40
Prophecy for time and motion study. N. M. Cartmell. Advanced Management 4 no5:134-6+ '39
Standards for circulation; time-and-motion economy within the house. il diag plans Arch Rec 87:106-7 Mr '40
Studies of one and two-handed work. R. M. Barnes, M. E. Mundel and J. M. MacKenzie. il diags Iowa Univ Studies in Engineering Bul 21:1-63 '40 (pa 50c)
Time and motion study under collective bargaining. M. H. Hedges. Advanced Management 5:89-92 Ap-Je '40
To start methods study, sell it. L. S. Whitson. il Factory Management 98:55-6+ Jl '40
What belongs in the methods study program. L. S. Whitson. il diags Factory Management 98:50-2+ S '40

See also
Time study

MOTIVATION (psychology)
Motives as a tool of market research. D. McGregor. Harvard Business R 19 no 1:42-51 [S] '40

MOTOR boats
High-speed motor torpedo boat. plans Engineer 168:621 D 22 '39
James Braidwood, high-speed fire boat for the London county council. il plans Engineering 148:653 D 8 '39; Engineer 168:599-600 D 15 '39
Jet-propelled motor lifeboat for Minehead. il diags Engineer 168:444-6 N 3 '39; Excerpt. Mech Eng 62:26-7 Ja '40
Sheet metal boat. T. C. Sheperdson. il Sheet Metal Worker 31:58 Ja '40
Welin completes first Diesel powered lifeboat. il Marine Eng 45:66-7 Je '40

See also
Motor ships

Exhibitions

Motor boat show, New York. il Automotive Ind 82:104-5+ F 1 '40

MOTOR bus associations
Index of bus associations. Bus Transportation 19:37-8 Ja '40

MOTOR bus brakes. See Air brakes, Motor bus; Brakes, Motor bus

MOTOR bus drivers
Appraisal and abstract of available literature on the occupation of the bus and truck driver. S. Spiegler. 12p bibliog(p11-12) pa 25c Occupational index, 80 Washington sq. E, New York '39
Certain employees of bus companies held subject to wage and hour law. Monthly Labor R 51:115-16 Jl '40
Collisions—who will pay the bill? summary of recent court decisions. L. T. Parker. Bus Transportation 19:170-1 Ap '40
Effects of working conditions upon the health of London Central busmen; abstract. J Ind Hygiene 22:sup 1-2 Ja '40
I'll be suing you; how the courts determine company liability in cases of injuries. L. T. Parker. Bus Transportation 19:370-1 Ag '40
Instructing operators on mechanical equipment of vehicles; tabulated data. Transit J 83:459-60 N '39
Sampling the bus service; employment management system of San Antonio public service company. W. R. Castle. il Transit J 84:90-1 Mr '40
Still champions; 1936 winners of Bus Transportation's safe driver contest. pors Bus Transportation 19:169 Ap '40

MOTOR bus drivers—*Continued*
Training street car operators to be safe bus drivers; York bus company. S. P. Andrews. il Mass Transportation 36:170-1 Ag '40
Wages, hours, and working conditions of union street-railway employees, June 1, 1939. F. S. McElroy. Monthly Labor R 50: 432-52 F '40

Testing

Bus driver goes to safety school; driver tests at safety exhibit, National auto show. il Bus Transportation 18:558-9 N '39
Candidate for the wheel; United electric railways, Providence; driver selection. E. F. Theisinger. il Bus Transportation 19: 419-21 S '40

MOTOR bus engines
Diesel fuels and lubricants. L. C. Welch. il Nat Pet N 32:38-43 My 15 '40
Fuels savings worth change to Diesel bus operation; abstract. W. A. Taussig. Nat Pet N 32:R419-20 N 13 '40
More Diesels by Hercules. il Bus Transportation 19:467 S '40
More power per unit gross weight. A. M. Wolf. diags S A E J 47:349-57+ S '40
Motor transport, Great Britain. E. C. Ottaway. diags Inst Mech Eng J & Proc 142: Proc48-54, pl 2, 6 N '39; Same. Engineer 169:253-4 Mr 15 '40
Truck, bus and rail car and transportation and maintenance sessions; SAE summer meeting; abstracts and discussions. S A E J 47:sup57-9 Jl '40

Bearings

High-test gas saves bearings. J. L. Arnold. Transit J 84:31 Ja '40

Cleaning

Parts cleaned with vapor. il Transit J 84:62 F '40

Cooling

Super Steeliner employs Sirocco cooling. il Bus Transportation 18:603 D '39

Design

Alfa Romeo AG6M engine used on 100 passenger single-deck bus. diags Automotive Ind 83:73-4 Jl 15 '40
Alfa Romeo methane gas engine. diags Automobile Eng 30:302 O '40
London bus type A.E.C. Diesel engine; longitudinal and transverse sections. diags Automotive Ind 83:25-6 Jl 1 '40
Multi-fuel engine, a new internal combustion engine that can follow the fuel trends. P. C. Ritchie. Nat Pet N 31:R498-500 N 15 '39
Perkins type P.6 Diesel engine; longitudinal and transverse sections. diags Automotive Ind 81:577-8 D 1 '39

Exhaust

Control of smoke in the automotive Diesel. W. W. Manville and others. S A E J 47: 397-406 O '40; Abstracts. Nat Pet N 32: R26, R28+ Ja 24 '40; Mech Eng 62:321 Ap '40; Discussion. S A E J 47:406-8+ O '40
Efficient burning of fuel in high-speed oil engines with particular reference to a clean exhaust. A. T. Wilford. pls Inst Pet J 25: 649-56 O '39; Abstract. Automobile Eng 29: 451-2 D '39
Exhaust gas analyzer; how to link it up with methods of checking fuel consumption. W. A. Roberts. il Bus Transportation 18:578-81 N '39
No smoking please; New York City buses obey the law. il Bus Transportation 19: 364-6 Ag '40
Ventilation; one of bus operator's biggest problems. il Bus Transportation 19:232-3 My '40

Fuel

Control of smoke in the automotive Diesel. W. W. Manville and others. S A E J 47: 397-406 O '40; Abstract. Nat Pet N 32:R26, R28+ Ja 24 '40; Discussion. S A E J 47: 406-8+ O '40
Efficient burning of fuel in high-speed oil engines with particular reference to a clean exhaust. A. T. Wilford. pls Inst Pet J 25: 649-56 O '39
Gas—not gasoline; British transit systems are trying out producer gas and illuminating gas for bus fuel. il Transit J 84:56-7 F '40
High-test gas saves bearings. J. L. Arnold. Transit J 84:31 Ja '40
New producer gas plant. il diags Engineer 169:68-9 Ja 19 '40
Producer gas; government committee's report on the conversion of motor vehicles. il diags Automobile Eng 30:82-4 Mr '40
Producer gas in the limelight in England. il Automotive Ind 81:645 D 15 '39
Save money on gas thru frequent adjustment of idling jets. Bus Transportation 19:348-9 Jl '40

Fuel feeding

Efficient burning of fuel in high-speed oil engines with particular reference to a clean exhaust. A. T. Wilford. pls Inst Pet J 25: 652-5 O '39; Abstract. Automobile Eng 29: 451-2 D '39
Exhaust gas analyzer; how to link it up with methods of checking fuel consumption. W. A. Roberts. il Bus Transportation 18:578-81 N '39
Performance test; lubricants, fuel feeding, etc.; Diesel-electric buses in New York; abstracts. W. C. Cumming and C. Brettell. il diag Automotive Ind 82:332-4+ Ap 1 '40
Up-draft and down-draft carburetors. W. A. Roberts. diags Bus Transportation 19:516-19, 572-4 O-N '40

Ignition devices

Checking automatic governor advance in the ignition distributor. diag Bus Transportation 19:16-17 Ja '40
Contact point life. W. A. Roberts. il diags Bus Transportation 19:144-7, 186-9 Mr-Ap '40
Ignition, is it the poor relation? W. H. Crouse. il diags Bus Transportation 19:275-7 Je '40
Vacuum gage; sparkmeter for setting ignition timing. W. A. Roberts. il diags Bus Transportation 19:86-9 F '40

Lubrication

Engine lubrication. W. W. C. Whalley. Automobile Eng 30:46 F '40
Performance test; lubricants, fuel feeding, etc.; Diesel-electric buses in New York; abstract. W. C. Cumming and C. Brettell. il diag Automotive Ind 82:332-4+ Ap 1 '40
Top oilers; what bus men think about them. Bus Transportation 19:24-5 Ja '40

Radiators

Hot solutions to a dirty problem! il Bus Transportation 19:194-5 Ap '40
Radiator shutters. il diag Bus Transportation 19:278-9 Je '40

Repair

First aid for busted cases; does it pay to send broken crankcases, cylinder blocks, heads, and the like to outside shops for repair? Bus Transportation 19:396-7 Ag '40
Keep your seat Mr Valve; principles of valve reconditioning. il Bus Transportation 18: 622-3 D '39
Rocker arms reconditioned by Montreal tramways. il Transit J 84:94 Mr '40

Specifications

American stock, marine and commercial vehicle engines; tabulation. Automotive Ind 82:206-15 Mr 1 '40
Engine tune up specifications, 1939 and 1940, tabulated. Bus Transportation 19:292-5 Je '40
1940 motor bus engine specifications; tabulation. Bus Transportation 19:62-3 Ja '40

Testing

Chassis dynamometers; experiences of various companies. Transit J 84:176-7 My '40
Evaluates lube additive in million-mile test. R. D. Best. Nat Pet N 32:R16 Ja 10 '40
Exhaust gas analyzer; how to link it up with methods of checking fuel consumption. W. A. Roberts. il Bus Transportation 18: 578-81 N '39

MOTOR bus engines—Testing—*Continued*
Gas engine break-in and test stand. C. Parker, E. A. Prather and L. G. Anderson. il Mass Transportation 36:173-4 Ag '40
Stethoscoping the bus; American transit association clinic. E. J. Gay. il Bus Transportation 18:564-5 N '39
Vacuum gage. W. A. Roberts. diags Bus Transportation 19:20-3, 86-9 Ja-F '40

Valves

Keep your seat Mr Valve; principles of valve reconditioning. il Bus Transportation 18: 622-3 D '39

MOTOR bus industry and trade

Statistics

Bus production hits new high, 1939. E. F. Thelsinger. Bus Transportation 19:40-4 Ja '40

MOTOR bus lines
All in the family; sketch of five Fitzgeralds who founded the National city lines, inc. Bus Transportation 19:174 Ap '40
How mass transportation is conducted in Buffalo. il Mass Transportation 36:100-5 My '40

See also
Railroads—Motor vehicle auxiliaries
Rapid transit
Trolley buses
also Central transit equipment association

Accidents

642 killed in 1938 motor carrier accidents. Ry Age 108:231 Ja 27 '40

See also
Motor bus lines—Claims

Accounting

Allocation of revenues and cost; practices of various companies. Transit J 84:397-9 O '40
Mills and miles; cost accounting and how it has helped a transportation company to lower cost; United electric railways. C. O. Sparhawk. Bus Transportation 18:596-8 D '39

Advertising

Ads to sell transit anywhere. il Transit J 84:188-91 Je '40
Building business for buses. W. M. Anderson. Ptr Ink Mo 41:62-3 S '40
Cooperative activity to sell transit. F. Barnes. Transit J 84:386-7 O '40; Abstract. Mass Transportation 36:248-9 O '40
Cooperative advertising, why not? outdoor displays for bus companies. A. Hogg. il map Bus Transportation 19:68-9 F '40
Green light for Burlington! B. Welbourne. il Bus Transportation 19:110-12 Mr '40
Introducing Oscar McButch; Seattle transit system comic strip character. il Bus Transportation 19:387 Ag '40
Looking at local advertising; what companies operating city and suburban services spend for advertising and sales promotion. il Bus Transportation 19:506-7 O '40
Making people transit conscious; merchandising activities of the Reading street railway. il Transit J 84:84-5 Mr '40
Premiums sell breakfast foods and gasoline, why not bus rides too? post cards for children collectors. A. H. Wood. il Bus Transportation 19:510-11 O '40
Quaker City bus co. radio advertising. B. Welbourne. il Bus Transportation 19:285-6 Je '40
Short haulers, their place in the sales-promotion picture. E. A. Keenan. il Bus Transportation 19:123-5 Mr '40
Skits dramatize bus advertising at meeting of Blue Ridge lines. B. Welbourne. il Bus Transportation 19:217-19 My '40
So they took the $1,000,000 and this is how they spent it! analysis of advertising expenditures of 38 bus companies. B. Welbourne. Bus Transportation 19:208-9 My '40
Telling their side; how winners of the 1939 maintenance award told the news. E. F. Thelsinger. il Bus Transportation 18:604-5 D '39
Through the mike; Greyhound's new radio program. il Bus Transportation 19:113 Mr '40
Turning over a new leaf; Reading Street Railway calendar that does a real selling job. il Bus Transportation 19:15 Ja '40

Air line connections

Off to a flying start; combination of motor coach and airplane travel on round trips announced by Champlain bus corp. il Bus Transportation 19:290-1 Je '40

Automobile competition

Moving more people by improving transit facilities; automobile competition; Chicago transit. P. Harrington. il Transit J 84:300-2 S '40
Transit vs. the automobile. il Transit J 84: 4-5 Ja '40

Baggage

Baggage liability. D. T. Biseeti. Bus Transportation 19:287-8 Je '40

Claims

Collisions—who will pay the bill? summary of recent court decisions. L. T. Parker. Bus Transportation 19:170-1 Ap '40
I'll be suing you; how the courts determine company liability in cases of injuries. L. T. Parker. Bus Transportation 19:370-1 Ag '40

Consolidation

Peninsula-Greyhound merger would restrain competition, says I.C.C. Bus Transportation 19:400 Ag '40

Costs

Mills and miles; cost accounting and how it has helped a transportation company to lower cost; United electric railways. C. O. Sparhawk. Bus Transportation 18:596-8 D '39
Modernization of a transit system; factors that determine the choice of vehicle. G. L. Hoard. bibliog Elec Eng 59:Trans 292-303; Discussion. Trans 303-5 My '40
What the industry spends. Bus Transportation 19:45 Ja '40
What the industry spends. Transit J 84:8-9 Ja '40
Where the transit dollar goes. Transit J 84: 6-7 Ja '40
Winners of 1939 Bus Transportation maintenance awards; with cost data. il Bus Transportation 18:542-56 N '39

Development work

Haul no empties; fill more seats by inducing manufacturers to locate in empty buildings along your lines. T. Aubuchon. il Transit J 83:448-9 N '39

Electric equipment

Electrical troubles; using the voltmeter and ammeter. W. A. Roberts. diags Bus Transportation 19:237-40 My '40

Employees

Certain employees of bus companies held subject to wage and hour law. Monthly Labor R 51:115-16 Jl '40
Decision of United States Supreme court places non-operating employees of bus and trucking companies under Wage-hour act. Comm & Fin Chr 150:3443 Je 1 '40
Employees of the City transit co. compete for prizes in Fill that empty seat contest. il Bus Transportation 19:222-3 My '40
Tour and information staff of the Dixie bus center, New York. B. Welbourne, ed. il Bus Transportation 19:77-8 F '40
What Harrisburg railways co. is doing for those unable to qualify for employment under the new all-bus system. Bus Transportation 18:557 N '39

See also
Motor bus drivers

Equipment and supplies

Emergency truck bodies; companies' experiences with open and closed types; with tabulated data. Transit J 83:459-61 N '39
Exhibit of modern equipment; shop equipment, etc; pictorial review. Transit J 84: 348-56 S '40

MOTOR bus lines—Equipment and supplies— *Continued*
Hesperus II; wrecker-snow-plow-tow-car built by United electric railways, Providence. il Bus Transportation 19:380-1 Ag '40
More riders at less cost through modernization. il Transit J 84:221-36 Jl '40
New equipment, accessories and shop devices. Published in monthly numbers of Mass transportation
New equipment parade. Published in monthly numbers of Transit journal
What's new; bus product information. Published in monthly numbers of Bus transportation

See also
Motor buses

Express service

Package express receipt. D. A. Hyde. Bus Transportation 19:13 Ja '40

Fare collection

Exhibit of modern equipment; pictorial review. Transit J 84:335 S '40
New style fare receipt. il Bus Transportation 19:286 Je '40

Fares

Building back prosperity; Eastern Massachusetts street railway's 1939 revenues almost as high as in 1929. W. Jackson. Transit J 84:126-8 Ap '40
Farewell to hot nights; cool-off rides to encourage off-peak riding during hot summer evenings. il Bus Transportation 19:289 Je '40
Fundamentals of net revenue. E. A. Bagby. Bus Transportation 18:438-40, 507-8, 561-2, 601-2; 19:75-6 S-D '39, F '40

Finance

Building back prosperity; Eastern Massachusetts street railway's 1939 revenues almost as high as in 1929. W. Jackson. Transit J 84:126-8 Ap '40
Bus business spotty; first six months of 1940. C. W. Stocks. Bus Transportation 19:443-6 S '40
Business is ahead of last year. C. W. Stocks. Bus Transportation 18:607-10 D '39
Five out of six showed gains; reports of 115 transit companies for 1939. M. Buck. Transit J 84:163-5 My '40
How big is the bus industry? C. W. Stocks. Bus Transportation 19:46-8 Ja '40
How Harrisburg did it; result of a seven-year modernization program. il Transit J 84:116-19 Ap '40
More 1939 reports show gains. Transit J 84: 274-5 Ag '40
More riding and revenue, 1939. Transit J 84: 2-3 Ja '40
1940's first quarter shows gain. C. W. Stocks. Bus Transportation 19:282-4 Je '40
1939, the best year we've ever had. C. W. Stocks. Bus Transportation 19:130-4 Mr '40
Old city, new tempo; Baltimore transit company. il Transit J 84:194-7 Je '40
Operating results, small buses vs. cars and trolley coaches; comparison of four years operation in Buffalo and Indianapolis. il Mass Transportation 36:168-70 Ag '40

Garages

New home of Carolina coach. il layout Bus Transportation 19:4-5 Ja '40
Roof over the heads of 150 buses; North Shore bus co. il Bus Transportation 19: 368-9 Ag '40

Information service

Bus information, please! how Public Service Coordinated Transport handles telephone inquiries; free calls from pole boxes a recent innovation. il Transit J 83:486-7+ D '39
Johnny on the spot with the right answers! how Pacific electric railway co. tackles the information job. il Bus Transportation 19: 135-6 Mr '40
Speeding up information service. J. E. Muratet; H. B. Showman. Bus Transportation 18: 569 N '39

Inspection

Bus inspection standardized; Union street railway of New Bedford, Mass. Transit J 84:282 Ag '40

Laws and regulations

Greyhound can't acquire Peninsula; Eastman dissent discusses monopoly and competition in transportation. Ry Age 109:85+ Jl 13 '40
ICC exempts suburban buses from regulations affecting driver's log. Bus Transportation 19:471 S '40
Motor carrier regulation. J. G. Scott. bibliog Pub Util 26:632-8 O 24 '40
Passing of buses on the road; regulations in various cities; tabulation. Transit J 84:100-1 Mr '40
State fees and requirements on interstate charter trips. Bus Transportation 19:137-8 Mr '40
Taxes and the bus industry. E. Eckland. il Bus Transportation 19:7-8 Ja '40
Transportation act of 1940 contains provisions affecting motor carriers. Bus Transportation 19:524-5 O '40
Troubles of the bus man; improvement in lessening of ports of entry and of antagonistic laws. H. Corey. Pub Util 26:387-95 S 26 '40

Maintenance and repair

Bus transportation 1940 awards for efficient maintenance; list. il Bus Transportation 19:482 O '40
Howjadoits. E. F. Theisinger. Published in monthly numbers of Bus transportation
Maintenance notebook. Published in monthly numbers of Transit journal
Milwaukee wins maintenance plaque; other winners. il Transit J 84:392-3 O '40
Pinning down bus performance in Fort Worth. E. E. Stewart. il Bus Transportation 19:328-30 Jl '40
Servicing the Delco-Remy model 5620 five-unit regulator. W. H. Crouse. diags Bus Transportation 19:190-1 Ap '40
Spark plugs; testing methods developed by San Antonio public service. il diags Bus Transportation 19:266-8 Je '40
Systematic check-up on overhauls. Transit J 83:451 N '39
Telling their side; how winners of the 1939 maintenance award told the news. E. F. Theisinger. il Bus Transportation 18:604-5 D '39
Trouble shooting the air conditioning system. F. O. Jordan. il diags Bus Transportation 19:210-12, 269-71, 321-3, 372-4, 504-5 My-Ag, O '40
Way down yonder in New Orleans. E. F. Theisinger. il Bus Transportation 19:256-60 Je '40
Winners in 1939 Transit Journal maintenance contest; Portland traction company, Montreal tramways, and Baltimore transit company. il Transit J 83:472-83, 504 D '39
Winners of 1939 Bus Transportation maintenance awards; with cost data. il Bus Transportation 18:542-56, 574-7 N '39

See also
Motor bus lines—
Shops
Motor buses—Repair

Management

Bringing business to the ticket window. B. Welbourne, ed. Published in monthly numbers of Bus transportation
Constructive merchandising, Denver terminal of the National trailways. L. S. Flint. il Bus Transportation 19:334-7 Jl '40
Fare box; sales promotion for local carriers. Published in monthly numbers of Bus Transportation
Fire hose bridges for road vehicles; company practice. Transit J 84:251 Jl '40
Fundamentals of net revenue. E. A. Bagby. Bus Transportation 18:438-40, 507-8, 561-2, 601-2; 19:75-6 S-D '39, F '40
Green light for Burlington! B. Welbourne. il Bus Transportation 19:110-12 Mr '40

MOTOR bus lines—Management—*Continued*
How Harrisburg did it; result of a seven-year modernization program. il Transit J 84:116-19 Ap '40
How mass transportation is handled in Washington, D.C. il Mass Transportation 36:55-60 Mr '40
Modern approach to an old problem; modernization of equipment, clean-up and dress-up, simplification of rules. il Bus Transportation 19:434-6 S '40
Modern equipment helps meet emergency conditions; Indianapolis railways. C. W. Chase. il Transit J 84:314-16 S '40
Reduction of waste; practices of various transit companies. Transit J 84:57, 59 F '40
Selling more rides in Buffalo and Niagara Falls; operating 436 buses and 262 street cars. B. J. Yungbluth. il Transit J 84:86-8 Mr '40
Short haulers, their place in the sales-promotion picture. E. A. Keenan. il Bus Transportation 19:128-5 Mr '40
Street supervision; Cincinnati street railway. H. L. Swift. il Bus Transportation 19:430-3 S '40

Mileage

Bus route changes in 1939; tabulation. Transit J 84:18 Ja '40
Route-mile records; reasons for not duplicating route-miles of bus lines; tabulated data. Transit J 83:460-1 N '39

Passengers

More riding and revenue, 1939. Transit J 84:2-3 Ja '40
See also Motor bus lines—Traffic

Public relations

Can transit rides be merchandised? G. Gifford. il Transit J 84:158-9 My '40
Don't overlook those kids. J. G. McDaniel. Bus Transportation 18:611-12 D '39
Employees of the City transit co. compete for prizes in Fill that empty seat contest. il Bus Transportation 19:222-3 My '40
From the customer's viewpoint. L. Wingerter. il Bus Transportation 18.614-16 D '39
Public opinion polls in Harrisburg and Trenton. H. D. Read. il Transit J 84:387-8 O '40
Selling transportation direct; house-to-house canvasses by attractive representatives of the National City lines. il Transit J 84: 277-8 Ag '40
Transit industry takes a Gallup poll of its customers. H. D. Read. Pub Util 26:593-4 O 24 '40
What makes people buy, and how can you make 'em like it? H. Goldstein. il Bus Transportation 19:12-13 Ja '40
See also
Motor bus lines—Service

Purchasing

Tire purchase methods of various companies. Transit J 84:40 Ja '40
Transit supplies may require definite planning. R. S. McBride. il Transit J 84:312-13 S '40

Radio telephone

Street supervision; Cincinnati street railway. H. L. Swift. il (p431) Bus Transportation 19:433 S '40
See also
Motor buses—Radio equipment

Railroad alliance

Fundamentals of net revenue; monopoly and competition; rail controlled bus competition. E. A. Bagby. Bus Transportation 18:601-2 D '39

Railroad operation

Bus subsidiary expands operations; West Virginia transportation company, owned by Baltimore & Ohio. Ry Age 107:972-3 D 23 '39
Coordination of rail and highway service. H. C. Murphy. W Soc E J 44:241-4 O '39
Fundamentals of net revenue; monopoly and competition; rail controlled bus competition. E. A. Bagby. Bus Transportation 18: 601-2 D '39
New C.N.R. bus route in the Rockies. il map Ry Age 109:445-6 S 28 '40
Sante Fe bus lines may enlarge; I.C.C. permits rounding out of routes to aid competition with Greyhound. Ry Age 108:467-8 Mr 9 '40

Records

Daily delay reports; methods of various companies. Transit J 84:210-12, 278-9 Je, Ag '40
Pinning down bus performance in Fort Worth. E. E. Stewart. il Bus Transportation 19:328-30 Jl '40
Service delays; how do you keep track of them? il Bus Transportation 19:520-1 O '40
Ticket control as Blueway does it. D. T. Bisesti. Bus Transportation 18:612-13 D '39

Safety devices and measures

Brady medals awarded for transit safety. il Nat Safety N 40:51 D '39
Bus transportation 1940 awards for safety; list. il Bus Transportation 19:483 O '40
Hands on the wheel; advice to drivers. J. W. Blood. il Bus Transportation 19:70-1 F '40
Indianapolis, Dubuque win Brady safety medals. il Transit J 83:439-41 N '39
Safest year in history; Philadelphia transportation company, H. W. Whitcomb. il Transit J 84:152-4 My '40
Safety is for sale; Southeastern Greyhound safety program. N. L. Young. il Bus Transportation 19:424-6 S '40
Safety on the highways; ICC revision of regulations. Ry Age 108:223 Ja 27 '40
Static electricity; accumulation on buses; experiences of various companies; tabulation. Transit J 84:101-2 Mr '40
Truck and bus safety; work of Interstate commerce commission. H. H. Kelly. Safety Eng 79:27-8 F '40
See also
Motor bus drivers

Schedules

Service delays; how do you keep track of them? il Bus Transportation 19:520-1 O '40

Service

Farewell to hot nights; cool-off rides to encourage off-peak riding during hot summer evenings. il Bus Transportation 19:289 Je '40
Ringing in a new market; de luxe, limited service buses which Southeastern Greyhound is operating from Cincinnati to Jacksonville, Fla. B. Welbourne. il Bus Transportation 19:126-8 Mr '40
Shoppers' special hits new high; Atlanta, Ga. il map Transit J 84:52-3 F '40
Ski biz bolsters winter slack; Washington motor coach co. J. W. Abbott. il Bus Transportation 19:79-80 F '40
Tour and information staff of the Dixie bus center, New York. B. Welbourne, ed. il Bus Transportation 19:77-8 F '40

Shops

Boston gears up for production; new machine shop at Everett. il plan Transit J 83:484-5 D '39
Daily routine, Massachusetts street railway; illustrations. Transit J 84:206-7 Je '40
Green bus line now has $300,000 plant. il Bus Transportation 19:213 My '40
How they do it at Montreal; tools and devices which simplify work of mechanics. il diag Transit J 84:203-5 Je '40
New transmission wagon and battery truck at Kenmore shops in Akron. il Mass Transportation 36:87 Ap '40
Safety rear-engine hoist; Cincinnati street railway shop. il Mass Transportation 36:88 Ap '40
Superservice center, North Coast lines, Seattle. J. W. Abbott. il plan Bus Transportation 19:326-7 Jl '40
Systematizing degreasing at Toronto repair shop. il Mass Transportation 36:109-10 My '40

MOTOR bus lines—*Continued*

Show windows

Denver union bus depot gets first monthly award. il Bus Transportation 19:178 Ap '40
Last round-up; four displays are chosen for monthly awards. il Bus Transportation 19: 384-5 Ag '40
License tags tell this travel story; Penn-Greyhound terminal, New York wins second window display award. il Bus Transportation 19:221 My '40
Local company wins July award; Schuylkill Valley lines, Norristown, Pa. il Bus Transportation 19:338 Jl '40
Schuylkill Valley lines, inc. wins award for the best window display of the year. il Bus Transportation 19:437-9 S '40

Statistics

Bus business spotty; first six months of 1940. C. W. Stocks. Bus Transportation 19:443-6 S '40
Business is ahead of last year. C. W. Stocks. Bus Transportation 18:607-10 D '39
Census of service; tabulation. Bus Transportation 19:50 Ja '40
How big is the bus industry? C. W. Stocks. Bus Transportation 19:46-8 Ja '40
1939, the best year we've ever had. C. W. Stocks. Bus Transportation 19:130-4 Mr '40
Ownership census; tabulation. Bus Transportation 19:52 Ja '40
School bus census as of Dec. 31, 1939; tabulation. Bus Transportation 19:51 Ja '40
Transit industry statistics; revenues, expenditures, rolling stock, traffic, mileage, etc. il map Transit J 84:1-21 Ja '40

Stores systems

Stockroom; first line of defense against delays. E. L. Baker. il Bus Transportation 19:501-3 O '40
Storeroom practice helps inspectors; San Antonio public service company. Transit J 84:29 Ja '40

Street railroad operation

Transport in Milwaukee coordinated. il Mass Transportation 36:3-8 Ja '40

Taxation

Taxes and the bus industry. E. Eckland. il Bus Transportation 19:7-8 Ja '40

Telephone

When opportunity rings; telephoning information. il Bus Transportation 19:175-7 Ap '40

Terminals

Burlington's new terminal. il Bus Transportation 18:567 N '39
Constructive merchandising, Denver terminal of the National trailways. L. S. Flint. il Bus Transportation 19:334-7 Jl '40
Speak plainer please; bus terminals inadequate public address systems. J. G. McDaniel. Bus Transportation 19:382-3 Ag '40
Super terminal; Greyhound open $1,000,000 Grand central in Washington. il Bus Transportation 19:166-8 Ap '40
Union bus station for Dayton. il Mass Transportation 36:60 Mr '40

Ticket agents

Don't overlook those kids. J. G. McDaniel. Bus Transportation 18:611-12 D '39
Examples of how a deft answer turneth away sales resistance. P. Woods. Bus Transportation 18:568 N '39
What makes people buy, and how can you make 'em like it? H. Goldstein. il Bus Transportation 19:12-13 Ja '40

Tickets

Settlement for tickets and passes issued operators for sale on the vehicles; methods of various companies. Transit J 84:210-12, 279 Je, Ag '40
Ticket control as Blueway does it. D. T. Biesti. Bus Transportation 18:612-13 D '39

Time tables

Johnny on the spot with the right answers! how Pacific electric railway co. tackles the information job. il Bus Transportation 19: 135-6 Mr '40
Solving a time-table problem; Gray coach lines of Toronto. Bus Transportation 18:569-70 N '39

Traffic

Reducing peaks through staggered hours of business and industry. J. A. Beeler. il Transit J 84:309-11 S '40

Valuation

Fundamentals of net revenue. E. A. Bagby. Bus Transportation 19:75-6 F '40

Winter operation

E-Z-ON tire chain. J. J. Curley. il Bus Transportation 19:82 F '40
Philadelphia's valentine; handling transit after blizzard. il Transit J 84:92-3 Mr '40

Atlanta, Georgia

Shoppers' special hits new high. il map Transit J 84:52-3 F '40

Canada

Eyes on Canada! what the western Canadian bus business has to offer tourists. B. Welbourne. il Bus Transportation 19:414-18 S '40

Chicago

Everybody's pleased; Chicago motor coach company first year's results with Diesel-hydraulics. il Transit J 84:198-9 Je '40
Motor coach way; bus operation, New York and Chicago make $2,937,000. il maps Fortune 22:61-7+ Jl '40

Denver

Constructive merchandising, Denver terminal of the National trailways. L. S. Flint. il Bus Transportation 19:334-7 Jl '40

Great Britain

Bombs over England; buses keep rolling. P. I. Smith. il Bus Transportation 19:422-3 S '40
British transit carries on. il Transit J 83: 436-8 N '39
For the duration; transit in Great Britain. W. V. Moreland. il Transit J 84:155-7 My '40
Gas—not gasoline; British transit systems are trying out producer gas and illuminating gas for fuel. il Transit J 84:56-7 F '40
Motor transport, Great Britain. E. C. Ottaway. bibliog diags Inst Mech Eng J & Proc 142:Proc 33-68, pl 1-8 N '39; Same cond. Engineer 169:236-8, 253-4, 286-8 Mr 8-22 '40; Excerpts. Engineering 149:47-9 Ja 12 '40; Discussion. Inst Mech Eng J & Proc 142: Proc 82-3 D '39

Hannibal, Missouri

Hannibal transportation company wins Bus Transportation maintenance award; with cost data. il Bus Transportation 18:556 N '39

Manchester, New Hampshire

Manchester, N.H. goes all-bus. il Bus Transportation 19:304 Je '40

Massachusetts

Eastern Massachusetts wins Bus Transportation maintenance award; with cost data. il Bus Transportation 18:542-5, 574-6 N '39
Narrow Gage suspends; buses take over service abandoned by Boston, Revere Beach and Lynn railroad. il Bus Transportation 19:72 F '40

Mexico

South of the border down Mexico way; Bowen motor coach all-expense tour of Mexico. E. F. Theisinger. il Bus Transportation 19:162-5 Ap '40

New York (city)

Motor coach way; bus operation, New York and Chicago make $2,937,000. il maps Fortune 22:61-7+ Jl '40

MOTOR bus lines—New York (city)—*Continued*
New York city seeks to rent 250 buses. Bus Transportation 19:473 S '40
No smoking please; New York City buses obey the law. il Bus Transportation 19:364-6 Ag '40
Short-haul buses barred from New York streets. map Bus Transportation 19:408 Ag '40
Third Avenue system to go all-bus. il Transit J 84:266-8 Ag '40

New York (state)

Queens-Nassau transit lines wins Bus Transportation maintenance award; with cost data. il Bus Transportation 18:553-4 N '39

Pacific coast

They've put the go in "go West!" how Northwest carriers sell scenic attractions of their territory. J. W. Abbott. il Bus Transportation 19:120-2 Mr '40

St Louis

St Louis wins Bus Transportation maintenance award; with cost data. il Bus Transportation 18:546-9, 577 N '39

San Antonio

San Antonio wins Bus Transportation maintenance award; with cost data. il Bus Transportation 18:550-2 N '39

Seattle

40 year public prayer granted; Seattle to get revision of transit service. J. W. Abbott. il Bus Transportation 18:599-600 D '39

Southern states

In the winter we go South; 5,000-mile ride through the South and Southwest. E. F. Theisinger. il Bus Transportation 19:114-19 Mr '40

United States

Highlights of 1939. il Bus Transportation 19:55-7 Ja '40
How big is the bus industry? C. W. Stocks. Bus Transportation 19:46-8 Ja '40
How city folks ride in 1,000 American communities. il Bus Transportation 19:53-4 Ja '40
Troubles of the bus man; improvement in lessening of ports of entry and of antagonistic laws. H. Corey. Pub Util 26:387-95 S 26 '40

Washington, D.C.

Super terminal; Greyhound opens $1,000,000 Grand central in Washington. il Bus Transportation 19:166-8 Ap '40

Windsor, Ontario

Windsor, Canada's biggest all-bus city. il Bus Transportation 19:74 F '40

MOTOR bus lines, School
Minimum standards for school buses developed and approved by representatives of the forty-eight state education departments in conference, April 10-16, 1939, Teachers college, Columbia university. 42p pa 50c International textbook co, Scranton, Pa. '39
Pupil transportation in the United States. M. C. S. Noble, jr. 541p $3.50 International textbook co, Scranton, Pa. '40
School bus census as of Dec. 31, 1939; tabulation. Bus Transportation 19:51 Ja '40

MOTOR bus lines, Shoppers'
Park-N-Shop; St Louis public garage operates private buses as a profitable adjunct to its parking business; retail trade cooperation. H. Barman. il Bus Transportation 19:378-9 Ag '40

MOTOR bus lines, Tourist
Buses to scenic spots; tours for rail travelers. il Ry Age 108:752-6 Ap 27 '40
New C.N.R. bus route in the Rockies. il map Ry Age 109:445-6 S 28 '40
South of the border down Mexico way; Bowen motor coach all-expense tour of Mexico. E. F. Theisinger. il Bus Transportation 19:162-5 Ap '40
They've put the go in "go West!" how Northwest carriers sell scenic attractions of their territory. J. W. Abbott. il Bus Transportation 19:120-2 Mr '40

MOTOR bus lines in war
Bombs over England; buses keep rolling. P. I. Smith. il Bus Transportation 19:422-3 S '40

MOTOR buses
Aerocoach. il Bus Transportation 19:236 My '40
ACF 25-passenger intercity bus. il Bus Transportation 18:606 D '39
18 months' service operation; Twin coach company's super-twin. il Transit J 84:174 My '40
Exhibit of modern equipment; pictorial review. Transit J 84:318-25 S '40
Falcon 36. il Bus Transportation 19:352 Jl '40
FitzJohn Falcon Jr. il Bus Transportation 19:73 F '40
Ford model 09B twenty-seven passenger transit bus. il Bus Transportation 18:560 N '39
Introducing the Luxury liner. J. W. Abbott. il Bus Transportation 18:566 N '39
Look at all four, then take your pick; 1940 Yellow coaches. il Bus Transportation 19:214-16 My '40
Modernization of a transit system; factors that determine the choice of vehicle. G. L. Hoard. bibliog Elec Eng 59:Trans 292-303 My '40; Excerpts. il Mass Transportation 35:333-8 N '39; Discussion. Elec Eng 59:Trans 303-5 My '40
Motor coach way; bus operation, New York and Chicago make $2,937,000. il maps Fortune 22:61-7+ Jl '40
Motor transport, Great Britain. E. C. Ottaway. bibliog diags Inst Mech Eng J & Proc 142:Proc 33-68, pl 1-8 N '39; Same cond. Engineer 169:236-8, 253-4, 286-8 Mr 8-22 '40; Excerpts. Engineering 149:47-9 Ja 12 '40; Discussion. Inst Mech Eng J & Proc 142:Proc 82-3 D '39
Next 35 years. D. Beecroft. S A E J 47:sup37-8 Jl '40
1940 buses; illustrations. Bus Transportation 19:448-65 S '40
Now is the time to buy equipment. R. E. Elgen. Transit J 83:442-3 N '39
Progress and trends in 1939 in mass transportation. il Mass Transportation 36:15-16, 25+ Ja '40
Styled for '40; Beck's new intercity luxury liner. il Bus Transportation 19:10 Ja '40
Truck, bus and rail car and transportation and maintenance sessions; SAE summer meeting; abstracts and discussions. S A E J 47: sup57-60 Jl '40
Les véhicules de transports en commun de l'agglomération bruxelloise. il Génie Civil 115:374-5 N 18 '39

See also
Motor bus lines
Trolley buses

Air conditioning

Air-conditioned buses; Missouri Pacific Trailways' fleet. G. A. Erickson. Mass Transportation 36:175 Ag '40
Next 35 years. D. Beecroft. S A E J 47:sup38-9 Jl '40
Trouble shooting the air conditioning system. F. O. Jordan. il diags Bus Transportation 19:210-12, 269-71, 321-3, 372-4, 504-5 My-Ag, O '40

Announcements

Loud speakers on vehicles; experiences of various transit companies. Transit J 83: 489 D '39

Axles

Axle shaft oil seal. R. E. Boylan. diags Transit J 84:396 O '40
1940 bus rear axle specifications; tabulation. Bus Transportation 19:64 Ja '40
Replacing rear axle tubes. C. O. Nelson. il Transit J 83:494 D '39

Bodies

Commercial coachwork. il diag Automobile Eng 29:469-72 D '39

MOTOR buses—Bodies—*Continued*
Increased seating capacity; double-deck bus body. il Automobile Eng 30:27-8 Ja '40
Light-weight transportation units. F. Jardine, A. H. Woollen and D. S. Mussey. il diags S A E J 45:526-34 D '39; Abstracts. Automotive Ind 80:660-2 Je 1 '39; Automobile Eng 29:267-8 Jl '39

Brakes

See Air brakes, Motor bus

Chartering

State fees and requirements on interstate charter trips. Bus Transportation 19:137-8 Mr '40

Cleaning

Air gets the dirt; discussion of vacuum cleaning applied to bus interiors. Bus Transportation 19:96-7, 139 F-Mr '40

Clutches

Reclaiming clutch pressure plates. W. E. Larkin. diag Bus Transportation 18:619-20 D '39

Color

Colour; its relation to commercial vehicle body design. H. Ketcham. Automobile Eng 39:29-30 Ja '40
Selection of color as related to truck and bus body design; abstract. H. Ketcham. S A E J 45:525 D '39

Curtains

Curtains for protection of bus or car operator against glare; practices of various companies. Transit J 84:137-8 Ap '40

Design

Building integral body and chassis; review of British buses. M. W. Bourdon. il Automotive Ind 82:278-9+ Mr 15 '40
Design decade. il plan Arch Forum 73:317 O '40
Light-weight transportation units. F. Jardine, A. H. Woollen and D. S. Mussey. il diags S A E J 45:526-34 D '39
Monocoque construction for new Yellows. il Transit J 84:166-8 My '40

Doors

Exhibit of modern equipment; door devices; pictorial review. Transit J 84:336-7 S '40

Electric equipment

Batteries; what the maintenance experts recommend. il diags Bus Transportation 18: 582-3, 626-7 N-D '39
Servicing the Delco-Remy model 5620 five-unit regulator. W. H. Crouse. diags Bus Transportation 19:190-1 Ap '40
Voltage regulation. W. A. Roberts. il diags Bus Transportation 19:296-9, 344-7, 392-5, 468-70 Je-S '40

Equipment

Exhibit of modern equipment; equipment for passenger comfort and aids for operators; pictorial review. Transit J 84:340-1 S '40
Handling gasoline; new gasoline meter for buses. il Mass Transportation 35:362 D '39

See also
Brakes, Motor bus

Heating and ventilation

Exhibit of modern equipment; pictorial review. Transit J 84:338 S '40
No hot spots, no cold spots, no drafts. J. J. Cracraft. il Bus Transportation 19:6 Ja '40
Ventilation; one of bus operator's biggest problems. il Bus Transportation 19:232-3 My '40

Laws and regulations

See also
Motor bus lines—
Laws and regulations

Lighting

Exhibit of modern equipment; pictorial review. Transit J 84:339 S '40
Headlights built as single units. il diags Transit J 83:456-7 N '39
Life of headlight bulbs; experiences of various companies. Transit J 84:176 My '40

Materials

Light-weight transportation units. F. Jardine, A. H. Woollen and D. S. Mussey. il diags S A E J 45:526-34 D '39; Abstracts. Automotive Ind 80:660-2 Je 1 '39; Automobile Eng 29:267-8 Jl '39

Noise

Quiet please; nonresonant types of drums designed to stop brake squeal on buses. il diag Bus Transportation 19:280-1 Je '40

Painting

Attractive bus painting; Connecticut company, New Haven. Transit J 84:283 Ag '40
Beauty and the brush; painting methods of Eastern Massachusetts street railway company. J. H. McManus. il Bus Transportation 19:272-4 Je '40

Radio equipment

Broadcast radios on vehicles; experience of various companies. Transit J 84:357 S '40

Repair

Clutch and gear shift tools. H. A. Spiers. diags Transit J 83:495 D '39

Seats

Exhibit of modern equipment; pictorial review. Transit J 84:330-4 S '40

Signals

Turning signals on buses; practices of various companies. Transit J 83:489-90 D '39

Signs

Route and destination signs; practices of various companies. Transit J 84:57-9 F '40

Specifications

American bus chassis; tabulation. Automotive Ind 82:204-5 Mr 1 '40
Detailed specifications of 1940 buses; tabulation. Bus Transportation 19:458-9 S '40
1940 bus rear axle specifications; tabulation. Bus Transportation 19:64 Ja '40
1940 motor bus mechanical characteristics; tabulation. Bus Transportation 19:60-1 Ja '40
1940 motor bus standard parts data; tabulation. Bus Transportation 19:58-9 Ja '40

Springs and suspensions

Springing the modern motor coach. N. E. Hendrickson. il diags Bus Transportation 19: 261-3, 331-3, 375-7 Je-Ag '40

Statistics

Bus buying near peak; with list of companies and purchases for 1939. il Transit J 84:14-18 Ja '40

Steering gear

Heavy-duty steering gear. il Transit J 83: 458 N '39

Transmission

Everybody's pleased; Chicago motor coach company first year's results with Diesel-hydraulics. il Transit J 84:198-9 Je '40
Motor transport, Great Britain. E. C. Ottaway. bibliog diags Inst Mech Eng J & Proc 142:Proc 54-8, pl 6-7 N '39; Same cond. Engineer 169:286-7 Mr 22 '40
Power transmissions for buses. G. A. Green. il diags S A E J 46:1-16; Discussion. 16-17 Ja '40

Upholstery

Exhibit of modern equipment; pictorial review. Transit J 84:330-2 S '40

Windshield wipers

Overhauling the windshield wiper; illustrated outline of the correct procedure. Bus Transportation 19:90-2 F '40

MOTOR buses, Diesel-electric
Performance test; lubricants, fuel feeding, etc.; Diesel-electric buses in New York; abstract. W. C. Cumming and C. Brettell. il diag Automotive Ind 82:382-4+ Ap 1 '40

MOTOR buses, Gasoline-electric
Exhibit of modern equipment; electric drive equipment; pictorial review. Transit J 84: 344 S '40
Power transmissions for buses. G. A. Green. diags S A E J 46:1-2 Ja '40
Relay for electric drive buses. il Gen Elec R 43:474 N '40

MOTOR caravans
Land yacht used to commute between factories. il Am Business 10:16 N '40

MOTOR carriers. See Motor bus lines; Motor trucks

MOTOR cars (railroad)
Les autorails, type Alsthom-Soulé, de la Société nationale des chemins de fer français. il diags Génie Civil 116:289-91 My 4 '40
Commuters get first air conditioned cars. il Refrig Eng 40:87-8 Ag '40
Developments in the application of the internal combustion engine to railway traction in Europe and North America; with transmission types and cost data. F. T. Barwell. il diags Inst Mech Eng J & Proc 142:11-23 Ja '40
Ganz railcars on the Argentine state railways. diags plans Engineering 149:111-12 F 2 '40
G.W.R. railcar tests. il Engineer 170:24-5 Jl 12 '40
Oil-engined rail traction in 1939. il diags plan Engineer 169:43-5, 56-9, 82-5 Ja 12-26 '40
Projet de trains automoteurs très légers et à très grandes vitesses. diags Génie Civil 115:404-6 D 2 '39
Railcar driven through hydraulic torque converter; built for commuter service on the New York, Susquehanna & Western. il diags Product Eng 11:495-7 N '40
Railcars for New Zealand. il Engineer 170: 221-2 O 4 '40
Les services d'autorails en Amérique du Sud. Génie Civil 116:157 Mr 2 '40
Susquehanna installs modern rail cars; powered by oil burning engine with hydraulic-mechanical drive. il plan Ry Age 109:135-8+ Jl 27 '40; Ry Mech Eng 114: 303-9 Ag '40

Design

Railcars for the Great western railway. il diags Engineer 169:452-4, 473-4 My 17-24 '40

Diesel-electric

Collision tests Zephyr train. diag Mech Eng 62:326-7 Ap '40
Pioneer Zephyr is repaired in record time. il diag plan Ry Age 108:397-400 Mr 2 '40
Temiskaming & Northern Ontario Diesel-powered rail train. il Ry Age 108:446-8 Mr 9 '40

MOTOR cycle engines
Book of the Villiers engine. C. Grange. 6th ed 106p 80c Pitman '39
Scooters open new automotive field. H. Chase. il diags Automotive Ind 82:66-9+ Ja 15 '40

MOTOR cycle industry and trade
Foreign trade in motorcycles. Automotive Ind 82:384 Ap 15 '40

France

Le cycle et la motocyclette. Gentil. Soc Ing Civils Mémoires 92:352-7 My '39

Great Britain

Engineering outlook; cycles and motor cycles. Engineering 149:135-7 F 9 '40

MOTOR cycles
Scooters open new automotive field. H. Chase. il diags Automotive Ind 82:66-9+ Ja 15 '40

MOTOR fuels. See Automobile engines—Fuel; Automotive fuel; Gasoline; Motor bus engines—Fuel; Motor truck engines—Fuel

MOTOR products corporation
Low price, active leverage stocks; thumbnail appraisal. Mag of Wall St 65:622 F 24 '40

MOTOR scooters. See Motor cycles

MOTOR ships
Colonel Bertram T. Clayton, army's new Diesel tug now serving in Honolulu. il Marine Eng 45:94 Mr '40
Electric couplings. M. R. Lory, L. A. Kilgore and R. A. Baudry. il diag Elec Eng 59:Trans 423-8 Ag '40
Electric couplings for marine Diesel engine drive; motorship Mormacpenn. Mach 46: 101 My '40
European passenger liner construction; Stockholm and motor ship for Rotterdam Lloyd. il Marine Eng 45:59-60 Je '40
Fahrgast-motorschiff Oranje. V D I 84:60 Ja 27 '40
Geared-Diesel Coast Guard tenders. il plans Marine Eng 45:50-3 Ap '40
Geared Diesel marine application. W. D. Leggett, jr. diags Marine Eng 44:572-5; Discussion. 592-3 D '39
Jane and Marion, Diesel tugs. il Marine Eng 45:53-5 Ja '40
Marine applications of Diesel engines. L. R. Ford. Marine Eng 45:70, 72 Ap '40
Modern tanker design. N. J. Pluymert. Marine Eng 44:577-80 D '39; Same. Engineering 149:266-7 Mr 8 '40; Discussion. Marine Eng 44:590-2 D '39
Mormacpenn. il diags plans Marine Eng 45: 62-75 Mr; 84-5+ N '40
Motorship building in Europe. il Marine Eng 45:58-60 Ap '40
Nicholas Duncan, new river towboat. il diag plan Marine Eng 45:56-9 F '40
Le paquebot à moteurs Baudouinville, de la Compagnie maritime belge. il diags plans Génie Civil 116:41-5 Ja 20 '40
Pointe-A-La-Hache, Diesel ferryboat. il Marine Eng 45:73 S '40
Sea Witch, motorship. il diags plans Marine Eng 45:50-8 S; 100-1+ N '40
Shipbuilding and marine engineering in 1939. il Engineer 169:20-1, supp 2, 46-8, 59-60 Ja 5-19 '40
South polar Diesel performance; U.S.S. Bear in the Antarctic. O. A. Sibley. il Marine Eng 45:63-5 O '40
Trawler Vagabond repowered. il diag Marine Eng 45:66+ F '40
Wm. Penn, Diesel river towboat. il Marine Eng 45:68-70 S '40

See also
Diesel engines, Marine
Gas and oil engines, Marine
Motor boats
Ship propulsion, Electric

Steamboat conversion

Menhaden fishing boat repowered with Diesel engines. il Marine Eng 45:56 O '40
Pilot boat Maryland converted to Diesel drive. il Marine Eng 45:90+ Mr '40
Tugs Columbia and Lorraine converted to Diesel drive. il Marine Eng 45:57 Ap '40
U.S.S. Bear, flagship of South polar expedition. il Marine Eng 45:56-8 Ja '40

MOTOR truck drivers
And they do it, safely; Huber & Huber motor express, inc, Louisville. H. Willing. il Safety Eng 79:28 Je '40
Appraisal and abstract of available literature on the occupation of the bus and truck driver. S. Spiegler. 12p bibliog(p11-12) pa 25c Occupational index, 80 Washington sq. E, New York '39
Courtesy on the road; common offenses. Safety Eng 80:18 S '40
Fleet safety pays! C. F. Mealey. il Safety Eng 80:17-18 Jl '40
Labor in the British road-transport industry. Monthly Labor R 50:1464-7 Je '40
Lower operating costs and fewer accidents; Marshall Field's program for truck fleet. J. K. Westerfield. il Am Business 10:22-4+ Ag '40
New rules for trucks; ICC to place all private motor carriers under same regulations as those operated for hire. Business Week p28 My 18 '40

MOTOR truck drivers—*Continued*
New York trucking strike ended by two-year pact. Comm & Fin Chr 151:2128-9 O 12 '40
Truckers are grouped under wage-hour law. Nat Pet N 32:11+ N 6 '40
Truckers get bail card; Illinois haulers find way to avoid delays. Business Week p30 Ag 24 '40
Truckmen's status set under wage law. Oil Paint & Drug Rep 138:3+ Jl 8 '40
Twelve executives answer the driver-owner question. Food Ind 12:44-5 N '40
Using the transportation department to build good will; brewer's truck drivers trained to help motorists in trouble. J. S. Labatt. il Ptr Ink Mo 41:50+ N '40
Wage-hour division rules on trucking employes; text. Nat Pet N 32:42, 44-5 Je 26 '40
Wages, hours, and working conditions of union motortruck drivers, June 1, 1939. F. S. McElroy and H. Cannon. Monthly Labor R 50:709-26 Mr '40; Same, with tabulation of union scales of hours and wages, by cities. U S Bur Labor Statistics Bul 676:1-54 '40

MOTOR truck driving
Backing-up accidents. Safety Eng 79:20 Ja '40
Sample of data obtained in study of motor-vehicle passing practices in Illinois. F. N. Barker. il Pub Roads 20:228-30 F '40

MOTOR truck engines
Automatic booster engine for trucks. il diag Sci Am 162:226 Ap '40
Caterpillar offers Diesel-type truck engine, model D 468. il Automotive Ind 82:76 Ja 15 '40
Diesel fuels and lubricants. L. C. Welch. il Nat Pet N 32:38-43 My 15 '40
Diesel powered Alfa Romeo. diag Automotive Ind 83:27+ Jl 1 '40
Diesels clinch place on highways. il Business Week p34+ S 7 '40
More power per unit gross weight. A. M. Wolf. diags S A E J 47:349-57+ S '40; Abstract. Automotive Ind 82:545-6 Je 15 '40
Motor transport, Great Britain. E. C. Ottaway. diags Inst Mech Eng J & Proc 142: Proc48-54, pl 2, 6 N '39; Same. Engineer 169: 253-4 Mr 15 '40
Truck, bus and rail car and transportation and maintenance sessions; SAE summer meeting; abstracts and discussions. S A E J 47:sup57-9 Jl '40
White lorry engine. diags Automobile Eng 30: 52 F '40

Design
Commercial vehicles; a general survey and summary of current design. il diags Automobile Eng Extra no 29:428-42 N 16 '39
Dennis big four truck engine; longitudinal and transverse sections. diags Automotive Ind 82:63-4 Ja 15 '40
Multi-fuel engine, a new internal combustion engine that can follow the fuel trends. P. C. Ritchie. Nat Pet N 31:R498-500 N 15 '39
Perkins type P.6 Diesel engine; longitudinal and transverse sections. diags Automotive Ind 81:577-8 D 1 '39
Waukesha multi-fuel engine for road transport. il diag Engineer 168:552 D 1 '39

Fuel
Brush-Koela gas producer. il diags Automobile Eng 30:53-5 F '40
Brush-Koela gas producer. il diags Engineering 149:70, 71 Ja 19 '40
Brush-Koela producer gas for transport vehicles. il diags Mech Handling 27:29-31 F '40
Fuel supplies for gas producers; official specification for transport operators by coal and carbonization industries. Gas J (Lond) 229: 236 Ja 31 '40
Gas utilization for automobile fuel. il Gas Age 84:18+ D 7 '39
History and future of butane as a motor-truck fuel; abstract. E. E. Tattersfield. S A E J 47:311 Ag '40
Improvements in the Brush-Koela gas producer. il diags Engineer 169:395 Ap 26 '40; Automobile Eng 30:147-8 My '40; Engineering 149:532 My 24 '40; Mech Eng 62:746-7 O '40
Internal-combustion engine fuels; abstract and discussion. S. H. Graf. S A E J 47:sup 13-14 S '40
Low-pressure gas; a supply system for the Greater London area. il Automobile Eng 30:190 Je '40
Low-pressure gas for motor transport. il Gas J (Lond) 228:230-1 N 1 '39
Producer fuels; official specification. Automobile Eng 30:100 Ap '40
Producer gas; government committee's report on the conversion of motor vehicles. il diags Automobile Eng 30:82-4 Mr '40
Producer gas vehicle. il diag Engineer 168: 576 D 8 '39
Sludge gas for motor fuel. Eng N 124:44 Ja 4 '40
Two hundred miles on half a pint of petrol; Gas light and coke company lorry fitted with gas producer. il Gas J (Lond) 228: 340 N 15 '39
Use of producer gas for motor transport. Gas J (Lond) 229:351, 353 F 14 '40

Lubrication
Lubricating oil for internal combustion engines; abstract and discussion. L. H. Mulit and F. W. Kavanagh. S A E J 47:sup12-13 S '40

Maintenance and repair
Automotive Diesel maintenance. W. J. Cumming. 106p $1.75 Pitman '40

Manufacture
Alloy iron cylinder blocks for truck engines; pictorial story of operations at Mack manufacturing corp. Metal Prog 36:735-43 D '39
Co-ordinated electrical control saves foundry space; correlates mold production lines with sand-conditioning towers; International harvester company's motor truck engine factory. H. W. Parthemer. il diags Elec W 113:2041-3+ Je 29 '40
Engine founding in the modern manner; International harvester co.'s motor truck plant; illustrations. Iron Age 145:40-1 F 29 '40
New foundry; International harvester co. P. Dwyer. il Foundry 68:22-7, 84+ Ja; 24-7, 84+ Mr; 34-7, 102+ Ap '40

Specifications
American stock, marine and commercial vehicle engines; tabulation. Automotive Ind 82:206-15 Mr 1 '40

MOTOR truck industry
How we meet the bugaboo of "we're satisfied, why change?" Divco salesmen sell new type of delivery truck. J. Nicol. il Sales Management 46:74-5 Je 1 '40
See also
Automobile industry and trade

Finance
International Harvester position. F. R. Walters. il Mag of Wall St 65:224-6+ D 2 '39

Statistics
New vehicle registrations; tabulated by makes of car, by manufacturing groups, 1929-1939, by months, 1929-1939, and by states, 1937-1939. Automotive Ind 82:184-6 Mr 1 '40
U.S. and world production; cars and trucks, by production value, by countries, by years, etc.; tabulations. Automotive Ind 82:180-3 Mr 1 '40

Great Britain
Leyland Motor's setback; results, years to Sept. 30th, 1937-39. Economist 138:163 Ja 27 '40

MOTOR truck industry—*Continued*

United States

Trucks serve war and industry. J. C. Clifford. il Mag of Wall St 66:228-9+ Je 1 '40
Wheels for defense. R. F. Black. Harvard Business R 19 no 1:14-20 [S] '40

MOTOR truck robberies

How to end hijacking; Chicago plan. map Business Week p22+ Je 8 '40

MOTOR truck service stations

Marketer goes after truck business and gets it; 55,000 gals. a month. Nat Pet N 32:36-7 S 11 '40

MOTOR truck tires. See Tires, Motor truck

MOTOR truck trailers. See Trailers

MOTOR trucks

American road builders' association annual show, Chicago. P. M. Heldt. Automotive Ind 82:144+ F 15 '40
Diesel powered Alfa Romeo. diag Automotive Ind 83:27+ Jl 1 '40
Dodge trucks for '41. il Automotive Ind 83: 497-8 N 1 '40
Foden truck with trailing rear wheels. diags Automotive Ind 83:124 Ag 1 '40
Good on all counts, these food delivery trucks; C. D. Kenny co. wholesale grocery. il Food Ind 12:70-1 Je '40
How motor trucks may develop; abstract. D. C. Fenner and M. C. Horine. Eng N 124: 2 Ja 4 '40
Linn tractor-truck; a multi-purpose vehicle operating on wheels or caterpillar track. il diags Automobile Eng 30:239-41 Ag '40
More trucks for more uses. Business Week p45-6 N 11 '39
Motor transport, Great Britain. E. C. Ottaway. bibliog diags Inst Mech Eng J & Proc 142:Proc33-68, pl 1-8 N '39; Same cond. Engineer 169:236-8, 253-4, 286-8 Mr 8-22 '40; Excerpts. Mech Eng 61:878-80 D '39; Engineering 149:47-9 Ja 12 '40; Discussion. Inst Mech Eng J & Proc 142:Proc82-3 D '39; Mech Eng 62:477-8 Je '40
Next 35 years. D. Beecroft. S A E J 47: sup39-40 Jl '40
Quarry haulage problems; abstract. S. Tomkins. Rock Prod 43:50 F '40
Reason United parcel service builds own trucks. R. M. Werner. S A E J 45:sup26 D '39
SAE national transportation and maintenance meeting and public utility fleet supervisors conference, Pittsburgh, March 28-29. S A E J 46:sup11-16 My '40
SAE West coast transportation and maintenance meeting, Seattle, Aug. 16-17. S A E J 47:sup11-16 S '40
Truck, bus and rail car and transportation and maintenance sessions; SAE summer meeting; abstracts and discussions. S A E J 47:sup57-60 Jl '40
Trucks replace freight cars in shipment of perishable product; fresh fish distribution. il Food Ind 12:64-5 My '40
Twin front axle six-wheeled vehicles. il Engineer 170:48 Jl 19 '40
Two-engined truck; Thorco gasoline four-wheel-drive truck uses 98% Ford parts. il Business Week p28+ S 14 '40
White extends line of Super powered trucks. il Automotive Ind 83:494-6 N 1 '40

See also

Advertising mediums —Motor trucks
Automobiles
Delivery of goods
Electric trucks
Exhibits, Traveling
Motor truck drivers
Motor truck engines
Motor truck industry
Motor trucks and roads
Motor trucks in freight service
Motor vehicles—Track-layer type
Refrigeration on cars, trucks, etc.
Tank trucks
Tractors
Trailers

Accidents

642 killed in 1938 motor carrier accidents. Ry Age 108:231 Ja 27 '40
Small fleet safety. A. W. Meinke. Safety Eng 79:22-6 Ja '40

Accounting

Accounting for government-owned motor equipment. 60p pa 50c Municipal finance officers assn, 1313 E. 60th st, Chicago '40

Axles

Truck axle parts; heat-treating procedure. F. B. Jacobs. il Steel 107:114+ O 14 '40

Bodies

Attractive trucks build business; George E. Drake baking company, Pittsburgh. il diags Food Ind 11:682-3 D '39
Body design gives added torsional rigidity; welded construction. H. C. Frentzel. il diags Automotive Ind 83:108-9 Ag 1 '40
Dual purpose truck simplifies distribution; brewery body carries cases and kegs. il Food Ind 12:68-9 O '40
Emergency truck bodies; companies' experiences with open and closed types; with tabulated data. Transit J 83:459-61 N '39
Light-weight transportation units. F. Jardine, A. H. Woollen and D. S. Mussey. il diags S A E J 45:526-34 D '39; Abstracts. Automotive Ind 80:660-2 Je 1 '39; Automobile Eng 29:267-8 Jl '39
Motor Terminals extends rail-highway service; ties in with Fruit growers express; demountable truck bodies transferred to cars. il Ry Age 108:375-7 F 24 '40
Motor Terminals shows rail-highway equipment; remountable truck body as container for rail shipments. il Ry Age 107:973-4 D 23 '39
New structural system; Lindsay structure employing sheet steel as strain-bearing structural member. il diags Steel 106:50, 52+ Mr 4 '40

Chassis

Weight saving; the application of aluminium alloys to commercial chassis. il diags Automobile Eng 30:61-2 F '40

Cleaning

Shower baths for motor cars; multiple-nozzle washer uses compressed air and water. A. S. Park. il Comp Air M 44:6036-9 D '39

Color

Colour; its relation to commercial vehicle body design. H. Ketcham. Automobile Eng 39:29-30 Ja '40
Selection of color as related to truck and bus body design; abstract. H. Ketcham. S A E J 45:525 D '39

Cost of operation

Open-pit transport on the Mesabi range. L. C. Moore. il diag map Eng & Min J 141: 40-2 Ja '40
Trucking cost indices. Management R 29:113-14 Mr '40

Design

Body design gives added torsional rigidity; welded construction. H. C. Frentzel. il diags Automotive Ind 83:108-9 Ag 1 '40
Commercial vehicles; a general survey and summary of current design. il diags Automobile Eng Extra no 29:428-42 N 16 '39
Truck grade ability and performance based on work and power factors. A. C. Rasmussen. diag Product Eng 11:357-8 Ag '40
Two-engine truck; abstract. A. M. Wolf. diags Mech Eng 62:687 S '40

Equipment

Flexible control of push-pull type for cab-over-engine vehicles. diag Automotive Ind 82:331 Ap 1 '40

See also

Brakes, Motor truck
Tires, Motor truck

Gearing

Hypoid-lubricant requirements for passenger-car and truck rear axles. H. R. Wolf. bibliog il Am Pet Inst Proc 20(3):16-22 '39; Same. Oil & Gas J 38:162+ N 17 '39; Same cond. Nat Pet N 31:32-4, 36-7 N 15 '39; Discussion. Am Pet Inst Proc 20(3):22-4 '39

MOTOR trucks—Gearing—*Continued*
New power proportioning differential for FWD 6-wheel trucks. il Roads & Sts 83:77 O '40

Laws and regulations

All truck employees I.C.C.'s worry now; court decision gives jurisdiction. Ry Age 107:897+ D 9 '39
Federal court upholds legality of Motor carrier act of 1935. Comm & Fin Chr 149: 3644-5 D 9 '39
How big are trucks? trend is toward stricter limits and more uniformity in state rules. Business Week p26 D 2 '39
How trucks are regulated. C. B. Aitchison. Ry Age 107:827-8 N 25 '39
Illinois truckers act; with table of provisions. Nat Underw 43:19+ N 2 '39
I.C.C. denied power over non-operating employees. Ry Age 108:990 Je 1 '40
I.C.C. fixes motor-act status of express agency. Ry Age 108:137-8 Ja 13 '40
ICC modifies safety rules going into effect, Oct. 15. Nat Pet N 32:23 O 9 '40
I.C.C. promulgates rules for private truckers. Ry Age 108:834-5 My 11 '40
I.C.C. safety rules apply to all interstate carriers on Aug. 1. Ins Field (Fire ed) 69:14 Je 13 '40
More regulation in offing for oil's tank trucks. Nat Pet N 31:88-90 D 13 '39
Motor carrier regulation. J. G. Scott. bibliog Pub Util 26:632-8 O 24 '40
Motor carrier regulations applied to private trucks. Oil Paint & Drug Rep 137:3+ My 13 '40
New laws for old; private carriers subject to safety regulations. L. F. Maar. il Safety Eng 79:31-2 Je '40
New rules for trucks; ICC to place all private motor carriers under same regulations as those operated for hire. Business Week p28 My 18 '40
Pennsylvania trucking law upheld by Supreme court; act forbidding transport of cars on truck-trailer convoy racks over cabs. Automotive Ind 82:429 My 1 '40
Pipe-stringing a part of highway transportation service. Ry Age 108:1196 Je 29 '40
Private carriers go under ICC jurisdiction on Aug. 1. Automotive Ind 82:526 Je 1 '40
Private truck safety; new regulations put 3 500,000 trucks under jurisdiction of ICC. Business Week p24 O 12 '40
Private trucks do no damage? argument on proposed report involving hours of service and safety regulations for private trucks. Ry Age 107:858+ D 2 '39
Problems of truck transportation. T. V. Rodgers. Am Pet Inst Proc 20(AT):48-50 '39
Road transport and the national economy. D. E. Brisbine. Am Pet Inst Proc 20(1): 45-52 '39
Safety rules applied to private truckers. Nat Pet N 32:9+ My 15 '40
Truckers' dilemma; small operators unable to get insurance required by new Illinois law. Business Week p23 Mr 16 '40
Trucking rules issued for dangerous articles by I.C.C. Oil Paint & Drug Rep 137:3+ Ap 22 '40
Wage-hour division rules on trucking employes; text. Nat Pet N 32:42, 44-5 Je 26 '40

Lubrication

Hypoid-lubricant requirements for passenger-car and truck rear axles. H. R. Wolf. bibliog il Am Pet Inst Proc 20(3):16-22 '39; Same. Oil & Gas J 38:162+ N 17 '39; Same cond. Nat Pet N 31:32-4, 36-7 N 15 '39; Discussion. Am Pet Inst Proc 20(3):22-4 '39
Hypoid lubricants for truck axles. E. W. Upham. Automotive Ind 82:74-5 Ja 15 '40
Need for two hypoid lubes; abstract. C. M. Larson. Nat Pet N 32:R77 Mr 6 '40

Maintenance and repair

Cuts oven-to-table time with fast, light trucks; house-to-house baker also has effective preventive-maintenance system. il Food Ind 12:58-9 N '40
Fleet operation round-table. Nat Pet N 32:15-16 Je 19 '40
SAE national transportation and maintenance meeting, St Louis, Oct. 26-27. S A E J 45:sup 11-13 D '39
SAE 35th annual meeting; transportation and maintenance sessions. S A E J 46:sup45-6 F '40

Management

Automobile fleet, 12 million miles a year; Lone Star gas system. F. Richardson. il Gas Age 86:58-9 N 7 '40
Axle weight tickets speed truck deliveries; Sheffield (Ill.) shale products co. il Brick & Clay Rec 96:40 Je '40
For best operation of motor vehicle fleets; cost charts. R. Whitfield. Elec W 113:1910 Je 15 '40
Keeping trucks running 24 hours a day; Standard oil co. il Nat Pet N 32:32, 34, 36 Mr 20 '40
Some economic aspects of utility fleets; abstracts. R. Whitfield. S A E J 46:sup14 My '40; Power Pl Eng 44:59-60 S '40; Discussion. S A E J 46:sup14 My '40
Three-step program cut bulk hauling and delivery costs. il Nat Pet N 31:71-2+ D 13 '39
Twelve executives answer the driver-owner question. Food Ind 12:44-5 N '40

See also
Delivery of goods

Manufacture

Army vehicle manufacture. il Engineer 168: 613-14, 642 D 22-29 '39
Manufacture of motor vehicles for war service. il Engineering 148:696-7 D 22 '39
Mechanical handling in army truck production. il Mech Handling 27:3-6 Ja '40
Nothing but welding used by International Harvester in fabrication of truck cabs. W. A. Salzmann. il Am Mach 84:579-81 Ag 7 '40
Strain-bearing panel system; Permagrip fastening method of making stressed-skin structures applicable to auto, truck and railroad car bodies, etc. E. Schaefer. diags Steel 106:52, 54+ F 26 '40

Materials

Light-weight transportation units. F. Jardine, A. H. Woollen and D. S. Mussey. il diags S A E J 45:526-34 D '39; Abstracts. Automotive Ind 80:660-2 Je 1 '39; Automobile Eng 29:267-8 Jl '39
Weight saving; the application of aluminium alloys to commercial chassis. il diags Automobile Eng 30:61-2 F '40

Painting

Panorama-painted trucks increase food sales; Stokely brothers & co., Indianapolis. il Food Ind 12:70-1 Ap '40

Performance

More power per unit gross weight. A. M. Wolf. diags S A E J 47:349-57+ S '40
New ability rating for trucks recommended by SAE. il S A E J 46:sup 11-15 Ja '40
Some economics of motor truck performance. F. O. White. Pulp & Pa of Can 41:511-12 Jl '40
Truck grade ability and performance based on work and power factors. A. C. Rasmussen. diag Product Eng 11:357-8 Ag '40
Truck performance study of the public roads administration. J. T. Thompson. S A E J 46:185-90+ My '40

Radio equipment

Dallas now believed to have had earliest radio directed sewer service. il Water Works & Sewerage 87:298 Jl '40
U.S. Coast guard emergency truck. il Electronics 13:31 O '40

Rating

New ability rating for trucks recommended by SAE. il S A E J 46:sup11-15 Ja '40

Records

Fact book checks on trucking cost. Nat Pet N 32:36-7 S 18 '40

MOTOR trucks—*Continued*

Safety devices and measures

Fleet safety pays! C. F. Mealey. il Safety Eng 80:17-18 Jl '40
Lower operating costs and fewer accidents; Marshall Field's program for truck fleet. J. K. Westerfield. il Am Business 10:22-4+ Ag '40
Safety on the highways; ICC revision of regulations. Ry Age 108:223 Ja 27 '40
Truck and bus safety; work of Interstate commerce commission. H. H. Kelly. Safety Eng 79:27-8 F '40

Size

How big are trucks? trend is toward stricter limits and more uniformity in state rules. Business Week p26 D 2 '39

Specifications

1940 truck specifications; tabulation. Automotive Ind 82:195-202 Mr 1 '40

Speed

Sample of data obtained in study of motor-vehicle passing practices in Illinois. F. N. Barker. il Pub Roads 20:228-30 F '40

Statistics

Leading truck fleets of 1000 or more trucks; tabulation. Automotive Ind 82:202 Mr 1 '40
Motor truck facts. 1940 ed 48p Automobile manufacturers assn, New center bldg, Detroit '40
Statistical issue. Roads & Sts 83:33-78 Jl '40

Taxation

Highway barriers and the need for cooperation in their removal. C. H. Gray. Am Pet Inst Proc 20(AT):45-7 '39

Testing

Truck performance study of the public roads administration. J. T. Thompson. S A E J 46:185-90+ My '40

Transmission

Brown-Lipe five-speed transmission for motor trucks; longitudinal and rear sections. diags Automotive Ind 83:267-8 S 15 '40
Commercial-vehicle gear boxes; abstract. C. D. Peterson. S A E J 47:sup69 Jl '40
Foden four-speed transmission with super-low (fifth) speed. diag Automotive Ind 83: 123 Ag 1 '40
Four Wheel Drive transmission designed for heavy duty service. il diags Automotive Ind 81:640 D 15 '39; Can Eng 77:18-19 N 21 '39
Motor transport, Great Britain. E. C. Ottaway. diag Inst Mech Eng J & Proc 142: Proc 54-8, pl 6-7 N '39; Same cond. Engineer 169:286-7 Mr 22 '40

Weight

First reports in truck size and weight study. Ry Age 109:337 S 7 '40
More power per unit gross weight. A. M. Wolf. diags S A E J 47:349-57+ S '40; Abstract. Automotive Ind 82:545-6 Je 15 '40

Wheels

Differential dual wheels. il diag Automobile Eng 30:14 Ja '40

MOTOR trucks, Industrial

Baker-Raulang industrial trucks. il(p163) Automotive Ind 82:176 F 15 '40
Costs cut 40 per cent; handling steel axle housings. il Steel 106:64+ F 19 '40
Handling built-to-order; R. G. Le Tourneau. W. J. Brooking. il Steel 107:52-3, 79 Jl 8; 48, 50+ Jl 15 '40
Increase brick storage space 25% without additional building; Buffalo brick corp. il Brick & Clay Rec 97:14 Ag '40
Materials handling; developments in 1939. il Steel 106:203+ Ja 1 '40
Stamping plant; power truck increases production; Strong mfg. co. W. U. Pfaeffli. il Steel 105:54, 56+ D 18 '39
Study of the handling and stockpiling of concrete masonry units in the plant and the yard; abstract. E. W. Clark. Rock Prod 43: 72 Mr '40
Towmotor carloader for freight service; gas powered hydraulic lift truck. il Marine Eng 45:77 My '40
Towmotor lift-grip feature handles large bulky loads. il Marine Eng 45:63 Ap '40
Towmotor lift truck with short wheelbase. il Ry Age 108:521 Mr 16 '40
What's new in material handling apparatus. F. J. Oliver. il Iron Age 145:48-9, 51 F 8 '40

See also
Electric trucks, Industrial

Manufacture

Industrial trucks; units are arc welded from sheared, flame cut or sawed steel plate; Yale & Towne plant. F. Stewart. il Steel 106:76, 79 My 13 '40
Nickel-chromium-molybdenum steel shafts used on industrial trucks. Mach 46:139 Mr '40

Tiering trucks

Breaking the bottleneck in brick handling with the industrial lift truck. il Brick & Clay Rec 97:15-16 Jl '40

MOTOR trucks, Military

Army vehicle manufacture. il Engineer 168: 613-14, 642 D 22-29 '39
Army vehicle supplies. J. S. Crawford. Engineer 168:589-90 D 15 '39; Same cond. Engineering 148:672 D 15 '39
Highway bridges under wartime loads. G. S. Paxson. il Eng N 124:98-100 Ja 18 '40
Loads and roads for war and peace. L. S. Tuttle. il Eng N 124:94-7 Ja 18 '40
Manufacture of motor vehicles for war service. il Engineering 148:696-7 D 22 '39
Mechanical handling in army truck production. il Mech Handling 27:3-6 Ja '40
New mobile repair shops for the army. il Steel 107:46-7 N 11 '40
Tests made on Dodge trucks for the U.S. army. il Iron Age 145:60 Ap 11 '40
Wheels for defense. R. F. Black. Harvard Business R 19 no 1:14-20 [S] '40

MOTOR trucks and bridges

Highway bridges under wartime loads. G. S. Paxson. il Eng N 124:98-100 Ja 18 '40
Post the old bridges; uniform vehicle codes and uniform existing bridge load-rating standards needed. Roads & Sts 83:56, 58+ My '40

MOTOR trucks and roads

First reports in truck size and weight study. Ry Age 109:337 S 7 '40
Ickes lashes trucks as monsters, urges week-end ban; A.T.A. replies. Nat Pet N 31: 20 N 22 '39
Loads and roads for war and peace. L. S. Tuttle. il Eng N 124:94-7 Ja 18 '40
Vermont compares railroads vs. trucks. Ry Age 108:857-8+ My 18 '40
We have been digging into our pockets to build boulevards for trucks. H. L. Ickes. Ry Age 107:823 N 25 '39

See also
Automobiles and roads
Road traffic

MOTOR trucks in construction work

Truck delivery of supplies speeds railroad construction; 30-mile line around Shasta reservoir. il Eng N 123:827 D 21 '39

MOTOR trucks in express service

Fourteen thousand trucks comprise express fleet; railway-owned express companies in the United States and Canada. il diags Ry Age 108:215-21 Ja 27 '40

MOTOR trucks in first aid service

Highway samaritans first aid and emergency service trucks; Spector motor service, inc. il Safety Eng 79:23 Je '40

MOTOR trucks in forest service

2300 forest service vehicles in California. T. C. Brown. S A E J 46:sup23-4+ Ja '40

MOTOR trucks in freight service
Big merger of eastern trucks. Ry Age 108: 952 My 25 '40
Big trucking merger. Business Week p37 Mr 23 '40
Biggest trucker; Transport co.; fourth huge highway transport merger. Business Week p26+ S 14 '40
Co-ordination on eastern shore; Pennsylvania solves delivery problems on its Delmarva division by the use of rail-highway service. map Ry Age 109:153-4 Jl 27 '40
D.L. & W. saves time and space with trucks. il Ry Age 109:446-7 S 28 '40
Distribution problem solved by common carrier trucks; provide quicker, cheaper and better seasonal service than railroad; Farmers' commission house, Eastport, N.Y. il diags Food Ind 12:68-9 F '40
For-hire carrier of bulk petroleum products and his place in the petroleum industry. C. J. Yokom and C. A. Sutherland. Am Pet Inst Proc 20(1):53-7; Discussion. 57-61 '39
Growers' truck line? Coast association talks of starting own refrigerator service to eastern produce markets. Business Week p27-8 Ja 20 '40
I.C.C. forbids stock pick-up. Ry Age 109: 47+ Jl 6 '40
Motor freight traffic; facts, fundamentals, economics. H. G. Williams. 216p $3.50 Freight traffic research inst, Hartford, Conn. '39
Motor Terminals extends rail-highway service; ties in with Fruit growers express; demountable truck bodies transferred to cars. il Ry Age 108:375-7 F 24 '40
National council of private motor truck owners, 1st annual meeting, New York, Nov. 27. Ry Age 107:859-60 D 2 '39
New rail-truck unit. Business Week p28 F 24 '40
Plane more economical than truck for winter delivery on Canadian border; Peters meat products co., St Paul, coordinated truck plane distribution. il Food Ind 12:68-9 Mr '40
Problems of truck transportation. T. V. Rodgers. Am Pet Inst Proc 20(AT):48-50 '39
Serving northern Montana; Great Northern system of co-ordinated rail and truck routes. il map Ry Age 109:595-7 O 26 '40
Texas truck routes expanded; Missouri Pacific increases fleet. il Ry Age 109:287-8 Ag 24 '40
Truck merger a fact; new organization spans Seaboard and reaches into Midwest. Business Week p44 My 25 '40
Truck trail blazed; Freightways welds six big concerns into a unified trans-U.S. highway shipping system. Business Week p20-1 Ap 20 '40
Truckers aroused; open drive against cuts in l.c.l. rail rates. Business Week p27-8 N 2 '40
Truckers get ball card; Illinois haulers find way to avoid delays. Business Week p30 Ag 24 '40
Trucks replace freight cars in shipment of perishable product; fresh fish distribution. il Food Ind 12:64-5 My '40
Turns X-ray on truck propaganda. C. S. Duncan. Ry Age 108:281+ F 10 '40
Vermont compares railroads vs. trucks. Ry Age 108:857-8+ My 18 '40
Would approve big trucking merger; applications of the Transport company of New York for authority to acquire various motor carriers. Ry Age 109:559-61 O 19 '40

See also
Freight handling—Store door delivery
Highway transportation
Railroads—Motor vehicle auxiliaries
Tank trucks

Advertising
Research uncovers facts for trucking advertising. Ptr Ink Mo 41:13 O '40

Finance
Down-to-earth facts on produce trucking. C. M. Hardin and T. K. Cowden. Ry Age 109:515 O 12 '40
Keeshin notes get I.C.C. O.K. Ry Age 108: 334-5 F 17 '40
Truck revenues may be 2 billion; interview with L. W. Horning. Ry Age 108:747-9 Ap 27 '40

Rates
Cost competition O.K. by I.C.C; decision on petroleum rates. Ry Age 109:183+ Ag 3 '40
Forwarder rates declared illegal. Ry Age 108: 980+ Je 1 '40
How end unfairly low truck rates? Ry Age 108:316 F 17 '40
ICC approved Midwest trucking rate cuts on steel products. Iron Age 145:70 F 22 '40
ICC ties truck rates to rails. Ry Age 109:341-2 S 7 '40
Is truck-rail rate equality sound? Ry Age 108:1045 Je 15 '40; Discussion. 108:1189 Je 29 '40
Motor carrier freight changes effective Aug. 26. Oil Paint & Drug Rep 138:4+ Jl 29 '40
Motor carriers given class, commodity rates. Oil Paint & Drug Rep 138:4+ S 9 '40
Paint trucking rates await I.C.C. approval. Oil Paint & Drug Rep 137:3+ Ap 15 '40
Shadow-boxing with transportation chaos. Ry Age 108:352 F 24 '40
Uncertainties in cost rate-making. Ry Age 107:811 N 25 '39
United States Supreme court sustains ICC ruling suspending tariffs of motor carriers providing lower freight rates to forwarders. Comm & Fin Chr 150:3286 My 25 '40

New Zealand
New Zealand acquisitions turn traffic railward. il Ry Age 107:974-5 D 23 '39

Russia
Urgent needs of automobile transport. For Comm W 1:212 N 2 '40

MOTOR trucks in mining
Open-pit transport on the Mesabi range. L. C. Moore. il diags map Eng & Min J 141:39-43 Ja '40
Truck haulage at the Mahnomen mine. W. H. Gallagher. il Min Cong J 25:28-30 N '39
Truck transport serves Tri-state mining. W. F. Netzeband. il Eng & Min J 141:34 Ja '40

MOTOR trucks in repair service
Alabama develops three-purpose truck. W. P. Postell. il Elec W 112:1880+ D 30 '39
Automobile fleet, 12 million miles a year; Lone Star gas system. F. Richardson. il Gas Age 86:58-9 N 7 '40
Compact high-voltage fault-locating truck. M. W. Ghen. il Elec W 113:148 Ja 13 '40
Emergency equipment materials and organization; repairing river crossings and other lines damaged by floods, etc; Industrial fuel supply company. M. L. Fort. il Gas Age 86:23-6 S 26 '40
Multi-purpose truck is ambassador of good will; equipped to furnish light, power or public-address service; Portland general electric co. W. W. R. May. il Elec W 113: 280-1+ Ja 27 '40
New mobile repair shops for the army. il Steel 107:46-7 N 11 '40
New sewer maintenance truck. E. P. Decher. il Water Works & Sewerage 87:489-91 O '40
Pacific gas and electric company case study; transportation equipment. S. B. Shaw. il Gas Age 85:44-6 F 29 '40
Substation oil purified by trailer-truck set; equipment includes filters and facilities for maintenance and repair. il Elec W 114: 1299+ N 2 '40
Taxicab plumber; supply trucks for repair service; advertising; shop management; National economy plumbers, New Orleans. il Dom Eng 155:41-3+ My '40
Test truck for high-voltage service. J. H. Merriman. il Elec W 114:272 Jl 27 '40
Trucks geared to specific utility duty. G. H. Kieburtz. il Elec W 112:1578-80+ D 2 '39
Wire stringing made easier; new line truck for installing trolley wire. J. I. Moore. il Transit J 84:60-1 F '40

MOTOR trucks in selling
Frozen food sold door-to-door; Bob White issues local franchises on a royalty basis. il Business Week p40+ Ap 13 '40
Puts 200 stores on wheels; Davis standard bread co., Los Angeles. il Food Ind 12:60-1 Ag '40
See also
Exhibits, Traveling

MOTOR trucks in the petroleum industry
Frankenstein trailer for heavy hauling. L. P. Stockman. il Oil & Gas J 38:34 Mr 7 '40

MOTOR trucks in war and army service
Wheels for defense. R. F. Black. Harvard Business R 19 no 1:14-20 [S] '40

MOTOR vehicles
Marsh buggy for use in Gulf Coast fields. H. F. Simons. il Oil & Gas J 38:71 F 22 '40
See also
Automobiles
Electric trucks
Highway transportation
Motor buses
Motor caravans
Motor cars (railroad)
Motor cycles
Motor trucks
Railroads—Motor vehicle auxiliaries
Road traffic
Tractors
Trailers
Trolley buses

Caterpillar
See Motor vehicles—Track-layer type

Inspection
Compulsory inspection; abstract and discussion. D. M. Baldwin. S A E J 46:sup14-16 My '40
Looking for trouble; standardized motor vehicle inspections. H. F. Hammond. il Safety Eng 79:43-4 Ap '40

Law
Haley on the Motor carrier act and other phases of administrative law. H. P. Haley and V. L. Haley. 155p $3 V. L. Haley, Arlington, Va. '38
Law regulating use of motor vehicles held constitutional. Monthly Labor R 51:116 Jl '40
State restrictions on motor vehicle sizes and weights. 1940 ed 120p pa $1 National highway users conference, National press bldg, Washington, D.C. '40
See also
Automobile laws and regulations
Motor bus lines—Laws and regulations
Motor trucks—Laws and regulations
Traffic regulations

Maintenance and repair
Motor workshops in South Africa. il Engineer 170:228-9 O 11 '40

Manufacture
Production pace set by quality control. J. Geschelin. il Automotive Ind 83:284-95, 366-7+ O 1 '40

Passing practices
Progress in study of motor-vehicle passing practices. O. K. Normann. diags Pub Roads 20:221-7+ F '40
Sample of data obtained in study of motor-vehicle passing practices in Illinois. F. N. Barker. il Pub Roads 20:228-30 F '40

Statistics
Automobile output in United States and Canada in December and monthly, 1937-1939. Comm & Fin Chr 150:606 Ja 27 '40 [cont monthly]
Automobile production; passenger cars and trucks, United States and Canada, monthly, 1937-1939. Steel 106:28 F 26 '40
Exports; cars, buses, trucks and accessories, 1939; tabulations. Automotive Ind 82:220 Mr 1 '40
General motors corporation sales, United States and Canadian plants, monthly, 1919-39. Survey of Cur Business 20:12 Mr '40
Marked increase in railroad and motor transportation. D. W. Ellsworth. Annalist 55:121 Ja 25 '40
More than a million new customers; motor vehicle registrations, 1939. map Nat Pet N 32:32, 34-5 My 29 '40
Motor vehicles registered, January 1, 1940, Canada; tabulation. Can Eng R & B 78: 87 Je '40
One car for every 5.5 persons listed in 95 largest cities; number of passenger cars and trucks registered in 95 cities and the population per passenger car. Nat Pet N 32:44-5 S 4 '40
Registrations soar again; gain a million in 12 months. Automotive Ind 81:595+ D 1 '39
Related motor vehicle data compared with national income and population, 1895-1938. Roads & Sts 83:59 Jl '40
State motor-vehicle registrations, 1939; tabulated by states. Pub Roads 21:85 Je '40
U.S. and world registrations, by continents and by countries; U.S. registration by states, 1938-1939, and by years, 1895-1939; tabulations. Automotive Ind 82:187-9 Mr 1 '40
Ward's 1939 automotive year book. 67p $4 Ward's reports, 243 W. Congress st, Detroit '39

Taxation
Constitutional safeguards against diversion. M. D. Van Wagoner. Am Pet Inst Proc 20(AT):42-4 '39
Eastman report shows motor taxes diverted. R. Elgen. il Automotive Ind 82:401-2, 426-8 My 1 '40
Local imposts on motor vehicles in Missouri. J. H. Long and B. H. Mayes. il Pub Roads 21:49-56+ My '40
1939 state taxes, $40 per vehicle; registration fees and gasoline taxes; tabulation. Automotive Ind 82:183 Mr 1 '40
Problems of the highway user in the United States. F. C. Horner. Inst Mech Eng J & Proc 142:Proc 113-25 D '39
Registration fees and special taxes for motor vehicles. 1940 ed 205p pa $1.25 National highway users conference, National press bldg, Washington, D.C. '40
State motor-vehicle receipts, 1939; tabulated by states. Pub Roads 21:86 Je '40

Track-layer type
Brown 28-h.p. track-laying tractor. il Engineering 149:260 Mr 8 '40; Engineer 169: 240 Mr 8 '40
Caterpillar carriages for cranes and excavators. E. G. Fiegehen. diags Engineering 148:599-602, pl 23 D 1 '39
Einige gestaltungsgrundsätze schnellfahrender gleiskettenfahrzeuge. K. Kühner. diags V D I 84:170 Mr 9 '40
Kurvenbewegung von baggern und abraumförderbrücken mit raupenfahrwerken. G. Lindenau. diags V D I 84:130-1 F 24 '40
Light-weight Alligator of aluminum alloy; new swamp or jungle amphibian conveyance. il Metals & Alloys 10:371 D '39
Linn tractor-truck; a multi-purpose vehicle operating on wheels or caterpillar track. il diags Automobile Eng 30:239-41 Ag '40
Manufacture of armoured track-vehicles for war service. il Engineering 149:33-4 Ja 12 '40
Tracked vehicle transmission; patent. diag Automobile Eng 30:226 Jl '40

MOTOR vehicles, Steam
Amédée Bollée, pioneer of mechanical road locomotion; abstract. L. R. Nichols. Engineering 149:314-15 Mr 22 '40
Some early Burrell engines. R. H. Clark. il diag Engineer 169:104-8 F 2 '40

MOTORS. See Airplane engines; Automobile engines; Diesel engines; Gas and oil engines; Motor bus engines; Motor cycle engines; Motor truck engines

MOTORS, Electric. See Electric motors

MOTTIER, David M. 1864-1940
Sketch. R. E. Cleland. Science 91:423-4 My 3 '40

MOULTON, Herbert George, 1883-
President of A.I.M.E. for 1940. por Min & Met 20:535-6 D '39

MOULTON, John Fletcher, 1845-1921
Lord Moulton; sketch; lecture delivered in 1920 on Training and functions of the chemical engineer. por Inst Chem Eng Trans 17:184-91 '39

MOUNDS and mound builders
Mound builders; no longer are they a complete mystery; abstract. F. M. Setzler. Sci Am 163:78 Ag '40
Temple of the effigy; evidences unearthed in Ohio afford clear proof of a grisly mound-builder rite. W. H. Magrath. il plan Sci Am 163:76-8 Ag '40

MOUNT DESERT Island biological laboratory
Trustees, officers, plans. Science 92:305 O 4 '40

MOUNT HOLYOKE college
Hundred years of Mount Holyoke college. A. C. Cole. 426p $4 Yale univ. press '40

MOUNTAIN railroads
Challenge of the continental divide; railway routes across the Rockies. R. Budd. il map Civil Eng 10:97-9, 161-4, 222-4 F-Ap '40
Running passing tracks save train stops; high-speed turnouts with spring switches and signals at meeting points on single track on Missouri Pacific. il diag Ry Age 108:745-6 Ap 27 '40

MOUNTAIN roads
Building roads at $200,000 a mile; two Pennsylvania projects. C. H. Vivian. il map Comp Air M 45:6275-9 N '40
Clearing snow from the nation's backbone; Trail Ridge road in Colorado's Rocky Mountain national park. R. C. Elder. il map Comp Air M 45:6219-21 Ag '40
Colorado completes America's highest highway, up Mount Evans; with cost data. il Roads & Sts 82:37-9 N '39
From railway to highway; New Hampshire is using abandoned railway grade. C. M. Brooks. il Roads & Sts 83:60, 62 Mr '40
New Monarch Pass highway in Colorado. D. W. Ormsbee and J. S. Marshall. il map Civil Eng 10:693-5 N '40
New York builds mountain highway to bypass old Storm King road. il diag map Eng N 125:415-17 S 26 '40
Snow types encountered in highway snow removal; prairies and mountains of Washington. V. J. Brown. il Roads & Sts 83:45-7 S '40

MOUNTAIN states power company
Amended reorganization plan. Comm & Fin Chr 150:845 F 3 '40

MOUNTAINEERING
Approach to the hills. C. F. Meade. 265p $2.75 Dutton '40

MOUNTAINS
Ablation of snow under the vertical sun in Hawaii. C. K. Wentworth. Am J Sci 238: 112-16, pl 1 F '40
Lower and middle Cambrian stratigraphy of southwestern Alberta and southeastern British Columbia. C. Deiss. diags maps Geol Soc Bul 51:731-93 bibliog(p792-3) pl 1-5 My '40
Stone-rings on New Hampshire mountains. C. S. Denny. bibliog map Am J Sci 238: 432-8, pl 1-3 Je '40

See also
Folds (geology)
Geology
Rocky mountains
Sierra Nevada
Volcanoes

MOUTH

Diseases
Diseases of the mouth. S. V. Mead. 5th ed 1059p $12.50 C. V. Mosby co, St Louis '40
Text-book of oral pathology. R. W. Bunting and T. J. Hill. 2d ed rev 460p $6.50 Lea & Febiger, Philadelphia '40

MOVEMENT, Psychology of
Effect of exercise on the recovery of motor function in the rat. G. H. Crook. bibliog diags Mo U Studies v 15, no 3:1-68 '40 (pa $1.25)

MOVERS. See Moving vans

MOVING
This visual presentation sells 8 out of 10 for Aero Mayflower; long-distance moving. il Sales Management 47:52 O 10 '40

MOVING of structures
Coney Island boardwalk goes for a ride. il Eng N 124:616-17 My 2 '40
216,000-gal. tank cut in two to move it to new location. il Nat Pet N 31:91 D 13 '39

MOVING picture actors
I scout for movie talent; a guide to the requirements for an artist's entry into motion pictures. C. M. Shapiro. 84p pa $1 A. Kroch & son, 206 N. Michigan av, Chicago '40

MOVING picture censorship
Peru, organic and regulatory decrees. For Comm W 1:131 O 19 '40

MOVING picture films
Metal film for motion pictures. W. M. Mitchell. il Metals & Alloys 10:369-70 D '39

See also
Slide films

MOVING picture industry
Hollywood lawsuit; plan to merge Universal with holding company brings action. Business Week p57-9 O 12 '40
Hollywood misses cue; La Guardia's efforts to lure industry back to New York. Business Week p24 D 16 '39
News by commodities. Published in Foreign commerce weekly

Accounting
Accounting for the distribution of motion picture productions. H. M. Iverson. N A C A Bul 22:156-67 O 15 '40

Advertising
Filmdom's boomerang. Ptr Ink 193:87-8 O 18 '40; Discussion (Offensive movie advertising). A. Michel. 193:63 N 8 '40
Movie promotion up. Business Week p47 Je 8 '40

Finance
New high record in gross theatre receipts; comparison of Gone with the wind with other leading motion pictures. L. Applegate. Annalist 55:454 Mr 28 '40
War hits Hollywood; foreign business losses. Business Week p49-50 F 3 '40
Warner bros. pictures, inc. annual report. Comm & Fin Chr 149:3574 D 2 '39

Libraries
Movies use research; Metro-Goldwyn-Mayer studios. R. R. Bruce. Special Lib 30:291-4 N '39

Offices
Office building for Myron Selznick, Beverly Hills, Calif. il plan Arch Forum 72:358-9 My '40

Securities
Amusement companies, 1937-39. Mag of Wall St Manual p40 Mr 2 '40
Movie stocks today. J. J. Hipple. il Mag of Wall St 67:28-9+ O 19 '40
Position of leading motion picture stocks. Mag of Wall St 65:543; 66:521 F 10, Ag 10 '40

Statistics
Motion-picture exports decline during first 9 months of 1939. N. D. Golden. Comm Rep p1075 N 18 '39

Argentina
Motion pictures and equipment. For Comm W 1:278 N 9 '40

Finland
Motion pictures and equipment in Finland. For Comm W 1:34 O 5 '40

Great Britain
Associated British Picture setback. Economist 139:347-8 S 14 '40
Entertainment in wartime. Economist 137: 499-500 D 30 '39
Movies for the millions. Economist 139:115-16 Jl 27 '40

MOVING picture industry—Great Britain—*Cont.*
Odeon theatres results, year to June 24, 1939 and 2d annual general meeting, London. Economist 137:178, 229 N 4-11 '39

Latin America

Basic data on Latin American motion-picture markets. N. D. Golden. Comm Rep p633-5+ Jl 20 '40
Motion-picture theaters in Latin America with chart showing number equipped for sound. N. D. Golden. Comm Rep p814 Ap 6 '40

Russia

U.S.S.R., introduction of color into motion pictures. For Comm W 1:131-2 O 19 '40

United States

Decreased exports of American motion picture films and equipment for 1939. N. D. Golden. Comm Rep p171 F 17 '40
Film trust truce near. Business Week p39 Ag 31 '40
Movie trade bemoans unhappy lot. Business Week p22-3 Je 29 '40
Movies arbitrate; disputes will be handled by American arbitration association. Business Week p15 N 2 '40
Movies face the axe. S. B. Self. il Barron's 20:20 Jl 29 '40
Six months exports of United States motion pictures and equipment. N. D. Golden. Comm Rep p713 Ag 17 '40

MOVING picture machines

Slot machines

Juke-box movie war; Phonovision and Movietrola. Business Week p52-3 My 18 '40
Nickel-in-the-slot sound movies; Phonovision corp. of America. Barron's 20:5 My 20 '40
Soundies. Ptr Ink 193:109 O 25 '40

MOVING picture photography

See also
Moving picture films

Industrial applications

Blade vibration viewed in experimental turbine. diag Elec Eng 59:159 Ap '40
Crane for better motion pictures; camera set up anywhere in the motion study laboratory. G. B. Carson. il Factory Management 98:55-6 Je '40
Drop test of shock absorber; Bendix Aviation's photographic apparatus. W. C. Trautman. il Aviation 39:55+ O '40
Engine combustion and pressure development. G. W. Rassweiler, L. Withrow, and W. Cornelius. il S A E J 46:25-48 Ja '40
High-speed motion pictures aid design of electromechanical apparatus. J. R. Townsend. il diag Elec Eng 59:448-50 N '40
High-speed photography applied to the study of machine performance. E. M. Watson. il Product Eng 11:340-3 Ag '40
High-speed photography of combustion phenomena; abstract. A. M. Rothrock. Automotive Ind 82:324 Ap 1 '40
Methods of measuring the torque of induction motors. A. C. W. V. Clarke. Inst E E J 86:597-600, pl 1-4 Je '40
More efficient steam turbines; research on blades; abstract. F. T. Hague. Science 91: sup9 Mr 8 '40; Same. Sci Am 163:142-3 S '40
New tests on blades made by pictures; abstract. M. W. Smith. Elec W 113:590 F 24 '40
Study of air flow in an engine cylinder. D. W. Lee. il diags U S Nat Advisory Com for Aeronautics 1939:227-39 '40
Superposed turbine blade research. F. T. Hague. il diags Mech Eng 62:275-7 Ap '40; Same. Power Pl Eng 44:51-4 Ap '40
Turbine blade research points to solution of vibration troubles. F. T. Hague. il diags Elec W 113:726-8 Mr 9 '40
When you steer a motor-car; mechanism designed to indicate steering deviations. A. P. Peck. il Sci Am 163:196-7 O '40

See also
Moving pictures in industry

Laboratories

Stainless steel in a Hollywood film processing laboratory; pictorial presentation. Metals & Alloys 11:45-9 F '40

Scientific applications

Lightning recording instruments; oscillographic and photographic equipment. J. H. Hagenguth. bibliog il diags Gen Elec R 43:195-201, 248-55 My-Je '40
Photographic method of measuring take-off. il plan Sci Am 162:29 Ja '40
Stopping time; stroboscope. R. Littell. il Sci Am 162:82-4 F '40

MOVING picture photography, Amateur

Filming for amateurs. P. Burnford. 108p $3.50 Pitman '39
Let's make movies. S. S. Simon. 112p $1.50 S. French, New York '40
Telling stories with your movie camera. J. Deschin. il Sci Am 163:284-5 N '40

MOVING picture plays

See also
Advertising agencies —Moving picture plays

MOVING picture projection

Coated lenses bring new beauty to the screen. il Ind & Eng Chem News ed 18:93-4 F 10 '40
Special film projection installed in lecture hall of Paris museum of ethnology. il Electrician 124:375 My 24 '40
Stepping up the lens; invisible glass principle used for increased brilliance in projecting Gone with the wind. Business Week p34-5 Je 1 '40

MOVING picture projectors

Plastics competition; award to Movie mite co. for portable sound movie projector. il Mod Plastics 18:75, 98 O '40

MOVING picture studios

How a wise showman uses brick; Walt Disney studios. il Brick & Clay Rec 97: 20-2 N '40
Making walls sound-proof; radio and moving picture studios. M. Rettinger. diags Eng N 124:723-5 My 23 '40

Air conditioning

Air conditioning the Disney studios. il Power 84:290-1 My '40
All-fresh air at 20° F.; technicolor snow scenes impose difficult requirements. N. Rosberg. il diag plan Refrig Eng 39:219-20 Ap '40
Donald and his ducts; air conditioning installation in Walt Disney studios. il Dom Eng 155:38-41+ Mr '40
No dust for Disney; new studio city features elaborate air-conditioning job. il Business Week p44 Mr 16 '40
Unusual air conditioning problems in the motion picture industry. A. J. Hess. il Heating-Piping 12:585-8 O '40
Walt Disney air conditions. S. Martin, jr il Heating-Piping 12:231-3 Ap '40
Walt Disney's gang in new home. il Comp Air M 45:6147-8 My '40

Electric equipment

Pinocchio is alive! electric equipment at Walt Disney studios. il Elec West 85:22-5 Jl '40

Equipment

Service for the set; machine shop at RKO studios. M. M. Black. il Am Mach 84:252-3 Ap 17 '40

Lighting

Silent substation for cinema production. G. F. Maughmer. il Elec W 112:1762+ D 16 '39

Power

Power for Mickey Mouse; Walt Disney studio. il Power Pl Eng 44:50-2 My '40

Research

See also Metro-Goldwyn-Mayer studios—Research department

MOVING picture theaters
Air conditioning in theatres. C. B. Albright. diags Refrig Eng 40:1-6 sec 2 Ag '40
Auditorium at an angle makes efficient use of rectangular site; Hollywood theater, Sioux Falls, S.D. il plans Arch Rec 87:39-41 Ja '40
Florida theater is rejuvenated; Miami's Paramount. il diags plan Arch Rec 88:46-9 S '40
Night-light carpets. Textile Col 62:524 Ag '40

Lighting

Academy theatre, Los Angeles. il(cover) Illum Eng 35:188-9 Mr '40
Black light and white magic; uses of ultra-violet rays; fluorescent carpets for moving picture theaters. S. G. Hibben. Illum Eng 35:372-3 Ap '40
Black light; ultra-violet lamps and fluorescent materials for theatres. F. M. Falge. il Elec West 85:31-2 S '40

MOVING pictures
"Edison the man" dramatizes electric light; M-G-M motion-picture biography. il Edison Elec Inst Bul 8:240 My '40
Hollywood again; advertising agents presented via the living screen; Turnabout. Ptr Ink 192:34 Jl 5 '40
Let's make movies. S. S. Simon. 112p $1.50 Samuel French, New York '40
Mr. Davidson goes to the movie at Port Huron; impressions of the film Young Tom Edison. J. E. Davidson. il Edison Elec Inst Bul 8:97-9 Mr '40
My ten years in the studios. G. Arliss. 349p $3.50 Little '40
Our movie makers. I. Crump. 231p $2 Dodd '40

See also
Slide films

Catalogs

See also
Moving pictures in education—Catalogs

Censorship

See Moving picture censorship

Law

Neely anti-block booking and blind selling bill; an analysis. B. Werne. 34p pa $1 New York univ. Law quarterly review, 100 Washington sq, E., New York '40

Music

Moving sound in Disney film. Barron's 20:5 N 11 '40

Publicity value

Cashing in on Gone with the wind; manufacturers and merchants hitch their products and advertising to movie. il Business Week p14+ D 30 '39
Industry watches the movies for public trends. H. Morgan. il Nation's Business 28:20-2+ Jl '40

Setting and scenery

All-fresh air at 20° F.; technicolor snow scenes impose difficult requirements. N. Rosberg. il diag plan Refrig Eng 39:219-20 Ap '40

Yearbooks

Best pictures, 1939-1940 and the year book of motion pictures in America. J. Wald and R. Macaulay, eds. 534p $3.50 Dodd '40

MOVING pictures, Colored
All-fresh air at 20° F.; technicolor snow scenes impose difficult requirements. N. Rosberg. il diag plan Refrig Eng 39:219-20 Ap '40
Colour cinematography. A. B. Klein. 2d ed rev & enl 463p 30s Chapman & Hall, London '39
Reproduction of sight. Electrician 123:332-3, 347-8, 363-4, 391-2, 407-8 O 6-N 3 '39
U.S.S.R., introduction of color into motion pictures. For Comm W 1:131-2 O 19 '40
Use of dyes in photography; abstract. A. Seyewetz. Am Dyestuff Rep 29:48-9 Ja 22 '40

MOVING pictures, Stereoscopic
Stereoscopic movies. J. Stokley. Science 91: sup6 Je 28 '40

MOVING pictures, Talking
Plastics competition; award to Movie mite co. for portable sound movie projector. il Mod Plastics 18:75, 98 O '40
Servicing sound equipment. J. R. Cameron. 4th ed 506p $7.50 Cameron pub. co, Woodmont, Conn. '40

See also
Moving picture studios

Animated cartoons

Moving sound in Disney film. Barron's 20:5 N 11 '40

MOVING pictures as evidence
Moving pictures to show method used in determining observed depreciation; shown by American Gas & Electric system; presentation of its integration case before the SEC. Edison Elec Inst Bul 8:404+ Ag '40

MOVING pictures in advertising
Commercial films in Chicago business. il Ptg Art 68 no 4:G6, G8 '40
Distribution of business films. il Ptg Art 68 no 4:G3-G5 '40
Du Pont's new rayon film. il Rayon 21:338 Je '40
Electrical romance; ambitious motion picture, keynotes Hotpoint's expanded advertising activities. il Ptr Ink 190:21-2 F 2 '40
59,367,000 see International Harvester films since 1911. L. A. Hawkins. Sales Management 47:58+ N 15 '40
Job for bank movies. M. Wright. Banking 32: 23 Ja '40
Leading sales films of 1939-40 and the results attained; advertising, institutional and consumer selling pictures. il Sales Management 47:64, 68, 70-2 O 10 '40
Masland and Smith will teach rugs with new movies. il Sales Management 46:68 Ja 15 '40
Massachusetts thrift; movie of part played by savings banks in building the state. il Banking 32:44-5 Ap '40
Motion pictures in the bank field. A. R. Gruenwald. il Burroughs Clearing House 24: 14-16+ Je '40
"Nature's blue flame" is good will builder; talking motion picture designed to give information about gas service. A. F. Dawson. il Gas Age 85:46-8+ My 9 '40
New FHA film, Design for happiness, promotes good, small homes. il Am Bld 62:48-9 Jl '40
New film shows how gas serves New York. L. S. Metcalfe and H. G. Christensen. il Gas Age 84:21+ D 7 '39
Oil marketer uses movies to increase tire sales. il Nat Pet N 32:53 Ag 14 '40
Rise of business film. il Ptg Art 68 no 4:G1-G2 '40
Selling blocks with the artichokes; Cinder block, inc. shows pictures. il Concrete 48:22 My '40
Spirit of thrift; school savings film. il Banking 33:39 Jl '40
Today's commercial movies. F. H. Fidler. il Adv & Sell 33:21-3, 86 O '40

See also
Moving pictures—Publicity value
Slide films

Cost of production

Production cost of industrial films; factors entering into the determination of the cost of producing both industrial motion pictures and slide films. R. M. Cronin. Ptr Ink Mo 40:23-4+ Ap '40

MOVING pictures in education
Alloy steels dramatized; subject of sound motion picture film produced by U.S. Bureau of mines. Power Pl Eng 44:106+ Ag '40
Audio-visual aids to schools, colleges, churches, and adult study groups. Univ of North Carolina Extension Bul v 19, no 1:1-94 '39

MOVING pictures in education—*Continued*
Banker-farmer film; Four pillars of income; a story of diversified farming. il Banking 32:43 Mr '40
Cinema and the information services. T. Baird. Assn of Sp Lib & Inf Bur Proc 1939: 50-61
Filmset handbook: geography. F. S. Wythe. 111p $1.75 Filmsets, inc, 52 Vanderbilt av, New York '39
Motion pictures in adult education. T. R. Adam. 94p bds 75c Am. assn. for adult education, New York '40
Visual engineering education; papers before the annual meeting of the Society for the promotion of engineering education. diags Mech Eng 62:822-3 N '40

See also
Moving pictures in safety education

Bibliography

Motion pictures in sports; a bibliography and film list. E. M. Dear, L. S. Kjellstrom and J. E. Turnbull, comps. 34p pa 25c National section on women's athletics of the American assn. for health, physical education, and recreation, Washington, D.C. '39

Catalogs

Catalog of films for classroom use. 320p pa 50c Teaching film custodians, New York '39
Educational film catalog. 2d ed rev 332p Wilson, H.W. '39
Educational film catalog, 1940 supplement to the second edition, 1939; a selected, classified list of 511 non-theatrical films with a separate title and subject index. D. E. Cook and E. Rahbek-Smith, comps. 111p Wilson, H.W. '40
Motion pictures in sports; a bibliography and film list. E. M. Dear, L. S. Kjellstrom and J. E. Turnbull, comps. 34p pa 25c Am. assn. for health, physical educ. and recreation, 1201 16th st, N.W, Washington, D.C. '39
Selected films for American history and problems. W. H. Hartley. 275p $2.25 Teachers college '40

MOVING pictures in industry
Commercial films in Chicago business. il Ptg Art 68 no 4:G6, G8 '40
Distribution of business films. il Ptg Art 68 no 4:G3-G5 '40
Film tells how bank loans to farmers rebuilt a community; Southern agriculturist sponsoring dramatization, in color. Sales Management 46:38 Je 15 '40
Film trains Alemite dealers in "how" of modern merchandising. F. R. Cross. il Sales Management 46:48+ Je 1 '40
Industrial films fight sales battles on all fronts for Servel; productions for their own salesmen, for dealers, and for city and rural prospects. G. L. Roach. Sales Management 46:58+ Je 15 '40
Leading sales films of 1939-40 and the results attained; motion pictures; industrial films dealing with retailer and jobber relations. il Sales Management 47:58+ O 10 '40
Movies aid modern industry; in product research, testing, marketing. L. R. Martin. il Manuf Rec 109:24-5+ Ap '40
New placer gold mining film. Can Min J 60: 823 D '39
1940 films prove potent sales builders for many industries. il Sales Management 47:56 O 10 '40

See also Moving picture photography—Industrial applications

MOVING pictures in safety education
Fire prevention film on electrical safety. Safety Eng 79:35 My '40
Visual aids in safety education. 32p pa 25c National education assn. of the U.S, 1201 16th st, NW, Washington, D.C. '40

MOVING platforms
Armchair spectator conveyer-guide; train of moving chairs and sound system; General Motors Futurama at the 1939 New York world's fair. J. Dunlop and W. T. White. il diags Elec Eng 58:509-14 D '39; Excerpts. Mech Eng 62:147-9 F '40

MOVING stairways. See Escalators

MOVING vans
Achievement chart stimulates steady plugging by salesmen; week-to-week appraisal of sales efforts and correction of errors in technique; Lyon van & storage co., Los Angeles. H. M. Burgeson. Sales Management 46:60-1+ F 1 '40

MOWING machines
Bishop mower has cutting discs. il Roads & Sts 83:82+ Ap '40

MUCIC acid
Studies in optical superposition; *l*-menthyl esters of mucic and tetrahydroxyadipic acids. R. W. Lapsley, J. Robertson and T. S. Patterson. Chem Soc J p862-6 Jl '40

MUCINS
Behavior of ovomucin in the liquefaction of egg white. A. K. Balls and S. R. Hoover. bibliog Ind & Eng Chem 32:594-6 Ap '40

MUCK-silt deposits
Origin of the muck-silt deposits at Fairbanks, Alaska. R. Tuck. map Geol Soc Bul 51:1295-1310, pl 1-2 S '40

MUCOIDS
Nature of the carbohydrate residue in ovomucoid; the glucosamine constituent. M. Stacey and J. M. Woolley. Chem Soc J p184-91 F '40

MUD fluids. See Petroleum—Mud fluids

MUD jacking
Illinois jacks up paving; forcing oil, cement, lime dust, loam and water through holes. il diags Eng N 125:605-7 N 7 '40

MUFFLERS. See Diesel engines—Mufflers

MULLEN, Frank E.
NBC general manager. por Ptr Ink 192:16 Ag 2 '40

MULLER, George Elias
Komplextheorie of visual sensation; abstract. A. H. Holway and M. J. Zigler. Opt Soc Am J 30:270 Je '40

MULTIPLE use buildings. See Buildings, Multiple use

MULTIPLICATION
Mental multiplication. C. Lipkin. J Account 70:456-9 N '40
Quick computations. W. R. G. Duane. J Account 70:241-4 S '40

MULTIPURPOSE rooms. See Rooms

MULTIVIBRATORS
Precision television synchronizing-signal generator. A. V. Bedford and J. P. Smith. il diags RCA R 5:51-68 Jl '40
Record counter aids in seismograph computations. P. M. Honnell. il diag Oil & Gas J 38:44 Ja 18 '40

MUNCIE, Indiana
Family income and expenditure in nine cities of the east central region, 1935-36; v. 1, Family income. A. D. H. Kaplan, F. M. Williams and R. Hellman. map U S Bur Labor Statistics Bul 644:1-538 '39

MUNICIPAL accounting
Accounting and finance for Pennsylvania municipalities. C. J. Rowland and H. O. Faylor. 255 l $4 Pennsylvania state college, State College, Pa. '39
Accounting for government-owned motor equipment. 60p pa 50c Municipal finance officers assn, 1313 E. 60th st, Chicago '40
Accounting for governmental supplies. 60p pa 50c Municipal finance officers assn, 1313 E. 60th st, Chicago '40
Accounting manual for Texas cities and towns. 101p bibliog(p101) pa $1.25 Municipal finance officers assn. of the U.S. and Canada, Chicago; League of Texas municipalities, Austin, Tex. '38
Conference on municipal accounting and finance of the American institute of accountants, Chicago, March 28 and 29, 1938. 85p pa $1 Am. inst. of accountants, 13 E. 41st st, New York
Control of expenditures in the local governmental units of Illinois. H. K. Allen. Ill U, Bur of Business Research Bul 61:1-58 '40

MUNICIPAL accounting—*Continued*
Governmental timekeeping and payroll procedure. 62p pa 50c Municipal finance officers assn, 1313 E. 60th st, Chicago '40
Measuring the unit cost of municipal services. F. W. Herring. Eng N 123:710-11 N 23 '39
Municipal and governmental accounting. C. H. Chatters and I. Tenner. 794p bibliog(p549-77) $6; school ed $4.50 Prentice-Hall '40

MUNICIPAL auditoriums. See Auditoriums, Municipal

MUNICIPAL bonds
Analysis of a small city revenue bond; abstracts. E. A. Camp, jr. Nat Underw (Life ed) 44:23-4 O 11 '40; Spectator (Life ed) 145:22 O 24 '40
Attorney General Bennett of New York opposes Treasury proposals to tax state and municipal bonds. Comm & Fin Chr 149:4108-9 D 30 '39
Bond notes. Bankers M 141:137-8 Ag '40
Case for municipal bonds. C. Clark. Barron's 20:18 Jl 29; 16 Ag 12 '40
Constitutional immunity of state and municipal securities; a legal defense of the continued integrity of the fiscal powers of the states. 420p Conference on state defense, 111 8th av, New York
Danger of federal taxation of municipals. J. S. Linen. Comm & Fin Chr 150:149-50 Ja 6 '40
Fiscal and economic aspects of the taxation of public securities; a report. H. L. Lutz. 241p Morris S. Tremaine, Comptroller, Albany, N.Y. '39
Government obligations and municipals. J. C. Shelor. Trusts & Estates 70:141-3 F '40
Market for 1939 surveyed. B. J. Larkin. Comm & Fin Chr 150:150 Ja 6 '40
Municipal bond sales in December. Comm & Fin Chr 150:148-9 Ja 6 '40 [cont monthly]
Municipal bond sales, 1939; monthly comparisons with 1938; yearly comparisons, 1892-1939. Comm & Fin Chr 150:148-9 Ja 6 '40
Municipal bonds for bank investment. P. G. Morris. Bankers M 140:547-8 Je '40
Municipal conversion ban in Britain. Economist 138:158-9 Ja 27 '40
Municipals at record highs. J. D. Kelly. Barron's 20:18 Ja 15 '40
New distribution system at Houma, La.; financed by sale of municipal revenue bonds. T. B. Smith. il Gas Age 85:19+ F 1 '40
Ohio's tax limitation experience. J. S. Clark. Inv Banking 10:16-19 My '40
Safety tests for municipal bonds. W. L. Goodwyn, jr. Trusts & Estates 70:301-4 Mr '40
Why purchase municipal bonds for trust investments? O. L. Buhr. Trusts & Estates 69:505-7 N '39

MUNICIPAL buildings
America's most unique city hall, Lake, Wisconsin; combined with water tower pumping and water softening equipment and the repair shop of the Water department. M. Call. il Water Works & Sewerage 87:62-4 F '40
City hall, Kansas City, Missouri. il Illum Eng 35:126 F '40
Combined water tower and municipal building; project at Lake, Wis. W. D. Darby. il Civil Eng 10:329-32 Je '40
Municipal building costs, New York city. Eng N 124:914 Je 20 '40

See also
Auditoriums, Municipal
Fire houses
Health centers

Electric equipment
Greenwich town hall. il Elec R (Lond) 126: 237-9 Mr 1 '40

Lighting
Greenwich town hall. il Elec R (Lond) 126: 237-9 Mr 1 '40

MUNICIPAL corporations
Distinctions between municipalities and gas corporations; right of city to sell gas appliances; authority of public service commissions. L. T. Parker. Am Gas J 153:11-12 S '40

MUNICIPAL employees
In-service training program is of benefit to school engineers; plan of Chicago board of education. J. Howatt. il Heating-Piping 12: 90-1 F '40
Personnel programs for smaller cities as exemplified by installations in various cities in Michigan. 46p pa 75c Public administration service, 1313 E. 60th st, Chicago '40
President Roosevelt signs Hatch bill extending political activity ban to state and municipal employees receiving pay from federal funds. Comm & Fin Chr 151:486 Jl 27 '40

See also
Firemen
Waterworks—Employees

MUNICIPAL engineering
Hoopeston, Ill. builds sewage treatment works; constructed under new WPA; contract procedure; with cost data. K. V. Hill. il diag Water Works & Sewerage 86:423-6 N '39
Municipal progress, 1939. W. W. DeBerard. il Eng N 124:229-30 F 15 '40
Opportunities in making ends meet on the small project. R. M. Lingo. Civil Eng 10: 687-8 N '40

See also
City planning
Grade crossing elimination
Municipal improvement
Parks
Pavements
Public works
Refuse collection
Refuse disposal
Sanitary engineering
Sewage disposal
Sewerage
Snow removal
Street lighting
Streets
Water purification
Water supply
Water supply engineering

MUNICIPAL engineers
Men behind filtration in Chicago. A. E. Gorman. Eng N 123:840-1 D 21 '39

MUNICIPAL finance
Accounting and finance for Pennsylvania municipalities. C. J. Rowland and H. O. Faylor. 255 l $4 Pennsylvania state college, State College, Pa. '39
Cities eye relief bill. Business Week p34 F 24 '40
Control of expenditures in the local government units of Illinois. H. K. Allen. Ill U, Bur Business Research Bul 61:1-58 '40
English grants-in-aid; a study in the finance of local government. H. R. Bowen. diags Iowa U Studies in Social Science v 11, no 1:1-156 '39 $1
How local taxes eat into sales. B. L. Crandall. Adv & Sell 33:33-4 Mr '40
How low debt cities get that way. C. A. Crosser. Nation's Business 28:23-4+ Ja '40
Municipal building costs, New York city. Eng N 124:914 Je 20 '40
Municipal credit under defense program. H. N. Bulow. Barron's 20:18 S 9 '40
Municipal indebtedness; a study of the debt-to-property ratio. L. A. Shattuck, jr. 145p bibliog(p137-40) pa $1.25 Johns Hopkins press, Baltimore '40
Municipal responsibility in road financing. T. J. Mahony. Can Eng R & B 78:20+; Discussion. J. N. Allen. 72 Mr '40
Safeguarding municipal credit; some statistics of English towns. Economist 139:250+ Ag 24 '40
Study in English local authority finance. J. Sykes. 307p 12s P. S. King & son, London '39

See also
Budget, Municipal
Electric plants, Municipal—Finance
Finance—New York (city)
Municipal bonds
Municipal taxation
Waterworks—Finance

Federal aid
Municipalities and the federal government. R. S. Short. bibliog Ann Am Acad 207:44-53 Ja '40

MUNICIPAL franchises

See also
Gas companies—Franchises

MUNICIPAL government

City problems of 1940; the annual proceedings of the United States Conference of mayors, New York city, Sept. 19-21, 1940. P. V. Betters, ed. 115p $3 U.S. conference of mayors, 730 Jackson place, Washington '40

City problems of the South. P. V. Betters, ed. 138p $3 United States conference of mayors, 730 Jackson pl, Washington, D.C. '40

City problems of the West; the proceedings of the Western regional conference of the United States conference of mayors, Portland, Oregon, April 8-9, 1940. P. V. Betters, ed. 88p $2 United States conference of mayors, 730 Jackson place, Washington, D.C. '40

Effect of weak local government on municipal utility service; Philadelphia. Pub Util 25:427-8 Mr 28 '40

Municipal administration. J. M. Pfiffner. 582p $4 Ronald press '40

Municipal government and administration in Alabama. W. Cooper. 252p Bur. of public administration, Univ. of Alabama, University, Ala. '40

Municipal government and special-purpose authorities. W. T. R. Fox and A. B. Fox. bibliog Ann Am Acad 207:176-84 Ja '40

Municipal officials in Texas. E. G. Flowers. Texas U Bul 3929:1-179 '39

Municipal public relations. E. D. Woolpert. 50p pa $1 International city managers' assn, 1313 E. 60 st, Chicago '40

Municipal self-government in Britain. G. M. Harris. 342p bibliog(p331-4) 15s P. S. King & son, London '39

Municipal year book, 1940. C. E. Ridley and O. F. Nolting, eds. 629p $5 International city managers' assn, Chicago '40

One hundred men and a city; Yonkers committee of 100. M. Beuick. il Nation's Business 28:66, 68-9 N '40

Organizing for community defense. H. E. Jordan. bibliog Am Water Works Assn J 32:1732-6 O '40

See also

Cities and towns
Municipal employees
Municipal finance
Municipal liability
Municipal ordinances
Municipal taxation
Water departments

Bibliography

Bibliography on Texas municipal government. M. D. Webb, comp. 33 numb l Univ. of Texas, Bur. of municipal research, Austin '39

City manager plan

City manager government in Berkeley (California). A. Harris. 70p pa 50c Public administration service, 1313 E. 60th st, Chicago '40

City manager government in Dallas (Texas). H. A. Stone, D. K. Price and K. H. Stone. 93p pa 60c Public administration service, Chicago '39

City manager government in Jackson (Michigan). H. A. Stone, D. K. Price and K. H. Stone. 52p pa 50c Public administration service, 1313 E. 60th st, Chicago '39

City manager government in Kingsport (Tennessee). H. A. Stone, D. K. Price and K. H. Stone. 29p pa 25c Public administration service, Chicago '40

City manager government in Long Beach (California). A. G. Miller. 47p pa 40c Public administration service, 1313 E. 60th st, Chicago '40

City manager government in nine cities. H. A. Stone, D. K. Price and K. H. Stone. 544p $4.50 Public administration service, Chicago '40

City manager government in Rochester (New York). F. C. Mosher. 95p pa 60c Public administration service, 1313 E. 60th st, Chicago '40

City manager government in seven cities. F. C. Mosher and others. 448p $3.50 Public administration service, Chicago '40

City manager government in the United States; a review after twenty-five years. H. A. Stone, D. K. Price and K. H. Stone. 279p $2.50 Public administration service, 1313 E. 60th st, Chicago '40

City manager government in Winnetka (Illinois). D. G. Monroe and H. O. Wilson. 61p pa 50c Public administration service, 1313 E. 60th st, Chicago '40

Manager plan abandonments. A. W. Bromage. 45p pa 25c National municipal league, 299 Broadway, New York '40

Federal relations

Municipalities and the federal government. R. S. Short. bibliog Ann Am Acad 207:44-53 Ja '40

MUNICIPAL improvement

Fighting property depreciation in downtown Pittsburgh. W. S. Walker. il Civil Eng 10: 590-2 S '40

Local improvement assessments in New York city. Roads & Sts 83:78 F '40

Marginal land acquisition for highways. H. R. Briggs. plans Pub Roads 21:105-18 bibliog(p118) Ag '40

New York suggests a plan for urban rehabilitation by private initiative; Urban redevelopment corporations bill. T. S. Holden. il Arch Rec 87:86-7 My '40

Old buildings in your town; reconstruction of blighted residential areas thru private enterprise. T. H. Reed. Banking 33:34-5 Ag '40

Port of New York; improvement by the city. J. A. Meehan. il map Civil Eng 10:281-4 My '40

Producing good will on a quantity basis; Knights of Ak-Sar-Ben, Omaha's unique organization of civic boosters. C. R. Smith. il Nation's Business 28:98-105 Mr '40

Rebuilding the cities; report to executives. il maps Business Week p33-40 Jl 6 '40

Remodeled street triples traffic room; Pittsburgh's Water street. il diags plan map Eng N 124:434-8 Mr 28 '40

Saving a neighborhood; Oakland-Kenwood, Chicago. Business Week p22-3 Ap 27 '40

Saving our blighted downtown areas; investment approach to government-business cooperation in replanning. H. M. Propper. il Nation's Business 28:20-2+ My '40

Urban redevelopment corporations act vetoed by New York Governor. A. C. Holden. J Land & Pub Util Econ 16:219-21 My '40

Vancouver, Washington, provides improved streets; methods of calculating assessments. V. J. Brown. il diag Roads & Sts 83:62, 64-5 S '40

Wanted: 50,000 campaigns to modernize Main street. T. Brown. il Sales Management 46: 22-4+ My 1 '40

Why downtown shopping declines; rehabilitation of blighted areas needed to check movement of business to suburban and crossroad areas. E. Whitmore. il Am Business 10:18-21+ Ag '40

Womanpower in St Paul; what a city did to rebuild and revitalize itself and its business life. il Sales Management 46:69-70 My 15 '40

See also

City planning
Housing
Pavements
Streets

MUNICIPAL insurance. See Insurance—Municipal policies

MUNICIPAL labor boards. See Labor boards, Municipal

MUNICIPAL lands

Legal aspects of municipal land ownership. S. Schulman. bibliog J Land & Pub Util Econ 16:216-18 My '40

See also

Vacant lots

MUNICIPAL liability

Law may get you; legal points for airport managers. S. Rothfeld. il Aviation 39:38-9, 108+ Je '40

MUNICIPAL officials

Directories

Directory of Canadian municipal officials, counties, townships, cities and towns. Can Eng R & B 78:51-2+ Je '40

MUNICIPAL ordinances
United States Supreme court voids municipal ordinances in Worcester, Milwaukee and Los Angeles prohibiting distribution of handbills and circulars and Irvington, N.J. ordinance barring canvassing of homes for sale of booklets. Comm & Fin Chr 149:3342-3 N 25 '39

MUNICIPAL ownership
Engineer's view of public service after four years' experience. F. O. Wallene. Am Water Works Assn J 32:945-51 Je '40; Abstract. Water Works & Sewerage 87:329-30 Jl '40
Is fair return appropriate for municipal utilities? decision of the New York Court of appeals in the Boonville case. R. H. Riley. bibliog J Land & Pub Util Econ 16:52-60 F '40
Legal aspects of municipal land ownership. S. Schulman. bibliog J Land & Pub Util Econ 16:216-18 My '40

See also
Electric plants, Municipal
Electric utilities—Municipal ownership
Government ownership
Waterworks—Municipal ownership

MUNICIPAL reference libraries
Municipal reference libraries. M. Kehl. bibliog Special Lib 31:317-20 S '40

MUNICIPAL reports
United States citizens informed of governmental activities by improved reports. Comm & Fin Chr 150:1810 Mr 16 '40

MUNICIPAL taxation
How local taxes eat into sales. B. L. Crandall. Adv & Sell 33:33-4 Mr '40
Local imposts on motor vehicles in Missouri. J. H. Long and B. H. Mayes. il Pub Roads 21:49-56+ My '40
Real estate tax systems of cities should be revised. W. H. Husband. Comm & Fin Chr 151:2126 O 12 '40
Recent trends in tax delinquency. F. L. Bird. il Dun's R 48:14-17+ Ap '40
Wage tax unites foes; A.F.L. and C.I.O. working together to throw out Philadelphia's pay levy. Business Week p36-7 Mr 9 '40

MUNITION factories
Defense comes to Main street; Wilmington, Ill. a case study of government-sponsored industry, other defense towns. il Business Week p20, 22-4+ N 2 '40
Procedure for defense plant amortization is announced. Steel 107:23 N 11 '40
To a manufacturer seeking a safe spot for a war materials plant. J. Collins. map Annalist 56:235-6 Ag 22 '40

Employees
Training unemployed for armament industries in England. J. S. Trevor. il Iron Age 146: 53-6 O 10 '40
Training war workers in Britain. Economist 138:321-2 F 24 '40

Power
Forecasting defense power. L. Olds. il Elec W 114:1309-12 N 2 '40

MUNITIONS
Administration of section 6 of the act entitled An act to expedite the strengthening of the national defense, approved July 2, 1940; certain articles may be exported only by license. F. D. Roosevelt. Comm Rep p603-4 Jl 13 '40
American industry gets behind national defense. il Mach 47:109-40 N '40
American industry, the war and defense. il Factory Management 98:44-50 Je '40
Arms industry reborn. Business Week p32+ O 19 '40
Army to buy f.o.b. factory and accept split bids. Oil Paint & Drug Rep 138:3 Ag 19 '40
Companies in line for armament business. Mag of Wall St 66:363 Je 29 '40
Conserving man power in the defense industries. il map Nat Safety N 42:20-1+ S '40
La décentralisation des fabrications de guerre; les avances et les autorisations administratives nécessaires. J. Blain. Génie Civil 115:438-40 D 16 '39
Defense contracts, placed from July 1, 1939, to Sept. 14, 1940 and unfinished to that date. Am Mach 84:879-88 O 30 '40
Defense program remodels the economic system. E. B. George. il Dun's R 48:5-22+ O '40
Efficiency in production. Economist 139:432-3 O 5 '40
Electric furnaces and national defense. W. M. Farnsworth and M. J. R. Morris. il Metals & Alloys 12:446-50 O '40
Engineering for defense; army and navy engineers with help of industries, technical societies and educational institutions have standardized designs and specifications. G. F. Nordenholt. il Product Eng 11:504-10 N '40
Exports up 35% in first six months of the war. W. W. Case. Annalist 55:422-3+ Mr 21 '40
Facilities offered by War dept. for production of nitric acid, smokeless powder, and small arms ammunition. Oil Paint & Drug Rep 137:5+ Je 17 '40
Follow armament smoke stacks for expanding consumer incomes; orders by states and cities. il Sales Management 47:44, 46, 50 Ag 15 '40
Four months of rearming. J. A. Rowan. il Iron Age 146:37-41 O 10 '40
Guns and tanks, yes; but peace economy must be guarded, too. B. C. Heacock. Ptr Ink 192:9-12 S 13 '40
How big a job is national defense? C. J. Stilwell. il Iron Age 146:25-7 O 24 '40
How industries would shift from peace to war. Business Week p23 Je 1 '40
How U.S. army prepares industrially; educational orders program well under way. L. C. Duncan. Barron's 20:18 Ap 22 '40
Huge U.S. orders on dotted line. Business Week p20+ Ag 24 '40
Immediate problems related to defense. H. F. Browne. Management R 29:276-7 Ag '40
It's still a chemical war; chemical industry still has rush job in defense program. Business Week p17-18 Jl 13 '40
Latin America and our strategic war materials. S. H. Ball. map Eng & Min J 141: 39-41 S '40
London rushes arms orders. Business Week p17-18 S 14 '40
M day approaches for industry! government decides on strong policy of national defense. Steel 106:21-2 My 20 '40
Machine tools seen as vital factor in national defense. C. J. Stilwell. Iron Age 145:78-81 My 2 '40
Manufacture of war materials in the United States. E. L. Ryerson jr. Blast F & Steel Pl 28:1007-8 O '40
Materials standards in national preparedness. W. C. Young. Ind Stand 11:197-202 Ag '40; Abstract. Steel 107:25-6 Jl 1 '40
Mechanized war puts machine tool industry on front line. J. E. Lovely. il Iron Age 146: 78-80 O 31 '40
Metallurgical engineering in preparedness and defense. il diags Metals & Alloys 12:405-70, 641-5, 761-7 O-D '40
Military procurement and purchasing; instructions for manufacturers. il Elec W 114:1313-16 N 2 '40
Modern armaments. A. M. Low. 273p 8s 6d John Gifford, ltd, London '40
More Dominion plants; authorizations for construction and expansion of arms factories reach $80,000,000. Business Week p49 Jl 27 '40
More industries get war lessons; army's educational orders. Business Week p48-9 Mr 30; 54 Je 8 '40
Munitions research in the U.S. il Barron's 20:7 O 28 '40
1939's war buyers of American armaments, by country and amount spent. Business Week p60 F 10 '40
No shortages says Stettinius. Business Week p24 Jl 20 '40

MUNITIONS—*Continued*
No tax concessions on munitions; closing agreement offers the taxpayer certainty of treatment, not special treatment. Business Week p13-14 D 30 '39
Organisation of munition supplies. Engineering 149:14-15 Ja 5 '40
Output of munitions. Engineer 169:533-4 Je 14 '40
Passed by Canadian censor; illustrations of shops manufacturing airplanes, machine guns and shells for World war II. Am Mach 84: 209-11 Ap 3 '40
Power engineer looks at the defense program. P. Swain. il Power 84:697-9 N '40
President Roosevelt issues proclamation making subject to license and control, exports of munitions, materials and machinery essential to national defense program. Comm & Fin Chr 151:39-40 Jl 6 '40
Priority for munitions in Britain. Economist 139:236-7 Ag 24 '40
Recent war orders. Mag of Wall St 66:583 Ag 24 '40
Representative armament orders placed by United States army; tabulation. L. C. Duncan. Barron's 20:3 My 13 '40
SAE in national defense. E. E. MacMorland. S A E J 47:sup18-19+ Jl '40
Speed defense orders; contracts totaling $6,500,000,000 have been placed. Business Week p16 O 26 '40
Stainless steels in the defense program. P. L. Coddington. Metal Prog 38:462 O '40
Text of newly-enacted bill giving RFC authority to finance government or private plants empowered to manufacture arms and those producing strategic materials. Comm & Fin Chr 151:309-10 Jl 20 '40
Timing armament profits; what mounting national defense orders mean to leading companies. C. Davidson, jr. il Mag of Wall St 67:76-9 N 2 '40
Want to sell military goods to U.S.? Here are bureaus and officials to see; army and navy field offices. S. Carter. Ptr Ink 192:63-5 Ag 23 '40
War buyers listed; countries other than the allies account for $44,000,000 in 1939 licensed arm exports. Business Week p55-6 F 17 '40
War purchases likely to spurt. L. C. Duncan. Barron's 20:3 My 13 '40
What about war orders? manufacturers will have to consider four principles. J. Garth. Am Business 10:34-5 Ja '40
What defense business means. il Business Week p15-16 Ag 10 '40
When you want to help speed the defense program; where to apply for war orders. map Am Business 10:17+ Ag '40
Where defense orders are going; state-by-state analysis of contracts, July 1-August 31, 1940. Business Week p56 S 7 '40
Where new defense plants will be built, and why. R. Ginsburgh. il map Factory Management 98:42-6 S '40; Excerpts. Management R 29:367-9 O '40
Which stocks in new tax era; armament companies with low average return on invested capital appear likely to fare best. L. C. Duncan. Barron's 20:18+ Ag 5 '40
Who pays for defense plants? what the army will spend. Business Week p22+ Jl 20 '40
Women and munition work. V. Holmes. Engineering 149:407-9 Ap 19 '40
York rates a star on defense map; city industrialists work together, sharing machinery and dividing business. Business Week p16+ S 28 '40

See also
Explosives
Ordnance
Priorities, Industrial
United States—War industries board, 1917-18
War resources board

MUNSELL color system. See Color

MURAL painting and decoration
Art forms in architecture; new techniques affect both; murals. il Arch Rec 88:73-6 O '40
Mural conceptualism. R. Neutra. Arch Forum 72:94-5 F '40
Murals; excerpts from discussion between H. S. Goodhart-Rendel and E. Newton. Arch Forum 73:101-2 Ag '40
Photos solve light projection problem; lighting murals in state capitol at Salem, Ore. E. R. Fletcher. il Elec W 113:772 Mr 9 '40
Problems the artist faces in today's architecture. B. Meyers. il Arch Rec 87:82-3 My '40

See also
Interior decoration
Photographic murals

MURDER
Forty-four years of murder first degree and electrocutions in New York state; tabulation. Spectator (Life ed) 144:41 Je 20 '40

MURDOCH, William, 1754-1839
Centenary. Engineer 168:546-7 D 1 '39
Pioneer of gas lighting. Chem Age (Lond) 41:331 N 11 '39
Sketch. Engineering 148:531-2 N 10 '39

MURIATIC acid. See Hydrochloric acid

MURPHY, Frederick E. 1873-1940
Sketch. por Ptr Ink 190:14 F 23 '40

MURPHY, G. C., company
Methods and procedures of the G. C. Murphy company. J. A. Krut. N A C A Bul 21:1291-1305 Je 15 '40
Topping the variety chain field. il Mag of Wall St 66:674-5+ S 21 '40

MUSCADININ
Anthocyanin pigment of the Hunt muscadine grape. W. L. Brown. bibliog Am Chem Soc J 62:2808-10 O '40

MUSCLE
Simple method of obtaining pure cultures of embryonic heart muscle. E. F. Stilwell. Science 92:267 S 20 '40

MUSCLES
Applied kinesiology; work-study guide. F. J. Lipovetz. 85 $2.25 numb l Burgess pub. co, Minneapolis '39
Forces driving the respiratory act. R. Gesell. il diags Science 91:229-33 Mr 8 '40

MUSCOVITE
Pinitized tuff of ceramic importance. P. F. Kerr. il diags map Am Cer Soc J 23:65-71 Mr '40

MUSCULAR debility. See Myasthenia

MUSCULAR power
Power and velocity developed in manual work. C. A. Koepke and L. S. Whitson. il Mech Eng 62:383-9 My '40

MUSEUM exhibits
Human body just a heating, piping and air conditioning system; display of human factory in Buffalo museum of science. il Heating-Piping 12:242 Ap '40
Leonardo da Vinci exhibit at the Museum of science and industry, Rockefeller Center, New York. il Civil Eng 10:538-9 Ag '40
Operating foundry exhibit; Museum of science and industry, Chicago. J. F. Powell. il Foundry 68:32-3+ Ja '40

MUSEUM libraries
History in Sante Fe. H. Jones. il Special Lib 31:83-5 Mr '40

MUSEUM of modern art, New York
Industrial design competitions for the 21 American republics. Arch Forum 73:sup27-30 O '40

MUSEUM of New Mexico, Santa Fe
Hall of ethnology. Science 92:232 S 13 '40

MUSEUM of science and industry, Chicago
Chemistry exhibits of the Chicago museum of science and industry. Science 92:122 Ag 9 '40
Operating foundry exhibit. J. F. Powell. il Foundry 68:32-3+ Ja '40
Statement to the Board of trustees on dismissals by new president. P. Fox. Science 92:260-3 S 20 '40

MUSEUMS
East is East and West is West; some observations on the World's fairs of 1939. C. E. Cummings. 382p Buffalo soc. of natural sciences, Buffalo, N.Y. '40

MUSEUMS—*Continued*
Museum as a potential force for social enlightenment. M. S. Goldstein. Science 92: 197-8 Ag 30 '40; Discussion. W. Kaempffert. 92:258-9 S 20 '40

See also
Art galleries and museums
Field museum of natural history, Chicago
Industrial museums
Marine museums
Museum of New Mexico, Santa Fe
Museum of science and industry, Chicago
also American association of museums

MUSEUMS, Industrial. See Industrial museums

MUSHROOMS
Mushroom poisoning; abstract. I. S. Rolzman and P. E. Sosin. Food Ind 12:99 My '40

See also
Russula foetens

MUSIC

See also
Radio broadcasting—Music
Violins

MUSIC halls

Heating and ventilation

Air conditioning Buffalo's new Kleinhans music hall. M. C. Beman. il Heat & Ven 37: 24-6 N '40

MUSIC in industry
Broadcast music in workshops; radio, gramophone, loudspeaking apparatus. il Engineer 170:31-2 Jl 12 '40
Broadcasting as an aid to production; system for transmitting music, A.R.P. instructions and orders throughout the works. il Electrician 125:45 Jl 26 '40
Can music increase production? R. Deardorff. Am Business 10:28+ Je '40
Music makes a difference; music and sound films at Bethlehem plant safety meetings. J. E. Culliney. il Nat Safety N 42:60 N '40

MUSIC libraries
Music isn't books; Sibley music library, Eastman school of music, University of Rochester. B. Duncan. Special Lib 31:56-8 F '40

MUSIC library association
Music library association is open to all librarians, teachers and institutions. Special Lib 31:137 Ap '40

MUSIC pavilions
Berkshire symphonic music shed, Tanglewood, Stockbridge, Mass.; views and plans. Arch Forum 72:167-70 Mr '40

MUSIC stores
Lehman radio salon, inc. New York; views, plans, finishes and equipment. Arch Forum 71:136-7 D '39
Shop modernizations pay dividends; radio, music and electrical appliance store in Milwaukee. il Am Bld 62:103 Ap '40
3-in-1 store plus space for rent; remodeling two old New York City garages into modern retail store; Rabson building. il plans Arch Rec 87:49-52 Ap '40

MUSIC trade

Directories

Purchaser's guide to the music industries. 44th annual ed 270p pa $1 Music trades and musical America, 113 W. 57th st, New York '40

MUSICAL instruments
History of musical instruments. C. Sachs. 505p bibliog(p469-87) $5 Norton '40

See also
Organs
Phonograph
Violins
Wind instruments

Manufacture

Making of musical instruments. T. C. Young. 190p $3 Oxford '39
Strike up the band; manufacture of band and orchestra instruments; C. G. Conn. P. Dwyer. il Foundry 68:24-6+ Jl '40

MUSICAL instruments, Electric
Artificial reverberation for electronic organ music. il Electronics 13:42+ Mr '40
Design for an electronic reed organ. F. D. Merrill, jr. il diags Electronics 13:42-5+ Ap '40
Electronic music. Electrician 123:314-15 S 29 '39
Electronic musical instruments and the development of the pipeless organ. G. T. Winch and A. M. Midgley. diags Inst E E J 86:517-41, pl 1-6 bibliog(59 references, p540-1); Discussion. 541-7 Je '40
Solovox; electronic musical instrument to be played with piano. il Sci Am 163:276 N '40

MUSICAL instruments trade
Canadian musical instrument industry. For Comm W 1:283-4 N 9 '40
Phonograph, radio, and musical instrument industries; value of products, selected years, 1914-37; tabulation. Index 20 no 3:67 [S] '40
Sales to music; Colorado Springs store pairs electrical and musical goods. il Elec West 83:38 D '39

MUSICAL intervals and scales
Electronic musical instruments and the development of the pipeless organ; musical scales and instruments of traditional form. G. T. Winch and A. M. Midgley. bibliog diags Inst E E J 86:518-24, pl 5 Je '40

MUSICAL pitch
Resonoscope; provides an accurate means of tuning musical instruments; abstract. S. K. Wolf and L. B. Holmes. diag Electronics 13:92 Je '40

MUSICAL scales. See Musical intervals and scales

MUSICIANS
Music as a career. W. R. Anderson. 271p $3 Oxford '39

MUSICK, Edwin Charles, 1894-1938
From crate to clipper with Captain Musick, pioneer pilot. W. S. Grooch. 243p $2 Longmans '39

MUSKRATS
Fur from the marshes; Louisiana's pelt harvest. Business Week p24 Mr 16 '40

MUSTARD
Commercial production of prepared mustard, table mustard, and mustard dressing; abstract. A. V. Pease. Food Ind 12:92-3 Ag '40

MUSTARD gas
Decontamination of foodstuffs affected by poisonous gases. A. P. B. Page. Chem & Ind 58:906-9 O 7 '39; Same. Can Chem & Process Ind 24:6-8 Ja '40
Modification of the Twiss-Neale lamp test for mustard gas. G. H. Edwards. il Chem & Ind 59:239-40 Ap 6 '40

MUSTARD oil
New method of preventing scum-forming yeast growth; abstract. F. W. Fabian. Food Ind 12:99-100 Jl '40

MUTAROTATION. See Optical rotation

MUTTON
Lamb and mutton production, revision; monthly, 1923-June, 1940. Fed Res Bul 26: 855 Ag '40

MUTUAL aid societies. See Benefit societies

MUTUAL broadcasting system
Mutual enlarges directorate. Ptr Ink 190:14 Ja 19 '40

MUTUAL inductance
Theory of a single-layer, bifilar, absolute standard of mutual inductance. C. Snow. J Research Nat Bur Stand 24:597-638 Je '40

MUTUAL insurance. See Insurance, Mutual

MUTUAL insurance companies, National association of. See National association of mutual insurance companies

MUTUAL savings banks. See Savings banks

MUZAK corporation
Music piped over telephone wires to apartment houses and cafés by Muzak corp. Business Week p44+ S 14 '40

MYASTHENIA
Treatment of muscular weakness with hormones; abstract. R. C. Moehlig. Science 92:sup8 Jl 19 '40

MYCALEX
Ceramic insulating materials. H. Thurnauer. Elec Eng 59:458 N '40

MYDDELTON, Hugh, 1560?-1631
Myddelton cup replica; presentation by British Ambassador to American society of civil engineers; a biographical note on Hugh Myddelton. Civil Eng 10:120-1 F '40

MYLONITE
Archean mylonite from northwestern Ontario. J. D. Bateman. bibliog Am J Sci 238:742-50, pl 1-2 O '40

MYOCHRYSIN
Chemotherapy in experimental infections caused by streptobacillus moniliformis. F. R. Heilman. Science 91:366-7 Ap 12 '40

MYRISTIC acid
Component fatty acids and glycerides of some myristica fats. D. Atherton and M. L. Meara. bibliog Soc Chem Ind J 58:353-7 D '39

MYXOPHYCEAE. See Algae

N

NAETHING, Foster S. 1887-1939
Appreciation. U. C. Tainton. Min & Met 21: 82 Ja '40

NAGASAKI, Japan
Port of Nagasaki. il(cover) Comm Rep p555+ Je 22 '40

NAILS
Columbia Steel makes nails exciting by Blitzkeg promotion; talking nail keg at jobbers' meetings. il Sales Management 47:32 O 1 '40
New rust proof nail outholds screw. Marine Eng 45:65 O '40
Rust proof nail for boats made of monel. il Sci Am 163:155 S '40
Wire nails, Pittsburgh, prices, 1929-1939; tabulation. Steel 106:290 Ja 1 '40

Manufacture
Improved technique triples die life; nail heading dies; Wilson steel & wire co. il diags Iron Age 146:41 Ag 29 '40

NAME plates. See Railroads—Name plates

NAMES, Geographical
South Dakota place-names; state, county, and town names. 72p bibliog(p70-2) Univ. of South Dakota, Vermillion '40
What's in a town name. T. D. MacGregor. Banking 32:27 Mr; 84 Ap; 26 My '40

NAMES, Personal
What's in a banker's name? study of surnames of bank officers and directors. T. D. MacGregor. Banking 33:92-4 S '40

NAMES of products. See Trade names

NANSEN, Fridtjof, 1861-1930
Nansen. A. G. Hall. 165p $2.50 Viking press '40

NAPHTHA
Catalytic desulfurization to improve aviation blending naphthas. W. A. Schulze and R. C. Alden. Am Pet Inst Proc 20(3):72-7 '39; Same. Oil & Gas J 38:199-200+ N 17 '39
Evaluation of nitrocellulose lacquer solvents; study of hydrocarbon diluents by the constant-viscosity procedure. V. W. Ware and W. M. Bruner. bibliog Ind & Eng Chem 32:78-82 Ja '40
Highly aromatic petroleum solvent naphthas; abstract. W. J. Sweeny and E. H. McArdle. Nat Pet N 32:R366-7 O 2 '40
Toxicity of coal tar naphtha distillates. H. Taylor. il Chem & Ind 58:1078-80 D 16 '39
See also
Gasoline

Testing
Effect of sulfur and sulfur compounds in naphtha upon certain corrosion tests; sensitivity of the doctor test. L. M. Henderson, M. S. Agruss and G. W. Ayers, jr. bibliog Ind & Eng Chem Anal ed 12:1-3 Ja 15 '40

NAPHTHALENE
Antiplasmodial action and chemical constitution; carbinolamines derived from naphthalene and quinoline. H. King and T. S. Work. Chem Soc J p1307-15 S '40
Chromones of the naphthalene series; synthesis of linear naphthaflavone(6 : 7-benzoflavone). V. V. Virkar and T. S. Wheeler. Chem Soc J p1681-3 N '39
Chromones of the naphthalene series; transformation of *o*-aroyloxyacetoarones into *o*-hydroxydiaroylmethanes. V. V. Virkar and T. S. Wheeler. Chem Soc J p1679-81 N '39
Heteropoly-acids as catalysts for the vapor phase partial oxidation of naphthalene. M. M. Marisic. bibliog Am Chem Soc J 62: 2312-17 S '40
Light oil recovery from coke oven gas. W. Tiddy and M. J. Miller. plans Am Gas J 153:7-10+ S '40
Light oil scrubbing for gum formers. S. Green. diags Am Gas Assn Proc 1939:573-85
Naphthalene (crude and refined), $C_{10}H_8$; hazard, precautions, first aid. Nat Safety N 41:38, 40 My '40
Oxidation of aromatic hydrocarbons. C. R. Downs. bibliog il Ind & Eng Chem 32: 1294-8 O '40
Separation of the aromatic hydrocarbons, and the isolation of *n*-dodecane, naphthalene, 1-methylnaphthalene, and 2-methylnaphthalene, from the kerosene fraction of petroleum. B. J. Mair and A. J. Streiff. bibliog diags J Research Nat Bur Stand 24:395-414 Ap '40

Analysis
Determination of naphthalene in coal tar and its products. W. Kirby. Soc Chem Ind J 59:168-71 Ag '40

NAPHTHALENEACETIC acid
Holly defoliation prevented by a-naphthaleneacetic acid. J. A. Milbrath and H. Hartman. Science 92:401 N 1 '40

NAPHTHALENESULFONIC acids
Studies in the diphenyl series; the preparation of asymmetrical diaryl derivatives; diazonium salts, stabilised by naphthalene-1-sulphonic acid, naphthalene-1:5-disulphonic acid, or zinc chloride, decomposed in hydrocarbon and nitrobenzene suspensions. H. H. Hodgson and E. Marsden. Chem Soc J p208-11 F '40

NAPHTHENATES
See also
Copper naphthenate

NAPHTHENES
Conversion of naphthenic acids to naphthene hydrocarbons; chemical constitution. G. E. Goheen. bibliog flow diag Ind & Eng Chem 32:503-8 Ap '40

NAPHTHENIC acids
Conversion of naphthenic acids to naphthene hydrocarbons; chemical constitution. G. E. Goheen. bibliog flow diag Ind & Eng Chem 32:503-8 Ap '40
Expanding uses for naphthenic acids; abstract. E. R. Littmann and J. R. M. Klotz. Nat Pet N 32:R366 O 2 '40
Naphthenic acids from Gulf Coast petroleum; composition of higher boiling acids. R. W. Harkness and J. H. Bruun. bibliog diags Ind & Eng Chem 32:499-502 Ap '40
Naphthenic acids in specialty formulas; uses in soaps, paints, fungicides. B. Levitt. il Chem Ind 47:166-7 Ag '40; Same. Chem Age (Lond) 43:169-70 O 12 '40
Solid naphthenic acids. T. Kennedy. Chem Age (Lond) 41:373 D 2 '39
Tertiary naphthenic acids; synthesis of 1,2,3,3-tetramethylcyclopentanecarboxylic acid from camphor. B. Shive, J. T. Horeczy and H. L. Lochte. bibliog Am Chem Soc J 62:2744-6 O '40

NAPHTHENIC acids—*Continued*

Analysis

Analysis of naphthenic acids. J. R. M. Klotz and E. R. Littmann. Ind & Eng Chem Anal ed 12:76-7 F 15 '40

Naphthenic acids; Aruba acid. J. R. M. Klotz and E. R. Littmann. Ind & Eng Chem 32: 590-1 Ap '40

NAPHTHIDINE

Octahydrodinaphthyline and octahydronaphthidine. G. D. Parkes and G. N. Walton. Chem Soc J p201-2 F '40

NAPHTHOFLAVONE. See Benzoflavone

NAPHTHOHYDROQUINONE

Nature of the by-product in the synthesis of vitamin K_1; 2-methyl-2-phytyl-2,3-dihydro-1,4-naphthoquinone. M. Tishler, L. F. Fieser and N. L. Wendler. bibliog Am Chem Soc J 62:1982-91 Ag '40

Sodium salt of 2-methyl-1,4-naphthohydroquinone diphosphoric acid ester. R. H. K. Foster, J. Lee and U. V. Solmssen. Am Chem Soc J 62:453-4 F '40

Vitamin K-active derivatives of 2-methyl-1,4-naphthohydroquinone. S. Ansbacher, E. Fernholz and M. A. Dolliver. bibliog Am Chem Soc J 62:155-8 Ja '40

NAPHTHOIC acid

Chelation in the potassium compounds of carboxylic and sulphinic acids. W. G. Wright. Chem Soc J p859-62 Jl '40

NAPHTHOL AS

Alkali colour reactions of azoic colours produced from members of the naphtol AS series. W. Bradley. bibliog Soc Dyers & Col J 56:296-302 Jl '40

Azoic colours; improved fastness to rubbing on piece goods. E. R. Wiltshire. Soc Dyers & Col J 56:245-9 Je '40; Excerpts. Textile World 90:76 O '40; Abstract. Textile Col 62:760-1 N '40; Discussion. Soc Dyers & Col J 56:249-52 Je '40

Studies in the naphtol AS series; estimation of members of the naphtol AS series; titrations with diazo-salt solutions in presence of a mixture of alcohol and pyridine. T. N. Mehta and V. B. Thosar. Soc Dyers & Col J 56:160-5 Ap '40

Studies in the naphtol AS series; synthetical experiments. R. V. Bhat, R. B. Forster and K. Venkataraman. bibliog Soc Dyers & Col J 56:166-78 Ap '40

NAPHTHOL azoxylene

Reduction of 2-naphthol-azoxylene. W. Seaman, A. R. Norton and J. Hugonet. Ind & Eng Chem Anal ed 12:464-5 Ag 15 '40

NAPHTHOLBENZEIN

Polar structure of some benzein indicators. M. A. Elliott and S. F. Acree. bibliog J Research Nat Bur Stand 23:675-81 D '39

NAPHTHOLS

Colorimetric determination of cobalt with beta-nitroso-alpha-naphthol. J. H. Yoe and C. J. Barton. bibliog Ind & Eng Chem Anal ed 12:405-9 Jl 15 '40

Dehydrogenation; the formation of naphthols from alcohols and ketones of the hydronaphthalene group. R. P. Linstead and K. O. A. Michaelis. Chem Soc J p1134-9 Ag '40

Steric hindrance in ketone-naphthol condensations; the condensations of the naphthols with cyclohexanone. J. B. Niederl, V. Niederl and J. Charney. Am Chem Soc J 62:322-3 F '40

Vitamin K activity of certain naphthols and tetralones. M. Tishler, L. F. Fieser and W. L. Sampson. Am Chem Soc J 62:1881-2 Jl '40

NAPHTHOQUINONE

Diene synthesis of 2,3-dialkyl-1,4-naphthoquinones related to vitamin K. L. F. Fieser and C. W. Wieghard. Am Chem Soc J 62:153-5 Ja '40

Further compounds having anti-hemorrhagic activity. L. F. Fieser, M. Tishler and W. L. Sampson. Am Chem Soc J 62:996 Ap '40

Naphthoquinone oxides. L. F. Fieser, M. Tishler and W. L. Sampson. Am Chem Soc J 62:1628-9 Je '40

Quinonyl derivatives of fatty acids. L. F. Fieser, M. D. Gates, jr. and G. W. Kilmer. bibliog Am Chem Soc J 62:2966-70 N '40

Synthesis of substituted α-naphthoquinones. C. F. Koelsch and D. J. Byers. bibliog Am Chem Soc J 62:560-2 Mr '40

Vitamin K. E. A. Doisy and others. bibliog Science 91:58-62 Ja 19 '40

Vitamin K activity of naphthoquinones. E. Fernholz, S. Ansbacher and H. B. MacPhillamy. bibliog Am Chem Soc J 62:430-2 F '40

See also
Methyl phytyl-naphthoquinone
Naphthohydroquinone
Vitamins—Vitamin K

NAPHTHOTOCOPHEROL

Nature of the by-product in the synthesis of vitamin K_1; 2-methyl-2-phytyl-2,3-dihydro-1,4-naphthoquinone. M. Tishler, L. F. Fieser and N. L. Wendler. bibliog Am Chem Soc J 62:1982-91 Ag '40

NAPHTHYLAMINE hydriodide

Probable solvation of aniline hydrochloride, aniline hydriodide, and α-naphthylamine hydriodide in aniline solution; a simple mathematical treatment. H. H. Hodgson and E. Marsden. Soc Chem Ind J 59:23-4 Ja '40

NAPHTHYLAMINE hydrochloride

Nuclear alkylation of aromatic bases; the action of n-dodecyl alcohol on the hydrochlorides of α- and β-naphthylamine. E. C. Butterworth and D. H. Hey. Chem Soc J p388-90 Mr '40

NAPHTHYL benzoate. See Benzonaphthol

NAPHTHYL compounds

Resolution of β-naphthylmethylcarbinol. T. A. Collyer and J. Kenyon. Chem Soc J p676-9 My '40

NAPHTHYLMETHYLMAGNESIUM chloride

Structure of aromatic compounds; the action of acetyl chloride on α- and β- naphthylmethylmagnesium halides. N. Campbell, W. Anderson and J. Gilmore. Chem Soc J p819-21 Je '40

NAPKINS

Staple cotton fabrics; table-cover and napkin fabrics. J. Hoye. il Textile World 90:101 Ja '40

NARCOTICS

Narcotics bureau asks sales restraint. Oil Paint & Drug Rep 136:5+ D 11 '39

Structure of cannabidiol; a method of synthesis of a tetrahydrocannabinol which possesses marihuana activity. R. Adams and B. R. Baker. Am Chem Soc J 62:2405-8 S '40

Structure of cannabidiol; position of the double bonds in cannabidiol; marihuana activity of tetrahydrocannabinols. R. Adams and others. Am Chem Soc J 62:2566-7 S '40

See also
Marihuana
Morphine
Opium

NARRAGANSETT Bay bridge

Substructure for long bridge built in fast time. il diag Eng N 124:181-3 F 1 '40

NARRAGANSETT electric company

Preferred stock offered. Comm & Fin Chr 151:706-7 Ag 3 '40

NASH-KELVINATOR corporation

Volatile low priced equities; thumbnail appraisal. Mag of Wall St 65:688 Mr 9 '40

NASHVILLE, Chattanooga and St Louis railway

Traffic statistics and income account 1936-39. Comm & Fin Chr 150:3055 My 11 '40

NATHANSON, Jonas Bernard, 1889-1939

Sketch. C. W. Prine. Science 91:36-7 Ja 12 '40

NATION planning

See also
Land utilization

NATIONAL academy of sciences
Autumn meeting, Philadelphia, Oct. 28-30; addresses and abstracts of papers. Science 92:411-19, 455-8, 481-4, 510-12 N 8-29 '40
Elections. Science 91:427-8 My 3 '40
Meeting, Washington, April 22-23; medals, abstracts of papers. Science 91:413-23, 454-7, 479-81 My 3-17 '40

NATIONAL accident and health association
Aims of association. W. B. Cornett. Weekly Underw 142:256 Ja 27 '40
Annual convention, 11th, Columbus, Ohio, June 5-7. East Underw 41:36-7+ Je 7; 42-4 Je 14 '40; Ins Field (Fire ed) 69:10-11 Je 6; 9+ Je 13 '40; Ins Field (Life ed) 69:8-9 Je 7; 9-11 Je 14 '40; Nat Underw 44:15-16+, 18+ Je 13 '40
Mid-year meeting, St Louis. East Underw 41: 40-2 Ja 26; 38+ F 2 '40; Ins Field (Fire ed) 69:14+ F 1 '40; Ins Field (Life ed) 69: 10-11 F 2 '40; Nat Underw 44:17+ F 1 '40; Nat Underw (Life ed) 44:6 F 2 '40; Spectator (Property ed) 5:10 Ja 25 '40; Weekly Underw 142:258 Ja 27 '40
Objectives of public relations committee. Weekly Underw 143:243 Ag 3 '40
Presidential address; abstracts. W. B. Cornett. East Underw 41:35-6+ Je 7 '40; Weekly Underw 142:1390+ Je 8 '40

NATIONAL acme company
Leaders in the machine tool industry; thumbnail appraisal. Mag of Wall St 66:30 Ap 20 '40
Thumbnail stock appraisal. Mag of Wall St 66:684 S 21 '40

NATIONAL advertising. See Advertising, National

NATIONAL aeronautic association of the United States
Reorganized. Aero Digest 36:118 F '40

NATIONAL air conditioning association
Organization. Sheet Metal Worker 31:50 F '40

NATIONAL association of attorneys-general
Proceedings, 1939; thirty-third annual meeting, July 10-11, 1939. 139p $1.50 Attorneys-general section, Council of state governments, 1313 E. 60th st, Chicago '39

NATIONAL association of better business bureaus
Business bureau consumer plans. Ptr Ink 191:24 My 24 '40

NATIONAL association of broadcasters
ASCAP v. N.A.B.; last inning score. N. Miller; E. C. Mills. Adv & Sell 33:29+ N '40
Annual convention, 18th, San Francisco. Ptr Ink 192:19-21, 71-2 Ag 16 '40
Debate: will radio advertising be better off under the present ASCAP licensing system? E. C. Mills; N. Miller. Adv & Sell 32:24-5, 56 D '39; 40+ Ja '40
New N.A.B. committees. Ptr Ink 190:78 Mr 15 '40

NATIONAL association of casualty and surety agents
Joint convention with International association of casualty and surety underwriters, White Sulphur Springs, Oct. 7-10. East Underw 41:37+ O 11; 36, 38-40 O 18 '40; Ins Field (Fire ed) 69:7-8+ O 10; 16-17 O 17 '40; Nat Underw 44:25+ O 10 '40; Spectator (Property ed) 6:10-12+ O 17 '40; Weekly Underw 143:837-44 O 12 '40

NATIONAL association of cost accountants
Annual meeting, 20th, Atlantic City, June 28. N A C A Bul 21:591-619 sec 3 Ja 1 '40
Officers and directors, 1940-41. N A C A Bul 21:1581-1636 sec 3 Ag 15 '40

NATIONAL association of cotton manufacturers
Annual meeting, Boston, Oct. 18. Textile World 89:64-5 N '39

NATIONAL association of credit men
American credit awards trophy for 1940 presented. Comm & Fin Chr 150:3451 Je 1 '40
Credit congress resolutions adopted at Toronto convention. Credit & Fin Management 42:28-30 Jl '40
Credit: symbol of civilization; keynote address at 45th congress. H. H. Heimann. Credit & Fin Management 42:10-13+ Je '40
Executive manager's report, 45th congress, Toronto, May 23. H. H. Heimann. Credit & Fin Management 42:33-6 Je '40
Highlights of 45th congress, Toronto, May 19-23. Credit & Fin Management 42:20-2+ Je '40
Industry group programs for Toronto congress; committee members. Credit & Fin Management 42:22, 24+ My '40
Insurance division meeting, Toronto, May 21. East Underw 41:22 My 31 '40; Ins Field (Fire ed) 69:17-18+ My 23 '40; Nat Underw 44:1+ My 23 '40
Members' bulletin. Published in monthly numbers of Credit and financial management
NACM as a business force. R. Deupree, il map Credit & Fin Management 41:16-19 D '39

NATIONAL association of hosiery manufacturers
Annual meeting, Philadelphia, April 17. Textile World 90:60 My '40

NATIONAL association of independent insurance adjusters
Annual convention, 4th, Chicago. East Underw 41:22 My 31 '40; Ins Field (Fire ed) 69:10 My 23 '40; Nat Underw 44:1+ My 23 '40; Weekly Underw 142:1274 My 25 '40

NATIONAL association of insecticide and disinfectant manufacturers
Annual meeting, 25th, Washington, D.C. Dec. 4-5. Oil Paint & Drug Rep 136:3+ D 11 '39
Mid-year meeting, Lake Wawasee, Ind. June 17-19. Oil Paint & Drug Rep 137:5+ Je 24 '40

NATIONAL association of insurance agents
Agents show appreciation of Bennett's service to Association. East Underw 41:25 S 20 '40
Annual convention, 45th, Buffalo. Nat Underw Conv no 44:5-32 S 20 '40; East Underw 41: 1+ S 20; 39-40, 50 S 27; 16+ O 4 '40; Ins Field (Buffalo Conv Daily ed) 69:1-27 S 17; 1-27 S 18; 1-27 S 19 '40; Nat Underw 44:3-4, 14-15+ S 19; 3+ S 26 '40; Spectator (Property ed) 6:10-12 O 3 '40; Weekly Underw 143:622+, 848 S 21, O 12 '40
Association will seek to operate without larger funds; closed year on August 31 without deficit. C. S. Stults. East Underw 41:34 S 20 '40
Columnistic closeup of the personalities and action at Buffalo convention. S. Welton. East Underw 41:33 S 20 '40
Committee reports presented at Buffalo. Spectator (Property ed) 6:18-19 S 19 '40; Weekly Underw 143:625-7 S 21 '40
Committees for 1940-1941. East Underw 41:16 N 8 '40; Same. Weekly Underw 143:1085-6 N 9 '40
Educational plan. S. O. Smith. Ins Field (Fire ed) 69:9 Mr 14 '40
Effective local board program plan. Weekly Underw 143:697 S 28 '40
Four new members appointed to executive committee. East Underw 40:19 D 8 '39; Ins Field (Fire ed) 68:8-9 D 7 '39; Weekly Underw 141:1206 D 9 '39
Full efficiency for '41, theme of local agents' Buffalo convention. East Underw 41:23 Ag 23 '40
Issues discussed by Executive committee at Buffalo meeting. Nat Underw 44:5+ O 3 '40; Ins Field (Fire ed) 69:7-8+ O 3 '40
Mid-year meeting, Wichita, Kan. East Underw 41:1+ Ap 26; 28 My 3 '40; Ins Field (Fire ed) 69:17+ Ap 25; 11+ My 2 '40; Nat Underw 44:3+ Ap 25; 3+ My 2 '40; Spectator (Property ed) 5:10-12+ My 2 '40; Weekly Underw 142:1022-6 Ap 27 '40
1940 committee chairmen. Ins Field (Fire ed) 68:7 D 28 '39; Spectator (Property ed) 5:9 Ja 11 '40; Nat Underw 43:15 D 28 '39; Weekly Underw 141:1373 D 30 '39
Secession stand of Ohio association of insurance agents, Feb. 1939. H. D. Van Gilder. Ins Field (Fire ed) 69:7 Ap 4 '40

NATIONAL association of insurance agents— *Continued*
Some operations of the national body. R. W. Forshay. Nat Underw 44:28+ O 31 '40
Strong executive committee for coming year. Weekly Underw 143:897-8 O 19 '40
Value of N.A.I.A. P. H. Midyette. Weekly Underw 143:473+ S 7 '40
Your national association and mine; abstracts. P. H. Midyette. East Underw 41:22 O 25 '40; Nat Underw 44:21 O 24 '40; Weekly Underw 143:963 O 26 '40

NATIONAL association of insurance commissioners
Annual convention, 71st, Hartford. East Underw 41:1+ Je 28 '40; Ins Field (Life ed) 69:5-7+ Je 28; 5-7+ Jl 5 '40; Ins Field (Fire ed) 69:7-8+ Je 27; 7-8+ Jl 4 '40; Nat Underw 44:3+ Je 27; 1+ Jl 4 '40; Nat Underw (Life ed) 44:1+ Je 28; 1+ Jl 5 '40; Spectator (Life ed) 145:12-13 Jl 4 '40; Weekly Underw 142:1545-6, 1548-9+ Je 29 '40
Committee chairmen appointed. Ins Field (Fire ed) 69:11 Ag 22 '40; Ins Field (Life ed) 69:5-6 Ag 16 '40; Spectator (Property ed) 6:14 Ag 22 '40
HOLC contract opposed by zone 3 officials. Nat Underw 44:5 S 26 '40
Mid-winter meeting, Edgewater Park, Miss. East Underw 40:1+, 8 D 8 '39; Ins Field (Fire ed) 68:7-8+ D 7; 7-8+ D 14 '39; Ins Field (Life ed) 68:7-8 D 8; 9-10 D 15 '39; Spectator (Property ed) 5:8-9 D 14 '39; Weekly Underw 141:1210-14, 1256 D 9-16 '39; Nat Underw 43:3+ D 14 '39; Nat Underw (Life ed) 43:1+ D 15 '39
Report of the president. C. C. Neslen. Weekly Underw 142:1541+ Je 29 '40

NATIONAL association of insurance women
Field turns on the spotlight. Ins Field (Fire ed) 69:24-6 N 7 '40
Insurance women launch national group at Denver. Ins Field (Fire ed) 69:13 Je 27 '40; Ins Field (Life ed) 69:10-11 Je 28 '40; Nat Underw 44:3 Je 27 '40; Weekly Underw 142:1541 Je 29 '40

NATIONAL association of life underwriters
Administration report. C. J. Zimmerman. Spectator (Life ed) 145:22-3+ S 26 '40
Annual convention, 51st, Philadelphia, Sept. 23-27. Ins Field (Philadelphia Conv Daily ed) 69:1-27 S 25; 1-27 S 26; 1-27 S 27 '40; East Underw 41:1+ S 27; 6-7 O 4 '40; Ins Field (Life ed) 69:5+ O 4 '40; Nat Underw (Life ed) 44:3+ O 4 '40; Nat Underw (Life ed) Daily ed 44:5-48 S 25; 5+ S 27 '40; Weekly Underw 143:720-2+ S 28 '40
Committees are named. Nat Underw (Life ed) 43:4 N 3 '39
Manager domination charge. C. J. Zimmerman. Nat Underw (Life ed) Daily ed 44: 18+ S 26 '40
Membership gains and enlarged national program. Ins Field (Life ed) 69:5 Jl 19 '40; Nat Underw (Life ed) 44:4 Jl 19 '40
Mid-year meeting of National council, Atlanta. East Underw 41:7 Ap 12 '40; Ins Field (Life ed) 69:5-7 Ap 5; 5-7 Ap 12 '40; Nat Underw (Life ed) 44:1+ Ap 12 '40; Spectator (Life ed) 144:12-13+ Ap 11 '40; Weekly Underw 142:825+, 928+ Ap 6-13 '40
Nominating methods should be changed. R. G. Engelsman. East Underw 41:3+ Ja 5 '40
Officers elected at convention. East Underw 41:7 S 27 '40
Plans for administration. H. T. Wright. East Underw 41:1+ O 4 '40
What we have done and what we intend to do. C. J. Zimmerman. Weekly Underw 142: 92+ Ja 6 '40

NATIONAL association of manufacturers
Annual meeting, New York, Dec. 6-8. Comm & Fin Chr 149:3650-2 D 9 '39
Bibliography of economic and social study material available through the National association of manufacturers. 20p Nat. assn. of manufacturers, 14 W. 49th st, New York '40
Business scene; highlights of the Congress of American industry. Trusts & Estates 69: 649-50 D '39
Manufacturers declare objectives. Factory Management 98:52-3+ Ja '40
Nation-wide inventory to make known industry's potentialities in defense program announced. H. W. Prentis, jr. Comm & Fin Chr 151:1657-8 S 21 '40
N.A.M., a public relations job. Business Week p26+ D 16 '39
Platform of American industry. Oil Paint & Drug Rep 136:3+ D 11 '39
Resolutions and addresses. Comm & Fin Chr 149:3802-5 D 16 '39

Library
Methods in using supplementary contacts. V. H. Meredith. Special Lib 31:256 Jl-Ag '40

NATIONAL association of master plumbers
Annual meeting, 58th, Cincinnati, June 10-13. Dom Eng 156:46-9+ Jl '40

NATIONAL association of motor bus operators
Annual meeting, 14th, Chicago, Sept. 18-20. Bus Transportation 19:484-9 O '40

NATIONAL association of mutual insurance agents
Annual meeting, Washington. Nat Underw 44:15 S 26 '40

NATIONAL association of mutual insurance companies
Annual convention, Cincinnati. Nat Underw 44:6+ S 19; 5+ S 26 '40; East Underw 41:46 S 27 '40

NATIONAL association of mutual savings banks
Annual convention, Boston, May 8-10. Comm & Fin Chr 150:2984-5 My 11 '40

NATIONAL association of petroleum retailers
Annual meeting, Chicago. Nat Pet N 32:21-2 Ag 28 '40

NATIONAL association of power engineers
Annual meeting, 58th, Columbus. Power 84: 684 O '40

NATIONAL association of purchasing agents
Annual meeting, 25th, Cincinnati. Oil Paint & Drug Rep 137:5+ Je 10 '40; Steel 106: 24 Je 10 '40; Business Week p16 Je 8 '40

NATIONAL association of real estate boards
Semi-annual survey, 34th, of real estate market. Comm & Fin Chr 150:366 Ja 20 '40

NATIONAL association of retail druggists
Annual convention, 42d, New York, Sept. 23-27. Oil Paint & Drug Rep 138:3+ S 30 '40

NATIONAL association of secretaries of state
Proceedings, 1939, twenty-second conference, August 16-19, 1939, Dixville Notch, N.H. 101p pa $1 Council of state governments, 1313 E. 60th st, Chicago '39

NATIONAL association of securities dealers
Annual meeting, Washington, D.C., April 29-30. Comm & Fin Chr 150:2811-12 My 4 '40
Board of governors 1st meeting, Washington, Jan. 22-23. Comm & Fin Chr 150:625 Ja 27 '40
Committees for New York, New Jersey and Connecticut appointed. Comm & Fin Chr 149:3813 D 16 '39
Forms issued for handling trade practice complaints. Comm & Fin Chr 150:1221 F 24 '40
NASD gets going; self-regulatory association of dealers who trade over the counter. J. B. Broderick. Barron's 20:18 Ja 22 '40
Newly elected board of governors. Inv Banking 10:22-3 Ja '40

NATIONAL association of sheet metal distributors
Annual meeting, 46th, Atlantic City, Oct. 14-17. Steel 107:17 O 21 '40

NATIONAL association of shippers advisory boards
Annual meeting, Chicago, Oct. 30-31. Ry Age 109:683-4+ N 9 '40

NATIONAL association of supervisors of state banks
Annual convention, 39th, Richmond, Va., Sept. 20. Comm & Fin Chr 151:1824 S 28 '40

NATIONAL association of wool manufacturers
Annual meeting, 75th, Boston, April 4. Textile World 90:50-1 Ap '40
Wool manufacturers mark 75th year. Textile World 90:46-7 Mr '40

NATIONAL automobile dealers association
Annual meeting, 23d, Washington. Automotive Ind 82:121+ F 1 '40
Dealers spurn federal aid; proposed Patman bill and F.T.C. code get cold shoulder by N.A.D.A. H. Hosking. Automotive Ind 82: 357-8 Ap 15 '40

NATIONAL automobile underwriters association
Annual meeting, New York. Weekly Underw 142:1253+ My 25 '40

NATIONAL aviation corporation
Brass tacks for the investor; brief analysis. Barron's 20:13 Ja 1 '40

NATIONAL banks. See Banks and banking, National

NATIONAL benefit life insurance company
Collapse of the National benefit life insurance company; a study in high finance among Negroes. J. B. Mitchell. 150p $1 Graduate school for the Division of the social sciences, Howard univ, Washington, D.C. '39

NATIONAL biscuit company
Earnings, 1936-39. Comm & Fin Chr 150:1445 Mr 2 '40
Sales and earnings. S. Devlin. il Mag of Wall St 66:630-1 S 7 '40
Statistics of income, capital, stock earnings, etc., 1929-39. Annalist 56:118 Jl 25 '40

NATIONAL board of fire underwriters
Annual meeting, New York. East Underw 41:16-18 My 24; 17+ My 31 '40; Ins Field (Fire ed) 69:9+ My 23 '40; Nat Underw 44:3+ My 30 '40; Spectator (Property ed) 5:12-14 My 30 '40; Weekly Underw 142: 1258-60+ My 25 '40
Annual report of the president; abstracts. F. D. Layton. East Underw 41:1+ My 24 '40; Ins Field (Fire ed) 69:9+ My 23 '40; Weekly Underw 142:1253+ My 25 '40
Committees for 1940-41. East Underw 41:25 Je 14 '40; Weekly Underw 142:1496 Je 22 '40
History and activities. F. S. Dauwalter. Nat Underw 44:5+ O 24 '40
Keeping tab on fire criminals; notes on directors, arson department. pors East Underw 40:84+ D 15 '39
Pioneer in public relations. Business Week p55 My 11 '40
Varied activities. W. E. Mallalieu. Weekly Underw 142:22+ Ja 6 '40

NATIONAL bondholders corporation
Distributions. Comm & Fin Chr 149:3415; 150:3366 N 25 '39, My 25 '40

NATIONAL brands. See Advertising, National

NATIONAL broadcasting company
Executive changes. Ptr Ink 193:71 O 11 '40
Lohr resigns from NBC. Ptr Ink 191:23-4 Je 14 '40

NATIONAL bureau of casualty and surety underwriters
National bureau stabilizing business. C. J. Haugh. East Underw 41:31 N 8 '40
Officers and committees. Ins Field (Fire ed) 69:11 My 16 '40

NATIONAL cancer institute
Cancer and the public health. T. Parran, jr. Science 90:427-30 N 10 '39

NATIONAL cancer institute journal
New publication of the Public health service. Pub Health Rep 55:1831-2 O 4 '40

NATIONAL cash register company
Corporate war casualties. S. Devlin. il Mag of Wall St 66:41+ Ap 20 '40
Offices and show rooms, New York city; views, plans, construction outline. Arch Forum 72:29-32 Ja '40
Putting the worst behind. E. A. Barnes. il Mag of Wall St 66:738-9 O 5 '40
Statistics of income, capital, stock earnings, etc. 1929-38. Annalist 54:732 D 7 '39

NATIONAL cinder concrete products association
Annual meeting, 17th, Atlantic City, Aug. 5-7. Concrete 48:12-13+ S '40; Rock Prod 43: 68+ S '40

NATIONAL city bank of New York
Annual report to stockholders. J. H. Perkins. Comm & Fin Chr 150:201 Ja 13 '40

NATIONAL committee of investment companies
Formed to cooperate with SEC in administering new law. Comm & Fin Chr 151:2125 O 12 '40

NATIONAL concrete burial vault association
Annual meeting, Cincinnati, May 7-9. Concrete 48:30 Je '40; Rock Prod 43:65-6 Je '40

NATIONAL concrete masonry association
Annual meeting, 20th, Washington, Feb. 12-14. Concrete 48:10, 24+ Mr '40; Rock Prod 43:61-70, 72 Mr '40

NATIONAL conference group
American bar association and American bankers association trust division form National conference group. Comm & Fin Chr 150:3909 Je 22 '40

NATIONAL conference of real estate taxpayers
Adopts by-laws to its program for tax betterment. Comm & Fin Chr 151:2294 O 19 '40

NATIONAL conference on labor legislation
Proceedings of the sixth National conference on labor legislation, Washington, D.C., November 13-15, 1939. 109p U. S. Division of labor standards, Washington, D.C. '40

NATIONAL container association
Court decree ends container prosecution; case of U.S. against the National container association. Paper Tr J 110:14-15 Ap 25 '40
Legality of association activities; definitions made by Department of justice in antitrust law action. Oil Paint & Drug Rep 137:3+ Ap 29 '40
National Container consent decree defines lawful association functions. G. H. Montague. Ptr Ink 191:55-6+ My 17 '40

NATIONAL cotton council of America
Council rejects resolution proposing net weight trading; resolutions proposed. Comm & Fin Chr 150:1220 F 24 '40

NATIONAL cottonseed products association
Annual meeting, 44th, New Orleans, May 13-14. Oil Paint & Drug Rep 137:5+ My 27 '40

NATIONAL council of American shipbuilders
Annual report. 40p, 17 tables National council of Am. shipbuilders, 21 West st, New York '40

NATIONAL council of private motor truck owners
Annual meeting, 1st, New York, Nov. 27. Ry Age 107:859-60 D 2 '39

NATIONAL council on compensation insurance
Annual report of general manager. W. F. Roeber. Ins Field (Fire ed) 68:7 D 21 '39

NATIONAL crushed stone association
Annual meeting, 23d, St. Louis, Jan. 22-24 Rock Prod 43:48-52+ F '40

NATIONAL dairy products corporation
Earnings, 1938 and 1939. Comm & Fin Chr 150:2262 Ap 6 '40
Greener pastures for dairy companies. F. H. McConnell. Barron's 20:8 Ja 1 '40
New outlook for National Dairy. G. L. Mathis il Mag of Wall St 66:44-5+ Ap 20 '40

NATIONAL defense advisory commission
Advisory defense commission members add several aides to staffs. Comm & Fin Chr 150:3757; 151:344-6 Je 15, Jl 20 '40
Agriculture and the defense program. C. C. Davis. Fed Res Bul 26:1168-70 N '40
Announces clearance of contracts amounting to $1,728,195,830 in eight weeks. Comm & Fin Chr 151:634 Ag 3 '40
Defense board gets full aid. E. R. Stettinius, jr. Iron Age 146:72+ Jl 18 '40
Defense organization extended to research and resources. Oil Paint & Drug Rep 137: 3+ Je 24 '40
Financing the defense program; contracts by the smaller business enterprises. Fed Res Bul 26:1171 N '40

NATIONAL defense advisory commission—*Cont.*
Formation of Defense commission's industrial materials department; organization chart. Steel 107:25 Jl 22 '40
Four big names; Palmer, Harrison, Nichols, Davis. pors Arch Forum 73:sup4+ Ag '40
Has already placed contracts of $1,661,891,494 since June 6. Comm & Fin Chr 151:332 Jl 20 '40
Industrial materials department, Advisory commission to Council of national defense; organization chart. Iron Age 146:70 Jl 18 '40
Industry can do the job if; industrial resources pledged to revitalization of defense program. Steel 106:21-2 Je 3 '40
Industry gets a voice in defense; Stettinius, Knudsen, Budd, and others named to new commission. Business Week p15-16 Je 1 '40
Manpower and Mr Hillman; load of national defense being adjusted to make best use of available skills and to absorb the unemployed. il Fortune 22:66-70+ N '40
Mr Knudsen goes to Washington; Mr Stettinius, too. Factory Management 98:46-9 Jl '40
National defense; the sinews. il maps Fortune 22:52-8+ O '40
Organization chart, Production division. Steel 107:33 S 23 '40
Organizing for chemical preparedness. Chem & Met Eng 47:460-1 Jl '40
Origins of business leadership; membership of defense commission typical. A. W. Atwood. Barron's 20:7 Ag 5 '40
Personnel of the Advisory defense commission. Business Week p24 Jl 6 '40
Personnel organization. Business Week p 18-19 Ag 10 '40
President Roosevelt sends to Congress Defense commission's general principles on letting contracts and labor requirements. Comm & Fin Chr 151:1653-4 S 21 '40
Prices and profits in a defense economy; prices to government, prices to consumers, producers' prices. E. B. George. il Dun's R 48:5-19 N '40
R. E. Wilson heads oil defense set-up. Nat Pet N 32:8-10 Je 26 '40
SAE men called to help government organize national defense program. S A E J 47: sup69-72 Jl '40
Stettinius keeps cool, does the job. Business Week p22-3+ Ag 24 '40
Stettinius, Knudsen fill out staffs to speed national defense program. Iron Age 145:74+ Je 13 '40
Swelling the ranks of the Defense commission. pors Business Week p16 Je 22 '40
Toluol from petroleum is defense board aim; plans for other commodities. Oil Paint & Drug Rep 138:3+ Jl 22 '40
Urges appointment of finance supervisor for defense committee. E. F. Connely. Comm & Fin Chr 151:930 Ag 17 '40
Why Knudsen wants no chairman. E. Duffield. Barron's 20:4 S 16 '40

Consumer division

Food sentinels; Miss Elliott to line up 40,000,000 wives in defense program. C. M. Wright. Ptr Ink 192:31-2 Ag 9 '40
Harriet Elliott dodges the isms; consumer adviser on Defense commission. Business Week p22+ S 7 '40
Retailer group is named to cooperate with National defense Consumer division. Ind Stand 11:255 O '40

NATIONAL defense research committee
Bush made coordinator; Research division of the National defense advisory commission. F. Neely. Aviation 39:76 Jl '40
Defense organization extended to research and resources. Oil Paint & Drug Rep 137: 3+ Je 24 '40
Defense research committee set up; Stettinius' staff enlarged. Iron Age 145:84-5 Je 20 '40
National advisory council; speed-up of science and research applied to national defense. W. Davis. Science 91:sup8 Je 21 '40
President Roosevelt appoints National defense research committee. Comm & Fin Chr 150:3899 Je 22 '40
Research girds for war. S. P. Johnston. il Aviation 39:40-1, 118 O '40

NATIONAL discount company
Ordinary annual general meeting, London. Economist 138:179 Ja 27 '40

NATIONAL distillers products corporation
Low-priced stocks paying dividends; thumbnail appraisal. Mag of Wall St 65:296 D 16 '39
Statistics of capital, income, stock earnings, etc. 1929-39. Annalist 56:310 S 5 '40
Statistics of income, capital, stock earnings, etc. 1929-38. Annalist 54:765 D 14 '39

NATIONAL district heating association
Annual meeting, 31st, French Lick Springs, May 14-17. Heat & Ven 37:52-3 Je '40; Heating-Piping 12:372+ Je '40

NATIONAL drug trade conference
Annual meeting, Washington, D.C. Oil Paint & Drug Rep 136:5+ D 11 '39

NATIONAL economic councils. See Economic councils

NATIONAL electrical code
Code revisions. A. B. Campbell. Elec West 84:137 Je '40
1940 National electrical code. A. Small. Ind Stand 11:234-5 S '40
Thin wall insulation gets code approval. Elec W 112:1756 D 16 '39
Two of four major code proposals accepted by National fire protection association electrical committee. Edison Elec Inst Bul 7: 571-2 D '39
What about these new wires? H. H. Weber. Elec West 85:29-31 O '40
What, where and how of the new building wires. E. A. Brand. Elec W 113:1517-20+ My 18 '40

NATIONAL electrical manufacturers association
Annual meeting, New York. Elec W News ed 114:1393 N 9 '40

NATIONAL electrical safety code
Code revisions. A. B. Campbell. Elec West 84:137-8 Je '40
Safety rules for the installation and maintenance of electric utilization equipment. U S Nat Bur Stand Handbook H33:1-80 '40
Safety rules for the installation and maintenance of electrical supply stations; comprising part 1 and the grounding rules of the fifth edition, National electrical safety code. U S Nat Bur Stand Handbook H31:1-65 '40

NATIONAL exposition of power and mechanical engineering
Annual power show, 14th; list of exhibitors, floor diagrams, products. il Mech Eng 62: sup17-37 N '40

NATIONAL farm youth foundation
Chance for farm boys; Henry Ford offers them competitive openings as salaried salesmen for his new tractor. A. M. Howe. il Ptr Ink 191:25-6, 30 My 17 '40
Henry Ford lends support to Farm youth foundation established by Ferguson-Sherman mfg. corp; educational courses in farm management and engineering, and training in operation of farm equipment. Automotive Ind 82:530-1 Je 1 '40
National farm youth foundation. Science 91: 470-1 My 17 '40

NATIONAL federation of sales executives
Fifth annual convention. Sales Management 46:72, 74+ Je 15 '40

NATIONAL federation of small manufacturers
Federation formed. Oil Paint & Drug Rep 137: 59 Ja 8 '40

NATIONAL federation of telephone workers
Contract with A.T. & T.; Telephone independent obtains voice in layoffs; Labor department undertakes wage survey.. Business Week p54 O 26 '40

NATIONAL federation of textiles
Annual meeting, Feb. 27. Textile World 90:51 Mr '40

NATIONAL fertilizer association
Annual convention, 16th, White Sulphur Springs, June 3-5. Oil Paint & Drug Rep 137:5+ Je 10 '40; Ind & Eng Chem News ed 18:557 Je 25 '40

NATIONAL fire insurance company of Hartford
Annual statements of group, 1939. East Underw 41:20 F 23 '40; Weekly Underw 142: 533 Mr 2 '40

NATIONAL fire protection association
Annual meeting, Atlantic City. Ins Field (Fire ed) 69:8 My 16 '40; Nat Underw 44:3+, 4+ My 9; 2+ My 16 '40
Progress in fire control. P. Bugbee. Weekly Underw 142:20+ Ja 6 '40
Purpose, committees, etc. Edison Elec Inst Bul 7:603+ D '39

NATIONAL fireproofing corporation
Passing the half-century mark, Natco points to second 50 years of progress. il Brick & Clay Rec 95:32-3 D '39

NATIONAL foreign trade council
Convention, San Francisco, July 29-31. Comm & Fin Chr 151:641, 785 Ag 3-10 '40

NATIONAL foreign trade week
Celebration, May 19-25. il Nation's Business 28:104 My '40
Highlights, Latin American trade. L. B. Clark. il map Comm Rep p439-41 My 18 '40

NATIONAL forests. See Forest reserves

NATIONAL founders' association
Annual meeting, 43d, New York, Nov. 15-16. Steel 105:28-9 N 20 '39; Iron Age 144: 90A-90B N 23 '39; Foundry 68:31+ Ja '40

NATIONAL fraternal congress of America
Annual convention, 27th, Baltimore. East Underw 41:11 S 6 '40; Nat Underw (Life ed) 44:1+, 2+ Ag 30; 4+ S 6 '40; Weekly Underw 143:421+, 429, 454 Ag 31 '40
Mid-winter meeting, Chicago. Nat Underw (Life ed) 44:1+ Mr 1 '40
Report by the committee on state of the orders and statistics. Nat Underw (Life ed) 44:29 O 4 '40

NATIONAL guard. See United States—Militia

NATIONAL guardian life insurance company
Shapes plans for anniversary drive. Nat Underw (Life ed) 44:5 S 27 '40

NATIONAL gypsum company
Earnings, 1936-39. Comm & Fin Chr 150:1445-6 Mr 2 '40
Profits at record high. G. L. Merton. il Mag of Wall St 65:364-5+ D 30 '39
Volatile low-price stock; thumbnail appraisal. Mag of Wall St 65:818 Ap 6 '40

NATIONAL housing act. See Housing laws

NATIONAL industrial advertisers' association
Boom and doom; industrial advertisers in convention. A. M. Howe. Ptr Ink 192:41, 44+ S 27 '40

NATIONAL industrial conference board
Annual meeting, 24th, New York, May 22. Automotive Ind 82:525+ Je 1 '40; Comm & Fin Chr 150:3289-91 My 25 '40

NATIONAL industrial sand association
Annual meeting, 5th, White Sulphur Springs, June 13-14. Rock Prod 43:36-8+ Jl '40

NATIONAL industrial traffic league
Annual meeting, 32d, Chicago, Nov. 21-22. Ry Age 107:855-6 D 2 '39

NATIONAL institute of health
Institutional outbreak of pneumonitis among employees in one building of the National institute of health. J. W. Hornibrook and K. R. Nelson. bibliog plan Pub Health Rep 55:1936-54, pl 1-6 O 25 '40

NATIONAL investors corporation
Report. Comm & Fin Chr 151:250 Jl 13 '40

NATIONAL labor relations act. See Labor laws and legislation—United States

NATIONAL labor relations board
Activities, 1938-39. Monthly Labor R 50:614-16 Mr '40
Board's administration is overweighted with lawyers. W. L. Leiserson. Comm & Fin Chr 151:1216 Ag 31 '40
Can NLRB veto defense contract? Business Week p15 O 12 '40
Companies violating labor act barred from RFC loans, says NLRB Chairman Madden; RFC Chairman Schram denies this. Comm & Fin Chr 150:1073, 1213 F 17-24 '40
Court condemns labor board, but reform must come from Congress. Steel 106:21-3 Ja 15 '40
Decision in Conoco's case may curtail powers of NLRB. Nat Pet N 32:18 N 6 '40
Defendants wear out: Los Angeles firms halt tent and awning case. Business Week p40 Je 15 '40
Enforcement of orders; United States Supreme court decision. Monthly Labor R 50:1171-2 My '40
Every day is voting day in the plant. W. Williams. il Factory Management 98:52-4 Je '40
Fact-finding powers of National labor relations board exclusive. Monthly Labor R 50: 888 Ap '40
Factory survey shows likes and dislikes for NLRB. Factory Management 98:66+ F '40
Fix NLRB, not law? House inquiry resumes. Business Week p39-40 Ja 13 '40
Four years of the National labor relations board. Business Week p48 N 11 '39
Hearing before special House committee. Iron Age 144:43-5, 48-9 D 28 '39
House investigating committee urges drastic amendments in NLRA. Comm & Fin Chr 150:2190 Ap 6 '40
House labor committee votes to enlarge NLRB by 2 members; seeks to change policies without dismissing present incumbents. Comm & Fin Chr 150:1860 Mr 23 '40
Industry's private opinion of the Labor board. il Factory Management 98:44-9 Ja '40
Labor board as guinea pig; other new deal agencies watching to see what House will do. G. B. Bryant, jr. Barron's 20:8 Ap 15 '40
Labor board functional limit recommended by investigators. Oil Paint & Drug Rep 137:3 Mr 11 '40
Madden gets a job, temporary; Millis may get NLRB post. Business Week p42 O 19 '40
Majority members of House committee investigating NLRB recommend end of present board and creation of new body. Comm & Fin Chr 150:1526 Mr 9 '40
More skeletons from NLRB closet; House inquiry. Business Week p27 D 23 '39
National labor policy and how it works. J. Rosenfarb. 732p $5 Harper '40
National labor relations board. E. M. Toland. Min Cong J 26:49-55+ O '40
National labor relations board cases. C. Aikin. 120p pa $1 Wiley '39
NLRB reverses; Puget Sound decision significant in light of the Labor board's internal troubles. Business Week p37-8 S 21 '40
NLRB's own relations troubled; House inquiry. Business Week p34+ D 16 '39
On company time; employer has no right to ban solicitation by union during working hours and allow other discussion. Business Week p48-9 N 9 '40
Processing plant held subject to National labor relations act. Monthly Labor R 51: 117 Jl '40
Review of Labor relations board decisions by courts. Monthly Labor R 50:372-5 F '40
United States Circuit court of appeals denies NLRB rehearing on petition to force disestablishment of company union in plant of Sterling electric motors, Los Angeles. Comm & Fin Chr 150:2975 My 11 '40
United States Supreme court issues 3 decisions upholding broad powers of NLRB. Comm & Fin Chr 150:47 Ja 6 '40
United States Supreme court upholds NLRB in suit by C.I.O.; holds Board and not unions may act to compel compliance with its orders. Comm & Fin Chr 150:1359 Mr 2 '40
Wagner act faces a crisis; Smith amendments, backed by the A.F.L., threaten reorientation. Business Week p24+ Jl 13 '40

NATIONAL life insurance company of Vermont
90th birthday. Nat Underw (Life ed) 44:2+ S 6 '40; Weekly Underw 143:582-3 S 14 '40

NATIONAL lime association
Annual meeting, 38th, Chicago, May 21-23. Rock Prod 43:42-4+ Je '40

NATIONAL lubricating grease institute
Annual meeting, 8th, Chicago. Nat Pet N 32:18 O 2 '40
Starts 9th year, Kerns is head. Nat Pet N 32:10 N 6 '40

NATIONAL machine tool builders' association
Annual meeting, 39th, Chicago, Oct. 24-25. Am Mach 84:892d-892e O 30 '40; Steel 107: 39 N 4 '40
Spring meeting, Cleveland, May 28. Am Mach 84:434e Je 12 '40; Steel 106:23-4 Je 3 '40

NATIONAL machinery company
Holds open house to show what makes jobs. il Steel 107:41 N 11 '40

NATIONAL mediation board
Activities, 1938-39. Monthly Labor R 50:613-14 Mr '40
Annual report. Ry Age 108:139-40 Ja 13 '40

NATIONAL metal congress
Congress, 22d, Cleveland. Iron Age 146:44-7+ O 31 '40; Steel 107:23-6 O 28 '40
Correlated technical program, Cleveland, Oct. 21-25. Iron Age 146:164-6 O 10 '40
Technical program. Metals & Alloys 12:498, 502+ O '40; Metal Prog 38:355-65 O '40; Steel 107:225-6+ O 14 '40

NATIONAL metal exposition
Exhibitors and products. Steel 107:237-8, 240, 243 O 14 '40
Exposition, 22d, Cleveland, Oct. 21-25. Automotive Ind 83:512-15 N 1 '40
Show in print; equipment, accessories and materials at National metal show, Cleveland, Oct. 21-25; with list of exhibitors. il Am Mach 84:794-808 O 16 '40

NATIONAL metal trades association
Annual meeting, 42d, New York, May 21-22. Iron Age 145:66-7 My 30 '40; Steel 106:39-40 My 27 '40

NATIONAL occupational conference
Record of accomplishment; final report of the director, 1933-1939. 18p The conference, New York '39

NATIONAL oil products company
Uncovering special situations. E. A. Barnes. Mag of Wall St 66:46-7 Ap 20 '40

NATIONAL oil scouts and land men's association (formerly National oil scouts association of America)
Annual meeting, 17th, Hot Springs, Ark. May 30-June 1. Oil & Gas J 39:19 Je 6 '40

NATIONAL oil scouts association of America. See National oil scouts and land men's association

NATIONAL paint, varnish and lacquer association
Annual meeting, 52d, Washington, Oct. 30-Nov. 1. Oil Paint & Drug Rep 138:3+ N 4; 47, 49-58+ N 11 '40
Building dedicated to Gregg. il Oil Paint & Drug Rep 138:3+ N 11 '40
Committees for 1940. Oil Paint & Drug Rep 137:5+ Mr 4 '40
Conference of Southern zone members, Atlanta. Oil Paint & Drug Rep 137:5+ F 26 '40
Paint headquarters moved. il Ind & Eng Chem News ed 18:249 Mr 25 '40
Paint store clerks offered course in sales training. Oil Paint & Drug Rep 138:5 O 21 '40

NATIONAL paper trade association
Annual meeting, 37th, New York, Feb. 19-22. Paper Tr J 110:134, 136+ F 22 '40
Approves certification. Paper Tr J 110:17 Mr 14 '40
Fall meeting, Chicago. Paper Tr J 111:9+ O 3 '40

NATIONAL parks and reserves
American planning and civic annual, 1939. H. James, ed. 288p $3 Am. planning and civic assn, 901 Union trust bldg, Washington, D.C. '39
Landscape design in the primeval environment. G. Eckbo, D. U. Kiley and J. C. Rose. il Arch Rec 87:74-9 F '40
Visitors, automobiles, 1936-1939. Survey of Cur Business 1940 Sup p86 [supplemented in monthly numbers]

See also
Great Smoky Mountains national park
Isle Royale national park
Yosemite national park

Roads
Interregional highways; recreational value as related to the federal park system. A. D. Cammerer. il Roads & Sts 83:54-6 Ja '40

NATIONAL paving brick association
Annual meeting, 34th, Chicago, Jan. 30-31. Brick & Clay Rec 96:28-30 F '40

NATIONAL petroleum association
Annual meeting, 38th, Atlantic City, Sept. 18-20. Nat Pet N 32:13, 19-20 S 25 '40; Oil & Gas J 39:26-7 S 26 '40
Semi-annual meeting, 37th, Cleveland. Nat Pet N 32:18-20 Ap 24 '40; Oil & Gas J 38: 57-8 Ap 25 '40

NATIONAL power and light company
Earnings, 1938 and 1939. Comm & Fin Chr 150:3208 My 18 '40
Liquidating value of principal investments based on 1939 earnings. Pub Util 25:802-4 Je 20 '40
Speculative factors. J. F. Childs. map Barron's 20:20 F 12 '40

NATIONAL provincial bank, limited
Annual general meeting, 107th, London. Economist 138:223-5 F 3 '40

NATIONAL publishers association
Annual meeting, 21st, Skytop, Pa. Ptr Ink 193:62+ O 4 '40

NATIONAL railroad adjustment board
Adjustment board under fire. J. Dickinson. Ry Age 108:1185-7 Je 29 '40
Bill would change Adjustment board; Short line association proposes amendments. Ry Age 109:451-2 S 28 '40
Procedure criticized by carriers. Comm & Fin Chr 151:14-5 Jl 6 '40
Union lawyer defends Chi. board; Mulholland replies to Dickinson's charges. Ry Age 109: 110-12 Jl 20 '40

NATIONAL rayon weavers association
Annual meeting, 7th, New York, Oct. 25. Textile World 89:67 N '39

NATIONAL ready mixed concrete association
Annual meeting, St Louis, Jan. 17-19. Rock Prod 43:46-7+ F '40

NATIONAL refugee service, inc.
Refugees build U.S. industries. Business Week p18+ Ap 27 '40

NATIONAL research council
Ceramics in the Division of geology and geography. Am Cer Soc Bul 19:221 Je '40
Medical fellowships. Science 91:471 My 17 '40
National research council committee on mathematical tables and aids to computation. R. C. Archibald. Science 92:129-31 Ag 9 '40
National research fellowships in the natural sciences. Science 91:612-13 Je 28 '40
Summary statement of activities, 1938-39. R. G. Harrison and A. L. Barrows. Science 90:575-80 D 22 '39
Survey of research in industry. Science 90: 535 D 8 '39

Committee on chemotherapy
Committee on chemotherapy. Ind & Eng Chem News ed 18:657-8 Ag 10 '40
Research work on chemotherapy. Science 92: 176-8 Ag 23 '40

NATIONAL research council of Canada, Ottawa
Extracts from 22d annual report. Chem & Ind 59:309-10 My 4 '40
Review of activities for the year ended March, 1939. 175p pa 75c National research council of Canada, Ottawa '39
Work of the Canadian national research council. Science 90:468-70 N 17 '39

NATIONAL research council of Canada, Ottawa—*Continued*

Bibliography

Publications of the National research council of Canada, 1918-1938 (N.R.C. nos. 1-778) 38p National research council, Research plans and publications section, Ottawa, Can. '39

NATIONAL retail lumber dealers association
Lumbermen find sales training best public relations policy. Sales Management 47:50-1 O 1 '40

NATIONAL safety code
National safety code program goes forward under ASA. C. Ainsworth. Ind Stand 11: 97-9 Ap '40

NATIONAL safety council
Analysis of major activities; chart. Nat Safety N 42:99 O '40
Annual safety congress, 29th, Chicago. Nat Safety N 42:16-19 N '40; Ins Field (Fire ed) 69:17 O 10 '40
Executive committee, 1939-1940. pors(p 14-15) Nat Safety N 40:32 D '39
Executive committee, 1939-1940. Nat Safety N 41:191 Mr '40
Executive committee, 1940-41. Nat Safety N 42:20-1 N '40
Executive committee of the metals section for 1939-1940. Blast F & Steel Pl 27:1274 D '39
National safety congress, 28th, Atlantic City. Safety Eng 78:6-8 N '39
National safety congress and exposition, 29th, Chicago, Oct. 7-11; program, officers, committees, etc. Nat Safety N 42:1-39 pt 2 S '40
Safety service during 1939. W. H. Cameron. Nat Safety N 41:19+ F '40
Sectional officers. Nat Safety N 42:76-8 N '40
Sectional officers elected for 1939-40. Nat Safety N 40:56+ D '39
Treasurer's report, 1939. Nat Safety N 41: 192-3 Mr '40
Trustees; portraits. Nat Safety N 42:15 N '40

NATIONAL sand and gravel association
Annual meeting, St Louis, Jan. 17-19. Rock Prod 43:33-43 F '40
Directors meeting, Washington, Oct. 10-11. Rock Prod 43:54-5, 72 N '40

NATIONAL securities and research corporation
Shares offered. Comm & Fin Chr 151:994 Ag 17 '40

NATIONAL security traders association
Annual convention, Detroit, Aug. 26-28. Comm & Fin Chr 151:1218 Ag 31 '40

NATIONAL sheet metal, roofing, heating and air conditioning contractors association
Permanent officers elected for the year. Sheet Metal Worker 31:34 F '40

NATIONAL social unit organization
Adventuring for democracy. W. C. Phillips. 380p $3 Social unit press, 118 E. 28th st, New York '40

NATIONAL society of professional engineers
Joint meeting with Ohio society of professional engineers, Columbus, Feb. 8-10. Eng N 124:216-17 F 15 '40

NATIONAL supply company (Pa.)
Annual report. Comm & Fin Chr 150:1776 Mr 16 '40
Bonds offered. Comm & Fin Chr 149:4036 D 23 '39
Fast moving low price stocks; thumbnail appraisal. Mag of Wall St 65:232 D 2 '39

NATIONAL tea company
Earnings, 1936-39. Comm & Fin Chr 150:1606 Mr 9 '40
Fast moving low price stocks; thumbnail appraisal. Mag of Wall St 65:232 D 2 '39

NATIONAL television systems committee
Organization. Electronics 13:34 Ag '40

NATIONAL trailways
Constructive merchandising, Denver terminal. L. S. Flint. il Bus Transportation 19:334-7 Jl '40

NATIONAL transitads, inc.
Transitads' agency policy. Ptr Ink 192:14 Ag 30 '40

NATIONAL warm air heating and air conditioning association
Annual meeting, 44th, Cleveland. Sheet Metal Worker 31:58-60 F '40
Midyear meeting, Chicago, June 2-4. Sheet Metal Worker 31:67-9 Je '40

NATIONAL wholesale druggists association
Annual meeting, 66th, White Sulphur Springs, W. Va. Sept. 28-Oct. 2. Oil Paint & Drug Rep 138:3+ O 7; 51-2, 54, 56+ O 14 '40

NATIONAL wholesale hardware association
Annual meeting, 46th, Atlantic City, Oct. 14-17. Steel 107:17 O 21 '40

NATIONAL youth administration
Activities under NYA work projects, 1938-39. Monthly Labor R 50:1153-4 My '40
Federal programmes to assist unemployed youth in the United States. Int Labour R 40:836-48 D '39
Junior employment services, March 1936 to July 1940. Monthly Labor R 51:636 S '40
National defense net; amateur station linkage to be administered under the National youth administration. A. Toombs. il Radio N 24:9+ S '40
NYA and the machinist; National youth administration workshops. il Am Mach 84:417 Je 12 '40
NYA college and graduate-work program, 1939-40. Monthly Labor R 50:859 Ap '40
NYA guidance and placement program. Monthly Labor R 51:84-5 Jl '40
National youth administration in ceramic art. V. O. Neff. Am Cer Soc Bul 18:463-5 D '39
NYA out-of-school work program, 1940-41. Monthly Labor R 51:636-9 S '40

NATIVE labor. See Native races

NATIVE races
Labour problems on European farms in South Africa. bibliog Int Labour R 40:848-57 D '39
Medical aspects of the protection of indigenous workers in colonies. L. Mottoulle. Int Labour R 41:361-70 Ap '40
Nutrition of indigenous workers. bibliog Int Labour R 41:307-17 Mr '40

NATURAL dyes. See Dyes and dyeing—Natural dyes

NATURAL gasoline association of America
Annual meeting, 19th, Tulsa, May 15-17. Nat Pet N 32:20-1 My 22 '40; Oil & Gas J 39: 26-7+ My 23 '40

NATURAL history

See also
Biology
Botany
Geology
Marine biology
Paleontology
Zoology

Bibliography

Natural history index-guide; an index to 3,365 books and periodicals in libraries; a guide to things natural in the field. B. Altsheler, comp. 2d ed rev & enl 583p Wilson, H.W. '40

NATURAL history museums
Exploring the earth and its life in a natural history museum. J. L. McCreery. rev & enl ed 312p $2.50 Stokes '40
Museum as a potential force for social enlightenment. M. S. Goldstein. Science 92: 197-8 Ag 30 '40; Discussion. W. Kaempffert. 92:258-9 S 20 '40

See also
Colorado museum of natural history
Field museum of natural history, Chicago

NATURAL lighting. See Daylight

NATURAL resources
America's treasure. W. M. Reed. 395p bibliog(p386-8) $3 Harcourt '39
Chamber of commerce forum on regulation of natural resources. Pub Util 25:684-6 My 23 '40
Conservation in Arkansas. C. A. Harper and L. A. Henry. 362p $1.04 Democrat ptg. and lithographing co, Little Rock, Ark. '39

NATURAL resources—*Continued*

Energy resources and national policy. 435p U.S. National resources committee, Energy resources committee, Washington '39

Man's earthly future; earth's natural resources should suffice for another thousand years. K. F. Mather. Sci Am 162:274-6 My '40

See also

Agriculture
Chemicals
Coal
Conservation of resources
Forests and forestry
Fuel
Gas, Natural
Mines and mineral resources
Oil lands
Ore deposits
Petroleum
Raw materials
Water power
Water supply

Bibliography

Subject index of reports by the National planning board, National resources board, National resources committee. 76p bibliog (p1-14) National resources committee, National resources planning board, Washington '40

Taxation

Natural resource tax [debate on taxing oil, gas and sulfur]. P. C. Ragsdale, comp. Texas U Pub 4038:1-208 bibliog(p36-8) '40 (pa 35c)

NATURAL steam. See Steam, Natural

NATURALIZATION

How to become a citizen of the United States. M. Schibsby and R. Lewis. 63p pa 25c Foreign language information service, 222 4th av, New York '39

Immigration and naturalization, 1938-39. Monthly Labor R 50:168-9 Ja '40

NATURE photographs

Look at life! a collection of nature photographs. L. M. Chace. $3.50 Knopf '40

NAUTICAL education

See also

United States maritime service

NAUTICAL instruments

Kenyon stability and trim indicator. il Marine Eng 45:82-3 S '40

Master control for the pilot house. G. M. Marr. Marine Eng 45:36-7 F '40

NAUTICAL mileposts. See Mileposts, Nautical

NAVAL air stations

Naval aviation shore establishment. J. B. Moss. il Aero Digest 36:65-6, 69+ F '40

Navy awards fee contract for Corpus Christi airbase. Eng N 124:835+ Je 20 '40

NAVAL aircraft factory, Philadelphia

Naval aircraft factory. S. M. Kraus. il Aero Digest 36:46-7+ F '40

NAVAL architects and marine engineers, Society of. See Society of naval architects and marine engineers

NAVAL architecture

Aeronautics and ship design. J. L. Taylor. Engineering 148:651-2 D 8 '39

Applied naval architecture; a short treatise on safety regulations and calculations, classification, tonnage and ship preservation for the operating personnel of the merchant service. G. C. Manning. 2v $2.75 Van Nostrand '39

Buckling of ships' deck plating. J. L. Taylor. Engineering 148:605-6 D 1 '39

Cross curves of stability. L. A. Baier. diags Marine Eng 44:581-2 D '39

Determination of true angle between dihedral planes. G. E. Mellin and M. Guralnick. diags Marine Eng 45:90+ My '40

Distinctive ships, 1940. il diags plans Marine Eng 45:78-115 N '40

From the shipowner's point of view. T. R. Cairns. Engineer 168:647-8 D 29 '39

How to get out the lines of a ship. N. B. Webster. Marine Eng 45:67-9 My; 68-70+ Je '40

Measurement of heel and trim. T. U. Taylor. il diag Engineering 149:399-401 Ap 12 '40; Same cond. Engineer 169:334-5 Ap 5 '40

Modern tanker design. N. J. Pluymert. Marine Eng 44:577-80 D '39; Same. Engineering 149:266-7 Mr 8 '40; Discussion. Marine Eng 44:590-2 D '39

Passenger and cargo liner Delbrasil; to run between New Orleans and the East coast of South American ports. il diags plans Marine Eng 45:48-62 Jl '40

Principles of naval architecture. H. E. Rossell and L. B. Chapman, eds. 2v $11 Soc. of naval architects and marine engineers, New York '39

Rolling experiments with ships and models in still water. R. W. L. Gawn. Engineering 149:552-3, 559-60 My 31-Je 7 '40

Rolling of ships under way; the decrement of roll due to hull and bilge keels. G. S. Baker. Engineering 148:527-8 N 10 '39

Section moduli and moments of inertia of flat bar sections. R. H. Macy. charts Marine Eng 45:74-5 S '40

Section moduli of cut channel stiffeners. W. A. Baker. Marine Eng 45:80-1 S '40

Ship plating under compression and hydrostatic pressure; abstract and discussion. H. W. Bengston. Marine Eng 44:586-8 D '39

S.S. America. il diags plans Marine Eng 45: 79-106 Ag '40

Structural design of warships. W. Hovgaard. 2d ed rev & enl 410p $6 U.S. naval inst, Annapolis, Md. '40

Survey ship Explorer. il plans Marine Eng 45:46-54 Je '40

Symmetrical arrangements. Marine Eng 45: 92 Mr '40

United States liner America. H. F. Norton and J. F. Nichols. il diags plans Engineering 150:145-8, 150, 178, pl 10 Ag 23-30 '40; Same cond. Engineer 170:142-4, 158-60, 173-4 Ag 30-S 13 '40; Excerpts. Marine Eng 45:43-5; Discussion. 41-2 Je '40

See also

Airplane carriers
Barges
Colliers
Dredges
Ferryboats
Fire boats
Freight ships
Lighthouse tenders
Marine engineering
Motor ships
Propellers
Repair ships
Sailing vessels
Ship propulsion
Shipbuilding
Ships
Ships, Concrete
Steamboats
Submarine boats
Tank ships
Torpedo boats
Towboats
Warships
Yachts and yachting

Designs and plans

C-3 cargo ship Sea Arrow; first ship of new program completed on West coast at Moore yard. il diag plans Marine Eng 45:68-76 Jl '40

Mormacpenn, motor ship. Marine Eng 45: 66-7 Mr '40

Motorship Sea Witch. il diags plans Marine Eng 45:54-5 S '40

Nicholas Duncan, new river towboat. il diag plan Marine Eng 45:58 F '40

Ohio, Texas tanker. il Marine Eng 45:48-52 O '40

Le paquebot à moteurs Baudouinville, de la Compagnie maritime belge. il diags plans Génie Civil 116:41-5 Ja 20 '40

NAVAL art and science

History

Naval warfare under oars, 4th to 16th centuries; a study of strategy, tactics and ship design. W. L. Rodgers. 358p $5 U.S. naval inst, Annapolis, Md. '39

NAVAL bases. See Naval air stations; Navy yards and naval stations

NAVAL education

See also United States naval academy, Annapolis

NAVAL engineering. See Marine engineering

NAVAL guns

Naval gun controls. Sci Am 162:164-5 Mr '40

NAVAL history

Conquest of the seas; the history and adventure of sea and ships. F. C. Bowen. 423p bibliog(p411-14) $3.50 Robert M. McBride & co, 116 E. 16th st, New York '40

NAVAL hygiene
Elementary hygiene, general and naval. R. Hayden. 417p bibliog(p405) $2.50 U.S. Naval Inst, Annapolis, Md. '39

NAVAL reserve. See United States—Naval reserve

NAVAL stations. See Navy yards and naval stations

NAVAL stores
Conservation program for 1940 issued by Department of agriculture. Oil Paint & Drug Rep 136:4+ N 20 '39
Naval stores loans; 1940 program of the Commodity credit corporation. Oil Paint & Drug Rep 137:5 Ja 1 '40
Naval stores production plan for 1941. Oil Paint & Drug Rep 138:3+ N 11 '40
Naval stores studies. C. F. Speh. il Manuf Rec 109:30-1+ F '40
News by commodities. Published in Foreign commerce weekly

See also
Rosin
Turpentine

Statistics
Naval stores. Published in weekly numbers of Oil, paint and drug reporter
Naval stores, 1936-1939. Survey of Cur Business 1940 Sup p90 [supplemented in monthly numbers]
Naval stores, 1938-39. Chem Ind 45:623-4, 767-8; 46:119-20 pt 2 N '39-Ja '40
Naval stores, 1939-40. Chem Ind 47:223-4 pt 2 Ag '40
Naval stores output dropped in 1939-40. Oil Paint & Drug Rep 137:59 Je 17 '40
Production in the United States, first half of 1939-40 season. Oil Paint & Drug Rep 136:41 D 11 '39

NAVAL uniforms. See Uniforms, Military

NAVICERT system
Allied system of import guaranties. H. P. Crawford. Comm Rep p25 Ja 13 '40
Britain plans to examine United States shipments to neutrals before export; would reintroduce navicert system. Comm & Fin Chr 149:3338 N 25 '39
British embassy suspends issuance of navicerts for goods to Scandinavian and Baltic countries. Comm & Fin Chr 150:2499 Ap 20 '40
Lord Lothian says navicert system will facilitate United States shipping; rules issued by British consulate general at New York. Comm & Fin Chr 149:3484 D 2 '39

NAVIES
Naval construction in 1939. F. McMurtrie. il Engineer 169:2-3, supp 1, 35-7 Ja 5-12 '40
Sea power and today's war. F. Pratt. 237p $3 Harrison-Hilton books, New York '39
Les transports maritimes; les tonnages des flottes de guerre et de commerce en janvier 1939. C. Berthelot. Chimie & Ind 43: 351-4 F 20 '40

See also
Airplane carriers
Submarine boats
Warships
also subdivision Navy under names of countries, e.g.
Great Britain—Navy
United States—Navy

NAVIGATION
Marine navigation. P. V. H. Weems. 443p $6 Van Nostrand '40
Oncoming ships; rule of the road at sea and the interpretation of lights. T. L. Stocken. 100p 10s 6d H. F. & G. Witherby, London '39
Planned marine museum; Franklin institute museum; Hall of marine transportation. C. M. Gay. il Franklin Inst J 229:577-83 My '40
Seamanship studies for young officers. F. Riesenberg. 6v $5 Van Nostrand '39

See also
Buoys
Direction finding apparatus
Harbors
Longitude
Maritime law
Motor boats
Motor ships
Nautical instruments
Radio aids to navigation
Radio apparatus on ships
Radio beacons
River traffic
Rivers
Shipbuilding
Shipping
Ships
Steamboats
Waterways
Yachts and yachting

Tables
Rapid navigation tables. W. Myerscough and W. Hamilton. 108p $4.20 Pitman '39
Star identification tables giving simultaneous values of declination and hour angle for values of latitude, altitude, and azimuth ranging from 0° to 88° in latitude and altitude and 0° to 180° in azimuth. 364p U.S. Hydrographic office, Washington; $1.50 Supt. of doc. '39

NAVIGATION, Aerial. See Aviation

NAVY fabrics
Textiles used in the fabrication of naval uniforms. L. Smith. Am Dyestuff Rep 29: 567-9 O 14 '40; Same. Textile Col 62:750-1+ N '40

NAVY yards and naval stations
Building a new first line of defense for the Americas: map. Business Week p44 Ag 31 '40
Fair exchange; American destroyers for leased naval bases. Economist 139:299-300 S 7 '40
Great Britain offers to lease naval bases in western hemisphere to United States; Prime Minister Churchill describes plan. Comm & Fin Chr 151:1067-8 Ag 24 '40
Gulf Coast naval base needed. Marine Eng 45:45-7 Jl '40
Hawaii: sugar-coated fort; Pearl Harbor is our Singapore. il maps Fortune 22:30-7, 78, 81-2 Ag '40
Navy goes into action on housing; barracks for embryo sailors at Newport training station. il Eng N 125:534-6 O 24 '40
Port of New York; interests of the U.S. navy. R. Whitman. il Civil Eng 10:333-6 Je '40
President Roosevelt advises Congress of agreement for leasing of naval and air bases from Great Britain in exchange for 50 over-age destroyers. Comm & Fin Chr 151:1370-1 S 7 '40

NAYLOR pipe company
Recapitalization stand reaffirmed by Illinois court. Comm & Fin Chr 151:2358 O 19 '40

NEAR EAST
Forces for peace in the Near East; buffer states along Britain's lines of empire. R. Strausz-Hupé. map Barron's 20:3 F 12 '40
Near East; an economic and strategic outline. map Economist 138:557-9, 606-7 Mr 30-Ap 6 '40

See also
Balkan states
Iraq
Palestine
Persia
Petroleum—Near East
Turkey

NEBRASKA

See also
Geology—Nebraska

NEBULAE
Hydrodynamics and the morphology of nebulae. F. Zwicky. Phys R 58:478 S 1 '40
Super-explosions of stars in distant nebulae. Science 90:sup6 D 29 '39
Types of novae. F. Zwicky. il Rs Mod Phys 12:66-85 Ja '40

NEBULIZERS
Nebulizer for inhalation experiments. R. J. Main. diag Ind & Eng Chem Anal ed 12: 117 F 15 '40

NECKTIES

Manufacture
Earnings and hours in men's neckwear industry, 1939. F. M. Jones and G. E. Votava. Monthly Labor R 50:410-31 F '40

NECROSIS
Hemorrhagic adrenal necrosis in rats on deficient diets. F. S. Daft and W. H. Sebrell. Pub Health Rep 54:2247-50 D 22 '39

NECROSIS—*Continued*
Hemorrhagic cortical necrosis of adrenals in rats on deficient diets. A. A. Nelson. bibliog Pub Health Rep 54:2250-6, pl 1-2 D 22 '39

NEEM oil
Fatty acids and glycerides of neem (margosa) oil. T. P. Hilditch and K. S. Murti. bibliog Soc Chem Ind J 58:310-12 O '39

NEENAH *expansimeter*
Neenah expansimeter; method for measuring the expansion or contraction of papers caused by change in relative humidity. J. A. Van den Akker. il diag Paper Tr J 109:105-6 N 30 '39

NEGLIGENCE
When gas company employes may recover damages for injuries. L. T. Parker. Am Gas J 153:23-4 O '40
Yacht owners' liability as respects passengers; case of the Friendship II. Weekly Underw 143:700+ S 28 '40

See also
Damages
Employers' liability
Municipal liability

NEGOTIABLE instruments
Australia and the law of negotiable instruments. J. O. Janousek. Comm Rep p227 Mr 9 '40
Cases on commercial and investment paper. R. Steffen. 965p, 175p $6 Foundation press, Chicago '39
Illustrative cases on the law of bills and notes. W. U. Moore. 2d ed 409p $3 West '40
Law of bills and notes. H. W. Humble. 390p $4 Harmon publications, Brooklyn, N.Y. '39
Law of negotiable instruments in Australia. J. O. Janousek. Compar Law Ser 3:467-81 S '40
Treatise on the law of bills of exchange, promissory notes, bank-notes and cheques. J. B. Byles. 20th ed 456p 42s Sweet & Maxwell, London '39

See also
Acceptances
Bank money orders
Bills of exchange
Bonds
Checks
Commercial paper
Warehouse receipts

NEGROES
Black Manhattan. J. W. Johnson. 284p $2.50 Knopf '40
Collapse of the National benefit life insurance company; a study in high finance among Negroes. J. B. Mitchell. 150p $1 Graduate school, Howard univ, Washington, D.C. '39
List of subject headings for books by and about the Negro. F. L. Yocom. 35p pa $1 Wilson, H.W. '40
Negro in Virginia. 380p bibliog(p353-67) $2.50 Hastings house, New York '40

See also
Advertising—
Negroes, Appeal to

Bibliography

Select, classified, and briefly annotated list of two hundred fifty books by or about the Negro, published during the past ten years. S. E. Grinstead, comp. Fisk univ. library, Nashville, Tenn. '39 (typew)
Source materials on the urban Negro in the United States: 1910-1938. 2d ed 37 numb l bibliog(l 33-7) pa 15c National urban league (for social service among Negroes), New York '39

Economic conditions

Clothing expenditures of wage earners and clerical workers. Monthly Labor R 50:267-85 F '40
Differences in family savings between cities of different size and location, whites and Negroes. H. Mendershausen. map R Econ Statis 22:122-37 Ag '40
Economic status of Negroes in New Jersey. Monthly Labor R 49:630 S '39
Expenditure habits of wage earners and clerical workers; some comparisons of white and Negro families. F. M. Williams and A. C. Hanson. Monthly Labor R 49:1311-34 D '39
Family income and expenditure in nine cities of the east central region, 1935-36; v. 1, Family income. A. D. H. Kaplan, F. M. Williams and R. Hellman. map U S Bur Labor Statistics Bul 644:1-538 '39
Family income and expenditure in the southeastern region, 1935-36; v. 1, Family income. A. D. H. Kaplan, F. M. Williams and J. S. Bernard. map U S Bur Labor Statistics Bul 647:1-520 '39
Food expenditures of wage earners and clerical workers. Monthly Labor R 51:250-66 Ag '40
Housing facilities and expenditures of wage earners and clerical workers. Monthly Labor R 50:807-24 Ap '40
Income, family size, and the economic level of the family. Monthly Labor R 50:115-34 Ja '40
Money disbursements of wage earners and clerical workers in eight cities in the east north central region, 1934-36. F. M. Williams and A. C. Hanson. U S Bur Labor Statistics Bul 636:1-443 '40
Money disbursements of wage earners and clerical workers in the North Atlantic region, 1934-36; v. 2, Eleven cities. F. M. Williams and A. C. Hanson. U S Bur Labor Statistics Bul 637:93-117 '39
Negro youth in depression years. I. De A. Reid. Monthly Labor R 51:352-5 Ag '40
Savings of wage earners and clerical workers, 1934-36. Monthly Labor R 51:119-39 Jl '40

Education

Five North Carolina Negro educators. N. C. Newbold, ed. 142p $1 Univ. of North Carolina press, Chapel Hill '39
Graduate instruction for Negroes in the United States. F. McCuistion. 172p bibliog(p109-10) $1.50; pa 75c George Peabody college for teachers, Nashville, Tenn. '39
Negro-training facilities for higher-grade jobs; statistics of Negro colleges. Monthly Labor R 49:629 S '39
Present status of chemistry in Negro colleges. H. W. Woodson. bibliog il J Chem Educ 17:111-16 Mr '40

Employment

Negro employees operate a community chest for Negroes; American cast iron pipe company, Birmingham, Ala. il Factory Management 98:60+ Jl '40
Negro workers in mining and manufacturing in Pennsylvania. Monthly Labor R 50:638-9 Mr '40
Negroes under WPA, 1939. Monthly Labor R 50:636-8 Mr '40
Occupational distribution of employed colored workers in Maryland, 1938. Monthly Labor R 50:350-1 F '40

Housing

Lone slum-clearer makes money; Mr Binns of Philadelphia turns run-down properties into profitable investments. il Business Week p32-3+ D 9 '39
Private slum clearance in Philadelphia. il Business Week p20 F 24 '40
Slum clearance by private enterprise; Philadelphia's black belt remodeled. A. Paxton. il Nation's Business 27:29-30, 70-1 D '39
Sweepstake housing; under construction in South Philadelphia is a 65-unit housing project for Negroes. il Arch Forum 72:sup4 F '40

Law

Legal status of the Negro. C. S. Mangum, jr. 436p bibliog(p425-6) $5 Univ. of North Carolina press, Chapel Hill '40

Occupations

Negro's opportunity. H. L. Jones. 208p $2.50 Henry L. Jones and co, 9301 Pace av, Los Angeles '40

NEGROES—*Continued*

Segregation

Validity of race-restriction agreements; sale of real property to or its occupance by certain racial groups. N. C. Farr. J Land & Pub Util Econ 15:477-9 N '39

NEGROES in politics

Negro in Congress, 1870-1901. S. D. Smith. 160p bibliog(p145-51) $2.50 Univ. of North Carolina press, Chapel Hill '40

NEIGHBORHOOD planning

Neighborhood trends and building depreciation are measurable. il maps Arch Rec 87: 90-1 My '40

NEKOOSA-EDWARDS paper company

Refinancing of bond issue approved. Paper Ind 22:651 O '40; Same. Paper Tr J 111:9 O 10 '40

NELSON, Donald Marr, 1888-

Named purchasing coordinator. Automotive Ind 83:81+ Jl 15 '40

Portrait. Business Week p7 Jl 6 '40

NELSON, Elmer Martin

Portrait. Business Week p40 Ap 6 '40

NELSON, John M. 1876-

Receives Nichols medal. por Ind & Eng Chem News ed 18:239-40 Mr 25 '40; Oil Paint & Drug Rep 137:4+ Mr 11 '40

NELSONITE

Origin of the nelsonite dikes of Amherst county, Virginia. C. H. Moore, jr. bibliog il diag Econ Geol 35:629-45 Ag '40

NEOARSPHENAMINE

Relation between the trypanocidal and spirocheticidal activities of neoarsphenamine; the spirocheticidal activity of the several American brands of neoarsphenamine. T. F. Probey. bibliog Pub Health Rep 54:2242-7 D 22 '39

NEOCOMIAN faunas. See Paleontology—Cretaceous

NEODYMIUM chloride

Solubilities of the chlorides of lanthanum, praseodymium, and neodymium. J. N. Friend and R. W. Hale. Chem Soc J p670-2 My '40

NEOFAT no. 19

Preparation of drying oils; recent developments. D. V. Stingley. bibliog il Ind & Eng Chem 32:1217-20 S '40

NEOHEXANE. See Dimethylbutane

NEON

Coefficient of thermal diffusion of neon and its variation with temperature. A. O. Nier. Phys R 57:338 F 15 '40

Mass spectrometer for routine isotope abundance measurements; isotope analyses of carbon, nitrogen, and other light elements. A. O. Nier. bibliog diags R Sci Instr 11:212-16 Jl '40

Observation of the spectrum of Ne V. F. W. Paul. Phys R 56:1067 N 15 '39

Relative secondary electron emission due to He, Ne, and A ions bombarding a hot nickel target. M. Healea and C. Houtermans. bibliog Phys R 58:608-10 O 1 '40

Thermal separation of isotopes. W. W. Watson. diags Phys R 57:899-902 My 15 '40

Transmutation of the separated isotopes of neon by deuterons. E. Pollard and W. W. Watson. bibliog diag Phys R 58:12-18 Jl 1 '40

Two new constituents of meteoritic gases. J. D. Buddhue. Am J Sci 238:569-72 Ag '40

NEON lamps. See Electric lamps, Neon

NEOPENTANE. See Dimethylpropane

NEOPENTYL alcohol. See Dimethyl propanol

NEOPENTYL chloride. See Chlorodimethyl propane

NEOPRENE

Characteristics and utility of neoprene latices. B. Dales. India Rubber W 102:43-5 Ap '40

Chemist and the ship; applications of rubber and related products. J. E. Holmstrom. Engineer 169:229 Mr 8 '40

Commercial production and use of neoprene. E. R. Bridgwater. il Rubber Age 47:242-4 Jl '40; Ind & Eng Chem 32:1155-6 S '40

Conveyors for oil-treated coal. il Rubber Age 46:235 Ja '40

Effect of petroleum products on neoprene vulcanizates; effect of lubricating oils. D. F. Fraser. bibliog il Ind & Eng Chem 32: 320-3 Mr '40

Effect of petroleum products on neoprene vulcanizates; effect of lubricating oils; abstract. D. F. Fraser. Chem & Ind 59:649-50 S 14 '40

Experience in integral aircraft fuel-tank construction; use of neoprene for sealing. F. C. Albright. il diags S A E J 47:291-3 Jl '40

Neoprene and asbestos used in the production of gaskets. Mach 47:169 N '40

Néoprène, caoutchouc du chloroprène. Ottenhoff. il Soc Ing Civils Mémoires 92:323-37 Mr '39

Present status of neoprene. E. R. Bridgwater. India Rubber W 102:51 Jl '40

Simplex automatic lubricator incorporates neoprene ball. diag Am Mach 84:311 My 1 '40; Sci Am 163:124 S '40

Synthetic rubber. A. E. Williams. Engineer 170:164-6 S 13 '40

Synthetic rubber; neoprenes and bunas and butyls. il map Fortune 22:70-1+ Ag '40

Synthetic rubber pressure tube; il. and diagrams. Product Eng 11:106 Mr '40

Victor gasket combines asbestos and neoprene. il Automotive Ind 82:552-4 Je 15 '40; Aero Digest 37:176+ Jl '40; Oil Paint & Drug Rep 138:57 Jl 8 '40

Testing

Mechanical oscillograph for routine tests of rubber and rubber-like materials. F. L. Yerzley. bibliog il diags Am Soc T M Proc 39:1180-8 '39; Same. India Rubber W 100: 43-7 Jl '39; Discussion. Am Soc T M Proc 39:1189-90 '39

NEOTIGOGENIN

Sterols; the preparation of neotigogenin from sarsasapogenin. R. E. Marker and E. Rohrmann. Am Chem Soc J 62:647-8 Mr '40

NEPHELITE syenite

Developing Canada's nepheline syenite. C. M. Nicholson. bibliog flow sheets il map Can Min J 61:135-46 Mr '40

Nepheline syenite in ceramic wares. C. J. Koenig. il map Ohio State U Eng Exp Sta Bul 103:1-64 '39 (pa 40c)

Use of nepheline syenite in floor-tile and wall-tile bodies. C. J. Koenig. il Am Cer Soc J 23:86-91 Mr '40

NERNST effect

Galvano- and thermomagnetic phenomena in iron and nickel. E. H. Butler, jr. and E. M. Pugh. diags Phys R 57:916-21 My 15 '40

NERVES

Argument for chemical mediation of nerve impulses. W. B. Cannon. bibliog Science 90:521-7 D 8 '39

Nerve messages in the fibers of the visual pathway. H. K. Hartline. bibliog il Opt Soc Am J 30:239-47 Je '40

NERVOUS system

Constitutional barriers to involvement of the nervous system by certain viruses. A. B. Sabin. Science 91:84-7 Ja 26 '40

Modern conception of the action of the nervous system. G. H. Parker. Science 92:319-23 O 11 '40

Nutrition as a factor in the development of constitutional barriers to involvement of the nervous system by certain visuses. A. B. Sabin and C. E. Duffy. bibliog Science 91: 552-4 Je 7 '40

Relative overgrowth of the central nervous system in vitamin A deficiency in young rats. S. B. Wolbach and O. A. Bessey. Science 91:599-600 Je 21 '40

Release of acetylcholine by sympathetic ganglia and synaptic transmission. bibliog R. Lorente de Nó. Science 91:501-3 My 24 '40

NERVOUS system—*Continued*

Diseases

Histopathology of the peripheral and central nervous systems. G. B. Hassin. 2d ed rev & enl 554p $7.50 Harper '40

Textbook of nervous diseases. R. Bing. 838p $10 C. V. Mosby co, St Louis '39

Vitamins and nervous breakdown; abstract. J. P. Frostig and T. D. Spies. Science 91: sup8-9 F 16 '40

See also
Mental diseases

Wounds and injuries

Injuries of the nervous system, including poisonings. O. Marburg and M. Helfand. 213p bibliog(p189-205) $3 Veritas press, New York '39

Injuries of the skull, brain and spinal cord; neuro-psychiatric, surgical, and medico-legal aspects. S. Brock, ed. 632p $7 Wood '40

NESSLER'S reagent

Preparation of Nessler's reagent. A. P. Vanselow. bibliog diag Ind & Eng Chem Anal ed 12:516-17 S 15 '40

NETHERLAND West Indies. See West Indies, Netherlands

NETHERLANDS

Committee formed in New York to care for Netherlands commercial interests. Comm & Fin Chr 150:3139 My 18 '40

Decree of royal Netherlands government regarding citizens' rights arising out of debts, obligations and other choses in action. Comm & Fin Chr 150:3583-4 Je 8 '40

The Dutch; a portrait study of the people of Holland. A. J. Barnouw. 297p bibliog(p281-3) $3 Columbia univ. press '40

Executive order and regulations on transfers of property. Fed Res Bul 26:509-13 Je '40

Royal decree of May 24, 1940, transferring to itself the title to all claims belonging to natural or legal persons domiciled in the kingdom. Comm Rep p607 Jl 13 '40

See also
Canals—Netherlands
European war, 1939—Netherlands
Strikes—Netherlands

Commerce

Influence of war conditions on foreign trade in September. Comm Rep p1126-7 D 2 '39

Wartime trade of Holland. Economist 138:516-17 Mr 23 '40

Economic conditions

Business situation. Comm Rep p74-5 Ja 27 '40

Economic strain in Holland. Economist 137: 210-11 N 11 '39

Holland in 1939. Economist 138:sup 15 F 17 '40

Netherlands; a leading neutral. Comm & Fin Chr 150:1493-6 Mr 9 '40

German occupation

Holland under German control. Economist 139:244-5, 280-1 Ag 24-31 '40

Occupied Holland. Economist 138:1075-6 Je 22 '40

Industries and resources

L'activité industrielle des Pays-Bas. J. H. Gelissen. Soc Ing Civils Mémoires 92:185-95 Mr '39

Politics and government

Politics in Holland. Economist 139:460-1 O 12 '40

NETHERLANDS INDIES

Allied troops land in Dutch West Indies; assurances given to Japan that no change will be made in status of Dutch East Indies. Comm & Fin Chr 150:3129-30 My 18 '40

Business conditions since the invasion of the Netherlands by Germany. Comm Rep p580-1 Jl 6 '40

Business situation. Comm Rep p24 Ja 13 '40 [cont monthly] [cont as For Comm W O 5]

Dutch East Indian trade. Economist 139:46-7 Jl 13 '40

Europe's war and Netherlands India; German victory would complicate the situation in the Pacific. K. Bloch. Barron's 20:18 My 27 '40

Far East may reshape world trade; economic realignment would result from Japanese seizure of Dutch islands. Business Week p51-2 Ag 10 '40

Netherlands Indies. Science 92:sup9-10 Ag 9 '40

Netherlands Indies offers opportunities for American trade. B. D. Dahl. il Comm Rep p238-9 Mr 9 '40

Overcrowding in the Netherlands Indies. Science 92:sup8 Ag 30 '40

President Roosevelt and Secretary Hull announce opposition to any change in status quo in Pacific area; mention particularly Netherlands East Indies. Comm & Fin Chr 150:2500 Ap 20 '40

Trade openings in the Dutch East Indies; imports, 1939. Economist 139:321 S 7 '40

See also
European war, 1939—Netherlands Indies
Workmen's compensation—Netherlands Indies

Industries and resources

L'activité industrielle dans les Indes Néerlandaises. Van Lidth de Jeude. Soc Ing Civils Mémoires 92:173-84 Mr '39

Netherlands Indies; history and resources; editorial. Comm & Fin Chr 150:2316-19 Ap 13 '40

NETS

Another bridge uses safety net; Dayton Avenue bridge, Los Angeles. il Eng N 124: 466 Mr 28 '40

NETWORK analyzer. See Electric distribution—Tables, calculations, etc.

NETWORK vaults. See Vaults (electric installation)

NEUTRAL salt effect

Effects of certain salt mixtures on the dissociation of glycine and alanine. A. C. Batchelder and C. L. A. Schmidt. bibliog J Phys Chem 43:1121-32 D '39

NEUTRALITY

A-B-C of the Neutrality law. map Business Week p44 D 2 '39

American neutrality problem. C. F. Phillips and J. V. Garland. 404p bibliog(p402-4) $2 Wilson, H.W. '39

American neutrality, trial and failure. C. G. Fenwick. 190p $2.50 New York univ. press, New York '40

Application of Neutrality act to mandates. Comm Rep p1169 D 16 '39

Canada and United States neutrality. B. K. Sandwell. 34p pa 15c Farrar '39

Collection of neutrality laws, regulations and treaties of various countries. F. Deák and P. C. Jessup, eds. 2v 1615p $10 Carnegie endowment; for sale by Columbia univ. press '39

Common sense neutrality; mobilizing for peace. P. C. French, comp. 255p $2 Hastings house, 135 Front st, New York '40

Conduct of vessels in Venezuelan waters. H. P. Crawford. Comm Rep p1082 N 25 '39

Control of vessels in territorial waters of the United States; President's proclamation. Comm Rep p582 Jl 6 '40

Department of justice establishes neutrality laws unit. Comm & Fin Chr 150:2817 My 4 '40

Financial transactions under Neutrality act of 1939. Fed Res Bul 25:1054 D '39

Finish ship reshuffling job; what the Neutrality act did to United States shipping. Business Week p48-9 Ja 13 '40

Fortune survey; if Japan or Russia fights. Fortune 20:114 D '39

Fortune survey; national policy toward the war. Fortune 20:78-9 D '39

Geolexigraph of the Neutrality act of 1939. S. E. Perkins. map(supp) Comm Rep p1056-8 N 18 '39; Correction. p1082 N 25 '39

NEUTRALITY—*Continued*
Geolexigraph of the Neutrality act of 1939; extension of credit. S. E. Perkins. Comm Rep p1195-6 D 23 '39
Geolexigraph of the Neutrality act of 1939; revision and consolidation of articles in Commerce reports; with text of law, proclamations, regulations, etc. S. E. Perkins. maps Compar Law Ser 3:241-85 My '40
Geolexigraph of the Neutrality act of 1939; transactions with Canada and other belligerent countries located in the Western Hemisphere north of the United States. S. E. Perkins. map charts Comm Rep p182-3, 189, 195-6+ F 24 '40
Geolexigraph of the Neutrality act of 1939 (transfer of title). S. E. Perkins. Comm Rep p130-1 F 10 '40
Germany rejects American republics' protest against violation of security zone. Comm & Fin Chr 150:1061 F 17 '40
Great Britain's rejection of protest by United States against mail interference; bases right to search on its interpretation of international law. Comm & Fin Chr 150:613-14 Ja 27 '40
Ireland protests to United States against inclusion in combat zone. Comm & Fin Chr 149:3184-5 N 18 '39
Italy's thorny path of neutrality; lacking natural resources, Mussolini feels pressure from both sides. R. Strausz-Hupé. Barron's 20:7 Mr 18 '40
Neutral rights and duties. Economist 138: 134-5 Ja 27 '40
Neutrality act extended to Norway although war not formally declared. Comm & Fin Chr 150:2646-7 Ap 27 '40
Neutrality act of 1939. G. Everett. map Ann Am Acad 211:94-101 S '40
Neutrality act proclamation; April 10, 1940, extension of combat area. map (supp) Comm Rep p365 Ap 20 '40
Neutrality act zone map. Comm Rep supp Je 22 '40
Neutrality for the United States. E. Borchard and W. P. Lage. 2d ed 461p $3.50 Yale univ. press '40
Neutrality in the Chinese-Japanese war. W. R. Castle. Ann Am Acad 210:119-26 Jl '40
Neutrality of the United States; laws, proclamations, orders, regulations, and inter-American declarations applicable during the present war in Europe; documents covering period Sept. 3-Dec. 14, 1939. 68p pa 25c World peace foundation '40
Neutrality restricts the American merchant marine. H. J. Harding. Ann Am Acad 211:102-10 S '40
Neutrals; United States, Russia, Italy, Japan. Economist 137:160-1 N 4 '39
President Roosevelt extends Neutrality act provisions to Italy; American shipping barred from Mediterranean. Comm & Fin Chr 150:3753 Je 15 '40
President Roosevelt orders freezing of French financial transactions in United States. Comm & Fin Chr 150:3898-9 Je 22 '40
President Roosevelt re-defines combat areas; extends definition to waters around Scandinavia, Finland and northern Russia. Comm & Fin Chr 150:2343 Ap 13 '40
Proclaiming the neutrality of the United States in the war between Italy, on the one hand, and France and the United Kingdom, on the other hand and proclamation of a state of war. F. D. Roosevelt. Comm Rep p529-30 Je 15 '40
Proclamations and regulations regarding the neutrality of the United States in the war between Germany and Norway. F. D. Roosevelt. Comm Rep p406-7+ My 4 '40
Shipment of articles or materials by mail, under the Neutrality act of 1939, to certain foreign countries. Comm Rep p99-100, 204-5 F 3, Mr 2 '40
Student congress movement, with discussion on American neutrality. L. S. Judson, ed. Ref Shelf v 13, no 7:1-255 '40 ($1.25)
Transfer of title under Neutrality act of 1939. Comm Rep p1114 D 2 '39
Treasury department issues rules for control of foreign and domestic vessels in United States harbors and waters. Comm & Fin Chr 151:42 Jl 6 '40
United States protests to Great Britain on interference with American mails. Comm & Fin Chr 150:41-2 Ja 6 '40
United States rejects British protest against provisions of Neutrality act. Comm & Fin Chr 150:352 Ja 20 '40
United States willing to join other American republics in protest against German invasion of low countries; declines to change status from neutral to non-belligerent. Comm & Fin Chr 150:3138 My 18 '40

See also
Coast patrol
Freedom of the seas
Navicert system

NEUTRALIZATION
Kinetics of neutralization. M. Kilpatrick. bibliog Am Chem Soc J 62:1094-6 My '40

NEUTRALIZATION, Heat of
Heat of neutralization of sodium hydroxide with hydrochloric acid. G. Kegeles. bibliog Am Chem Soc J 62:3230-2 N '40

NEUTRETTOS
Spontaneous disintegration of the neutral mesotron (neutretto). S. Sakata and Y. Tanikawa. bibliog Phys R 57:548 Mr 15 '40

NEUTRINO
Probably has no weight when at rest. W. Davis. Science 91:sup5 F 9 '40

NEUTRONS
Angular distribution of fast neutrons scattered by hydrogen, deuterium and helium. H. H. Barschall and M. H. Kanner. bibliog il diags Phys R 58:590-6 O 1 '40
Anomalous scattering of fast neutrons. M. R. MacPhail. bibliog Phys R 57:669-76 Ap 15 '40
Anomalous scattering of neutrons by helium. T. W. Bonner and E. Hudspeth. Phys R 57:1187-8 Je 15 '40
Anomalous scattering of neutrons by helium. H. Staub and H. Tatel. bibliog diag Phys R 58:820-8 N 1 '40
Anomalous scattering of neutrons by helium and the *d*—*d* neutron spectrum. E. Hudspeth and H. Dunlap. diag Phys R 57:971-5 Je 1 '40
Bombardment of uranium with fast and slow neutrons. L. S. Foster. J Chem Educ 17: 448-9 S '40
Capture cross sections for thermal energy neutrons. C. Lapointe and F. Rasetti. bibliog Phys R 58:554-6 S 15 '40
Comparative efficiencies of radioactive neutron sources. E. J. Murphy and others. Phys R 58:88 Jl 1 '40
Continuum theory of the compound nucleus. H. A. Bethe. Phys R 57:1125-44 Je 15 '40
Cure of cancer and slow neutrons; abstract. P. A. Zahl, F. S. Cooper and J. R. Dunning. Science 92:sup14 O 25 '40
Evidence against the existence of an excited state of He^3. R. D. Park and J. C. Mouzon. bibliog Phys R 58:43-6 Jl 1 '40
Fast neutron measurements with recoil counters. S. A Korff. Phys R 56:1241-2 D 15 '39; Same. Franklin Inst J 229:802-4 Je '40
Fission products of uranium by fast neutrons. Y. Nishina and others. Phys R 58:660-1 O 1 '40
Induced β-activity of uranium by fast neutrons. Y. Nishina and others. Phys R 57: 1182 Je 15 '40
Interference phenomena in the scattering of slow neutrons. H. G. Beyer and M. D. Whitaker. bibliog diags Phys R 57:976-81 Je 1 '40
Internal absorption of gamma rays in radium-beryllium neutron sources. L. F. Curtiss. diag J Research Nat Bur Stand 23:617-19 N '39
Interpretation of neutron measurements in cosmic radiation. H. A. Bethe, S. A. Korff and G. Placzek. bibliog Phys R 57:573-87 Ap 1 '40

NEUTRONS—*Continued*
Luminescence excited by exposure to neutrons. F. G. Wick and M. S. Vincent. Phys R 58:578 S 15 '40
Neutron capture by uranium (238). E. T. Booth and others. Phys R 58:475-6 S 1 '40
Neutron-deuteron scattering cross section. L. Motz and J. Schwinger. Phys R 57:161-2 Ja 15 '40
Neutron-proton interaction. H. B. Hanstein. bibliog Phys R 57:1045 Je 1 '40
Neutron's magnetic moment. O. Halpern and M. H. Johnson. bibliog Phys R 57:160 Ja 15 '40
Nuclear fission. K. K. Darrow. bibliog il Bell System Tech J 19:267-89 Ap '40
Oppenheimer-Phillips process. G. M. Volkoff. bibliog Phys R 57:866-76 My 15 '40
Photographic plate spectrum of *d-d* neutrons. H. T. Richards and E. Hudspeth. il Phys R 58:382 Ag 15 '40
Quantitative determination of the neutron moment in absolute nuclear magnetons. L. W. Alvarez and F. Bloch. bibliog diags Phys R 57:111-22 Ja 15 '40
Radioactive products from gases produced in uranium fission. G. N. Glasoe and J. Steigman. Phys R 58:1-6 Jl 1 '40
Reactions of high energy atoms produced by slow neutron capture. W. F. Libby. bibliog Am Chem Soc J 62:1930-43 Ag '40
Reactions produced by neutrons in heavy elements. E. Fermi. Science 92:269-71 S 27 '40
Recent studies at high elevations. S. A. Korff. diag Rs Mod Phys 11:211-19; Discussion. J. C. Stearns and D. K. Froman. 220-1 Jl-O '39
Relative probability for the loss of neutrons and alpha-particles from an excited nucleus. J. M. Cork and J. Halpern. Phys R 57:667-8 Ap 15 '40
Report on the work of the Bartol research foundation, 1938-39; neutrons in cosmic rays. W. F. G. Swann. il Franklin Inst J 229:303-9 Mr '40
Report on the work of the Bartol research foundation 1939-40; neutrons in cosmic rays. W. F. G. Swann. il diag Franklin Inst J 230:338-45 S '40
Resonance levels of rhodium and indium. J. Hornbostel, H. H. Goldsmith and J. H. Manley. bibliog Phys R 58:18-23 Jl 1 '40
Resonance scattering of neutrons in helium. H. Staub and H. Tatel. Phys R 57:936 My 15 '40
Resonances in the emission of neutrons from the reaction $C^{12}+H^2$. T. W. Bonner, E. Hudspeth and W. E. Bennett. Phys R 58: 185-6 Jl 15 '40
Scattering cross section of protons for 900-kev neutrons. W. E. Good and G. Scharff-Goldhaber. bibliog diag Phys R 58:89 Jl 1 '40
Scattering of thermal neutrons by crystals. F. Rasetti. bibliog diag Phys R 58:321-5 Ag 15 '40
Scattering of thermal neutrons by deuterons. L. Motz and J. Schwinger. Phys R 58:26-36 Jl 1 '40
Scattering of 2.5-Mev neutrons in helium. J. A. Wheeler and H. H. Barschall. diags Phys R 58:682-7 O 15 '40
Search for a neutron-deuteron reaction. L. B. Borst and W. D. Harkins. Phys R 57:659 Ap 1 '40
Secondary neutrons from uranium. L. A. Turner. Phys R 57:334 F 15 '40
Slow neutrons from atom-smashing cyclotron effective against cancer. Science 91:sup9 Ja 12 '40
Some experiments on the relative cross sections of the (n, α) and (n, p) reactions produced by fast neutrons. T. Amaki and A. Sugimoto. Phys R 58:659 O 1 '40
Steady-state diffusion under conditions of generalized source and incident current distributions. E. A. Schuchard and E. A. Uehling. Phys R 58:611-23 O 1 '40
Theory of the resonance scattering of protons and neutrons on helium. F. Bloch. Phys R 58:829-36 N 1 '40
Transmission of neutrons of different energies through quartz crystals. M. D. Whitaker, W. C. Bright and E. J. Murphy. Phys R 57:551 Mr 15 '40

NEVADA
See also
Geology—Nevada
Mines and mineral resources—Nevada

NEW BEDFORD, Connecticut
Rapid transit
Loss changed to profit; substitution of motor buses. il Transit J 84:229 Jl '40

NEW BRITAIN, Connecticut
Family income and expenditure in five New England cities, 1935-36; v. 1, Family income. A. D. H. Kaplan, F. M. Williams and D. McCamman. U S Bur Labor Statistics Bul 645:1-351 '39

NEW BRUNSWICK
See also
Lumber trade—New Brunswick

NEW CASTLE, Pennsylvania
Family income and expenditure in nine cities of the east central region, 1935-36; v. 1, Family income. A. D. H. Kaplan, F. M. Williams and R. Hellman. map U S Bur Labor Statistics Bul 644:1-538 '39

NEW ENGLAND
Planning marches on; the record of planning in New England, 1934-1939. H. K. Menhinick, comp. 36 numb l National resources committee, region one, Boston '39
See also
Forests and forestry—New England
Railroads—New England
Water supply—New England
Economic conditions
Consumer incomes and family budgetary expenditures; Printers' Ink market explorations; New England states. maps Ptr Ink 191:sup 1-32 Je 28 '40
Expansion in New England paralleled that of nation. Annalist 55:142-3 Ja 25 '40
Family income and expenditure in five New England cities, 1935-36; v. 1, Family income. A. D. H. Kaplan, F. W. Williams and D. McCamman. map U S Bur Labor Statistics Bul 645:1-351 '39
New England business activity and security markets. Annalist 55:142-3 Ja 25 '40 [cont monthly]
Industries and resources
New England community statistical abstracts; social and economic data for 175 New England cities and towns. R. G. Wells and J. S. Perkins, comps. 2d ed 15,[350]p pa $3.50 Bur. of business research, Boston univ, 685 Commonwealth av, Boston '39
See also
Machine tool industry—New England

NEW ENGLAND council
Annual conference, Boston. Comm & Fin Chr 149:3487-8 D 2 '39
Yankee medicine for Yankee ills; annual conference, Boston. Business Week p23-4 D 2 '39

NEW ENGLAND gas association
Annual business conference, 14th, Boston, March 14-15. Am Gas J 152:14-15 Ap '40; Gas Age 85:17-18+ Mr 28 '40

NEW ENGLAND intercollegiate geological excursion
New England intercollegiate field geologists 35th annual conference, Hartford, Conn., Oct. 20-22. Science 90:594 D 22 '39

NEW ENGLAND mutual life insurance company
Annual statement, 1939. East Underw 41:3-4 F 23 '40
Cornerstone laying exercises. East Underw 41:J+ S 6 '40; Ins Field (Life ed) 69:5-6+ S 6 '40; Weekly Underw 143:530, 588 S 7-14 '40

NEW ENGLAND power association
Income account, 1936-39. Comm & Fin Chr 150:3209 My 18 '40
SEC indorses proposal to sell utility for $1. Comm & Fin Chr 150:2109 Mr 30 '40
Status of debentures. W. W. Amos. Barron's 20:19 Ap 15 '40

NEW ENGLAND power company
Earnings, 1936-39. Comm & Fin Chr 151:422 Jl 20 '40

NEW ENGLAND water works association
Annual meeting, 58th, Montreal, Sept. 12-15. N E Water Works Assn J 53:505-31 D '39
Annual meeting, 59th, New York, Sept. 24-27. Eng N 125:438, 477-9 O 3-10 '40; Water Works & Sewerage 87:475-80, 537-42 O-N '40
Committees, 1939-1940. N E Water Works Assn J 54:145-7 Mr '40
Index to the Transactions and Journal, 1882 to 1939. N E Water Works Assn J 54:299-352 S '40

NEW GUINEA
In the wake of a traveling engineer. J. C. Cosgrove. il Explosives Eng 18:186-8 Je '40
Metasomatism associated with tertiary mineralization in New Guinea. N. H. Fisher. maps Econ Geol 34:890-904 D '39

See also
Gold mines and mining—New Guinea
Petroleum industry and trade—New Guinea

NEW HAMPSHIRE

Antiquities

See also
Pattee's caves

Economic conditions

New Hampshire learns where its money goes; pictograph. Sales Management 46:35 Ja 15 '40

Industries and resources

Hands that built New Hampshire. 288p bibliog(p261-73) $3 Stephen Daye press, Brattleboro, Vt. '40

NEW HAMPSHIRE academy of science
Annual meeting, 22d, Conway, May 31-June 1. Science 92:14 Jl 5 '40

NEW HAVEN, Connecticut
Economic and industrial survey, New Haven, Conn. 114 l pa $2 New Haven chamber of commerce, 152 Temple st, New Haven, Conn. '39

NEW HAVEN & Hartford railroad. See New York, New Haven & Hartford railroad

NEW JERSEY
State regulation of flood-plain use. G. F. White. J Land & Pub Util Econ 16:353-4 Ag '40

See also
Geology—New Jersey
Iron mines and mining—New Jersey
Taxation—New Jersey

Economic conditions

Consumer incomes and family budgetary expenditures; Printers' Ink market explorations. Ptr Ink 192:supl-39 Ag 2 '40

Industries and resources

Bridge state; three-ply transportation system key to industrial and power development. F. H. McConnell. il map Barron's 20:11-15 Ap 29 '40

NEW LONDON northern railroad
Extension of bonds. Comm & Fin Chr 150:2889 My 4 '40

NEW MEXICO
New Mexico; a guide to the colorful state. 458p bibliog(p436-9) $2.50 Hastings house, New York '40

See also
Geology—New Mexico
Manganese mines and mining—New Mexico
Mines and mineral resources—New Mexico
Petroleum industry and trade—New Mexico

Antiquities

Sandia man; artifacts found in basal layers of cave in New Mexico. F. C. Hibben. il Sci Am 163:14-15 Jl '40

NEW ORLEANS

See also
Air conditioning industries—New Orleans

Bridges

Settlement studies of Huey P. Long bridge. W. P. Kimball. bibliog diags Civil Eng 10:145-8 Mr '40
Viaduct shortcuts traffic congestion on New Orleans streets. il Eng N 124:698 My 23 '40

NEW ORLEANS cotton exchange
Annual report. Comm & Fin Chr 149:3645-6 D 9 '39

NEW ORLEANS states (periodical)
States' 60 years. Sales Management 46:64+ Ja 1 '40

NEW ORLEANS, Texas and Mexico railway
General statistics and income account, 1936-39. Comm & Fin Chr 150:3367 My 25 '40

NEW products. See Products, New

NEW RIVER, Virginia

Power utilization

FPC policy gets setback in New River decision; court holds commission has no jurisdiction over Claytor Dam project. il Elec W 112:1611 D 2 '39
No license needed for Virginia plant; U.S. Court of appeals holds New River is not navigable stream. Eng N 123:673 N 23 '39

NEW SOUTH WALES

See also
Coal miners—New South Wales

NEW YORK (city)
Amendments urged to zoning restrictions proposed by City planning commission. Comm & Fin Chr 149:3805-6 D 16 '39
Better understanding of functions of New York's banking and security exchanges urged. G. A. Sloan. Comm & Fin Chr 151:2743 N 9 '40
Changing city; New York and its suburbs. R. Moses. il plan maps Arch Forum 72:142-56 Mr '40
Finding your market in a metropolis. F. R. Coutant. il map Adv & Sell 33:38, 40, 42+ Mr '40
First annual compilation of rules and regulations of New York city agencies. $1 Corporation counsel of the city of New York, room 1743, Municipal bldg, New York '40
Le Corbusier considers the New York skyscraper. Arch Forum 72:98 F '40
New York city revises its zoning ordinance. C. S. Ascher. J Land & Pub Util Econ 16:345-9 Ag '40
New York suggests a plan for urban rehabilitation by private initiative; Urban redevelopment corporations bill. T. S. Holden. il Arch Rec 87:86-7 My '40
Saving our blighted downtown areas; investment approach to government-business cooperation in replanning. H. M. Propper. il Nation's Business 28:20-2+ My '40

See also
Banks and banking—New York (city)
Cost of living—New York (city)
Housing—New York (city)

Bridges

Bronx-Whitestone suspension bridge. il diags Engineer 168:462-3, 472, 487-9, 496 N 10-17 '39
Measuring the potential traffic of a proposed vehicular crossing. N. Cherniack. maps Am Soc C E Proc 66:207-45 F '40
New York's latest interborough bridge. N. Deutschman. il diags map Eng N 123:706-9 N 23 '39
Le pont suspendu de Bronx-Whitestone sur l'East river. il diags Génie Civil 115:445-8 D 23 '39

NEW YORK (city)—Bridges—*Continued*
Traveler speeds arch viaduct forms; link in the approach system of the George Washington bridge. K. A. Sheppard. il diags Eng N 125:334-6 S 12 '40

Charities
Paper section of N.Y. fund raises $25,172. Paper Tr J 111:10 Ag 15 '40

Commerce
Operations and plans of the Port of New York authority. G. S. Reeves. il map Civil Eng 10:219-21 Ap '40
Port of New York; improvement by the city. J. A. Meehan. il map Civil Eng 10:281-4 My '40
Port of New York; organization and control; navigation projects. C. L. Hall. il maps Civil Eng 10:157-60 Mr '40

Directories
Cue's guide to New York city; what to see for interest, what to do for amusement, what to buy for remembrance. G. W. Seaton. 141p $1.25 Prentice-Hall '40

Harbor
N.Y. harbor oil gateway to huge inland territory. il Nat Pet N 31:77-84 D 13 '39
Operations and plans of the Port of New York authority. G. S. Reeves. il map Civil Eng 10:219-21 Ap '40
Port of New York, Bayonne terminal. M. Garsaud. il diags map Civil Eng 10:425-8 Jl '40
Port of New York; improvement by the city. J. A. Meehan. il map Civil Eng 10:281-4 My '40
Port of New York; interests of the U.S. navy. R. Whitman. il Civil Eng 10:333-6 Je '40
Port of New York; organization and control; navigation projects. C L. Hall. il maps Civil Eng 10:157-60 Mr '40
Report on a drydock at the port of New York adequate for the largest naval and mercantile ships. 41p Port of New York authority, 111 8th av, New York '40

Health department
New York city Department of health, Public health division. R. E. Rankin. Special Lib 31:133-4 Ap '40

Bibliography
New York city Department of health; periodicals and serials published 1866-1939. E. Brodman. Special Lib 31:23-9, 59-64 Ja-F '40

Hospitals
Dedication of the administration building of Bellevue hospital. Science 92:252-3 S 20 '40

Lighting
Sodium lights the New York City Belt parkway; world's largest sodium-lighted highway installation. N. J. Kelly. il map Gen Elec R 43:438-41 N '40

Magistrates' courts
Magistrates court. H. H. Curran. 197p $2 Scribner '40

Metropolitan district
33-mile Belt parkway built in 19 months. il map Eng N 125:60-1 Jl 11 '40

Metropolitan museum of art
Contemporary American industrial art, 1940 exhibit. il plan Arch Forum 72:sup9-12, 14 Je '40
Contemporary American industrial design on display. il Arch Rec 87:88-91 Je '40

Railroads
Grade separation projects; with cost data. il Ry Age 108:737-8 Ap 27 '40
Grand Central terminal in perspective. W. J. Wilgus. il maps Am Soc C E Proc 66:1413-45 O '40
New York Central freight terminal at New York has distinctive features. il diag plan Ry Age 108:699-702 Ap 20 '40
New York's big passenger stations take inventory. Ry Age 108:423 Mr 2 '40

Rapid transit
Does transit unification help city's credit? increase in subway and elevated fares would not increase New York's revenues. H. N. Bulow. Barron's 20:19 Jl 8 '40
Interborough rapid transit co.; city takes title to I.R.T. lines and Manhattan Ry. Comm & Fin Chr 150:3828-9 Je 15 '40
More New York El's to come down. il map Eng N 124:938-9 Je 27 '40
New York to run huge transit net. Ry Age 108:1019 Je 8 '40
Two cities make transit history; New York and Chicago unification plans. Business Week p17 Je 15 '40
See also Brooklyn-Manhattan transit corporation

Bibliography
Rapid transit; an annotated list of selected references, 1927-1940. A. Jaboolian, comp. Municipal Reference Library Notes 26:49-69 Je '40

Rockefeller Center
Building no. 11; garage and office building; views, plans, construction outline. Arch Forum 72:23-8 Ja '40
Casts large plaque of stainless steel. il Foundry 68:49+ Je '40
Finances. Arch Forum 72:sup70+ Ap '40
Heating of Rockefeller Center. J. H. Rawson and C. W. Walton, jr. il Heating-Piping 12:221-4 Ap '40
Heroic sculpture in stainless completed for Associated press building, Rockefeller Center. il Iron Age 145:94-5 Ap 11 '40
Informative handbook for employees. il Ptr Ink Mo 41:17+ O '40
Last rivet; the story of Rockefeller Center. 45p $2 Columbia univ. press '40
Notable plaque in stainless steel over the main entrance of the Associated press building in Rockefeller Center. il Metals & Alloys 11:135-6 My '40
RCA building has largest comfort air conditioning system. Refrig Eng 39:340 My '40
Stainless steel comes of age in architecture; plaque by I. Noguchi for Associated press building. H. H. Harris. il Metal Prog 37: 536-40+ My '40
Terrace house; views, plans and construction outline. Arch Forum 73:107-10 Ag '40

Sanitary affairs
Health experts endorse landfills and recommend best practice. Eng N 124:446-7 Mr 28 '40

Sewerage
Pollution abatement in New York area; interstate problems. S. G. Hess. il map Civil Eng 10:270-2 My '40
Pollution abatement in New York area; progress west of the Hudson. C. J. Velz. il maps Civil Eng 10:349-52 Je '40
Pollution abatement in New York area; the city itself. R. H. Gould. Civil Eng 10:508-9 Ag '40

Social conditions
Youth of New York city. N. P. McGill and E. N. Matthews. 420p $3.50 Macmillan '40

Streets
Close quarters for a superhighway; Manhattan's East River drive. il Eng N 124:290 F 22 '40
Solving difficult location problems in New York city's East River drive; in succession a surface road, an elevated structure, a tunnel and divided into two decks. L. C. Hammond. il diags Pub Works 71:10-11 Jl '40
Trafficway reclaims a waterfront; East River drive. il diags plan Eng N 124:640-4 My 9 '40

Sub-Treasury building
Sub-Treasury in New York city dedicated as national historic shrine; Federal Hall, the first capitol of the United States. Comm & Fin Chr 150:1222 F 24 '40

NEW YORK (city)—*Continued*

Subways

Some subway history; Beach pneumatic-tube subway. Comp Air M 45:6223 Ag '40
Subway alterations, New York; unit prices. Eng N 124:559 Ap 18 '40
Synchronous converters for the New York Board of transportation. G. R. McDonald. il Mass Transportation 36:107-9 My '40

Tunnels

Driving the Queens midtown tunnel; with cost data. il diags Eng N 124:29-34 Ja 4 '40
Measuring the potential traffic of a proposed vehicular crossing. N. Cherniack. maps Am Soc C E Proc 66:207-45 F '40
New York's Brooklyn-Battery tunnel. il maps Eng N 124:415 Mr 21 '40
New York's first vehicle tunnel under the East river. il diag maps Eng N 123:830-3 D 21 '39
Queens midtown tunnel. Comp Air M 44:6023 N '39
Queens midtown tunnel. il diags plan Engineer 169:491-3, 512, 516, 530-2 My 31-Je 14 '40
Queens tunnel holed through. il Eng N 123: 663+ N 16 '39
Le tunnel routier de Queens-midtown, sous l'East river, à New-York. P. Caufourier. il diags plan Génie Civil 116:241-4 Ap 13 '40

Water supply

Automatic welding for water mains. il Eng N 125:343-4 S 12 '40
Billion gallons not enough; Delaware aqueduct project. C. M. Clark. il map Eng N 124:513-15 Ap 11 '40
Delaware aqueduct. il diags map Engineer 170:100-2, 116-17 Ap 16-23 '40
Delaware aqueduct. il diags plans map Eng N 124:584-8, 656-8, 797-800; 125:109-13, 288-93, 418-21 Ap 25, My 9, Je 6, Jl 18, Ag 29, S 26 '40
Driving a tunnel beneath the Hudson river; Delaware aqueduct. R. G. Skerrett. il Comp Air M 45:6226-32 S '40
85 miles of hazard; supervising protection of workers on the Delaware aqueduct. il Nat Safety N 41:20-1 Je '40
Making every minute count in tunnel driving; Delaware aqueduct. R. S. Byers. il diag map Comp Air M 45:6116-22 Ap '40
New York city's Delaware water supply system. il diags plan Explosives Eng 18:73-88+, 114-18, 138-42 Mr-My '40
When water shortage threatens. E. Nuebling. il map Sci Am 162:213-15 Ap '40

World's fair, 1939

Analyzing World's fair attendance. Ptr Ink Mo 39:65 D '39
Application of soil mechanics in building the New York world's fair. G. L. Freeman, G. W. Glick and H. Gray. il plans Civil Eng 10:649-52 O '40
Average visitor to New York world's fair in 1939 spent average of 5.3 days in New York at cost of $6.82 per day. Comm & Fin Chr 150:1870 Mr 23 '40
No fatal accidents in 1939. Spectator (Property ed) 5:7 Ap 4 '40
Notes on exhibit techniques; based on observations at the New York world's fair 1939. A. Heythum and C. Heythum. il diags Arch Forum 72:195-8 Mr '40
Superstructure of theme building of New York world's fair. S. Hardesty and A. Hedefine. il diags Am Soc C E Proc 66: 1277-1316 S '40
Visitors to New York world's fair spent $46,000,000 inside Fair grounds. Comm & Fin Chr 149:3489 D 2 '39

Air conditioning and refrigeration

Circular duct system for Perisphere air conditioning. il diags plans Sheet Metal Worker 31:77+ Ja '40

Electric exhibits and equipment

Attendance record established by electric utility exhibits at New York world's fair. C. Irwin. il Edison Elec Inst Bul 7:561-3 N '39

Exhibit rating

North America wins World's fair award for producing the most colorful and spectacular event of 1939. Spectator (Property ed) 5:7 N 30 '39; Weekly Underw 141:1156 D 2 '39

Food exhibits

What makes a World's fair exhibit click. I. C. Miller. il Food Ind 12:44-8 Ja; 55-9 F '40

Gas exhibits and use

Facts on the Fair; review of the gas industry's participation. H. H. Cuthrell. Am Gas Assn Mo 21:435 D '39
Gas at the fairs. C. S. Goldsmith. Am Gas Assn Proc 1939:494-7

Housing exhibits

New York fair "home of wood" demonstrates plank floors and roof spanning 7 feet between trusses. il diags plans Am Bld 62:56-7 Ja '40

Insurance protection

New credits allowed for fire alarm and watchman service at New York fair. East Underw 40:20 D 1 '39
N. Y. world's fair insurance review. H. Hyer. East Underw 40:77+ D 15 '39

Labor conditions

Labor in the World of tomorrow. S. High. Management R 28:381-3 N '39

Perisphere

Circular duct system for Perisphere air conditioning. il diags plans Sheet Metal Worker 31:77+ Ja '40

Restaurants

Restaurant is brewer's display at fair; Schaefer Center. il plans Arch Rec 87:84-7 Ja '40

Statistics

Marketing review of the World's fair; survey findings; age, income level, residence of visitors, cost of exhibits per person, popularity of commercial areas. S. Griffith and A. Meyrowitz. Adv & Sell 33:31-2+ Ja '40

Transportation exhibits

Armchair spectator conveyer-guide; train of moving chairs and sound system; General Motors Futurama at the 1939 New York world's fair. J. Dunlop and W. T. White. il diags Elec Eng 58:509-14 D '39; Excerpts. Mech Eng 62:147-9 F '40

Transportation problems

Long Island carries almost 16 million to and from N.Y. world's fair. il Ry Age 107:801 N 18 '39

World's fair, 1940

Fair's farewell. Business Week p18+ N 2 '40
For peace and freedom. il Ind & Eng Chem News ed 18:583-6 Jl 10 '40
Foreign governments to be represented. Comm & Fin Chr 150:1869 Mr 23 '40
Hall of inventions. Science 92:100 Ag 2 '40
New York world's fair officers reelected. Comm & Fin Chr 150:2196-7 Ap 6 '40
New York world's fair opens second season; message of President Roosevelt. Comm & Fin Chr 150:3143 My 18 '40
Steel and metal companies again exhibit at New York world's fair. Steel 106:24-5 My 20 '40
To-morrow and the World's fair; its possible contribution to our architecture. D. Haskell. il plans Arch Rec 88:65-72 Ag '40
Trylon gets new coat for 1940 fair. il Eng N 124:412-13 Mr 21 '40
Withdrawals and renewed contracts. Comm & Fin Chr 149:3655-6 D 9 '39
World of tomorrow down to earth. Business Week p17-18 My 4 '40

Advertising

How New York world's fair can be salvaged despite second year jinx; paid advertising and a plan for raising a million-dollar budget. P. Boone. Ptr Ink 190:15-18+ Mr 8 '40

NEW YORK (city)—World's fair, 1940—*Cont.*

Aeronautic exhibits

At the Fair. il Aviation 39:32-3+ Je '40
Aviation at the World's fair. il Aero Digest 36:60, 62 Je; 37:72+ Ag '40

Air conditioning and refrigeration

New features for World's fair air conditioning exhibit. J. I. Lyle. Heating-Piping 12: 302 My '40

Electric exhibits and equipment

Electric utilities' exhibits at this year's New York world's fair. il Edison Elec Inst Bul 8:219-20+ My '40
Electrified farm is center of interest during farm week. Edison Elec Inst Bul 8:405-6 Ag '40
From wooden Indians to electricity and glass. il Am Bld 62:42-4 S '40
Power-supply and public-address systems at the New York fair. P. L. Glering and J. G. Lawrence. il Elec Eng 59:204-5 My '40

Finance

Bondholders to receive 38.4 cents on dollar. Comm & Fin Chr 151:2434 O 26 '40
Has net operating profit of $4,150,792 to Oct. 7; trustees hold additional $1,635,651 to retire debentures. Comm & Fin Chr 151: 2292-3 O 19 '40
Net earnings of $696,118 for first 58 days. Comm & Fin Chr 151:188 Jl 13 '40
New York world's fair has paid off $650,000 of 1939 debt; loss of $10,631 for first 16 days due to weather. Comm & Fin Chr 150:3450-1 Je 1 '40

Food exhibits

Food manufacturers' exhibits will again dominate at World's fair. il Food Ind 12:42-4 My '40

Gas exhibits and use

Fair exhibit features gas water heating for sanitization. Am Gas Assn Mo 22:318 S '40
Gas at New York world's fair 1940. il Am Gas J 152:16-18 Je '40
Gas exhibits, inc. elects; promotion piece prepared. il Gas Age 85:32 Mr 28 '40
Gas flares at the Aquacade add to striking finale; other gas equipment. il diag Am Gas J 153:46+ O '40
Gas wonderland, a dramatic exhibit at the 1940 World's fair. H. H. Cuthrell. il Am Gas Assn Mo 22:127-9 Ap '40; Same. Am Gas J 152:31-2 Ap '40; Same. Gas Age 85:19+ Mr 28 '40
Gas wonderland, a 1940 Fair hit! il Am Gas Assn Mo 22:220-1 Je '40
High degree of heat at glass center maintained with gas. Gas Age 86:45 O 10 '40
Radio station is opened at gas exhibit at World's fair. il Gas Age 85:11-12 Je 20 '40
Tiny town to tell and sell gas story at Fair. il Gas Age 85:53 My 9 '40
World's fair exhibit tells gas industry's story. il Gas Age 86:28-9 Jl 4 '40

Glass exhibit

Glass center to reopen. Glass Ind 21:248-9 My '40
History of glass from the World's fair donated to Chicago museum. il Glass Ind 21: 486-7 N '40

Government exhibits

Federal works agency exhibit. il diag Arch Forum 73:40-2 Jl '40

House decoration exhibits

America at home; exhibit. il Arch Rec 87:92-5 Je '40
New York world's fair 1940: America at home. G. Howe. il plans Arch Forum 73: 31-9 Jl '40

Housing exhibits

FHA approved houses at the Fair; two low-cost cottages. il plans Am Bld 62:45-7+ Je '40
Twenty million visitors; FHA model homes at New York world's fair. il Dom Eng 155: 34-5+ Je '40

Insurance exhibits

See Insurance—Exhibits; Insurance, Life—Exhibits

Insurance protection

Certain World's fair fire risks may be written at pro rata rates. East Underw 41:31 Ap 19 '40
Insurance ceases on $30,000,000 of art masterpieces. D. Porter. il Ins Field (Fire ed) 89: 24-6 O 31 '40
Rules on cancelation of World's fair risks; insurance reduces automatically to closing date. East Underw 41:27 O 4 '40
World's fair rates. Weekly Underw 141:1260 D 16 '39

Labor conditions

No Fair labor pains; New York exposition will help 4,900 employees find jobs. Business Week p53-4 S 14 '40
Peace at N.Y. fair; pacts outlawing strikes indicate pledge to exhibitors will be kept. Business Week p28-30 Ap 27 '40

Lighting

Lighting the New York world's fair. R. C. Engelken. il diags plan 8 col pls Elec Eng 59:178-203 My '40

Rubber exhibits

Rubber at the 1940 Fair. il India Rubber W 102:40+ S '40

Safety measures

Safety out-of-doors. il Safety Eng 79:18-19 My '40

Textile exhibits

Rayon in fashion to be World's fair feature. il Rayon 21:272 My '40
World of fashion; illustrations. Textile World 90:74-8 Je '40

Transportation exhibits

Futurama: 1940 model. G. Herrick. il Automotive Ind 82:447-8+ My 15 '40
General Motors exhibit at New York world's fair attended by 24,000,000 persons in two seasons. Comm & Fin Chr 151:2589 N 2 '40
New Railroads on parade is a lively show. il Ry Age 108:1165-6 Je 29 '40
Railroads at the N.Y. fair, 1940. il map Ry Age 108:1106-7 Je 22 '40

Transportation problems

Eastern roads cut fares for N.Y. fair. Ry Age 108:723-4 Ap 20 '40
Fair time again. il Bus Transportation 19: 172-3 Ap '40

NEW YORK (state)

New York; a guide to the Empire state. 782p bibliog(p729-39) $3 Oxford '40

See also

Housing—New York (state)
Insurance, Unemployment—New York (state)

Antiquities

Two prehistoric village sites at Brewerton, New York; type components of the Brewerton focus, Laurentian aspect. W. A. Ritchie. 107p bibliog(p104-7) pa $1.50 Rochester museum of arts and sciences, Rochester, N.Y. '40

Economic conditions

Consumer incomes and family budgetary expenditures; Printers' Ink market explorations. Ptr Ink 192:sup1-37 Ag 2 '40

History

See also

Painted Post, New York

Industries and resources

Conference held at Albany to seek means toward halting of movement of industry from New York. Comm & Fin Chr 151:334 Jl 20 '40

NEW YORK (state)—*Continued*

Insurance department

Insurance department rulings and the attitude of the courts thereon; sixty-five years' record of the New York state insurance department's work. J. S. Andrews. Spectator (Life ed) 144:6-9, 22 My 9; 6-11+ My 23 '40

TNEC testimony about action of New York department in crisis. G. S. Van Schaick. East Underw 41:14-15 Mr 1 '40

Social welfare, Department of

Place of research in the long-time planning of a state program for public welfare. D. M. Schneider. Am Statis Assn J 34:674-82 D '39

Statistics

Problems and progress in state statistics; coordination in New York state; personnel matters. R. L. Gillett. Am Statis Assn J 35: 335-40 Je '40

NEW YORK academy of medicine

Activities during 1939. Science 91:161-2 F 16 '40

Lectures to the laity. Science 90:559 D 15 '39

NEW YORK board of fire underwriters

Annual report, 1939. East Underw 41:20 Mr 1 '40; Spectator (Property ed) 5:9 Mr 7 '40

NEW YORK board of trade

Drug, chemical and allied trades section

Annual meeting, 49th, New York, Nov. 21. Oil Paint & Drug Rep 136:3+ N 27 '39

Insurance section

Organization meeting. East Underw 40:16+ D 22; 26+ D 29 '39; Ins Field (Fire ed) 68:7-8 D 21 '39; Ins Field (Life ed) 68:9 D 22 '39

NEW YORK botanical garden

In memory of Elizabeth Gertrude Knight Britton. Science 91:444 My 10 '40

NEW YORK central railroad

Annual report, year ended Dec. 31, 1939. Comm & Fin Chr 150:3056-7 My 11 '40; Ry Age 108:844 My 11 '40

Preliminary report; financial results, 1936-39. Comm & Fin Chr 150:1606-7 Mr 9 '40

Proposes $10,400,000 equipment issues. Comm & Fin Chr 150:2890 My 4 '40

Thumbnail stock appraisal. Mag of Wall St 67:103 N 2 '40

Traffic losses. P. C. Andersen. Barron's 20:8 Je 10 '40

Volatile low-price stock; thumbnail appraisal. Mag of Wall St 65:819 Ap 6 '40

NEW YORK (state) chamber of commerce

New members. Comm & Fin Chr 151:1987 O 5 '40

NEW YORK, Chicago and St Louis railroad

General statistics and income account, 1936-39. Comm & Fin Chr 150:3209-10 My 18 '40

Nickel Plate's maturity problem; two issues, totaling $16,281,000 fall due next year. A. Jansen. Barron's 20:19 Je 17 '40

NEW YORK (city) college

Phonographic library of contemporary poets

Phonographic library. Special Lib 31:169 My-Je '40

NEW YORK city housing authority

Bond offering. Comm & Fin Chr 150:1641 Mr 9 '40

NEW YORK city municipal airport. See Airports, Municipal

NEW YORK coffee and sugar exchange

Annual report. Comm & Fin Chr 150:200-1 Ja 13 '40

NEW YORK connecting railroad

Bonds offered. Comm & Fin Chr 151:2053 O 5 '40

NEW YORK curb exchange

Curb exchange hunts business. Business Week p55-7 O 19 '40

One of the most eventful years in its history, 1939. Comm & Fin Chr 150:48 Ja 6 '40

Record of 1939. Mag of Wall St Manual p7-10 Mr 2 '40

Report for the year ended Dec. 31, 1939. Comm & Fin Chr 150:1352 Mr 2 '40

Representative bonds; range for year 1939. Mag of Wall St Manual p17 Mr 2 '40

Rule on additional wire connections amended by governors. Comm & Fin Chr 150:200 Ja 13 '40

SEC figures on member trading. Published in weekly numbers of Commercial & financial chronicle

Transactions. Published in weekly numbers of Annalist

Transactions, 1939. Annalist 55:177-81 Ja 26 '40

Weekly and yearly record. Published in weekly numbers of Commercial & financial chronicle

NEW YORK fire insurance exchange

Annual meeting. East Underw 41:19 Mr 15 '40; Spectator (Property ed) 5:34 Mr 21 '40

Change in agreement; rights for Brooklyn agents. East Underw 41:27 Ap 12 '40

Proposals on agency appointments; Brooklyn producers. East Underw 40:22 D 29 '39

Proposed changes in agreement. East Underw 41:20 F 9 '40

NEW YORK Herald tribune

National defense, keynote of 10th annual forum. Comm & Fin Chr 151:2432-3 O 26 '40

NEW YORK, New Haven & Hartford railroad

Directors not to petition ICC to reopen reorganization proceedings. Comm & Fin Chr 149:3879 D 16 '39

ICC issues final reorganization plan. Comm & Fin Chr 150:2587-8 Ap 20 '40

ICC's final plan for the New Haven. A. Jansen. Barron's 20:18 Jl 1 '40

1939 New Haven interest payments. A. Jansen. Barron's 20:19 F 19 '40

Operating and traffic statistics and income statement for calendar years 1936-39. Comm & Fin Chr 150:2109-10 Mr 30 '40

Pennsylvania railroad protests wiping out of stocks. Comm & Fin Chr 149:3723-4 D 9 '39

Plan would wipe out New Haven equity. Ry Age 108:715-16 Ap 20 '40

Proposed new reorganization plan eliminates preferred and common stock. Comm & Fin Chr 149:3416 N 25 '39

Proposed plan for the New Haven. Ry Age 107:818-19 N 25 '39

NEW YORK, Ontario and western railroad

ICC refuses to approve plan of reorganization at present time. Comm & Fin Chr 150:3367-8 My 25 '40

Managerial merger; two bankrupt railroads retain their identity, but have same set of general officers. Business Week p22-4 Mr 9 '40

NEW YORK produce exchange

Operated at profit in year ended April 30, 1940. Comm & Fin Chr 151:330 Jl 20 '40

NEW YORK shipbuilding corporation

Stocks favored in new market phase; thumbnail appraisal. Mag of Wall St 66:110 My 4 '40

Stocks in the low-price range; thumbnail appraisal. Mag of Wall St 65:359 D 30 '39

NEW YORK society of ceramic arts

History. M. Le Prince. Am Cer Soc Bul 19: 45-6 Ja '40

NEW YORK state barge canal

Imposition of tolls opposed by Merchants' association. Comm & Fin Chr 150:1216 F 24 '40

Unions urge canal tolls. Ry Age 108:418+ Mr 2 '40

NEW YORK state electric and gas corporation

Earnings, 1936-39. Comm & Fin Chr 150:3210-11 My 18 '40

NEW YORK state geological association

Annual field meeting, 16th. Science 92:14 Jl 5 '40

NEW YORK state sewage works association
Annual meeting, 12th, New York, Jan. 19. Eng N 124:131 Ja 25 '40; Water Works & Sewerage 87:79-84 F '40

NEW YORK stock exchange
Advertising the stock exchange. W. W. Craig. il Adv & Sell 33:32, 40 F '40
Annual report, 1939. Comm & Fin Chr 150: 2010-12 Mr 30 '40
Appoints panels of business men in eight cities for arbitrating cases involving non-member claims. Comm & Fin Chr 149:3639-40 D 9 '39
Asks members for comments on new type of surety bond covering partners; progress report on fidelity insurance made by special group. Comm & Fin Chr 151:922-3 Ag 17 '40
Better understanding of functions of banking and security exchanges urged. G. A. Sloan. Comm & Fin Chr 151:2743 N 9 '40
Big Board appears crisis-proof. Business Week p55-6 Je 8 '40
Big Board factions square off. Business Week p59-60 Ap 13 '40
Bond market record in 1939. Mag of Wall St Manual p15-16 Mr 2 '40
Bond transactions. Published in weekly numbers of Annalist
Course of prices of government securities in 1939, monthly; tabulation. Comm & Fin Chr 150:77 Ja 6 '40
Course of prices of railroad and miscellaneous stocks for 1939, monthly; tabulation. Comm & Fin Chr 150:67-76 Ja 6 '40
Dealings in foreign government securities in 1939, monthly; tabulation. Comm & Fin Chr 150:65-6 Ja 6 '40
Exchange is least understood and most ill-judged institution. E. A. Pierce. Comm & Fin Chr 151:784 Ag 10 '40
Fees for brokers; plan designed to bolster member firms' incomes. Business Week p34 D 23 '39
Governors of New York stock exchange receive report of special committee on brokers' revenue; recommends adoption of mandatory minimum service charges. Comm & Fin Chr 149:3808 D 16 '39
Listings, 1939. Comm & Fin Chr 150:329-31 Ja 20 '40
Monthly range of prices, 1939, on the New York stock exchange; railroad, industrial and miscellaneous bonds and stocks and government and state securities; tabulation. Comm & Fin Chr 150:558-78 Ja 27 '40
Monthly range of prices of bonds and stocks, Jan.-June 1940. Comm & Fin Chr 151:341-57 Jl 20 '40
More woes for Wall Street; number of shares traded, member firms, and branch offices, 1920-39. Business Week p44 Ja 6 '40
New officers. Comm & Fin Chr 151:1833 S 28 '40
New York stock exchange cuts operating loss for first half of 1940 Comm & Fin Chr 151:1070 Ag 24 '40
1940 year book figures. Comm & Fin Chr 150:1685 Mr 16 '40
Record of 1939. Mag of Wall St Manual p3-7 Mr 2 '40
Report of committee headed by P. V Shields on separation of brokerage function from underwriting and trading business. Comm & Fin Chr 150:1685 Mr 16 '40
Roper survey of customers. Comm & Fin Chr 150:1063 F 17 '40
SEC figures on member trading. Published in weekly numbers of Commercial & financial chronicle
Shares listed, 1936-1939. Survey of Cur Business 1940 Sup p76 [supplemented in monthly numbers]
Stock and bond sales, daily, weekly and yearly. Published in weekly numbers of Commercial & financial chronicle
Stock exchange bond proposal progresses; surety firms will combine to guarantee partner honesty. Weekly Underw 143:337 Ag 17 '40
Stock exchange; the public viewpoint and the customer's viewpoint; surveys. Inv Banking 10:26-8 Mr '40
Stock market at a glance; price changes, earnings and dividends. Published in weekly numbers of Barron's
Stock transactions. Published in weekly numbers of Annalist
Transactions, 1939. Annalist 55:162-76 Ja 25 '40
Volume of unreported trading in stocks. D. Myrick. Annalist 56:140 Ag 1 '40
Wall Street's grocery stores; growing number of firms execute orders in commodities. M. W. Jiler. il Nation's Business 28:53-4, 56-7 N '40
William McC. Martin jr. reappointed president; standing committees named. Comm & Fin Chr 150:3297 My 25 '40

See also
New York curb exchange

Cost of membership
What price stock exchange seats. H. W. Osborne. Barron's 20:20 Ag 19 '40

Employees
New York stock exchange to consider employees called for military duty on leave of absence. Comm & Fin Chr 151:1501 S 14 '40
Surety association of America aids Stock exchange houses; messenger certification. E. V. Roth. East Underw 41:50 Mr 15 '40

Regulation
See Stock exchange—Regulation

Rules
Chicago and Boston exchanges clarify stand on multiple trading. Comm & Fin Chr 151:2573 N 2 '40
Governors act to enforce rule forbidding members to serve as dealers on other exchanges in listed stocks. Comm & Fin Chr 150:1351-2 Mr 2 '40
Governors amend rule regarding margin trading by member firms carrying margin accounts for general public. Comm & Fin Chr 150:763 F 3 '40
Head of Boston stock exchange protests to SEC against regulations adopted by New York exchange. Comm & Fin Chr 150:2194-5 Ap 6 '40
Member firms may form affiliated corporations. Comm & Fin Chr 150:2010 Mr 30 '40
New York stock exchange amends margin rules on accounts having only "short" security positions. Comm & Fin Chr 150:2501 Ap 20 '40
Rules amended on salaries of registered employees and on financial statements of member firms. Comm & Fin Chr 149:3187 N 18 '39
Ruling for audits of member firms praised. A. Stewart. Comm & Fin Chr 150:624 Ja 27 '40
Schedule of minimum charges on special services for customers. Comm & Fin Chr 150:199-200 Ja 13 '40
SEC asks Exchange to rescind rule against multiple trading regarded as harmful. Comm & Fin Chr 151:2418 O 26 '40
SEC asks stock exchanges outside New York city for views on effects of New York stock exchange ruling on multiple trading. Comm & Fin Chr 151:1215 Ag 31 '40
Securities in partners' individual accounts not to be included in firm's capital unless specified; changes in partnership agreements. Comm & Fin Chr 149:3476 D 2 '39
To enforce rule forbidding members to act as dealers on other exchanges in listed stocks. Comm & Fin Chr 151:177 Jl 13 '40

NEW YORK stock exchange institute
To offer 40 different courses. Comm & Fin Chr 151:1376 S 7 '40

NEW YORK subways advertising company
New subway advertising setup. Ptr Ink 193: 18 O 25 '40

NEW YORK, Susquehanna and western railroad
Managerial merger; two bankrupt railroads retain their identity, but have same set of general officers. Business Week p22-4 Mr 9 '40

NEW YORK telephone company
Earnings, 1936-39. Comm & Fin Chr 150:1607 Mr 9 '40

NEW YORK university
Honorary degrees conferred. Science 91:565-6 Je 14 '40

College of engineering
Work of the New York university College of engineering. Science 92:233 S 13 '40

College of medicine
Centennial celebration. Science 92:327-8 O 11 '40

NEW YORK water service corporation

Laboratory
Centralized laboratory control for a group of privately operated water supplies; Flatbush consolidated laboratory. J. S. Kneale. Am Water Works Assn J 32:654-8 Ap '40

NEW YORK zoological society
Elections; activities. Science 92:143-4 Ag 16 '40

NEW ZEALAND
In the wake of a traveling engineer. J. C. Gosgrove. il map Explosives Eng 18:281-6, 312-13 S-O '40

See also
Contracts, Government—New Zealand
Electricity supply—New Zealand
Geology—New Zealand
Insurance, Social—New Zealand
Labor laws and legislation—New Zealand

Army
Family allowances to men in armed forces of New Zealand. Monthly Labor R 51:32 Jl '40

Commercial policy
Import restrictions continued for second half of 1940 with certain modifications. H. Chalmers. Comm Rep p373-4 Ap 20 '40

Economic conditions
Business situation. Comm Rep p77 Ja 27 '40 [cont monthly] [cont as For Comm W O 5]
Business situation in the year 1939. Comm Rep p340+ Ap 13 '40
New Zealand in 1939. Economist 138:sup21-2 F 17 '40

Economic policy
New Zealand's labor government at work. W. B. Sutch. 32p pa 15c League for industrial democracy, 112 E. 19th st, New York '40

NEWARK, New Jersey
Have cities stopped growing? E. Whitmore. il Am Business 10:26-8, 48 O '40
Selected for food stamp plan operation. Comm & Fin Chr 150:xii Ap 6 '40

NEWARK labor relations board
Municipal labor boards of Toledo and Newark. W. L. Nunn. Monthly Labor R 49:1045-9 N '39

NEWBERRY, J. J., company
Brass tacks for the investor; brief analysis. Barron's 20:9 Mr 11 '40

NEWCOMEN, Thomas, 1663-1729
Thomas Newcomen, ironmonger. W. A. Young. Engineer 168:502 N 17 '39

NEWCOMEN society for the study of the history of engineering and technology
Summer meeting, June 13-14. Engineer 169: 562 Je 21 '40; Engineering 149:606 Je 21 '40

NEWFOUNDLAND
Surface of Newfoundland. W. H. Twenhofel and P. Mac Clintock. bibliog diags maps Geol Soc Bul 51:1665-1727, pl 1-5 N '40
Wisconsin glaciation of Newfoundland. P. Mac Clintock and W. H. Twenhofel. bibliog diags maps Geol Soc Bul 51:1729-56, pl 1-4 N '40

See also
Fisheries—Newfoundland

Economic conditions
Business situation. Comm Rep p1113 D 9 '39; p618-19, 769-70 Jl 20, S 14 '40
Economic conditions. For Comm W 1:207-8 N 2 '40

NEWMONT mining corporation
Stake in metals and oils. J. C. Clifford. il Mag of Wall St 65:504-5+ Ja 27 '40

NEWPORT industries, inc.
Volatile low-price stocks; thumb-nail appraisal. Mag of Wall St 65:818 Ap 6 '40

NEWPORT NEWS shipbuilding and dry dock company
Registers with SEC. Comm & Fin Chr 151: 560 Jl 27 '40
Sold: a shipyard and a tradition; investment trusts and bankers acquire Newport News enterprise. il Business Week p24+ My 18 '40
Stock sold; history of company; names of purchasers. Comm & Fin Chr 151:995-6 Ag 17 '40

NEWS
New kinds of news; plan to put Transradio news on screens, later into novel newspaper network. Business Week p32 Jl 27 '40
News and how to understand it, in spite of the newspapers, in spite of the magazines, in spite of the radio. Q. Howe. 250p bibliog(p239-40) $2 Simon and Schuster, New York '40

See also
War news

Bibliography
International news and the press; communications, organization of news-gathering, international affairs and the foreign press; an annotated bibliography. R. O. Nafziger, comp. 193p $3.75 Wilson, H.W. '40

NEWS agencies

See also
Associated press

NEWS photographs
Pictorial journalism. M. G. Barker. il Ptg Art 68 no 4:C6-C7 '40
What are readers' picture preferences? J. M. Willem. il Adv & Sell 33:17-19+ My '40

NEWSPAPER advertising executives association
Convention, Chicago. Ptr Ink 192:27, 30 Jl 5 '40
Meeting, Chicago. Ptr Ink 193:144 O 25 '40

NEWSPAPER carriers
Employee or independent contractor? digest of recent case. J. L. Roesch. Spectator (Property ed) 5:32-3 D 14 '39
Newspaper carriers under Unemployment Insurance law, according to decision of New York Court of appeals. Comm & Fin Chr 150:1861 Mr 23 '40

NEWSPAPER librarians
Newspaper librarian; abstract. J. G. Craig. Special Lib 31:241 Jl-Ag '40

NEWSPAPER libraries
Conference of the newspaper group, 18th, Indianapolis, June 3-5. Special Lib 31:231-43 Jl-Ag '40
Newspaper libraries, an appreciation; Philadelphia Record library. L. A. Harr. Special Lib 30:298-300 N '39

Picture collections
Detroit News photographic negative library. F. M. Pettit. Special Lib 31:239-40 Jl-Ag '40

NEWSPAPER offices
Insulux glass block competition; a newspaper plant. Arch Forum 71:sup17-20 D '39
News syndicate company, inc.; plant at Brooklyn for the Brooklyn edition of the New York daily news. il Factory Management 98:B59-B61 Ap '40
Prize winning designs in Insulux competition 4; newspaper plant. il diags plans Arch Forum 72:sup32-7 My '40

Air conditioning
Unique system conditions Asheville radio and newspaper building. S. C. Minnich, jr. il diag Heat & Ven 37:19-22 My '40
Web breaks on newspaper presses. Pulp & Pa of Can 41:448 Je '40

NEWSPAPER offices—*Continued*

Electric equipment

High-speed printing; dc unit drives for large newspaper presses. il Elec R (Lond) 126: 447-9 Ap 19 '40

Stereo plate casting; industrial electric heating development. il Elec R (Lond) 126:267-70 Mr 8 '40

Lighting

Chicago Tribune tests fluorescent lights. E. E. Price. Inland Ptr 105:43-4 Jl '40

Luminous hoods for newspaper presses. il Elec W 113:926 Mr 23 '40

NEWSPAPERS

Battle over records; Publishers Service sues New York journal & American for infringing promotion copyright. Business Week p50-1 F 24 '40

Benton is director of PM; new 5-cent New York evening newspaper. Ptr Ink 190:24 Mr 8 '40

Country editor. H. B. Hough. 325p $3 Doubleday '40

Extra! extra! J. H. Jackson; photographs by S. Newhall. 48p $1.50 Macmillan '40

Five-cent newspaper planned by Publications research, inc. Ptr Ink 190:34 Ja 19 '40

Future of the newspaper. R. F. Parkinson. Pulp & Pa of Can 41:331-2 Ap '40

Headlines and deadlines; a manual for copy-editors. R. E. Garst and T. M. Bernstein. 2d ed 217p $2.75 Columbia univ. press '40

Ink on my hands. C. Rand. 348p $3 Carrick & Evans, 20 E. 57th st, New York '40

Law of newspapers. W. R. Arthur and R. L. Crosman. 2d ed 615p bibliog(p473-4) $4 McGraw-Hill '40

National newspaper week. Ptr Ink 192:16 Jl 19 '40

New kinds of news; plan to put Transradio news on screens, later into novel newspaper network. Business Week p32 Jl 27 '40

News and how to understand it, in spite of the newspapers, in spite of the magazines, in spite of the radio. Q. Howe. 250p bibliog(p239-40) $2 Simon and Schuster, New York '40

Newspapers and good public relations. W. L. Ayers. Am Pet Inst Proc 20(AT):80-4 '39

Newspapers test three big ideas; lithography experiment in Hartford, space-selling combination in Southwest, and Midwestern effort to standardize rate differentials. Business Week p34 Mr 9 '40

PM hits the street. il Business Week p20 Je 22 '40

P.M. now sure of its birthday; Ingersoll's much-publicized new tabloid. Business Week p38-40 Mr 23 '40

Publicity and diplomacy; with special reference to England and Germany, 1890-1914. O. J. Hale. 481p $4 Appleton-Century '40

Without fear or favor. N. MacNeil. 414p $3 Harcourt '40

See also

Advertising, Soliciting of
Advertising mediums —Newspapers
Audit bureau of circulations
Foreign language press
News photographs
Newspaper libraries
Newsprint paper
Periodicals
Printing, Practical
Publicity
Reporting

Advertising

Editor & publisher newspaper awards. Ptr Ink 190:95 Mr 22 '40

Advertising service

Elsie's Moos-paper club; is it mailed fist in velvet glove or service to media? Borden asks newspapers cooperation and checks them on performance. il Sales Management 46:25+ Mr 15 '40

Bibliography

Check list of the Kellogg collection of "patent inside" newspapers of 1876. 99 numb l WPA Historical records survey project, Chicago '39

Circulation

See also

Audit bureau of circulations

Color printing

How newsprint color is reproduced. J. W. Park. il Ptg Art 68 no 4:C10-C13 '40

Comic strip

Color comic advertising in newspapers. W. M. McNamee, H. Printup and W. Newman. Ptg Art 68 no 4:C5 '40

The funnies? everybody reads 'em and not just to the children; a survey for Sales management in ten cities. il Sales Management 46:28, 30+ Mr 1 '40

Employees

A.F.L. newsmen; local tackles Guild on N.Y. Times case. Business Week p39-40 Ag 3 '40

Collective bargaining by the American newspaper guild. A. Weiss. Monthly Labor R 50: 825-42 Ap '40

Further exemptions from wage and hour law sought for newspaper men. Comm & Fin Chr 151:638-9 Ag 3 '40

Guild strike ends. Business Week p31 My 4 '40

Guild wins twice; U.P. and A.P. end fight. Business Week p30-1 Mr 23 '40

Publishers of Dallas News bring action to test application of wage-hour law to newspaper employees. Comm & Fin Chr 151:633 Ag 3 '40

Running a strike on a business basis; Hearst strike committee of the Chicago newspaper guild. il Business Week p32 Mr 23 '40

Training of media cubs; Newark News training course. J. K. Fenway. Adv & Sell 33:42, 46 My '40

Foreign correspondents

Chicago Tribune insures correspondents abroad. East Underw 41:14 O 25 40

Headlines

Headlines and deadlines; a manual for copy-editors. R. E. Garst and T. M. Bernstein. 2d ed 217p $2.75 Columbia univ. press '40

Illustrations

Pictorial journalism. M. G. Barker. il Ptg Art 68 no 4:C6-C7 '40

What are readers' picture preferences? J. M. Willem. il Adv & Sell 33:17-19+ My '40

See also

Newspapers—Comic strip

Information service

Information please; abstract. E. Ellis. Special Lib 31:237 Jl-Ag '40

Make-up

Modern newspaper; its typography and methods of news presentation. J. E. Allen. 234p $3 Harper '40

P.M. has scientific news style. S. H. Horgan. il Inland Ptr 105:37-8 Jl '40

Post goes streamlined. il Inland Ptr 105:25 Ap '40

Photographic reproduction and projection

Micro-film development. D. G. Rogers. Special Lib 31:235-6 Jl-Ag '40

Photogravure sections

Photogravure advertising in newspapers. G. F. Hartford. Ptg Art 68 no 4:C8 '40

Preservation

Preserving paper; method of protecting documents, developed and patented by Dr Joseph Broadman. S. Frank. Sci Am 161: 352-3 D '39

Printing

Can daily paper be lithographed? Hartford newsdaily. Business Week p24-6 D 2 '39

New kinds of news; Publishers & projectors news service. Business Week p32 Jl 27 '40

NEWSPAPERS—Printing—*Continued*
Newspaper in offset; Hartford newsdaily. Ptr Ink 189:14 D 1 '39
Offset newspapers. J. Stark. Inland Ptr 104: 71-2 Mr '40
Offset newspapers still experimental. il Inland Ptr 105:77 My '40

Radio transmission

Facsimile transmission in the United States. G. Herrick. il diags Elec R (Lond) 126:67-8 Ja 19 '40

Reader interest

Continuing study of newspaper reading. D. Hassinger. il Ptg Art 68 no 4:C3-C4 '40
War and newspaper reading. Ptr Ink 192:32 Jl 5 '40
Women read service copy more eagerly than hot war news. C. H. Larrabee. il Ptr Ink 192:13-15, 100-2 Ag 2 '40

Scientific news

Case history of a scientific news story; Fort Union of the Crazy Mountain field, Montana, and its mammalian faunas. G. G. Simpson. Science 92:148-50 Ag 16 '40

Service

Civic-minded Omaha World-herald. Sales Management 47:90 N 15 '40

Statistical departments

Figure-using journal; Providence Journal's statistical department. Sales Management 47:68-9 S 15 '40

Typography

Centennial gives old type faces new use in life; County register, of Keosauqua, Iowa. il Inland Ptr 104:26 F '40
Honors to newspapers; Inland daily press association. Inland Ptr 104:79 Mr '40
New York times wins Ayer cup. Ptr Ink 191: 15-16 My 17 '40

See also
Newspapers—Make-up

Great Britain

Associated newspapers limited 35th ordinary general meeting, London. Economist 138: 1054 Je 15 '40
Daily mirror newspapers 20th ordinary general meeting, London. Economist 138:836 My 4 '40
Newspaper company earnings. Economist 138: 204-5 F 3 '40
Sunday pictorial newspapers (1920), limited, 20th ordinary general meeting, London. Economist 138:790 Ap 27 '40

NEWSPAPERS in education
Newspaper in the classroom. L. K. Reschke and A. Reschke. 384p $2 E. M. Hale and co, Milwaukee '39

NEWSPRINT circulars. See Advertisements—Circulars

NEWSPRINT paper
Canada's newsprint. W. C. Munro. il Pulp & Pa of Can 40:678-80 N '39
Demand for Canadian newsprint heavy. Paper Tr J 110:7 My 30 '40
Effect of atmospheric humidity on newsprint. D. Jones. diags Paper Tr J 111:35-8 Ag 1 '40; Same. Pulp & Pa of Can 41:725-8 O '40
Newsprint and fine paper. H. Crabtree. Pulp & Pa of Can 41:276-7 Mr '40
Newsprint from the South. Pulp & Pa of Can 41:292 Mr '40
Newsprint in wartime markets; analysis by Newsprint association of Canada. Pulp & Pa of Can 41:493-6 Jl '40
Newsprint link between Canada and U.S.A. Paper Tr J 111:9 Jl 18 '40
Newsprint made from birch and jack pine. R. S. Kellogg. Paper Ind 22:828 Jl '40
Newsprint made from red pine. W. O. Hisey. Paper Tr J 110:133 F 22 '40; Same abr. Pulp & Pa of Can 41:304 Mr '40
Newsprint's vital service in financing Canada war effort. Pulp & Pa of Can 41:747 O '40
Practical hints on mechanical pulping for newsprint. J. D. Brown. diags Pulp & Pa of Can (Convention no) 41:31-7+ [F] '40
Printability of newsprint paper; new methods for evaluation. C. Bendtsen. bibliog diags Pulp & Pa of Can 41:20-6+, 232-4 Ja-F '40; Correction. 41:291 Mr '40
Prorating in newsprint at turning point. W. A. Higgins. Paper Tr J 111:11 S 26 '40
Reduction of sulphite in newsprint. D. D. Carr-Harris. Pulp & Pa of Can (Convention no) 41:75-8 [F] '40
Southland paper mills, incorporated, Lufkin, Texas. V. H. Schoffelmayer. il Paper Tr J 110:16-26 Mr 21 '40
Southland paper mills, inc. make first paper. Paper Tr J 110:13+ Ja 25 '40
Survey of newsprint industry completed by Dominion securities corporation. Paper Tr J 109:9+ N 16 '39
Testing of news inks. G. E. Carlsson. il Pulp & Pa of Can 41:238-42, 286-91 F-Mr '40
Trend of the newsprint industry in the United States. G. D. Bearce. Paper Tr J 110:127-30 F 22 '40
Waste into production in newsprint operation. F. A. Soy. diags Pulp & Pa of Can (Convention no) 41:79-82 [F] '40
What the newsprint industry means to Canadians. Pulp & Pa of Can 41:685 S '40
World demand for newsprint is forecast. Paper Tr J 110:9+ My 16 '40

Prices

News print; costs and competition. C. D. Long, jr. Harvard Business R 18 no 3:372-83 [Ap] '40
Possible effect of war on price of paper. C. D. Long, jr. Pulp & Pa of Can 40:727-9 D '39
Principles of price control. Economist 137:165 N 4 '39

Statistics

How news print consumption hooks up with advertising; P.I. index comparison. L. D. H. Weld. Ptr Ink 191:17-20 My 24 '40
Newsprint (Canada and United States), 1936-1939. Survey of Cur Business 1940 Sup p145-6 [supplemented in monthly numbers]
Newsprint paper consumption; revision, monthly, June 1923-Dec. 1939. Survey of Cur Business 20:10 Mr '40
Newsprint production and consumption, revision, monthly, 1923-June, 1940. Fed Res Bul 26:866, 869 Ag '40
North American newsprint production up in 1939 but below record year. R. S. Kellogg. Paper Tr J 110:39-41 F 22 '40; Same. Pulp & Pa of Can 41:218-21 F '40

NEWSWEEK (periodical)
Newsweek's significance. Sales Management 46:80 F 15 '40

NEWTON, Clara Chipman, 1848-1936
Pioneer secretary, Rookwood pottery company. por(cover) Am Cer Soc Bul 18:443-5 N '39

NIAGARA falls
Chemical industry on the Niagara frontier. R. B. MacMullin, F. L. Koethen and C. N. Richardson. map Am Inst Chem Eng Trans 36:295-324 Ap '40; Excerpts. Chem & Met Eng 47:338-41 My '40

NIAGARA FALLS, New York

Bridges

Rainbow bridge; proposed international bridge. il diag plan Can Eng R & B 78:9-11+ F '40

Lighting

Street lighting much increased; negligible increase in bill; Niagara Falls replaces magnetite arcs with incandescents; photoelectric control. C. H. Anderson. il diags Elec W 113:1363-5 My 4 '40

NIAGARA fire insurance company
90th anniversary. East Underw 41:19+ Ag 2 '40; Ins Field (Fire ed) 69:10-11 Ag 1 '40; Nat Underw 44:11 Ag 8 '40; Spectator (Property ed) 6:6 Ag 8 '40; Correction. 6:11 Ag 22 '40

NIAGARA Hudson power corporation
Annual report. Comm & Fin Chr 150:1943 Mr 23 '40

NIAGARA Hudson power corporation—*Cont.*
Biggest industrial electric system. B. Mitchell. map Barron's 20:20 F 5 '40
Subsidiaries ask approval of merger. Comm & Fin Chr 150:1002 F 10 '40

NIAGARA river
Bacterial pollution of the Niagara river; improvement in conditions after sewage treatment at Buffalo. G. E. Symons and R. W. Simpson. bibliog map Am Water Works Assn J 32:1529-46 S '40

NICARAGUA

Commerce

Foreign trade in 1938 and 1939. E. B. Lawson. Comm Rep p418-19 My 4 '40

Economic conditions

Business situation. Comm Rep p728+ Ag 24 '40

NICHOLS medal
J. M. Nelson receives Nichols medal. Ind & Eng Chem News ed 18:239-40 Mr 25 '40; Oil Paint & Drug Rep 137:4+ Mr 11 '40
Linus Pauling wins Nichols medal. Oil Paint & Drug Rep 138:3+ O 28 '40; Science 92: 397 N 1 '40

NICHROME
Life expectancy of electrical heating elements. F. E. Bash. Metal Prog 37:39-42 Ja '40

NICKEL
Accelerating effect of certain metallic elements on graphitization. H. A. Schwartz and others. bibliog Am Soc for Metals Trans 28:143-53; Discussion. 153-6 Mr '40
Anode effect as a function of temperature. P. L. Copeland. diags Phys R 57:625-34 Ap 1 '40
As it was in 1915 and as it is in 1940. P. D. Merica. Metal Prog 37:294 Mr '40
Asymmetric reduction of β-methylcinnamic acid by *d*-glucose in the presence of Raney nickel. T. D. Stewart and D. Lipkin. Am Chem Soc J 61:3297-300 D '39
Catalysts from alloys; nickel catalysts. M. Raney. bibliog il diags Ind & Eng Chem 32:1199-1203 S '40
Copper and nickel X-ray $K\beta_{2}$- and $K\beta_{5}$-emission lines and *K*-absorption limits in Cu-Ni alloys. H. Friedman and W. W. Beeman. Phys R 58:400-6 S 1 '40
Dispersion of supersonic waves in cylindrical rods of polycrystalline silver, nickel, and magnesium. S. K. Shear and A. B. Focke. bibliog diags Phys R 57:532-7 Mr 15 '40
Electron emission into dielectric liquids. W. R. LePage and L. A. DuBridge. diag Phys R 58:61-6 Jl 1 '40
Fundamental relation between lattice constants and density. F. Foote and E. R. Jette. bibliog Phys R 58:81-6 Jl 1 '40
Galvano- and thermomagnetic phenomena in iron and nickel. E. H. Butler, jr. and E. M. Pugh. diags Phys R 57:916-21 My 15 '40
K-absorption edges and $K\beta_{2,5}$-emission lines of two Zn-Ni alloys. J. A. Bearden and W. W. Beeman. Phys R 58:396-9 S 1 '40
Mechanical properties of monel, nickel, and inconel in forms used for machining and recommended cuts, feeds, and speeds for turning in lathe; data sheets. Mach 46:111 Je '40
Mechanism of magnetisation. T. F. Wall. diags Engineer 169:294-7, 318-20 Mr 29-Ap 5 '40
Nature of the surface of catalytic nickel; poisoning by ethylene and by methane decomposition. W. W. Russell and W. V. Loebenstein. Am Chem Soc J 62:2573-80 O '40
Nickel as a catalyst for the hydrogenation of aromatic halogen compounds. C. F. Winans. bibliog Am Chem Soc J 61:3564-5 D '39
Outer, initial permeability of nickel from 10 to 70 megacycles. J. B. Hoag and J. L. Glathart. Phys R 57:240 F 1 '40
Quantitative hydrogenation of substituted azo compounds with Raney nickel at normal temperature and pressure. W. F. Whitmore and A. J. Revukas. Am Chem Soc J 62: 1687-93 Jl '40
Reclaiming nickel anodes by welding; current loss preferable to metal loss. C. C. Downie. Chem Age (Lond) 43:59+ Ag 3 '40
Reduction over a Raney catalyst of the esters of α-amino acids to corresponding alkamines. G. Ovakimian, M. Kuna and P. A. Levene. Am Chem Soc J 62:676-7 Mr '40
Relative secondary electron emission due to He, Ne, and A ions bombarding a hot nickel target. M. Healea and C. Houtermans. bibliog Phys R 58:608-10 O 1 '40
Review of the strategic metals. E. F. Cone. Metals & Alloys 12:418 O '40
Secondary emission from evaporated nickel and cobalt. D. E. Wooldridge. Phys R 56: 1062-3 N 15 '39
Soft soldering of monel, nickel and inconel. Iron Age 145:44 Je 20 '40
Suggested feeds and speeds for drilling monel, nickel, and inconel; recommended feeds and speeds for machining R-monel; data sheets. Mach 46:201 Jl '40
Temperature effects in secondary emission; emission from iron, nickel, cobalt, and molybdenum. D. E. Wooldridge. Phys R 58:316-21 Ag 15 '40
Townsend ionization coefficients for Ni and Al cathodes in an atmosphere of hydrogen. D. H. Hale. bibliog diag Phys R 56:1199-1202 D 15 '39
Vapor pressures of nickel and of nickel oxide. H. L. Johnston and A. L. Marshall. bibliog Am Chem Soc J 62:1382-90 Je '40

Analysis

Amperometric titrations; the titration of nickel with dimethylglyoxime using the dropping mercury electrode as indicator electrode. I. M. Kolthoff and A. Langer. diag Am Chem Soc J 62:211-18 Ja '40

NICKEL alloys
Castings; nickel by ferrous and non-ferrous foundries during 1939. Blast F & Steel Pl 28:46 Ja '40
Catalysts from alloys; nickel catalysts. M. Raney. bibliog il diags Ind & Eng Chem 32:1199-1203 S '40
Fish hooks of new alloy; Z nickel. il Sci Am 162:277 My '40
Heat resisting castings, medium nickel type. H. I. Dixon. Metal Prog 38:469+ O '40
Heat treatment of K monel and Z nickel; abstract. Metals & Alloys 11:MA210+ Ap '40
K-absorption edges and K $_{2,5}$-emission lines of two Zn-Ni alloys. J. A. Bearden and W. W. Beeman. Phys R 58:396-9 S 1 '40
K-42-B, a new Westinghouse alloy. Iron Age 145:37 My 9 '40
Manufacture of fish hooks; Z nickel finish hooks, product of Bill DeWitt baits, division of Shoe form co. il Iron Age 145:43 Mr 14 '40
Mechanical properties of monel, nickel, and inconel in forms used for machining and recommended cuts, feeds, and speeds for turning in lathe; data sheets. Mach 46:111 Je '40
Nickel carbonyl for nickel metal. Chem Age (Lond) 42:sup8 F 3 '40
Nickel, inconel, monel. H. E. Searle. Metal Prog 38:466-7 O '40
Nickel industry in 1939. R. C. Stanley. Engineering 149:90 Ja 26 '40
Nickel industry in 1939. R. C. Stanley. Marine Eng 45:76 Ja '40
Nickel-molybdenum-iron and related alloys; their physical and corrosion-resistant properties. F. T. McCurdy. bibliog Am Soc T M Proc 39:698-709; Discussion. 710 '39
Nickel-tungsten system. F. H. Ellinger and W. P. Sykes. bibliog il Am Soc for Metals Trans 28:619-43; Discussion. 643-5 S '40
Nickel's role in milling equipment. J. E. Kerr. il Eng & Min J 140:54-7 D '39
Paramagnetic susceptibility of copper-nickel and zinc-nickel alloys. M. A. Wheeler. Phys R 56:1137-45 D 1 '39
Properties and uses of inconel. Engineering 149:282 Mr 15 '40
Recent history of certain cobalt-nickel alloy plating solutions. L. Weisberg. Electrochem Soc Trans 77 (preprint 18):245-51 Ap '40

NICKEL alloys—*Continued*
Soft soldering of monel, nickel and inconel. Iron Age 145:44 Je 20 '40
Suggested feeds and speeds for drilling monel, nickel, and inconel; recommended feeds and speeds for machining R-monel; data sheets. Mach 46:201 Jl '40
Thermal conductivities of some industrial alloys of copper and of nickel. J. W. Donaldson. Engineering 148:539-40 N 10 '39
Die verarbeitung von carbonylnickelpulver in einschmelzbetrieben der deutschen eisen- und stahlindustrie. P. Assmann and L. Schlecht. Stahl & Eisen 60:226-7 Mr 14 '40

See also
Alnico
Alumel
Chromel
Chromium nickel steel
Constantan
Illium
Iron alloys—Nickel alloys
Monel metal
Nichrome
Nickel silver
Nickel steel

NICKEL bronze
General purpose nickel-bronze alloy; comparisons with gun metal, high-tensile brass and phosphor-bronze. A. Dunlop. bibliog Iron Age 146:30-4 Ag 29 '40

NICKEL carbonyl
Nickel carbonyl for nickel metal. Chem Age (Lond) 42:sup8 F 3 '40
Die verarbeitung von carbonylnickelpulver in einschmelzbetrieben der deutschen eisen- und stahlindustrie. P. Assmann and L. Schlecht. Stahl & Eisen 60:226-7 Mr 14 '40

NICKEL chloride
Electrodeposition of nickel from nickel chloride solutions. W. A. Wesley and J. W. Carey. il Electrochem Soc Trans 75 (preprint 16):179-201 Ap '39; Same. Metal Ind 38:137-45 Mr '40; Excerpts. Iron Age 143: 41-2 Je 22 '39; Discussion. Metal Ind 38: 145-7 Mr '40

NICKEL chromium alloys
Hydrogen and oxygen overvoltages of chromium nickel alloys in 1 molal potassium hydroxide. M. de K. Thompson and G. H. Sistare, jr. diag Electrochem Soc Trans 78 (preprint 4):47-51 O '40
Spectral emissivity (at 0.65μ) of some alloys for electrical heating elements. W. F. Roeser. Am Soc T M Proc 39:780-7 '39

See also
Nichrome

NICKEL chromium molybdenum steel
Combined stress experiments on a nickel-chrome-molybdenum steel. J. M. Lessells and C. W. MacGregor. bibliog il diags Franklin Inst J 230:163-81 Ag '40

NICKEL chromium steel
Heat and corrosion resistant castings. D. W. Talbott. il Steel 107:40-4 Jl 22 '40
Interpretation of thermal curves and some applications to ferrous alloys. T. F. Russell. Iron & Steel Inst J 139:166-76 no 1 '39

See also
Chromium nickel steel

NICKEL company of Canada, International. See International nickel company of Canada

NICKEL compounds
Metal pyridine complex salts; cobaltous and nickelous dipyridine salts of fatty acids. T. L. Davis and A. V. Logan. Am Chem Soc J 62:1276-9 My '40
Study of the configuration of the nickel salt of formyl camphor. H. S. French and G. Corbett. bibliog Am Chem Soc J 62:3219-22 N '40

NICKEL disalicylaldehyde
Configuration of some cupric, nickelous and cobaltous complexes by means of magnetic measurements. G. N. Tyson, jr. and S. C. Adams. Am Chem Soc J 62:1228-9 My '40

NICKEL formyl camphor
Study of the configuration of the nickel salt of formyl camphor. H. S. French and G. Corbett. bibliog Am Chem Soc J 62:3219-22 N '40

NICKEL industry and trade
Aluminum and nickel. Min & Met 21:428-9 S '40
Nickel industry in 1939. R. C. Stanley. Blast F & Steel Pl 28:44 Ja '40
Nickel industry in 1939. R. C. Stanley. Marine Eng 45:76 Ja '40

See also International nickel company of Canada

Statistics
Nickel consumption at all-time high in 1939. Steel 106:330 Ja 1 '40

NICKEL metallurgy
Development in base metal smelting and refining in Canada in the last sixty years. il Can Min J 60:716-20 N '39

Electrometallurgy
Progress reports, Metallurgical division; electrometallurgical investigations; recovery of nickel, copper, and precious metals by combined electrothermal and electrolytic method. J. Koster and others. bibliog flow sheets pls U S Bur Mines Rep of Invest 3483:1-28 '39; Abstract. Chem Age (Lond) 42:sup15-16 Ap 6 '40

NICKEL mines and mining

Canada
Brief history of Canadian mining. W. H. Losee. il Can Min J 60:658-61 N '39

Nevada
Nickel deposits in Cottonwood canyon, Churchil county. H. G. Ferguson. (Univ of Nevada Bul v 33, no 5) 24p bibliog il maps 25c Nevada. Bur. of mines, Reno '39

Ontario
Garson gangway chute. K. E. Gustafson. diags Can Min J 61:275-82 My '40
Mining methods of Garson mine. J. A. Bardswich. diags Can Min J 61:575-82 S '40
Stoping methods at Levack mine. G. O. Brown. diags Can Min J 61:347-54 Je '40

NICKEL molybdenum steel
New alloy for heavy duty gear and shafting applications. Automotive Ind 83:70 Jl 15 '40

NICKEL ores
Les gisements des minerais oxydés de nickel en Oural. B. Bogitch. Génie Civil 115:375-6 N 18 '39
Recent advances in the applied chemistry of the rare metals; recovery of platinum metals from Canadian nickel ores. R. H. Atkinson. flow sheets Chem & Ind 59:195-9 Mr 23 '40

NICKEL oxides
Assay for platinum metals in ore concentrates. J. Seath and F. E. Beamish. bibliog Ind & Eng Chem Anal ed 12:169-71 Mr 15 '40
Cadmium-nickel storage battery. A. P. Hauel. Elec W 112:1476 N 18 '39
Heat capacity of nickel oxide from 68-298°K. and the thermodynamic properties of the oxide. H. Seltz, B. J. DeWitt and H. J. McDonald. bibliog Am Chem Soc J 62:88-9 Ja '40
Vapor pressures of nickel and of nickel oxide. H. L. Johnston and A. L. Marshall. bibliog Am Chem Soc J 62:1382-90 Je '40
X-ray investigation of the system Cr_2O_3-NiO[1]. L. Thomassen. Am Chem Soc J 62:1134-6 My '40

NICKEL Plate road. See New York, Chicago and St Louis railroad

NICKEL plating
Adhesion of nickel deposits; Ollard adhesion test to evaluate efficiency of etching methods prior to plating. E. J. Roehl. il diag Iron Age 146:17-20 S 26; 30-3 O 3 '40
Automatic bright nickel plating of automobile radiator grilles. A. G. Spencer. il diag Metal Ind 38:197-200 Ap '40
Cobalt-nickel plating solutions. L. Weisberg. Metal Finishing 38:318-20 Je '40

NICKEL plating—*Continued*
Effect of glycerine on the throwing power of plating baths. F. C. Mathers and W. J. Guest. Electrochem Soc Trans 78 (preprint 6):67-71 O '40
Electrodeposition of nickel from nickel chloride solutions. W. A. Wesley and J. W. Carey. il Electrochem Soc Trans 75 (preprint 16):179-201 Ap '39; Same. Metal Ind 38:137-45 Mr '40; Excerpts. Iron Age 143: 41-2 Je 22 '39; Discussion. Metal Ind 38: 145-7 Mr '40
Heavy nickel plating; abstract. L. Weisberg. Steel 106:65 F 5 '40
Influence of organic compounds in nickel plating solutions. E. Raub and M. Wittum. il Metal Ind 38:206-8+ Ap '40; [cont as] Metal Finishing 38:315-17, 429-32 Je, Ag '40
Nickel plating speed jumped 500 per cent in pilot plants. Steel 107:163 O 14 '40
Outdoor exposure tests of electroplated nickel and chromium coatings on steel and nonferrous metals. W. Blum and P. W. C. Strausser. J Research Nat Bur Stand 24: 443-74 Ap '40
Pitting in nickel solution. Metal Ind 37:583 D '39
Recent history of certain cobalt-nickel alloy plating solutions. L. Weisberg. Electrochem Soc Trans 77 (preprint 18):245-51 Ap '40
Structure of heavy electrodeposits of copper and nickel. J. W. Cuthbertson. bibliog il diag Electrochem Soc Trans 77 (preprint 8):93-111 Ap '40
Suggested basis for specifications of plated coatings of nickel and chromium. A. W. Hothersall. Metal Ind 38:27-30 Ja '40
Surface tension of plating solutions. D. S. Hartshorn, jr. il Metal Finishing 38:476-8 S '40

NICKEL potassium sulfate
Ternary systems; solid solutions of some picromerites at 25°. A. E. Hill, G. S. Durham and J. E. Ricci. bibliog Am Chem Soc J 62:1031-6 My '40

NICKEL silver
Producing castings of nickel silver. D. M. Curry. il Foundry 68:46-7+ Je '40

NICKEL steel
How alloying elements affect high alloy steels. P. Payson. il Iron Age 145:34-5 Ap 18 '40
Impact properties of some low alloy nickel steels at temperatures down to -200 degrees Fahr. T. N. Armstrong and A. P. Gagnebin. bibliog diag Am Soc for Metals Trans 28:1-19; Discussion. 19-24 Mr '40
Nickel alloy steels; characteristics and properties required for tractor parts. H. L. Geiger. Product Eng 11:67-70 F '40
Nickel industry in 1939. R. C. Stanley. Blast F & Steel Pl 28:44 Ja '40
Nickel steels and irons. J. W. Sands. Metal Prog 38:387 O '40
Nickel steels in the automobile. R. C. Stanley. Automotive Ind 82:152 F 15 '40
Nickel's role in milling equipment. J. E. Kerr. il Eng & Min J 140:54-7 D '39
Die verarbeitung von carbonylnickelpulver in einschmelzbetrieben der deutschen eisen- und stahlindustrie. P. Assmann and L. Schlecht. Stahl & Eisen 60:226-7 Mr 14 '40

See also
Chromium nickel steel
Nickel chromium steel
Invar

NICKEL sulfate
Optical activity, circular dichroism, and absorption of crystalline nickel sulphate. L. R. Ingersoll and others. bibliog diags Phys R 57:1145-53 Je 15 '40

NICOTINAMIDE
Effect of nicotinamide on respiration of dysentery bacilli. A. Dorfman, S. A. Koser and F. Saunders. Science 90:544-5 D 8 '39

NICOTINE
Avoiding obvious residue from nicotine-bentonite sprays. C. G. Vinson and S. A. McCrory. Science 92:79 Jl 26 '40
Distribution of nicotine between water and petroleum oils. L. B. Norton. bibliog Ind & Eng Chem 32:241-4 F '40
Partial vapor pressures from nicotine solutions at 25°. L. B. Norton, C. R. Bigelow and W. B. Vincent. bibliog diag Am Chem Soc J 62:261-4 F '40

NICOTINIC acid
Determination of V factor in the urine and tissues of normal dogs and of dogs with blacktongue by the use of hemophilus parainfluenzae. M. Pittman and H. F. Fraser. bibliog Pub Health Rep 55:915-25 My 24 '40
Synthesis of nicotinic acid in the body of sheep. A. H. Winegar, P. B. Pearson and H. Schmidt. Science 91:508-9 My 24 '40

Bibliography
Nicotinic acid; annotated bibliography. 88p Merck & co, Rahway, N.J. '40

NICOTINYL sulfanilamide
N^1,N^4-nicotinyl derivatives of sulfanilamide. T. C. Daniels and H. Iwamoto. bibliog Am Chem Soc J 62:741-2 Ap '40

NIGHT work
Survey of shift schedules in continuous-process industries; extra pay on undesirable shifts. Management R 28:431-2 D '39

NILES-BEMENT-POND company
Leader in machine tools. W. E. Kraemer. il Mag of Wall St 65:424-5+ Ja 13 '40
Leaders in the machine tool industry; thumbnail appraisal. Mag of Wall St 66:31 Ap 20 '40

See also
Pratt & Whitney company

NINETEEN hundred and thirty-nine
A.D. 1939; in which the U.S. goes from gloom to boom with war. il Fortune 21:28-35+ Ja '40
Chronology of 1939. Mag of Wall St Manual p14 Mr 2 '40
Engineering news events of 1939. Eng N 124: 220-1 F 15 '40
Noteworthy events of 1939. H. P. Gillette. Roads & Sts 83:66+ F '40

NINETEEN hundred thirties
Goodbye to the thirties. H. Eckhardt. Adv & Sell 32:17-19+ D '39
Since yesterday; the nineteen-thirties in America, September 3, 1929-September 3, 1939. F. L. Allen. 362p $3 Harper '40
Thirties, decade of frustration. Economist 138:1-2 Ja 6 '40

NIOBIUM. See Columbium

NI-RESIST. See Iron alloys—Nickel alloys

NITRATES
Freezing points in mixtures of strong electrolytes. M. Randall and B. Longtin. bibliog J Phys Chem 44:427-35 Ap '40

See also
Nitration
Nitric acid
Nitrocellulose
Potassium nitrate
Silver nitrate
Sodium nitrate

NITRATION
p-Cymene studies; mononitration of 2-amino-*p*-cymene; preparation of 3-amino-*p*-cymene and *o*- and *p*-cymylenediamine. T. F. Doumani and K. A. Kobe. Am Chem Soc J 62:562-5 Mr '40
Dehydrogenation and nitration of hydrocarbons of the cyclopentane series. E. Berl and R. Raab. Ind & Eng Chem Anal ed 12: 177 Mr 15 '40
Esters of alginic acid. H. J. Lucas and W. T. Stewart. bibliog Am Chem Soc J 62: 1070-4 My '40
Nitration of aliphatic hydrocarbons. P. G. Stevens and R. W. Schiessler. Am Chem Soc J 62:2885-6 O '40
Nitration of ethane. H. J. Hibshman, E. H. Pierson and H. B. Hass. diags Ind & Eng Chem 32:427-9 Mr '40
Nitration of 6- and 7-methoxyaceto-2-naphthalide. D. H. Hey and S. E. Lawton. Chem Soc J p384-7 Mr '40
Nitration of β-[3,4,5-trimethylphenyl]-isovaleric acid and its methyl ester; formation of 4,4,6,7,8-pentamethyl-5-nitrohydrocoumarin. L. I. Smith and W. W. Prichard. bibliog Am Chem Soc J 62:780-4 Ap '40

NITRATION—*Continued*
Polyalkylbenzenes; nitration of tetra-, penta- and hexa-ethylbenzenes; bromination of the tetraethylbenzenes. L. I. Smith and C. O. Guss. bibliog Am Chem Soc J 62:2635-8 O '40

Polymethylbenzenes; the nitration of bromopentamethylbenzene. L. I. Smith and J. W. Horner, jr. Am Chem Soc J 62:1349-54 Je '40

Rate of nitration of benzene. W. K. Lewis and T. J. Suen. bibliog Ind & Eng Chem 32:1095-1101 Ag '40

Sulfonation and nitration reaction promoted by boron fluoride. R. J. Thomas, W. F. Anzilotti and G. F. Hennion. bibliog Ind & Eng Chem 32:408-10 Mr '40

NITRIC acid
Action of nitric acid on polycyclic indole derivatives; indeno(2′ : 3′ : 2 : 3)indole. N. M. Beyts and S. G. P. Plant. Chem Soc J p1534-6 O '39

La concentration de l'acide nitrique à 96% et la fabrication du nitrate d'ammoniaque. C. Berthelot. il diags Génie Civil 116:259-62 Ap 20 '40

Pulping of Douglas fir with nitric acid. H. K. Benson and A. T. Walton. bibliog diags Paper Tr J 111:27-30 S 5 '40

Then and now in plant operation; manufacture and concentration of nitric and sulphuric acids. E. F. Thoenges. Chem & Met Eng 46:713 N '39

20° isotherm of the ternary system: manganous nitrate—nitric acid—water. W. W. Ewing and C. F. Glick. diags Am Chem Soc J 62:2174-6 Ag '40

See also
Nitration

Manufacture

La fabrication de l'acide nitrique par le procédé Fauser, avec emploi de turbocompresseurs en acier inoxydable. C. Berthelot. il diags Génie Civil 115:381-3 N 25 '39

NITRIFYING bacteria. See Bacteria, Nitrifying

NITRILES
Decomposition reactions of the aromatic diazo-compounds; some reactions of diazonium chlorides with esters and nitriles. W. E. Hanby and W. A. Waters. Chem Soc J p1792-5 N '39

Hydrogen bonds involving the C-H link; nitriles and dinitriles as solvents for hydrogen containing halogenated methanes. M. J. Copley, G. F. Zellhoefer and C. S. Marvel. Am Chem Soc J 62:227-8 Ja '40

Preparation of nitriles and amides; reactions of esters with acids and with aluminum chloride; the use of the salt $NaCl \cdot AlCl_3$ in the Friedel and Crafts reaction. J. F. Norris and A. J. Klemka. Am Chem Soc J 62:1432-5 Je '40

Reactions of nitriles and related compounds with sulfur in the presence of amines; synthesis of quaternary ammonium thiocyanates. C. R. McCrosky, F. W. Bergstrom and G. Waitkins. bibliog Am Chem Soc J 62:2031-4 Ag '40

NITRITE poisoning
Experimental studies in cardiovascular pathology; pathological changes in the organs of rats produced by chronic nitrite poisoning; abstract. W. C. Hueper and J. W. Landsberg. J Ind Hygiene 22:sup163 O '40

NITRITES

Analysis

Nitrite nitrogen standards. W. F. Reindollar. bibliog Ind & Eng Chem Anal ed 12:325 Je 15 '40

Sensitive test for iodide and nitrite. C. L. Wilson. Chem & Ind 59:378-9 Je 1 '40

NITRO compounds
Acidity of aromatic nitro compounds toward amines; the effect of double chelation. G. N. Lewis and G. T. Seaborg. Am Chem Soc J 62:2122-4 Ag '40

Aldehyde-nitroparaffin condensation. B. M. Vanderbilt and H. B. Hass. bibliog Ind & Eng Chem 32:34-8 Ja '40

Associating effect of the hydrogen atom; nitroarylhydrazones. L. Hunter and J. A. Marriott. Chem Soc J p166-70 F '40

Asymmetry of the aliphatic nitro group; resolution of 9-nitro-2-benzoylfluorene. F. E. Ray and S. Palinchak. bibliog Am Chem Soc J 62:2109-13 Ag '40

Complexes of polynitro-compounds; compounds of polynitro-substances with derivatives of carbostyril, etc. A. Kent, D. McNeil and R. M. Cowper. Chem Soc J p1858-62 D '39

Effects of pressure, temperature and chemical composition on the absorption of light by mixtures of aromatic amines and nitro compounds. R. E. Gibson and O. H. Loeffler. bibliog Am Chem Soc J 62:1324-34 Je '40

Identification of organic compounds; piperidyl derivatives of aromatic halogenonitro compounds. M. K. Seikel. bibliog Am Chem Soc J 62:750-6 Ap '40

Nitro derivative of 2-bromo-4-amino-1,3-dimethylbenzene. W. C. Spitzer. Am Chem Soc J 62:2884 O '40

Observations on the constitution of diazoamino-compounds. A. Mangini. bibliog Soc Chem Ind J 58:327-30 N '39

Secondary amines from nitro compounds. W. S. Emerson and H. W. Mohrman. Am Chem Soc J 62:69-70 Ja '40

Some reactions of unsaturated nitro compounds derived from terephthalaldehyde. D. E. Worrall. Am Chem Soc J 62:3253-4 N '40

Steric inhibition of resonance in aromatic nitro compounds. G. W. Wheland and A. A. Danish. bibliog Am Chem Soc J 62: 1125-7 My '40

Steric inhibition of resonance; rates of reaction of nitro- and cyano-aryl halides. W. C. Spitzer and G. W. Wheland. bibliog Am Chem Soc J 62:2995-3002 N '40

Structural problems in the indole group; an alternative method for determining the structure of nitro-compounds. S. G. P. Plant and W. D. Whitaker. Chem Soc J p283-6 Mr '40

Structure of aromatic compounds; halogenonitro-compounds of styrene, phenanthrene, diphenyl, hydrindene, fluorene, and acenaphthene. N. Campbell, W. Anderson and J. Gilmore. Chem Soc J p446-51 Ap '40

Vapor pressures for six aliphatic nitro compounds. E. B. Hodge. bibliog Ind & Eng Chem 32:748 My '40

NITROANILINE
Union of aryl nuclei; a modification of the Gomberg reaction. J. Elks, J. W. Haworth and D. H. Hey. Chem Soc J p1284-6 S '40

NITROANISYLPYRIDINE
Arylpyridines; anisyl- and nitroanisylpyridines. J. W. Haworth, I. M. Heilbron and D. H. Hey. Chem Soc J p358-61 Mr '40

NITROBARBITURATES
Diliturates (5-nitrobarbiturates) of some physiologically important bases. C. E. Redemann and C. Niemann. bibliog Am Chem Soc J 62:590-3 Mr '40

NITROBENZENE
Effects of pressure, temperature and chemical composition on the absorption of light by mixtures of aromatic amines and nitro compounds. R. E. Gibson and O. H. Loeffler. bibliog Am Chem Soc J 62:1324-34 Je '40

Kinetics of the reaction of *p*-methoxybenzhydryl chloride with methanol in dilute nitrobenzene solution. P. D. Bartlett and R. W. Nebel. bibliog Am Chem Soc J 62:1345-9 Je '40

Simple apparatus for measuring the dielectric constant of non-conducting liquids. B. E. Hudson and M. E. Hobbs. bibliog diags J Chem Educ 17:366-70 Ag '40

Spreading of binary mixtures of volatile organic liquids on water. C. P. Keim and E. R. Washburn. bibliog Am Chem Soc J 62:2318-20 S '40

NITROBENZENEAZORESORCINOL
Test for magnesium with *p*-nitrobenzeneazoresorcinol; the effect of diverse ions. J. P. Mehlig and K. R. Johnson. bibliog Ind & Eng Chem Anal ed 12:30-1 Ja 15 '40

NITROBENZOIC acid
Alkanolamines; reaction of ethanolamines on *p*-nitrobenzoic acid. M. Meltsner, D. Greenfield and H. Rosenzweig. Am Chem Soc J 62:991-2 Ap '40

NITROBENZOQUINOLINE
Nitro and aminobenzo [f] quinolines and derivatives. W. J. Clem and C. S. Hamilton. Am Chem Soc J 62:2349-52 S '40

NITROBENZOYLFLUORENE
Asymmetry of the aliphatic nitro group; resolution of 9-nitro-2-benzoylfluorene. F. E. Ray and S. Palinchak. bibliog Am Chem Soc J 62:2109-13 Ag '40

NITROBENZOYLGLUTAMIC acid
p-Nitrobenzoyl-*d*(—)- and *p*-aminobenzoyl-*d*(—)-glutamic acid. H. C. Winter. Am Chem Soc J 62:3266-7 N '40

NITROCAMPHOR
Acid catalysis in non-aqueous solvents; the mutarotation of α-nitrocamphor in chlorobenzene solution. R. P. Bell and J. A. Sherred. Chem Soc J p1202-5 Ag '40

NITROCELLULOSE
Cellulose and its by-products. W. B. Campbell. Pulp & Pa of Can 40:742-3 D '39
Effect of nonvolatile material on solvent balance; plasticizers. J. B. Dorsch. Ind & Eng Chem 32:279-82 F '40
Evaluation of nitrocellulose lacquer solvents; ester activation by alcohols and the use of alcohols as lacquer diluents. V. W. Ware and W. M. Bruner. bibliog Ind & Eng Chem 32:519-24 Ap '40
Evaluation of nitrocellulose lacquer solvents; study of hydrocarbon diluents by the constant-viscosity procedure. V. W. Ware and W. M. Bruner. bibliog Ind & Eng Chem 32:78-82 Ja '40
Preparation of fibrous ido-cellulose nitrates and the probable distribution of nitrate groups in partly nitrated celluloses. G. E. Murray and C. B. Purves. bibliog Am Chem Soc J 62:3194-7 N '40
Properties of the oxycelluloses formed in the early stages of the oxidation of cotton cellulose by periodic acid and metaperiodate. G. F. Davidson. bibliog Textile Inst J 31:T81-96 Jl '40
Recommended practice for handling nitrocellulose. Chem & Met Eng 47:619 S '40
Speedier and less costly method of concentration in nitro-cellulose imbedding. H. W. Jensen. diag Science 91:509-10 My 24 '40
Surface tension of a solvent-diluent mixture. J. K. Stewart and G. C. Hook. bibliog il Ind & Eng Chem 32:871-6 Je '40

See also
Explosives
Pyroxylin

Statistics

Cellulose plastic products, 1936-1939. Survey of Cur Business 1940 Sup p96 [supplemented in monthly numbers]

NITRODIMETHYLANILINE
Action of nitrous acid on p-nitrodimethylaniline in hydrochloric acid. H. M. Halliday and T. H. Reade. Chem Soc J p138-41 F '40

NITRODIPHENYL
Union of aryl nuclei; a modification of the Gomberg reaction. J. Elks, J. W. Haworth and D. H. Hey. Chem Soc J p1284-6 S '40

NITROETHANE
Nitration of ethane. H. J. Hibshman, E. H. Pierson and H. B. Hass. diags Ind & Eng Chem 32:427-9 Mr '40
Nitroparaffins and their derivatives. C. L. Gabriel. il Chem Ind 45:664-8 D '39
Nitroparaffins; new synthetics for synthesis. C. L. Gabriel. bibliog il Ind & Eng Chem 32:887-92 Jl '40
Physiological response of animals to some simple mononitroparaffins and to certain derivatives of these compounds. W. Machle, E. W. Scott and J. Treon. bibliog diag J Ind Hygiene 22:315-32 O '40

NITROFLUORONITROSTYRENE
Aromatic amines and 3-nitro-6-fluoronitrostyrene. D. E. Worrall and H. T. Wolosinski. Am Chem Soc J 62:2449 S '40

NITROGEN
Analytical calculations of thermodynamic properties. H. M. Robinson and H. Bliss. bibliog Ind & Eng Chem 32:396-8 Mr '40
Breakdown potentials of gases under alternating voltages. G. W. Fox and D. O. McCoy. diag J Ap Phys 11:592-5 S '40
Characteristics and function of anode spots in glow discharges. S. M. Rubens and J. E. Henderson. bibliog il diags Phys R 58: 446-57 S 1 '40
Chemisorptions of gases on iron synthetic ammonia catalysts. S. Brunauer and P. H. Emmett. bibliog Am Chem Soc J 62:1732-46 Jl '40
Dielectric constants of ammonia, nitrogen, and carbon dioxide at ultra-high frequency. G. W. Fox and A. H. Ryan. bibliog Phys R 56:1132-6 D 1 '39
Divalent nitrogen; the rate of dissociation of tetraphenylhydrazine. C. K. Cain and F. Y. Wiselogle. bibliog diag Am Chem Soc J 62:1163-9 My '40
Effect of bubbles of gas on mixtures of sewage and activated sludge; amount of organic carbon removed with bubbles of air, oxygen, hydrogen, and nitrogen. E. Williams. Soc Chem Ind J 59:39-41 F '40
Electric quadrupole and magnetic dipole moments of Li^6 and N^{14}. M. E. Rose. bibliog Phys R 56:1064 N 15 '39
Excitation of active nitrogen. H. P. Knauss and A. E. Murray. R Sci Instr 11:78 F '40
Explosive properties of cyclopropane; prevention of explosions by dilution with inert gases; hazards of gases and vapors used in anesthesia. G. W. Jones, R. E. Kennedy and G. J. Thomas. bibliog pl U S Bur Mines Rep of Invest 3511:1-17 '40
Gamma-radiation from nitrogen bombarded by deuterons. E. R. Gaerttner and L. A. Pardue. bibliog Phys R 57:386-9 Mr 1 '40
Gamma-rays from beryllium and nitrogen bombarded with deuterons. H. R. Crane, J. Halpern and N. L. Oleson. bibliog Phys R 57:13-15 Ja 1 '40
Infrared absorption studies; NH-N and NH-O bonds. A. M. Buswell, J. R. Downing and W. H. Rodebush. bibliog Am Chem Soc J 62:2759-65 O '40
Modified Kendall tube for purifying nitrogen. G. M. Savage and Z. J. Ordal. diags Science 91:222-3 Mr 1 '40
Nitrogen and the new preparedness. J. E. Zanetti. il Ind & Eng Chem News ed 18:529-30 Je 25 '40
Nitrogen sufficiency. J. E. Zanetti. il Ind & Eng Chem 32:1170-1 S '40
Optical dispersion and molar refraction at zero frequency for compressed nitrogen, argon, and carbon dioxide measured as functions of density. C. E. Bennett. Phys R 58:263-6 Ag 1 '40
Oxidation of nitrogen in an ozonizer discharge at high temperatures. J. F. Shultz and O. R. Wulf. diag Am Chem Soc J 62:2980-7 N '40
Polysaccharides; the methylation of cellulose in air and in nitrogen. W. N. Haworth and others. Chem Soc J p1885-98 D '39
Positive column of the nitrogen arc at atmospheric pressure. E. S. Lamar, A. M. Stone and K. T. Compton. bibliog Phys R 55:1235-44; 57:212-20 Je 15 '39, F 1 '40
Positive point-to-plane corona in pure A, H_2 and N_2. G. L. Weissler. Phys R 57:340-1 F 15 '40
Radioactive nitrogen in the study of N_2 fixation by non-leguminous plants. S. Ruben, W. Z. Hassid and M. D. Kamen. Science 91: 578-9 Je 14 '40
Scattering of alpha-particles by nitrogen. G. Brubaker. Phys R 56:1181-3 D 15 '39
System benzene-nitrogen; liquid-vapor phase equilibria at elevated pressures. P. Miller and B. F. Dodge. diags Ind & Eng Chem 32:434-8 Mr '40
Thermal separation of isotopes. W. W. Watson. diags Phys R 57:899-902 My 15 '40
Tube for nitrogen purification. A. B. Garrett and R. Helks. diag Science 91:460 My 10 '40

NITROGEN—*Continued*
Viscosity of gases and vapors at high pressures. E. W. Comings and R. S. Egly. bibliog Ind & Eng Chem 32:714-18 My '40

See also
Rubber—Nitrogen content
Soils—Nitrogen content
Steel—Nitrogen content

Analysis

Analysis of cationic surface-active agents of trivalent nitrogen type. R. Hart. Ind & Eng Chem Anal ed 12:400-2 Jl 15 '40; Same. Am Dyestuff Rep 29:411-14 Ag 19 '40; Same. Textile Col 62:698-701 O '40; Same. Rayon 21:613-14+, 697-8 O-N '40

Direct estimation of biological nitrogen fixation; a gasometric method. C. Hurwitz and P. W. Wilson. bibliog diags Ind & Eng Chem Anal ed 12:31-3 Ja 15 '40

Effect of ferric sulfate in shortening Kjeldahl digestion. F. M. Stubblefield and E. E. DeTurk. bibliog Ind & Eng Chem Anal ed 12:396-9 Jl 15 '40

Flat-bottomed microcups as weighing bottles and reaction vessels for Kjeldahl analyses of viscous liquids. G. E. Ferguson and L. Schefian. Ind & Eng Chem Anal ed 12:553 S 15 '40

Die mikro-stickstoffbestimmung nach Dumas-Pregl. F. Fischer. bibliog il diag Chemische Fabrik 13:154-6 My 4 '40

Nitrogen content in rubber; comparison of Kjeldahl and Dumas methods. P. Schidrowitz. Rubber Age 47:90 My '40

Review of the Kjeldahl determination of organic nitrogen. R. B. Bradstreet. Chem R 27:331-50 bibliog(148 references, p346-50) O '40

Semimicro-Dumas method for difficult compounds. A. R. Ronzio. bibliog diags Ind & Eng Chem Anal ed 12:303-4 My 15 '40

NITROGEN compounds
Attempts to prepare optically active tervalent nitrogen compounds; syntheses of 1 : 9-phenylenecarbazole and derivatives. H. G. Dunlop and S. H. Tucker. Chem Soc J p1945-56 D '39

Infrared absorption studies; bonding of hydrogen in nitrogen compounds. A. M. Buswell, J. R. Downing and W. H. Rodebush. bibliog Am Chem Soc J 61:3252-6 D '39

Nitrogen compounds in petroleum distillates; isolation, ozonization and synthesis of 2,4-dimethyl-8-*s*-butylquinoline. L. M. Schenck and J. R. Bailey. Am Chem Soc J 62: 1967-9 Ag '40

Stability toward racemization of optically active compounds, with especial reference to trivalent nitrogen compounds. J. F. Kincaid and F. C. Henriques, jr. bibliog Am Chem Soc J 62:1474-7 Je '40

Sulfamic acid, sulfamide, and related aquoammonosulfuric acids. L. F. Audrieth and others. Chem R 26:49-94 bibliog(145 references, p91-4) F '40

See also
Amino compounds
Ammonia
Azo compounds
Cyanides
Hydrazoic acid
Nitrates
Nitro compounds

Analysis

Analysis of cationic surface-active agents of trivalent nitrogen type. R. Hart. Ind & Eng Chem Anal ed 12:400-2 Jl 15 '40; Same. Am Dyestuff Rep 29:411-14 Ag 19 '40; Same. Textile Col 62:698-701 O '40; Same. Rayon 21:613-14+, 697-8 O-N '40

NITROGEN dioxide. See Nitrogen oxides

NITROGEN fixation
Die assimilation atmosphärischen stickstoffs durch bodenbakterien. R. Hüttel. bibliog Angew Chemie 53:141-4 Mr 30 '40

Direct estimation of biological nitrogen fixation; a gasometric method. C. Hurwitz and P. W. Wilson. bibliog diags Ind & Eng Chem Anal ed 12:31-3 Ja 15 '40

Nitrogen and the new preparedness. J. E. Zanetti. il Ind & Eng Chem News ed 18: 529-30 Je 25 '40

Radioactive nitrogen in the study of N_2 fixation by non-leguminous plants. S. Ruben, W. Z. Hassid and M. D. Kamen. Science 91: 578-9 Je 14 '40

See also
Ammonia—Manufacture

NITROGEN oxides
Adsorption of nitrous oxide on certain pseudomorphs. A. B. Lamb and C. D. West. bibliog Am Chem Soc J 62:3176-80 N '40

Chemical and physiological investigation of electric arc welding; bare, washed welding rods. G. C. Harrold, S. F. Meek and C. P. McCord. bibliog il J Ind Hygiene 22:347-78 O '40

Eliminating nitrous oxide from mine-locomotive controls. C. C. Whittaker. il diag Coal Age 45:55, 58 S '40

Fundamental rotation-vibration band of nitric oxide. R. H. Gillette and E. H. Eyster. bibliog Phys R 56:1113-19 D 1 '39

Inhibition of ethylene polymerization by nitric oxide. H. D. Burnham and R. N. Pease. Am Chem Soc J 62:453 F '40

Inhibition of the hydrogenation of ethylene by nitric oxide. H. D. Burnham and R. N. Pease. Am Chem Soc J 62:453 F '40

Kinetics of the inhibition of the reaction between chlorine and nitric oxide. E. M. Stoddart. diag Chem Soc J p823-31 Jl '40

Nitrosoacylarylamines; the action of nitrous fumes on acylarylamines. J. W. Haworth and D. H. Hey. Chem Soc J p361-9 Mr '40

Photochemical studies; the photochemical reaction between nitrous oxide and hydrogen. J. W. Zabor and W. A. Noyes, jr. bibliog Am Chem Soc J 62:1975-81 Ag '40

Sensitisation of the hydrogen-oxygen reaction by nitrous oxide. C. J. Danby and C. N. Hinshelwood. Chem Soc J p464-8 Ap '40

NITROGLYCERIN
Illinois uses several explosives and tamping methods. H. F. Simons. il diag Oil & Gas 38:81-2+ Ap 11 '40

My fifty years in the explosives industry. W. Cullen. bibliog il diags Inst Chem Eng Trans 17:11-24 '39; Same, without il and diags. Chem & Ind 58:812-23 S 2 '39

Oil-well shooting practice. P. F. Lewis. Oil & Gas J 38:23+ F 29 '40

NITROHYDROCOUMARIN
Nitration of β-[3,4,5-trimethylphenyl]-isovaleric acid and its methyl ester; formation of 4,4,6,7,8-pentamethyl-5-nitrohydrocoumarin. L. I. Smith and W. W. Prichard. bibliog Am Chem Soc J 62:780-4 Ap '40

NITROIODONITROSTYRENE
Action of aromatic amines on 3-nitro-6-iodonitrostyrene. D. E. Worrall and F. Benington. Am Chem Soc J 62:493-4 Mr '40

NITROMETHANE
Nitroparaffins and their derivatives. C. L. Gabriel. il Chem Ind 45:664-8 D '39

Nitroparaffins; new synthetics for synthesis. C. L. Gabriel. bibliog il Ind & Eng Chem 32: 887-92 Jl '40

Physiological response of animals to some simple mononitroparaffins and to certain derivatives of these compounds. W. Machle, E. W. Scott and J. Treon. bibliog diag J Ind Hygiene 22:315-32 O '40

NITRON
Possible source of error in gravimetric determinations involving use of hydrogen peroxide followed by nitron. R. C. Young and P. M. Bernays. Ind & Eng Chem Anal ed 12:90 F 15 '40

NITROPARAFFINS
Aldehyde-nitroparaffin condensation. B. M. Vanderbilt and H. B. Hass. bibliog Ind & Eng Chem 32:34-8 Ja '40

Commercial Solvents develops nitroparaffins. Oil Paint & Drug Rep 136:36 D 4 '39

β-Dioximes and trialkylisoxazoles from nitroparaffins. S. B. Lippincott. Am Chem Soc J 62:2604-6 O '40

Nitroparaffins and their derivatives. C. L. Gabriel. il Chem Ind 45:664-8 D '39

NITROPARAFFINS—*Continued*
Nitroparaffins; new synthetics for synthesis. C. L. Gabriel. bibliog il Ind & Eng Chem 32:887-92 Jl '40

Analysis

Colorimetric determination of primary mononitroparaffins. E. W. Scott and J. F. Treon. Ind & Eng Chem Anal ed 12:189-90 Ap 15 '40

Physiological effect

Physiological response of animals to some simple mononitroparaffins and to certain derivatives of these compounds. W. Machle, E. W. Scott and J. Treon. bibliog diag J Ind Hygiene 22:315-32 O '40

NITROPHENOL

Analysis

Estimation of *o*-nitrophenol in *p*-nitrophenol and *o*-aminophenol in *p*-aminophenol by fluorescence analysis. W. Seaman, A. R. Norton and O. E. Sundberg. bibliog Ind & Eng Chem Anal ed 12:403-5 Jl 15 '40

NITROPHENOLS

Solubilities of sodium and potassium salts of nitrophenols and related acids. O. C. Dermer and V. H. Dermer. bibliog Am Chem Soc J 61:3302-3 D '39

NITROPHENYLPYRIDINE

Arylpyridines; phenylpyridines and nitrophenylpyridines. J. W. Haworth, I. M. Heilbron and D. H. Hey. Chem Soc J p349-55 Mr '40

NITROPHENYL urethans

Solid derivatives of monoalkyl ethers of ethylene glycol and diethylene glycol. J. F. Manning and J. P. Mason. Am Chem Soc J 62:3136-9 N '40

NITROPHTHALATES

3-Nitrophthalates of the mono ethers of ethylene and diethylene glycol. A. J. Veraguth and H. Diehl. Am Chem Soc J 62:233 Ja '40

NITROPROPANE

Nitroparaffins and their derivatives. C. L. Gabriel. il Chem Ind 45:664-8 D '39

Nitroparaffins; new synthetics for synthesis. C. L. Gabriel. bibliog il Ind & Eng Chem 32:887-92 Jl '40

Physiological response of animals to some simple mononitroparaffins and to certain derivatives of these compounds. W. Machle, E. W. Scott and J. Treon. bibliog diag J Ind Hygiene 22:315-32 O '40

NITROQUINOLINE

20-Methyl-4-azacholanthrene. L. F. Fieser and E. B. Hershberg bibliog Am Chem Soc J 62:1640-5 Jl '40

NITROSATION

Nitrosation of phenols; *o*-fluorophenol, and a comparative study of the four *o*-halogenophenols. H. H. Hodgson and D. E. Nicholson. Chem Soc J p810-12 Je '40

Nitrosation of phenols; the synthesis of 3-fluoro-4-nitrosophenol and of 3-fluoro-6-nitrosophenol; a comparison of the stabilities of the 3-halogeno-4-nitrosophenols. H. H. Hodgson and D. E. Nicholson. Chem Soc J p1268-71 S '40

NITROSO compounds

Colorimetric determination of cobalt with beta-nitroso-alpha-naphthol. J. H. Yoe and C. J. Barton. bibliog Ind & Eng Chem Anal ed 12:405-9 Jl 15 '40

Nitrosation of phenols; the synthesis of 3-fluoro-4-nitrosophenol and of 3-fluoro-6-nitrosophenol; a comparison of the stabilities of the 3-halogeno-4-nitrosophenols. H. H. Hodgson and D. E. Nicholson. Chem Soc J p1268-71 S '40

Nitrosoacylarylamines; a new method of preparation. H. France, I. M. Heilbron and D. H. Hey. Chem Soc J p369-71 Mr '40

Nitrosoacylarylamines; the action of nitrous fumes on acylarylamines. J. W. Haworth and D. H. Hey. Chem Soc J p361-9 Mr '40

Nitrosoacylarylamines; the action of some nitrosoacylarylamines on pyridine. J. W. Haworth, I. M. Heilbron and D. H. Hey. Chem Soc J p372-4 Mr '40

NITROSOACETANILIDE

Nitrosoacylarylamines; the action of some nitrosoacylarylamines on pyridine. J. W. Haworth, I. M. Heilbron and D. H. Hey. Chem Soc J p372-4 Mr '40

NITROSOLIGNIN

Nitrosolignin colorimetric test for sulphite waste liquor in sea water. I. A. Pearl and H. K. Benson. bibliog Paper Tr J 111:35-6 O 31 '40

NITROSONAPHTHOL

Amperometric titrations; the titration of cobalt with α-nitroso-β-naphthol. I. M. Kolthoff and A. Langer. Am Chem Soc J 62:3172-5 N '40

NITROSTYRENE

Action of aromatic amines on 3-nitro-6-iodonitrostyrene. D. E. Worrall and F. Benington. Am Chem Soc J 62:493-4 Mr '40

Aromatic amines and 3-nitro-6-fluoronitrostyrene. D. E. Worrall and H. T. Wolosinski. Am Chem Soc J 62:2449 S '40

NITROSYL

New chemical reaction with the nitrosyl radical NOH. O. Baudisch. Science 92:336-7 O 11 '40

NITROSYL chloride

Kinetics of the inhibition of the reaction between chlorine and nitric oxide. E. M. Stoddart. diag Chem Soc J p823-31 Jl '40

Nitrosoacylarylamines; a new method of preparation. H. France, I. M. Heilbron and D. H. Hey. Chem Soc J p369-71 Mr '40

NITROSYLSULFURIC acid

Action of nitrosylsulphuric acid on *m*-fluorophenol; a new red *o*-quinoneimine. H. H. Hodgson and D. E. Nicholson. Chem Soc J p205-7 F '40

Reduction of nitrosylsulphuric acid by sulphur monoxide. C. J. Wilkins. Chem Soc J p1157-9 Ag '40

NITROTOLUENE

Partial pressure of hydrogen bromide from its solutions in some aprotic solvents at 25°; comparison with hydrogen chloride. S. J. O'Brien and E. G. Bobalek. bibliog Am Chem Soc J 62:3227-30 N '40

Partial pressure of hydrogen chloride from its solutions in *o*-nitrotoluene, *m*-nitrotoluene and *n*-hexane at 25°. S. J. O'Brien and C. L. Kenny. bibliog Am Chem Soc J 62: 1189-92 My '40

See also
Trinitrotoluene

NITROUS acid

Action of nitrous acid on dimethylaniline-*p*-sulphonic acid in sulphuric acid. A. M. M. Davidson and T. H. Reade. Chem Soc J p1701-3 N '39

Action of nitrous acid on formaldehyde. H. M. Halliday and T. H. Reade. Chem Soc J p142-3 F '40

Action of nitrous acid on *p*-nitrodimethylaniline in hydrochloric acid. H. M. Halliday and T. H. Reade. Chem Soc J p138-41 F '40

Action of nitrous acid on tertiary amines; the influence of acidity. G. P. Crowley and others. Chem Soc J p1286-9 S '40

NITROUS oxide. See Nitrogen oxides

NOBEL prizes

Alfred B. Nobel awards in science; classification of winners (1901-39) for countries based on population. H. C. Brill. Science 92:310-11 O 4 '40

National standing in Nobel awards in chemistry. H. Hale. Ind & Eng Chem News ed 18:665 Ag 10 '40

Nobel awards in chemistry and physics according to population. C. D. Snyder. Ind & Eng Chem News ed 18:899 O 25 '40

Nobel prize awards in chemistry. Ind & Eng Chem News ed 17:707 N 20 '39

Presentation of the Nobel prize to Professor Ernest O. Lawrence; with response. R. T. Birge. Science 91:323-30 Ap 5 '40

NOBLE, Edward John, 1882-

Portrait. Mag of Wall St 66:569 Ag 24 '40

Resigns as Under Secretary of commerce. Comm & Fin Chr 151:933 Ag 17 '40

NOBLITT-SPARKS industries, inc.
Admitted to the list; with table of financial statistics, 1928-38. L. Applegate. Annalist 54:832 D 28 '39
Moderate-priced newcomer to the New York stock exchange; thumbnail appraisal. Mag of Wall St 65:754 Mr 23 '40

NOGUCHI, Isamu, 1904-
Heroic sculpture in stainless completed for Associated press building, Rockefeller Center. por Iron Age 145:94-5 Ap 11 '40
Stainless steel comes of age in architecture; plaque by I. Noguchi for Associated press building, Rockefeller Center. H. H. Harris. il Metal Prog 37:536-40+ My '40

NOISE
Computation of the composite noise resulting from random variable sources; statistical method for computing reading on a sound level meter. E. Dietze and W. D. Goodale, jr. bibliog Bell System Tech J 18:605-23 O '39
Generator housed to reduce 3,600-r.p.m. noise; also housings about boiler gage boards and high-pressure steam reducing valves. F. E. Hertel. il Elec W 113:2046-8+ Je 29 '40
Laryngophone; method by which telephonic communications may be maintained in very noisy surroundings; abstract. J. de Boer and K. de Boer. Electronics 13:90 Je '40
National physical laboratory; measurement of sound, noise abatement, sound transmission through walls, floors and pipes. Engineering 148:494-5 N 3 '39
Noise-abatement week; makers of acoustical material and noiseless machines to educate public. Business Week p41 S 21 '40
Noise and efficiency. Safety Eng 80:41 Ag '40
Noise-reduction in enclosed spaces, Accousticelotex tiling. Engineering 150:328 O 25 '40
Room noise at telephone locations. D. F. Seacord. Elec Eng 58:255-7; 59:232-4 Je '39, Je '40
Sanitary and physiological aspects of flooring materials. J. M. DallaValle. bibliog Pub Health Rep 55:1884-92 O 18 '40
Sound-conditioning your business. il Business Week p45-50 O 19 '40
Standards for sound control. il Arch Rec 87: 102-3 Mr '40
To combat noise; Westinghouse devices for study of sound. J. A. Baubie. il Sci Am 162:10-11 Ja '40

See also
Air conditioning equipment—Noise
Automobiles—Noise
Electric machinery—Noise
Machinery—Noise
Radio communication—Interference
Radio receiving apparatus—Noise
Soundproofing
Telephone—Noise

NOMOGRAPHY
Determining slope of intersection of two slanting hopper sides. L. Shapiro. Chem & Met Eng 47:632 S '40
How to construct a nomogram giving in one reading the resistance of 1 yard or 1 metre of any wire. D. J. Williams. Electrician 123: 343-4 O 13 '39
Nomograph for correction of lactometer readings and calculation of milk solids. L. M. Lampert. bibliog Ind & Eng Chem Anal ed 12:527-8 S 15 '40
Nomograph for paraffin wax solubility in petroleum fractions. D. S. Davis. Ind & Eng Chem 32:1293 O '40
Nomograph for the Clausius-Clapeyron equation. C. L. Crawford. Ind & Eng Chem 32:1280 S '40
Nomographic plotting proves convenient for vapor pressure and composition data, ammonia. D. F. Othmer. Chem & Met Eng 47:631-2 S '40
Nomographic solution of a stress problem; determining stress in surface of metal by means of precision crystal lattice measurements made with X-rays. D. E. Thomas. Engineer 170:120 Ag 23 '40
Nomographs for correcting volumes of perfect gases. J. G. Roof. Ind & Eng Chem 32:998-1000 Jl '40

NONALUPINE. See Lupines

NON-CONDUCTORS. See Insulation (electric)

NONENEDICARBOXYLIC acid
Δ^1-Nonene-1,9-dicarboxylic acid. F. Bergmann. Am Chem Soc J 62:3255 N '40

NON-FERROUS metals. See Metals, Non-ferrous

NORANDA mines, limited
Earnings, 1936-39. Comm & Fin Chr 150:3211 My 18 '40

NORFOLK, Virginia
Norfolk area and national defense. F. E. Turin. il Manuf Rec 109:29+ N '40

NORFOLK and southern railroad
Plan of reorganization. Comm & Fin Chr 151:111 Jl 6 '40

NORFOLK and western railway
Annual report for 1939. Ry Age 108:480 Mr 9 '40
Operating statistics and income statement, 1936-39. Comm & Fin Chr 150:2589 Ap 20 '40
77 new industries located on Norfolk & western railway in 1939. il Manuf Rec 109: 37+ My '40
Summary of annual report, 1939. Comm & Fin Chr 150:1607, 1624 Mr 9 '40
21st N. & W. better service conference. Ry Age 109:517-19 O 12 '40

NORFOLK southern railroad
Purchase of Norfolk southern railroad properties authorized. Comm & Fin Chr 150:2891 My 4 '40
Traffic statistics and income account years ended Dec. 31 1936-39. Comm & Fin Chr 150:2589 Ap 20 '40

NORNICOTINE
Nornicotine as the predominating alkaloid in certain tobaccos. L. N. Markwood. Science 92:204-5 Ag 30 '40

NORRIS, James Flack, 1871-1940
Sketch. por Ind & Eng Chem News ed 18: 730 Ag 25 '40

NORTH, John Ringling
Rebirth of an old sawdust empire; Ringling brothers and Barnum & Bailey circus. W. Hausberg. il Nation's Business 28:30-2+ Ag '40

NORTH AMERICA

Antiquities
Early man in America; index to localities, and selected bibliography. E. H. Sellards. diags Geol Soc Bul 51:373-404, pl 1 bibliog(412-30) Mr '40
Essays in historical anthropology of North America. bibliog il pls maps Smithsonian Misc Coll v 100:1-600 '40 (pa $2)

Economic conditions
North America; its people and the resources, development, and prospects of the continent as the home of man. J. R. Smith and M. O. Phillips. rev ed 1008p $6 Harcourt '40

NORTH AMERICAN aviation, inc.
Brass tacks for the investor; brief analysis. Barron's 20:13 Je 17 '40

NORTH AMERICAN company
Annual report, 50th. Comm & Fin Chr 150: 1778-80 Mr 16 '40
Broader operating field seen for North American. E. L. Shea. Elec W 113:1374 My 4 '40
Considers making investments outside utility fields; pending integration proceedings. Comm & Fin Chr 150:2735 Ap 27 '40
Integration program and financial condition. Pub Util 25:741-3 Je 6 '40
Loses plea for open hearings. Elec W 114:224 Jl 27 '40
Program submitted to SEC for compliance with utility act. Comm & Fin Chr 150:3210 My 18 '40
Seeks delay in integration hearing. Comm & Fin Chr 150:3669 Je 8 '40
Strongly buttressed holding company. J. F. Childs. map Barron's 20:7 Ja 29 '40

NORTH AMERICAN gas and electric company
Cancellation of Southeastern gas & water co. stock owned by North American. Comm & Fin Chr 150:3211 My 18 '40

NORTH AMERICAN light and power company
Annual report. Comm & Fin Chr 150:2110-11 Mr 30 '40
To offer 2,666,667 shares of common stock. Comm & Fin Chr 150:847 F 3 '40
Values behind holding company debentures. W. W. Amos. Barron's 20:19 Jl 1 '40

NORTH British and mercantile insurance company
History of veteran capital stock company established in United States in 1866. W. J. Traynor. il Weekly Underw 142:30+ Ja 6 '40
U. S. branch nearly 75 years old. East Underw 40:71-2 D 15 '39

NORTH CAROLINA
See also
Geology—North Carolina
Mines and mineral resources—North Carolina
Population—North Carolina

Industries and resources
Decade of progress. il map Manuf Rec Extra no 109:169-78 S '40

NORTH CAROLINA academy of science
Annual meeting, 39th, Davidson college, May 3-4. Science 91:575-6 Je 14 '40

NORTH CAROLINA state college of agriculture and engineering, West Raleigh
History of the North Carolina state college of agriculture and engineering of the University of North Carolina, 1889-1939. D. A. Lockmiller. 310p bibliog(p291-4) $2.50 The college, Alumni office, Raleigh '39

NORTH DAKOTA university
New chemical engineering building. I. Lavine and A. M. Cooley, jr. il plan Ind & Eng Chem Anal ed 12:567-70 S 15 '40

NORTHEASTERN timber marketing association
Blowdown plan blows; hurricane lumber deal falls through. Business Week p28 Ja 20 '40

NORTHEASTERN water and electric corporation
SEC bars purchase of unit; holds company cannot pay dividends while note is outstanding. Comm & Fin Chr 151:2054 O 5 '40

NORTHERN Indiana power company
SEC approves series of financial changes. Comm & Fin Chr 150:1943-4 Mr 23 '40

NORTHERN Indiana public service company
Bonds offered. Comm & Fin Chr 149:3879-80 D 16 '39

NORTHERN insurance company of New York
Company analysis. Spectator (Property ed) 5:29-30+ Ja 25 '40

NORTHERN Pacific railway
Northern Pacific refunding bonds turn upward. A. Jansen. Barron's 20:19 My 13 '40
Passenger and freight statistics and income account, 1936-39. Comm & Fin Chr 150:3058 My 11 '40

NORTHERN states power company of Delaware
Earnings, years ended July 31, 1939 and 1940; consolidated balance sheet Dec. 31. Comm & Fin Chr 151:1905 S 28 '40

NORTHERN states power company of Minnesota
Earnings, years ended July 31, 1940 and 1939; consolidated balance sheet Dec. 31. Comm & Fin Chr 151:1906 S 28 '40

NORTHROP, John Howard, 1891-
Honorary degrees conferred by Princeton university. Science 91:590-1 Je 21 '40

NORTHRUP, Edwin Fitch, 1866-1940
Portrait. Chem & Met Eng 47:369 My '40
Sketch. por Chem & Ind 59:406 Je 8 '40; Metals & Alloys 11:173 Je '40

NORTHWEST
Caravans to the Northwest. J. Blanchard. 123p bibliog(p120) $1.90; pa $1.24 Houghton '40
Frontiers of the Northwest; a history of the upper Missouri valley. H. E. Briggs. 629p bibliog(p595-612) $5 Appleton-Century '40
Pacific Northwest problems and materials; an introduction. 190p bibliog(p123-90) pa 50c Northwest regional council, 606 Bedell bldg, Portland, Ore. '40

Industries and resources
Industrial development in Pacific Northwest. R. C. Hill. il map Steel 106:13-15+ F 26 '40
Urge industrial development of Northwest as aid to defense. P. J. Raver. Steel 107:38 S 9 '40

NORTHWEST electric light and power association
Business development section conference, Seattle, Feb. 29-March 12. Elec West 84:54, 56+ Ap '40
Committee reports. Elec West 84:72-143 Je '40

NORTHWESTERN bell telephone company
Earnings, 1936-39. Comm & Fin Chr 150:1259 F 24 '40

NORTHWESTERN mutual life insurance company
Annual meeting of agents, 64th, Milwaukee, July 22-24. Ins Field (Life ed) 69:10-12 Jl 26 '40; Nat Underw (Life ed) 44:1, 4-5 Jl 26 '40; Weekly Underw 143:165+ Jl 27 '40
Annual statement, 1939. Ins Field (Life ed) 69:24 Mr 1 '40

NORTHWESTERN national insurance company
Court acts in N.Y. suit of Northwestern national of Wisconsin. Ins Field (Fire ed) 69:9 Ag 1 '40

NORTHWESTERN national life insurance company
Annual statement, 1939. East Underw 41:5 Ja 5 '40; Ins Field (Life ed) 69:7 Ja 5 '40; Spectator (Life ed) 144:14 Ja 4 '40; Weekly Underw 142:111 Ja 6 '40
Increases its capital; additions to directorate. East Underw 41:13 Je 14 '40; Ins Field (Life ed) 69:6 Je 14 '40; Weekly Underw 142:1470 Je 15 '40

NORTHWESTERN public service company
Bonds offered; earnings summary for years ended Dec. 31, 1937-39 and year ended May 31, 1940. Comm & Fin Chr 151:1152 Ag 24 '40

NORTHWESTERN university

Technological institute
Inaugurates new technological institute facilities. il Steel 106:79 Je 10 '40
New technological institute. il Ind & Eng Chem News ed 18:582 Jl 10 '40
Northwestern builds new technological institute. il Product Eng 11:327-8 Jl '40

NORWALK, Ohio
American Main street. N. Hansell. il plan map Ptr Ink Mo 40:9-12+ Ap '40

NORWAY
Executive order and regulation on transfers of Danish and Norwegian property. Fed Res Bul 26:390-3, 509-13 My-Je '40
See also
Cost of living—Norway
Mines and mineral resources—Norway
Wages—Norway

Commerce
Germany resumes trade with Norway. Comm Rep p688 Ag 10 '40

Economic conditions
Business situation. Comm Rep p46 Ja 20 '40
Norway under German protection. Economist 139:156-7 Ag 3 '40

NORWEB, Raymond Henry, 1894-
Portrait. Business Week p46 Ja 13 '40

NOSE

Diseases
Manual of otology, rhinology and laryngology. H. C. Ballenger. 302p $3.75 Lea & Febiger, Philadelphia '40
See also
Sinusitis

NOTARIES
Anderson's manual for notaries public. C. L. Meier. 456p $4 W. H. Anderson co, Cincinnati '40
New Jersey notaries and commissioners blue book. W. L. Rockwell, ed. 4th ed 200p $2.50 Soney & Sage co, Newark, N.J. '40

NOTCHED bar testing
Beanspruchungsart und kerbwirkungszahl. M. Hempel. V D I 83:1226-7 N 18 '39
Factors affecting notched-bar impact tests on steel at low temperatures. W. Crafts and J. J. Egan. bibliog diag Am Soc T M Proc 39:659-71; Discussion. 672-3 '39
Fatigue failure; effects of stress raisers on the fatigue strength of metals and alloys; correlated abstract. G. Sachs. bibliog il Iron Age 146:31-4 S 5 '40
Influence of size on the fracture of notched-bar test pieces. C. Miklósi. Engineering 149: 490; Reply. B. P. Haigh. 490-1 My 10 '40
Notch-bar test behavior of some welding steels; abstract. C. E. Jackson and E. A. Rominski. Metals & Alloys 11:MA43 Ja '40
Notched bar test. O. R. J. Lee. Inst Mech Eng J & Proc 143:114-21 bibliog(p120-1) Je '40
Properties of metals at low temperatures. Engineer 170:sup[Metallurgist] 122-4 Ag 30 '40
Stress raisers; their effects on the mechanical properties of metals and alloys. G. Sachs. bibliog diags Iron Age 146:31-4 Ag 1; 34-7 Ag 8 '40

NOVACULITE
Probable lower Mississippian age of the Caballos novaculite, New Mexico. C. L. Baker. Am Assn Pet Geologists Bul 24: 1679-81 S '40

NOVAE. See Stars—New

NOWLIN, Blanche
New Mexico's woman marketer digs sales from desert. por Nat Pet N 32:41-2 Jl 31 '40

NOYES, William Albert, 1857-
Prof W. A. Noyes still active. Chem & Ind 59:458-9 Je 29 '40

NOZZLES
Critical flow through nozzles and the gas constant of superheated steam. J. R. Finniecome. Engineering 149:454-5 My 3 '40
Development of instruments for the study of air distribution in rooms. A. P. Kratz, A. E. Hershey and R. B. Engdahl. diags plans Heating-Piping 12:559-66 S '40
Fuel injection; air and liquid nozzle-cooling systems for high-speed engines. diags Automobile Eng 30:295-7 O '40
Fuel injection in oil engines in relation to combustion. G. W. A. Green. diags Inst Mech Eng J & Proc 144:Proc 2-20 N '40; Same cond. Engineering 149:592-3, 631-3 Je 14, 28 '40; Excerpts. Automobile Eng 30: 185-8 Je '40; Discussion. Inst Mech Eng J & Proc 144:Proc 21-32 N '40
Lonn water savers novel waste preventers. diag Water Works & Sewerage 87:sup70 Mr '40
Nozzle replacement on trickling filters. R. S. Lanphear. il Water Works & Sewerage 87:236 My '40
Processes in injection systems of oil engines. S. J. Davies and E. Giffen. diags S A E J 46:119-36 Mr '40
Reinforcement of welded nozzles; abstract and discussion. F. C. Fantz and W. G. Hooper. Heating-Piping 11:732-3 D '39
Reinforcing welded branch connections. F. C. Fantz and W. G. Hooper. diags Heating-Piping 12:247-8 Ap '40
Shower baths for motor cars; multiple-nozzle washer uses compressed air and water. A. S. Park. il Comp Air M 44:6036-9 D '39
Some researches on steam-turbine nozzle efficiency. H. L. Guy. il diags Engineering 148:700-4, 712-16 D 22-29 '39; Same. Engineer 169:70-1, 73, 94-7, 116-18 Ja 19-F 2 '40
Study in nozzle-tip fixture design. C. G. Williams. diags Am Mach 84:142 Mr 6 '40

NUCLEAR spin
Nuclear spin of C^{13}. D. R. Inglis. bibliog Phys R 58:577 S 15 '40
Nuclear spin of Cl^{37}. E. F. Shrader. Phys R 58:475 S 1 '40
Spin of carbon thirteen. C. H. Townes and W. R. Smythe. il Phys R 56:1210-13 D 15 '39

NUCLEIC acids
Structure of yeast ribonucleic acid guanine-uridylic acid. R. S. Tipson and P. A. Levene. Chem & Ind 58:1010 N 18 '39

NUCLEOPROTEINS
Physical chemical investigation of certain nucleoproteins; preparation and general properties; nucleohistone of calf thymus, and nucleoprotein of hog thyroid. R. O. Carter and J. L. Hall. bibliog Am Chem Soc J 62:1194-6 My '40

NUCLEOSIDES
Constitution of purine nucleosides; crotonoside. R. Falconer, J. M. Gulland and L. F. Story. Chem Soc J p1784-7 N '39

NUISANCES
Administrative control of public-health nuisances. A. E. Berry. il Can Eng W & S 78:19+ Je '40
How the courts look upon the air pollution nuisance. L. R. Bloomenthal. il Heating-Piping 12:111-13 F '40
Legal aspects of the industrial wastes problem. J. A. Tobey. Ind & Eng Chem 31: 1320-2 N '39

See also
Air pollution
Noise
Public health
Smoke prevention
Trade waste

NUJOL
Properties of detergent solutions; electrophoretic mobility of oil drops in detergent solutions; abstract. J. Powney and L. J. Wood. Soc Dyers & Col J 56:230-1 My '40

NUMBERS
Man's love of round numbers; new American standard rules for rounding off numerical values. P. G. Agnew. Ind Stand 11:230-3 S '40; Excerpts. Heating-Piping 12:606 O '40

See also
Numerals

NUMERALS
System of numbers for time study engineers. F. Mascarich. Advanced Management 5:43 Ja-Mr '40

NUMERICAL roots. See Roots, Numerical

NURSERIES (horticulture)
Display and sale of nursery stock; store in San Francisco. il plan Arch Rec 87:42-4 F '40

NURSERY schools
Nursery school, Charlestown township, Pa.; with construction outline. il plan Arch Forum 72:383-4 Je '40

NURSES and nursing
Eye, ear, nose and throat manual for nurses. R. H. Parkinson. 4th ed $2.25 C. V. Mosby co, St Louis '39
Graduate nurse in the home. M. L. Habel and H. D. Milton. 290p bibliog(p277-82) $2.50 Lippincott '39
Lippincott's quick reference book for nurses. H. Young, G. A. Morrison and M. Eliot, eds. 4th ed rev 557p $2 Lippincott '39
Medical nursing. E. Hull, C. Wright and A. B. Eyl. 588p $3.50 Davis '40
Microbiology and nursing. E. C. Piette and J. M. White. 331p $3 Davis '40
Nursing as a profession. E. L. Brown. 2d ed 157p 75c Russell Sage foundation, New York '40
Principles of psychiatric nursing. M. E. Ingram. 428p $2.75 Saunders '39
Review of nursing; with outlines of subjects, questions and answers. H. F. Hansen. 3d ed rev 759p $3 Saunders '40
Textbook of practical nursing. K. O. Brownell. 418p $3 Saunders '39
Textbook of surgical nursing. H. S. Brookes, jr. and P. Castile. 2d ed 663p $3.50 C. V. Mosby co, St Louis '40

NURSES and nursing—*Continued*

History

Makers of nursing history; portraits and pen sketches of one-hundred and nine prominent women. M. R. Pennock, ed. rev ed 142p $2.50 Lakeside pub. co. 468 4th av, New York '40

Outlines of nursing history. M. Goodnow. 6th ed 489p $3 Saunders '40

Trends in nursing history, their relationship to world events. E. M. Jamieson and M. Sewall. 570p $3 Saunders '40

Statistics

Administrative cost analysis for nursing service and nursing education. B. Pfefferkorn and C. A. Rovetta. 202p $2 Am. hospital assn, 18 E. Division st, Chicago '40

NURSES and nursing, Public health

Housing problem as it affects public health nursing activities. M. J. Dunn. bibliog Pub Health Rep 55:1879-84 O 18 '40

Manual of public health nursing. 3d ed 529p $2.50 Macmillan '39

Nursing accomplishments as revealed by case records. M. Derryberry. Pub Health Rep 54:2035-43 N 17 '39

Our verbal public health activities. J. W. Mountin. Pub Health Rep 55:323-30 F 23 '40

Public health nurse and her patient. R. Gilbert. 396p bibliog(p375-80) $2.25 Commonwealth fund, 41 E. 57th st, New York '40

Salaries of public health nurses, 1938. Monthly Labor R 50:210-12 Ja '40

NURSES in industry. See Medical service, Industrial

NURSING ethics

Principles of ethics. T. V. Moore. 3d ed 387p $3 Lippincott '39

Professional adjustments. L. D. Dietz. 236p $2.50 Davis '40

NUTRITION

Accepted foods and their nutritional significance. 492p $2 American medical assn, 535 N. Dearborn st, Chicago '39

Action of certain hormones as dietary constituents. C. Funk and I. C. Funk. Science 90:443-5 N 10 '39

Appearance of skeletal abnormalities in the offspring of rats reared on a deficient diet. J. Warkany and R. C. Nelson. Science 92:383-4 O 25 '40

Applied nutrition. H. F. Hawkins. 195p $3 Institute press, box 146, Gardena, Calif. '40

Better nutrition for the strength and health seeker. R. C. Hoffman. 295p $2 Strength & health pub. co, 51 N. Broad st, York, Pa. '40

Bisulfite binding substances (B.B.S.) and thiamin deficiency. M. Shils, H. G. Day and E. V. McCollum. Science 91:341 Ap 5 '40

Chemical aspects of nutrition in relation to animals and human beings; abstract. J. Orr. Chem & Ind 59:46 Ja 20 '40

Composition of optimal and marginal diets. A. L. Bacharach and J. C. Drummond. bibliog Chem & Ind 59:37-40 Ja 20 '40

Diet experiments; abstract. R. D. Williams, H. L. Mason and R. M. Wilder. Science 91: sup9 Mr 22 '40

Eat well in war-time. M. L. P. Eyles. 158p 3s 6d Victor Gollancz, ltd, London '40

Essentials of nutrition. H. C. Sherman and C. S. Lanford. 418p $3.50 Macmillan '40

Food science in the future. J. B. Orr. Chem & Ind 59:356-9 My 25 '40

Food value of the egg; discussion. Chem & Ind 59:312-13 My 4 '40

Leprosy: vitamin B_1 deficiency and rat leprosy. L. F. Badger, E. Masunaga and D. Wolf. bibliog Pub Health Rep 55:1027-41 Je 7 '40

Links in nutrition. A. L. Bacharach. Chem & Ind 59:308 My 4 '40

Methods of conducting mass studies in human nutrition. P. B. Mack and J. M. Smith. il diags 91p pa 50c Pennsylvania state college, State College, Pa. '39

New federal nutritions laboratory at Cornell university. Science 91:37-8 Ja 12 '40

Nutrition and diet in health and disease. J. S. McLester. 3d ed 838p $8 Saunders '39

Nutrition and diet; light on the growing-old process; abstract. C. M. McCay. Science 92:sup12+ O 25 '40

Nutrition as a factor in the development of constitutional barriers to involvement of the nervous system by certain viruses. A. B. Sabin and C. E. Duffy. bibliog Science 91: 552-4 Je 7 '40

Nutrition of indigenous workers. bibliog Int Labour R 41:307-17 Mr '40

Nutritive value of the egg. S. K. Kon. bibliog Chem & Ind 59:360-3 My 25 '40

Status of nutrition work with children. L. J. Roberts. Ann Am Acad 212:111-20 N '40

War and nutrition. B. M. Housman. Gas J (Lond) 228:243-4 N 1 '39

Whey as a source of vitamins and vitamin products. G. C. Supplee. Ind & Eng Chem 32:238-40 F '40

You can stay well. A. Davis. 317p $3 Adelle Davis, 1166 W. Adams st, Los Angeles '39

See also

Diet
Food
Metabolism
Plants—Nutrition
Vitamins

Bibliography

Nutrition literature. G. C. Kimball. Special Lib 31:87-92 Mr '40

NUTS

Composition of the fatty oil from carya cordifornia nuts. J. L. Riebsomer, R. Larson and L. Bishman. Am Chem Soc J 62: 3065-6 N '40

See also

Pecans

NUTS (machinery). See Bolts and nuts

NUTT, Arthur, 1895-

SAE president for 1940. por S A E J 46: sup21 F '40

NYLON

Air, water, coal=hosiery. H. T. Rutledge. il Sci Am 162:78-81 F '40

Control equipment for handling nylon. il Rayon 21:645-6 O '40

Crimped wool-like fiber patented; made of nylon. Textile Col 62:299 My '40

Curious situation caused by higher silk prices and new competitive fibers. P. M. Carlisle. Annalist 54:755 D 14 '39

Developments in organic non-cellulosic fibrous materials. E. C. Worden. 2d. bibliog Rayon 21:527-8, 609-11 S-O '40 (to be cont)

Dexdale nylon preboarding machine. il Textile World 90:71 Ag '40

Dyeing and finishing of nylon hose. N. D. White. il Rayon 21:555-7, 683-5 S, N '40

Dyeing and finishing of nylon hosiery. V. Taurey. Am Dyestuff Rep 29:541-2+ O 14 '40

England to make nylon; Imperial Chemical to manufacture du Pont product. Business Week p55 Ap 6 '40

Hectic launching for nylon hosiery. Textile World 90:106 Je '40

Is chemical industry ready? nylon. J. K. Hunt. Ind & Eng Chem 32:1160 S '40

Jitters over nylon. Business Week p41-2 S 14 '40

Method for quantitative determination of nylon in mixtures of nylon and other fibers. E. Freedman and H. Nechamkin. Am Dyestuff Rep 29:540 O 14 '40

New synthetic textile fibers. H. R. Mauersberger. Rayon 21:677-8 N '40

New wool-like nylon. Science 91:sup12 My 10 '40

Nylon, a triumph of research. D. Wharton. il Textile World 90:50-2 Ja '40

Nylon bristles to be generally available. Oil Paint & Drug Rep 137:41 Mr 25 '40

Nylon goes to town. il Business Week p45 My 25 '40

Nylon hose go on sale Wednesday. Business Week p38+ My 11 '40

Nylon hosiery. Textile Col 62:381 Je '40

Nylon toothbrush, 25c. Business Week p30 S 21 '40

Nylon toothbrushes. Chem & Ind 59:308-9 My 4 '40

NYLON—*Continued*
Nylon wool next; mechanical methods of crimping yarn from basic chemical. Business Week p54 Ap 27 '40
Paramount pre-setting nylon hosiery. il Textile World 90:88-9 O '40
Physical properties of nylon. E. G. Hoff. Textile Col 62:703 O '40; Same abr. Chem & Met Eng 47:650 S '40
Pre-boarding machine for nylon hosiery. il Textile World 90:79 Ap '40
Pre-boarding nylon hosiery. T. S. Schermerhorn. il Rayon 21:217-18 Ap '40
Qualitative identification and quantitative estimation of nylon in the presence of silk, wool and cotton. R. Gerber and K. Lathrop. bibliog Am Dyestuff Rep 29:437-40+ S 2 '40; Correction. 29:550 O 14 '40
Questions and answers on nylon. Rayon 21:8-9 Ja '40
Some facts about nylon; statement issued by du Pont company. diags Textile Col 62: 91-5, 171-3 F-Mr '40
Some textile developments of 1939; artificial fibres. G. S. Ranshaw. Chem Age (Lond) 42:51 Ja 27 '40
Stockings; nylon may be a boon to the hosiery manufacturer, but 90 per cent of his sales next year will be silk. il Ptr Ink Mo 41:6-8+ Ag '40
Wearers of nylon stockings give impressions. Barron's 19:17 D 4 '39

See also
Dyes and dyeing—Nylon

Manufacture

Air conditioning for nylon hosiery. H. L. Kempaner. il Textile World 90:101-2 S '40
Conditioning essential in nylon manufacture. il Refrig Eng 40:21 Jl '40
Du Pont begins nylon yarn manufacture. il Rayon 21:6-8 Ja '40; Same. Chem Ind 46: 30-2 Ja '40; Same cond. Am Dyestuff Rep 28:759 D 25 '39; Same cond. Chem & Met Eng 46:760-1 D '39; Same cond. Mod Plastics 17:32-3+ Ja '40; Same cond. Textile Col 62: 51-2 Ja '40; Same cond. Textile World 90: 52 Ja '40
Inside duPont's new nylon plant; illustrations. Chem & Met Eng 47:628-9 S '40; Textile World 90:77 O '40
Nylon. il diag Fortune 22:56-60+ Jl '40
Polymerization and the production of new synthetics. B. A. Harold. bibliog il Am Dyestuff Rep 29:53-7 F 5 '40

NYSSA. See Tupelo

O

OAK
Arrangement of the cellulose crystallites in ray cells of white oak as determined by X-rays. S. T. Gross, G. L. Clark and G. J. Ritter. il Paper Tr J 109:37-8 D 7 '39
Oak colors. A. E. Karr. Textile Col 61:591-4, 667-70, 736-8, 838-41; 62:115-19, 132 bibliog(p 118-19, 132) S-D '39, F '40
Studies on lignin and related compounds; fractionation of acetylated cell wall constituents of red oak wood. Q. P. Peniston, J. L. McCarthy and H. Hibbert. bibliog Am Chem Soc J 62:2284-8 S '40
White oak and red oak flooring. il Am Bld 62:86 Ja '40

OAKDALE, California

Schools

Large site offers unusual planning opportunity; Oakdale union school. il diag plans Arch Rec 88:96-9 O '40

OAKLAND-KENWOOD property owners' association
Saving a neighborhood. Business Week p22-3 Ap 27 '40

OAT flour
Prevention of oxidation and rancidity in paper with oat flour. S. Musher. Paper Tr J 110:117-20 F 22 '40

OATS
Effect of direct and alternating currents on the growth of oat seedlings. E. Burstein, L. M. Aliminosa and L. Moriber. bibliog il diag Electrochem Soc Trans 77 (preprint 24):287-301 Ap '40
Exports and other statistics, 1936-1939. Survey of Cur Business 1940 Sup p105 [supplemented in monthly numbers]
Shadowgraph recording of avena coleoptile curvatures. H. G. Albaum and S. Kaiser. diag Science 92:114 Ag 2 '40

OBACULACTONE
Identity of obaculactone, evodin and dictamnolactone with limonin. M. S. Schechter and H. L. Haller. bibliog il Am Chem Soc J 62: 1307-9 My '40

OBSERVATORIES, Astronomical. See Astronomical observatories

OBSERVATORIES, Meteorological. See Meteorological stations

OBSOLESCENCE
Relationship of meter obsolescence to the cost of replacement capital. M. W. Waddington. Am Gas Assn Proc 1939:221-2; Same. Gas Age 84:24+ N 9 '39
What are the costs of obsolescence? new machinery and skilled labor needed. J. E. Bullard. Inland Ptr 104:23-4 Ja '40

See also
Depreciation
Machinery, Replacement of

OCCUPATIONAL diseases. See Diseases, Industrial

OCCUPATIONS
Careers in photography discussed at Conference on photography, New York. il Sci Am 163:156-7 S '40
Department store as a vocation for college trained men. D. P. Bent. 51p pa 25c Dartmouth college, Bur. of personnel research, Hanover, N.H. '40
Find your own frontier. A. C. Bartlett. 211p $1.50 W. A. Wilde co, 131 Clarendon st, Boston '40
Herbs yield daily bread; business developed by Mrs Margaret Shawan and her husband in San Gabriel township, Calif. Nation's Business 28:107 Mr '40
I'll say young men have real opportunities; rock products industry. H. V. Owens. Rock Prod 43:22-3 F '40
Jobs in horticulture. G. W. Wernicke. 48p bibliog(p48) pa 50c Science research associates, 600 S. Michigan av, Chicago '40
Lord helps those; employment opportunities in electric equipment maintenance. E. L. Richards. Power Pl Eng 44:70-1 My '40
Occupational outlines on America's major occupations [an instruction manual and 100 outlines]. 400p $9.75 Science research associates, 600 S. Michigan av, Chicago '40
Occupational trends in the United States. H. D. Anderson and P. E. Davidson. 618p $6.50 Stanford univ. press '40
One thousand ways to make $1000. F. C. Minaker, ed. 3d rev ed 476p bibliog(p439-66) $2.50 Dartnell corp, 4660 Ravenswood av, Chicago '40
Round the world in industry. G. Collins. 179p $2 Chemical pub. co. '40
Unskilled worker. L. Eisman. 48p bibliog (cover) pa 50c Science research associates, 1700 S. Prairie av, Chicago '40
Your career in agriculture. H. P. Andersen. 285p bibliog(p265-82) $2 Dutton '40
Youth itself is the problem; experiences of recent college graduate show that jobs are available. O. Stephens. Nation's Business 28:25-6+ S '40

See also
Ability tests
Cooperative associations—Employees
Job analysis
Negroes—Occupations
Radio workers
Research workers
Trust service
Vocational guidance
Woman—Occupations

OCCUPATIONS—*Continued*

Bibliography

Guidance and personnel books of 1939. R. Hoppock and S. Spiegler, comps. 6 numb l Occupational index, New York univ, New York '40

Classification

Convertibility list of occupations and the problems of developing it. G. L. Palmer. Am Statis Assn J 34:693-708 D '39

Industrial classification for reports from individuals. B. Fels and P. K. Whelpton. Am Statis Assn J 35:74-85 Mr '40

Dictionaries

Dictionary of occupational titles. pt. 1, Definitions of titles; pt. 2, Group arrangement of occupational titles and codes; pt. 3, Conversion tables. 1287p; 330p; 259p pt. 1, $2; pts. 2-3 ea $1 Supt. of doc. '39; Review. W. H. Stead. Ind Stand 11:175-6 Jl '40

Dictionary of occupations for the use of employment interviewers and CCC educational advisers. E. L. Bowman, C. G. Campbell and J. A. Densford. 144 numb l Ohio state employment service, Columbus '38

Statistics

Comparison of occupational class and physicians' estimate of economic status. J. C. Goddard. Pub Health Rep 54:2159-65 D 8 '39

Occupational shifts of Maryland workers in depression. T. B. Manny and H. G. Clowes. Monthly Labor R 49:1108-10 N '39

Wages and normal hours of work of adult males in certain occupations in various countries in October 1939. Int Labour R 41:404-27 Ap '40

OCCUPATIONS, Choice of

After high school, what? C. M. Smith, ed. 95p bibliog(p94-5) pa 50c Burstein and Chappe, 165 Duane st, New York '40

Career clinic: the answer to your job problem. E. E. Brooke. 290p $1.90 Farrar '40

How 1,000 college seniors rate selling work as a career. P. Salisbury. Sales Management 46:22-4 F 1 '40

Planning your future; an occupational civics text. G. E. Myers, G. M. Little and S. A. Robinson. rev ed 549p bibliog(p527-37) $1.64 McGraw-Hill '40

Your life's work. E. D. Laborde. 223p $1.50 Thomas Nelson & sons (Toronto) '39

OCCUPATIONS, Dangerous

Children's bureau rules to protect minors from work on motor vehicles. Ind Stand 11:25 Ja '40

Factories act, 1937. H. Samuels. 2d ed 702p 30s Stevens & sons, London '39

New attack on an old problem; wage and hour act emphasizes principle that young workers need special protection. S. W. Homan. Nat Safety N 41:26+ My '40

See also

Accidents, Industrial
Coal miners
Diseases, Industrial
Hygiene, Industrial
Miners
Poisons, Industrial

OCEAN

Computation of transmission factors of ultraviolet radiation through water. F. Benford. il diags Opt Soc Am J 30:133-5 Mr '40

Ecology of modern marine organisms with reference to paleogeography. T. W. Vaughan. maps Geol Soc Bul 51:433-68 bibliog(p466-8) Mr '40

The sea. J. E. Harris. il Ptr Ink Mo 41:9 Jl '40

Submarine illumination in photometric units. C. L. Utterback and R. E. Wilson. map Opt Soc Am J 30:136-9 Mr '40

World under the sea. B. W. Smith. 230p $3 Appleton-Century '40

See also

Atlantic ocean
Coastal plains
Diatoms
Marine biology
Marine structures
Navigation
Ocean bottom
Ocean currents
Pacific ocean
Sea water
Shore lines
Waves
also Woods Hole oceanographic institution

OCEAN bottom

Fluorine content of rocks and ocean-bottom samples. E. S. Shepherd. map Am J Sci 238:117-28 F '40

Origin of submarine canyons; a critical review of hypotheses. D. Johnson. 126p $2.50 Columbia univ. press '39

Submarine valleys and related geologic problems of the north Atlantic. W. H. Bucher. Geol Soc Bul 51:489-511 bibliog (p509-11) Ap '40

OCEAN currents

Currents of the Pacific ocean and their bearing on the climates of the coasts. H. U. Sverdrup. maps Science 91:273-82 Mr 22 '40

OCEAN travel

See also

Steamboat lines
Steamboats

OCEANIA

Trade of French Oceania established record in 1939. Comm Rep p636 Jl 20 '40

OCHER

Les ocres et matières similaires en France. V. Charrin. map Chimie & Ind 43:171-4 Ja 20 '40

OCTADECENE

Antioxidants and the autoxidation of fats; autoxidation of oleic acid, methyl oleate, oleyl alcohol, and *cis*-9-octadecene. F. E. Deatherage and H. A. Mattill. bibliog diag Ind & Eng Chem 31:1425-31 N '39

OCTADECYL alcohol

Variation of the solubility of unimolecular films with surface pressure, and its effect on the measurement of true surface pressure. F. Sebba and H. V. A. Briscoe. Chem Soc J p114-18 F '40

OCTADECYLBENZENE

Preparation of some pure hydrocarbons for the purpose of testing the physical methods in use for the examination of hydrocarbon mixtures. H. I. Waterman, J. J. Leendertse and others. Inst Pet J 25:801-12 D '39

OCTADECYLCYCLOHEXANE

Preparation of some pure hydrocarbons for the purpose of testing the physical methods in use for the examination of hydrocarbon mixtures. H. I. Waterman, J. J. Leendertse and others. Inst Pet J 25:801-12 D '39

OCTAHYDRONAPHTHALENE. See Octalin

OCTAHYDRONAPHTHIDINE

Octahydrodinaphthyline and octahydronaphthidine. G. D. Parkes and G. N. Walton. Chem Soc J p201-2 F '40

OCTALIN

Cyclization of dienynes; ring closures with alpha and beta cyclohexenylacetylene derivatives of octalin. C. S. Marvel, D. E. Pearson and L. A. Patterson. bibliog Am Chem Soc J 62:2659-65 O '40

OCTANE

Catalytic cracking of aliphatic hydrocarbons. G. Egloff and others. bibliog Am Chem Soc J 61:3571-80 D '39

OCTANE number

Octane ratings of a number of pure hydrocarbons and of some of their binary mixtures; C.F.R.-A.S.T.M.-motor method. J. Smittenberg and others. Inst Pet J 26: 294-303 Je '40

OCTANEDIONE

β-Diketones; synthesis, structure and bactericidal properties. C. D. Hurd and C. D. Kelso. bibliog Am Chem Soc J 62:2184-7 Ag '40

OCTENE

Catalytic cracking of aliphatic hydrocarbons. G. Egloff and others. bibliog Am Chem Soc J 61:3571-80 D '39

OCTYL alcohol

Chemicals from castor oil; sebacic acid and capryl alcohol. Chem Age (Lond) 43:71 Ag 10 '40

Industrial uses of chemicals and related materials. Oil Paint & Drug Rep 137:31 Je 17; 29 Je 24 '40

OCTYL alcohol—*Continued*
Polarisations and related data of optically active and racemic β-octanol. J. B. M. Coppock and F. R. Goss. Chem Soc J p1789-92 N '39

ODLUM, Mrs Hortense McQuarrie, 1892-
Bonwit boss resigns. por Business Week p38 O 19 '40

ODORS
Does your product smell bad? case histories in odorizing products and advertisements. R. Giles. il Adv & Sell 33:31-2+ Je '40
Nose in the chemistry laboratory. L. A. Ford. J Chem Educ 17:17-19 Ja '40
Round-table conference; in hot weather, how do you control the odors at your sewage-disposal plant? Can Eng W & S 78:23+ Je '40

See also
Deodorizers
Water purification—
Odor removal

Measurement

Laboratory control and operating experiences at the Hammond, Indiana, filtration plant; threshold odor test. J. C. Vaughn. il Am Water Works Assn J 31:2137-42 D '39
Uniform basis for activated carbon comparison. W. A. Helbig. Am Water Works Assn J 31:1931-44 N '39
Water pollution by petroleum oils. M. M. Gibbons. Am Water Works Assn J 32:468-70 Mr '40

ODORS in advertising
Does your product smell bad? case histories in odorizing products and advertisements. R. Giles. il Adv & Sell 33:31-2+ Je '40
Perfumed advertising; some cases on record. Ptr Ink 192:75-6 Ag 16 '40
Pine-scented ink used; booklet from the Seattle chamber of commerce. Inland Ptr 105:65 Ag '40
Weekly paper scents perfume publicity. Inland Ptr 105:28 Ap '40

OENSLAGER, George, 1873-
American contemporaries. W. C. Geer. por Ind & Eng Chem News ed 18:535-6 Je 25 '40

OFFICE appliances
Continuous modernization to control costs; State Farm insurance companies. il Am Business 10:33-42 My '40
Financial reports, Remington Rand, National Cash Register, Underwood-Elliott-Fisher. Annalist 55:861 Je 20 '40
International Business Machines is Mr Thomas J. Watson's temple of the company spirit. il Fortune 21:36-43+ Ja '40
New systems and equipment. Published in monthly numbers of American business
Office equipment earnings; National cash register co., International business machines corp., Underwood-Elliott-Fisher. Annalist 54:732-3 D 7 '39
Paper drill punches many sheets at one stroke. il Sci Am 163:283 N '40

See also
Accounting—Mechanical aids
Calculating machines
Cash registers
Dictating machines
Typewriters

Manufacture

Automatic lubrication of production machines; International business machines corp. F. M. Hewitt. il Iron Age 145:36-9 F 29 '40
Exposing waste to fight it; scrap display tables, review of rework orders, and employees' scrap records; Addressograph multigraph corporation. J. E. Sturm. il Factory Management 98:58-9 Jl '40
Several phases of budgeting for an office appliance manufacturer; Monroe calculating machine co, Orange, N.J. S. Zweckbronner. N A C A Bul 21:727-45 F 15 '40
Standard register co.; air conditioning and other equipment of two new factory buildings and new office building. C. Strock. il diags plans Heat & Ven 37:30-4 Mr '40

OFFICE buildings
Building no. 11, Rockefeller Center, New York; garage and office building; views, plans, construction outline. Arch Forum 72:23-8 Ja '40
Building on soft clay; New England mutual life insurance co. building in Boston's Back Bay district; concrete box substructure. il diags plans Eng N 123:692-5 N 23 '39
Miami: Albion hotel and office building. il diags plans Arch Rec 87:43-8 Mr '40
Rejuvenation wins tenants. S. Ware. il Nation's Business 28:21-3, 102+ Je '40
Underpinning beats subway threat to famous Chicago building. il diags Eng N 125:422-6 S 26 '40
Uptown building pulls downtown trade; Oil & gas building, Houston, Tex. il plans Arch Rec 87:53-6 Mr '40

See also
Building and loan association buildings
High buildings
Insurance company buildings
Moving picture industry—Offices
Newspaper offices
Office lighting
Offices
Printing offices
Steel construction

Air conditioning

Air conditioning cuts heating cost 50%; office building of the San Antonio public service company. A. J. Rummel. il plan Heat & Ven 36:13-15 D '39
Air-conditioning new 28-story office building; Metropolitan life insurance co. il diag Sheet Metal Worker 31:44, 46+ O '40
Construction aids air conditioning; Bankers Life building in Des Moines. T. Mitchell. il Refrig Eng 40:18-19 Jl '40
Engineered for air conditioning; Bankers Life building. il plan Power 84:661-3 O '40
Features of a mammoth air conditioning installation; Bankers life co. home office building. il Sheet Metal Worker 31:42, 44, 46+ Ag '40
15 story shaft houses conditioning rooms in modernized office building; Merchants national bank building, Mobile, Ala. il Heat & Ven 37:42 F '40
Large synchronous motor drives air conditioning compressor; International building in Rockefeller Center. il Heating-Piping 12:162 Mr '40
RCA building has largest comfort air conditioning system. Refrig Eng 39:340 My '40
Reactions of 745 clerks to summer air conditioning. W. J. McConnell and M. Spiegelman. Heating-Piping 12:317-22 My '40
Some factors in air conditioning design for a federal office building; cooling equipment of Social security building, Washington. W. A. Brown. diags plans Heating-Piping 12:682-91 N '40
Steam jet conditioning. il Dom Eng 156:43-5+ O '40
Tops in air conditioning; office building of the Bankers life company, Des Moines. il Dom Eng 156:40-3+ Jl; 53-5+ Ag '40
Wall warming system complements air conditioning of new building; home office building of the Bankers life co. il Heating-Piping 12:405-9 Jl '40
Wall warming system neutralizes glass loss in office building; home office building of the Bankers life company. il Heat & Ven 37: 31-2 Ag '40

See also
Office buildings, Industrial—Air conditioning

Electric equipment

Building management's interest in modern wiring developments. P. C. Hodill. Edison Elec Inst Bul 8:145-7 Ap '40

See also
Elevators, Electric
Office lighting

Heating and ventilation

Heating of Rockefeller Center. J. H. Rawson and C. W. Walton, jr. il Heating-Piping 12:221-4 Ap '40

OFFICE buildings—Heating and ventilation—*Continued*
How much steam for heating? E. Shultz and J. C. Butler. Heating-Piping 12:545-7 S '40
Piping changes increase efficiency; large building heating. W. S. Downs. diags Heating-Piping 12:591-2 O '40

Lighting
See Office lighting

Power
Oil and gas power; office building. il Power 84:348-9 Je '40

OFFICE buildings, Industrial
Architectural porcelain enamel; Chicago vitreous enamel product co. reception room. il Iron Age 145:49 Ap 25 '40
Greet the business visitor; pictures of offices, reception rooms, and front entrances. Am Business 10:24-5 My '40
Keystone Steel and Wire's modernization program. il Am Business 10:35-42 F '40
Money saving ideas from Menasha's new office. il Am Business 10:33-40 Jl '40
Office building completed in 79 working days; use of special cellular steel floor, roof and partition sections, bonded metal paneling for walls; H. H. Robertson co. H. B. Winslow. il diags Steel 106:46-8+ F 19 '40
Radical functional office building steps up work production 15 per cent; windowless, partition-less building, S. C. Johnson & son. L. B. Colby. il Sales Management 46:22-4 Mr 15 '40

Air conditioning
Du Pont headquarters building conditioned by $1,000,000 system. il Refrig Eng 39:46-7 Ja '40
Du Pont spends a million for air conditioning. il Heating-Piping 12:10 Ja '40
Efficiency increased 20% in Johnson firm. Refrig Eng 39:32 Ja '40
Heating, air conditioning and plumbing installations in office building of International harvester co., Rock Island, Ill. il plan Dom Eng 156:40-1 Ag '40
How air conditioning serves industry; general offices of All-steel-equip co. il Heating-Piping 12:647-9 N '40
Reverse-cycle air-conditioning. il Ind & Eng Chem News ed 18:122 F 10 '40
Standard register co. C. Strock. il diags Heat & Ven 37:33-4 Mr '40
Warm air for plant, hot water for offices; Aviation mfg. corp. il Heating-Piping 12:480 Ag '40

Heating and ventilation
Electric heating for Los Angeles building; General Electric building. il Heat & Ven 37:50-1 Je '40
Industry expands; plumbing, heating and air conditioning installations in United air lines office building, Chicago. il Dom Eng 156: 36-7 Jl '40

OFFICE equipment
News by commodities. Published in Foreign commerce weekly
Educating employees in office maintenance. E. H. Conarroe. Management R 29:359-61 O '40
Super-mechanized office for the modern executive. il plan Arch Forum 73:236-7 O '40
This office will pay for itself; new windowless office building of the All-steel-equip company, Aurora, Ill. il Am Business 10:32-4, 36-8 N '40

See also
Office appliances
Office supplies

OFFICE furniture
See also
Desks
Desks, Steel

Manufacture
Finishing filing cabinets and allied steel office units. F. V. Faulhaber. il Metal Finishing 38:622-4 N '40 (to be cont)
Steel equipment company limited. il Can Min J 60:sup308-9 N '39

OFFICE lighting
Compact bi-post lamps aid office relighting. Elec W 114:114 Jl 13 '40
Cooler footcandles for air conditioning. W. G. Darley. bibliog il diags Heating-Piping 12:495-500 Ag '40
Industrial illumination. D. M. Warren and A. R. Finley. il Steel 106:59-61 F 12 '40
Lighting the Detroit Edison company service building. H. A. Cook. il diag plan Illum Eng Soc Trans 34:1199-1207; Discussion. 1207-8 D '39
Modernized lighting aids office work at Standard Oil. Am Business 10:32-3 Ag '40
Office lighting; Puget Sound power co. combines fluorescent with indirect. il Elec West 84:170 Je '40
Technique developed for fluorescent lighting of offices. W. G. Darley. il diags Elec W 113:1514-16 My 18 '40
Thin wall wire to the rescue; wiring for lighting office building. il Elec West 85:26-7 Jl '40

OFFICE management
Carrier's experiences with centralized correspondence; costs cut by use of bonus plan and machine dictation. M. I. Hart. il Am Business 10:22-4+ S '40
Continuous modernization to control costs; State Farm insurance companies. il Am Business 10:33-42 My '40
Detroit Edison saves 30% in customer service costs. R. G. French. il Am Business 10:28-30+ Jl '40
Five advantages of properly designed office forms. J. F. Pierce. Pub Works 71:28-32 Ag '40
Four typists do the work of 35; office efficiency system developed by TVA. il Business Week p26-7 D 30 '39
Hidden costs in office forms; functionally designed forms. F. M. Knox. Am Business 10:20-1, 42 O '40
How Toledo Scale's new plant and office cuts costs. il Am Business 10:33-40 Mr '40
How's our own red tape? much report-making and useless procedures will tangle efficiency. W. H. Conant. Barron's 20:5 Je 3 '40
Law office management. D. G. McCarty. rev ed 561p $5 Prentice-Hall '40
Money saving ideas from Menasha's new office. il Am Business 10:33-40 Jl '40
No guardian angel; National safety council headquarters enjoys no immunity from common office hazards. A. W. Herdman. il Nat Safety N 41:12-13+ Ap '40
Office economies at TVA. W. Ogden. Management R 29:358-9 O '40
Organizing for office maintenance. E. Harper. Management R 29:322-4 S '40
Organizing for office planning. G. A. Hardwick. Management R 29:128-9 Ap '40
Proceedings of the twentieth annual conference, National office management association, June 12-14, 1939, New York. 127p National office management assn, W. H. Evans, sec. Peirce school, Philadelphia '39
Secretary's handbook & office manual. E. W. Leighton. 418p $2.98 Doubleday '40
Setting up an office research department; abstract. J. G. Frederick. Management R 29: 88-9 Mr '40
Stepping stones to methods improvement; abstract. G. A. Gardner. Management R 28: 386-7 N '39
Streamlined management; efficient agency office management and routine is essential to show a profit. O. Beling. Ins Field (Fire ed) 69:20-1+ Ag 15 '40
System and business management ideas. Published in monthly numbers of American business

See also
Accounting
Billing
Business management
Commercial correspondence
Credit departments
Executives
Files and filing (documents, etc.)
Mailing lists
Office workers
Orders
Payrolls
Stenographers
Telephone in business

OFFICE management—*Continued*

Bibliography

Office management; abstracts. Published in monthly numbers of Management review

History

Four thousand years in the office. C. B. Nyströmer. 18p bibliog(p17-18) pa 50c National office management assn, W. H. Evans, sec, Peirce school, 1420 Pine st, Philadelphia '40

Private offices

More private offices? Management R 29:111-12 Mr '40

Standards

Standards for office equipment. E. B. Gage. il Ind Stand 10:273-6 N '39

OFFICE manuals

Manual for the individual bank. O. B. Lovell. il Burroughs Clearing House 24:12-14+ Ja '40

Manuals of procedure. E. E. Meyer. Am Gas Assn Proc 1939:200-4

Operations manual, part of bank's customer relations program. Banking 32:67 My '40

OFFICE supplies

Stop loss plan controls printed supplies. C. V. Putnam. il Am Business 10:30-2 Je '40

See also
Bank supplies

Standards

Standards for office equipment. E. B. Gage. il Ind Stand 10:273-6 N '39

OFFICE workers

Clerical occupations. L. J. Schloerb and L. L. Medsker. 48p bibliog(cover) pa 50c Science research associates, 600 S. Michigan av, Chicago '40

Disabling morbidity among male and female employees in mail order stores, 1930-34, inclusive. H. P. Brinton and E. S. Frasier. bibliog Pub Health Rep 55:1163-78 Je 28 '40

Earnings of office workers in New York state factories, October 1939. Monthly Labor R 50:453-5 F '40

Educating employees in office maintenance. E. H. Conarroe. Management R 29:359-61 O '40

How office workers are paid in New York and Chicago. Am Business 10:35-8 S; 34-7 O '40

Management question box; clerical salary comparisons. Management R 29:151-2 Ap '40

Office and secretarial training. R. Stickney and B. G. Stickney. rev ed 423p bibliog (p260-8) $1.60 Prentice-Hall '40

Office workers. A. V. Kelliher, ed. (Picture fact books) 56p $1 Harper '40

Rating of supervisors by subordinates. I. J. Melsher and I. Weinstock. Personnel J 19: 37-40 My '40

Reactions of 745 clerks to summer air conditioning. W. J. McConnell and M. Spiegelman. Heating-Piping 12:317-22 My '40

Salaries of office workers. Am Business 10: 35-8 S; 34-7 O; 40-1 N '40

Salary administration plan for your business. A. M. Hammond. il Am Business 9:11-13+ N; 24-5+ D '39; 10:30-2 Ja '40

Serial chest roentgenograms of 3179 office employes, 1926-1938. H. H. Fellows. J Ind Hygiene 22:157-68 My '40

Testing office employees; abstract. E. C. Schroedel. Management R 29:240-1 Jl '40

Timekeeping methods for office workers. Management R 29:90-1 Mr '40

See also
Bank employees
Secretaries, Private
Stenographers

OFFICES

Better work and lower overhead; how three medium-sized companies modernized their offices; a camera report. Am Business 10: 37-44 Je '40

How Toledo Scale's new plant and office cuts costs. il Am Business 10:33-40 Mr '40

Light, quiet, modern offices; Nashua gummed and coated paper company, Nashua, N.H.; photographs. Am Business 10:17 Ja '40

Model offices show new style trend. il Am Bld 62:80 O '40

More light, less noise, better work; San Francisco insurance brokers modernize office. il Am Business 10:32-4 S '40

Noise-reduction in enclosed spaces, Accousticelotex tiling. Engineering 150:328 O 25 '40

Offices and show rooms, National cash register co, New York; views, plans, construction outline. Arch Forum 72:29-32 Ja '40

Offices, Bulova watch co. Rockefeller Center, New York. il diags plan Arch Forum 72: 86-8 F '40

Pennsylvania demonstrates the ideal small office. Ry Age 108:795 My 4 '40

Super-mechanized office for the modern executive. il plan Arch Forum 73:236-7 O '40

This office will pay for itself; new windowless office building of the All-steel-equip company, Aurora, Ill. il Am Business 10:32-4, 36-8 N '40

Your office lifts its face; how it looks to public is important to today's selling. R. Bugli. Ins Field (Fire ed) 69:22-3 O 17 '40

See also
Dentists' offices
Electric utilities—Offices
Newspaper offices
Printing offices
Real estate offices

Accidents

No guardian angel; National safety council headquarters enjoys no immunity from common office hazards. A. W. Herdman. il Nat Safety N 41:12-13+ Ap '40

Layout

Commercial accounting office floor plan; the Ohio fuel gas company, Columbus. Am Gas Assn Proc 1939:170a

Keystone Steel and Wire's modernization program. il Am Business 10:35-42 F '40

Layout for maximum production. A. E. Sanzenbach. Management R 29:281-2 Ag '40

OFFSET printing. See Printing, Offset

OGDEN corporation

Permitted to borrow $4,400,000. Comm & Fin Chr 151:423-4 Jl 20 '40

Report to stockholders. Comm & Fin Chr 151:855 Ag 10 '40

OHIO

Ohio guide. 634p bibliog(p611-13) $2.75 Oxford '40

See also
Geology—Ohio

Antiquities

Temple of the effigy; evidences unearthed in Ohio afford clear proof of a grisly mound-builder rite. W. H. Magrath. il plan Sci Am 163:76-8 Ag '40

OHIO academy of science

Celebration. Science 92:38-40 Jl 12 '40

OHIO river

Biochemical oxidation in acid water containing sewage. C. C. Ruchhoft, M. B. Ettinger and W. W. Walker. Ind & Eng Chem 32: 1394-8 O '40

Congress authorizes Ohio and Potomac River compacts; first intrastate anti-pollution covenants. J. G. Ellis. Water Works & Sewerage 87:320 Jl '40

Diagnosis for a sick river; Ohio River stream pollution abatement. E. J. Cleary. il map Eng N 124:716-19 My 23 '40

First year's work of the Ohio River pollution survey. E. S. Tisdale. il Ind & Eng Chem News ed 18:619-21 Jl 25 '40

Mobile laboratories for land and water; U.S. Public health service studies Ohio River pollution. il plans Eng N 124:858-60 Je 20 '40

Ohio river has door shut in its face at Huntington; flood gates. il Eng N 124:691 My 16 '40

Ohio River pollution survey's relation to stream pollution problems in West Virginia. E. S. Tisdale. map Am Water Works Assn J 32:545-54 Ap '40

OHIO river—*Continued*
Some developments in the water pollution research program of the Public health service. J. K. Hoskins. Pub Health Rep 55:893-9 bibliog(p899) My 17 '40

OHIO state university
Retiring members of the faculty. Science 92:74 Jl 26 '40

OHIO water service company
Bonds offered. Comm & Fin Chr 150:284 Ja 13 '40

OHMS. See Electric units

OHM'S law
Deviations from Ohm's law at high current densities. E. Guth and J. Mayerhöfer. bibliog Phys R 57:908-15 My 15 '40

OIL. See Oils and fats; Petroleum

OIL, Gas. See Gas oil

OIL, Insulating
Activated alumina holds quality in insulating oil. J. E. Housley. il diags Elec W 113: 1521-3+ My 18 '40
Conductivity of insulating oils under alternating stress. J. B. Whitehead and Bun Po Kang. diag J Ap Phys 11:596-603 S '40
Fluid filling-media for electrical apparatus. F. Meyer. diags pl Inst E E J 86:313-20 Ap '40; Abstract. Elec R (Lond) 125:703 D 1 '39: Discussion. Inst E E J 86:320-6 Ap '40
Reclamation of apparatus oil proves profitable. P. D. Cunningham and J. F. Pennington. il plan Elec W 114:216-17 Jl 27 '40
Substation oil purified by trailer-truck set. il Elec W 114:1299+ N 2 '40
Water solution in high-voltage dielectric liquids. F. M. Clark. bibliog Elec Eng 59: Trans 433-41 Ag '40

Testing

British Thomson-Houston portable oil testing set. il Engineer 169:97 Ja 26 '40; Engineering 149:122-3 F 2 '40
Electrical insulating oil deterioration; chemical and electrical tests. J. C. Balsbaugh, A. H. Howell and A. G. Assaf. bibliog il Ind & Eng Chem 32:1497-1510 N '40
Electrical stability of oil-impregnated paper; relation to the properties of the oil. C. E. Trautman and W. N. Arnquist. bibliog Ind & Eng Chem 32:1535-9 N '40
Improved cell for the a.c. and d.c. testing of insulating oils. L. N. Bramley. diag Inst E E J 86:326-8 Ap '40
Liquid dielectrics; electrical and physical properties of systems containing sparingly soluble oxidation products in liquid paraffin. J. D. Piper and others. bibliog il Ind & Eng Chem 32:1510-18 N '40
Low-voltage d-c measurements on electrical insulating oils. J. L. Oncley and W. C. Hollibaugh. diags Elec Eng 59:Trans 625-8 N '40
Surge-voltage breakdown characteristics for electrical gaps in oil. R. W. Sorensen. il diag Elec Eng 59:Trans 78-81; Discussion. Trans 81-4 F '40

OIL, Lubricating. See Lubricating oils

OIL analysis
Analysis of commercial fats and oils; report of American chemical society committee. Ind & Eng Chem Anal ed 12:379-84 Jl 15 '40
Application of graphical and statistical methods of hydrocarbon analysis to Diesel fuels. J. C. Vlugter, H. I. Waterman and H. A. van Westen. bibliog Inst Pet J 25:678-83 O '39
Composition and analysis of dehydrated castor oil. G. W. Priest and J. D. von Mikusch. bibliog il diags Ind & Eng Chem 32:1314-19 O '40
Detection and determination of ethylene glycol in lubricating oil. H. Lamprey, E. E. Sommer and A. D. Kiffer. bibliog Ind & Eng Chem Anal ed 12:526-7 S 15 '40
Determination of sludge in used or oxidized motor oils. C. G. Ludeman. bibliog Ind & Eng Chem Anal ed 12:520-5 S 15 '40
Fatty acids and glycerides of neem (margosa) oil. T. P. Hilditch and K. S. Murti. bibliog Soc Chem Ind J 58:310-12 O '39
Mixed unsaturated glycerides of liquid seed fats; some non-drying oils. B. G. Gundo and T. P. Hilditch. Soc Chem Ind J 59: 47-53 Mr '40

See also
Gasoline—Analysis
Iodine number
Lubricating oils—Analysis
Petroleum—Analysis

OIL and gas journal (periodical)
Three Journal veterans retire from service. C. O. Willson. Oil & Gas J 39:13 Jl 4 '40

OIL bulk stations
Changing over bulk plants to receive transport deliveries. il Nat Pet N 31:68-70 D 13 '39
More roadside bulk plants spring up in Kentucky. il diag Nat Pet N 32:33-4 S 18 '40

Equipment

Bulk plant streamlined for efficiency; Lubrite plant of Socony Vacuum. il diag Nat Pet N 32:27-8+ S 25 '40
Evaporation losses at bulk plants more costly with today's gasolines. H. C. Conners. il Nat Pet N 32:32+ Ap 17 '40
Product movement streamlined in modern bulk plant; Standard oil co. of Ohio at Cincinnati. il Nat Pet N 32:22-4 F 21 '40
Shock proofing a bulk plant; Shell Oil's new depot in San Francisco. il Nat Pet N 32: 25-8 Ap 17 '40

Fire protection

Shock proofing a bulk plant; Shell Oil's new depot in San Francisco. il Nat Pet N 32: 25-8 Ap 17 '40

Location

Factors cited that determine efficient bulk plant locations. S. B. Eckert. Nat Pet N 32:32 Mr 13 '40

Safety devices and measures

Plant inspections key to perfect safety record in retail marketing; Mid-continent petroleum corp. of Tulsa. Nat Pet N 31:28-31 D 20 '39
Tanks for industry; cleaning of bulk plant tanks. S. Saltonstall. il Safety Eng 79:11-12 Je '40

OIL bunkering stations
Fuel stations for Diesels have interesting features; six installations on Southern. il plan Ry Age 108:782-3 My 4 '40

OIL burner industry
Oil burner market expands. il Nat Pet N 32:27-8, 30, 32-3 O 2 '40
Success story; Harvey-Whipple oil burners. C. B. Larrabee. Ptr Ink 193:27, 30, 32-3 N 8 '40

Statistics

Oil burners, 1936-1939. Survey of Cur Business 1940 Sup p139 [supplemented in monthly numbers]

OIL burners
Combination oil burner and blower improves scove kiln firing. il Brick & Clay Rec 96:20 Ja '40
Domestic oil burners. M. A. Powers. Mech Eng 62:207-8 Mr '40; Abstract. Sheet Metal Worker 31:52 Ap '40
Furnace surges; high voltage on house circuits due to operation of oil burners. Elec West 85:43-4 Jl '40
Hydran oil burner. diag Engineer 168:475 N 10 '39
Investigation of oil-fired forced-air furnace systems in the research residence; a report of an investigation conducted by the Engineering experiment station, University of Illinois in cooperation with the National warm-air heating and air conditioning association. A. P. Kratz and S. Konzo. diags plans Ill U Eng Exp Sta Bul 318:1-87 '39 (pa 90c)

OIL burners—*Continued*
Mechanical atomization of fuel oil heavier than bunker C; burning cracking-still residuum in combination pulverized-coal and fuel-oil burners. G. G. Martinson. diags Oil & Gas J 38:80-2 My 9 '40
Oil burner installer. 105p pa $1.50 Cord publishers, 147 4th av, New York '40
Oil burner market expands. il Nat Pet N 32: 27-8, 30, 32-3 O 2 '40
Starting oil burner. diags Power 84:388-91 Je '40

Manufacture
Infra-red finishing of burner parts. il Iron Age 146:64 N 7 '40

Standards
Automatic mechanical draft oil burners designed for domestic installations. U S Nat Bur Stand Commercial Standard CS75-39: 1-21 '39

Testing
Oil burners tested to standard by Underwriters' laboratories; illustrations. Dom Eng 156:40-1 N '40
Soot in oil-fired systems. Dom Eng 156:58+ N '40

OIL burning equipment
You must have a good heating system, the oil man said. il plans Sheet Metal Worker 31:58+ Je '40

See also
Boilers—Oil firing

OIL cans
Fibre oil can. il Mod Packaging 14:44+ S '40

OIL chemists' society, American. See American oil chemists' society

OIL circuit breakers. See Electric circuit breakers

OIL companies
Growing bottled gas industry requires substantial oil marketers. il Nat Pet N 32:25-38 Ag 14 '40
Hauled produce when oil marketing was dull and made new farm customers; D. E. Conerly, Dixie oil marketer. il Nat Pet N 31: 32+ D 20 '39
New Mexico's woman marketer digs sales from desert; Mrs Blanche Nowlin, oil marketer. il Nat Pet N 32:41-2 Jl 31 '40
Skelly breaks 5-year record with rolling pin contest for wives. C. B. Combs. il Sales Management 47:99 O 10 '40
200 veteran oil men organize club to mark service to their industry, Twenty-five year club. Nat Pet N 32:21+ Ja 17 '40
What Seaside Oil has learned about year-around sales contests. G. B. Tucker. il Sales Management 47:105-6 O 10 '40

See also
Gasoline industry
Gasoline service stations
Lubricating oil industry
Oil bulk stations
Oil fuel industry
Oil industries
Petroleum industry and trade
Standard oil companies

Advertising
Carolina marketer is his own radio entertainer. il Nat Pet N 32:34-6 Ja 10 '40
Home-owned company to serve home folks, is marketer's slogan; Home oil co, Williamsburg, Ky. il Nat Pet N 32:35-6 F 14 '40
Lures tourists with bags of magic sand; Orange state oil co, Miami, "Sand in your shoes" campaign. Nat Pet N 32:25 Mr 20 '40
Ohio marketer uses bulk tank ends as billboards. il Nat Pet N 31:41 N 15 '39

Buildings
$80,000 put into modernizing downtown station and office; MacMillan and Cameron co. il Nat Pet N 32:32-3 Ja 31 '40
Tennessee marketer builds office with savings on maintenance. il Nat Pet N 32:39 S 18 '40

Credit problems
Standard oil co. of Indiana extends new credit cards to budget plan for accessories. Nat Pet N 32:21-2+ Ja 3 '40

Employees
Decision in Conoco's case may curtail powers of NLRB. Nat Pet N 32:18 N 6 '40
Marketers build second defense to replace personnel called in draft. Nat Pet N 32:29-34 O 30 '40
Standard oil co. of Indiana pays $92,000 voluntarily in wage-hour ruling. Nat Pet N 32: 14 O 30 '40
Supplier wins suit over tax on agent's pay; wholesale distributors paid on commission basis are not employes; with text of decision. Nat Pet N 32:17, 27 Ap 3 '40
Truckers are grouped under wage-hour law. Nat Pet N 32:11+ N 6 '40
Wage-hour drive on oil speeds up as 40-hour week goes into effect. Nat Pet N 32:13+ O 23 '40

Finance
American oil investments abroad; war's spread would affect areas where leading companies have stakes. J. Gordon. Barron's 20:8 O 21 '40
Improved earnings shown in 1939. Nat Pet N 32:18-19 Mr 13 '40
Incomes up 50%. Nat Pet N 32:16 Ag 7 '40

Management
Personnel management is key to Kentucky marketer's success; Kentucky independent oil co. il plan Nat Pet N 32:25-6, 28+ S 4 '40
Stopping profit leaks in oil marketing. Nat Pet N 32:38, 40-4 Mr 20 '40

See also
Oil delivery

Records
Fact book checks on trucking cost. Nat Pet N 32:36-7 S 18 '40

Safety devices and measures
Oil safety contest winners planned it that way. Nat Pet N 32:36+ O 16 '40
Safe handling in the marketing of petroleum products. D. S. Russell. il Nat Pet N 32: 38, 40+ Je 12 '40

Securities
See Petroleum industry and trade—Securities

Side line selling
Swat the fly campaign made a profitable market for some oil companies. il Nat Pet N 32:25-6+ My 8 '40

Winter business
Helps for winter profits for oil marketers. Nat Pet N 31:21, 23-4 D 20 '39
Winter change-over business is more than a one-time sale. D. O. Groce. Nat Pet N 31: 25 N 22 '39

OIL containers
Compressed air empties oil drums. A. Gray. diag Power 84:43 Ja '40
Don't use compressed air to empty barrels or drums; dangerous practices. G. Edwards. il Power 84:171 Mr '40

OIL cooling
Cooling quenching oil; cooler made by Heenan and Froude. diags Engineer 170:80 Ag 2 '40
Cooling system for quenching oil. il diag Iron Age 145:31 My 30 '40
Propane cooling of absorption oil used at new Jal gasoline plant. D. H. Stormont. flow diag il Oil & Gas J 39:30-1, 35+ Ag 29 '40

OIL delivery
How to install degree-day system for estimating fuel oil consumption and scheduling heating oil deliveries. il Nat Pet N 32:25-35 S 11 '40
Portable pump and meter on truck, speeds up deliveries. il Nat Pet N 32:40-2 S 4 '40

OIL delivery—*Continued*
Routing system cuts cost of delivery trucks; Home fuel oil company. Nat Pet N 32:30 S 18 '40
Savings to marketer in trucking. C. J. Yokom. il Nat Pet N 32:33-5 F 28 '40
Symposium on meters; pros and cons on use of meters on automotive equipment in the delivery of petroleum products. il Am Pet Inst Proc 20(1):65-79 '39; Abstract. Nat Pet N 31:34-7 N 22 '39
Three-step program cut bulk hauling and delivery costs. il Nat Pet N 31:71-2+ D 13 '39

See also
Tank trucks

OIL distillation
Coal by-products; pseudopolymer and synthetic aromatic oils. W. H. Carmody and H. E. Kelly. Ind & Eng Chem 32:954-7 Jl '40; Same. Gas J (Lond) 231:158, 163 Jl 24 '40
Cracking coal-oil distillates. G. Egloff and others. diags Oil & Gas J 38:36, 39, 52-3 Ja 11 '40
Laboratory-type molecular or short-path still for vegetable and animal fats and oils. S. B. Detwiler, jr. and K. S. Markley. bibliog il diags Ind & Eng Chem Anal ed 12: 348-50 Je 15 '40
New light oil refining plant of the Wheeling steel corporation. E. Preston and B. J. C. Van Der Hoeven. flow diag il Blast F & Steel Pl 28:455-60 My '40

See also
Petroleum distillation

OIL engines. See Diesel engines; Gas and oil engines

OIL filters
Auto-Klean strainers, limited, steam-jacketed Lolos oil-strainer. il diags Engineering 148: 594-5 N 24 '39
Cuno completely automatic self-cleaning filter. il Automotive Ind 81:642 D 15 '39
Factors affecting engine wear; oil filters and oil bath air cleaners. M. M. Roensch. Nat Pet N 32:44, 46 Ap 3 '40
Oil filtration; general survey and some specific considerations of basic principles. A. H. Stuart. Automobile Eng 30:213-16 Jl '40
Servicing oil filters helps motor oil sales. diags Nat Pet N 32:28-31 Mr 13 '40
Stream-line filters, ltd. il Chem & Ind 59: 456-7 Je 29 '40
White oil strainer. diags Engineer 168:476-7 N 10 '39

OIL fires
Fire-fighting equipment for electrical installations. diags plans Inst E E J 85:719-34 D '39; Abstract. Engineering 149:139-41, pl 8 F 9 '40· Discussion. il diags Inst E E J 87:251-81, 535-8 S, N '40; Electrician 124: 92-3 F 2 '40
Try CO_2 in bulk on big outdoor oil fires. il diags Elec W 114:676-7 S 7 '40

See also
Petroleum industry and trade—Fires and fire protection
Petroleum refineries —Fires and fire protection

OIL flow
Curved flow in conduits of constant cross-section. C. H. Nordell. diags Oil & Gas J 39:117, 119-20, 123-4 My 16 '40
Improved conduit bends reduce frictional loss. C. H. Nordell. bibliog il diags Oil & Gas J 39:50, 53, 55 Je 13 '40
Selection of the most economical pipe and valve size and rate of flow in piping systems; with cost data. S. P. Johnson and F. L. Maker. diags Am Pet Inst Proc 21M (3):7-23 My '40
Tank flow studied; research for oil industry begun at University of Wisconsin. Business Week p43 D 16 '39
To speed discharge rates of tank trucks; flow tests being conducted at Univ. of Wisconsin. J. N. Westsmith. il Nat Pet N 32: 25-6, 28 My 1 '40

OIL fuel
Dissolving sludge. Power 84:460 Jl '40
Effect of marketing policies and refining methods on future availability of residue enrichment oils. A. E. Pew, jr. Am Gas J 152:37-9 Je '40
Fuel luncheon club; presidential address. W. A. Bristowe. Chem & Ind 58:1052-5 D 2 '39
Fuels for marine Diesel engines. W. F. Joachim and H. V. Nutt. Marine Eng 45: 35-6+ My '40
Give fire brick good heat soaking in M. D. Valentine new tunnel kiln. il Brick & Clay Rec 97:44-6 Jl '40
Oil firing technique as perfected by Anchor-Hocking. il Glass Ind 21:313-15 Jl '40
Pool grades of fuels and their utilisation. N. L. Hudson, R. J. Bressey and T. C. Bailey. Engineering 149:127-9 F 2 '40; Abstract. Chem Age (Lond) 42:53 Ja 27 '40
Some methods of firing fuels in tunnel kilns. G. D. Brush. diags Am Cer Soc Bul 19:368-71 O '40

See also
Automobile engines—Fuel
Boilers—Oil firing
Boilers, Heating—Oil firing
Boilers, Marine—Oil firing
Coal liquefaction
Diesel engines—Fuel
Fuel, Colloidal
Gas and oil engines—Fuel
Gasoline
Liquid fuel
Locomotives, Gas and oil
Motor truck engines —Fuel
Oil bulk stations
Oil bunkering stations
Oil burners
Oil fuel industry

Manufacture
Cracking tars and distillates from coal. G. Egloff and others. bibliog il diags Ind & Eng Chem 32:39-47 Ja '40
Diesel fuel in Houdry distillate close to straight-run quality. W. S. Mount and E. T. Scafe. Nat Pet N 32:R246-9 Jl 10 '40
Fuel oil from sewage sludge; abstract. Shibata. Eng N 124:810 Je 6 '40

See also
Fischer-Tropsch process

Prices
Ceiling for fuel oil prices; abstract. M. W. Merrill. Nat Pet N 32:44-5 Je 12 '40
Chicago fuel oil contracts carry 7c top for next year. Nat Pet N 32:21 Ap 24 '40
Fuel oil prices. Published in weekly numbers of Iron age
More stable heating-oil price structure likely soon. J. P. O'Donnell. Oil & Gas J 39:23 O 10 '40
Socony sets '41 tops on fuel. Nat Pet N 32: 17-18 Ap 17 '40
Strong first half fuel-oil market was partial balance for soft gasoline. H. S. Norman. Oil & Gas J 39:85-6 Jl 25 '40
Top price fuel oil contracts continued despite war clouds. Nat Pet N 32:25-6, 28-30 Je 5 '40

Specifications
Fuel specifications for high-speed Diesel engines. G. C. Wilson. Am Pet Inst Proc 20(3):33-40; Discussion. 40-1 '39

Testing
Evaluation of certain normal alkylated benzenes as Diesel fuels. G. Shen, C. E. Wood and F. H. Garner. Inst Pet J 25:695-703 O '39
Experiments with doped fuels for high-speed Diesel engines. J. J. Broeze and J. O. Hinze. bibliog Inst Pet J 25:657-77; Discussion. 704-7 O '39
Ignition characteristics of Diesel fuels. R. F. Selden. Power Pl Eng 44:63 Ag '40
Rating of Diesel fuels; a study of their ignition quality. P. H. Schweitzer and J. S. Chandler. il diags Automobile Eng 30:135-41 My '40

OIL fuel—*Continued*

Transportation

Barges move oil 200 miles up Columbia river for the California oil companies. il map Nat Pet N 31:85-7 D 13 '39

See also
Oil delivery
Tank trucks

OIL fuel industry
Current heating oil situation analyzed. F. Van Covern. Nat Pet N 32:41-3 Ap 17 '40
Free burner service disappearing as fuel oil margins narrow. Nat Pet N 32:34, 36, 38-9 Je 26 '40
Fuel oil distributors association of New Jersey 5th annual meeting, Asbury Park, April 11-12. Nat Pet N 32:16-17 Ap 17 '40
Home, peace-time markets at new high levels in '40. Nat Pet N 32:26-7 Ja 24 '40
How to install degree-day system for estimating fuel oil consumption and scheduling heating oil deliveries. il Nat Pet N 32:25-35 S 11 '40
Know customer's needs and serve them; built up by Home oil & gas corp. il Nat Pet N 32:40+ Jl 24 '40
Mid-western fuel oil marketers prepare for next heating season. Nat Pet N 32:40-1 Je 26 '40
New automotive type tractors expand farm motor fuel market. il Nat Pet N 32:35-7 Ja 24 '40
New factors will influence 1940-41 heating oil markets. Nat Pet N 32:40-1 Ap 17 '40
Spread of mechanized farming creates huge market for gas, oil and grease, survey shows. il Sales Management 46:25-6 My 1 '40
Too much gasoline; stocks are climbing because of fuel oil demand. Business Week p25-6 F 10 '40
Top price fuel oil contracts continued despite war clouds. Nat Pet N 32:25-6, 28-30 Je 5 '40
Venezuelan agreement causes spurt in fuel oil imports. H. S. Norman. il Oil & Gas J 38:9-10 Ja 18 '40

Statistics

Fuel oil production, revision; monthly, 1923-June, 1940. Fed Res Bul 26:871 Ag '40
Half the home heating oil market is in 11 northeast states and D.C., 1937 and 1938 compared. map Nat Pet N 32:28+ Ap 24 '40
Industry ready for peak consumption of fuel oil. H. S. Norman. il Oil & Gas J 39:22-3+ Ag 22 '40
3,400,000-bbl. average daily runs will supply needs. Oil & Gas J 39:28-9 S 12 '40

Canada

Canada limits fuel oil sale for all uses. Nat Pet N 32:15 S 25 '40

Great Britain

Pool grades of fuels and their utilisation. N. L. Hudson, R. J. Bressey and T. C. Bailey. Engineering 149:127-9 F 2 '40

OIL handling
Cities Service plant operating unusually safe truck rack. W. T. Ziegenhain. il Oil & Gas J 39:56 Ag 15 '40
High water no deterrent to Sohio barge shipping. il Oil & Gas J 38.91 Ap 11 '40
Less heat, more chemical may increase profits. T. P. Sanders. Oil & Gas J 39:174 Jl 25 '40
Progress report on experimental investigation of faster unloading of oil truck tanks at University of Wisconsin hydraulic laboratory. L. H. Kessler. il Am Pet Inst Proc 20(1): 75-9 '39
Rack handles 16 trucks at once; Home fuel oil co. il Nat Pet N 32:25, 28+ S 18 '40
To speed discharge rates of tank trucks; flow tests being conducted at Univ. of Wisconsin. J. N. Westsmith. il Nat Pet N 32: 25-6, 28 My 1 '40

See also
Oil bulk stations—Equipment
Oil bunkering stations
Oil delivery

OIL heating
Complete heating unit in treating tank replaced. il Oil & Gas J 39:55 S 26 '40
Connecting hot line into flume improves operation of thermosiphon treating plant. T. P. Sanders. diag Oil & Gas J 39:47 Ag 1 '40
Installing oil-tank heater. H. M. Naylor. il diags Power 84:449-51 Jl '40
Kern oil co. circulating hot oil in Montebello field wells; Kobe hydraulic power unit; heat exchanger cools engine water and heats circulating oil. L. P. Stockman. il diag Oil & Gas J 38:34-5 D 21 '39
Less heat, more chemical may increase profits. T. P. Sanders. Oil & Gas J 39:174 Jl 25 '40
Oil-tank heater; suggestions on making and installing a temporary steam heater for fuel-oil storage tank. diags Power 84:248-51 Ap '40
Power plant operation problems. R. W. Crain. diag Power Pl Eng 44:84 O '40
Process heating uses oil for heat transfer; insulation board production; Fir-Tex insulating board company use Gilsonite as covering. R. M. Hermann. il diag Elec W 114:1319-20 N 2 '40
Talco treating methods provide fuel economy and more settling time. G. Weber. il Oil & Gas J 39:34-5 O 3 '40
Thermosiphon treating plants; tests explain low capacities offered for heating emulsions. D. H. Stormont. diags Oil & Gas J 38:37-8 D 21 '39
Tubes for oil heaters; titanium or columbium in 5% Cr-Mo-Si steel. H. Habart. il Metal Prog 37:401-5 Ap '40
Westinghouse oil immersion heaters. il Transit J 84:139 Ap '40

OIL industries
Fats and oils battle for food industries market. G. W. McBride. Food Ind 12:60-3 F; 70-3 Mr '40

See also
Farmers' cooperative oil associations
Fish oil
Gasoline industry
Gasoline service stations
Kerosene
Linseed oil
Lubricating oil industry
Oil bulk stations
Oil companies
Oil fuel industry
Oils and fats
Olive oil
Petroleum industry and trade
Textile oils
Tung oil

Statistics

Drying oil situation in America; abstract. H. A. Gardner. Ind & Eng Chem News ed 18: 358 Ap 25 '40
Factory consumption of oils and fats gained last year despite loss in edible fields. Chem & Met Eng 47:261 Ap '40
Fats and oils, 1939. C. E. Lund. Chem Ind 46:653-4, 781-2 pt 2 My-Je '40
Oils and fats. G. W. McBride. Chem & Met Eng 47:87-91 F '40
Oils, fats, and byproducts, 1936-1939. Survey of Cur Business 1940 Sup p91-5 [supplemented in monthly numbers]
What the user wants in edible oils. G. W. McBride. Food Ind 12:56-8 Je '40

Cuba

Edible oils and fats imports. For Comm W 1: 123-4 O 19 '40

Germany

Germany limits soap use in effort to conserve fats. Oil Paint & Drug Rep 136:3+ D 4 '39
Germany's oil supplies; present and potential production. A. J. V. Underwood. Can Chem & Process Ind 23:593-6 D '39; Abstract. Chem Ind 46:290 Mr '40

Great Britain

Oilseeds and oils, 1939. Economist 138:sup 34-6 F 17 '40

Malaya, British

Commodity news. For Comm W 1:76-7 O 12 '40

OIL industries—*Continued*

Puerto Rico

Fats, oils, and oilseeds; imports of fats and oils into Puerto Rico in 1938-39. For Comm W 1:221 N 2 '40

United States

Vegetable oil situation in the United States. O. Eisenschiml. Oil Paint & Drug Rep 137: 5+ Ap 29; 34-5 My 6; 60 My 20; 48 My 27 '40

OIL lands

Ickes rules title to disputed section in California belongs to U.S. Oil & Gas J 39:16 Jl 4 '40

One-fourth of Kansas' area leased for exploration. il Oil & Gas J 39:118-20 Je 27 '40

OIL measurement

Integrating tachometers show reciprocating pump flow. il Oil & Gas J 39:109+ S 19 '40

Petroleum division A.S.M.E. and fluid-metering conference. Oil & Gas J 38:26+ Ap 18 '40

Portable pump and meter on truck, speeds up deliveries. il Nat Pet N 32:40-2 S 4 '40

Some fundamental considerations in the design and application of displacement meters for measuring liquid hydrocarbons. E. W. Jacobson. Oil & Gas J 39:36, 39-40 Je 20 '40

Symposium on meters; pros and cons on use of meters on automotive equipment in the delivery of petroleum products. il Am Pet Inst Proc 20(1):65-79 '39; Abstract. Nat Pet N 31:34-7 N 22 '39

Truck carries equipment to test meters at terminals. il Nat Pet N 32:34 O 30 '40

Volumeter research of the fluid-meters committee of the A.S.M.E. E. E. Ambrosius and H. S. Bean. il diags Oil & Gas J 39: 56, 59, 61+ Ag 8 '40; Same. Mech Eng 62: 677-81 S '40

OIL pipe lines

Go-devil separates oil slugs in 3.5-mile lube pipeline used for transferring stocks from tankers at dock on Detroit river to storage. il Nat Pet N 32:R278-9 Ag 7 '40

See also
Gasoline pipe lines
Petroleum pipe lines

OIL pipes

Use of the ring joint on oil and steam piping service. F. R. Venton and A. W. Marburg. diags Heating-Piping 12:425-7, 489-92, 548-50 Jl-S '40

OIL pumps

Diesel pumping sets for oil-field duty. il Engineering 149:304, 305 Mr 22 '40; Engineer 169:289 Mr 22 '40

Duplex double-acting horizontal oil pump for pipe lines. diags Engineering 149:410, 411-12, pl 22 Ap 19 '40

Electrical device allows remote control of pump; use of an electric light for counting the revolutions of a pump. W. T. Ziegenhain. diag Oil & Gas J 39:50 Ag 29 '40

Lubrication of steam-turbine driven electric generators. F. J. Cowlin. bibliog il diags Inst Mech Eng J & Proc 143:Proc 83-100 My '40

Oil pump gears, an example of iron powder metallurgy; abstract. F. V. Lenel. il (p471) Metals & Alloys 12:472+ O '40

Oilgear two-way variable displacement pumps. il Am Mach 84:736 S 18 '40; Automotive Ind 83:260-1 S 15 '40

Portable pump and meter on truck, speeds up deliveries. il Nat Pet N 32:40-2 S 4 '40

Pumping viscous oils with centrifugal pumps. A. J. Stepanoff. Oil & Gas J 38:78-9+ My 9 '40

Quimby pumps on Coast Survey vessel Explorer. Marine Eng 45:47 Jl '40

Variable-stroke triplex pumps used on east Texas line. D. H. Stormont. il diags Oil & Gas J 39:30-1+ My 30 '40

See also
Diesel engines—Fuel feeding
Petroleum—Pumping
Pumps, Fuel

Testing

Testing hot-oil pumps under actual operating conditions. A. J. Stepanoff. diags Oil & Gas J 39:52, 55+ O 31 '40

OIL purification

See also
Oil filters
Oil reclamation
Oil refining
Petroleum refining

OIL reclamation

Alfa-Laval oil-purifying equipment for marine and land use. diags Engineering 148:733 D 29 '39

Auto-Klean motor-driven strainers. il diags Engineer 169:168 F 16 '40

Cummins engine company; vapor-laden air from injector tests exhausted through oil separator which reclaims 90% of fuel; heating system. C. Strock. il diags Heat & Ven 37:33-5 My '40

Hilco oil reclaimers for use with Diesel installations. il Marine Eng 45:78-9 Mr '40

Longer life for Diesel lube oils. S. S. Hansen. diag Power 84:588-9+ S '40

Power plant operation problems. R. W. Crain. il Power Pl Eng 44:85 O '40

Reclamation of apparatus oil proves profitable. P. D. Cunningham and J. F. Pennington. il plan Elec W 114:216-17 Jl 27 '40

Steel chips, cutting oil reclaimed 100 per cent in efficient system. O. L. Maag. il Steel 106:69 Je 3 '40

Substation oil purified by trailer-truck set. il Elec W 114:1299+ N 2 '40

Turbine oil conditioned by acid correction. E. M. May. diags Power 84:78-9 F '40

Waste made good as new; Chicago surface lines reclaims wool waste and oil for packing motor and journal bearings. il Transit J 84:169 My '40

See also
Oil filters

OIL refining

Le développement des applications techniques de l'hydrogénation. E. F. Armstrong and K. A. Williams. Chimie & Ind 42:234-42 Ag '39; Same (Development of the technical applications of hydrogenation). Chem Age (Lond) 41:271-2, 285-8 O 14-21 '39; Same. Chem & Ind 59:3-9 Ja 6 '40

Grapefruit seed oil; manufacture and physical properties. A. J. Nolte and H. W. von Loesecke. il Ind & Eng Chem 32:1244-6 S '40

New Thermofor kiln and clay-regeneration processes for maintaining decolorizing clays at high efficiencies. T. P. Simpson and J. W. Payne. il diags Am Pet Inst Proc 20(3): 7-14 '39; Same. Nat Pet N 31:R486-7, R490-2 N 15 '39; Same. Oil & Gas J 38:147, 150+ N 17 '39; Discussion. Am Pet Inst Proc 20(3):14-15 '39

Refining edible oils; Holland patent application. Food Ind 12:91 Ag '40

See also
Lubricating oils—Manufacture
Oil reclamation
Petroleum refining
Oil filters

OIL reservoirs

Les réservoirs à essence enterrés; réservoir à compensation hydraulique. diags Génie Civil 115:376-7 N 18 '39

Réservoirs pour hydrocarbures à compensation hydraulique, système Miozzi. il diag Génie Civil 115:473 D 30 '39; Abstract (New type of storage tank for gasoline reverses pressure on walls). Concrete 48:42 My '40

OIL reservoirs, Concrete

La construction des cuves et réservoirs à hydrocarbures, en béton armé. Génie Civil 116:125-6 F 17 '40

La construction des grands réservoirs à hydrocarbures. C. Berthelot. diags Génie Civil 115:322-3 O 28 '39

OIL sand

Water content

Method for determining the water content of oil sands. D. B. Taliaferro and G. B. Spencer. bibliog U S Bur Mines Rep of Invest 3535:1-11, pl 1 '40

OIL scouts
Geologists, scouts play big role in Kansas development. Oil & Gas J 39:67 Je 27 '40

See also National oil scouts and land men's association

OIL separators
Prevention better than cure; the function of oil separators in refrigeration. E. P. Kellie. Refrig Eng 38:352-3 D '39
Use of oil separators in the refrigeration industry. J. Askin. diag Refrig Eng 40:23 Jl '40

See also
Oil filters
Oil reclamation

OIL shales
Classification of oil shales and cannel coals; confusion in nomenclature and classification of oil-yielding materials. A. L. Down and G. W. Himus. Inst Pet J 26:329-35, pl 1-5; Discussion. 336-48 Jl '40
Oil shale and cannel coal; proceedings of a conference held in Scotland, June 1938. 476p 31s Inst. of petroleum, London '38

See also
Torbanite

Analysis
Analysis of the kerogen of oil shales. A. L. Down. bibliog Inst Pet J 25:230-7 Ap '39; Discussion. 25:813-19 D '39

Bibliography
Selected list of Bureau of mines publications and motion picture films. 129p U.S. Bur. of mines, Washington '40

Classification
Classification of kerogen rocks and kerogen coals, showing their inter-relationships and their gradation into bituminous coals. A. L. Down and G. W. Himus. Inst Pet J 26: 334-5 Jl '40

Distillation
Oil-shale plant built in New South Wales. Oil & Gas J 39:35 S 26 '40

New South Wales
Oil-shale plant built in New South Wales. Oil & Gas J 39:35 S 26 '40

OIL silk
Oilsilk, its manufacture and uses. F. Warner. 72p 4s 6d Harlequin press co, Manchester, Eng. '39

OIL storage
La construction des cuves et réservoirs à hydrocarbures, en béton armé. Génie Civil 116:125-6 F 17 '40

See also
Gasoline storage
Oil bunkering stations
Oil tanks

OIL tankers. See Tank barges; Tank ships

OIL tanks
Complete heating unit in treating tank replaced. il Oil & Gas J 39:55 S 26 '40
Large bulkheads spun from one-piece circles. il Steel 106:54 Je 10 '40
Ohio marketer uses bulk tank ends as billboards. il Nat Pet N 31:41 N 15 '39
Tank batteries and separators; illustrations. Oil & Gas J 38:86 Ap 25 '40

See also
Tank barges
Tank cars
Tank ships
Tank trucks

Cleaning
Re-conditioning of oil-containing vessels. K. S. Low. Gas J (Lond) 228:613 D 20 '39
Tanks for industry; cleaning of bulk plant tanks. S. Saltonstall. il Safety Eng 79:11-12 Je '40

Manufacture
Proposed appendix C for A.P.I. std. no. 12-C: all-welded oil-storage tanks on qualification of welding procedure and testing of welding operators. diags Am Pet Inst Proc 21M(4): 260-9 My '40

Moving
216,000-gal. tank cut in two to move it to new location. il Nat Pet N 31:91 D 13 '39

Standards
Report of A.P.I. committee on the standardization of steel tanks for oil storage. diags Am Pet Inst Proc 21M(4):240-77 My '40

Venting
Proposed tentative standards: API venting guide. diags Am Pet Inst Proc 21M(4):273-7 My '40

OIL testing
Analysis of commercial fats and oils; report of American chemical society committee. Ind & Eng Chem Anal ed 12:379-84 Jl 15 '40
British Thomson-Houston portable oil testing set. il Engineer 169:97 Ja 26 '40; Engineering 149:122-3 F 2 '40
Carbon residue test not closely related to performance. W. T. Nelson. bibliog Oil & Gas J 38:48+ Ja 11 '40
Evaluating wool oils. G. A. Thomas. diags Textile World 90:70-1 Je '40
Properties of quenching oils. J. A. Jones and W. W. Stevenson. Oil & Gas J 39: 163-4 My 16 '40
Specification for a textile oil. W. Garner. bibliog diag Soc Dyers & Col J 56:333-43 Ag '40
Velocity of compressional waves in petroleum fractions at atmospheric and elevated pressures. R. Matteson and C. J. Vogt. bibliog diag J Ap Phys 11:658-65 O '40

See also
Lubricating oils—Testing
Oil, Insulating—Testing
Oil fuel—Testing
Smoke point
Viscosity—Measurement

OIL transportation

See also
Oil delivery
Tank cars
Tank ships
Tank trucks

OIL wells. See Petroleum—Well drilling

OILINESS. See Lubrication and lubricants

OILS, Sulfonated. See Sulfonated oils

OILS and fats
Analysis of commercial fats and oils; report of American chemical society committee. Ind & Eng Chem Anal ed 12:379-84 Jl 15 '40
Antioxidants and the autoxidation of fats; autoxidation of oleic acid, methyl oleate, oleyl alcohol, and *cis*-9-octadecene. F. E. Deatherage and H. A. Mattill. bibliog diag Ind & Eng Chem 31:1425-31 N '39
Chemical constitution of natural fats. T. P. Hilditch. 438p $6.50 Wiley '40
Chemistry of fats; abstract. W. A. Riddell. Can Chem & Process Ind 24:204 Ap '40
Coal by-products; pseudopolymer and synthetic aromatic oils. W. H. Carmody and H. E. Kelly. Ind & Eng Chem 32:954-7 Jl '40; Same. Gas J (Lond) 231:158, 163 Jl 24 '40
Component fatty acids and glycerides of some myristica fats. D. Atherton and M. L. Meara. bibliog Soc Chem Ind J 58:353-7 D '39
Composition of the fatty oil from carya cordifornia nuts. J. L. Riebsomer, R. Larson and L. Bishman. Am Chem Soc J 62:3065-6 N '40
Continual observation of changes in weight at oven temperatures; apparatus for use in study of drying rates and in oxidation of oils. A. C. Beckel and A. G. Sharp. diags Ind & Eng Chem Anal ed 12:45-7 Ja 15 '40
Cooking fats and oils. Consumers' Research Bul (Gen bul ser) 10:5-8 O '40
Le développement des applications techniques de l'hydrogénation. E. F. Armstrong and K. A. Williams. Chimie & Ind 42:234-42 Ag '39; Same (Development of the technical applications of hydrogenation). Chem Age (Lond) 41:271-2, 285-8 O 14-21 '39; Same. Chem & Ind 59:3-9 Ja 6 '40
Fat of land crabs (Seychelles islands). T. P. Hilditch and K. S. Murti. bibliog Soc Chem Ind J 58:351-3 D '39

OILS and fats—*Continued*
Fats and oils battle for food industries market. G. W. McBride. Food Ind 12:60-3 F; 70-3 Mr '40
Fatty acids and glycerides of solid seed fats; mimusops heckelli (baku) kernel fat. D. Atherton and M. L. Meara. Soc Chem Ind J 59:95-6 My '40
Hydrogenation of fats. O. H. Wurster. flow sheet il diags Ind & Eng Chem 32:1193-9 S '40
New method for preventing oil separation; addition of small quantity of glycerine to peanut butter. C. W. Lenth. il Food Ind 11: 678-9 D '39
Oil to be homemade; new biochemical extraction process for agricultural products. Business Week p51-2 Ap 27 '40
Oils free from federal excise tax are listed. Oil Paint & Drug Rep 138:5+ S 16 '40
Refrigeration of fats and oils. H. S. Mitchell. flow chart il diags Refrig Eng 40:153-7+ S '40
Swelling of synthetic rubbers in mineral oils; effect of variation in aniline point of oils. F. H. Carman, P. O. Powers and H. A. Robinson. bibliog Ind & Eng Chem 32: 1069-72 Ag '40
La synthèse des acides gras par oxydation catalytique des hydrocarbures lourds; leur emploi à la fabrication du savon et de graisses alimentaires. E. Lemaire. il diag Génie Civil 115:413-17 D 9 '39
Synthetic fats; British patent. Food Ind 12: 90 Ja '40
Utilization of by-products from meat packing industry; fats, proteins, bones, etc. H. H. Young. il Ind & Eng Chem News ed 18:579-80 Jl 10 '40
Vegetable oil situation in the United States. O. Eisenschiml. Oil Paint & Drug Rep 137: 5+ Ap 29; 34-5 My 6; 60 My 20; 48 My 27 '40
What the user wants in edible oils. G. W. McBride. Food Ind 12:56-8 Je '40

See also
Acids, Fatty
Cashew nutshell oil
Castor oil
Coal liquefaction
Corn oil
Cottonseed oil
Creosote
Drying oils
Emulsification
Emulsions
Essential oils
Fish oil
Gas and oil engines —Fuel
Gas oil
Gasoline
Grapefruit seed oil
Linseed oil
Lubricating greases
Lubricating oils
Lubrication and lubricants
Neem oil
Oil, Insulating
Oil fuel
Oiticica oil
Oleomargarine
Olive oil
Palm oil
Petroleum
Rancidity
Rice oil
Road oils
Sardine oil
Soybean oil
Sulfonated oils
Tall oil
Textile oils
Tung oil
Viscosity

Prices

Average monthly price index of organic fats and oils for 1939; tabulation. Chem Ind 46: 781 pt 2 Je '40
Fats and oil prices hold above lows; record production indicated for the 1939-40 crop year. Barron's 20:6-7 Ja 1 '40
Vegetable oil prices; extent of increases since Aug. 25, 1939. Economist 138:309 F 17 '40

Statistics

Factory consumption of primary animal and vegetable fats and oils, by classes of products, 1939. Oil Paint & Drug Rep 137:37 Mr 25 '40; Same. Chem Ind 46:653 My '40
Fats and oils, 1939. C. E. Lund. Chem Ind 46:653-4, 781-2 pt 2 My-Je '40
First quarter production of vegetable, animal and fish oils and fats. Oil Paint & Drug Rep 137:46 My 6 '40
Oils and fats. G. W. McBride. Chem & Met Eng 47:87-91 F '40
Oils and fats statistics, second quarter. Oil Paint & Drug Rep 138:39+ Ag 5 '40
Oils and fats statistics, third quarter. Oil Paint & Drug Rep 138:55 N 4 '40
Oils, fats and waxes. Published in weekly numbers of Oil, paint and drug reporter
Record fats and oils production seen. Barron's 20:6 Ag 19 '40
Vegetable and animal oils statistics, 1939. Oil Paint & Drug Rep 137:32 F 19 '40
Vegetable oil exports hampered by war; U.S. 1939 exports to Scandinavia. Oil Paint & Drug Rep 137:5 Ap 22 '40
World production and trade. Economist 137: 348-9, 479 D 2, 23 '39

See also
Oil industries—Statistics

OINTMENTS
Protective ointment for the prevention of poison ivy dermatitis. L. Schwartz, L. H. Warren and F. H. Goldman. Pub Health Rep 55:1327-33, pl 1-4 Jl 26 '40

OITICICA oil
Behavior of certain oil-resin combinations. Oil Paint & Drug Rep 138:50-1 N 4 '40
Continuous laboratory method for bodying oiticica oil. V. Marchese, J. Mattiello and L. T. Work. bibliog diag Ind & Eng Chem Anal ed 12:77-80 F 15 '40
Drying oils and resins; constitution of a drying oil gel. T. F. Bradley and H. F. Pfann. bibliog il diags Ind & Eng Chem 32:694-7 My '40
Oiticica vs. tung. Business Week p32-3 Je 1 '40

OKEECHOBEE, Lake
Larger levees. il map Eng N 124:636-9 My 9 '40
Lock gate and levees on Lake Okeechobee. il Eng N 124:465 Mr 28 '40

OKLAHOMA
Oklahoma business men fight waste in government. J. G. Hill. il Am Business 10:26-8+ Mr '40

See also
Paleontology—Oklahoma
Petroleum—Oklahoma
Petroleum industry and trade—Oklahoma
Water, Underground—Oklahoma

Industries and resources

Oklahoma, an important industrial center of the Southwest. il map Manuf Rec Extra no 109:179-86 S '40
Oklahoma inquires about new industries; Industrial opportunity tour. J. G. Hill. Manuf Rec 108:31 D '39

OKLAHOMA CITY

Sanitary affairs

Oklahoma City and Buffalo get stickers; campaigns by master plumbers result in health-protecting plumbing laws. Dom Eng 155:54 Mr '40

OKLAHOMA natural gas company
Oklahoma natural gas company; case study. il Gas Age 84:22-76 D 21 '39

OLD age
Constructive proposals regarding older workers; job re-allocation department. G. Lawton. Personnel J 18:300-8 F '40
Geriatrics; newest medical specialty deals with the aging. B. M. Newman. Sci Am 163:190-2 O '40
Physiological alterations as the cause of senile debility and senile mortality. H. S. Simms. Science 91:7-9 Ja 5 '40

See also
Age
Pensions, Industrial

OLD age homes
Care of aged in old people's homes. Monthly Labor R 50:1043-61 My '40

OLD age pensions
Amended social security program in effect. Nat City Bank p6-7 Ja '40
Behind your social security card; four kinds of benefits, how they are computed and who gets them. G. B. Bryant, jr. Barron's 20:8 Mr 25 '40

OLD age pensions—*Continued*
Charlie and the banker; how social security's presumptive need theory is working out. G. B. Robinson. Annalist 55:819-20+, 885 Je 13, 27 '40; Discussion. W. R. Williamson. 56:302+ S 5 '40; Reply. 56:531-2+ O 24 '40
College plans for retirement income. R. B. Robbins. 253p $2.75 Columbia univ. press '40
Effect of Social security act on company pensions. Monthly Labor R 50:642-7 Mr '40
Effects of social security legislation on company operating costs (with particular reference to pension plans). H. W. Forster; P. F. Boyer. 23p Am. management assn, 330 W. 42d st, New York '40
Factors in pension plan for lawyers, H. B. Thompson. Nat Underw (Life ed) 44:5 Ag 16 '40
Old-age security; social and financial trends. M. Grant. 261p $2.50 Committee on social security, Social science research council, Washington '39
Olson pension plan of $50 monthly announced in California. East Underw 40:8 N 17 '39
Operations of the Protestant Episcopal church pension fund in 1939. Comm & Fin Chr 150: 51 Ja 6 '40
Out of the frying pan. W. Moore and M. Moore. 185p $1.50 De Vorss & co, Los Angeles '39
Pension plans of Protestant churches. Monthly Labor R 50:647-9 Mr '40
Protestant Episcopal church fund paying $1,347,000 a year; has $24,000,000 in force. East Underw 41:6 F 9 '40
Serving the needy aged of Illinois. J. C. Weigel. 115p Illinois. Dept. of public welfare, Springfield '38
Social security act. M. Van de Water. Science 91:sup9-10 F 16 '40
Social security board takes steps to contact potential beneficiaries in 1940. Comm & Fin Chr 149:4105-6 D 30 '39
Social security in the United States, 1939; a record of the twelfth National conference on social security, New York city, April 14 and 15, 1939. 235p $2 Am. assn. for social security, New York '39
Study of public old age pensions made by Northwestern national life insurance co. Comm & Fin Chr 150:3906 Je 22 '40

See also
Insurance, Social
Pensions, Industrial
Railroads—Pensions
Social security act 1935

Finance

Defence costs may put brake on new public pension schemes. Ins Field (Life ed) 69:5 Je 21 '40; Weekly Underw 142:1433+ Je 15 '40
House sustains President Roosevelt's veto of bill to repay Ohio for money withheld by Social security board. Comm & Fin Chr 150:620 Ja 27 '40
Our weak financial condition for war and its bearing on the old-age reserve problem. G. B. Robinson. Annalist 54:660 N 23 '39
Relief vs. pensions; Colorado business fighting proposed tax on intangibles, sponsored by Annuity league. Business Week p40-1 Je 29 '40

Townsend plan

Highways to prosperity. S. Downey. 158p pa 25c Townsend national weekly, Chicago '40

Great Britain

Aid to pensioners; government's new bill. Economist 138:328 F 24 '40
British old-age and widows' pensions act, 1940. Monthly Labor R 51:70 Jl '40
Changes in British pensions system announced. Economist 138:141 Ja 27 '40

Sweden

Old-age and invalidity pensions and other benefits in Sweden in 1938. Monthly Labor R 51:72-3 Jl '40
Old age in Sweden; a program of social security. H. F. Hohman. 305p bibliog(p281-305) Federal security agency, Social security board, Washington, D.C. '40

OLD Colony railroad
Service ordered restored. Comm & Fin Chr 149:3567 D 2 '39

OLD spice. See Shulton, incorporated

OLDER workers. See Age; Old age

OLDS, Irving Sands, 1887-
Meet Mr Olds; U.S. Steel's new chairman. A. St John. por Barron's 20:9 Jl 29 '40
Sketch. por Iron Age 145:72 Je 13 '40; Steel 106:23 Je 10 '40

OLEAN, New York

Water supply

Experiences with the Palmer filter agitator. J. E. Rehler. Am Water Works Assn J 32:1381-4 Ag '40

OLEANOLIC acid
Saponins and sapogenins; the interrelationship of echinocystic acid and oleanolic acid. D. Todd, G. H. Harris and C. R. Nollier. Am Chem Soc J 62:1624-5 Je '40

OLEFINS
Action of Grignard reagents on heavy metal salts; the formation of olefins in the reaction with silver bromide. J. H. Gardner and C. J. Snyder. Am Chem Soc J 62:2879-80 O '40
Addition of N-haloamides to olefins. M. S. Kharasch and H. M. Priestley. Am Chem Soc J 61:3425-32 D '39
Alkylation plant takes olefins left by selective polymerization. A. H. Garrison. flow diag il Nat Pet N 32:R212-13, R216+ Je 12 '40
Catalytic alkylation of isobutane with gaseous olefins. F. H. Blunck and D. R. Carmody. bibliog Ind & Eng Chem 32:328-30 Mr '40
Catalytic dehydrogenation of gaseous paraffins. A. V. Grosse and V. N. Ipatieff. bibliog il Ind & Eng Chem 32:268-72 F '40
Catalytic dehydrogenation of monoolefins to diolefins; source materials for synthetic rubber and resins. A. V. Grosse, J. C. Morrell and J. M. Mavity. bibliog diag Ind & Eng Chem 32:309-11 Mr '40
Catalytic dehydrogenation process (gaseous paraffins to olefins). A. V. Grosse and others. flow diags il Am Pet Inst Proc 20(3): 110-20 '39; Same. Oil & Gas J 38:53, 55-6 N 23 '39; Same cond. Nat Pet N 31:R520-1 N 29 '39
Chlorinations with sulfuryl chloride; the peroxide-catalyzed reaction of sulfuryl chloride with ethylenic compounds. M. S. Kharasch and H. C. Brown. Am Chem Soc J 61:3432-4 D '39
Factors influencing polysulfone formation. M. S. Kharasch and E. Sternfeld. Am Chem Soc J 62:2559-60 S '40
Halogenation of hydrocarbons; chlorination of olefins containing an unsaturated tertiary carbon atom. J. Burgin and others. bibliog il diag Ind & Eng Chem 31:1413-19 N '39
Halogenation of hydrocarbons; substitution of chlorine and bromine into straight-chain olefins. H. P. A. Groll and G. Hearne. bibliog diags Ind & Eng Chem 31:1530-7 D '39
Mechanism of elimination reactions; kinetics of olefin elimination from ethyl, *iso*propyl, *tert.*-butyl and α- and β-phenylethyl bromides in acidic and in alkaline alcoholic solution; effects due to, and factors influencing, the two mechanisms of elimination E. D. Hughes and others. Chem Soc J p899-912 Jl '40
Partial reduction of acetylenes to olefins using an iron catalyst. A. F. Thompson, jr. and S. B. Wyatt. Am Chem Soc J 62: 2555-6 S '40
Restricted rotation in aryl olefins; preparation and resolution of β-chloro-β-(2,4,6-trimethyl-3-bromophenyl)-α-methylacrylic acid. R. Adams and M. W. Miller. Am Chem Soc J 62:53-6 Ja '40
Thermal alkylation and neohexane. G. G. Oberfell and F. E. Frey. bibliog il diag Am Pet Inst Proc 20(3):78-88 '39; Same. Oil & Gas J 38:50-1 N 23; 70, 73-4+ N 30 '39; Same cond. Nat Pet N 31:R502-3+ N 29 '39
Thermodynamic properties of paraffins and olefins. R. H. Ewell. bibliog Ind & Eng Chem 32:778-83 Je '40

OLEFINS—*Continued*
What you can use; absorbents, catalysts, reagents, etc. for olefins. Oil Paint & Drug Rep 137:44 Ja 1; 56 Ja 8 '40

See also
Ethylene
Propylene

OLEIC acid
Action of lead tetraacetate upon hydroxylated fat acids and related compounds; hydroxylated oleic acid, ethyl oleate and oleyl alcohol. J. T. Scanlan and D. Swern. bibliog Am Chem Soc J 62:2305-9 S '40

Antioxidants and the autoxidation of fats; autoxidation of oleic acid, methyl oleate, oleyl alcohol, and *cis*-9-octadecene. F. E. Deatherage and H. A. Mattill. bibliog diag Ind & Eng Chem 31:1425-31 N '39

Mineral oil as a wool lubricant; method for promoting the removal of mineral oil from wool by emulsification. J. B. Speakman and T. S. Wang. Soc Dyers & Col J 56:259-61 Je '40; Abstract. Textile Col 62:689-90 O '40

Mixed unsaturated glycerides of liquid seed fats; some non-drying oils. B. G. Gunde and T. P. Hilditch. Soc Chem Ind J 59: 47-53 Mr '40

Sulfonated arylstearic acids; wetting properties of the sodium salts. A. J. Stirton, R. F. Peterson and P. H. Groggins. bibliog Ind & Eng Chem 32:1136-7 Ag '40

What you can use; catalysts and solvents. Oil Paint & Drug Rep 137:56 Ja 8 '40

OLEIN
What you can use; catalysts and solvents. Oil Paint & Drug Rep 137:56 Ja 8 '40

OLEINS
Reinheitsprüfung von fettsäuren und untersuchung von oleinen; adsorptionstrennungen auf dem fettgebiet. H. P. Kaufmann. Angew Chemie 53:98-9 Mr 2 '40

OLEOMARGARINE
Margarine and Georgia. T. H. Whitehead. maps Univ of Georgia Bul v 40, no 4b:1-42 bibliog(p41-2) '40

Margarin manufacturing operations in November, 1938 and 1939. Oil Paint & Drug Rep 137:37 Ja 29 '40 [cont monthly]

Margarin state taxes called trade barrier. Oil Paint & Drug Rep 137:5+ Mr 25 '40

Oleo-butter confab; dairymen and cotton growers argue about the margarine tax. Business Week p43-5 Ap 6 '40

Oleomargarine defined at Food standards committee meeting. Food Ind 12:78 Mr '40

Standard of identity proposed. Oil Paint & Drug Rep 137:5+ F 5 '40

What you can use; materials for processing. Oil Paint & Drug Rep 137:56 Ja 8; 50 Ja 15 '40

OLEORESINS. See Gums and resins

OLEUM. See Sulfuric acid—Fuming acid

OLEYL alcohol
Action of lead tetraacetate upon hydroxylated fat acids and related compounds; hydroxylated oleic acid, ethyl oleate and oleyl alcohol. J. T. Scanlan and D. Swern. bibliog Am Chem Soc J 62:2305-9 S '40

Antioxidants and the autoxidation of fats; autoxidation of oleic acid, methyl oleate, oleyl alcohol, and *cis*-9-octadecene. F. E. Deatherage and H. A. Mattill. bibliog diag Ind & Eng Chem 31:1425-31 N '39

OLIGOSACCHARIDE acetates
Synthesis of certain oligosaccharide acetates in the mannose series. D. D. Reynolds and W. L. Evans. bibliog Am Chem Soc J 62: 66-9 Ja '40

OLIVE oil
Corn-olive oil; new infused product. Business Week p45-6 N 16 '40

Drying oils and resins; reactions involving the carbon-to-carbon unsaturation during the thermal treatment of some esters of unsaturated C_{18} fatty acids. T. F. Bradley and W. B. Johnston. bibliog il diag Ind & Eng Chem 32:802-9 Je '40

Makes olive oil from corn; infusion of olive meat in colloidal form into corn oil. Food Ind 12:49 N '40

Mixed unsaturated glycerides of liquid seed fats; some non-drying oils. B. G. Gunde and T. P. Hilditch. Soc Chem Ind J 59:47-53 Mr '40

Oxidation of oil on dyed and undyed tops. J. B. Speakman and C. N. K. Murthy. bibliog il Soc Dyers & Col J 56:252-8 Je '40

Specification for a textile oil. W. Garner. bibliog diag Soc Dyers & Col J 56:333-43 Ag '40

What you can use; materials for processing. Oil Paint & Drug Rep 137:50 Ja 15; 30B Ja 22 '40

OLIVES
Olives and olive products; production and trade. M. Costa. 223p bibliog(p218-23) 19 maps pa $1.30 International inst. of agriculture, Villa Umberto 1, Rome '40

OLIVINE
Review of four years of research on refractory properties of Pacific Northwest olivine. H. Wilson and K. G. Skinner. Am Cer Soc J 23:136-8 My '40

OLSON, Culbert Levy, 1876-
Portrait. Business Week p38 D 16 '39

OMAHA, Nebraska
Family income and expenditure in selected urban communities of the west central-Rocky Mountain region, 1935-36; v.2, Family expenditure. A. D. H. Kaplan, F. M. Williams and L. A. Epstein. map U S Bur Labor Statistics Bul 646:1-313 '40

Producing good will on a quantity basis; Knights of Ak-Sar-Ben, Omaha's unique organization of civic boosters. C. R. Smith. il Nation's Business 28:98-105 Mr '40

OMNIBUS corporation
Motor coach way; bus operation, New York and Chicago make $2,937,000. il maps Fortune 22:61-7+ Jl '40

Stocks in the low-price range; thumbnail appraisal. Mag of Wall St 65:358 D 30 '39

ONAZOTE
Stabilisation of a thin sheet by a continuous supporting medium. G. S. Gough, C. F. Elam and N. A. de Bruyne. il diag Roy Aeronautical Soc J 44:29-42 Ja '40

ONIONS
How toxic is arsenate of lead? effect on humans, algae and bacteria, fungi, seeds, onions, etc. I. D. Cardiff. bibliog J Ind Hygiene 22:333-46 O '40

Onions, 1936-1939. Survey of Cur Business 1940 Sup p104 [supplemented in monthly numbers]

ONSAGER'S theory
Dielectric constants of polar liquids. J. N. Wilson. bibliog Chem R 25:377-406 D '39

ONTARIO

See also
Geology—Ontario
Gold mines and mining—Ontario
Mines and mineral resources—Ontario

Antiquities
Lawson prehistoric village site, Middlesex county, Ontario. W. J. Wintemberg. 104p, 18pl bibliog(p60-4) pa 25c Canada. Dept. of mines and resources, Ottawa '39

Hydroelectric power commission
Annual report, 32d. Electrician 125:85 Ag 16 '40; Elec R (Lond) 127:146 Ag 23 '40

Hydro-electric power in Ontario; report, year ended Oct. 31, 1939. Engineering 150:126 Ag 16 '40

ONTARIO good roads association
Annual meeting, 38th, Toronto, Feb. 21-22. Can Eng R & B 78:13-17+ Mr '40

ONYX marble
Onyx marble and travertine. O. Bowles. rev ed U S Bur Mines Information Circ 675R: 1-11 '40

OPACIFICATION

See also
Glass—Opacification

OPACITY
Development of opacity in superopaque enamels. B. W. King, jr. and A. I. Andrews. il diag Am Cer Soc J 23:228-32 Ag '40
Effect of particle shape of white pigments on opacity; acicular zinc sulfide in the form of wurtzite. H. A. Depew and A. C. Elde. bibliog il diag Ind & Eng Chem 32:537-40 Ap '40
Effect of particle size and index of refraction on reflectance. B. W. King, jr. bibliog diag Am Cer Soc J 23:221-5 Ag '40
History of mill-addition opacifiers in vitreous enameling. H. D. Prior. bibliog Am Cer Soc Bul 19:379-83 O '40
Relation of particle size and characteristics of light reflected from porcelain enamel surfaces. C. H. Zwermann and A. I. Andrews. bibliog il Am Cer Soc J 23:93-102 Ap '40

OPAL glass. See Glass, Opal

OPELOUSAS, Louisiana
Filtration and softening plant and swimming pool built by WPA. il Pub Works 71:17-18 Mr '40

OPEN and closed shop
Closed shop statistics; survey by government. Business Week p47 N 11 '39
Closed shop, the strangler. W. Williams. il Factory Management 98:36-9 Ap '40
New open shop front; Los Angeles employers. Business Week p38-9 Je 1 '40
Open shop under fire; La Follette inquiry. Business Week p26-7 Ja 27 '40
Picket lines in Reno. Business Week p41 Je 29 '40

OPEN hearth furnaces
All-basic open hearth. J. H. Chesters. il Iron Age 146:35-7 Ag 15; 39-41 Ag 22 '40
Analysis of new industrial gas applications. G. M. Parker. il diags Gas Age 86:20-3+ Jl 4 '40
Blaw-Knox bucket designed especially for open hearth service. il Blast F & Steel Pl 28:1006-7 O '40
Effect of molten aluminum on various refractory brick. H. O. Burrows. il Am Cer Soc J 23:125-33 My '40
Openhearth furnace and its auxiliaries. G. D. Tranter. il Metal Prog 37:34-8 Ja '40
Open hearth furnace design; abstract. W. C. Buell, jr. Iron Age 146:40-1+ O 3 '40
Present and future in open hearth steel making. J. O. Griggs. il diags Blast F & Steel Pl 28:879-84, 981-6+ S-O '40
Rippendecken für Siemens-Martin-oefen. R. Klesper. diags Stahl & Eisen 60:161-2 F 22 '40
Untersuchung von Siemens-Martin-oefen zur verbesserung ihrer bauart. F. Boettcher. diags Stahl & Eisen 59:1229-32 N 9 '39

Charging
Sulphur control in the basic open hearth. H. J. Sweeney. il Blast F & Steel Pl 28:391-3 Ap '40

Control
Simple open-hearth control. R. Trautschold. il plan Steel 106:44+ Ap 1 '40

Fuel
Pulverised coal for steel furnaces. Engineer 169:380 Ap 19 '40
Vorversuche zum betrieb von Siemens-Martin-oefen mit gichtgasbeheizung unter verwendung von sauerstoffreicher luft. G. Bulle. diags Stahl & Eisen 60:201-6; Discussion. 206 Mr 7 '40

Lining
Construction and operation of basic open hearth roofs; abstract. H. S. Robertson. diag Iron Age 145:52-4 My 2 '40
Expansion of various refractories. A. M. Morton. il Blast F & Steel Pl 28:665-6 Jl '40
First report on refractory materials; summary. Iron & Steel Inst J 139:651-2; Discussion. 653-9, 663-6 no 1 '39
Five years of progress in steelworks refractories. J. H. Chesters. bibliog Blast F & Steel Pl 28:1028-9, 1119 O-N '40 (to be cont)
Open hearth conference, Pittsburgh, April 24-26. Steel 106:50, 52 My 6 '40
Open hearth men exchange views about service of refractories. Brick & Clay Rec 96:54-6+ My '40
Refractories in steelworks; composite of abstracts. Metals & Alloys 11:MA186+ Ap '40
Refractories in the open hearth furnace of 1939. A. M. Morton. il Blast F & Steel Pl 28:47-9 Ja '40
Special refractories in the open hearth. L. A. Smith. Blast F & Steel Pl 28:487, 490+ My '40
Trends in refractories for the basic open-hearth furnace. R. P. Heuer. bibliog il diags Metals & Alloys 11:95-8, 152-5 Ap-My '40

OPEN hearth process
As it was in 1915 and as it is in 1940. F. L. Toy. Metal Prog 37:299 Mr '40
Betriebswirtschaftliche massnahmen zur leistungssteigerung in der eisenhüttenindustrie; beispiele aus Siemens-Martin werk, walzwerk, hammerwerk, drahtzieherei, u.s.w. F. Weichselmann. Stahl & Eisen 60:169-73 F 29 '40
Carbon determination method. H. K. Work and H. T. Clark. il diags Steel 106:62+ F 5 '40
Control of sulphur in basic open hearth. T. L. Joseph and F. W. Scott. il diag Iron Age 144:34-7 N 23; 30-4 N 30; 49-53 D 7 '39
Hot metal requirements for today's open hearth; abstract. L. R. Berner. Iron Age 145:55-6 My 2 '40
Local sections of open hearth committee of A.I.M.E. do much to improve practice. Blast F & Steel Pl 28:381+ Ap '40
Loss of manganese in open hearth. P. Bardenheuer and G. Henke. Iron Age 145:67 Mr 7 '40
Measuring open-hearth bath temperatures. L. O. Sordahl and R. B. Sosman. il diags Steel 106:44-7 My 20 '40
Neuerungen im amerikanischen Siemens-Martin-betrieb. F. Eisermann. Stahl & Eisen 60:15-16 Ja 4 '40
Open-hearth and blast furnace conferences, American institute of mining and metallurgical engineers; program. Steel 106:67-8, 70 Ap 15 '40; Blast F & Steel Pl 28:370-4+ Ap '40; Metals & Alloys 11:A18+ Ap '40
Open hearth conference, Pittsburgh, April 24-26. Steel 106:50, 52+ My 6 '40
Openhearth operators discuss advances in steel making methods; report of open-hearth, blast furnace and raw material conference. M. W. Lightner. il Metal Prog 37: 647-52 Je '40
Open hearth practice notably improved in 1939. C. R. Fon Dersmith. il Blast F & Steel Pl 28:37-9 Ja '40
Open hearth slag control; abstract. C. H. Herty, jr. Steel 106:56, 58 F 26 '40
Open-hearth slag control; composite of abstracts. Metals & Alloys 11:MA190-1 Ap '40
Open-hearth trends. W. J. Reagan. il Steel 107:62, 65+ Jl 22; 58-9, 62+ Jl 29 '40
Operations on the pit side of a modern open-hearth. G. D. Tranter. il Metal Prog 38: 49-53 Jl '40
Operators debate open hearth problems; 23d convention of Open hearth committee, Pittsburgh. Iron Age 145:51-6 My 2 '40
Pouring practice. E. H. Hollenback. il Steel 106:60, 68-9 Ap 29 '40
Present and future in open hearth steel making. J. O. Griggs. Blast F & Steel Pl 28:981-6+ O '40
Refining of metal in the basic openhearth furnace; the influence of fluorspar on the process. W. B. Lawrie. bibliog Iron & Steel Inst J 139:257-80 no 1 '39; Same. il Blast F & Steel Pl 27:675-9, 943-6, 1043-5 Jl, S-O '39; Discussion. Iron & Steel Inst J 139:281-5 no 1 '39
Rimming steel from open hearth furnaces. J. S. Lewis and R. S. Rolfe. il Blast F & Steel Pl 27:1223-5 D '39

OPEN hearth process—*Continued*
Slag control; obtaining desired quality in low-carbon rimming steel for strip. J. B. Malloy. Steel 105:48-51 D 25 '39
Slag inclusions and acid open-hearth refining of high-carbon steel. H. Styri. Iron & Steel Inst J 139:287-96 no 1 '39
Steel rails in the U. S.; a review of developments. H. H. Morgan. il Metal Prog 38:36-8 Jl '40
Sulphur control in the basic open hearth. H. J. Sweeney. Blast F & Steel Pl 28:391-4+ Ap '40
Theory and practice of basic open hearth slag control. F. M. Washburn and W. O. Philbrook. il diag Iron Age 145:21-5 F 22; 31-5 F 29; 58-62 Mr 7; 27-30 Mr 14 '40
Treatment of open-hearth steels with a material known as Grainal. A. H. Allen. Steel 106:35-6 Ap 22 '40
Vorversuche zum betrieb von Siemens-Martinoefen mit gichtgasbeheizung unter verwendung von sauerstoffreicher luft. G. Bulle. diags Stahl & Eisen 60:201-6; Discussion. 206 Mr 7 '40
Wide spreads should be allowed for open-hearth steels. Steel 107:47 Jl 1 '40

See also
Open hearth furnaces

Bibliography
Symposium on steelmaking (acid and basic open-hearth practice). 609p bibliog(p545-609) 10s Iron and steel inst, London '38

OPEN pit mining. See Mining methods—Stripping operations

OPERATING rooms. See Hospitals—Operating rooms

OPHTHALMOLOGY and otolaryngology, American academy of. See American academy of ophthalmology and otolaryngology

OPIUM
Trail of opium, the eleventh plague. M. L. Goldsmith. 286p $3.75 Ryerson press, Toronto '39
What to do with orders for smoking opium tin. T. J. Gorman. il Sheet Metal Worker 31:37-8 S '40

OPPENHEIMER-PHILLIPS process
Oppenheimer-Phillips process. G. M. Volkoff. bibliog Phys R 57:866-76 My 15 '40

OPPORTUNITY
Fortune survey; opportunity; your father's, your own, your son's. Fortune 21:133-4 F '40

See also
Business—Opportunities

OPTICAL dispersion. See Dispersion of rays

OPTICAL glass. See Glass, Optical

OPTICAL illusions
How big does the moon look? why it seems larger near horizon. H. N. Russell. Sci Am 163:194-5 O '40

OPTICAL instruments
American apparatus, instruments, and instrumentation; optical instruments. R. H. Müller. il Ind & Eng Chem Anal ed 12:591-602 O 15 '40
Apparatus for a long optical path in a restricted space. F. T. Rogers, jr. diag Opt Soc Am J 29:479 N '39
Bausch & Lomb. il diags Fortune 22:76-80+ O '40
Bausch & Lomb and our defense. Paper Tr J 111:48 O 24 '40
Experiment on Wien's energy distribution law and optical pyrometry. D. C. Stockbarger. diag Opt Soc Am J 30:224-5 My '40
Geometry of optical indicators. K. J. DeJuhasz. diags Franklin Inst J 229:53-80 Ja '40
Method for the measurement of flatness of polished surfaces. C. Tuttle and R. Cartwright. il diag Opt Soc Am J 30:348-50 Ag '40
Personalities in science; E. D. Tillyer. Sci Am 162:3 Ja '40
Prism and the theory of optical resolution. B. P. Ramsay, O. T. Koppius and E. L. Cleveland. bibliog diags Opt Soc Am J 30: 439-44 S '40

See also
Densitometers
Glass, Optical
Interferometers
Lenses
Measuring instruments, Optical
Microscope and microscopy
Monochromators
Photometers
Refractometers
Spectrograph
Spectrometers
Stroboscopic instruments
Surveying instruments
Telescope

Manufacture
New parts plant; efficient layout for handling large number of small units; Spencer lens co. il diags Steel 105:49, 52, 77-8 N 27 '39
Plating flexibility; finishing department of Spencer lens co. il layout Steel 106:57-8, 60 Ja 29 '40
Spencer lens company; plant at Buffalo for manufacture of precision parts for optical instruments. il Factory Management 98: B48-B51 Ap '40

Patents
Bausch & Lomb indictment. Ind & Eng Chem News ed 18:311 Ap 10 '40; Same abr. Comm & Fin Chr 150:2248 Ap 6 '40

OPTICAL measurements
Errors of testing and a new method for surveying optical surfaces and systems. R. Platzeck and E. Gaviola. il diags Opt Soc Am J 29:484-500 N '39
New method for testing Cassegrain mirrors. E. Gaviola. diag Opt Soc Am J 29:480-3 N '39

OPTICAL methods
Symposium on optical methods for study of molecular structure. B. E. Warren and others. bibliog il diags Opt Soc Am J 30:369-404 S '40
Vibratory stresses; temperature, impact and speed effects by optical methods; superposed turbines. F. T. Hague. diag Product Eng 11.174-5 Ap '40

OPTICAL properties
Cyanamide, dicyandiamide, and melamine; optical and crystallographic properties. T. G. Rochow and others. il Ind & Eng Chem 32:1187-8 S '40
Identification of alcohols by means of the optical properties of the esters of carbanilic acid. B. T. Dewey and N. F. Witt. Ind & Eng Chem Anal ed 12:459-60 Ag 15 '40
Investigation of the fundamental scattering and absorption coefficients of dyed handsheets. W. J. Foote. bibliog Paper Tr J 109: 31-8 D 21 '39
Investigation of thin evaporated silver films on glass. J. Strong and B. Dibble. diag Opt Soc Am J 30:431-8 S '40
Observations on the dark current of a willemite crystal. R. C. Herman and R. Hofstadter. Phys R 57:936 My 15 '40
Optical and magnetic properties of a magnetite suspension. C. W. Heaps. Phys R 57: 528-31 Mr 15 '40
Optical and magnetic properties of magnetite suspensions; surface magnetization in ferromagnetic crystals. L. W. McKeehan. bibliog Phys R 57:1177-8 Je 15 '40
Optical constants of benzamide, its homologs, and some aliphatic amides. M. L. Willard and C. Maresh. bibliog Am Chem Soc J 62: 1253-7 My '40
Optical properties of colloidal suspensions in relation to the measurement of particle-size frequency. E. G. Richardson. il diag J Ap Phys 11:653-7 O '40
Optical properties of phenylthiourea derivatives. M. L. Willard and M. Z. Jones. Am Chem Soc J 62:2876-7 O '40
Photoelectric and optical properties of sodium and barium. R. J. Maurer. bibliog diags Phys R 57:653-8 Ap 1 '40
Reflectors used in highway signs and warning signals. G. A. Van Lear, jr. diags Opt Soc Am J 30:462-71 O '40

OPTICAL properties—*Continued*
Theory of the magnetite light shutter. W. C. Elmore. Phys R 57:842 My 1 '40
X-ray and optical properties of built-up films. S. Bernstein. bibliog il Am Chem Soc J 62:374-8 F '40

See also
Absorption of rays
Refractive index

OPTICAL pyrometers. See Pyrometers and pyrometry

OPTICAL rotation
Acid catalysis in non-aqueous solvents; the mutarotation of α-nitrocamphor in chlorobenzene solution. R. P. Bell and J. A. Sherred. Chem Soc J p1202-5 Ag '40
Alpha and beta methyl lyxosides, mannosides, gulosides, and heptosides of like configuration. H. S. Isbell and H. L. Frush. pls J Research Nat Bur Stand 24:125-51 bibliog(p151) F '40
Attempts to prepare optically active tervalent nitrogen compounds; syntheses of 1 : 9-phenylenecarbazole and derivatives. H. G. Dunlop and S. H. Tucker. Chem Soc J p1945-56 D '39
Influence of solvents and other factors on the rotation of optically active compounds; asymmetric solvent action. T. S. Patterson, A. H. Lamberton and C. Buchanan. Chem Soc J p1453-9 Ag '37; p290-3 Mr '40
Magnetic rotation of praseodymium, samarium, and europium chlorides in aqueous solution at 25°. C. M. Mason, J. W. Hickey and W. K. Wilson. diag Am Chem Soc J 62:95-9 Ja '40
Magneto-optic rotation; carbon disulfide and benzene solutions. C. E. Waring, H. Hyman and S. Steingiser. diag Am Chem Soc J 62:2028-31 Ag '40
Mutarotation and rotatory dispersion of derivatives of aldehydo-*d*-galacturonic acid. R. J. Dimler and K. P. Link. bibliog Am Chem Soc J 62:1216-19 My '40
Mutarotation of alpha-*d*-glucose in ethanol-water mixtures at 25°. H. H. Rowley. bibliog Am Chem Soc J 62:2563-5 S '40
Mutarotation of *d*-glucose in absolute methanol. H. H. Rowley and S. D. Bailey. bibliog Am Chem Soc J 62:2562-3 S '40
New method of resolving a racemic compound. G. M. Henderson and H. G. Rule. Chem Soc J p1568-73 O '39
Optical activation of acids, and a new resolution process depending on it. M. M. Jamison and E. E. Turner. Chem Soc J p264-76 Mr '40
Optical activity, circular dichroism, and absorption of crystalline nickel sulphate. L. R. Ingersoll and others. bibliog diags Phys R 57:1145-53 Je 15 '40
Optical activity dependent on the planar arrangement of the valencies of the 4-coordinated palladous atom. A. G. Lidstone and W. H. Mills. Chem Soc J p1754-9 N '39
Optical activity of α-bromopropionitrile. K. L. Berry and J. M. Sturtevant. Am Chem Soc J 61:3583-4 D '39
Optical rotation of aliphatic acid salts of triethylenediamine-cobaltic hydroxide; further evidence for ring structure in aliphatic series. J. P. McReynolds and J. R. Witmeyer. bibliog Am Chem Soc J 62:3148-50 N '40
Optical rotatory powers of some 4-substituted benzhydrylamines. G. R. Clemo, C. Gardner and R. Raper. Chem Soc J p1958-60 D '39
Optically active α,γ-diphenyl-α-carbomethoxy-γ-naphthylallene. E. P. Kohler and W. J. Whitcher. Am Chem Soc J 62:1489-90 Je '40
Optically active mono-substituted succinic acids and derivatives. M. Naps and I. B. Johns. bibliog Am Chem Soc J 62:2450-7 S '40
d- and *l*-α-phenylallyl alcohols and some of their reactions. D. I. Duveen and J. Kenyon. Chem Soc J p1697-1701 N '39
Polarisations and related data of optically active and racemic β-octanol. J. B. M. Coppock and F. R. Goss. Chem Soc J p1789-92 N '39
Preparation of certain optically active semicarbazides and a resolution of benzoin. A. J. Little, J. M'Lean and F. J. Wilson. Chem Soc J p336-8 Mr '40
Question of intramolecular asymmetric induction. A. McKenzie and A. D. Wood. Chem Soc J p1536-44 O '39
Resolution of β-naphthylmethylcarbinol. T. A. Collyer and J. Kenyon. Chem Soc J p676-9 My '40
Restricted rotation in aryl olefins; preparation and resolution of β-chloro-β-(2,4,6-trimethyl-3-bromophenyl)-α-methylacrylic acid. R. Adams and M. W. Miller. Am Chem Soc J 62:53-6 Ja '40
Restricted rotation in arylamines; preparation and resolution of N-succinyl-N-methylbromomesidine. R. Adams and L. J. Dankert. Am Chem Soc J 62:2191-3 Ag '40
Right- and left-handedness of quartz and its relation to elastic and other properties. K. S. Van Dyke. il diags Inst Radio Eng Proc 28:405-6 S '40
Solvent effects with optically active saturated hydrocarbons. A. W. H. Pryde and H. G. Rule. Chem Soc J p345-7 Mr '40
Stability toward racemization of optically active compounds, with especial reference to trivalent nitrogen compounds. J. F. Kincaid and F. C. Henriques, jr. bibliog Am Chem Soc J 62:1474-7 Je '40
Studies in optical superposition; *l*-menthyl esters of mucic and tetrahydroxyadipic acids. R. W. Lapsley, J. Robertson and T. S. Patterson. Chem Soc J p862-6 Jl '40
Theories of optical rotatory power. W. J. Kauzmann, J. E. Walter and H. Eyring. diags Chem R 26:339-407 bibliog(p406-7) Je '40

See also
Dispersion of rays
Walden inversion

OPTICAL society of America
Proceedings of the joint meeting of the Optical society of America with the American physical society and the Inter-society color council, New York, Feb. 21-24; abstracts of papers. Opt Soc Am J 30:265-74 Je '40
Proceedings of the twenty-fourth annual meeting; with abstracts of papers. Opt Soc Am J 30:82-92 F '40

OPTICAL trade
Patent trust alleged in optical industry. Oil Paint & Drug Rep 138:3 S 23 '40
United States export trade in optical goods during 1939. G. R. Donnelly. Comm Rep p499 Je 1 '40
What do you pay for eyeglasses? wholesalers who retail, and eye examiners who hide their fees and pocket rebates. Fortune 22: 103-4 O '40

See also
Bausch and Lomb optical company

OPTICIANS
Patient control; applied psychology for the optometrist. H. E. Pine. 64p pa $1 Professional press, Chicago '39

OPTICS
Introduction to electricity and optics. N. H. Frank. 398p $3.50 McGraw-Hill '40
Ives medalist for 1939; Dr August Herman Pfund. A. G. Worthing. Opt Soc Am J 30:179-81 bibliog(52 titles, p181) Ap '40
Photismi de lumine of Maurolycus; a chapter in late medieval optics; tr. from the Latin into English by H. Crew. 134p $3 Macmillan '40
Synthetic optical crystals. H. C. Kremers. bibliog il Ind & Eng Chem 32:1478-83 N '40

See also
Absorption of rays
Color
Dispersion of rays
Fluorescence
Interference (light)
Light
Luminescence
Photochemistry
Photoelasticity
Photometry
Polarization (light)
Radiation
Reflection (optics)
Refraction
Sight
Spectrum
Television
Visibility

OPTICS, Electron. See Electron optics

OPTICS, Geometrical
Computation of transmission factors of ultraviolet radiation through water. F. Benford. il diags Opt Soc Am J 30:133-5 Mr '40
Geometry of optical indicators. K. J. DeJuhasz. diags Franklin Inst J 229:53-80 Ja '40
Illumination from extended sources computed by the theory of the integrating sphere. F. Benford. il diags Opt Soc Am J 30:33-40 Ja '40
Normal systems with two caustic lines. M. Herzberger. Opt Soc Am J 30:307-8 Jl '40

OPTICS, Physiological
Aniseikonia. G. H. Gliddon. bibliog Opt Soc Am J 30:142-4 Ap '40
Comparative anatomical studies of the eye with especial reference to the photoreceptors. S. R. Detwiler. il diags Opt Soc Am J 30:42-50 F '40
Hue, saturation, and lightness of surface colors with chromatic illumination. D. B. Judd. Opt Soc Am J 30:2-32 bibliog (95 titles, p30-2) Ja '40; Same. J Research Nat Bur Stand 24:293-333 Mr '40
Induced size effect. K. N. Ogle. diags Opt Soc Am J 30:145-51 Ap '40
Koremetron: an instrument for measuring pupillary diameters. R. C. Jones. il Opt Soc Am J 29:531-4 D '39; Discussion. R. C. Herman. 30:316 Jl '40
Measurement of sight. L. H. Hardy. bibliog il diags Illum Eng 35:605-24 Jl '40
Modification of the human-eye potential by dark and light adaptation; abstract. W. R. Miles. Science 91:456 My 10 '40
Nerve messages in the fibers of the visual pathway. H. K. Hartline. bibliog il Opt Soc Am J 30:239-47 Je '40
Work and its illumination. C. E. Ferree and G. Rand. bibliog Personnel J 19:55-64, 93-8 Je, S '40

See also
After images
Eye
Optical illusions
Sight
Visibility

OPTIMISM
Fortune survey; future, personally, is bright. Fortune 21:133 F '40

OPTIONS. See Stock exchange—Options

ORANGE (color)
Acridine oranges. A. E. Karr. Textile Col 62:604-7+, 676-9, 763-7, 836-7, 852 bibliog(p 837, 852) S-D '40

ORANGE juice
From scratch to national distribution in 5 years: the story of Mission orange. A. J. P. Vandermyn. il Sales Management 47:46-8 O 20 '40
Physical and chemical properties of citrus fruit juices; abstract. E. Solarino. Food Ind 12:92-3 S '40
What you can use; reagents used in preparation of orange juice. Oil Paint & Drug Rep 137:39 F 12 '40

Analysis
Determination of air in citrus juices. H. J. Loeffler. il diag Ind & Eng Chem Anal ed 12:533-4 S 15 '40

ORANGES
Citrus selevision; machine-made national auction market for Florida oranges interests produce trade. Business Week p28+ Ag 17 '40
Ill wind for citrus; California prepares to cash in on Florida freeze. Business Week p26 Mr 2 '40
Mountains of oranges: Sunkist's time-tested point-of-sale technique. R. Eller. il Sales Management 47:36-9 S 1 '40
Refrigeration of oranges. H. M. Hendrickson. diags Refrig Eng 40:1-8 sec 2 S '40

ORBITS
See also
Perturbation

ORCHARD heating. See Frost protection

ORCHARDS
Floodlights protect apple orchard. il Elec W 113:1740+ Je 1 '40

ORCHESTRA shells
Concrete brings the band stand up-to-date; illustrations. Concrete 48:20 My '40
Electric heat for Boston's new Concertorium. Heat & Ven 37:43 N '40

Lighting
Hatch memorial concert shell, Boston. il (cover) Illum Eng 35:651-2 S '40

ORCHESTRAS
America's symphony orchestras and how they are supported. M. Grant and H. S. Hettinger. 326p $3 Norton '40

ORCHIDS
Prices
Orchids for everybody. Business Week p14 Mr 23 '40

ORDERS
Monthly industry survey; comprehensive new measures of manufacturers' inventories, orders, and shipments. H. C. Grieves and W. C. Truppner. Survey of Cur Business 20:7-13 S '40 [tables cont monthly]
Salvaging the profit on small orders; special form. J. M. Robins. il Am Business 10:36 Ja '40
When the contractor signs an order. C. R. Rosenberg, jr. Heat & Ven 37:42 Mr '40

ORDERS, Unfilled
Company backlogs and profits; mid-year unfilled orders assure earnings for certain leaders. C. G. V. White. Mag of Wall St 66:570-1 Ag 24 '40

ORDNANCE
Flakes and cooling cracks in forgings; problem in ordnance. F. B. Foley. il Metals & Alloys 12:442-5 O '40
Foundry industry and army ordnance. N. F. Ramsey. il diags Foundry 68:28-9, 78+ Mr; 28-9, 98+ Ap '40
Modern machines promote precision in building mechanized ordnance; Rock Island arsenal. N. F. Ramsey. il Mach 45:760-5; 46: 235-9 Jl, D '39
Ordnance research removes a bottleneck in production. S. B. Ritchie. Metal Prog 38: 507-8 O '40
Trend in weapon types and design. E. McFarland. il Franklin Inst J 230:413-32 O '40

See also
Guns (ordnance)
Machine guns

ORDNANCE bureau. See United States—Ordnance, Bureau of (navy)

ORDNANCE department. See United States—Ordnance department

ORE analysis. See Metallurgical analysis

ORE bins
Sealing ore bins efficiently. diags Eng & Min J 141:55 Mr '40

ORE chutes
Garson gangway chute. K. E. Gustafson. diags Can Min J 61:275-82 My '40
Pneumatic handling in an asbestos mine; mechanical chute gates. L. Dikansky. diags Mech Handling 27:125-6 Je '40

ORE deposits
Albite and gold. D. Gallagher. bibliog (166 references) Econ Geol 35:698-736 S '40
Chromite deposits of Grant county, Oregon; a preliminary report. T. P. Thayer. il fold maps U S Geol S Bul 922-D:75-113, pl 12-20 '40
Contributions to a knowledge of the lead and zinc deposits of the Mississippi Valley region. E. S. Bastin, ed. diags maps 4 pls Geol Soc Special Pa no 24:1-156 bibliog (p 145-52) '39
Domestic sources of deficient minerals. D. F. Hewett. il Min Cong J 26:26-9 Ja '40
Equilibrium between vapor and liquid phases in the system CO_2—H_2O—K_2O—SiO_2. G. W. Morey and M. Fleischer. bibliog diag Geol Soc Bul 51:1035-57 Jl '40
Fields of the economic geologists widen and their technique improves. D. McLaughlin. il Min & Met 21:3-6 Ja '40
Genetic relations of gold deposits and igneous rocks in the Canadian shield. E. S. Moore. bibliog Econ Geol 35:127-39 Mr '40

ORE deposits—*Continued*

Geochemistry of quicksilver mineralization. R. M. Dreyer. bibliog il Econ Geol 35:17-48, 140-57 Ja-Mr '40; Discussion. J. J. Fahey, M. Fleischer and C. P. Ross. 35:465-70 My '40; Reply. 35:905-9 N '40

Geology and development of Mill Close mine, Derbyshire. J. G. Traill. bibliog diags map Econ Geol 34:851-89 D '39

Geology and ore deposits of northeastern New Mexico (exclusive of Colfax county). G. T. Harley. diags maps New Mexico School of Mines, State Bur of Mines and Mineral Resources Bul 15:1-102 bibliog(p17-18 '40 (pa 60c)

Gold deposits of the Paracale-Mambulao district. R. D. Gilbert. il map Eng & Min J 141:45-50 Je '40

Gold quartz veins of Grass valley, California. W. D. Johnston, jr. il diags maps U S Geol S Professional Pa 194:1-101, pl 1-39 '40

Iron deposits of the Steeprock Lake area; history, general and economic geology and chemical theories. M. W. Bartley. bibliog il map Can Min J 61:566-72 S '40

Magnetite and hematite veins in Triassic lavas of Nova Scotia. A. P. Hornor, jr. il Econ Geol 34:921-30 D '39

Magnetite in sulphide ores. G. M. Schwartz and A. C. Ronbeck. il diags Econ Geol 35: 585-610 bibliog(113 titles, p606-10) Ag '40

Manganese deposits at Philipsburg, Granite county, Montana. E. N. Goddard. diags map U S Geol S Bul 922-G:157-204, pl 26-34 '40

Manganese deposits in the Little Florida mountains, Luna county, New Mexico. S. G. Lasky. fold maps U S Geol S Bul 922-C:55-73 '40

Manganese in a thermal spring in west-central Utah. E. Callaghan and H. E. Thomas. bibliog il maps Econ Geol 34:905-20 D '39

Mining geology, 1939. H. Schmitt. Eng & Min J 141:77-9 bibliog(69 references, p79) F '40

Minor elements in sphalerite. R. E. Stoiber. bibliog Econ Geol 35:501-19 Je '40

Nature of the ore-forming fluid. L. C. Graton. bibliog Econ Geol 35:sup197-358 Mr '40 (pa 70c); Discussion. 35:772-85, 883-904 S-O '40

Openings due to movement along a curved or irregular fault plane. W. H. Newhouse. diags plans Econ Geol 35:445-64 My '40

Ore deposits at Camp Albion, Boulder county, Colorado. E. F. Wahlstrom. il maps Econ Geol 35:477-500 Je '40

Origin of the nelsonite dikes of Amherst county, Virginia. C. H. Moore, jr. bibliog il diag Econ Geol 35:629-45 Ag '40

Paragenesis in the Hollinger veins. M. R. Keys. il Econ Geol 35:611-28 Ag '40

Quicksilver deposits of the Bottle Creek district, Humboldt county, Nevada. R. J. Roberts. fold maps U S Geol S Bul 922-A: 1-29 '40

Quicksilver deposits of the Mount Daiblo district, Contra Costa county, California. C. P. Ross. fold maps U S Geol S Bul 922-B: 31-54 '40

Rock alteration in the Uchi gold area. J. D. Bateman. bibliog il map Econ Geol 35:382-404 My '40

Structure of ore districts in the continental framework. P. Billingsley and A. Locke. 51p pa 51c Am. inst. of mining & metallurgical engineers. New York '39

Temperature and depth in hypogene ore deposition. E. Y. Dougherty. Econ Geol 35: 188-91 Mr '40

Theory of mineral sequence in hypogene ore deposits. M. C. Bandy. il Econ Geol 35:359-81. 546-70 bibliog(51 titles, p568-70) My-Je '40; Discussion. L. H. Hart. 35:1014-18 D '40

Tungsten-bearing manganese deposit at Golconda, Nevada. P. F. Kerr. diags maps plan Geol Soc Bul 51:1359-89, pl 1-5 bibliog(p1388-9) S '40

Zinc and lead deposits of Shawangunk mountain, New York. A. I. Ingham. il map Econ Geol 35:751-60 S '40

Zonal mineralization and silicification in the Horseshoe and Sacramento districts, Colorado. R. D. Butler and Q. D. Singewald. bibliog il diag maps Econ Geol 35:793-838 N '40

See also

Copper ores
Geology
Gold ores
Iron ores
Lead ores
Manganese ores
Metasomatism
Mines and mineral resources
Silver ores
Tungsten ores

ORE docks

Low-cost ore loading; conveyor system to transfer iron ore from railroad cars to ore boats at Michipicoten Harbour. il plan Steel 107:64, 66+ S 16 '40

ORE handling

Continuous weighing permits accurate blending of ores to blast furnaces; vibratory feeder. J. A. Flint. il Steel 106:48, 51+ F 26 '40

L'installation de manutention des minerais de fer pour le chargement des navires à l'Ile de Chypre. il diags Génie Civil 116: 145-8 Mr 2 '40

Kennecott's Ray mines experiment with shaker conveyor. R. W. Thomas. il diag Min Cong J 26:62-3 Ap '40

Manufacture of pig-iron in America; handling equipment. W. A. Haven. diags Mech Handling 27:89-91 Ap '40

Mass handling of ore cars; new car dumper; Edgar Thomson works, Carnegie-Illinois steel corp. il Steel 106:45-6 Ja 22 '40

Mechanized loading aids these small operations. diags Eng & Min J 141:61-3 Ag '40

Ore and coke handling at Staveley coal and iron co. Mech Handling 27:93-4 Ap '40

Ore conveyor lighting in South Africa. il Mech Handling 27:204 S '40

Pneumatic conveyor for zinc ore. Comp Air M 44:6044 D '39

Stationary compressors supply air for braking ore trains; open-pit iron mine on the Mesabi range. C. E. McManus. il Comp Air M 45:6109 Mr '40

Truck haulage at the Mahnomen mine. W. H. Gallagher. il Min Cong J 25:28-30 N '39

See also

Ore chutes

ORE sampling

Centrifugal machine developed for dewatering moisture samples; Mesabi iron ore samples. G. E. Tucker. il diags Eng & Min J 141:56-7 Je '40

Dangers of careless sampling and assaying. B. W. Hill. Eng & Min J 141:38 O '40

Laboratory's part in strategic mineral projects; Reno experiment station of the United States Bureau of mines. E. S. Leaver. il Eng & Min J 141:33-5 My '40

Metal-mining practice; sampling of ore deposits. C. F. Jackson and J. H. Hedges. bibliog diags U S Bur Mines Bul 419:35-58 '40

Sampling the Picacho with drill and vacuum collector. L. W. Dupuy. il diags Eng & Min J 141:29-31 Ja '40

Some milling problems at the Raub Australian plant. E. C. Bitzer and C. B. Nines. il Eng & Min J 141:57-9 Jl '40

ORE testing

Facilities for testing Canadian ores; Bureau of mines installs sink and float pilot plant. Can Min J 61:647 O '40

Interpretation of sizing analyses. A. O. Gates. Eng & Min J 141:51-4 Je '40

Progress reports, Metallurgical division; ore-testing studies, 1938-39 (primarily ore-dressing). A. L. Engel and S. M. Shelton. flow sheets pl U S Bur Mines Rep of Invest 3484:1-34 '40

Progress reports, Metallurgical division; ore-testing studies; primarily precious metals. E. S. Leaver, J. A. Woolf and A. P. Towne. U S Bur Mines Rep of Invest 3515:1-76 '40

Roasting gold-silver sulphide ores; testing and experimental. M. W. von Bernewitz. bibliog Can Min J 61:651-7 O '40

ORE testing—*Continued*
Sifting mechanically through standard testing sieves. F. A. W. Davis and D. A. Deaderick. il diags Eng & Min J 141:58 S '40
Speeds thickening capacity tests. F. C. Bond. Eng & Min J 141:54 Ja '40

ORE treatment
Concentration of feldspathic waste from a titanium mine near Roseland, Va. D. I. Smith, R. G. O'Meara and T. N. McVay. Am Cer Soc J 23:339-41 N '40
Concentration of manganosiderite ore from Leadville, Colo. F. D. DeVaney and S. M. Shelton. U S Bur Mines Rep of Invest 3513:1-6 '40
Crushing and grinding practice, Tennessee copper co; abstract. J. F. Myers and F. M. Lewis. flow sheets Rock Prod 43:46-7, 48 Mr '40
Designing the small mill; with cost data. E. L. Sweeney. diags plans Eng & Min J 141:69-72 Ag '40
Differential density separation at Mascot, Tennessee; American Zinc's sink-and-float process. flow sheets il Eng & Min J 141: 35-9 Jl '40; Same. Min Cong J 26:21-6 Jl '40
Differential grinding of Alabama iron ores for gravity concentration. W. H. Coghill and P. H. Delano. bibliog U S Bur Mines Rep of Invest 3523:1-6 '40; Same cond. Eng & Min J 141:113-14 D '40
Die gruben des konsortiums Fortuna am Salzgitterer Höhenzug und die dort angewandten aufbereitungsverfahren. K. Kaup. il diags Stahl & Eisen 59:1169-74 O 26 '39
L'influence du mouvement du piston sur l'enrichissement des minerals par les cribles à secousses. P. Balsamo. Génie Civil 116: 55-6 Ja 20 '40
Interpretation of sizing analyses. A. O. Gates. Eng & Min J 141:51-4 Je '40
Investigations in ore dressing and metallurgy, January to June, 1938. 147p pa 50c Canada. Dept. of mines and resources, Ottawa '39
Iron-ore beneficiation, 1939. J. Rudolph. Eng & Min J 141:83-4 F '40
Metal-mining practice; ore dressing. C. F. Jackson and J. H. Hedges. bibliog flow sheets U S Bur Mines Bul 419:385-464 '40
Milling sessions featured the subject of grinding; American institute of mining and metallurgical engineers Min & Met 21:150 Mr '40
Mineral dressing, 1939. A. W. Fahrenwald. diag Eng & Min J 141:80-3+ F '40
Mining and milling methods and costs at Knob Hill mine, Republic, Wash. C. L. Cooper. flow sheet U S Bur Mines Information Circ 7123:1-29 '40
Mining and milling methods and costs at the Ash Peak mine of the Veta mines, inc., Duncan, Ariz. H. L. Lines. pls U S Bur Mines Information Circ 7119:1-26 '40
New Cornelia today; porphyry copper enterprise of Arizona. J. B. Hutti. flow sheet il Eng & Min J 141:45-8 S '40
Ore concentration and milling in 1939. E. W. Engelmann. il Min & Met 21:36-9 Ja '40
Principles of mineral dressing. A. M. Gaudin. 554p $5 McGraw-Hill '39
Progress in milling practice and equipment. A. W. Fahrenwald. il Min Cong J 26:17-22 Ja '40
Progress reports, Metallurgical division; annual report, fiscal year 1939. R. S. Dean. U S Bur Mines Rep of Invest 3480:61-72 '40
Progress reports, Metallurgical division; ore-dressing studies; properties of suspension mediums for float-and-sink concentration (corrected reprint). F. D. DeVaney and S. M. Shelton. pls U S Bur Mines Rep of Invest 3469-R:1-25 '40
Progress reports, Metallurgical division; ore-testing studies, 1938-39 (primarily ore-dressing). A. L. Engel and S. M. Shelton. flow sheets pl U S Bur Mines Rep of Invest 3484:1-34 '40
Progress reports, Metallurgical division; ore-testing studies; primarily precious metals. U. S. Leaver, J. A. Woolf and A. P. Towne. U S Bur Mines Rep of Invest 3515:1-76 '40
Short history and description of Reno mill. A. C. Norcross. flow sheet Can Min J 61: 442-3 Jl '40
Sink-and-float separation applied successfully on the Mesabi; ferrosilicon provides efficient medium. G. J. Holt. flow sheets il Eng & Min J 141:33-8 S '40; Same. Min Cong J 26:25-9, 64 S '40
Sixty years of development in ore dressing; with special attention to the last ten years. C. S. Parsons. il Can Min J 60:693-711 N '39
Some milling problems at the Raub Australian plant. E. C. Bitzer and C. B. Nines. flow sheet il Eng & Min J 141:33-8 Je; 57-9 Jl '40
Sullivan concentrator; the development of crushing and grinding practice. A. L. Irwin. flow sheets il plan Can Min J 61:493-508 Ag '40
Textbook of ore dressing. R. H. Richards, C. E. Locke and R. Schuhmann, jr. 3d ed rev 608p $5.50 McGraw-Hill '40
What you can use. Oil Paint & Drug Rep 137:30B Ja 22; 30 Ja 29; 56 F 5 '40

See also
Classifiers
Copper metallurgy
Crushing
Crushing machinery
Cyanide process
Electrometallurgy
Flotation process
Gold metallurgy
Iron metallurgy
Lead metallurgy
Metallurgical plants
Metallurgy
Separators
Sintering

OREGON

See also
Geology—Oregon
Labor laws and legislation—Oregon
Mines and mineral resources—Oregon
Paleobotany—Oregon

Politics and government
Politics on the West coast; land where third term means less than power or pensions. il maps Fortune 21:40-53 Mr '40

ORES
Polarizing comparison-microscope for use in petrographic measurements. G. T. Faust. pls U S Bur Mines Rep of Invest 3503:1-7 '40

See also
Copper ores
Geology
Gold ores
Iron ores
Lead ores
Manganese ores
Metallurgy
Metals
Mines and mineral resources
Ore deposits
Ore treatment
Tungsten ores
Zinc ores

Theft
Ore theft. T. A. Rickard. Eng & Min J 140: 37-9 D '39; 141:44-7 Ja '40

ORGANIC acids. See Acids, Organic

ORGANIC chemistry. See Chemistry, Organic

ORGANIC nitrogen institute
Institute formed. Oil Paint & Drug Rep 136:3 D 18 '39

ORGANIZATION
Administrative co-ordination. H. A. Hopf. Advanced Management 5:50-6+ Ap-Je '40
Principles of organization. J. D. Mooney and A. C. Reiley. 223p $3 Harper '39

ORGANIZATION in industry
Administrative organization in business and industry. L. A. Appley. Mech Eng 62:278-82 Ap '40
Democracy in management; how Williamson makes it work; all junior executives share in formulating general management policies and in administering them. W. L. McGrath and L. B. Murphy. Sales Management 47:18-20+ Ag 1 '40
Economical handling methods in war-time production; factors in works' production. Mech Handling 27:40-1+ F '40
Industrial organization and management. R. C. Davis. 636p bibliog(p623-6) $5 Harper '40
Managing a small plant. W. F. Dester. Factory Management 98:59-61 Ja '40

ORGANIZATION in industry—*Continued*
Sales development, a new technique; Market development department. L. Grupelli and J. Miskel. Chem Ind 46:693-4 Je '40

See also
Credit departments
Efficiency, Industrial
Employment departments
Employment management
Engineering departments
Factory management
Industrial management
Standards departments
Welding departments

ORGANOMAGNESIUM halides. See Grignard reagents

ORGANS
Artificial reverberation for electronic organ music. il Electronics 13:42+ Mr '40
Design for an electronic reed organ. F. D. Merrill, jr. il diags Electronics 13:42-5+ Ap '40
Electronic music. Electrician 123:314-15 S 29 '39
Electronic musical instruments and the development of the pipeless organ. G. T. Winch and A. M. Midgley. diags Inst E E J 86:517-41, pl 1-6 bibliog(59 references, p540-1); Discussion. 541-7 Je '40

ORIENTAL carpets. See Carpets, Oriental

ORIENTATION (chemistry)
Chlorination of phenyl ether and orientation in 4-chlorophenyl ether. R. Q. Brewster and G. Stevenson. bibliog Am Chem Soc J 62:3144-6 N '40
Coupling reactions of aminoquinolines with benzenediazonium chloride; a study of orientation in the quinoline ring. R. R. Renshaw, H. L. Friedman and F. J. Gajewski. bibliog Am Chem Soc J 61:3322-6 D '39
Orientation problems; 4:6-dinitro-*o*-toluidine. A. McGookin, S. R. Swift and E. Tittensor Soc Chem Ind J 59:92-4 My '40

ORIFICES
Capillary flowmeter with variable orifices. J. H. Bruun. diag Ind & Eng Chem Anal ed 11:655 D 15 '39
Charts solve orifice equations. H. S. Winnicki and R. Koch. Chem & Met Eng 47: 24 Ja '40
Flow meter accuracy governed by the piping layout, pressure tap location. L. K. Spink. il diags Heating-Piping 12:155-8 Mr '40
Free discharge of fluids through small circular orifices. H. L. Roy and N. K. Sen-Gupta. bibliog diag Ind & Eng Chem 32: 288-90 F '40
Installation and operation of orifice meters for industrial customers. M. J. Cereghino. il diags Am Gas J 153:13-18+ S '40
Investigation of the discharge and coefficients of small circular orifices. F. W. Medaugh and G. D. Johnson. diag Civil Eng 10:422-4 Jl '40
Measuring flows by the orifice method. diag Water Works & Sewerage 87:sup53 Ap '40

ORIGIN, Indication of
Canada; new mark of origin requirements for a few specified imported products suspended for 6 months. Comm Rep p1176-7 D 16 '39
Concept of origin of goods within industrial property law. J. L. Brown. Comm Rep p812 S 28 '40
Misleading origin of goods banned in Italy. J. L. Brown. Comm Rep p478 My 25 '40

ORNAMENTAL concrete. See Concrete, Ornamental

ORNAMENTAL design. See Design, Decorative

ORNAMENTAL glass. See Glass, Ornamental

ORNAMENTAL plastics. See Plastic materials, Decorative

ORNAMENTS (printing). See Printing—Design

ORNITHINE
Effects of certain salts on the dissociation of aspartic acid, arginine, and ornithine. A. C. Batchelder and C. L. A. Schmidt. bibliog J Phys Chem 44:893-909 O '40

ORNITHINE dihydrochloride
Thermal data; the heat capacities and entropies of guanidine carbonate, glutamic acid hydrochloride, ornithine dihydrochloride, *d*-lactic acid and *l*-lactic acid. H. M. Huffman, E. L. Ellis and H. Borsook. Am Chem Soc J 62:297-9 F '40

ORNITHODORUS coprophilus
Two new species of argasidae (acarina: ixodoidea). R. A. Cooley and G. M. Kohls. bibliog diags Pub Health Rep 55:925-33, pl 1 My 24 '40

ORNITHODORUS hermsi
Ornithodorus hermsi; feeding and molting habits in relation to the acquisition and transmission of relapsing fever spirochetes. G. E. Davis and M. E. Walker. Pub Health Rep 55:492-504 Mr 22 '40
Relapsing fever; data implicating ornithodorus hermsi as a vector in northern Idaho. C. B. Philip and G. E. Davis. Pub Health Rep 55:504-7 Mr 22 '40
Relapsing fever; ornithodoros hermsi a vector in Colorado. G. E. Davis. Pub Health Rep 54:2178-80 D 8 '39

ORNITHODORUS parkeri
Bacterium tularense; its persistence in the tissues of the argasid ticks ornithodoros turicata and O. parkeri. G. E. Davis. Pub Health Rep 55:676-80 Ap 19 '40
Burrowing owl as a host to the argasid tick, ornithodorus parkeri. W. L. Jellison. Pub Health Rep 55:206-8 F 2 '40

ORNITHODORUS turicata
Bacterium tularense; its persistence in the tissues of the argasid ticks ornithodoros turicata and O. parkeri. G. E. Davis. Pub Health Rep 55:676-80 Ap 19 '40
Rickettsia diaporica; its persistence in the tissues of ornithodoros turicata. G. E. Davis. Pub Health Rep 55:1862-4 O 11 '40

ORRERIES
First orreries in America. H. E. Gillingham. il diags Franklin Inst J 229:81-99 Ja '40

ORSAT apparatus
How to run an orsat. il diag Power 84:463-4 Jl '40

ORTHOGONAL functions. See Functions, Orthogonal

ORTHOPEDIA
Handbook of orthopaedic surgery. A. R. Shands, jr. and R. B. Raney. 2d ed 567p bibliog(p478-541) $4.25 C. V. Mosby co, St Louis '40
Orthopedic operations; indications, technique and end results. A. Steindler. 766p $9 C. C. Thomas, Springfield, Ill. '40

ORTHOPEDIC appliances
See also
Arch supports

ORTHOPTERA, Fossil
Fossil orthoptera ensifera. F. E. Zeuner. 2v 80pls bibliog(v. 1, p295-310) v 1 15s; v2 20s British museum (natural history), Dept. of geology, London '39

OSAGE orange
Osage orange pigments; degree of unsaturation and flavone nature. M. L. Wolfrom P. W. Morgan and F. L. Benton. Am Chem Soc J 62:1484-9 Je '40
Osage orange pigments; fractionation and oxidation. M. L. Wolfrom and A. S. Gregory. Am Chem Soc J 62:651-2 Mr '40

OSAJIN
Osage orange pigments; degree of unsaturation and flavone nature. M. L. Wolfrom, P. W. Morgan and F. L. Benton. Am Chem Soc J 62:1484-9 Je '40

OSCILLATIONS
Converting horizontal to vertical oscillation by simple mechanism. M. Goldberg. diags Mach 46:103-4 My '40
Experimental verification of the theory of oscillating airfoils. A. Silverstein and U. T. Joyner. bibliog il diag U S Nat Advisory Com for Aeronautics 1939:619-28 '40

See also
Vibration

OSCILLATIONS, Electric
Darstellung abklingender schwingungen als stehendes bild auf der kathodenstrahlröhre. J. Czech. il diag V D I 84:83-5 F 3 '40
Electric oscillations and surges in subdivided windings. R. Rüdenberg. diags J Ap Phys 11:665-80 O '40
Experimental investigation of resonance and electronic oscillations in magnetrons. J. S. McPetrie and L. H. Ford. bibliog Inst E E J 86:283-92 Mr '40
Natural oscillations of electrical cavity resonators. W. L. Barrow and W. W. Mieher. bibliog diags Inst Radio Eng Proc 28:184-91 Ap '40
Some effects of variable excitation on synchronous motor oscillation. J. G. Barry. bibliog Franklin Inst J 229:491-512 Ap '40
Ultra-high-frequency oscillography; electron optical spectral analysis of oscillations; Lissajous figures. H. E. Hollmann. bibliog il diags Inst Radio Eng Proc 28:213-19 My '40
Wavelength of oscillations along transmission lines and antennas. E. M. Siegel. Texas U. Engineering Research Ser no32:1-50 '40

OSCILLATORS
Band-operative oscillator. A. Bloch. diags Electronics 13:36+ Jl '40
Beam tubes as ultra-high frequency generators. R. King. diags Electronics 13:68-9 Ja '40
Build your own audio oscillator; precision instrument for the public address serviceman. R. P. Turner. il diags Radio N 24: 12-14+ O; 19-22+ N '40
Calibrated 40 m. electron coupled oscillator. H. Saborsky and P. V. Trice. il diags Radio N 24:28-9+ N '40
Calibration circuit for audio oscillators. T. J. Rehfisch and H. T. Bissmire. diag Electronics 13:48+ Je '40
Continuously variable oscillator for parallel line measurements at 100 to 1000 megacycles. R. King. il diag R Sci Instr 11:270-1 Ag '40
Cossor ganging oscillator. il Engineer 169: 472-3 My 24 '40
Current division in plane-electrode triodes. K. Spangenberg. bibliog Inst Radio Eng Proc 28:226-36 My '40
Cyclotron radiofrequency power unit. N. I. Adams, jr. and H. L. Schultz. diag R Sci Instr 11:303-5 O '40
Dielectric constant of water vapor at a frequency of 42 megacycles. A. C. Tregidga. diags Phys R 57:294-7 F 15 '40
Doubling in oscillators by using two tubes in parallel. H. W. Kline. il diag Radio N 23: 31+ Je '40
Electro-physics; review of progress, 1936-1939. N. Campbell. diags Inst E E J 86:218-19 F '40
Electronic generation of electromagnetic oscillations. E. U. Condon. diag J Ap Phys 11:502-6 Jl '40
Experimenters' super ultra short wave oscillator. J. Greenblatt. il diags Radio N 24: 21+ Jl '40
Frequency modulator. C. F. Sheaffer. diags Inst Radio Eng Proc 28:66-7 F '40
High accuracy heterodyne oscillators. T. Slonczewski. bibliog il Bell System Tech J 19:407-20 Jl '40
Improved phono oscillator. L. VanArsdale, jr. il diag Radio N 23:13+ My '40
Improvement in the wave form of the audio oscillator. C. S. Hoyt. il J Chem Educ 17: 376-7 Ag '40
Input capacitance of a triode oscillator. J. van Slooten. diags Wireless Eng 17:13-15 Ja '40
Magneto striction oscillators. D. C. Stenning. diag Wireless Eng 17:158-60 Ap '40
Magnetron oscillator with a compound field winding. L. H. Ford. diag Inst E E J 86: 293-6 Mr '40
Multi-frequency oscillator for audio testing; for making records used in tonal memory tests at Human engineering laboratory of Stevens institute of technology. J. Quinn. il diags Electronics 13:23-5 My '40
Negative feedback applied to oscillators. S. Sabaroff. bibliog diags Electronics 13:32-3 My '40
Parasitic electronic oscillations and coupling frequencies in a power tube. R. King. bibliog diag J Ap Phys 11:615-20 S '40
Power oscillators; circuit for surface hardening of steel. G. Babat and M. Losinsky. il diags Wireless Eng 17:16-18 Ja '40
Precision conductivity bridge assembly. W. F. Luder. bibliog diags Am Chem Soc J 62:89-95 Ja '40
Precision television synchronising-signal generator. A. C. Bedford and J. P. Smith. il diags RCA R 5:51-68 Jl '40
Reactance-tube frequency modulators. M. G. Crosby. diags RCA R 5:89-96 Jl '40
Simple audio oscillator. R. K. Wheeler. il diag Radio N 24:13+ S '40
Single-valve time-base circuit, adaptable for saw-tooth or rectangular waveforms. B. C. Fleming-Williams. diags Wireless Eng 17: 161-3 Ap '40
Soundless sound waves; odd realm of supersonics. W. L. Finlay. il diags Sci Am 162: 148-9 Mr '40
Theory and design of valve oscillators for radio and other frequencies. H. A. Thomas. 270p bibliog(p261-5) 18s Chapman & Hall, London '39
Theory of frequency controlled oscillators. S. Sabaroff. J Ap Phys 11:538-40 Ag '40
Ultra-high frequencies. diags Electrician 123: 425-6, 441-2, 470 N 10-24 '39
U-H-F oscillator frequency-stability considerations. S. W. Seeley and E. I. Anderson. diag RCA R 5:77-88 Jl '40
Variable oscillator for ultra-high frequency measurements. R. King. diags R Sci Instr 10:325-31 N '39; Abstract. Electronics 12: 60-1 D '39
Voltage-regulated power supply for electron-coupled oscillator. F. J. Gaffney and G. Turney. il diag Radio N 23:21+ F '40

See also
Magnetron
Multivibrators

OSCILLATORS, Crystal
Low temperature coefficient quartz crystals. W. P. Mason. bibliog diags Bell System Tech J 19:74-93 Ja '40
Wave propagation in shearing quartz oscillators of high frequency. E. W. Sanders. J Ap Phys 11:299-300 Ap '40

OSCILLOGRAPHS
Capillary mercury lamp as an oscillograph light source. H. H. Skilling. Elec Eng 59: 157-9 Ap '40
Lightning recording instruments; crater-lamp oscillograph. J. H. Hagenguth. il diags Gen Elec R 43:248-51 Je '40
Mechanical oscillograph for routine tests of rubber and rubber-like materials. F. L. Yerzley. bibliog il diags Am Soc T M Proc 39:1180-8 '39; Same. India Rubber W 100:43-7 Jl '39; Discussion. Am Soc T M Proc 39: 1189-90 '39
Optical devices used by, or of interest to, the meter and measuring instrument engineer. F. E. J. Ockenden. diags Inst E E J 86: 456-7, pl 2 My '40
Recorder for electrical potentials; the damping of piezoelectric systems; ink-writing oscillograph. F. Offner. diags J Ap Phys 11:347-52 My '40

OSCILLOGRAPHS, Cathode ray
Admiralty cathode ray oscillograph engine indicator. F. D. Smith, E. H. Lakey and H. Morgan. diags Inst Mech Eng J & Proc 143:Proc 39-47, pl 1-5 Ap '40; Discussion. 143:Proc 279-87 S '40
American apparatus, instruments, and instrumentation; electrical and electronic instruments. R. H. Müller. il Ind & Eng Chem Anal ed 12:587-8 O 15 '40
Basic principles in the design of cathode ray oscillograph engine indicators. F. D. Smith. bibliog diags Inst Mech Eng J & Proc 143:Proc 48-56 Ap '40; Discussion. 143:Proc 279-87 S '40
Build this modern oscilloscope. R. P. Turner. il diags Radio N 23:31-3+ My '40

OSCILLOGRAPHS, Cathode ray—*Continued*
Cathode-ray alphabet machine. A. W. Friend. il diag Electronics 13:40 Je '40
Cathode-ray oscillograph as a means of demonstrating elliptically polarized light. L. R. Steinhardt. diags Opt Soc Am J 30:226-8 My '40
Cathode-ray oscillographs. J. H. Reyner. 177p $3.40 Pitman '39
Cathode-ray oscillographs; a battery-operated power unit. R. E. Burgess. diag Wireless Eng 17:296-7 Jl '40
Cossor oscillograph. il Engineer 169:451-2 My 17 '40
Darstellung abklingender schwingungen als stehendes bild auf der kathodenstrahlröhre. J. Czech. il diag V D I 84:83-5 F 3 '40
Differential amplifier with oscillograph as detector of discharges in insulation. il diag Engineer 169:320-1 Ap 5 '40
High-frequency generator calibration; to obtain the time axis of a high-voltage cathode-ray oscillograph. C. J. Tirk and P. H. McAuley. il diag Elec W 113:606 F 24 '40
High-gain d-c amplifier for bio-electric recording. H. Goldberg. diags Elec Eng 59: Trans 60-4 Ja '40
High voltage cathode-ray oscillograph. A. C. Hall and J. M. Coombs. il diags R Sci Instr 11:314-20 O '40
How and why of the oscilloscope. E. Lovick, jr. diags Radio N 23:29-30+ Ja '40
Lightning recording instruments; oscillographic and photographic equipment. J. H. Hagenguth. bibliog il diags Gen Elec R 43: 195-201 My '40
Measurement of the conductance of electrolytes; the use of the cathode-ray oscillograph as a detector. G. Jones, K. J. Mysels and W. Juda. bibliog Am Chem Soc J 62: 2919-22 N '40
Mullard cathode ray oscillograph. il Engineer 168:421-2 My 3 '40
Multi-channel delay unit. W. H. Marshall and S. A. Talbot. il diag R Sci Instr 11:287-9 S '40
Multiple sweep system for cathode-ray oscillographv. S. A. Talbot. il diags R Sci Instr 11:289-91 S '40
Oscillographic method of measuring positive-grid characteristics. O. W Livingston. diag Inst Radio Eng Proc 28:267-8 Je '40
Oscillographic technique for measurements in a network analyser. D. M. Myers and W. K. Clothier. diags Inst E E J 85:639-45 N '39
Panoramic reception; all stations on dial of receiver may be indicated simultaneously on cathode-ray oscilloscope; suited to radio navigation. il Electronics 13:14-15+ Je '40
Radio tube solves oscillograph problem. diag Elec W 113:1552 My 18 '40
Some recent developments in impulse-voltage testing. C. M. Foust and N. Rohats. il diags Elec Eng 59:Trans 257-62; Discussion. Trans 262-5 My '40
Trapezium distortion in cathode-ray tubes. B. C. Fleming-Williams. diags Wireless Eng 17:61-4 F '40
Ultra-high-frequency oscillography; electron optical spectral analysis of oscillations; Lissajous figures. H. E. Hollmann. bibliog il diags Inst Radio Eng Proc 28:213-19 My '40
Vector-response indicator. B. D. Loughlin. il diags Elec Eng 59:Trans 355-7 Je '40
Visual alignment generator; frequency-modulated signal generator. H. F. Mayer. il diags Electronics 13:39-41 Ap '40

OSCILLOSCOPES
Channel checker to be used with oscilloscope. J. F. Gordon. il diag Radio N 24:23+ D '40
Frequency-modulation monitoring system. R. J. Pieracci. il diag Inst Radio Eng Proc 28:374-8 Ag '40
General Electric wide range oscilloscope. il Inst Radio Eng Proc 28:sup2+ My '40
Improved cathode-ray oscilloscope design. W. A. Geohagen. diags Electronics 13:36-9 N '40
Oscilloscope patterns of damped vibrations of quartz plates and *Q* measurements with damped-wave amplitudes; abstract. H. A. Brown. Inst Radio Eng Proc 28:245-6 My '40
Picture signal generator. J. A. Brustman and M. P. Wilder. il diags Electronics 13:28-31 Jl '40

OSLER, Sir William, 1849-1919
Life of Sir William Osler. H. Cushing. 1417p $5 Oxford '40

OSMIRIDIUM
Recent advances in the applied chemistry of the rare metals; recovery of osmiridium as a by-product from gold ores. R. H. Atkinson. Chem & Ind 59:195 Mr 23 '40

OSMIUM compounds
Catalytic effect of osmium compounds on the reduction of perchloric acid by hydrobromic acid. W. R. Crowell, D. M. Yost and J. D. Roberts. Am Chem Soc J 62:2176-8 Ag '40

OSMOSIS
Osmotic diffusion in gases. E. J. Hellund. Phys R 57:737-42 Ap 15 '40

OSMOTIC pressure
Standardization of osmotic pressure as a term. H. C. Eyster. Science 92:171 Ag 23 '40; Discussion. S. C. Brooks. 92:428-9 N 8 '40

OSSINING, New York
Sewerage
Sewage treatment projects; with cost data. J. C. Harding. flow diag il plan Water Works & Sewerage 87:358-64 Ag '40

OSTEOBORUS
Preliminary report on the late middle pliocene, Axtel locality, and the description of a new member of the genus osteoborus. C. S. Johnston. bibliog Am J Sci 237:895-8, pl 1 D '39

OTIS elevator company
Statistics of income, capital, stock earnings, etc. 1929-39. Annalist 56:45 Jl 11 '40

OTIS steel company
Fast moving low price stocks; thumbnail appraisal. Mag of Wall St 65:233 D 2 '39

OTITIS media. See Ear—Diseases

OTOBIUS lagophilus
Two new species of argasidae (acarina: ixodoidea). R. A. Cooley and G. M. Kohls. bibliog diags Pub Health Rep 55:925-33, pl 1 My 24 '40

OTTAWA, Ontario
Sewerage
Prevention of explosions in sewerage systems. W. F. M. Bryce. il Can Eng W & S 78: 7-8+ F '40
Relief-sewer construction. J. H. Irvine. diags map Can Eng W & S 78:7-10, 42+ Je '40

OTTOMAN bank
Annual general meeting, London. Economist 139:101-2 Jl 20 '40

OTTUMWA, Iowa
Water supply
Super-super chlorination. H. A. Brown. flow sheet il plan Water Works & Sewerage 87: 116-51 Ap '40; Same cond. Am Water Works Assn J 32:1147-54 Jl '40

OUTBOARD marine and manufacturing company
Small companies with large earnings; thumbnail appraisal. Mag of Wall St 65:493 Ja 27 '40
Uncovering special situations. E. A. Barnes. il Mag of Wall St 65:807-8 Ap 6 '40

OUTBOARD motors. See Gas and oil engines, Outboard

OUTDOOR advertising. See Advertising, Outdoor

OVALBUMIN. See Albumin

OVENS
Helpful oven suggestions. F. V. Faulhaber. il Metal Ind 38:179-82 Mr '40

OVENS—*Continued*
Putting the heat on white enamels; advantages and disadvantages of the urea, alkyd and the new melamine resins. J. M. Sanderson. il Metal Finishing 38:567-8 O '40

See also
Coke ovens
Core ovens
Electric ovens
Gas ovens
Kilns

OVENS, Baking
Process operations in the food industry. W. L. Campbell. Chem & Ind 59:432-3 Je 22 '40

OVER-the-counter marketing. See Securities—Over-the-counter marketing

OVERDRAFTS
No overdrafts for 10 years. W. W. Evans. Bankers Mo 57:281+ My '40

OVERHEAD expense
Analysis of woods overhead expense. L. A. Nix. Pulp & Pa of Can 41:615-18 Ag '40
Distributing overhead costs by production centers. A. E. Grover. Foundry 68:34-5, 98+ S '40
How cost accounting increases profits. E. Caldwell. il Iron Age 145:32-5 Je 27 '40
Overhead construction costs. F. W. Cooper. Am Gas Assn Proc 1939:213-16
Overhead costs in inventories; abstract. R. P. Marple. Management R 29:105-6 Mr '40
Study of overhead of twenty-five shops. J. E. Davis. Sheet Metal Worker 31:26 Jl '40; Discussion. 31:26+ Ag '40

See also
Cost accounting

OVERPRODUCTION

See also
Production, Limitation of
Stabilization in industry

OVERSHOES
Leased instruments ($16,000 a year) saved more trial proved; making rubbers. H. Olken. Instruments 13:21-2 Ja '40

OVERSTONE, Samuel Jones Loyd, 1st baron, 1796-1883
Contributions of Lord Overstone to the theory of currency and banking. L. A. Helms. 142p bibliog(p137-42) pa $1.50 Univ. of Illinois press, Urbana '39

OVERTIME
Compensating overtime by time off under the Fair labor standards act. Management R 29:92-3 Mr '40
Hire new men? or pay overtime? merit-rating principle in unemployment insurance. E. L. Cady. Management R 29:8-9 Ja '40
Overtime pay in France. Monthly Labor R 50: 845-6 Ap '40
Overtime wage scale satisfies U.S. law. Oil Paint & Drug Rep 138:5 Jl 29 '40
Puzzle of wages and hours. A. W. Zimmerman. Banking 32:78-9 Ja '40
Share-the-work provisions in union agreements. Monthly Labor R 50:1340-8 Je '40
Trustees under the wage and hour law; status, and steps to avoid overtime. Trusts & Estates 71:417-21 O '40

OVERVOLTAGE
Hydrogen and oxygen overvoltages of chromium nickel alloys in 1 molal potassium hydroxide. M. de K. Thompson and G. H. Sistare, jr. diag Electrochem Soc Trans 78 (preprint 4):47-51 O '40
Irreversible electrode phenomena of thallium; hydrogen overvoltage in sulfuric acid. I. M. LeBaron and A. R. Choppin. diag Electrochem Soc Trans 77 (preprint 11):137-45 Ap '40
Shunt capacitor application problems. J. W. Butler. Gen Elec R 43:206-7 My '40

OVOMUCIN. See Mucins

OVOMUCOID. See Mucoids

OWENSBORO, Kentucky

Water supply
Old softening plant goes modern. E. L. Filby. il diag plan Eng N 125:170-2 Ag 1 '40

OWLS
Burrowing owl as a host to the argasid tick, ornithodorus parkeri. W. L. Jellison. Pub Health Rep 55:206-8 F 2 '40
Spectral sensibility of the long-eared owl; abstract. M. H. Pirenne and S. Hecht. Opt Soc Am J 30:270 Je '40

OXALIC acid
Correcting ignited silica precipitates for nonvolatile material. J. S. Billheimer, P. H. Faust and E. H. Swift. bibliog Ind & Eng Chem Anal ed 12:409-11 Jl 15 '40
Determination of the thermodynamic dissociation constants of dibasic acids. J. C. Speakman. Chem Soc J p855-9 Jl '40
Photochemical oxidation of oxalic acid sensitized by ferric ion. R. Livingston. bibliog diags J Phys Chem 44:601-11 My '40; Discussion. G. Kornfeld. 44:949 O '40
Quantum yields of some dye-sensitized photooxidations. F. Hurd and R. Livingston. bibliog J Phys Chem 44:865-73 O '40

OXALOACETIC acid
Biological synthesis of oxaloacetic acid from pyruvic acid and carbon dioxide; abstract. H. A. Krebs. Chem & Ind 59:730 O 26 '40

OXAZINES
Semiquinones of oxazines, thiazines and selenazines. S. Granick, L. Michaelis and M. P. Schubert. bibliog Am Chem Soc J 62:1802-10 Jl '40

OXFORD, Edward De Vere, 17th earl of
Identifying Shakespeare; infra-red photography and X ray study of portraits believed to be Edward de Vere, 17th earl of Oxford. C. W. Barrell. il Sci Am 162:4-8+ Ja '40; Discussion (Who was Shakespeare?) 162: 264+ My '40

OXIDASES
Ascorbic acid oxidase from summer crookneck squash (C. pepo condensa). P. L. Lovett-Janison and J. M. Nelson. bibliog Am Chem Soc J 62:1409-12 Je '40
Dioxymaleic acid oxidase. J. B. Sumner and A. L. Dounce. Science 92:34-5 Jl 12 '40
Unsaturated fat oxidase. H. Tauber. Am Chem Soc J 62:2251 Ag '40

OXIDATION
Anodic reaction and waves of cysteine at the dropping mercury electrode and at the platinum micro wire electrode. I. M. Kolthoff and C. Barnum. bibliog Am Chem Soc J 62:3061-5 N '40
Les applications de l'oxyde de sélénium à l'oxydation des composés organiques. Y. Mayor. bibliog Chimie & Ind 43:188-94 F 5 '40
Atmospheric oxidation of coal at moderate temperatures; effect of oxidation on the carbonizing properties of representative coking coals. L. D. Schmidt, J. L. Elder and J. D. Davis. bibliog il Ind & Eng Chem 32 548-55 Ap '40
Biochemical oxidation in acid water containing sewage. C. C. Ruchhoft, M. B. Ettinger and W. W. Walker. Ind & Eng Chem 32: 1394-8 O '40
Breakdown of sulfanilamide molecule by ultraviolet irradiation or chemical oxidation. S. M. Rosenthal and H. Bauer. Science 91:509 My 24 '40
Catalytic action of 8-hydroxyquinoline on the oxidation of *p*-phenylenediamine. F. Bernheim and P. Handler. Am Chem Soc J 62: 984 Ap '40
Catalytic oxidation, a laboratory procedure. L. D. Johnson. J Chem Educ 17:234-5 My '40
Catalytic vapor-phase oxidation of aliphatic kerosene fraction. W. G. Parks and E. F. Story. bibliog diag Oil & Gas J 54, 56+ S 5 '40
Chemistry and physics of lubrication as applied to modern transportation. M. R. Fenske, C. E. Stevenson and R. E. Hersh. Nat Pet N 31:R471, R474, R476-7 N 15 '39
Cleavage of the carbon chain of levoglucosan by oxidation with periodic acid. E. L. Jackson and C. S. Hudson. bibliog Am Chem Soc J 62:958-61 Ap '40

OXIDATION—*Continued*
Constituents of the leaves of certain leucadendron derivatives with periodic acid and lead tetra-acetate. W. S. Rapson. Chem Soc J p1271-4 S '40
Continual observation of changes in weight at oven temperatures; apparatus for use in study of drying rates and in oxidation of oils. A. C. Beckel and A. G. Sharp. diags Ind & Eng Chem Anal ed 12:45-7 Ja 15 '40
Decomposition reactions of the aromatic diazo-compounds; a note on oxidation mechanisms. W. A. Waters. Chem Soc J p1805-7 N '39
Derivatives of 1 : 2 : 3 : 4-tetrahydroxybenzene; the oxidation of quinol with sodium chlorate. W. Baker and I. Munk. Chem Soc J p1092-3 Ag '40
Economics of catalytic oxidation in the vapor phase. C. Conover. Ind & Eng Chem 32: 1298-1300 O '40
Effect of humidity of air on the oxidation of a low carbon steel. C. A. Siebert and H. G. Donnelly. bibliog Am Soc for Metals Trans 28:372-7; Discussion. 377-9 Je '40
Effect of surface on cool flames in the oxidation of propane. R. A. Day, jr. and R. N. Pease. bibliog Am Chem Soc J 62:2234-7 Ag '40
Electrical insulating oil deterioration; chemical and electrical tests. J. C. Balsbaugh, A. H. Howell and A. G. Assaf. bibliog il Ind & Eng Chem 32:1497-1510 N '40
Heteropoly-acids as catalysts for the vapor phase partial oxidation of naphthalene. M. M. Marisic. bibliog Am Chem Soc J 62: 2312-17 S '40
Liquid dielectrics; electrical and physical properties of systems containing sparingly soluble oxidation products in liquid paraffin. J. D. Piper and others. bibliog il Ind & Eng Chem 32:1510-18 N '40
Lupanetriol and its oxidation. E. R. H. Jones and R. J. Meakins. Chem Soc J p456-7 Ap '40
Modification of cellulose by oxidation. G. F. Davidson. bibliog Soc Dyers & Col J 56:58-63 F '40; Abstract. Am Dyestuff Rep 29: 379-80 Jl 22 '40
New mechanism for the action of the vanadium pentoxide-silica-alkali pyrosulfate catalyst for the oxidation of sulfur dioxide. J. H. Frazer and W. J. Kirkpatrick. bibliog Am Chem Soc J 62:1659-60 Jl '40
Osage orange pigments; fractionation and oxidation. M. L. Wolfrom and A. S. Gregory. Am Chem Soc J 62:651-2 Mr '40
Oxidation inhibitors act 3 ways; abstract. L. L. Davis and others. Nat Pet N 32: R365 O 2 '40
Oxidation of aldehydes; the combustion zones of butaldehyde; *iso*butaldehyde, propaldehyde, acetaldehyde, glyoxal, and acraldehyde. D. M. Newitt, L. M. Baxt and V. V. Kelkar. diag Chem Soc J p1708-10 N '39
Oxidation of aldehydes; the products of their combustion. D. M. Newitt and L. M. Baxt. pl Chem Soc J p1711-20 N '39
Oxidation of alginic acid by periodic acid. H. J. Lucas and W. T. Stewart. Am Chem Soc J 62:1792-6 Jl '40
Oxidation of aromatic hydrocarbons. C. R. Downs. bibliog il Ind & Eng Chem 32: 1294-8 O '40
Oxidation of ascorbic acid by oxygen with cupric ion as catalyst. A. O. Dekker and R. G. Dickinson. bibliog Am Chem Soc J 62:2165-71 Ag '40
Oxidation of certain heteronuclear-substituted polybromodiphenyls. F. H. Case. bibliog Am Chem Soc J 61:3487-90 D '39
Oxidation of ferrous iron in iron gall ink; measures age of ink. H. T. F. Rhodes. Chem & Ind 59:143-5 Mr 2 '40
Oxidation of glycosides by means of lead tetraacetate in aqueous solution. J. M. Grosheintz. Am Chem Soc J 61:3379-81 D '39
Oxidation of lactose by activated sludge. S. H. Jenkins and R. Wilkinson. Soc Chem Ind J 59:125-8 Je '40
Oxidation of lubricating oils; abstract. E. A. Evans. Engineer 170:7 Jl 5 '40; Same. Chem Age (Lond) 43:71 Ag 10 '40
Oxidation of nitrogen in an ozonizer discharge at high temperatures. J. F. Shultz and O. R. Wulf. diag Am Chem Soc J 62: 2980-7 N '40
Oxidation of oil on dyed and undyed tops. J. B. Speakman and C. N. K. Murthy. bibliog Soc Dyers & Col J 56:252-8 Je '40
Oxidation of sulfanilic and arsanilic compounds by nascent hydrogen peroxide. G. Barkan. Science 92:107 Ag 2 '40
Oxidation of the hydroxybiphenyls. J. C. Colbert and C. L. Hensley. bibliog Am Chem Soc J 62:3257 N '40
Oxidation of thiophen-sulphur by calcium hypochlorite solutions. E. G. R. Ardagh, W. H. Bowman and A. S. Weatherburn. Soc Chem Ind J 59:27-8 F '40
Oxidation products of sulfanilamide. M. K. Seikel. bibliog Am Chem Soc J 62:1214-16 My '40
Oxidation-reduction potentials and their applications. S. Glasstone. Electrochem Soc Trans 77 (preprint 14):183-93; Discussion. 193-5 Ap '40
Oxidative cleavage of α-keto acids and α-keto alcohols by means of lead tetra-acetate. E. Baer. Am Chem Soc J 62:1597-1606 Je '40
Ozone in the chemical industry; sterilisation, oxidation, and air purification. A. E. Williams. diags Chem Age (Lond) 43:131-3 S 21 '40
Partly aromatic constitution of artificial carbohydrate coals; error of Fischer's and Bone's viewpoint as to origin of coal. E. Berl and W. Koerber. Ind & Eng Chem 32: 676-7 My '40
Phenomena observed during the prolonged oxidation of anthracite. G. S. Scott and G. W. Jones. U S Bur Mines Rep of Invest 3504:1-8 '40
Photochemical oxidation of hydrogen. H. A. Smith and A. Napravnik. bibliog Am Chem Soc J 62:385-93 F '40
Photochemical oxidation of oxalic acid sensitized by ferric ion. R. Livingston. bibliog diags J Phys Chem 44:601-11 My '40
Photoreactions sensitized by the halogens. J. W. T. Spinks. bibliog Chem R 26:129-39 F '40
Proof of structure of 6-chloro-8-chloromethyl-1,3-benzodioxane by oxidation. C. A. Buehler and others. Am Chem Soc J 62: 890-4 Ap '40
Properties of the oxycelluloses formed in the early stages of the oxidation of cotton cellulose by periodic acid and metaperiodate. G. F. Davidson. bibliog Textile Inst J 31: T81-96 Jl '40
Quantum yields of some dye-sensitized photo-oxidations. F. Hurd and R. Livingston. bibliog J Phys Chem 44:865-73 O '40
Relative oxidation potentials of ketones. F. W. Cox and H. Adkins. Am Chem Soc J 61:3364-70 D '39
Ricinus communis; oxidation of ricinoleic acid. St E. Brady. Am Chem Soc J 61:3464-7 D '39
Sodium chlorite, properties and reactions. M. C. Taylor and others. bibliog Ind & Eng Chem 32:899-903 Jl '40
Specification for a textile oil. W. Garner. bibliog diag Soc Dyers & Col J 56:333-43 Ag '40
Sterols; oxidation and reduction products of equilenin. R. E. Marker and E. Rohrmann. Am Chem Soc J 61:3314-17 D '39
Sterols; oxidation of sarsasapogenin acetate with potassium permanganate. R. E. Marker and E. Rohrmann. bibliog Am Chem Soc J 62:222-3 Ja '40
Sterols; oxidation of the diacetate of cholestanediol-3,6. R. E. Marker and others. Am Chem Soc J 62:645-6 Mr '40
Sterols; oxidation products of dihydrosarsasapogenin. R. E. Marker and E. Rohrmann. bibliog Am Chem Soc J 61:3477-9 D '39
Sterols; oxidation products of sarsasapogenin; pregnanetriol-3,16,20. R. E. Marker and others. bibliog Am Chem Soc J 62:525-7 Mr '40

OXIDATION—*Continued*
Sterols; oxidation products of sarsasapogenin; studies on the C_{27} lactone. R. E. Marker and E. Rohrmann. bibliog Am Chem Soc J 62:76-8 Ja '40
Sterols; persulfate oxidation of *allo*-pregnane derivatives. R. E. Marker and others. Am Chem Soc J 62:650-1 Mr '40
Sterols; the oxidation of pregnanetriol-3,4, 20(α) and of coprostanediol-3,4. R. E. Marker and others. bibliog Am Chem Soc J 61:3317-20 D '39
Sterols; the oxidation of pregnanetriols. R. E. Marker and D. L. Turner. bibliog Am Chem Soc J 62:2540-1 S '40
Studies in peroxidase action; the oxidation of *p*-toluidine. B. C. Saunders and P. J. G. Mann. Chem Soc J p769-72 Je '40
Studies in the oxidation of drying oils and cognate substances; the properties of the peroxide, ketol, and oxido-groupings, including those of some resins. R. S. Morrell and E. O. Phillips. Soc Chem Ind J 59:144-8 Jl '40
Studies in the polyene series; oxidation of vitamin-A with aluminium *iso*propoxide. I. M. Heilbron, A. W. Johnson and W. E. Jones. Chem Soc J p1560-3 O '39
La synthèse des acides gras par oxydation catalytique des hydrocarbures lourds; leur emploi à la fabrication du savon et de graisses alimentaires. E. Lemaire. il diag Génie Civil 115:413-17 D 9 '39
Thermal and photochemical oxidation of the chlorinated silanes. H. J. Emeléus and A. J. E. Welch. diag Chem Soc J p1928-37 D '39
Triterpene group; the oxidation of β-amyrin benzoate; a new route to the thiocompound, $C_{36}H_{44}OS$. J. C. E. Simpson. Chem Soc J p230-7 F '40
Triterpene resinols and related acids; the oxidation of α-amyradienyl acetate. E. S. Ewen and F. S. Spring. Chem Soc J p1196-8 Ag '40
Über die durch pervanadinsäure katalysierte wasserstoffperoxyd-oxydation cyclischer verbindungen. W. Treibs. bibliog Angew Chemie 52:698-700 D 9 '39
What you can use; oxidation and reduction reagents. Oil Paint & Drug Rep 137:56 F 5 '40

See also
Coal—Oxidation
Combustion
Corrosion and anti-corrosives
Spontaneous combustion

Autoxidation

Activated carbon as a catalyst in certain oxidation-reduction reactions; decomposition of hydrogen peroxide; autoxidation of stannous chloride and potassium urate. E. C. Larsen and J. H. Walton. bibliog J Phys Chem 44:70-85 Ja '40
Antioxidants and the autoxidation of fats; autoxidation of oleic acid, methyl oleate, oleyl alcohol, and *cis*-9-octadecene. F. E. Deatherage and H. A. Mattill. bibliog diag Ind & Eng Chem 31:1425-31 N '39
Autoxidation and gum-forming tendencies of certain hydrocarbons. B. Berger and R. W. Bost. bibliog Oil & Gas J 38:81-4+ Mr 28 '40

OXIDATION, Electrolytic
Cerate oxidimetry; electrolytic oxidation of cerium without use of a diaphragm cell. G. F. Smith, G. Frank and A. E. Kott. Ind & Eng Chem Anal ed 12:268-9 My 15 '40
Electrochemical oxidation of n-hexanol. W. R. Lowstuter and A. Lowy. bibliog diag Electrochem Soc Trans 77 (preprint 21): 263-70 Ap '40
Hydrogen peroxide theory of electrolytic oxidation. S. Glasstone and A. Hickling. bibliog Chem R 25:407-41 D '39
Porous carbon electrodes; oxidation of arsenite. M. Janes. diag Electrochem Soc Trans 77 (preprint 5):59-71 Ap '40
Studies in electrolytic oxidation; the mechanism of the electrolytic formation of periodates. A. Hickling and S. H. Richards. Chem Soc J p256-64 Mr '40
Translucent films of aluminum oxide. R. E. Vollrath. diags J Phys Chem 44:401-4 Ap '40

OXIDATION, Physiological
Biological oxidation. C. Oppenheimer, K. G. Stern and W. Roman. 317p bibliog(p277-309) $8.25 Nordemann pub. co, New York '39
Oxidation, fermentation, vitamins, health and disease. A. v. Szent-Györgyi. 109p $2 Wood '39

OXIDATION of rubber. See Rubber—Aging

OXIDATION reduction potential. See Potential, Electric

OXIDES
How gases and oxides affect machinability; vacuum fusion extraction analyses. G. T. Motok. il Steel 106:62-3+ Ap 29 '40
Oxides extracted in Merriman's test of portland cement. E. P. Flint and P. H. Bates. Rock Prod 43:46-7 O '40
Relation of electrical conductivity to chemical composition of glass; soda-lime-silica system measured at 400°C. A. E. Badger and J. F. White. diags Am Cer Soc J 23:271-4 S '40
Some recent studies of thin oxide films on metals. W. H. J. Vernon. Chem & Ind 59: 87-8; Discussion, 88-9 F 10 '40
Über die zwischenzustände bei modifikationsumwandlungen und die katalytische beeinflussung dieser vorgänge durch fremdgase. G. F. Hüttig. Angew Chemie 53:35-9 Ja 20 '40
Vapor-phase esterification of benzoic acid with ethyl alcohol; effect of oxides on catalytic activity of silica gel. A. A. Vernon and B. M. Brown. bibliog diag Ind & Eng Chem 32:534-6 Ap '40

See also
Alumina
Ethers
Iron oxides
Lime
Magnesia
Nitrogen oxides
Peroxides
Silica

OXIDOELAIDIC acid
Studies in the oxidation of drying oils and cognate substances; the properties of the peroxide, ketol, and oxido-groupings, including those of some resins. R. S. Morrell and E. O. Phillips. Soc Chem Ind J 59:144-8 Jl '40

OXIMES
Action of the reagent pyridine-acetic anhydride on *d*-α-glucoheptose, *d*-glucosamine and *l*-fucose oximes. E. Restelli de Labriola and V. Deulofeu. bibliog Am Chem Soc J 62:1611-13 Je '40
Acylation of aldoximes; isomerizations in the benzoylation of *syn*- and *anti*aldoximes in pyridine. G. Vermillion and C. R. Hauser. Am Chem Soc J 62:2939-42 N '40
Azo-group as a chelating group; the constitution of the arylazo-bis-oximes. M. Elkins and L. Hunter. Chem Soc J p653-5 My '40
β-Dioximes and trialkylisoxazoles from nitroparaffins. S. B. Lippincott. Am Chem Soc J 62:2604-6 O '40
Rapid determination of copper by α-benzoin oxime in ferromolybdenum, calcium molybdate, etc. L. Silverman. bibliog Ind & Eng Chem Anal ed 12:343-4 Je 15 '40
Reactions of certain aldoximes with diazomethane. A. F. Thompson, jr. and M. Baer. bibliog Am Chem Soc J 62:2094-6 Ag '40
Stereoisomeric oximes of cholestenone. J. O. Ralls. bibliog Am Chem Soc J 62:2459-64 S '40

OXINDOLE
Ethanolamines of the oxindole series. R. B. Crawford and H. G. Lindwall. bibliog Am Chem Soc J 62:171-3 Ja '40

OXYACETYLENE apparatus
Cutting and welding equipment trailer for rescue and demolition squads of A.R.P. services. il Engineering 150:197 S 6 '40
Flame-cleaning apparatus for steel. F. C. Hutchison. il Civil Eng 10:414-16 Jl '40
New gear tooth hardening machine; Shorter process. il Engineer 169:384-5 Ap 19 '40; Automobile Eng 30:156 My '40

OXYACETYLENE apparatus—*Continued*
Scarfing billets and slabs. il Steel 107:62, 64+ N 11 '40
Shorter Process surface-hardening machine. il diags Engineering 150:226-8, 230 S 20 '40

Safety devices and measures

Fresh air for the welder. A. G. Cranch. il Nat Safety N 42:20-1+ Ag '40; Same cond. Safety Eng 80:39-40+ Ag '40; Abstract. Steel 106:73 Ap 22 '40
Handle with care; safety in the use of the oxy-acetylene process. il Safety Eng 80:27-9 O '40
Preventing winter fires; suggestions for safeguarding acetylene welding and cutting indoors. Nat Safety N 42:86-7 N '40
Storage, handling and use of cylinders in welding. Can Min J 61:163-5 Mr '40
Welding hose failures. Safety Eng 80:39 O '40

OXYACETYLENE cutting
Air reduction sales company gas cutter has wide flexibility. il Ry Mech Eng 114:113+ Mr '40
Airco no. 10 planograph cutter features cam control of gases. il Am Mach 83:1010 N 29 '39; Mach 46:281 D '39; Marine Eng 44: 583 D '39
As it was in 1915 and as it is in 1940. J. J. Crowe. Metal Prog 37:311 Mr '40
Breath of industry; oxygen torches cut, condition, and prepare steel; drill stone and concrete. H. Lawrence. il Sci Am 163:119-21 S '40
Cutting and surface conditioning. H. Ullmer. Metal Prog 38:487 O '40
Economical oxygen cutting; with cost data. H. Lawrence. diags Steel 106:62-3 Je 10 '40
Efficient torch cutting. E. K. Carlson. il Steel 106:62-4 My 20 '40
Flame-cut ship plates. il Am Mach 84:240-1 Ap 17 '40
Flame-cutting and electric unionmelt welding in the preparedness program. D. E. Roberts. il Mach 47:122-3 O '40
Flame cutting non-ferrous metals and non-metallic materials and oxidation of metals at elevated temperatures; a review of the literature to July 1, 1938; abstract. W. Spraragen and G. E. Claussen. Metals & Alloys 11:MA273-4 My '40
Flame machining. J. G. Magrath. il diags Am Mach 84:456-9, 503-6 Je 26-Jl 10 '40
Flame shaping brass and aluminum; use of paste which acts as a refractory to protect metal alongside line of cut. H. H. Moss. il diags Steel 107:58-9+ S 2 '40
Industrial trucks; units are arc welded from sheared, flame cut or sawed steel plate; Yale & Towne plant. F. Stewart. il Steel 106:76, 79 My 13 '40
International acetylene association 40th annual meeting, Milwaukee, April 10-12. Steel 106:72-4+ Ap 22 '40
Machine flame cutting. il Steel 106:91+ Ap 1 '40
Machine flame cutting; application to class C cargo ships. J. M. Heller, R. F. Helmkamp and A. H. Yoch. il diags Marine Eng 45: 64-7 Ap; 78-82 My '40
Machine gas cutting of stainless-clad plates; Crown cork & seal co. W. Lyon and M. G. Wicker. il Iron Age 145:42-3 Ap 11 '40
Note sur les accidents de saturnisme dus à l'inhalation des fumées résultant du découpage d'un pont métallique. G. Batta, J. Firket and E. Leclerc. Chimie & Ind 43:637-8 Ap 20 '40
Otto C. Voss receives Morehead medal for 1939. Steel 106:82 Ap 1 '40
Oxweld CM-23 shape-cutting machine. il Blast F & Steel Pl 27:1166-7 N '39
Oxyacetylene industry points to its latest developments. H. L. Rogers. il Steel 106:76-8 Ap 1 '40
Oxyacetylene process helps machine-tool production. il Steel 107:60-1 S 23 '40
Oxyacetylene process may help avoid defense bottlenecks. H. E. Rockefeller. Steel 107: 192 O 14 '40
Oxyacetylene welding and cutting in re-laying pipe. il Oil & Gas J 39:107 S 19 '40
Reclaiming locomotive tires by flame cutting. il diags Coal Age 45:58 Mr '40
Shaping edges for welding; oxyacetylene cutting torch setups with multiple nozzles. H. E. Rockefeller. il diags Steel 106:20-2+ Mr 11 '40
Stack-cutting identical parts; abstract. Metals & Alloys 11:MA140 Mr '40
Testing steel with the cutting flame. J. R. Cady. bibliog il diag Am Soc for Metals Trans 28:646-60 S '40
Welding serves industrial upswing. R. E. Miller. il Iron Age 145:114-16 Ja 4 '40

Cost

Cost of cutting with butane, propane and acetylene. W. T. Tiffin and O. R. Eads. Iron Age 144:42-3 D 21 '39; Discussion. E. L. Mathy. 145:43+ My 16 '40

OXYACETYLENE flame
Autogenes härten von gusseisen und temperguss. G. Kritzler. il V D I 84:148-50 Mr 2 '40
Building up wear resistance; flame-hardened molybdenum steels meet exacting requirements. il Steel 106:60, 63 Mr 18 '40
Crankshaft hardening; oxyacetylene flames and water quenching jets. il Steel 106:50, 52+ Ap 29 '40
Flame cleaning steel for painting. E. W. Deck. il Eng N 125:411-14 S 26 '40
Flame descaling, cleaning, dehydrating. J. G. Magrath. il Steel 106:54-6 Ap 1 '40
Flame hardening. J. J. Crowe. Metal Prog 38:427 O '40
Flame-hardening and hard-surfacing. C. E. MacQuigg. Mach 46:123-5 Je '40
Flame hardening and softening. R. L. Rolf. Metal Prog 38:495-6 O '40
Flame hardening cast iron. Oil & Gas J 39:56 Ag 29 '40
Flame hardening cast iron. R. O. Day. il Steel 106:46-9 My 6; 89 My 13 '40
Flame hardening; composite of abstracts. Metals & Alloys 11:MA85 F '40
Flame-hardening of gear teeth. D. Vande Vate. il Mach 46:123-6 F '40
Flame hardening of Meehanite. F. H. Bickford. il diag Iron Age 145:19-21 Ja 11; 31-4 Ja 18 '40
Flame-hardening of sheaves. W. L. Nelson. diags Oil & Gas J 39:71 S 26 '40
Flame hardening standardization. A. L. Hartley. il diags Iron Age 146:25-34 O 17; 34-8 O 24; 34-43 O 31; 54-63 N 7; 48-52 N 14 '40
Flame strengthening. J. H. Zimmerman. il Iron Age 145:38-9 F 1 '40; Same. Steel 106: 60, 62 F 19 '40
Heat treating by the oxyacetylene process; abstract. J. H. Zimmerman. Oil & Gas J 38: 45 Ja 4 '40
Hot scarfing of billets, blooms and slabs; abstract. E. A. Doyle. Iron Age 146:39-40 O 3 '40
Joining fine wire screen. C. C. Notebaert. diag Steel 106:66+ F 12 '40
Making welded gears; flame hardened; Harnischfeger corp. H. Menck. il Steel 107: 66-8 Jl 1 '40
Oxyacetylene industry points to its latest developments. H. L. Rogers. il Steel 106:76-8 Ap 1 '40
Silicon bronzes; to prevent steel pickup during welding of silicon bronzes to steel, surfaces are first tinned with bronze, using oxy-acetylene flame. H. Lawrence. diags Steel 106:67-8 Je 3 '40
Some metallurgical phases of flame hardening. R. O. Day. il Metals & Alloys 12:166-71 Ag '40
Transmission shifter yokes are flame hardened automatically. il Steel 106:64 Je 10 '40
Vertical spinning while flame hardening prevents distortion. R. L. Rolf. Steel 107:176+ O 14 '40

OXYACETYLENE welding
As it was in 1915 and as it is in 1940. J. J. Crowe. Metal Prog 37:311 Mr '40
Examination and tests of welded parts for steam power plant. A. H. Goodger. bibliog diags Inst Mech Eng J & Proc 142:Proc 261-87, pl 1-12 Ja '40; Discussion. 143:Proc 73-80, pl 13-16 Ap '40

OXYACETYLENE welding—*Continued*
Fresh air for the welder. A. G. Cranch. il Nat Safety N 42:20-1+ Ag '40; Same cond. Safety Eng 80:39-40+ Ag '40
Health hazards of electric and gas welding. J. A. Britton and E. L. Walsh. J Ind Hygiene 22:125-51 bibliog(122 titles, p147-51) Ap '40
How to weld heavy wall pipe with the single flame, multi-layer technique. M. R. Scott. il diags Heating-Piping 11:623-6+ O '39; Same. Power 83:618-21 O '39; Discussion. Heating-Piping 12:94 F '40
International acetylene association 40th annual meeting, Milwaukee, April 10-12. Steel 106:72-4+ Ap 22 '40
Lengthening the life of wearing parts with steel and cast iron welding rods. il Can Min J 61:590-3 S '40
Modern welding practices in the chemical industry; installation and relocation of piping. H. D. Lanterman. il diags Chem Ind 47:42-5 Jl '40
Otto C. Voss receives Morehead medal for 1939. Steel 106:82 Ap 1 '40
Oxy-acetylene and electric processes in boiler and tender work. il diags Ry Mech Eng 114:453-7 N '40
Oxyacetylene industry points to its latest developments. H. L. Rogers. il Steel 106: 76-8 Ap 1 '40
Oxyacetylene process helps machine-tool production. il Steel 107:60-1 S 23 '40
Oxy-acetylene welder's handbook. M. S. Hendricks. 2d ed 224p $2 Welding engineer pub. co, 506 S. Wabash av, Chicago '39
Oxy-acetylene welding. J. H. Zimmerman. Metal Prog 38:491+ O '40
Oxyacetylene welding and cutting in re-laying pipe. il Oil & Gas J 39:107 S 19 '40
Oxy-acetylene welding materials for use at low temperatures. Mach 46:144 Je '40
Oxy-acetylene welding procedure for high pressure and temperature piping; abstracts. R. M. Rooke, F. C. Saacke and A. N. Kugler. il diags Heating-Piping 12:308-10+ My '40; Oil & Gas J 39:19 Je 20; 69 Jl 11 '40; Power 84:432-4 Jl '40
Rebuilding worn cast iron surfaces; cams and roller trippers for a button drilling machine il Steel 107:76-7 N 11 '40; Same. Iron Age 146:49 S 5 '40
Recommended welding methods, flame adjustments, welding rods, and fluxes; data sheet. Mach 46:93 My '40
Shaping edges for welding; oxyacetylene cutting torch setups with multiple nozzles. H. E. Rockefeller. il diags Steel 106:60-2+ Mr 11 '40
Welding for enameling; tanks and tubs for household washing machines. J. C. Lewis. il Steel 106:68, 71+ Je 17 '40
Welding methods. R. Butler. Chem Age (Lond) 41:346 N 18 '39
Welding of cast iron. L. Tibbenham. Iron Age 145:86-8; Discussion. 38 Je 27 '40
Welding of cast iron by the oxy-acetylene process. L. Tibbenham. 88p $1.60 Pitman '39
Welding on a conveyor; Servel Electrolux plant. R. G. Rodgers and W. R. Campbell. il Steel 106:54+ My 6 '40
Welding red brass pipe; abstract. A. N. Kugler. il Heating-Piping 11:733-4 D '39
Welding serves industrial upswing. R. E. Miller. il Iron Age 145:114-16 Ja 4 '40
Where welding aids machining; portable electric shear made by Black & Decker. H. Chase. il Am Mach 84:134-5 Mr 6 '40

OXYCELLULOSE
Absorption of substantive dyes by oxycelluloses of the acidic type. S. M. Neale and W. A. Stringfellow. Soc Dyers & Col J 56:17-18 Ja '40; Abstract. Am Dyestuff Rep 29:283 My 27 '40
Hydrocellulose and oxycellulose. Am Dyestuff Rep 29:157-8 Ap '40
Modification of cellulose by oxidation G. F. Davidson. bibliog Soc Dyers & Col J 56:58-63 F '40; Abstract. Am Dyestuff Rep 29: 379-80 Jl 22 '40
Polysaccharides; oxycellulose. G. L. Godman, W. N. Haworth and S. Peat. Chem Soc J p1908-14 D '39
Properties of the oxycelluloses formed in the early stages of the oxidation of cotton cellulose by periodic acid and metaperiodate. G. F. Davidson. bibliog Textile Inst J 31: T81-96 Jl '40

OXYGEN
Chemisorptions of gases on iron synthetic ammonia catalysts. S. Brunauer and P. H. Emmett. bibliog Am Chem Soc J 62:1732-46 Jl '40
Effect of bubbles of gas on mixtures of sewage and activated sludge; amount of organic carbon removed with bubbles of air, oxygen, hydrogen, and nitrogen. E. Williams. Soc Chem Ind J 59:39-41 F '40
Examination of the mechanism by which cool flames give rise to normal flames; the chemical character of the blue flame initiated in the cool flame products of ether-oxygen mixtures. M. Maccormac and D. T. A. Townend. diag Chem Soc J p151-6 F '40
Examination of the mechanism by which cool flames give rise to normal flames; the physical characteristics of the two-stage process of ignition of ether-oxygen mixtures. M. Maccormac and D. T. A. Townend. Chem Soc J p143-50 F '40
Heat of photobromination of the phenyl methanes and cinnamic acid, and the influence of oxygen. J. L. Magee and F. Daniels. bibliog Am Chem Soc J 62:2825-33 O '40
Influence of oxygen on the fermentation of maltose and galactose. A. S. Schultz, L. Atkin and C. N. Frey. diag Am Chem Soc J 62:2271-2 S '40
Metallized glass oxygen electrodes. H. G. Bain. bibliog Electrochem Soc Trans 78 (preprint 16):211-27 O '40
New apparatus for the administration of helium-oxygen mixtures. H. F. Brubach, L. R. Crisp and P. A. Neal. bibliog Pub Health Rep 55:1776-82, pl 1-2 S 27 '40
Oxygen boosting of airplane Diesel engines. P. H. Schweitzer. bibliog il diags Mech Eng 62:719-22 O '40
Oxygen, hydrogen, molten-iron system. H. Lepp. bibliog Iron & Steel Inst J 141:329-37; Discussion. 338-9 no 1 '40
Oxygen inhibition in the photobromination of cinnamic acid. R. F. Brown and F. Daniels. bibliog Am Chem Soc J 62:2820-5 O '40
Performance of packed towers; liquid film data for several packings. T. K. Sherwood and F. A. L. Holloway. bibliog diag Am Inst Chem Eng Trans 36:39-69; Discussion. 69-70 F '40
Refilling small cylinders. G. W. Grove. il diag Chem Ind 46:322-4 Mr '40
Scattering of alpha-particles by carbon and oxygen. A. J. Ferguson and L. R. Walker. bibliog diags Phys R 58:666-71 O 15 '40
Sensitisation of the hydrogen-oxygen reaction by nitrous oxide. C. J. Danby and C. N. Hinshelwood. Chem Soc J p464-8 Ap '40
Theoretical maxima and minima in the anomalous scattering of alpha-particles. P. Seligmann. bibliog Phys R 58:492-8 S 15 '40
Treatment of casualties from lung irritant gases with particular reference to the use of oxygen and carbon dioxide mixture. A. T. Jones. bibliog il J Ind Hygiene 22:235-43 Je '40

See also
Oxidation
Oxides
Ozone

Analysis
Bestimmung des im wasser gelösten sauerstoffes nach Winkler, aber ohne verwendung von kaliumjodid. C. Siegert. Angew Chemie 53:235-6 My 25 '40
Determination of dissolved oxygen in gasoline. W. A. Schulze, J. P. Lyon and L. C. Morris. il Oil & Gas J 38:149+ Mr 28 '40
New method for the micro-analysis of gases. R. Spence. diags Chem Soc J p1300-3 S '40
Qualitative test for oxygen in organic compounds. D. Davidson. bibliog Ind & Eng Chem Anal ed 12:40-1 Ja 15 '40

OXYGEN—Analysis—*Continued*
Rapid determination of oxygen in steel. L. Singer. il diags Ind & Eng Chem Anal ed 12:127-30, Mr 15 '40
Voltammetric determination of oxygen; using platinum electrode. I. M. Kolthoff and H. A. Laitinen. diag Science 92:152-4 Ag 16 '40

Isotopes

Excited states of the O^{16} nucleus. D. M. Dennison. Phys R 57:454-6 Mr 1 '40
Interchange of heavy oxygen between water and inorganic oxy-anions. E. R. S. Winter, M. Carlton and H. V. A. Briscoe. diag Chem Soc J p131-8 F '40
Isotopic composition of cuprite oxygen. W. H. Hall and C. Hochanadel. Am Chem Soc J 62: 3259-60 N '40
Isotopic composition of oxygen in carbonate rocks and iron oxide ores. M. Dole and R. L. Slobod. Am Chem Soc J 62:471-9 Mr '40
Oxygen exchange between water and inorganic oxy-anions. G. A. Mills. bibliog diag Am Chem Soc J 62:2833-8 O '40

OXYGEN, Liquid
L'emploi des explosifs à oxygène liquide pour le percement des tunnels. Génie Civil 115: 442 D 16 '39

OXYGEN apparatus
Heavy-duty oxygen flow controller. il Instruments 13:98 Ap '40

OXYGEN bombs
Rapid determination of phosphorus in linseed oil by oxygen bomb. G. T. Piercy, E. K. Plant and M. C. Rogers. diag Ind & Eng Chem Anal ed 12:165 Mr 15 '40

OXYGEN cutting
Breath of industry; oxygen torches cut, condition, and prepare steel; drill stone and concrete. H. Lawrence. il Sci Am 163:119-21 S '40
Oxygen cutting (flame cutting) of structural steel; progress report of committee. Am Soc C E Proc 66:627-31 Ap '40
Report of ferrous metals committee; oxygen cutting. il diag Am Gas Assn Proc 1939:412-22
Underwater cutting, arc cutting, the oxygen lance, and oxygen de-seaming and machining; a review of the literature to Jan. 1, 1939; abstract. W. Spraragen and G. E. Claussen. Metals & Alloys 11:MA262 My '40

OXYGEN deficiency
Flame as an indicator of oxygen depletion and deficiency. W. S. Weeks and R. K. Byerts. Eng & Min J 141:44-5 O '40
High altitude and its effect on the human body. W. M. Boothby, W. R. Lovelace, 2d, and O. O. Benson. bibliog il diag J Aeronautical Sci 7:461-8, 524-30 S-O '40

OYSTER culture
Dedication of the new oyster laboratory at Milford, Conn. Science 92:167 Ag 23 '40
La reconstitution du bassin d'Arcachon comme grand centre ostréicole. Génie Civil 116:221 Mr 30 '40

OYSTERS
Crisis comes to the oyster beds; January freeze and inroads of starfish. Business Week p27 Ap 20 '40

See also
Pearls

Diseases and pests

Annelid worm, polydora, as an oyster pest. G. R. Lunz, jr. Science 92:310 O 4 '40

OZARK region
Regulation or development for the Missouri Ozarks. C. H. Hammar. J Land & Pub Util Econ 16:159-67 My '40

OZITE
Ozite's eye-opener for dealers who suffer from a price complex; film presentation. L. H. Regensburg. il Sales Management 46:24-6 My 15 '40

OZOCERITE
Identification of commonly used waxes in admixture. S. Zweig and A. Taub. bibliog Ind & Eng Chem Anal ed 12:9-14 Ja 15 '40
What you can use: emulsifiers, filtering agents, solvents, etc. for ozokerite. Oil Paint & Drug Rep 137:39 F 12 '40

OZOKERITE. See Ozocerite

OZONE
Action of ozone on rubber and other materials. F. J. Norton. il diags Gen Elec R 43:93-5 F '40; Same. Rubber Age 47:87-90 My '40
Brassicasterol; degradation by ozone. E. Fernholz and H. E. Stavely. Am Chem Soc J 62:428-30 F '40
Commercial ozone. A. E. Williams. il diag Engineer 169:557-8 Je 21 '40
Hurricane intelligence; ozone stimulant during test. H. N. Glick. Science 91:450 My 10 '40
Measurement of light scattered by the upper atmosphere from a search-light beam. E. A. Johnson and others. Opt Soc Am J 29: 512-17 D '39
Ozone for water treatment; new equipment for generation of ozone. J. B. Klumpp. il diags Eng N 124:168-70 F 1 '40
Ozone in the chemical industry; sterilisation, oxidation, and air purification. A. E. Williams. diags Chem Age (Lond) 43:131-3 S 21 '40
Ozone in the '38 hurricane. C. A. Peters. Science 90:491 N 24 '39
Photochemical oxidation of hydrogen. H. A. Smith and A. Napravnik. bibliog Am Chem Soc J 62:385-93 F '40
Pressure effect on infra-red absorption. J. Strong and K. Watanabe. Phys R 57:1049 Je 1 '40

See also
Ozonizers
Water purification—Ozone treatment

Analysis

Starch-iodide method of ozone analysis. C. E. Thorp. bibliog Ind & Eng Chem Anal ed 12: 209 Ap 15 '40

OZONIZATION
Benzopyrylium salts; ozonization. R. L. Shriner and R. B. Moffett. bibliog Am Chem Soc J 62:2711-14 O '40
Ozonization of hydrindene. L. Long, jr. and L. F. Fieser. bibliog Am Chem Soc J 62: 2670-3 O '40

OZONIZERS
Commercial ozone. A. E. Williams. il diag Engineer 169:557-8 Je 21 '40
Oxidation of nitrogen in an ozonizer discharge at high temperatures. J. F. Shultz and O. R. Wulf. diag Am Chem Soc J 62:2980-7 N '40
Ozone for water treatment; new equipment for generation of ozone. J. B. Klumpp. il diags Eng N 124:168-70 F 1 '40.
Ozone goes to work; taste and odor control, Denver, Pa. F. H. Dechant. il Eng N 124: 516-17 Ap 11 '40

P

PM (newspaper)
Marshall Field to become largest stockholder of newspaper PM. Comm & Fin Chr 151: 2292, 2358 O 19 '40
P.M. has scientific news style. S. H. Horgan. il Inland Ptr 105:37-8 Jl '40
PM needs money; Marshall Field III advances plan. Business Week p38+ O 12 '40

PACIFIC advertising clubs association
Meeting, Vancouver. Ptr Ink 192:23-4 Jl 19 '40

PACIFIC aviation, Incorporated
Stock offered. Comm & Fin Chr 150:1449 Mr 2 '40

PACIFIC basin, Geology of. See Geology—Pacific basin

PACIFIC coast
Politics on the West coast; land where third term means less than power or pensions. il maps Fortune 21:40-53 Mr '40
Submarine canyons off the southern California coast. Science 92:sup7 Ag 16 '40
See also
Earthquakes—Pacific coast
Trade unions—Pacific coast

PACIFIC coast borax company
Celebrates 50th anniversary. il Min Cong J 26:69 O '40

PACIFIC coast conference of sales executives
Miracles come to pass at Pacific coast conference of sales executives. Sales Management 46:54 Mr 1 '40

PACIFIC coast electrical association
Annual meeting, Oakland, May 22-24. Elec West 84:148-64 Je '40

PACIFIC coast gas association
Annual meeting, 47th, Coronado, Sept. 18-21. Am Gas J 153:79-80 O '40; Am Gas Assn Mo 22:353 O '40; Gas Age 86:84+ O 10 '40

PACIFIC countries
Currents of the Pacific ocean and their bearing on the climates of the coasts. H. U. Sverdrup. maps Science 91:273-82 Mr 22 '40
Pacific area in American research; a list of current research projects, spring 1940. 40p Inst. of Pacific relations, Am. council, 129 E. 52d st, New York '40
President Roosevelt and Secretary Hull announce opposition to any change in status quo in Pacific area; mention particularly Netherlands East Indies. Comm & Fin Chr 150:2500 Ap 20 '40

PACIFIC employers insurance company, Los Angeles, California
Company analysis. Spectator (Property ed) 5:26-7 D 14 '39

PACIFIC forest industries
Export association sales ban found illegal by F.T.C. Oil Paint & Drug Rep 137:3 F 5 '40

PACIFIC fruit express company
Growers' life line; Pacific fruit express co. in spotlight with program of refrigerator car repair. il Business Week p39 D 9 '39

PACIFIC gas and electric company
Annual report. Comm & Fin Chr 150:2112 Mr 30 '40
Brass tacks for the investor; brief analysis. Barron's 20:10 Ap 29 '40
Case study. il diags Gas Age 85:13-58 F 29 '40

PACIFIC mutual life insurance company
Triumphs in court test of rehabilitation agreement. Nat Underw (Life ed) 44:6 My 3 '40

PACIFIC national fire insurance company
Company analysis. Spectator (Property ed) 6: 30-1 O 17 '40

PACIFIC ocean
Currents of the Pacific ocean and their bearing on the climates of the coasts. H. U. Sverdrup. maps Science 91:273-82 Mr 22 '40
Pacific ocean. F. Riesenberg. 322p $3 McGraw-Hill '40
Story of the Pacific. H. W. van Loon. 387p $3 Harcourt '40
See also
Pacific science congress

PACIFIC petroleums, ltd.
Debentures offered. Comm & Fin Chr 150:2591 Ap 20 '40

PACIFIC science congress
Sixth Pacific science congress, July 24-August 12, 1939. R. E. Clausen. Science 90: 449-56 N 17 '39

PACIFIC telephone and telegraph company
Income statement of system for calendar years, 1936-39. Comm & Fin Chr 150:1449-50 Mr 2 '40

PACIFIC tin consolidated corporation
Income account, 1936-39. Comm & Fin Chr 150:3523 Je 1 '40
Listing. Comm & Fin Chr 149:3567 D 2 '39

PACIFISM
Presbyterian church; Reverend Daniels of Fulton, New York, opposes all wars. il Fortune 20:69-72, 123-4 D '39
See also
Peace

PACKAGE dyeing. See Dyes and dyeing—Package dyeing

PACKAGE goods
Construction solves package problem; Auburn rubber toys. il Ptr Ink Mo 41:14-15 Jl '40
Design decade. il Arch Forum 73:298-9 O '40
Designed for men, by a man; Seaforth toiletries. il Mod Packaging 14:46 S '40
Early Americana is theme for merchandising new Cresca gift line of foods. C. J. Swan. il Ptr Ink 193:19-20 O 18 '40
Everyday use of color in business; system for selecting colors and of its application, especially in merchandising, to color problems. A. S. Allen. il Dun's R 48:25-30 My '40
Extreme simplicity in packages and too much imitation wreck sales appeal. G. Wilmet. Ptr Ink 193:37, 40 O 25 '40
Federal food, drug and cosmetic act turns sales aid for products. il Sales Management 45:24-5 D 15 '39; 46:58, 60 Ja 1 '40
Informative labeling; some principles with case studies; a 'Printers' Ink Monthly special study. il Ptr Ink Mo 40:17-20, 46-7, 50-6 My '40
Old, but ever new; selling power of packages can be revived and strengthened. C. B. Larrabee. il Ptr Ink 192:13-16 Jl 5 '40
Package check list. Ptr Ink 190:22 Mr 29 '40
Packaged by science; prize-winning packages. il Sci Am 162:269 My '40
Packaging awards; contest conducted by the Syndicate store merchandiser. Ptr Ink 190:78 F 16 '40
Packaging specialties for variety chain stores. C. J. Cunneen. il Chem Ind 47:54-5 Jl '40
Peek-a-boo boxes jump summer sales 30% for Busy Bee candy. W. H. Zumwinkel. il Sales Management 47:22-3 Ag 15 '40
Planning the package; design, color, labeling and legal problems. A. E. Dodd and others. 52p Am. management assn, New York '40
Prize packages; food packages win several Wolf awards. il Food Ind 12:59-60 Ap '40
Problem in re-styling. il Ptr Ink Mo 41:9 S '40
Product comes first in successful packaging. C. B. Pape. il Food Ind 12:58-9 Mr '40
Profits in flexibility. Ptr Ink Mo 40:38 My '40
Shell specialties are now one big family. C. J. Cunneen. il Chem Ind 47:414-15 O '40
Showcase packages bring this product from under counters; bolts of ruffles, ribbons and tapes; Wm. E. Wright & sons co. J. T. Wright. il Sales Management 46:54-6 Mr 15 '40
Store and the package; a survey of changes in the retail environment of packages; effects of these changes on package itself. il Mod Packaging 14:33-41+ S '40
Trade-mark marks the package. C. P. Hornung. il Mod Packaging 14:47-52+ S '40
Transparent packages for bits. il Iron Age 144:44 D 21 '39
Wolf 9th annual awards. il Ptr Ink Mo 40:12 Mr '40
Wolf packaging awards. Ptr Ink 190:74, 76 Mr 8 '40
See also
Candy trade
Canned food
Christmas gifts
Cigarets
Containers
Dog food
Packaging
Toilet goods

Combination packages
New container upsets precedent; catchup and chili sauce sold together in multiple-unit package. il Food Ind 12:53 N '40

PACKAGE goods—*Continued*

Gift packages

Gift packages give lift to sales. I. C. Miller. il Food Ind 12:64-5 O '40
Packaging for plus sales and prestige. I. C. Miller. il Food Ind 12:46-8 N '40

Inserts

See Package inserts

New packages

New packages and products. Published in monthly numbers of Food industries
When package design is changed. il Ptr Ink Mo 41:13 N '40

Size

Jumbo packages step up volume and cut distribution costs. W. Alexander. il Adv & Sell 33:30-2 Ap '40
Protective packet for Alka-Seltzer; Miles laboratories, inc. adopts single tablet packet. il Mod Packaging 14:58+ S '40

Standards

Standardization of packages. U S Nat Bur Stand Misc Pub M165:79-128 '40

PACKAGE inserts

How better package inserts will sell repeat orders. J. Thompson. il Adv & Sell 32:30-2+ D '39

PACKAGING

Complete product protection tested and approved; packaged cereal products made insect free with aid of electrical treatment. G. E. O'Brien. il Food Ind 12:54-6 My '40
Container sealing survey. K. Stevenson. Management R 29:15-16 Ja '40
$5 jig saves a job; carton, packing, sealing of cigarets. R. Davenport. il Factory Management 98:67 Je '40
Germicidal properties of hot paraffin. F. W. Tanner and H. F. Lewis. bibliog Food Ind 12:60-2 Mr; 57-8 Ap '40
Gift packages give lift to sales. I. C. Miller. il Food Ind 12:64-5 O '40
Good packaging demands proper use of adhesives. J. P. Langwill. diags Food Ind 12: 55-7 Mr; 45-7 My '40
Motion economy on labeling operations. C. A. Barnes. diags Factory Management 97:59-60 D '39
New wrapper solves problem for packers; thirty companies put meat loaf into pliofilm. il Food Ind 12:42-4 Ag '40
Packaging fight; makers of gelatin dessert defy FDA, stick to 70% filling. Business Week p56-7 N 16 '40
Packaging the new product; chemicals and chemical products often present difficult problems. R. W. Lahey. il Chem & Met Eng 47:110-13 F '40
Potatoes with trade-marked names make consumers brand conscious. P. C. Miller. il Ptr Ink 191:19-22 Je 7 '40
Protective packet for Alka-Seltzer; Miles laboratories, inc. adopts single tablet packet. il Mod Packaging 14:58+ S '40
Sodium benzoate-sodium chloride coated wrappers; a progress report on application of method to fish fillets. E. H. Crowther. Can Chem & Process Ind 24:505+ O '40
Technology's effect on food and packaging. I. C. Miller. il Food Ind 12:53-4 Mr '40
Wet goods by the bag; liquid-proof pliofilm sacks at packaging show. il Business Week p39-40 Mr 30 '40

See also

Bottling
Containers
Department stores—Gift wrapping
Paper boxes

PACKAGING machinery

Electric sealing uses 942 watts. il Elec W 113:158 Ja 13 '40
Machine wraps and seals; stretch-wrap machine. il Sci Am 162:37-8 Ja '40
Tubes and toothpaste, a case history; Bristol-Myers factory. C. Walsh. il diag Electronics 13:16-19 O '40

See also

Bag closing machines
Capping machines

PACKAGING materials

Packing material substitutes in Germany. Engineer 170:192 S 20 '40; Same. Comm Rep p695 Ag 10 '40
Prevention of oxidation and rancidity in paper with oat flour. S. Musher. bibliog Paper Tr J 110:117-20 F 22 '40
Promoting satisfactory bacteriological conditions in the paper mill. R. F. Huntley and R. H. Torrey. Paper Tr J 110:108-10 F 22 '40
Shortage of tin in Germany; economy and substitution in the use of packaging materials. Science 92:sup6 Ag 23 '40
Some observations on the materials used in packaging frozen foods. W. Rabak. Paper Tr J 111:80-2 Ag 29 '40

See also

Cellophane
Paper board
Pliofilm
Wrapping materials
Wrapping paper

PACKARD, Alpheus Spring

Episodes and personalities in the development of biology at Brown. A. D. Mead. Science 91:301-5 Mr 29 '40

PACKARD motor car company

41 years of Packard progress. M. M. Gilman. Comm & Fin Chr 150:512 Ja 27 '40
Volatile low priced equities; thumbnail appraisal. Mag of Wall St 65:689 Mr 9 '40

PACKING

Druckverlust von kugelschüttungen. G. Kling. bibliog V D I 84:85-6 F 3 '40
Efficient low-holdup laboratory column. M. L. Selker, R. E. Burk and H. P. Lankelma. bibliog diag Ind & Eng Chem Anal ed 12:352-5 Je 15 '40
Experiences with the new rubber joint packing. W. R. La Due. Water Works & Sewerage 87:60-1 F '40
Flexible hose cures packing troubles. R. Boettinger. diags Power 84:384 Je '40
Getting the right pump packing. V. A. R. Minter. il diags Power 84:256, 257+ Ap '40
Graphical construction of transfer units in packed towers; estimation of ratio of heights of liquid and gas transfer units. G. E. White. bibliog Am Inst Chem Eng Trans 36:359-69 Je '40
Handbook on hydraulic & pneumatic leather packings, rev ed 157p $1 E. F. Houghton & co. 240 W. Somerset st. Philadelphia '40
Hyde-Ro Ring; rubber jointing ring for poured pipe joints. R. H. Hyde. il diag Water Works & Sewerage 87:401-3 S '40
Jointing material for drainage and water mains; Philplug. Engineering 150:248 S 27 '40
New laboratory column packing makes record in efficiency; abstract. H. S. Lecky and R. H. Ewell. diag Nat Pet N 32:R134 Ap 17 '40
Performance of packed towers; experimental studies of absorption and desorption. T. K. Sherwood and F. A. L. Holloway. bibliog Am Inst Chem Eng Trans 36:21-36; Discussion. 36:36-7 F '40
Performance of packed towers; liquid film data for several packings. T. K. Sherwood and F. A. L. Holloway. bibliog diag Am Inst Chem Eng Trans 36:39-69, 181-2 F, Ap '40; Discussion. 36:69-70 F '40
Pressure drop and liquid holdup in a packed tower. E. L. Piret, C. A. Mann and T. Wall, jr. bibliog il Ind & Eng Chem 32:861-3 Je '40
Report of special section on packing classification. Am Soc T M Proc 39:476-7 '39
Spiral screen packing for efficient laboratory fractionating columns. H. S. Lecky and R. H. Ewell. bibliog il diag Ind & Eng Chem Anal ed 12:544-7 S 15 '40
Standardization in the field of mechanical packing. F. C. Thorn. India Rubber W 103: 37-8 N '40
Unconfined distribution of liquid in tower packing. R. S. Tour and F. Lerman. Am Inst Chem Eng Trans 35:719-42 O '39; Discussion. 36:177-9 Ap '40

PACKING—*Continued*
Waste made good as new; Chicago surface lines reclaims wool waste and oil for packing motor and journal bearings. il Transit J 84: 169 My '40

See also
Gaskets
Stuffing boxes

Testing

Distillation in packed columns. C. C. Furnas and M. L. Taylor. bibliog il diags plan Am Inst Chem Eng Trans 36:135-69; Discussion. 169-71 F '40

PACKING for shipment
Boxing for export; aircraft. H. J. Emerson. il Aviation 39:40-1, 120+ Je '40
Bulk packaging for export. R. W. Lahey. il Chem Ind 46:21-5 Ja '40
Changed layout saves $2,500; motion study on a hand-wrapping operation; Kraft Walker cheese co, Melbourne, Australia. E. O. Pelling. il diags Factory Management 98:64-5+ F '40
Clear shipping marks required because of blackouts in European ports. Comm Rep p420 My 4 '40
Compressors shipped to tropics in airtight cases. il diag Comp Air M 45:6222 Ag '40
Export packing of pottery tableware. il Comm Rep p60+ Ja 20 '40
Freight bills cut by slant-walled carton; Sun Flame Appliances redesign corrugated container for unit packaging of kerosene-heated irons. il Mod Packaging 14:66 S '40
Good packing vital to export success today. J. Leeming. For Comm W 1:187-9 N 2 '40
How foods are packaged for export. J. Leeming. il Food Ind 12:41-3 S '40
Is there a better way to pack your product? R. R. Howard. il Am Business 10:22-4 O '40
Keeping goods dry in transit; silica gel proposed for dehydration in addition to accepted packaging and sealing methods. R. L. Hockley. Chem & Met Eng 46:775-6 D '39; Abstract. Chem Age (Lond) 42:20 Ja 13 '40
Modern export packing. J. Leeming. il diags U S Bur For & Dom Com Trade Promotion Ser 207:1-530 '40
Moisture content of wooden containers in which canned goods have rusted; Vancouver laboratory experiments. Weekly Underw 141:1168-9 D 2 '39
Nailed wooden boxes used for export shipments of gasoline meter pumps. J. Leeming. Comm Rep p594 Jl 6 '40
New method of packing butter developed in Denmark. Comm Rep p198 F 24 '40
New progress in packing and shipping techniques. F. C. Campins and others. 44p Am. management assn, New York '40
Packaging equipment and shipping containers at chemical exposition. il Chem & Met Eng 46:718-20, 783 N-D '39
Packaging of smoked sheets for plantations shipment. D. E. Andrews. il India Rubber W 101:33-7 Mr '40
Packing for export; steel ties afford valuable strengthening. W. J. Auburn. il Steel 106: 56+ Je 3; 56+ Je 10 '40
Packing shipments for India. il Comm Rep p119 F 3 '40
Wire strapping saves in work, material, freight; no crates used. il Steel 106:71+ My 20 '40

See also
Barrels
Cement bags
Containers (for shipping)
Shipment of goods

PACKING houses
Temperature control in the meat industry. H. D. Tefft. il Ind & Eng Chem News ed 18:195-6 Mr 10 '40

By-products

More lab dollars; Armour's drugs and chemicals. Business Week p35-6 N 9 '40
Utilization of by-products from meat packing industry; fats, proteins, bones, etc. H. H. Young. il Ind & Eng Chem News ed 18:579-81 Jl 10 '40

Employees

Annual earnings in meat packing, 1937. J. Perlman and E. B. Morris. Monthly Labor R 49:1470-82 D '39
Disabling morbidity among employees in the slaughter and meat packing industry, 1930-34. H. P. Brinton, H. E. Seifert and E. S. Frasier. bibliog Pub Health Rep 54:2196-219 D 15 '39
Packers face test; charge that Swift & co. violates wages and hours law involves practices of whole industry. Business Week p38-9 Mr 2 '40

Equipment

Air blast method preferred in meat plant. J. A. Newton. il Refrig Eng 40:151-2 S '40

Waste

Growing importance of industrial waste disposal; a review of developments in 1939. F. W. Mohlman. il Water Works & Sewerage 87:94-6 Mr '40
Making waste pay; Chicago packing house waste used for fuel and fertilizer. Can Eng 77:16 D 26 '39
Meat packing waste; abstract. Childress. Eng N 125:360 S 12 '40
Packinghouse waste treatment; Armour & co. plant featuring multi-stage high-rate filtration. L. R. Howson. flow diag il Water Works & Sewerage 87:217-22 My '40
Packinghouse wastes treatment at Austin, Minn.; abstract. P. Hansen and K. V. Hill. Water Works & Sewerage 86:496-7 D '39
Trickling filters. M. Levine. Can Eng W & S 78:10-11, 42-7 Jl '40

PACKING industry

See also
Canned food
Cudahy packing company
Meat industry and trade
Sausages

Finance

War boom for meat packers? J. J. Hipple. il Mag of Wall St 66:158-9+ My 18 '40

Regulation

Libby, McNeill severance from Swift co. approved. Oil Paint & Drug Rep 136:5 N 27 '39

United States

Prospects for 1940. J. Holmes. Comm & Fin Chr 150:516 Ja 27 '40
War boom for meat packers? J. J. Hipple. il Mag of Wall St 66:158-9+ My 18 '40

PAGE margins. See Margins (printing)

PAGEANTS
Gay nineties week boosts gas stock; pageant originated by the Nashville gas heating company. F. E. Kunkel. il Am Gas J 153: 18+ Ag '40

PAIN
Uniformity of the pain threshold in man. G. A. Schumacher and others. diag Science 92:110-12 Ag 2 '40

PAINT
Air-drying resins give hard films. T. S. Hodgins and A. G. Hovey. Oil Paint & Drug Rep 137:37 Je 3 '40
Douglas fir plywood panels; hiding joints by use of semi-plastic wall paint; abstract. H. A. Gardner and L. P. Hart. Oil Paint & Drug Rep 137:40A Ap 8 '40
Effect of paint on the sound absorption of acoustic materials. V. L. Chrisler. pls J Research Nat Bur Stand 24:547-53 My '40; Abstracts. Sheet Metal Worker 31:28+ N '40; Power Pl Eng 44:80-1 D '40
Formation and deterioration of paint films; changes in films of glycol esters of several unsaturated fatty acids under exposure to ultraviolet light. J. L. Overholt and A. C. Elm. Ind & Eng Chem 32:1348-51 O '40
Formation and deterioration of paint films; changes in films of methyl esters of several unsaturated fatty acids under exposure to ultraviolet light. J. L. Overholt and A. C. Elm. bibliog Ind & Eng Chem 32:378-82 Mr '40
Mixing of colors and paints. F. N. Vanderwalker. 292p $2 Drake '39

PAINT—*Continued*
Paint, a housekeeping stimulant. Nat Safety N 41:143+ Mr '40
Paint style trends in homes revealed at Color styling show, New York, April 1. Oil Paint & Drug Rep 137:3+ Ap 8 '40
Paints and other finishes for which a need exists; Research advisory service survey. Oil Paint & Drug Rep 138:3+ O 21 '40
Porce-Tite, a new paint that is waterproof. Mach 46:138 Mr '40
Sichtbarmachen von temperaturfeldern durch temperaturabhängige farbanstriche. F. Penzig. il diags V D I 83:69-74, pl 1-2 Ja 21 '39; Same (Sensitive paints). Automobile Eng 30: 47-9 F '40
Southern states federation associates, annual meeting, Atlanta, Feb. 23-24. Oil Paint & Drug Rep 137:5+ F 26; 5+ Mr 4 '40
Storing, mixing and reducing of organic finishing materials. il Metal Ind 38:121-3 F '40
Study of oleoresinous film structure. F. R. McQuilkin and R. C. Ernst. Oil Paint & Drug Rep 138:45-6 N 4 '40
Temperature-indicating colours; the new Thermindex series. Chem Age (Lond) 42: 257 My 4 '40
Urea-formaldehyde film-forming compositions; enamel formulation, properties, and durability. T. S. Hodgins, A. G. Hovey and P. J. Ryan. bibliog il Ind & Eng Chem 32:334-45 Mr '40
Versatile paint-making properties of zinc oxide. H. A. Nelson. 34p bibliog(p33-4) gratis New Jersey zinc co, 160 Front st, New York '40
What paint colors we use, and why; Industrial rayon corp. il Factory Management 98: 94 Mr '40

See also
Driers
Drying agents
Lacquer and lacquering
Linseed oil
Paint factories
Paint materials
Pigments
Tung oil
Varnish and varnishing

Analysis

Analysis of black enamels. S. E. Berkenblit Ind & Eng Chem Anal ed 12:453-4 Ag 15 '40
Calculating the solids content of reduced organic finishing materials. W. G. Sheane Metal Ind 38:176-7 Mr '40; [cont as] Metal Finishing 38:361 Je '40

Dictionaries

National paint dictionary. J. R. Stewart. 154p $5 Stewart research laboratory, Franconia, Alexandria, Va. '40

Drying

Air recirculated in efficient auto oven. il Elec W 114:712 S 7 '40
American fork & hoe co. modernizes its dipping departments by installing unit heater and exhaust systems. R. C. Taft. il diags Heat & Ven 37:35-7 Mr '40
Applying colors to metal; automobile hubcaps, bumpers, nameplates, louvers, radio grilles, instrument panels and other parts. il Steel 106:52+ Je 3 '40
Baking and drying; gas-fired baking and drying ovens. J. E. Dare. il diags Steel 105:59, 62 D 18 '39
Drying action; abstracts of paper by Montreal paint and varnish production club. Oil Paint & Drug Rep 136:53-4 N 6 '39; Can Chem & Process Ind 24:12+ Ja '40
Drying and baking with radiant energy. Steel 107:48-51 O 28; 68-9+ N 4; 48-50 N 11 '40
Drying of linseed oil paint; effect of acidity upon rate of oxygen absorption. D. G. Nicholson. bibliog Ind & Eng Chem 32:1259-61 S '40
Drying oven on roof is feature of enlarged finishing plant; De Foe finishing co. H. H. Slawson. il Steel 107:42, 44+ O 21 '40
Drying with infra-red radiation; comparing industrial heating by gas and by electricity. H. A. Clark. Am Gas J 152:43-5+ My '40
Enameling in nine minutes with infra-red lamps. W. A. Howe. il plan Factory Management 98:64-5 O '40
For us, infra-red drying; Lonergan manufacturing company. C. H. Newton. il Factory Management 98:58-9+ N '40
Helpful oven suggestions. F. V. Faulhaber. il Metal Ind 38:179-82 Mr '40
Industrial data sheet; infra-red dryer; auto painting. J. R. Hedge. il Elec West 84:41 My '40
Infrared drying oven. Can Min J 60:845-6 D '39
Infra-red halves refinishing costs. il Elec W 113:1740 Je 1 '40
Infra-red in industry. J. Sasso. il diags Am Mach 84:741-4, 867-9 O 2, 30 '40
Infra-red lamps speed up drying operations. il Automotive Ind 82:376-7 Ap 15 '40
Infra-red oven is adaptable; Canadian Westinghouse plant, Hamilton. D. P. Brown. il Elec W 113:310+ Ja 27 '40
Infra-red speeds paint shop schedules. il Elec W 113:612 F 24 '40
Paint baking with near infra-red. H. J. Bennett and H. Haynes. il Chem & Met Eng 47:106-8 F '40
Paint jobs speeded; infra-red rays find an increasing variety of uses in auto, rubber, and other industries. il Business Week p36+ Ag 10 '40
Putting the heat on white enamels; advantages and disadvantages of the urea, alkyd and the new melamine resins. J. M. Sanderson. il Metal Finishing 38:567-8 O '40
Radiant energy drying and baking for organic finishing. D. J. Stedtefeld. il Metal Ind 38:294-6 My '40
Radiant energy drying with heat lamps. T. P. Brown and L. S. Ickis, jr. il diag Metal Ind 37:607-8 D '39
Run infra-red tunnel for 49 cents an hour; Steel storage file company; enamel-drying tunnel. D. Aitken. il Elec W 114:566 Ag 24 '40
Trent air convection ovens. Metal Ind 38:72 Ja '40
Using lamps for industrial heating. H. Haynes. il Iron Age 145:52-3 Ap 4 '40
Utilization data sheet; enamel baking oven H. Van Wyk. il Elec West 84:42 Mr '40

Failure

Chalking of titanium dioxide pigmented exterior finishes; synthetic enamels. D. H. Dawson and R. D. Nutting. il Ind & Eng Chem 32:112-16 Ja '40
Moisture peeling of house paints; effect of structural details. J. W. Iliff and R. B. Davis. il diags map Ind & Eng Chem 31: 1407-12 N '39; Same. Metal Ind 38:240-4, 300-1 Ap-My '40
Moisture peeling of house paints; mechanism of moisture peeling. J. W. Iliff and R. B. Davis. il diags Ind & Eng Chem 31:1446-50 D '39

Manufacture

Surface-active agents in pigment grinding. Oil Paint & Drug Rep 138:48-9 N 4 '40

See also
Paint factories
Paint materials

Moisture absorption

Moisture peeling of house paints; effect of structural details. J. W. Iliff and R. B. Davis. il diags map Ind & Eng Chem 31: 1407-12 N '39; Same. Metal Ind 38:240-4, 300-1 Ap-My '40
Moisture peeling of house paints; mechanism of moisture peeling. J. W. Iliff and R. B. Davis. il diags Ind & Eng Chem 31:1446-50 D '39

Rating

House paints for exterior wood surfaces. Consumers' Research Bul (Gen bul ser) 10:17-20 O '40

Removal

Health hazards from paint removers. Nat Safety N 42:139 O '40
Paint stripping machine developed by Oakite il Marine Eng 45:47 Jl '40

PAINT—Removal—*Continued*
What you can use; substances used as paint removers. Oil Paint & Drug Rep 137:55 Je 3; 42 Je 10 '40

Standards

Revision of federal standards for casein paints is announced. il Ind Stand 11:185-6 Jl '40

Testing

Chalking of titanium dioxide pigmented exterior finishes; outside house paints. R. E. Troutman and W. G. Vannoy. il Ind & Eng Chem 32:232-7 F '40

Chalking of titanium dioxide pigmented exterior finishes; synthetic enamels. D. H. Dawson and R. D. Nutting. il Ind & Eng Chem 32:112-16 Ja '40

Materials artificially aged by salt spray. Mach 46:128 Mr '40

Moisture peeling of house paints; effect of structural details. J. W. Iliff and R. B. Davis. il diags map Ind & Eng Chem 31: 1407-12 N '39; Same. Metal Ind 38:240-4, 300-1 Ap-My '40

Moisture peeling of house paints; mechanism of moisture peeling. J. W. Iliff and R. B. Davis. il Ind & Eng Chem 31:1446-50 D '39

Paint color control; use of the spectrophotometer. E. A. Zahn. Metal Ind 38:172-5 Mr '40

Paint films of controlled thickness. H. G. Arlt. il Metal Ind 38:123-4 F '40

Paint reflection tests with mercury and incandescent lighting. Elec Eng 59:62 F '40

Test for paint mold-resistance. A. M. Partansky and R. R. McPherson. Oil Paint & Drug Rep 138:3+ N 11 '40; Same. Metal Finishing 38:676 D '40

Testing mold-resistant properties of oil paints; a laboratory method. A. M. Partansky and R. R. McPherson. bibliog il Ind & Eng Chem Anal ed 12:443-5 Ag 15 '40

See also
Paint research

Transportation

Paint package changes proposed by I.C.C. Oil Paint & Drug Rep 138:5+ Jl 1 '40

Ultraviolet ray reflection

Paints to reflect ultraviolet light. D. F. Wilcock and W. Soller. bibliog diags Ind & Eng Chem 32:1446-51 N '40

PAINT, Fluorescent. See Paint, Luminous

PAINT, Heat resisting
Specifications for aircraft finishes. M. A Coler. Aero Digest 37:44+ Jl '40

PAINT, Luminous
Black light; ultra-violet lamps and fluorescent materials for theaters. F. M. Falge. il Elec West 85:31-2 S '40

Blackout light; fluorescent paint. Business Week p48 N 2 '40

Blackout relief; luminous paint printing. Inland Ptr 104:74 F '40

Fluorescent and phosphorescent paint; British standard specification, BS/ARP 18. Light & Lighting 33:10+ Ja '40

Fluorescent paints for A.R.P.; revision of British standard specification A.R.P./18. Electrician 125:165 S 27 '40; Same. Elec R (Lond) 127:304 O 11 '40

Fluorescent sketches used by sign industry. Illum Eng 35:405-6 My '40

Luminous pigments; properties of alkaline earth powders. Chem Age (Lond) 41:400 D 16 '39

Self-luminous materials and their utilisation; zinc sulphide and alkaline earth phosphors. L. Levy and D. W. West. Chem Age (Lond) 42:169-72 Mr 23 '40

PAINT, Protective
Aluminium paint as a fire hazard. Gas J (Lond) 230:387 My 22 '40; Oil Paint & Drug Rep 138:5+ Jl 15 '40

Automatic painting machine for long bars and sections. diags Engineering 148:716-18 D 29 '39

Bituminöse schutzanstriche für bauwerke. W. Becker. bibliog Angew Chemie 53:82-8 F 17 '40

Chemist and the ship; paints and finishes. J. E. Holmstrom. Engineer 169:229-30 Mr 8 '40

Experiences with paints at a sewage treatment plant. Kleven. il Pub Works 71:32-3 O '40

Fire-retardant paint. Ind & Eng Chem News ed 18:404 My 10 '40

Graphite paint; its application in the gas plant. J. J. O'Loughlin. bibliog il Gas Age 85:23-4+ Mr 14 '40

Paint for steelwork; application to wet and weathered surfaces. U. R. Evans. Chem Age (Lond) 42:sup18 Ap 6 '40

Paint maintenance problem on Golden Gate bridge. Eng N 123:774-5 D 7 '39

Painting and paints; composite of abstracts. Metals & Alloys 12:192+ Ag '40

Painting iron and steel; abstract. G. H. P. Lichthardt. Oil Paint & Drug Rep 136:37 N 20 '39

Preparing structural steel surfaces for painting; symposium on methods of preventing corrosion. E. R. Needles and others. il Civil Eng 10:405-17 Jl '40

Protecting steel against corrosion. J. C. Hudson. il Iron Age 145:28-31 F 15 '40

Recent developments in red lead. H. D. Ward. il Chem Ind 46:191-3 F '40

Report on corrosion research work at Cambridge university interrupted by the outbreak of war. U. R. Evans. diags Iron & Steel Inst J 141:229-32 no 1 '40

Review recent developments in protective coatings for metals at Franklin institute. Steel 106:52+ F 12 '40

Rust problems. R. W. Baker. diags Steel 107: 62-4 Jl 1 '40; Same cond. Nat Safety N 42:74-5+ O '40

Service life of coal-tar enamel protective coatings. H. Hayes. bibliog il Am Water Works Assn J 32:1705-22 O '40

Specifications for aircraft finishes. M. A. Coler. Aero Digest 37:44+ Jl '40

Surface treatment of steel prior to painting. R. E. Pollard and W. C. Porter. il Metal Finishing 38:514-18, 569-71, 620-1 S-N '40; Excerpts. Iron Age 146:48-9 Jl 11 '40; Conclusions. Steel 106:54 Je 10 '40

Symposium on conditioning steel for painting. Eng N 124:566 Ap 25 '40

Synthetic resins in corrosion-resistant paints. R. J. Moore. il Mod Plastics 17:62-4+ Je '40

Test for paint mold-resistance. A. M. Partansky and R. R. McPherson. Oil Paint & Drug Rep 138:3+ N 11 '40; Same. Metal Finishing 38:676 D '40

See also
Corrosion and anti-corrosives
Metal protection

PAINT brushes
Care of brushes. J. G. Shelton. il Metal Finishing 38:357-8 Je '40

Electric drill whirls paint brushes clean. H. R. Graham. il diag Factory Management 98: 98 Mr '40

PAINT factories

Accounting

A B C of cost figuring for the paint, varnish and lacquer industry. W. R. Sieplein. 41p Sherwin-Williams co, 601 Canal road, Cleveland '39

Budgeting for the smaller company; Seidlitz paint and varnish co. W. P. Marsh. N A C A Bul 21:1233-43 Je 1 '40

Employees

Every week the same pay check; Tremco manufacturing company, Cleveland. W. C. Treuhaft. Factory Management 98:57+ N '40

Paint industry wage minimums suggested. Oil Paint & Drug Rep 138:5+ O 7 '40

Young men in industry; teach your boy a trade. H. V. Smith. Oil Paint & Drug Rep 137:30B Ap 8 '40

PAINT factories—*Continued*

Equipment

Atmosphere protection in paint and varnish manufacture; new inert gas generator. H. W. Smith, jr. Gas J (Lond) 229:304 F 7 '40

Color matching at the Forbes varnish company. R. F. Wysocki and A. K. Gaetjens. il diag illum Eng 35:343-50 Ap '40

Conveyors solve the problem; conveyors connected by spiral chutes sort and handle cartons of paint cans; Sherwin-Williams company. E. O. Merkel. il Factory Management 98:64-5+ S '40

Gas conditioning for paint and varnish plant. C. H. S. Tupholme. il Ind & Eng Chem News ed 18:621 Jl 25 '40

Gas-conditioning units for paint and varnish manufacture. il Engineer 169:542 Je 14 '40; Gas J (Lond) 230:482+ Je 5 '40; Engineering 150:27 Jl 12 '40

Safety devices and measures

First three million; Milwaukee paint factory safety record. C. T. Fish. il Nat Safety N 42:14-15+ Ag '40

PAINT handling

Modernized finishing department for steel cabinets. J. R. Williams. il plan Metal Ind 38:125-6 F '40

PAINT industry and trade

Both salesmen and company earn more under profit-sharing plan; Pioneer mfg. co. Sales Management 47:54 N 15 '40

Glidden color centers serve people with painting problems. il Sales Management 47:25 Ag 1 '40

National defense program and the paint industry. E. T. Trigg. Oil Paint & Drug Rep 138:5+, 37+ Jl 29 '40

Paints and pigments. Published in weekly numbers of Foreign commerce weekly

See also National paint, varnish and lacquer association

Advertising

American home in review; Sherwin-Williams company's Paint and color style guide for paint dealers, builders and architects. il Ptr Ink Mo 40:38 Ap '40

Paint industry urged to tie-in FHA plan. Oil Paint & Drug Rep 138:34 Jl 29 '40

Spot radio is tonic for paint dealers with spring fever; W. P. Fuller & co. merchandises program to trade. Sales Management 47:64-5 Ag 1 '40

Exhibitions

Paint industries show exhibitors, Washington, D.C., Oct. 28-Nov. 1. plan Oil Paint & Drug Rep 138:41-2, 42A O 21 '40

Statistics

Paint sales, 1936-1939. Survey of Cur Business 1940 Sup p95-6 [supplemented in monthly numbers]

Paint, varnish census for 1939 released. Oil Paint & Drug Rep 138:52 N 4 '40

Australia

U.S. paint industry keenly watched abroad; conditions in Australia and the Union of South Africa. C. Iddings. Oil Paint & Drug Rep 136:3+ D 18 '39

South Africa

U.S. paint industry keenly watched abroad; conditions in Australia and the Union of South Africa. C. Iddings. Oil Paint & Drug Rep 136:3+ D 18 '39

United States

National paint, varnish and lacquer association 52d annual meeting, Washington, Oct. 30-Nov. 1. Oil Paint & Drug Rep 138:47, 49-58+ N 11 '40

PAINT laboratories

Paint service laboratory; Canadian titanium pigments ltd. il Can Chem & Process Ind 24:193-4 Ap '40

PAINT materials

Anti-percussion latex films. P. Mabb. il Rubber Age 46:229-31 Ja '40

Coatings, 1919-1939. J. Marshall. il Chem Ind 46:15-20 Ja '40

Developments in domestic paint oils. L. J. Reizenstein. Oil Paint & Drug Rep 137:5+ F 26; 5+ Mr 4 '40

Highly aromatic petroleum solvent naphthas; abstract. W. J. Sweeny and E. H. McArdle. Nat Pet N 32:R366-7 O 2 '40

Inert materials for admixture with paint pigments. W. R. Fuller. Oil Paint & Drug Rep 138:3+ Ag 19; 5+ Ag 26; 5+ S 2 '40

National defense program and the paint industry. E. T. Trigg. Oil Paint & Drug Rep 138:5+, 37+ Jl 29 '40

New conception of petroleum solvents and thinners. E. M. Toby, jr. Oil Paint & Drug Rep 137:3+ Mr 4; 33, 33A Mr 11; 5+ Mr 18 '40; Same. Metal Finishing 38:354-6, 410-11, 413 Je-Jl '40

Petroleum solvents for paints compared by new solvency tests. S. S. Kurtz, jr. Nat Pet N 32:R270, R272-3 Jl 24 '40

Putting the heat on white enamels; advantages and disadvantages of the urea, alkyd and the new melamine resins. J. M. Sanderson. il Metal Finishing 38:565-8 O '40

Soybean oil in flat wall paint. Oil Paint & Drug Rep 138:46-7 N 4 '40

Study of oleoresinous film structure. F. R. McQuilkin and R. C. Ernst. Oil Paint & Drug Rep 138:45-6 N 4 '40

Synthetic resin emulsions. H. C. Cheetham. il Mod Plastics 18:63+ S '40

Synthetic resins in corrosion-resistant paints. R. J. Moore. il Mod Plastics 17:62-4+ Je '40

Tung oil elimination; substitutes; abstract. W. A. Gerhardt. Oil Paint & Drug Rep 136: 25+ N 20 '39

Use of soybean oil in paints and varnishes. G. H. Hamilton. Oil Paint & Drug Rep 138:31 O 7 '40

What you can use; anti-fouling agents, driers and other materials used in making paints. Oil Paint & Drug Rep 137:40 F 19; 46 F 26; 54 Mr 4; 43 Mr 11; 36 Mr 18; 44 Mr 25 36 Ap 1; 43 Ap 8; 31 Ap 15; 34 Ap 22; 32 Ap 29; 47 My 6; 48 My 13; 45 My 20; 61 My 27; 55 Je 3; 42 Je 10 '40

See also
Carbon black
Driers
Drying oils
Linseed oil
Pigments
Titanium oxides
Tung oil
Varnish and varnishing

Prices

Synthetic resins and other branded paint materials (manufacturers' list prices). Oil Paint & Drug Rep 137:20 Ja 1 '40 [cont monthly]

Statistics

Paint, varnish, lacquer materials. Published in weekly numbers of Oil, paint and drug reporter

PAINT research

A.C.S. program lists 25 paint research reports. Oil Paint & Drug Rep 138:5+ Ag 26 '40

Drying of linseed oil paint; effect of acidity upon rate of oxygen absorption. D. G. Nicholson. bibliog Ind & Eng Chem 32:1259-61 S '40

Formation and deterioration of paint films; changes in films of glycol esters of several unsaturated fatty acids under exposure to ultraviolet light. J. L. Overholt and A. C. Elm. Ind & Eng Chem 32:1348-51 O '40

Formation and deterioration of paint films: changes in films of methyl esters of several unsaturated fatty acids under exposure to ultraviolet light. J. L. Overholt and A. C. Elm. bibliog Ind & Eng Chem 32:378-83 Mr '40

Inert materials for admixture with paint pigments. W. R. Fuller. Oil Paint & Drug Rep 138:3+ Ag 19; 5+ Ag 26; 5+ S 2 '40

Paints and other finishes for which a need exists; Research advisory service survey. Oil Paint & Drug Rep 138:3+ O 21 '40

PAINT research—*Continued*
Paints to reflect ultraviolet light. D. F. Wilcock and W. Soller. bibliog diags Ind & Eng Chem 32:1446-51 N '40
Primers for magnesium alloys. Oil Paint & Drug Rep 138:50 N 4 '40
Test for paint mold-resistance. A. M. Partansky and R. R. McPherson. Oil Paint & Drug Rep 138:3+ N 11 '40; Same. Metal Finishing 38:676 D '40

See also
Paint laboratories

PAINT spraying
Air cleaners for clean spraying of organic finishing materials. L. F. Johnston. il diags Metal Ind 38:297-9 My '40
Air filters for organic finishing. il Metal Finishing 38:467-8 Ag '40
Air transformer for spray-painting process. il Ry Mech Eng 114:199 My '40
Applying colors to metal; automobile hubcaps, bumpers, nameplates, louvers, radio grilles, instrument panels and other parts. il Steel 106:52+ Je 3 '40
Automatic painting machine for long bars and sections. diags Engineering 148:716-18 D 29 '39
Circulating piping systems promote efficiency in industrial finishing; paint circulating system. L. J. McGrady. il Heating-Piping 12: 665-7 N '40
Down-draft exhaust aids finishing department; Landis tool co. il Steel 107:80 N 11 '40
Drying oven on roof is feature of enlarged finishing plant; De Foe finishing co. H. H. Slawson. il Steel 107:42, 44+ O 21 '40
High temperature lacquering. D. J. Stedtefeld. il diags Metal Finishing 38:414-15+ Jl '40
International business machines corp.; heating additional air supply for new paint spray booths. H. G. Murphy. il Heat & Ven 37:35 N '40
Lighting spray booth from outside. il Elec W 114:1348 N 2 '40
Merry-go-round at work; turntable in the paint shop; Dodge division of Chrysler corporation. il Am Mach 83:1001 N 29 '39
Modernized finishing department for steel cabinets. J. R. Williams. il plan Metal Ind 38:125-6+ F '40
New opportunities for the sheet metal contractor; design and construction of spray painting tables, benches and booths. R. L. Grayford. il diags Sheet Metal Worker 31: 31-2+ Jl; 24-5+ Ag; 35-6 S; 28-30 O; 33-4 N '40
Paint films of controlled thickness. H. G. Arlt. il Metal Ind 38:123-4 F '40
Plymouth; ventilating and air cleaning system for paint spraying booths. C. Strock. il diag Heat & Ven 37:136-40 Ja '40
Producing uniform films. Oil Paint & Drug Rep 138:52 N 4 '40
Ventilation and dehumidification of paint spray rooms for airplane manufacturers. il Dom Eng 156:34-5+ Jl '40
Water wash spray booth. diag Metal Ind 38: 246 Ap '40

Safety devices and measures

Exhaust booth design. T. Hatch and R. B. Northrup. diags plan Metal Ind 38:62-3+ Ja '40; Same. Safety Eng 79:33-4+ Ja '40
Paint spraying hazards. Safety Eng 79:24 Je '40

PAINT stores
Fountain paint co., Paterson, N.J. il plan Arch Forum 73:92-3 Ag '40

PAINTED POST, New York
Painted Post; annals of Te-car-nase-teo-ah (a hewn sign post). E. Cowles. il maps Comp Air M 44:6010-15 N '39

PAINTERS, Industrial
Walkout of New York painters ends, as Mayor arbitrates. Comm & Fin Chr 151: 1826-7 S 28 '40

PAINTING
Painting pictures with an air brush. il Comp Air M 45:6158 My '40

See also
Mural painting and decoration

PAINTING, Industrial
Better adherence; laboratory tests on improved adherence of finishes on zinc or zinc-alloys and on zinc-coated metals. H. E. Van Sicien. Steel 105:66, 68-9 N 20 '39
Bonderizing sheets to hold paint. il Sheet Metal Worker 31:32-4 S '40
Detecting moisture with meters. il Metal Ind 38:178 Mr '40
Detective work on metal finishes; testing for invisible activators that cause paint failures. V. M. Darsey. il Metal Ind 38:304-5 My '40
Drafting room lighting design employs ceiling barriers; Pullman building. R. W. Wilbraham. il diags Elec W 113:1050-1+ Ap 6 '40
Finishing metal containers. C. Cleveland. il Metal Finishing 38:619+ N '40
Flame cleaning steel for painting. E. W. Deck. il Eng N 125:411-14 S 26 '40
Paint, a housekeeping stimulant. Nat Safety N 41:143+ Mr '40
Painting at Callaway; methods employed in mill and village. il Textile World 90:68-70 My '40
Painting brick surfaces. Oil Paint & Drug Rep 138:51 N 4 '40
Paints 400 wheel disks hourly; equipment degreases, dip paints, drains, dries and bakes; Geneva metal wheel co. il diag Steel 107:48+ Ag 26 '40
Surface treatment of steel prior to painting; abstract. R. E. Pollard and W. C. Porter. Steel 106:54 Je 10 '40

See also
Automobiles—Painting and finishing
Bridge painting
Car painting and finishing
Factories—Painting
Gas holders—Painting
Lacquer and lacquering
Motor buses—Painting
Paint
Paint, Protective
Paint spraying
Sewage disposal plants—Painting
Varnish and varnishing

Safety devices and measures

Safe painting steel stacks. W. E. Rossnagel. il diags Power 84:292-4 My '40
Safe stack scaffold cuts painting time; how to build and use an articulated steel scaffold. W. E. Rossnagel. il diags Power 84: 418-19 Jl '40

PAINTINGS
Identifying Shakespeare; infra-red photography and X ray study of portraits believed to be Edward de Vere, 17th earl of Oxford. C. W. Barrell. il Sci Am 162:4-8+ Ja '40; Discussion (Who was Shakespeare?) 162: 264+ My '40
Paris at war; sixteen paintings in gouache by B. Lamotte. Fortune 21:65-72 My '40

PALEOBOTANY
Leaf imprints in shale nodules in waste-heaps of soft coal mines; abstract. G. Langford. Science 90:sup7 D 29 '39

See also
Algae, Fossil
Pollen, Fossil
Trees, Fossil

Carboniferous

Pennsylvanian flora from central Oregon. C. B. Read and C. W. Merriam. Am J Sci 238:107-11 F '40

Cretaceous

Relationship between floras of type Lance and Fort Union formations. E. Dorf. map Geol Soc Bul 51:213-35 bibliog(p233-5) F '40

Mesozoic

Illustrated catalogue of mesozoic and early cenozoic plants of North America. E. Dorf. Science 91:478 My 17 '40

PALEOBOTANY—*Continued*

Miocene

Mint Canyon flora of southern California; a preliminary statement. D. I. Axelrod. bibliog Am J Sci 238:577-85 Ag '40

Miocene flora from the western border of the Mohave desert. D. I. Axelrod. 129p $2; pa $1.50 Carnegie institution of Washington, Washington, D.C. '39

Tertiary

Tertiary forests and continental history. R. W. Chaney. maps Geol Soc Bul 51:469-88, pl 1-2 bibliog(p487-8) Mr '40

California

Mint Canyon flora of southern California; a preliminary statement. D. I. Axelrod. bibliog Am J Sci 238:577-85 Ag '40

Miocene flora from the western border of the Mohave desert. D. I. Axelrod. 129p $2; pa $1.50 Carnegie institution of Washington, Washington, D.C. '39

Colorado

Lime-secreting algae and algal limestones from the Pennsylvanian of central Colorado. J. H. Johnson. diags Geol Soc Bul 51:571-94 bibliog(p593-5) pl 1-10 Ap '40

Connecticut

Studies on Connecticut lake sediments; chemical analyses of a core from Linsley pond, North Branford. G. E. Hutchinson and A. Wollack. bibliog Am J Sci 238:493-517 Jl '40

Illinois

Leaves and stems from fossil forests; a handbook of the paleobotanical collections in the Illinois state museum. R. E. Janssen. 190p bibliog(p181-3) pa $1.25 State museum, Springfield, Ill. '39

North America

Illustrated catalogue of mesozoic and early cenozoic plants. E. Dorf. Science 91:478 My 17 '40

Oregon

Pennsylvanian flora from central Oregon. C. B. Read and C. W. Merriam. Am J Sci 238:107-11 F '40

South America

Contributions to the paleobotany of middle and South America. E. W. Berry. 168p $2 Johns Hopkins press, Baltimore '39

Wyoming

Relationship between floras of type Lance and Fort Union formations. E. Dorf. map Geol Soc Bul 51:213-35 bibliog(p233-5) F '40

PALEOCLIMATOLOGY

Climate and evolution. W. D. Matthew and others. 2d ed rev & enl 223p $2 New York acad. of sciences, New York '39

Correlations of pollen profiles from glaciated eastern North America. P. Smith. Am J Sci 238:597-601 Ag '40

Possible implications of reptilian thermal tolerance. R. B. Cowles. Science 90:465-6 N 17 '39

Studies on Connecticut lake sediments; chemical analyses of a core from Linsley pond, North Branford. G. E. Hutchinson and A. Wollack. bibliog Am J Sci 238:493-517 Jl '40

PALEOECOLOGY

Paleoecological factors controlling distribution and mode of life of cretaceous ammonoids in Texas area. G. Scott. il map Am Assn Pet Geologists Bul 24:1164-1203 bibliog(p1202-3) Jl '40

PALEOGEOGRAPHY

Ecology of modern marine organisms with reference to paleogeography. T. W. Vaughan. maps Geol Soc Bul 51:433-68 bibliog(p466-8) Mr '40

Myth? part truth? Atlantic Ridge plateau and lost Atlantis tradition. Sci Am 163:179 O '40

Tertiary forests and continental history. R. W. Chaney. maps Geol Soc Bul 51:469-88, pl 1-2 bibliog(p487-8) Mr '40

PALEONTOLOGISTS

See also
Scott, William
Berryman

PALEONTOLOGY

Abstracts of the Paleontological society; December meeting at Minneapolis and August meeting at Berkeley. Geol Soc Bul 50:1963-74 pt 2 D '39

Applied paleontology. H. G. Schenck. il diags map Am Assn Pet Geologists Bul 24:1752-78 bibliog(p1772-8) O '40

O. C. Marsh; pioneer in paleontology. C. Schuchert and C. M. LeVene. 541p bibliog (p503-25) $5 Yale univ. press '40

Possible implications of reptilian thermal tolerance. R. B. Cowles. Science 90:465-6 N 17 '39

Society of economic paleontologists and mineralogists annual meeting, Chicago, April 9-12; abstracts of papers. Oil & Gas J 38: 63, 66-7 Ap 11 '40

See also

Birds, Fossil	Marine fauna, Fossil
Brachiopoda, Fossil	Mollusks, Fossil
Corals, Fossil	Paleobotany
Lamellibranchiata, Fossil	Trilobites
Mammals, Fossil	Vertebrates, Fossil

Specimens

Latex in paleontology; casting bones of fossil animals. J. H. Quinn. il Rubber Age 47:237-41 Jl '40

Carboniferous

Anartiocrinus, a new crinoid genus from the Mississippian. E. Kirk. Am J Sci 238:47-55, pl 1 Ja '40

Carboniferous insects from the Stanton formation, Kansas. F. M. Carpenter. diag Am J Sci 238:636-42, pl 1 S '40

Carboniferous mystery; prints roughly resembling human footprints. A. G. Ingalls. il Sci Am 162:14 Ja '40

Cretaceous

Nearly complete turtle skeleton from the upper cretaceous of Montana. E. C. Case. 19p pa 40c Univ. of Michigan press, Ann Arbor '39

Neocomian faunas of northern Mexico. R. W. Imlay. diags maps Geol Soc Bul 51: 117-90, pl 1-21 bibliog (p166-8) Ja '40

Paleoecological factors controlling distribution and mode of life of cretaceous ammonoids in Texas area. G. Scott. il map Am Assn Pet Geologists Bul 24:1164-1203 bibliog(p1202-3) Jl '40

Type locality of the cretaceous Chico formation. J. A. Taff, G. D. Hanna and C. M. Cross. map Geol Soc Bul 51:1311-27, pl 1-2 bibliog(p1323-4) S '40

Devonian

Devonian stratigraphy and paleontology of the Roberts Mountains region, Nevada. C. W. Merriam. diags maps Geol Soc Special Pa no 25:1-114 bibliog(p94-6), pl 1-16 '40

Trepostomatous bryozoa from the traverse group of Michigan. H. Duncan. p171-269 bibliog(p266-9) pa 90c Univ. of Michigan press, Ann Arbor '39

Bibliography

Bibliographic index of North American Devonian cephalopods. E. M. Kindle and A. K. Miller. Geol Soc Special Pa no 23: 1-179 '39

Miocene

Subsurface miocene of southern Louisiana. A. C. Ellisor. diags 6 pls map Am Assn Pet Geologists Bul 24:435-75 Mr '40

Paleozoic

Paleozoic pelecypods myalina and naiadites. N. D. Newell. diags Am J Sci 238:286-95, pl 1-2 Ap '40

PALEONTOLOGY—*Continued*

Permian

Invertebrate fauna of the late Permian Whitehorse sandstone. N. D. Newell. diags maps Geol Soc Bul 51:261-335, pl 1-10 bibliog(p323-5) F '40

Permian ammonoids of the Guadalupe Mountain region and adjacent areas. A. K. Miller and W. M. Furnish. diags Geol Soc Special Pa no 26:1-242 bibliog(p181-92) pl 1-44 '40

Pleistocene

Marine pleistocene fossils from Newfoundland. H. G. Richards. bibliog Geol Soc Bul 51:1781-8 N '40

Marine pleistocene of Texas. H. G. Richards. Geol Soc Bul 50:1885-98, pl 1-3 bibliog(p1897-8) D '39

Pleistocene artifacts and associated fossils from Bee county, Texas. E. H. Sellards. bibliog diags maps Geol Soc Bul 51:1627-57, pl 1-2 N '40

Pleistocene mammoths in Utah and vicinity. E. Blackwelder. Am J Sci 237:890-4, pl 1 D '39

Was the American mano and metate an invention made during pleistocene time? C. N. Ray. Science 91:190 F 23 '40

Pliocene

New pliocene mastodon. E. H. Sellards. diags Geol Soc Bul 51:1659-64 N '40

Preliminary report on the late middle pliocene, Axtel locality, and the description of a new member of the genus osteoborus. C. S. Johnston. bibliog Am J Sci 237:895-8, pl 1 D '39

Silurian

Paleontology and stratigraphy of the Silurian rocks of the Port Daniel-Black Cape region, Gaspé. S. A. Northrop. maps 28 pls Geol Soc Special Pa no 21:1-302 bibliog (p248-55) '39

Tertiary

Relative growth and vertebrate phylogeny. F. B. Phleger, jr. bibliog Am J Sci 238:643-62 S '40

America

Early man in America; index to localities, and selected bibliography. E. H. Sellards. diags Geol Soc Bul 51:373-431 bibliog(p412-31) pl 1 Mr '40

California

Development of micropaleontology in California. H. G. Schenck, A. M. Keen and L. T. Martin. bibliog Oil & Gas J 39:40-1 My 23 '40

Tie-ins between the marine and continental records in California. J. E. Eaton. Am J Sci 237:899-919 bibliog(p918-19) D '39

Type locality of the cretaceous Chico formation. J. A. Taff, G. D. Hanna and C. M. Cross. map Geol Soc Bul 51:1311-27, pl 1-2 bibliog(p1323-4) S '40

Florida

Notes on the upper tertiary and pleistocene mollusks of peninsular Florida. W. C. Mansfield. pls maps Florida Dept of Conservation, Geol Bul 18:1-75 bibliog(p59) '39

Gaspé peninsula

Paleontology and stratigraphy of the Silurian rocks of the Port Daniel-Black Cape region, Gaspé. S. A. Northrop. maps 28 pls Geol Soc Special Pa no 21:1-302 bibliog (p248-55) '39

Kansas

Carboniferous insects from the Stanton formation. F. M. Carpenter. diag Am J Sci 238:636-42, pl 1 S '40

Louisiana

Subsurface miocene of southern Louisiana. A. C. Ellisor. diags 6 pls map Am Assn Pet Geologists Bul 24:435-75 Mr '40

Maine

Fossiliferous esker-like deposit. J. M. Trefethen and J. N. Harris. diag Am J Sci 238:408-12, pl 1 Je '40

Mexico

Neocomian faunas of northern Mexico. R. W. Imlay. diags maps Geol Soc Bul 51: 117-90, pl 1-21 bibliog(p166-8) Ja '40

Michigan

Trepostomatous bryozoa from the traverse group of Michigan. H. Duncan. pl71-269 bibliog(p266-9) pa 50c Univ. of Michigan press, Ann Arbor '39

Montana

Case history of a scientific news story; Fort Union of the Crazy Mountain field, Montana, and its mammalian faunas. G. G. Simpson. Science 92:148-50 Ag 16 '40

Nearly complete turtle skeleton from the upper cretaceous of Montana. E. C. Case. 19p pa 40c Univ. of Michigan press, Ann Arbor '39

Nevada

Devonian stratigraphy and paleontology of the Roberts Mountains region, Nevada. C. W. Merriam. diags maps Geol Soc Special Pa no 25:1-114 bibliog(p94-6), pl 1-16 '40

Newfoundland

Marine pleistocene fossils from Newfoundland. H. G. Richards. bibliog Geol Soc Bul 51: 1781-8 N '40

Oklahoma

Invertebrate fauna of the late Permian Whitehorse sandstone. N. D. Newell. diags maps Geol Soc Bul 51:261-335, pl 1-10 bibliog(p323-5) F '40

Megalonyx hogani, a new species of ground sloth from Gould, Oklahoma. J. W. Stovall. bibliog il Am J Sci 238:140-6, pl 1 F '40

South Dakota

Paleontological expedition of the National geographic society and the South Dakota state school of mines. Science 91:309 Mr 29 '40

Texas

Marine pleistocene of Texas. H. G. Richards. Geol Soc Bul 50:1885-98, pl 1-3 bibliog(p1897-8) D '39

New pliocene mastodon. E. H. Sellards. diags Geol Soc Bul 51:1659-64 N '40

Paleoecological factors controlling distribution and mode of life of cretaceous ammonoids in Texas area. G. Scott. il map Am Assn Pet Geologists Bul 24:1164-1203 bibliog(p1202-3) Jl '40; Abstract. Oil & Gas J 38:63 Ap 11 '40

Pleistocene artifacts and associated fossils from Bee county, Texas. E. H. Sellards. bibliog diags maps Geol Soc Bul 51:1627-57, pl 1-2 N '40

Preliminary report on the late middle pliocene, Axtel locality, and the description of a new member of the genus osteoborus. C. S. Johnston. bibliog Am J Sci 237:895-8, pl 1 D '39

Was the American mano and metate an invention made during pleistocene time? C. N. Ray. Science 91:190 F 23 '40

Utah

Pleistocene mammoths in Utah and vicinity. E. Blackwelder. Am J Sci 237:890-4, pl 1 D '39

West Virginia

Mastodon remains found in West Virginia. W. J. Sumpstine and B. R. Weimer. Science 90:539-40 D 8 '39

PALESTINE

See also
Labor and laboring classes—Palestine

Antiquities

See also
Ezion-geber

PALESTINE—*Continued*

Commerce

Foreign trade in 1939. Comm Rep p381 Ap 20 '40
Outlook for American products. Comm Rep p47 Ja 20 '40
Palestine's trade. Economist 138:146-7 Ja 27 '40

Economic conditions

Economic situation during 1939. Comm Rep p243-4 Mr 16 '40
Palestine in 1939. Economist 138:sup24 F 17 '40

PALESTINE economic corporation

Thirteenth annual report, 1939. 62p Palestine economic corp, 570 Lexington av, New York '40

PALISADES of the Hudson

Differentiation of the Palisade diabase, New Jersey. F. Walker. bibliog diags map Geol Soc Bul 51:1059-1105, pl 1-2 Jl '40

PALLADIUM

Arrangement of phases in palladium-hydrogen. D. P. Smith and C. S. Barrett. Am Chem Soc J 62:2565-6 S '40
Hydrogenation of quinone with palladium and platinum catalysts. E. F. Rosenblatt. Am Chem Soc J 62:1092-4 My '40
Optical activity dependent on the planar arrangement of the valencies of the 4-coordinated palladous atom. A. G. Lidstone and W. H. Mills. Chem Soc J p1754-9 N '39
Phase segregation and its relation to the properties of the system palladium-hydrogen. D. P. Smith. bibliog diags Electrochem Soc Trans 78 (preprint 5):53-66 O '40
What you can use; agents for preparing colloidal suspensions of palladium or its salts. Oil Paint & Drug Rep 137:42 Je 10 '40

PALLADIUM compounds

Constitution of complex metallic salts; further evidence for the structure of bridged dipalladium derivatives. J. Chatt and F. G. Mann. Chem Soc J p1622-34 O '39

PALLETS

Fork trucks and pallets; General electric co. H. J. Beattie. il diags Steel 107:53-4, 56+ O 7 '40
How cement mortar is removed from pallets. Concrete 48:20 Je '40

PALM oil

Composition of commercial palm oils; partial separation of palm oils by crystallisation as an aid to the determination of the component glycerides. T. P. Hilditch and L. Maddison. Soc Chem Ind J 59:67-71 Ap '40
What you can use; materials for processing. Oil Paint & Drug Rep 138:48 S 9 '40

PALMER, Charles Forrest, 1892-

Housing coordinator named for defense. Business Week p31 Ag 31 '40

PALMITIC acid

Composition of commercial palm oils; partial separation of palm oils by crystallisation as an aid to the determination of the component glycerides. T. P. Hilditch and L. Maddison. Soc Chem Ind J 59:67-71 Ap '40

PALMITIN

α- and β-Monopalmitin, heats of combustion and specific heats at 25°. T. H. Clarke and G. Stegeman. bibliog Am Chem Soc J 62: 1815-17 Jl '40

PALMS

Endemic palm on Cocos island near Panama mistaken for the coconut palm. O. F. Cook. Science 91:140-2 F 9 '40

PAMILLA silver cloth

Textiles of tomorrow. K. H. Barnard. Textile Col 61:845 D '39; Same. Am Dyestuff Rep 28:739 D 25 '39

PAMPHLETS

Plan for organizing pamphlets and books in a small office. F. C. Bell. Special Lib 30: 307-11 N '39

See also
Advertisements—
Books and booklets

Bibliography

Sources of free and inexpensive teaching aids. B. Miller. 77p pa $1 Pomona progress-bulletin, Pomona, Calif. '39
Timely pamphlets. Published in Publishers' weekly
Vertical file service catalog; monthly. Wilson, H.W.

PANAMA

See also
Bonds, Government—
Panama

PANAMA canal

Cadiz to Cathay; the story of the long struggle for a waterway across the American isthmus. M. P. DuVal, jr. 554p bibliog(p521-37) $5 Stanford univ. press '40
La construction d'une troisième ligne d'écluses sur le Canal de Panama. diag maps Génie Civil 115:435-7 D 16 '39
Fight for the Panama route; the story of the Spooner act and the Hay-Herrán treaty. D. C. Miner. 469p bibliog(p435-47) $4 Columbia univ. press '40
President Roosevelt ends vacation cruise; inspection of Panama Canal defenses. Comm & Fin Chr 150:1355-6 Mr 2 '40
Suez and Panama. A. Siegfried. 400p $3 Harcourt '40

PANAMA Canal Zone

Too many elections; government as employer in Canal Zone. C. B. Wivel. Personnel J 18:255-7 Ja '40

PANAMA hats

Panama hats; special offer to CR subscribers. Consumers' Research Bul (Gen bul ser) 9:24 Ap '40

PAN AMERICAN airways

Pan American shortcut; flying time from Miami to Buenos Aires now 3½ days. Business Week p39 S 7 '40
Pan American's Strato-Clipper cruises to South America; with fares. il map Aero Digest 37:58, 61 N '40
Three Pan American components awarded certificates under grandfather clause. Civil Aero J 1:401 Ag 15 '40

PAN AMERICAN airways corporation

Rights to stockholders. Comm & Fin Chr 150: 1143 F 17 '40

PAN AMERICAN conferences

Havana conference to consider defense of western hemisphere. Comm & Fin Chr 151:175, 491-2 Jl 13, 27 '40
Havana plan up to Washington. Business Week p44-5 Ag 3 '40
Holes in hemisphere defense; plan for American economic union faces wide differences among governments at Havana conference. map Business Week p15-17 Jl 20 '40
Latin-American economic problems. Nat City Bank p104-7 S '40
Monroe doctrines, Pan-American, Japanese, and German. Economist 139:147 Ag 3 '40
Pan American treasury conference considers plans for banking and exchange arrangements; inter-American bank proposed. Comm & Fin Chr 149:3193-4 N 18 '39
Pan American treasury conference, Guatemala; resolutions adopted. Comm & Fin Chr 149:3354 N 25 '39
Proposal for trusteeship of European colonies in this hemisphere approved at Pan-American conference, Havana; statement by Secretary Hull. Comm & Fin Chr 151: 640-1 Ag 3 '40
Recent Habana meeting. G. M. Jones. Comm Rep p711-12 Ag 17 '40

See also
Inter-American labor conference
Pan American scientific congress

PAN AMERICAN congress of architects

Pan American congress awards to U.S. exhibitors. Arch Forum 72:sup80+ Je '40; Arch Rec 87:10, 12 Je '40

PAN AMERICAN congress of ophthalmology (proposed)

Meeting, Cleveland. Science 92:73 Jl 26 '40

PAN AMERICAN highway
Inter-American highway speeded by new U.S. loans. il map Eng N 125:436-7 O 3 '40
Pan American highway; from the Rio Grande to the Canal Zone. H. A. Franck and H. C. Lanks. 249p $5 Appleton-Century '40
Plan for financing the Pan American highway. L. Montes de Oca. Roads & Sts 83: 45-6 F '40; Same. Can Eng R & B 78:77-8 Mr '40
12,000-mile road to connect New York and Brazil. Can Eng 77:7 D 26 '39

PAN AMERICAN petroleum and transport company
Standard of Indiana loses Pan-Am stockholders' suit. Nat Pet N 32:12 Je 12 '40

PAN AMERICAN scientific congress
Abstracts of some papers read before the eighth American scientific congress. Science 91:sup8+ My 24; sup8+ My 31 '40
Eighth American scientific congress. A. H. Clark. Science 91:511-14 My 31 '40
Eighth American scientific congress; plans. Science 90:485 N 24 '39
Eighth American scientific congress; purposes, sections. Science 91:400-1 Ap 26 '40
Meeting, 8th, Washington, D.C. Comm & Fin Chr 150:3142-3, 3287 My 18-25 '40
Meeting, Washington, D.C., May 10-18; program. Pub Health Rep 55:605-7 Ap 5 '40
President Roosevelt's address at meeting, Washington, D.C. Comm & Fin Chr 150: 3133-4 My 18 '40
Section of public health and medicine of the American scientific congress; program. Science 91:427 My 3 '40

PAN AMERICAN trade cartel (proposed)
All America trade corporation. Nation's Business 28:25+ Ag '40
Coming Nazi struggle for world trade. M. Palyi. il Am Business 10:14-16+ Ag '40
Economic defense of the Americas. W. S. Culbertson. Ann Am Acad 211:186-96 S '40
Hemisphere cartel proposed. Barron's 20:6 Je 24 '40
Japan plays for higher stakes; with statement by S. Kato explaining his country's position. H. Corey. il Nation's Business 28:23-5+ Ag '40
Proposed inter-American cartel; article in Business conditions weekly, Alexander Hamilton institute. Bankers M 141:173-4 Ag '40
U.S. seeks a hemisphere economy. Business Week p15-16 Je 29 '40

PAN AMERICAN union
Inter-America house dedicated at New York world's fair. L. S. Rowe. Comm & Fin Chr 150:4064 Je 29 '40
President Roosevelt designates April 14 as Pan-American day. Comm & Fin Chr 150: 1356 Mr 2 '40
President Roosevelt's speech commemorating 50th anniversary of Pan-American union. Comm & Fin Chr 150:2504-5 Ap 20 '40

PAN AMERICANISM
Aim of Pan-Americanism defined. F. E. Hasler. Comm & Fin Chr 150:365 Ja 20 '40
All-American front. D. Aikman. 344p $3 Doubleday '40
Economic mobilization of the western hemisphere J. Lloyd. il Mag of Wall St 66: 394-7+ Jl 13 '40
Essays in Pan-Americanism. J. B. Lockey. 174p $2 Univ. of California press, Berkeley '39
Job to be done! American business can use commerce to preserve freedom. C. M. Wright. Ptr Ink 192:13-15 Jl 12 '40
New directions in the New World. A. A. Berle, jr. 141p $2 Harper '40
New orientation of the western hemisphere. S. Duggan. Ann Am Acad 210:127-32 Jl '40
Pan-Americanism and arbitration; progress of commercial arbitration. J. B. Ross. Compar Law Ser 3:181-2 Ap '40
Peace among equals. C. Dávila. Ann Am Acad 210:139-44 Jl '40
Planning Pan-American trade. S. G. Inman. Harvard Business R 18 no 2:137-47 [Ja] '40
Trusteeship for foreign possessions; European-controlled territories in this hemisphere. Trusts & Estates 71:163 Ag '40
Twenty nations and one; the Monroe doctrine, political and economic. Fortune 22:74-6+ S '40
United States foreign policy and the Americas. P. A. Dodd, ed. 25p pa 25c Pacific Southwest acad, 2324 S. Figueroa st, Los Angeles '39
Welding the Americas; Nelson Rockefeller gets job of coordinating efforts at closer ties with Latins. Business Week p16-17 Ag 24 '40

PANCAKE flour
Prepared pancake flour (home type); formula. Food Ind 11:731 D '39

PANCREAS
Factors affecting the insulin content of pancreas. R. E. Haist and C. H. Best. Science 91:410 Ap 26 '40
Morphological and functional recovery of the pancreatic islands in diabetic cats treated with insulin. F. D. W. Lukens and F. C Dohan. Science 92:222-3 S 6 '40

PANEL work
Architectural concrete slabs; panels with exposed aggregate surface. il Am Bld 62:39-40+ Ja '40
Better values from improved building products; room size fabric-faced plywood panels. il Am Bld 62:82 Je '40
Douglas fir plywood panels; hiding joints by use of semi-plastic wall paint; abstract. H. A. Gardner and L. P. Hart. Oil Paint & Drug Rep 137:40A Ap 8 '40
Hardwoods for interior trim; standardized hardwood paneling. il Am Bld 62:88-9 Ja '40
Improved porcelain enamel panel finish for interiors. il Am Bld 62:74 Jl '40
Portfolio of architectural plates of Douglas fir plywood paneling. C. F. Gould. il diags Am Bld 62:84-5 Mr; 72-3 My; 76-7 Je; 62-3 N '40
Practical pointers for the estimating of prefinished wall paneling. M. Seibert. plan Am Bld 62:62 Ag '40
Wall size interior finish panels speed building. il Am Bld 62:78 My '40
Wood for friendly, beautiful interiors. il diags Am Bld 62:70-1 Ja '40

PANHANDLE eastern pipe line company
Annual report. Comm & Fin Chr 150:1782 Mr 16 '40

PANMYELOPHTHISIS
Hemorrhagic adrenal necrosis in rats on deficient diets. F. S. Daft and W. H. Sebrell. Pub Health Rep 54:2247-50 D 22 '39

PAN PACIFIC science congress. See Pacific science congress

PANTOTHENIC acid
Biological activity of synthetic pantothenic acid. S. H. Babcock, jr. and T. H. Jukes. Am Chem Soc J 62:1628 Je '40
Biological activity of synthetic pantothenic acid. H. H. Weinstock, jr. and others. bibliog Science 91:411 Ap 26 '40
Effect of administration of pantothenic acid on the histopathology of the filtrate factor deficiency state in rats. L. L. Ashburn. bibliog Pub Health Rep 55:1337-46, pl 1-2 Jl 26 '40
Effect of synthetic pantothenic acid on adrenal hemorrhage, atrophy, and necrosis in rats. F. S. Daft and others. bibliog Pub Health Rep 55:1333-7 Jl 26 '40
Improved synthesis of pantothenic acid. D. W. Woolley. Am Chem Soc J 62:2251-2 Ag '40
Isolation of a crystalline derivative of pantothenic acid. D. W. Woolley. bibliog Science 91:245-6 Mr 8 '40
Pantothenic acid and nutritional achromotrichia in rats. P. György and C. E. Poling. bibliog Science 92:202-3 Ag 30 '40

PANTOTHENIC acid—*Continued*

Pantothenic acid; evidence for structure of non-β-alanine portion. H. K. Mitchell and others. bibliog Am Chem Soc J 62:1776-9 Jl '40

Pantothenic acid; partial and total synthesis studies. R. J. Williams and others. bibliog Am Chem Soc J 62:1784-5 Jl '40

Pantothenic acid; the biological activity of hydroxypantothenic acid. H. K. Mitchell, E. E. Snell and R. J. Williams. bibliog Am Chem Soc J 62:1791-2 Jl '40

Pantothenic acid; the isolation and structure of the lactone moiety. E. T. Stiller, J. C. Keresztesy and J. Finkelstein. Am Chem Soc J 62:1779-84 Jl '40

Pantothenic acid; the total synthesis of pure pantothenic acid. E. T. Stiller and others. bibliog Am Chem Soc J 62:1785-90 Jl '40

Preparation of β-alanine methyl ester. H. H. Weinstock, jr. and E. L. May. Am Chem Soc J 62:3266 N '40

Relationship of inositol, thiamin, biotin, pantothenic acid and vitamin B_6 to the growth of yeasts. R. J. Williams, R. E. Eakin and E. E. Snell. bibliog Am Chem Soc J 62:1204-7 My '40

Synthesis of pantothenic acid. il Ind & Eng Chem News ed 18:245 Mr 25 '40

Analysis

Structure of pantothenic acid. R. J. Williams and R. T. Major. bibliog Science 91:246 Mr 8 '40

PAPAIN

Anthelmintic activity of crystalline papain. J. Berger and C. F. Asenjo. bibliog Science 91:387-8 Ap 19 '40

Crude papain; preparation and properties. A. K. Balls, R. R. Thompson and W. W. Jones. Ind & Eng Chem 32:1144-7 Ag '40

Drying of papaya latex; stability of papain. A. K. Balls, H. Lineweaver and S. Schwimmer. bibliog Ind & Eng Chem 32:1277-9 S '40

PAPAVERINE

Attempted synthesis of papaverine. J. F. Kefford. Chem Soc J p1209 Ag '40

What you can use; solvents and substitutes for papaverine. Oil Paint & Drug Rep 137: 42 Je 10 '40

PAPAYAS

Determination of relative humidity while measuring respiration in a gas train system. W. W. Jones. diag Science 91:202 F 23 '40

Drying of papaya latex; stability of papain. A. K. Balls, H. Lineweaver and S. Schwimmer. bibliog Ind & Eng Chem 32:1277-9 S '40

PAPER

Apparatus for the study of the photochemistry of sheet materials. H. F. Launer. bibliog pls diags J Research Nat Bur Stand 24:567-77 My '40

Expanding horizon for cellulose. Pulp & Pa of Can 41:650+ S '40

Grades of paper for various halftone screens; illustrations. Ptg Art 68 no 4:K7 '40

How the properties of adhesives are related to the properties of paper surfaces. F. Camps-Campins. diags Paper Tr J 110:120-2 F 22 '40

New interpretations of structural aspects of the paper sheet. G. E. Landt and S. A. Rulon. bibliog diags Paper Tr J 111:32-6 Jl 25 '40

See also

Carbon paper
Dyes and dyeing—Paper
Envelopes
Filter paper
Indicators and test papers
Newsprint paper
Paper board
Photographic paper
Tissue paper
Vulcanized fiber
Wall board
Wall paper
Waste paper
Wood pulp
Wrapping paper

Analysis

Ash-forming constituents of insulating papers. D. A. McLean. bibliog Ind & Eng Chem 32:209-13 F '40

Ash of paper; TAPPI revised official standard T 413 m-39. Paper Tr J 110:28 My 30 '40

Determination of moisture in native and processed cellulose; titrimetric determination using Karl Fischer reagent. J. Mitchell, jr. bibliog Ind & Eng Chem Anal ed 12:390-1 Jl 15 '40

Hydrogen ion concentration and pentosans; report of cooperative tests of TAPPI subcommittee on chemical methods. P. F. Wehmer. Paper Tr J 111:33-5 S 19 '40

pH test for paper. J. E. Minor and M. Farmer. Paper Ind 22:565-8 S '40

New tool for the industry; the color atlas. Pulp & Pa of Can 41:283-4 Mr '40

Pentosans in paper; TAPPI suggested method T 450 sm-40. Paper Tr J 111:28-9 O 31 '40

Retention of aluminum ion and hydrogen ion in papers. H. F. Launer. bibliog J Research Nat Bur Stand 23:663-74 D '39; Same. Paper Tr J 110:29-34 Mr 7 '40

Terephthalic acid method for determination of the acidity of paper. B. L. Browning and G. C. Kimble. bibliog Paper Tr J 110:24-7 Je 20 '40

Ash content

Ash-forming constituents of insulating papers. D. A. McLean. bibliog Ind & Eng Chem 32:209-13 F '40

Bibliography

Paper and allied products. (Business literature v 12, no 4) 2p Business branch, Newark public library, Newark, N.J. D '39

Permanence and durability of paper; an annotated bibliography of the technical literature from 1885 A.D. to 1939 A.D. M. S. Kantrowitz, E. W. Spencer and R. H. Simmons. U S Govt Ptg Office Tech Bul 22:1-114 '40 (15c Supt. of doc.)

See also

Paper making—Bibliography

Brightness

Chlorite vs. hypochlorite for bleaching. J. F. White and G. P. Vincent. bibliog Paper Tr J 111:39-44 S 19 '40

Effect of filler brightness on lined board brightness. W. R. Willets, R. T. Bingham and L. H. Eriksen. Paper Tr J 109:42-4 D 7 '39

Effect of subliners on lined board brightness. W. R. Willets, R. T. Bingham and L. H. Eriksen. Paper Tr J 111:33-6 Ag 29 '40

Influence of dyestuffs on the opacity of paper. E. R. Laughlin. bibliog Textile Col 62:667-73 O '40

Measurement of color of pulps. R. S. Hatch. Paper Tr J 111:35-8 S 19 '40

Use of color measuring instruments in the manufacture of uncoated paper. M. N. Davis. Paper Tr J 111:40-4 O 3 '40

Classification

Printing art paper classification chart. J. J. Skach, comp. Ptg Art 68 no 4:M1, M4 '40

Color

Application of a quantitative technique to the evaluation of color stability of bleached pulps; influence of machine drying and natural aging upon this evaluation. J. W. McIntyre. Paper Tr J 109:29-37 D 14 '39

Colorimetry for paper; advantages of numerical over visual measurements of color. W. E. Rand. Pulp & Pa of Can 41:13-18 Ja '40; Correction. 41:231 F '40

Effect of subliners on lined board brightness. W. R. Willets, R. T. Bingham and L. H. Eriksen. Paper Tr J 111:33-6 Ag 29 '40

Evaluation of calcium carbonate coating colors formulated with various adhesives. H. F. Roderick and A. E. Hughes. Paper Tr J 110:104-8 F 22 '40

Influence of dyestuffs on the opacity of paper. E. R. Laughlin. bibliog Textile Col 62:667-73 O '40

Investigation of the fundamental scattering and absorption coefficients of dyed handsheets. W. J. Foote. bibliog Paper Tr J 109:31-8 D 21 '39

PAPER—Color—*Continued*
Laboratory evaluation of paper coating raw materials. C. G. Landes. bibliog il Paper Tr J 110:38-46 Mr 14 '40
Ortho-krome process of coating paper; glare reduction. A. B. Hurley. bibliog diag Paper Tr J 109:37-40 O 19 '39; Discussion. V. G. W. Harrison. 110:16, 18-19 F 15 '40
Symposium on spectrophotometry in the pulp and paper industries. J. L. Parsons and others. Paper Tr J 111:31-7 S 5; 27-38 S 12; 35-8 S 19; 35-41 S 26; 39-44 O 3; 31-8 O 10 '40
Systematic color designations for paper. D. B. Judd. bibliog diags Paper Tr J 111:35-40 O 17 '40; Excerpts. Paper Ind 22:476+ Ag '40
Use of spectrophotometry on coated paper. W. J. Foote. Paper Ind 22:614+ S '40

See also
Dyes and dyeing—Paper

Contraction and expansion
Dimensional changes in paper. H. W. Bialkowsky and T. R. Probst. bibliog flow sheet il Paper Tr J 111:34-8 Jl 11 '40

Curling
Simplified curl tester for paper. F. T. Carson and V. Worthington. diags Paper Ind 22: 246-7 Je '40
Wavy edges in fine papers. il Pulp & Pa of Can 41:277-9 Mr '40

Dictionaries
Dictionary of paper; including pulps, boards, paper properties and related papermaking terms. 365p bibliog(p364-5) $5 Am. paper and pulp assn, 122 E. 42d st, New York '40

Dirt content
Comparative evaluation of the different methods of dirt count of pulp. A. P. Adrian and J. H. Graff. diags Paper Tr J 111:32-40 N 7 '40
How the purifiner works. diag Pulp & Pa of Can 40:770 D '39

Durability
Deterioration of paper; the cause and effect of foxing. T. D. Beckwith, W. H. Swanson and T. M. Iiams. Univ of Calif Pub in Biological Sciences v 1, no 13:299-337 bibliog(p334-7) pl 13-20 '40 (pa 75c)

See also
Newspapers—Preservation

Folding
Folding endurance of paper; revision of T 423 m-36. bibliog Paper Tr J 111:34-6 Ag 15 '40

Inspection
Sorting papersheets by machine. W. S. Reed. Paper Tr J 110:81-2 Je 27 '40

Manufacture
See Paper making

Moisture content
Air conditioning from a practical angle. J. L. Mullin. Paper Ind 22:738+ O '40
Controlling of paper in the plant; interpreting V. L. Shaw's address. R. P. McCarthy. Inland Ptr 105:66-7 My '40
Dimensional changes in paper. H. W. Bialkowsky and T. R. Probst. bibliog flow sheet il Paper Tr J 111:34-8 Jl 11 '40
Drying process in paper, as determined by electrical methods. C. G. Garton. bibliog diags Inst E E J 86:369-78 Ap '40
Effect of atmospheric humidity on newsprint. D. Jones. diags Paper Tr J 111:35-8 Ag 1 '40; Same. Pulp & Pa of Can 41:725-8 O '40
Effect of clay characteristics on the calendering of clay-filled handsheets. B. W. Rowland and H. J. Allison, jr. bibliog Paper Tr J 111:25-8 Jl 18 '40
Moisture expansivity of paper. il Paper Tr J 110:28-9 Mr 28 '40
Moisture in paper; proposed revision of TAPPI standard T 412 m-35. Paper Tr J 111:25 Ag 22 '40
Mullen tester. J. F. Reardon and J. E. Minor. Paper Ind 22:353-7 Jl '40
Neenah expansimeter; method for measuring the expansion or contraction of papers caused by change in relative humidity. J. A. Van den Akker. il diag Paper Tr J 109:105-6 N 30 '39
Paper behavior in the mill. V. L. Shaw. Paper Ind 22:496+ Ag '40
Porous structure of paper in relation to drying and impregnation. D. A. McLean and G. T. Kohman. diag Franklin Inst J 229: 223-34 F '40
Relation between sheet strength and fiber surface conditions. H. P. Dixson, jr. bibliog Paper Tr J 111:29-36 Jl 18 '40
Wavy edges in fine papers. il Pulp & Pa of Can 41:277-9 Mr '40

See also
Paper drying

Oil absorption
Effect of clay characteristics on the calendering of clay-filled handsheets. B. W. Rowland and H. J. Allison, jr. bibliog Paper Tr J 111:25-8 Jl 18 '40
Instrumentation studies; penetration of papers by liquids and solutions. bibliog Paper Tr J 110:44-50 Ja 25 '40

Opacity
Effect of subliners on lined board brightness. W. R. Willets, R. T. Bingham and L. H. Eriksen. Paper Tr J 111:33-6 Ag 29 '40
Influence of dyestuffs on the opacity of paper. E. R. Laughlin. bibliog Textile Col 62:667-73 O '40

Optical properties
Effect of clay characteristics on the calendering of clay-filled handsheets. B. W. Rowland and H. J. Allison, jr. bibliog Paper Tr J 111:25-8 Jl 18 '40

Permeability
Instrumentation studies; penetration of papers by liquids and solutions. bibliog Paper Tr J 110:44-50 Ja 25 '40
Moisture vapor proofness of wrapping materials used on frozen foods. C. W. DuBois and D. K. Tressler. Paper Tr J 109:15-16+ N 16 '39
Photoelectric determination of the permeability of paper to fluids. H. L. Vincent. bibliog il diag Paper Tr J 110:29-33 My 30 '40
Water vapor permeability of paper and paperboard; TAPPI tentative standard T 448 m-40. bibliog diags Paper Tr J 111: 25-7 Ag 8 '40
Water vapor permeability; progress report of the TAPPI subcommittee. diag Paper Tr J 110:27-30 My 2 '40

Porosity
Instrumentation studies; the Gurley-Hill S-P-S tester. il diags Paper Tr J 110:27-33 Je 6 '40
Porous structure of paper in relation to drying and impregnation. D. A. McLean and G. T. Kohman. diag Franklin Inst J 229: 223-34 F '40
Some observations on determining the size of pores in paper. F. T. Carson. bibliog J Research Nat Bur Stand 24:435-42 Ap '40

Prices
Guard against unjustifiable price increases; members of pulp and paper industry assure National defense advisory commission, they will cooperate to avoid runaway markets. Paper Tr J 111:7 Ag 8 '40
Market quotations. Published in weekly numbers of Paper trade journal
Paper in the present crisis. J. Cornell. il Ptr Ink Mo 41:10-11+ S '40
Transparent cellulose firms must desist from agreeing to maintain uniform prices. Paper Tr J 111:11 S 5 '40

See also
Paper, Government

PAPER—*Continued*

Printing properties

Instrumentation studies; penetration of papers by liquids and solutions. bibliog Paper Tr J 110:44-50 Ja 25 '40

Measurability of printing quality. W. Beazley. il Pulp & Pa of Can (Convention no) 41: 117-22 [F] '40

Printability of newsprint paper; new methods for evaluation. C. Bendtsen. bibliog diags Pulp & Pa of Can 41:20-6+, 232-4 Ja-F '40; Correction. 41:291 Mr '40

Some observations on the relation of coated papers to ink. F. A. Weymouth. Paper Ind 22:398 Jl '40

Testing of news inks. G. E. Carlsson. il Pulp & Pa of Can 41:238-42, 286-91 F-Mr '40

Trade tricks in using gloss ink. D. M. MacMaster. Inland Ptr 106:50-1 O '40

Velo cold set process in printing and its relationship to paper. F. G. Breyer. Paper Tr J 110:27-9 Je 13 '40; Abstract. Ind & Eng Chem News ed 18:274 Mr 25 '40

Where can we get paper facts? paper in relationship to printing. W. B. Wheelwright. Inland Ptr 106:32 O '40

Purchasing

How the Bell telephone system standardized its business papers. J. J. Murphy. il Ind Stand 11:221-8 S '40

Smoothness measurement

Instrumentation studies; the Gurley-Hill S-P-S tester. il diags Paper Tr J 110:27-33 Je 6 '40

Measurability of printing quality. W. Beazley. il Pulp & Pa of Can (Convention no) 41:118-20 [F] '40

Printability of newsprint paper; new methods for evaluation. C. Bendtsen. diags Pulp & Pa of Can 41:21-4 Ja '40

Standards

How the Bell telephone system standardized its business papers. J. J. Murphy. il Ind Stand 11:221-8 S '40

National paper trade association approves certification. il Paper Tr J 110:17 Mr 14 '40

Paraffin in paper; TAPPI revised official standard T 405m-40. Paper Tr J 110:46 My 23 '40

See also
Paper sizes

Strength

Effect of alum on certain sheet properties; abstract. E. L. Keller, F. A. Simmonds and P. K. Baird. Paper Ind 22:76-7 Ap '40

Mullen tester. J. F. Reardon and J. E. Minor. Paper Ind 22:353-7 Jl '40

Relation between sheet strength and fiber surface conditions. H. P. Dixson, jr. bibliog Paper Tr J 111:29-36 Jl 18 '40

Relation of lignin content to the strength of paper and boards; preparation of pulps of different lignin content by chlorine dioxide. C. V. Holmberg and E. C. Jahn. bibliog Paper Tr J 111:33-6 Jl 4 '40

Testing

Annual progress report of TAPPI paper testing committee, 1939-1940. B. W. Scribner. Paper Tr J 110:33-4 Ap 4 '40

Application of a quantitative technique to the evaluation of color stability of bleached pulps; influence of machine drying and natural aging upon this evaluation. J. W. McIntyre. Paper Tr J 109:29-37 D 14 '39

Bacteriological examination of paper and paperboard; TAPPI suggested method T 449 sm-40. Paper Tr J 111:27-30 O 10 '40

Developments in paper testing; New York meeting of TAPPI. T. L. Crossley. Can Chem & Process Ind 24:137-8 Mr '40

Dimensional changes in paper. H. W. Bialkowsky and T. R. Probst. bibliog flow sheet il Paper Tr J 111:34-8 Jl 11 '40

Folding endurance of paper; revision of T 423 m-36. bibliog Paper Tr J 111:34-6 Ag 15 '40

Fundamentals of glassine transparency. D. B. Wicker. bibliog il diags Paper Tr J 105:31-40 O 21 '37; 107:44-52 O 27 '38; 110:36-42 Ja 4 '40

Humidity standards for paper testing. M. S. Kantrowitz and E. W. Spencer. Paper Ind 22:39-42 Ap '40; Same cond. Ind Stand 11: 261-5 O '40

Instrumentation studies; penetration of papers by liquids and solutions. bibliog Paper Tr J 110:44-50 Ja 25 '40

Instrumentation studies; the Clark paper softness tester, with an important note on the Gurley stiffness tester. il diag Paper Tr J 110:29-37 F 15 '40

Instrumentation studies; the Gurley-Hill S-P-S tester. il diags Paper Tr J 110:27-33 Je 6 '40

Investigation of antitarnish paper. H. W. Rowe and O. Kress. bibliog Paper Tr J 110:33-6 Ja 11 '40

Moisture expansivity of paper. il Paper Tr J 110:28-9 Mr 28 '40

Moisture in paper; proposed revision of TAPPI standard T 412 m-35. Paper Tr J 111:25 Ag 22 '40

Mullen tester. J. F. Reardon and J. E. Minor. Paper Ind 22:353-7 Jl '40

Neenah expansimeter; method for measuring the expansion or contraction of papers caused by change in relative humidity. J. A. Van den Akker. il diag Paper Tr J 109:105-6 N 30 '39

Permanence and durability of paper; an annotated bibliography of the technical literature from 1885 A.D. to 1939 A.D. M. S. Kantrowitz, E. W. Spencer and R. H. Simmons. U S Govt Ptg Office Tech Bul 22:1-114 '40 (15c Supt. of doc.)

Printability of newsprint paper; new methods for evaluation. C. Bendtsen. bibliog diags Pulp & Pa of Can 41:20-6+, 232-4 Ja-F '40; Correction. 41:291 Mr '40

Sampling paper for testing; revision of TAPPI standard T 400 m-36. Paper Tr J 110:23 Je 20 '40

Simplified curl tester for paper. F. T. Carson and V. Worthington. diags Paper Ind 22: 246-7 Je '40

Use of color measuring instruments in the manufacture of uncoated paper. M. N. Davis. Paper Tr J 111:40-4 O 3 '40

Water vapor permeability of paper and paperboard; TAPPI tentative standard T 448 m-40. bibliog diags Paper Tr J 111: 25-7 Ag 8 '40

Water vapor permeability; progress report of the TAPPI subcommittee. diag Paper Tr J 110:27-30 My 2 '40

See also

Paper, Coated—Testing	Paper board—Testing
	Paper research
Paper, Insulating—Testing	Paper sizing—Testing

Water resistance

Fluorescence size test, an improved method and a new instrument for measuring the water resistance of paper. J. A. Van den Akker and others. bibliog il diags Paper Tr J 109:33-42 N 23 '39

Moisture vapor proofness of wrapping materials used on frozen foods. C. W. DuBois and D. K. Tressler. Paper Tr J 109:15-16+ N 16 '39; Abstract. Food Ind 12:96 Mr '40

Some observations on the materials used in packaging frozen foods. W. Rabak. Paper Tr J 111:30-2 Ag 29 '40

See also
Paper, Waterproof

Weight

Consistency regulators. F. Wierk. diags Paper Tr J 111:29-33 Jl 11 '40

PAPER, Anti-tarnish

Investigation of antitarnish paper. H. W. Rowe and O. Kress. bibliog Paper Tr J 110:33-6 Ja 11 '40

PAPER, Building
Moisture peeling of house paints; effect of structural details; use of tar paper. J. W. Iliff and R. B. Davis. il diags map Ind & Eng Chem 31:1407-12 N '39; Same. Metal Ind 38:240-4, 300-1 Ap-My '40
Stability of sheathing papers as determined by accelerated aging. S. G. Weissberg, D. A. Jessup and C. G. Weber. il U S Nat Bur Stand Rep BMS35:1-7 '39

PAPER, Coated
Spectrophotometry on coated papers. W. J. Foote. bibliog Paper Tr J 111:31-8 O 10 '40; Excerpts. Paper Ind 22:614+ S '40

See also
Paper coating

Testing
Evaluation of calcium carbonate coating colors formulated with various adhesives. H. F. Roderick and A. E. Hughes. Paper Tr J 110:104-8 F 22 '40
Laboratory evaluation of paper coating raw materials. C. G. Landes. bibliog il Paper Tr J 110:38-46 Mr 14 '40
Some observations on the relation of coated papers to ink. F. A. Weymouth. Paper Ind 22:398 Jl '40

PAPER, Decorative
Product planning in the glazed and fancy paper industry. G. B. Tallman and R. M. Cunningham. Paper Tr J 111:11-15 Ag 15 '40; Same cond. Paper Ind 22:182+ My '40

PAPER, Effect of temperature on
Application of a quantitative technique to the evaluation of color stability of bleached pulps; influence of machine drying and natural aging upon this evaluation. J. W. McIntyre. Paper Tr J 109:29-37 D 14 '39

PAPER, Filter. See Filter paper

PAPER, Government
Committee on printing asks for paper bids. Paper Tr J 111:9 O 17 '40
Joint printing committee opens paper bids. Paper Tr J 109:72+ N 30 '39
Open paper bids for U.S. Printing office. Paper Tr J 110:9, 21-5 My 23 '40
Printing committee lets paper contracts; list. Paper Tr J 110:8-9+ My 30 '40
Printing committee makes paper awards. Paper Tr J 109:16-17 D 7 '39

PAPER, Greaseproof
Methocel; properties and suggested uses in the paper industry. R. M. Upright and F. C. Peterson. Paper Tr J 110:31-5 My '40

PAPER, Hand-made
Ancient art lives on; handmade paper; with comments on exhibits at Dard Hunter paper museum, Massachusetts institute of technology. D. Hunter. il Pulp & Pa of Can 41:279-83 Mr '40

PAPER, Insulating
Ash-forming constituents of insulating papers. D. A. McLean. bibliog Ind & Eng Chem 32: 209-13 F '40
Insulating paper in the telephone industry. J. M. Finch. bibliog il Ind & Eng Chem 32:1021-8 Ag '40

Analysis
Microgravimetric determination of active hydrogen by the Grignard reagent; application to analysis of impregnated paper insulating tapes. R. N. Evans, J. E. Davenport and A. J. Revukas. bibliog diag Ind & Eng Chem Anal ed 12:301-3 My 15 '40

Testing
Drying process in paper, as determined by electrical methods. C. G. Garton. bibliog diags Inst E E J 86:369-78 Ap '40
Electrical insulating oil deterioration; chemical and electrical tests. J. C. Balsbaugh, A. H. Howell and A. G. Assaf. bibliog il Ind & Eng Chem 32:1497-1510 N '40
Electrical stability of oil-impregnated paper; relation to the properties of the oil. C. E. Trautman and W. N. Arnquist. bibliog Ind & Eng Chem 32:1535-9 N '40
Porous structure of paper in relation to drying and impregnation. D. A. McLean and G. T. Kohman. diag Franklin Inst J 229: 223-34 F '40
Some impulse-voltage breakdown tests on oil-treated paper-insulated cables. C. M. Foust and J. A. Scott. bibliog il diag Elec Eng 59: Trans 389-91; Discussion. Trans 391-4, 399-402 Jl '40

PAPER, Newsprint. See Newsprint paper

PAPER, Photographic. See Photographic paper

PAPER, Transparent
Fundamentals of glassine transparency. D. B. Wicker. bibliog il diags Paper Tr J 105:31-40 O 21 '37; 107:44-52 O 27 '38; 110:36-42 Ja 4 '40
Transparent cellulose firms must desist from agreeing to maintain uniform prices. Paper Tr J 111:11 S 5 '40
Transparent paper in Britain, 1939. Economist 138:sup47 F 17 '40

PAPER, Waste. See Waste paper

PAPER, Waterproof
Making paper moistureproof; new I.C.I. product W. 535 helps to solve a packaging problem. Chem & Ind 59:646-7 S 14 '40; Same. Chem Age (Lond) 43:122 S 14 '40
Paper defies water; Scherbak process. Business Week p38-9 Je 8 '40

See also
Paper—Water resistance

PAPER, Waxed
Germicidal properties of hot paraffin. F. W. Tanner and H. F. Lewis. bibliog Food Ind 12:60-2 Mr; 57-8 Ap '40
Ohio waxed paper co. builds mill to make its own paper at Columbus, Ohio. Paper Tr J 109:35-6 N 30 '39
Paraffin in paper; TAPPI revised official standard T 405m-40. Paper Tr J 110:46 My 23 '40
Paraffin waxes; their application to papermaking. W. K. Griesinger and M. H. Reynolds. Paper Ind 22:248-51 Je '40

PAPER associations
Court decree ends container prosecution; case of U.S. against the National container association. Paper Tr J 110:14-15 Ap 25 '40

See also
National paper trade association
Technical association of the pulp and paper industry

PAPER bags
New bag preserves flavor with inert gas; pliofilm lining seals product in carbon dioxide and is impermeable to air and moisture. il Food Ind 12:42-3 Ja '40
Paper box and bag industry. R. H. Coats and R. G. Lewis. Pulp & Pa of Can 41:7-9 Ja '40

PAPER board
Cartons vs. crates; shipments of furniture in paperboard. Business Week p44-5 Ap 13 '40
Causes for the recent interest in bacteria in paperboard. H. C. Fisher. Paper Tr J 110: 77-81 Je 27 '40
Effect of subliners on lined board brightness. W. R. Willets, R. T. Bingham and L. H. Eriksen. Paper Tr J 111:83-6 Ag 29 '40
Fibre oil can. il Mod Packaging 14:44+ S '40

See also
Wall board

Manufacture
Applications and limitations of the rod mill. S. D. Wells. il Paper Tr J 111:89-92 Ag 29 '40
Bleached sulphate cylinder papers. A. B. Moore, jr. Paper Tr J 111:30-1 Ag 15 '40; Same cond. Paper Ind 22:190 My '40
Effect of filler brightness on lined board brightness. W. R. Willets, R. T. Bingham and L. H. Eriksen. Paper Tr J 109:42-4 D 7 '39
Radiant heat drying of paperboard. R. W. K. Ulm. Paper Tr J 111:25-7 O 31 '40; Excerpt. Paper Ind 22:484+ Ag '40

PAPER board—Manufacture—*Continued*
Relation of lignin content to the strength of paper and boards; preparation of pulps of different lignin content by chlorine dioxide. C. V. Holmberg and E. C. Jahn. bibliog Paper Tr J 111:33-6 Jl 4 '40
What you can use; gluing and coating. Oil Paint & Drug Rep 138:58 S 16 '40

See also
Paper board, Corrugated—Manufacture
Paper board mills

Testing
Bacteriological examination of paper and paperboard; TAPPI suggested method T 449 sm-40. Paper Tr J 111:27-30 O 10 '40
Bending tests of corrugated board and their significance. T. A. Carlson. il Paper Tr J 110:123-7 F 22 '40
Influence of paperboard and adhesives on strength properties of corrugated fiberboards. D. W. McCready. Paper Tr J 110:33-8 F 29 '40
Routine determination of bacterial content of paperboard. L. C. Cartwright and S. S. Epstein. il Paper Tr J 111:27-9 Ag 1 '40; Same cond. Paper Ind 22:294+ Je '40
Water vapor permeability of paper and paperboard; TAPPI tentative standard T 448 m-40. bibliog diags Paper Tr J 111: 25-7 Ag 8 '40

PAPER board, Corrugated
A.S.T.M. testing program; corrugated shipping containers; abstract. D. L. Quinn. Paper Ind 22:61+ Ap '40
Bending tests of corrugated board and their significance. T. A. Carlson. il Paper Tr J 110:123-7 F 22 '40
Evaluation of strength characteristics of corrugated boxes. D. M. Hawley. Paper Tr J 111:27-8 Jl 11 '40; Abstract. Chem Ind 47: 543+ N '40
Influence of paperboard and adhesives on strength properties of corrugated fiberboards. D. W. McCready. Paper Tr J 110: 33-8 F 29 '40

Manufacture
Effect of the adhesive used in the fabrication of corrugated fiberboard on the strength and serviceability of corrugated fiber boxes. S. D. Wells. 103p Inst. of paper chemistry, Appleton, Wis. '40
Performance of sodium silicate adhesives in the manufacture of corrugated fiberboard. E. R. Boller, J. G. Lander and R. Morehouse. il Paper Tr J 110:51-60 Mr 21 '40

PAPER board industry
Canadian pulp and paper association, Board section; report. Pulp & Pa of Can (Convention no) 41:199 [F] '40
How the war is affecting the profit margins of the paper container industry. C. B. Breaux. Annalist 56:303-4 S 5 '40

See also
Paper box industry

Statistics
Paper and paperboard production in 1938. Paper Tr J 109:23-5 D 7 '39
Paperboard container production, revision; monthly, 1923-June, 1940. Fed Res Bul 26: 868 Ag '40
Paper board industry sets up all-time high record of production in 1939. G. Whiting. Paper Tr J 110:51-2, 54-5, 58 F 22 '40
Paperboard, 1936-1939. Survey of Cur Business 1940 Sup p146 [supplemented in monthly numbers]
Paperboard production, revision; monthly, 1923-June, 1940. Fed Res Bul 26:865 Ag '40
U.S. paper and board output in 1938. Pulp & Pa of Can 41:468 Je '40
Weekly statistics, orders, production, mill activity, Jan. 6 thru April 27, 1940. Comm & Fin Chr 150:2797 My 4 '40

PAPER board mills

Employees
Hourly earnings in the paperboard industry, November-December 1939. H. E. Riley. Monthly Labor R 50:1196-1203 My '40
Minimum wage for industry looms; Department of labor announces appointment of committee. Paper Tr J 110:9+ F 29 '40

Equipment
Dieckbrader vacuum deckle for cylinder machines. A. Yraola. il diag Paper Tr J 110: 28-9 My 9 '40
Heating tower for paper mills. Pulp & Pa of Can 41:474 Je '40; Heat & Ven 37:53 Jl '40

PAPER box factories

Management
Efficiency in plant management. C. N. Moisan. Pulp & Pa of Can 41:729 O '40

Power
National folding box co. builds 400-lb. power plant at New Haven mill. F. L. Smith. il diag Paper Tr J 109:48+ N 30 '39

PAPER box industry
Court decree ends container prosecution; case of U.S. against the National container association. Paper Tr J 110:14-15 Ap 25 '40
How the war is affecting the profit margins of the paper container industry. C. B. Breaux. Annalist 56:303-4 S 5 '40

Statistics
Paperboard shipping boxes, 1936-1939. Survey of Cur Business 1940 Sup p147 [supplemented in monthly numbers]

Canada
Paper box and bag industry. R. H. Coats and R. G. Lewis. Pulp & Pa of Can 41:7-9 Ja '40

PAPER boxes
Folding paper boxes; an aid to profitable packaging. J. D. Studley. il U S Bur For & Dom Com Trade Promotion Ser 205:1-60 '39
Some observations on the materials used in packaging frozen foods. W. Rabak. Paper Tr J 111:80-2 Ag 29 '40

See also
Paper box factories

PAPER chemicals
Chemicals, fillers, size and dyes. C. R. Hazen. Pulp & Pa of Can 41:579-80 Ag '40
Developments in synthetic resins and resin emulsions. F. J. Myers. bibliog Paper Tr J 110:27-30 Ap 11 '40
Methocel; properties and suggested uses in the paper industry. R. M. Upright and F. C. Peterson. Paper Tr J 110:31-5 My 2 '40
New series of resins for paper; polyvinyl alcohols. Paper Tr J 110:12 My 23 '40
Nonfibrous raw materials in the paper industry in 1939. H. H. Hanson and E. N. Poor. Paper Tr J 110:34-8 My 30 '40
Record paper and pulp production creates active demand for chemicals. Paper Tr J 110: 70 F 22 '40
Surface active chemicals; their behavior and practical application. J. H. Shipp. il Paper Ind 22:390+ Jl '40
Wetting agents, their structure, characteristics, and uses. C. A. Sluhan. bibliog Paper Tr J 111:26-31 Ag 22 '40
What you can use; materials for processing. Oil Paint & Drug Rep 137:42 Je 10; 50 Je 17; 39 Je 24; 138:41 Jl 1; 43 Jl 8; 45 Jl 15; 59 Jl 22; 53 Jl 29; 60 Ag 5; 46 Ag 12; 60 Ag 19 '40

PAPER coating
Colloidal nature of clay with reference to papermaking. B. W. Rowland. bibliog Paper Tr J 111:41-6 O 17 '40
Controlled mixing and blending of coating materials; tests made with Simpson intensive mixer. E. M. Rupp. il Paper Tr J 111: 10-11 Ag 8 '40
Developments in synthetic resins and resin emulsions. F. J. Myers. bibliog Paper Tr J 110:27-30 Ap 11 '40
Effects of the wettability of paper coating raw stock. G. Davidson. il Paper Tr J 110: 30-2 Je 13 '40

PAPER coating—*Continued*
Evaluation of calcium carbonate coating colors formulated with various adhesives. H. F. Roderick and A. E. Hughes. Paper Tr J 110:104-8 F 22 '40
Laboratory evaluation of paper coating raw materials. C. G. Landes. bibliog il Paper Tr J 110:38-46 Mr 14 '40
Making paper moistureproof; new I.C.I. product W. 535 helps to solve a packaging problem. Chem & Ind 59:646-7 S 14 '40; Same. Chem Age (Lond) 43:122 S 14 '40
Manufacture of uniform casein. W. E. Stringer. Paper Tr J 110:46-8 Mr 14 '40
Methocel; properties and suggested uses in the paper industry. R. M. Upright and F. C. Peterson. Paper Tr J 110:31-5 My 2 '40
Modern coating machine. Engineer 169:241 Mr 8 '40
New Rayox. il Paper Tr J 111:16 N 7 '40
Oil and gas power; coating mill. il Power 84: 344-5 Je '40
Ortho-krome process of coating paper; glare reduction. A. B. Hurley. bibliog diag Paper Tr J 109:37-40 O 19 '39; Discussion. V. G. W. Harrison. 110:16, 18-19 F 15 '40
Paper coating pigments. A. E. Hughes and H. F. Roderick. Paper Tr J 110:83-6 Je 27 '40

PAPER company Van Reekum (New York) inc.
George G. Cobean goes with Van Reekum. Paper Tr J 111:40 S 12 '40

PAPER containers
A.S.T.M. testing program; corrugated shipping containers; abstract. D. L. Quinn. Paper Ind 22:61+ Ap '40
Causes for the recent interest in bacteria in paperboard. H. C. Fisher. Paper Tr J 110:77-81 Je 27 '40
Making paper moistureproof; new I.C.I. product W. 535 helps to solve a packaging problem. Chem & Ind 59:646-7 S 14 '40; Same. Chem Age (Lond) 43:122 S 14 '40
New milk container lowers retail price; two-quart size paper container introduced in New York city. il Food Ind 11:703-4 D '39
Paper container price-fixing charged by Federal trade commission. Oil Paint & Drug Rep 137:3+ F 26 '40
Paper milk bottles invade New York. il Glass Ind 20:457+ D '39
Paper milk containers now used in Chicago. Paper Tr J 111:10 O 31 '40
Paperboard container production, revision; monthly, 1923-June, 1940. Fed Res Bul 26: 868 Ag '40

See also
Paper boxes

Manufacture

Electric heat for paraffin coating; production of paper cartons by the Boothby fiber can company. il Elec W 114:1198 O 19 '40
Let employees find the answers; Michigan carton company. F. H. Stowitts. il Factory Management 98:61-3 S '40
Manufacture of cartons for the distribution of milk. il Engineering 148:687, 692 D 22 '39

PAPER cutting machines
Regrinding machine knives. A. Rousseau. il Pulp & Pa of Can 41:476-7 Je '40

PAPER drying
Application of a quantitative technique to the evaluation of color stability of bleached pulps; influence of machine drying and natural aging upon this evaluation. J. W. McIntyre. Paper Tr J 109:29-37 D 14 '39
Complete Flakt drier installation. Paper Tr J 111:41 Ag 22 '40
Dominion-Cram film system of dryer drainage. bibliog diags Pulp & Pa of Can 41:234-7 F '40
Dryer waste heat recovery; winter operation of paper machine improved by warm water spray. R. J. Chambers. diags Pulp & Pa of Can (Convention no) 41:104-6 [F] '40
Drying process in paper, as determined by electrical methods. C. G. Garton. bibliog diags Inst E E J 86:369-78 Ap '40
Drying rates for pulp. L. G. Green. bibliog Paper Tr J 110:37-9 My 23 '40
Great Lakes paper co. proves success of new Timken spring mounted drier roll bearing. S. M. Weckstein. il diags Paper Tr J 111:13-14 S 12 '40
Porous structure of paper in relation to drying and impregnation. D. A. McLean and G. T. Kohman. diag Franklin Inst J 229: 223-34 F '40
Radiant heat drying of paperboard. R. W. K. Ulm. Paper Tr J 111:25-7 O 31 '40; Excerpt. Paper Ind 22:484+ Ag '40

PAPER finishing
Effect of clay characteristics on the calendering of clay-filled handsheets. B. W. Rowland and H. J. Allison, jr. bibliog Paper Tr J 111:25-8 Jl 18 '40
What you can use; wetting or penetrating agents used in finishing paper. Oil Paint & Drug Rep 138:37 Ag 26; 31 S 2 '40

See also
Paper coating
Paper sizing

PAPER handling
Controlling of paper in the plant; interpreting V. L. Shaw's address. R. P. McCarthy. Inland Ptr 105:66-7 My '40

PAPER industry and trade
Exporters should know foreign markets. B. Sharp. Paper Tr J 111:11-12 Ag 22 '40
Industry-consciousness need of paper makers. D. C. Everest. Pulp & Pa of Can (Convention no) 41:63-7 [F] '40
Money saving ideas from Menasha's new office. il Am Business 10:33-40 Jl '40
New decade; basis for confident outlook. Pulp & Pa of Can 41:329-30 Ap '40
New setup in pulp; abstract. A. E. McMaster. Paper Tr J 110:17 Je 6 '40
News by commodities. Published in Foreign commerce weekly
Opportunities in the pulp and paper industry; Chem. & Met. report. il Chem & Met Eng 47:242-8 Ap '40
Paper industry booms, with Scandinavia out of the market. Business Week p24 My 4 '40
Product planning in the glazed and fancy paper industry. G. B. Tallman and R. M. Cunningham. Paper Tr J 111:11-15 Ag 15 '40; Same cond. Paper Ind 22:182+ My '40
Pulp and paper problem; perplexing situation throughout the world in war time. G. G. Archibald. map Pulp & Pa of Can 41:381-4+ My '40
Pulp and paper situation. Manuf Rec 109:41+ My '40
Status of today's paper industry, U.S. and Canada. V. E. Hecht. Paper Tr J 111:40 Jl 11 '40
Strathmore finds six practical advantages in a test territory; trying out new products, new advertising, new sales policies and tools. J. D. Zink. Sales Management 47:48, 50-1 Ag 1 '40
Three new trade-marks; Tested paper of America, inc. forms merchandising institute. Ptr Ink 190:95-6 Mr 29 '40
Wood pulp situation becomes acute. Paper Tr J 110:7+ My 9 '40
World demand for newsprint is forecast. Paper Tr J 110:9+ My 16 '40

See also
Newsprint paper
Paper board industry
Paper box industry
Paper mills

Finance

Annual statements better. Pulp & Pa of Can 41:263-4 F '40
Boom conditions in paper industry. F. B. Dezendorf. Barron's 20:7 Je 24 '40
Brown company increases sales and profits. Paper Tr J 111:7 Ag 15 '40
International Paper nears profits. P. Dobbs. il Mag of Wall St 65:240-1+ D 2 '39
International Paper reports $5,938,859 for the quarter and $8,899,433 for six months. Paper Tr J 111:16 Ag 15 '40
News print; costs and competition. C. D. Long, jr. Harvard Business R 18 no 3:372-83 [Ap] '40

PAPER industry and trade—Finance—*Continued*
Possible effect of war on price of paper. C. D. Long, jr. Pulp & Pa of Can 40:727-9 D '39
West Virginia pulp & paper company admitted to list; financial statistics, 1928-39. L. Applegate. Annalist 55:76-7 Ja 18 '40

Securities

International Paper files 32 million offer of first mortgage bonds. Paper Tr J 111:9 Jl 4 '40
Outlook for paper stocks. J. J. Hipple. il Mag of Wall St 66:88-90+ My 4 '40
Paper companies, 1937-39. Mag of Wall St Manual p34 Mr 2 '40

Statistics

Imports of paper and paper making stock. Published in weekly numbers of Paper trade journal
New uses chiefly responsible for continued growth of the paper industry. S. L. Miller. Annalist 54:790-1 D 21 '39
Newsprint in wartime markets; analysis by Newsprint association of Canada. Pulp & Pa of Can 41:493-6 Jl '40
Paper and paperboard production in 1938. Paper Tr J 109:23-5 D 7 '39
Paper and printing, 1936-1939. Survey of Cur Business 1940 Sup p143-7 [supplemented in monthly numbers]
Paper and pulp production, totals and by type of pulp, revision; monthly, 1923-June, 1940. Fed Res Bul 26:861-4 Ag '40
Paper boom. J. L. Nicholson. Barron's 20:9 Ja 8 '40
Paper establishes new high record in 1939. M. C. Dobrow. Paper Tr J 110:35-8 F 22 '40
Paper exports expand during 1939. Paper Tr J 110:31 Mr 14 '40
Paper production in 1939, 13,493,476 tons. Paper Tr J 111:12-13 O 24 '40
Production of paper and products, revision; monthly, 1923-June, 1940. Fed Res Bul 26: 861-9 Ag '40
Pulp and paper industry in Canada 1938. Pulp & Pa of Can 40:673-7 N '39
Report of Import committee. W. B. Bullock. Paper Tr J 110:84+ F 22 '40
Statistical survey of rosin as used in the paper industry. P. K. Baird and C. E. Curran. Paper Tr J 111:37-44 Jl 4 '40
To take censuses of business and manufactures. Paper Tr J 109:22-3 D 28 '39
U.S. paper and board output in 1938. Pulp & Pa of Can 41:468 Je '40
World's paper industry and trade, 1927-37. B. M. Frost. For Comm W 1:49-50 O 12 '40

See also
Newsprint paper—Statistics

British Columbia

British Columbia produces more paper; 1939 statistics. Paper Tr J 111:12 Ag 1 '40
Improvement looked for in B.C. A. Christensen. Pulp & Pa of Can 41:366 Ap '40

See also
Paper mills—British Columbia

Canada

Annual statements better. Pulp & Pa of Can 41:263-4 F '40
Canada's newsprint. W. C. Munro. il Pulp & Pa of Can 40:678-80 N '39
Canadian pulp and paper industry benefits by increased output and shipments. C. L. Sibley. Paper Tr J 110:59, 62-5 F 22 '40
Canadian pulp and paper industry improved. Paper Tr J 110:10 Ja 11 '40
Demand for Canadian newsprint heavy. Paper Tr J 110:7 My 30 '40
Looking backward and forward. R. A. McInnis. Pulp & Pa of Can (Convention no) 41:59-62 [F] '40
Need for a better balanced industry. J. S. Bates. Pulp & Pa of Can 41:534-5 Ag '40
Newsprint and fine paper. H. Crabtree. Pulp & Pa of Can 41:276-7 Mr '40
Newsprint's vital service in financing Canada war effort. Pulp & Pa of Can 41:747 O '40
Prorating in newsprint at turning point. W. A. Higgins. Paper Tr J 111:11 S 26 '40
Pulp and paper industry in Canada 1938. Pulp & Pa of Can 40:673-7 N '39
Pulp and paper industry studies position; Technical and Woodlands sections C.P.P.A. Can Chem & Process Ind 24:63-5 F '40
Review of the year. Pulp & Pa of Can 41:3-6 Ja '40
Survey of newsprint industry completed by Dominion securities corporation. Paper Tr J 109:9+ N 16 '39
What the newsprint industry means to Canadians. Pulp & Pa of Can 41:685 S '40

See also Canadian pulp and paper association

Finland

L'évolution de l'industrie de la pâte à papier et du papier en Finlande. Génie Civil 116: 330-1 My 18 '40
Loss of wood pulp mills by Finland. Paper Tr J 110:18 Ap 11 '40

See also
Paper mills—Finland

Great Britain

Bowater's paper group position. Economist 137:474 D 23 '39
British printers facing war problems; paper rationing; blackouts, etc. bring other complications. Inland Ptr 105:19-20 Ap '40
Paper control in the United Kingdom. G. R. Heasman. il Pulp & Pa of Can 41:274-6 Mr '40
Position of British paper trade. Paper Ind 22:529-30+ S '40
United Kingdom orders control of paper. Paper Tr J 110:19 Ap 4 '40
Wiggins, Teape and co. profits, 1937-39, and 21st annual general meeting. Economist 138:982, 1023-4 Je 1-8 '40

Japan

L'évolution de l'industrie papetière au Japon. Génie Civil 116:315-16 My 11 '40
Paper industry and printing in Japan. P. D. Perkins. Japan reference library, 500 5th av, New York '40
Wood pulp in Japan. Pulp & Pa of Can 41: 751-2 O '40

New York (city)

History of paper merchandising in New York city. B. S. Britton. 80p $1 Howard pub. co, Chicago '39
Paper section of N.Y. fund raises $25,172. Paper Tr J 111:10 Ag 15 '40

Philadelphia

Coarse paper merchants favor credit plan; division of Philadelphia paper trade association considering setting up credit protective bureau. Paper Tr J 111:10 Ag 22 '40

Southern states

Newsprint from the South. Pulp & Pa of Can 41:292 Mr '40
Permanence of southern pulp mills. A. E. Wackerman. il Manuf Rec 109:32-3+ Mr '40
Trend of forest conservation in the southern pulpwood industry. F. Heyward, jr. Pulp & Pa of Can 41:254-6+ F '40; Excerpts. Paper Tr J 110:19 F 1 '40

See also
Paper mills—Southern states

United States

Accomplishments of the industry. D. C. Everest. Paper Tr J 110:71-2+ F 22 '40; Same. Pulp & Pa of Can 41:272-4 Mr '40
Background and economics of American papermaking. L. T. Stevenson. 249p bibliog(p237-42) $3 Harper '40
Forty cent minimum wage for paper industry; complete findings and opinion of the administrator. Paper Tr J 111:7+ Jl 25 '40
New uses chiefly responsible for continued growth of the paper industry. S. L. Miller. Annalist 54:790-1 D 21 '39
Paper and pulp industry and national economy. E. W. Tinker. Paper Ind 22:492+ Ag '40

PAPER industry and trade—United States— *Continued*
Paper in the present crisis. J. Cornell. il Ptr Ink Mo 41:10-11+ S '40
Paper industry faces new conditions; how various companies may be affected. V. B. Gerard. Barron's 20:20 Ap 15 '40
Paper industry warned against expansion during war period. Comm & Fin Chr 149: 3487 D 2 '39
Possible effect of war on price of paper. C. D. Long, jr. Pulp & Pa of Can 40:727-9 D '39
Pulp, paper, and war. il Fortune 21:58+ Je '40
Resolution proposes pulp industry probe; pulpwood purchasing methods of pulp and paper mills, prices of paper, etc. Paper Tr J 111:8-9 Jl 11 '40
Trend of the newsprint industry in the United States. G. D. Bearce. Paper Tr J 110:127-30 F 22 '40
Wood pulp supplies considered adequate. E. R. Settinius, jr. Paper Tr J 111:9 S 5 '40

PAPER laboratories
Flexible laboratory pulp bleacher. K. A. Kobe and J. L. Sundling. diag Paper Tr J 110: 27-8 My 9 '40
Powell River's new laboratory. Pulp & Pa of Can 41:696 S '40
Progress in laboratory and testing facilities. H. S. Hill. Pulp & Pa of Can 41:587-9 Ag '40
Pulp and paper research institute of Canada. A. E. Cadman. il Pulp & Pa of Can 41:539-42 Ag '40

PAPER making
Advances on many fronts; pulp and paper. il Chem & Met Eng 46:679-81 N '39
Automatic pH control at the machine. A. L. Chaplin and W. N. Greer. il Paper Ind 22:490+ Ag '40
Chemistry of lignin. A. J. Bailey. bibliog il Paper Tr J 110:29-34 Ja 4; 29-32 Ja 11 '40
Colloidal nature of clay with reference to papermaking. B. W. Rowland. bibliog Paper Tr J 111:41-6 O 17 '40
Economic possibilities of using high density wood. C. McMichael and R. J. McInnis. Pulp & Pa of Can (Convention no) 41:194-5 [F] '40
Effect of white-water loss in the testing of mechanical pulp. W. S. Morris and R. de Montigny. Pulp & Pa of Can (Convention no) 41:107-12 [F] '40
Engineering and construction for pulp and paper mills. H. K. Ferguson and G. W. Dodge. Paper Tr J 111:15-16+ O 3 '40
Flocculation and dispersion of papermaking fibers. A. Erspamer. bibliog Paper Tr J 110:33-8 Je 13 '40
Hardwoods and the semichemical pulping process. C. E. Curran. Pulp & Pa of Can 41:665-8 S '40
Hydraulic problems of the pulp and paper industry. M. L. Edwards. il plan Mech Eng 62:665-9 S '40
New developments in the paper industry; desirability of southern mills as insurance risks. H. E. Adams. Weekly Underw 143: 770-2 O 5 '40
New interpretations of structural aspects of the paper sheet. G. E. Landt and S. A. Rulon. bibliog diags Paper Tr J 111:32-6 Jl 25 '40
Opportunities in the pulp and paper industry; Chem. & Met. report. il Chem & Met Eng 47:242-8 Ap '40
Papermaking properties of holocellulose. H. H. Houtz and E. F. Kurth. bibliog Paper Tr J 109:38-41 D 14 '39
Papermaking; the past and the future. A. E. H. Fair. Pulp & Pa of Can 41:647-9 S '40
Practical hints on mechanical pulping for newsprint. J. D. Brown. diags Pulp & Pa of Can (Convention no) 41:91-7+ [F] '40
Progress in paper stock preparation. M. O. Nellson. Pulp & Pa of Can 41:571-3 Ag '40
Pulp and paper mill utilization of hardwoods and other little used species. K. D. Running. Pulp & Pa of Can (Convention no) 41:181-4+ [F] '40
Pulping of Douglas fir with nitric acid. H. K. Benson and A. T. Walton. bibliog diags Paper Tr J 111:27-30 S 5 '40
Recent advances in the chemistry of lignin. F. E. Brauns. il Paper Tr J 111:33-9 O 3 '40
Recollections of a paper mill chemist. T. L. Crossley. Pulp & Pa of Can 41:547-9 Ag '40
Relation between sheet strength and fiber surface conditions. H. P. Dixson, jr. bibliog Paper Tr J 111:29-36 Jl 18 '40
Relation of lignin content to the strength of paper and boards; preparation of pulps of different lignin content by chlorine dioxide. C. V. Holmberg and E. C. Jahn. bibliog Paper Tr J 111:33-6 Jl 4 '40
Retention of aluminum ion and hydrogen ion in papers. H. F. Launer. bibliog J Research Nat Bur Stand 23:663-74 D '39; Same. Paper Tr J 110:29-34 Mr 7 '40
Some simple ideas on hydraulics for the paper mill operator. M. L. Edwards. diags Pulp & Pa of Can 40:688-90 N '39
Southland paper mills, incorporated, Lufkin, Texas. V. H. Schoffelmayer. il Paper Tr J 110:16-26 Mr 21 '40
Stream flow vat system. P. H. Goldsmith. il diags Paper Tr J 110:36-40 Mr 28 '40
Symposium on spectrophotometry in the pulp and paper industries. J. L. Parsons and others. Paper Tr J 111:31-7 S 5; 27-38 S 12; 35-8 S 19; 35-41 S 26; 39-44 O 3; 31-8 O 10 '40
TAPPI discusses processes and utilization of by-products. Oil Paint & Drug Rep 137:3+ F 26 '40
Technical association of the pulp and paper industry, fall meeting, Seattle, Aug. 20-23. Paper Tr J 111:39-46 Ag 29 '40
Use of starch in papermaking. B. W. Rowland. bibliog Paper Tr J 111:71-4 Ag 29 '40
What you can use; materials for processing. Oil Paint & Drug Rep 137:42 Je 10; 50 Je 17; 39 Je 24; 138:41 Jl 1; 43 Jl 8; 45 Jl 15; 59 Jl 22; 53 Jl 29; 60 Ag 5; 46 Ag 12; 60 Ag 19; 37 Ag 26; 31 S 2 '40

See also
Cellulose
Digesters (paper making)
Felts (paper making)
Paper board
Paper chemicals
Paper drying
Paper making machinery
Paper making materials
Paper mills
Paper research
Paper sizing
Sulfite liquor
Wood pulp

Bacteria control
Bacteriological examination of paper and paperboard; TAPPI suggested method T 449 sm-40. Paper Tr J 111:27-30 O 10 '40
Causes for the recent interest in bacteria in paperboard. H. C. Fisher. Paper Tr J 110: 77-81 Je 27 '40
Decrease in felt life due to bacterial action. J. P. Weidner. bibliog Paper Tr J 110:36-8 My 9 '40
Microbiological control in pulp and paper manufacture; abstract. R. B. Martin and A. E. Griffin. Paper Ind 22:76 Ap '40
Microbiology of pulp and white water systems. H. K. Nason, R. S. Shumard and J. D. Fleming. bibliog il Paper Tr J 110:30-6 Mr 28 '40
Promoting satisfactory bacteriological conditions in the paper mill. R. F. Huntley and R. H. Torrey. Paper Tr J 110:108-10 F 22 '40
Relation of starch to microbiological problems and methods for controlling bacterial growth. A. Frieden. Paper Tr J 110:29-32 Ap 25 '40
Routine determination of bacterial content of paperboard. L. C. Cartwright and S. S. Epstein. il Paper Tr J 111:27-9 Ag 1 '40; Same cond. Paper Ind 22:294+ Je '40
Significance of bacterial control in paper. C. M. Baker. Paper Tr J 110:33-5 Ap 18 '40

Beating
Applications and limitations of the rod mill. S. D. Wells. il Paper Tr J 111:89-92 Ag 29 '40

PAPER making—Beating—*Continued*

Card index and other methods used in controlling the color of beater furnishes. R. N. Griesheimer. Paper Tr J 111:36-41 S 26 '40

New interpretations of structural aspects of the paper sheet. G. E. Landt and S. A. Rulon. bibliog diags Paper Tr J 111:32-6 Jl 25 '40

River Raisin paper co. modernizes stock preparation department; Dilts hydrapulper. il Paper Tr J 111:15-16 Jl 4 '40

Use of dyes in the beater. W. H. Birchard. Paper Ind 22:362-3 Jl '40

Water retention of beaten and gelatinized pulp. A. Sedoff, C. V. Holmberg and E. C. Jahn. bibliog Paper Tr J 109:42-9 D 28 '39

Weight factors of beaten pulps. J. H. Graff. il Paper Tr J 110:37-40 Ja 11 '40

Bibliography

Index, Technical section, Paper trade journal, volume 109, July to December, 1939. C. J. West, comp. Paper Tr J 110:35-42 Ja 18 '40

Index, Technical section, Paper trade journal, volume 110, January to June 1940. C. J. West. Paper Tr J 111:35-41 Ag 22 '40

Review of paper industry literature. Published in weekly numbers of Paper trade journal

Bleaching

Application of a quantitative technique to the evaluation of color stability of bleached pulps; influence of machine drying and natural aging upon this evaluation. J. W. McIntyre. Paper Tr J 109:29-37 D 14 '39

Better bleach making and bleaching processes; paper and rayon pulp. S. Wang. Pulp & Pa of Can 41:565-8 Ag '40

Bleached sulphate cylinder papers. A. B. Moore, jr. Paper Tr J 111:30-1 Ag 15 '40; Same cond. Paper Ind 22:190 My '40

Bleaching dyed paper. E. R. Laughlin and H. A. Lips. Paper Ind 22:557-62 S '40

Bleaching plant in British Columbia. Engineer 170:137 Ag 30 '40

Bleaching procedure design for high white strength kraft pulps. W. A. Chilson. Paper Tr J 109:29-31 D 21 '39

Chlorite vs. hypochlorite for bleaching. J. F. White and G. P. Vincent. bibliog Paper Tr J 111:39-44 S 19 '40; Abstract. Chem & Met Eng 47:630 S '40

Coloring matter of kraft and its influence in bleaching. H. Schwartz, J. L. McCarthy and H. Hibbert. bibliog Paper Tr J 111:30-4 O 31 '40

Comparison of the cooking stain method and chemical methods for determining the bleachability of pulps. J. F. Hechtman and J. H. Graff. bibliog Paper Tr J 111:30-4 Ag 1 '40

Design of gas absorption equipment for the production of chlorine water. R. P. Whitney and J. E. Vivian. bibliog diag Paper Tr J 110:29-38 My 16 '40

Determination of the bleach requirement of wood pulp. C. M. Koon. bibliog Paper Tr J 111:34-6 Ag 8 '40

Flexible laboratory pulp bleacher. K. A. Kobe and J. L. Sundling. diag Paper Tr J 110: 27-8 My 9 '40

Importance of pH and catalysts in bleachery operations. J. D. Rue. Paper Tr J 110:98-101 Je 27 '40; Same. Pulp & Pa of Can 41: 661-4 S '40; Excerpts. Paper Ind 22:404+ Jl '40

Lime-chlorine system in the preparation of calcium hypochlorite. F. W. O'Neil and J. D. Rue. Paper Tr J 109:39-42 D 7 '39

Materials of construction for sulphate pulp mills. J. A. Lee. Paper Tr J 110:44-6 My 23 '40

Pulp bleach plant design factors. R. O'Donoghue. flow diag diags Paper Tr J 111:41-6 S 26 '40

Sodium chlorite, properties and reactions. M. C. Taylor and others. bibliog Ind & Eng Chem 32:899-903 Jl '40

Wider markets for southern kraft with new wood-pulp bleach; sodium chlorite. G. P. Vincent. il Manuf Rec 109:34 N '40

By-products

Alcohol yields in the sulphite process. Paper Ind 22:196 My '40

Lignin and wood acquire new importance. J. L. McCarthy. il Pulp & Pa of Can 41: 601-5 bibliog(45 references, p605) Ag '40

Marathon Mills develops new by-products. Paper Tr J 110:14 Ja 25 '40

Preparation and properties of Meadol; pure alkali lignin from soda black liquor. M. Plunguian. Ind & Eng Chem 32:1399-1400 O '40

Tall oil. H. L. Blengsli. Paper Tr J 111:37-8 S 5 '40

Chlorination

Bleaching procedure design for high white, high strength kraft pulps. W. A. Chilson. Paper Tr J 109:29-31 D 21 '39

Importance of pH and catalysts in bleachery operations. J. D. Rue. Paper Tr J 110:98-101 Je 27 '40; Same. Pulp & Pa of Can 41:661-4 S '40

Fillers

Chemicals, fillers, size and dyes. C. R. Hazen. Pulp & Pa of Can 41:580 Ag '40

Effect of clay characteristics on the calendering of clay-filled handsheets. B. W. Rowland and H. J. Allison, jr. bibliog Paper Tr J 111:25-8 Jl 18 '40

Effect of filler brightness on lined board brightness. W. R. Willets, R. T. Bingham and L. H. Eriksen. Paper Tr J 109:42-4 D 7 '39

New Rayox. il Paper Tr J 111:16 N 7 '40

Retention of fillers. S. W. Martin and W. R. Willets. Paper Tr J 110:111-17 bibliog(41 titles, p117) F 22 '40

Freeness testing

Automatic freeness recording. A. B. Green. il diags Paper Ind 22:459-62 Ag '40

Effect of grinding consistency and temperature using a miniature grinder. H. Andrews. Pulp & Pa of Can (Convention no) 41:87-90 [F] '40

Freeness as a mill tool; new recording apparatus. A. B. Green. il diags Pulp & Pa of Can 41:655-9 S '40

History

Ancient art lives on; handmade paper; with comments on exhibits at Dard Hunter paper museum, Massachusetts institute of technology. D. Hunter. il Pulp & Pa of Can 41:279-83 Mr '40

Founders of American papermaking; stamp commemorating the 250th anniversary. il Paper Tr J 110:19 Mr 28 '40

250th anniversary of American papermaking. W. B. Wheelwright. il Paper Ind 22:364-5 Jl '40

Patents

James L. Coker, jr.; pioneer producer of pulp and paper from southern pine. H. R. Murdock. il Ind & Eng Chem News ed 18:447-8 My 25 '40

Paper defies water; Scherbak process. Business Week p38-9 Je 8 '40

Papermaking patents in the United States. J. Atkins, comp. Published in monthly numbers of Paper industry and paper world

United States patents on papermaking, fourth quarter, 1939. C. J. West, comp. Paper Tr J 110:27-30 F 1 '40

United States patents on papermaking, first quarter, 1940. C. J. West, comp. Paper Tr J 110:25-8 Ap 25 '40

United States patents on papermaking; second quarter, 1940. C. J. West, comp. Paper Tr J 111:25-8 Jl 25 '40

United States patents on papermaking; third quarter, 1940. C. J. West, comp. Paper Tr J 111:33-6 O 24 '40

Slime problem

Microbiology of pulp and white water systems. H. K. Nason, R. S. Shumard and J. D. Fleming. bibliog il Paper Tr J 110:30-6 Mr 28 '40

Slime control at the Ontario paper company limited. J. M. Forrester and E. G. Kirby. flow sheets il Pulp & Pa of Can (Convention no) 41:83-6 [F] '40

PAPER making—*Continued*

Soda process

Preparation and properties of Meadol; pure alkali lignin from soda black liquor. M. Plunguian. Ind & Eng Chem 32:1399-1400 O '40

Sulfate process

Alkaline pulping process. G. H. Tomlinson. Pulp & Pa of Can 41:563-4 Ag '40

Application of synthetic salt cake; sintered composition of sulphur and soda ash applied in the kraft pulp process to replace sodium sulphate. W. L. Savell. Paper Tr J 111:31-4 Ag 22 '40; Abstract. Paper Ind 22:71-2 Ap '40

Bleached sulphate cylinder papers. A. B. Moore, jr. Paper Tr J 111:30-1 Ag 15 '40; Same cond. Paper Ind 22:190 My '40

Bleaching procedure design for high white, high strength kraft pulps. W. A. Chilson. Paper Tr J 109:29-31 D 21 '39

Coloring matter of kraft and its influence in bleaching. H. Schwartz, J. L. McCarthy and H. Hibbert. bibliog Paper Tr J 111:30-4 O 31 '40

Hollingsworth & Whitney's Chickasaw mills. il plan Paper Ind 22:684-92+ O '40; Same abr. Manuf Rec 109:30-3+ O '40

Materials of construction for sulphate pulp mills. J. A. Lee. bibliog Paper Tr J 110: 40-6 My 23 '40

Modern black liquor recovery plant; Bathurst power and paper company. W. C. Baggs. il plans Pulp & Pa of Can 41:710-17 O '40

National container corp. is latest of great kraft mills to start. il Paper Tr J 109:37-47 N 30 '39

New ideas on the use of salt cake in kraft pulp mills. W. L. Savell. Paper Tr J 109:18, 20, 22 D 14 '39

Recovery in sulphate pulp mills; experience with the Tomlinson system in Sweden. G. Edling. diags Pulp & Pa of Can 40:681-5, 734-8 N-D '39

Recovery unit performance in burning kraft process black liquor. L. S. Wilcoxson and F. G. Ely. il diags Paper Tr J 110:30-6 My 9 '40

Steam from special fuels; making use of waste materials; principle of Tomlinson unit. diag Elec R (Lond) 126:565-6 My 24 '40

Sulphate pulp production; Kraft corporation of America. flow sheet il Chem & Met Eng 46:727-30 N '39

Sulphate pulping of Douglas fir; effect of growth variables on yield and pulp quality; abstract. M. W. Bray, S. L. Schwartz and J. S. Martin. Paper Ind 22:72 Ap '40

Use of swamp black gum sulphate pulps for high grade papers. C. Carpenter and G. A. Ritter. Paper Tr J 110:29-31 Ja 18 '40

Sulfite process

Application of a quantitative technique to the evaluation of color stability of bleached pulps; influence of machine drying and natural aging upon this evaluation. J. W. McIntyre. Paper Tr J 109:29-37 D 14 '39

Chemipulp sulphite mill operation. 191p $3.50 Chemipulp process; for sale by A. M. Phillips, Watertown, N.Y. '39

Conductometric analysis of bisulphite pulping liquors. E. R. Whittemore and S. I. Aronovsky. bibliog Paper Tr J 110:19-22 Je 20 '40

Douglas fir as a pulpwood: a modified sodium sulphite process. L. C. Haffner and K. A. Kobe. bibliog il Paper Tr J 111:93-8 Ag 29 '40

Dryer waste heat recovery; winter operation of paper machine improved by warm water spray. R. J. Chambers. diags Pulp & Pa of Can (Convention no) 41:104-6 [F] '40

Effect of acid concentration and temperature schedule in pulping resinous woods. G. H. Chidester and J. N. McGovern. Paper Tr J 110:39-42 Mr 7 '40

Effect of chipping on the suitability of wood for sulphite pulping. H. Green and F. H. Yorston. diags Pulp & Pa of Can (Convention no) 41:123-6 [F] '40

Investigation of the coloring matter of sulphite liquor. L. E. Simerl. Paper Ind 22:282+ Je '40

James L. Coker, jr.; pioneer producer of pulp and paper from southern pine. H. R. Murdock. il Ind & Eng Chem News ed 18:447-8 My 25 '40

Pulping of Douglas fir with ammonium bisulphite. H. K. Benson and J. E. Lucas. Paper Tr J 111:32-4 Ag 15 '40

Rayonier, incorporated, Fernandina, Fla.; for manufacture of bleached sulphite pulp for paper and rayon purposes. il Paper Tr J 110:27-32 Mr 21 '40

Recovery of heat in sulphite mill operation. H. Mason. Pulp & Pa of Can (Convention no) 41:127-31 [F] '40

Reduction of sulphite in newsprint. D. D. Carr-Harris. Pulp & Pa of Can (Convention no) 41:75-8 [F] '40

Simplicity, compactness, ease of operation mark Dunn sulphite paper co.'s plant. il diag plan Power 84:202-4 Ap '40

Slime control at the Ontario paper company limited. J. M. Forrester and E. G. Kirby. flow sheets il Pulp & Pa of Can (Convention no) 41:83-6 [F] '40

Suitability of red pine for the manufacture of sulphite pulp. J. Studeny and C. E. Libby. il diag Paper Tr J 109:29-35 N 16 '39

Sulphite mills see many changes. C. B. Thorne. diags Pulp & Pa of Can 41:557-61 Ag '40

Time-temperature control for sulphite digesters; recording and controlling potentiometer instrument. J. F. Inderdohnen. il diags Paper Tr J 111:31-4 Ag 8 '40

Wallin and Svensson circulating system. S. Fahlgren. diag Paper Tr J 110:42-4 Ap 18 '40

Waste into production in newsprint operation. F. A. Soy. diags Pulp & Pa of Can (Convention no) 41:79-82 [F] '40

Tables, calculations, etc.

Absorption of sulphur dioxide in water; tower packed with one-inch Raschig rings. L. C. Jenness and J. G. L. Caulfield. bibliog diag Paper Tr J 109:37-41 D 28 '39

Drainage resistance of papermaking pulps. W. O. Hisey and C. H. Heigl. il Paper Tr J 110:34-40 F 8 '40

Drying rates for pulp. L. G. Green. bibliog Paper Tr J 110:37-9 My 23 '40

Recovery of heat in sulphite mill operation. H. Mason. Pulp & Pa of Can (Convention no) 41:127-31 [F] '40

PAPER making machinery

Consistency regulators. F. Wierk. diags Paper Tr J 111:29-33 Jl 11 '40

Dieckbrader vacuum deckle for cylinder machines. A. Yraola. il diag Paper Tr J 110: 28-9 My 9 '40

Dominion-Cram film system of dryer drainage. bibliog diags Pulp & Pa of Can 41:234-7 F '40

Dryer waste heat recovery; winter operation of paper machine improved by warm water spray. R. J. Chambers. diags Pulp & Pa of Can (Convention no) 41:104-6 [F] '40

Hydraulic coupling for variable speed machines. il diag Pulp & Pa of Can 41:698-700 S '40

Improvements in paper machines and accessories. G. D. Davidson. il Pulp & Pa of Can 41:573-6 Ag '40

Metallurgical control in the Fourdrinier wire industry. D. C. Dilley. bibliog il Metals & Alloys 11:50-5, 77-81 F-Mr '40

Modern coating machine. Engineer 169:241 Mr 8 '40

Modern paper-making machine. W. H. Orr. diags Inst Mech Eng J & Proc 141:Proc 139-67, pl 1-12 Ap '39; Discussion. 142:Proc 389-92 F '40

Modernization of sectional drive speeds paper production 32 per cent. A. V. Burbage. il Paper Tr J 110:18-20+ Ja 25 '40

Modernizing a Harper-type machine. A. N. Ball. diags Pulp & Pa of Can 41:10-3 Ja '40

PAPER making machinery—*Continued*
NEPCO rebuilds no. 7 paper machine in Port Edwards mill. il Paper Ind 22:217-18 Je '40
New high-speed cleaning tissue machine. il Paper Ind 22:682-3 O '40
New Morse chain drive. il Paper Tr J 109: 58 N 30 '39
New trend in disc refiners. B. Armstrong. il Paper Tr J 109:17 D 21 '39
Paper machine felt and wire developments. H. S. Spencer. Pulp & Pa of Can 41:577-9 Ag '40
Paper manufacture; sectional unit drive at Dartford mills. il Elec R (Lond) 125:787-8 D 22 '39; Electrician 123:428 N 10 '39
Recent developments on paper making cylinder vat construction. J. W. Joslyn. Paper Tr J 110:14-15 F 15 '40
Regulators for boilers and paper machines. A. C. Wenzel. diags Paper Tr J 110:89-97 Je 27 '40
Stream flow vat system. P. H. Goldsmith. il diags Paper Tr J 110:36-40 Mr 28 '40

See also
Electric driving—Paper mills
Paper drying
Wood grinders

Bearings

Great Lakes paper co. proves success of new Timken spring mounted drier roll bearing. S. M. Weckstein. il diags Paper Tr J 111: 13-14 S 12 '40

Exhibitions

Pulp and paper machinery and supply firms exhibit at Cincinnati, Ohio. Paper Tr J 110: 60, 62, 64-6+ Je 27 '40

Lubrication

Centralized lubrication; paper machines, calenders, and other paper mill machinery. G. H. Kauffeld, jr. Paper Tr J 110:35-6 My 23 '40

Manufacture

Selects glass tube rectifier for shop d.c. supply; Beloit iron works. il diag Elec W 113: 426-7+ F 10 '40

PAPER making materials
Chemicals, fillers, size and dyes. C. R. Hazen. Pulp & Pa of Can 41:579-82 Ag '40
Effect of clay characteristics on the calendering of clay-filled handsheets. B. W. Rowland and H. J. Allison, jr. bibliog Paper Tr J 111:25-8 Jl 18 '40
Nonfibrous raw materials in the paper industry in 1939. H. H. Hanson and E. N. Poor. Paper Tr J 110:34-8 My 30 '40
Papermaking properties of holocellulose. H. H. Houtz and E. F. Kurth. bibliog Paper Tr J 109:38-41 D 14 '39
Recently developed sources of cellulose. L. G. S. Hebbs. bibliog Soc Dyers & Col J 55: 550-9 N '39

See also
Cellulose
Paper chemicals
Paper making—Fillers
Paper pulp
Paper sizing
Pine
Rubber latex
Straw
Waste paper
Wood pulp

Prices

Current market quotations. Published in monthly numbers of Paper industry and paper world
Increased demand from mills sends prices of paper making materials upward. W. R. Hicks, jr. Paper Tr J 110:48, 50 F 22 '40
Market quotations. Published in weekly numbers of Paper trade journal

PAPER mills
Constant improvement this company's aim; mills of Bathurst power and paper company. Pulp & Pa of Can 41:709-10 O '40
Engineering and construction for pulp and paper mills. H. K. Ferguson and G. W. Dodge. Paper Tr J 111:15-16+ O 3 '40
Kimberley-Clark to spend millions on plant. Paper Tr J 110:13 Ja 4 '40
Landscaping the mill property; Blandin paper company, Grand Rapids. C. H. Schacker. il Paper Ind 22:44-6 Ap '40
Old board mill experiences reincarnation; Canadian paperboard property at Frankford converted to shoe production by Bata. G. W. Dickson. il Pulp & Pa of Can 41:325-7 Ap '40
Opportunities in the pulp and paper industry; Chem. & Met. report. il Chem & Met Eng 47:242-8 Ap '40
Schematic diagram of water flow in a simple paper mill. M. L. Edwards. Mech Eng 62: 665 S '40

See also
Electric driving—Paper mills
Paper board mills
Paper making
Water supply for paper mills

Accidents

Accident prevention program makes progress; annual meeting of Quebec pulp & paper safety association. Pulp & Pa of Can 41: 385-8 My '40
Accident rates in 1939. Paper Tr J 111:16 Ag 1 '40
Ontario paper makers profit by safety work; compensation costs reduced; abstract. J. Harold. Pulp & Pa of Can 41:359-60 Ap '40
Paper industry annual safety contest; final rankings of contestants as of June 30, 1940; tabulation. Paper Ind 22:586-7 S '40

Air conditioning

Air conditioning controls paper behavior; Hopper paper company. V. L. Shaw. il Paper Ind 22:563-4 S '40
Conditioning reduces paper complaints; Mead corporation. Paper Tr J 110:46 Ap 18 '40

Electric equipment

Drive modernization raises paper production; West Point, Va. mill of the Albemarle Chesapeake company. A. V. Burbage. il Elec W 113:1366-7+ My 4 '40
News-print of southern pine; completely electrified Southland paper mills. A. P. Schnyder. il Elec W 114:390-1 Ag 10 '40
Photoelectric cell. C. L. Wrenshall. diags Pulp & Pa of Can 40:685-7 N '39
Photo-electric side register control as adapted to web operated machines such as slitters, winders, web printing presses, coaters and waxers. H. E. Overacker. il diags Paper Tr J 111:12-13 Jl 11 '40
Simple structure aids substation designers; outdoor installation of Eastern corporation's paper mill. il Elec W 114:1346 N 2 '40

See also
Electric driving—Paper mills
Paper mills—Power

Employees

Forty cent minimum wage for paper industry; complete findings and opinion of the administrator. Paper Tr J 111:7+ Jl 25 '40
40 cent minimum wage for paper industry; majority report and recommendation of Industry committee no. 11. Paper Tr J 110:10-11+ Ap 18 '40
Job evaluation in a paper plant. E. J. Benge. Personnel J 19:42-8 Je '40
Minimum wage for industry looms; Department of labor announces appointment of committee. Paper Tr J 110:9+ F 29 '40
Present minority report on paper wage rate. Paper Tr J 110:10-11 Ap 25 '40
Sequence of operators and flow of materials in the pulp and paper industry. Chem & Met Eng 47:245 Ap '40
They know what to do; first aid trained pulp and paper mill workers of the Pacific coast. W. D. Welsh. il Nat Safety N 42:58-9+ O '40
Training for better jobs; training school in Canton division of Champion paper and fibre company. G. W. Phillips. il Paper Ind 22: 43+ Ap '40
Vocational training for pulp and paper workers. W. L. Cassiday. Paper Ind 22:457-8+ Ag '40
Why not training? O. J. Naughton. Paper Tr J 110:13-14 Je 13 '40

PAPER mills—*Continued*

Equipment

Alloys for paper mill equipment; composite of abstracts. Metals & Alloys 12:210-11 Ag '40

Application and welding of stainless steel for lining tanks. E. W. P. Smith. bibliog diags Paper Tr J 110:34-7 Je 6 '40

Applications and limitations of the rod mill. S. D. Wells. il Paper Tr J 111:89-92 Ag 29 '40

Bark burning furnaces for the pulp and paper industries. C. A. Hulsart. diags Paper Tr J 111:65-71 Ag 29 '40

Bathurst completes improvements. Paper Tr J 110:22 Ja 11 '40

Better wood handling and preparation. A. N. Ball and G. J. Lane. il Pulp & Pa of Can 41:553-6 Ag '40

Bleaching plant in British Columbia. Engineer 170:137 Ag 30 '40

Champion Paper expansion in Texas. il Manuf Rec 109:26-7 N '40

Chemical industries hold large exposition; equipment of interest to paper industry. Paper Tr J 109:15+ D 7 '39

Chipper knives. C. P. Robinson. Paper Tr J 110:86-8 Je 27 '40

Cleaner paper with copper pipe. L. M. Young. il Pulp & Pa of Can 41:753-4 O '40

Collins co. rehabilitates plant to reduce costs and re-align production. il diags Paper Tr J 109:33-4 N 30 '39

Complete Flakt drier installation. Paper Tr J 111:41 Ag 22 '40

Controlled mixing and blending of coating materials; tests made with Simpson intensive mixer. E. M. Rupp. il Paper Tr J 111: 10-11 Ag 8 '40

Corrosion resisting alloy lined vessels in the paper industry. M. A. Scheil. il Paper Tr J 110:36-42 Ap 18 '40

Design of gas absorption equipment for the production of chlorine water. R. P. Whitney and J. E. Vivian. bibliog diag Paper Tr J 110:29-38 My 16 '40

Dryer waste heat recovery; winter operation of paper machine improved by warm water spray. R. J. Chambers. diags Pulp & Pa of Can (Convention no) 41:104-6 [F] '40

Economic disposal of waste sulphite liquor; chemical and waste heat recovery; use of magnesia. G. H. Tomlinson and L. S. Wilcoxson. flow diags plan Paper Tr J 110: 31-8 Ap 11 '40; Same. Pulp & Pa of Can 41:391-8 My '40

Equipment for storage and distribution of liquid alum in the paper mill. E. V. White. Paper Ind 22:394+ Jl '40

Fluid drive in Canadian paper mills for speed control of rotating screen cylinders of vacuum filters. il diag Paper Tr J 111:14-15 Jl 11 '40

Forced digester circulation and chip packing. L. C. Kelley. Pulp & Pa of Can (Convention no) 41:113-16+ [F] '40

Hollingsworth & Whitney's Chickasaw mills. il plan Paper Ind 22:684-92+ O '40; Same abr. Manuf Rec 109:30-3+ O '40

How the purifiner works. diag Pulp & Pa of Can 40:770 D '39

Making lime in rotary kilns from carbonate sludge; West Virginia pulp & paper co. flow diag il Rock Prod 43:31-2 My '40

Materials of construction for sulphate pulp mills. J. A. Lee. bibliog Paper Tr J 110: 40-6 My 23 '40

Meyers consistency controller and volumetric stock meter. S. E. Meyers. diags Paper Tr J 110:13-16 F 1 '40

Meyers continuous water feed controller. S. E. Meyers. diags Paper Tr J 110:12-14 My 2 '40

Mill in Mexico higher up than any other paper mill; San Rafael mill on slopes of Volcano Ixtaccihuatl. O. K. Graef. il Paper Ind 22: 243-5+ Je '40

Modern black liquor recovery plant; Bathurst power and paper company. W. C. Baggs. il plans Pulp & Pa of Can 41:710-17 O '40

Morris ST-P stock pump. il Paper Tr J 109:20 D 21 '39

National container corp. is latest of great kraft mills to start. il Paper Tr J 109:37-47 N 30 '39

New black liquor pulp washer; Oliver ring valve washer. il Paper Tr J 110:16 F 29 '40

Ohio waxed paper co. builds mill to make its own paper at Columbus, Ohio. Paper Tr J 109:35-6 N 30 '39

Paper mill piping; bronze-welding for copper piping joints. il Pulp & Pa of Can 41:723-4 O '40

Paper stock proportioning meter. diag Pulp & Pa of Can 41:730 O '40

Pointers on piping. Pulp & Pa of Can 41:228-31 F '40

Practical application of the classification of groundwood pulp. B. A. Koskinen. il Pulp & Pa of Can (Convention no) 41:132-8 [F] '40

Progress in mechanical auxiliaries. R. O'Donoghue. il Pulp & Pa of Can 41:597-600 Ag '40

Progress in paper stock preparation. M. O. Neilson. Pulp & Pa of Can 41:571-3 Ag '40

Pulp and paper machinery and supply firms exhibit at Cincinnati, Ohio. Paper Tr J 110: 60, 62, 64-6+ Je 27 '40

Pulp bleach plant design factors. R. O'Donoghue. flow diag diags Paper Tr J 111:41-6 S 26 '40

Recovery in sulphate pulp mills; experience with the Tomlinson system in Sweden. G. Edling. diags Pulp & Pa of Can 40:681-5, 734-8 N-D '39

Regulators for boilers and paper machines. A. C. Wenzel. diags Paper Tr J 110:89-97 Je 27 '40

Riley flue gas scrubber in paper plants. diags Paper Tr J 109:60, 64-6 N 30 '39

River Raisin paper co. modernizes stock preparation department; Dilts hydrapulper. il Paper Tr J 111:15-16 Jl 4 '40

Rubber in the paper industry. R. B. Marr. il Pulp & Pa of Can 41:439-44 Je '40

Simpson intensive mixers. il Paper Tr J 110: 14 My 23 '40

Skinner chip packing process. Paper Tr J 110: 15 Je 13 '40

Sorg paper co. makes many improvements to its plant at Middletown. il Paper Tr J 109:111-13 N 30 '39

Sorting papersheets by machine. W. S. Reed. Paper Tr J 110:81-2 Je 27 '40

Southland paper mills, incorporated, Lufkin, Texas. V. H. Schoffelmayer. il Paper Tr J 110:16-26 Mr 21 '40

Stainless steel in the pulp and paper industry. J. H. Faunce, jr. il Paper Ind 22:142-5 My '40

Sulphite mills see many changes. C. B. Thorne. diags Pulp & Pa of Can 41:557-61 Ag '40

Unique boiler plant generates carbon dioxide and burns wood waste and pulverized coal; Ontario paper company. diag Pulp & Pa of Can 41:18-20 Ja '40

See also

Digesters (paper making)
Paper making machinery
Wood grinders

Fires and fire protection

Fire alarm systems in the pulp and paper industry. J. B. Radford. il Pulp & Pa of Can 41:470 Je '40

Heating and ventilation

Scott paper company. E. L. Blair. il Heat & Ven 37:51-3 Jl '40

Insurance requirements

Protection given a paper manufacturer by each type of insurance; check list. Bankers Mo 57:31-2 Ja '40

Management

Engineers of progress; noonday conference group of executives; Champion paper and fibre company. R. B. Robertson. il Paper Ind 22:463-4 Ag '40

In business for myself; humorous account of foreman's difficulties. Pulp & Pa of Can 41: 651-4+, 717-21 S-O '40

PAPER mills—Management—*Continued*

Recollections of a paper mill chemist. T. L. Crossley. Pulp & Pa of Can 41:547-9 Ag '40

Road maps, tours and detours in management; budget provides a useful guide. P. Kellogg. Pulp & Pa of Can 41:434-8 Je '40

Technical men in management. A. A. Schmon. Pulp & Pa of Can 41:543-4 Ag '40

These policies make good credit risks of paper manufacturers; with insurance check list. Bankers Mo 57:30-2+ Ja '40

Power

Canada's largest engineering project nearing completion; St Maurice power corporation's development at La Tuque, Que. il Can Eng 77:9+ D 19 '39

Heat and power in the pulp industry. M. F. A. Wulfinghoff. diags Paper Ind 22:677-81+ O '40

More kilowatts for Brown; hydroelectric plant at La Tuque owned jointly by Brown corp. and Shawinigan water & power co. H. G. Cochrane. il Pulp & Pa of Can 40:723-6 D '39

Oil and gas power; coating mill. il Power 84: 344-5 Je '40

Paper mill conversion; Cromptons (Stubbins), ltd. il Elec R (Lond) 126:517-18 My 10 '40

Paper mill electrification; Darwen paper mill co. il Electrician 123:350 O 13 '39

Paper mill power. G. Keeth. Pulp & Pa of Can 41:445-8 Je '40

Paper mill steam plants. H. O. Keay. il Pulp & Pa of Can 41:583-5 Ag '40

Paper mills electrification. il Elec R (Lond) 125:614 N 10 '39

Simplicity, compactness, ease of operation mark Dunn sulphite paper co.'s plant. il diag plan Power 84:202-4 Ap '40

Safety devices and measures

Drum-type reels for winding paper; hazards and precautions. Nat Safety N 42:52+ S '40

Importance of a clean, safe work place; Anglo-Canadian pulp and paper mills, ltd. E. N. Baronet. il Paper Ind 22:139-41+ My '40

It means the same in both languages; bilingual posters, scoreboard and other safety work of Kenogami paper mills of Price bros. & co. W. P. C. LeBoutillier. il Nat Safety N 41:21+ My '40

Ontario pulp & paper makers' safety association 25th annual meeting, Toronto, April 4. Pulp & Pa of Can 41:359-60 Ap '40

Planning safety for 1940. E. N. Baronet. Pulp & Pa of Can 41:222-4 F '40

Sanitation

Promoting satisfactory bacteriological conditions in the paper mill. R. F. Huntley and R. H. Torrey. Paper Tr J 110:108-10 F 22 '40

Significance of bacterial control in paper. C. M. Baker. Paper Tr J 110:33-5 Ap 18 '40

Waste

Coloring matter of kraft and its influence in bleaching. H. Schwartz, J. L. McCarthy and H. Hibbert. bibliog Paper Tr J 111:30-4 O 31 '40

Effect of white-water loss in the testing of mechanical pulp. W. S. Morris and R. de Montigny. Pulp & Pa of Can (Convention no) 41:107-12 [F] '40

Growing importance of industrial waste disposal; a review of developments in 1939. F. W. Mohlman. Water Works & Sewerage 87:97 Mr '40

How Baie Comeau disposes of refuse wood and bark; burns it to generate steam. E. J. Calnan. il diag Paper Ind 22:47-8 Ap '40

Interim report on refuse disposal. K. S. LeBaron. Pulp & Pa of Can (Convention no) 41:198+ [F] '40

Making lime in rotary kilns from carbonate sludge; West Virginia pulp & paper co. flow diag il Rock Prod 43:31-2 My '40

Microbiology of pulp and white water systems. H. K. Nason, R. S. Shumard and J. D. Fleming. bibliog il Paper Tr J 110:30-6 Mr 28 '40

Modern black liquor recovery plant; Bathurst power and paper company. W. C. Baggs. il plans Pulp & Pa of Can 41:710-17 O '40

Recovery in sulphate pulp mills; experience with the Tomlinson system in Sweden. G. Edling. diags Pulp & Pa of Can 40:681-5, 734-8 N-D '39

Recovery unit performance in burning kraft process black liquor. L. S. Wilcoxson and F. G. Ely. il diags Paper Tr J 110:30-6 My 9 '40

Some aspects of white water flocculation. E. N. Poor. Paper Tr J 110:37-8 Mr 7 '40

Steam from special fuels; making use of waste materials. diags Elec R (Lond) 126: 564-6 My 24 '40

TAPPI survey of progress in water technology for 1939. L. B. Miller. Paper Tr J 110:38-41 My 16 '40

Waste into production in newsprint operation. F. A. Soy. diags Pulp & Pa of Can (Convention no) 41:79-82 [F] '40

Waste problems in the pulp and paper industry. H. J. Skinner. il Ind & Eng Chem 31:1331-5 N '39

Wisconsin mills announce program for study of waste disposal. J. M. Conway. Paper Tr J 110:66 F 22 '40

See also

Paper making—By-products

Sulfite liquor

Alabama

Hollingsworth & Whitney's Chicksaw mills. il plan Paper Ind 22:684-92+ O '40; Same abr. Manuf Rec 109:30-3+ O '40

British Columbia

Bleaching plant at Woodfibre, B.C. for paper and dissolving pulps. Can Chem & Process Ind 24:81 F '40

Pulp dryer extension at Powell River. Pulp & Pa of Can 41:365 Ap '40

Finland

Pulp mill in Sunila, Finland. il Arch Forum 72:408-9 Je '40

Florida

Contracts let; plans announced for Pensacola; Florida pulp and paper company. il Paper Ind 22:438-9 Ag '40

New pulp and paper mill starts construction; Florida pulp and paper company's mill near Pensacola. Manuf Rec 109:36+ Ag '40

Mexico

Mill in Mexico higher up than any other paper mill; San Rafael mill on slopes of Volcano Ixtaccihuatl. O. K. Graef. il Paper Ind 22: 243-5+ Je '40

Scandinavia

List of Scandinavian mills. Pulp & Pa of Can 41:384, 415-17 My '40

Southern states

Paper industry in the South; list of mills and their productive capacities. map Pulp & Pa of Can 41:327-9 Ap '40

Sweden

Recovery in sulphate pulp mills; experience with the Tomlinson system. G. Edling. diags Pulp & Pa of Can 40:681-5, 734-8 N-D '39

Texas

Champion Paper expansion in Texas. il Manuf Rec 109:26-7 N '40

Southland paper mills, incorporated, Lufkin, Texas. V. H. Schoffelmayer. il Paper Tr J 110:16-26 Mr 21 '40

Southland paper mills, inc. make first paper. Paper Tr J 110:13+ Ja 25 '40

PAPER money

Great Britain

Enquiry into the nature and effects of the paper credit of Great Britain (1802). H. Thornton. 368p bibliog(p58-63) $3.50 Farrar '39

PAPER money—*Continued*

United States

Shipments and receipts of United States paper currency to and from Europe by selected banks in New York city, monthly, Nov. 1938-Nov. 1939. Fed Res Bul 26:29 Ja '40 [cont monthly]

Standard paper money catalogue. W. Raymond, ed. 106p $2 Wayte Raymond, New York '40

PAPER mulberry

Hardiness of the paper-mulberry tree. E. A. Andrews. Science 91:44 Ja 12 '40

PAPER patents. See Paper making—Patents

PAPER products

Converted paper products committee appointed for minimum wage. Paper Tr J 111: 18+ Jl 18 '40

Miscellaneous paper goods, 1938. Pulp & Pa of Can 41:9 Ja '40

Wages for paper products. Paper Tr J 111: 48 O 17 '40

PAPER pulp

Comparative evaluation of the different methods of dirt count of pulp. A. P. Adrian and J. H. Graff. diags Paper Tr J 111:32-40 N 7 '40

Drying rates for pulp. L. G. Green. bibliog Paper Tr J 110:37-9 My 23 '40

Flocculation and dispersion of papermaking fibers. A. Erspamer. bibliog Paper Tr J 110: 33-8 Je 13 '40

Manufacture of pulp goods decreases. Paper Tr J 111:11 N 7 '40

Microbiology of pulp and white water systems. H. K. Nason, R. S. Shumard and J. D. Fleming. bibliog il Paper Tr J 110:30-6 Mr 28 '40

Microdissection of paper pulp fibers. C. W. Hock and W. Seifriz. il diag Paper Tr J 110:31-2 F 1 '40

Pulp production in 1939 up 6.6 per cent. Paper Tr J 111:9 N 7 '40

See also
Wood pulp

Analysis

Chemical and physico-chemical relationships of pulps. S. I. Aronovsky and E. C. Dryden. bibliog Paper Ind 22:253-6 Je '40

Color

Measurement of color of pulps. R. S. Hatch. Paper Tr J 111:35-8 S 19 '40; Excerpts. Paper Ind 22:288+ Je '40

Testing

Drainage resistance of papermaking pulps. W. O. Hisey and C. H. Heigl. il Paper Tr J 110:34-40 F 8 '40

PAPER research

Advances in the chemistry of wood, 1938-1939. F. H. Yorston. Pulp & Pa of Can (Convention no) 41:144-8 bibliog(54 references, p 147-8) [F] '40

American Cyanamid research laboratories. il Paper Tr J 110:18, 20-1 Ja 11 '40

Annual report on the research activities of the Pulp and paper division, Forest products laboratories of Canada. Pulp & Pa of Can (Convention no) 41:202-4 [F] '40

Chemical and physico-chemical relationships of pulps. S. I. Aronovsky and E. C. Dryden. bibliog Paper Ind 22:253-6 Je '40

Chemistry of lignin. A. J. Bailey. bibliog il Paper Tr J 110:29-34 Ja 4; 29-32 Ja 11 '40

Effect of clay characteristics on the calendering of clay-filled handsheets. B. W. Rowland and H. J. Allison, jr. bibliog Paper Tr J 111:25-8 Jl 18 '40

Effects of wettability of paper coating raw stock. G. Davidson. il Paper Tr J 110:30-2 Je 13 '40

Existence and nature of fiber membranes. H. F. Lewis, F. E. Brauns and M. A. Buchanan. Paper Tr J 110:36-8 F 1 '40

Experimental laboratory of the Cartiere Burgo, Turin. il Chem & Ind 59:130-1 F 24 '40

Industrial research in 1939. W. A. Hamor. Ind & Chem News ed 18:7-8 Ja 10 '40

Instrumentation studies (cont). bibliog Paper Tr J 110:44-50 Ja 25; 29-37 F 15; 27-33 Je 6 '40

Investigation of the coloring matter of sulphite liquor. L. E. Simerl. Paper Ind 22: 282+ Je '40

New uses for old materials; how modern research has improved glass, paper and rubber. J. V. Sherman. Barron's 20:13 Je 10 '40

Opportunities await cooperative research. F. C. James. Pulp & Pa of Can (Convention no) 41:68-70+ [F] '40

Papermaking properties of holocellulose. H. H. Houtz and E. F. Kurth. bibliog Paper Tr J 109:38-41 D 14 '39

Recent advances in the chemistry of lignin. F. E. Brauns. il Paper Tr J 111:33-9 O 3 '40

Relation between sheet strength and fiber surface conditions. H. P. Dixson, jr. bibliog Paper Tr J 111:29-36 Jl 18 '40

Report of the Division of industrial and cellulose chemistry, McGill university, to the Pulp and paper research institute. Pulp & Pa of Can (Convention no) 41:204+ [F] '40

Research in the pulp and paper industry. R. B. Wolf. Pulp & Pa of Can 41:545-6 Ag '40

Retention of aluminum ion and hydrogen ion in papers. H. F. Launer. bibliog J Research Nat Bur Stand 23:663-74 D '39; Same. Paper Tr J 110:29-34 Mr 7 '40

TAPPI reviews research progress. Oil Paint & Drug Rep 138:5+ Ag 26 '40

Texas Gulf sulphur co. launches long-range research program; sulfate pulp, and possible use of sulfur in combination with paper products. Ind & Eng Chem News ed 18:498 Je 10 '40

See also Lawrence college—Institute of Paper chemistry; Pulp and paper research institute of Canada

PAPER rolls

Effect of atmospheric humidity on newsprint. D. Jones. diags Paper Tr J 111:35-8 Ag 1 '40; Same. Pulp & Pa of Can 41:725-8 O '40

Service caster truck designed to take heavy rolls of paper from vertical shipping position. il Paper Tr J 110:13 My 16 '40

PAPER sizes

Efficiency of advertising printing production; waste of paper and press capacity. L. R. Walter. Ptr Ink Mo 39:13, 31 D '39

PAPER sizing

Chemicals, fillers, size and dyes. C. R. Hazen. Pulp & Pa of Can 41:580 Ag '40

Developments in synthetic resins and resin emulsions. F. J. Myers. bibliog Paper Tr J 110:27-30 Ap 11 '40

Methocel; properties and suggested uses in the paper industry. R. M. Upright and F. C. Peterson. Paper Tr J 110:31-5 My 2 '40

Paraffin waxes; their application to papermaking. W. K. Griesinger and M. H. Reynolds. Paper Ind 22:248-51 Je '40

Prevention of oxidation and rancidity in paper with oat flour. S. Musher. bibliog Paper Tr J 110:117-20 F 22 '40

Prosize. B. W. Rowland and W. M. Bain. bibliog Paper Tr J 110:33-6 Ap 25 '40

Relation of starch to microbiological problems and methods for controlling bacterial growth. A. Frieden. Paper Tr J 110:29-32 Ap 25 '40

Specific gravity; temperature relationships for rosin size milk. H. N. Bogart and D. S. Davis. Paper Ind 22:251-2 Je '40

Statistical survey of rosin as used in the paper industry. P. K. Baird and C. E. Curran. Paper Tr J 111:37-44 Jl 4 '40

Use of starch in papermaking. B. W. Rowland. bibliog Paper Tr J 111:71-4 Ag 29 '40

See also
Paper coating

Analysis

Analysis of rosin size. E. A. Georgi. Paper Tr J 111:37-8 Ag 15 '40

PAPER sizing—Analysis—*Continued*
Method of analysis of rosin wax sizes. R. B. Porter and W. M. Thomas. Paper Tr J 110: 27-30 Je 20 '40

Testing

Fluorescence size test, an improved method and a new instrument for measuring the water resistance of paper. J. A. Van den Akker and others. bibliog il diags Paper Tr J 109:33-42 N 23 '39

PAPER using industries

See also
Printing trade

PAPER waste. See Waste paper

PAPER winders
Photo-electric side register control as adapted to web operated machines such as slitters, winders, web printing presses, coaters and waxers. H. E. Overacker. il diags Paper Tr J 111:12-13 Jl 11 '40

PARACHORS
Isosteric parachors. G. N. Copley. Chem & Ind 59:675-7 S 28 '40

PARACHUTE fabrics
Cotton duck (dyed) for cases and travelling bags for parachutes; British standard specification of aircraft purposes. Textile Inst J 31:S7-9 Ja '40

Testing

Fabric-porosity testing apparatus. il Engineering 148:634 D 8 '39
Testing porosity of fabrics. C. H. S. Tupholme. Textile Col 62:121 F '40

PARACHUTES
Fighting forest fires by parachute. il Sci Am 162:28 Ja '40
Heat-resistant process for making cotton tire cords adapted to textiles for aeronautical use; parachute harness, etc. il Textile World 90:123 O '40
Parachute as an aid to national forest protection. D. P. Godwin. il Aero Digest 36: 44-5+ Ap '40
Parachute troops in modern warfare. F. Smith. il Aero Digest 37:63+ Jl '40
Pioneer parachute pack. F. Smith. il Aero Digest 36:92 Je '40
Poulie parachute individuelle, système Scherrer. diags Génie Civil 116:347-8 My 25 '40
Radio for parachute fire fighters developed by U.S. Forest service. Franklin Inst J 230:394 S '40
Smoke jumpers; parachute jumpers to fight forest fires. A. Klemin. il Sci Am 162:97-8 F '40

Testing

Parachute testing tower solves many problems. Aero Digest 37:168+ N '40

PARAFFIN
Chip studies in wax; paraffin blocks for studying metal working saws. il Am Mach 84:418-19 Je 12 '40
Current research work at University of Birmingham, England, on principles and methods of refining lubricating oil and paraffin wax. T. Brown. bibliog Oil & Gas J 38: 103+ D 28 '39
Electric heat for paraffin coating; production of paper cartons by the Boothby fiber can company. il Elec W 114:1198 O 19 '40
Germicidal properties of hot paraffin. F. W. Tanner and H. F. Lewis. bibliog Food Ind 12:60-2 Mr; 57-8 Ap '40
Gewinnung von paraffin aus kohlenoxyd und wasserstoff. V D I 83:1216 N 18 '39
Identification of commonly used waxes in admixture. S. Zweig and A. Taub. bibliog Ind & Eng Chem Anal ed 12:9-14 Ja 15 '40
Liquid dielectrics; electrical and physical properties of systems containing sparingly soluble oxidation products in liquid paraffin. J. D. Piper and others. bibliog il Ind & Eng Chem 32:1510-18 N '40
Nomograph for paraffin wax solubility in petroleum fractions. D. S. Davis. Ind & Eng Chem 32:1293 O '40
Paraffin and petroleum industries; pioneer work of Mr James Young. T. B. Fowler. Chem & Ind 59:70-1 F 3 '40
Paraffin in paper; TAPPI revised official standard T 405m-40. Paper Tr J 110:46 My 23 '40
Paraffin waxes; their application to papermaking. W. K. Griesinger and M. H. Reynolds. Paper Ind 22:248-51 Je '40
Performance of packed towers; experimental studies of absorption and desorption; effect of wetting agents and paraffin-coated packing. T. K. Sherwood and F. A. L. Holloway. Am Inst Chem Eng Trans 36:30-3 F '40
Petrolatum, paraffin labeling explained. Oil Paint & Drug Rep 138:4 Jl 8 '40
Studies on the separation of paraffin waxes; phase relationships. M. F. Sawyer, T. G. Hunter and A. W. Nash. bibliog diags Inst Pet J 26:430-51, pl 1 S '40
Studies on the separation of paraffin waxes; principles involved in the fractional melting of wax. M. F. Sawyer, T. G. Hunter and A. W. Nash. bibliog Inst Pet J 26:390-400 Ag '40
Synthesis of lubricating oils by condensation reactions; the condensation of chlorinated paraffin wax with aromatic hydrocarbons. W. R. Wiggins, T. G. Hunter and A. W. Nash. bibliog Inst Pet J 26:129-45 Mr '40
Synthesis of lubricating oils by condensation reactions; the engine testing of synthetic lubricating oils. W. R. Wiggins, T. R. Hunter and A. W. Nash. Inst Pet J 26:225-34 My '40
Wax shipments far ahead of same period last year. H. S. Norman. il Oil & Gas J 38:14-15 My 2 '40
What you can use; materials for processing. Oil Paint & Drug Rep 138:48 S 9 '40

See also
Petroleum—Paraffin problem

PARAFFIN oil
What you can use; materials for processing paraffin oil. Oil Paint & Drug Rep 138:58 S 16; 48 S 23 '40

PARAFFINE companies, Inc.
College in a factory; labor relations studied in Oakland plant. il Business Week p37-8 Mr 16 '40
Ersatz plan tested. Business Week p35-6 Ja 20 '40

PARAFFINS
Catalytic dehydrogenation of gaseous paraffins. A. V. Grosse and V. N. Ipatieff. bibliog il Ind & Eng Chem 32:268-72 F '40
Catalytic dehydrogenation process (gaseous paraffins to olefins). A. V. Grosse and others. flow diags il Am Pet Inst Proc 20(3):110-20 '39; Same. Oil & Gas J 38:53, 55-6 N 23 '39; Same cond. Nat Pet N 31: R520-1 N 29 '39
Dependence of viscosity of liquids on constitution. A. H. Nissan, L. V. W. Clark and A. W. Nash. Inst Pet J 26:155-211 bibliog(97 references, p209-11); Discussion. 212-22 Ap '40
Destructive alkylation produces high-octane aviation gasoline. D. L. Gol'dshtein and B. A. Englin. bibliog Nat Pet N 32:R262-4, R266, R268 Jl 24 '40
α, ω-Di-*p*-hydroxyphenyl alkanes. E. M. Richardson and E. E. Reid. bibliog Am Chem Soc J 62:413-15 F '40
La synthèse des acides gras par oxydation catalytique des hydrocarbures lourds; leur emploi à la fabrication du savon et de graisses alimentaires. E. Lemaire. il diag Génie Civil 115:413-17 D 9 '39
Thermal alkylation and neohexane. G. G. Oberfell and F. E. Frey. bibliog il diag Am Pet Inst Proc 20(3):78-88 '39; Same. Oil & Gas J 38:50-1 N 23; 70, 73-4+ N 30 '39; Same cond. Nat Pet N 31:R502-3+ N 29 '39
Thermodynamic properties of paraffins and olefins. R. H. Ewell. bibliog Ind & Eng Chem 32:778-83 Je '40

See also

Butane
Ethane
Methane
Nitroparaffins
Octane
Propane

PARAFFINS—*Continued*

Analysis

Identification of paraffins; analysis of paraffinic mixtures by means of Raman spectra. A. V. Grosse, E. J. Rosenbaum and H. F. Jacobson. bibliog il Ind & Eng Chem Anal ed 12:191-4 Ap 15 '40

Die quantitative analyse der gasförmigen paraffinkohlenwasserstoffe durch adsorption und desorption. E. Ferber and H. Luther. il diag Angew Chemie 53:31-5 Ja 20 '40

PARAFORMALDEHYDE

Condensation of paraformaldehyde with acetomesitylene. R. C. Fuson and C. H. McKeever. Am Chem Soc J 62:999-1001 My '40

PARAGENESIS. See Ore deposits

PARAGUAY

See also
Mining law—Paraguay

Commerce

Foreign trade, first quarter of 1940. Comm Rep p593 Jl 6 '40

Economic conditions

Economic conditions. For Comm W 1:257-8 N 9 '40

PARA-HYDROGEN. See Hydrogen

PARALLELS

Standard engineers' steel parallel blocks. Engineering 148:536-7 N 10 '39

PARALYSIS

Malarial therapy of general paralysis and other conditions. W. H. Kupper. 155p bibliog(p125-49) $2.25 Edwards bros, Ann Arbor, Mich. '39

Parkinson's disease. Science 91:supl0 My 31 '40

See also
Infantile paralysis

PARAMAGNETIC relaxation. See Magnetic properties

PARAMAGNETISM. See Magnetism

PARAMECIUM

New culture medium for paramecia. B. G. Anderson. Science 90:448 N 10 '39

PARAMOUNT pictures, incorporated

Annual report. Comm & Fin Chr 150:3060-1 My 11 '40

PARASITES

Clinical parasitology. C. F. Craig and E. C. Faust. 2d ed rev 772p bibliog(p701-27) $8.50 Lea & Febiger, Philadelphia '40

Introduction to parasitology; with special reference to the parasites of man. A. C. Chandler. 6th ed rev & enl 698p $5 Wiley '40

Observations on parasites and inclusion bodies in certain intestinal protozoa; abstract. D. H. Wenrich. Science 92:416-17 N 8 '40

See also
Bacteria
Trichina and trichinosis
Worms, Intestinal and parasitic

PARATHYROID glands

On a new gland in man and several mammals (glandulæ parathyreoideæ). I. V. Sandström. 44p $1 Johns Hopkins press, Baltimore '38

PARCEL post

Colombia decree regulates parcel-post shipments. For Comm W 1:153 O 26 '40

PARCEL post insurance. See Insurance, Parcel post

PARCHMENT paper

Birth of parchment. Pulp & Pa of Can 41:660 S '40

PARIS, France

Paris at war; sixteen paintings in gouache by B. Lamotte. Fortune 21:65-72 My '40

Bourse

Paris bourse. Published in weekly numbers of Commercial & financial chronicle

Lighting

Outside lighting in Paris; system of control. diags Elec R (Lond) 126:338 Mr 22 '40

Street lighting in France; control of the Paris system. diags Electrician 124:19 Ja 12 '40

PARISH houses

All religious and social functions combined in one structure; reinforced-concrete chapel and social unit near Salt Lake City, Utah. il plans Arch Rec 86:38-40 D '39

PARK buildings

See also
Shelters

PARKE, Davis and company

Stock offered. Comm & Fin Chr 151:2509 O 26 '40

PARKER, Thomas C.

Parker named American federation of arts director. Arch Rec 88:12 S '40

PARKER appliance company, Cleveland

Stock offered. Comm & Fin Chr 151:2360-1 O 19 '40

PARKER dam. See Colorado river—Power utilization

PARKERIZING. See Metal protection

PARKING. See Automobile parking

PARKINS, Almon Ernest, 1879-1940

Sketch. S. C. Garrison and H. A. Webb. Science 91:161 F 16 '40

PARKS

Canal restored for pleasure use; abandoned Illinois & Michigan canal. Eng N 123:704 N 23 '39

Value of public park systems to Rahway watershed. M. M. Gibbons. Am Water Works Assn J 32:1022-4 Je '40

See also
Camps, Tourist
Landscape gardening
National parks and reserves
Parkways

PARKWAYS

Divided highway design. il diags Eng N 123: 816-19; 124:318-21, 380-4 D 21 '39, F 29, Mr 14 '40

Interregional highways; recreational value as related to the federal park system. A. D. Cammerer. il Roads & Sts 83:54-6 Ja '40

Lakefront freeway speeds Cleveland traffic. il map Eng N 124:494-7 Ap 11 '40

Merritt parkway; how the recently completed automobile highway is functioning. C. G. Nichols. il Roads & Sts 83:66, 69-70 Mr '40

Minneapolis improves its Mississippi parkway system; illustrations. Eng N 124:344-5 Mr 7 '40

Motorists demand fast service at new parkway stations; Henry Hudson and Merritt parkways. il Nat Pet N 32:35-7 O 30 '40

Safety and directional marking signs on the Henry Hudson parkway. il Pub Works 71: 30 Ja '40

Sodium lights the New York City Belt parkway; world's largest sodium-lighted highway installation. N. J. Kelly. il map Gen Elec R 43:438-41 N '40

Stabilized construction on Natchez Trace. il Roads & Sts 83:27-8 Ag '40

33-mile Belt parkway built in 19 months for New York. il map Eng N 125:60-1 Jl 11 '40

Toll parkway proposed for Los Angeles. il plan map Eng N 124:332-3 F 29 '40

Trans-Island boulevard, Quebec's first dual-type highway. il Can Eng R & B 78:21 O '40

PARLIAMENTARY practice

Essentials of parliamentary procedure. J. J. Auer. 33p pa 40c Crofts '40

Handbook of parliamentary law. F. M. Gregg. rev ed 112p $1 Ginn '40

Parliamentary law. F. J. Haskin. 35p pa 10c Frederic J. Haskin, 314 Eye st, N.E. Washington, D.C. '40

PAROLE

Parole with honor. W. LaRoe, jr. 295p $3 Princeton univ. press '39

PARSLEY flakes

Parsley flakes prosper; reasons: price, package, publicity. R. A. Asmussen. il Sales Management 47:52-3 Ag 15 '40

PART-time employment
Marshall Field stabilizes jobs; extras are classified. Business Week p48 S 14 '40
Share-the-work provisions in union agreements. Monthly Labor R 50:1340-8 Je '40
See also
College students—Employment

PART-time farming. See Farms for industrial workers

PARTICLES
Calculation of particle trajectories. C. E. Lapple and C. B. Shepherd. bibliog Ind & Eng Chem 32:605-17 My '40
Centrifuge aids studies of particle-size distribution. E. A. Hauser. Concrete (mill sec) 48:125 F '40
Cleaning of air and gas by thermal repulsion. S. C. Blacktin. diags Soc Chem Ind J 58: 334-8; 59:153-4 N '39, Jl '40
Determining emulsifying efficiences. L. H. Cohan and N. Hackerman. il Ind & Eng Chem Anal ed 12:210-13 bibliog(80 references, p213) Ap 15 '40
Diffraction of X-rays by small crystalline particles. A. L. Patterson. bibliog Phys R 56:972-7 N 15 '39
Directly air-driven transparent ultracentrifuges. J. W. McBain and A. H. Lewis. bibliog il diag J Phys Chem 43:1197-1205 D '39
Effect of particle shape of white pigments on opacity; acicular zinc sulfide in the form of wurtzite. H. A. Depew and A. C. Eide. bibliog il diag Ind & Eng Chem 32:537-40 Ap '40
Effect of particle size and index of refraction on reflectance. B. W. King, jr. bibliog diag Am Cer Soc J 23:221-5 Ag '40
Effect of particle size on processing properties and abrasion resistance of carbon black in tread stocks. G. L. Roberts. il India Rubber W 101:39-42+ F '40
Electrostatic electricity in industrial separation of particles. Science 91:sup12 Ja 5 '40
Fine particle suspensions in organic liquids. C. R. Bloomquist and R. S. Shutt. bibliog il diags Ind & Eng Chem 32:827-31 Je '40
Fractionation of nonplastic powders by sedimentation in water. S. E. Lull and A. S. Watts. bibliog il Am Cer Soc Bul 19:68-70 F '40
Heat transfer in the flow of gas through a bed of solid particles. O. A. Saunders and H. Ford. bibliog diags Iron & Steel Inst J 141:291-316, pl 16-21; Discussion. 317-28 no 1 '40
Hevea latex of large particle size. J. McGavack. il Ind & Eng Chem 31:1509-12 D '39
Measuring average particle diameter of powders; air-permeation apparatus. E. L. Gooden and C. M. Smith. il diags Ind & Eng Chem Anal ed 12:479-82 Ag 15 '40
Methodology of grain size and mineral analyses of pelites (on the basis of research on elutriation analysis and roentgenographical and microscopical studies of different deposits); abstract. H. J. Harkort. Am Cer Soc J 23 (Cer A 19):172-3 Jl '40
Optical properties of colloidal suspensions in relation to the measurement of particle-size frequency. E. G. Richardson. il diag J Ap Phys 11:653-7 O '40
Particle size and shape of colloidal carbon as revealed by the electron microscope. bibliog il Rubber Age 47:309-16 Ag '40
Particle size determination of colloidal systems by the supercentrifuge. E. A. Hauser and H. K. Schachman. bibliog diags J Phys Chem 44:584-91 My '40
Particle size distribution of portland cement and what it means. F. O. Anderegg. Rock Prod 43:52-4 S '40
Percentage of particles of different sizes removed from dust-laden air by breathing. A. W. van Wijk and H. S. Patterson. diag J Ind Hygiene 22:31-5 Ja '40
Physical and astronomical information concerning particles of the order of magnitude of the wave-length of light. F. Ehrenhaft. il diags Franklin Inst J 230:381-93 S '40
Powder method for measurement of chemical durability of glass. F. V. Tooley and C. W. Parmelee. diag Am Cer Soc J 23:304-14 O '40
Preparation of microscopic glass spheres. C. R. Bloomquist and A. Clark. il diag Ind & Eng Chem Anal ed 12:61-2 Ja 15 '40
Properties of kaolinite as a function of its particle size. C. G. Harman and F. Fraulini. bibliog il Am Cer Soc J 23:252-9 S '40
Proportion clay particle sizes to improve final product. H. G. Schurecht and J. Reid. Brick & Clay Rec 95:18-19 N '39
Publications of A. H. M. Andreasen. Am Cer Soc Bul 19:226-7 Je '40
Relation of particle size and characteristics of light reflected from porcelain enamel surfaces. C. H. Zwermann and A. I. Andrews. bibliog il Am Cer Soc J 23:93-102 Ap '40
Scherrer formula for X-ray particle size determination. A. L. Patterson. bibliog Phys R 56:978-82 N 15 '39
Sedimentation in the laboratory; design data from laboratory experimentation. H. T. Ward and K. Kammermeyer. bibliog il Ind & Eng Chem 32:622-6 My '40
Sedimentation tube for measuring particle-sizes. P. M. Travis. Concrete (mill sec) 48: 177 My '40
Separation and fractionation of colloidal systems. E. A. Hauser and J. E. Lynn. flow sheet bibliog diag Ind & Eng Chem 32:659-62 My '40; [Correction for equation 5]. 32: 787 Je '40
Specific surface and particle size distribution of finely divided materials; with data on use of photelometer. M. N. States. il diags Am Soc T M Proc 39:795-807; Discussion. 808-9 '39
See also
Cloud chambers
Colloids
Dispersion
Drops
Dust
Electrophoresis
Granular materials
Powders
Sand
Sedimentation
Suspensions

PARTICLES, Alpha. See Alpha rays

PARTICLES, Nuclear. See Deutcrons; Electrons; Neutrino; Neutrons; Photons; Protons; Radioactivity

PARTITIONS
Conduits and outlets in solid partitions of metal lath and cement plaster. il diags Concrete 48:12+ Ja '40
Installing pipes, ducts and conduits in concrete walls and floors. il diags Concrete 48:17-18 My; 12 Ag '40
Installing service pipes in partitions of metal lath and plaster. il diags Concrete 48:17-18 Ap '40
Insulation board lath solves many plaster base problems. il Am Bld 61:58-60 D '39
Office building completed in 79 working days; use of special cellular steel floor, roof and partition sections, bonded metal paneling for walls; H. H. Robertson co. Il. B. Winslow. il diags Steel 106:46-8+ F 19 '40
Prefabricated metal shapes for new glass-block partition. il diags Arch Rec 87:47 Ja '40
Sheet metal work in glass block installations. il Sheet Metal Worker 31:25+ Jl '40

PARTNERSHIP
Cases and materials on business associations. B. E. Nicholson. 583p $3.75 Westbrook pub. co, Philadelphia '39
Servicemen's legal advice; partnership vs. corporation. T. J. Healy. Radio N 24:24+ O '40
Stock exchange bond proposal progresses; surety firms will combine to guarantee partner honesty. Weekly Underw 143:337 Ag 17 '40
See also
Corporation law

Accounting
Accounting for the admissions and retirements of partners. E. Nolan. J Account 69: 91-111, 190-22 F-Mr '40

PASADENA fire insurance company
California company stock offering made. East Underw 41:20 O 25 '40; Nat Underw 44:14 O 24 '40; Weekly Underw 143:958 O 26 '40
Stock offered. Comm & Fin Chr 151:2509 O 26 '40

PASSENGER traffic officers, American association of. See American association of passenger traffic officers

PASSIVITY
Theory for the passivity of chromium. Sister M. Aida Ryan and H. Heinrich. bibliog diags Electrochem Soc Trans 77 (preprint 10):121-36 Ap '40

PASSPORTS
Americans permitted to travel in European combat zone limited to one specific journey. Comm & Fin Chr 149:3343 N 25 '39
Mexican regulations for transborder visiting cards on northern frontier of Mexico with the exception of lower California. H. P. Crawford. Comm Rep p494 Je 1 '40
State department at Washington revises passport rules for travel within Americas; also curbs alien entry as defense move. Comm & Fin Chr 150:3590-1 Je 8 '40

PASTE
What you can use; base materials; odorants. Oil Paint & Drug Rep 138:52 O 21; 36 O 28 '40

PASTEUR enzyme. See Enzymes

PASTEURIZATION
Taking the guesswork out of pasteurizing; temperature at which canned or bottled fruit juices should be heat sterilized. C. S. Pederson and E. A. Beavens. Food Ind 12: 61-3 Ap '40

See also
Milk—Pasteurization

PASTRY
Bread baking test suggested for pastry flours. J. A. Shellenberger. il Food Ind 12:52-4 F '40

Pie marches on. M. B. Strause. 328p $3 Patterson pub. co, 5 S. Wabash av, Chicago '39

PASTURES

See also
Grasses

PATAGONIA
This way southward. A. F. Tschiffely. 351p $3.50 Norton '40

PATCH, Nathaniel K. B. 1879-
American foundrymen's association gold medallist. por Foundry 68:86-7 My '40

PATENT insurance. See Insurance, Patent

PATENT laws and legislation

See also
Copyright
Trade marks

France

La prorogation des délais en matière de propriété industrielle, et de la durée des brevets d'invention français. E. Bert and G. de Kéravenant. Génie Civil 115:412 D 16 '39

Great Britain

Some useful hints for the inventor. F. E. Sugden. Mech Handling 27:103-5 My '40

India

Patents, designs, copyright and trade-marks emergency act, 1939, of India. Compar Law Ser 3:431-7 Ag '40

Latin America

Safeguarding inventions in Latin America. J. L. Brown. Compar Law Ser 3:201-20 Ap '40

United States

Attempt to patent bacteria fails. A. I. Kegan. Ind & Eng Chem News ed 18:852 O 10 '40
Case histories in patent law. H. A. Toulmin, jr. Product Eng 11:528 N '40
Changes in patent laws. A. C. Brown. Am Water Works Assn J 32:729-36; Discussion. D. L. Erickson. 736-41 My '40
Concealment of infringement. Sci Am 162:319 My '40
Economics of American patent law. M. D. Forkosch. 72p pa $1 New York univ, Law quarterly review, 100 Washington square E., New York '40
Interference law and practice. C. W. Rivise and A. D. Caesar. 2v v 1 $8 Michie co, Charlottesville, Va. '40
Legal right of employers to develop and patent employe's inventions. L. T. Parker. Am Gas J 152:22-4 Ja '40
New law of patents and how to avoid infringement. L. T. Parker. Am Gas J 152: 19-21 F '40
Our patent system. C. W. Rivise. Paper Tr J 110:44-6 Ap 4 '40
Patent fundamentals; a textbook for inventors, executives and students. A. Schapp. 176p $2 Industrial press, New York '39
Patent litigation in 1939. N. Littell. il Ind & Eng Chem News ed 18:97-101 F 10 '40
Proposed patent laws. K. Fenning. il Product Eng 11:50-2, 125-6 F-Mr '40
Public use as a bar to patentability. F. H. Rhodes. Cornell Eng 5:5-6 Mr '40
Rights of an inventor-employee. H. H. Snelling. bibliog Mech Eng 62:543-7 Jl '40

Uruguay

Commercial law digests. For Comm W 1:71 O 12 '40

PATENT lawyers
Clamor at the patent office door. K. P. McElroy. Ind & Eng Chem News ed 18: 465-6 My 25 '40; Discussion. F. W. Harris. 18:771 S 10 '40
Women as patent attorneys. E. Hunter. J Chem Educ 16:589-90 D '39

PATENT libraries
Patent searching, with special reference to chemical patents. M. O. Price. Special Lib 31:127-8 Ap '40
Relationship between the library and the patent attorney. A. W. Deller. Special Lib 31:151-4 My-Je '40

PATENT office. See United States—Patent office

PATENTS
Commemorating a decade of the United States patents quarterly, 1929-1939. 80p Bur. of national affairs, Washington, D.C. '40
Franklin institute and the American patent system, 1790-1940. A. Rigling. Franklin Inst J 229:519-20 Ap '40
International patent situation. A. D. Mestern. Chem Ind 46:435-7 Ap '40
Library vs. laboratory research. A. Connolly. Ind & Eng Chem News ed 18:904-5 O 25 '40
Milestones of progress in American patents. E. L. Luaces. il Chem Ind 46:575-6 My '40
Mineral wool trust via patents alleged. Oil Paint & Drug Rep 138:5+ Jl 1 '40
Nature of patents. S. I. Levy. Chem & Ind 59:159-62 Mr 9 '40
New test for patents; Arnold's suit against hardboard industry. Business Week p19-20 Mr 16 '40
Our patent system. C. W. Rivise. Paper Tr J 110:44-6 Ap 4 '40
Ownership of patents. H. A. Toulmin, jr. Product Eng 11:271-3 Je '40
Patent battles begin. Business Week p18+ D 16 '39
Patent fundamentals; a textbook for inventors, executives and students. A. Schapp. 176p $2 Industrial press, New York '39
Patent searching. H. A. Toulmin, jr. Product Eng 11:169-70 Ap '40
Patent searching, with special reference to chemical patents. M. O. Price. Special Lib 31:118-28 Ap '40
Patentability of materials. H. A. Toulmin, jr. Product Eng 11:23-4 Ja '40
Patents; how to write and understand them. T. R. Goldsborough. il Electronics 13:10-13+ F '40
President Roosevelt issues proclamation designating April 10 as Inventors' and patent day. Comm & Fin Chr 150:2014 Mr 30 '40

PATENTS—*Continued*
Recently granted patents. Science 92:supl1 Jl 5 '40
Relationship between the library and the patent attorney. A. W. Deller. Special Lib 31:151-4 My-Je '40
Research and invention in engineering colleges. A. A. Potter. Science 91:1-7 Ja 5 '40; Same. Mech Eng 62:196-200 Mr '40
Rubber at the Patent law sesquicentennial. il Rubber Age 47:99-101 My '40
U.S. patent system. J. A. Dienner. 73p bibliog(p70-1) $1 Am. soc. for metals, Chicago '40

See also
Aeronautics—Patents
Automobiles—Patents
Chemical patents
Dye patents
Glass manufacture—Patents
Insurance, Patent
Inventions
Lubrication and lubricants—Patents
Metal finishing—Patents
Metallurgical patents
Molding—Patents
Paper making—Patents
Patent laws and legislation
Pavements, Bituminous—Patents
Petroleum refining—Patents
Plastic materials—Patents
Plumbing—Patents
Rayon—Patents
Refractory materials—Patents
Resinous products—Patents
Rubber—Patents
Rubber goods—Patents
Textile patents
Trade marks
United States—Patent office

Enemy ownership
Licences under enemy-owned British patents. Engineering 149:94 Ja 26 '40

Licensing
Bausch & Lomb indictment. Ind & Eng Chem News ed 18:311 Ap 10 '40; Same abr. Comm & Fin Chr 150:2248 Ap 6 '40
Complete text of U.S. Supreme court decision on Ethyl corporation's jobber licensing plan. Nat Pet N 32:18-20 Mr 27 '40; Same. Oil Paint & Drug Rep 137:3, 37+ Ap 1; 3, 58 Ap 8 '40
Ethyl offers two new agreements licensing leaded gasoline sales; with text. Nat Pet N 32:9-10, 20-2 Je 5 '40
Gypsum board makers indicted as trust. Oil Paint & Drug Rep 138:5 Jl 8 '40
Gypsum patent trust assailed in civil suit. Oil Paint & Drug Rep 138:5+ Ag 19 '40
Licences under enemy-owned British patents. Engineering 149:94 Ja 26 '40
Nine against Ethyl; Supreme court enjoins use of patent to control jobbers through licensing system. Business Week p17 Mr 30 '40
Patentees can't fix prices. Ptr Ink 190:40 Mr 29 '40
U.S. Supreme court holds patentees may not fix prices; Ethyl gasoline corporation. Comm & Fin Chr 150:2017, 2574 Mr 30, Ap 20 '40

Belgium
Foreign chemical patents; Belgian, Canadian, French & English. Chem Ind 46:127-8 pt 2 Ja '40 [cont monthly]

Canada
Foreign chemical patents; Belgian, Canadian, French & English. Chem Ind 46:127-8 pt 2 Ja '40 [cont monthly]

France
Foreign chemical patents; Belgian, Canadian, French & English. Chem Ind 46:127-8 pt 2 Ja '40 [cont monthly]

Great Britain
Foreign chemical patents; Belgian, Canadian, French & English. Chem Ind 46:127-8 pt 2 Ja '40 [cont monthly]

Japan
Foreign applications and Japanese patent protection abroad discussed. H. Leopold. Ind & Eng Chem News ed 18:455-6 My 25 '40

PATERNALISM
Fortune survey; boundaries of paternalism; should government provide for needy? Fortune 21:55+ Mr '40

PATHE film corporation
Annual report, 1939. Comm & Fin Chr 150:3671 Je 8 '40

PATHOGENIC bacteria. See Bacteria, Pathogenic; Microorganisms, Pathogenic

PATHOLOGY
Textbook of pathology. W. G. MacCallum. 7th ed rev 1302p $10 Saunders '40

See also
Inflammation

PATINO, Simon Iturí
Portrait. Business Week p16 Ag 3 '40

PATINO mines and enterprises consolidated
Bolivia's big tin producer. B. W. Corrado. map Barron's 20:8 Ag 26 '40
Earnings for the year ended Dec. 31, 1939. Comm & Fin Chr 150:3523-4 Je 1 '40

PATMAN law. See Price discrimination—Patman law

PATRIOTISM
Patriotic thing; or, What it means to be an American. W. O. Stevens. 174p $1.50 Dodd '40

PATTEE'S caves
What are Pattee's caves? are they the remains of a medieval Irish monastery in New Hampshire? H. O. Hencken. il plan Sci Am 163:258-9 N '40

PATTERN making
Pattern coatings; abstract. F. C. Cech and V. J. Sedlon. Foundry 68:82 Jl '40
Patterns and pattern design for nonferrous foundries. il Foundry 68:33+ Ag '40
Production pattern equipment, methods and metals used; abstract. V. Reid. Foundry 68: 134+ My '40
Units in patternmaking and founding. R. E. Smith. 72p bibliog(cover) pa 56c McCormick-Mathers pub. co, Wichita, Kan. '39

See also
Sheet metal work—Pattern making

PAULI-WEISSKOPF equation
Existence of stationary states of the mesotron field. L. I. Schiff, H. Snyder and J. Weinberg. Phys R 57:315-18 F 15 '40

PAULING, Linus Carl, 1901-
Award of the William H. Nichols medal of the New York section of the American chemical society. Science 92:397 N 1 '40; Oil Paint & Drug Rep 138:3+ O 28 '40

PAVEMENTS
Building bases for our air forces; airbase runway paving. diags Eng N 125:548-50 O 24 '40
Construction of roads and pavements. T. R. Agg. 5th ed 483p $4 McGraw-Hill '40
Evaluation of street lighting. K. M. Reid and H. J. Chanon. fold chart il Illum Eng Soc Trans 34:1209-31 bibliog(p1230-1); Discussion. 1231-2 D '39
Grading, draining and paving Canada's airports. P. Johnson. il Can Eng R & B 78: 16+ Ja '40
Larger levees for Lake Okeechobee. il Eng N 124:638-9 My 9 '40
Light-reflecting characteristics of pavement surfaces. Can Eng R & B 78:54 Ap '40; Excerpts. Illum Eng 35:307-8 Ap '40
Proceedings of the twenty-sixth annual road school at Purdue university, January 22-26, 1940. B. H. Petty, comp. il diags map Purdue Univ Eng Extension Dept, Extension Ser 47:1-157 '40
Reflection from pavements; abstract. G. S. Paxson and J. D. Everson. Eng N 123:834-5 D 21 '39
Soil-cement runway found economical for army air base. il Concrete 48:3-4 N '40

See also
Airports—Surfaces
Bridges—Floors
Roads
Streets

PAVEMENTS—*Continued*

Cost

Contract unit bid prices; list of projects showing how contractors bid in 1939-1940. Eng N 124:sup164-72 Je 20 '40
Street paving, Oklahoma City; unit prices. Eng N 125:661 N 14 '40
Street surfacing, walks, Milwaukee, Wis.; unit prices. Eng N 125:198 Ag 8 '40

Cutting

Cutting down on pavement cuts. il Eng N 125:98-9 Jl 18 '40

Design

Influences affecting design of flexible pavements. B. E. Gray. Can Eng R & B 78: 123, 125-7 O '40
Pavement design. C. N. Conner. Can Eng R & B 78:68, 70+ Ap '40
Stresses under a loaded circular area. L. A. Palmer. diags Pub Roads 20:231-7 F '40

Foundations

Black base construction in Topeka, Kan. W. A. Lawson. il diags Roads & Sts 83:64-5 Mr '40
Omaha airport runways. W. H. Campen. Roads & Sts 83:62+ My '40
Pebble top-soil base for surface treatment with 1½-inch amiesite wearing surfaces. C. E. Layton. il Pub Works 71:12 Je '40
Research in soil stabilization with emulsified asphalt. C. L. McKesson. il diags Am Soc T M Proc 39:1123-33; Discussion. 1134-9 '39

Maintenance and repair

Pavement cuts; methods and costs of making and repairing. Roads & Sts 83:76 Mr '40

Resurfacing

Cement bound macadam and pavement resurfacing. D. H. Murphy. In Ill U Eng Exp Sta Circ 41:113-15 '40

Slipperiness

See also
Automobiles—Skidding

Testing

Pavement roughness recorder; Viagraph. D. H. Greeley. il Sci Am 162:159 Mr '40

PAVEMENTS, Asphalt

Black base construction in Topeka, Kan. W. A. Lawson. il diags Roads & Sts 83:64-5 Mr '40
Omaha airport runways. W. H. Campen. Roads & Sts 83:62+ My '40
Recent developments in the use of asphalt for transportation purposes. Nat Pet N 32: R91 Mr 20 '40
Redecking an old bridge with treated timber, paved with asphalt; Morrison Street bridge in Portland, Ore. il diags Eng N 124:20-2 Ja 4 '40

PAVEMENTS, Bituminous

Building bases for our air forces; airbase runway paving. diags Eng N 125:548-50 O 24 '40
Designing flood-proof streets to carry storm water flows. H. H. Edwards. il Pub Works 71:16-18 Ap '40
Effect of consistency and type of asphalt on the Hubbard-Field stability of sheet asphalt mixtures. W. O'B. Hillman. Pub Roads 21:75-8+ Je '40
Improvements to the Glenn L. Martin co. airport. il plan Aero Digest 37:59+ Ag '40
Pebble top-soil base for surface treatment with 1½-inch amiesite wearing surfaces. C. E. Layton. il Pub Works 71:12 Je '40
Physical and chemical properties of petroleum asphalts of the 50-60 and 85-100 penetration grades. R. H. Lewis and J. Y. Welborn. Pub Roads 21:1-26 Mr '40
Some factors affecting the thermal susceptibility of asphaltic paving mixtures. R. Vokac. Am Soc T M Proc 39:1153-7; Discussion. T. W. Thomas. 1158 '39
Vancouver's Sea Island airport. W. Hill, jr. il plan Can Eng R & B 78:19-21+ Ap '40

See also
Roads, Bituminous

Cost

Blacktopping streets at 8 cents a yard solves maintenance. E. Straatsma. Pub Works 71: 14 Ag '40

Fillers

Bituminierte füller strassenbeläge. E. Gerlach. il V D I 83:1321-2 D 30 '39
Evaluation of fillers for tar and other bituminous surfacings. J. G. Mitchell and A. R. Lee. bibliog Soc Chem Ind J 58: 299-306 O '39; Discussion. Chem & Ind 58: 1041-2 N 25 '39

Patents

Recent patented bituminous pavements. G. W. Eckert. il diags Roads & Sts 83:44-8, 50 Ag '40

PAVEMENTS, Bituminous concrete

Washington national airport. diag plan Pub Works 71:23 Je '40

PAVEMENTS, Brick

Brick pavements, past, present and future. G. F. Schlesinger. il Roads & Sts 83:67, 70-1+ Ja '40
Future looks better for paving brick; report of convention. il Brick & Clay Rec 96:28-30 F '40

See also
Roads, Brick

PAVEMENTS, Concrete

Building bases for our air forces; airbase runway paving. diags Eng N 125:550 O 24 '40
Composite steel and reinforced concrete construction for highway bridges. C. P. Cuenl. il diags Roads & Sts 82:48-9 D '39
Developments regarding concrete pavements during 1939. W. F. Tempest. il Roads & Sts 83:86-7 Ja '40
Louisiana tries low heat cement for piers and roadway slab of the Baton Rouge bridge. H. L. Lehman and E. L. Erickson. il Eng N 125:353-4 S 12 '40
Old Mother Necessity builds low-cost pavement in ready-mixed plant. il Concrete 48:12+ Je '40
Pavement spalling causes and a suggested remedy; effect of freezing, thawing and ice control. A. W. Wickesberg. il Pub Works 71:26+ Je '40
Railroad right-of-way transformed into concrete street. M. H. Kinch. il Pub Works 71:38 Je '40
Record of highway construction in 1939 has its favorable side. Concrete 48:11 F '40
Remodeled street triples traffic room; Pittsburgh's Water street. il diags map plan Eng N 124:434-8 Mr 28 '40
Selection of aggregates for concrete pavement based on service records. C. Cantrill and L. Campbell. il Am Soc T M Proc 39: 937-45; Discussion. il 946-9 '39
Street railway track advances; abstract. Eng N 124:317 F 29 '40
Three out of four; short ties in a new type of track adopted by Philadelphia transportation company for use in concrete paving. J. L. Martin. il diags Transit J 84:200 Je '40
Vibrated concrete pavement; abstract. F. V. Reagel. Eng N 124:316 F 29 '40

See also
Bridges—Floors
Floors, Concrete
Railroads, Industrial—Track pavement
Roads—Foundations—Concrete
Roads, Concrete

Cost

How an Illinois city (Pittsfield) finances a complete concrete paving program. H. L. Caldwell. il Concrete 48:5 F '40
Street paving, Tyler, Minnesota; unit prices. Eng N 125:515 O 17 '40

PAVEMENTS, Concrete—*Continued*

Design

Design of dowels in transverse joints of concrete pavements. B. F. Friberg. diags Am Soc C E Proc 64:1809-28 N '38; Discussion. 65:529-35, 1053-63; 66:945-50 Mr, Je '39, My '40

Joints

Design of dowels in transverse joints of concrete pavements. B. F. Friberg. diags Am Soc C E Proc 64:1809-28 N '38; Discussion. 65:529-35, 1053-63; 66:945-50 Mr, Je '39, My '40

Reinforcement

Experiments with continuous reinforcement in concrete pavements. E. C. Sutherland and S. W. Benham. bibliog il diags Pub Roads 20:205-14, 218-19 Ja '40

Open cracks in road slabs; can reinforcement prevent them? Concrete 48:8 Ja '40

Scaling

Pavement scaling successfully checked; fish oil stearate and Vinsol resin as chloride resistors. O. L. Moore. il Eng N 125:471-4 O 10 '40

Testing

Designing concrete mixtures for pavements. W. F. Kellermann. il Pub Roads 21:121-6+ S '40

PAVEMENTS, Rubber

Paving blocks show unusual durability. Rubber Age 46:244 Ja '40

PAVEMENTS, Wood

Wood as a paving material; abstract. N. V. Felsovanyi. Sci Am 162:298-9 My '40

PAVING brick association, National. See National paving brick association

PAY envelopes

Messages in the pay envelope and other ways of conveying messages. Transit J 84: 250-1 Jl '40

PAYEN, Anselme, 1795-1871

Discoverer of cellulose. J. D. Reid and E. C. Dryden. bibliog Textile Col 62:43-5 Ja '40

PAYMENT

Foreign exchange control in Canada; how payments to residents and non-residents are affected. W. R. Dillon. Trusts & Estates 70: 260-2 Mr '40

See also

Banks and banking—Bill payment service
Checks
Collecting of accounts
Debtor and creditor
Instalment plan
Wage payment plans

PAYROLLS

Employment and pay rolls in nonmanufacturing industries, 1929-39; revision. Survey of Cur Business 20:17 Ap '40

Factory employment and payrolls, by industries (without seasonal adjustment) monthly, Oct.-Nov. 1938; July-Nov. 1939. Fed Res Bul 26:50-1 Ja '40 [cont monthly]

Pay rolls by cities and in nonmanufacturing industries, 1936-39. Survey of Cur Business 1940 Sup p43-4 [supplemented in monthly numbers]

Pay rolls by states and cities; revision, monthly, 1932-38. Survey of Cur Business 20:14 Mr '40

Pay rolls in manufacturing industries and by states, 1936-1939. Survey of Cur Business 1940 Sup p42 [supplemented in monthly numbers]

Pay rolls in manufacturing industries; machine tools, shipbuilding, aircraft; monthly, Jan. 1923-Aug. 1940. Survey of Cur Business 20:16 O '40

Pay rolls in manufacturing industries, 1936-1939. Survey of Cur Business 1940 Sup p40-2 [supplemented in monthly numbers]

Reduce salaries last. E. S. Woolley. Bankers M 141:250 S '40

Simplifying clerical payrolls. D. F. Secord. Management R 29:279-80 Ag '40

605,000,000 dinner-pail dollars for new utility construction; how money is spent by workers. Elec W 113:1693-1704 Je 1 '40

Trend of employment and pay rolls. Published in Monthly labor review

See also

Labor cost
Wage payment plans

Accounting

Governmental timekeeping and payroll procedure. 62p pa 50c Municipal finance officers assn, 1313 E. 60th st, Chicago '40

Mechanized accounting for woods operations. D. A. Ridout. Pulp & Pa of Can 41:29-30 Ja '40

Payroll accounting for construction contractors. W. B. Pinson. J Account 70:321-3 O '40

Social security and pay-roll accounting. J. F. Sherwood and J. A. Pendery. 2d ed 256p $2.60 South-western pub. co. '40

Some applications of duplicating methods in the preparation of payroll records. R. R. Haskell and R. H. Robnett. N A C A Bul 21:1399-1424 Jl 15 '40

Records

Do you give employees the record of their salaries? Am Business 10:38 Ja '40

One form for personnel records. J. E. Walters. il Factory Management 98:66-7 O '40

Payroll reporting made easy. E. Caldwell. il Factory Management 97:44-5+ D '39

Record-keeping regulations under wage and hour law. Monthly Labor R 51:157-8 Jl '40

Social security and wages and hours payroll records. Banking 32:49-54 Mr '40

Some applications of duplicating methods in the preparation of payroll records. R. R. Haskell and R. H. Robnett. N A C A Bul 21:1399-1424 Jl 15 '40

Taxation

Easing the payroll tax burden; experience-rating survey. E. P. Schmidt. Barron's 20:7 Ja 1 '40

Experience rating under fire in District of Columbia. Business Week p39-40 Mr 2 '40

Foundation guide for payroll taxes. W. Kix-Miller and G. T. Christie. 4th ed 251p pa $3 Foundation press '40

How experience rating reduces unemployment taxes of public utilities. E. P. Schmidt. Pub Util 25:815-17 Je 20 '40

Impact of taxes on credit; how social levies, especially, affect working capital. C. Weisberg. Credit & Fin Management 42:18-20 My '40

Profits under the social security system. C. B. Bartlett. Steel 106:38-41 Ap 1 '40

Social security payroll taxes. R. T. Compton. 446p $5 Commerce clearing house '40

Supplier wins suit over tax on agent's pay; wholesale distributors paid on commission basis are not employes; with text of decision. Nat Pet N 32:17, 27 Ap 3 '40

Unemployment compensation plans. M. Saxe. Banking 32:26-7, 82-3 Ja '40

Wage tax unites foes; A.F.L. and C.I.O. working together to throw out Philadelphia's pay levy. Business Week p36-7 Mr 9 '40

What we pay for social security; study of 180 companies; tabulation, showing cost to companies, stockholders and employees. Steel 107:36-7 S 16 '40

PEACE

Building the new world order. E. C. Brunauer. 44p pa 25c Am. assn. of univ. women, 1634 Eye st, N.W, Washington, D.C. '39

Commonwealth or anarchy? a survey of projects of peace from the sixteenth to the twentieth century. J. A. R. Marriott. 227p bibliog(p221-3) $2 Columbia univ. press '39

Defeat of war; can pacifism achieve it? K. Ingram. 134p 3s 6d G. Allen & Unwin, London '39

Demand peace. H. A. Leete. 170p $2 Falcon press, New York '39

Dual policy. A. Salter. 32p pa 15c Farrar '39

Economic basis of a durable peace. J. E. Meade. 192p $2 Oxford '40

PEACE—*Continued*
Economically unified Europe after war urged. T. W. Lamont. Comm & Fin Chr 149:3199-200 N 18 '39
Educating for peace; a report of the Committee on international relations of the National council of teachers of English. I. T. Jacobs and J. J. DeBoer, eds. 275p bibliog (p243-69) pa $1.50 Appleton-Century '40
Free trade and peace. L. Baudin. 87p pa 75c Columbia univ. press '39
History of the Woman's peace party. M. L. Degen. 266p bibliog(p253-6) $2.75; pa $2.50 Johns Hopkins press, Baltimore '39
Mr Welles's memorandum outlining views of United States government on economic basis of post-war reconstruction. Economist 138: 458-9 Mr 16 '40
Myron C. Taylor received at Rome by Pope Pius XII as President Roosevelt's personal envoy. Comm & Fin Chr 150:1369 Mr 2 '40
New world order. H. G. Wells. 145p $1.50 Knopf '40
Non-violence in an aggressive world. A. J. Muste. 211p bibliog(p204-5) $2 Harper '40
Only way to world peace. L. A. Burr, jr. 109p $1.25 Snellgrove publications, New York '40
Peace in our time? J. P. Warburg. 76p 75c Harper '40
Peace resolution of scientific workers. P. Rous. Science 91:478-9 My 17 '40; Discussion. 91:525 My 31 '40
Peace resolution of the American association of scientific workers. R. S. Mulliken. Science 91:432 My 3 '40; Counter-statement. A. H. Sturtevant. 91:504-5 My 24 '40; Discussion. Science 91:596-7 Je 21 '40
Permanent peace. W. C. Brewer. 264p $2.50 Dorrance & co, Drexel bldg, Philadelphia '40
Perpetual peace. I. Kant. 67p $1 Columbia univ. press '39
Pope and President; appointing Mr Myron Taylor as representative to the Holy See. Economist 137:504 D 30 '39
Pope Pius XII pledges cooperation with United States in peace efforts. Comm & Fin Chr 150:630 Ja 27 '40
President Roosevelt appoints Myron C. Taylor representative to Pope in peace efforts; also asks Protestant and Jewish churches to work for peace. Comm & Fin Chr 149:4101-2 D 30 '39
President Roosevelt in international radio broadcast joined by Queen Wilhelmina. Comm & Fin Chr 150:1856-7 Mr 23 '40
President Roosevelt lists five essential objectives for permanent world peace. Comm & Fin Chr 151:39 Jl 6 '40
President Roosevelt's Armistice day address. Comm & Fin Chr 149:3191 N 18 '39
Quest for peace since the World war. W. E. Rappard. 516p $4 Harvard univ. press '40
Security, can we retrieve it? J. A. Salter. 390p $3.50 Reynal & Hitchcock, New York '39
Some notes on war and peace. W. Lippmann. 47p 50c Macmillan '40
U.S. business seeks policy of continued peace. J. S. Kemper. Comm & Fin Chr 150:3288 My 25 '40
When war ends. E. M. Patterson, ed. Ann Am Acad 210:1-144 Jl '40
Why war? essays and addresses on war and peace. N. M. Butler. 323p $2.50 Scribner '40

See also
European war, 1939—Peace and mediation
International relations
War

PEACHES
Effect of storage temperatures on peaches; abstract. M. H. Haller and P. L. Harding. Food Ind 12:90 F '40

PEACHES, Frozen
How to prevent browning of peaches in the freezing industry. J. G. Woodroof. bibliog il Food Ind 12:35-7 My; 50-2+ Je '40

PEANUT butter

Advertising
Lays siege to peanut butter market. il Ptr Ink Mo 40:21 Mr '40

Manufacture
New method for preventing oil separation; addition of small quantity of glycerine to peanut butter. C. W. Lenth. il Food Ind 11:678-9 D '39

PEANUT oil
Mixed unsaturated glycerides of liquid seed fats; some non-drying oils. B. G. Gunde and T. P. Hilditch. Soc Chem Ind J 59:47-53 Mr '40

PEANUTS
China; commercial peanut production and exports. For Comm W 1:124 O 19 '40
Hydrolysis of peanut hulls. F. C. Vilbrandt, C. B. Mather and R. S. Dicks. bibliog Ind & Eng Chem 32:169-72 F '40

Bibliography
Peanut industry; a selected list of references on the economic aspects of the industry, 1920-1939. H. E. Hennefrund, comp. 238p U.S. Bur. of agricultural economics library, Washington '39

PEARL assurance company
Licensing case in Massachusetts. East Underw 41:51 S 27 '40; Ins Field (Fire ed) 69:8-9 S 19 '40; Weekly Underw 143:630 S 21 '40

PEARLITE. See Steel—Metallography

PEARLS
Pearl formation induced by a rotifer. A. E. Alexander. bibliog il Am J Sci 237:920-2 D '39
Research on pearls, by Dr A. E. Alexander. Franklin Inst J 230:618 N '40
Researches of Mellon institute 1939-40; structural information on pearls. Ind & Eng Chem News ed 18:293-4 Ap 10 '40
X-ray study of aragonite in natural and cultured pearls. A. E. Alexander. bibliog Am J Sci 238:366-71, pl 1-3 My '40

PEARS
Pear bureau works with fruit trade to encourage proper ripening and handling. M. Bridston. il Refrig Eng 40:318-19 N '40
Spray residue tolerances for apples and pears. Ind Stand 11:229 S '40

PEAS
Availability of the iron in dried peas and beans. L. Ascham, M. Speirs and D. Maddox. Science 90:596-7 D 22 '39
Carotene (vitamin A) content of fresh and frosted peas; abstract. C. R. Stimson and D. K. Tressler. Food Ind 12:96 My '40
Polyploidy in soybean, pea, wheat and rice, induced by colchicine treatment. P. S. Tang and W. S. Loo. Science 91:222 Mr 1 '40
Scrap pea campaign. Business Week p34+ N 18 '39

PEAS, Frozen
Color changes in green vegetables; frozen-pack peas and string beans. G. Mackinney and C. A. Weast. Ind & Eng Chem 32:392-5 Mr '40
How foods are frozen in the Northwest. F. W. Knowles. il plans Food Ind 12:52-3 My; 59-61 Je '40

PEAT
Les carburants de remplacement nationaux; bois, charbon de bois, carbonite, tourbe. Génie Civil 116:50-1 Ja 20 '40
Crystallite growth during carbonization. H. E. Blayden, H. L. Riley and A. Taylor. Am Chem Soc J 62:180-6 Ja '40
L'extraction, le séchage et l'autoagglomération de la tourbe. C. Berthelot. diags Génie Civil 116:231-4 Ap 6 '40
Hydrogenation of peat char; abstract. T. E. Warren, K. W. Bowles and R. E. Gilmore. Chem Age (Lond) 43:124 S 14 '40
Peat filters. Eng N 123:778 D 7 '39

PEAT bogs
Carrying a highway over a peat bog. diag Concrete 48:8 Jl '40

PEAT bogs—*Continued*
History in a bog; forest managers use method of long-range climatic prediction, based on study of fossil pollen grains. W. F. McCulloch. il Sci Am 162:330-1 Je '40

PEBBLES
Pebble top-soil base for surface treatment with 1½-inch amiesite wearing surfaces. C. E. Layton. il Pub Works 71:12 Je '40

PECANS
Food preservation in the South. C. T. Baker. Heating-Piping 11:776-7 D '39

PECOS river
Pecos River joint investigation; comprehensive governmental survey and analysis. H. M. Stafford. il maps Civil Eng 10:516-19 Ag '40

PECTATES
Pectates as industrial materials; abstract. C. W. Wilson and W. E. Baier. Oil Paint & Drug Rep 138:5 S 9 '40

PECTIC acid
Constitution of pectic acid; methylation of pectic acid and the isolation of the methyl ester of 2 : 3-dimethyl methylgalacturonoside. S. Luckett and F. Smith. Chem Soc J p1106-14 Ag '40

Constitution of pectic acid; the synthesis of the methyl ester of 2 : 3 : 5-trimethyl β-methylgalacturonoside. S. Luckett and F. Smith. Chem Soc J p1114-18 Ag '40

PECTINS
Are pectic substances precursors to lignin? E. Bennett. Science 91:95-6 Ja 26 '40

Ion adsorption by pectin. G. H. Joseph. J Phys Chem 44:409-11 Ap '40

Pectic substance in cotton and its relation to the properties of the fiber. R. L. Whistler, A. R. Martin and M. Harris. bibliog Am Dyestuff Rep 29:244, 253-8 My 13 '40; Same. J Research Nat Bur Stand 24:555-65 My '40

Pectic substance of cotton fibers in relation to growth. R. L. Whistler, A. R. Martin and C. M. Conrad. bibliog Am Dyestuff Rep 29:435-6 S 2 '40; Same. J Research Nat Bur Stand 25:305-8 S '40

Pectic substances; citrus araban. G. H. Beaven, E. L. Hirst and J. K. N. Jones. Chem Soc J p1865-8 D '39

Pectin from sweetpotato pulp. E. Yanovsky. Food Ind 11:710 D '39

Pectin substances in chicory; abstract. L. N. Aizenberg. Food Ind 12:95-6 S '40

PECTOLITE
Scaling of boilers; identification of phases in calcium silicate scales. L. M. Clark and C. W. Bunn. Soc Chem Ind J 59:155-8 Ag '40

PEDALS
Pedals and foot operated levers. F. Adams. diags Product Eng 11:130-1, 180-1, 322-3, 372-3 Mr-Ap, Jl-Ag '40

PEDDLERS and peddling
Are peddlers a nuisance? Green River ordinance. Nation's Business 28:51 S '40

PEDESTRIANS
Non-driving pedestrian. Can Eng R & B 78: 68 Jl '40

Pedestrian problem in New York state. Spectator (Property ed) 5:40+ Je 27 '40

What causes pedestrian accidents? Can Eng R & B 78:95 F '40

What engineers can do for pedestrian protection. diags Pub Works 71:24-6 Ap '40

PEDIMENTS. See Erosion

PEERLESS bottlers, Incorporated
Stock offered. Comm & Fin Chr 151:252-3 Jl 13 '40

PEGMATITES
Contribution of differential pressures to magmatic differentiation. R. C. Emmons. bibliog diags Am J Sci 238:1-21, pl 1-2 Ja '40

Pegmatites of the Spruce Pine district, North Carolina. C. S. Maurice. il maps Econ Geol 35:49-78, 153-87 bibliog(p185-7) Ja-Mr '40

Pneumoconiosis among mica and pegmatite workers. W. C. Dreesen and others. il diags U S Pub Health Service, Pub Health Bul 250:1-74 bibliog(p70-2) '40 [pa 15c Supt of doc]

PEILER, Karl Ernest, 1883-
Our modern pioneer medalists. por Am Cer Soc Bul 19:105-6 Mr '40
Sketch. por Glass Ind 21:104 Mr '40

PEIMININE
Alkaloids of fritilaria roylei; isolation of peiminine. Y. Chi, Y. Kao and K. Chang. Am Chem Soc J 62:2896-7 N '40

PELECYPODS, Fossil. See Lamellibranchiata, Fossil

PELLETIER, E. Leroy
Copy's giants. L. R. Alwood. Ptr Ink 193:19-21 N 8 '40

PELOPONNESIAN war
Land power vs. sea power in ancient Greece; parallels between present struggle and Peloponnesian war. A. de Richelieu. Barron's 20:8 O 7 '40

PENCILS
Mechanisms designed for filling containers with pencil leads and applying covers. diags Mach 46:159-60 Ap '40
Pen-pencil contest; battle for top place. Business Week p22 D 30 '39
Pencil industry forms association. Comm Rep p1083 N 25 '39

PENDULUM
Elements of pendulum dampers. R. W. Zdanowich and T. S. Wilson. bibliog diags Inst Mech Eng J & Proc 143:Proc 182-210, pl 1-2 Je '40
Pendulum analysis in the scale industry. G. R. Carley. il diags J Ap Phys 11:314-24 My '40
Problem in the philosophy of mathematics; pendulum; damping coefficient term of the vibrational equation. Engineer 169:329-30 Ap 5 '40; Discussion. 169:378-9 Ap 19 '40

PENDULUM hardness test. See Hardness—Testing

PENEPLAINS
Age of the Schooley peneplain. G. W. Stose. bibliog diags maps Am J Sci 238:461-76, pl 1 Jl '40
Ep-Archean and Ep-Algonkian erosion surfaces, Grand canyon, Arizona. R. P. Sharp. map diags Geol Soc Bul 51:1235-69 bibliog(p1265-9) Ag '40
Geomorphology of the Catoctin belt. K. Ver Steeg. map Am J Sci 238:685-709, pl 1 O '40

PENETROMETERS
Flow properties of asphalts and their measurement by the penetrometer. C. Mack. bibliog il Soc Chem Ind J 58:306-10 O '39
Measurement of flow properties of asphalts by the penetrometer. C. C. Mill and V. G. W. Harrison. Soc Chem Ind J 59:66-7 Ap '40

PENINSULAR and Oriental steam navigation company
Progress, 1937-39, and ordinary general meeting, London. Economist 137:342, 393 D 2-9 '39

PENN mutual life insurance company
Annual report. Spectator (Life ed) 144:18-19 My 9 '40
Historical sketch. T. Eagan. il Spectator (Life ed) 145:11+ S 26 '40

PENNEY, J. C., company
Growth through filling basic needs. S. Devlin. il Mag of Wall St 65:346-7+ D 30 '39
How to sell through department-store chains. E. B. Weiss and J. C. Cumming. il(p7) Ptr Ink Mo 41:8+ Jl '40

PENNINGTON, Mary Engle, 1872-
American contemporaries. A. Pierce. por Ind & Eng Chem News ed 18:941-2 N 10 '40
Award Garvan medal to Dr Pennington. por Ind & Eng Chem News ed 18:344 Ap 25 '40; Refrig Eng 39:317 My '40

PENNROAD corporation
Annual report. Comm & Fin Chr 150:1450-1 Mr 2 '40

PENNSYLVANIA

See also
Coal mines and mining—Pennsylvania
Geology—Pennsylvania
Petroleum—Pennsylvania
Pottery industry—Pennsylvania
Roads—Pennsylvania

Economic conditions

Consumer incomes and family budgetary expenditures; Printers' Ink market explorations. Ptr Ink 192:sup3-55 S 27 '40
What price prosperity? W. D. Fuller. il Edison Elec Inst Bul 8:129-30+ Ap '40

Industries and resources

Industrial Pennsylvania stages a comeback; work of Department of commerce in preventing exodus of industries. R. P. Brown. Mech Eng 62:133-4 F '40
Pennsylvania industries expand. Blast F & Steel Pl 28:249 Mr '40

PENNSYLVANIA academy of science
Spring meeting. Science 91:340-1 Ap 5 '40

PENNSYLVANIA bus association
Meeting, Bedford Springs, June 17-18. Bus Transportation 19:318-19 Jl '40

PENNSYLVANIA casualty company
Analysis. Spectator (Property ed) 6:30-2 Jl 11 '40

PENNSYLVANIA-central airlines corporation
Stock offered. Comm & Fin Chr 151:2657 N 2 '40
Thirteen years of growth. C. B. Monro and others. il map Aero Digest 36:103-4+ My '40

PENNSYLVANIA glass sand corporation
Bonds sold. Comm & Fin Chr 151:710-11 Ag 3 '40
Preferred stock offered. Comm & Fin Chr 151:2509-10 O 26 '40

PENNSYLVANIA grade crude oil association
Annual meeting, 17th, Bradford. Nat Pet N 32:20-1 Je 26 '40; Oil & Gas J 39:31+ Je 27 '40

PENNSYLVANIA railroad
Annual report, 93d. Comm & Fin Chr 150: 1290-1 F 24 '40
Hidden earnings. A. Jansen. Barron's 20:3 Ap 29 '40
No frills in Pennsylvania railroad storekeeping. il Ry Age 107:824-5 N 25 '39
Pennsylvania demonstrates the ideal small office. Ry Age 108:795 My 4 '40

PENNSYLVANIA state college
Ceramic extension program. E. P. McNamara. Am Cer Soc Bul 19:318-21 Ag '40

PENNSYLVANIA telephone corporation
Preferred stock offered. Comm & Fin Chr 149:3418 N 25 '39

PENNSYLVANIA university
Bicentennial celebration. Science 92:254 S 20 '40
Bicentennial conference. Science 91:540-1 Je 7 '40
New chemical laboratory building of the University of Pennsylvania. Science 92:27 Jl 12 '40
Program of the Bicentennial celebration week. Science 91:379-80 Ap 19 '40
University of Pennsylvania, today. C. M. Dowlin, ed. 209p $1.50 Univ. of Pennsylvania press, Philadelphia '40

Libraries

Story of buried treasure; review of A faculty survey of the University of Pennsylvania. F. Bradley. Special Lib 31:168-9 My-Je '40

PENNSYLVANIA water and power company
Bonds offered. Comm & Fin Chr 149:4038 D 23 '39
Bonds offered. Comm & Fin Chr 150:699-700 Ja 27 '40

PENROSE medal
Award of the Penrose medal of the Geological society of America to William Berryman Scott. Science 90:560-1 D 15 '39

PENS

See also
Fountain pens

PENSIONS

See also
Annuities
Clergy—Pensions
Old age pensions
Pensions, Industrial

PENSIONS, Industrial

A.L.C. survey shows 47 life companies of 156 have made employe retirement provision. Nat Underw (Life ed) 44:6 Ag 16 '40
Carnegie-Illinois steel corporation revises pension plan. Blast F & Steel Pl 28:602 Je '40
Company pension plans and the amended Social security act; complete texts and digests. 51p Nat. ind. conf. bd. '40
Coordination of pension plans with social security provisions. M. B. Folsom. Edison Elec Inst Bul 7:527-30 N '39
Effect of Social security act on company pensions. Monthly Labor R 50:642-7 Mr '40
Effects of social security legislation on company operating costs (with particular reference to pension plans). H. W. Forster; P. F. Boyer. 23p Am. management assn, 330 W. 42d st, New York '40
Explanation of New York state bankers retirement system. S. B. Romaine. Comm & Fin Chr 151:52-3 sec 3 O 12 '40
Group retirement plans, supplement benefits under Social security act. O. A. Krebs. East Underw 41:76-7 pt 2 O 4 '40
How U.S. Steel adjusts pensions to federal security benefits. Steel 106:17+ Ja 22 '40
International Harvester employes get new savings and profit-sharing plan. il Manuf Rec 109:26+ Ap '40
Nest egg for 50,000; International harvester co. retirement plan sets up accounts in which company matches percentage of savings. Business Week p33-4 Mr 30 '40
New York state bankers retirement system widened; bank employees in other states eligible for membership. Comm & Fin Chr 151:1511 S 14 '40
Pension fund for trust companies of Canada. Trusts & Estates 69:554 N '39
Pension plans and social security; abstract. F. B. Brower. Management R 29:24-5 Ja '40
Pensions for executives. J. C. Baker. Harvard Business R 18 no 3:309-21 [Ap] '40
Privileged pensions; abstracts. D. B. Maduro. East Underw 41:28 S 27 '40; Nat Underw (Life ed) Daily ed 44:16 S 26 '40; Weekly Underw 143:734-5 S 28 '40
Profit sharing and pension plans (their creation and tax effect). C. M. Winslow and K. R. Clark. 192p $2 Commerce clearing house '39
Savings and extra compensation plan of International harvester co. Monthly Labor R 51: 631-3 S '40
Social security and retirement plans for banks. F. W. Sutton, jr. Bankers M 140:73-4 Ja '40
Social security has aided pension plans. E. C. McDonald. East Underw 41:11 Je 28 '40
Sprague meter co. adopts retirement plan for employees. Am Gas J 152:29 F '40; Same. Gas Age 85:42 F 1 '40
Study shows life companies have 77% of pension plans. M. M. Goldstein. Nat Underw (Life ed) 44:2 Mr 22 '40
Trends in industrial pensions. M. W. Latimer and K. Tufel. 87p pa $1 Industrial relations counselors, Rockefeller center, New York '40
U.S. Steel adopts pension plan for $3,000 plus group. Iron Age 145:70 My 23 '40; Steel 106: 38 My 20 '40
U.S. Steel contributory pension plan. Min Cong J 26:40 Je '40
What Harrisburg railways co. is doing for those unable to qualify for employment under the new all-bus system. Bus Transportation 18:557 N '39

PENSIONS, Industrial—*Continued*
What price old age? problem of providing security for most valued workers is vital. E. M. Klein. Steel 106:21-3 My 13 '40

See also
Railroads—Pensions
Trusts and trustees
—Pension trusts

Accounting

Payments to insurance company for employee retirement. J Account 69:388-90 My '40

PENSIONS, Military
Compensation of war victims. Int Labour R 41:371-87, 506-16 Ap-My '40

France

Compensation of war victims. Int Labour R 41:152-65 F '40

Germany

Compensation of war victims; Germany. Int Labour R 41:47-63 Ja '40

Great Britain

Compensation of war victims. Int Labour R 41:276-91 Mr '40

Italy

Compensation for war victims. Int Labour R 42:107-13 Ag-S '40

Russia

Military pensions in the U.S.S.R. Int Labour R 42:152-5 Ag-S '40

PENSIONS, Old age. See Old age pensions

PENSTOCKS
Fabrication of dam penstock and pump inlet linings for Grand Coulee. il Steel 106:44-6+ Je 17 '40

Penstocks for hydro-electric power plants. P. J. Bier. diags Engineering 149:349-52, pl 19-20 Ap 5 '40

Protective coatings for hydro structures. L. J. Pospisil. Elec West 84:127-8 Je '40

PENTACHLOROETHANE
Action of fluorine upon some simple aliphatic chlorinated hydrocarbons. W. T. Miller. bibliog diag Am Chem Soc J 62:341-4 F '40

Hydrogen bonds involving the C-H link; effect of structure on bonding of donor and acceptor molecules. C. S. Marvel, M. J. Copley and E. Ginsberg. bibliog Am Chem Soc J 62:3109-12 N '40

PENTACHLOROPHENOL
Pentachlorophenol for wood preservation. T. S. Carswell and I. Hatfield. bibliog il Ind & Eng Chem 31:1431-5 N '39

PENTADIENE
Mechanism of polymerisation; dimerisation of unconjugated pentadiene. A. Ahmad and E. H. Farmer. Chem Soc J p1176-8 Ag '40

PENTAMETHYLHYDRINDONE
3,3,5,6,7-Pentamethylhydrindone and 4,4,5,6,8-pentamethylhydrocarbostyril. L. I. Smith and W. W. Prichard. Am Chem Soc J 62: 778-80 Ap '40

PENTAMETHYLHYDROCARBOSTYRIL
3,3,5,6,7-Pentamethylhydrindone and 4,4,5,6,8-pentamethylhydrocarbostyril. L. I. Smith and W. W. Prichard. Am Chem Soc J 62: 778-80 Ap '40

PENTANE
Conjugation of carbonyl groups and the absorption spectrum of triketopentane. M. Calvin and C. L. Wood. bibliog diags Am Chem Soc J 62:3152-5 N '40

Heat capacity and entropy, heats of fusion and vaporization and the vapor pressure of *n*-pentane. G. H. Messerly and R. M. Kennedy. bibliog Am Chem Soc J 62:2988-91 N '40

Phase equilibria in hydrocarbon systems; propane-*n*-pentane system. B. H. Sage and W. N. Lacey. bibliog Ind & Eng Chem 32: 992-6 Jl '40

Solvent action of liquid propane on the pentane-soluble fraction of a high-temperature bituminous coal tar. C. S. Kuhn, jr. bibliog diags Ind & Eng Chem Anal ed 12: 86-9 F 15 '40

Some observations on the thermodynamics of hydrocarbons and related compounds. J. G. Aston. il Chem R 27:59-73 bibliog(p72-3) Ag '40

PENTANOL
Physical constants of pentanol-3. F. C. Whitmore and J. D. Surmatis. Am Chem Soc J 62:995 Ap '40

See also
Amyl alcohol

PENTON, John Augustus, 1862-1940
Sketch. por Steel 107:47-8 S 16 '40; Foundry 68:40-1, 104+ O '40

PENTOSANS

Analysis

Analysis of the fibrous and carbohydrate constituents of feeding stuffs; the determination of cellulose. E. G. Hallsworth. bibliog Soc Chem Ind J 59:9-17 Ja '40

Analysis of the fibrous and carbohydrate constituents of feeding stuffs; the furfuraldehyde-yielding constituents. E. G. Hallsworth. Soc Chem Ind J 58:357-63 D '39

Hydrogen ion concentration and pentosans; report of cooperative tests of TAPPI subcommittee on chemical methods. P. F. Wehmer. Paper Tr J 111:33-5 S 19 '40

Pentosans in paper; TAPPI suggested method T 450 sm-40. Paper Tr J 111:28-9 O 31 '40

PENTOSES
Über die verhefung der pentosen. R. Lechner. bibliog Angew Chemie 53:163-7 Ap 13 '40

See also
Xylose

Analysis

Quantitative determination of pentoses. R. E. Reeves and J. Munro. bibliog Ind & Eng Chem Anal ed 12:551-3 S 15 '40

PENTYNE
Catalytic hydration of acetylene and of some alkylacetylenes. R. E. Schaad and V. N. Ipatieff. bibliog Am Chem Soc J 62:178-80 Ja '40

PEOPLES gas light and coke company
Chicago gas case. A. L. Stein. J Land & Pub Util Econ 16:236-41 My '40

Income account, years ended Dec. 31 1937-39. Comm & Fin Chr 150:1144-5 F 17 '40

Status of Peoples Gas 4s. A. Jansen. Barron's 19:19 N 27 '39

PEORIA, Illinois

Streets

Solving some street problems in the city of Peoria. T. E. Wetzler. il In Ill U Eng Exp Sta Circ 41:88-96 '40

PEORIA and Eastern railway
Adjustment plan. Comm & Fin Chr 150:849 F 3 '40

PEPPER
French Indochina and India pepper. For Comm W 1:170 O 26 '40

PEPSI-COLA company
Millions in nickels. W. E. Kraemer. il Mag of Wall St 65:737-9+ Mr 23 '40

Pause that refreshes; Coca-Cola eyes a waxing rival. Business Week p35-8 Ap 27 '40

Pepsi-Cola gives controlled quality to 400 franchise bottlers. I. C. Miller. il Food Ind 12:64-6 Ap '40

PEPSIN
Action of pepsin on the proteins of normal and immune sera; abstract. M. G. Macfarlane and D. E. Dolby. Chem & Ind 59: 730 O 26 '40

Pressure-soluble and pressure-displaceable components of monolayers of native and denatured proteins. I. Langmuir and D. F. Waugh. diags Am Chem Soc J 62:2771-93 O '40

PEPTIDES
Anomalous dispersion and absorption of electric waves in solutions of amino-acids and dipeptides. J. B. Bateman and G. Potapenko. bibliog Phys R 57:1185 Je 15 '40

See also
Polypeptides

PEPTONE
Studies on proteins in liquid ammonia; reaction of sodium in liquid ammonia with peptones and related substances. C. O. Miller and R. G. Roberts. bibliog Am Chem Soc J 61:3554-6 D '39

PERBUNAN. See Rubber, Artificial

PERCHLORATOCERIC acid
Rapid qualitative test for alcoholic hydroxyl group; use of nitrato and perchlorato cerate anions as test reagents. F. R. Duke and G. F. Smith. Ind & Eng Chem Anal ed 12: 201-3 Ap 15 '40

PERCHLORIC acid
Die anwendung von ueberchlorsäure für die photometrische bestimmung von chrom und nickel in stahl. Stahl & Eisen 59:1275 N 23 '39

Catalytic effect of osmium compounds on the reduction of perchloric acid by hydrobromic acid. W. R. Crowell, D. M. Yost and J. D. Roberts. Am Chem Soc J 62:2176-8 Ag '40

Correcting ignited silica precipitates for nonvolatile material. J. S. Billheimer, P. H. Faust and E. H. Swift. bibliog Ind & Eng Chem Anal ed 12:409-11 Jl 15 '40

Equilibrium in an esterification reaction with perchloric acid as catalyst. H. M. Trimble and E. L. Richardson. Am Chem Soc J 62: 1018-19 My '40

Warning! perchloric reagents may explode. M. E. Merchant. Metal Prog 37:559 My '40

PERCHLORIDES
Chlorinates; temperature-concentration equilibria in the system hydrogen chloride-chlorine; the hydrogen perchlorides. J. A. Wheat, 2d and A. W. Browne. Am Chem Soc J 62:1577-8 Je '40

Chlorinates; temperature-concentration equilibria in the systems methylene chloride-chlorine and methyl chloride-chlorine; the perchlorides of methylene and of methyl. J. A. Wheat, 2d and A. W. Browne. diag Am Chem Soc J 62:1575-7 Je '40

PERCHLOROETHYLENE. See Tetrachloroethylene

PERCUSSIVE welding. See Electric welding

PERE MARQUETTE railway
General statistics and income account, 1936-39. Comm & Fin Chr 150:3370 My 25 '40

High yields on Pere Marquette bonds. A. Jansen. Barron's 20:19 Ag 26 '40

Thumbnail stock appraisal. Mag of Wall St 67:104 N 2 '40

PERFUMERY
Perfumes and spices. A. H. Verrill. 304p $3 L. C. Page & co, Boston '40

What you can use; perfumes; bases, etc. Oil Paint & Drug Rep 138:36 O 28; 68 N 4; 38 N 11; 62 N 18; 57 N 25 '40

Advertising

Weekly paper scents perfume publicity. Inland Ptr 105:28 Ap '40

PERGOLAS
Attractive pergola helps dress up new or old houses. il diags Am Bld 62:75 Jl '40

PERICLASE
Study of the recrystallization of magnesia. H. G. Schurecht and V. D. Fréchette. bibliog il Am Cer Soc J 23:134-6 My '40

PERILLA oil
Perilla oil. Can Chem & Process Ind 24:17 Ja '40

Vegetable oil situation in the United States. O. Eisenschiml. Oil Paint & Drug Rep 137: 34-5 My 6 '40

PERILLA seed
Manchuria perilla seed crop. For Comm W 1:124-5 O 19 '40

PERINAPHTHANE
Further observations on the use of hydrogen fluoride in acylations and cyclizations. L. F. Fieser and E. B. Hershberg. bibliog Am Chem Soc J 62:49-53 Ja '40

PERINAPHTHANONE
Synthetic experiments utilizing perinaphthanone-7. L. F. Fieser and M. D. Gates, jr. bibliog Am Chem Soc J 62:2335-41 S '40

PERIODATES
Studies in electrolytic oxidation; the mechanism of the electrolytic formation of periodates. A. Hickling and S. H. Richards. Chem Soc J p256-64 Mr '40

PERIODIC acid
Cleavage of the carbon chain of levoglucosan by oxidation with periodic acid. E. L. Jackson and C. S. Hudson. bibliog Am Chem Soc J 62:958-61 Ap '40

Constituents of the leaves of certain leucadendron species; oxidations of leucodrin derivatives with periodic acid and lead tetraacetate. W. S. Rapson. Chem Soc J p1271-4 S '40

Oxidation of alginic acid by periodic acid. H. J. Lucas and W. T. Stewart. Am Chem Soc J 62:1792-6 Jl '40

Properties of the oxycelluloses formed in the early stages of the oxidation of cotton cellulose by periodic acid and metaperiodate. G. F. Davidson. bibliog Textile Inst J 31: T81-96 Jl '40

Quantitative determination of certain polyalcohols in the presence of each other. N. Allen, H. Y. Charbonnier and R. M. Coleman. bibliog Ind & Eng Chem Anal ed 12: 384-7 Jl 15 '40

PERIODIC system
Modified atomic volume plots. T. Moeller. J Chem Educ 17:441-2 S '40

Radioactivity and the periodic table; an introduction to the study of atomic structure and isotopes in elementary chemistry. J. F. King and P. H. Fall. il J Chem Educ 17:481-2 O '40

PERIODICALS
Holland's-sponsored Southern institute for town service. il Sales Management 46:60 Ja 15 '40

See also
Advertising mediums—Periodicals
Audit bureau of circulations
House organs
Insurance—Periodicals
Newspapers
Science—Periodicals
Trade journals

Bibliography

Births and deaths; a record of new titles, changed titles, and deaths in the periodical world. Published in Bulletin of bibliography

Current abstract and index periodicals of interest to chemists; a selected list. T. E. R. Singer. Ind & Eng Chem News ed 18: 541-2 Je 25 '40

List of American trade union journals and labor papers currently received. 29 numb l U.S. Dept. of labor, Library, Washington '39

New periodicals. Published in monthly numbers of New York public library bulletin

Periodica chimica; verzeichnis der im Chemischen zentralblatt referierten zeitschriften mit den entsprechenden genormten titelabkürzungen sowie angaben über den besitz in bibliotheken Grossdeutschlands. M. Pflücke, comp. 208p RM 77.25 Verlag chemie, G.M.B.H, Berlin, Germany '40

World list of historical periodicals and bibliographies. P. Caron and M. Jaryc, eds. 391p $6.75; pa $6 for sale by Wilson, H.W. '39

Circulation

Circulation and rates, principal magazines. Ptg Art 68 no 4:D10+ '40

Illustrations

Engraving specifications of leading magazines. Ptg Art 68 no 4:K10+ '40

Indexes

Abridged readers' guide to periodical literature, September 1938-August 1940. 820p Wilson, H.W. '40

PERIODICALS—Indexes—*Continued*
Abstracting and indexing of scientific and technical literature. E. J. Crane. Special Lib 31:260-4 Jl-Ag '40
Agricultural index, January 1937-September 1939. 1832p Wilson, H.W. '39
Annual magazine subject-index, 1939; including as part II The dramatic index, 1939. M. E. Bates, ed. 297p, 332p, 134p $15 F. W. Faxon co, Boston '40
Annual reference indexes covering Electrical engineering and AIEE transactions for 1939. Elec Eng 58:3-18 sec 2 D '39
Indexes to the Journal, v 22, 1939; comp. by the American ceramic society. Am Cer Soc J 22:393-404 D '39
Periodical indexes and how they are made. S. St John. Special Lib 31:278-81 Jl-Ag '40
Zeitschriften- und bücherschau. Stahl & Eisen 60:78-86 Ja 25 '40 [cont monthly]
See also
Psychological index (periodical)

Germany
Getting German periodicals. E. J. Crane. Ind & Eng Chem News ed 18:355 Ap 25 '40
Receipt of European journals during the war. W. Davis. Science 91:338-9 Ap 5 '40

PERIODICALS, Trade union

Bibliography
List of American trade union journals and labor papers currently received by the Department of labor library. 29 l U.S. Dept. of labor library, Washington '39

PERIODICITY
Periodic die-off in certain herbivorous mammals and birds. F. W. Braestrup. bibliog Science 92:354-5 O 18 '40
Periodicity in terrestrial processes. J. H. F. Umbgrove. bibliog Am J Sci 238:573-6 Ag '40
Photoperiodic aspects of phasic development. W. F. Loehwing. Science 90:552-5 D 15 '39

PERKIN condensation. See Condensation, Chemical

PERKIN medal
Dr J. V. N. Dorr awarded medal. Oil Paint & Drug Rep 138:3 S 23 '40
Perkin medal awarded to C.M.A. Stine. Ind & Eng Chem 32:137 F '40; Oil Paint & Drug Rep 137:3+ Ja 15 '40; Science 91:sup8 Ja 19 '40

PERKINS, Frances (Mrs Paul Wilson)
Fortune survey; helpful to labor or harmful? Fortune 21:163 Je '40

PERKINS, James Handasyd, 1876-1940
Sketch. Trusts & Estates 71:16 Jl '40

PERMALLOY
Compressed powdered molybdenum permalloy for high quality inductance coils. V. E. Legg and F. J. Given. bibliog il Bell System Tech J 19:385-406 Jl '40; Same cond. Metal Prog 38:284+ S '40

PERMANENT agricultural committee. See International labor organization—Permanent agricultural committee

PERMANGANATES
See also
Potassium permanganate

PERMEABILITY
Linseed oil films; permeability, adsorption, and solubility. H. F. Payne. bibliog il Ind & Eng Chem 32:737-43 My '40
See also
Concrete—Permeability
Glass—Permeability
Paper—Permeability
Rubber—Permeability

PERMEABILITY, Magnetic. See Magnetic permeability

PERMIAN formation. See Geology, Stratigraphic—Permian

PEROMYSCUS. See Deer mice

PEROXIDASES
Enzyme activity in frozen vegetables; asparagus. M. A. Joslyn and C. L. Bedford. bibliog Ind & Eng Chem 32:702-6 My '40
Studies in peroxidase action; the oxidation of *p*-toluidine. B. C. Saunders and P. J. G. Mann. Chem Soc J p769-72 Je '40

PEROXIDES
Chlorinations with sulfuryl chloride; the peroxide-catalyzed reaction of sulfuryl chloride with ethylenic compounds. M. S. Kharasch and H. C. Brown. Am Chem Soc J 61:3432-4 D '39
Peroxide effect in the addition of reagents to unsaturated compounds and in rearrangement reactions. F. R. Mayo and C. Walling. Chem R 27:351-412 bibliog(171 references, p408-12) O '40
Peroxide effect in the addition of reagents to unsaturated compounds; the addition of hydrogen iodide to propene, 1-bromopropene, allyl chloride, and allyl bromide. M. S. Kharasch, J. A. Norton and F. R. Mayo. bibliog Am Chem Soc J 62:81-6 Ja '40
Peroxide effect in the addition of reagents to unsaturated compounds; the effect of metals on the addition of hydrogen bromide to allyl bromide. M. S. Kharasch, W. R. Haefele and F. R. Mayo. Am Chem Soc J 62:2047-51 Ag '40
Studies in organic peroxides; dinicotinyl peroxide. N. A. Milas and P. C. Panagiotakos. Am Chem Soc J 62:1878 Jl '40
Studies in the oxidation of drying oils and cognate substances; the properties of the peroxide, ketol, and oxido-groupings, including those of some resins. R. S. Morrell and E. O. Phillips. Soc Chem Ind J 59:144-8 Jl '40
Vitamin A destruction in fish liver oils; relation to peroxide formation. E. J. Simons, L. O. Buxton and H. B. Colman. bibliog Ind & Eng Chem 32:706-8 My '40
See also
Hydrogen peroxide

Analysis
Determination of organic peroxides. H. A. Liebhafsky and W. H. Sharkey. bibliog Am Chem Soc J 62:190-2 Ja '40

PERRY, David, 1856-1939
Sketch. Chem & Ind 58:1057 D 2 '39

PERSIA
See also
Geology—Persia

Economic conditions
Economic conditions in Iran in 1939. Comm Rep p416 My 4 '40

PERSIAN carpets. See Carpets, Oriental

PERSONAL injuries
Cases on injuries to relations. L. Green. 864p lea $6 Lawyers co-operative pub. co, Rochester, N.Y. '40
New York Appellate division reversal in Ruth Gluck personal injury suit; landlord's liability. East Underw 40:25 D 29 '39

PERSONAL service corporations
Agency taxes; agency as personal service corporation. Ptr Ink 193:14 O 18 '40
Internal revenue code, supplement S; tax of shareholders of personal service corporations. Comm & Fin Chr 151:2258-9 O 19 '40

PERSONALITY
Factors other than intellectual in the training of an engineer. J. E. Raycroft. J Eng Educ 30:660-7 Ap '40
How character develops; a psychological interpretation. F. Kunkel and F. E. Dickerson. 274p bibliog(p271) $2.50 Scribner '40
Personality and problems of adjustment. K. Young. 868p bibliog(p825-56) $4.25 Crofts '40
Trait-consistency in personality: a differential investigation. M. Trawick. 45p bibliog(p44-5) pa 80c Columbia univ, New York '40
Understanding ourselves. H. Shacter. 117p pa 48c McKnight & McKnight, Bloomington, Ill. '40

PERSONALITY—*Continued*
Varieties of human physique; an introduction to constitutional psychology. W. H. Sheldon, S. S. Stevens and W. B. Tucker. 347p bibliog(p300-18) $4.50 Harper '40
Visual outline of the psychology of personality. J. H. Coffin. 81p bibliog(p77-8) pa 75c Longmans '40
Your personality. E. Smith. 261p bibliog (p253-61) $2 Waverly house, 156 Boylston st, Boston '40

PERSONALITY, Disorders of
Personal aggressiveness and war. E. F. M. Durbin and J. Bowlby. 154p $1.50 Columbia univ. press '39

PERSONALITY tests
Can aptitude tests guide us in picking men for promotion? R. N. McMurray. Sales Management 46:48, 50, 52-6 My 15 '40
Can you take a salesman apart to find out what makes him tick? Humm-Wadsworth temperament test. D. G. Humm. Sales Management 47:22-4, 83-4 N 15 '40
New psych quiz; Humm-Wadsworth temperament scale. Business Week p40 N 2 '40
Personality and success in selling. P. Hampton. bibliog Personnel J 19:108-15 S '40
Sales ability; how to analyze it through personal interviews. R. N. McMurray. Sales Management 46:58-61 Je 1 '40
Selection of employees for good public relations; Humm-Wadsworth temperament scale. D. G. Humm. Pub Util 26:663-71 N 7 '40
Tools of the personnel trade. G. W. Wadsworth, jr. Mech Eng 62:16-17 Ja '40
Turning the X-ray on the hiring line; Lockheed system. R. R. Irwin. il Aviation 39:32-3+ Ja '40

PERSONNEL administration, Society for. See Society for personnel administration

PERSONNEL departments. See Employment departments

PERSONNEL research federation
Personnel research federation; report to Engineering foundation. Personnel J 18:193-5 N '39

PERSONNEL service in education
Guidance in the secondary schools of Indiana. H. Schwehn, H. H. Remmers and L. D. Whisler. Purdue Univ Div of Educational Reference, Studies in Higher Education 36: 1-28 '39
Plans for the home room period. I. C. Moore. 196p $1.75 Manfred, Van Nort & co, 725 Wilson bldg, Dallas '40
Student personnel services in the New Jersey State teachers college at Newark. 65p bibliog(p64-5) New Jersey State teachers college, Newark '39

See also
Engineering colleges —Personnel service

PERSULFURIC acid
Electrolytic manufacture of persulfuric acid; English patent. Chem Ind 46:51 Ja '40

PERTH AMBOY, New Jersey

Bridges
Construction of Thomas A. Edison bridge; with cost data. M. Goodkind. il Civil Eng 10:628-31 O '40
Design features of Thomas A. Edison bridge. M. Goodkind. il maps Civil Eng 10:491-4 Ag '40
Unusual equipment speeds caissons and piers. il diags Eng N 125:30-3 Jl 4 '40

PERTURBATION
Bleak black ball of rock; planet Pluto's mass has been determined. H. N. Russell. diags Sci Am 163:18-19 Jl '40

PERU

See also
Electric apparatus industry—Peru
Labor and laboring classes—Peru
Petroleum industry and trade—Peru
Plastic industries—Peru

Commerce
Foreign trade in 1939 with comparisons, 1937-38. H. S. Giusta. Comm Rep p376-8 Ap 20 '40
Markets in Chile and Peru. Engineering 150: 144-5 Ag 23 '40

Commercial policy
Peru; survey of exchange situation. Comm Rep p567 Je 29 '40

Economic conditions
Economic conditions. For Comm W 1:65, 258-9 O 12, N 9 '40
Peru; tabular guide to economic conditions. Comm Rep p1214 D 23 '39

PERU, Indiana
Family income and expenditure in nine cities of the east central region, 1935-36; v. 1, Family income. A. D. H. Kaplan, F. M. Williams and R. Hellman. map U S Bur Labor Statistics Bul 644:1-538 '39

PERVANADIC acid
Über die durch pervanadinsäure katalysierte wasserstoffperoxyd-oxydation cyclischer verbindungen. W. Treibs. bibliog Angew Chemie 52:698-700 D 9 '39

PESTS
Control of organisms. F. L. Fitzpatrick. 334p bibliog(p319-22) $2.75 Teachers college '40

See also
Insects, Injurious and beneficial
Rats

PETERSEN earth coil
Neutral earthing. diag Electrician 124:43 Ja 19 '40
Non-oscillating Petersen coil. il diag Engineering 149:194, 200 F 23 '40
Overhead line protection; Petersen arc suppression coils. il diags Elec R (Lond) 126: 615-16 Je 7 '40
Petersen coil protection equals lightning-proofing. R. E. Neidig. Elec W 113:1211+ Ap 20 '40
Thevenin's theorem. Electrician 123:391 O 27 '39

PETRIFIED wood
Volcanic ash as a source of silica for the silicification of wood. K. J. Murata. Am J Sci 238:586-96 bibliog(p594-5) Ag '40

PETRILLO, James C.
From bugler to boss; president of the American federation of musicians. por Business Week p38 Je 29 '40

PETROGRAPHY. See Rocks

PETROLATUM
Figures in thin layers of grease and viscous liquids. W. D. Kumler. il J Phys Chem 44: 612-18 My '40
Petrolatum, paraffin labeling explained. Oil Paint & Drug Rep 138:4 Jl 8 '40

PETROLEUM
Annual reviews of petroleum technology, 1939. v5 444p $2.70; to members and Journal subscribers $1.35 Inst. of petroleum, The University, Edgbaston, Birmingham, Eng. '40
Capillary behavior in porous solids; abstract. M. C. Leverett. Oil & Gas J 39:64 O 31 '40
Classification of oil shales and cannel coals; confusion in nomenclature and classification of oil-yielding materials. A. L. Down and G. W. Himus. Inst Pet J 26:329-35, pl 1-5; Discussion. 336-48 Jl '40
Formation of fuels; a new theory of the origin of gas, oil and coal. E. Berl. Am Gas Assn Mo 22:335-6 O '40
Glimpses at petroleum. T. G. Delbridge. Am Soc T M Proc 39:32-8 '39
Helpful petroleum; uses of petroleum and its products. W. D. Humphrey. Am Pet Inst Proc 20(1):87-90 '39
Many sciences called into use in oil exploration. W. V. Howard. Oil & Gas J 38:23+ Mr 14 '40
Oil. F. H. Rogers. Engineering 149:448-9, 459-60 Ap 26-My 3 '40; Same cond. Chem Age (Lond) 42:209-11 Ap 13 '40

PETROLEUM—*Continued*

Outline of direct and indirect means of locating oil. W. V. Howard. Oil & Gas J 38: 27-8 Mr 21 '40

Progress in petroleum. G. Egloff. Science 91:533-8 Je 7 '40; Same. Chem Ind 46:720-8 Je '40; Same cond. Mech Eng 62:742-4 O '40

Retrograde condensation. D. L. Katz and F. Kurata. il diags Ind & Eng Chem 32:817-27 bibliog(54 references, p827) Je '40

Velocity of compressional waves in petroleum fractions at atmospheric and elevated pressures. R. Matteson and C. J. Vogt. bibliog diag J Ap Phys 11:658-65 O '40

Zur entstehung des erdöls. A. Treibs. Angew Chemie 53:202-4 My 11 '40

See also

Bituminous materials
Gas, Natural
Gasoline
Kerosene
Liquefied petroleum gas
Liquid fuel
Oil flow
Oil fuel
Oil lands
Oil shales
Petroleum distillation and other headings beginning Petroleum

also American institute of mining and metallurgical engineers—Petroleum division

Acidation of wells

Acidizing Illinois limestones presents many problems. W. W. Love. il diags Oil & Gas J 38:74-6, 79+ Ap 11 '40

Chemicals in drilling and producing operations. W. W. Robinson. Oil & Gas J 38: 202-4 Mr 28 '40

Analysis

Analyses present evidence on origin of petroleum. W. V. Howard. Oil & Gas J 38: 46+ Ap 11 '40

Application of mass spectrometer to petroleum-industry problems. H. Hoover, jr. and H. Washburn. Oil & Gas J 38:48-9 F 22 '40

Correlation index to aid in interpreting crude-oil analyses. H. M. Smith. pls U S Bur Mines Tech Pa 610:1-34 '40

Determination of total water-soluble chlorides in petroleum. J. W. Horne and L. F. Christianson. bibliog U S Bur Mines Rep of Invest 3517:1-16 '40

Phenolic compounds from petroleum sources; comparison with coal tar sources. E. Field, F. H. Dempster and G. E. Tilson. bibliog il Ind & Eng Chem 32:489-96 Ap '40

Progress report of A.P.I. subcommittee on fundamentals of sampling, transporting, and analyzing sub-surface samples of crude oil. bibliog diags Am Pet Inst Proc 21M(4):135-44 My '40

Refining characteristics of Mississippi crude oils. G. Egloff and G. B. Zimmerman. Oil & Gas J 38:145-6 Mr 28 '40

Tabulated analyses of Texas crude oils. A. J. Kraemer and G. Wade. fold map U S Bur Mines Tech Pa 607:1-37 '39

Bibliography

Abstracts. Published in monthly numbers of Journal of the Institute of petroleum

Secondary recovery of petroleum; pt 1, Bibliography. J. I. Moore. 103p Kansas. Geological survey, Lawrence '38

Selected list of Bureau of mines publications and motion picture films. 129p U.S. Bur. of mines, Washington '40

Chemical treatment of wells

Chemical engineering in petroleum exploration and production. P. E. Fitzgerald. bibliog il diag Am Assn Pet Geologists Bul 24: 1361-9 Ag '40

Chemistry

Abstracts of papers at Petroleum division of American chemical society meeting, Cincinnati, April 8-12. Oil & Gas J 38:57, 59 Ap 18 '40

American chemical society, Petroleum division, annual meeting, Detroit. Oil & Gas J 39:57+ S 19 '40

American chemical society symposium. Chem Age (Lond) 43:123-4 S 14 '40

Assemble thermodynamic data to stimulate new activity; A.C.S. Petroleum division symposium. Nat Pet N 32:R130+ Ap 17 '40

Autoxidation and gum-forming tendencies of certain hydrocarbons. B. Berger and R. W. Bost. bibliog Oil & Gas J 38:81-4+ Mr 28 '40

Chemicals from petroleum fast becoming a reality. W. T. Ziegenhain. il Oil & Gas J 39:22-3+ O 31 '40

Conversion of naphthenic acids to naphthene hydrocarbons; chemical constitution. G. E. Goheen. bibliog flow diag Ind & Eng Chem 32:503-8 Ap '40

Dependence of viscosity of liquids on constitution. A. H. Nissan, L. V. W. Clark and A. W. Nash. Inst Pet J 26:155-211 bibliog(97 references, p209-11); Discussion. 212-22 Ap '40

Gas-liquid equilibrium constants; methane-decane system. H. M. Lavender, B. H. Sage and W. N. Lacey. bibliog diag Oil & Gas J 39:48-9 Jl 11 '40

High molecular weight fractions; abstract. G. E. Goheen. Nat Pet N 32:R367-8 O 2 '40

Isolation of 3-methylhexane, *trans*-1,2-dimethylcyclopentane, and *trans*-1,3-dimethylcyclopentane from petroleum. A. R. Glasgow, jr. bibliog J Research Nat Bur Stand 24:509-29 My '40

Mechanism of aromatization and xylene thermal isomerization. A. F. Dobryanskii and F. Y. Saprykin. il Oil & Gas J 39:48 Ag 8 '40

Modern petroleum research. E. C. Williams. Soc Dyers & Col J 55:606-8 D '39

Naphthenic acids from Gulf Coast petroleum; composition of higher boiling acids. R. W. Harkness and J. H. Bruun. bibliog diags Ind & Eng Chem 32:499-502 Ap '40

Nitrogen compounds in petroleum distillates; isolation, ozonization and synthesis of 2,4-dimethyl-8-*s*-butylquinoline. L. M. Schenck and J. R. Bailey. Am Chem Soc J 62:1967-9 Ag '40

Oil for chemistry's test tubes; petroleum by-products supply source for many synthetic products. W. W. Hay. il Barron's 20:20 S 16 '40

Petroleum bases; reactions of 2,3,8-trimethylquinoline. A. Burger and L. R. Modlin, jr. bibliog Am Chem Soc J 62:1079-83 My '40

Petroleum-ization, 1940. H. W. Field. Am Pet Inst Proc 20(3):65-71 '39; Same. Oil & Gas J 38:110, 112, 115+ N 17 '39; Excerpts. Nat Pet N 31:R522-4 N 29 '39

Petroleum synthetics help 100-octane fuel production. L. Rosenstein. bibliog il Nat Pet N 32:R409-10, R412, R414 N 13 '40; Same. Oil & Gas J 39:118, 120+ N 14 '40

Preparation of some pure hydrocarbons for the purpose of testing the physical methods in use for the examination of hydrocarbon mixtures. H. I. Waterman, J. J. Leendertse and others. Inst Pet J 25:801-12 D '39

Separation and characterization of petroleum acids; some Texas petroleum acids. H. G. Schutze, B. Shive and H. L. Lochte. bibliog Ind & Eng Chem Anal ed 12:262-6 My 15 '40

Solid naphthenic acids. T. Kennedy. Chem Age (Lond) 41:373 D 2 '39

Les supercarburants et les superlubrifiants synthétiques au Congrès de l'Association française pour l'avancement des sciences (Liége, 17-22 juillet 1939). C. Berthelot. Chimie & Ind 43:539-48 Ap 5 '40

Les synthèses chimiques dans l'industrie du pétrole; polymérisation, cyclisation, fabrication du plomb tétraéthyle. J. Barbière. diags Soc Ing Civils Mémoires 92:141-53 Ja '39

Veteran authority on catalysis awarded Willard Gibbs medal; Dr Vladimir N. Ipatieff. Nat Pet N 32:R8 Ja 10 '40

Concessions

Mexico evaluates properties; Standard voices protest. Oil & Gas J 39:16 Ag 29 '40

PETROLEUM—*Continued*

Conservation

Arkansas' conservation program attracts wide commendation. A. M. Crowell. Oil & Gas J 38:56, 59-60 F 8; 48-9, 52-3, 55+ F 15 '40

Conservation in Illinois now political football. M. Jones. il Oil & Gas J 38:8-9+ Ja 11 '40

Contribution to oil conservation is monument to Doherty, engineer. Nat Pet N 32:6-7 Ja 3 '40

Kansas conservation. T. A. Morgan. Oil & Gas J 39:113+ Je 27 '40

Minimum gas-oil ratio order in New Mexico. D. H. Stormont. Oil & Gas J 38:64 Ap 25 '40

Stabilization through proper well spacing. D. R. Knowlton. Oil & Gas J 39:16-17+ Je 6 '40

See also
Petroleum supply

Cracking

See Petroleum distillation

Dehydration

Less heat, more chemical may increase profits. T. P. Sanders. Oil & Gas J 39:174 Jl 25 '40

Practices and methods of preventing and treating crude-oil emulsions. G. B. Shea. flow sheets il diags pls U S Bur Mines Bul 417:1-106 '39

Talco treating methods provide fuel economy and more settling time. G. Weber. il Oil & Gas J 39:34-5 O 3 '40

Treating emulsions in the Permian basin. D. H. Stormont. il Oil & Gas J 38:34-5+ Ja 11 '40

Dewaxing

See Petroleum refining—Wax removal

Emulsions

Gravity correction chart for emulsified petroleum. Oil & Gas J 38:34 F 1 '40

Practices and methods of preventing and treating crude-oil emulsions. G. B. Shea. flow sheets il diags pls U S Bur Mines Bul 417:1-106 '39

Thermosiphon treating plants; tests explain low capacities offered for heating emulsions. D. H. Stormont. diags Oil & Gas J 38: 37-8 D 21 '39

Treating emulsions in the Permian basin. D. H. Stormont. il Oil & Gas J 38:34-5+ Ja 11 '40

Geology

Aerial photographs furnish valuable aid to geologists. W. V. Howard. il Oil & Gas J 38:52-3 Ap 18 '40

American association of petroleum geologists annual meeting, Chicago; abstracts of papers. Oil & Gas J 38:49-50, 52-8 Ap 11 '40

American assn. of petroleum geologists growth parallels expansion of petroleum geology. J. E. Thomas. Oil & Gas J 38:30-4+ Ap 11 '40

Analyses present evidence on origin of petroleum. W. V. Howard. Oil & Gas J 38: 46+ Ap 11 '40

Applied paleontology. H. G. Schenck. il diags map Am Assn Pet Geologists Bul 24:1752-78 bibliog(p1772-8) O '40

Careful exploration required in North Dakota oil search. F. C. Foley. bibliog map Oil & Gas J 39:14-15 Jl 18 '40

Central Kansas uplift has several prolific pays. E. A. Koester. diags Oil & Gas J 39: 50-1 Je 27 '40

Clay County geology still little known. R. M. Sanford. il map Oil & Gas J 38:12-13 Ja 11 '40

Effect of formation permeability on the plastering behavior of mud fluids. H. T. Byck. bibliog Oil & Gas J 39:50-1 My 30 '40

Forest City basin not providing great deal of oil excitement. W. V. Howard. maps Oil & Gas J 38:18-19 My 2 '40

Future oil possibilities of Newhall-Castaic district. D. Wosk. il diags Oil & Gas J 39:24-6 O 17 '40

Future position of petroleum geology in the oil industry. E. DeGolyer. Am Assn Pet Geologists Bul 24:1389-98; Discussion. 1398-9 Ag '40

Geologists can do more than discover oil. W. V. Howard. Oil & Gas J 38:15+ Mr 7 '40

Geologists, scouts play big role in Kansas development. Oil & Gas J 39:67+ Je 27 '40

Geology in the petroleum industry. W. E. Pratt. Am Assn Pet Geologists Bul 24:1209-13 Jl '40

Geology prompted drilling of deep test; Continental oil co. no. 1 Proctor. map Oil & Gas J 38:53 N 30 '39

Lower Ordovician sandy zones (St Peter) in middle Tennessee. K. E. Born. bibliog il map Am Assn Pet Geologists Bul 24: 1641-62 S '40

Measurements of compressibility of consolidated oil-bearing sandstones. C. B. Carpenter and G. B. Spencer. U S Bur Mines Rep of Invest 3540:1-20, pl 1-5 '40; Excerpt. Pet Eng 12:135 N '40

Mississippian limestones in central and eastern Kansas. W. Lee. Oil & Gas J 39:102+ Je 27 '40

Nation and petroleum geology to-day. H. D. Miser. Science 91:249-52 Mr 15 '40

Oil possibilities of South Dakota still unknown. E. P. Rothrock. il maps Oil & Gas J 39:18-19 My 30 '40

Oil search in Georgia covers wide front. A. C. Munyan. il maps Oil & Gas J 38:24-6+ Mr 14 '40

Paleozoic limestone of Turner valley, Alberta, Canada. W. D. C. Mackenzie. il diags Am Assn Pet Geologists Bul 24:1620-40 S '40

Petroleum geology; new ideas in petroleum exploration. A. I. Levorsen. Am Assn Pet Geologists Bul 24:1355-60 Ag '40

Possibility of further oil discovery in Mississippi. H. M. Morse. map Oil & Gas J 38: 19-20 D 7 '39

Radioactivity of sedimentary rocks and associated petroleum. K. G. Bell, C. Goodman and W. L. Whitehead. bibliog Am Assn Pet Geologists Bul 24:1529-47 S '40

Saxet oil and gas field, Nueces county, Texas. J. C. Poole. maps Am Assn Pet Geologists Bul 24:1805-35 O '40

Significant geological data in new Mississippi survey. map Oil & Gas J 38:25 Ap 4 '40

Society of economic paleontologists and mineralogists annual meeting, Chicago, April 9-12; abstracts of papers. Oil & Gas J 38: 63, 66-7 Ap 11 '40

Source rocks of petroleum; a symposium of opinion. R. W. Pike and others. Am Assn Pet Geologists Bul 24:496-503 Mr '40

Stratigraphy of Kansas. R. C. Moore. diags Oil & Gas J 39:73-4+ Je 27 '40

Subsurface geology and oil and gas resources of Osage county, Oklahoma. N. W. Bass and others. fold maps U S Geol S Bul 900-A:1-45 '38; 900-B:47-82; 900-C:83-129 '39; 900-D:131-71; 900-E:173-208 '40

Tuscaloosa discovery heightens oil interest in Mississippi. G. Weber. diag map Oil & Gas J 39:62-3 S 19 '40

Twenty years of petroleum geology in California. R. M. Barnes. Am Assn Pet Geologists Bul 24:1705-21 O '40

Well logging by radioactivity. G. H. Westby and S. A. Scherbatskoy. il Oil & Gas J 38:62-4 F 22 '40

West Texas-New Mexico symposium. R. K. DeFord and others. maps Am Assn Pet Geologists Bul 24:1-156 Ja '40

Bibliography

Selective bibliography on the theories of the origin of petroleum. A. G. Skelton and M. B. Skelton, comps. Oklahoma geological survey, Norman '40

Maps

New discoveries, wildcat tests and recycling plants on the Gulf Coast; map. Oil & Gas J 38:152-3 Ap 25 '40

Oil and gas journal's map of Kansas. Oil & Gas J 39:supp Je 27 '40

PETROLEUM—*Continued*

Measurement

Petroleum division A.S.M.E. and fluid-metering conference. Oil & Gas J 38:26+ Ap 18 '40

Positive-displacement oil meters in production work. L. R. Van Arsdale. il Oil & Gas J 38:44-5+ Mr 21 '40

Mud fluids

Chemicals for treatment of drilling fluids. C. F. Bonnet and B. N. Howell. il Oil & Gas J 39:58, 61 O 17 '40

Chemicals in drilling and producing operations. W. W. Robinson. il Oil & Gas J 38: 190-1+ bibliog(86 references, p204) Mr 28 '40

Colloidal behavior of clays as related to their crystal structure. T. F. Ford, A. G. Loomis and J. F. Fidiam. bibliog J Phys Chem 44: 1-12 Ja '40

Combating loss of circulation in drilling and cementing; use of flaky organic material called Jelflake. J. B. Stone. il Oil & Gas J 39:44-5 Ag 8 '40

Complex phosphates for deflocculation of drilling mud. C. F. Bonnet. Oil & Gas J 38:39+ F 1 '40; Correction. 38:76 F 29 '40

Degassing drilling fluid prevents blowouts. H. F. Simons. il diag Oil & Gas J 38:43-4 F 8 '40

Devonian drilling requires conditioning of mud and sealing of porous formations. H. F. Simons. il Oil & Gas J 38:74-5+ My 9 '40

Effect of formation permeability on the plastering behavior of mud fluids. H. T. Byck. bibliog Oil & Gas J 39:50-1 My 30 '40

Effects of different properties of rotary drilling fluids. H. F. Simons. bibliog il Oil & Gas J 39:46-7 O 31 '40

Eykometer; new device for measurement of the yield point of clay suspensions and oil-well drilling muds. A. G. Stern. il diag U S Bur Mines Rep of Invest 3495:1-20 bibliog(p18-20) '40

Gaging adsorption power of colloidal ferric oxide by dye adsorption; development of a standard test. F. H. Dotterweich and W. J. Huff. bibliog diags Ind & Eng Chem Anal ed 12:277-9 My 15 '40

Mud, concrete, and oil; drilling mud makes possible wells miles deep. A. R. Boone. il Sci Am 163:134-5 S '40

Mud control is big problem on Continental deep test. D. B. Edwards. il Oil & Gas J 38:38+ N 30 '39

Perfect new combination degasser and agitator. L. P. Stockman. il Oil & Gas J 38: 63+ Mr 21 '40

Purpose of drilling fluid used in rotary wells. H. F. Simons. il plan Oil & Gas J 39:46-8 S 26 '40

Reduction chart for the Stormer viscometer. H. T. Byck. Oil & Gas J 38:40 F 8 '40

Standardized layout decreases time required to assemble rig. plan Oil & Gas J 38:131 Ap 25 '40

Steel-pit partitions used on Illinois rig for controlling flow of mud. H. F. Simons. il Oil & Gas J 39:48 Ag 29 '40

Surface and mechanical factors affecting drilling fluids. H. F. Simons. bibliog il diags Oil & Gas J 39:88-90+ O 10 '40

Paraffin problem

Paraffin problems in the east Texas field. W. N. Little. il diags Oil & Gas J 38:46-8+ F 29 '40

Prevention and removal of paraffin accumulations; abstract. W. Y. Brown. Oil & Gas J 39:56+ My 30 '40

Patents

Research and invention in the petroleum industry. B. K. Brown. il Ind & Eng Chem News ed 18:352-5 Ap 25 '40

See also

Petroleum refining —Patents

Pressure measurement

Pressure distribution about a slotted liner in a producing oil well; abstract. F. G. Miller. Oil & Gas J 38:78+ F 22 '40

Prices

California crude price cut laid to fuel-oil weakness. L. P. Stockman. Oil & Gas J 38:23-4 F 8 '40

Crude oil markets. Published in weekly numbers of National petroleum news

Crude-oil price changes during 1939. Oil & Gas J 38:178-80 Ja 25 '40

Crude oil prices. Published in weekly numbers of Oil and gas journal

Crude price changes, first six months, 1940. Oil & Gas J 39:166 Jl 25 '40

Effect of Texas cut weighed by industry. Nat Pet N 32:13-14 Jl 24 '40

Improvement in Pennsylvania after fourth price cut. A. C. MacIntyre. il Oil & Gas J 39:34 S 12 '40

Industry takes steps to arrest spread of price cutting. H. S. Norman. Oil & Gas J 39:17 Ag 1 '40

Oil price basing structures; abstract. E. S. Mason, S. Nelson and W. Keim. Nat Pet N 32:24 N 13 '40

Price research in the steel and petroleum industries prepared for the Conference on price research. 170p $2 Nat. bur. econ. research '39

Resistance to price cutting allays threat of spreading. Oil & Gas J 39:64 Jl 25 '40

Sinclair crude postings restored. Nat Pet N 32:13-14 Ag 7 '40

Texas hearing results in lower August output; statements by H. F. Sinclair and P. J. Hurley on price situation. C. O. Willson. Oil & Gas J 39:25-7+ Ag 8 '40

War having violent effect on Pennsylvania grade region. J. P. O'Donnell. il Oil & Gas J 39:16-17 Jl 18 '40

Production costs

Hydraulic pumping cost data; capacities ranging from 174 to 3,190 barrels per day. D. Cox. il Oil & Gas J 39:37-8 O 3 '40

Production estimates

Current developments in drawdown method of taking potentials in Kansas. M. Brown. il diag Oil & Gas J 39:63-4+ Je 27 '40

Optimum spacing of dolomite acreage in the Texas Panhandle. P. J. Jones. map Am Pet Inst Proc 21M(4):12-17; Discussion. 17-23 My '40

Review of Cutler's rule of well spacing. H. C. Miller and R. V. Higgins. U S Bur Mines Rep of Invest 3479:1-23 '39

Production methods

American petroleum institute, Eastern district of Production division, annual meeting, Columbus, April 11-12. Oil & Gas J 38:23+, 48+ Ap 18 '40

American petroleum institute. Southwestern district of Production division meeting; abstracts. Oil & Gas J 38:56-7 Ap 4 '40

Application of core analyses to production methods. J. A. Lewis. Oil & Gas J 39:56+ O 31 '40

Chemical engineering in petroleum exploration and production. P. E. Fitzgerald. bibliog il diag Am Assn Pet Geologists Bul 24:1361-9 Ag '40

Chemicals in drilling and producing operations. W. W. Robinson. il Oil & Gas J 38: 190-1+ bibliog(86 references, p204) Mr 28 '40

Cooperative repressuring nets returns in Louisiana field. G. Weber. il map Oil & Gas J 39:32-3+ S 5 '40

Cooperative repressuring plan yielding returns in Louisiana. G. Weber. il diag map Oil & Gas J 39:38, 42 Je 6 '40

Economic aspects of water flooding in Mid-continent. L. C. Converse. Oil & Gas J 39: 18-19 Jl 18 '40

Electrical logs locate shots in Illinois sand wells. H. F. Simons. il diags Oil & Gas J 38:59+ N 30 '39

Engineers study full effect of water flooding in Bradford, Pa. J. P. O'Donnell. Oil & Gas J 38:43-4+ D 7 '39

Full-scale pressure maintenance under way in K.M.A. field. D. H. Stormont. il map Oil & Gas J 38:34-7+ Ap 4 '40

PETROLEUM—Production methods—*Continued*

Improve repressuring plant in Titusville, Pa. field. J. P. O'Donnell. il Oil & Gas J 38: 36+ Ja 18 '40

Intermittent injection helpful in repressuring. T. P. Sanders. Oil & Gas J 39:54 Jl 18 '40

Kansas wells benefited by slower withdrawals. H. F. Simons. Oil & Gas J 39: 114-15+ Je 27 '40

Kern oil co. circulating hot oil in Montebello field wells; Kobe hydraulic power unit; heat exchanger cools engine water and heats circulating oil. L. P. Stockman. il diag Oil & Gas J 38:34-5 D 21 '39

Latest engineering practices; text in English and Spanish. il diags Oil & Gas J 38:190-256 D 28 '39

Low producing rates waste reservoir pressure. T. P. Sanders. Oil & Gas J 39:66 Jl 11 '40

Ohio's first water-flood project promises moderate success. J. P. O'Donnell. il map Oil & Gas J 38:42-3 Ap 18 '40

Paraffin problems in the east Texas field. W. N. Little. il diags Oil & Gas J 38:46-8+ F 29 '40

Positive-displacement oil meters in production work. L. R. Van Arsdale. il Oil & Gas J 38:44-5+ Mr 21 '40

Pressure maintenance; Cunningham-Lansing lime pool, Kansas. C. C. Rae. Oil & Gas J 38:42-3 Mr 14 '40

Progress in the technology of oil production. F. B. Plummer. il Min & Met 21:137-8 Mr '40

Redrilling and workover program in Humble field. N. Williams. il Oil & Gas J 39:61+ Je 13 '40

Report of A.P.I. central committee on drilling and production practice. Am Pet Inst Proc 21M(4):122-34 My '40

Research and invention in the petroleum industry. B. K. Brown. il Ind & Eng Chem News ed 18:347-55 Ap 25 '40

Review of the principles of oil-reservoir performance; abstract. T. V. Moore. Oil & Gas J 39.58 My 30 '40

Shooting holes pays; perforating oil well casings; Lane-Wells co., Los Angeles. il Business Week p43-4 Mr 2 '40

Some practical aspects of water flooding in eastern Oklahoma and Kansas. L. C. Converse and R. R. Hawkins. Oil & Gas J 38: 54-5+ Mr 21 '40

Squeezing oil sands with air pressure. il diag Comp Air M 45:6197 Jl '40

Unusual operating conditions in Louisiana's Potash field; location in flood control spillway necessitates special precautions. N. Williams. il Oil & Gas J 38:15+ F 1 '40

Unusual two-zone completion method used in south Texas. E. C. Will. il diags Oil & Gas J 39:35-6 O 24 '40

Water flood proves successful in Miami county, Kan. D. Dalrymple. il map Oil & Gas J 39:104-5 My 16 '40

Water flooding in Kansas. P. Reed. il map Oil & Gas J 39:77-8 Je 27 '40

Water flooding in northeastern Oklahoma. W. D. Davis. Min & Met 21:414-16 S '40

See also

Petroleum—Acidation of wells
Petroleum—Mud fluids
Petroleum—Pumping
Petroleum—Well drilling

Production rate

Low producing rates waste reservoir pressure. T. P. Sanders. Oil & Gas J 39:66 Jl 11 '40

Proration

Allowable cut asked at state wide Louisiana hearing. G. Weber. il Oil & Gas J 39:59-60 Jl 25 '40

Bureau of mines' estimate is low so Texas sets higher allowable. Nat Pet N 32:22-3 F 28 '40

California's unique experience in voluntary control of crude oil production. T. L. North. Annalist 55:261+ F 16 '40

Controversy in Illinois analyzed. F. G. Clapp. Oil & Gas J 38:33 F 29 '40

Court majority favors sand-thickness factor in Schuler proration. G. Weber. Oil & Gas J 39:98-9 My 16 '40

Petroleum and its products; Supreme court upholds Texas in proration fight. Comm & Fin Chr 150:3578 Je 8 '40

Some unsolved deep well problems under proration. G. O. Nevitt. il Oil & Gas J 38: 43+ Mr 7 '40

States ignore compact views on allowables. Nat Pet N 32:13+ S 4 '40

Supreme court decision in Rowan & Nichols oil case may have far-reaching effect. D. H. Stormont. Oil & Gas J 39:31 Je 13 '40

Supreme court gives views on proration in Texas case. Nat Pet N 32:12 Je 5 '40

Texan charges ills to special allowables. H. S. Norman. Oil & Gas J 39:27 O 17 '40

Texas commission to appeal federal-court decision. D. H. Stormont. Oil & Gas J 38:20-1 F 29 '40

Texas commissioners balk at Bureau of mines cut. D. H. Stormont. Oil & Gas J 38:54 F 22 '40

Texas hearing results in lower August output; statements by H. F. Sinclair and P. J. Hurley on price situation. C. O. Willson. Oil & Gas J 39:25-7+ Ag 8 '40

Texas oil proration upheld by High court. Oil Paint & Drug Rep 137:3+ Je 10 '40

Texas operators for 20-acre spacing; proration hearing. D. H. Stormont. Oil & Gas J 38:68 Ja 25 '40

Texas quota raises called danger sign. Nat Pet N 32:24 O 16 '40

Trends in allowables in California; abstract. L. L. Aubert. Oil & Gas J 38:71 Mr 21 '40

U.S. Supreme court upholds Texas railroad commission. Oil & Gas J 39:22 Je 6 '40

Prospecting

Aerial photographic surveys valuable on Gulf coast. W. V. Howard. il Oil & Gas J 38: 194-5 Ap 25 '40

Aerial photographs furnish valuable aid to geologists. W. V. Howard. il Oil & Gas J 38:52-3 Ap 18 '40

American assn. of petroleum geologists growth parallels expansion of petroleum geology. J. E. Thomas. Oil & Gas J 38:30-4+ Ap 11 '40

Analysis of some factors involved in geochemical prospecting. W. V. Howard. bibliog maps Oil & Gas J 39:33-4 Jl 4; 50, 53-4 Jl 18 '40

Brazil's search for oil. E. de Carvalho. il maps Oil & Gas J 38:68-9+ D 28 '39

California reserves maintained by intensive exploration. R. M. Barnes. Oil & Gas J 39:40-1+ Jl 11 '40

Chemical pioneer prospectors. Sci Am 162:293-4 My '40

Critical survey of recent developments in geochemical prospecting. S. J. Pirson. diags Am Assn Pet Geologists Bul 24:1464-74 Ag '40

Determining presence of oil by estimation of hydrocarbon content of soil. M. LeBaron. diags Oil & Gas J 38:43+ Ja 11 '40

Development of micropaleontology in California. H. G. Schenck, A. M. Keen and L. T. Martin. bibliog Oil & Gas J 39:40-1 My 23 '40

Direct discovery of oil deposits is difficult. W. V. Howard. Oil & Gas J 39:27-8 Je 20 '40

Discovery on small geophysical structure arouses Mississippi. G. Weber. il map Oil & Gas J 38:25-6 Ap 11 '40

Discussion of geochemical exploration (soil analysis). E. E. Rosaire and others. Am Assn Pet Geologists Bul 24:1434-63 Ag '40

Falls City development heralds widespread drilling in basin. D. Dalrymple. il map Oil & Gas J 39:25-6 O 31 '40

Geochemical exploration (soil analysis); with some speculation about the genesis of oil, gas, and other mineral accumulations. E. McDermott. bibliog diags maps Am Assn Pet Geologists Bul 24:859-81 My '40

Geochemical prospecting; a new method of gas and oil exploration. S. E. Slipper. il Am Gas J 153:31-3 Ag '40

PETROLEUM—Prospecting—*Continued*
Geochemical prospecting for petroleum. E. E. Rosaire. diags Am Assn Pet Geologists Bul 24:1400-33 bibliog(p1432-3) Ag '40
Geochemical well logging. E. E. Rosaire. Oil & Gas J 38:114, 116+ Ap 25 '40
Geologists can do more than discover oil. W. V. Howard. Oil & Gas J 38:15+ Mr 7 '40
Geophysical exploration in 1939. S. F. Kelly. il Min & Met 21:41-4 Ja '40
Geophysical prospecting for oil. L. L. Nettleton. 444p bibliog(p411-15) $5 McGraw-Hill '40
Many sciences called into use in oil exploration. W. V. Howard. Oil & Gas J 38:23+ Mr 14 '40
Marsh buggy for use in Gulf Coast fields. H. F. Simons. il Oil & Gas J 38:71 F 22 '40
One-fourth of Kansas' area leased for exploration. il Oil & Gas J 39:118-20 Je 27 '40
Outline of direct and indirect means of locating oil. W. V. Howard. Oil & Gas J 38: 27-8 Mr 21 '40
Partnership between geology and geophysics in prospecting for oil. E. A. Eckhardt. Am Assn Pet Geologists Bul 24:1204-8 Jl '40
Petroleum exploration by means of soil analysis. J. W. Merritt. diags Oil & Gas J 39:68-9 Je 13 '40
Scope of soil analysis increased during year. H. F. Simons. il Oil & Gas J 38:54 F 29 '40
Society of exploration geophysicists annual meeting, Chicago, April 9-12; abstracts of papers. Oil & Gas J 38:69-72 Ap 11 '40
Some practical examples of micromagnetic prospecting. W. P. Jenny. maps Oil & Gas J 38:132-4 Ap 25 '40
Some reflections on seismic prospecting. E. A. Eckhardt. il Explosives Eng 18: 102-4 Ap '40
Sparta-Wilcox trend, Texas and Louisiana. J. D. Todd and F. C. Roper. il map Am Assn Pet Geologists Bul 24:701-15 Ap '40
Symposium on new ideas in petroleum exploration. A. I. Levorsen and others. bibliog il diags Am Assn Pet Geologists Bul 24:1355-99 Ag '40

Pumping

Automatic rod-line knock-off cuts operating cost of stripper leases. T. P. Sanders. il Oil & Gas J 39:67-8 S 26 '40
Catenary suspension increases rod-line efficiency on pumping powers. H. F. Simons. il Oil & Gas J 38:42-3 Mr 21 '40
Economical pumping of wells in Oklahoma City field. T. P. Sanders. il Oil & Gas J 39:48-9+ Ag 15 '40
Electrification of pumping equipment in Illinois. R. E. Hammond. diags Oil & Gas J 38:44-6 Ap 18 '40
Experimental gas lift at Sulphur effective in recovering oil. il Oil & Gas J 38:76-7+ Ap 25 '40
Gravel-packing oil wells in Gulf Coast fields. M. L. Cashion and F. B. Markle. il Oil & Gas J 38:48-9, 51+ Ap 4 '40
Hydraulic pumping cost data; capacities ranging from 174 to 3,190 barrels per day. D. Cox. il Oil & Gas J 39:37-8 O 3 '40
Improved pumping operations in central power units. G. Weber. il plan Oil & Gas J 38: 45-6+ Mr 14 '40
Increased efficiency through use of smaller pumps. T. P. Sanders. Oil & Gas J 39: 45 Jl 4 '40
Lifting methods in Coastal fields; illustrations. Oil & Gas J 38:38 Ap 25 '40
Load and power needs of east Texas wells; as shown by dynamometer tests. G. Weber. il Oil & Gas J 38:52+ Mr 21 '40
Metals in production; oil-well pumps. W. L. Nelson. bibliog il diag Oil & Gas J 38:62 Mr 21; 92 Ap 11 '40
Operating efficiency increased at Manvel by standardization. N. Williams. il diag Oil & Gas J 39:57+ Jl 11 '40
Plunger lift operation. F. R. Wellings. Inst Pet J 26:19-26; Discussion. 26-8 Ja '40
Proper selection of prime mover leads to pumping economy. T. P. Sanders. Oil & Gas J 39:124 Je 27 '40
Pumping up the hole or the effect of reducing pump submergence in west side pumping wells in the east Texas field. M. L. Mayfield. diag Oil & Gas J 38:44, 46, 48 D 14; 41-2+ D 21 '39
Recognizing and overcoming gas lock in pumping wells. T. P. Sanders. Oil & Gas J 39:43 Je 20 '40
Report of A.P.I. committee on the standardization of pumping equipment and engines. diags Am Pet Inst Proc 21M(4):221-39 My '40
Rod-line crossings for producing properties. P. Reed. il Oil & Gas J 38:48 Mr 7 '40
Small generating plant supplies pumping power in Illinois pool. H. F. Simons. il Oil & Gas J 39:65-6 S 12 '40
Submergible electrical centrifugal pumping units and their application; abstract. P. E. Loye. Oil & Gas J 38:65 Mr 21 '40
Substructures used to protect Illinois pumping equipment from floods. il Oil & Gas J 39:48 Ag 29 '40
Subsurface pump performance. S. B. Sargent. diags Oil & Gas J 39:58, 61 Jl 11 '40
Surface-controlled intermitter utilizes static fluid column. D. H. Stormont. il diag Oil & Gas J 38:88-9 My 9 '40
Taking the pulse of the pumping well. D. O. Johnson. Oil & Gas J 38:46, 48+ Mr 21 '40
Temporary installation of geared powers used. il Oil & Gas J 38:48 Ja 4 '40
Unfavorable pumping speeds may cause excessive sucker-rod breakage. T. P. Sanders. Oil & Gas J 39:37 S 5 '40

Salt content

See also
Petroleum refining
—Salt removal

Sampling

Collecting and examining samples of subsurface petroleum; abstract. P. Grandone. Oil & Gas J 39:61-2 O 31 '40
Measurements of the viscosities of oils under reservoir conditions; abstract. C. R. Hocott and S. E. Buckley. Oil & Gas J 38:78 F 22 '40
Movable cabinet and trailer expedite handling samples. il Oil & Gas J 39:64 O 17 '40
Progress report of A.P.I. subcommittee on fundamentals of sampling, transporting, and analyzing sub-surface samples of crude oil. bibliog diags Am Pet Inst Proc 21M(4):135-44 My '40

See also
Petroleum—Well drilling—Sampling

Statistics

Domestic crude production, 1930-1939. J. McIntyre. Oil & Gas J 38:78-9 Ja 25 '40
Kansas oil reserves estimated at more than 750,000,000 barrels. W. V. Howard. Oil & Gas J 39:52-3+ Je 27 '40
Survey of world oil fields. il Oil & Gas J 38: 76-7+ D 28 '39

See also
Petroleum industry and trade—Statistics
Petroleum supply

Stripper wells

Automatic rod-line knock-off cuts operating cost of stripper leases. T. P. Sanders. il Oil & Gas J 39:67-8 S 26 '40
Gasoline-recovery devices tested on stripper lease. P. Reed. il diag Oil & Gas J 38:53-4 Mr 14 '40

Sulfur content

Application of catalytic desulfurization process. M. W. Conn. flow diags Oil & Gas J 39:40, 42, 45+ O 24 '40

See also
Petroleum refining—Sulfur removal

Tables, calculations, etc.

Simple petroleum tables for use with density hydrometers. V. Stott. Inst Pet J 26:235-45 My '40

PETROLEUM—*Continued*

Tideland development

Who owns tideland? Long Beach, Calif. sues for strip containing 3,000 oil wells and big industrial plants. Business Week p22+ N 18 '39

Transportation

Changes in war fronts to affect movement and use of oil. H. S. Norman. il map Oil & Gas J 38:20-1 Ap 18 '40

Economic position of Rumanian transportation. map Comm Rep p590-2 Jl 6 '40

Oil transportation. il maps Nat Pet N 31: 33-90 D 13 '39

Pan American petroleum tugboats. il diag plan Marine Eng 45:53-5 O '40

Trucker sues rails, asks treble damages; charges roads with planning truck destructive rates on petroleum products. Nat Pet N 32:19 Ap 17 '40

See also

Petroleum pipe lines
Petroleum products —Transportation
Petroleum shipping terminals
Railroads—Rates—Petroleum
Tank cars
Tank ships
Tank trucks

Unit operation of pools

Cotton Valley agreement offers complete pressure maintenance. G. Weber. il map Oil & Gas J 39:168-70+ Jl 25 '40

Systematic study of reservoirs for efficient pool operation. T. P. Sanders. Oil & Gas J 39:30-2 Ag 1 '40

Water analyses

Oil-field waters of Wyoming and their relation to geological formations. J. G. Crawford. map graphs Am Assn Pet Geologists Bul 24:1214-1329 Jl '40

Water flooding

See Petroleum—Production methods

Water problem

Chemicals in drilling and producing operations. W. W. Robinson. il Oil & Gas J 38:190-1+ bibliog(86 references, p204) Mr 28 '40

Oil field waste water disposal as practiced in three plants serving southern California fields. W. Humphreys and A. M. Rawn. il diag map Water Works & Sewerage 87: 341-6 Ag '40

Recent developments in method of plugging off bottom-hole water in Arbuckle lime horizon. J. N. Miles. diag Oil & Gas J 38: 57-8 Mr 21 '40

Reduction of water in marginal oil wells; abstract. F. B. Plummer. Oil & Gas J 38: 80 F 22 '40

Study of brine-disposal systems in Illinois oil fields. S. S. Taylor, W. C. Holliman and C. J. Wilhelm. bibliog flow diags U S Bur Mines Rep of Invest 3534:1-20 '40

Talco treating methods provide fuel economy and more settling time. G. Weber. il Oil & Gas J 39:34-5 O 3 '40

Tracing underground water by means of dyes. F. R. Cozzens. Am Dyestuff Rep 29: 169-70 Ap 1 '40

Treatment and disposal of oil field brines. J. J. Rady. il Oil & Gas J 38:48-9+ Mr 14 '40

Wax content

See also

Paraffin
Petroleum—Paraffin problem
Petroleum refining —Wax removal

Well blasting

Electrical logs locate shots in Illinois sand wells. H. F. Simons. il diags Oil & Gas J 38:59+ N 30 '39

Illinois uses several explosives and tamping methods. H. F. Simons. il diag Oil & Gas J 38:81-2+ Ap 11 '40

Oil-well shooting practice. P. F. Lewis. Oil & Gas J 38:23+ F 29 '40

Rubber, an aid in oil-well shooting. F. R. Cozzens. diag India Rubber W 101:49 Mr '40

Some theoretical considerations on the problem of well shooting; abstract. H. H. Evinger and M. Muskat. Oil & Gas J 39:66 O 31 '40

Well casing

Combining bending and hoop stresses to determine collapsing pressure of oil-country tubular goods. W. C. Main. bibliog Oil & Gas J 38:102-3+ N 17 '39

Development of a new thread lubricant. H. J. Beckert and W. M. Frame. il Am Pet Inst Proc 21M(4):24-37; Discussion. 37-40 My '40

Gravel-packing oil wells in Gulf Coast fields. M. L. Cashion and F. B. Markle. il Oil & Gas J 38:48-9, 51+ Ap 4 '40

New casing practice cuts equipping cost. P. Reed. il Oil & Gas J 38:53 Ja 18 '40

Offsetting buoyancy of pipe in Canadian well. Oil & Gas J 39:46 Je 6 '40

Oil well casing. E. C. Wright. Metal Prog 38: 381 O '40

Procedure for cleaning slotted liners developed in California. T. P. Sanders. il Oil & Gas J 39:40 O 3 '40

Pulling oil-well casing with air pressure. F. R. Cozzens. il Comp Air M 45:6111 Mr '40

Report of A.P.I. committee on the standardization of oil-country tubular goods. il diags Am Pet Inst Proc 21M(4):181-210 My '40

Report on full-strength pullout tests using slip-type elevators. J. C. Siegle. il diag Am Pet Inst Proc 21M(4):208-10 My '40

Running casing on shallow well requires little extra equipment. H. F. Simons. il Oil & Gas J 39:46-7 Ag 22 '40

Shooting holes pays; perforating oil well casings; Lane-Wells co., Los Angeles. il Business Week p43-4 Mr 2 '40

Tension on casing should be adjusted when long strings are run. T. P. Sanders. Oil & Gas J 39:58 Ag 22 '40

2,930 ft. of welded casing run in Kansas well in seven hours. H. F. Simons. il Oil & Gas J 39:61 Ag 15 '40

Use of casing mill for multiple sand completions in old wells. H. F. Simons. diag Oil & Gas J 39:51+ S 5 '40

Welded oil-well casing; with cost data. G. M. Stearns. diags Steel 106:46-7+ Ja 29 '40

Welding surface casing at Oklahoma City. il Oil & Gas J 38:37 My 2 '40

Well cementing

Chemicals in drilling and producing operations. W. W. Robinson. il Oil & Gas J 38:190-1+ bibliog(86 references, p 204) Mr 28 '40

Combating loss of circulation in drilling and cementing; use of flaky organic material called Jelflake. J. B. Stone. il Oil & Gas J 39:44-5 Ag 8 '40

Effects of temperature and pressure on properties of oil-well cements; abstract. R. F. Farris. Oil & Gas J 38:78 F 22 '40

High-pressure pump for oil well cementing. W. D. Owsley. il diag Steel 105:70-1 N 20 '39

Mud, concrete, and oil; drilling mud makes possible wells miles deep. A. R. Boone. il Sci Am 163:134-5 S '40

New oil-well and aluminous cements developed. Concrete (mill sec) 47:280 D '39

Oil factors cementing factors influencing bond between cement and formation; abstract. P. H. Jones and D. Berdine. Oil & Gas J 38:71 Mr 21 '40

Oil well cementing guide. 140p fold charts Universal atlas cement co, 135 E. 42d st, New York '39

Operating economics in Lake Centralia-Salem field in Illinois. T. P. Sanders. il Oil & Gas J 39:50, 52, 55 My 23 '40

Porous formations sealed by stage-cementing deep wildcat. H. F. Simons. il diag Oil & Gas J 38:38-9+ N 23 '39

Recent developments in method of plugging off bottom-hole water in Arbuckle lime horizon. J. N. Miles. diag Oil & Gas J 38:57-8 Mr 21 '40

Well cleaning

Novel cleanout machine on a large lease. D. H. Stormont. il Oil & Gas J 38:92 My 9 '40

PETROLEUM—*Continued*

Well control

California well is successfully capped and controlled. L. P. Stockman. il diag Oil & Gas J 38:36+ F 8 '40

Greta cratered blowout is finally conquered. N. Williams. il Oil & Gas J 38:86-7 N 17 '39

Use of fill-up line decreases blowouts. H. F. Simons. il diag Oil & Gas J 38:36+ Mr 7 '40

Wild producer on Gulf coast killed through relief well. N. Williams. il Oil & Gas J 39: 48 Ag 22 '40

Well drilling

Adapting rotary rigs to use of internal-combustion engines. T. P. Sanders. il Oil & Gas J 39:78-4+ O 17 '40

Advancements in California drilling practices in 1940. A. H. Bell. flow diag il Oil & Gas J 39:30-2 O 24 '40

Alaskan wildcat nearing critical point in depth. L. P. Stockman. il map Oil & Gas J 38:83-4+ D 28 '39

Amerada develops special rotary drill stem for simultaneous electrical logging and drilling. P. Reed. il Oil & Gas J 38:93+ N 17 '39

Cable-tool drilling; abstract. K. Sprengling and E. A. Stephenson. Oil & Gas J 38: 65 Mr 21 '40

California drilling speed record broken by Continental Oil. L. P. Stockman. il Oil & Gas J 38:89 Ap 11 '40

Causes, preventions, recovery of stuck drill pipe. J. E. Warren. il diags Oil & Gas J 38:39-40, 43-4+ Ap 4 '40

Chemicals in drilling and producing operations. W. W. Robinson. il Oil & Gas J 38:190-1+ bibliog(86 references, p 204) Mr 28 '40

Continental no. 1 Proctor is the deepest test in Mid-continent area to date. il Oil & Gas J 38:10-11 N 23 '39

Contribution au calcul des tensions produites dans un corps immergé; application au cas des sondes de forages pétroliers. M. Geller. Génie Civil 116:307-11 My 11 '40

Deep cable-tool drilling in Appalachian district. J. A. Fox. il Oil & Gas J 38:62-3+ Ap 18 '40

Deep development showing increase. il Oil & Gas J 38:170, 175 Ap 25 '40

Deep drilling develops new, improves old, practices. il Oil & Gas J 38:150+ Ap 25 '40

Deep well tests equipment and adds to experience; Continental's no. 1 Proctor. L. Fain. il Oil & Gas J 38:54+ N 30 '39

Degassing drilling fluid prevents blowouts. H. F. Simons. il diag Oil & Gas J 38:43-4 F 8 '40

Detailed drilling study being made in Cumberland field. H. F. Simons. il diag Oil & Gas J 39:50-2 N 7 '40

Development of equipment for rotary well drilling, 1900 to 1940. J. H. Pound. il Mech Eng 62:441-6 Je '40

Development of rock-bit efficiency and study of tool-joint life, Louden, Ill. V. V. Horner. Oil & Gas J 39:171-2+ Jl 25 '40

Devonian drilling requires conditioning of mud and sealing of porous formations. H. F. Simons. il Oil & Gas J 38:74-5+ My 9 '40

Directional drilling, surveying and polar core orientation. G. L. Kothny. il diags Oil & Gas J 39:40-2, 44-5 Jl 4 '40

Drilling and production practice, 1938. 458p $3 Am. petroleum inst, New York '39

Drilling on Gulf coast; illustrations. Oil & Gas J 38:91 Ap 25 '40

Drilling play reflects activity near Gulf Coast salt domes. il Oil & Gas J 38:92, 95+ Ap 25 '40

Drilling-time data reduces costs of drilling. H. F. Simons. il Oil & Gas J 38:67-8 F 29 '40

Economic significance of the first well; abstract. J. M. Gardner and W. C. Bednar. Oil & Gas J 39:63 O 31 '40

Economies of slim-hole drilling attract operators' attention. F. W. Heiser. il Oil & Gas J 39:56-7+ Je 27 '40

Effects of different properties of rotary drilling fluids. H. F. Simons. bibliog il Oil & Gas J 39:46-7 O 31 '40

Evaluation of rotary drilling lines. H. C. H. Darley. Inst Pet J 26:407-12 Ag '40

Fast drilling time in 12,000-ft. wildcat. N. Williams. il Oil & Gas J 39:17 S 5 '40

Latest engineering practices; text in English and Spanish. il diags Oil & Gas J 38:193-215 D 28 '39

Metals in drilling. W. L. Nelson. bibliog il Oil & Gas J 38:53 D 14 '39; 45+ Ja 18; 50+ F 8 '40

Much drilling time is lost by crooked holes. T. P. Sanders. Oil & Gas J 39:55 Ag 8 '40

Mud, concrete, and oil; drilling mud makes possible wells miles deep. A. R. Boone. il Sci Am 163:134-5 S '40

Mud control is big problem on Continental deep test. D. B. Edwards. il Oil & Gas J 38:38+ N 30 '39

Porous formations sealed by stage-cementing deep wildcat. H. F. Simons. il diag Oil & Gas J 38:38-9+ N 23 '39

Practical utilization of rate-of-penetration drilling data. C. A. Yeatman. diags Am Pet Inst Proc 21M(4):50-5; Discussion. 55-6 My '40

Purpose of drilling fluid used in rotary wells. H. F. Simons. il plan Oil & Gas J 39:46-8 S 26 '40

Record keeping reduces costs, increases rotary rig efficiency. H. F. Simons. diags Oil & Gas J 38:124, 127+ Ap 25 '40

Redrilling and workover program in Humble field. N. Williams. il Oil & Gas J 39:61+ Je 13 '40

Report of A.P.I. central committee on drilling and production practice. Am Pet Inst Proc 21M(4):122-34 My '40

Review of Illinois practices and production; abstract. E. Shakely and H. Miller. Oil & Gas J 38:48 Ap 18 '40

Role of metals in deep-well drilling. W. L. Nelson. Oil & Gas J 38:37+ N 30 '39

Rotary and cable tools used in Kansas drilling. H. F. Simons. il Oil & Gas J 39:48-9+ Je 27 '40

Rotary-rig cathead operator minimizes drilling time. H. Simons. il Oil & Gas J 38:66, 68 F 15 '40

Shell overcomes caving to bring in coastal well. N. Williams. il Oil & Gas J 38:55, 57-8 D 7 '39

Le sondage rotatif appliqué en Allemagne au forage des puits de pétrole. diags Génie Civil 116:181-3 Mr 16 '40

Spinning table aids makeup of joints. il diag Oil & Gas J 39:115 O 31 '40

Standardized layout decreases time required to assemble rig. plan Oil & Gas J 38:131 Ap 25 '40

Surface and mechanical factors affecting drilling fluids. H. F. Simons. bibliog il diags Oil & Gas J 39:88-90+ O 10 '40

Test indicates potentialities of Diesel-electric rig for deep drilling. H. F. Simons. il Oil & Gas J 38:32-3+ N 30 '39

Tool-joint-wear data kept on simplified records. H. F. Simons. Oil & Gas J 38:39 My 2 '40

Unitized equipment cuts cost of moving north Texas rotary. D. H. Stormont. il Oil & Gas J 39:46+ Je 20 '40

Up-to-date drilling operations seen on the Gulf coast. il Oil & Gas J 38:78-9 Ap 25 '40

Use of fill-up line decreases blowouts. H. F. Simons. il diag Oil & Gas J 38:36+ Mr 7 '40

Variable-voltage equipment for rotary drilling rigs. E. H. Lamberger. il diag Elec Eng 59:Trans 248-55; Discussion. Trans 255-6 Ap '40

Well saved by sidetracking upper fish to catch lower. T. P. Sanders. diag Oil & Gas J 39:47 Ag 29 '40

What has made possible the 15,000-ft. oil well. W. A. Eardley. il Min & Met 21:193-5 Ap '40

PETROLEUM—Well drilling—*Continued*
Wildcat drilling in 1939. F. H. Lahee. maps Am Assn Pet Geologists Bul 24:953-8 Je '40; Same abr. Oil & Gas J 38:11 Ap 11 '40

Patents

Patents on drilling. W. Schwemlein. Inst Pet J 26:322A-3A Jl '40

Sampling

Application of core analyses to production methods. J. A. Lewis. Oil & Gas J 39:56+ O 31 '40
Bureau of mines, A.P.I. pressure core barrel; progress report on its design and development. D. B. Taliaferro and R. E. Heithecker. pls diags U S Bur Mines Rep of Invest 3481:1-20 '39
Bureau of mines develops pressure core barrel. Oil & Gas J 38:40 D 7 '39
Carter pressure core barrel. B. W. Sewell. diags Oil & Gas J 38:140, 142-4 N 17 '39
Comparison between electrical well logging and core analysis. P. B. Leavenworth. bibliog Oil & Gas J 38:197-8, 201 Ap 25 '40
Geochemical well logging. E. E. Rosaire. Oil & Gas J 38:114, 116+ Ap 25 '40
Instruments for logging and sampling oil and gas wells while drilling; Baroid well logging service. J. T. Hayward and L. M. Swift. Instruments 13:155-6+ Je '40
Method for determining the water content of oil sands. D. B. Taliaferro and G. B. Spencer. bibliog U S Bur Mines Rep of Invest 3535:1-11, pl 1 '40
Portable laboratories for core analysis. D. H. Stormont. Oil & Gas J 38:49-50 My 2 '40
Solvents for oil-sand extraction. S. T. Yuster. Am Pet Inst Proc 21M(4):131-2 My '40
Technical aspects of Carter pressure core barrel. P. Reed. il diags Oil & Gas J 39: 114-15+ My 16 '40

Well drilling, Subaqueous

Difficulties in offshore drilling in Sabine Pass prospect. N. Williams. il Oil & Gas J 38: 14-15 Ja 11 '40
Marine drilling on Gulf coast. N. Williams. il Oil & Gas J 38:74-5+ Ap 25 '40
Maritime and land operations contrasted in Chalkley field. N. Williams. il Oil & Gas J 38:40-1+ Mr 7 '40
Oil from under the ocean; Galveston bay. il Sci Am 162:166-7 Mr '40
Rotary-rig foundations in Gulf Coast marshes. N. Williams. il plan Oil & Gas J 39:42-3 Ag 8 '40
Ten holes drilled from one marine location. il plans Oil & Gas J 38:105, 107+ Ap 25 '40

See also
Petroleum—Tideland development

Well records

Amerada develops special rotary drill stem for simultaneous electrical logging and drilling. P. Reed. il Oil & Gas J 38:93+ N 17 '39
Comparison between electrical well logging and core analysis. P. B. Leavenworth. bibliog Oil & Gas J 38:197-8, 201 Ap 25 '40
Drilling-time data reduces costs of drilling. H. F. Simons. il Oil & Gas J 38:67-8 F 29 '40
Instruments for logging and sampling oil and gas wells while drilling; Baroid well logging service. J. T. Hayward and L. M. Swift. Instruments 13:155-6+ Je '40
Practical utilization of rate-of-penetration drilling data. C. A. Yeatman. diags Am Pet Inst Proc 21M(4):50-5; Discussion. 55-6 My '40
Record keeping reduces costs, increases rotary rig efficiency. H. F. Simons. diags Oil & Gas J 38:124, 127+ Ap 25 '40
Well logging by radioactivity. G. H. Westby and S. A. Scherbatskoy. il Oil & Gas J 38: 62-4 F 22 '40

Well spacing

Optimum spacing of dolomite acreage in the Texas Panhandle. P. J. Jones. map Am Pet Inst Proc 21M(4):12-17; Discussion. 17-23 My '40
Review of Cutler's rule of well spacing. H. C. Miller and R. V. Higgins. U S Bur Mines Rep of Invest 3479:1-23 '39
Right of capture vs. spacing. V. H. Kulp. Oil & Gas J 38:13-14+ F 1 '40
Stabilization through proper well spacing. D. R. Knowlton. Oil & Gas J 39:16-17+ Je 6 '40
Study in well spacing, Sinclair-Moren pool, Young county, Texas; abstract. M. G. Cheney. Oil & Gas J 39:61 O 31 '40
Wider spacing places Kansas on more profitable basis. H. F. Simons. bibliog map Oil & Gas J 39:34-5+ Je 20 '40

Well surveying

Directional drilling, surveying and polar core orientation. G. L. Kothny. il diags Oil & Gas J 39:40-2, 44-5 Jl 4 '40
Errors in acid-bottle readings. G. H. Scott. diag Inst Pet J 26:349-56 Jl '40

Well temperature

Temperature gradients related to bottom-hole temperatures. Oil & Gas J 38:79 F 29 '40
Temperature surveys in oil wells; abstract. C. V. Millikan. Oil & Gas J 39:62-3 O 31 '40

Well testing

Current developments in drawdown method of taking potentials in Kansas. M. Brown. il diag Oil & Gas J 39:63-4+ Je 27 '40
Depth measurements by means of multiple-strand wire lines. H. E. Gross and J. P. Hays. bibliog diags Am Pet Inst Proc 21M (4):41-7; Discussion. 47-9 My '40
Electrical logs locate shots in Illinois sand wells. H. F. Simons. il diags Oil & Gas J 38:59+ N 30 '39

Well tubing

Metals in production; strainers, tubing and valves. W. L. Nelson. bibliog il Oil & Gas J 38:56 Mr 14 '40
Repair long string of tubing under high-flowing pressure. il Oil & Gas J 38:201 Ja 25 '40
Report of A.P.I. committee on the standardization of oil-country tubular goods. il diags Am Pet Inst Proc 21M(4):181-210 My '40
Unusual two-zone completion method used in south Texas. E. C. Will. il diags Oil & Gas J 39:35-6 O 24 '40

Alberta

Alberta oil development in 1939. J. L. Irwin. il map Can Min J 61:94-101 F '40
Paleozoic limestone of Turner valley. W. D. C. Mackenzie. il diags Am Assn Pet Geologists Bul 24:1620-40 S '40

See also
Petroleum industry and trade—Alberta

Arkansas

Arkansas' conservation program attracts wide commendation. A. M. Crowell. map Oil & Gas J 38:56, 59-60 F 8; 48-9, 52-3, 55+ F 15 '40
Survey of crude oils of the producing fields of Arkansas. O. C. Blade and G. C. Branner. map U S Bur Mines Rep of Invest 3486:1-40 '40

California

Development of micropaleontology in California. H. G. Schenck, A. M. Keen and L. T. Martin. bibliog Oil & Gas J 39:40-1 My 23 '40
Future oil possibilities of Newhall-Castaic district. D. Wosk. il diags Oil & Gas J 39:24-6 O 17 '40
Ickes rules title to disputed section in California belongs to U.S. Oil & Gas J 39:16 Jl 4 '40
Paloma oil field, Kern county, California. R. W. Clark. map Am Assn Pet Geologists Bul 24:742-4 Ap '40

PETROLEUM—California—*Continued*
Reserves maintained by intensive exploration. R. M. Barnes. Oil & Gas J 39:40-1+ Jl 11 '40
Rio Bravo oil field, Kern county. E. B. Noble. map Am Assn Pet Geologists Bul 24:1330-3 Jl '40
Strand oil field, Kern county. F. A. Menken. diags Am Assn Pet Geologists Bul 24:1333-8 Jl '40
Twenty years of petroleum geology in California. R. M. Barnes. Am Assn Pet Geologists Bul 24:1705-21 O '40

See also
Petroleum industry and trade—California

Canada

Brief history of Canadian mining. W. H. Losee. il Can Min J 60:666-7 N '39

France

Les recherches de pétrole dans la Haute-Garonne: le sondage de Saint-Marcet. Génie Civil 116:364 Je 1 '40

Georgia

Oil search in Georgia covers wide front. A. C. Munyan. il maps Oil & Gas J 38: 24-6+ Mr 14 '40

Gulf Coast region

Gulf Coast section. il Oil & Gas J 38:71-82+ Ap 25 '40
Marsh buggy for use in Gulf Coast fields. H. F. Simons. il Oil & Gas J 38:71 F 22 '40
Naphthenic acids from Gulf Coast petroleum; composition of higher boiling acids. R. W. Harkness and J. H. Bruun. bibliog diags Ind & Eng Chem 32:499-502 Ap '40
Sparta-Wilcox trend, Texas and Louisiana. J. D. Todd and F. C. Roper. il map Am Assn Pet Geologists Bul 24:701-15 Ap '40

See also Petroleum industry and trade—Gulf Coast region

Illinois

Acidizing Illinois limestones presents many problems. W. W. Love. il diags Oil & Gas J 38:74-6, 79+ Ap 11 '40
Developments in Eastern Interior basin, 1939 and first quarter of 1940. A. H. Bell. maps Am Assn Pet Geologists Bul 24:959-69 Je '40
Devonian drilling requires conditioning of mud and sealing of porous formations. H. F. Simons. il Oil & Gas J 38:74-5+ My 9 '40
Devonian well production decreases rapidly. J. McIntyre. Oil & Gas J 38:13 Ap 4 '40
Illinois discoveries not equaling drop. H. F. Simons. Oil & Gas J 39:31 My 23 '40
New discovery may change output of Illinois fields. H. F. Simons. map Oil & Gas J 39: 17-18 Je 20 '40
Study of brine-disposal systems in Illinois oil fields. S. S. Taylor, W. C. Holliman and C. J. Wilhelm. bibliog flow diags U S Bur Mines Rep of Invest 3534:1-20 '40
Subsurface geology of Iowa (lower Mississippian) series in Illinois. J. N. Payne. diags map Am Assn Pet Geologists Bul 24:225-36 F '40
Twenty formations producing oil in the Illinois basin. H. F. Simons. map Oil & Gas J 39:12-13+ S 5 '40

See also
Petroleum industry and trade—Illinois
Petroleum laws and regulations—Illinois

Indiana

Developments in Eastern Interior basin, 1939 and first quarter of 1940. A. H. Bell. maps Am Assn Pet Geologists Bul 24:959-69 Je '40
Prospects of Lima-Indiana field. S. W. Tait, jr. il maps Oil & Gas J 38:18-19+ Ja 4 '40

Kansas

Central Kansas uplift has several prolific pays. E. A. Koester. diags Oil & Gas J 39:50-1 Je 27 '40
Eastern Kansas has produced bulk of state's output. D. Dalrymple. il Oil & Gas J 39: 86+ Je 27 '40
Expanding Bornholdt proves big chat area productive. D. Dalrymple. map Oil & Gas J 38:13+ D 21 '39
Forest City basin not providing great deal of oil excitement. W. V. Howard. maps Oil & Gas J 38:18-19 My 2 '40
Forest City prospects improved. D. Dalrymple. il Oil & Gas J 39:107 Je 27 '40
Kansas oil reserves estimated at more than 750,000,000 barrels. W. V. Howard. Oil & Gas J 39:52-3+ Je 27 '40
Kansas operations by fields; tabulation. Oil & Gas J 39:58-60 Je 27 '40
Oil and gas seeps in Smith county, Kan. K. K. Landes and J. M. Jewett. map Kansas Univ Geol S, Mineral Resources Circ 12:1-10 '39
Pressure maintenance; Cunningham-Lansing lime pool. C. C. Rae. Oil & Gas J 38:42-3 Mr 14 '40
Relation of thickness of Mississippian limestones in central and eastern Kansas to oil and gas deposits. W. Lee. il diag maps Kansas Univ Geol S Bul 26:1-42 '39
Western Kansas oil and gas developments during 1938. W. A. Ver Wiebe. il diags maps Kansas Univ Geol S, Mineral Resources Circ 13:1-106 '39

See also
Petroleum industry and trade—Kansas

Kentucky

Developments in Eastern Interior basin, 1939 and first quarter of 1940. A. H. Bell. maps Am Assn Pet Geologists Bul 24:959-69 Je '40

Louisiana

Properties of Louisiana crude oils. E. L. Garton. U S Bur Mines Rep of Invest 3476: 1-85 '39
Sparta-Wilcox trend again in limelight of Gulf Coast activity. F. L. Singleton. il Oil & Gas J 38:121+ Ap 25 '40
Subsurface miocene of southern Louisiana. A. C. Ellisor. diags 6 pls map Am Assn Pet Geologists Bul 24:435-75 Mr '40
Summary of operations in Louisiana Gulf coast. Oil & Gas J 38:185-6 Ap 25 '40

See also
Petroleum industry and trade—Louisiana

Mexico

Le pétrole mexicain et la justice française. A. Mestre. Génie Civil 115:345-6 N 4 '39

Michigan

Developments in Michigan during 1939. R. B. Newcombe. maps Am Assn Pet Geologists Bul 24:974-93 Je '40
Well logs and field data of active oil areas, southwestern Michigan. diags map Oil & Gas J 39:36B-36C O 24 '40

Mississippi

Discovery on small geophysical structure arouses Mississippi. G. Weber. il map Oil & Gas J 38:25-6 Ap 11 '40
Possibility of further oil discovery in Mississippi. H. M. Morse. map Oil & Gas J 38:19-20 D 7 '39
Quality of Mississippi oil from Tinsley pool. Oil & Gas J 38:79 F 29 '40
Refining characteristics of Mississippi crude oils. G. Egloff and G. B. Zimmerman. Oil & Gas J 38:145-6 Mr 28 '40
Significant geological data in new Mississippi survey. map Oil & Gas J 38:25 Ap 4 '40
Tuscaloosa discovery heightens oil interest in Mississippi. G. Weber. diag map Oil & Gas J 39:62-3 S 19 '40
Two new oil states; discoveries in Nebraska and Mississippi. Business Week p19 N 25 '39

PETROLEUM—*Continued*

Mississippi valley

Mississippian border of eastern interior basin. J. M. Weller and A. H. Sutton. maps Am Assn Pet Geologists Bul 24:765-858 bibliog (102 titles, p855-8) My '40

Missouri

Forest City basin not providing great deal of oil excitement. W. V. Howard. maps Oil & Gas J 38:18-19 My 2 '40

Near East

Oil in the Middle East. map Economist 139: 283-4 Ag 31 '40

Nebraska

Discovery of new oil in Nebraska. R. D. Potter. Science 90:sup9 D 15 '39

First Nebraska oil run at Omaha plant. il Nat Pet N 31:11 N 29 '39

Forest City basin not providing great deal of oil excitement. W. V. Howard. maps Oil & Gas J 38:18-19 My 2 '40

Petroleum from Nebraska field analyzed by Bureau of mines. Oil & Gas J 39:34 Ag 1 '40

Two new oil states; discoveries in Nebraska and Mississippi. Business Week p19 N 25 '39

New Mexico

Papers presented at New Mexico oil conference, May 5th and 6th, 1939. 128p Univ of New Mexico Geol Ser v5, no3:1-128 '39 (pa 50c)

Treating emulsions in the Permian basin. D. H. Stormont. il Oil & Gas J 38:34-5+ Ja 11 '40

West Texas-New Mexico symposium. R. K. DeFord and others. maps Am Assn Pet Geologists Bul 24:1-156 Ja '40

North Dakota

Careful exploration required in North Dakota oil search. F. C. Foley. bibliog map Oil & Gas J 39:14-15 Jl 18 '40

Ohio

Ohio's first water-flood project promises moderate success. J. P. O'Donnell. il map Oil & Gas J 38:42-3 Ap 18 '40

Paleozoic and pre-Cambrian rocks of Vance well, Delaware county, Ohio. W. Stout and C. A. Lamey. Am Assn Pet Geologists Bul 24:672-92 Ap '40

Prospects of Lima-Indiana field. S. W. Tait, jr. il maps Oil & Gas J 38:18-19+ Ja 4 '40

Oklahoma

Continental no. 1 Proctor is the deepest test in Mid-continent area to date. il Oil & Gas J 38:10-11 N 23 '39

Deepest well in Mid-continent region, Washita county, Oklahoma. W. B. Boyd. Am Assn Pet Geologists Bul 24:735-8 Ap '40

Geology prompted drilling of deep test; Continental oil co. no. 1 Proctor. map Oil & Gas J 38:53 N 30 '39

Subsurface geology and oil and gas resources of Osage county. N. W. Bass and others. fold maps U S Geol S Bul 900-A:1-45 '38; 900-B:47-82; 900-C:83-129 '39; 900-D:131-71; 900-E:173-208 '40

Water flooding in northeastern Oklahoma. W. D. Davis. Min & Met 21:414-16 S '40

See also Petroleum industry and trade—Oklahoma

Pennsylvania

Dry holes limit Music Mountain pool. J. P. O'Donnell. map Oil & Gas J 38:17+ Mr 7 '40

Engineers study full effect of water flooding in Bradford. J. P. O'Donnell. Oil & Gas J 38:43-4+ D 7 '39

Many new developments in Pennsylvania operations; ninth petroleum and natural-gas conference at Pennsylvania state college. J. P. O'Donnell. Oil & Gas J 38:22+ My 2 '40

See also Petroleum industry and trade—Pennsylvania

Rumania

See also
Petroleum industry and trade—Rumania

Russia

Soviet petroleum. Chem & Ind 59:647-8 S 14 '40

South Dakota

Oil possibilities of South Dakota still unknown. E. P. Rothrock. il maps Oil & Gas J 39:18-19 My 30 '40

Tennessee

Lower Ordovician sandy zones (St Peter) in middle Tennessee. K. E. Born. bibliog il map Am Assn Pet Geologists Bul 24:1641-62 S '40

Texas

Clay County geology still little known. R. M. Sanford. il map Oil & Gas J 38:12-13 Ja 11 '40

Developments and status of oil reserves in south Texas, 1939. L. B. Herring. map Am Assn Pet Geologists Bul 24:1069-78 Je '40

East Texas Pettit oil discovery result of long search. D. H. Stormont. map Oil & Gas J 38:31-2+ F 29 '40

Little known of geology in Fort Worth basin play. R. M. Sanford. diag map Oil & Gas J 39:97-8 My 16 '40

Optimum spacing of dolomite acreage in the Texas Panhandle. P. J. Jones. map Am Pet Inst Proc 21M(4):12-17; Discussion. 17-23 My '40

Ordovician development, Apco structure, Pecos county, Texas. T. Cole. map Am Assn Pet Geologists Bul 24:478-81 Mr '40

Paraffin problems in the east Texas field. W. N. Little. il diags Oil & Gas J 38:46-8+ F 29 '40

Permian basin, Panhandle; Ordovician pool in sight in northern Pecos county. R. M. Sanford. map Oil & Gas J 39:54+ O 24 '40

Rincon field in south Texas being steadily extended. N. Williams. il diag map Oil & Gas J 39:13-15 Ag 1 '40

Saxet oil and gas field, Nueces county. J. C. Poole. maps Am Assn Pet Geologists Bul 24: 1805-35 O '40

Separation and characterization of petroleum acids; some Texas petroleum acids. H. G. Schutze, B. Shive and H. L. Lochte. bibliog Ind & Eng Chem, Anal ed 12:262-6 My 15 '40

Sparta-Wilcox trend again in limelight of Gulf Coast activity. F. L. Singleton. il Oil & Gas J 38:121+ Ap 25 '40

Summary of operations in Texas Gulf coast. Oil & Gas J 38:184-5 Ap 25 '40

Tabulated analyses of Texas crude oils. A. J. Kraemer and G. Wade. fold map U S Bur Mines Tech Pa 607:1-37 '39

Thickness of gas cap in Yates field found by use of formula. D. H. Stormont. il Oil & Gas J 38:48 N 23 '39

Treating emulsions in the Permian basin. D. H. Stormont. il Oil & Gas J 38:34-5+ Ja 11 '40

West Texas-New Mexico symposium. R. K. DeFord and others. maps Am Assn Pet Geologists Bul 24:1-156 Ja '40

See also
Petroleum industry and trade—Texas
Petroleum laws and regulations—Texas

Trinidad

Fyzabad structure continues Trinidad's largest producer. il Oil & Gas J 38:117 D 28 '39

United States

Discover 254 new oil fields during 1939; list and map. Oil & Gas J 38:56-7 Ja 25 '40

Nation and petroleum geology to-day. H. D. Miser. Science 91:249-52 Mr 15 '40

See also
Petroleum industry and trade—United States
Petroleum laws and regulations—United States
Petroleum supply—United States

PETROLEUM—*Continued*

Venezuela

See also
Petroleum industry and trade—Venezuela

Wyoming

Oil-field waters of Wyoming and their relation to geological formations. J. G. Crawford. map graphs Am Assn Pet Geologists Bul 24:1214-1329 Jl '40

PETROLEUM coke

First California calcining unit completed at Wilmington; carbon from petroleum coke. L. P. Stockman. il Oil & Gas J 39:36+ Jl 4 '40

PETROLEUM corporation of America

Earnings, 1936-39. Comm & Fin Chr 150:1291 F 24 '40

PETROLEUM distillation

Development of petroleum refining. A. W. Nash. Inst Pet J 26:41-56 F '40

Distillation, cracking, reforming; principes généraux, grandes unités combinées. P. Minard. il diags Soc Ing Civils Mémoires 92: 124-40 Ja '39

Economic factors in catalytic cracking. J. S. Carey and H. W. Ortendahl. Nat Pet N 32: R370-2, R375 O 16 '40; Same. Oil & Gas J 39:55-6+ O 17 '40

Gulf plants produce high gasoline yield by polyform process. P. Östergaard and E. R. Smoley. flow sheets il Oil & Gas J 39:52-3+ S 12 '40; Same. Nat Pet N 32:R330-1+ S 18 '40; Abstract. Chem & Met Eng 47: 626-7 S '40

High degree of fractionation accomplished in new unit. flow diag Oil & Gas J 38:58 N 30 '39

Houdry units' heat transfer salts. W. E. Kirst, W. M. Nagle and J. B. Castner. Nat Pet N 32:R220+ Je 12 '40

Hydrogenation of petroleum. E. V. Murphree, C. L. Brown and E. J. Gohr. flow sheets bibliog il Ind & Eng Chem 32:1203-12 S '40

Increase in reflux ratio sharpens separation; abstract. A. Rose and H. H. Long. Nat Pet N 32:R138 Ap 17 '40

Isolation of 3-methylhexane, *trans*-1,2-dimethylcyclopentane, and *trans*-1,3-dimethylcyclopentane from petroleum. A. R. Glasgow, jr. bibliog J Research Nat Bur Stand 24:509-29 F '40

Oil for your automobile engine. C. H. Vivian. il diag Comp Air M 45:6094-101 Mr '40

Phenolic compounds from petroleum sources; comparison with coal tar sources. E. Field, F. H. Dempster and G. E. Tilson. bibliog il Ind & Eng Chem 32:489-96 Ap '40

Production of petroleum resins. S. C. Fulton and A. H. Gleason. bibliog Ind & Eng Chem 32:304-9 Mr '40

Review of the literature on the construction, testing, and operation of laboratory fractionating columns. C. C. Ward. U S Bur Mines Tech Pa 600:1-36 bibliog(86 titles, p33-6) '39

Separation of the aromatic hydrocarbons, and the isolation of *n*-dodecane, naphthalene, 1-methylnaphthalene, and 2-methylnaphthalene, from the kerosene fraction of petroleum. B. J. Mair and A. J. Streiff. bibliog diags J Research Nat Bur Stand 24:395-414 Ap '40

3,400,000-bbl. average daily runs will supply needs. Oil & Gas J 39:28-9 S 12 '40

See also
Gasoline—Manufacture
Houdry process
Petroleum refining

Residuum

Propane precipitation of petroleum resins. P. T. Graff and H. O. Forrest. il diags Ind & Eng Chem 32:294-8 Mr '40

Solubility of cracked residues in some solvents. J. Voskuil. bibliog diag Inst Pet J 26:57-71 F '40

Tables, calculations, etc.

Distillation curves of blends. W. L. Nelson. Oil & Gas J 38:64 F 29 '40

PETROLEUM electric power association

Annual meeting, 11th, Houston, Dec. 14-15. Oil & Gas J 38:16 D 21 '39

PETROLEUM engineering

A.I.M.E. abstracts; papers presented at fall meeting, Los Angeles, Oct. 17-18. Oil & Gas J 39:37 O 24 '40

Continental's Ville Platte operations. E. O. Bennett. flow diag il map Oil & Gas J 39: 50-2+ O 10 '40

Depth measurements by means of multiple-strand wire lines. H. E. Gross and J. P. Hays. bibliog diags Am Pet Inst Proc 21M (4):41-7; Discussion. 47-9 My '40

Digests of A.I.M.E. Petroleum division papers. Oil & Gas J 39:61-4, 66 O 31 '40

East Texas looks forward to somewhat dubious future. G. Weber. il Oil & Gas J 38: 24-5+ Ap 18 '40

Geologists can do more than discover oil. W. V. Howard. Oil & Gas J 38:15+ Mr 7 '40

Latest engineering practices embodied in Arkansas' conservation act. A. M. Crowell. map Oil & Gas J 38:48-9, 52-3, 55+ F 15 '40

Latest engineering practices; production, refining, pipe lines and natural gasoline; text in English and Spanish. il diags Oil & Gas J 38:178-328 D 28 '39

Many new developments in Pennsylvania operations; ninth petroleum and natural-gas conference at Pennsylvania state college. J. P. O'Donnell. Oil & Gas J 38:22+ My 2 '40

Maritime and land operations contrasted in Chalkley field. N. Williams. il Oil & Gas J 38:40-1+ Mr 7 '40

Most of Kansas' output comes from water-drive fields. E. A. Stephenson. il Oil & Gas J 39:79+ Je 27 '40

Operating economics in Lake Centralia-Salem field in Illinois. T. P. Sanders. il Oil & Gas J 39:50, 52, 55 My 23 '40

Petroleum engineering as an aid in exploration geology. C. V. Millikan. bibliog Am Assn Pet Geologists Bul 24:1370-6 Ag '40

Practical petroleum engineers' handbook. J. Zaba and W. T. Doherty. 2d ed rev & enl 492p $5 Gulf pub. co, Houston, Tex. '39

Practices and methods of preventing and treating crude-oil emulsions. G. B. Shea. flow sheets il diags pls U S Bur Mines Bul 417:1-106 '39

Progress in the technology of oil production. F. B. Plummer. il Min & Met 21:137-8 Mr '40

Recycling becomes important phase of oil operations. E. Kaye. Oil & Gas J 38:34 My 9 '40

Rod-line crossings for producing properties. P. Reed. il Oil & Gas J 38:48 Mr 7 '40

Seminole proving ground for new practices. W. V. Howard. il map Oil & Gas J 38:38-40+ F 22 '40

Some unsolved deep well problems under proration. G. O. Nevitt. il Oil & Gas J 38:43+ Mr 7 '40

Subsurface engineering in recovery problems; abstract. H. R. Pierce. Oil & Gas J 39:61 O 31 '40

Systematic study of reservoirs for efficient pool operation. T. P. Sanders. Oil & Gas J 39:30-2 Ag 1 '40

Unusual operating conditions in Louisiana's Potash field; location in flood control spillway necessitates special precautions. N. Williams. il Oil & Gas J 38:15+ F 1 '40

Use of casing mill for multiple sand completions in old wells. H. F. Simons. diag Oil & Gas J 39:51+ S 5 '40

Year looms as one of best in history of Gulf coast. N. Williams and F. L. Singleton. il Oil & Gas J 38:72-3+ Ap 25 '40

See also
Petroleum—Production methods
Petroleum—Prospecting
Petroleum—Pumping
Petroleum—Well drilling
Petroleum distillation
Petroleum pipe lines
Petroleum refining

PETROLEUM engineering—*Continued*

Power

Adapting rotary rigs to use of internal-combustion engines. T. P. Sanders. il Oil & Gas J 39:73-4+ O 17 '40

Catenary suspension increases rod-line efficiency on pumping powers. H. F. Simons. il Oil & Gas J 38:42-3 Mr 21 '40

Cost of centrifugal-pump power cut by checkup. Oil & Gas J 39:41 O 3 '40

Improved pumping operations in central power units. G. Weber. il plan Oil & Gas J 38:45-6+ Mr 14 '40

Kern oil co. circulating hot oil in Montebello field wells; Kobe hydraulic power unit; heat exchanger cools engine water and heats circulating oil. L. P. Stockman. il diag Oil & Gas J 38:34-5 D 21 '39

Load and power needs of east Texas wells; as shown by dynamometer tests. G. Weber. il Oil & Gas J 38:52+ Mr 21 '40

Oil field business; competing with free gas; Oklahoma natural gas company. J. A. McMullin. il Gas Age 84:52-3 D 21 '39

Proper selection of prime mover leads to pumping economy. T. P. Sanders. Oil & Gas J 39:124 Je 27 '40

Small generating plant supplies pumping power in Illinois pool. H. F. Simons. il Oil & Gas J 39:65-6 S 12 '40

Test indicates potentialities of Diesel-electric rig for deep drilling. H. F. Simons. il Oil & Gas J 38:32-3+ N 30 '39

Variable-voltage equipment for rotary drilling rigs. E. H. Lamberger. il diag Elec Eng 59: Trans 248-55; Discussion. Trans 255-6 Ap '40

See also

Electricity in the petroleum industry
Petroleum refineries —Power

Study and teaching

Report of vocational-training classes petroleum-industry series; tabulated data. Am Pet Inst Proc 21M(4):87-121 My '40

Trends in petroleum engineering education; abstract. H. H. Power. Oil & Gas J 39:63-4 O 31 '40

Tables, calculations, etc.

Chart for computing volumes. T. Davison. Oil & Gas J 39.65 Jl 11 '40

P-V-T relations for propane. W. W. Deschner and G. G. Brown. bibliog Ind & Eng Chem 32:836-40 Je '40

Solubility of methane in benzene. E. P. Schoch and others. il diags Ind & Eng Chem 32:788-91 Je '40

Thickness of gas cap in Yates field found by use of formula. D. H. Stormont. il Oil & Gas J 38:48 N 23 '39

PETROLEUM engineers

Opportunities for qualified men in fields abroad. C. O. Willson. il Oil & Gas J 38:67, 69+ Mr 28 '40

PETROLEUM equipment industries

Introducing the Nomads; group of representatives of oil-supply, manufacturing, and service concerns; portraits. Oil & Gas J 38:148-9, 153 D 28 '39

Directories

Latest engineering practices; equipment catalog; text in English and Spanish. il diags Oil & Gas J 38:178-334 D 28 '39

Exhibitions

Exhibits and exhibitors at International petroleum exposition, Tulsa, May 18-25. il diags plan Oil & Gas J 39:166, 168+ My 16 '40

PETROLEUM industry and trade

Changes in crude distribution spread as Illinois declines. H. S. Norman. il map Oil & Gas J 39:20-1 N 7 '40

Chem. & Met. report on opportunities in the petroleum industry for chemical engineers. map Chem & Met Eng 47:415-22 Je '40 (Reprint 25c)

Death roll of prominent men in industry in 1939; list of names, dates, etc. Oil & Gas J 38:188-90 Ja 25 '40

Economics of the petroleum industry. J. E. Pogue. 60p Chase national bank of the City of New York '39

Effect of marketing policies and refining methods on future availability of residue enrichment oils. A. E. Pew, jr. Am Gas J 152:37-9 Je '40

Integration: key to efficiency in the petroleum industry. J. E. Pogue. Oil & Gas J 39:59-60 S 19 '40

Oil. F. H. Rogers. Engineering 149:448-9, 459-60 Ap 26-My 3 '40; Same cond. Chem Age (Lond) 42:209-11 Ap 13 '40

Oil operations expand on world-wide front. C. O. Willson and H. S. Norman. il maps Oil & Gas J 38:52-8 D 28 '39

Oil's grand old men honored for service. Nat Pet N 32:12 My 22 '40

Pattern for public relations. V. H. Scales. Am Pet Inst Proc 20(1):29-31 '39

Petroleum economics; demand stimulated by the war. L. F. Terry. Min & Met 21:49-50 Ja '40

Pictorial review of 1939 highlights. il Oil & Gas J 38:58-9 Ja 25 '40

Public relations means you. H. H. Anderson. Oil & Gas J 38:33 F 29 '40

R. E. Wilson heads oil defense set-up. Nat Pet N 32:8-10 Je 26 '40

This fascinating oil business. M. W. Ball. 444p $2.50 Bobbs '40

See also

Electricity in the petroleum industry
Gas oil
Gasoline industry
Lubricating oil industry
Oil fuel industry
Oil industries
Petroleum—Prices
Petroleum laws and regulations
Petroleum supply

also American institute of mining and metallurgical engineers—Petroleum division; American petroleum institute

Accidents

Safety attitude of oil industry resulting in fewer accidents. H. F. Simons. Oil & Gas J 39:45, 49-50 O 3 '40

See also

Petroleum refineries—Accidents

Accounting

Organization for control of physical properties. E. L. Wormington. Oil & Gas J 39:52+ Ag 22 '40

Valuation of oil inventories. J Account 69:140-1 F '40

See also

Petroleum refineries —Accounting

Advertising

Advertising as a factor for good public relations. P. Truesdell. il Am Pet Inst Proc 21M(1):9-16 My '40; Same cond. Oil & Gas J 39:24+ Je 6 '40

How to win friends for a corporation; Skelly oil company's book, Through twenty years with Skelly. J. M. Garth. Am Business 10: 30-2 Ap '40

Public relations in advertising. H. K. Boice. Am Pet Inst Proc 20(1):91-6 '39

Code (marketers')

FTC explains its reasons for turning down oil code. Nat Pet N 32:8 F 21 '40

Directories

See also

Petroleum equipment industries—Directories
Petroleum pipe lines —Directories
Petroleum refineries —Directories

Employees

Petroleum's good-will ambassadors. H. H. Anderson. Am Pet Inst Proc 20(1):83-6 '39

Equipment and supplies

Application of tapered roller bearings to oil-field uses. S. M. Weckstein. il diags Oil & Gas J 39:38+ Ag 1 '40

PETROLEUM industry and trade—Equipment and supplies—*Continued*
Applying hard-facing material to water-course outlets, catheads, and ditcher teeth. W. L. Nelson. il diags Oil & Gas J 38:72 F 22 '40
Bureau of mines, A.P.I. pressure core barrel; progress report on its design and development. D. B. Taliaferro and R. E. Heithecker. pls diags U S Bur Mines Rep of Invest 3481: 1-20 '39
Carter pressure core barrel. B. W. Sewell. diags Oil & Gas J 38:140, 142-4 N 17 '39
Combining bending and hoop stresses to determine collapsing pressure of oil-country tubular goods. W. C. Main. bibliog Oil & Gas J 38:102-3+ N 17 '39
Complete dehydration facilities at Continental's K.M.A. plants. D. H. Stormont. flow diag il Oil & Gas J 39:34-6 Je 6 '40
Connecting hot line into flume improves operation of thermosiphon treating plant. T. P. Sanders. diag Oil & Gas J 39:47 Ag 1 '40
Corrosion is problem in Kansas oil fields. Oil & Gas J 39:101 Je 27 '40
Development of equipment for rotary well drilling, 1900 to 1940. J. H. Pound. il Mech Eng 62:441-6 Je '40
Fitting composition products to oil-field requirements; asbestos and rubber. F. R. Cozzens. il Oil & Gas J 39:164 My 16 '40
Flame hardening in oil industry. bibliog il Oil & Gas J 38:194 Mr 28 '40
Gas-recovery system installed by Kendall. J. P. O'Donnell. il diag Oil & Gas J 38:34-5 F 8 '40
Latest engineering practices; equipment catalog; text in English and Spanish. il diags Oil & Gas J 38:178-334 D 28 '39
Many new features in design of Cayuga no. 2 recycling plant. N. C. Turner. flow chart il Oil & Gas J 38:36-7+ My 9 '40
Metals in drilling. W. L. Nelson. bibliog il Oil & Gas J 38:53 D 14 '39; 45+ Ja 18; 50+ F 8 '40
Metals in production. W. L. Nelson. bibliog il diag Oil & Gas J 38:56 Mr 14; 62 Mr 21; 92 Ap 11; 52+ My 2; 70 Je 13 '40
Modern equipment meets exacting demands; recycling plant; Tide Water Associated-Seaboard. H. A. Martin. il Oil & Gas J 38: 45, 47+ My 9 '40
New design incorporated in compressor operation; recycling plant of the Tide water associated oil co. and Seaboard oil co. B. C. Thiel. il Oil & Gas J 38:55-6 My 9 '40
Novel cleanout machine on a large lease. D. H. Stormont. il Oil & Gas J 38:92 My 9 '40
Operating efficiency increased at Manvel by standardization. N. Williams. il diag Oil & Gas J 39:57+ Jl 11 '40
Perfect new combination degasser and agitator for drilling mud. L. P. Stockman. il Oil & Gas J 38:63+ Mr 21 '40
Prize winning operating kinks at N.G.A.A. meeting. il diags Oil & Gas J 39:40-2 My 30; 54 Je 6 '40
Rack for casing and pipe made from junk tubular material. H. F. Simons. il Oil & Gas J 39:50 S 12 '40
Reports of A.P.I. committees on the standardization of oil-field equipment. diags Am Pet Inst Proc 21M(4):145-277 My '40
Role of metals in deep-well drilling. W. L. Nelson. Oil & Gas J 38:37+ N 30 '39
Rotary and cable tools used in Kansas drilling. H. F. Simons. il Oil & Gas J 39:48-9+ Je 27 '40
Running casing on shallow well requires little extra equipment. H. F. Simons. il Oil & Gas J 39:46-7 Ag 22 '40
Sinclair's new plant in Nueces county is model of efficiency. H. F. Simons. il Oil & Gas J 38:178+ Ap 25 '40
Technical aspects of Carter pressure core barrel. P. Reed. il diags Oil & Gas J 39: 114-15+ My 16 '40
Thermosiphon treating plants; tests explain low capacities offered for heating emulsions. D. H. Stormont. diags Oil & Gas J 38: 37-8 D 21 '39
Treating and pressure-reduction equipment; illustrations. Oil & Gas J 38:82 Ap 25 '40
Typical Gulf Coast Christmas trees; illustrations. Oil & Gas J 38:80-1 Ap 25 '40
Unitized equipment cuts cost of moving north Texas rotary. D. H. Stormont. il Oil & Gas J 39:46+ Je 20 '40

See also
Drills, Oil well
Petroleum engineering—Power
Petroleum equipment industries
Petroleum pipe lines
Petroleum refineries—Equipment

Exhibitions
International petroleum exposition, Tulsa, May 18-25. il diags plan Oil & Gas J 39: 85-9, 166-8+ My 16; 20-5 My 23; 24 My 30 '40
Miniature oil industry at Caracas exhibition. il Oil & Gas J 38:19 Ap 11 '40
Record foreign delegate attendance assured at International exposition, Tulsa. Oil & Gas J 38:29 My 2 '40
Safety at the petroleum world's fair. A. Letson. il Nat Safety N 41:20, 66 My '40
Tulsa oil expo reaches new high in interest. il Nat Pet N 32:17-18 My 29 '40

Finance
Exhibits at International petroleum exposition reflect billion-dollar oil-industry market. il Oil & Gas J 39:90-2 My 16 '40
Financial reports, Union oil company of California, Atlantic refining company, Phillips petroleum company. Annalist 55:827 Je 13 '40
Has oil turned the corner? Inventory situation improved, but better earnings rate not in prospect until next year. Barron's 20:13 Ag 26 '40
Moving against trend of its industry. W. Kraemer. il Mag of Wall St 66:162-3+ My 18 '40
Net incomes for 32 companies up 4.5 per cent in 1939 over preceding year. F. J. Sansone. Oil & Gas J 39:25, 96-7 Je 6 '40
No war boom in American oil industry. H. Rose. Barron's 19:7 D 11 '39
Oil company earnings; Shell Union Oil, Atlantic Refining, Phillips Petroleum. Annalist 54:832-3 D 28 '39
Oil industry in the national economy. J. D. Gill and E. T. Knight. Min & Met 21:377-80 Ag '40; Excerpts. Oil & Gas J 38:49+ F 22 '40; Abstract. Nat Pet N 32:18 F 21 '40
Oil industry profits reasonable, Alberta Royal commission finds. il Nat Pet N 32:40-52 Ag 14 '40
SEC issues 1939 supplement for oil refiners and distributors with producing facilities having assets over $50,000,000 each. Comm & Fin Chr 151:2286 O 19 '40
Standard oil co. (N.J.). il map Fortune 21: 49-57+ Ap; 78-87+ My '40
Standard oil of Ohio's recent progress. M. Pescatello. Barron's 20:13 Jl 22 '40
Sun oil company; making strong headway against the field. J. J. Hipple. il Mag of Wall St 65:742-3+ Mr 23 '40
Where Mid-Continent stands today. P. Dobbs. il Mag of Wall St 66:421-2+ Jl 13 '40
Why oil profits are lagging; persistent overproduction keeps prices down. J. Gordon. Barron's 20:3 Mr 25 '40

See also
Petroleum industry and trade—Securities

Fires and fire protection
Fire burning in bottom of well discovered at Oklahoma City. T. P. Sanders. il Oil & Gas J 39:46 Ag 8 '40

See also Petroleum refineries—Fires and fire protection

History
El Dorado prepares for 25th anniversary of oil discovery. D. Dalrymple. il Oil & Gas J 39:25+ S 26 '40
Progress in petroleum. G. Egloff. Science 91: 533-8 Je 7 '40; Same. Chem Ind 46:720-3 Je '40

PETROLEUM Industry and trade—History— *Continued*
Standard oil co. (N.J.). il map Fortune 21: 49-57+ Ap; 78-87+ My '40

International aspects

American oil investments abroad; war's spread would affect areas where leading companies have stakes. J. Gordon. Barron's 20:8 O 21 '40
American oils abroad. W. Gates. il Mag of Wall St 67:150-2+ N 16 '40
Axis drive on Rumania may be aimed at Near East oil. il Oil & Gas J 39:21+ O 10 '40
Axis strategy in the Mediterranean; eastern sources of oil important to both sides in winter theater of war. R. Strausz-Hupé. map Barron's 20:9 O 28 '40
Blockade and the world's oil trade. Economist 139:226 Ag 17 '40
Caribbean oil affected by widening of war fronts. H. S. Norman. il map Oil & Gas J 39:94-5 My 16 '40
Changes in war fronts to affect movement and use of oil. H. S. Norman. il map Oil & Gas J 38:20-1 Ap 18 '40
Export licensing will curb U.S. petroleum shipments. il Oil & Gas J 39:10-11 Ag 1 '40
Frontiers shift in world oil war. map Business Week p17-18 Jl 6 '40
Greece may furnish base for British thrust at axis oil. J. P. O'Donnell. Oil & Gas J 39:25 N 7 '40
Italy seen as driving for British-controlled eastern oil fields. J. P. O'Donnell. il Oil & Gas J 39:25 Ag 22 '40
Italy's entry into war would have wide oil significance. H. S. Norman. map Oil & Gas J 39:12-13 Je 6 '40
Japan's saber rattling new threat in oil picture. J. P. O'Donnell. Oil & Gas J 39:66 Jl 25 '40
Mediterranean oil situation becomes more critical. J. P. O'Donnell. il Oil & Gas J 39: 31+ Jl 11 '40
Nazi oil victory? appointment of dictator in Rumanian fields. Business Week p48 F 3 '40
Nazis must win before oil runs low or drop offensive soon. M. W. Ball. Nat Pet N 32:21-2 Je 26 '40
Near East oil fields may be grabbed by Nazis. J. P. O'Donnell. il Oil & Gas J 39:13 Jl 18 '40
Oil picture cloudy in war's second year. J. P. O'Donnell. il Oil & Gas J 39:27 S 12 '40
Oil shortage dictates axis' drive toward southeast. J. P. O'Donnell. il Oil & Gas J 39:23 O 17 '40
Persian Gulf Oil properties are objects of Italian bomb raid. J. P. O'Donnell. il Oil & Gas J 39:13 O 24 '40
Rumania oil-control showdown nears. H. S. Norman. il Oil & Gas J 38:16 F 1 '40
Standard oil co. (N.J.). il map Fortune 21: 78-87+ My '40
U.S. still retains large part of its oil export markets H. S. Norman. il Oil & Gas J 39:14-15 S 5 '40
World oil consumption during 1939. V. R. Garfias, R. V. Whetsel and J. W. Ristori. Oil & Gas J 38:27 F 15 '40

Regulation

Cole committee ends hearings. H. D. Ralph. Oil & Gas J 38:24-5+ F 29 '40
Compact commission outlines constructive program; quarterly meeting, Oklahoma City. Oil & Gas J 38:12-13+ Ap 11 '40
Compulsion of choosing control or court attacks decried. F. Buttram. Oil & Gas J 39: 16-17 O 24 '40
Independent petroleum association of America 11th annual meeting, Dallas, Oct. 16-18. Oil & Gas J 39:14-15+ O 24 '40; Nat Pet N 32:13+ O 23 '40
Oil control bill hearing revives argument on waste. Oil Paint & Drug Rep 137:5+ F 12 '40
Oil divorcement suit hinges on FDR's view. A. M. Petty. Nat Pet N 32:13-14 Ag 28 '40
Oil industry profits reasonable, Alberta Royal commission finds. il Nat Pet N 32:40-52 Ag 14 '40
Proposed divorce between pipe lines and petroleum production; Wall Street Journal editorial. Pub Util 24:700-3 N 23 '39
Regulation and the Cole bill. L. C. Phillips. Am Pet Inst Proc 20(1):18-23 '39; Excerpts. Oil & Gas J 38:83-4 N 17 '39; Abstract. Nat Pet N 31:13-14 N 15 '39
State regulation of oil. G. A. Hill. Oil & Gas J 38:20 My 2 '40
U.S. chamber of commerce for state oil regulation. H. D. Ralph. Oil & Gas J 38:23 My 9 '40

See also
Interstate oil compact commission
Petroleum laws and regulations

Safety devices and measures

Methods of reducing accidents at pipe-line pumping stations. H. F. Simons and P. Reed. il Oil & Gas J 39:53+ S 26 '40
Petroleum can be safe. J. H. Myers. il Safety Eng 80:6-8 Ag '40
Rotary-rig cathead operator minimizes drilling time. H. Simons. il Oil & Gas J 38:66, 68 F 15 '40
Safety at the petroleum world's fair. A. Letson. il Nat Safety N 41:20, 66 My '40
Safety; lights on towers illuminate derrick. il Oil & Gas J 38:38 Mr 7 '40
Winners of awards in safety contest sponsored by International petroleum exposition. Oil & Gas J 38:28 My 9 '40

See also Petroleum refineries—Safety devices and measures

Securities

Are the oils over-priced? W. E. Kraemer. il Mag of Wall St 65:220-1+ D 2 '39
Basic turn in oils near? J. J. Hipple. il Mag of Wall St 65:616-18+ F 24 '40
Market record of active oil stocks. Published in weekly numbers of Oil and gas journal
Oil companies, 1937-39. Mag of Wall St Manual p24-5+ Mr 2 '40
Oil in star war role? J. J. Hipple. il Mag of Wall St 66:276-9+ Je 15 '40
Position of leading oil stocks. Mag of Wall St 65:607 F 24 '40
Position of leading oil stocks. Mag of Wall St 66:576-7 Ag 24 '40
Trends in the market value of oil stocks, 1937-1939; tabulation. Oil & Gas J 38:32 Ja 25 '40
Trends in the market value of oil stocks; 1938-June 1940. Oil & Gas J 39:89 Jl 25 '40

Statistics

Crude petroleum and petroleum products, daily average production, November. Comm & Fin Chr 150:191 Ja 13 '40 [cont monthly]
Crude petroleum production, revision; monthly, 1923-June, 1940. Fed Res Bul 26:879 Ag '40
Decline in crude shipments; increase in refined exports. Oil & Gas J 38:80+ Ja 25 '40
Drilling activity in 1940 approaches 1937 peak. W. V. Howard. Oil & Gas J 39:25 Je 20 '40
Drilling activity is showing increase. H. F. Simons. Oil & Gas J 38:52 Mr 28 '40
Expansion in world's oil production. Economist 138:268 F 10 '40
First six months' production establishes new peak. W. V. Howard. Oil & Gas J 39:78-9 Jl 25 '40
1939 gas demand breaks record. Nat Pet N 32:23 F 14 '40
Oil imports for domestic use below treaty quotas. H. S. Norman. Oil & Gas J 39:29+ Ag 22 '40
Oil in 1939. Economist 138:sup34 F 17 '40
Oil industry headed for trouble. Barron's 20:1 Ja 29 '40
Penn. Grade demand is expected to increase. J. P. O'Donnell. Oil & Gas J 38:356+ D 28 '39
Petroleum and its products. Published in weekly numbers of Commercial & financial chronicle
Petroleum and products, 1936-1939. Survey of Cur Business 1940 Sup p118-21 [supplemented in monthly numbers]
Petroleum statistics, 1935-38. G. R. Hopkins. U S Bur Mines Economic Pa 20:1-61 '40

PETROLEUM industry and trade—Statistics— *Continued*
Production exceeds new proven reserves so far this year. W. V. Howard. Oil & Gas J 39:54-5 Jl 25 '40
Production outside the U.S. establishes new record. H. S. Norman. Oil & Gas J 38:81+ Ja 25 '40
Proven reserves. Oil & Gas J 38:52-5, 218 Ja 25 '40
Record demand in prospect over remainder of year. C. O. Willson. Oil & Gas J 39:52-3+ Jl 25 '40
War stimulates Venezuelan oil industry. J. Gordon and C. G. Wray. map Barron's 20: 5 F 19 '40
World crude-oil production 6,000,000 barrels daily. H. S. Norman. map Oil & Gas J 39: 56-7+ Jl 25 '40
World oil consumption during 1939. V. R. Garfias, R. V. Whetsel and J. W. Ristori. Oil & Gas J 38:27 F 15 '40
World petroleum balance sheet for 1939. V. R. Garfias. Nat Pet N 32:22-3 Ja 24 '40
See also
Gasoline industry—Statistics
Petroleum products—Statistics

Stores systems
Organization for control of physical properties. E. L. Wormington. Oil & Gas J 39:52+ Ag 22 '40

Taxation
Excess-profits tax will have minimum impact on industry. F. J. Sansone. Oil & Gas J 39:22-3 O 3 '40
Need for a united tax front in the petroleum industry. R. B. Brown. Am Pet Inst Proc 20(AT):88-91 '39
Wilshire Oil case and the mining industry. E. C. Alvord. bibliog Min Cong J 25:37-8+ D '39
See also
Gasoline—Taxation

Valuation of property
Valuation of oil and natural gas properties as distinguished from mines. L. F. Terry. Min & Met 21:227-30 My '40; Discussion. G. S. Borden. 21:345-6 Jl '40

Alabama
Leasing spreads in Mississippi and extends into Alabama. G. Weber. map Oil & Gas J 38:29 D 7 '39

Alaska
Alaskan wildcat nearing critical point in depth. L. P. Stockman. il map Oil & Gas J 38:83-4+ D 28 '39

Alberta
Alberta oil development in 1939. J. L. Irwin. il map Can Min J 61:94-101 F '40
Alberta prepared to greatly expand oil operations. J. L. Irwin. il map Oil & Gas J 38: 26-7 F 29 '40
Oil industry profits reasonable, Alberta Royal commission finds. il Nat Pet N 32:40-52 Ag 14 '40

Argentina
Marked expansion in Argentina. E. P. Canera. il maps Oil & Gas J 38:72-3+ D 28 '39

Arkansas
Annual review. G. Weber. Oil & Gas J 38:97-8+ Ja 25 '40
Developments in southern Arkansas and northern Louisiana during 1939. W. B. Weeks and J. Purzer. map Am Assn Pet Geologists Bul 24:1092-9 Je '40
Semiannual review. G. Weber. Oil & Gas J 39:115-16+ Jl 25 '40

Bolivia
Bolivia outlines program for coming year. Oil & Gas J 38:120 D 28 '39

Brazil
Brazil's search for oil. E. de Carvalho. il maps Oil & Gas J 38:68-9+ D 28 '39

California
Advancements in California drilling practices in 1940. A. H. Bell. flow diag il Oil & Gas J 39:30-2 O 24 '40
Annual review. L. P. Stockman. Oil & Gas J 38:163-6 Ja 25 '40
California crude price cut laid to fuel-oil weakness. L. P. Stockman. Oil & Gas J 38: 23-4 F 8 '40
California drilling speed record broken by Continental Oil. L. P. Stockman. il Oil & Gas J 38:89 Ap 11 '40
California oil alarm; price cuts threaten voluntary control. Business Week p27-8 F 10 '40
California's unique experience in voluntary control of crude oil production. T. L. North. Annalist 55:261+ F 15 '40
Marketers still uncertain and confused. L. P. Stockman. Oil & Gas J 39:195 S 19 '40
Semiannual review. L. P. Stockman. Oil & Gas J 39:143+ Jl 25 '40
Service on active fields; Paloma field, Kern county, California. map Oil & Gas J 39: 33-4 Jl 18 '40
Significant developments in California, 1939. E. R. Atwill. diags maps Am Assn Pet Geologists Bul 24:1112-25 Je '40
Trends in allowables in California; abstract. L. L. Aubert. Oil & Gas J 38:71 Mr 21 '40
Unfavorable factors confront California oil industry. L. P. Stockman. Oil & Gas J 39:11 Jl 4 '40

Canada
Canada has world's most northern oil well and refinery at Norman wells on the Mackenzie river. J. Montagnes. Barron's 20:18 My 20 '40
Canada offers picture of oil in a nation engaged in war. A. M. Petty. il Nat Pet N 32:25-6+ O 16 '40
Canada's growing oil production. Economist 139:471-2 O 12 '40
Canadian production up in busy half year. V. Lauriston. Oil & Gas J 39:163 Jl 25 '40
Despite proration Canada established another high. V. Lauriston. Oil & Gas J 38:122+ Ja 25 '40
Petroleum economics. Can Chem & Process Ind 24:118 Mr '40
Petroleum products industry in Canada, 1938. 31p pa 50c Canada. Dominion bur. of statistics, Ottawa '39
Powers of petroleum controller. Can Chem & Process Ind 24:452 S '40

Colombia
Colombia; abstract. O. C. Wheeler. Oil & Gas J 38:47 F 22 '40
Colombian plant uses electric power extensively. M. Crawford and H. W. Palkowsky. il Oil & Gas J 38:87-8+ D 28 '39
Incredible Barco; picture album of high adventure in Colombian oil. il map Fortune 21:76-83 Mr '40

Eastern states
Develop important gas fields in eastern area. Oil & Gas J 39:162+ Jl 25 '40

Ecuador
Limited exploitation in Ecuador during year. Oil & Gas J 38:124 D 28 '39

Egypt
Spectacular rise reported in Egypt this year. Oil & Gas J 38:124 D 28 '39

Europe
Britain's blockade intensifying oil famine in Europe. J. P. O'Donnell. il Oil & Gas J 39:61+ S 19 '40
Effects of invasions on petroleum supply. Oil & Gas J 39:21 My 30 '40
French inquiry may indicate more active export market; war demands on petroleum supplies. H. S. Norman. il Oil & Gas J 39: 10 My 30 '40
Full-scale war may bring heavy allied oil demand. il Oil & Gas J 39:29-30 My 23 '40
Most of Europe's refineries are in war areas; map and capacity figures. Oil & Gas J 39: 11 My 30 '40

PETROLEUM industry and trade—*Continued*

France

French armies destroyed refineries before giving ground. H. S. Norman. il Oil & Gas J 39:14 Je 20 '40

L'industrie du pétrole en France. E. Mercier and others. il diags Soc Ing Civils Mémoires 92:81-165 Ja '39

Germany

German oil position bolstered by Europe's political changes. Oil & Gas J 39:38 S 12 '40

No new German fields; production mounting. C. H. Ehlers. il Oil & Gas J 38:117 D 28 '39

Rumania shipping British and French oil to Reich. H. S. Norman. Oil & Gas J 39:11 Ag 1 '40

Great Britain

British co-ops hit; war order by Petroleum board bans distribution of dividends from sale of oil products. Business Week p50 F 3 '40

Oil refining in Britain; U.K. imports of crude and refined oil in 1938. Economist 138:484-5 Mr 16 '40

Post-war fuel policy. G. E. Foxwell. Gas J (Lond) 229:85-6 Ja 10 '40

Gulf Coast region

Annual review. N. Williams. Oil & Gas J 38: 88+ Ja 25 '40

Gravel-packing oil wells in Gulf Coast fields. M. L. Cashion and F. B. Markle. il Oil & Gas J 38:48-9, 51+ Ap 4 '40

Gulf Coast export shipments reach 3-year low. N. Williams. il Oil & Gas J 38:33+ F 15 '40

Gulf Coast refineries stage major expansion program. N. Williams. Oil & Gas J 38:14 N 23 '39

Gulf Coast section. il Oil & Gas J 38:71-82+ Ap 25 '40

Review of developments in 1939, Gulf Coast of upper Texas and Louisiana. O. L. Brace. map Am Assn Pet Geologists Bul 24: 1079-91 Je '40

Semiannual review. N. Williams. Oil & Gas J 39:90, 93, 96+ Jl 25 '40

Illinois

Annual review. Oil & Gas J 38:157-9 Ja 25 '40

Centralia Devonian hits peak; decline already started. H. F. Simons. il Oil & Gas J 39:28-9 Jl 11 '40

Crude shipments from Toledo of Illinois oil. il Nat Pet N 32:28-9 Jl 17 '40

Development of two new producing zones faces Salem, Ill. operators. H. F. Simons. il map Oil & Gas J 38:8-9+ N 23 '39

Devonian development forces Illinois production upward. H. F. Simons. il Oil & Gas J 38:16-17 F 8 '40

Drilling activity in Illinois will continue through 1940. Nat Pet N 32:22 F 14 '40

Electrification of pumping equipment in Illinois. R. E. Hammond. diags Oil & Gas J 38:44-6 Ap 18 '40

Illinois activity declines along with crude production. H. F. Simons. il Oil & Gas J 39: 23-4 N 7 '40

Illinois decline returns crude demand to southwest states. H. S. Norman. il Oil & Gas J 39:28-9 Ag 15 '40

Illinois new flush crude not a menace to markets. map Nat Pet N 32:26, 28-9+ Mr 27 '40

Illinois oil boom and its far-reaching effects on the petroleum industry. M. D. Gould. Annalist 55:883+ Je 27 '40

Illinois' old-fashioned oil boom. M. D. Gould. Barron's 20:9 Ag 5 '40

Illinois production reaches new peak of 455,755 barrels. H. F. Simons. Oil & Gas J 38:25+ Mr 21 '40

Illinois production tops 400,000 bbl. H. F. Simons. il Oil & Gas J 38:37+ F 22 '40

Illinois uses several explosives and tamping methods. H. F. Simons. il diag Oil & Gas J 38:81-2+ Ap 11 '40

Operating economics in Lake Centralia-Salem field in Illinois. T. P. Sanders. il Oil & Gas J 39:50, 52, 55 My 23 '40

Oversize joints reduce drilling costs in Illinois basin. H. F. Simons. il Oil & Gas J 38:197 Mr 28 '40

Production decline in Illinois braces market. H. F. Simons. il Oil & Gas J 39:61 Jl 25 '40

Recent discoveries keep Illinois busy. H. F. Simons. il Oil & Gas J 38:59-60 D 28 '39

Saturation point not in sight, Illinois operators told. Oil & Gas J 39:15+ Je 6 '40

Semiannual review. Oil & Gas J 39:138+ Jl 25 '40

Service on active fields; Dales field, Hamilton county. map Oil & Gas J 39:45-6 Ag 15 '40

Sizable boom in progress in Centralia's townsite field. H. F. Simons. il map Oil & Gas J 38:18-19 Mr 7 '40

Storms field is extended in southeastern Illinois. H. F. Simons. map Oil & Gas J 38:31-2 F 15 '40

Winter brings no lull to Illinois drilling. H. F. Simons. il Oil & Gas J 38:11+ Ja 18 '40

Japan

East Indian oil reserves attractive to Japanese. H. S. Norman. map Oil & Gas J 39:8-9 Ag 29 '40

Japan is ill prepared to weather potential U.S. embargo. H. Leopold. il maps Oil & Gas J 38:160, 162+ D 28 '39

Kansas

Annual review. D. Dalrymple. Oil & Gas J 38: 126+ Ja 25 '40

Co-op gets its oil; new refinery at Phillipsburg, Kansas, survives pro-ration squeeze play. il Business Week p23-4+ Je 15 '40

Co-op refinery becomes a fact; Consumers refinery association, Phillipsburg, Kansas, acquires plant and pipe line. il Business Week p20+ F 3 '40

El Dorado prepares for 25th anniversary of oil discovery. D. Dalrymple. il Oil & Gas J 39:25+ S 26 '40

Ellsworth County field one of Kansas' busiest areas. D. Dalrymple. il maps Oil & Gas J 39:25-6 S 12 '40

Kansas; special section. il diags maps Oil & Gas J 39:47-123 Je 27 '40

Semiannual review. D. Dalrymple. Oil & Gas J 39:105-6+ Jl 25 '40

Service on active fields; Bornholdt pool, McPherson and Rice counties. map Oil & Gas J 38:38-9 Mr 21 '40

Service on active fields; Hall-Gurney field, Russell county. map Oil & Gas J 39:122-3 Je 27 '40

Service on active fields; Stoltenberg pool, Ellsworth county, Kansas. Oil & Gas J 39:44-5 Jl 11 '40

Some practical aspects of water flooding in eastern Oklahoma and Kansas. L. C. Converse and R. R. Hawkins. Oil & Gas J 38:54-5+ Mr 21 '40

Stafford county scene of renewed activity. D. Dalrymple. map Oil & Gas J 39:11+ Ag 29 '40

Steady expansion in all phases of Kansas oil and gas operations. D. Dalrymple. il maps Oil & Gas J 39:28-30+ Je 27 '40

Water flood proves successful in Miami county, Kan. D. Dalrymple. il map Oil & Gas J 39:104-5 My 16 '40

Wider spacing places Kansas on more profitable basis. H. F. Simons. biblog map Oil & Gas J 39:34-5+ Je 20 '40

Widespread activity is planned for Ellinwood district in 1940. D. Dalrymple. il map Oil & Gas J 38:18-19+ F 8 '40

Kentucky

Carter coordinate survey system used in Kentucky. Oil & Gas J 38:66 N 30 '39

Louisiana

Annual review. G. Weber. Oil & Gas J 38:97-8+ Ja 25 '40

Better control in Louisiana. N. Williams. il Oil & Gas J 38:13-14 N 30 '39

Complete flowing well in Sparta-Wilcox trend. F. L. Singleton. map Oil & Gas J 38:23-4 Ap 4 '40

PETROLEUM industry and trade—Louisiana
—Continued
Continental's Ville Platte operations. E. O. Bennett. flow diag il map Oil & Gas J 39: 50-2+ O 10 '40
Cooperative repressuring nets returns in Louisiana field. G. Weber. il map Oil & Gas J 39:32-3+ S 5 '40
Cooperative repressuring plan yielding returns in Louisiana. G. Weber. il diag map Oil & Gas J 39:38, 42 Je 6 '40
Cotton Valley agreement offers complete pressure maintenance. G. Weber. il map Oil & Gas J 39:168-70+ Jl 25 '40
Developments in southern Arkansas and northern Louisiana during 1939. W. B. Weeks and J. Purzer. map Am Assn Pet Geologists Bul 24:1092-9 Je '40
Discoveries of new reserves in coastal Louisiana continue. N. Williams. il Oil & Gas J 38:26-7 D 14 '39
Experimental gas lift at Sulphur effective in recovering oil. il Oil & Gas J 38:76-7+ Ap 25 '40
Four new fields in lower Wilcox play of central Louisiana. G. Weber. il map Oil & Gas J 39:26-7 N 7 '40
Maritime and land operations contrasted in Chalkley field. N. Williams. il Oil & Gas J 38:40-1+ Mr 7 '40
Semiannual review. G. Weber. Oil & Gas J 39:115-16+ Jl 25 '40
Service on active fields; Ville Platte field, Evangeline parish. map Oil & Gas J 39: 30-1 Je 6 '40
Service on new fields; Golden Meadow, La Fourche parish. map Oil & Gas J 38:29-31 Ja 11 '40
Ten holes drilled from one marine location. il plans Oil & Gas J 38:105, 107+ Ap 25 '40
Unusual operating conditions in Louisiana's Potash field; location in flood control spillway necessitates special precautions. N. Williams. il Oil & Gas J 38:15+ F 1 '40

Mexico
Expropriation in Mexico; the facts and the law. R. B. Gaither. 204p $2 Morrow '40
Hull asks settlement of Mexican oil case. Oil Paint & Drug Rep 137:3+ Ap 15 '40
Mexican courts uphold oil seizure. Business Week p59-60 D 9 '39
Mexican oil seizures before Mexican Supreme court; justice submits opinion to court holding government's action valid. Comm & Fin Chr 149:3185 N 18 '39
Mexican Supreme court upholds government's seizure of foreign owned oil properties. Comm & Fin Chr 149:3637 D 9 '39
Mexico again seeking pipe line to Pacific coast. H. S. Norman. map Oil & Gas J 39:70 Jl 25 '40
Mexico announces signature of agreement with Sinclair oil co.; rejects arbitration in oil expropriation case. Comm & Fin Chr 150:2964-6 My 11 '40
Mexico; crude production and export data. il Oil & Gas J 38:56-7 F 22 '40
Mexico evaluates properties; Standard voices protest. Oil & Gas J 39:16 Ag 29 '40
Mexico holds aces in oil dispute; silver, however, may be a club. Business Week p51-2 My 11 '40
Present status of Mexican oil. il Oil & Gas J 38:94, 96 D 28 '39
Present status of the Mexican oil expropriations. 170p Standard oil co. (N.J.) 30 Rockefeller plaza, New York '40
United States asks Mexico for immediate arbitration of oil expropriation claims; note by Secretary Hull. Comm & Fin Chr 150: 2348-9 Ap 13 '40

Michigan
Annual review. O. C. Pressprich. Oil & Gas J 38:184-5 Ja 25 '40
Developments in Michigan during 1939. R. B. Newcombe. maps Am Assn Pet Geologists Bul 24:974-93 Je '40
Semiannual review. O. C. Pressprich. Oil & Gas J 39:161 Jl 25 '40
Service on active fields; Walker field, Kent and Ottawa counties, Michigan. map Oil & Gas J 39:25-7 Ag 1 '40
Two recent discoveries may signal Michigan's comeback. W. V. Howard. map Oil & Gas J 39:31 Ag 15 '40

Mid-continent field
Developments in north Mid-continent in 1939. E. A. Koester and R. F. Meyer. diag maps Am Assn Pet Geologists Bul 24:994-1010 Je '40
Economic aspects of water flooding in Mid-continent. L. C. Converse. Oil & Gas J 39:18-19 Jl 18 '40
Recent developments in the south Mid-continent. L. W. MacNaughton. map Am Assn Pet Geologists Bul 24:1025-32 Je '40

Middle Western states
Annual review. Oil & Gas J 38:196 Ja 25 '40

Mississippi
Annual review. G. Weber. Oil & Gas J 38:97-8+ Ja 25 '40
Lease block purchases increase in Mississippi. G. Weber. Oil & Gas J 38:46 F 22 '40
Leasing spreads in Mississippi and extends into Alabama. G. Weber. map Oil & Gas J 38:29 D 7 '39
Mississippi entering settled exploration stage. G. Weber. il map Oil & Gas J 39:22-3+ Ag 8 '40
Mississippi may be the next independent refining center. map Nat Pet N 32:28-30 Ja 3 '40
Mississippi play is extending throughout the state. G. Weber. il Oil & Gas J 38:25 N 23 '39
Mississippi soon to have 37 wildcat tests. G. Weber. il map Oil & Gas J 38:20-1 F 15 '40
Semiannual review. G. Weber. Oil & Gas J 39:115-16+ Jl 25 '40
Service on new fields; Tinsley field, Central Yazoo county. map Oil & Gas J 38:31-2 F 8 '40

Near East
Oil fields may be grabbed by Nazis. J. P. O'Donnell. il Oil & Gas J 39:13 Jl 18 '40
Persian Gulf area extends oil activities. H. S. Norman. il map Oil & Gas J 38:70-1 D 28 '39

Nebraska
Discoveries in Nebraska revive Forest City area. D. Dalrymple. Oil & Gas J 39:113 Jl 25 '40
Falls City development heralds widespread drilling in basin. D. Dalrymple. il map Oil & Gas J 39:25-6 O 31 '40
Guinns to receive Nebraska's commercial-well bonus. Oil & Gas J 39:22 Ag 1 '40
More tests follow strike in Nebraska. D. Dalrymple. map Oil & Gas J 38:89 N 17 '39
Nebraska activity increases. D. Dalrymple. il map Oil & Gas J 38:16-17+ D 7 '39
Nebraska discovery is feature of Forest City basin play. D. Dalrymple. Oil & Gas J 38: 160-1 Ja 25 '40
Service on active fields; Falls City pool, Richardson county. map Oil & Gas J 39: 43-4 O 17 '40

Netherlands Indies
East Indian oil reserves attractive to Japanese. H. S. Norman. map Oil & Gas J 39:8-9 Ag 29 '40
Japan's axis alliance seen as threat to East Indian oil. J. P. O'Donnell. il Oil & Gas J 39:17+ O 3 '40

New Guinea
Complete two wells at 500 ft. in Netherland New Guinea. Oil & Gas J 38:146 D 28 '39

New Mexico
Annual review. T. R. Ingram. Oil & Gas J 38:148+ Ja 25 '40
Developments in west Texas and southeastern New Mexico during 1939. D. M. Secor, W. C. Fritz and W. W. West. chart map Am Assn Pet Geologists Bul 24: 1033-43 Je '40
Semiannual review. R. M. Sanford. Oil & Gas J 39:134-5 Jl 25 '40
Service on new fields; Loco Hills field, Eddy county. map Oil & Gas J 38:33-5 D 7 '39

PETROLEUM industry and trade—*Continued*

Ohio

Northeastern Ohio location follows intensive survey. J. P. O'Donnell. maps Oil & Gas J 39:13-14 My 30 '40

Oklahoma

Annual review. D. Dalrymple. Oil & Gas J 38:104+ Ja 25 '40
Big townsite well revives Cement field. D. Dalrymple. il map Oil & Gas J 38:15+ N 30 '39
Continental oil co.'s no. 1 Proctor, Washita county. H. F. Simons and others. il map Oil & Gas J 38:32-56 N 30 '39
Detailed drilling study being made in Cumberland field. H. F. Simons. il diag Oil & Gas J 39:50-2 N 7 '40
Developments in Oklahoma during 1939. E. F. Shea. maps Am Assn Pet Geologists Bul 24:1011-24 Je '40
Economical pumping of wells in Oklahoma City field. T. P. Sanders. il Oil & Gas J 39: 48-9+ Ag 15 '40
Oklahoma City field enjoying another periodic flurry. D. Dalrymple. il map Oil & Gas J 38:14-15, 139 Ap 11 '40
Red River counties spurred by new discoveries. D. Dalrymple. il map Oil & Gas J 39:20-1 Je 20 '40
Semiannual review. D. Dalrymple. Oil & Gas J 39:151-2, 154-5+ Jl 25 '40
Seminole proving ground for new practices. W. V. Howard. il map Oil & Gas J 38:38-40+ F 22 '40
Some practical aspects of water flooding in eastern Oklahoma and Kansas. L. C. Converse and R. R. Hawkins. Oil & Gas J 38: 54-5+ Mr 21 '40

Pennsylvania

Deep cable-tool drilling in Appalachian district. J. A. Fox. il Oil & Gas J 38:62-3+ Ap 18 '40
Improvement in Pennsylvania after fourth price cut. A. C. MacIntyre. il Oil & Gas J 39:34 S 12 '40

Persia

Anglo-Iranian profits, 1937-39, and ordinary general meeting. Economist 139:223-4, 261 Ag 17-24 '40

Peru

Peru; abstract. O. B. Hopkins. Oil & Gas J 38:47-8 F 22 '40
Up-to-date methods mark operations in Peru. A. D. Landry. il Oil & Gas J 38:174+ D 28 '39

Rocky Mountain region

Annual review. T. R. Ingram. Oil & Gas J 38: 148+ Ja 25 '40
Developments in the Rocky Mountain region in 1939. C. E. Dobbin. maps Am Assn Pet Geologists Bul 24:1100-11 Je '40
Semiannual review. T. R. Ingram. Oil & Gas J 39:119-21 Jl 25 '40

Rumania

Belligerent nations in hot competition. Oil & Gas J 38:35 Mr 21 '40
Commercial warfare in the Balkans; between the allies and Germany; the Roumanian oil affair. Economist 138:195-6 F 3 '40
Constanta relegated to secondary oil port by European war. il Oil & Gas J 39:32 S 26 '40
Oil companies in Roumania. Economist 139: 164 Ag 3 '40
Oil from Roumania; Germany's diminished share. Economist 138:1040 Je 15 '40
Rumania oil-control showdown nears. H. S. Norman. il Oil & Gas J 38:16 F 1 '40
Rumania production slightly under 1938. il Oil & Gas J 38:122 D 28 '39
Rumania shipping British and French oil to Reich. H. S. Norman. Oil & Gas J 39:11 Ag 1 '40
Rumanian oil fields are in center of new war area. H. S. Norman. il map Oil & Gas J 39:6-7 Jl 4 '40
Roumania's liquid asset, 1938 and 1939. Economist 138:465-6 Mr 16 '40
Roumania's oil since the Vienna Diktat. Economist 139:321 S 7 '40

Russia

Huge reserves, poor technique characterize Soviet oil industry. L. M. Farish. il Min & Met 21:276-82 Je '40
Increased production is tenet of U.S.S.R.'s third 5-year plan. L. D. Wosk. il maps Oil & Gas J 38:66-7+ D 28 '39
Russian oil. map Economist 138:48-9 Ja 13 '40

South America

War hits oil operations. J. P. O'Donnell. il Oil & Gas J 39:32-3 Ag 15 '40

South Dakota

Well logs and field data of prospective oil areas, western South Dakota. map Oil & Gas J 39:88B O 10 '40

Southern states

South's oil in 1939. V. H. Scales. il Manuf Rec 109:37+ Ja '40

Texas

Active development program under way in south Texas. N. Williams. il Oil & Gas J 39:26-7 Je 13 '40
Activity in Hull-Silk field increasing rapidly. D. H. Stormont. il map Oil & Gas J 38:26-7 D 7 '39
Activity in north Texas area approaching record high. D. H. Stormont. il Oil & Gas J 38:50-1 Mr 28 '40
Annual review. F. L. Singleton; D. H. Stormont; R. M. Sanford. Oil & Gas J 38:168-77, 182-3, 191-4 Ja 25 '40
Coming months may be north Texas' most active. R. M. Sanford. il Oil & Gas J 39: 32-3 Jl 11 '40
Complete flowing well in Sparta-Wilcox trend. F. L. Singleton. map Oil & Gas J 38:23-4 Ap 4 '40
Developments and status of oil reserves in south Texas, 1939. L. B. Herring. map Am Assn Pet Geologists Bul 24:1069-78 Je '40
Developments in east Texas during 1939. H. J. McLellan and E. A. Wendlandt. map Am Assn Pet Geologists Bul 24:1062-8 Je '40
Developments in north and west-central Texas, 1939. K. A. Mygdal. map Am Assn Pet Geologists Bul 24:1044-61 Je '40
Developments in west Texas and southeastern New Mexico during 1939. D. M. Secor, W. C. Fritz and W. W. West. chart map Am Assn Pet Geologists Bul 24:1033-43 Je '40
Difficulties in offshore drilling in Sabine Pass prospect. N. Williams. il Oil & Gas J 38:14-15 Ja 11 '40
East Texas looks forward to somewhat dubious future. G. Weber. il Oil & Gas J 38: 24-5+ Ap 18 '40
East Texas still dominant factor in industry as tenth producing year ends. G. Weber. il Oil & Gas J 39:38-40, 43 O 10 '40
Full-scale pressure maintenance under way in K.M.A. field. D. H. Stormont. il map Oil & Gas J 38:34-7+ Ap 4 '40
Houston and the Texas Gulf Coast area. A. B. Groesbeck. il Gas Age 85:38-41+ My 9 '40
Load and power needs of east Texas wells; as shown by dynamometer tests. G. Weber. il Oil & Gas J 38:52+ Mr 21 '40
Lolita field one of Texas' most active. N. Williams. il map Oil & Gas J 39:16+ O 3 '40
Redrilling and workover program in Humble field. N. Williams. il Oil & Gas J 39:61+ Je 13 '40
Relation of electric power to east Texas' development. J. E. Elliott. il map Oil & Gas J 39:44+ O 10 '40
Semiannual review. Oil & Gas J 39:122-31, 134-5, 147-50, 158-9 Jl 25 '40
Service on active fields; Novice field, Coleman county. map Oil & Gas J 39:29-30 S 5 '40
Service on active fields; Rogers & Rogers field, Montague county. map Oil & Gas J 38:38-40 Ap 18 '40
Service on active fields; Seminole field, Gaines county, west Texas. map Oil & Gas J 38: 36-7, 39 Mr 14 '40

PETROLEUM industry and trade—Texas—*Continued*
Service on active fields; Stribling field, Stephens county. map Oil & Gas J 39:31-2 O 3 '40
Service on active fields; Walnut Bend field, Cooke county. map Oil & Gas J 38:41-3 F 29 '40
Service on new fields; Sharon pool, Scurry county. map Oil & Gas J 38:38-9 D 14 '39
Service on new fields; West Ranch field, Jackson county. map Oil & Gas J 38:28-9, 31 Ja 18 '40
Slaughter, Duggan, Dean fields join for west Texas' largest. R. M. Sanford. map Oil & Gas J 39:26+ Ag 22 '40
Texas quota raises called danger sign. Nat Pet N 32:24 O 16 '40
West Ranch continues most active Gulf Coast field. N. Williams. il map Oil & Gas J 39: 27-8 Ag 22 '40
West Texas drilling increase seen for this year. D. H. Stormont. il Oil & Gas J 38:12-13 Ja 18 '40
West Texas wildcatters exploit Holt horizon. R. M. Sanford. map Oil & Gas J 38:23-4 Mr 7 '40

See also
Petroleum laws and regulations—Texas

Trinidad

United British oilfields of Trinidad profits. Economist 139:19 Jl 6 '40

United States

All phases of industry ready for parts in defense plans. H. S. Norman. Oil & Gas J 39:10-11 O 24 '40
Completions in 1939 normal. J. McIntyre. Oil & Gas J 38:76-7 Ja 25 '40
Co-op expansion predicted; abstract. H. A. Cowden. Nat Pet N 32:16 O 23 '40
Domestic crude production, 1930-1939. J. McIntyre. Oil & Gas J 38:78-9 Ja 25 '40
Drilling in the United States approaches all-time high. Oil & Gas J 39:76-7+ Jl 25 '40
Earning power of petroleum industry shows recovery from its 1937-38 decline. S. L. Miller. Annalist 55:749-50 My 30 '40
Employment prospects in the petroleum and natural-gas industry. H. O. Rogers. bibliog Monthly Labor R 50:1293-1307 Je '40
Exhibits at International petroleum exposition reflect billion-dollar oil-industry market. il Oil & Gas J 39:90-2 My 16 '40
Export licensing will curb U.S. petroleum shipments. il Oil & Gas J 39:10-11 Ag 1 '40
Finding and producing oil; including a digest of laws pertaining thereto, and a list of persons, firms, or corporations engaged directly or indirectly in such business. 338p $3 Division of production, American petroleum inst, Dallas, Tex. '39
FDR stymies Mexico on cut-rate imports. Nat Pet N 31:5+ D 20 '39
Frontiers of competition in the petroleum industry. J. E. Pogue. Am Pet Inst Proc 20(1):32-7 '39; Summary. Oil & Gas J 38: 85 N 17 '39
Industry capable of meeting any emergency demand; quarterly meeting of the Interstate oil compact commission. Oil & Gas J 39:6-7 Ag 29 '40; Nat Pet N 32:13+ Ag 28 '40
Industry seeks definition of part in national defense program. G. A. Hill. Oil & Gas J 39:25+ O 10 '40
1940, a forecast. Oil & Gas J 38:64 D 28 '39
1939 oil demand breaks all records, prices lag. A. J. Byles. Nat Pet N 32:17 Ja 3 '40
Oil and gas; review and prospects. T. C. Campbell. Iron Age 145:136-7 Ja 4 '40
Oil business during 1939. W. S. Farish. Comm & Fin Chr 149:4111 D 30 '39
Oil in star war role? J. J. Hipple. il Mag of Wall St 66:276-9+ Je 15 '40
Oil industry in the national economy. J. D. Gill and E. T. Knight. Min & Met 21: 377-80 Ag '40
Oil is where you find it. S. Mims. 236p $2.50 Marshall Jones co, Boston '40
Oil turmoil. Business Week p26-7+ Ag 10 '40
Oil's preparedness for war today compared with position in 1917. Nat Pet N 32:43-4 Jl 10 '40
Petroleum industry fights effects of shaky price structure and weakened export demand. il Mag of Wall St 66:576-7 Ag 24 '40
Petroleum industry in 1939, B. B. Zavoico. il Min & Met 21:46-9 Ja '40
Petroleum industry in 1940. R. H. Colley. Comm & Fin Chr 150:496+ Ja 27 '40
Present year may approach 1937 in drilling activity. H. F. Simons. il Oil & Gas J 38: 15-16 Ja 4 '40
Ratio of U.S. exports to imports shows marked change. J. P. O'Donnell. Oil & Gas J 39:165 Jl 25 '40
Record demand in prospect over remainder of year. C. O. Willson. Oil & Gas J 39: 52-3+ Jl 25 '40
T.N.E.C. inquiry into industry analyzed. W. R. Boyd, jr. Am Pet Inst Proc 20(1):8-10 '39; Same. Oil & Gas J 38:81-2 N 17 '39
Ulterior motive is seen in oil embargo. H. D. Ralph. Oil & Gas J 39:21-2 Ag 1 '40
U.S. faces 25 per cent petroleum export loss as result of war. J. P. O'Donnell. Oil & Gas J 39:27 O 31 '40
U.S. still retains large part of its oil export markets. H. S. Norman. il Oil & Gas J 39: 14-15 S 5 '40
War curtailing U.S. exports still more. J. P. O'Donnell. il Oil & Gas J 39:13 Ag 29 '40
War having violent effect on Pennsylvania grade region. J. P. O'Donnell. il Oil & Gas J 39:16-17 Jl 18 '40
War robs U.S. oil producers of export markets. Nat Pet N 32:10-11 Jl 3 '40
War's effect on oil exports. Oil & Gas J 39: 14-15 Je 20 '40
What should be the industry's 1940 objectives? views of executives. Oil & Gas J 38: 60-3 Ja 25 '40

Antitrust suit

Background of oil suit. R. H. Jackson. Nat Pet N 32:13+ O 2 '40
Defense commission reports on divorce suit; complete text. Nat Pet N 32:25-6 S 25 '40; Same. Oil & Gas J 39:28-9+ S 26 '40; Abstracts. Comm & Fin Chr 151:1057 S 21 '40; Oil Paint & Drug Rep 138:5 S 23 '40
Delay in filing the anti-trust suits against 22 leading oil companies and their subsidiaries. Comm & Fin Chr 151:1062 Ag 24 '40
Jackson files antitrust suit against major companies; summary of allegations; Dept. of Justice statement. H. D. Ralph. Oil & Gas J 39:13-15 O 3 '40
Suit filed against 22 majors and A.P.I.; with complete text of complaint and list of defendants. Nat Pet N 32:13-14, 21-4, 24a-24h O 2 '40; Abstract. Oil Paint & Drug Rep 138:5+ O 7 '40

Foreign properties

American oils abroad. W. Gates. il Mag of spread would affect areas where leading companies have stakes. J. Gordon. Barron's 20:8 O 21 '40
Wall St 67:150-2+ N 16 '40
American oil investments abroad; war's
Persian Gulf Oil properties are objects of Italian bomb raid. J. P. O'Donnell. il Oil & Gas J 39:13 O 24 '40

Overproduction problems

Why oil profits are lagging; persistent overproduction keeps prices down. J. Gordon. Barron's 20:3 Mr 25 '40

Venezuela

All operations gain in Venezuela. L. Herrera Figueredo. il Oil & Gas J 38:171-2 D 28 '39
Barco concession in Venezuela. J. T. Duce. Min & Met 21:192 Ap '40
Complete marketing facilities for Oficina crude oil. il Oil & Gas J 38:74-5 D 28 '39
L'industrie pétrolière au Venezuela. G. Blumenthal. Chimie & Ind 43:358-60 F 20 '40
Oil men at Lagunillas praised in report on fire. il Oil & Gas J 38:28 D 21 '39

PETROLEUM industry and trade—Venezuela— *Continued*
Socony-vacuum oil co., C.A., increases Venezuela drilling. il Oil & Gas J 38:334 D 28 '39
Two pools are brought into regular production; new Caripito refinery. Oil & Gas J 39:42 Je 13 '40
Venezuela moves to freeze quotas at present levels. H. S. Norman. Oil & Gas J 38:21 N 23 '39
Venezuelan oil concessions 24th ordinary annual general meeting, London. Economist 138:1089 Je 22 '40
Venezuelan trade treaty defended by Hull. H. D. Ralph. Oil & Gas J 38:25 D 7 '39
Venezuelan treaty arouses outburst of criticism. Oil & Gas J 38:96 N 17 '39
War stimulates Venezuelan oil industry. J. Gordon and C. G. Wray. map Barron's 20:5 F 19 '40

West Indies

Intensive exploration due in the West Indies. il Oil & Gas J 38:122 D 28 '39

PETROLEUM industry electrical association
Annual meeting, Dallas, May 1-3. Oil & Gas J 38:24 My 9 '40

PETROLEUM laboratories
New research laboratory of Standard oil company of California. R. A. Halloran. il Ind & Eng Chem Anal ed 12:312 My 15 '40
Portable laboratories for core analysis. D. H. Stormont. Oil & Gas J 38:49-50 My 2 '40
Scope of Pure Oil test laboratories broadened. il Automotive Ind 83:12-17 Jl 1 '40
See also
Petroleum refineries —Laboratories

PETROLEUM laws and regulations
See also
Petroleum—Proration

Arkansas

Arkansas' conservation program attracts wide commendation. A. M. Crowell. Oil & Gas J 38:56, 59-60 F 8; 48-9, 52-3, 55+ F 15 '40
Court majority favors sand-thickness factor in Schuler proration. G. Weber. Oil & Gas J 39:98-9 My 16 '40

Illinois

Conservation in Illinois now political football. M. Jones. il Oil & Gas J 38:8-9+ Ja 11 '40
Controversy in Illinois analyzed. F. G. Clapp. Oil & Gas J 38:33 F 29 '40

Kansas

Kansas conservation. T. A. Morgan. Oil & Gas J 39:113+ Je 27 '40

Louisiana

Allowable cut asked at state wide Louisiana hearing. G. Weber. il Oil & Gas J 39:59-60 Jl 25 '40
Commissioner pledges no hot oil production at Louisiana state hearing. N. Williams. il Oil & Gas J 39:33+ S 26 '40
Mineral rights in Louisiana. H. S. Daggett. 427p $5 Louisiana state univ. press, University, La. '39
New conservation law, new taxes, enacted by Louisiana law makers. il Oil & Gas J 39:60+ Jl 25 '40

Mississippi

Recycling control is included in proposed Mississippi law. G. Weber. il Oil & Gas J 38:9+ My 2 '40

New Mexico

Minimum gas-oil ratio order in New Mexico. D. H. Stormont. Oil & Gas J 38:64 Ap 25 '40

Texas

Bureau of mines' estimate is low so Texas sets higher allowable. Nat Pet N 32:22-3 F 28 '40
Petroleum and its products; Supreme court upholds Texas in proration fight. Comm & Fin Chr 150:3578 Je 8 '40
Supreme court decision in Rowan & Nichols oil case may have far-reaching effect. D. H. Stormont. Oil & Gas J 39:31 Je 13 '40
Supreme court gives views on proration in Texas case. Nat Pet N 32:12 Je 5 '40
Texan charges ills to special allowables. H. S. Norman. Oil & Gas J 39:27 O 17 '40
Texas commission to appeal federal-court decision. D. H. Stormont. Oil & Gas J 38: 20-1 F 29 '40
Texas commissioners balk at Bureau of mines cut. D. H. Stormont. Oil & Gas J 38:54 F 22 '40
Texas hearing results in lower August output; statements by H. F. Sinclair and P. J. Hurley on price situation. C. O. Willson. Oil & Gas J 39:25-7+ Ag 8 '40
Texas operators for 20-acre spacing; proration hearing. D. H. Stormont. Oil & Gas J 38:68 Ja 25 '40
To restore Texas to full 7-day basis in February order. N. Williams. Oil & Gas J 38:11 Ja 11 '40
U.S. Supreme court upholds Texas railroad commission. Oil & Gas J 39:22 Je 6 '40

United States

Cole bill is branded as step to communism. L. C. Phillips. Oil & Gas J 38:83-4 N 17 '39
Cole bill language strikingly similar to the Labor act; parallelisms in text of Cole bill and text of National labor act. W. R. Wallace. Oil & Gas J 38:18-19 N 30 '39
Federal control of petroleum resources. J. M. Lovejoy. Min & Met 20:545-8 D '39
Hearings of the Cole subcommittee. Oil & Gas J 38:66+ Ja 25 '40
Law relating to covenants implied in oil and gas leases. M. H. Merrill. 2d ed 517p $10 Thomas law book co, St Louis '40
Oil control plan offered by President Roosevelt. Oil Paint & Drug Rep 137:4+ Ap 8 '40
Oil legislation; summarized information based on reports received from Washington and state capitals. Published in National petroleum news
Regulation of petroleum industry. W. P. Cole, jr. Am Pet Inst Proc 20(1):11-17 '39
Right of capture vs. spacing. V. H. Kulp. Oil & Gas J 38:13-14+ F 1 '40
Spokesmen for oil states oppose Cole bill. H. D. Ralph. Oil & Gas J 38:12-13+ F 8; 23-5+ F 15; 41-2 F 22; 24-5 F 29 '40
Wolverton-Ickes colloquy is feature of Cole hearings. H. D. Ralph. Oil & Gas J 38:97-8 N 17 '39
See also Petroleum industry and trade—Regulation

PETROLEUM libraries
See also General petroleum corporation—Library

PETROLEUM patents. See Petroleum—Patents; Petroleum refining—Patents

PETROLEUM pipe lines
Building oil pipe line across continental divide. W. G. Heltzel. il diag Oil & Gas J 39:144-5, 150+ My 16; 81, 83+ My 23; 44-5+ My 30 '40
Highway crossings for pipe lines. P. Reed. il Oil & Gas J 38:59+ D 14 '39
Illinois new flush crude not a menace to markets. map Nat Pet N 32:26, 28-9+ Mr 27 '40
Incredible Barco; picture album of high adventure in Colombian oil. il map Fortune 21:76-83 Mr '40
Integration: key to efficiency in the petroleum industry. J. E. Pogue. Oil & Gas J 39:59-60 S 19 '40
Kansas fields served by 17 pipe line systems. map(supp) Oil & Gas J 39:110+ Je 27 '40
Latest engineering practices; text in English and Spanish. il Oil & Gas J 38:312-20 D 28 '39
Laying a submarine pipe line in Caleta Cordova waters. L. A. Aguirre. il Oil & Gas J 38:34-5 Ja 18 '40
Major pipe-line projects were feature of 1939 construction. Oil & Gas J 38:181 Ja 25 '40

PETROLEUM pipe lines—*Continued*

Mexico again seeking pipe line to Pacific coast. H. S. Norman. map Oil & Gas J 39:70 Jl 25 '40

1940 a pipe-line year; with map showing crude oil, natural gas and gasoline pipe lines completed, under construction and proposed. P. Reed. il Oil & Gas J 39:54-6+ S 19 '40

1940 may exceed 1939 in pipe-line construction. P. Reed. il Oil & Gas J 38:12-13+ Mr 7 '40

Pipe-line calculations. H. V. Smith, C. H. Brady and J. W. Donnell. Oil & Gas J 38:44-5, 47 F 15 '40

Pipe-line construction continues at high rate. Oil & Gas J 39:164 Jl 25 '40

Pipe-line expansion program to continue into 1940. P. Reed. il map Oil & Gas J 38:14-15 D 7 '39

Pipe-line facilities ready for any emergency. P. Reed. il Oil & Gas J 39:11+ O 24 '40

Pipe-line relocation in Grand River area. F. M. Hieronymus. il Oil & Gas J 39:50+ Je 20 '40

Pipe-line welding practices advance. L. D. Sugg. il Oil & Gas J 39:136-7 S 19 '40

Pipe lines; strong arm in national defense. R. S. Ellison. Oil & Gas J 39:52+ S 19 '40

Pulling sea loading line on Venezuelan coast. il Oil & Gas J 38:99 D 28 '39

Trends in pipe-line operation. P. Reed. il map Oil & Gas J 39:16 Ag 1 '40

Unique methods in pipe-line building. P. Reed. il Oil & Gas J 38:36+ Ja 4 '40

Utah-Wyoming pipe line completed through mountainous country. P. Reed. il diags map Oil & Gas J 38:32-4, 37+ N 23 '39

Welding technique in vanguard of pipe-line building progress. A. F. Davis. il Oil & Gas J 39:131+ S 19 '40

Western Kansas being provided with new pipe-line outlet. J. C. Stirling. il map Oil & Gas J 39:54-5 Je 27 '40

Directories

Personnel of crude-oil pipe-line companies. Oil & Gas J 39:173-4, 177-81 S 19 '40

Explosions

Cause of pipe-line explosion being sought. P. Reed. il Oil & Gas J 38:14-15+ D 21 '39

Maintenance and repair

Practical suggestions; short, illustrated kinks on pipe-line operation and maintenance. P. Reed, ed. il diags Oil & Gas J 39:90-1+ S 19 '40

Protection

Pipe protection; oil pipes covered with pyralin. Sci Am 163:211 O '40

Pumping stations

Automatic and remote station control. J. A. Beyhan. diag map Oil & Gas J 39:122 S 19 '40

Building oil pipe line across continental divide. W. G. Heltzel. il Oil & Gas J 39:44-5+ My 30 '40

Controlled pressures on suction lines of trunk-line pumping stations. W. G. Heltzel. il plan Oil & Gas J 39:82-3 S 19 '40

Duplex double-acting horizontal oil pump for pipe lines. diags Engineering 149:410, 411-12, pl 22 Ap 19 '40

Fifteen years of electric pipe-line pumping. W. H. Stueve. il Oil & Gas J 39:149, 151, 155 S 19 '40

Integrating tachometers show reciprocating pump flow. il Oil & Gas J 39:109+ S 19 '40

Large pipe line pump. il diags Engineer 169: 277-8 Mr 22 '40

Methods of reducing accidents at pipe-line pumping stations. H. F. Simons and P. Reed. il Oil & Gas J 39:53+ S 26 '40

Vapor-phase engine cooling introduced on pipe lines. T. P. Sanders. il Oil & Gas J 39:135-6+ S 19 '40

Variable-stroke triplex pumps used on east Texas line. D. H. Stormont. il diags Oil & Gas J 39:30-1+ My 30 '40

Regulation

See Petroleum industry and trade—Regulation; Petroleum industry and trade—United States—Antitrust suit

PETROLEUM pipe lines, Cooperative

Co-op refinery becomes a fact; Consumers refinery association, Phillipsburg, Kansas, acquires plant and pipe line. il Business Week p20+ F 3 '40

PETROLEUM products

Analysis of marketing costs. P. E. Lakin. Nat Pet N 32:36-7 My 1 '40

Aviation gasoline and oil and other commodities put under export control. Oil Paint & Drug Rep 138:5+ Ag 5 '40; Nat Pet N 32:13+ Jl 31 '40

Chemicals from petroleum fast becoming a reality. W. T. Ziegenham. il Oil & Gas J 39:22-3+ O 31 '40

Development of petroleum refining. A. W. Nash. Inst Pet J 26:41-56 F '40

Effect of petroleum products on neoprene vulcanizates; effect of lubricating oils. D. F. Fraser. bibliog il Ind & Eng Chem 32:320-3 Mr '40

Exports put under license control. Oil Paint & Drug Rep 138:3+ Jl 29 '40

Helpful petroleum; uses of petroleum and its products. W. D. Humphrey. Am Pet Inst Proc 20(1):87-90 '39

New conception of petroleum solvents and thinners. E. M. Toby, jr. Oil Paint & Drug Rep 137:3+ Mr 4; 33, 33A Mr 11; 5+ Mr 18 '40; Same. Metal Finishing 38:354-6, 410-11, 413 Je-Jl '40

New industrial empire in the making; magic vistas for oil. N. T. Carruthers. il Mag of Wall St 65:727-9+ Mr 23 '40

One-fourth of refining capacity is in reserve. W. T. Ziegenhain. Oil & Gas J 39:26 O 24 '40

Petroleum may soon become major rubber source; new artificial rubbers, Butyl and Ameripol. Oil & Gas J 39:25 Je 13 '40

Petroleum solvents for paints compared by new solvency tests. S. S. Kurtz, jr. Nat Pet N 32:R270, R272-3 Jl 24 '40

Petroleum synthetics help 100-octane fuel production. L. Rosenstein. bibliog il Nat Pet N 32:R409-10, R412, R414 N 13 '40; Same. Oil & Gas J 39:118, 120+ N 14 '40

Petroleum toluol for national defense; comparing certain petroleum processes. bibliog il Chem & Met Eng 47:535-7 Ag '40; Abstract. Chem Age (Lond) 43:121+ S 14 '40

Phenolic compounds from petroleum sources; comparison with coal tar sources. E. Field, F. H. Dempster and G. E. Tilson. bibliog il Ind & Eng Chem 32:489-96 Ap '40

Polybutenes; properties and uses in petroleum products. R. M. Thomas and others. bibliog il Ind & Eng Chem 32:299-304 Mr '40

Progress in petroleum. G. Egloff. Science 91: 533-8 Je 7 '40; Same. Chem Ind 46:720-3 Je '40; Same cond. Mech Eng 62:742-4 O '40

Rubber from petroleum gases. D. North. il Chem & Met Eng 47:220-4 Ap '40

Rubber from petroleum is entering commercial stage; plans to produce Buna rubber in the United States. H. S. Norman. il Oil & Gas J 38:9-10 Ap 11 '40

Solvents, old and new; petroleum solvents and thinners; trends in research and development; wartime formulation. G. H. C. Smith. bibliog Can Chem & Process Ind 24:286-7 Je '40

Toluol from petroleum is defense board aim; plans for other commodities. Oil Paint & Drug Rep 138:3+ Jl 22 '40

T.N.T. from gasoline. Business Week p30-1 Je 22 '40

See also

Gas oil
Gasoline
Hydrocarbons
Kerosene
Liquefied petroleum gas
Lubricating greases
Lubricating oils
Naphthenic acids
Oil fuel
Paraffin
Petroleum coke
Petroleum distillation
Petroleum refining

PETROLEUM products—*Continued*

Prices

Dearer oil products in Britain, effective October 17th. Economist 137:227 N 11 '39
Market in refined products presents varied picture as 1939 closes. T. F. Smiley. Oil & Gas J 38:85-6 Ja 25 '40
Prices of refined products. Published in weekly numbers of Oil and gas journal
Refinery, seaboard and tank wagon prices. Published in weekly numbers of National petroleum news
Strong first half fuel-oil market was partial balance for soft gasoline. H. S. Norman. Oil & Gas J 39:85-6 Jl 25 '40

Standards

A.S.T.M. standards on petroleum products and lubricants. 336p pa $2 Am. soc. for testing materials, 260 S. Broad st, Philadelphia '39

Statistics

Bureau of mines report shows record demand for crude products; 1938 and 1939 compared. Oil & Gas J 38:89 F 22 '40
Decline in crude shipments; increase in refined exports. Oil & Gas J 38:80+ Ja 25 '40
Demand for all products expanded during 1939. Oil & Gas J 38:219 Ja 25 '40
Demand, past and future. C. O. Willson. Oil & Gas J 38:64-5 Ja 25 '40
Mid-continent gasoline yield rises nearly 0.5% per year. M. G. Van Voorhis. Nat Pet N 32:R94+ Mr 20 '40
Petroleum and its products. Published in weekly numbers of Commercial & financial chronicle
Petroleum solvents, lubricants, fuels. Published in weekly numbers of Oil, paint and drug reporter
Petroleum statistics, 1935-38. G. R. Hopkins. U S Bur Mines Economic Pa 20:1-61 '40
Production of petroleum and coal products, revision; monthly, 1923-June, 1940. Fed Res Bul 26:869-72 Ag '40
Refined petroleum products, 1936-1939. Survey of Cur Business 1940 Sup p119-21 [supplemented in monthly numbers]

Sulfur content

Effect of sulfur and sulfur compounds in naphtha upon certain corrosion tests; sensitivity of the doctor test. L. M. Henderson, M. S. Agruss and G. W. Ayers, jr. bibliog Ind & Eng Chem Anal ed 12:1-3 Ja 15 '40

Testing

A.S.T.M. standards on petroleum products and lubricants. 336p pa $2 Am. soc. for testing materials, 260 S. Broad st, Philadelphia '39
Vapor bomb connection saves pressure gages. D. Attaway. il diag Oil & Gas J 39:41 Ag 1 '40

Transportation

For-hire carrier of bulk petroleum products and his place in the petroleum industry. C. J. Yokom and C. A. Sutherland. Am Pet Inst Proc 20(1):53-7; Discussion. 57-61 '39
Oil movement on Great Lakes will set record this year. il map Nat Pet N 32:25-6+ Jl 17 '40
Oil transportation. il maps Nat Pet N 31: 33-90 D 13 '39
Precision methods in pipe-line operation; Shell gasoline line moves gasoline, kerosene, gas oil, Diesel fuel, and other products. H. O'Gara. il Oil & Gas J 39:134-5+ S 19 '40
Savings to marketer in trucking. C. J. Yokom. il Nat Pet N 32:33-5 F 28 '40

See also Railroads—Rates—Petroleum and petroleum products

PETROLEUM refineries

First Nebraska oil run at Omaha plant. il Nat Pet N 31:11 N 29 '39
Fletcher oil co. builds a compact new plant. flow diags Oil & Gas J 38:68-9 Ja 4 '40
Great strides in refining in past twenty years; Gulf Coast refineries. W. T. Ziegenhain. il map Oil & Gas J 38:140+ Ap 25 '40
Gulf Coast refineries stage major expansion program. N. Williams. Oil & Gas J 38:14 N 23 '39
High-pressure vapor-liquid equilibrium for the systems propylene-isobutane and propane-hydrogen sulfide. E. R. Gilliland and H. W. Scheeline. bibliog Ind & Eng Chem 32:48-54 Ja '40
Nation's highest refinery completed for Gramps at Alamosa, Colo. T. R. Ingram. il Oil & Gas J 38:26 Mr 7 '40
1939 refinery building brings turning point in gasoline processing. M. G. Van Voorhis. il Nat Pet N 32:R3-6 Ja 10 '40
Organization chart of a modern integrated oil refining company. Chem & Met Eng 47:421 Je '40
Preliminaries finished and new Continental refinery started. W. T. Ziegenhain. il Oil & Gas J 39:16 S 5 '40
Refineries and oil terminals on Mississippi and tributaries; tabulation and map. Nat Pet N 31:38-9 D 13 '39
Refining centers on the Lakes. Nat Pet N 32:32 Jl 17 '40
20 active refineries in Kansas. il map(supp) Oil & Gas J 39:98 Je 27 '40
War gives impetus to refinery expansion. H. S. Norman. il Oil & Gas J 38:80, 335 D 28 '39

See also

Gasoline—Manufacture
Lubricating oils—Manufacture
Petroleum distillation
Petroleum refining

Accidents

Accident experience of four Louisiana petroleum refineries, 1929-1938. F. E. Cash and E. H. Brown. U S Bur Mines Information Circ 7099:1-7 '40

Accounting

Economics and the relationship of alternate products to refinery margins; abstracts. C. E. Votrian. Nat Pet N 32:22 O 9 '40; Oil & Gas J 39:24 O 10 '40

Corrosion

Cathodic protection of condensers and coolers utilizing brackish bay water. W. A. S. Wright and J. H. Brooks. diags Am Pet Inst Proc 21M(3):83-5 My '40; Same. Oil & Gas J 39:60+ My 30 '40
Copper alloy corrosion unstopped by dezincification inhibitors; symposium at mid-year meeting of American petroleum institute. Nat Pet N 32:R204-5 My 29 '40
Copper alloys and their application in petroleum refining. J. T. Kemp. Am Pet Inst Proc 21M(3):58-63 My '40; Same abr. Can Chem & Process Ind 24:444-6 S '40; Abstract. Metal Prog 38:326+ S '40
Corrosion of copper and copper-base tubing in oil-refinery heat-transfer equipment. R. A. Wilkins, E. S. Bunn and W. Lynes. il Am Pet Inst Proc 21M(3):46-57 bibliog(104 titles, p54-7) My '40
Phosphorized admiralty metal for dezincification. Oil & Gas J 38:61 Ap 18 '40
Results of corrosion tests in oil refineries. N. W. Mitchell. il Am Pet Inst Proc 21M(3): 64-7; Discussion. 85-6, 93-4 My '40
Testing of brass alloys for dezincification resistance. F. M. Barry. bibliog il Am Pet Inst Proc 21M(3):68-72 My '40
Testing of non-ferrous alloys for condenser-tube service under conditions simulating actual industrial service. R. W. Moore and S. Kleinheksel. il diags Am Pet Inst Proc 21M(3):73-82 My '40; Same. Nat Pet N 32: R186-8, R190, R192 My 29 '40

Costs

Examine Imperial refining profit. Nat Pet N 32:48-50 Ag 14 '40

Directories

Personnel of United States and Canadian refineries. il Oil & Gas J 38:157-60+ Mr 28 '40

PETROLEUM refineries—Directories—*Cont.*

Petroleum refineries in the United States with capacities of more than 20,000 barrels per day, as of January 1, 1940. map Chem & Met Eng 47:419 Je '40

Petroleum refineries, including cracking plants, in the United States, January 1, 1940. G. R. Hopkins and E. W. Cochrane. U S Bur Mines Information Circ 7124:1-31 '40

Refineries operating in United States, arranged by states; in Canada, by provinces; Mexican refineries. Oil & Gas J 38:181-6 Mr 28 '40

World oil-refineries survey. Oil & Gas J 38: 78-9+ D 28 '39

Electric equipment

Electrical engineering and the petroleum refiner. G. R. Weeks, H. W. Giesecke and C. M. Lathrop. Elec Eng 59:Trans 106-9; Discussion. Trans 109-10 F '40

Employees

Chemical engineer in petroleum refining. Chem & Met Eng 47:420-2 Je '40

Disabling morbidity, and mortality from cancer among the male employees of an oil refining company with reference to age, site, and duration, 1933-38, inclusive. W. M. Gafafer and R. Sitgreaves. bibliog Pub Health Rep 55:1517-26 Ag 23 '40

Monthly educational programs, institution of Ark.-La. assn. Nat Pet N 32:R324 S 4 '40

Equipment

Alkylation plant takes olefins left by selective polymerization. A. H. Garrison. flow diag il Nat Pet N 32:R212-13, R216+ Je 12 '40

Alloy cast irons for refinery equipment; tabulation. Oil & Gas J 38:50 Mr 7 '40

Catalytic polymerization unit fits well into Sunray operations. R. L. Johnson, W. B. Shanley and C. H. Alberding. il Oil & Gas J 38:34-5 Ja 4 '40

Cities Service plant operating unusually safe truck rack. W. T. Ziegenhain. il Oil & Gas J 39:56 Ag 15 '40

Design and operation of a high temperature Dowtherm system. R. E. Hulme. il diag Chem & Met Eng 47:685-7 O '40

Electrical device allows remote control of pump; use of an electric light for counting the revolutions of a pump. W. T. Ziegenhain. diag Oil & Gas J 39:50 Ag 29 '40

Emulsion deoiling process separates oil wax mixtures. A. H. Schutte. flow chart il diags Nat Pet N 32:R402-4, R406, R408 N 13 '40; Same. Oil & Gas J 39:113-14, 117+ N 14 '40

Gulf plants produce high gasoline yield by polyform process. P. Östergaard and E. R. Smoley. flow sheets il Oil & Gas J 39:52-3+ S 12 '40; Same. Nat Pet N 32:R330-1+ S 18 '40; Abstract. Chem & Met Eng 47: 626-7 S '40

High degree of fractionation accomplished in new unit. flow diag Oil & Gas J 38:58 N 30 '39

Hydrogen sulfide detector. F. B. Behrens. il Oil & Gas J 38:86 Mr 28 '40

Look-boxes losing as means of control in refineries; large-scale, automatic control refinery of Imperial oil, ltd. il Oil & Gas J 39:50+ Ag 29 '40

Measurement of metal temperatures of cracking still tubes. O. G. Kaasa. Nat Pet N 31:R478+ N 15 '39

Measuring internal diameter of still tubes. W. A. Howard. il diag Oil & Gas J 38:78-80 Mr 28 '40

Minneapolis refinery to add cracking and blending facilities. T. P. Sanders. il Oil & Gas J 39:75 S 19 '40

Neohexane plant operating at record high pressures. R. C. Alden. flow diag il Nat Pet N 32:R234, R236-8+ Je 26 '40

New automatic topping unit in northwest Canada. il Oil & Gas J 38:113 Mr 28 '40

New Kansas refinery includes modern processing equipment; Consumers cooperative association. D. H. Stormont. flow sheet il Oil & Gas J 39:58-9+ My 23 '40

New Thermofor kiln and clay-regeneration processes for maintaining decolorizing clays at high efficiencies. T. P. Simpson and J. W. Payne. il diags Am Pet Inst Proc 20(3): 7-14 '39; Same. Nat Pet N 31:R486-7, R490-2 N 15 '39; Same. Oil & Gas J 38:147, 150+ N 17 '39; Same abr. Can Chem & Process Ind 24:397+ Ag '40; Discussion. Am Pet Inst Proc 20(3):14-15 '39

Oil for your automobile engine. C. H. Vivian. il diag Comp Air M 45:6094-101 Mr '40

Plant exchanger transfer rates. W. L. Nelson. Oil & Gas J 39:32 Jl 4 '40

Reaction chambers; all-welded molybdenum-bearing steel fabrications permit shell thickness to be reduced; Babcock & Wilcox co. il Steel 105:51-2 D 18 '39

Refinery gadgets; short, illustrated ideas. Oil & Gas J 38:122-3, 127-8+ Mr 28 '40

Selection of the most economical pipe and valve size and rate of flow in piping systems; with cost data. S. P. Johnson and F. L. Maker. diags Am Pet Inst Proc 21M(3):7-23 My '40

Shell operating first solutizer treating plant at Wood River. L. E. Border. flow diag Oil & Gas J 39:55-6 N 7 '40

Sinclair adds lube plant to refinery. W. T. Ziegenhain. il Oil & Gas J 39:12 Ag 29 '40

Slurry-type copper chloride treater is used by Kanotex. F. A. Deering. flow chart il Oil & Gas J 39:43-4 S 5 '40

Sohio polymerization unit first using new catalyst; copper pyrophosphate. M. G. Van Voorhis. flow chart il Nat Pet N 32:R230-1, R233 Je 26 '40

Solutizer process for sweetening gasolines. L. E. Border. flow diag bibliog il Oil & Gas J 39:36-8, 40 Jl 18 '40

Some practical considerations on temperature control. L. De Florez. il Ind & Eng Chem News ed 18:102-3 F 10 '40

Sun Oil operating large Houdry catalytic gasoline treating unit at Marcus Hook. H. S. Norman. flow chart il Oil & Gas J 38: 106-7, 111+ Mr 28 '40

System of interlocking air-operated controllers applied to oil cracking. S. H. Isaacs. diags Instruments 13:216-17 Ag '40

Testing hot-oil pumps under actual operating conditions. A. J. Stepanoff. diags Oil & Gas J 39:52, 55+ O 31 '40

Thinner walls, higher heat release is trend in oil still design. H. O. Johanson. Nat Pet N 32:R326 S 4 '40

Tide Water Associated completes alkylation plant in California. C. K. Viland and J. Seth. Oil & Gas J 39:32+ S 12 '40

Treating high-sulfur cracked distillate with acid process. F. A. Apgar and C. A. Day, jr. flow diag il plan Oil & Gas J 38:187-8+ Mr 28 '40

Unusual temperature-controller job. V. H. Hiermeier. plan Instruments 13:217 Ag '40

Use exchanger instead of heater in new polymerization unit; Freedom oil co. J. P. O'Donnell. il Oil & Gas J 38:43-4 My 2 '40

Waste heat unit produces 1,000,000 lbs. of steam. il Nat Pet N 32:R78 Mr 6 '40

Fires and fire protection

Causes, prevention and control of fires on light liquid hydrocarbons. H. A. Heiss. il Oil & Gas J 38:135+ Mr 28 '40

Fuel

Efficient combustion control promises lower fuel costs. O. F. Campbell. diag Nat Pet N 32:R53-4 F 21 '40

Survey of fuel consumption at refineries in 1938. G. R. Hopkins. U S Bur Mines Rep of Invest 3485:1-6 '39

Western Pennsylvania refiners back on coal as gas supply fails. M. G. Van Voorhis. Nat Pet N 32:R50-1 F 21 '40

Laboratories

Standard of Calif. builds new research laboratory. il Oil & Gas J 38:104 Mr 28 '40

PETROLEUM refineries—Laboratories—*Cont.*
Test laboratory has unique control; regulation of equipment effected from seat of car being tested; automotive laboratory of Atlantic refining company. il Automotive Ind 81:574-6+ D 1 '39

Operators

Refinery operators; portraits. Oil & Gas J 38:88 90+ Mr 28 '40

Power

Application of superheated steam to combination-unit prime movers. A. E. Harnsberger. il diags Am Pet Inst Proc 21M(3):24-8 My '40; Same. Oil & Gas J 39:35, 38 My 30 '40; Discussion. Am Pet Inst Proc 21M(3)28-9 My '40

Automatic control solves dual-fuel problems; boilers fired with oil-refinery gas and pulverized coal. W. E. Sachse. il diag Power 84:492-4 Ag '40

Modern power for modern refinery; Texas co.'s Port Arthur refinery. flow diags il diag plan Power 84:485-7 Ag '40

Modernization of power generation and distribution facilities at Texas co. plant. L. E. Priester and H. Flynn. il plans Oil & Gas J 38:74-7 Mr 28 '40

Pacific gas & electric co. solves industrial problem; plants adjacent to oil refineries, by-product fuels used; process steam and electric power supplied to the refineries. il Power Pl Eng 44:71-2 O '40

Power for the refinery. R. L. Meyer. il Oil & Gas J 38:40+ My 2 '40

Safety devices and measures

First aid teams in refineries, part of oil's safety program. il Nat Pet N 32:38 O 16 '40

Safety thermometer brings refinery accident record. W. W. Weldon. il Nat Pet N 32: R376, R378+ O 16 '40

Safety well-oiled; refinery safety instructions. F. J. Gompert. Safety Eng 78:19-20 D '39

See also
Petroleum refineries —Fires and fire protection

Statistics

Bureau reports 461 refineries running in '40. Nat Pet N 32:22 Jl 17 '40

Two-thirds world's refining centers in North America. W. T. Ziegenhain. il map Oil & Gas J 38:46-9 Mr 28 '40

U.S. refinery construction in 1939; tabulation. M. G. Van Voorhis. Nat Pet N 32:R4-5 Ja 10 '39

World refinery capacities; tabulation. Oil & Gas J 38:75 D 28 '39

Waste

Utilization of industrial wastes. H. E. Howe and F. J. Van Antwerpen. il Ind & Eng Chem 31:1326-7 N '39

Waste problems in the petroleum industry. J. B. Hill. il diag Ind & Eng Chem 31: 1361-3 N '39

PETROLEUM refineries, Cooperative

Co-op gets its oil; new refinery at Phillipsburg, Kansas, survives pro-ration squeeze play. il Business Week p23-4+ Je 15 '40

Co-op refinery becomes a fact; Consumers refinery association, Phillipsburg, Kansas, acquires plant and pipe line. il Business Week p20+ F 3 '40

PETROLEUM refining

Chem. & Met. report on opportunities in the petroleum industry for chemical engineers. map Chem & Met Eng 47:415-22 Je '40 (Reprint 25c)

Les combustibles, les huiles de graissage et les brais du point de vue du producteur et du consommateur. J. André. Soc Ing Civils Mémoires 92:102-10 Ja '39

Conversion of petroleum; production of motor fuels by thermal and catalytic processes. A. N. Sachanen. 413p $6 Reinhold pub. corp. '40

Current research work at University of Birmingham, England, on principles and methods of refining lubricating oil and paraffin wax. T. Brown. bibliog Oil & Gas J 38:103+ D 28 '39

Development of petroleum refining. A. W. Nash. Inst Pet J 26:41-56 F '40

La IIe semaine de perfectionnement des industries du pétrole (Strasbourg, 30 mai-3 juin 1939). G. Kimpflin. Génie Civil 115: 320-2 O 28 '39

Effect of marketing policies and refining methods on future availability of residue enrichment oils. A. E. Pew, jr. Am Gas J 152:37-9 Je '40

Fundamentals of solvent refining operation. E. W. Gard and E. G. Ragatz. diags Oil & Gas J 39:49-50+ Je 6 '40

Hydrocarbon decomposition and conversion processes. flow diag Oil & Gas J 38:90-1 My 9 '40

L'industrie du raffinage du pétrole et sa récente évolution en France. X. Normand. Soc Ing Civils Mémoires 92:90-101 Ja '39

Latest engineering practices; text in English and Spanish. il Oil & Gas J 38:260-308 D 28 '39

New conception of petroleum solvents and thinners. E. M. Toby, jr. Oil Paint & Drug Rep 137:3+ Mr 4; 33, 33A Mr 11; 5+ Mr 18 '40; Same. Metal Finishing 38:354-6, 410-11, 413 Je-Jl '40

One-fourth of refining capacity is in reserve. W. T. Ziegenhain. Oil & Gas J 39:26 O 24 '40

Petroleum-ization, 1940. H. W. Field. Am Pet Inst Proc 20(3):65-71 '39; Same. Oil & Gas J 38:110, 112, 115+ N 17 '39; Excerpts. Nat Pet N 31:R522-4 N 29 '39

Petroleum refining and manufacturing processes. M. J. Japour. 310p $5 Wetzel pub. co, Los Angeles '39

Petroleum refining in 1939. W. Miller. Min & Met 21:51-3 Ja '40

Refining characteristics of Mississippi crude oils. G. Egloff and G. B. Zimmerman. Oil & Gas J 38:145-6 Mr 28 '40

Research and invention in the petroleum industry. B. K. Brown. il Ind & Eng Chem News ed 18:347-55 Ap 25 '40

Some practical considerations on temperature control. L. De Florez. il Ind & Eng Chem News ed 18:102-3 F 10 '40

Then and now in plant operation; progress during the past quarter of a century. T. G. Delbridge. Chem & Met Eng 46:701 N '39

Thermometric measurement in the refining of Pennsylvania oils. P. M. Robinson. il Ind & Eng Chem News ed 18:441-3 My 25 '40

Triumph of a technology; Standard oil development co. S. D. Kirkpatrick. flow diags il Chem & Met Eng 46:670-8 N '39

See also
Gasoline—Manufacture
Lubricating oils—Manufacture
Petroleum—Dehydration
Petroleum distillation
Petroleum refineries

Asphalt removal

Propane precipitation of petroleum resins. P. T. Graff and H. O. Forrest. il diags Ind & Eng Chem 32:294-8 Mr '40

Bibliography

Semi-annual subject index of technical and semi-technical articles, July-December, 1939. Nat Pet N 32:R10-11 Ja 10 '40

Semi-annual subject index of technical and semi-technical articles, January-June, 1940. Nat Pet N 32:R254, R256, R258 Jl 10 '40

By-products

Oil for chemistry's test tubes; petroleum by-products supply source for many synthetic products. W. W. Hay. il Barron's 20:20 S 16 '40

Petroleum synthetics help 100-octane fuel production. L. Rosenstein. bibliog il Nat Pet N 32:R409-10, R412, R414 N 13 '40; Same. Oil & Gas J 39:118, 120+ N 14 '40

Producing 1100 B.t.u. by-product gas. P. E. Haynes. Gas Age 86:36+ S 12 '40

PETROLEUM refining—By-products—*Cont.*
La récupération du soufre dans les usines de carbonisation de la houille et dans les raffineries de pétrole. C. Berthelot. Génie Civil 116:6-7 Ja 6 '40
Refinery gas; a raw material of growing importance. R. E. Wilson. Chem & Ind 58: 1095-1101 D 23 '39; Same cond. Nat Pet N 31:R541-3+ D 13 '39; Abstract. Ind & Eng Chem News ed 17:697-8 N 20 '39
Waste problems in the petroleum industry. J. B. Hill. il diag Ind & Eng Chem 31: 1361-3 N '39

Patents

Clean circulation is not basic Behimer invention, court holds; Texas co. patent suit against Anderson-Prichard oil corp. Nat Pet N 32:9 Mr 13 '40
18 oil inventors are honored as modern pioneers of industry. Nat Pet N 32:21-2, 24+ Mr 13 '40
Gasoline treating patents issued one weekly in 1939. Nat Pet N 32:R179-80, R182-4 My 15 '40

Salt removal

Continental desalting plant strips 99% NaCl from Louisiana crude. M. G. Van Voorhis. il Nat Pet N 32:R44+ F 7 '40
Miniature plant desalts ¾ gal. per minute. il Oil & Gas J 39:116 O 31 '40
Removal of inorganic salts from petroleum. C. M. Blair, jr. Oil & Gas J 38:52, 54-5 Ap 4 '40

Statistics

Petroleum refining, revision; monthly, 1923-June, 1940. Fed Res Bul 26:870 Ag '40

Study and teaching

New course in mineral dressing at Columbia university will include ore dressing, extractive metallurgy and petroleum refining. Eng & Min J 141:45 Ap '40

Sulfur removal

Action of solutizers in mercaptan extraction. D. L. Yabroff and E. R. White. bibliog Ind & Eng Chem 32:950-3 Jl '40
Application of catalytic desulfurization process. M. W. Conn. flow diags Oil & Gas J 39: 40, 42, 45+ O 24 '40
Catalytic desulfurization to improve aviation blending naphthas. W. A. Schulze and R. C. Alden. Am Pet Inst Proc 20(3):72-7 '39; Same. Oil & Gas J 38:199-200+ N 17 '39
Extraction of mercaptans with alkaline solutions. D. L. Yabroff. bibliog il Ind & Eng Chem 32:257-62 F '40

Tables, calculations, etc.

Curved flow in conduits of constant cross-section. C. H. Nordell. diags Oil & Gas J 39:117, 119-20, 123-4 My 16 '40
Improved conduit bends reduce frictional loss. C. H. Nordell. bibliog il diags Oil & Gas J 39:50, 53, 55 Je 13 '40

Vapor recovery

Large absorption unit now presaturates absorber gas. Oil & Gas J 38:34 Ap 18 '40
Petroleum-ization, 1940. H. W. Field. Am Pet Inst Proc 20(3):69-70 '39; Same. Oil & Gas J 38:115+ N 17 '39
Refinery gas: a raw material of growing importance. R. E. Wilson. Chem & Ind 58: 1095-1101 D 23 '39; Same cond. Nat Pet N 31:R541-2+ D 13 '39; Abstract. Ind & Eng Chem News ed 17:697-8 N 20 '39

See also
Gasoline, Natural—Manufacture

Wax removal

Absorption systems in the oil industry. G. A. Beiter. flow diag il diags Refrig Eng 40: 293-6 N '40
Emulsion deoiling process separates oilwax mixtures. A. H. Schutte. flow chart il diags Nat Pet N 32:R402-4, R406, R408 N 13 '40; Same. Oil & Gas J 39:113-14, 117+ N 14 '40.
Mixture of ketones used to dewax motor lubricants. A. J. Mueller. flow diag Oil & Gas J 38:54+ Ap 18 '40
Oil for your automobile engine. C. H. Vivian. Comp Air M 45:6099-100 Mr '40
Propane precipitation of petroleum resins. P. T. Graff and H. O. Forrest. il diags Ind & Eng Chem 32:294-8 Mr '40

PETROLEUM research

Achievement via group effort; award for chemical engineering achievement won for 1939 by Standard oil development company. Chem & Met Eng 46:750-3 D '39
A.P.I. discusses research results. Oil Paint & Drug Rep 137:5+ Je 3 '40
API hydrocarbon research project. D. P. Barnard. il Am Pet Inst Proc 20(3):42-54 '39; Same. Oil & Gas J 38:117-18+ N 17 '39; Discussion. Am Pet Inst Proc 20(3):55-6 '39
Analyses present evidence on origin of petroleum. W. V. Howard. Oil & Gas J 38:46+ Ap 11 '40
Annual report of the Petroleum and natural-gas division, fiscal year 1939. R. A. Cattell and others. bibliog pl U S Bur Mines Rep of Invest 3501:1-41 '40
Application of mass spectrometer to petroleum-industry problems. H. Hoover, jr. and H. Washburn. Oil & Gas J 38:48-9 F 22 '40
Catalytic vapor-phase oxidation of aliphatic kerosene fraction. W. G. Parks and E. F. Story. bibliog diag Oil & Gas J 39:54, 56+ S 5 '40
Current research work at University of Birmingham, England, on principles and methods of refining lubricating oil and paraffin wax. T. Brown. bibliog Oil & Gas J 38:103+ D 28 '39
Dependence of viscosity of liquids on constitution. A. H. Nissan, L. V. W. Clark and A. W. Nash. Inst Pet J 26:155-211 bibliog(97 references, p209-11); Discussion. 212-22 Ap '40
La formation des cadres d'ingénieurs et la recherche scientifique appliquée au pétrole. H. Weiss. Soc Ing Civils Mémoires 92:154-61 Ja '39
Hydrogenation of petroleum fractions, employing a large percentage of catalyst. H. I. Waterman and C. Van Vlodrop. Inst Pet J 26:452-6 S '40
Modern petroleum research. E. C. Williams. Soc Dyers & Col J 55:606-8 D '39
New industrial empire in the making; magic vistas for oil. N. T. Carruthers. il Mag of Wall St 65:727-9+ Mr 23 '40
Partial volumetric behavior of lighter paraffin hydrocarbons in the gas phase; methane, ethane, propane, *n*-butane in binary mixtures. B. H. Sage and W. N. Lacey. bibliog Oil & Gas J 38:189-92+ N 17 '39
Petroleum production research in 1939. D. L. Katz. Min & Met 21:50-1 Ja '40
Preparation of some pure hydrocarbons for the purpose of testing the physical methods in use for the examination of hydrocarbon mixtures. H. I. Waterman, J. J. Leendertse and others. Inst Pet J 25:801-12 D '39
Research and invention in the petroleum industry. B. K. Brown. il Ind & Eng Chem News ed 18:347-55 Ap 25 '40; Correction. 18: 416 My 10 '40
Review of the literature on the construction, testing, and operation of laboratory fractionating columns. C. C. Ward. U S Bur Mines Tech Pa 600:1-36 bibliog(86 titles, p33-6) '39
Triumph of a technology; Standard oil development co. S. D. Kirkpatrick. flow diags il Chem & Met Eng 46:670-8 N '39
Viscosity of hydrocarbon solutions; methane—ethane—crystal oil system. B. H. Sage and W. N. Lacey. bibliog Ind & Eng Chem 32:587-9 Ap '40

PETROLEUM shipping terminals

Barges move oil 200 miles up Columbia river for the California oil companies. il map Nat Pet N 31:85-7 D 13 '39
Great Lakes oil terminals supplied from East coast. Nat Pet N 32:36-7 Jl 17 '40
High water no deterrent to Sohio barge shipping. il Oil & Gas J 38:91 Ap 11 '40
Independent's terminals have total storage for 36,800,000 gals. Nat Pet N 32:37-8 Jl 17 '40

PETROLEUM shipping terminals—*Continued*
Laying a submarine pipe line in Caleta Cordova waters. L. A. Aguirre. il Oil & Gas J 38:34-5 Ja 18 '40
N.Y. harbor oil gateway to huge inland territory. il Nat Pet N 31:77-84 D 13 '39
Refineries and oil terminals on Mississippi and tributaries; tabulation and map. Nat Pet N 31:38-9 D 13 '39
Sohio installs unusual barge loading rack on Ohio. il Oil & Gas J 38:60+ N 30 '39
Woman terminal manager also finds time to sell; I. Bragg, manager of Terminal oil company. Nat Pet N 32:31-3 Ja 3 '40

PETROLEUM storage
See also
Oil tanks

PETROLEUM supply
Kansas oil reserves estimated at more than 750,000,000 barrels. W. V. Howard. Oil & Gas J 39:52-3+ Je 27 '40
Oil operations expand on world-wide front. C. O. Willson and H. S. Norman. il maps Oil & Gas J 38:52-8 D 28 '39
World crude-oil production 6,000,000 barrels daily. H. S. Norman. map Oil & Gas J 39: 56-7+ Jl 25 '40
World oil supply vs. estimated war requirements. R. Lane. map Annalist 55:451-2+ Mr 28 '40

France
Restoration of French economy retarded by oil shortage. J. P. O'Donnell. il Oil & Gas J 39:32-3 Ag 8 '40

Germany
Aircraft fuel; Germany's problem. Economist 138:586 Mr 30 '40
Axis drive on Rumania may be aimed at Near East oil. il Oil & Gas J 39:21+ O 10 '40
Les difficultés du ravitaillement de l'Allemagne en produits pétroliers. E. Lemaire. Génie Civil 116:120-2 F 17 '40
Germany's oil supplies. Economist 138:366-7 Mr 2 '40

Japan
Japan's oil supplies. Economist 139:165 Ag 3 '40

Russia
Fuel supply worrying Russians. Business Week p49 N 18 '39
Huge reserves, poor technique characterize Soviet oil industry. L. M. Farish. il Min & Met 21:276-82 Je '40

United States
Estimated proved petroleum reserves in the United States; tabulation. Oil & Gas J 38: 57 Mr 28 '40
Fifty per cent rise in production possible. W. V. Howard. Oil & Gas J 39:11 O 24 '40
Illinois decline returns crude demand to southwest states. H. S. Norman. il Oil & Gas J 39:28-9 Ag 15 '40
No petroleum shortage. Sci Am 162:105-7 F '40
Production exceeds new proven reserves so far this year. W. V. Howard. Oil & Gas J 39:54-5 Jl 25 '40
Proven reserves. Oil & Gas J 38:52-5, 218 Ja 25 '40
3,400,000-bbl. average daily runs will supply needs. Oil & Gas J 39:28-9 S 12 '40
12 billion barrels of U.S. oil found in 5 years. Nat Pet N 32:31 Ap 3 '40

PETROLEUM waste
Water pollution by petroleum oils. M. M. Gibbons. bibliog Am Water Works Assn J 32:465-77 Mr '40
See also
Petroleum refineries—Waste

PETROLEUM workers
Employment prospects in the petroleum and natural-gas industry. H. O. Rogers. bibliog Monthly Labor R 50:1293-1307 Je '40
First high school oil vocational course prepares graduates for oil jobs at Oil City, Pa. Nat Pet N 32:R100 Mr 20 '40
Jobbers are target of wage-hour drive. Nat Pet N 32:13-14 O 16 '40
Merit and seniority; study of the principles of merit and seniority found operative in promotion, demotion and termination policies as applied to field workers in seventeen oil companies in California. D. K. Livingston. Personnel J 19:9-19 My '40
Opportunities for qualified men in fields abroad. C. O. Willson. il Oil & Gas J 38: 67, 69+ Mr 28 '40
Report of vocational-training classes, petroleum-industry series; tabulated data. Am Pet Inst Proc 21 M(4):87-121 My '40
Survey shows high safety record: survey of sickness, medical care, welfare provisions, etc, in 77 oil companies. J. C. Watkins. Oil & Gas J 38:24+ Mr 7 '40
Wage-hour law application in the oil industry. G. C. Street, jr. Oil & Gas J 39:66 S 19 '40
See also
Petroleum refineries—Employees

PETROLOGY. See Rocks

PETTER engine
Improved results from a Petter superscavenge engine. S. J. Davies. Engineering 149:43-4 Ja 12 '40; Discussion. 149:96-7, 149 Ja 26, F 9 '40

PETTUS, Sir John, 1613-1690
Lazarus Ercker and his Probierbuch; Sir John Pettus and Fleta minor. E. V. Armstrong and H. S. Lukens. bibliog por J Chem Educ 16:553-62 D '39

PEWTER
Pewtercraft as a hobby. E. Stieri. 110p bibliog(p106) $1.75 Harper '40

PFUND, August Herman, 1879-
Ives medalist for 1939. A. G. Worthing. por Opt Soc Am J 30:178-81 bibliog(52 titles, p181) Ap '40

PHARAOH'S serpents. See Pyrotechnic snakes

PHARMACEUTICAL association, American. See American pharmaceutical association

PHARMACEUTICAL chemistry. See Chemistry, Medical and pharmaceutical

PHARMACOLOGY
Applied pharmacology. H. A. McGuigan. 914p $9 C. V. Mosby co, St Louis '40
Essentials of physiology and pharmacodynamics. G. Bachmann and A. R. Bliss. 3d ed rev 508p $4.50 Blakiston '40
Experimental pharmacology and materia medica. D. E. Jackson. 2d ed 906p $10 C. V. Mosby co, St Louis '39
Materia medica, pharmacology and therapeutics. M. B. Muse. 3d ed rev 622p $3 Saunders '40
Modification of the chemistry and pharmacological action of the cardiac glycosides. J. E. F. Riseman and S. B. London. Science 92:384 O 25 '40
Pharmacopeia and the physician. 353p $1.50 Am. medical assn, Chicago '39

PHARMACOPEIAS
Second supplement to the Pharmacopœia of the United States of America; eleventh decennial revision. 178p Mack ptg. co, Easton, Pa. '40
Vitamins in U.S.P. J. Stafford. Science 91: sup10 My 31 '40

PHARMACY
Fundamentals of pharmacy, theoretical and practical. W. H. Blome and C. H. Stocking. 364p $4.50 Lea & Febiger, Philadelphia '39
See also
Chemistry, Medical and pharmaceutical
Drugs
Laws and legislation
Aids to forensic pharmacy. A. W. Lupton. 2d ed 260p 4s Baillière, Tindall and Cox, London '38
See also
Drugs—Laws and legislation

PHASE adjusters
Phase adjuster, continuously variable device with constant amplitude. K. Kreielsheimer. diags Wireless Eng 17:439-41 O '40

PHASE advancers
Modifications of the Leblanc phase-advancer. J. J. Rudra. diags Inst E E J 86:383-95 Ap '40
Shows power transfer by phase shifter. B. E. Ellsworth. Elec W 113:1727+ Je 1 '40

PHASE indicators
Power-angle indicator and recorder for synchronous machines. E. B. Kurtz. il diags Gen Elec R 43:406-9 O '40

PHASE rule and equilibrium
Calculation of the compositions of phases in equilibrium. G. Scatchard. Am Chem Soc J 62:2426-9 S '40
Equilibrium between vapor and liquid phases in the system CO_2—H_2O—K_2O—SiO_2. G. W. Morey and M. Fleischer. bibliog diag Geol Soc Bul 51:1035-57 Jl '40
Equilibrium cell for investigating properties of fluids from petroleum and natural-gas reservoirs; with a section on hypothetical phase relations of natural hydrocarbon mixtures. K. Eilerts, R. V. Smith and R. C. Wright. bibliog pls U S Bur Mines Rep of Invest 3514:1-30 '40
Gas-liquid equilibrium constants; methane-decane system. H. M. Lavender, B. H. Sage and W. N. Lacey. bibliog diag Oil & Gas J 39:48-9 Jl 11 '40
Liquid-vapor equilibrium of aniline-water. J. Griswold and others. bibliog il diag Ind & Eng Chem 32:878-80 Je '40
Liquid-vapor equilibrium relations in binary systems; the ethane-*n*-butane system. W. B. Kay. diag Ind & Eng Chem 32:353-7 Mr '40
Phase equilibria in hydrocarbon systems; Joule-Thomson coefficients for gaseous mixtures of methane and *n*-butane. R. A. Budenholzer, B. H. Sage and W. N. Lacey. bibliog Ind & Eng Chem 32:384-7 Mr '40
Phase equilibria in hydrocarbon systems; methane-*n*-butane system in the gaseous and liquid regions. B. H. Sage, R. A. Budenholzer and W. N. Lacey. bibliog Ind & Eng Chem 32:1262-77 S '40
Phase equilibria in hydrocarbon systems; methane—*n*-butane system in the two-phase region. B. H. Sage, B. L. Hicks and W. N. Lacey. bibliog Ind & Eng Chem 32: 1085-92 Ag '40
Phase equilibria in hydrocarbon systems; methane-decane system. B. H. Sage, H. M. Lavender and W. N. Lacey. bibliog Ind & Eng Chem 32:743-7 My '40
Phase equilibria in hydrocarbon systems; the propane-*n*-butane system in the critical region. C. N. Nysewander, B. H. Sage and W. N. Lacey. bibliog diags Ind & Eng Chem 32:118-23 Ja '40
Phase equilibria in hydrocarbon systems; propane-*n*-pentane system. B. H. Sage and W. N. Lacey. bibliog Ind & Eng Chem 32: 992-6 Jl '40
Phase rule and its applications. A. Findlay. 8th ed rev 327p $3 Longmans '39
Phase rule and phase reactions, theoretical and practical. S. T. Bowden. 303p $3.60 Macmillan '38
Phase rule behavior of concentrated aqueous systems of a typical colloidal electrolyte; sodium oleate. R. D. Vold. bibliog il diag J Phys Chem 42:1213-31 D '39
Polyiodides of ammonium; ammonium iodide and iodine. T. R. Briggs and K. H. Ballard. J Phys Chem 44:322-4 Mr '40
Polyiodides of ammonium; the ternary system ammonium iodide, iodine, and water. T. R. Briggs and others. bibliog J Phys Chem 44:325-50 Mr '40
Polyiodides of potassium; the ternary system potassium iodide—iodine—water. T. R. Briggs and others. bibliog J Phys Chem 44: 350-72 Mr '40
Retrograde condensation. D. L. Katz and F. Kurata. il diags Ind & Eng Chem 32:817-27 bibliog(54 references, p827) Je '40
Studies on the separation of paraffin waxes; phase relationships. M. F. Sawyer, T. G. Hunter and A. W. Nash. bibliog diags Inst Pet J 26:430-51, pl 1 S '40
System isopropyl ether—isopropanol; vapor-liquid equilibrium. H. C. Miller and H. Bliss. bibliog Ind & Eng Chem 32:123-5 Ja '40
System sodium iodide-water. T. R. Briggs and W. F. Geigle. bibliog J Phys Chem 44: 373-7 Mr '40

PHELLANDRAL
Carbonyl constituents of eucalyptus oils; the constitution of phellandral; *d*-, *l*-, and *dl* (synthetic)-phellandric acids. R. G. Cooke, A. K. Macbeth and T. B. Swanson. Chem Soc J p808-10 Je '40

PHELLANDRIC acid
Carbonyl constituents of eucalyptus oils; the constitution of phellandral; *d*-, *l*-, and *dl* (synthetic)-phellandric acids. R. G. Cooke, A. K. Macbeth and T. B. Swanson. Chem Soc J p808-10 Je '40

PHELPS DODGE corporation
Annual report. Comm & Fin Chr 150:1783 Mr 16 '40
Another look. Mag of Wall St 65:627 F 24 '40
Rounding out best year in a decade. J. C. Clifford. Mag of Wall St 66:728-9+ O 5 '40

PHENANTHRAQUINONE. See Phenanthrene quinone

PHENANTHRENE
Aromatic cyclodehydration; phenanthrene. C. K. Bradsher and R. W. Wert. bibliog Am Chem Soc J 62:2806-7 O '40
Dehydration of 9-fluorenylcarbinol; a new synthesis of phenanthrene. W. G. Brown and B. Bluestein. bibliog Am Chem Soc J 62:3256-7 N '40
Further observations on the use of hydrogen fluoride in acylations and cyclizations. L. F. Fieser and E. B. Hershberg. bibliog Am Chem Soc J 62:49-53 Ja '40
New synthesis of phenanthrene derivatives; phenanthrene-9,10-dicarboxylic anhydride and phenanthrene-9-carboxylic acid. T. A. Geissman and R. W. Tess. bibliog Am Chem Soc J 62:514-16 Mr '40
Phenanthrene derivatives; acetylation of 4-methylphenanthrene. W. E. Bachmann and R. O. Edgerton. bibliog Am Chem Soc J 62:2219-23 Ag '40
Reaction of some substituted phenanthrenes with *n*-butyllithium. H. Gilman and T. H. Cook. bibliog Am Chem Soc J 62:2813-17 O '40
Studies in the phenanthrene series; phenolic amino alcohols and naphthisoquinolines derived from 9,10-dihydrophenanthrene. A. H. Stuart and E. Mosettig. bibliog Am Chem Soc J 62:1110-16 My '40
Synthesis of phenanthrene derivatives. A. Schönberg and F. L. Warren. Chem Soc J p1838-41 D '39
Thermal data on organic compounds; modern combustion data for some non-volatile compounds containing carbon, hydrogen and oxygen. J. W. Richardson and G. S. Parks. bibliog Am Chem Soc J 61:3543-6 D '39

PHENANTHRENEQUINONE
Evidence for a skew structure of benzil. C. C. Caldwell and R. J. W. Le Fèvre. diags Chem Soc J p1614-22 O '39
Thermal polymerisation of styrene and its inhibition. S. G. Foord. diag Chem Soc J p48-56 Ja '40

PHENANTHROL
Reaction of fluorenone and diazomethane; a new route to 9-phenanthrol derivatives. R. F. Schultz, E. D. Schultz and J. Cochran. Am Chem Soc J 62:2902-4 N '40

PHENANTHROLINE
New applications of the silver reductor; determination of uranium and copper. N. Birnbaum and S. M. Edmonds. bibliog Ind & Eng Chem Anal ed 12:155-7 Mr 15 '40

PHENANTHRONE
Synthesis of a new perhydro-9-phenanthrone. C. S. Marvel and R. V. White. bibliog Am Chem Soc J 62:2739-40 O '40

PHENETHYLAMINE
Comparative physiological actions of phenethylamine and of the betahydroxyphenethylamines. G. A. Alles and P. K. Knoefel. diags Univ of Calif Publications in Pharmacology, v 1, no 9:101-18 bibliog(p117-18) '38 (pa 25c)

PHENOL
By-products of coal carbonization. J. M. Weiss. Ind & Eng Chem 32:1161-2 S '40
Comparison of the activities of tyrosinase toward phenol and *p*-cresol. D. C. Gregg and J. M. Nelson. Am Chem Soc J 62: 2506-9 S '40
Condensation of phenol and ethylene oxide. R. A. Smith. Am Chem Soc J 62:994 Ap '40
Heats of solution, heats of formation, specific heats and equilibrium diagrams of certain molecular compounds. A. N. Campbell and A. J. R. Campbell. Am Chem Soc J 62:291-7 F '40
Hydrogen fluoride as a condensing agent; reactions of di- and triisobutylene with phenol. J. H. Simons and S. Archer. Am Chem Soc J 62:451 F '40
Progress in intermediates; coal tar products used in many industries. J. M. Weiss. il Chem Ind 46:686-92 Je '40
Synthesis of phenol using a partial pressure evaporation method; abstract. D. F. Othmer and C. E. Leyes. Chem Age (Lond) 43:146 S 28 '40

Manufacture

Durez starts output of synthetic phenol from benzene; Raschig process. flow sheet il Oil Paint & Drug Rep 138:3+ N 4 '40; Ind & Eng Chem News ed 18:921-2 N 10 '40; Mod Plastics 18:62-4, 100+ N '40
Synthetic phenol; Raschig process. Science 92:sup8 N 8 '40

PHENOL condensation products
Condensation products improve dyeing qualities of fabrics. C. H. S. Tupholme. Textile Col 62:663-4 O '40
Curing phenol resins with metal chlorides; stannous and chromic chlorides. L. E. Stout and C. R. McAlister, jr. diags Mod Plastics 18:59-61+ N '40
Electrical properties of thermoplastics; five phenolics and one benzyl alcohol resin investigated. L. Hartshorn, N. J. L. Megson and E. Rushton. Soc Chem Ind J 59:129-33 Jl '40
Indano-indanes. J. B. Niederl and R. H. Nagel. Am Chem Soc J 62:3070-2 N '40
Phenolic resins import ban revoked in part. Oil Paint & Drug Rep 137:31 F 12 '40
Plastics and their uses in the automotive industry. G. M. Kline. S A E J 46:201-2 My '40; Same. Mod Plastics 17:53, 84+ Jl '40
Protein plastics from soybean products; influence of phenolic resins or phenolic molding compounds on formaldehyde-hardened protein material. G. H. Brother and L. L. McKinney. bibliog(51 titles) Ind & Eng Chem 32:1002-6 Jl '40
Vulcanized-fiber-phenolic tubes in high voltage engineering. G. A. Albert. il diags Mod Plastics 17:45-7+ D '39

See also
Bakelite

PHENOL ethers. See Ethers

PHENOLPHTHALEIN
Phenolphthalein and methyl orange. C. A. Peters and B. C. Redmon. bibliog J Chem Educ 17:525-8 N '40

PHENOLS
Condensation products of phenols and ketones; structure of the dimeric forms of *o-isopropenylphenols*. W. Baker and D. M. Besly. Chem Soc J p1103-6 Ag '40
Cyclo-alkylation of aromatic compounds by the Friedel and Crafts reaction. H. A. Bruson and J. W. Kroeger. Am Chem Soc J 62:36-44 Ja '40
Dibenzofuran; isomeric metalation products of some phenols and their methyl ethers. H. Gilman and others. Am Chem Soc J 62:667-9 Mr '40
α,ω-Di-*p*-hydroxyphenyl alkanes. E. M. Richardson and E. E. Reid. bibliog Am Chem Soc J 62:413-15 F '40
Increases in the acid strength of hydrogen chloride in dioxane brought about by phenols and alcohols. P. D. Bartlett and H. J. Dauben, jr. bibliog Am Chem Soc J 62:1339-44 Je '40
Nitrosation of phenols; *o*-fluorophenol, and a comparative study of the four *o*-halogenophenols. H. H. Hodgson and D. E. Nicholson. Chem Soc J p810-12 Je '40
Nitrosation of phenols; the synthesis of 3-fluoro-4-nitrosophenol and of 3-fluoro-6-nitrosophenol; a comparison of the stabilities of the 3-halogeno-4-nitrosophenols. H. H. Hodgson and D. E. Nicholson. Chem Soc J p1268-71 S '40
Phenolic compounds from petroleum sources; comparison with coal tar sources. E. Field, F. H. Dempster and G. E. Tilson. bibliog il Ind & Eng Chem 32:489-96 Ap '40
Spirochromans. J. B. Niederl and R. H. Nagel. Am Chem Soc J 62:324-5 F '40
Steric hindrance in ketone-phenol condensations; the condensation of guaiacol with cyclic ketones. J. B. Niederl, V. Niederl and J. Grumer. Am Chem Soc J 62:320-2 F '40
Structure of cannabidiol; absorption spectra compared with those of various dihydric phenols. R. Adams, C. K. Cain and H. Wolff. bibliog Am Chem Soc J 62:732-4 Ap '40
Waste problems of a chemical company; Dow chemical company, Midland, Mich. I. F. Harlow. flow diag(p1346) Ind & Eng Chem 31:1348-9 N '39

See also
Phenol

Analysis

Determination of phenol when present in minute amounts in water containing sodium sulphides. L. S. Renzoni. Can Eng W & S 78:36-8 Mr '40; Same. Am Water Works Assn J 32:1038-41; Discussion. D. Feben. 1042-3 Je '40
Eine neue physikalisch-chemische methode zur bestimmung von einzelbestandteilen in gemischen; unter besonderer berücksichtigung ihrer anwendung auf die untersuchung von mineralölen, synthetischen ölen und teerfraktionen. G. Ibing. diag Angew Chemie 53:60-5 F 3 '40

PHENOTHIOXIN
Metalation of phenoxathiin. H. Gilman and others. bibliog Am Chem Soc J 62:2606-11 O '40

PHENOXATHIIN. See Phenothioxin

PHENOXY compounds
Acetylenic ethers; phenoxyacetylenes. T. L. Jacobs, R. Cramer and F. T. Weiss. bibliog Am Chem Soc J 62:1849-54 Jl '40

PHENOXYL group
Free radicals and radical stability; the influence of the phenoxyl group on the stability of ketylic derivatives; the preparation of carbon monoxide from carbonates. S. T. Bowden and T. John. Chem Soc J p213-16 F '40

PHENYLACETONE
Preparation of phenylacetone. J. P. Mason and L. I. Terry. Am Chem Soc J 62:1622 Je '40

PHENYLACETYLENE
Raman spectra of acetylenes; displacements and depolarization factors for phenylacetylene and derivatives of the type $C_6H_5C{\equiv}CR$. M. J. Murray and F. F. Cleveland. bibliog Am Chem Soc J 61:3546-9 D '39

PHENYLALANINE acetic acid
Ring closure of acylic ureides resulting from the elimination of alcohol; a study of the esters of beta-phenylalanine-N-acetic acid and related compounds. D. A. Hahn, M. J. McLean and M. M. Endicott. bibliog Am Chem Soc J 62:1087-91 My '40

PHENYLALLYL alcohol
d- and *l*-α-phenylallyl alcohols and some of their reactions. D. I. Duveen and J. Kenyon. Chem Soc J p1697-1701 N '39

PHENYLAMINE. See Aniline

PHENYLARSENOXIDES
Preparation of phenylarsenoxides; derivatives of amino- and hydroxy-phenylarsenoxides. G. O. Doak, H. Eagle and H. G. Steinman. bibliog Am Chem Soc J 62:3010-11 N '40

Preparation of phenylarsenoxides; derivatives of carboxy- and sulfo-phenylarsenoxides. G. O. Doak, H. G. Steinman and H. Eagle. Am Chem Soc J 62:3012-13 N '40

Preparation of phenylarsenoxides in relation to a projected study of their chemotherapeutic activity; monosubstituted derivatives. G. O. Doak, H. Eagle and H. G. Steinman. bibliog Am Chem Soc J 62:168-70 Ja '40

PHENYL arsinic acid
La synthèse industrielle des arsines; synthèse de l'acide phénylarsinique. L. Blas. Génie Civil 115:448-9 D 23 '39; Abstract (Phenylarsinic acid). Chem Age (Lond) 42:102 F 17 '40

PHENYL azide
Action of ethyl azide and phenyl azide on fuming sulfuric acid. K. W. Sherk, A. G. Houpt and A. W. Browne. bibliog Am Chem Soc J 62:329-31 F '40

PHENYLBENZALACETOPHENONE
Action of phosphorus pentachloride on β-phenylbenzalacetophenone. C. R. Conard. Am Chem Soc J 62:1002-3 My '40

PHENYLBROMOETHYLENE
Synthetic oestrogens related to triphenylethylene. A. Schönberg and others. Chem Soc J p1327-9 S '40

PHENYLCARBAMIC acids. See Carbanilic acid

PHENYL carbonates
Free radicals and radical stability; the influence of the phenoxyl group on the stability of ketylic derivatives; the preparation of carbon monoxide from carbonates. S. T. Bowden and T. John. Chem Soc J p213-16 F '40

PHENYL chloride. See Chlorobenzene

PHENYLCYCLOHEXANOL
Dehydration of *cis*- and *trans*-2-phenylcyclohexanols. C. C. Price and J. V. Karabinos. bibliog Am Chem Soc J 62:1159-61 My '40

PHENYLCYCLOHEXANONE
Studies in the sterol-oestrone group; derivatives of 2-phenyl*cyclo*hexanone. J. C. Bardhan. Chem Soc J p848-50 Jl '40

PHENYLCYCLOHEXENE
4-Phenylcyclohexene. C. C. Price and J. V. Karabinos. Am Chem Soc J 62:2243 Ag '40

PHENYLDIAZONIUM chloride
Chemical constitution and reactivity; phenyldiazonium chloride and its mono substituted derivatives. M. L. Crossley, R. H. Kienle and C. H. Benbrook. diag Am Chem Soc J 62:1400-4 Je '40

PHENYL ether
Chlorination of phenyl ether and orientation in 4-chlorophenyl ether. R. Q. Brewster and G. Stevenson. bibliog Am Chem Soc J 62: 3144-6 N '40

Claisen rearrangement; a kinetic study of the rearrangement of allyl 2,6-dimethylphenyl ether in diphenyl ether solution. D. S. Tarbell and J. F. Kincaid. bibliog Am Chem Soc J 62:728-31 Ap '40

Dependence of conductance on field strength; tetrabutylammonium bromide in diphenyl ether at 50°. D. J. Mead and R. M. Fuoss. Am Chem Soc J 62:1720-3 Jl '40

PHENYLETHYL alcohol
Steric course of the hydrolysis of α-phenylethyl chloride in acetone containing mercuric chloride. D. R. Read and W. Taylor. Chem Soc J p679-83 My '40

PHENYLETHYL bromide
Mechanism of elimination reactions; kinetics of olefin elimination from ethyl, isopropyl, *tert.*-butyl and α- and β-phenylethyl bromides in acidic and in alkaline alcoholic solution; effects due to, and factors influencing, the two mechanisms of elimination. E. D. Hughes and others. Chem Soc J p899-912 Jl '40

PHENYLETHYL chloride
Steric course of the hydrolysis of α-phenylethyl chloride in acetone containing mercuric chloride. D. R. Read and W. Taylor. Chem Soc J p679-83 My '40

PHENYLETHYLSTEARYLAMINE
Splitting the CONH linkage by means of ultraviolet light. D. C. Carpenter. bibliog diags Am Chem Soc J 62:289-91 F '40

PHENYLFURFURYLETHYLAMINE
β-phenylfurylethylamine and analogous derivatives of thiophen and pyrrole. R. Robinson and W. M. Todd. Chem Soc J p1743-7 N '39

PHENYLGLYOXYLIC acid
Oxidative cleavage of α-keto acids and α-keto alcohols by means of lead tetraacetate. E. Baer. Am Chem Soc J 62:1597-1606 Je '40

PHENYL group
Kinetics of the saponification of the ethyl esters of several phenyl substituted aliphatic acids. H. S. Levenson and H. A. Smith. bibliog Am Chem Soc J 62:2324-7 S '40

PHENYLHYDRAZIDES
Some fully acetylated sugar acids and their derivatives. G. B. Robbins and F. W. Upson. bibliog Am Chem Soc J 62:1074-7 My '40

PHENYLISOPROPYLAMINE
Physiologically active amines; secondary and tertiary β-phenylpropylamines and β-phenylisopropylamines. E. H. Woodruff, J. P. Lambooy and W. E. Burt. bibliog Am Chem Soc J 62:922-4 Ap '40

PHENYL laurate
Fries rearrangement of phenyl laurate and phenyl stearate. H. E. Bell and J. E. Driver. Chem Soc J p835-7 Jl '40

PHENYLLYXOSIDE
Action of almond emulsin on α-phenyl-*d*-lyxoside. W. W. Pigman. bibliog Am Chem Soc J 62:1371-4 Je '40

PHENYLMAGNESIUM bromide
Action of organometallic compounds on dimethylmaleic anhydride. D. S. Tarbell and C. Weaver. bibliog Am Chem Soc J 62:2747-50 O '40

Action of phenylmagnesium bromide on anthraquinones. C. F. H. Allen and A. Bell. bibliog Am Chem Soc J 62:2408-12 S '40

Reaction between 2,3-dimethyl-1,4-naphthoquinone and phenylmagnesium bromide. H. M. Crawford. Am Chem Soc J 61:3310-14 D '39

Reaction of *o*-hydroxybenzhydrylacetophenone and *o*-hydroxybenzaldiacetophenone with phenylmagnesium bromide. T. A. Geissman. bibliog Am Chem Soc J 62:1363-7 Je '40

PHENYLMETHYLALLYL alcohol
d- and *l*-α-phenylallyl alcohols and some of their reactions. D. I. Duveen and J. Kenyon. Chem Soc J p1697-1701 N '39

PHENYLMETHYLBENZOYLBUTYRIC acid
Action of organometallic compounds on dimethylmaleic anhydride. D. S. Tarbell and C. Weaver. bibliog Am Chem Soc J 62:2747-50 O '40

PHENYLNAPHTHALENE
New method for the synthesis of β-phenylnaphthalene derivatives. M. Weizmann, E. Bergmann and E. Bograchov. bibliog Chem & Ind 59:402-3 Je 8 '40

Preparation of 2-phenylnaphthalene from diphenyl. D. H. Hey and R. Wilkinson. Chem Soc J p1030 Jl '40

Syntheses of 2-phenylnaphthalenes. D. H. Hey and S. E. Lawton. Chem Soc J p374-83 Mr '40

PHENYLPHENOL
Kolbe synthesis with alkyl-*o*-xenols. S. Harris and J. S. Pierce. Am Chem Soc J 62:2223-5 Ag '40

PHENYLPROPIONIC acid (β). See Hydrocinnamic acid

PHENYLPROPYLAMINE
Physiologically active amines; secondary and tertiary β-phenylpropylamines and β-phenylisopropylamines. E. H. Woodruff, J. P. Lambooy and W. E. Burt. bibliog Am Chem Soc J 62:922-4 Ap '40

PHENYLPYRIDINE
Arylpyridines; phenylpyridines and nitrophenylpyridines. J. W. Haworth, I. M. Heilbron and D. H. Hey. Chem Soc J p349-55 Mr '40

Arylpyridines; some substituted phenylpyridines. E. C. Butterworth, I. M. Heilbron and D. H. Hey. Chem Soc J p355-8 Mr '40

PHENYLSELENINAMIDE
Organoselenium compounds; derivatives of phenylseleninic acid and phenylseleninamide. C. K. Banks and C. S. Hamilton. bibliog Am Chem Soc J 62:1859-60 Jl '40

PHENYL stearate
Fries rearrangement of phenyl laurate and phenyl stearate. H. E. Bell and J. E. Driver. Chem Soc J p835-7 Jl '40

PHENYLSTEARIC acid
Sulfonated arylstearic acids; wetting properties of the sodium salts. A. J. Stirton, R. F. Peterson and P. H. Groggins. bibliog Ind & Eng Chem 32:1136-7 Ag '40

PHENYLTHALLIUM. See Thallium compounds

PHENYLTHIOUREA
Optical properties of phenylthiourea derivatives. M. L. Willard and M. Z. Jones. Am Chem Soc J 62:2876-7 O '40

PHENYLURETHANS
Crystalline phenylurethans (carbanilates) of sugar glycosides. M. L. Wolfrom and D. E. Pletcher. Am Chem Soc J 62:1151-3 My '40

Identification of alcohols by means of the optical properties of the esters of carbanilic acid. B. T. Dewey and N. F. Witt. Ind & Eng Chem Anal ed 12:459-60 Ag 15 '40

PHENYLVINYLCARBINOL
Addition of βγ-unsaturated alcohols to the active methylene group; the action of ethyl acetoacetate on cinnamyl alcohol and phenylvinylcarbinol. M. F. Carroll. Chem Soc J p1266-8 S '40

PHENYLATION
Hydrogen fluoride as a condensing agent; reactions of methyl, ethyl and phenyl compounds with benzene and its derivatives. J. H. Simons and H. J. Passino. Am Chem Soc J 62:1624 Je '40

PHENYLENEBISIMINOCAMPHOR
New method of resolving a racemic compound. G. M. Henderson and H. G. Rule. Chem Soc J p1568-73 O '39

PHENYLENECARBAZOLE
Attempts to prepare optically active tervalent nitrogen compounds; syntheses of 1 : 9-phenylenecarbazole and derivatives. H. G. Dunlop and S. H. Tucker. Chem Soc J p1945-56 D '39

PHENYLENEDIAMINE
Catalytic action of 8-hydroxyquinoline on the oxidation of *p*-phenylenediamine. F. Bernheim and P. Handler. Am Chem Soc J 62:984 Ap '40

Removal of chlorides and sulfates by synthetic resins. M. C. Schwartz, W. R. Edwards, jr. and G. Boudreaux. bibliog(48 references) Ind & Eng Chem 32:1462-6 N '40

PHEOPHYTIN
Color changes in green vegetables; frozen-pack peas and string beans. G. Mackinney and C. A. Weast. Ind & Eng Chem 32:392-5 Mr '40

Conversion of chlorophyll pheophytin. G. Mackinney and M. A. Joslyn. Am Chem Soc J 62:231-2 Ja '40

PHILADELPHIA
Effect of weak local government on municipal utility service. Pub Util 25:427-8 Mr 28 '40

See also
Public health—Philadelphia
Unemployment—Philadelphia

Libraries
Bibliographical planning committee of Philadelphia. M. L. Alexander. Special Lib 30:328-32 D '39

Population
Have cities stopped growing? E. Whitmore. il Am Business 10:26-8, 48 O '40

Rapid transit
Low-accident record; Philadelphia establishes an all-time record. Mass Transportation 36:175 Ag '40

Philadelphia says it with posters; Philadelphia rapid transit company. il Transit J 84:50-1 F '40

Philadelphia's valentine; handling transit after blizzard. il Transit J 84:92-3 Mr '40

Safest year in history; Philadelphia transportation company. H. W. Whitcomb. il Transit J 84:152-4 My '40

20% more passengers, 5% less equipment; P.C.C. cars. il Transit J 84:238 Jl '40

PHILADELPHIA association of life underwriters
Historical sketch. T. Eagan. Spectator (Life ed) 145:17-18 S 26 '40

PHILADELPHIA company
Earnings, 1936-39. Comm & Fin Chr 150:2265 Ap 6 '40

Earnings, 1938 and 1939; SEC allows company to reduce stated value of common unit from $10 to $7.25. Comm & Fin Chr 150:850 F 3 '40

Securities and exchange commission; findings and opinion in matter of Philadelphia company. J Account 69:245-8 Mr '40

PHILADELPHIA electric company
New projects planned. Elec W 113:906 Mr 23 '40

PHILADELPHIA life insurance company
Historical sketch. T. Eagan. il Spectator (Life ed) 145:15-16 S 26 '40

PHILADELPHIA stock exchange
Weekly record. Published in weekly numbers of Commercial & financial chronicle

PHILANTHROPY
Taxes and philanthropy; government subsidy of charity thru gift exemptions and proportion contributed by class of wealth. C. L. Harriss. Trusts & Estates 70:117-19+ F '40

PHILCO corporation (formerly Philco radio and television corporation)
Common stock offering oversubscribed. Comm & Fin Chr 151:253-4 Jl 13 '40

Philco goes to public; common stock to be offered. Business Week p49-50 My 4 '40

Stock to be distributed publicly and listed on New York stock exchange. Comm & Fin Chr 150:2893 My 4 '40

PHILIP, James Charles, 1873-
Portrait. Chem Age (Lond) 43:19 Jl 13 '40; Chem & Ind 59:494 Jl 13 '40

President of Society of chemical industry. por(front) Chem & Ind 59:9 Ja 6 '40

PHILIPPINE ISLANDS
In the wake of a traveling engineer. J. C. Cosgrove. il map Explosives Eng 18:90-4 Mr '40

Philippines; economic stepchild, moral headache—and the Achilles' heel of the U.S. empire; with color portfolio. il map Fortune 21:46-57+ Je '40

Review of question of Philippine independence favored by President Quezon. Comm & Fin Chr 150:2192 Ap 6 '40

See also
Electric apparatus industry—Philippine Islands
Gold mines and mining—Philippine Islands

PHILIPPINE ISLANDS—See also—*Continued*
Manganese mines and mining—Philippine Islands
Mines and mineral resources—Philippine Islands
Wages—Philippine Islands

Civilization

Filipino way of life; the pluralized philosophy. C. Osias. 321p bibliog(p275-8) $2.12 Ginn '40

Economic conditions

Business situation. Published in Commerce reports [cont as Foreign commerce weekly, O 5]

PHILIPPINE railway
Traffic statistics and income account for calendar years, 1936-39. Comm & Fin Chr 151:254 Jl 13 '40

PHILLIPS, Frank, 1873-
Frank Phillips' birthday sets off big festival. Oil & Gas J 38:14 N 30 '39
Frank Phillips dreamed an oil empire, and built it. T. F. Smiley. pors Oil & Gas J 38:16-17+ N 30 '39
George F. and Uncle Frank. por Ptr Ink Mo 40:9 Mr '40
Over 30,000 turn to honor Frank Phillips. pors Nat Pet N 31:8-9 D 6 '39

PHILLIPS petroleum company
Frank Phillips dreamed an oil empire, and built it. T. F. Smiley. il Oil & Gas J 38: 16-17+ N 30 '39

PHILOSOPHY
See also
Physics—Philosophy
Psychology
Science—Philosophy

PHLEBITIS
Phlebitis; the hidden cause of most leg and foot ailments. O. Meyer. 72p $1 Savoy book publishers, 63 Park row, New York '40

PHOENIX insurance company
Annual statements of group, 1939. East Underw 41:32 F 16 '40

PHOENIX mutual life insurance company
Annual statement, 1939. East Underw 41:18 Ja 26 '40

PHOENIXVILLE, Pennsylvania

Sewerage

Attractive control building for the sewage treatment works; view and floor plan. Pub Works 71:13 Jl '40

PHONETICS
Outline of English phonetics. D. Jones. 6th ed 326p bibliog(p310-14) $3.50 Dutton '39

PHONOGRAPH
Beam of light operates new-type phonograph (photoelectric). Illum Eng 35:581-2 Jl '40
Dancing light beam used in new sound system for phonographs. Science 91:sup10 Je 21 '40
Improved phono oscillator. L. VanArsdale, jr. il diag Radio N 23:13+ My '40
Phonograph records; recovery in the musical reproduction business. Index 20 no 3:66-73 [S] '40
Radio-phonograph sales soar. Business Week p32+ N 18 '39
You pay before you play; coin operated phonograph. T. Murray. il Nation's Business 28:28, 30+ Je '40

Pickup

Phonograph pickups; rating. il Consumers' Research Bul (Gen bul ser) 9:22-4 Je '40

PHONOGRAPH in industry
Can music increase production? R. Deardorff. Am Business 10:28+ Je '40
Columbia Steel makes nails exciting by Blitz-keg promotion; talking nail keg at jobbers' meetings. il Sales Management 47:32 O 1 '40

PHONOGRAPH needles

Rating

Phonograph needles. Consumers' Research Bul (Gen bul ser) 9:25 Je '40

PHONOGRAPH records
Battle over records; Publishers Service sues New York journal & American for infringing promotion copyright. Business Week p50-1 F 24 '40
Mass opera. Committee for music appreciation launches low-price opera records in New York. Business Week p41-2 O 5 '40
Musical instruments are coming back; pictograph. Sales Management 46:37 Ja 15 '40
Old phonograph records rejuvenated. E. C. Davis. Science 92:sup8 O 4 '40
Record rush; platters returning to newsstands and Woolworth's. Business Week p32 Ap 20 '40
Recovery in the musical reproduction business. Index 20 no 3:66-73 [S] '40
Some problems of disk recording. S. J. Begun. il diags Inst Radio Eng Proc 28:389-98 S '40
Supplement to Music on records; discussing records issued between October 1938 and September 1939. B. H. Haggin. 41p pa 75c Oxford '39
Victor low-price records. Ptr Ink 191:36 My 10 '40
See also
Copyright—Phonograph records

Advertising

Sales soar when RCA sponsors music program for night owls; Victor spikes an old superstition in the radio field which insists that nobody listens to midnight broadcasts. Sales Management 46:46 My 1 '40

Manufacture

Audak cutting heads. il diags Radio N 24:22 O '40
Disc-cutting problems. C. J. Lebel. il diags Electronics 12:17-19 D '39
Embossing at constant groove speed, a new recording technique. E. E. Griffin. il Electronics 13:26-7+ Jl '40
Home record-maker has arrived; Wilcox-Gay corp. of Charlotte, Mich. il Business Week p48-50 My 18 '40
Manufacture of stampers for phonograph records. G. B. Hogaboom, jr. Metal Ind 37:582-3 D '39

Prices

Classical records, 75c. Business Week p41-2 Ag 24 '40

Racks

Holding all records. A. Hayward. il Mod Plastics 17:34, 68+ D '39

PHONOGRAPHIC library of contemporary poets. See New York (city) college—Phonographic library of contemporary poets

PHONOLITE
Alumina from phonolite; new German process. Chem Age (Lond) 42:sup16 Ap 6 '40

PHONOVISION corporation of America
Nickel-in-the-slot sound movies. Barron's 20: 5 My 20 '40

PHORONE
Spirochromans. J. B. Niederl and R. H. Nagel. Am Chem Soc J 62:324-5 F '40

PHOSGENE
Decontamination of foodstuffs affected by poisonous gases. A. P. B. Page. Chem & Ind 58:906-9 O 7 '39; Same. Can Chem & Process Ind 24:6-8 Ja '40
Photochemical reactions of oxalyl chloride and phosgene with cyclohexane. M. S. Kharasch and H. C. Brown. Am Chem Soc J 62:454 F '40
Treatment of casualties from lung irritant gases with particular reference to the use of oxygen and carbon dioxide mixture. A. T. Jones. bibliog il J Ind Hygiene 22:235-43 Je '40

PHOSPHATASES
Constitution of yeast ribonucleic acid; the nature of the phosphatase-resistant group. J. M. Gulland and E. M. Jackson. Chem Soc J p1842-4 D '39

PHOSPHATE rock
Compatibility of fused rock phosphate with superphosphates. W. H. MacIntire and L. J. Hardin. bibliog il Ind & Eng Chem 32: 574-9 Ap '40
Composition and properties of superphosphate; effect of degree of acidulation on the curing processes. H. L. Marshall and W. L. Hill. bibliog Ind & Eng Chem 32:1224-32 S '40
Composition and properties of superphosphate; estimation of acid requirements and correlation of experimental results. H. L. Marshall and W. L. Hill. bibliog Ind & Eng Chem 32:1128-35 Ag '40
Phosphate deposits of the United States. G. R. Mansfield. bibliog maps Econ Geol 35:405-29 My '40
Phosphate, the vital non-metallic; Florida and Tennessee fields. A. H. Hubbell. flow sheets il map Eng & Min J 141:49-56 S; 39-42 O; 53-7 N '40 (to be cont)
Potash and phosphate rock, 1939. B. L. Johnson. il Min Cong J 26:40-1 F '40
Reaction of calcined phosphate rock with alkali carbonate solutions. K. A. Kobe, W. S. Hamm and A. Leipper. bibliog Ind & Eng Chem 32:981-3 Jl '40

Florida

Accident experience at pebble-phosphate operations in Florida, 1930-38. F. E. Cash and G. W. Colbert. U S Bur Mines Information Circ 7100:1-13 '40

Tennessee

Phosphate deposits of Tennessee. Rock Prod 43:32 N '40

PHOSPHATES
Basic calcium phosphates and related systems; some theoretical and practical aspects. S. Eisenberger, A. Lehrman and W. D. Turner. Chem R 26:257-96 bibliog (230 references, p290-6) Ap '40
Better adherence; laboratory tests on improved adherence of finishes on zinc or zinc-alloys and on zinc-coated metals. H. E. Van Sicien. Steel 105:66, 68-9 N 20 '39
Chemicals for treatment of drilling fluids. C. F. Bonnet and B. N. Howell. il Oil & Gas J 39:58, 61 O 17 '40
Compatibility of fused rock phosphate with superphosphates. W. H. MacIntire and L. J. Hardin. bibliog il Ind & Eng Chem 32: 574-9 Ap '40
Composition and properties of superphosphate; effect of degree of acidulation on the curing processes. H. L. Marshall and W. L. Hill. bibliog Ind & Eng Chem 32:1224-32 S '40
Composition and properties of superphosphate; estimation of acid requirements and correlation of experimental results. H. L. Marshall and W. L. Hill. bibliog Ind & Eng Chem 32:1128-35 Ag '40
Effect of phosphate buffers on the electrical mobility of hemoglobin. M. H. Gorin, H. A. Abramson and L. S. Moyer. bibliog Am Chem Soc J 62:643-4 Mr '40
Fluoride-induced reversion in mixtures of superphosphates and calcined rock phosphate. W. H. MacIntire and L. J. Hardin. bibliog Ind & Eng Chem 32:88-94 Ja '40
Organic phosphates in industry; some technical applications. L. Light. Chem Age (Lond) 43:55 Ag 3 '40
Phosphate conference, Sept. 5; program. Oil Paint & Drug Rep 138:3+ Ag 26 '40
Phosphate deposits of the United States. G. R. Mansfield. bibliog maps Econ Geol 35: 405-29 My '40
Phosphate in Germany; serious deficiency reported. Chem Age (Lond) 42:80 F 10 '40
Phosphate materials in Germany. S. B. Redecker. Can Chem & Process Ind 24: 122 Mr '40
Phosphate, the vital non-metallic; Florida and Tennessee fields. A. H. Hubbell. flow sheets il map Eng & Min J 141:49-56 S; 39-42 O; 53-7 N '40 (to be cont)
Possible development of the superphosphate industry. S. Nordengren and H. Lehrecke. bibliog Chem Age (Lond) 42:139-42 Mr 9 '40
Reaction of calcined phosphate rock with alkali carbonate solutions. K. A. Kobe, W. S. Hamm and A. Leipper. bibliog Ind & Eng Chem 32:981-3 Jl '40
Recovering tin from waste phosphate liquors. C. C. Downie. Textile Col 62:394+ Je '40
Removal of phosphates from solutions of hydrogen peroxide. S. R. Dickman and R. H. Bray. Ind & Eng Chem Anal ed 12:279 My 15 '40
Screening under water for phosphate recovery; use of flotation; Swift and company fertilizer works. B. Nordberg. flow diag il Rock Prod 43:26-9+ My '40
Western phosphate conference states objectives. Oil Paint & Drug Rep 138:5+ S 16 '40

See also
Calcium phosphates
Phosphate rock
Potassium phosphates

Analysis

Detection and elimination of phosphate in qualitative analysis; by means of zirconium salts. F. K. Pittman. bibliog Ind & Eng Chem Anal ed 12:514-15 S 15 '40
How to test for phosphates. C. A. Noll. il Power 84:393-4 Je '40
Nachweis und bestimmung von ortho-, pyro- und metaphosphation nebeneinander. B. Wurzschmitt and W. Schuhknecht. diag Angew Chemie 52:711-15 D 23 '39

Manufacture

Advances on many fronts; phosphate plants continue growth. il Chem & Met Eng 46: 684 N '39
Fertilizer practice at Curtis bay; Davison chemical corp. R. S. McBride. il diag Chem & Met Eng 47:4-9 Ja '40
Granulating phosphate fertilizers; Davison chemical corp. J. N. Mackall and M. Shoeld. flow diag il plan Chem & Met Eng 47:102-5 F '40
Phosphate research stimulated in Germany. Oil Paint & Drug Rep 136:30 D 18 '39

Statistics

Fertilizer and materials. Chem & Met Eng 47:72-6 F '40
Superphosphate (bulk), 1936-1939. Survey of Cur Business 1940 Sup p90 [supplemented in monthly numbers]

PHOSPHATIDES

See also
Lecithin

PHOSPHATIZING. See Steel—Protection

PHOSPHINE
Constitution of complex metallic salts; bridged compounds containing two different metallic atoms. F. G. Mann and D. Purdie. Chem Soc J p1230-5 S '40
Constitution of complex metallic salts; the stability of the 4-covalent auric complex. F. G. Mann and D. Purdie. Chem Soc J p1235-9 S '40
Constitution of complex metallic salts; the structure of the tertiary phosphine and arsine derivatives of cadmium and mercuric halides. R. C. Evans and others. Chem Soc J p1209-30 S '40
Preparation and properties of diborane diphosphine. E. L. Gamble and P. Gilmont. bibliog Am Chem Soc J 62:717-21 Ap '40

PHOSPHITES
Catalytic toxicity and chemical structure; simple anions containing toxic elements. E. B. Maxted and R. W. D. Morrish. Chem Soc J p252-6 Mr '40

PHOSPHONIUM compounds
Tetra-aryl phosphonium, arsonium, and stibonium salts; a new method of preparation. J. Chatt and F. G. Mann. Chem Soc J p1192-6 Ag '40

PHOSPHOPYRUVIC acid
Synthesis of phosphopyruvic acid on oxidation of lactic acid. D. L. Ferdman and S. F. Epstein. Science 91:365-6 Ap 12 '40

PHOSPHORESCENCE. See Luminescence

PHOSPHORIC acid
Catalytic hydration of acetylene and of some alkylacetylenes. R. E. Schaad and V. N. Ipatieff. bibliog Am Chem Soc J 62:178-80 Ja '40
Chemical changes in phosphoric acid silage. E. Pagé and L. A. Maynard. bibliog Ind & Eng Chem 32:1140-3 Ag '40
Equilibrium in the system calcium oxide—phosphorus pentoxide—water. K. L. Elmore and T. D. Farr. bibliog Ind & Eng Chem 32: 580-6 Ap '40
Partial vapor pressures of water and ammonia from the system water-phosphoric acid-ammonia. C. S. Huey and H. V. Tartar. bibliog diag Am Chem Soc J 62:26-32 Ja '40
Studies on silicic acid gels; the time of set of acidic and basic mixtures containing phosphoric acid. C. B. Hurd and A. J. Marotta. bibliog Am Chem Soc J 62:2767-70 O '40
Viscosity of strong phosphoric acids; chart. D. S. Davis. Chem & Met Eng 47:155 Mr '40

PHOSPHORUS
Distribution of radiophosphorus and radiogold in rats after oral, intraperitoneal and subcutaneous administration. J. O. Ely. Franklin Inst J 230:125-30 Jl '40
Phosphorus steels for vitreous enameling. C. H. Lorig and D. E. Krause. il Am Cer Soc J 23:107-10 Ap '40
Radioactive isotope study of the absorption of phosphorus and sodium by corn seedlings. A. K. Brewer and A. Bramley. Science 91: 269-70 Mr 15 '40
Reaction between phosphorus and iodine in carbon tetrachloride solution. D. Wyllie, M. Ritchie and E. B. Ludlam. Chem Soc J p583-7 My '40
Reactions of high energy atoms produced by slow neutron capture. W. F. Libby. Am Chem Soc J 62:1936-7 Ag '40
Use of radioactive phosphorus in soil studies. S. S. Ballard and L. A. Dean. il J Ap Phys 11:366-70 My '40

Analysis

Determination of organic phosphorus in soils. R. W. Pearson. bibliog diag Ind & Eng Chem Anal ed 12:198-200 Ap 15 '40
Examination of the Morgan rapid method of soil testing; the analytical procedures for phosphorus, potassium, and calcium. J. Tinsley and N. H. Pizer. Soc Chem Ind J 59:206-10 S '40
Rapid determination of phosphorus in linseed oil by oxygen bomb. G. T. Piercy, E. K. Plant and M. C. Rogers. diag Ind & Eng Chem Anal ed 12:165 Mr 15 '40

PHOSPHORUS chlorides
Action of phosphorus pentachloride on β-phenylbenzalacetophenone. C. R. Conard. Am Chem Soc J 62:1002-3 My '40
Action of phosphorus pentachloride upon *aldehydo*-galactose pentaacetate; the 1,1-dichloride of *aldehydo*-galactose pentaacetate. M. L. Wolfrom and D. I. Weisblat. bibliog Am Chem Soc J 62:1149-51 My '40

PHOSPHORUS compounds
Studies in chemotherapy; antibacterial action of phosphorus compounds. H. Bauer and S. M. Rosenthal. bibliog Pub Health Rep 54:2093-5 N 24 '39
Studies in the biphenyl series; some *o*-biphenyl derivatives of phosphorus, arsenic and antimony. D. E. Worrall. Am Chem Soc J 62:2514-15 S '40

See also
Trimethylphosphine

PHOSPHORUS isocyanate
Cyanates of silicon, phosphorus and boron; instability of certain ternary boron compounds. G. S. Forbes and H. H. Anderson. Am Chem Soc J 62:761-3 Ap '40

PHOSPHORUS pentoxide
Equilibrium in the system calcium oxide—phosphorus pentoxide—water. K. L. Elmore and T. D. Farr. bibliog Ind & Eng Chem 32:580-6 Ap '40

PHOSPHORYL chloride
Dipole moments and structures of certain compounds of sulfur, selenium and phosphorus. C. P. Smyth and others. bibliog Am Chem Soc J 62:1219-23 My '40

PHOSPHORYLATION
Constitution of yeast ribonucleic acid; syntheses of uridylic and guanylic acids, uridine-5-phosphate and guanosine-5-phosphate. J. M. Gulland and G. I. Hobday. Chem Soc J p746-52 Je '40
Functions of diphosphothiamine (phosphorylated vitamin B_1). E. S. G. Barron and C. M. Lyman. bibliog Science 92:337-8 O 11 '40

PHOTELOMETER. See Photoelectric cells—Measurement uses

PHOTOCHEMISTRY
Absorption and re-emission of light by *cis*- and *trans*-stilbenes and the efficiency of their photochemical isomerization. G. N. Lewis, T. T. Magel and D. Lipkin. bibliog Am Chem Soc J 62:2973-80 N '40
Apparatus for the study of the photochemistry of sheet materials; such as paper, cellulose acetate, cellophane, rubber, felt cloth, and a paint film. H. F. Launer. bibliog pls diags J Research Nat Bur Stand 24:567-77 My '40
Arrangement of apparatus for the isolation of monochromatic light of high intensity at λ. 254 mμ. L. J. Heidt. diag Science 90:473-4 N 17 '39
Heat of photobromination of the phenyl methanes and cinnamic acid, and the influence of oxygen. J. L. Magee and F. Daniels. bibliog Am Chem Soc J 62:2825-33 O '40
Nature of the Pasteur enzyme. K. G. Stern, J. L. Melnick and D. DuBois. bibliog Science 91:436 My 3 '40
Oxygen inhibition in the photobromination of cinnamic acid. R. F. Brown and F. Daniels. bibliog Am Chem Soc J 62:2820-5 O '40
Photochemical decomposition of solid hydrogen compounds at low temperatures. L. Farkas, Y. Hirshberg and L. Sandler. bibliog diag Am Chem Soc J 61:3393-6 D '39
Photochemical decomposition of the cystine in wool. H. A. Rutherford and M. Harris. bibliog J Research Nat Bur Stand 23:597-601 N '39; Same. Am Dyestuff Rep 28:655-6+ N 13 '39
Photochemical investigations; the photolysis and iodine sensitized decomposition of gaseous ethylene iodide. W. H. Janneck and E. O. Wiig. Am Chem Soc J 62:1877-8 Jl '40
Photochemical oxidation of hydrogen. H. A. Smith and A. Napravnik. bibliog Am Chem Soc J 62:385-93 F '40
Photochemical oxidation of oxalic acid sensitized by ferric ion. R. Livingston. bibliog diags J Phys Chem 44:601-11 My '40; Discussion. G. Kornfeld. 44:949 O '40
Photochemical studies; a systematic study of the near ultraviolet photochemical decomposition of acetone. D. S. Herr and W. A. Noyes, jr. bibliog Am Chem Soc J 62:2052-9 Ag '40
Photochemical studies; the fluorescence of biacetyl; some general considerations governing the study of fluorescence. F. C. Henriques, jr. and W. A. Noyes, jr. bibliog Am Chem Soc J 62:1038-43 My '40
Photochemical studies; the photochemical reaction between nitrous oxide and hydrogen. J. W. Zabor and W. A. Noyes, jr. bibliog Am Chem Soc J 62:1975-81 Ag '40
Photochemistry of diiodoacetylene and tetraiodoethylene. J. W. Tamblyn and G. S. Forbes. bibliog Am Chem Soc J 62:99-104 Ja '40
Photodehydrogenation of steroids; 2,4-cholestadiene. R. P. Jacobsen and C. Z. Nawrocki. Am Chem Soc J 62:2612-14 O '40
Photolysis of acetaldehyde and ethyl bromide mixtures at 310°. J. G. Roof and F. Daniels. bibliog diag Am Chem Soc J 62: 2912-15 N '40
Photolysis of ethyl iodide in various solvents. W. West and J. Pitelson. bibliog Am Chem Soc J 62:3021-6 N '40

PHOTOCHEMISTRY—*Continued*
Photoreactions sensitized by the halogens. J. W. T. Spinks. bibliog Chem R 26:129-39 F '40
Photosensitized production of reducing sugars from starch. L. J. Heidt. Am Chem Soc J 61:3588-9 D '39
Préparation photochimique à froid du tungstène par réduction de l'acide tungstique WO^3. L. Fassina. diags Chimie & Ind 43:453-6 Mr 20 '40
Quantum yields of some dye-sensitized photo-öxidations. F. Hurd and R. Livingston. bibliog J Phys Chem 44:865-73 O '40
Side-chain bromination. J. R. Sampey, F. S. Fawcett and B. A. Morehead. Am Chem Soc J 62:1839-40 Jl '40
Side-chain bromination; negative catalytic effects. J. R. Sampey and E. M. Hicks. Am Chem Soc J 62:3252-3 N '40
Sulfonation reactions with sulfuryl chloride; the photochemical sulfonation of aliphatic acids with sulfuryl chloride. M. S. Kharasch, T. H. Chao and H. C. Brown. bibliog Am Chem Soc J 62:2393-7 S '40

See also
Budde effect
Light
Photographic chemistry
Photosynthesis
Polymerization
Spectrum
Ultraviolet rays
X rays

PHOTOELASTICITY
Complete photoelastic instrument. F. W. Bubb. diag Opt Soc Am J 30:297-8 Jl '40; Discussion. D. Sinclair. 567 N '40
Gelatin models for photoelastic analysis of stress in earth masses. F. B. Farquharson and R. G. Hennes. il Civil Eng 10:211-14 Ap '40; Discussion. T. A. Middlebrooks. 10:529-30 Ag '40
How photoelastics pictures mine-structure stresses by use of small-scale transparent models. P. B. Bucky. il diag Coal Age 45: 54-7 N '40
Photoelastic analysis of a prestressed beam. F. O. Anderegg, R. Weller and B. Fried. il Am Soc T M Proc 39:979-82; Discussion. 983-6 '39
Photoelastic analysis of three-dimensional stress systems using scattered light. R. Weller and J. K. Bussey. bibliog il diags Roy Aeronautical Soc J 44:74-88 Ja '40
Photoelastic analysis of two- and three-dimensional stress systems. B. Fried and R. Weller. il diags Ohio State U, Eng Exp Sta Bul 106:1-28 '40 (pa 40c)
Photoelastic demonstrations as teaching aids in strength of materials. M. M. Frocht. bibliog il diags J Eng Educ 30:567-82 Mr '40
Photoelastic study of the stresses in wing ribs. T. J. Dolan and D. G. Richards. bibliog il diags J Aeronautical Sci 7:340-6 Je '40
Photoelasticity as applied to design problems. O. J. Horger and T. V. Buckwalter. bibliog il diags Iron Age 145:42-50 My 23 '40
Photoelasticity; mining engineer's new tool. il Min & Met 21:94 F '40
Properties of Rochelle salt. H. Mueller. bibliog Phys R 58:805-11 N 1 '40
Les récents progrès de la photoélasticité. A. Pirard. Génie Civil 116:213-15 Mr 30 '40
Stress analysis by three-dimensional photoelastic methods. D. C. Drucker and R. D. Mindlin. diags J Ap Phys 11:724-32 N '40
Tension specimen shape and apparent strength. F. O. Anderegg, R. Weller and B. Fried. il Am Soc T M Proc 39:1261-6; Discussion. 1267-9 '39

PHOTOELECTRIC cells
Balanced direct-current amplifier for alternating-current operation. R. Stair and I. F. Hand. diag R Sci Instr 11:257-9 Ag '40
Beam of light operates new-type phonograph (photoelectric). Illum Eng 35:581-2 Jl '40
Einthoven string galvanometer-amplifier system for the investigation of photovoltaic effects. W. Vanselow and others. diag R Sci Instr 11:202-3 Je '40
Electron optics of cylindrical electric and magnetic fields. A. Rose. bibliog il diags Inst Radio Eng Proc 28:80-40 Ja '40
Farnsworth electron multiplier phototube. diags Electronics 13:54 My '40
Limiting sensitivity of the alternating-current method of photo-cell-current amplification. E. A. Johnson, W. H. Mock and R. E. Hopkins. bibliog diag Opt Soc Am J 29:506-11 D '39
New high-sensitivity photosurface. A. M. Glover and R. B. Janes. il Electronics 13: 26-7 Ag '40
Photo-cell multiplier tubes. C. C. Larson and H. Salinger. il diags R Sci Instr 11:226-9 Jl '40
Photoelectric cells sensitive to long wave length radiation; the bismuth sulfide cell. C. G. Fink and J. S. Mackay. diags Electrochem Soc Trans 77 (preprint 13):155-81 Ap '40
Precision spectrophotometer for use in the range 450 to 820 mμ. S. Jacobsohn, H. E. Bent and A. J. Harrison. diag R Sci Instr 11:220-6 Jl '40
Thallous sulphide photo-e.m.f. cell. F. C. Nix and A. W. Treptow. bibliog diag Opt Soc Am J 29:457-62 N '39

See also
Electrodes
Television apparatus
Vacuum tubes

Control uses
Analysis of photoelectric classroom lighting control. D. P. Caverly. il diag Illum Eng Soc Trans 34:907-22 S '39; Discussion. Illum Eng 35:257-64 Mr '40
Combining natural and electric lighting. J. F. Springer. il Rayon 21:113-14 F '40
Complete control of piping systems eliminates errors at Campana plant. R. D. Frick. il Heating-Piping 12:103-5+ F '40
Cossor photo-cell relay unit. diag Engineer 169:450-1 My 17 '40
Electric eye guards against fires in ducts; Ernst Kern company. J. J. Woolfenden. il diag Heat & Ven 37:24-6 Je '40
Electric eye maintains steady work flow on conveyor. diag Mech Handling 27:148 Jl '40
Electronic telescope control; device for tracking aircraft in flight. A. L. Rubenstein. il diags Electronics 13:54+ Ag '40
Light regulator. B. Chance. il diags Electronics 13:24-5 F '40
Newspaper employs register control profitably. Electronics 13:60 O '40
No stoppage in this stock; feed mechanism controlled by photoelectric cell at Buick plant. il diag Am Mach 84:169 Mr 20 '40
Photo-cell ham-saver; safety device for transmitter. A. Eidam. il diags Radio N 23:25-6+ F '40
Photo-electric and electronic controls in the machinery field. B. W. Steverman. il diags Mach 47:140-4 O '40
Photoelectric control of paper registration. E. W. Forster. diag Electronics 13:77 S '40
Photo-electric relays pay for themselves in one day. Mach 46:154 Mr '40
Photo-electric side register control as adapted to web operated machines such as slitters, winders, web printing presses, coaters and waxers. H. E. Overacker. il diags Paper Tr J 111:12-13 Jl 11 '40
Photo-electric side register control; web-fed processing machines. H. E. Overacker. il diags Rayon 21:704-6 N '40
Photoelectric tape recording. il Electronics 13: 16-18 My '40
Phototube controls printing exposures automatically. diag Electronics 13:54+ Je '40
Seven roles for electronic devices; illustrations. Factory Management 98:80-1 Ja '40
Starting characteristics of a trigger tube with a radioactive cathode; Westinghouse WL-759 designed to operate small relays. W. B. Nottingham. diags R Sci Instr 11: 2-6 Ja '40
Street lighting in France; control of the Paris system. diags Electrician 124:19 Ja 12 '40

PHOTOELECTRIC cells—Control uses—*Cont.*
Street lighting much increased; negligible increase in bill; Niagara Falls replaces magnetite arcs with incandescents; photoelectric control. C. H. Anderson. il diags Elec W 113:1363-5 My 4 '40
Synthetic reverberation; recording fugitive sound pattern of original program signal on rotating phosphor-coated disk by means of modulated light source and simple optical system. P. C. Goldmark and P. S. Hendricks. il diags Inst Radio Eng Proc 27: 747-52 D '39
Tubes and toothpaste, a case history; Bristol-Myers factory. C. Walsh. il diag Electronics 13:16-19 O '40

Industrial applications

American apparatus, instruments, and instrumentation; electrical and electronic instruments. R. H. Müller. il Ind & Eng Chem Anal ed 12:584-91 O 15 '40
Electric eye in industry. J. A. Long. il diags Product Eng 11:20-2 Ja '40
Electrical photo-engraving; a fresh phase of facsimile reproduction for newspaper printing. T. T. Baker. diags Elec R (Lond) 127:149 Ag 23 '40
High-sensitivity phototube circuit. H. S. Bull and J. M. Lafferty. il diags Electronics 13: 31-3 N '40
Hole detector simplifies quality production on shearing line. il Steel 106:55 Ap 29 '40; Blast F & Steel Pl 28:460 My '40
Hydrogen sulfide detector. F. B. Behrens. il Oil & Gas J 38:86 Mr 28 '40
Photo tester for watt-hour meters. diag Elec W 113:608 F 24 '40
Photocells. Automobile Eng 30:262 S '40
Photoelectric cell. C. L. Wrenshall. diags Pulp & Pa of Can 40:685-7 N '39
Photo-electric meter testing. diag Engineer 170:190-1 S 20 '40
Photoelectric tester modernizes meter testing. T. A. Abbott. il diag Gen Elec R 43: 244-7 Je '40
Phototube detects pin holes in steel. il plan Elec W 114:560 Ag 24 '40
Phototube inspects steel strips for pinholes. il Electronics 13:60+ Je '40
Phototube method for bus protection. L. D. White. il Elec W 112:1890 D 30 '39
Two way photo-electric traffic counter. H. J. Dana. il diags State College of Washington Eng Exp Sta, Eng Bul 57:1-17 '39

Manufacture

Geared magnets solve a vacuum problem; device for use in coating aluminum disks, used in photoelectric cells, with vaporized selenium. il Gen Elec R 43:387 S '40; Steel 107:49 S 9 '40
Materials for vacuum tube manufacture. A. J. Monack. bibliog il diags Ind & Eng Chem 32:1028-33 Ag '40

Measurement uses

Accelerated flow method for rapid reactions. B. Chance. bibliog il diags Franklin Inst J 229:613-40, 737-66 My-Je '40
Acidity scale in glacial acetic acid; buffer solutions $-1.6<H_0<3.8$. N. F. Hall and F. Meyer. bibliog Am Chem Soc J 62:2493-500 S '40
Area determiner. diag Sci Am 163:123 S '40
Asphalt gloss- and stain meter. A. P. Anderson and T. E. Reamer. il diag Ind & Eng Chem Anal ed 12:423-4 Jl 15 '40
Assay of vitamin A with the photoelectric colorimeter. R. B. French. bibliog Ind & Eng Chem Anal ed 12:351-2 Je 15 '40
Electronic flow meter. J. M. Weinberger. diags Electronics 13:30-1 Ja '40
Evaluating the surface finish of metals. J. Guild. diags Engineering 150:44-5 Jl 19 '40
Lichtelektrisches verfahren zur bestimmung der kornverteilung in staubluft. K. Gösele. diag V D I 84:138-9 F 24 '40
Lumetron photo-electric colorimeter. il Paper Tr J 109:113 N 30 '39; Power Pl Eng 44:92 F '40
Luximeter; photoelectric instrument for measuring light transmission through a liquid. W. L. Carson. il Gen Elec R 43: 91-2 F '40
Measuring open-hearth bath temperatures. L. O. Sordahl and R. B. Sosman. il diags Steel 106:44-7 My 20 '40
Method for analysis of boiler scales and sludges; colorimetric and turbidimetric methods in conjunction with a Phototester as compared with gravimetric methods. F. K. Lindsay and R. G. Bielenberg. bibliog il diag Ind & Eng Chem Anal ed 12:460-3 Ag 15 '40
Method of evaluating color variations of baked food products. W. B. Kirk. il diags Am Gas Assn Mo 22:261-4 Jl-Ag '40
New two-color optical pyrometer. H. W. Russell, C. F. Lucks and L. G. Turnbull. il diags Opt Soc Am J 30:248-50 Je '40
Null-type photoelectric spectrophotometer. C. J. Barton and J. H. Yoe. bibliog il diags Ind & Eng Chem Anal ed 12:166-8 Mr 15 '40
Photo-cell control of water chlorination. J. H. Harrington. il plans Can Eng W & S 78:13-17+ Mr '40; Same. bibliog Am Water Works Assn J 32:859-70 My '40
Photoelectric determination of the permeability of paper to fluids. H. L. Vincent. bibliog il diag Paper Tr J 110:29-33 My 30 '40
Photoelectric eye measures plane speeds. Aero Digest 37:185-6 O '40
Photoelectric measurement of scale marks and spectrum lines. G. R. Harrison and J. P. Molnar. il diags Opt Soc Am J 30:343-7 Ag '40
Photo-electric potentiometer is versatile performer. il diags Elec W 113:1052-3+ Ap 6 '40
Photoelectric time-interval meter; designed primarily for measurement of speed of camera shutters and photo-flash synchronizing mechanisms. T. M. Berry. il diag Gen Elec R 43:137-8 Mr '40; Abstract. Electronics 13:66 My '40
Polar integrator for plane surfaces. il Elec W 112:1630 D 2 '39; Electronics 13:36+ F '40
Precision rotating standard for the measurement of kilowatt-hours. J. H. Goss and A. Hansen, jr. il diags Elec Eng 59:Trans 412-15; Discussion. Trans 415-16 Jl '40
Push-pull photoelecfric photodensitometer for determining fine structure in ultraviolet absorption spectra. J. R. Loofbourow. bibliog diag Opt Soc Am J 29:535-7 D '39
Remote supervisory control on the Wirral railway; Strowger remote photo-telemetering equipment. diags Engineer 169:126-7 F 9 '40
Simple photoelectric microdensitometer. M. Spiegel-Adolf and R. H. Peckham. bibliog il diag Ind & Eng Chem Anal ed 12:182-4 Mr 15 '40
Simplified spectrophotometer uses self-generating photo cell. Electronics 13:44+ My '40
Specific surface and particle size distribution of finely divided materials; with data on use of photelometer. M. N. States. il diags Am Soc T M Proc 39:795-807; Discussion. 808-9 '39
Spekker absorptiometer. il Chem Age (Lond) 42:245 Ap 27 '40
Survey of abridged spectrophotometers; including list of instruments with brief descriptions and manufacturers' addresses. J. A. Van den Akker. bibliog diags Paper Tr J 111:28-37 S 12 '40
Survey of spectrophotometers; use of photoelectric cell for accurate colorimetric specification of white and near-white materials. K. S. Gibson. Paper Tr J 111:33-7 bibliog (p36-7) S 5 '40
Temperature measurement with blocking-layer photo-cells. B. M. Larsen and W. E. Shenk. diags J Ap Phys 11:555-60 Ag '40
Three phototubes available for ultraviolet meter. il Electronics 13:42 F '40
Unusual application of a General Electric torque balance watt telemeter; obtaining hourly integration of power interchange. C. Wasserman. diags Instruments 13:219-20 Ag '40
Wide range intensity measurements in photoelectric spectrophotometry. W. C. Bosch and B. B. Brown. diag Opt Soc Am J 29:466-9 N '39

PHOTOELECTRIC cells—Measurement uses— *Continued*
Width gage for hot strip mills. diag Steel 107:71-2 O 28 '40
See also
Photometers, Photoelectric
PHOTOELECTRIC effect
Contact difference of potential between barium and zinc; the external work function of zinc. P. A. Anderson. diags Phys R 57:122-7 Ja 15 '40
Examination of colored alkali halides for photoelectric Hall effect. J. Evans. bibliog diags Phys R 57:47-53 Ja 1 '40
Photoelectric and optical properties of sodium and barium. R. J. Maurer. bibliog diags Phys R 57:653-8 Ap 1 '40
Photovoltaic behavior of pure silver bromide. H. L. Sanders and I. M. Kolthoff. bibliog J Phys Chem 44:936-43 O '40
Photovoltaic cells with silver-silver bromide electrodes; optical sensitizing by dyes. S. E. Sheppard, W. Vanselow and G. P. Happ. bibliog il diag J Phys Chem 44:411-21 Ap '40
Thallous sulphide photo-e.m.f. cell. F. C. Nix and A. W. Treptow. bibliog diag Opt Soc Am J 29:457-62 N '39
PHOTOELECTRIC photometers. See Photometers, Photoelectric
PHOTOELECTRICITY
Photoelectric work functions of (100) and (111) faces of silver single crystals and their contact potential difference. H. E. Farnsworth and R. P. Winch. bibliog diags Phys R 58:812-19 N 1 '40
See also
Electric conductivity | Photoelectric cells
Electric discharges | Photoelectric effect
PHOTOELECTRONS. See Electrons
PHOTOENGRAVING
Electrical photo-engraving a fresh phase of facsimile reproduction for newspaper printing. T. T. Baker. diags Elec R (Lond) 127:149 Ag 23 '40
Magnesium alloys for photoengraving. R. T. Wood. il Metals & Alloys 11:33-41 F '40
Photo-engravings and printing plates. L. M. Flader, ed. il Ptg Art 68 no 4:K1-K17 '40
Rates
New ratio scale; standard scale for photo-engravings, form I. Ptg Art 68 no 4:K16-K17 '40
PHOTOGRAMMETRY. See Photographic surveying
PHOTOGRAPHIC chemistry
Chemistry of photo-sensitizers; abstracts. F. W. Kay. Chem & Ind 58:1085; 59:29 D 16 '39, Ja 13 '40
Experiments to test the rebromination theory of photographic solarization. J. H. Webb and C. H. Evans. bibliog Opt Soc Am J 30: 445-54 S '40
Extragranular factors in photographic sensitivity. S. E. Sheppard and C. L. Graham. bibliog il diags Franklin Inst J 230:619-41 N '40
Mechanism of photographic development; by hydroquinone. T. H. James. bibliog J Phys Chem 44:42-57 Ja '40
Topochemical effect in post-fixation development. G. Kornfeld. bibliog Franklin Inst J 229:181-9 F '40
Transformations chimiques de l'argent d'une image photographique. A. Seyewetz. Chimie & Ind 43:632-6 Ap 20 '40
See also
Dyes and dyeing, Photographic | Photographic emulsions
Photochemistry | Photography
PHOTOGRAPHIC emulsions
Extragranular factors in photographic sensitivity. S. E. Sheppard and C. L. Graham. bibliog il diags Franklin Inst J 230:619-41 N '40
Photographic emulsion and a few of its applications; abstract. O. Bloch. Chem & Ind 59:367-8 My 25 '40
Structure of gelatin sols and gels; the adsorption of water vapor and the electrical conductivity. S. E. Sheppard, R. C. Houck and C. Dittmar. bibliog il diag J Phys Chem 44:185-207 F '40
PHOTOGRAPHIC films. See Moving picture films; Photography—Films
PHOTOGRAPHIC finishing plants
Letting George do it; photo-finishing plants; Pavelle laboratories. J. Deschin. il Sci Am 163:224-5 O '40
PHOTOGRAPHIC laboratories
See also
Moving picture photography—Laboratories
PHOTOGRAPHIC lenses. See Lenses, Photographic
PHOTOGRAPHIC materials. See Photography—Apparatus and supplies
PHOTOGRAPHIC murals
Photo murals for offices; example in First national bank of Portland, Ore. il Am Business 10:28-9 N '40
Photomurals in utility offices; illustrations. Edison Elec Inst Bul 7:594-5 D '39
Positive-negative design. il Sci Am 162:114-15 F '40
PHOTOGRAPHIC optics
New photo-school. H. Windisch. 267p $2.75 B. Brooks, New York '38
PHOTOGRAPHIC paper
Contrast meter for photographic papers. C. A. Morrison. il diag Opt Soc Am J 30:299-301 Jl '40
New methods for diazotype printing. T. W. A. Borgesius and H. I. Waterman. bibliog Soc Dyers & Col J 56:23-6 Ja '40; Abstract. Am Dyestuff Rep 29:282-3 My 27 '40
Photographic silver-gelatin paper as a reagent in spot analysis. G. Schwarz. Ind & Eng Chem Anal ed 12:369-72 Je 15 '40
PHOTOGRAPHIC records
Engineering records; drafting room methods; Pneumatic scale corporation. G. F. Burton. il Product Eng 11:220-2 My '40
Photo test-recordings; measuring efficiency of centrifugal pumps. R. W. Angus. il diags Can Eng W & S 78:11-15+ Je '40
See also
Microfilms
PHOTOGRAPHIC reproduction and projection
See also
Microfilms
PHOTOGRAPHIC society of America
History in photographs; formation of a contemporary history division. Sci Am 162:308-9 My '40
PHOTOGRAPHIC studios. See Photography—Studios and darkrooms
PHOTOGRAPHIC surveying
Photogrammetric equipment employed in interpretation of aerial photographs. H. E. Seely. Pulp & Pa of Can 41:731-2 O '40
Tilt of the aerial photograph by graphical resection; supplementary to Applied photogrammetry. R. O. Anderson. 50p pa $1 R. O. Anderson, box 882, Chattanooga, Tenn. '40
See also
Mapping, Aerial
PHOTOGRAPHS
Camera portfolio; a selection of 18 representative photographs from U.S. camera 1940. Adv & Sell 33:24A-24H Ja '40
Camera portfolio; eight pages from U. S. camera 1941. Adv & Sell 33:24a-24h N '40
Camera studies by artist Erik Nitsche. Adv & Sell 33:32a-32d O '40
Indexing and filing scientific photographs. J. M. Trefethen. Science 91:24 Ja 5 '40
Making the most of your vacation shots; advantages of cropping. il Sci Am 163:36-7 Jl '40
1940 Collegiate camera annual. D. C. Boardman, ed. 111p $2 Collegiate camera annual pub. co, Wheaton, Ill. '40
Personal file of geologic photographs. C. K. Wentworth. Science 91:438 My 3 '40

PHOTOGRAPHS—*Continued*

Versatile camera; photographs by Doris Day. Adv & Sell 32:24a-24d Ag '40

See also

Advertisements, Pictorial—Photographs
Photographic murals
Photography

Coloring

Coloring snapshots with organic dyes. E. E. Murray and M. P. Hanson. J Chem Educ 17:480-1 S '40

Trimming, mounting, etc.

Mount your prints. J. Deschin. il Sci Am 162: 176-7 Mr '40

PHOTOGRAPHY

Anyone can take good pictures. D. Jones. 100p $1.95 David Kemp & co, Rockefeller center, New York '40

Camera angles. J. Deschin. Published in monthly numbers of Scientific American

Complete introduction to photography. J. H. Gable. 270p $3 Harper '40

Elementary photography. G. G. Quarles. 350p biblio(p331) $3 McGraw-Hill '40

Flash! seeing the unseen by ultra high-speed photography. H. E. Edgerton and J. R. Killian, jr. 208p biblio(p199-208) $3 Hale, Cushman & Flint, Boston '39

Fundamentals of photography; with laboratory experiments. P. E. Boucher. 304p, lllp trade ed $3.50; text ed $3 Van Nostrand '40

Graphic Graflex photography; the master book for the larger camera. W. D. Morgan and others. 403p $4 Morgan & Lester, New York '40

Indoor photography. H. G. Bailey. 94p 50c Ziff-Davis pub. co, 608 S. Dearborn st, Chicago '40

Make your pictures sing! how to perfect your technique. P. L. Hexter. 189p $3 Camera craft pub. co, 425 Bush st, San Francisco '40

Making your photographs effective. J. A. Lucas and B. Dudley. 385p $5 McGraw-Hill '40

Outdoor photography. S. Grierson. 98p 50c Ziff-Davis pub. co, 608 S. Dearborn st, Chicago '40

Photographic facts and formulas. E. J. Wall. rev ed 384p $2.50 Am. photographic pub. co, 353 Newbury st, Boston '40

Photographing action. V. De Palma. 110p 50c Ziff-Davis pub. co, 608 S. Dearborn st, Chicago '40

Pictorial composition in photography. A. Hammond. 3d ed rev & enl 155p, 48pls $3.50 Am. photographic pub. co, 353 Newbury st, Boston '39

Relation of light intensity to the lateral growth on a photographic plate. H. S. Coleman and H. L. Yeagley. Am Chem Soc J 62:2246-7 Ag '40

Secrets of snapshots without failures. W. Stend. 46p pa 45c Galleon publishers, New York '39

Study of various sensitometric criteria of negative film speeds. L. A. Jones and C. N. Nelson. il Opt Soc Am J 30:93-109 Mr '40

Table top photography. N. Harkness and E. E. Draper. 180p $2.95 Harcourt '40

Time exposure; the autobiography of William Henry Jackson. W. H. Jackson. 341p $3.50 Putnam '40

Treatment of camera lenses with low reflecting films; evaporated fluorite. C. H. Cartwright. il Opt Soc Am J 30:110-14 Mr '40; Abstract. Mech Eng 62:549-50 Jl '40

See also

Astronomical photography
Cameras
Color photography
Microfilms
Moving picture photography
Photographic chemistry
Photomicrography
Phototelegraphy
Radiography
Slide films

Apparatus and supplies

Electronic time control for color photography, enlarging, and other light exposures. E. A. Milligan. diag Electronics 13:50+ Ja '40

Molding photographic history; economies made possible with molded plastics. C. R. Simmons. il Mod Plastics 17:43-6, 86, 88 Ap '40

Photoelectric time-interval meter; designed primarily for measurement of speed of camera shutters and photo-flash synchronizing mechanisms. T. M. Berry. il diag Gen Elec R 43:137-8 Mr '40; Abstract. Electronics 13:66 My '40

Photographic goods; United States imports during first 9 months of 1939. Comm Rep p1062 N 18 '39

Progress made in photographic standardization. J. W. McNair. il Ind Stand 10:293-6 D '39

Stainless equipment in amateur darkrooms. il Sci Am 163:37-9 Jl '40

Sunshade and adapter of cellulose acetate to be used with any camera. il Mod Plastics 18:55+ S '40

See also

Cameras
Densitometers
Eastman kodak company
Photographic paper

Bibliography

Recent books on photography. M. F. Poole. Booklist 36:271-4+ Mr 15 '40

Competitions

Amateur photography salon builds good will; Ohio fuel gas company. E. G. Marquardt, jr. il Gas Age 86:20-1 Ag 29 '40

Photo contests click; promotion stunts for national advertisers. il Business Week p32-4 Ja 6 '40

Twin City section I.E.S. photographic contest. il Illum Eng 35:481-3 Je '40

Winners in the fourth annual Scientific American photography contest. il Sci Am 162:85 F '40

Copying

Chemistry of photo-copying processes. H. D. Murray. diags Chem & Ind 59:645-6 S 14 '40

Copying technique. F. R. Fraprie and R. H. Morris, comps. 128p $1.50 Am. photographic pub. co, 353 Newbury st, Boston '40

Dark rooms

See Photography—Studios and darkrooms

Developing and developers

Camera fans and camera hands; danger of skin diseases from photographic chemicals. C. P. McCord. Nat Safety N 42:86 S '40

Developing, printing, and enlarging. A. Bernsohn and D. Bernsohn. 93p 50c Ziff-Davis pub. co, Chicago '39

Developing tanks for amateur photographers' use. Consumers' Research Bul (Gen bul ser) 9:21-4 Ja '40

Mechanism of photographic development; development by hydroquinone. T. H. James. bibliog J Phys Chem 44:42-57 Ja '40

Phot-bath temperature control; utilization data sheet. H. Van Wyk. il Elec West 85: 37 Jl '40

Study of various sensitometric criteria of negative film speeds. L. A. Jones and C. N. Nelson. il Opt Soc Am J 30:93-109 Mr '40

Surface conditions of silver halides and the rate of reaction; reduction of silver chloride by hydrazine. T. H. James. bibliog Am Chem Soc J 62:1654-8 Jl '40

Topochemical effect in post-fixation development. G. Kornfeld. bibliog Franklin Inst J 229:181-9 F '40

What you want to know about developers, fine grain and otherwise. E. W. Lowe. 175p $2.50 Camera craft pub. co, 425 Bush st, San Francisco '39

Dictionaries

Wall's dictionary of photography. E. J. Wall. 15th ed rev 701p bibliog(p70-8) $3.50 Am. photographic pub. co, 353 Newbury st, Boston '40

PHOTOGRAPHY—*Continued*

Enlarging

How to make enlargements. F. R. Fraprie and A. Hammond. 114p pa 50c Am. photographic pub. co, Boston '39

Manual of enlarging. S. White. 94p 50c Ziff-Davis pub. co, 608 S. Dearborn st, Chicago '40

Secrets of enlarging. G. Buckley. 48p pa 45c Galleon publishers, New York '39

Simplified high sensitivity photometer or exposure meter for photographic enlarging. W. V. Roberts. diags R Sci Instr 11:159-60 My '40

Exposure

Experiments to test the rebromination theory of photographic solarization. J. H. Webb and C. H. Evans. bibliog Opt Soc Am J 30: 445-54 S '40

Light control with an electric meter. J. Deschin. il Sci Am 163:92-3+ Ag '40

Photographic exposure. P. K. Turner. 146p $1.75 Pitman '40

Secret of exposure. F. R. Fraprie and A. Hammond. 96p pa 50c Am. photographic pub. co, Boston '39

Simplified high sensitivity photometer or exposure meter for photographic enlarging. W. V. Roberts. diags R Sci Instr 11:159-60 My '40

Totalux integrates photographic exposures. il Gen Elec R 42:555 D '39

Films

New photographic film; patents. J. Stokley. Science 92:sup11 O 18 '40

See also

Moving picture films

Slide films

Marketing

Food firm adds films; Standard Brands will also have developing service. Business Week p22 F 3 '40

Photo films in groceries for keeps; Standard Brands plans further extension of service. Business Week p32-3 S 21 '40

History

History of photography; its relation to civilization and practice. E. Stenger. 204p bibliog(p188-9) $2 Barnes & Noble, 5th av & 18th st, New York '39

Industrial applications

Camera aids new lofting technique. il Aero Digest 37:64, 67 Jl '40; Sheet Metal Worker 31:35-6 Jl '40

Drafting by camera; engineering drawings directly reproduced photographically by Glenn L. Martin co. il Steel 107:44-6 Jl 1 '40

Get the inside story by furnace snapshots. R. Atlas. il diags Power 84:453 Jl '40

High-speed photography and the study of rapid machine motions. V. Sepavich and A. Palmer. il Mech Eng 62:519-24 Jl '40

High-speed photography applied to the study of machine performance. E. M. Watson. il Product Eng 11:340-3 Ag '40

Influence of directed air flow on combustion in a spark-ignition engine. A. M. Rothrock and R. C. Spencer. bibliog il diags U S Nat Advisory Com for Aeronautics 1939:313-26 '40

Photography in engineering. A. H. Styring. il Mech Eng 62:325-6 Ap '40

Photography used in laboratories' testing procedure. il Am Gas Assn Mo 22:159 Ap '40

Photos solve light projection problem; lighting murals in state capitol at Salem, Ore. E. R. Fletcher. il Elec W 113:772 Mr 9 '40

Process of combustion in spark ignition engines. W. T. David. diags Engineer 169:509-10 Je 7 '40

Sensitized metal; new method of laying out designs speeds armament manufacture. R. W. Carter. il Iron Age 146:61-4 O 10 '40

Latent image

Extragranular factors in photographic sensitivity. S. E. Sheppard and C. L. Graham. bibliog il diags Franklin Inst J 230:619-41 N '40

Number of quanta required to form the photographic latent image as determined from mathematical analysis of the H and D curve. E. W. H. Selwyn. Opt Soc Am J 29:518 D '39

Theory of the photographic latent-image formation. J. H. Webb. bibliog il J Ap Phys 11:18-34 Ja '40

Topochemical effect in post-fixation development. G. Kornfeld. bibliog Franklin Inst J 229:181-9 F '40

Lighting

Aping the masters. J. Deschin. il Sci Am 162: 366-7 Je '40

Color photo; tapped transformer permits control of color temperature of incandescent light sources. T. W. Fitch. Elec West 85: 45-6 Ag '40

Lighting goes miniature. J. Deschin. il Sci Am 162:240-1 Ap '40

Negatives

Mortensen on the negative. W. Mortensen. 283p $4 Simon and Schuster, New York '40

Portraits

Aping the masters. J. Deschin. il Sci Am 162: 366-7 Je '40

Outdoor portraiture; problems of face and figure in natural environment. W. Mortensen. 142p $2.75 Camera craft pub. co, 425 Bush st, San Francisco '40

Portrait photography as a career. J. C. Abel. 335p $3 Am. photographic pub. co, 353 Newbury st, Boston '40

Portraiture and the camera. M. Natkin. 80p $2 Camera craft pub. co, San Francisco '38

Printing processes

Developing, printing, and enlarging. A. Bernsohn and D. Bernsohn. 93p 50c Ziff-Davis pub. co, Chicago '39

Phototube controls printing exposures automatically. diag Electronics 13:54+ Je '40

Positive-negative design; for murals or for other uses. il Sci Am 162:114-15 F '40

Sensitized metal; new method of laying out designs speeds armament manufacture. R. W. Carter. il Iron Age 146:61-4 O 10 '40

Ray filters

How to use filters. K. A. Barleben, jr. rev ed 78p pa 75c H. & K. publications, Stamford, Conn. '38

Reversal process

Cause and removal of photographic reversal. J. E. Nafe and G. E. M. Jauncey. bibliog il Phys R 57:1048-9 Je 1 '40

Photographic reversal with X-rays. O. J. Baltzer and J. E. Nafe. il Phys R 57:1048 Je 1 '40

Scientific applications

Electron photographs of molecular structure; abstract. P. Debye. Science 91:sup 12 Ap 19 '40

Flash! Seeing the unseen by ultra high-speed photography. H. E. Edgerton and J. R. Killian, jr. 203p bibliog(p199-203) $3 Hale, Cushman & Flint, Boston '39

Fundus photography without cycloplegics. K. L. Stone and M. L. Pool. il diags Opt Soc Am J 29:463-5 N '39

Jets gazeux à vitesse supersonique et luminosités de détonation. H. Muraour. bibliog il diag Chimie & Ind 42:604-6 O '39

Photographic study of fluid flow between banks of tubes. R. P. Wallis. bibliog diag Inst Mech Eng J & Proc 142:Proc 379-83, pl 1-6 F '40; Abstract. Elec R (Lond) 125: 670 N 24 '39; Discussion. Inst Mech Eng J & Proc 142:Proc 384-7 F '40

Photographing the vocal cords; abstract. J. C. Steinberg. Science 91:sup8 Je 28 '40

Response of photographic materials to atomic particles. T. R. Wilkins. bibliog il J Ap Phys 11:35-45 Ja '40

Stopping time; stroboscope. R. Littell. il Sci Am 162:82-4 F '40

Streamline visualization; variation of schlipren method. C. Witoszynski. diag J Aeronautical Sci 7:402 Jl '40

PHOTOGRAPHY—Scientific applications—*Cont.*
Super-speed picture of a sneeze. Science 91: supl0 Ap 26 '40

See also
Astronomical photography

Sensitometry

Contrast meter for photographic papers. C. A. Morrison. il diag Opt Soc Am J 30:299-301 Jl '40
Intensity-scale monochromatic sensitometer. C. H. Evans. il diags Opt Soc Am J 30: 118-27 Mr '40
New photographic sensitometer. W. M. Cady. Opt Soc Am J 29:470-1 N '39
Study of various sensitometric criteria of negative film speeds. L. A. Jones and C. N. Nelson. il Opt Soc Am J 30:93-109 Mr '40

Solarization

See Photography—Exposure

Standards

Eastman and Agfa Ansco form new ASA photographic group. Ind Stand 11:26 Ja '40
Progress made in photographic standardization. J. W. McNair. il Ind Stand 10:293-6 D '39

Studios and darkrooms

Darkroom handbook and formulary. M. Germain. 117p 50c Ziff-Davis pub. co, 608 S. Dearborn st, Chicago '40
Light in the darkroom; a shock- and corrosion-proof bakelite housing and separate Plaskon colored filters. il Mod Plastics 18: 43+ S '40

Study and teaching

Camera for photographic demonstration. D. H. Gurinsky. il J Chem Educ 17:432-3 S '40
Photography in the college curriculum. J. D. Schumacher. bibliog plans J Chem Educ 17:427-9 S '40

Yearbooks

American annual of photography, 1941. F. R. Fraprie and F. I. Jordan, eds. v55 276p $2.25; pa $1.50 Am. photographic pub. co, 353 Newbury st, Boston '40
British journal photographic almanac and photographer's daily companion. A. J. Dalladay, ed. 454p bibliog(p336-44) $1.75; pa $1.25 Am. photographic pub. co, Boston '40
Modern photography; the Studio annual of camera art, 1940-41. C. G. Holme, ed. 120p $3.50; pa $2.50 Studio publications, 381 4th av, New York '40

PHOTOGRAPHY, Aerial
Aerial engineering and public works. H. T. Bruce. il Pub Works 70:20-2 N '39
Aerial photography grows up. H. T. Bruce. il Eng & Min J 141:48-51 Mr '40
Aerial photos; how to make and sell them. C. J. Dry. 67p $1 Aircraft directory, Athens, Ohio '40
Army photographic ship. il diags Aviation 39: 64-5+ Ag '40
Mark Hurd aerial precision camera. il diags Aero Digest 37:171 N '40
Mechanized navigation for photographic pilots. il Aero Digest 37:179 Jl '40
Photogrammetric equipment employed in interpretation of aerial photographs. H. E. Seely. Pulp & Pa of Can 41:731-2 O '40
Relief maps from aerial photographs; U.S. army engineers method of producing topographic maps from stereo photographs. il Sci Am 163:248 N '40
To use carbon black in Arctic pictures; powder dropped on snow will permit faster and more accurate overlapping of aerial photographs. il Rubber Age 46:183 D '39

See also
Mapping, Aerial

PHOTOGRAPHY, Artistic
Against the sun. W. H. Döring. 42p pa 50c Am. photographic pub. co, Boston '38
Art of table-top photography. A. E. Gleed. 46p $1.25 Am. photographic pub. co, Boston '39
Composition for the amateur. K. Heilbron. 93p 50c Ziff-Davis pub. co, Chicago '39
Photographer speaks. O. F. Bloch, ed. 111p $2.50 Thomas Nelson & sons, 91 Wellington st, W, Toronto, 2 '40
Pictorial composition in photography. A. Hammond. 3d ed rev & enl 155p $3.50 American photographic pub. co, Boston '39

PHOTOGRAPHY, Astronomical. See Astronomical photography

PHOTOGRAPHY, Color. See Color photography

PHOTOGRAPHY, Commercial
Careers in photography discussed at Conference on photography, New York. il Sci Am 163:156-7 S '40
Photographic occupations; choosing your career in photography. G. B. Leyson. 178p $2 Dutton '40
Photography for profit. Nettel, pseud. 218p $2 Chemical pub. co. '39
Pictures with a purpose, how they are made. C. Kerlee. 80p pa $2.50 Camera craft pub. co, San Francisco '39
Printing Art exhibition of advertising photography. il Ptg Art 68 no 3:29-98 [Ja] '40
Selling your pictures. K. S. Safranski. 94p 50c Ziff-Davis pub. co, 608 S. Dearborn st, Chicago '40
Society of photographic illustrators; specimen photographs. Ptg Art 68 no 4:I 10-I 11 '40

See also
Advertisements, Pictorial—Photographs

PHOTOGRAPHY, Flashlight
Flash photography. R. Arnold. 110p 50c Ziff-Davis pub. co, 608 S. Dearborn st, Chicago '40
Lamp for ultra-speed. J. Deschin. il Sci Am 163:288-9 N '40
Midget bulb brings new phase in flash photography. il Sci Am 162:51 Ja '40

PHOTOGRAPHY, Infrared
Identifying Shakespeare; study of portraits believed to be Edward de Vere, 17th earl of Oxford. C. W. Barrell. il Sci Am 162:4-8+ Ja '40; Discussion (Who was Shakespeare?) 162:264+ My '40

PHOTOGRAPHY, Instantaneous
Flash! Seeing the unseen by ultra high-speed photography. H. E. Edgerton and J. R. Killian, jr. 203p bibliog(p199-203) $3 Hale, Cushman & Flint, Boston '39

PHOTOGRAPHY, Legal
Camera, take the stand! A. S. Herzog and A. J. Ezickson. 195p $3 Prentice-Hall '40

See also
Photography in crime detection

PHOTOGRAPHY, Miniature camera
Kodachrome and how to use it. I. Dmitri. 143p $3.95 Simon & Schuster, 386 4th av, New York '40
Leica manual. W. D. Morgan and H. M. Lester, eds. 3d ed rev 551p $4 Morgan & Lester, 100 E. 42d st, New York '40
Miniature camera technique. F. G. Small. 118p 50c Ziff-Davis pub. co, 608 S. Dearborn st, Chicago '40

PHOTOGRAPHY, Night
Eyes in the night. T. Gregory. 243p $3.50 Crowell '39

PHOTOGRAPHY, Spark
Influence of directed air flow on combustion in a spark-ignition engine. A. M. Rothrock and R. C. Spencer. bibliog il diags U S Nat Advisory Com for Aeronautics 1939: 313-26 '40

PHOTOGRAPHY, Stereoscopic
Vectographs: images in terms of vectorial inequality and their application in three-dimensional representation. E. H. Land. il diags Opt Soc Am J 30:230-8 Je '40

PHOTOGRAPHY, Stroboscopic
Quicker than the eye; stroboscopic photography. R. L. Biehusen. Adv & Sell 33: 32, pl 1-4 S '40

PHOTOGRAPHY, Submarine
Under sea with helmet and camera; experiences of an amateur. A. F. du Pont. 87p $2.50 Dodd '40

PHOTOGRAPHY, Trick
Photo tricks and effects. J. Deschin. 126p 50c Ziff-Davis pub. co, 608 S. Dearborn st, Chicago '40

PHOTOGRAPHY in crime detection
Photography in crime detection. J. E. Hoover. il Sci Am 162:71-4 F '40

PHOTOGRAPHY in industry
Use color photographs to sell more clay products. Brick & Clay Rec 96:33 Je; 97:40 Jl; 30 Ag '40

See also
Advertisements, Pictorial—Photographs
Moving pictures in industry
Photography—Industrial applications
Slide films

PHOTOGRAPHY of animals
Dogs as camera subjects. il Sci Am 162:304-5 My '40

PHOTOGRAPHY of clouds
Get clouds in your photos. W. H. Döring. 42p 50c Am. photographic pub. co, Boston '38

PHOTOGRAPHY of lightning
Lightning recording instruments; oscillographic and photographic equipment. J. H. Hagenguth. bibliog il diags Gen Elec R 43: 195-201, 248-55 My-Je '40

PHOTOGRAVURE
Photogravure advertising in newspapers. G. F. Hartford. Ptg Art 68 no 4:C8 '40

See also
Rotogravure

PHOTOLITHOGRAPHY

See also
Printing, Offset

PHOTOMECHANICAL processes

See also
Photoengraving
Rotogravure

PHOTOMETERS
American apparatus, instruments, and instrumentation; optical instruments. R. H. Müller. il Ind & Eng Chem Anal ed 12:596-601 O 15 '40
Continuous source for the Spekker photometer. H. H. Darby. il diag Am Chem Soc J 62:1874-5 Jl '40
Greater safety through lighting. C. H. Rex. Can Eng R & B 78:84-6 Ap '40
Photometers for very low illuminations. il Light & Lighting 32:250+ D '39
Simplified high sensitivity photometer or exposure meter for photographic enlarging. W. V. Roberts. diags R Sci Instr 11:159-60 My '40
Street lighting evaluator. K. M. Reid and H. J. Chanon. bibliog il Illum Eng 35:72-81 Ja '40; Excerpts. Elec W 114:278+, 422 Jl 27-Ag 10 '40
Visibility through haze and smoke, and a visibility meter. G. D. Shallenberger and E. M. Little. bibliog il diags Opt Soc Am J 30:168-76 Ap '40

See also
Densitometers
Spectrophotometers

Testing

Light meter checking device. il Elec W 113: 758+ Mr 9 '40

PHOTOMETERS, Photoelectric
Design of photoelectric flicker photometers. P. Moon and D. P. Severance. bibliog il diags Illum Eng Soc Trans 34:801-25 Jl '39; Discussion. Illum Eng 35:236-40 Mr '40
Fluorescence size test, an improved method and a new instrument for measuring the water resistance of paper; measurement of fluorescent intensity. J. A. Van den Akker and others. il diags Paper Tr J 109:38-42 N 23 '39
Light regulator. B. Chance. il diags Electronics 13:24-5 F '40
New transmission photometer. J. T. M. Malpica and W. R. Fanter. il diag Gen Elec R 43:384-5 S '40
Photoelectric photometer for rapid comparison of two light sources. F. A. Ryder, J. T. Gier and L. M. K. Boelter. diags Illum Eng Soc Trans 34:941-56 bibliog(p955-6) S '39; Discussion. Illum Eng 35:241-4 Mr '40
Precision flicker photometer, for measurement of optical densities of thin metallic films. G. Timoshenko and W. J. Glasson. bibliog il diags Illum Eng 35:162-8 F '40
Quantitative spectrographic analysis with the microphotometer. D. M. Smith. Engineering 149:589 Je 14 '40
Stabilized bridge circuit. H. P. Kalmus. diag Electronics 12:30-1+ D '39
Submarine illumination in photometric units. C. L. Utterback and R. E. Wilson. map Opt Soc Am J 30:136-9 Mr '40

PHOTOMETRY
Cylindrical web for isocandles. B. Monash. bibliog diags Illum Eng 35:374-7 Ap '40
Electric illumination; review of progress. C. C. Paterson. Inst E E J 86:190-1 F '40; Same. Engineering 149:277 Mr 15 '40
Gauges for checking low values of illumination. Light & Lighting 33:22 F '40
Interreflections. P. Moon. bibliog diags Opt Soc Am J 30:195-205 My '40
Limiting sensitivity of the alternating-current method of photo-cell-current amplification. E. A. Johnson, W. H. Mock and R. E. Hopkins. bibliog diag Opt Soc Am J 29: 506-11 D '39
Matching porcelain enamels. F. H. Emery. Steel 106:48, 50 My 20 '40
Measurement of light scattered by the upper atmosphere from a search-light beam. E. A. Johnson and others. Opt Soc Am J 29: 512-17 D '39
New units of electricity and light. Franklin Inst J 229:235-6 F '40
Photoelectric measurement of scale marks and spectrum lines. G. R. Harrison and J. P. Molnar. il diags Opt Soc Am J 30:343-7 Ag '40
Recording of current pulses by slow galvanometers. F. T. Rogers, jr. R Sci Instr 11:198-9 Je '40
Reflectors used in highway signs and warning signals; general basis for optical descriptions, specifications, and tests. G. A. Van Lear, jr. diags Opt Soc Am J 30:472-80 O '40
Reflectors used in highway signs and warning signals; methods of measuring specific intensity. G. A. Van Lear, jr. diags Opt Soc Am J 30:480-7 O '40
Residual photometric errors in the commercial recording spectrophotometer. O. W. Pineo. il diag Opt Soc Am J 30:276-89 Jl '40
Riboflavin content of yeasts determined photometrically and biologically. A. E. Schumacher and G. F. Heuser. Ind & Eng Chem Anal ed 12:203-4 Ap 15 '40
Specification points of brightness. H. L. Logan. il diags Illum Eng Soc Trans 34: 881-906 S '39; Discussion. Illum Eng 35: 244-7 Mr '40
Spectral luminosity factors. K. S. Gibson. Opt Soc Am J 30:51-61 bibliog(p60-1) F '40
Submarine illumination in photometric units. C. L. Utterback and R. E. Wilson. map Opt Soc Am J 30:136-9 Mr '40
Use of step weakeners in photographic photometry. G. E. Moore and H. W. Webb. Opt Soc Am J 30:413-14 S '40

See also
Color
Color measurement
Light
Luster
Measuring instruments, Optical
Photometers
Ultraviolet rays—Measurement

Bibliography

Literature on lighting. Published in monthly numbers of Light and lighting

History

Photometric reminiscences; I.E.S. meeting, London, Feb. 13. Light & Lighting 33:24 F '40

PHOTOMETRY, Astronomical
Beyond yonder. O. J. Lee. 169p $2.50 Chapman & Grimes, Boston '39
Types of novae. F. Zwicky. il Rs Mod Phys 12:66-85 Ja '40

PHOTOMICROGRAPH (term)
Microphotographs and photomicrographs. Engineering 149:566 Je 7 '40

PHOTOMICROGRAPHY
Electron microscope reveals size and shape of ultimate particles of carbon black. Ind & Eng Chem News ed 18:492 Je 10 '40
Inexpensive microphotographic camera. E. M. Abrahamson. il Science 91:510 My 24 '40; Discussion. J. F. McClendon. 92:134 Ag 9 '40

See also
Microscope and microscopy
Photography—Scientific applications

PHOTOMURALS. See Photographic murals

PHOTONS
Interaction energies in radiation theory. H. Hurwitz, jr. Phys R 58:467-71 S 1 '40
Is all energy corpuscular? H. P. Gillette. Roads & Sts 83:58-9 F '40
Period of photon emission in a counter discharge. W. E. Ramsey. diag Phys R 58: 476-7 S 1 '40
Photon production of mesotrons. W. M. Powell. il Phys R 58:474 S 1 '40
Tables of Planck's radiation and photon functions. A. N. Lowan and G. Blanch. bibliog Opt Soc Am J 30:70-81 F '40

PHOTOPHORESIS
Physical and astronomical information concerning particles of the order of magnitude of the wave-length of light. F. Ehrenhaft. il diags Franklin Inst J 230:381-93 S '40

PHOTOSYNTHESIS
Columbus meeting of the American association for the advancement of science and associated societies; section on chemistry. Science 91:107-8 F 2 '40
Photocalorimeter; the quantum efficiency of photosynthesis in algae. J. L. Magee and others. diags Am Chem Soc J 61:3529-33 D '39
Photosynthesis with radio-carbon. S. Ruben and others. bibliog Science 90:570-1 D 15 '39
Quantum efficiency of photosynthesis in chlorella. H. G. Petering, B. M. Duggar and F. Daniels. Am Chem Soc J 61:3525-9 D '39
Time course of photosynthesis and fluorescence. E. D. McAlister and J. Myers. Science 92:241-3 S 13 '40
Time course of photosynthesis and fluorescence observed simultaneously. E. D. McAlister and J. Myers. Smithsonian Misc Coll v 99, no 6:1-37 bibliog(p36-7) '40

See also
Chlorophyl
Photochemistry

PHOTOTELEGRAPHY
Effect of the quadrature component in single sideband transmission. H. Nyquist and K. W. Pfleger. il Bell System Tech J 19:63-73 Ja '40
Electrical photo-engraving; a fresh phase of facsimile reproduction for newspaper printing. T. T. Baker. diags Elec R (Lond) 127: 149 Ag 23 '40
Picture transmission in colour. Elec R (Lond) 126:392 Ap 5 '40

See also
Radio facsimile
Television

PHTHALATES
Some relations between molecular structure and plasticizing effect. A. Kirkpatrick. J Ap Phys 11:255-61 Ap '40

PHTHALEINS
Some addition compounds of phthaleins and metallic salts. G. Sachs and L. Ryffel-Neumann. Am Chem Soc J 62:993-4 Ap '40

PHTHALIC anhydride
Dielectric characteristics of a chemically pure synthetic resin. C. G. Garton. diags Inst E E J 85:625-38 bibliog(p635) N '39
Economics of catalytic oxidation in the vapor phase. C. Conover. Ind & Eng Chem 32: 1298-1300 O '40
Mechanism of the reaction between phthalic anhydride and an aminodiol; reactions of 2-amino-2-methyl-1,3-propanediol. M. M. Sprung. bibliog Am Chem Soc J 61:3381-5 D '39
Oxidation of aromatic hydrocarbons. C. R. Downs. bibliog il Ind & Eng Chem 32:1294-8 O '40
Phthalic anhydride; purification by the sulphuric acid method. Chem Age (Lond) 43:44 Jl 27 '40
Progress in intermediates; coal tar products used in many industries. J. M. Weiss. il Chem Ind 46:686-92 Je '40
Thermal data on organic compounds; modern combustion data for some non-volatile compounds containing carbon, hydrogen and oxygen. J. W. Richardson and G. S. Parks. bibliog Am Chem Soc J 61:3543-6 D '39

PHTHALIMIDINE
Phthalocyanines and related compounds; intermediates for the preparation of tetrabenzporphins; acids derived from phthalimidine. R. P. Linstead and G. A. Rowe. Chem Soc J p1070-6 Ag '40

PHTHALOCYANINES
Phthalocyanines and related compounds; intermediates for the preparation of tetrabenzporphins. R. P. Linstead, G. A. Rowe and others. Chem Soc J p1070-9 Ag '40
Phthalocyanines and related compounds; tetrabenzporphin, tetrabenzmonazaporphin and their metallic derivatives. P. A. Barrett and others. Chem Soc J p1079-92 Ag '40
Phthalocyanines and related compounds; tetrabenztriazaporphin; its preparation from phthalonitrile and a proof of its structure. P. A. Barrett, R. P. Linstead and G. A. P. Tuey. Chem Soc J p1809-20 D '39
Phthalocyanines and related compounds; the halogenation of phthalocyanines. P. A. Barrett and others. Chem Soc J p1820-8 D '39
X-ray studies of the porphins. I. Woodward. Chem Soc J p601-3 My '40
X-ray study of the phthalocyanines; direct quantitative analysis of the platinum compound. J. M. Robertson and I. Woodward. diags Chem Soc J p36-48 Ja '40

PHTHALONITRILE
Phthalocyanines and related compounds; intermediates for the preparation of tetrabenzporphins; the Thorpe reaction with phthalonitrile. P. A. Barrett and others. Chem Soc J p1076-9 Ag '40
Phthalocyanines and related compounds; tetrabenzporphin, tetrabenzmonazaporphin and their metallic derivatives. P. A. Barrett and others. Chem Soc J p1079-92 Ag '40
Phthalocyanines and related compounds; tetrabenztriazaporphin; its preparation from phthalonitrile and a proof of its structure. P. A. Barrett, R. P. Linstead and G. A. P. Tuey. Chem Soc J p1809-20 D '39

PHTHALOYLCARBAZOLE
2-Aminophenylanthraquinone and 1,2-phthaloylcarbazole. P. H. Groggins. Ind & Eng Chem 32:98 Ja '40

PHYLLITE
Faulted phyllite east of Greenfield, Massachusetts. J. Keeler and C. Brainard. maps Am J Sci 238:354-65 My '40

PHYLLOCHLORIN
Chlorophyll as the prosthetic group of a protein in the green leaf. E. L. Smith. bibliog Science 91:199-200 F 23 '40

PHYLOGENY
Relative growth and vertebrate phylogeny. F. B. Phleger, jr. bibliog Am J Sci 238: 643-62 S '40

PHYSICAL chemistry. See Chemistry, Physical and theoretical

PHYSICAL constants
Complete isometric consistency chart for the natural constants e, m and h. J. W. M. DuMond. Phys R 58:457-66 S 1 '40
Macleod constant and its dependence on physicochemical factors. D. T. Lewis. bibliog J Phys Chem 44:1007-11 N '40

PHYSICAL constants—*Continued*
Physical constants of asphaltic bitumens. R. N. J. Saal and others. bibliog diags Inst Pet J 26:29-39, 246-55 Ja, My '40
Physical constants of pure aluminum. Am Mach 84:618 Ag 21 '40
Physical properties of the alkyl fluorides and a comparison of the alkyl fluorides with the other alkyl halides and with the alkyls of the elements of period II. A. V. Grosse, R. C. Wackher and C. B. Linn. diag J Phys Chem 44:275-96 bibliog(67 titles, p294-6) Mr '40
Physical properties of the ternary system butyl alcohol—ethyl acetate—toluene. E. E. Litkenhous, J. D. Van Arsdale and I. W. Hutchison, jr. bibliog J Phys Chem 44:377-88 Mr '40
Über einige physikalische konstanten von bitumen. P. C. Blokker and others. diags Angew Chemie 52:643-8 O 28 '39
Values of *e*, *e/m*, *h/e* and *a*. R. T. Birge. Phys R 58:658-9 O 1 '40
See also
Boiling points
Dielectric constants
Freezing points
Melting points
Refractive index

PHYSICAL education and training
Anatomical analysis of sports. G. Hawley. 191p bibliog(p185-8) $3 A. S. Barnes and co, New York '40
It's fun to keep fit. F. B. Barton. 160p $2 Harper '40
Modern physical education program for boys and girls. V. S. Blanchard and L. B. Collins. 350p bibliog(p323-39) $2 A. S. Barnes and co, New York '40
Modern teacher of physical education. G. M. Baker. 264p $2 Crofts '40
Philosophical bases for physical education. C. H. McCloy. 311p $2.50 Crofts '40
Principles of physical education. J. F. Williams. 3d ed 453p $3 Saunders '39

Bibliography
Motion pictures in sports; a bibliography and film list. E. M. Dear, L. S. Kjellstrom and J. E. Turnbull, comps. 34p pa 25c National section on women's athletics of the American assn. for health, physical education, and recreation, Washington, D.C. '39

PHYSICAL examinations
Can dust and fumes be controlled? abstracts. H. B. Meller and F. S. Mallette. il Safety Eng 79:53-4, 57-8 Ap '40; Nat Safety N 41: 18-19+ My '40
Dust control in industry. F. F. Kravath. Heat & Ven 37:38-40 Mr '40
Essentials of the diagnostic examination. J. B. Youmans. 417p bibliog(p379-84) $3 Commonwealth fund, 41 E. 57th st, New York '40
Fit for the job; the doctor's influence in safe placement of employees. S. F. Meek. Nat Safety N 42:33-4+ Ag '40
Glimpse of the unknown; chest X-ray. il Safety Eng 80:65-8 O '40
Keeping fit for business. A. D. Tuttle. il Am Business 10:11-13+ Ag '40
Physical examinations for employees; why and how. E. Caldwell. Iron Age 146:38-40 Ag 29 '40
Small plant health. P. E. Rentschler. il Safety Eng 79:55-6 Ap '40
Unsuspected physical defects; are they overemphasized as accident causes? N. E. Eckelberry. Nat Safety N 41:34, 36+ My '40
Wisconsin's physical examination program precedent to employment; adoption by state industrial commission. H. A. Nelson. East Underw 41:35 Ja 5 '40
See also
Eye—Examination

PHYSICAL geography
See also
Coastal plains
Earth
Earth *movements*
Earthquakes
Erosion
Geology
Geophysics
Lakes
Mountains
Ocean
Peneplains
Prairies
Rivers
Volcanoes
Water, Underground

Florida
Scenery of Florida interpreted by a geologist. C. W. Cooke. il maps Florida Dept of Conservation, Geol Bul 17:1-118 '39

Nevada
Geomorphology of the Ruby-East Humboldt range. R. P. Sharp. il maps Geol Soc Bul 51:337-71, pl 1-4 bibliog(p370-1) Mr '40

South Carolina
Relations of soils and surface in the South Carolina Piedmont. D. H. Eargle. Science 91:337-8 Ap 5 '40

PHYSICAL instruments
Differential pulse amplitude selector using two thyratrons. A. Roberts. diags R Sci Instr 11:44-5 Ja '40
Scientific instruments and apparatus that would have been shown at Physical society's exhibition. il diags Engineer 169:297-300, 320-2, 355-7, 368-71, 402-4, 421-2, 432-3, 450-2, 471-3 Mr 29-My 24 '40
See also
Balances
Chemical apparatus
Electric apparatus and appliances
Electric instruments
Magnetic instruments
Measuring instruments
Optical instruments
Radio instruments
Scientific apparatus and instruments
Sound—Apparatus
also names of instruments, e.g. Micrometers; Oscillographs

PHYSICAL *measurements*
Complete isometric consistency chart for the natural constants *e*, *m* and *h*. J. W. M. DuMond. Phys R 58:457-66 S 1 '40
M.K.S. units and dimensions and a proposed M.K.O.S. system. G. E. M. Jauncey and A. S. Langsdorf. 62p $1 Macmillan '40
Measurement of velocity with atomic clocks. H. E. Ives. Science 91:79-84 Ja 26 '40
See also
Dimensional analysis
Doppler effect
Electric measurements
Magnetic measurements
Pressure gages
Radio measurements
Temperature—Measurement
Viscosity—Measurement

PHYSICAL research
National physical laboratory; report for 1939. Engineering 149:626-7 Je 28 '40
What we have learned from scattered X-rays A. H. Compton. Franklin Inst J 230:149-57 Ag '40

PHYSICIANS
American doctors of destiny. F. J. Jirka. 361p bibliog(p352-3) $7.50 Normandie house, Chicago '40
Better health for America. N. B. Van Etten. Science 91:581-5 Je 21 '40
Doctors in shirt sleeves. H. Bashford, ed. 294p $2.50 Oskar Piest, 250 W. 57th st, New York '40
Doctors on horseback; pioneers of American medicine. J. T. Flexner. 370p bibliog(p335-9) $1 Garden City pub. co, New York '39
In search of complications; an autobiography. E. de Savitsch. 396p $3 Simon and Schuster. New York '40
Medical expert testimony; abstracts. J. F. Handy. East Underw 41:10 O 11 '40; Spectator (Life ed) 145:22-3 O 24 '40; Weekly Underw 143:858 O 12 '40
Occupational opportunities; is a medical education a wise investment? R. W. Lane. Bankers Mo 57:456-7+ Ag '40
Waiting room. H. I. Oehler. 77p $1 Fortuny's, New York '40
See also
Chiropractors
Medical service
also American medical association

Directories
Directory of medical specialists certified by American boards, 1939. P. Titus, ed. 1573p $5 Columbia univ. press '40

PHYSICISTS
See also
Branly, Edouard

PHYSICS

Abstracts of papers read before the Washington meeting of the American physical society. Science 91:sup8+ My 3 '40

Classical and modern physics; a descriptive introduction. H. E. White. 712p $3.75 Van Nostrand '40

College physics. J. A. Eldridge. 2d ed 702p $3.75 Wiley '40

Conference on applied nuclear physics. Science 92:73-4 Jl 26 '40

Considerations concerning the fundaments of theoretical physics. A. Einstein. Science 91: 487-92 My 24 '40

Electro-physics; review of progress, 1936-1939. N. Campbell. diags Inst E E J 86:212-19 F '40

Foundations of modern physics. T. B. Brown. 333p $3.25 Wiley '40

Fundamentals of college physics. W. Weniger. 694p $3.75 Am. book co. '40

General physics for students of science. R. B. Lindsay. 534p $3.75 Wiley '40

Modern theory of solids. F. Seitz. 698p $7 McGraw-Hill '40

New theories in physics; conference organized in collaboration with the International union of physics and the Polish intellectual co-operation committee, Warsaw, May 30th-June 3rd 1938. 247p $2 Columbia univ. press '40

Physical sciences. E. J. Cable, R. W. Getchell and W. H. Kadesch. 754p bibliog(p647-71) $5; school ed $3.75 Prentice-Hall '40

Physics; a textbook for science and engineering students. P. F. Hammond. 2d ed 760p $4.75 Mountain states pub. co, box 912, Laramie, Wyo. '39

Physics in 1939. T. H. Osgood. bibliog il J Ap Phys 11:2-17 Ja '40

Physics made easy. L. T. Masson. 384p $1.49 Garden City pub. co, New York '39

Proceedings of the American physical society, Washington, D.C. meeting, April 25-27; abstracts of papers. Phys R 57:1054-90 Je 1 '40

Proceedings of the American physical society; Washington meeting, June 18-21 and Pittsburgh meeting, June 20-22, 1940; abstracts of papers. Phys R 58:187-211 Jl 15 '40

Recent advances in physics. T. H. Osgood and R. B. Bowersox. bibliog il Ind & Eng Chem News ed 18:30-1+ Ja 10 '40

Rutherford; being the life and letters of the Rt. Hon. Lord Rutherford, O.M. A. S. Eve. 451p $5 Macmillan '39

Science in 1939. Science 90:sup14 D 22 '39

Sixth Washington conference on theoretical physics, March 21-23. E. Teller and M. A. Tuve. Science 91:621-3 Je 28 '40

Some papers read at the New York meeting of the American physical society; abstracts. Science 91:sup10+ Mr 1 '40

Survey of elementary physics. L. L. Hendren. 393p $2 Univ. of Georgia press, Athens '39

Symposium in theoretical physics at the University of Michigan. Science 91:426-7 My 3 '40

See also

Atoms
Chemistry
Chemistry, Physical and theoretical
Compressibility
Cosmic rays
Diffusion
Elasticity
Electricity
Electrodynamics
Electrons
Evaporation
Expansion (heat)
Fluids
Free energy
Friction
Gases
Geophysics
Hydraulics
Hydrodynamics
Ionization, Electrolytic
Ionization, Gaseous
Ions
Light
Liquids
Magnetism
Mathematical physics
Mechanics
Molecules
Optics
Particles
Photoelasticity
Physical instruments
Plasticity
Pressure
Quantum theory
Radiation
Radioactivity
Reflection (optics)
Relativity (physics)
Sound
Steam
Strains and stresses
Temperature
Thermodynamics
Thermometers and thermometry
Velocity
Vibration
Viscosity
Wave mechanics
Weights and measures

Bibliography

Book reviews. R Sci Instr 11:135-58, 321-48 Ap, O '40

Current literature of physics. Published in monthly numbers of Review of scientific instruments

Experiments

Invitation to experiment. I. M. Freeman. 239p $2.50 Dutton '40

Laboratory manuals

Experimental college physics; a laboratory manual. M. W. White. 2d ed 383p $2.75 McGraw-Hill '40

Household physics laboratory manual. M. Avery. 92p pa $1.50 Macmillan '40

Instructions in physical measurements; mechanics, properties of matter, heat, magnetism, electricity, wave motion, sound and light. R. B. Abbott. 90 numb l pa $1.40 Van Nostrand '39

Laboratory manual of physics. C. M. Kilby. 2d ed 146p $1.75 Van Nostrand '40

Physics laboratory manual. D. L. Rich. 2d ed 220p $1.75 G. Wahr, Ann Arbor, Mich. '39

Philosophy

Can modern science harmonize physics and biological phenomena? W. F. G. Swann. Franklin Inst J 229:693-708 Je '40

Crisis in physics. C. St J. Sprigg. 245p 7s 6d John Lane, London '39

Matter and light; the new physics. L. de Broglie. 300p $3.50 Norton '39

Philosophy of physical science. A. Eddington. 230p $2.50 Macmillan '39; Review, by R. C. Tolman. R Sci Instr 11:135-9 Ap '40

Physics and reality. K. Riezler. 124p $2 Yale univ. press '40

Soul of the universe. G. Strömberg. 244p $2 David McKay co, Philadelphia '40

Study and teaching

Basic physics as a part of mathematics. A. Hazeltine. J Eng Educ 30:699-703 Ap '40

Intermediate physics in the engineering physics curriculum. C. E. Bennett. J Eng Educ 30:655-9 Ap '40

Physical science general course for grades 11 and 12; replacing high-school physics and high-school chemistry. T. A. Ashford. J Chem Educ 17:157-9 Ap '40

Textbooks

Teachers of physics. N. F. Beardsley. bibliog Science 90:618-19 D 29 '39

PHYSICS, Mathematical. See Mathematical physics

PHYSIOGRAPHY. See Geology; Physical geography

PHYSIOLOGICAL apparatus

Apparatus for measuring metabolism and activity in wild animals. W. H. Long. (Univ. of Mich. School of forestry and conservation Circ. no. 5) 35p bibliog(p33-5) Univ. of Michigan press, Ann Arbor '39

Differential metal bellows manometer for the measurement of blood flow. H. Lawson. diag Science 92:291-2 S 27 '40

Graphical method for determining Warburg vessel constants at various fluid volumes. J. MacLeod and W. H. Summerson. Science 91:201-2 F 23 '40

Koremetron; an instrument for measuring pupillary diameters. R. C. Jones. il Opt Soc Am J 29:531-4 D '39

Multi-channel delay unit. W. H. Marshall and S. A. Talbot. il diag R Sci Instr 11:287-9 S '40

Simple gravimetric alcohol check for calibration of metabolism apparatus. W. B. Shelley and A. Hemingway. diag Science 91:99-100 Ja 26 '40

See also

Kymograph
Respiratory apparatus

PHYSIOLOGICAL chemistry

Applied nutrition. H. F. Hawkins. 195p $3 Institute press, box 146, Gardena, Calif. '40

Argument for chemical mediation of nerve impulses. W. B. Cannon. bibliog Science 90:521-7 D 8 '39

Biochemistry of brain tissue. R. A. Peters. bibliog Chem & Ind 59:373-8 Je 1 '40

Chemistry and medicine; papers presented at the fiftieth anniversary of the founding of the Medical school of the University of Minnesota. M. B. Visscher, ed. 296p $4.50 Univ. of Minnesota press, Minneapolis '40

Electricity elicited by an organic chemical process. D. Nachmansohn. bibliog Science 91:405-6 Ap 26 '40

Interdependence of respiration and glycolysis. O. Rosenthal, M. A. Bowie and G. Wagoner. bibliog Science 92:382-3 O 25 '40

Introduction to physiological and pathological chemistry. L. E. Arnow. 555p $3.50 C. V. Mosby co, St Louis '39

Mechanism of the biological citric acid synthesis. N. Hallman and P. E. Simola. bibliog Science 90:594-5 D 22 '39

Nature of the leukocytosis-promoting factor of inflammatory exudates. V. Menkin. Science 91:320-1 Mr 29 '40

Progress of the Biochemical research foundation of the Franklin institute. E. McDonald. Franklin Inst J 228:695-717 D '39

Renal mechanisms controlling composition of the body fluids. D. D. Van Slyke. diag Chem R 26:105-27 bibliog(p126-7) F '40

Synthetic immunochemistry. C. R. Harington. Chem Soc J p119-28 F '40

See also

Anesthetics
Anesthetics, Local
Biological chemistry
Blood—Analysis
Blood—Coagulation
Carbohydrates
Cells
Chemistry, Medical and pharmaceutical
Cholesterol
Dental chemistry
Enzymes
Hormones
Immunity
Liver extracts
Marrow
Metabolism
Nerves
Nutrition
Poisons
Proteins
Urine
Vitamins

PHYSIOLOGICAL optics. See Optics, Physiological

PHYSIOLOGICAL research

Use of radioactive elements as tracers in physiology. H. R. Crane. Phys R 56:1243-4 D 15 '39

PHYSIOLOGY

Elements of human physiology. M. S. Lucas. 400p $4.50 Lea & Febiger, Philadelphia '40

Essentials of physiology and pharmaco-dynamics. G. Bachmann and A. R. Bliss. 3d ed rev 508p $4.50 Blakiston '40

Physiological basis of medical practice; a University of Toronto text in applied physiology. C. H. Best and N. B. Taylor. 2d ed 1872p bibliog(p1723-1804) $10 Wood '39

Physiology and anatomy. E. M. Greisheimer. 4th ed rev 822p bibliog(p769-71) $3.50 Lippincott '40

Physiology in health and disease. C. J. Wiggers. 3d ed rev 1144p $9.50 Lea & Febiger, Philadelphia '39

Recent advances in physiology. C. A. L. Evans. 6th ed rev 490p $5 Blakiston '39

Spare parts; human body contains large number. G. H. Estabrooks. Sci Am 162:92-4 F '40

Varieties of human physique; an introduction to constitutional psychology. W. H. Sheldon, S. S. Stevens and W. B. Tucker. 347p bibliog(p300-18) $4.50 Harper '40

See also

Blood
Bones
Brain
Cells
Diet
Electrophysiology
Fatigue
Metabolism
Nervous system
Nutrition
Old age
Physiological chemistry
Psychology, Physiological
Respiration
Temperature—Physiological effect
Temperature, Animal and human
Tissues
Ultraviolet rays—Physiological effect

Periodicals

Publication of a new physiological journal in Scandinavia, Acta physiologica Scandinavia. A. Krogh. Science 91:377 Ap 19 '40

PHYTIN

Isolation of phytin from soil. W. J. Dyer, C. L. Wrenshall and G. R. Smith. bibliog Science 91:319-20 Mr 29 '40

PHYTOCHEMISTRY. See Botanical chemistry

PHYTOHORMONES. See Hormones, Plant

PIANO industry and trade

Statistics

Musical instruments are coming back; pictograph. Sales Management 46:37 Ja 15 '40

PIANOS

Plastics competition; award to the Miller co. for fluorescent tube to light musical scores on a piano. il Mod Plastics 18:63, 95 O '40

Solovox; electronic musical instrument to be played with piano. il Sci Am 163:276 N '40

PICKETING

Antipicketing laws held unconstitutional. Monthly Labor R 50:1436-7 Je '40

Bridges' union curbed; court restrains it from picketing Euclid candy co. in effort to strike at A.F.L. Business Week p40 Je 29 '40

Fortune survey; weapon of the picket line. Fortune 21:160-1 Je '40

Legality of picketing. L. Teller. 68p pa $1 New York univ. Law quarterly review, 100 Washington sq. E., New York '40

Ordinance prohibiting peaceful picketing held unconstitutional by Washington state Supreme court. Monthly Labor R 49:1425 D '39

Oregon antipicketing law held valid; peaceful picketing banned by New York court. Monthly Labor R 49:679 S '39

Oregon labor peace only a truce; anti-picketing law is fought through the courts. Business Week p18+ N 11 '39

Oregon Supreme court declares invalid state anti-picketing law. Comm & Fin Chr 151: 2578 N 2 '40

Picket lines in Reno. Business Week p41 Je 29 '40

Picketing of leased station branded as racket by judge. il Nat Pet N 32:30, 32+ Jl 3 '40

Pickets try some new lines. il Business Week p34 Ag 24 '40

United States Supreme court invalidates anti-picketing statutes. Comm & Fin Chr 150:2651-2 Ap 27 '40

Use of libelous signs by pickets held unlawful by Supreme court of Illinois. Monthly Labor R 49:1426 D '39

PICKLES

New method of preventing scum-forming yeast growth; abstract. F. W. Fabian. Food Ind 12:99-100 Jl '40

Pickle packers expand program of research. Food Ind 12:64 Ag '40

200 tell what they prefer in pickle sweeteners. R. G. Switzer and F. W. Fabian. il Food Ind 12:38-40 N '40

Manufacture

Gaseous products of cucumber pickle fermentations; abstract. M. K. Veldhuis and J. L. Etchells. Food Ind 12:101 Mr '40

How to make dill pickles. W. G. Wormley. il Food Ind 12:50-2 Mr '40

Lactic acid for pickles. F. W. Fabian and C. K. Wadsworth. Food Ind 12:96 Ap; 98 My; 97 Je '40

Salting of cucumbers; influence of brine salinity on acid formation. I. D. Jones. bibliog Ind & Eng Chem 32:858-61 Je '40

Spice oils give uniform flavor; experience in replacing dry spices for pickle manufacture with spice essential oils and oleoresins. A. H. Downey. il Food Ind 12:54-5 S '40

Yeast fermentation in cucumber pickle making; abstract. J. L. Etchells. Food Ind 12: 92 Ag '40

PICKLING (metals)
Fatigue resistance of steel as affected by acid pickling. G. L. Kehl and C. M. Offenhauer. il diags Am Soc for Metals Trans 26:288-54; Discussion. 254-6 Mr '40
Heating solutions for pickling, plating, etc.; external heat exchangers. D. Augsburger. il diags Steel 106:46-9 Ap 22 '40
High-production cleaning, pickling and plating line; Chrysler-Plymouth plant. il Steel 107: 50, 52+ S 23 '40
New Belgian pickling process saves acid for continual reuse; de Lattre process. A. McLeod. diags Steel 107:40-2, 44+ S 2 '40
New electroplating products and processes developed in 1939; pickling and descaling. il Metal Ind 38:8 Ja '40
New pickling process. Chem Age (Lond) 43: 163 O 5 '40
Pickleen; a new material used for clean, economical acid pickling. Mach 46:145 Je '40
Pickling alloy steels; a new method of employing hydrofluoric acid. Automobile Eng 30:261 S '40
Pickling and polishing of metals; Lucius Pitkin, Inc.; with patent data chronologically arranged. S. Tour. il Iron Age 145:56-60 My 23; 56-60 My 30 '40
Pickling inhibitor; cresolsulphonic acid added to stanneous chloride. Steel 107:70-1 O 28 '40
Pickling of K monel. Metal Ind 38:33 Ja '40
Pickling of metals for electroplating; abstract. O. T. Towner. Iron Age 146:42 Jl 4 '40
Pickling, ventilation; exhaust systems and inhibitors control health hazards in operation of pickling tanks. M. A. Snell. diags Steel 106:56, 68+ My 20 '40
Researches of Mellon institute 1939-40; utilization of waste pickle liquor. il Ind & Eng Chem News ed 18:295-6 Ap 10 '40
Wastes problems of the iron and steel industries; slag, flue dust, spent pickle liquor. W. W. Hodge. flow sheet il Ind & Eng Chem 31:1364-80 bibliog(189 references, p1279-80) N '39
Working of carbon sheet steel; methods in common use for cleaning and pickling; tabulation. Am Mach 84:823 O 16 '40

PICOLINE
Industrial uses of chemicals and related materials. Oil Paint & Drug Rep 137:36 My 6 '40
Separation of β-picoline, γ-picoline, and 2:6-lutidine from their mixture. A. G. Lidstone. Chem Soc J p241-3 F '40

PICRAMIDES
Solid derivatives of monoalkyl ethers of ethylene glycol and diethylene glycol. J. F. Manning and J. P. Mason. Am Chem Soc J 62:3136-9 N '40

PICRATES
Chemistry of allergens; isolation and properties of an active protein component of cottonseed. J. R. Spies and others. Am Chem Soc J 62:1420-3 Je '40
Chemistry of allergens; the solubility behavior of an active protein picrate from cottonseed. J. R. Spies, H. S. Bernton and H. Stevens. Am Chem Soc J 62:2793-9 O '40

PICRIC acid
Industrial uses of chemicals and related materials. Oil Paint & Drug Rep 138:38 S 23 '40

PICTOGRAPHS
All the answers in a picture; Detroit utility uses pictograph as response to customer requests for information. A. D. McLay. il Elec W 114:1156-9 O 19 '40

PICTURE transmission. See Phototelegraphy; Television

PICTURES
See also
Advertisements, Pictorial
Engravings
Paintings
Photographs
Posters

PIECE work
Inspectors on piece rates up quality, output, and earnings; Hoover ball & bearing co, Ann Arbor, Mich. D. W. Saxton. il Factory Management 98:50-1 F '40
See also
Bonus system
Time study
Wage payment plans
Wages

PIEDMONT fire insurance company of Charlotte, North Carolina
Company analysis. Spectator (Property ed) 6:25-7 S 5 '40

PIERCE, John B., foundation
Low-cost housing research; abstract. il plan Mech Eng 62:553-4 Jl '40
Research develops a $2,600 house in sixteen years, builds it in ten days; horizontal construction. il diags plan Arch Forum 72: 365-9+ My '40
Science builds a low-cost home; non-profit Pierce foundation experimental house at Lebanon, N.J. il Business Week p24+ Ap 13 '40

PIERS
Bulkhead and slip, Cleveland, Ohio; unit prices. Eng N 125:304 Ag 29 '40
Ferry pier, Mackinaw City, Michigan; unit prices. Eng N 124:211 F 8 '40
Port of New York; improvement by the city. J. A. Meehan. il map Civil Eng 10:281-4 My '40
See also
Wharves
Fires and fire protection
Reduction of pier fire risks. G. W. Booth. East Underw 41:34 F 2 '40; Excerpts. Weekly Underw 142:250. Ja 27 '40

PIERS (foundations)
New concrete pier and sill system for low-cost homes. diags Am Bld 62:86 My '40
Transatlantic seaplane base, Baltimore, Maryland. W. W. Pagon. diags Am Soc C E Proc 66:1479-82 O '40
See also
Bridges—Foundations and piers

PIETERS, Adrian John, 1866-1940
Sketch. L. W. Kephart. Science 91:610-11 Je 28 '40

PIEZOELECTRICITY
Elastic, dielectric and piezoelectric constants of heavy-water Rochelle salt. A. N. Holden and W. P. Mason. bibliog Phys R 57:54-6 Ja 1 '40
Electro-acoustic reactions; with special reference to quartz crystal vibrators. A. T. Starr. diags Wireless Eng 17:247-56, 303-9 Je-Jl '40
Location of hysteresis phenomena in Rochelle salt crystals. W. P. Mason. bibliog diags Phys R 58:744-56 O 15 '40
Properties of Rochelle salt. H. Mueller. bibliog Phys R 57:829-39; 58:565-73, 805-11 My 1, S 15, N 1 '40
Quartz crystals; their piezoelectric properties and use in control of high frequencies. C. F. Baldwin. Gen Elec R 43:188-94, 237-43 My-Je '40
Recorder for electrical potentials; the damping of piezoelectric systems; ink-writing oscillograph. F. Offner. diags J Ap Phys 11:347-52 My '40
Remote control of Youngstown's pumping plants; use of piezoelectric crystal. R. I. Williams. il Pub Works 71:21 Ag '40

PIEZOMETERS. See Manometers; Pressure measurement

PIEZOTHERMOMETRIC cell
Measurement of the heat capacity of a small volume of liquid by the piezo-thermometric method; apparatus for measuring $(bT/bP)_s$ and results for benzene and toluene. J. S. Burlew. bibliog diags Am Chem Soc J 62:681-9 Ap '40

PIG iron
Continuous pig casting; handling facilities; Canadian furnace limited. R. Trautschold. il Steel 107:50+ S 9 '40
Decarburisation of granulated pig iron: the R.K. process. B. Kalling and I. Rennerfelt. diags Iron & Steel Inst J 140:137-60, pl 21-2 no 2 '39

PIG iron—*Continued*
Desulphurization of pig iron. Iron Age 145:37 Mr 14 '40
Interlake iron corp.; high cost producer of pig iron may make a better than usual showing. G. W. Mathis. Mag of Wall St 66:475+ Jl 27 '40
Manufacture of pig iron in America. W. A. Haven. diags maps Iron & Steel Inst J 141:405-47, pl 40-51 no 1 '40; Same cond. Blast F & Steel Pl 28:354-7, 410, 418, 483-6, 586-90, 688+ Ap-Jl '40; Excerpts. Elec R (Lond) 126:244 Mr 1 '40; Chem Age (Lond) 42:sup9-11 Mr 2 '40; Discussion. Iron & Steel Inst J 141:448-58 no 1 '40
Manufacture of pig iron in America; abstract. W. A. Haven. Engineering 149:489 My 10 '40
Outlook for merchant pig iron companies. R. Lane. Barron's 20:9 Jl 22 '40
Sierra iron co. plans immediate start on electric pig iron plant. Steel 106:24 Mr 4 '40

See also
Cast iron
Charcoal iron
Iron
Iron founding

Prices

Average monthly quotations in 1939; tabulation. Steel 106:266 Ja 1 '40
Basing points for steel and pig iron; listed geographically and by products. Iron Age 145:105-12 Mr 7 '40
Composite prices, 1914-1939; chart. Iron Age 145:55-60 Ja 4 '40
Monthly average pig iron prices, 1903-1939; tabulation. Iron Age 145:166-8 Ja 4 '40
Monthly price averages for eleven years, 1929-1939; tabulation. Steel 106:285-6 Ja 1 '40
Pig iron. Published in weekly numbers of Iron age

Statistics

American iron and steel institute's report of pig iron and ferroalloy production in 1939. Iron Age 145:61 My 9 '40
First-half pig iron output up 49 per cent. Steel 107:78 S 2 '40
Pig iron, 1936-1939. Survey of Cur Business 1940 Sup p130 [supplemented in monthly numbers]
Pig iron output. Published monthly in Iron age and Commercial & financial chronicle
Pig iron production in the United States; monthly, 1901-1939; tabulation. Iron Age 145:164 Ja 4 '40
Pig iron production, 1929-1939; tabulation. Steel 106:264 Ja 1 '40
Pig iron production; revision, monthly Jan. 1913-Aug. 1940. Survey of Cur Business 20:14 O '40
Pig iron production, revision; monthly, 1923-June, 1940. Fed Res Bul 26:827 Ag '40
World production of pig iron and ferroalloys, 1929-1939; tabulation. Steel 106:269 Ja 1 '40

PIGMENTS
Aluminium-silicon alloy pigments. Can Chem & Process Ind 23:599 D '39
Anthocyanin pigment of the Hunt muscadine grape. W. L. Brown. bibliog Am Chem Soc J 62:2808-10 O '40
Chalking of titanium dioxide pigmented exterior finishes; outside house paints. R. E. Troutman and W. G. Vannoy. il Ind & Eng Chem 32:232-7 F '40
Chalking of titanium dioxide pigmented exterior finishes; synthetic enamels. D. H. Dawson and R. D. Nutting. il Ind & Eng Chem 32:112-16 Ja '40
Constitution and physiological significance of carotene and allied pigments. R. A. Morton. Chem & Ind 59:301-7 My 4 '40
Dilatometer studies of pigment-rubber systems. H. C. Jones and H. A. Ylengst. bibliog il diag Ind & Eng Chem 32:1354-9 O '40
Dispersion of pigments in aqueous medium. F. K. Daniel. India Rubber W 101:50-2 D '39; 33-7 Ja '40
Drying of linseed oil paint; effect of acidity upon rate of oxygen absorption. D. G. Nicholson. bibliog Ind & Eng Chem 32:1259-61 S '40
Dunnione. J. R. Price and R. Robinson. Chem Soc J p1522-9 O '39
Dyeing with pigments; two methods employed in production of bookcloth, awnings, and similar fabrics. J. T. Gibbons. il Textile World 90:68 Jl '40
Effect of particle shape of white pigments on opacity; acicular zinc sulfide in the form of wurtzite. H. A. Depew and A. C. Eide. bibliog il diag Ind & Eng Chem 32:537-40 Ap '40
Increased activity in pigments. Chem & Met Eng 47:76-7 F '40
Inert materials for admixture with paint pigments. W. R. Fuller. Oil Paint & Drug Rep 138:3+ Ag 19; 5+ Ag 26; 5+ S 2 '40
Lead and zinc pigments sales gained in 1939. Oil Paint & Drug Rep 137:34 Ja 29 '40
Luminous pigments; properties of alkaline earth powders. Chem Age (Lond) 41:400 D 16 '39
Microscope hot stage for determination of melting points; application to carotenoid pigments. F. P. Zschelle and J. W. White, jr. bibliog il diags Ind & Eng Chem Anal ed 12:436-8 Jl 15 '40
Osage orange pigments; degree of unsaturation and flavone nature. M. L. Wolfrom, P. W. Morgan and F. L. Benton. Am Chem Soc J 62:1484-9 Je '40
Osage orange pigments; fractionation and oxidation. M. L. Wolfrom and A. S. Gregory. Am Chem Soc J 62:651-2 Mr '40
Paint service laboratory; Canadian titanium pigments ltd. il Can Chem & Process Ind 24:193-4 Ap '40
Paper coating pigments. A. E. Hughes and H. F. Roderick. Paper Tr J 110:33-6 Je 27 '40
Printing pigment colors with resin bases; abstract. E. A. Sack. Am Dyestuff Rep 29:505 S 30 '40
Refractometer studies on rubber-pigment mixtures. H. C. Jones. Ind & Eng Chem 32:331-4 Mr '40
Silene, a pigment with reenforcing properties. India Rubber W 102:49 Ag '40; Rubber Age 47:246 Jl '40
Stability of green pigments. Oil Paint & Drug Rep 138:49 N 4 '40
Surface-active agents in pigment grinding. Oil Paint & Drug Rep 138:48-9 N 4 '40
Then and now in plant operation. G. E. Walker. Chem & Met Eng 46:710 N '39
Titanium pigments. I. D. Hagar. il Chem Ind 46:438-43 Ap '40
Titanium sulfate solutions; refractive index and viscosity measurements. A. W. Hixson and J. D. Stetkewicz. bibliog Ind & Eng Chem 32:1009-15 Jl '40
Vat dyes as pigments; use in wall paper, cold-water paints, printing ink, etc. C. K. Black. Ind & Eng Chem 32:1304-6 O '40
Yellow pigments; abstract. A. Gowen and J. Lang. Can Chem & Process Ind 24:94 F '40

See also
Carbon black
Carotenoids
Chlorophyl
Cyanines
Dyes and dyeing
Lead oxides
Lithopone
Ocher
Paint
Phthalocyanines
Titanium oxides
Zinc oxides
Zinc sulfide

PIKE, Sumner Tucker
New Securities and exchange commissioner, por Barron's 20:7 Je 10 '40

PIKES peak
Pinning a pipeline on Pikes peak. E. L. Mosley. il diags Eng N 124:518-20 Ap 11 '40

PILE drivers
Early pile drivers, hand vs. steam. R. D. Chellis. il Civil Eng 10:394-5 Je '40
Weight of pile hammers. Eng N 125:158 Ag 1 '40; Discussion. L. H. Buttenheim. 125:266 Ag 29 '40

PILE fabrics
Bleaching pile fabrics. J. C. Kopaas. Textile World 90:66 Je '40
Coloring and shower-proofing llama pile fabrics. A. E. Cabell. Textile Col 62:559-62 Ag '40

PILE fabrics—*Continued*
Dyeing and finishing of pile fabrics. B. Fisher. Am Dyestuff Rep 29:246-7 My 13 '40
Dyeing pile fabrics. J. C. Kopasz. il Textile World 90:68-9 Ja '40
Electro-coated; high pile put on textiles electrically. il Sci Am 163:199 O '40
Electro-fiber-coated textile fabrics. il Rayon 21:622 O '40
Patterned acetate rayon pile fabrics; patent. Textile Col 62:113 F '40
Pretreatment of pile fabrics to give uniform and even dyeings. J. C. Kopasz. Textile World 90:92 Jl '40
Printing of wool; printing pile fabrics. E. W. Pierce. Am Dyestuff Rep 29:155 Ap 1 '40
Processing of astrakhan fabric. S. Wouble. Textile Col 62:441-4, 525-7+ Jl-Ag '40
Processing of shingle fabric. S. Wouble. Textile Col 62:371-2 Je '40
Sandpaper to textiles; electrostatic process used in fabric manufacture. il diag Textile World 90:56 Ap '40
Saponified cellulose acetate materials; rayon pile fabric on cotton back. Textile Col 62: 329-30 My '40
Staple cotton fabrics; cut-pile fabrics. J. Hoye. Textile World 90:97 Jl '40
See also
Plush
Velvet

Testing

Standard methods of testing pile floor covering adopted 1939; American society for testing materials. Textile Col 62:407-9 Je '40

PILES and pile driving
Bridge piers of structural steel piles meet with favor on the C.N.R. il diag Ry Age 108:544-9 Mr 23 '40
Bridges given deep roots with steel H-section piles; four structures on the Union Pacific in southern California. il diags Ry Age 109: 178-82 Ag 3 '40
Carrying a highway over a peat bog. diag Concrete 48:8 Jl '40
Design of pile foundations using piles of varied lengths. H. E. Eckles. diag Eng N 124:862-3 Je 20 '40
Dynamic pile driving formulas. A. E. Cummings. bibliog diags Boston Soc C E J 27:6-27 Ja '40
Fundamentals of pile foundations. I. F. Morrison. diags Can Eng 77:4-7+ D 19 '39
Holes pre-bored for underpass falsework; four-lane underpass under tracks of B. & O.C.T. railway in Chicago. il Eng N 124: 654-5 My 9 '40
Load testing steel piles. C. N. Crocker. il Eng N 125:427 S 26 '40
Long piles and floating caissons for Potomac River bridge piers. il diags Eng N 124: 306-10 F 29 '40
New steel shanks for old timber piles; coal tipple pier at Pensacola, Fla., damaged by teredo and limnoria, renewed without disturbing superstructure. C. G. Cappel. il Civil Eng 10:632-3 O '40
Nomagraph to show bearing power of pile driven by standard hammer. H. Kurin. Pub Works 71:9 Jl '40
Novel pile-test loading. C. G. Brode. il Eng N 124:183 F 1 '40
Pile bearing increased by close driving. W. Z. Lidicker. diag Eng N 125:172-4 Ag 1 '40
Piledriving leads 125 ft. long; new postoffice building, San Francisco. il diag Eng N 124: 848-9 Je 20 '40
Piling support on unstable foundation; pavement design for locations where subgrade is underlain with peat bogs and other swampy material. Roads & Sts 83:56 F '40; Same. Can Eng R & B 78:94-5 F '40
Post driving; small explosive charge drives piling or posts. Sci Am 163:148 S '40
Rotary-rig foundations in Gulf Coast marshes. N. Williams. il plan Oil & Gas J 39:42-3 Ag 8 '40
Steel pile piers for railroad bridges; Canadian national railways. il Eng N 123:826-7 D 21 '39
Teredos cause collapse of temporary trestle. il Eng N 124:163 F 1 '40
Wharf gets 600 new piles through old deck at Long Beach, Calif.; drilling 18-in. holes through reinforced concrete; steel H-beams as replacement piles. il diag Eng N 123: 750-2 D 7 '39
See also
Cofferdams
Concrete piling
Foundations
Piers
Pile drivers
Sheet piling
Wharves

PILLAR halos. See Halos (meteorology)

PILLSBURY flour mills company
Brass tacks for the investor; brief analysis. Barron's 20:13 Ja 8 '40

PILOT boats
Pilot boat Maryland converted to Diesel drive. il Marine Eng 45:90+ Mr '40

PILOT guides

Central America

Sailing directions for east coasts of Central America and Mexico. 4th ed 382p bibliog(p 1-13) $1.80 U.S. Hydrographic office, Washington '39

New England

Yachtsman's coast pilot; arranged in the form of four cruises to the New England coast and to the Chesapeake. H. S. Smith. 213p $4.50 Harcourt '40

West Indies

United States coast pilot, West Indies: Puerto Rico and Virgin islands. 4th ed 291p 75c U.S. Coast and geodetic survey, Washington '39

PILOT lights. See Gas appliances—Pilot lights

PIMARIC acid
Hydroxy-lactone from *d*-pimaric acid. E. E. Fleck and S. Palkin. bibliog Am Chem Soc J 62:2044-7 Ag '40

PINABIETIC acid
Identity of resin acids; pinabietic acid of Finnish tallol. T. Hasselstrom, J. D. McPherson and S. Hopkins, jr. bibliog Paper Tr J 110:41-3 Ja 25 '40

PINACOL rearrangement. See Molecular rearrangements

PINE
Allegations by federal government against Southern pine association and others. Comm & Fin Chr 150:1359-60 Mr 2 '40
Arkansas soft pine. il Am Bld 62:77 Ja '40
Chemistry of lignin. A. J. Bailey. bibliog il Paper Tr J 110:29-34 Ja 4; 29-32 Ja 11 '40
Effect of acid concentration and temperature schedule in pulping resinous woods. G. H. Chidester and J. N. McGovern. Paper Tr J 110:39-42 Mr 7 '40
Effect of mechanical gelatinization on the solubility of wood in cuprammonium solution. J. Levy and E. C. Jahn. bibliog Paper Tr J 109:45-9 D 7 '39
Exothermic decomposition temperature of sawdust; effect of mineral salts. J. L. McCarthy and E. C. Jahn. bibliog Ind & Eng Chem 32:1257-8 S '40
Idaho white pine, ponderosa pine, and sugar pine. il Am Bld 62:83-5 Ja '40
Interesting use of pine in small chapel. il Am Bld 62:82 O '40
James L. Coker, jr.; pioneer producer of pulp and paper from southern pine. H. R. Murdock. il Ind & Eng Chem News ed 18: 447-8 My 25 '40
Loblolly pine pulping qualities. J. S. Bethel. bibliog Paper Ind 22:358-9 Jl '40
Method of substituting pine sapwood for malt agar in culturing test fungi; testing the toxicity of preservatives in wood. E. E. Hubert. diag Science 91:247-8 Mr 8 '40
Newsprint made from birch and jack pine. R. S. Kellogg. Paper Ind 22:328 Jl '40
Newsprint made from red pine. W. O. Hisey. Paper Tr J 110:133 F 22 '40; Same abr. Pulp & Pa of Can 41:304 Mr '40
Pine pulpwood from logging tops; new use for a waste product. il Paper Tr J 109:28-9 D 28 '39
Planted red pine as related to pulpwood yields North and South. E. F. McCarthy. il Paper Tr J 109:36-8 N 16 '39

PINE—*Continued*
Pulp and paper mill utilization of hardwoods and other little used species. K. D. Running. Pulp & Pa of Can (Convention no) 41: 183-4 [F] '40
Relation of lignin content to the strength of paper and boards; preparation of pulps of different lignin content by chlorine dioxide. C. V. Holmberg and E. C. Jahn. bibliog Paper Tr J 111:33-6 Jl 4 '40
Southern pine; longleaf and shortleaf; with brief outline of official grades. il Am Bld 62:76 Ja '40
Southern pine, western pine and west coast woods, 1936-1939. Survey of Cur Business 1940 Sup p126-7 [supplemented in monthly numbers]
Southland paper mills, incorporated, Lufkin, Texas. V. H. Schoffelmayer. il Paper Tr J 110:16-26 Mr 21 '40
South's lumber industry prepared for war developments. H. C. Berckes. il Manuf Rec 109:39+ Ja '40
Suitability of red pine for the manufacture of sulphite pulp. J. Studeny and C. E. Libby. il diag Paper Tr J 109:29-35 N 16 '39
Treatment of wood with aqueous solutions; effect of wetting agents. A. J. Stamm and W. H. Petering. bibliog Ind & Eng Chem 32:809-13 Je '40
Weight factors of beaten pulps. J. H. Graff. il Paper Tr J 110:37-40 Ja 11 '40

Diseases and pests

Ghost forests; number one forest enemy; pine bark beetles. R. Ringle. il Sci Am 162:318-9 Je '40

PINE, Australian. See Beefwood

PINE bark beetles. See Pine—Diseases and pests

PINEAPPLE juice
Anthelmintic inactivity of fresh pineapple juice in vivo. E. Kuitunen-Ekbaum. Science 91:240-1 Mr 8 '40
Meat packer puts fruit enzyme to work; proteolytic enzyme in pineapple juice improves eating qualities of frankfurts and pork sausages. J. M. Ramsbottom and C. A. Rinehart. il Food Ind 12:45-7 Je '40

PINENE
Catalysis by metallized bentonites; pinene polymerization. G. Broughton. J Phys Chem 44:180-4 F '40

PINITE
Development and preliminary studies of pinite; a rock composed of hydrous aluminum silicates. G. A. Page, F. F. Raine and V. R. Sullivan. bibliog il Am Cer Soc J 23:71-7 Mr '40
Pinite, a new refractory. Eng & Min J 141:42 Mr '40
Pinitized tuff of ceramic importance. P. F. Kerr. il diags map Am Cer Soc J 23:65-71 Mr '40

PINK
Bright fast pinks. R. Sansone. Textile Col 61:817-19 D '39

PIPE bending
Bending pipe; with chart. W. F. Schaphorst. Am Gas J 152:36 Ap '40
Best pipe bending practice for the chemical plant. W. F. Schaphorst. Ind & Eng Chem News ed 18:48 Ja 25 '40
Blackhawk pipe benders. il Paper Tr J 109: 24 D 14 '39
How to wrinkle-bend pipe; diagrams and illustrations. Power 84:51-2 Ja '40

PIPE bending machines
Welded tubular frame solves heavy machine construction problem. E. Walters. il Mach 46:170-1 Ja '40

PIPE bends
Curved flow in conduits of constant cross-section. C. H. Nordell. diags Oil & Gas J 39:117, 119-20, 123-4 My 16 '40
Erfahrungen mit blasringen und blaskrümmern in rohrförderanlagen. W. Hansen. diags V D I 84:38-9 Ja 13 '40
Improved conduit bends reduce frictional loss. C. H. Nordell. bibliog il diags Oil & Gas J 39:50, 53, 55 Je 13 '40

See also
Pipe elbows

PIPE coating
Concrete coating for underground piping. J. H. T. McGee. il Am Water Works Assn J 32:1723-31 O '40
New Illinois-Indiana pipe line using mill-wrapped pipe. T. P. Sanders. il Oil & Gas J 39:45 Je 6 '40
Panhandle Eastern looping program progresses; winter pipe line construction. J. S. Stevenson. il Gas Age 85:44-5+ My 9 '40
Protective coating for steel water lines. D. Bronson. Am Water Works Assn J 32: 1385-93 Ag '40
Protective coatings for hydro structures. L. J. Pospisil. Elec West 84:127-8 Je '40
Service life of coal-tar enamel protective coatings. H. Hayes. bibliog il Am Water Works Assn J 32:1705-22 O '40
Tentative standard, American water works association; specification for cement-mortar protective coating for steel water pipe of sizes 30 inches and over. Am Water Works Assn J 32:sup7A.7 p 1-18 Ja '40
Western Kansas being provided with new pipe-line outlet. J. C. Stirling. il map Oil & Gas J 39:54-5 Je 27 '40

PIPE coverings
Heat insulation on cylindrical surfaces. C. Turner. il Ind & Eng Chem 32:904-6 Jl '40
Low temperature insulation hints. W. F. Schaphorst. Am Gas J 153:23 S '40
No-ox-idized reinforced fabric pipe wrapper. il Gas Age 85:54 Mr 14 '40
Pipe-insulation heat loss; table; data sheet. Power 84:259 Ap '40
Preformed pipe insulation; abstract. E. T. Cope and W. F. Kinney. il diags Power 84: 504-6 Ag '40
Study of heat-insulation problems in steam power plants. E. T. Cope and W. F. Kinney. il diags Mech Eng 62:466-9 Je '40; Same. Heating-Piping 12:524-6 S '40

See also
Pipe coating

PIPE elbows
Developing patterns for multiple piece elbows with any throat radius. R. M. Harding. diag Sheet Metal Worker 31:26 Je '40
Economical dust control with low resistance exhaust systems; hood and branch connections and importance of efficient elbows. F. F. Kravath. diags Heat & Ven 37:27-9 N '40
Laying out rectangular ducts and fittings. O. W. Kothe. diags Sheet Metal Worker 31:110, 112+ Ja; 30-2 F; 33-5 Mr; 25-6 Ap; 30-2 Je; 33-4+ Jl; 37-8 Ag; 41-2 S; 31+ O; 26-7 N; 20-1 D '40 (to be cont)
Making true right angular flat oval elbows. diags Sheet Metal Worker 31:34-5 Ag '40
Pattern for an unusual conductor pipe elbow. J. H. Teschmacher. il diags Sheet Metal Worker 31:32-4 My '40

PIPE fitting
Boiler connections for heating and domestic hot water using an indirect heater. diags Dom Eng 155:49-51+ F '40
How to weld heavy wall pipe with the single flame, multi-layer technique. M. R. Scott. il diags Heating-Piping 11:623-6+ O '39; Same. Power 83:618-21 O '39; Discussion. Heating-Piping 12:94 F '40
Installing globe valves. diags Power 84:318-20+ My '40
Lessons taught by mistakes in blow pipe work (cont). E. W. Favalora. diags Sheet Metal Worker 31:62-4 Ja '40
Making branch connection to pipe line under pressure. W. H. Wilson. diag Heating-Piping 12:167 Mr '40
Special pipe and pipe fitting applications; fusion welding; abstract. E. H. Taylor. Heating-Piping 11:734 D '39

See also
Hot water heating
Pipe joints
Plumbing
Steam fitting

PIPE fittings
A.G.A. laboratories study boltless pipe couplings. K. R. Knapp. il diags Am Gas Assn Mo 22:284-7 Jl-Ag '40
Friction of fluids in solder-type fittings; comparison between copper and cast iron pipe and fittings. P. F. Bruins and others. flow sheet bibliog il Am Inst Chem Eng Trans 36:721-37; Discussion. 737-9 O '40
Imperial triple-seal flare fitting. il Refrig Eng 39:176 Mr '40
Laying out rectangular ducts and fittings; pipe headers. O. W. Kothe. diags Sheet Metal Worker 31:31 O '40
Pipes and fittings of carbon and graphite; Karbate materials. il Iron Age 146:43 S 5 '40
Review of power and mechanical equipment; piping, fittings and valves. il diags Power 83:821-5 Mid-D '39
Vibra-Seal method of connecting tubing to pipe-threaded tapped holes. il Refrig Eng 39:177 Mr '40
See also
Pipe flanges
Pipe joints

Standards
Proposed American standard for butt welding fittings submitted. S. Crocker. il diags Heating-Piping 12:11-15 Ja '40
Report of A.P.I. committee on the standardization of oil-country tubular goods. il diags Am Pet Inst Proc 21M(4):181-210 My '40

PIPE flanges
Development in design of boilers and boiler house auxiliaries. A. Pollitt. diag Engineer 169:426 My 3 '40
Garlock flange jacks for replacing gaskets in pipe lines. il Marine Eng 45:56 Ap '40
Prolonging life of dredge pipe. il Rock Prod 43:56 F '40
Second report of the pipe flanges research committee. H. J. Tapsell. il diags Inst Mech Eng J & Proc 141:Proc 433-58 S '39; Discussion. 142:Proc 397-9 F '40
Tool opens flanges for the renewal of gaskets. il Ry Mech Eng 114:166 Ap '40

PIPE handling
Transportation of pipe; truck mounted crane. D. R. Taylor. il Water Works & Sewerage 87:59 F '40

PIPE hangers
Suspension of high-temperature piping. J. K. Wood. il diags Power 84:358-61+ Je '40

PIPE joints
American district steam co.'s packless expansion joint. il Steel 106:72 F 5 '40
Barco joints improved; metallic connection for air, oil, water and steam lines between locomotives and tenders. il Ry Mech Eng 114:188-9 My '40; Same. Ry Age 108:822 My 11 '40
Difficult underwater pipelaying under the Kennebec river at Bath, Maine; new type of flexible joint. E. B. Myott. il diags map Eng N 123:746-9 D 7 '39
Dresser casing bushings. il Water Works & Sewerage 87:sup88 My '40
Dresser device provides quick pipe closure; casing bushing. il Gas Age 85:54 Je 6 '40; Am Gas J 152:46 Je '40
Experiences with the new rubber joint packing. W. R. La Due. Water Works & Sewerage 87:60-1 F '40
Flexible pipe union for petrol and oil. diags Engineering 148:646 D 8 '39
Hyde-Ro Ring; a rubber jointing ring for poured pipe joints. R. H. Hyde. il diag Water Works & Sewerage 87:401-3 S '40
Jointing material for drainage and water mains; Philplug. Engineering 150:248 S 27 '40
Modern welding practices in the chemical industry; installation and relocation of piping. H. D. Lanterman. il diags Chem Ind 47:42-5 Jl '40
New forms of tubing connectors; Superseal couplings; VibraSeal gaskets. il Iron Age 144:43 D 21 '39
Packless self-flaring tube coupling. il Ry Age 108:1128-9 Je 22 '40
Pipe laying up to date; jointing materials. P. Burgess. bibliog Am Water Works Assn J 32:1702-4 O '40
Practices in sewer construction in wet ground. Pub Works 70:32 D '39
Proper sewer jointing. W. A. Goff. Water Works & Sewerage 87:sup134-5 Ap '40
Reducing creep in alloy steel bolting materials. J. J. Kanter. il Steel 106:44-8, 72 Mr 4 '40
Reinforcing welded branch connections. F. C. Fantz and W. G. Hooper. diags Heating-Piping 12:247-8 Ap '40
Report of A.P.I. committee on the standardization of oil-country tubular goods. il diags Am Pet Inst Proc 21M(4):181-210 My '40
Something new in duct connections. diag Sheet Metal Worker 31:44 Jl '40
Special pipe and pipe fitting applications; fusion welding; abstract. E. H. Taylor. Heating-Piping 11:784 D '39
Spinning table aids makeup of joints in petroleum well drilling. il diag Oil & Gas J 39: 115 O 31 '40
Turn made in pipeline by increasing the joints. il Eng N 124:180 F 1 '40
Use of the ring joint on oil and steam piping service. F. R. Venton and A. W. Marburg. il diags Heating-Piping 12:425-7, 489-92, 548-50 Jl-S '40
Welded oil-well casing; with cost data. G. M. Stearns. diags Steel 106:46-7+ Ja 29 '40
Welded piping got attention; American welding society; abstracts of papers. il diags Heating-Piping 12:650-2 N '40
Welded piping system; supplies water for cooling electric machinery; Edgar Thomson works of Carnegie-Illinois steel co. H. Weiss. Steel 105:64+ N 20 '39
Welding red brass pipe; abstracts. A. N. Kugler. Eng N 123:634 N 9 '39; il Heating-Piping 11:733-4 D '39
Welding surface casing at Oklahoma City. il Oil & Gas J 38:37 My 2 '40
See also
Pipe fittings
Pipe flanges
Plumbing

Testing
Fink main joint tester. diags Am Gas J 153: 15-16 Ag '40

PIPE laying
Building oil pipe line across continental divide. W. G. Heltzel. il diag Oil & Gas J 39:144-5, 150+ My 16; 81, 83+ My 23; 44-5+ My 30 '40
Caving sewer trenches whipped by trailer box pulled by trench excavator. diag Eng N 123:705 N 23 '39
Construction methods in laying Geneseo-Milwaukee gas line. P. Reed. il Oil & Gas J 39:44-5 N 7 '40
Experiences in laying the West Yorkshire gas grid. L. W. Roberts. Gas J (Lond) 230: 141-2, 147; Discussion. 147-8 Ap 17 '40
Field engineering guide notes for gas distribution. P. H. Kline. Am Gas J 153: 15-18, 21-2 O '40
Gas distribution problems in a growing territory. W. F. Wright. il Gas Age 85:17-18 Ap 25 '40
Great Lakes water for Grand Rapids. il diags Eng N 124:448-51 Mr 28 '40
Highway crossings for pipe lines. P. Reed. il Oil & Gas J 38:59+ D 14 '39
Jacking 72-inch culvert pipe under outfall sewer. R. Shepherd. il diag Am Water Works Assn J 32:414-22 Mr '40
Lake Michigan water for Grand Rapids, Mich.; thirty-mile pipe line and two high-head pumping plants are major features; with cost data. A. W. Consoer and J. A. Fulkman. il plan Civil Eng 10:3-6 Ja '40
Laying heavy concrete pipe in a restricted space under a fill. R. V. Terrill. diags Pub Works 71:20 Jl '40
Laying Pennsylvania gas pipe line made difficult by terrain. A. C. MacIntyre and P. Reed. il Oil & Gas J 39:34+ S 5 '40
Lowering a water main. J. E. Faigle. il Eng N 123:715 N 23 '39

PIPE laying—*Continued*
Method of installing 15-ft. multiplate culvert; U.S. route 10 in Montana. S. C. Bonesteele. il Roads & Sts 83:84, 92 Je '40
New high pressure steel water supply line for Colorado Springs. E. L. Mosley. il Am Water Works Assn J 32:1225-41 Ag '40
New Illinois-Indiana pipe line using mill-wrapped pipe. T. P. Sanders. il Oil & Gas J 39:45-6 Je 6 '40
Oxyacetylene welding and cutting in re-laying pipe. il Oil & Gas J 39:107 S 19 '40
Panhandle Eastern enlarges system; pipe laying in winter. J. S. Stevenson. il Gas Age 85:27+ Mr 14; 44-5+ My 9 '40
Phillips gasoline line from Borger to East Chicago now operating. H. F. Simons. il Oil & Gas J 38:28-30 F 1 '40
Pinning a pipeline on Pikes peak. E. L. Mosley. il diags Eng N 124:518-20 Ap 11 '40
Pipe laying record at Little Rock, Ark. il Eng N 123:771-2 D 7 '39
Pipe laying up to date. P. Burgess. bibliog Am Water Works Assn J 32:1696-1704 O '40
Pipe-line relocation in Grand River area. F. M. Hieronymus. il Oil & Gas J 39:50+ Je 20 '40
Pipe-line welding practices advance. L. D. Sugg. il Oil & Gas J 39:136-7 S 19 '40
Reconditioning a gas distribution system, Paris, Ill. il Gas Age 86:19-20 Ag 15 '40
Relocating transmission line in flood-control area. S. S. Donaldson. il Oil & Gas J 39: 87-8 S 19 '40
Sand hog box speeds sewer in wet sand. il diag Pub Works 70:16+ N '39
Unique methods in pipe-line building. P. Reed. il Oil & Gas J 38:36+ Ja 4 '40
United Gas adopts unique practices in Monroe-Jackson pipe line. N. Williams. il map Oil & Gas J 38:198-200 Ja 25 '40
Utah power & light co. builds a big wood pipe. il Elec W 112:1864-5 D 30 '39
Utah-Wyoming pipe line completed through mountainous country. P. Reed. il diags map Oil & Gas J 38:32-4, 37+ N 23 '39
Welding technique in vanguard of pipeline building progress. A. F. Davis. il Oil & Gas J 39:131+ S 19 '40
Western Kansas being provided with new pipe-line outlet. J. C. Stirling. il map Oil & Gas J 39:54-5 Je 27 '40
Wichita makes cast-iron water line history. il map Eng N 125:214-18 Ag 15 '40

See also
Culverts
Electric conduits
Gas distribution
Pipe joints
Pipe lines
Sewerage
Water distribution

Cost

Cost of mains (galvanized and cast iron) per foot; estimating guide. D. R. Taylor. Water Works & Sewerage 87:304-5 Jl '40

PIPE laying, Subaqueous
Construction of submerged river crossings. R. W. Todd and A. B. Polley. diags maps Gas Age 86:34-8 S 26 '40
Difficult underwater pipelaying under the Kennebec river at Bath, Maine; with cost data. E. B. Myott. il diags map Eng N 123:746-9 D 7 '39
Laying a submarine pipe line in Caleta Cordova waters. L. A. Aguirre. il Oil & Gas J 38:34-5 Ja 18 '40
New Lirette-New Orleans line completed. il Gas Age 86:23+ S 12 '40
Pulling sea loading line on Venezuelan coast. il Oil & Gas J 38:99 D 28 '39
Unique scheme of floating outfall sewer into position and lowering; spiral paper tubes used on 1,000 ft. of pipe. C. W. Geiger. il Water Works & Sewerage 87:239 My '40

See also
Pipe lines, Subaqueous

PIPE lines
Development of a new thread lubricant. H. J. Beckert and W. M. Frame. il Am Pet Inst Proc 21M(4):24-37; Discussion. 37-40 My '40
Measurement of velocity in pipe lines by saline injections; abstracts of papers by L. J. Hooper and O. H. Dodkin. diags Engineering 150:179-80 Ag 30 '40
Southeastern pipe line co. building Florida-Georgia gasoline line. P. Reed. il map Oil & Gas J 38:54-5 Ap 25 '40
Water hammer studies on long pipe lines. L. E. Goit. diags map Am Water Works Assn J 31:1893-1903 N '39

See also
Aqueducts
Electric conduits
Electrolytic corrosion
Gas, Natural—Pipe lines
Gas distribution
Gas pipes
Gasoline pipe lines
Heating from central stations
Petroleum pipe lines
Pipe laying
Piping (power plants)
Sewerage
Steam pipe lines
Steam pipes
Water distribution
Water pipes
Water supply engineering

Bridge crossing

It's there to stay; water on Treasure Island. il Dom Eng 156:54+ Jl '40
United Gas adopts unique practices in Monroe-Jackson pipe line. N. Williams. il map Oil & Gas J 38:198-200 Ja 25 '40

See also
Pipe lines—River crossing

Cleaning

Cleaning pipe lines with welded scrapers. il Oil & Gas J 38:50 D 7 '39

See also
Sewer cleaning
Water pipes—Cleaning

Communication systems

Efficient communication system for pipe-line operation. H. Clark. il Oil & Gas J 39: 84-5 S 19 '40
Private telephone communication system; Lone Star gas company. E. F. Schmidt. il map Gas Age 86:38-9 N 7 '40

Corrosion

Comparison of methods for estimating soil corrosivity. K. H. Logan and E. A. Koenig. bibliog Oil & Gas J 38:130, 133-4+ N 17 '39
Microbiological anaerobic corrosion. H. J. Bunker. Chem & Ind 59:412-14 Je 15 '40
Pipe-line corrosion caused by anaerobic bacteria. P. Ganser. il Gas Age 86:25-8+ Jl 18 '40; Same. Gas J (Lond) 231:371-3 Ag 28 '40
Resistance of copper to soil corrosion. H. G. Taylor. il diags Engineer 169:156-8, 176-8 bibliog(p178) F 16-23 '40

See also
Corrosion and anti-corrosives—Underground corrosion
Electrolytic corrosion
Pipe lines—Protection
Water pipes—Corrosion

Design

Supporting strengths of cast-iron pipe for water and gas service. W. J. Schlick. il diags Iowa Eng Exp Sta Bul 146:1-128 bibliog(p113-14) '40 (pa gratis)

Detection

Hidden pipe lines do not slow up this power shovel; use of WTP pipe anticipator. il Comp Air M 45:6244 S '40
Locating buried cables and pipes. H. C. Marcroft. il diags Instruments 13:132-3 My '40
Pipe locating device for excavators. il Roads & Sts 83:88 My '40; Pub Works 71:51 My '40

Law

Legal aspects of Southeastern pipeline project; running under state highway. P. Reed. Oil & Gas J 38:17+ Ap 4 '40

See also
Pipe lines as common carriers

PIPE lines—*Continued*

Location

Pipe-line relocation in Grand River area. F. M. Hieronymus. il Oil & Gas J 39:50+ Je 20 '40

Maintenance and repair

Inspection department duties outlined; Lone Star gas company. E. F. Schmidt. il Gas Age 86:35-6 N 7 '40

Operating and maintaining a natural gas line. W. R. Beardsley and C. B. Abbot. il Gas Age 85:32-6+ My 23 '40

Protection

Cathodic corrosion eliminator offered to protect pipe. il Gas Age 86:46 Ag 1 '40

Cathodic protection on domestic distribution system at Treasure Island. C. H. Lee. il plans Am Water Works Assn J 32:305-38 F '40

Cooperative problems involved in cathodic protection. L. F. Scherer. il Oil & Gas J 38:179+ N 17 '39

Determination of current required for cathodic protection; abstract. S. Ewing. Oil & Gas J 39:160 My 16 '40

Eliminating underground corrosion; cathodic protection on Treasure Island. C. W. Geiger. il diag Power Pl Eng 44:65-6 F '40; Abstract. Mech Eng 62:238-9 Mr '40

Operating and maintaining a natural gas line. W. R. Beardsley and C. B. Abbot. il Gas Age 85:32-6+ My 23 '40

Phillips gasoline line from Borger to East Chicago now operating. H. F. Simons. il Oil & Gas J 38:29 F 1 '40

What about cathodic protection? W. T. Smith and T. C. Marshall. il Gas Age 85: 49-52+ My 9 '40

See also

Gas pipes—Protection
Pipe coating
Water pipes—Protection

Railroad crossing

Pipe installation by drilling; main placed under a seven track railroad embankment. D. McKnight. il Roads & Sts 83:54 Ap '40

River crossing

Construction of submerged river crossings. R. W. Todd and A. B. Polley. diags maps Gas Age 86:34-8 S 26 '40

Emergency equipment materials and organization; repairing river crossings and other lines damaged by floods, etc; Industrial fuel supply company. M. L. Fort. il Gas Age 86:23-6 S 26 '40

Large pipe-line suspension bridge is constructed by Northern Natural. T. P. Sanders. il Oil & Gas J 39:145-6 S 19 '40

New tower carries gas line. il Gas Age 85: 42 Mr 14 '40

River crossings. C. T. Heeney. il N E Water Works Assn J 54:65-72 Mr '40

Siphon self-supporting in long spans; pipeline carrying Heart Mountain irrigation canal across the Shoshone river. P. J. Bier. il diags Eng N 124:852-5 Je 20 '40

See also

Pipe laying, Subaqueous

Road crossing

Highway crossings for pipe lines. P. Reed. il Oil & Gas J 38:59+ D 14 '39

Legal aspects of Southeastern pipeline project; running under state highway. P. Reed. Oil & Gas J 38:17+ Ap 4 '40

Tables, calculations, etc.

Pipe-line calculations. H. V. Smith, C. H. Brady and J. W. Donnell. Oil & Gas J 38: 44-5, 47 F 15 '40

PIPE lines, Subaqueous

City's sewage goes to sea. N. A. Bowers. il Eng N 123:689-91, 764-6, 846-8 N 28, D 7, 21 '39

Texas Cities' Galveston Bay line completed. il Gas Age 86:15 Ag 1 '40

PIPE lines as common carriers

Full text of the Elkins act under which Department of justice is suing three pipelines on theory that dividends paid constitute illegal rebates. Nat Pet N 32:26 O 23 '40

PIPE lining

Hi-Co, a new coating for pipes. Water Works & Sewerage 87:sup91 O '40

Laying lead linings. E. Mantius. il Steel 106: 70+ Mr 4 '40

Rubber in the paper industry. R. B. Marr. il Pulp & Pa of Can 41:442-4 Je '40

See also

Cement lined pipe

PIPE scrapers. See Scrapers, Pipe

PIPE threading machines

Stamets automatic pipe-threading machine. il Mach 46:142 My '40; Am Mach 84:348-9 My 15 '40

PIPE threads

Development of a new thread lubricant. H. J. Beckert and W. M. Frame. il Am Pet Inst Proc 21M(4):24-37; Discussion. 37-40 My '40

Standards

Report of A.P.I. committee on the standardization of oil-country tubular goods. il diags Am Pet Inst Proc 21M(4):181-210 My '40

PIPER, William Thomas, 1881-

Count the Cubs; in 1931 Piper made 24 planes; in 1939, 1806. il diags Fortune 21: 77-81+ Je '40

PIPER aircraft corporation

Flivver airplane market; Piper leads the competition, two to one. il Ptr Ink Mo 40: 44, 47 Je '40

PIPERAZINE

Alpha, omega-amino alcohols; N-phenyl-N'-(ω-hydroxyalkyl)-piperazines from α,ω-chlorohydrins; derivatives of piperazine. G. W. Anderson and C. B. Pollard. Am Chem Soc J 61:3439-40 D '39

Pyridine and piperazine derivatives of sulphanilamide. W. O. Kermack and W. Tebrich. Chem Soc J p202-5 F '40

Synthesis of monoketopiperazines. S. R. Aspinall. Am Chem Soc J 62:1202-4 My '40

PIPERIDINE

Derivatives of aminomethanethiol. A. Binz and L. H. Pence. bibliog Am Chem Soc J 61:3134-9 N '39; Abstract. Franklin Inst J 229:127-30 Ja '40

Reaction of organic halides with piperidine. E. L. Foreman and S. M. McElvain. bibliog Am Chem Soc J 62:1435-41 Je '40

Steric inhibition of resonance; rates of reaction of nitro- and cyano-aryl halides. W. C. Spitzer and G. W. Wheland. bibliog Am Chem Soc J 62:2995-3002 N '40

PIPERIDONE

Aryl isothiocyanates and ethyl acetonedicarboxylate. D. E. Worrall. Am Chem Soc J 62:578 Mr '40

PIPERIDYL compounds

Identification of organic compounds; piperidyl derivatives of aromatic halogenonitro compounds. M. K. Seikel. bibliog Am Chem Soc J 62:750-6 Ap '40

PIPERYLENE

Catalytic dehydrogenation of monoolefins to diolefins; source materials for synthetic rubber and resins. A. V. Grosse, J. C. Morrell and J. M. Mavity. bibliog diag Ind & Eng Chem 32:309-11 Mr '40

PIPES

Flash-board pins; formulas and stress values for the design of pipe supports. C. A. Wright and C. A. Betts. bibliog il diags plan Am Soc C E Proc 65:771-803 My '39; Discussion. 65:1628-34, 1803-4; 66:185-90, 671-2 N '39-Ja, Ap '40

Making pipe bushings from standard pipe. W. F. Schaphorst. Water Works & Sewerage 87:204 My '40

Pipe welding problems get attention at American welding society annual convention; abstracts of papers. il Heating-Piping 11:732-4 D '39

PIPES—*Continued*

Pipes and fittings of carbon and graphite; Karbate materials. il Iron Age 146:43 S 5 '40

Use of relief pipes to reduce thickness of concrete seal. H. V. McCoy. il diag Civil Eng 10:40-1 Ja '40

See also

Air pipes
Culverts
Electric conduits
Gas pipes
Heating pipes
Mechanical equipment of buildings
Penstocks
Petroleum—Well casing
Petroleum pipe lines
Pipe fittings
Pipe joints
Pipe laying
Pipe lines
Piping
Piping (power plants)
Plumbing
Sewer pipes
Steam pipes
Tubes
Water pipes

Corrosion

See Corrosion and anti-corrosives; Pipe lines—Corrosion; Water pipes—Corrosion

Embedding in concrete

See Concrete construction—Pipe embedding

Manufacture

See also

Pipes, Concrete—Manufacture
Pipes, Steel—Manufacture

Prices

Cast iron pipe, Birmingham, prices, 1929-1939; tabulation. Steel 106:291 Ja 1 '40

Pipe, iron and steel, monthly, 1923-1939; tabulation. Iron Age 145:174 Ja 4 '40

Prices on finished and semi-finished iron and steel. Published in weekly numbers of Iron age

Rifling

Effects of rifling on four-inch pipe transporting solids. G. W. Howard. il diags Am Soc C E Proc 65:1591-1603 N '39; Discussion. il diags 66:537-40, 770-2, 991-4, 1324-6 Mr-My, S '40

Standards

ASA approval of pipe standards important event in pipe history. Ind Stand 11:266 O '40

American standard specifications for cast iron pit cast pipe for water or other liquids. Am Water Works Assn J 31:sup ASA A21.2 p 1-21 D '39

American standard specifications for cement mortar lining for cast iron pipe and fittings. Am Water Works Assn J 31:sup ASA A21.4 p 1-7 D '39

Cast-iron pipe standards are based on research. Ind Stand 11:158-9 Je '40

Report of A.P.I. committee on the standardization of oil-country tubular goods. il diags Am Pet Inst Proc 21M(4):181-210 My '40

Revisions keep pipe standards up-to-date with industry progress. S. Crocker. Ind Stand 11:48 F '40

Standards for cast iron pipe forged over long period. Am Gas Assn Mo 22:364 O '40

See also

Pipes, Steel—Standards

Tables, calculations, etc.

American recommended practice; manual for the computation of strength and thickness of cast iron pipe. diags Am Water Works Assn J 31:sup ASA A21.1 p 1-26, 1-43 D '39

Curved flow in conduits of constant cross-section. C. H. Nordell. diags Oil & Gas J 39:117, 119-20, 123-4 My 16 '40

Direct solution for pipe capacity. J. R. Zwickl. Power 84:147-9 Mr '40

Economic pipe size in the transportation of viscous and nonviscous fluids. B. R. Sarchet and A. P. Colburn. Ind & Eng Chem 32:1249-52 S '40

Flow velocity for standard-weight pipe; data sheet. Power 84:469 Jl '40

Gallons in any standard pipe in the mine. Can Min J 61:508 Ag '40

Gallons in pipes. W. F. Schaphorst. chart Eng N 124:43 Ja 4 '40; Same. Ind & Eng Chem News ed 18:109 F 10 '40

How to determine size and cost of freon lines. W. Parkerson. Heat & Ven 37:17-21 O; 48-52 N '40 (to be cont)

Improved conduit bends reduce frictional loss. C. H. Nordell. bibliog il diags Oil & Gas J 39:50, 53, 55 Je 13 '40

Measuring velocities in dredge pipes; salt-velocity method applied to pipe lines transporting solids. G. W. Howard. diags Mech Eng 62:287-8 Ap '40

New pipe formula. L. S. Rhodes. Eng N 125:213 Ag 15 '40

Piping flow problems made easy. W. Goodman. Heating-Piping 12:603-6 O '40

Pumping of granular solids in fluid suspension. H. Chatley. Engineering 149:230-1 Mr 1 '40

Selection of the most economical pipe and valve size and rate of flow in piping systems; with cost data. S. P. Johnson and F. L. Maker. diags Am Pet Inst Proc 21M(3):7-23 My '40

Standard pipes make safe columns or struts. W. F. Schaphorst. Am Gas J 152:23 F '40

Strömungswiderstand von geraden rohren und formstücken. E. Zimmermann. il V D I 83:1288-9 D 16 '39

Unit volume capacities and dimensions of standard pipe and tubing; reference data. Heat & Ven 37:58a-58b Ap '40

Testing

Combining bending and hoop stresses to determine collapsing pressure of oil-country tubular goods. W. C. Main. bibliog Oil & Gas J 38:102-3+ N 17 '39

Die magnetinduktive prüfung von rohren. W. Schirp. diags V D I 83:1184-5 N 4 '39

Transportation

Pipe-stringing a part of highway transportation service. Ry Age 108:1196 Je 29 '40

PIPES, Aluminum

Rohrleitungen aus aluminium. W. Linicus. V D I 84:309-10 My 4 '40

PIPES, Asbestos cement

Pipe laying record at Little Rock, Ark. il Eng N 123:771-2 D 7 '39

PIPES, Brass

Keep the piping clean; Lydia E. Pinkham medicine co. plant. O. E. Russell and F. A. Westbrook. il Heating-Piping 12:434 Jl '40

Welding red brass pipe; abstracts. A. N. Kugler. Eng N 123:634 N 9 '39; il Heating-Piping 11:733-4 D '39

PIPES, Concrete

See also

Sewer pipes, Concrete
Water pipes, Concrete

Manufacture

Big concrete pipe made by Nelsen concrete culvert co. il Rock Prod 43:65 Je '40

New method for casting concrete; use of rubberized cloth tube as a core. Rubber Age 46:300 F '40

Porous pipe is in demand. B. Nordberg. il Rock Prod 43:63-4 F '40

Portable outfits for contracting and concrete pipe manufacture. il Concrete 48:20+ Mr '40

Portable plant produces concrete pipe on job site. il Concrete 48:29 My '40

PIPES, Copper

Cleaner paper with copper pipe. L. M. Young. il Pulp & Pa of Can 41:753-4 O '40

Paper mill piping; bronze-welding for copper piping joints. il Pulp & Pa of Can 41:723-4 O '40

See also

Tubes, Copper
Water pipes, Copper

Testing

Resistance of copper to soil corrosion. H. G. Taylor. il diags Engineer 169:156-8, 176-8 bibliog(p178) F 16-23 '40

PIPES, Corrugated

Manufacture of corrugated-steel culverts. il Engineering 149:435, 438 Ap 26 '40

PIPES, Lead
Laying lead linings. E. Mantius. il Steel 106: 70+ Mr 4 '40
Rolling and extruding of lead for chemical equipment. F. P. Peters. il Metals & Alloys 11:115-17 Ap '40

PIPES, Steel
Carbon-moly piping. R. W. Emerson. diags Heating-Piping 12:651-2 N '40
Dimensions of welded and seamless steel pipe (in inches); data sheet. Mach 46:362A Ja '40
Oxy-acetylene welding procedure for high pressure and temperature piping; abstracts. R. M. Rooke, F. C. Saacke and A. N. Kugler. il diags Heating-Piping 12:308-10+ My '40; Oil & Gas J 39:49 Je 20;. 69 Jl 11 '40; Power 84:432-4 Jl '40
Siphon self-supporting in long spans; pipeline carrying Heart Mountain irrigation canal across the Shoshone river. P. J. Bier. il diags Eng N 124:852-5 Je 20 '40
Tubes electrically welded; new method produces grain structures in weld indistinguishable from parent metal. J. B. Borgat. il diag Steel 106:52, 54+ Mr 11 '40

See also
Tubes, Steel
Water pipes, Steel

Manufacture

Butt welding pipe continuously; Fretz-Moon process. J. Hopkins and T. C. Campbell. il diag Iron Age 145:35-9 Mr 28 '40
Continuous pipe mill; Maryland plant, Bethlehem steel co. L. J. Hess. il Steel 106:47-8+ Je 24 '40; Excerpts. Iron Age 145:38-9 Je 13 '40
Fabrication of dam penstock and pump inlet linings for Grand Coulee. il Steel 106:44-6+ Je 17 '40

Standards

A.S.T.M. specifications for pipe and piping materials for high-temperature and high-pressure services. 137p bds $1.25 Am. soc. for testing materials, 260 S. Broad st, Philadelphia '39

Testing

Festigkeitsverhalten von rohrschweissungen bei dauerbelastung. E. Siebel and K. Wellinger. il diags V D I 84:57-9 Ja 27 '40

PIPETS
Automatic zero pipette for dispensing sterile culture media. N. E. Rigler and G. A. Greathouse. diag Science 92:363-4 O 18 '40
New automatic pipette. G. Middleton. diags Chem & Ind 59:607-8 Ag 24 '40
Spatulate pipette serving as section lifter. E. M. Schleicher. diag Science 92:182 Ag 23 '40

PIPING
Circulating piping systems promote efficiency in industrial finishing; paint circulating system. L. J. McGrady. il Heating-Piping 12: 665-7 N '40
Clearing the floor of building services; piping and conduit in tool and die shop of the Ford motor co. is under floor and in tunnels. il Eng N 124:504-5 Ap 11 '40
Complete control of piping systems eliminates errors at Campana plant. R. D. Frick. il Heating-Piping 12:103-5+ F '40
Conduits and outlets in solid partitions of metal lath and cement plaster. il diags Concrete 48:12+ Ja '40
Design of the piping service tunnel at chronic disease hospital, Welfare Island, New York. diags Heating-Piping 12:168-9 Mr '40
Do piping improvements pay? charts for checking probable profit on money spent for piping. A. C. Kirkwood. Heating-Piping 12:581-4 O '40
Flexibility; piping interconnections permit four blowing engines to serve four blast furnaces in any combination. R. Trautschold. il plan Steel 106:45-6 Ja 8 '40
Flow meter accuracy governed by the piping layout, pressure tap location. L. K. Spink. il diags Heating-Piping 12:155-8 Mr '40
Installing pipes, ducts and conduits in concrete walls and floors. il diags Concrete 48: 17-18 My; 12 Ag '40
Installing service pipes in partitions of metal lath and plaster. il diags Concrete 48:17-18 Ap '40
Installing suction pump piping. W. F. Schaphorst. diag Am Gas J 153:14 Ag '40
Modern welding practices in the chemical industry; installation and relocation of piping. H. D. Lanterman. il diags Chem Ind 47:42-5 Jl '40
Piping arrangement for sealing liquid pots used to maintain a constant static liquid head on the flow meter or manometer. diag Oil & Gas J 39:44 Ag 29 '40
Piping does double duty; same circuits serve twelve zones of department store air conditioning system; Meyer bros. D. E. Alton. plan Heating-Piping 12:535-6 S '40
Piping flow problems made easy. W. Goodman. Heating-Piping 12:603-6 O '40
Piping leaks. W. H. Wilson. Heating-Piping 12:116 F '40
Possible savings with welded construction; from papers in J. F. Lincoln arc welding contest. Heating-Piping 12:154+ Mr '40
Reinforcement of welded nozzles; abstract and discussion. F. C. Fantz and W. G. Hooper. Heating-Piping 11:732-3 D '39
Reinforcing welded branch connections. F. C. Fantz and W. G. Hooper. diags Heating-Piping 12:247-8 Ap '40
Welded piping got attention; American welding society; abstracts of papers. il diags Heating-Piping 12:650-2 N '40
Welded piping system; supplies water for cooling electric machinery; Edgar Thomson works of Carnegie-Illinois steel co. H. Weiss. Steel 105:64+ N 20 '39

See also
Air pipes
Pipe bends
Pipes
Plumbing

Identification

Color code for piping systems approved by American standards association; data sheet. Factory Management 98:102 My '40
Distinctive markings for piping, A M S C 16, developed by American marine standards committee. Marine Eng 45:104+ My '40
Identification of piping systems. Nat Safety N 41:155-6 Mr '40
What paint colors we use, and why; Industrial rayon corp. il Factory Management 98: 94 Mr '40

PIPING (power plants)
American district steam co.'s packless expansion joint. il Steel 106:72 F 5 '40
Development in the design of boilers and boiler house auxiliaries. A. Pollitt. diag Engineer 169:426 My 3 '40
Diagram board at Lansing station shows the piping and valve layout. R. C. Roe. il Heating-Piping 12:102 F '40
Oxy-acetylene welding procedure for high pressure and temperature piping; abstracts. R. M. Rooke, F. C. Saacke and A. N. Kugler. il diags Heating-Piping 12:308-10+ My '40; Power 84:432-4 Jl '40
Power piping drafting today requires skill and knowledge. A. Jorgensen. flow diags diags Heating-Piping 12:225-30, 285-8, 351-5 Ap-Je '40
Proposed American standard for butt welding fittings submitted. S. Crocker. il diags Heating-Piping 12:11-15 Ja '40
Selection and application of high temperature piping material; abstract. E. H. Kriegand G. Sonderman. Metals & Alloys 11:MA97-8 F '40
Standard bypasses for main line control valves. J. J. Harman. diag Heating-Piping 12:23 Ja '40
Stress in pipe lines due to the combined effects of pressure and expansion; abstract. D. B. Rossheim and A. R. C. Markl. il Heating-Piping 12:31-2 Ja '40
Study of heat-insulation problems in steam power plants. E. T. Cope and W. F. Kinney. il diags Mech Eng 62:466-9 Je '40; Same. Heating-Piping 12:524-6 S '40
Suspension of high-temperature piping. J. K. Wood. il diags Power 84:358-61+ Je '40
Thirty years' experience with a steam main. W. H. Wilson. il diags Heating-Piping 12: 348-50 Je '40

PIPING (power plants)—*Continued*
Use of the ring joint on oil and steam piping service. F. R. Venton and A. W. Marburg. il diags Heating-Piping 12:425-7, 489-92, 548-50 Jl-S '40
Watch that feedwater connection! diags Power 84:667 O '40
Will these piping changes pay? with cost data. A. C. Kirkwood. il Heating-Piping 12:410-11 Jl '40

See also
Steam pipes

Models
Model tests solve high-pressure pipe problems. J. D. Conrad. il Power 84:628-31 O '40

Repair
How to repair high-pressure lines without shutdown; combining mechanics and welding. diags Power 84:41 Ja '40

Standards
A.S.T.M. specifications for pipe and piping materials for high-temperature and high-pressure services. 137p bds $1.25 Am. soc. for testing materials, 260 S. Broad st, Philadelphia '39

PIPING (refrigerating plants)
They're skating on thin ice; piping set in concrete for skating pond in Rockefeller Center's sunken plaza. il Dom Eng 155:28-9+ F '40

PIRANI gage. See Vacuum gages

PISTON pins
Automatic fixture for milling piston pins. W. H. Hawley. il Am Mach 84:254 Ap 17 '40

PISTON rings
Diesel rings break diags Power 84:528-9 Ag '40
Fillets for piston-ring grooves. diags Automotive Ind 82:382 Ap 15 '40
Load capacities of bearing surfaces; abstract. M. O. Teetor. Automotive Ind 82:566-7 Je 15 '40
Piston and piston-ring temperatures. P. V. Keyser, jr. and E. F. Miller. diags Inst Pet J 25:779-90 D '39
Piston-ring coatings and their effect on ring and bore wear. M. M. Roensch. il S A E J 46:221-8 My '40; Abstract. Automotive Ind 82:288-9 Mr 15 '40
Piston rings in refrigeration service. A. F. Brewer. diags Refrig Eng 40:92-3 Ag '40
Pistons, rings, connecting rods; 1941 cars; specifications tabulated. Automotive Ind 83: 439 O 15 '40
Sealed-power oil control ring. Automotive Ind 82:520 Je 1 '40
Selbsttätige flächenschleifmaschine für kolbenringe. H. J. Krug. il V D I 83:1273-4 D 9 '39
Some new investigations on old combustion-engine problems; piston-ring problems. G. Eichelberg. il diags Engineering 149:297-9, pl 15-16 Mr 22 '40
Tapered grooves in piston rings reduce sticking. diag Oil & Gas J 39:44 S 5 '40
Tentative laboratory test for the ring-sticking properties of lubricants. J. C. McNicol, C. G. Williams and P. V. Lamarque. pls diag Inst Pet J 25:751-9 N '39
Trial by jury; Ford dealer service managers endorse triple action piston rings. Ptr Ink 191:25-6 Ap 26 '40

Manufacture
Moisture control of cupola air; Muskegon piston ring co. J. L. Brooks. flow diag diag Foundry 68:38-9+ S '40
Sealed Power facilities bring precision. J. Geschelin. il Automotive Ind 83:192-202 S 1 '40

Testing
Piston-ring blow-by on high-speed petrol engines. C. G. Williams and H. A. Young. diags Engineering 147:693-4, 723-6 Je 9-16 '39; Same. Automotive Ind 81:614-22 D 15 '39
Untersuchungen an kolbenringen raschlaufender verbrennungsmotoren. O. Kraemer. V D I 84:137-8 F 24 '40

PISTONS
Approximate formulas for piston travel in radial engines. H. W. Sibert. J Aeronautical Sci 7:434-7 Ag '40
Continuous measurement of piston temperatures; abstracts. A. F. Underwood and A. A. Catlin. diags Automotive Ind 82:572-4 Je 15 '40; Nat Pet N 32:R250, R252 Jl 10 '40
Piston and jacket temperature measurement; symposium by S.A.E. diags Power Pl Eng 44:90-2 My '40
Piston and piston-ring temperatures. P. V. Keyser, jr. and E. F. Miller. diags Inst Pet J 25:779-90 D '39; Excerpts. Automobile Eng 30:68 Mr '40
Pistons, rings, connecting rods, 1941 cars; specifications tabulated. Automotive Ind 83: 439 O 15 '40

Manufacture
Facing brake pistons 3000 per hr; Doehler die casting co. H. Chase. il Iron Age 145: 41 Ap 25 '40
Industrial data sheet; temperature control for piston grinding. G. E. Hersam. il Elec West 84:41 Mr '40
Piston production at Pontiac. il diags Automotive Ind 82:506-9 Je 1 '40
Sealed Power facilities bring precision. J. Geschelin. il Automotive Ind 83:192-202 S 1 '40
Tinned pistons. il Automobile Eng 30:188 Je '40

PITCH as fuel
Crude tar prices. A. E. N. Yeadon. Gas J (Lond) 231:448 S 11 '40
Die umstellung ölgefeuerter schmiedeöfen auf ferngasheizung; versuche der luftvorwärmung und karburierung mit teerpech. W. G. Rathmann. il diags Stahl & Eisen 59: 1205-9 N 2 '39
Use of pitch as a fuel. A. Bargeboer. il diags Gas J (Lond) 231:365-6+ Ag 28 '40

PITCHBLENDE. See Uraninite

PITCHERS
Non-drip pitchers; how to choose them; study by Rhode Island state college home economists. il Consumers' Research Bul (Gen bul ser) 9:25-6 Ap '40

PITOT, Henri, 1695-1771
Henri Pitot, pioneer in practical hydraulics; with condensed translation of Description of a machine for measuring the velocity of running water and the speed of vessels. R. S. Kirby. diags Civil Eng 9:738-40 D '39

PITOT tube
Henri Pitot, pioneer in practical hydraulics; with condensed translation of Description of a machine for measuring the velocity of running water and the speed of vessels. R. S. Kirby. diags Civil Eng 9:738-40 D '39
Velocity pressures by pitot tube; data sheet. Power 84:399 Je '40

Testing
Testing manometer and pitot tube. R. Deane. diag Can Chem & Process Ind 24:266 My '40

PITTSBURGH
Fighting property depreciation in downtown Pittsburgh. W. S. Walker. il Civil Eng 10:590-2 S '40

Rapid transit
Mass transportation in Pittsburgh. il Mass Transportation 35:327-32 N '39
Snow and P.C.C. cars mix in Pittsburgh. il Mass Transportation 36:62-3 Mr '40
They can take it; performance of P.C.C. cars in the winter's worst storm in Pittsburgh. il Transit J 84:120-1 Ap '40

Streets
Remodeled street triples traffic room. il diags plan map Eng N 124:434-8 Mr 28 '40

PITTSBURGH and Lake Erie railroad
Operating statistics and income account, 1936-39. Comm & Fin Chr 150:3213 My 18 '40

PITTSBURGH and West Virginia railway
Meteoric earnings' change improves position of bonds. A. Jansen. Barron's 20:19 Jl 29 '40
Notes authorized; RFC loan; existing loan to be refunded. Comm & Fin Chr 151:1154-5 Ag 24 '40
Readjustment plan under discussion. Comm & Fin Chr 150:2740 Ap 27 '40

PITTSBURGH coke and iron company
Bonds sold. Comm & Fin Chr 149:3274 N 18 '39

PITTSBURGH railways company
Plan of reorganization. Comm & Fin Chr 151:999-1003 Ag 17 '40

PITTSBURGH screw and bolt corporation
Stocks in the low-price range; thumbnail appraisal. Mag of Wall St 65:358 D 30 '39

PITTSBURGH stock exchange
Weekly record. Published in weekly numbers of Commercial & financial chronicle

PITTSBURGH university. Mellon institute of industrial research
How Kaufmann's uses research to build business; continuous research at Mellon institute and standard of quality labeling. E. G. Thoman. il Am Business 10:26-7+ My '40
Pure and applied science research at Mellon institute, 1939-40. W. A. Hamor. Science 91:407-10 Ap 26 '40
Researches of Mellon institute 1939-40. il Ind & Eng Chem News ed 18:287-300 Ap 10 '40

PITTSTON company
Earnings, 1936-39. Comm & Fin Chr 150:3673 Je 8 '40

PITUITARY body
Amino-acid and peptide esters of choline as possible analogues of the oxytocic hormone of the posterior lobe of the pituitary gland. J. M. Gulland, M. W. Partridge and S. S. Randall. Chem Soc J p419-25 Ap '40
Cause of sprue; failure of pituitary gland. E. B. Vedder. Science 90:sup10 N 24 '39
Hyperfunction of anterior pituitary in rats; estrus cycles. B. K. Harned and V. V. Cole. Science 92:361-2 O 18 '40
Inactivation of pituitary lactogenic hormone by iodine. C. H. Li and others. bibliog Science 91:530-1 My 31 '40
Isolation in pure form of the interstitial cell-stimulating (luteinizing) hormone of the anterior lobe of the pituitary gland. T. Shedlovsky and others. Science 92:178-80 Ag 23 '40
Pituitary extract and diabetes; abstract. J. B. Collip. Science 91:sup9 F 16 '40
Purification of the pituitary interstitial cell stimulating hormone. C. H. Li, M. E. Simpson and H. M. Evans. Science 92:355-6 O 18 '40
Simple laboratory method for obtaining preparations containing pressor and oxytocic activity from the posterior lobe of the pituitary gland. G. W. Irving, jr. and V. du Vigneaud. bibliog Am Chem Soc J 62:2080-2 Ag '40
Studies on pituitary lactogenic hormone; a comparison of the electrophoretic behavior of the lactogenic hormone as prepared from beef and from sheep pituitaries. Choh Hao Li, W. R. Lyons and H. M. Evans. bibliog il Am Chem Soc J 62:2925-7 N '40
See also
Prolactin

PITYROSPORUM ovale
Isolation and pathogenicity of pityrosporum ovale associated with seborrhea capitis or dandruff. C. W. Emmons. bibliog diags Pub Health Rep 55:1306-12, pl 1 Jl 19 '40

PIVOTS
Making meter shafts; Westinghouse electric & mfg. co. U. Jelinek. il diag Steel 105:40-1 D 11 '39

PLACE names. See Names, Geographical

PLACER mining. See Gold mines and mining—Placer mining; Hydraulic mining; Platinum mines and mining—Placer mining

PLAGUE
Plague in the United States. B. C. Hampton. bibliog maps Pub Health Rep 55: 1143-58 Je 28 '40
Two epizootics of plague infection in wild rodents in the western United States in 1938. L. B. Byington. maps Pub Health Rep 55:1496-1501 Ag 16 '40

PLANARIANS
Native and introduced land planarians in the United States. L. H. Hyman. bibliog Science 92:105-6 Ag 2 '40

PLANETARIUMS
Buhl planetarium used to find date when Egypt's calendar started; abstract. J. Johnson. Science 91:sup10 Ja 19 '40
See also
Orreries

PLANETARY gearing. See Gearing, Planetary

PLANETEST magnograph. See Recording instruments

PLANETS
See also
Earth
Pluto (planet)

PLANETS, Theory of
Astronomy of Johannes Scotus Erigena. E. von Erhardt-Siebold and R. von Erhardt. 69p $1.50 Williams & Wilkins '40
Famous theory weakens; encounter theory of the origin of planets. H. N. Russell. Sci Am 162:140-1 Mr '40

PLANING machines
Cleveland improved open-side planer. il Am Mach 83:1094 D 27 '39
Converting a planer into a boring mill. C. C. Hermann. il Am Mach 84:870-1 O 30 '40
Design for eliminating chatter on planers. T. Addison. diags Product Eng 11:182-3 Ap '40
Guide simplifies spotting planer ways. F. C. Hudson. il Am Mach 84:176 Mr 20 '40
Liberty heavy-duty movable-housing planer. il Am Mach 84:897 O 30 '40
Odd-shaped cases machined easily on tilting faceplate; manufacturing gear drives at Farrel-Birmingham co. il Steel 106:69 F 5 '40
Planing machine for marine propellers. il Engineering 149:500-2 My 17 '40; Engineer 169:456, 462 My 17 '40

PLANISPHERES
Pinpoint planetarium. A. N. Spitz. 86p bibliog(p78-9) $2 Holt '40

PLANKTON
Limnological studies in Connecticut; contribution to regional limnology. E. S. Deevey, jr. maps Am J Sci 238:717-41 bibliog (p739-41) O '40
Rubber rim whipple cell for plankton counts. A. A. Hirsch. diag Am Water Works Assn J 32:1470 S '40
Super-chlorination; break-point and effects of components of natural waters; also report on cupri-chloramination process. C. K. Calvert. bibliog Water Works & Sewerage 87: 299-303 Jl '40
See also
Diatoms

PLANNING
Engineering planning. H. F. McCann. il Aero Digest 37:65, 67 Ag '40
Gearing a business for national defense. M. Bower. Harvard Business R 19 no 1:66-71 [S] '40; Excerpts. Management R 29:353-5 O '40
How to control and plan production; Warner & Swasey co. G. V. Black. il Iron Age 146:34-7 Jl 11 '40
Indexes of company performances; charting results against quotas monthly to provide dynamic picture; interview with Wallace Clark. B. Brougham. Barron's 20:9-10 Ap 8 '40
Management planning in the federal government. B. L. Gladieux. Advanced Management 5:77-85 Ap-Je '40
Planning for cost reduction. Chem & Met Eng 47:476 Jl '40

PLANNING—*Continued*
Planning of future earnings; formulation of operating program a year ahead fixes responsibility and improves management. W. Clark. Barron's 20:7 F 5 '40
Plans of men. L. W. Doob. 411p bibliog(p386-96) $3 Yale univ. press '40
Training men to look ahead. E. H. Schell. Nation's Business 28:30, 32+ Mr '40

See also
Advertising—Planning
Budget, Business
Cash estimates
City planning
Factory management
Land utilization
Regional planning
Sales estimates
Schedules

PLANT, Oscar Henry, 1875-1939
Sketch. E. G. Gross and I. H. Pierce. Science 90:557-8 D 15 '39

PLANT breeding
Personalities in science; David Burpee. Sci Am 163:115 S '40

PLANT cells and tissues
Alfred George Jacques; investigations of cells of valonia and halicystis. W. J. V. Osterhout. Science 91:133-4 F 9 '40
Arrangement of the cellulose crystallites in ray cells of white oak as determined by X-rays. S. T. Gross, G. L. Clark and G. J. Ritter. il Paper Tr J 109:37-8 D 7 '39
Cell structure and freezing. V. R. Gardner. Refrig Eng 39:233 Ap '40
Contributions to chemistry of plant cell wall; behavior of very thin wood sections treated with 72 per cent sulphuric acid and Schweitzer's reagent. W. M. Harlow. il Paper Ind 22:150 My '40
Enzymatic liberation of auxin from plant tissues. F. Skoog and K. V. Thimann. Science 92:64 Jl 19 '40
Plant microtechnique. D. A. Johansen. 523p bibliog(p493-502) $4.50 McGraw-Hill '40
Relation of internal surface to intercellular space in foliage leaves. F. M. Turrell. Science 92:244 S 13 '40
Studies on lignin and related compounds; fractionation of acetylated cell wall constituents of red oak wood. Q. P. Peniston, J. L. McCarthy and H. Hibbert. bibliog Am Chem Soc J 62:2284-8 S '40

See also
Photosynthesis

PLANT growth
Effect of direct and alternating currents on the growth of oat seedlings. E. Burstein, L. M. Alliminosa and L. Moriber. bibliog il diag Electrochem Soc Trans 77 (preprint 24):287-301 Ap '40
Effect of ultra-short radio waves on plant growth. J. van Overbeek, L. R. Brantley and G. W. Potapenko. Science 90:470-1 N 17 '39
Growth changes resulting from chromosome rearrangement; abstract. D. F. Jones. Science 91:423 My 3 '40
Growth response of plants to ribo-flavin and ascorbic acid. R. Dennison. Science 92:17 Jl 5 '40
Minute amounts of chemical elements in relation to plant growth. D. R. Hoagland. bibliog Science 91:557-60 Je 14 '40
Multiple growth layers in the annual increments of certain trees at Lubbock, Texas. W. S. Glock and E. L. Reed. Science 91:98-9 Ja 26 '40
No short-cut horticulture; plant growth chemicals require painstaking care, promise significant results. P. H. Smith. il Sci Am 163:140-2 S '40
Some soil factors affecting tree growth. R. M. Salter. bibliog Science 91:391-8 Ap 26 '40
Vitamin B_1 in relation to the growth of green plants. D. I. Arnon. bibliog Science 92:264-6 S 20 '40

See also
Fertilizers
Hormones, Plant
Plants—Nutrition
Plants—Soilless culture

PLANT hormones. See Hormones, Plant

PLANT introduction
America's only crude rubber plantation; Federal plant introduction gardens, Miami, Fla. H. M. Farkas. il Rubber Age 47:91-2 My '40

PLANT names, Popular
Second book of plant names and their meanings. W. N. Clute. 164p $3 W. N. Clute & co, Indianapolis '39

PLANTS
Life's debt to death; nature's attempts to circumvent death may suggest conscious purpose. E. R. Bogusch. il Sci Am 163:271-3 N '40
Radioactive isotope study of the absorption of phosphorus and sodium by corn seedlings. A. K. Brewer and A. Bramley. Science 91:269-70 Mr 15 '40
Radioactive nitrogen in the study of N_2 fixation by non-leguminous plants. S. Ruben, W. Z. Hassid and M. D. Kamen. Science 91:578-9 Je 14 '40

See also
Aquatic plants
Botany
Dyes and dyeing—Natural dyes
Grasses
Hormones, Plant
House plants
Paleobotany
Poisonous plants
Rubber plants and planting
Weeds

Boron content
Determination of boron in plant material; an ignition-electrometric titration method. L. V. Wilcox. bibliog diag Ind & Eng Chem Anal ed 12:341-3 Je 15 '40

Chemical analysis
Determination of boron in plant material; an ignition-electrometric titration method. L. V. Wilcox. bibliog diag Ind & Eng Chem Anal ed 12:341-3 Je 15 '40
Determination of carotene. G. Kernohan. bibliog Science 90:623 D 29 '39
Determination of chlorophyll and carotene in plant tissue. H. G. Petering, W. Wolman and R. P. Hibbard. bibliog Ind & Eng Chem Anal ed 12:148-51 Mr 15 '40
Determination of starch in plants. W. Z. Hassid, R. M. McCready and R. S. Rosenfels. bibliog Ind & Eng Chem Anal ed 12: 142-4 Mr 15 '40
Determination of zinc in plant materials using the dropping mercury electrode. J. F. Reed and R. W. Cummings. bibliog Ind & Eng Chem Anal ed 12:489-92 Ag 15 '40
Future of geophysics in the light of new developments; spectroscopic analysis of plant materials. H. Lundberg. Can Min J 61: 225-6 Ap '40; Same. Engineer 170:265 O 25 '40
Isolation of carotene from green plant tissue; use of barium hydroxide octahydrate. H. G. Petering, P. W. Morgal and E. J. Miller. flow sheet bibliog Ind & Eng Chem 32:1407-12 O '40
Method for determining glutamine in plant tissues. G. W. Pucher and H. B. Vickery. bibliog Ind & Eng Chem Anal ed 12:27-9 Ja 15 '40
Partition of the less easily digested carbohydrate complex of forages. R. E. Davis and C. O. Miller. Ind & Eng Chem Anal ed 11: 651-2 D 15 '39
Quantitative analysis of plant tissues for lithium by the ramage flame spectrographic method. N. L. Kent. il diag Soc Chem Ind J 59:148-53 Jl '40
Some difficulties encountered in the extraction of growth hormones from plant tissues. F. G. Gustafson. Science 92:266-7 S 20 '40
Studies on lignin and related compounds; occurrence of the guaiacyl and syringyl groupings in the ethanolysis products from various plants; California redwood, Douglas fir, red oak, jute, corn stalks, rye straw and bamboo. A. S. MacInnes and others. bibliog Am Chem Soc J 62:2803-6 O '40

See also
Feeding and feeding stuffs—Analysis
Grasses—Analysis

PLANTS—*Continued*

Collection and preservation

Protection of herbarium specimens; use of Flexiglass, non-inflammable cellophane-like substance. C. S. Semmens. Science 90:624 D 20 '39

Diseases and pests

Chemically induced plant tumors; clues to mechanism of cancer production being sought. M. Levine. Science 90:sup11 D 8 '39

Nutrition

Healthier plants; vitamin-hormone stimulant in powder form. C. F. Greeves-Carpenter. Sci Am 163:85-6 Ag '40

Minute amounts of chemical elements in relation to plant growth. D. R. Hoagland. bibliog Science 91:557-60 Je 14 '40

Potassium deficiency in ammonium- and nitrate-fed tomato plants. M. E. Wall and V. A. Tiedjens. Science 91:221-2 Mr 1 '40

See also
Plant growth

Bibliography

Bibliography of references to the literature on the minor elements and their relation to plant and animal nutrition. L. G. Willis, comp. 3d ed 488p Chilean nitrate educational bur, New York '39

Reproduction

Photoperiodic aspects of phasic development. W. F. Loehwing. Science 90:552-5 D 15 '39

Somatoplastic sterility in medicago sativa. R. A. Brink and D. C. Cooper. Science 90: 545-6 D 8 '39

Respiration

Mechanism of plant respiration. H. Hibbert. bibliog Am Chem Soc J 62:934-5 Ap '40

Production and utilization of alcohol by plant tissues. C. A. Ludwig and others. Science 91:170-1 F 16 '40

Selenium content

Isolation of a crystalline selenium-containing organic compound from plant material. M. J. Horn and D. B. Jones. Am Chem Soc J 62:234 Ja '40

Soilless culture

Chemical garden pots. il Sci Am 163:148-9 S '40

Complete guide to soilless gardening. W. F. Gericke. 285p $2.75 Prentice-Hall '40

Gardening without soil. A. H. Phillips. 137p bibliog(p132-3) $2 Chemical pub. co. '40

Growing plants in nutrient solutions; or, Scientifically controlled growth. W. I. Turner and V. M. Henry. 154p bibliog(p129-31) $3 Wiley '39

Inexpensive small air compressor for aeration of plant culture solutions. G. J. Raleigh. Science 90:597-8 D 22 '39

No short-cut horticulture; plant growth chemicals require painstaking care, promise significant results. P. H. Smith. il Sci Am 163:140-1 S '40

Soilless culture simplified. A. Laurie. 201p $2.50 McGraw-Hill '40

What's become of hydroponics? il Business Week p38-9 Jl 27 '40

PLANTS, Aquatic. See Aquatic plants

PLANTS, Cultivated

See also
Greenhouses

PLANTS, Effect of boron on

Boron creates special problems in Los Angeles' water supply. Eng N 125:113-14 Jl 18 '40

PLANTS, Effect of electricity on

Effect of direct and alternating currents on the growth of oat seedlings. E. Burstein, L. M. Altaminosa and L. Moriber. bibliog il diag Electrochem Soc Trans 77 (preprint 24):287-301 Ap '40

PLANTS, Effect of gases on

Gas injury to trees. H. L. Jacobs. il Am Gas J 152:7-9+ Mr '40

Leak location by vegetation surveys; with cost data. E. O. Werba. Gas Age 85:20-1+ Mr 28 '40

PLANTS, Effect of lead arsenate on

How toxic is arsenate of lead? effect on humans, algae and bacteria, fungi, seeds, onions, etc. I. D. Cardiff. bibliog J Ind Hygiene 22:333-46 O '40

PLANTS, Effect of light on

Heating hotbeds with radiant energy from incandescent lamps. R. L. Zahour. bibliog il diag plan Illum Eng 35:591-604 Jl '40

Photoperiodic aspects of phasic development. W. F. Loehwing. Science 90:552-5 D 15 '39

Sunlamps for crops; infra-red rays controlled thermostatically to avert freezing and hasten maturity. Business Week p31-2 Je 22 '40

PLANTS, Effect of manganese on

Manganese deficiency for citrus in California. E. R. Parker, H. D. Chapman and R. W. Southwick. Science 91:169-70 F 16 '40

PLANTS, Effect of radio waves on

Effect of ultra-short radio waves on plant growth. J. van Overbeek, L. R. Brantley and G. W. Potapenko. Science 90:470-1 N 17 '39

PLANTS, Effect of salts on

Permissible composition and concentration of irrigation water. W. P. Kelley. Am Soc C E Proc 66:607-13 Ap '40; Discussion. 66:1368-72, 1721-2 S, N '40

PLANTS, Effect of sulfur dioxide on

Agriculture and smoke pollution. H. T. Jones. Gas J (Lond) 231:206 Jl 31 '40

Effect of sulphur dioxide on vegetation. 447p $15 Associate committee on Trail smelter smoke, National research council, Ottawa, '39

Effect of sulphur dioxide on vegetation; abstract. M. Katz, G. A. Ledingham and A. W. McCallum. Soc Chem Ind J 59:sup689-90 S '40

Effects of sulfur dioxide on plants and animals. C. Setterstrom. bibliog il diag Ind & Eng Chem 32:473-9 Ap '40

Effects of sulphur dioxide on vegetation; investigation of smelter at Trail, B.C. G. S. Whitby. Chem & Ind 58:991-7; Discussion. 997-9 N 11 '39

Injury to trees from sulfur dioxide fumes of electric refrigerators. M. A. McKenzie and L. H. Jones. Science 91:239-40 Mr 8 '40

PLANTS, Motion of fluids in

Roots are pumps; capillary attraction has little to do with sap circulation. P. H. Smith. il Sci Am 163:205 O '40

PLASKON

Just relax! Pro-care manicuring unit. J. G. Vajda. il Mod Plastics 17:33-5+ Je '40

Light in the darkroom; a shock- and corrosion-proof bakelite housing and separate Plaskon colored filters. il Mod Plastics 16:48+ S '40

PLASMOCHIN

Quinine substitute intermediate developed; abstract. H. B. Hass and H. C. Huffman. Oil Paint & Drug Rep 138:3+ S 16 '40

PLASMODIUM

Antiplasmodial action and chemical constitution carbinolamines derived from naphthalene and quinoline. H. King and T. S. Work. Chem Soc J p1307-15 S '40

Antiplasmodial action and chemical constitution; the synthesis of some complex carbinolamines and polyamines. T. S. Work. Chem Soc J p1315-20 S '40

PLASTER and plastering

Colored plaster winning favor; Florida concern operates quarry, lime putty and ready mixed concrete plants; makes concrete products. N. Caudell. il Rock Prod 43:55 O '40

Insulation board lath solves many plaster base problems. il Am Bld 61:58-60 D '39

Über antike wandputze. F. Müller-Skjold. bibliog il Angew Chemie 53:139-41 Mr 30 '40

See also
Cement
Concrete
Gypsum
Mortar

PLASTER casts
New method for making vulcanized latex molds for plaster casting. A. Silver. il diags Rubber Age 48:31-4 O '40

PLASTER of Paris
Casting prevulcanized latex in plaster molds. A. Silver. il diags Rubber Age 47:161-4 Je '40
Tools of cast bronze; jigs, fixtures, punches, dies, etc. use of plaster molds; making ornamental lamps. M. Golden. il Am Mach 84:574-6 Ag 7 '40

PLASTIC blocks
Construction units appear; small, light, plastic blocks used experimentally by architect Alden Dow. il Mod Plastics 17:30-1, 70+ F '40
Plastic building panels. Barron's 19:17 D 4 '39

PLASTIC industries
Chemurgic plastics. R. D. McMillen. il Manuf Rec 108:22-3+ D '39
Development of synthetic resins and other trends in the plastics industry. J. L. Nicholson. Annalist 54:691 N 30 '39
Fifth annual modern plastics competition, the presentation dinner; address. C. F. Kettering. Mod Plastics 18:40-1, 94+ N '40
Plastics and rubber industries issue challenges to research. Oil Paint & Drug Rep 138:5+ N 4 '40
Plastics in 1940. il diags Fortune 22:88-96+ O '40
Presentation dinner; fourth annual Modern plastics competition. il Mod Plastics 17:42+ D '39
Progress of plastics, principal producers. J. V. Sherman. Barron's 20:20 My 27 '40
Rise of synthetic plastics. E. F. Lougee. il Dun's R 47:22-8+ D '39

See also
Clay industries
Molded products
Resinous products

Exhibitions
Fifth annual modern plastics competition, 1940. il Mod Plastics 18:41-111 O '40
Plastics; display at Chanin building, New York. Science 92:sup10-11 O 11 '40
Winners in Washington. il Mod Plastics 17: 38-41 Ap '40

Statistics
Cellulose plastic products, 1936-1939. Survey of Cur Business 1940 Sup p96 [supplemented in monthly numbers]
Plastic materials census data, 1939. Mod Plastics 18:56 N '40
Plastics continue to advance. Chem & Met Eng 47:78-80 F '40
Plastics statistics for the U.S. Mod Plastics 17:56-7 Jl '40

Ecuador
Plastics in Ecuador. P. K. Tattersall. Mod Plastics 18:150+ O '40

Great Britain
British plastics industry in war time. J. S. Trevor. il Mod Plastics 17:25-7+ D '39
Letter from London. J. S. Trevor. Mod Plastics 17:46 My '40
Letter from London. J. S. Trevor. Mod Plastics 18:114+ O '40
Plastic materials; effect of war. Electrician 124:23, 108 Ja 12, F 9 '40
Plastics industry in 1939. H. Barron. Chem Age (Lond) 41:441-3 D 30 '39

Peru
Plastics in Peru. D. M. Clark. Mod Plastics 17:56+ Je '40

South America
South American trade in organic plastics; Argentina. J. D. Walstrom. Mod Plastics 17:42-3+ My '40

United States
Plastics in U.S. defense economy. il maps Mod Plastics 17:26-8, 96+ Ag '40

PLASTIC jewelry. See Jewelry, Plastic

PLASTIC materials
Aeromold trainer. il Aviation 39:56-7 Jl '40
Airplane dopes; relation of tautening and weathering qualities to composition. F. W. Reinhart and G. M. Kline. bibliog il Ind & Eng Chem 32:184-93 F '40
Armor-Flex, new type of traffic marker. il Roads & Sts 83:89 S '40
Background for merchandising; variety of plastics find architectural and decorative applications in W. T. Grant's new Buffalo store. il Mod Plastics 17:28-9, 74 D '39
Casein plastics. G. H. Brother. bibliog il Ind & Eng Chem 32:31-3 Ja '40
Chemurgic plastics. R. D. McMillen. il Manuf Rec 108:22-3+ D '39
Chemurgical highlights. Chem & Met Eng 47:240 Ap '40
Chrysler's rubber-plastics laboratory. J. C. Zeder. Rubber Age 48:22 O '40
Cottonseed plastic. il Business Week p51-2 O 19 '40
Electrical and general physical properties of plastics; changes on heating; mechanical properties; molecular structure; a discussion. Chem & Ind 59:537-41 Jl 27 '40
Electrodeposition on plastic materials. J. J. Bayard. il Metal Ind 38:255-6+ My '40
Ethers, mixed esters and high acetyl esters of cellulose in the plastics industry; abstract. E. Couzens. Chem & Ind 56:1083-4 D 16 '39
Expansion in plastics; Vinylite. Business Week p50-1 S 7 '40
Extruded tubing has unusual properties. Automotive Ind 82:467-8 My 15 '40
Extrusion of plastics. D. L. Gibb. il Mod Plastics 17:54-5+ Jl '40
Film-forming plastics; effect of solvents, diluents, and plasticizers on properties of films formed from airplane dopes. F. W. Reinhart and G. M. Kline. Ind & Eng Chem 31:1522-9 D '39
Fishing is a business; lightweight, sturdy floats and needles. il Mod Plastics 18:50-1 N '40
For fortune or fun; plastics for games and game sets. E. Main. il Mod Plastics 17:32-3 D '39
Ford and plastics. W. T. Cruse. il Mod Plastics 17:23-9 Ja '40; Abstract. Mech Eng 62:236-7 Mr '40
From lab to industry; American cyanamid co. to produce acrylonitrile and melamine. Business Week p57-9 S 14 '40
Honored by all-America package competition. il Mod Plastics 17:34-5 Mr '40
Illuminated sign display in which plastics provide economies in operation and permanence. R. L. Davidson. il Mod Plastics 17: 25-7, 70+ Mr '40
Les matières plastiques; aperçu historique et scientifique. L. Frossard. Soc Ing Civils Mémoires 92:287-303 Mr '39
Les matières plastiques; leurs principales applications. Durr. Soc Ing Civils Mémoires 92: 304-22 Mr '39
Measurement of solid friction of plastics. A. Gemant. diags J Ap Phys 11:647-53 O '40
Metal plated plastics. J. B. Kushner. il Product Eng 11:364-6 Ag '40
Modern aircraft materials and their testing. K. R. Jackman. S A E J 47:464-6 N '40
Molded airplanes for defense. il Mod Plastics 17:25-31, 78+ Jl '40; Abstract. Science 92:sup6 Ag 23 '40
New developments in molded plastics; plastics comparator chart; abstract. C. A. Norris. il Chem Ind 46:331-2 Mr '40
New plastic mixture; soybean research yields a solution already being used in textiles, paper, and leather. Business Week p32-3 Je 22 '40
New plastic: polyamid 6351. Mod Plastics 17: 52 F '40
New plastic process; Ford experiments. Business Week p42-3 Mr 2 '40
New process is developed for plating metals onto plastics; process known as Metaplast. Steel 107:55 Jl 15 '40
New thermoplastic from Germany. Chem Age (Lond) 42:39 Ja 20 '40

PLASTIC materials—*Continued*
Permanence of the physical properties of plastics. J. Delmonte. diags Mod Plastics 17:49-52+ My; 65-8, 84+ Je '40; Same cond. Engineering 149:447-8, 456-7 Ap 26-My 3 '40
Pistol that sprays powdered metals and plastics; Schori pistol. R. G. Skerrett. il diag Comp Air M 45:6057-60 Ja '40
Planning plastic displays. J. G. Lippincott. il Mod Packaging 14:75-6+ S '40
Plastic materials. Electrician 124:23, 108 Ja 12, F 9 '40
Plastic materials; application of various metals by electro-plating. Electrician 124: 308 Ap 19 '40
Plastic materials; their use in A.R.P. equipment. Electrician 123:348 O 13 '39
Plastic materials; uses in Yankee Clipper. Electrician 124:186 Mr 8 '40
Plastic-on-metal finishes; new type of protection for steel products. il Iron Age 146:48-50 Ag 15 '40
Plastic symposium held by Boston rubber group. Rubber Age 47:38 Ap '40
Plastics; a review of principal types of plastics and their uses. Can Chem & Process Ind 24:45 Ja '40
Plastics and architecture. M. Sanders. il Arch Rec 88:65-76 Jl '40
Plastics and coal. N. J. L. Megson and K. W. Pepper. bibliog Chem & Ind 59:247-53 Ap 13 '40
Plastics and design. W. D. Teague. Arch Forum 72:93-4 F '40
Plastics and metals; developments resulting from war-time requirements. Electrician 125:109 Ag 30 '40
Plastics and resins from hydrocarbons. P. K. Frolich and others. il diags Ind & Eng Chem 32:293-323 Mr '40
Plastics and rubber industries issue challenges to research. Oil Paint & Drug Rep 138:5+ N 4 '40
Plastics as engineering materials. H. V. Potter. Engineering 149:519-20 My 24 '40
Plastics at Detroit A.C.S. meeting; abstracts. Mod Plastics 18:130+ O '40
Plastics at the A.C.S. meeting. Mod Plastics 17:53+ My '40
Plastics comparator; plastics for molding; reference book sheets. Product Eng 11:193-4 Ap '40
Plastics for aircraft; abstract. J. Taylor. Can Chem & Process Ind 23:604 D '39
Plastics from cellulose acetate of higher acetylation. W. E. Gloor. il Mod Plastics 17:62-3 Ap '40
Plastics in British planes. il Aviation 39: 44-5+ Jl '40
Plastics in building. il Arch Forum 72:413-17 Je '40
Plastics in engineering. J. Delmonte. 616p $7.50 Penton pub. co. '40
Plastics in 1940. il diags Fortune 22:88-96+ O '40
Plastics in the airplane. Mech Eng 62:235-6 Mr '40
Plastics in the automotive industry; abstract. T. S. Carswell. S A E J 46:sup23 My '40
Plastics in the school and home workshop. A. J. Lockrey. 2d ed 233p $2.50 Van Nostrand '40
Plastics on wheels; decorative applications of plastics for automobile interiors; exterior uses. il Mod Plastics 18:29-35+ N '40
Plastics progress during 1939. il Mod Plastics 17:43-8+ Ja '40
Possibilities for plastic airplanes; abstract. W. Hite. S A E J 47:sup68-9 Jl '40
Processes and machinery in the plastics industry. K. Brandenburger. 243p bibliog(p239-40) $6 Pitman '38
Product developments. il Mod Plastics 18:45-8 N '40 [cont monthly]
Protein plastics from soybean products; influence of phenolic resins or phenolic molding compounds on formaldehyde-hardened protein material. G. H. Brother and L. L. McKinney. bibliog(51 titles) Ind & Eng Chem 32:1002-6 Jl '40
Rise of synthetic plastics. E. F. Lougee. il Dun's R 47:22-8+ D '39
Small radios—today and tomorrow; are plastic radio cabinets on the way out? il Mod Plastics 17:28-31+ Mr '40
Stylized foot comfort; lightweight plastic arch supports. il Mod Plastics 17:32-3 Ag '40
What plastic to use. C. W. Blount. Iron Age 145:36-8 Mr 21 '40
Will plastics displace metals? H. Chase. il Metals & Alloys 11:157-62 Je '40; Excerpts. Mech Eng 62:617 Ag '40

See also
Bakelite
Casein
Cellulose
Cellulose acetate
Cement
Clay
Color in plastic materials
Ethyl cellulose
Gums and resins
Koroseal
Lumarith
Methyl methacrylate
Molded products
Molding
Plaskon
Plastic blocks
Plasticizers
Pyralin
Pyroxylin
Resinous products
Rubber
Rubber, Artificial
Shellac

Bibliography

Plastics digest. Published in monthly numbers of Modern plastics
Publications. Published in monthly numbers of Modern plastics

Coloring

See Color in plastic materials

Competitions

Fifth annual modern plastics competition, 1940. il Mod Plastics 18:41-111 O '40
Plastics award for aircraft construction. Aviation 39:95 N '40
Student design. il diags Mod Plastics 17: 37+ My '40

Electric properties

Complete shockproofing; the use of plastics. G. E. Moore. Elec R (Lond) 127:107-8 Ag 9 '40
Dielectric properties of organic compounds; relation to chemical composition and physical structure. S. O. Morgan and W. A. Yager. bibliog Ind & Eng Chem 32:1519-28 N '40
H.F. insulation materials; results of laboratory tests of synthetic plastics. P. Mabb. Electrician 123:453-4 N 24 '39

History

Plastics and their uses in the automotive industry; development, properties, trade names, molding methods, etc. G. M. Kline. il S A E J 46:198-214 My '40; Same. Mod Plastics 17:49-53, 84+ Jl; 58-61, 78+ Ag; 18:64-7, 90, 92+ S '40; Discussion. S A E J 46:214+ My '40

Lignin

Lignin and wood acquire new importance. J. L. McCarthy. il Pulp & Pa of Can 41:602, 604 Ag '40
Making lignin molding pulp; Marathon paper mills co. Paper Tr J 109:90 N 30 '39
New plastic made from sawdust; lignin plastic. Business Week p29-30 D 23 '39
Plastic from sawdust. Mech Eng 62:235 Mr '40
Plastics and chemicals from wood; Masonite products. R. M. Boehm. il Paper Tr J 110: 35-8 My 2 '40
Recent advances in the utilization of lignin in waste sulphite liquor. A. C. Hill. Pulp & Pa of Can (Convention no) 41:149-50 [F] '40

Manufacture

Aniline-bagasse plastics. T. R. McElhinney and S. I. Aronovsky. il Mod Plastics 17: 59-61, 88+ Je '40
Plastic syrup heating; utilization data sheet. H. Van Wyk. il Elec West 85:55 O '40

Optical properties

Mechanics of light flux control by plastics. M. H. Bigelow and A. F. Wakefield. bibliog il diags Illum Eng Soc Trans 34:1189-96; Discussion. 1196-8 D '39

PLASTIC materials—*Continued*

Patents

Protein plastics from soybean products; influence of phenolic resins or phenolic molding compounds on formaldehyde-hardened protein material. G. H. Brother and L. L. McKinney. bibliog(51 titles) Ind & Eng Chem 32:1002-6 Jl '40

U.S. plastics patents. Published in monthly numbers of Modern plastics

See also

Resinous products—Patents
Rubber, Artificial—Patents

Study and teaching

Majoring in plastics; diversified courses offered in schools and universities throughout the U.S. il diags Mod Plastics 17:35-7, 90, 92 Ag '40

Temperature effects

Behavior of polyvinyl chloride plastics under stress. J. J. Russell. bibliog il Ind & Eng Chem 32:509-12 Ap '40

Testing

A.S.T.M. test for water absorption. Mod Plastics 18:128+ O '40

Behavior of polyvinyl chloride plastics under stress. J. J. Russell. bibliog il Ind & Eng Chem 32:509-12 Ap '40

Influence of size of molecule on the properties of industrial thermo-plastics. E. G. Couzens, J. A. Hetherington and L. W. Turner. bibliog Chem & Ind 59:209-13; Discussion. 213-14 Mr 30 '40

Service-temperature flow characteristics of thermoplastics. W. F. Bartoe. il Mech Eng 61:892-4 D '39; Same. Mod Plastics 17:47-9+ Mr '40

Tension and birefringence in a vinylite plastic. H. W. Farwell. J Ap Phys 11:274-9 Ap '40

Water absorption

A.S.T.M. test for water absorption. Mod Plastics 18:128+ O '40

Sorption of water by plastics. G. M. Kline, A. R. Martin and W. A. Crouse. bibliog Mod Plastics 18:119-23, 152+ O '40

PLASTIC materials, Decorative

American industrial art; fifteenth exhibition. H. Josephs. il Mod Plastics 17:46-8+ Je '40

Cleopatra would have adored this; Tourneur make-up salon, New York; use of plastics and textural glass. J. Guncheon. il Mod Plastics 17:40-3 Je '40

Color and transparency persist; plastic furniture and accessories. il Mod Plastics 17:31-7 Ap '40

Industry equips the palette; plastics, and other laboratory-born materials, used for contemporary designs and decorations. D. Mortellito. il Mod Plastics 17:30-1+ Ag '40

Luxury liner; S.S. America. il Mod Plastics 18:38+ S '40

Plastic modes; shoes, ornaments, etc. il Mod Plastics 18:40-2 S '40

Plastics competition; awards to Alice Donaldson, Elizabeth Arden, J. M. Gordon & co. il Mod Plastics 18:54-6, 93 O '40

PLASTIC materials, Laminated

Carterite process for making resin boards and blanks. R. B. Landrigan and H. Rosecaln. diag Mod Plastics 17:50 D '39

Effect of heat on phenolic laminates. S. W. Place. il Mod Plastics 18:59-62 S '40

Einfluss der pressbedingungen und des aufbaues auf die eigenschaften geschichteter kunstharz-pressstoffe; kunstharz-pressholz, zellstoff- und gewebebahnen-pressstoff. W. Küch. il V D I 83:1309-16 D 30 '39

For super-speed service; laminated phenolic provides accuracy, strength and better lubrication for heavy-duty ball bearing retainers. il Mod Plastics 17:36-7+ Jl '40

Laminated phenolic; considerations governing choice of type. S. W. Place. il Product Eng 11:360-3 Ag '40

Laminating phenolic plastic; Westinghouse micarta plant at Trafford, Pa. flow sheet il Chem & Met Eng 47:183-6 Mr '40

Low-density structural material; Duramold. V. E. Clark. il Aero Digest 35:101-2, 105 Jl '39; Same. Roy Aeronautical Soc J 44:483-8 My '40; Same. Engineer 169:483-4 My 24 '40

New research on the use of hardening plastics for aircraft construction. W. Kuech. il diags Roy Aeronautical Soc J 44:44-73 bibliog(46 titles, p72-3) Ja '40

New step in plastics; Carterite. Business Week p43 N 18 '39

Number please; Stromberg-Carlson switchboards. il Mod Plastics 17:44 Je '40

Plastic bodywork; new technique developed in Germany. F. C. Sheffield. diags Automobile Eng 30:229-34 Ag '40

Plastics competition; award to Alice Donaldson; Plasdecor. il Mod Plastics 18:54, 93 O '40

Plastics for interior design. il Mod Plastics 17:38-9+ Mr '40

Plastics for mechanical handling; a wartime development in conveyor construction. J. S. Trevor. Mech Handling 27:155-7 Jl '40

Plastics progress during 1939; laminates. G. E. Landt. il Mod Plastics 17:48 Ja '40

Properties and performance of plastic bearing materials. L. M. Tichvinsky. bibliog diags Mod Plastics 17:54-7, 70, 72 My '40

Setting for sweets; candy display room. il Mod Plastics 18:50-1 S '40

Synthetic materials as bearings for mills; abstracts. C. D. Philippe. il Engineering 149:99-100 Ja 26 '40; Engineer 169:119-20 F 2 '40

Translucent phenolic laminate; Catavar. W. E. Flood. il Mod Plastics 17:66+ Ap '40

See also

Formica
Micarta

PLASTIC materials, Translucent

Plastic sheeting with louvers for lighting fixtures. il Manuf Rec 109:33+ N '40

Rod-lights for industry; light transmitting uses of Lucite. il Sci Am 163:24 Jl '40

Translucent phenolic laminate; Catavar. W. E. Flood. il Mod Plastics 17:66+ Ap '40

PLASTIC materials, Transparent

Acrylic resin plastics. D. S. Frederick. il Chem Ind 46:57-8 Ja '40

Color and transparency persist; plastic furniture and accessories. il Mod Plastics 17:31-7 Ap '40

Don't they tickle; plexiglas bathing suit manikin. il Mod Plastics 17:47 Ap '40

Ethylcellulose rigid container sheeting. S. L. Bass and F. C. Dulmage, jr. il Mod Packaging 14:88+ S '40

Ethyl methacrylate as a mounting medium for embryological specimens. W. O. Puckett. Science 91:625-6 Je 28 '40

Glasses, organic and inorganic. H. Moore. bibliog Chem & Ind 58:1027-37 N 25 '39; Discussion. 59:157-8 Mr 9 '40

Good tools made better; handles on Millers Falls co. tools from red transparent cellulose nitrate. il Mod Plastics 17:56+ Ap '40

Halo-hood dryer; transparent molded acrylic extension allows all-around vision. il Mod Plastics 18:39+ S '40

Light-transmitting plastic illuminates dial; gasoline pump; lucite for dial and figure illumination. il diag Product Eng 11:347 Ag '40

Plastic cover glass, isobutyl methacrylate. H. C. O'Brien and R. T. Hance. Science 91:412 Ap 26 '40; Discussion. R. A. Groat. 92:268 S 20 '40

Plastic tip is aid to new trouble lamp; use of piped light principle of Lucite. R. Blain. il Elec W 112:1759 D 16 '39

Plastics competition; award to Tri-pak gun kit, for lubricating oil containers. il Mod Plastics 18:71, 97 O '40

Polystyrene; the story of its development and applications. W. C. Goggin. il Chem Ind 45:674-8 D '39

Traditional transition; sixth annual public exhibition of 65 decorators' interiors, sponsored by Grosfeld house. E. Main. il Mod Plastics 17:30-3+ My '40

PLASTIC materials, Transparent—*Continued*
Transparent plastics; designs for mounting sheets. G. P. Young. il diags Product Eng 11:137-9 Mr '40
Use of plastic as a substitute for cover glasses; cellulose acetate, Vue Pak. V. Suntzeff and I. Smith. Science 92:17-18 Jl 5 '40
World we make; play depends upon translucent and transparent plastics for some of its scenic effects. W. S. Ross. il Mod Plastics 17:40 Ja '40
X-rayed sedan; transparent Plexiglas 1940 Pontiac Torpedo 8 sedan on display at General Motors exhibit, New York world's fair. il Mod Plastics 17:38-9+ Ag '40

Testing

Accelerated weathering of transparent plastics. G. M. Kline, W. A. Crouse and B. M. Axilrod. il Mod Plastics 17:49-57, 86+ Ag '40

PLASTIC surgery. See Surgery, Plastic

PLASTICITY
Flow in stressed solids; an interpretation. R. W. Goranson. bibliog Geol Soc Bul 51:1023-38 Jl '40
Flow properties of asphalts and their measurement by the penetrometer. C. Mack. bibliog il Soc Chem Ind J 58:306-10 O '39
Flow properties of bituminous materials. A. R. Lee, J. B. Warren and D. B. Waters. bibliog diags Inst Pet J 26:101-28 Mr '40
Influence of internal lubrication on drying and fired characteristics of a plastic clay body. H. R. Straight. il Am Cer Soc Bul 19:168-70 My '40
Plastic yielding and fatigue of ductile metals; a criterion and its application. R. W. Bailey. bibliog Inst Mech Eng J & Proc 143:Proc 101-7 My '40
Plasticity of synthetic rubber; abstract. N. A. Chesnokov. India Rubber W 102:64 Jl '40
Pseudo-plastic properties of molten chocolate. L. E. Campbell. diags Soc Chem Ind J 59: 71-4 Ap '40
Theoretical investigation of plastic torsion in an I-beam. D. G. Christopherson. bibliog diags Roy Aeronautical Soc J 44:425-32 My '40
X-ray solves mystery? discoveries concerning plasticity of hydrated limes. N. C. Rockwood. il diag Rock Prod 43:31-2 Ja '40

See also
Ceramic materials
Clay
Elasticity
Mobilometer
Plastic materials
Viscosity

PLASTICIZERS
Airplane dopes; relation of tautening and weathering qualities to composition. F. W. Reinhart and G. M. Kline. bibliog il Ind & Eng Chem 32:184-93 F '40
Behavior of polyvinyl chloride plastics under stress. J. J. Russell. bibliog il Ind & Eng Chem 32:509-12 Ap '40
Effect of nonvolatile material on solvent balance; plasticizers. J. B. Dorsch. Ind & Eng Chem 32:279-82 F '40
Film-forming plastics; effect of solvents, diluents, and plasticizers on properties of films formed from airplane dopes. F. W. Reinhart and G. M. Kline. Ind & Eng Chem 31:1522-9 D '39
Plasticizers for cellulose acetate and cellulose acetate butyrate. C. R. Fordyce and L. W. A. Meyer. il Ind & Eng Chem 32: 1053-60 Ag '40
Recent progress in solvents and plasticisers. E. H. Brittain. Chem Age (Lond) 41:443-4 D 30 '39
Some relations between molecular structure and plasticizing effect. A. Kirkpatrick. J Ap Phys 11:255-61 Ap '40
What you can use; plasticizers for cellulosic coatings for paper or pulp articles. Oil Paint & Drug Rep 138:45 Jl 15; 59 Jl 22; 53 Jl 29; 60 Ag 5; 46 Ag 12 '40
What you can use; plasticizers used in paints containing cellulose esters or ethers. Oil Paint & Drug Rep 137:42 Ap 8; 31 Ap 15; 34 Ap 22; 32 Ap 29; 47 My 6 '40

PLASTOMETERS
Plastic properties of bituminous coking coals. R. E. Brewer, C. R. Holmes and J. D. Davis. bibliog il Ind & Eng Chem 32:793-7, 930-4 Je-Jl '40
Pseudo-plastic properties of molten chocolate. L. E. Campbell. diags Soc Chem Ind J 59: 71-4 Ap '40

PLATE glass

Manufacture

Glass takes on color; new fields opened for plate glass. E. Aiken. il Sci Am 162:152-4 Mr '40
Inventions and inventors; plate and sheet glass. diags Glass Ind 21:239-40 My '40
Polished plate glass production, revision; monthly, 1923-June, 1940. Fed Res Bul 26: 840 Ag '40
Spinasse patent; heating elements on belts directing newly-drawn glass sheets prevent cracks from traveling downward. diag Glass Ind 21:279+ Je '40
20 years of progress in glass forming machines; machines for flat glass and tubing. F. W. Adams. il Glass Ind 21:177-9 Ap '40

Testing

Safety plate glass. G. B. Watkins. il Glass Ind 20:448-52 D '39

PLATE glass insurance. See Insurance, Plate glass

PLATES
Clamped rectangular plates with a central concentrated load. D. Young. bibliog Roy Aeronautical Soc J 44:350-4 Ap '40
Theory of plates and shells. S. Timoshenko. 492p $6 McGraw-Hill '40

PLATES (tableware)

Manufacture

Progress reports from the Electrotechnical laboratory, Bureau of mines, at Norris, Tenn. H. Wilson, M. S. Nelson and others. Am Cer Soc Bul 19:92-3 Mr '40

PLATES, Steel. See Steel plates

PLATFORMS, Political
Candidate and the platform; important planks in the Republican platform with corresponding declarations by Mr. Willkie. Barron's 20:4 Jl 1 '40
Fortune survey; planks for a platform. Fortune 21:170-1 My '40
Text of platform adopted by Democratic party at national convention in Chicago. Comm & Fin Chr 151:338-40 Jl 20 '40
Text of platform adopted by Republican party. Comm & Fin Chr 150:4062-4 Je 29 '40

PLATING
Polarographic analysis in the plating industry. P. Sherrick. il Metal Ind 37:565-70 D '39
Setting a price for plating. A. Bregman. il Iron Age 146:43-5 N 7 '40

See also
Cadmium plating
Chromium plating
Copper plating
Electroplating
Galvanizing
Gold plating
Nickel plating
Rhodium plating
Silver plating

Testing

Electrolytic chromium plate thickness tester. S. Anderson and R. W. Manuel. bibliog il diags Electrochem Soc Trans 78 (preprint 3):37-46 O '40

PLATING departments
Disposal of plating room wastes; abstract. T. J. Fadgen. Iron Age 145:44-5 Je 27 '40

PLATING machinery
Automatic bright nickel plating of automobile radiator grilles. A. G. Spencer. il diag Metal Ind 38:197-200 Ap '40
Automatic plating machines. il Steel 106: 70+ Ap 8 '40
Automatic plating of die castings; Alemite die casting & mfg. co. H. Chase. il Iron Age 145:40-3 Je 27 '40
High speed zinc plating; Chrysler-Plymouth plant. il Iron Age 146:44 Ag 8 '40

PLATING racks
Electroplating rack coating; material of many uses; synthetic resin tape. M. B. Diggin. il Metal Ind 38:36 Ja '40
Plating rack coating applied by dipping; Unichrome rack coating-W. Iron Age 144:45 D 14 '39

PLATINUM
Catalytic interaction of acetylene and hydrogen on platinum. A. Farkas and L. Farkas. Am Chem Soc J 61:3396-401 D '39
Catalytic oxidation of hydrogen on platinum; a search for chemiluminescence and ionization. R. Potvin and C. Ouellet. bibliog diags J Phys Chem 44:235-46 F '40
Catalytic toxicity and chemical structure; simple anions containing toxic elements. E. B. Maxted and R. W. D. Morrish. Chem Soc J p252-6 Mr '40
Catalytic toxicity and chemical structure; the poisoning of platinum catalysts by metals. E. B. Maxted and A. Marsden. Chem Soc J p469-74 Ap '40
Hydrogenation of quinone with palladium and platinum catalysts. E. F. Rosenblatt. Am Chem Soc J 62:1092-4 My '40
Platinum. H. W. Lohse. Can Min J 61:161-2 Mr '40
Recent advances in the applied chemistry of the rare metals. R. H. Atkinson. flow sheets il Chem & Ind 59:191-204 Mr 23 '40
Relative effect of inhibitants on adsorption and on catalytic activity. E. B. Maxted and H. C. Evans. Chem Soc J p1750-4 N '39
Secondary emission from films of platinum on aluminum. P. L. Copeland. Phys R 58: 604-7 O 1 '40
Secondary emission from films of silver on platinum. A. E. Hastings. bibliog diag Phys R 57:695-9 Ap 15 '40
Transmutation of platinum into gold. Science 90:sup8 N 17 '39

See also
Platinum metals

Prices
Cheaper platinum in Britain. Economist 138: 640-1 Ap 6 '40

PLATINUM metals
Alaskan development at Goodnews bay; placer mining of platinum metals. W. W. Spencer. il map Min & Met 21:132-5 Mr '40
Etching of the platinum metals and their alloys with a.c. electrolysis; abstract. E. Raub and G. Buss. Metals & Alloys 11:MA356 Je '40
Metallized glass oxygen electrodes. H. G. Bain. bibliog Electrochem Soc Trans 78 (preprint 16):211-27 O '40
Platinum. H. W. Lohse. Can Min J 61:161-2 Mr '40
Platinum-clad metals for sheet, screen, tubing and wire. F. E. Carter. il Steel 106:54-5+ Mr 18 '40
Platinum deposits of the Goodnews Bay district, Alaska. J. B. Mertie, jr. maps U S Geol S Bul 910-B:115-45, pl 2 '39
Platinum metals; markets and price movements in 1939. C. Engelhard. Electrician 124: 131 F 16 '40
Present position of platinum metals. Can Chem & Process Ind 24:68 F '40
Recent advances in the applied chemistry of the rare metals; recovery of platinum metals from Canadian nickel ores. R. H. Atkinson. flow sheets Chem & Ind 59:195-9 Mr 23 '40

See also
Osmiridium
Palladium
Platinum
Rhenium
Rhodium

Analysis
Assay for platinum metals in ore concentrates. J. Seath and F. E. Beamish. bibliog Ind & Eng Chem Anal ed 12:169-71 Mr 15 '40
Qualitative semimicro-analysis with reference to Noyes and Bray's system: the gold group. C. C. Miller and A. J. Lowe. Chem Soc J p1263-6 S '40

PLATINUM mines and mining

Placer mining
Alaskan development at Goodnews bay; placer mining of platinum metals. W. W. Spencer. il map Min & Met 21:132-5 Mr '40
Platinum deposits of the Goodnews Bay district, Alaska. J. B. Mertie, jr. maps U S Geol S Bul 910-B:115-45, pl 2 '39

PLATINUM phthalocyanine
X-ray study of the phthalocyanines; direct quantitative analysis of the platinum compound. J. M. Robertson and I. Woodward. diags Chem Soc J p36-48 Ja '40

PLAYGROUNDS
Produce giant cast stone animals for Cleveland playgrounds. il Concrete 48:20 S '40

Equipment
Playground equipment created by I. Noguchi. il Arch Forum 73:245 O '40

PLEISTOCENE period. See Geology, Stratigraphic—Pleistocene; Paleontology—Pleistocene

PLEOCHROISM
Staining of clay minerals as a rapid means of identification in natural and beneficiated products; with a general discussion on staining technique. G. T. Faust. bibliog U S Bur Mines Rep of Invest 3522:1-21 '40

PLEXIGLAS. See Plastic materials, Transparent

PLIOFILM
Clothing for protection against occupational skin irritants. L. Schwartz, L. H. Warren and F. H. Goldman. diags Pub Health Rep 55:1158-63, pl 1-2 Je 28 '40
Heat sterilization in bags creates technologic problems. Food Ind 12:31-2 Ja '40
Management policies that help a business grow; pliofilm firm, Richards, Boggs and King. E. Whitmore. il Am Business 9:18-20+ D '39
New bag preserves flavor with inert gas; pliofilm lining seals product in carbon dioxide and is impermeable to air and moisture. il Food Ind 12:42-3 Ja '40
New wrapper solves problem for packers; thirty companies put meat loaf into pliofilm. il Food Ind 12:42-4 Ag '40
Pliofilm bags for packing of food. Rubber Age 46:252 Ja '40
Pliofilm packaging process. India Rubber W 101:48 Mr '40
Pliofilm wrapping machine. il Food Ind 12:88-9 Jl '40
Preservation of brain specimens. L. W. Darrah. Rubber Age 46:376 Mr '40
Using pliofilm in food packing. Barron's 19:5 D 11 '39
Wet goods by the bag. il Business Week p39-40 Mr 30 '40

See also
Tensolite

PLIOSHEEN
Goodyear introduces Pliosheen. Rubber Age 47:398 S '40

PLOWING
Frank Andrew: a circular farmer; automatic plowing. il Business Week p16 Mr 30 '40

PLUM juice
Making plum juice; abstract. V. L. Flaumenbaum. Food Ind 12:91-2 S '40

PLUMBERS
Fred Flader, master plumber, of Evanston, Illinois. il Fortune 21:63-3, 114, 117-18 Mr '40

PLUMBING
Adequate plumbing. il Dom Eng 155:39-40 Ap '40
American radiator & standard sanitary corp.; President Henry Reed I, out to lick inefficiency. il plan Fortune 21:56-61+ Mr '40
Assembly-line plumbing job; Wyvernwood housing project. il Dom Eng 156:46-7+ S '40
Bigger and better fairs; plumbing installations, San Francisco exposition. il Dom Eng 155:53+ Mr '40

PLUMBING—*Continued*
Bob Morrill has the answer; builds model log cabin with modern plumbing and electric equipment. il plan Dom Eng 155:45-7+ Mr '40
Combating backflow in water supply systems. R. H. Zinkil. diags N E Water Works Assn J 53:458-72 D '39
Corrosion of consumers' plumbing. R. R. Ashline. Am Water Works Assn J 32:408-13 Mr '40
Dewey and Almy chemical co. factory; plumbing and heating. il Dom Eng 156:38-9+ Jl '40
How to design and install plumbing; materials and methods of standard practice, with self-help questions. A. J. Matthias, jr. 388p $3 American technical soc, Chicago '40
It really gets around; circulation of domestic hot water; strong and weak points of different hook-ups. C. E. Pullum. diags Dom Eng 156:50-1 S '40
Lot + a house + good plumbing = a home; plumbing in low-cost houses. il Dom Eng 155:36-8 Ap '40
Piping made this job; home in Olean, N.Y. il Dom Eng 155:42+ Mr '40
Pollution hazards in your building's plumbing? J. Herzog. diags Power 84:740-1 N '40
Protect health; need for better plumbing ordinances and installations; interview with T. F. Hanley. il Dom Eng 155:36-7+ Ja '40
Sanitary standards for hotels. G. E. Arnold. Am Water Works Assn J 32:456-63; Discussion. 464 Mr '40
Structure maintainer: plumbing. loose leaf lea'tte $5 Delehanty inst, 115 E. 15th st, New York '39
To the doctors' orders; solution to problems in layout of hot water system for medical building. il diags Dom Eng 156:48-9+ Ag '40

See also
Bathrooms
Drinking water systems
Faucets
Heating
Hot water supply
Mechanical equipment of buildings
Pipe fitting
Pipe fittings
Pipes
Plumbing fixtures
Plumbing shops
Plumbing trade
Sanitary engineering
Sewer pipes
Sewerage
Solder and soldering
Steam pipes
Swimming pools
Water distribution
Water pipes

Drawing
Draw it to see it; oblique or isometric drawings for plumbing installations. diags Dom Eng 154:44-6+ D '39

Estimates
How did we come out? detailed estimate form and complete job record. il Dom Eng 156:50-1 O '40

Patents
News of patents. Published in monthly numbers of Domestic engineering

Study and teaching
Related instruction for plumber apprentices. R. W. Hambrook and others. U S Office of Educ Vocational Div Bul 200, Trade and Industrial Ser 58:1-87; pa 15c Supt. of doc. '39

Tables, calculations, etc.
Filling water tank three-quarters full without calculating depth. diag Dom Eng 155:60 Mr '40

Venting
Venting problem; solutions. diags Dom Eng 155:50 My '40

PLUMBING and heating industries bureau
Annual meeting, 21st, Chicago, Oct. 24. Dom Eng 156:44-5+ N '40

PLUMBING contracts
Ask separation of contracts; heating and plumbing contractors call attention to the cost-plus-fee contracts on government jobs which do not provide for work by subcontractors. Dom Eng 156:36-7, 56+ Ag '40
Question on contract adjustment; plumbing, heating and ventilating. Sheet Metal Worker 31:66 Mr '40

PLUMBING fixtures
Health protection in Texas; San Antonio sticker ordinance helps enforcement of plumbing code. il Dom Eng 154:47 D '39
Oklahoma City and Buffalo get stickers; campaigns by master plumbers result in health-protecting plumbing laws. Dom Eng 155:54 Mr '40
Smash drive carries on; Massachusetts assn. of master plumbers condemns installation of insanitary fixtures. Dom Eng 155:46+ My '40

See also
Bathrooms
Sanitary ware

Manufacture
Cleanliness features shop melting brass for plumbing trade. P. Dwyer. il Foundry 68:24-6+ Ag '40

Testing
Cross-connections and the plumbing testing laboratory in the New Bedford vocational school. E. J. Sullivan. il N E Water Works Assn J 54:179-85 Je '40
Los Angeles laboratory. il Dom Eng 154:49+ D '39
National bureau of standards announces new flow meter; to measure discharge rates of plumbing fixtures. Ind Stand 11:120 My '40

PLUMBING laboratories
Chicago builds new demonstrating laboratory. il Dom Eng 155:36-7 Mr '40

PLUMBING laws and regulations
Health protection in Texas; San Antonio sticker ordinance helps enforcement of plumbing code. il Dom Eng 154:47 D '39
Oklahoma City and Buffalo get stickers; campaigns by master plumbers result in health-protecting plumbing laws. Dom Eng 155:54 Mr '40
Protect health; need for better plumbing ordinances and installations; interview with T. F. Hanley. il Dom Eng 155:36-7+ Ja '40

PLUMBING shops
Display it to sell it; Miller bros., New Hyde Park, N.Y. il Dom Eng 155:50+ Mr '40
They followed his example; shop remodeling brings remodeling business; T. T. Weldin and sons. il plan Dom Eng 156:46-7 O '40

Management
Henry Ford, master plumber. il Dom Eng 156:52-3 Jl '40
One contractor's success; Basye co. il Dom Eng 156:46-7+ Ag; 48-9+ S '40
Sales follow management; store and shop of E. R. Abrott, Hayward, Calif. il Dom Eng 155:44-5+ Ap '40
Seckingers say, try salesmanship. il Dom Eng 155:43+ Je '40
Taxicab plumber; supply trucks for repair service; advertising; shop management; National economy plumbers, New Orleans. il Dom Eng 155:41-3+ My '40

Records
How did we come out? detailed estimate form and complete job record. il Dom Eng 156:50-1 O '40

PLUMBING supplies industry
Crane co. shares heavy industry revival. R. Cummin. Barron's 20:20 S 23 '40
How we put over a product whose price was ten times too high; Pignose faucet washer gets national distribution. K. Hill. il Sales Management 46:29-30, 32 F 15 '40
Plumbing and heating manufacturers committee to prevent supply bottlenecks in defense program. Dom Eng 156:36-7, 56 O '40
We've turned the corner; industry leaders tell plans for 1940. Dom Eng 155:38-41+ Ja '40

PLUMBING trade
Anti-trust indictments in plumbing industry returned by federal grand jury. Comm & Fin Chr 150:2190-1 Ap 6 '40
Defense, and our industry; viewpoints of leaders. Dom Eng 156:34-5+ Ag '40
Fred Flader, master plumber, of Evanston, Illinois. il Fortune 21:62-3, 114, 117-18 Mr '40
Installations of Moline heating and construction co. illustrate manner in which our industry aids defense. il Dom Eng 156: 38-9+ Ag '40
Management policies by industries; plumbing and heating contractors as credit risks. N. D. Stone. il Bankers Mo 57:509-13+ S '40
New field he conquered; selling butane gas systems together with the gas appliances; McKay plumbing company. il Dom Eng 156: 48-9+ O '40
Smash drive carries on; Massachusetts assn. of master plumbers condemns installation of insanitary fixtures. Dom Eng 155:46+ My '40
This is no fiction; electric water heater sales by plumbers. C. E. Greenwood. Dom Eng 154:30+ D '39
Washington explains the plumbing indictment. Dom Eng 155:42-3 Ap '40
We've turned the corner; industry leaders tell plans for 1940. Dom Eng 155:38-41+ Ja '40
What happened last year? annual survey. il Dom Eng 155:48-9 Ja '40

See also
Electric utilities and the plumbing trade
Gas industry and the plumbing trade
Plumbing contracts
Plumbing fixtures
Plumbing shops
Plumbing supplies industry

Accounting
How did we come out? detailed estimate form and complete job record. il Dom Eng 156: 50-1 O '40
Where profits are realized; five points a businessman must learn from his bookkeeping system. S. E. Davis. il Dom Eng 156:36-8+ N '40

Advertising
Advertising and publicity; constructive Bureau program makes available releases for contractor use. Dom Eng 156:50-1 Ag '40
Ohio votes for plumbing & heating weeks. Dom Eng 155:43-4+ Mr '40
One contractor's success; Basye co. il Dom Eng 156:46-7+ Ag '40
Plumbing and heating week. Dom Eng 154: 34-5 D '39; 155:52-3+ Ja '40
Plumbing and heating week becomes a reality. il Dom Eng 155:48-50+ Ap '40
San Francisco holds year's second big plumbing week. Dom Eng 155:36-7+ My '40
Taxicab plumber; supply trucks for repair service; advertising; shop management; National economy plumbers, New Orleans. il Dom Eng 155:41-3+ My '40
Texas wants plumbing and heating week. Dom Eng 155:39+ Je '40
They looked for trouble and made it pay; advertising and selling pumps; Weber brothers. il Dom Eng 156:50-1+ Jl '40
Wisconsin votes for plumbing and heating week. Dom Eng 155:36-7 F '40

Farm market
It's done with water; plumbing installations follow electric pump sales; electric utility and plumber cooperation. il Dom Eng 154: 31-3+ D '39
Jet pumps, new sales tool in rural areas. il diags Dom Eng 155:54-6 Ap '40
They looked for trouble and made it pay; advertising and selling pumps; Weber brothers. il Dom Eng 156:50-1+ Jl '40

Remodeling
He's got what it takes; J. Dale's modern merchandising program. il Dom Eng 154:40-1+ D '39
It works; a formula to win remodeling jobs; Wickworth plumbing and heating co. il Dom Eng 156:50-1+ N '40
No! he doesn't sell sinks, but! he does sell kitchens; contractor-dealer F. A. Kveton. il Dom Eng 155:46-7+ Ja '40
They followed his example; shop remodeling brings remodeling business; T. T. Weldin and sons. il plan Dom Eng 156:46-7 O '40

Statistics
How was business in 1939? Dom Eng 155: 44-5 Ja '40

Hawaii
Plumbing in Hawaii. il Dom Eng 156:44-5+ Jl; 44+ Ag '40

PLUMBING trade and the gas industry. See Gas industry and the plumbing trade

PLUMS
Some experiments on the concentration and drying of fruit products; abstract. V. L. S. Charley. Chem & Ind 59:728-9 O 26 '40

PLUSH
Printing imitation fur effects on plush. L. Ferre. Textile Col 62:771-4 N '40

PLUTO (planet)
Bleak black ball of rock; planet Pluto's mass has been determined. H. N. Russell. diags Sci Am 163:18-19 Jl '40

PLYWOOD
Better values from improved building products; room size fabric-faced plywood panels. il Am Bld 62:82 Je '40
Careful handling of plywood insures many re-uses. il Concrete 48:6 N '40
Decisions under Webb-Pomerene law; Pacific forest industries case. Comm Rep p131 F 10 '40
Deep holes in hot plates; forming and curing presses for plywood. il Am Mach 84:212-13 Ap 3 '40
Details of plywood form work for walls, columns, slabs and girders. il diags Concrete 48:13+ Je '40
Douglas fir plywood panels; hiding joints by use of semi-plastic wall paint; abstract. H. A. Gardner and L. P. Hart. Oil Paint & Drug Rep 137:40A Ap 8 '40
Factory houses for $2,995 in a Chicago suburb; Standard houses corp. il plan Arch Forum 72:66-7+ Ja '40
Fire-tested plywood. Business Week p41-2 S 28 '40
Forming circular concrete surfaces with plywood. diags Concrete 48:20+ Ap '40
Handle and store plywood carefully, it pays. il Concrete 48:16+ Jl '40
Holzverbundbauweisen im luftschraubenbau. K. Riechers. il diag V D I 84:339-42 My 18 '40
House in Connecticut uses plywood both inside and out. il diags plan Arch Rec 86:44-7 D '39
Improved resin-bonded wood structures. G. R. Meyercord. il Manuf Rec 109:33+ Ap '40
Interesting construction used in plywood refrigerator cars. il diags Ry Age 109:275-8 Ag 24 '40
Molded airplanes for defense. il Mod Plastics 17:25-31, 78+ Jl '40
New panel-size plywood siding demonstrated on Oregon home. il diags plan Am Bld 62: 60-1 O '40
Plastics competition; award to M & M wood working co. il Mod Plastics 18:86-7, 100 O '40
Plywood and laminated timber construction. I. D. S. Kelly. il diags Civil Eng 10:25-8 Ja '40
Plywood; $80,000,000 industry that wants to revolutionize the construction of everything. il Fortune 21:52-5+ Ja '40
Plywood form panels re-used 14 times in deep bridge piers. il Eng N 124:379 Mr 14 '40
Plywood form work is important factor in architectural concrete. il diags Concrete 48: 12-13+ My '40
Plywood joins the marines. C. R. Simmons. il Mod Plastics 17:27-9, 74+ My '40
Plywood manufacture; adhesives important in expanding applications. il Can Chem & Process Ind 24:341-2 Jl '40

PLYWOOD—*Continued*
Plywood model home attracts thousands. il diag plan Am Bld 62:58-9+ Je '40
Portfolio of architectural plates of Douglas fir plywood paneling. C. F. Gould. il diags Am Bld 62:84-5 Mr; 72-3 My; 76-7 Je; 62-3 N '40
Prefabricated vacation homes. il Barron's 20:5 Ag 12 '40
Prefabrication boosts plywood. P. H. Smith. Sci Am 163:12 Jl '40
Protection of aircraft plywood. R. B. Anderson. il Aero Digest 37:137-8 O '40
Revival of wood as a building material. bibliog il diags Arch Rec 86:68-72 D '39
Speed and economy with plywood. C. R. Simmons. il Mod Plastics 17:23-5+ F '40
Superpressed plywood, bonded with thermosetting synthetic-resin adhesives. R. K. Bernhard, T. D. Perry and E. G. Stern. bibliog il diags Mech Eng 62:189-95 Mr '40; Discussion. 62:748-51 O '40

PNEUMATIC control
Hunt four-way air valve. il diag Blast F & Steel Pl 28:1014 O '40
Osgood power shovel controlled by air clutches. il Comp Air M 45:6245 S '40
Pneumatic circuits for controlling and operating machine cycles. L. A. Ward. il diags Product Eng 11:255-7, 318-21 Je-Jl '40
Pneumatic rams empty clothes washer. il Comp Air M 45:6160 My '40
Railcars for the Great Western railway; electro-pneumatic driving controls. il diags Engineer 169:473-4 My 24 '40

See also
Air compressors
Compressed air

PNEUMATIC conveying
Blows molding sand into molds; system of sand-conveying and mold making developed in Great Britain. diags Foundry 68:78+ S '40
Erfahrungen mit blasringen und blaskrümmern in rohrförderanlagen. W. Hansen. diags V D I 84:38-9 Ja 13 '40
Horizontal carriage of granular material by an injector-driven air stream. S. A. Wood and A. Bailey. bibliog il diags Inst Mech Eng J & Proc 142:Proc 149-64; Discussion. Proc 164-73 D '39
No extra reels for cutting large units claim for new pneumatic cutter. il Brick & Clay Rec 97:40+ Ag '40
Pneumatic conveyor for zinc ore. Comp Air M 44:6044 D '39
Pneumatic stowing in collieries on the increase. A. M. Hoffmann. il diags Comp Air M 44:6021-2 N '39
Pumping of granular solids in fluid suspension. H. Chatley. Engineering 149:230-1 Mr 1 '40
Telegram-form conveying systems; General post office. il diags Engineering 149:535-8, 615-17, pl 29, 36 My 31, Je 28 '40

PNEUMATIC hammers
Hammering through rock; an example of hard-facing. il diags Concrete (mill sec) 48: 110 Ja '40
Pneumatic tools aid tube descaling. il Comp Air M 45:6134 Ap '40

PNEUMATIC machinery
Industries in and around London; pneumatic power tools and machines. J. Holloway. il diags Engineer 166:537-9 D 1 '39

PNEUMATIC tools
Air picks, steel arches adopted for safety and economy at West Canadian collieries, Alberta. R. D. Hall. diag plan Coal Age 45: 33-6 Je '40
Air versus electricity. Comp Air M 45:6068 Ja '40
Speed work with compressed air. il Am Bld 62:100, 102+ F '40
Where watchfulness pays. Comp Air M 45: 6135 Ap '40

See also
Pneumatic hammers

Manufacture
Industries in and around London; pneumatic power tools and machines. J. Holloway. il diags Engineer 166:537-9 D 1 '39

PNEUMATIC transmission
Pneumatic transmission systems for remote process control. il India Rubber W 103:52 N '40

PNEUMATICS

See also
Aerodynamics
Air flow
Compressed air
Gases
Sound

PNEUMOCOCCI
Agent, isolated from a soil bacillus, which inhibits encapsulation of Friedländer's bacterium and is highly bactericidal for gram-positive microörganisms. J. C. Hoogerheide. Franklin Inst J 229:677-80 My '40
Immunity to experimental pneumococcal infection with an artificial antigen containing a saccharide of synthetic origin. W. F. Goebel. Science 91:20-1 Ja 5 '40
Silicosis and type III pneumococcus pneumonia; an experimental study. A. J. Vorwald, A. B. Delahant and M. Dworski. bibliog 4 pls J Ind Hygiene 22:64-78 F '40
Studies in chemotherapy; antibacterial action of phosphorus compounds. H. Bauer and S. M. Rosenthal. bibliog Pub Health Rep 54: 2093-5 N 24 '39
Study of pneumococcus typing serums for the purpose of standardizing a test for potency. B. E. Eddy. bibliog Pub Health Rep 55: 347-61, pl 1 Mr 1 '40

PNEUMOCONIOSIS. See Lungs—Dust diseases; Silicosis

PNEUMONIA
Action of type-specific antibody upon the pulmonary lesion of experimental pneumococcal pneumonia. W. B. Wood, jr. bibliog Science 92:15-16 Jl 5 '40
Chemotherapy and serum therapy of pneumonia. F. T. Lord, E. S. Robinson and R. Heffron. 174p $1 Commonwealth fund, New York '40
Institutional outbreak of pneumonitis among employees in one building of the National institute of health. J. W. Hornibrook and K. R. Nelson. bibliog plan Pub Health Rep 55:1936-54, pl 1-6 O 25 '40
New drugs and methods encircle pneumonia germ. Sci Am 163:83 Ag '40
New treatment for pneumonia; new drug, sulfathiazole. Science 90:sup9-10 D 15 '39; Same cond. Sci Am 162:167-8 Mr '40
Pneumonia and its nursing care. H. K. Ensworth and L. L. Greenwood. 177p bibliog(p168-71) $1.50 Lippincott '40
Pneumonia control; use of sulfapyridine. Science 90:sup12-13 N 24 '39
Researches of Mellon institute 1939-40; chemotherapy of pneumonia. Ind & Eng Chem News ed 18:298 Ap 10 '40
Silicosis and type III pneumococcus pneumonia; an experimental study. A. J. Vorwald, A. B. Delahant and M. Dworski. bibliog 4 pls J Ind Hygiene 22:64-78 F '40
Studies on capsule formation; inhibition of capsule formation of Klebsiella pneumoniæ (Friedländer's bacterium) by an agent produced by a soil bacillus; abstract. J. C. Hoogerheide. Franklin Inst J 230:671-2 N '40
Studies on capsule formation; the conditions under which Klebsiella pneumoniae (Friedländer's bacterium) forms capsules. J. C. Hoogerheide. il Franklin Inst J 228:812-14 D '39
Studies on capsule formation; the influence of electrolytes on capsule formation by Klebsiella pneumoniæ; abstract. J. C. Hoogerheide. Franklin Inst J 230:269-70 Ag '40

PODOCARPUS ferrugineus
Miro resin; the resin acids. C. W. Brandt and L. G. Neubauer. Chem Soc J p683-6 My '40

POINT-of-purchase advertising institute, Inc.
Institute expands. Ptr Ink 193:85 O 4 '40
Purpose and policies. Ptg Art 68 no 4:H4 '40

POINT-of-sale advertising. See Advertising, Point-of-sale

POISON gas. See Gases, Asphyxiating and poisonous; Mustard gas

POISON ivy

Ivy poison; alcohol remedy. C. M. Johnson. Ind & Eng Chem News ed 18:748 Ag 25 '40

Protective ointment for the prevention of poison ivy dermatitis. L. Schwartz, L. H. Warren and F. H. Goldman. Pub Health Rep 55:1327-33, pl 1-4 Jl 26 '40; Abstracts. Science 92:sup6-7 Jl 12 '40; Sci Am 163:127 S '40

POISONOUS plants

Experimental production of hepatic cirrhosis by the seed of amsinckia intermedia. E. C. McCulloch. Science 91:95 Ja 26 '40

See also
Poison ivy
Suckleya suckleyana

POISONS

Acute and chronic toxicity of triethanolamine. V. H. Kindsvatter. bibliog J Ind Hygiene 22:206-12 Je '40

Acute poisoning in animals after intraperitoneal and intratracheal administration of dusts. J. P. Tollman, E. L. MacQuiddy and L. W. La Towsky. J Ind Hygiene 21:514-16 D '39

Acute vapor toxicity of allyl chloride. E. M. Adams, H. C. Spencer and D. D. Irish. il J Ind Hygiene 22:79-86 F '40

Clinical toxicology. C. H. Thienes. 309p $2.50 Lea & Febiger, Philadelphia '40

Completing the engineer's training; safety instruction in a chemical engineering course. J. W. Greene. il Nat Safety N 42:14-15, 64+ S '40

Derivatives of aminomethanethiol. A. Binz and L. H. Pence. bibliog Am Chem Soc J 61:3134-9 N '39; Abstract. Franklin Inst J 229:127-30 Ja '40

Legal medicine and toxicology. T. A. Gonzales, M. Vance and M. Helpern. 754p $10 Appleton-Century '40

Medicolegal & industrial toxicology, criminal investigation, occupational diseases. H. J. Eilmann. 324p $3 Blakiston '40

New trick in leather and textile manufacture; possible dangers in Sanitized process. Consumers' Research Bul (Gen bul ser) 9:26 Je '40

Physiological response of animals to some simple mononitroparaffins and to certain derivatives of these compounds. W. Machle, E. W. Scott and J. Treon. bibliog diag J Ind Hygiene 22:315-32 O '40

Toxicity of coal tar naphtha distillates. H. Taylor. il Chem & Ind 58:1078-80 D 16 '39

Toxicity of extracts of the postpartum rabbit uterus. B. Krichesky and W. Pollock. Science 91:410-11 Ap 26 '40

See also
Arsine
Benzene poisoning
Cadmium poisoning
Carbon monoxide poisoning
Fish poisons
Gases, Asphyxiating and poisonous
Hydrocyanic acid
Insecticides
Lead arsenate
Lead poisoning
Methyl bromide—Physiological effect
Nicotine
Selenium poisoning
Spray residue on fruit and vegetables

POISONS, Industrial

Acute response of guinea pigs and rats to inhalation of the vapors of tetraethyl orthosilicate. H. F. Smyth, jr. and J. Seaton. bibliog J Ind Hygiene 22:288-96 S '40

Code for safe concentrations of certain common toxic substances used in industry. M. Bowditch and others. J Ind Hygiene 22:251 Je '40; Same. Monthly Labor R 51:338-9 Ag '40

Dermatitis venenata resulting from contact with an aqueous solution of ethyl mercury phosphate. F. J. Vintinner. il J Ind Hygiene 22:297-300 S '40

Economics of health in chemical industries. E. R. Hayhurst. il Chem Ind 45:518-21 N '39

Fresh air for the welder. A. G. Cranch. il Nat Safety N 42:20-1+ Ag '40; Same cond. Safety Eng 80:39-40+ Ag '40

Health hazards from paint removers. Nat Safety N 42:139 O '40

Health hazards in electroplating. J. P. Russell. Metal Finishing 38:321-4+ Ja '40

Hygiène et protection des ateliers de manipulation des solvants. R. Barthe. bibliog Chimie & Ind 43:259-68 F 5 '40

Industrial health hazards; tables; reference data. Heat & Ven 37:58a-58b N '40

Industrial toxicology; proposals for a national laboratory. Chem Age (Lond) 43:5 Jl 6 '40

Naphthalene (crude and refined), $C_{10}H_8$; hazard, precautions, first aid. Nat Safety N 41:38, 40 My '40

Occupational poisoning in the viscose rayon industry; abstract. A. Hamilton. Safety Eng 79:38 Je '40; Same. Textile Col 62:409 Je '40

Poisoning in chemical industries. Chem Age (Lond) 42:259 My 4 '40

Poisonous dusts. A. Hamilton. il Safety Eng 79:31-2, 36 Ja '40

Survey of industrial diseases. W. J. Connell. Safety Eng 78:37-8 D '39

Toluene and xylene; hazards and precautions. Nat Safety N 42:36+ Ag '40

Toxicity and potential dangers of aliphatic and aromatic hydrocarbons; a critical review of the literature. W. F. von Oettingen. (Pub. health bul. 255) 135p 20c Supt. of doc. '40; Review. Pub Health Rep 55:1833-4 O 4 '40

See also
Aniline poisoning
Arsine
Benzene poisoning
Carbon monoxide poisoning
Hydrogen sulfide
Lead poisoning
Mercury poisoning
Methanol
Selenium poisoning
Trichloroethylene

POISSON distribution

Chi-square test, the Poisson and the binomial. J. Berkson. Am Statis Assn J 35: 362-7 Je '40

Further comments on Berkson's problem. B. H. Camp. Am Statis Assn J 35:368-76 Je '40

Probable error for Poisson distributions. E. Rodgers. Phys R 57:735-7 Ap 15 '40

POISSON'S equation

Solution of torsion problems by numerical integration of Poisson's equation. R. Weller, G. H. Shortley and B. Fried. diags J Ap Phys 11:283-90 Ap '40

POLAND

Former President Hoover urges Congress to vote up to $20,000,000 for Polish relief. Comm & Fin Chr 150:1358 Mr 2 '40

Polish tradition; an interpretation of a nation. P. Super. 215p bibliog(p208) $2.25 Norton '39

Senator Vandenberg requests that President Roosevelt have Under Secretary of State Welles obtain German assurance that relief funds for Poland will be distributed. Comm & Fin Chr 150:1212 F 24 '40

See also
Debts, Public—Poland
European war, 1939—Poland
Securities—Poland

Economic conditions

Poland in first half of 1939. Economist 138: sup 17 F 17 '40

German occupation

Aerial warfare in the Polish-German campaign. S. Rogalski. Engineer 169:396 Ap 26 '40

German administration of Poland. Comm Rep p767-8 S 7 '40

Germany's economic gains in Poland. Economist 137:414-15 D 16 '39

My name is million. 268p $2.50 Macmillan '40

Poland under German rule. Economist 138: 769-70 Ap 27 '40

POLAND—German occupation—*Continued*
University of Cracow; treatment by the German authorities of the staff. Science 91:72-3 Ja 19 '40
Wages of Poles and Germans in Poland. Monthly Labor R 50:1486 Je '40

Industries and resources

Western Poland as a Reich province. Economist 138:418-19 Mr 9 '40

Partition

Polish campaign, 1939. G. F. Eliot. maps Fortune 20:97-104 D '39
Polonia infelix; Poland's National council formed in France; conditions in German Poland. Economist 138:137-8 Ja 27 '40

Russian occupation

Russian Poland. Economist 138:931 My 25 '40
Year of Soviet Poland. Economist 139:428-9 O 5 '40

POLAR mirage. See Mirage

POLARITY
Mechanism of substitution at a saturated carbon atom; polar effect of the carboxylate ion group as illustrated by the hydrolysis of the bromomalonate and α-bromomethylmalonate ions. E. D. Hughes and N. A. Taher. Chem Soc J p956-60 Jl '40
Mechanism of substitution at a saturated carbon atom; polar effects in alkyl groups, as illustrated by solvolytic substitutions of *p*-alkylbenzhydryl chlorides. E. D. Hughes, C. K. Ingold and N. A. Taher. Chem Soc J p949-56 Jl '40

POLARIZATION (light)
Automobile headlamp problem. P. J. Kent. S A E J 46:232 Je '40
Cathode-ray oscillograph as a means of demonstrating elliptically polarized light. L. R. Steinhardt. diags Opt Soc Am J 30:226-8 My '40
Introduction to polarized light and its application. M. Grabau. 46p bibliog(p46) Polaroid corp, Cambridge, Mass. '40
Metal parts tested by polarized light; abstract. M. Hetenyi. S A E J 46:sup62 F '40
New method for investigating the refractive index and the thickness of thin interference films on glass. A. Vašiček. diags Phys R 57:925-31 My 15 '40
Photoelastic analysis of three-dimensional stress systems using scattered light. R. Weller and J. K. Bussey. bibliog il diags Roy Aeronautical Soc J 44:74-88 Ja '40
Polarization of light emitted by electrically exploded wires. W. M. Cohn. bibliog il Phys R 58:50-1 Jl 1 '40
Polarized light for motor vehicles. H. T. Gibbs. bibliog Franklin Inst J 228:719-31 D '39
Polarizing comparison-microscope for use in petrographic measurements. G. T. Faust. pls U S Bur Mines Rep of Invest 3503:1-7 '40
Polarizing properties of cellophane. D. Middlehurst and R. Weller. R Sci Instr 11:108 Mr '40
Subjective phenomenon of vision in polarized light. H. H. Neuberger. diags Opt Soc Am J 30:258 Je '40
Vectographs; images in terms of vectorial inequality and their application in three-dimensional representation. E. H. Land. il diags Opt Soc Am J 30:230-8 Je '40
Visual stress analysis; use of polarized light and celluloid models. E. W. P. Smith. diag Steel 106:60+ Je 24 '40
Welded joints analyzed by polarized light. E. W. P. Smith. il Iron Age 146:56-7 N 14 '40

See also
Polaroid

POLARIZATION, Dielectric
Dielectric properties of the system gelatin—water; polarization process in range of high gelatin concentrations. H. Fricke and E. Parker. J Phys Chem 44:716-26 Je '40
Magnitude of the solvent effect in dipole-moment measurements; polarisation and association of alcohols in the liquid phase. F. R. Goss. Chem Soc J p888-94 Jl '40
Magnitude of the solvent effect in dipole-moment measurement; resolution of the solvent effect into its contributory factors. F. R. Goss. Chem Soc J p752-8 Je '40
Molecular nature of a dielectric. E. B. Moullin. bibliog diags Inst E E J 86:113-28 F '40
Polarisations and related data of optically active and racemic β-octanol. J. B. M. Coppock and F. R. Goss. Chem Soc J p1789-92 N '39
Simple apparatus for measuring the dielectric constant of non-conducting liquids. B. E. Hudson and M. E. Hobbs. bibliog diags J Chem Educ 17:366-70 Ag '40

See also
Electrets

POLARIZATION, Electrolytic
Theory of the potential and the technical practice of electrodeposition; linear polarization on some line-plane systems. C. Kasper. Electrochem Soc Trans 78 (preprint 18):243-58 O '40

POLARIZATION of rays
Effect of hyperfine structure upon the magnetic rotation of the plane of maximum polarization of resonance radiation. B. J. Miller. Phys R 58:258-62 Ag 1 '40
Reflection curves and propagation characteristics of radio waves along the earth's surface. J. S. McPetrie and A. C. Strickland. bibliog Inst E E J 87:135-45; Discussion. 160 Ag '40
Scattering and polarization of electrons. M. E. Rose. bibliog Phys R 57:280-8 F 15 '40
Vertical vs horizontal polarization. G. H. Brown. diags Electronics 13:20-3 O '40

See also
Polarization (light)

POLAROGRAPHY
Anodic reaction and waves of cysteine at the dropping mercury electrode and at the platinum micro wire electrode. I. M. Kolthoff and C. Barnum. bibliog Am Chem Soc J 62:3061-5 N '40
Determination of zinc in plant materials using the dropping mercury electrode. J. F. Reed and R. W. Cummings. bibliog Ind & Eng Chem Anal ed 12:489-92 Ag 15 '40
Influence of external resistance in the cell circuit on the maxima in polarographic current-voltage curves. J. J. Lingane. il Am Chem Soc J 62:1665-9 Jl '40
Measurements with the dropping mercury electrode. G. A. Perley. Electrochem Soc Trans 76 (preprint 19):225-35 S '39; Same. Can Chem & Process Ind 24:85-6, 88+ F '40
Mixed potentials at the dropping mercury electrode. I. M. Kolthoff and C. S. Miller. Am Chem Soc J 62:2171-4 Ag '40
Oxidation-reduction potentials measured with the dropping mercury electrode; polarographic study of quinhydrone in buffered and unbuffered solutions. O. H. Müller. Am Chem Soc J 62:2434-41 S '40
Polarographic analysis in the plating industry. P. Sherrick. il Metal Ind 37:565-70 D '39
Polarographic determination of lead in gasoline. H. A. Frediani and L. A. Bass. bibliog il Oil & Gas J 39:51-2 S 26 '40
Polarographic study of the reduction of chromate ion at the dropping mercury electrode. J. J. Lingane and I. M. Kolthoff. bibliog Am Chem Soc J 62:852-8 Ap '40
Reducibility of quadrivalent zirconium. A. W. Laubengayer and R. B. Eaton. bibliog Am Chem Soc J 62:2704-6 O '40
Relative reducing potential of starch. R. W. Kerr. bibliog Am Chem Soc J 62:2735-8 O '40

POLAROID
Eclipse to order; Polaroid variable day glass. il Mod Plastics 17:45+ Je '40
Eye protection; Polaroid variable sun glasses. il Sci Am 163:148 S '40
Light without glare; redesigned. il Mod Plastics 17:40 F '40
Polarized light for motor vehicles. H. T. Gibbs. bibliog Franklin Inst J 228:719-31 D '39
Polaroid fixtures help in drafting room. G. A. Kane. il Elec W 113:920 Mr 23 '40

POLAROID—*Continued*
Polaroid sound-slide film used by General Electric's lamp department. Ptr Ink 191:14 Je 21 '40

POLE setting
Setting long poles by bull rope method. R. Blain. il Elec W 114:413 Ag 10 '40

POLES
See also
Electric lines—
Poles and towers

POLICE
Cleveland police safety activities; traffic accident prevention. E. Ness. East Underw 41:36 O 4 '40
How criminals are caught. A. Miles. 123p 60c Macmillan '39
Police interrogation. W. R. Kidd. 198p bibliog (p191) $2 for sale by Police journal, 1123 Broadway, New York '40
Police law. C. C. H. Moriarty. 6th ed 502p 5s Butterworth & co, London '39
Police methods for today and tomorrow. G. D. Callan and R. Stephenson. 361p bibliog(p354) Duncan press, box 534, Newark, N.J. '39
Training for the police service. O. D. Adams. U S Office of Educ Vocational Division Bul 197, Trade and Industrial Ser 56:1-84 bibliog (p81-4) '38
See also
Crime and criminals

POLICE radio stations. See Radio stations, Police

POLIOMYELITIS. See Infantile paralysis

POLISHING
Cutting and polishing stones. M. W. von Bernewitz and F. Hess. bibliog pls U S Bur Mines Information Circ 7107:1-23 '40
Grinding, polishing and buffing light alloys; abstract. Metals & Alloys 11:MA341+ Je '40
Grinding, polishing, buffing, 1939. il Metal Ind 38:6-8 Ja '40
Increasing the life of cutting tools by an improved method of grinding. L. J. St Clair. Mach 46:267-71 D '39
Making meter shafts; Westinghouse electric & mfg. co. U. Jelinek. il diag Steel 105:40-1 D 11 '39
Metal cleaning. C. C Hermann and R. W. Mitchell. Iron Age 145:56-7 Mr 7 '40
Metallographic grinding with abrasives fixed in lead disks; method preserves inclusions. K. Amberg. il diags Metal Prog 37:116-9 F '40
New finishing methods in polishing and buffing work. Sheet Metal Worker 31:24+ Ap '40
Pickle polished stainless steel. T. W. Lippert. il Iron Age 145:22-6 Ja 11 '40
Polishing and its phases. J. G. Sterling. Metal Finishing 38:427-8 Ag '40
Vacuum chucking used in polishing stainless. il Steel 107:71 Jl 29 '40
What is surface quality? H. J. Wills. il Am Mach 84:199-200 Ap 3 '40
What's new in polishing, cleaning and finishing apparatus. F. J. Oliver. il Iron Age 145:53-4 Ap 18 '40
Why and how of ball burnishing. F. T. Mann. il Iron Age 146:48-51 Ag 1 '40
Working of carbon sheet steel: polishing and buffing. Am Mach 84:830-1 O 16 '40
See also
Abrasives
Grinding
Metal finishing
Sand blast

POLISHING, Electrolytic
Anodic polishing of metals; preparing specimens for microscopic examination. C. Schaefer. bibliog il diag Metal Ind 38:22-6 Ja '40
Chemical polishing method; stainless steel polished by anodic treatment. A. L. Feild and I. C. Clingan. il Steel 106:54, 56+ Ap 22 '40; Abstract. Mech Eng 62:549 Jl '40
Electrolytic polishing; composite of abstracts. Metals & Alloys 11:MA23 Ja '40
Electrolytic polishing of iron and steel. Engineer 167:sup [Metallurgist] 39 Je 30 '39; Same. Metal Prog 36:771-2 D '39
Electrolytic polishing of metals. H. Pray and C. L. Faust. bibliog il Iron Age 145: 33-7 Ap 11 '40
Electrolytic polishing of metals; data sheet. G. E. Pellissier, jr., H. Markus and R. F. Mehl. Metal Prog 38:554 O '40
Electrolytic polishing of metals; tabulation. G. E. Pellissier, jr, H. Markus and R. F. Mehl. bibliog Metal Prog 37:57 Ja '40
Electrolytic polishing of stainless steel. G. Kiefer. il diag Iron Age 144:30-2+ D 21 '39
Electrolytic polishing of stainless steels. H. H. Uhlig. bibliog Electrochem Soc Trans 78 (preprint 25):343-50 O '40
Electrolytic preparation of iron and steel micro-specimens. G. E. Pellissier, jr, H. Markus and R. F. Mehl. il diag Metal Prog 37:55-6 Ja '40
Electropolishing. S. Tour. il Metal Finishing 38:308-12 Je '40
Electro-polishing stainless. S. Tour. il Steel 106:72+ Je 17 '40
Electro-polishing technique for steel micro-specimens. N. A. D. Parlee and R. E. Dimock. il diag Can Chem & Process Ind 24:367-9+ Jl '40
Pickling and polishing of metals; Lucius Pitkin, inc.; with patent data chronologically arranged. S. Tour. il Iron Age 145: 56-60 My 23; 26-30 My 30 '40
Warning! perchloric reagents may explode. M. E. Merchant. Metal Prog 37:559 My '40

POLISHING machines
Improved polishing machine for micro-sections. A. Blainey. diags Engineer 169:sup [Metallurgist] 111-12 Ap 26 '40
Rome polishing and buffing lathe. il Metal Ind 37:586 D '39
Rome polishing, buffing and grinding lathe. il Am Mach 84:843 O 16 '40
Standard electrical tool co. variable-speed buffing and polishing machine. il Mach 47:169 O '40
Udylite straight line automatic polishing and buffing machine. il Metal Ind 38:40-1 Ja '40
See also
Grinding machines

POLISHING materials
Automobile polishes. C. A. Tyler. Can Chem & Process Ind 24:399 Ag '40
Automotive chemical specialties; polishes, body cleaners, brake fluids, etc. C. L. Gluckman. il Chem Ind 46:196-8 F '40
See also
Abrasives

POLISHING wheels
Reducing the cost of polishing; abrasives, glue, proper drying. H. R. Power. il Mach 46:125-8 Mr '40; Same. Metal Finishing 38: 489-91 S '40
Use of glue for polishing wheels. Metal Ind 38:31 Ja '40

POLITICAL advertising
Can advertising sell the country a president? H. Powel. il Adv & Sell 33:20-1+ My '40
Selling the candidate. L. S. White. Ptr Ink 193:76-7 O 18 '40

POLITICAL libraries
See also
Republican national committee—Library

POLITICAL parties
Old standards and the new party. G. W. Ferguson. 127p $1.50 Fortuny's, 67 W. 44th st, New York '40

United States
American parties and elections. E. M. Sait. rev ed 790p $4 Appleton-Century '39
Fortune survey; parties and the war. Fortune 22:supp2 Ag '40
Fortune survey; parties are judged. Fortune 21:160+ My '40
Politics of democracy; American parties in action. P. Herring. 468p bibliog(p437-54) $3.75 Norton '40
See also Democratic party; Labor and laboring classes—United States—Political aspects; Republican party

POLITICAL platforms. See Platforms, Political

POLITICAL science

See also

Administration, Public
Citizenship
Civil service
Commercial policy
Communism
County government
Democracy
Economic policy
Fascism
Government ownership
Government regulation of industry
Industry and state
International law
Law
Legislation
Municipal government
Public opinion
Railroads and state
Socialism
State, The
State governments
Taxation

Philosophy

Engineering progress and the social order. F. B. Jewett and R. W. King. Science 92: 365-71 O 25 '40

POLITICS, Practical

Pattern of politics; the folkways of a democratic people. J. T. Salter. 246p $2.25 Macmillan '40

Theory and practice in politics; the Godkin lectures, 1939. R. Moses. 78p $1 Harvard univ. press '39

See also

Business—Political aspects
Political advertising
Political parties

POLK, Armour C. 1879-

Sketch. por Civil Eng 9:751-2 D '39

POLLEN

Electrophoretic isolation of constituents of ragweed pollen extracts. H. A. Abramson and others. bibliog Am Chem Soc J 62:1627 Je '40

POLLEN, Fossil

Correlations of pollen profiles from glaciated eastern North America. P. Smith. Am J Sci 238:597-601 Ag '40

History in a bog; forest managers use method of long-range climatic prediction, based on study of fossil pollen grains. W. F. McCulloch. il Sci Am 162:330-1 Je '40

POLONIUM

Polonium alloy for spark plug electrodes. J. H. Dillon. J Ap Phys 11:291-9 Ap '40; Discussion. R. D. Evans. 11:561-2 Ag '40

Polonium plug introduced. A. H. Allen. Steel 106:37-8 Mr 18 '40; Discussion. J. H. Dillon. 106:4 Ap 22 '40

Production of radium E and radium F (polonium) from bismuth. J. M. Cork, J. Halpern and H. Tatel. Phys R 57:371-2 Mr 1 '40

POLYBUTENES. See Butene

POLYENES

Studies in the polyene series. E. Barraclough, J. W. Batty, I. M. Heilbron and others. Chem Soc J p1549-63 O '39

POLYIODIDES. See Iodides

POLYMERIZATION

Action of radon on polymethylenes; cyclobutane and cyclobutene. G. B. Heisig. bibliog J Phys Chem 43:1207-12 D '39

Alkylation plant takes olefins left by selective polymerization. A. H. Garrison. flow diag il Nat Pet N 32:R212-13, R216+ Je 12 '40

Catalysis by metallized bentonites; pinene polymerization. G. Broughton. J Phys Chem 44:180-4 F '40

Catalytic alkylation of isobutane with gaseous olefins. F. H. Blunck and D. R. Carmody. bibliog Ind & Eng Chem 32:328-30 Mr '40

Catalytic polymerization unit fits well into Sunray operations. R. L. Johnson, W. B. Shanley and C. H. Alberding. il Oil & Gas J 38:34-5 Ja 4 '40

Coal by-products; the hydrogenation of indene-coumarone resins. W. H. Carmody and H. E. Kelly. flow sheet bibliog il diags Ind & Eng Chem 32:684-92 My '40

Copolymerization of maleic polyesters. J. B. Rust. il Ind & Eng Chem 32:64-7 Ja '40

Derivatives of natural resins and their polymerization. R. Bhattacharya. bibliog Chem & Ind 59:325-8 My 11 '40

Development of petroleum refining. A. W. Nash. Inst Pet J 26:50-3 F '40

Dihydronaphthalene polymers. N. D. Scott and J. F. Walker. bibliog il Ind & Eng Chem 32:312-15 Mr '40; Same abr. Chem Age (Lond) 42:197-8 Ap 6 '40

Drying oils and resins; insolubilization of maleic glycol polyesters by additive polymerization. E. L. Kropa and T. F. Bradley. bibliog il diag Ind & Eng Chem 31:1512-16 D '39

Drying oils and resins; reactions involving the carbon-to-carbon unsaturation during the thermal treatment of some esters of unsaturated C_{18} fatty acids. T. F. Bradley and W. B. Johnston. bibliog il diag Ind & Eng Chem 32:802-9 Je '40

Drying oils and resins; ultraviolet absorption study of esters of the acids of drying oils. T. F. Bradley and D. Richardson. bibliog il diag Ind & Eng Chem 32:963-9 Jl '40

Fatty-acyl-modified resins; dicyclopentadiene, coumarone, and indene types. A. W. Ralston and others. bibliog il Ind & Eng Chem 32: 99-101 Ja '40

Hydrocarbon decomposition and conversion processes. flow diag Oil & Gas J 38:90-1 My 9 '40

Influence of resins on the heat bodying of oils. R. C. Shuey. bibliog Ind & Eng Chem 32:921-30 Jl '40

Inhibition of ethylene polymerization by nitric oxide. H. D. Burnham and R. N. Pease. Am Chem Soc J 62:453 F '40

Kinetics of the catalysed polymerisation of styrene; on the mechanism of metal chloride catalysis. G. Williams. Chem Soc J p775-84 Je '40

Liquid-phase reactions at high pressures; the polymerisation of *cyclo*pentadiene and *α*-di*cyclo*pentadiene. B. Raistrick, R. H. Sapiro and D. M. Newitt. diag Chem Soc J p1761-9 N '39

Macropolymerization; the mechanism of activation. E. P. Irany. bibliog Am Chem Soc J 62:2690-8 O '40

Mechanism of polymerisation; dimerisation of unconjugated pentadiene. A. Ahmad and E. H. Farmer. Chem Soc J p1176-8 Ag '40

Mechanism of polymerisation; experiments relating to the constitution of the solid dimeride and the liquid trimeride of *βγ*-dimethylbutadiene, and to the separation of the higher polymerides. E. H. Farmer and J. F. Martin. Chem Soc J p1169-76 Ag '40

Mechanism of the acid-catalyzed dimerization of anethole. W. G. Brown and A. H. Widiger. Am Chem Soc J 62:115-16 Ja '40

Mechanism of the polymerization of vinyl acetate and methyl vinyl ketone. H. W. Melville, T. T. Jones and R. F. Tuckett. Chem & Ind 59:267-72; Discussion. 272 Ap 20 '40

Nouvelles synthèses catalytiques des hydrocarbures. V. N. Ipatieff. Chimie & Ind 42: 215-22 Ag '39; Same (New catalytic synthesis of hydrocarbons). Chem Age (Lond) 41:343-4, 371-3 N 18, D 2 '39

Nylon. il diag Fortune 22:56-60+ Jl '40

Petroleum-ization, 1940. H. W. Field. Am Pet Inst Proc 20(3):69-70 '39; Same. Oil & Gas J 38:115+ N 17 '39

Polybutenes; properties and uses in petroleum products. R. M. Thomas and others. bibliog il Ind & Eng Chem 32:299-304 Mr '40

Polymerization and the production of new synthetics. B. A. Harold. bibliog il Am Dyestuff Rep 29:53-7 F 5 '40

Polymerization of unsaturated hydrocarbons particularly styrene and α-methyl styrene. H. M. Stanley. bibliog Chem & Ind 58:1080-3 D 16 '39

Polystyrene. A. J. Weith, V. H. Turkington and I. Allen, jr. bibliog il Ind & Eng Chem 32:1301-4 O '40

Preparation and polymerization of β-4-morpholinoethyl chloride. J. P. Mason and H. W. Block. bibliog Am Chem Soc J 62: 1443-8 Je '40

Preparation and structure of high molecular weight polybutenes. R. M. Thomas and others. bibliog Am Chem Soc J 62:276-80 F '40

POLYMERIZATION—*Continued*
Processes for conversion of light hydrocarbons to high antiknock aviation fuels; abstract. S. H. McAllister. Oil & Gas J 39: 46 N 7 '40
Silent electrical discharges on rubber solutions. L. Hock and H. Leber. India Rubber W 102:71 Je '40
Sohio polymerization unit first using new catalyst; copper pyrophosphate. M. G. Van Voorhis. flow chart il Nat Pet N 32:R230-1, R233 Je 26 '40
Solubility of arsenious oxide in dilute solutions of hydrochloric acid and sodium hydroxide; evidence for polymerization of arsenious acid. A. B. Garrett, O. Holmes and A. Laube. bibliog Am Chem Soc J 62:2024-8 Ag '40
Structure of vinyl polymers; catalysts. C. S. Marvel and E. H. Riddle. Am Chem Soc J 62:2666-70 O '40
Studies on reactions relating to carbohydrates and polysaccharides; the mechanism of polymerization of ethylene oxide. S. Perry and H. Hibbert. bibliog Am Chem Soc J 62:2599-604 O '40
Thermal polymerisation of styrene and its inhibition. S. G. Foord. diag Chem Soc J p48-56 Ja '40
Thermal reforming plus polymerization pulls octane ratings upward. R. P. Mase and N. C. Turner. flow diag Nat Pet N 32: R113-14 Ap 3 '40; Same. Oil & Gas J 38: 87-8 Ap 11 '40
Trimerization of vinyl mesityl ketone. R. C. Fuson and C. H. McKeever. Am Chem Soc J 62:2088-91 Ag '40
Use exchanger instead of heater in new polymerization unit; Freedom oil co. J. P. O'Donnell. il Oil & Gas J 38:43-4 My 2 '40

POLYMERS
Calculation of weight average molecular weights during the course of decomposition of homogeneous linear polymers. W. H. Durfee and Z. I. Kertesz. bibliog Am Chem Soc J 62:1196-8 My '40
Coal by-products; properties of hydrogenated indene-coumarone resins. W. H. Carmody and H. E. Kelly. il Ind & Eng Chem 32: 771-5 Je '40
Destructive hydrogenation of high-molecular-weight polymers; isobutene polymer, butadiene polymer, and natural rubber. V. N. Ipatieff and R. E. Schaad. il Ind & Eng Chem 32:762-4 Je '40
Freezing points of pure high polymers. E. L. Lovell and H. Hibbert. Am Chem Soc J 62:230-1 Ja '40
Intermicellar hole and tube system in fiber structure. H. Mark. il diags J Phys Chem 44:764-88 bibliog(118 references, p785-8) Je '40
Investigation of synthetic linear polymers by X-rays. C. S. Fuller. il diags Chem R 26: 143-67 bibliog(76 references, p165-7) Ap '40
Kinetics of the degradation of polyesters by alcohols. P. J. Flory. Am Chem Soc J 62:2255-61 S '40
Molecular size distribution in ethylene oxide polymers. P. J. Flory. bibliog Am Chem Soc J 62:1561-5 Je '40
Structure of cellulose and other polymers related to simple sugars. W. N. Haworth. il diags Soc Dyers & Col J 56:49-58 F '40
Structure of vinyl polymers; polyacrylyl chloride. C. S. Marvel and C. L. Levesque. bibliog Am Chem Soc J 61:3244-6 D '39
Structure of vinyl polymers; polystyrene and some of its derivatives. C. S. Marvel and N. S. Moon. Am Chem Soc J 62:45-9 Ja '40
Structure of vinyl polymers; polyvinyl halides. C. S. Marvel, J. H. Sample and M. F. Roy. bibliog Am Chem Soc J 61:3241-4 D '39
Suggested system for classification of polymers. H. Mark. diags India Rubber W 102:49-51 Jl '40
Synthetic rubbers; a review of their compositions, properties, and uses. L. A. Wood. India Rubber W 102:33-43, 51 bibliog(232 titles, p41-3, 51) Jl '40
Viscosities of polyester solutions and the Staudinger equation. P. J. Flory and P. B. Stickney. bibliog Am Chem Soc J 62:3032-8 N '40

POLYMORPHISM
Molecular rotation and polymorphism in the methyl chloromethanes. A. Turkevich and C. P. Smyth. bibliog Am Chem Soc J 62:2468-74 S '40
Polymorphism; abstract. M. J. Buerger. Can Chem & Process Ind 24:204 Ap '40
Studies in polymorphism; the linear rate of transformation of monoclinic into rhombic sulphur. P. G. Elias, N. H. Hartshorne and J. E. D. James. diags Chem Soc J p588-95 My '40

POLYNOMIALS, Orthogonal. See Functions, Orthogonal

POLYPEPTIDES
Intramolecular folding of polypeptide chains in relation to protein structure. H. Neurath. bibliog il J Phys Chem 44:296-305 Mr '40

POLYPORUS betulinus Fr.
Constituents of the higher fungi; the triterpene acids of polyporus betulinus Fr. L. C. Cross and others. Chem Soc J p632-6 My '40

POLYSACCHARIDES
Chemistry of wood; the esters and ethers of the water soluble polysaccharides of larch wood. F. C. Peterson and others. Am Chem Soc J 62:2361-5 S '40
Polysaccharides; hydrocellulose. H. C. Carrington and others. Chem Soc J p1901-4 D '39
Polysaccharides; hydrocellulose; fibre and powder. W. N. Haworth, S. Peat and W. J. Wilson. Chem Soc J p1904-8 D '39
Polysaccharides; oxycellulose. G. L. Godman, W. N. Haworth and S. Peat. Chem Soc J p1908-14 D '39
Polysaccharides; the constitution of certain levans formed by bacterial action. R. R. Lyne, S. Peat and M. Stacey. Chem Soc J p237-41 F '40
Polysaccharides; the constitution of glycogen from fish liver and fish muscle. W. N. Haworth, E. L. Hirst and F. Smith. Chem Soc J p1914-22 D '39
Polysaccharides; the methylation of cellulose in air and in nitrogen. W. N. Haworth and others. Chem Soc J p1885-98 D '39
Polysaccharides; the methylation of cellulose in an inert atmosphere. W. N. Haworth, R. E. Montonna and S. Peat. Chem Soc J p1899-1901 D '39
Structure of cellulose and other polymers related to simple sugars. W. N. Haworth. il diags Soc Dyers & Col J 56:49-58 F '40
Studies on reactions relating to carbohydrates and polysaccharides; the relation between concentration and viscosity of polyoxyethylene glycols. E. L. Lovell and H. Hibbert. bibliog Am Chem Soc J 62: 2140-3 Ag '40
Studies on reactions relating to carbohydrates and polysaccharides; the surface tensions of aqueous solutions of polyoxyethylene glycols. E. L. Lovell and H. Hibbert. bibliog Am Chem Soc J 62:2144-8 Ag '40

See also
Arabogalactan
Cellulose
Starch
Sugars
Trisaccharides

POLYSTYRENE. See Styrene

POLYVINYL alcohol. See Vinyl alcohol

POLYVINYL chloride. See Vinyl chloride

PONDS

See also
Lagoons

PONTOON bridges. See Bridges, Pontoon

POOR

See also
Cost of living
Legal aid
Old age pensions
Saving
Unemployment

POOR relief
Fortune survey; boundaries of paternalism; should government provide for needy? Fortune 21:55+ Mr '40

POOR relief—*Continued*
Okies, a national problem; California prepares to ask federal government to assume responsibility for migrants. il map Business Week p16-17 F 10 '40
Public aid in the United States, 1933 to 1939. Monthly Labor R 49:1393-4 D '39
Public assistance; American principles and policies. E. Abbott. v 1 894p $4.50 Univ. of Chicago press '40
Public relief, 1929-1939. J. C. Brown. 524p bibliog(p477-511) $3.50 Holt '40
Relief milk distribution plan approved for New York city. Comm & Fin Chr 151:2741 N 9 '40

See also
Unemployment—Relief measures

POPE, Sir William Jackson, 1870-1939
Sketch. E. K. Rideal. por(front) Am Chem Soc J 62:1317-18 Je '40
Sketch. F. M. Rowe. Soc Dyers & Col J 55: 611-12 D '39

POPLAR
Poplar pulpwood operations at Petawawa. M. B. Morison. il Pulp & Pa of Can 41:613 Ag '40
Superpressed plywood, bonded with thermosetting synthetic-resin adhesives. R. K. Bernhard, T. D. Perry and E. G. Stern. bibliog il diags Mech Eng 62:189-95 Mr '40

POPULAR photography (periodical)
For Joe Average: camera fan. il Sales Management 47:66-7 N 1 '40

POPULATION
Aging of populations. R. Pearl. diag Am Statis Assn J 35:277-97 pt 2 Mr '40
Avoiding census jitters. W. L. Bailey. J Land & Pub Util Econ 16:349-51 Ag '40
Banking in a grown-up country. I. I. Sperling. Banking 32:76-7 My '40
Foundations of American population policy. F. Lorimer, E. Winston and L. K. Kiser. 178p bibliog(p167-74) $2.50 Harper '40
How population affects markets. W. F. Ogburn. il Nation's Business 28:70+ My '40
Les lois de la surpopulation dans ses rapports avec la vie économique et sociale. P. Razous. Génie Civil 115:472-3 D 30 '39
Population and fertility. D. V. Glass and C. P. Blacker. 103p pa 3s Population investigation committee, London '38
Population growth, 1930-40; a basic factor affecting public utility earnings. C. J. Vanderhyde. Annalist 56:333-4 S 12 '40
World's open spaces. G. H. T. Kimble. 189p bibliog(p182-4) 75c Nelson '39

See also
Birth rate
Farm population
Immigration and emigration
Migration of workers
Mortality

Estimates
How old are our cities? rational approach to estimates of population growth. C. J. Velz and H. F. Eich. map Civil Eng 10:619-22 O '40
New signposts for industry; population trends vital factor for businessmen and investors. F. H. Sterns. Barron's 20:3 F 5 '40
New signposts for industry; where the effects of our changing age distribution will be felt most. F. H. Sterns. Barron's 20:20 F 26 '40

Registration methods
Registration of population in the United Kingdom. Monthly Labor R 49:1379 D '39

Statistics
Latest shifts in U.S. population. S. H. Frederick. Barron's 20:9 S 23 '40
New census shows city suburbs are fastest growing markets; an analysis of 1940 population trends. A. H. Johnson. Sales Management 47:66, 68, 70+ N 15 '40
Population trends in states and cities as shown by preliminary 1940 census figures. Pub Health Rep 55:1741-2 S 20 '40
Population trends, 1940 vs. 1930, by states; map. Sales Management 47:15 N 1 '40
Preliminary 1940 census figures for cities of 100,000 or more population. Pub Health Rep 55:1917-19 O 18 '40
Preliminary 1940 population figures for the United States, by states. map Pub Health Rep 55:1913-17 O 18 '40
Survey of buying power; estimates of 1939 effective buying income and retail sales for sections, states, trading areas, counties and cities, etc. maps Sales Management 46:7-235 Ap 10 '40

See also
Mortality—Statistics
Occupations—Statistics

Canada
Age distribution of the Canadian people (a study based on the census of 1931 and supplementary data). M. C. MacLean. 100p pa 35c Canada. Dominion bur. of statistics, Ottawa '40

Cincinnati
Population characteristics by census tracts, Cincinnati, Ohio, 1930 and 1935. J. A. Quinn, E. Eubank and L. E. Elliott. maps Ohio State Univ Bur of Business Research, Special Bul X-52:1-88 '40 (pa $1.25)

Great Britain
Britain's population; economic implications. Economist 138:969 Je 1 '40
Distribution of the industrial population. Engineering 149:174-5 F 16 '40
Registration of population in the United Kingdom. Monthly Labor R 49:1379 D '39

Illinois
Families and how they live; Printers' Ink market explorations; Illinois and Wisconsin. maps Ptr Ink 189:sup1-32 D 29 '39

India
India's teeming millions. G. Chand. 374p $3.75 Norton '39

Kentucky
Families and how they live; Printers' Ink market explorations. map Ptr Ink 189:sup1-36 N 24 '39

North Carolina
Families and how they live; Printers' Ink market explorations. map Ptr Ink 189:sup1-36 N 24 '39

Oregon
Migration into Oregon, 1930-37. V. B. Stanbery. Monthly Labor R 49:1106-8 N '39

Southern states
Families and how they live; Printers' Ink market explorations; Alabama, Florida, Georgia, Louisiana, Mississippi and South Carolina. map Ptr Ink 190:sup1-44 F 2 '40
Families and how they live; Printers' Ink market explorations; New Mexico, Oklahoma and Texas. Ptr Ink 190:sup 1-28 F 23 '40
1940 population of the South. Manuf Rec 109: 28+ O '40

Tennessee
Families and how they live; Printers' Ink market explorations. map Ptr Ink 189:sup1-36 N 24 '39

United States
Latest shifts in U.S. population. S. H. Frederick. Barron's 20:9 S 23 '40
Major causes of death, increase in life expectancy, and population changes in the United States. Pub Health Rep 54:2054-64 N 17 '39
Population changes and child welfare. W. S. Thompson. Ann Am Acad 212:18-23 N '40
Preliminary 1940 population figures for the United States. map Pub Health Rep 55: 1913-19 O 18 '40
Some implications of population changes revealed in the 1940 census; abstracts. P. M. Hauser. East Underw 41:10 O 11 '40; Ins Field (Life ed) 69:17-18 O 11 '40; Nat Underw (Life ed) Conv no 44:20-1 O 12 '40

POPULATION—*Continued*

Virginia

Families and how they live; Printers' Ink market explorations. map Ptr Ink 189:sup1-36 N 24 '39

Western states

Families and how they live; Printers' Ink market explorations; Arizona, California, Idaho, Nevada, Oregon, Utah and Washington. map Ptr Ink 191:sup1-35 My 31 '40

Families and how they live; Printers' Ink market explorations; Arkansas, Colorado, Kansas, Missouri, Nebraska and Wyoming. maps Ptr Ink 190:sup 1-36 Mr 29 '40

Families and how they live; Printers' Ink market explorations; Iowa, Minnesota, Montana, North Dakota and South Dakota. maps Ptr Ink 191:sup1-32 Ap 26 '40

Wisconsin

Families and how they live; Printers' Ink market explorations; Illinois and Wisconsin. maps Ptr Ink 189:sup1-32 D 29 '39

PORCELAIN

Old Bow porcelain in the Walters art gallery. il Am Cer Soc Bul 19:304-6 Ag '40

Properties of clay casting slips. G. A. Loomis. Am Cer Soc J 23:159-62 Je '40

Use of organic dispersing agents in casting slips; effect of clay deflocculant vs. sodium silicate on the physical properties. I. E. Sproat, C. C. Treischel and E. W. Emrich. Am Cer Soc Bul 19:47-58 F '40

See also

Enamel and enameling

Pottery

PORCELAIN (term)

Correct use of porcelain defined by Porcelain enamel institute. Gas Age 85:34 Mr 28 '40

PORCELAIN, Insulating

Ceramic insulating materials. H. Thurnauer. il Elec Eng 59:451-4 N '40

Ceramic insulators for spark plugs. F. H. Riddle. il diag S A E J 46:236-42 Je '40; Abstract. Automotive Ind 82:108-9 F 1 '40

Ceramic spark plugs for aircraft engines; abstract. A. L. Beall. diag Automotive Ind 82: 107-8 F 1 '40

Dielectric strength of porcelain. P. L. Bellaschi and M. L. Manning. bibliog il Elec Eng 58-Trans 651-5 D '39

Modern insulators; five years' developments in high-voltage outdoor type. J. S. Forrest. diags Elec R (Lond) 126:473-4 Ap 26 '40

Manufacture

Dry mixing in the electrical porcelain industry. R. A. Snyder and J. D. Harnish. Am Cer Soc Bul 19:258-9 Jl '40

Effect of thermal history on the physical properties of electrical porcelain. E. H. Fritz and H. C. Harrison. bibliog Am Cer Soc Bul 18:420-1 N '39

Factors affecting physical properties of a dry-mixed body; application of wet-pan type mixer to plastic preparation of a flint-feldspar-clay body of the electrical porcelain type. C. H. Rapp. Am Cer Soc Bul 19: 87-9 Mr '40

Substitution of domestic clays for imported clays in electrical porcelain bodies. L. E. Thiess. il Am Cer Soc Bul 19:289-90 Ag '40

Use of North Carolina kaolin in casting bodies. W. H. Earhart. Am Cer Soc Bul 19:163-8 My '40

Testing

Behaviours of porcelain and glass insulators under test conditions; abstracts. A. E. Helden and others. Elec R (Lond) 126:426-7 Ap 19 '40; Electrician 124:321 Ap 26 '40; Engineering 149:434 Ap 26 '40

Ceramic materials; physical and electrical properties. diags Electrician 125:137-8 S 13 '40

Testing ceramic capacitors. E. T. Sherwood. il diag Electronics 13:26-9+ S '40

PORCELAIN enamel institute

Annual meeting, 9th, New York, Nov. 16-17. Iron Age 144:90 N 23 '39; Steel 105:30 N 20 '39

PORCELAIN league of Cincinnati

Porcelain league of Cincinnati. C. C. Newton. Am Cer Soc Bul 18:445-6 N '39

Twentieth anniversary. Am Cer Soc Bul 19: 351-3 S '40

PORK

Canada buys U.S. pork. Business Week p50 Ja 6 '40

Experiments on keeping quality of beef and pork fats in cold storage; abstract. F. Kiermeier and R. Heiss. Food Ind 12:95 F '40

Hogs looking up. Business Week p57-8 Ap 27 '40

Pork and lard production, revision; monthly, 1923-June, 1940. Fed Res Bul 26:854 Ag '40

PORK products

British demand for hog products. Barron's 20:6 Ap 22 '40

'Smeat; opened by Spam, market for strangely named pork products widens. A. M. Howe. il Ptr Ink 190:17-19 F 9 '40

Statistics

Pork (including lard), 1936-1939. Survey of Cur Business 1940 Sup p111 [supplemented in monthly numbers]

POROSITY

Porosity of lead storage battery plates. A. P. Hauel. il diags Electrochem Soc Trans 78 (preprint 8):107-25 O '40

Porosity of textile fibers. Textile Col 62:261-2 Ap '40

Problems of porosity in aluminium-alloy castings. Engineering 150:296 O 11 '40

Relationship of wear tests to porosity of fabrics. E. J. Saxl. il Rayon 21:565-7 S '40

Testing porosity of fabrics. C. H. S. Tupholme. Textile Col 62:121 F '40

See also

Paper—Porosity

Measurement

Apparatus and method for the determination of porosity in refractory materials. G. E. Seil, B. S. Tucker and H. A. Heiligman. il diag Am Cer Soc J 23:330-3 N '40

Some observations on determining the size of pores in paper. F. T. Carson. bibliog J Research Nat Bur Stand 24:435-42 Ap '40

POROUS carbon. See Carbon, Porous

POROUS materials

Flow of a gas through porous media. J. L. Fowler and K. L. Hertel. diag J Ap Phys 11:496-502 Jl '40

Fluid flow through porous carbon. M. R. Hatfield. bibliog il diags Ind & Eng Chem 31: 1419-24 N '39

Mixing gases in porous media. R. Ducker and R. L. Huntington. bibliog il plan Oil & Gas J 38:37-8, 40-1 Ja 4 '40

See also

Paper—Porosity

PORPHINS

X-ray studies of the porphins. I. Woodward. Chem Soc J p601-3 My '40

PORPHYRIN

Infrared studies of the porphyrin molecule. C. S. Vestling and J. R. Downing. bibliog Am Chem Soc J 61:3511-13 D '39

PORT of New York authority

Operations and plans of the Port of New York authority. G. S. Reeves. il map Civil Eng 10:219-21 Ap '40

Port of New York is maintaining its relative position as shipping center. Comm & Fin Chr 150:2654 Ap 27 '40

PORT SULPHUR, Texas

Model community at Port Sulphur; development by the Freeport sulphur co. il Chem & Met Eng 46:762-3 D '39

PORTABLE buildings. See Buildings, Portable

PORTABLE electric tools. See Electric tools, Portable

PORTERS
Pennsylvania railroad extends red cap charge to Baltimore. Ry Age 108:679 Ap 13 '40
Redcaps fight fees; union wants minimum wage, all tips, no piece-rate. Business Week p43 My 25 '40
Red caps on fixed pay. Business Week p34-5 Mr 30 '40

PORTLAND, Maine

Water supply

Portland water district in 1908 and today; abstract. H. U. Fuller. Water Works & Sewerage 87:120-1 Mr '40
Results from ammonia-chlorine treatment of the Portland supply; abstract. H. B. Scales. Water Works & Sewerage 87:120 Mr '40
Story of P.W.A. in Maine water works. F. J. Reny. N E Water Works Assn J 54:252-7 S '40

PORTLAND, Oregon

Bridges

Redecking an old bridge with treated timber. il diags Eng N 124:20-2 Ja 4 '40

Rapid transit

Fewer miles run to carry more riders; Portland traction company. il Transit J 84:233 Jl '40

PORTLAND, Oregon. Museum of art
Museum wing features control of light and atmosphere. il diags plans Arch Rec 87: 30-4 Ja '40

PORTLAND cement. See Cement

PORTLAND cement association
Annual meeting, 38th, Chicago, Nov. 27-29. Concrete (mill sec) 48:112 Ja '40
Work of the Cement products bureau; abstract. W. G. Kaiser. Rock Prod 43:61-2 Mr '40

PORTO RICAN-AMERICAN tobacco co. (N.J.)
Reorganization approved by SEC. Comm & Fin Chr 150:3526 Je 1 '40

PORTRAITS
See also
Photography—Portraits

Catalogs

Portraits in the University of Pennsylvania. A. Addison, ed. 67p $3 Univ. of Pennsylvania press, Philadelphia '40

PORTS
Bandjermasin and other ports of Borneo. il(cover) Comm Rep p786 S 14 '40
Conditions and facilities at ports throughout the world. J. Leeming. In U S Bur For & Dom Com Trade Promotion Ser 207:487-530 '40
Extensions to the port of Beira. il diags plan Engineer 169:411-13, 418 My 3 '40
Operations and plans of the Port of New York authority. G. S. Reeves. il map Civil Eng 10:219-21 Ap '40
Origin and development of the ports of the United Kingdom. D. J. Owen. 374p 12s 6d Allman & son, London '39
Port district of Bahia Blanca, Argentina. il(cover) Comm Rep p537 Je 15 '40
Port job for Richmond. il Business Week p18 O 5 '40
Port of Belawan-Deli, Sumatra. il(cover) Comm Rep p804 S 21 '40
Port of Bombay. Comm Rep p1173 D 16 '39
Port of Boston. Comm Rep p1223+ D 30 '39
Port of Buenos Aires. Comm Rep p10+ Ja 6 '40
Port of Calcutta. Comm Rep p63-4 Ja 20 '40
Port of Callao, Peru. il(cover) Comm Rep p737+ Ag 31 '40
Port of Casablanca, French Morocco. il(cover) Comm Rep p731 Ag 24 '40
Port of Colombo, Ceylon. il (cover) Comm Rep p296 Mr 30 '40
Port of Dairen, Manchuria. il(cover) Comm Rep p497-8 Je 1 '40
Port of Durban. il(cover) Comm Rep p765 S 7 '40
Port of Honolulu. Comm Rep p101 F 3 '40
Port of Houston, Texas. Comm Rep p172 F 17 '40
Port of Jacksonville, Florida. Comm Rep p1071-2 N 18 '39
Port of London. A. Binns. il Engineering 150: 325-8 O 25 '40; Same. Engineer 170:261-3 O 25 '40
Port of Los Angeles. Comm Rep p89 Ja 27 '40
Port of Manila, Philippine Islands. il(cover) Comm Rep p714 Ag 17 '40
Port of Matanzas, Cuba. il (cover) Comm Rep p255 Mr 16 '40
Port of Nagasaki, Japan. il(cover) Comm Rep p555+ Je 22 '40
Port of New York; improvement by the city. J. A. Meehan. il map Civil Eng 10:281-4 My '40
Port of New York; interests of the U.S. navy. R. Whitman. il Civil Eng 10:333-6 Je '40
Port of New York; organization and control; navigation projects. C. L. Hall. il maps Civil Eng 10:157-60 Mr '40
Port of Port Limon, Costa Rica. il(cover) Comm Rep p432 My 11 '40
Port of Rangoon. Engineering 149:308 Mr 22 '40
Port of Rangoon, Burma. il(cover) Comm Rep p593 Jl 6 '40
Port of Reykjavik, Iceland. il(cover) Comm Rep p655-6 Jl 27 '40
Port of Saigon, French Indochina. il(cover) Comm Rep p29 Ja 13 '40
Port of San Juan, Puerto Rico. il(cover) Comm Rep p575-6 Je 29 '40
Port of Santos, Brazil. il(cover) Comm Rep p519 Je 8 '40
Port of Shanghai. il (cover) Comm Rep p230 Mr 9 '40
Port of Singapore. il(cover) Comm Rep p605+ Jl 13 '40
Port of Surabaya, Java. il (cover) Comm Rep p344 Ap 13 '40
Port of Sydney, Australia. il(cover) Comm Rep p216 Mr 2 '40
Port of Tampa, Florida. il (cover) Comm Rep p414 My 4 '40
Port of Valparaiso, Chile. Comm Rep p145 F 10 '40
Port of Vancouver, British Columbia. il (cover) Comm Rep p401 Ap 27 '40
Port of Wellington, New Zealand. il(cover) Comm Rep p672 Ag 3 '40
Port of Wellington, New Zealand. Engineering 150:100 Ag 2 '40
Ports of Tasmania. il(cover) Comm Rep p822 S 28 '40
Ports of the Dominican Republic. Comm Rep p282 Mr 23 '40
Le programme des grands travaux publics en Espagne. il plans Génie Civil 115:365-8 N 18 '39

See also
Cargo handling — Piers
Docks — Shipping
Freight handling — Terminals
Harbors — Wharves
also names of ports, e.g. Seattle, Washington

Dictionaries

Port dictionary of technical terms. 208p $1.50 Am. assn. of port authorities, T. S. McChesney, sec, 2223 Short st, New Orleans '40

Finance

Minister of transport studies port-finance problem in Great Britain. For Comm W 1:213-14 N 2 '40

PORTSMOUTH, Ohio

Bridges

Bridge recabled after 12 years' service. il diags Eng N 124:593-7 Ap 25 '40

PORTUGAL

Commerce

Portuguese trade with Spain and Germany. Economist 138:518 Mr 23 '40

Economic conditions

Business situation. Comm Rep p450 My 18 '40

POSITRONS
Beta-radiation from Si^{27} and P^{30}. W. H. Barkas and others. Phys R 58:383 Ag 15 '40
See also
Electrons

POSSESSION (law)
Right of property. L. F. V. Kruse. 495p bibliog(pxi-xvi) $7 Oxford '39

POST cards. See Postal cards

POST offices
Piledriving leads 135 ft. long; new postoffice building, San Francisco. il diag Eng N 124: 848-9 Je 20 '40
U.S. regional competition, Jamestown, N.Y. il plans Arch Forum 72:sup16, 18 My '40
Winners in Montpelier, Vt. and Burlingame, Calif. post office design competitions. diags plans Arch Rec 87:10, 12 F '40

Equipment
Letter-sorting machines at the Brighton general post office. il diags Engineering 148: 459-62, 627-31, 640, pl 17, 24 O 27, D 8 '39

POSTAGE meter machines
Self-service post office; Mailomat, a coin-operated U.S. letter box and postage meter. il Am Business 10:46 Je '40

POSTAGE stamps
All about stamps; their history & the art of collecting them. M. Hallgren. 357p bibliog(p340-7) $3 Knopf '40
Description of United States postage stamps; issued by the Post office department from July 1, 1847, to June 30, 1939. 134p 75c; pa 25c Supt. of doc. '39
Historical catalog of U.S. stamp essays and proofs; the Omaha, trans-Mississippi issue, 1898. C. W. Brazer. 48p pa $1 Clarence W. Brazer, 415 Lexington av, New York '39
How the adhesive postage stamp was born. L. Chalmers. 45p pa 1s 6d P. S. King & son, London '39
Hundred years of postage stamps. P. Hamilton. 300p bibliog(p291-4) $2.50 S. J. Reginald Saunders, 84 Wellington st, W, Toronto '39
Illustrations in miniature; postal designs from books & manuscripts. W. Klinefelter. 26p $1 Black cat press, Chicago '39
Manual of the stamps of Netherlands, Netherlands Indies, Curacao and Surinam. A. A. Schiller and J. De Kruyf. 217p bibliog(p11-12) pa $1 J. De Kruyf, 134 Haven av, New York '40
New United States postage stamps; portraits of 35 intellectual leaders. W. Davis. Science 91:sup10 F 23 '40
Paper chase; the amenities of stamp collecting. A. F. Harlow. 353p $2.75 Holt '40
Philately; an outline of its elements. L. N. Williams and M. Williams. 158p $1.75 Pitman '39
Scott's standard postage stamp catalogue, 1941. H. M. Clark and T. M. Clark, eds. 97th ed 1543p $3; thumb indexed $3.50 Scott publications, 1 W. 47th st, New York '40 [pub annually]
So you're collecting stamps! a guide for those who are beginning a collection. M. Hahn. 192p $2.50 Dodd '40
United States famous Americans series, 1940; heroes of peace. F. R. Bruns, jr. 73p $1; loose-leaf $2 J. Minkus, c.o. Gimbel's stamp dept, New York '40
United States stamped envelopes, illustrated and identified. 2d ed 47p pa 25c Scott publications, New York '39

Bibliography
Postage stamps; a selective check list of books on philately in the Library of Congress. 60p U.S. Library of Congress, Washington '40

Printing
Printing postage stamps by line engraving. J. H. Baxter. 164p $3 Am. philatelic soc, 3118 Dante av, Chicago '39

POSTAL cards
Premiums sell breakfast foods and gasoline, why not bus rides too? post cards for children collectors. A. H. Wood. il Bus Transportation 19:510-11 O '40

POSTAL cars
Designing for high tensile steels. H. M. Priest. diags Ry Mech Eng 114:15-19 Ja '40

POSTAL savings banks
Government invasion of banking; report by committee on agencies in competition with banks, Nebraska bankers' association. Bankers M 140:202-5 Mr '40
Postal savings deposits; amendment made on default regulations. Comm & Fin Chr 150:1809 Mr 16 '40
Postal savings system, monthly, Oct. 1938-Nov. 1939. Fed Res Bul 26:44 Ja '40 [cont monthly]
Postal savings system no longer needed in view of establishment of FDIC. H. B. Steagall. Comm & Fin Chr 149:3348 N 25 '39
Savings deposits, U.S. postal savings, 1936-1939. Survey of Cur Business 1940 Sup p52 [supplemented in monthly numbers]

POSTAL service
See also
Air mail service
Postage stamps
Postal cars
Rural free delivery

Great Britain
Postal traffic receipts. Economist 139:471 O 12 '40

United States
1940 manual for postal positions. D. R. Moskowitz, ed. 230p pa $1.50 Arco pub. co, New York '39
Post office department issues further rulings on foreign mail shipments; application of the Neutrality act to the United States mails. Comm & Fin Chr 150:1072 F 17 '40
Postal business, 1936-1939. Survey of Cur Business 1940 Sup p26-7 [supplemented in monthly numbers]
Shipment of articles or materials by mail, under the Neutrality act of 1939, to certain foreign countries. Comm Rep p99-100, 204-5 F 3, Mr 2 '40

POSTAL telegraph and cable corporation
Reorganized postal formally starts new set-up. Comm & Fin Chr 150:851 F 3 '40
Securities now being exchanged under reorganization plan. Comm & Fin Chr 150:1945-6 Mr 23 '40

POSTER stamps
Poster stamps as premiums pull like mustard plasters; experiences of Jewel Tea, Skelly Oil, Bowey's, Tide water associated oil co, Horlick's, Armour & co. and others. S. A. Wright. il Sales Management 46:34, 38-9+ Je 1 '40
Specialty distribution technique; Tydol Flying A stamps. il Ptr Ink Mo 41:26 O '40

POSTERS
Balloon poster copy. il Ptr Ink 191:21-2 My 17 '40
Design analysis; six posters and advertisements described on the basis of composition and optical construction. H. Bayer. il diags Adv & Sell 33:32a-32d F '40
How to write signs, tickets and posters. P. N. Hasluck, ed. 160p pa 35c David McKay co, 604 S. Washington sq, Philadelphia '40
Outdoor winners. il Ptr Ink 193:62-3 N 15 '40
Philadelphia says it with posters; Philadelphia rapid transit company. il Transit J 84:50-1 F '40
Poster designing for beginners. A. B. Allen. 57p $1.25 S. J. Reginald Saunders, 84 Wellington st, W, Toronto '38
Poster panels win art awards. il Nation's Business 28:92 F '40
Posters; reproductions in color of four English posters. Adv & Sell 32:32-32d D '39

Testing
What outdoor copy tests show. il Adv & Sell 33:28-9 O '40

POSTS, Concrete
Precast concrete units serve many uses; Dallas, Texas, makes concrete posts for street signs. il Pub Works 70:25 D '39

POSTSCRIPTS
Postscripts; enhance letters' selling appeal. C. A. Emley. Ptr Ink 190:73-4 Mr 8 '40

POSTURE
Chiropractic principles and technic for use by students and practitioners. W. A. Biron, B. F. Wells and R. H. Houser. 572p $7.50 Nat. college of chiropractic, 20 N Ashland blvd, Chicago '39
Peripheral type of circulatory failure in experimental heat exhaustion; role of posture. R. W. Keeton and others. bibliog Heating-Piping 12:122-6 F '40
Sitting pretty. J. Lane. 32p pa 25c Wiley '39

POTASH
Potash supply adequate for industry and farm. Oil Paint & Drug Rep 136:3+ D 11 '39
See also
American potash institute
Potassium hydroxide

Manufacture
Electricity in the manufacture of potash; Searles Lake plant of the American potash and chemical corporation. G. F. Maughmer. il diags Gen Elec R 43:392-8 O '40
Potash from seawater. Oil Paint & Drug Rep 138:34 Ag 19 '40

POTASH, Caustic. See Potassium hydroxide

POTASH industry and trade
See also
American potash institute

Statistics
Fertilizer and materials. Chem & Met Eng 47:72-6 F '40
Potash situation. B. L. Johnson. maps U S Bur Mines Information Circ 7117:1-6 '40

Germany
German potash loan paradox; present market position is anomalous. Economist 138:160 Ja 27 '40

United States
American Potash awarded leases for potash-bearing areas of the public domain near Searles Lake, Calif. Oil Paint & Drug Rep 136:5+ D 4 '39
Century of plant food progress; abstract. C. J. Brand. Oil Paint & Drug Rep 137:5+ Je 10 '40
Is chemical industry ready? potash. H. I. Smith. Ind & Eng Chem 32:1171-2 S '40
Potash and phosphate rock, 1939. B. L. Johnson. il Min Cong J 26:40-1 F '40
Potash antitrust suit consent decree submitted. Oil Paint & Drug Rep 137:3+ My 20 '40
Potash industry practices criticized by U.S. probers. Oil Paint & Drug Rep 137:5+ My 13 '40

POTASH Institute, American. See American potash institute

POTASSIUM
Magnesium-like spectra of chlorine, potassium, calcium and scandium. W. L. Parker and L. W. Phillips. Phys R 57:140-1 Ja 15 '40
Radiofrequency spectra of atoms; hyperfine structure and Zeeman effect in the ground state of Li^6, Li^7, K^{39} and K^{41}. P. Kusch, S. Millman and I. I. Rabi. bibliog Phys R 57:765-80 My 1 '40
Revision of the atomic weight of potassium. G. P. Baxter and C. D. Harrington. Am Chem Soc J 62:1836-7 Jl '40

Analysis
Composition of lithium and potassium salts precipitated by uranyl acetate reagents for sodium. E. R. Caley and W. O. Baker. bibliog Ind & Eng Chem Anal ed 11:604-7 N 15 '39
Determination of minute amounts of potassium; iodometric evaluation of the cobaltinitrite precipitate, using ceric sulfate. I. A. Kaye. bibliog Ind & Eng Chem Anal ed 12: 310-11 My 15 '40
Determination of sodium and potassium in cements. L. G. Carmick. Pub Roads 21:79-81 Je '40; Same. Concrete (mill sec) 48:224-5 Ag '40
Examination of the Morgan rapid method of soil testing; the analytical procedures for phosphorus, potassium, and calcium. J. Tinsley and N. H. Pizer. Soc Chem Ind J 59:206-10 S '40

POTASSIUM acetate
Reaction of some acylbenz*iso*thiazolones with acetic anhydride and potassium acetate. E. W. McClelland, M. J. Rose and R. G. Bartlett. Chem Soc J p323-7 Mr '40

POTASSIUM aurate
pH change in gold sol formation; reduction of alkaline solution of potassium aurate by formaldehyde. C. L. Throckmartin and C. H. Sorum. J Phys Chem 44:247-55 F '40

POTASSIUM bromide
Synthetic optical crystals. H. C. Kremers. bibliog il Ind & Eng Chem 32:1478-83 N '40
Viscosity of solutions of electrolytes as a function of the concentration; potassium bromide and lanthanum chloride. G. Jones and R. E. Stauffer. bibliog Am Chem Soc J 62:335-7 F '40

POTASSIUM carbonates
Nomographic chart for the temperature correction of potassium carbonate solution densities, with additional scales for interconversion of physical data. E. Berl. Chem & Met Eng 46:731 N '39
Ternary systems ethylene glycol-potassium carbonate-water and dioxane-potassium carbonate-water. K. A. Kobe and J. P. Stong, jr. bibliog J Phys Chem 44:629-33 My '40
See also
Potash

POTASSIUM chloride
Electrokinetics; electrokinetic potentials of barium sulfate in solutions of electrolytes and in fifty per cent ethanol. R. G. Ruyssen. bibliog J Phys Chem 44:265-75 Mr '40
Les recherches de sels de potasse et de magnésie dans le Béarn (Basses-Pyrénées). G. Vié. Génie Civil 116:267-8 Ap 20 '40
Specific heats of some aqueous sodium and potassium chloride solutions at several temperatures. C. B. Hess and B. E. Gramkee. bibliog diag J Phys Chem 44:483-94 Ap '40
Specific heats of some aqueous sodium and potassium chloride solutions at several temperatures. C. M. White. bibliog J Phys Chem 44:494-512 Ap '40
Twin-ring surface tensiometer; the apparent surface tension of potassium chloride solutions. M. Dole and J. A. Swartout. bibliog il diag Am Chem Soc J 62:3039-45 N '40

POTASSIUM chloroplatinate
Entropies of large ions; the heat capacity, entropy and heat of solution of potassium chloroplatinate, tetramethylammonium iodide and uranyl nitrate hexahydrate. L. V. Coulter, K. S. Pitzer and W. M. Latimer. bibliog Am Chem Soc J 62:2845-51 O '40

POTASSIUM chromate
Amperometric (polarometric) titrations; the amperometric titration of lead with dichromate or chromate. I. M. Kolthoff and Y. Pan. bibliog diag Am Chem Soc J 61:3402-9 D '39
Effect of chromate on the purification of sewage by treatment in bacterial filters. S. H. Jenkins and C. H. Hewitt. Soc Chem Ind J 59:41-4 F '40
Polarographic study of the reduction of chromate ion at the dropping mercury electrode. J. J. Lingane and I. M. Kolthoff. bibliog Am Chem Soc J 62:852-8 Ap '40

POTASSIUM chromate—*Continued*
Viscosity of solutions of electrolytes as a function of the concentration; silver nitrate, potassium sulfate and potassium chromate. G. Jones and J. H. Colvin. Am Chem Soc J 62:338-40 F '40

See also
Potassium dichromate

POTASSIUM compounds
Chelation in the potassium compounds of carboxylic and sulphinic acids. W. G. Wright. Chem Soc J p859-62 Jl '40

Solubilities of sodium and potassium salts of nitrophenols and related acids. O. C. Dermer and V. H. Dermer. bibliog Am Chem Soc J 61:3302-3 D '39

See also
Potash

POTASSIUM cyanate
Infrared spectrum of potassium cyanate solutions. D. Williams. Am Chem Soc J 62: 2442-4 S '40

POTASSIUM cyanide
Introductory study of the nitriding of hardened high speed steel by the use of molten cyanides. J. G. Morrison and J. P. Gill. il diags Am Soc for Metals Trans 27:935-1011; Discussion. 1011-14 D '39

POTASSIUM dichromate
Amperometric (polarometric) titrations; the amperometric titration of lead with dichromate or chromate. I. M. Kolthoff and Y. Pan. bibliog diag Am Chem Soc J 61:3402-9 D '39

POTASSIUM ferricyanide
Study of diffusion processes by electrolysis with microelectrodes. H. A. Laitinen and I. M. Kolthoff. Am Chem Soc J 61:3344-9 D '39

POTASSIUM ferrocyanide
Magnetic susceptibilities of some complex cyanides with transition element cations. J. Richardson and N. Elliott. bibliog diag Am Chem Soc J 62:3182-3 N '40

Study of diffusion processes by electrolysis with microelectrodes. H. A. Laitinen and I. M. Kolthoff. Am Chem Soc J 61:3344-9 D '39

POTASSIUM fluoroiodate
Crystal structure of potassium fluoroiodate KIO_2F_2. L. Helmholz and M. T. Rogers. diags Am Chem Soc J 62:1537-42 Je '40

POTASSIUM halides
Conductivity measurements on potassium halides. C. G. Brennecke. bibliog diags J Ap Phys 11:202-7 Mr '40

See also
Potassium bromide
Potassium chloride
Potassium iodide

POTASSIUM hydroxide
Combination of wool protein with acid and base; hydrochloric acid and potassium hydroxide. J. Steinhardt and M. Harris. Am Dyestuff Rep 29:103-7, 121-7, 131-4, 147-9 bibliog(p149) Mr 4-18 '40; Same. J Research Nat Bur Stand 24:335-67 Mr '40

Effect of certain carbohydrates on the determination of carotene. E. J. Lease and J. H. Mitchell. bibliog Ind & Eng Chem Anal ed 12:337-8 Je 15 '40

Hydrogen and oxygen overvoltages of chromium nickel alloys in 1 molal potassium hydroxide. M. de K. Thompson and G. H. Sistare, jr. diag Electrochem Soc Trans 78 (preprint 4):47-51 O '40

Ionization constant of monoethanolammonium hydroxide at 25° from electrical conductance measurements. V. Sivertz, R. E. Reitmeier and H. V. Tartar. bibliog Am Chem Soc J 62:1379-82 Je '40

Nature of the glass in portland cement clinker. H. Insley. bibliog pls J Research Nat Bur Stand 25:295-300 S '40

Qualitative identification and quantitative estimation of nylon in the presence of silk, wool and cotton. R. Gerber and K. Lathrop. bibliog Am Dyestuff Rep 29:437-40+ S 2 '40

See also
Potash

POTASSIUM in the body
Cortin-like effects of steroid glycosides on potassium. R. L. Zwemer and B. E. Lowenstein. bibliog Science 91:75-6 Ja 19 '40

POTASSIUM iodate
Modification of the iodate method for determining barium. F. C. Guthrie. Soc Chem Ind J 59:98 My '40

POTASSIUM iodide
Bestimmung des im wasser gelösten sauerstoffes nach Winkler, aber ohne verwendung von kaliumjodid. C. Siegert. Angew Chemie 53:235-6 My 25 '40

Polyiodides of potassium; the ternary system potassium iodide—iodine—water. T. R. Briggs and others. bibliog J Phys Chem 44: 350-72 Mr '40

Quantum yields of some dye-sensitized photooxidations. F. Hurd and R. Livingston. bibliog J Phys Chem 44:865-73 O '40

Starch-iodide method of ozone analysis. C. E. Thorp. bibliog Ind & Eng Chem Anal ed 12:209 Ap 15 '40

Synthetic optical crystals. H. C. Kremers. bibliog il Ind & Eng Chem 32:1478-83 N '40

Test for residual chlorine; use of adsorption reaction between iodine and alpha-naphthoflavone. F. J. Hallinan. Ind & Eng Chem Anal ed 12:452-3 Ag 15 '40

See also
Nessler's reagent

POTASSIUM laurate
Observations of surface tension in the Pockels-Langmuir-Adam-Wilson-McBain trough. J. W. McBain, J. R. Vinograd and D. A. Wilson. bibliog Am Chem Soc J 62:244-8 F '40

POTASSIUM metaphosphate
Potassium metaphosphate; a potential high-analysis fertilizer material. S. L. Madorsky and K. G. Clark. bibliog il Ind & Eng Chem 32:244-8 F '40

POTASSIUM nitrate
Catalytic formation of potassium nitrite from potassium nitrate in liquid ammonia. F. W. Bergstrom. bibliog diag Am Chem Soc J 62:2381-4 S '40

Molten salt, a new heat transfer medium for high temperatures. W. E. Kirst, J. B. Castner and W. M. Nagle. Business Week p39 My 25 '40

New heat transfer medium for high temperatures. W. E. Kirst, W. M. Nagle and J. B. Castner. bibliog Am Inst Chem Eng Trans 36:371-90 Je '40; Same cond. il Chem & Met Eng 47:472-5 Jl '40; Abstracts. Nat Pet N 32:R220+ Je 12 '40; Chem Age (Lond) 43:100-1 Ag 31 '40; Discussion. Am Inst Chem Eng Trans 36:390-4 Je '40

POTASSIUM nitrite
Catalytic formation of potassium nitrite from potassium nitrate in liquid ammonia. F. W. Bergstrom. bibliog diag Am Chem Soc J 62:2381-4 S '40

POTASSIUM oxides
Chemisorptions of gases on iron synthetic ammonia catalysts. S. Brunauer and P. H. Emmett. bibliog Am Chem Soc J 62:1732-46 Jl '40

Equilibrium between vapor and liquid phases in the system CO_2—H_2O—K_2O—SiO_2. G. W. Morey and M. Fleischer. bibliog diag Geol Soc Bul 51:1035-57 Jl '40

POTASSIUM perchlorate
Solubility of cadmium and zinc oxalates in salt solutions. W. C. Vosburgh and J. F. Beckman. Am Chem Soc J 62:1028-31 My '40

POTASSIUM periodate
Properties of the oxycelluloses formed in the early stages of the oxidation of cotton cellulose by periodic acid and metaperiodate. G. F. Davidson. bibliog Textile Inst J 31: T81-96 Jl '40

POTASSIUM permanganate
Base-exchange capacity determination of soils and other materials; using colorimetric manganese method. C. A. Bower and E. Truog. Ind & Eng Chem Anal ed 12: 411-13 Jl 15 '40
Reactions of high energy atoms produced by slow neutron capture. W. F. Libby. bibliog Am Chem Soc J 62:1930-6 Ag '40
Sterols; oxidation of sarsasapogenin acetate with potassium permanganate. R. E. Marker and E. Rohrmann. bibliog Am Chem Soc J 62:222-3 Ja '40

POTASSIUM persulfate
Sterols; persulfate oxidation of *allo*-pregnane derivatives. R. E. Marker and others. Am Chem Soc J 62:650-1 Mr '40

POTASSIUM phosphate
Physicochemical aspects of bacterial growth; conditions determining stationary populations and growth rates of bact. lactis aerogenes in synthetic media. R. M. Lodge and C. N. Hinshelwood. Chem Soc J p1683-92 N '39
Physicochemical aspects of bacterial growth; influence of magnesium on the lag phase in the growth of bact. lactis aerogenes in synthetic media containing phosphate. R. M. Lodge and C. N. Hinshelwood. Chem Soc J p1692-7 N '39

See also
Potassium metaphosphate

POTASSIUM pyrosulfate
New mechanism for the action of the vanadium pentoxide-silica-alkali pyrosulfate catalyst for the oxidation of sulfur dioxide. J. H. Frazer and W. J. Kirkpatrick. bibliog Am Chem Soc J 62:1659-60 Jl '40

POTASSIUM sodium tartrate
Elastic, dielectric and piezoelectric constants of heavy-water Rochelle salt. A. N. Holden and W. P. Mason. bibliog Phys R 57:54-6 Ja 1 '40
Industrial uses of chemicals and related materials. Oil Paint & Drug Rep 138:71 N 4 '40
Influence of electrostatic fields on the elastic properties of Rochelle salt. H. Mueller. Phys R 57:842-3 My 1 '40
Location of hysteresis phenomena in Rochelle salt crystals. W. P. Mason. bibliog diags Phys R 58:744-56 O 15 '40
Properties of Rochelle salt. H. Mueller. bibliog Phys R 57:829-39; 58:565-73, 805-11 My 1, S 15, N 1 '40

Analysis

Determination of tartrates in cyanide copper solutions. W. B. Stoddard, jr. Metal Ind 37:580-1 D '39

POTASSIUM sulfamate
Crystal structure of potassium sulphamate. C. J. Brown and E. G. Cox. diags Chem Soc J p 1-10 Ja '40

POTASSIUM sulfates
Coagulation of rubber latex and its control. D. F. Twiss and P. H. Amphlett. Soc Chem Ind J 59:202-6 S '40
Determination of crude fiber; potassium sulfate as a filtration aid. A. M. Neubert, F. VanAmburgh and J. L. St John. Ind & Eng Chem Anal ed 12:451 Ag 15 '40
Determination of quartz (free silica) in refractory clays. L. J. Trostel and D. J. Wynne. Am Cer Soc J 23:18-22 Ja '40
Solubility of cadmium and zinc oxalates in salt solutions. W. C. Vosburgh and J. F. Beckman. Am Chem Soc J 62:1028-31 My '40
Viscosity of solutions of electrolytes as a function of the concentration; silver nitrate, potassium sulfate and potassium chromate. G. Jones and J. H. Colvin. Am Chem Soc J 62:338-40 F '40

POTASSIUM sulfite

Analysis

Analysis of sulfite solutions containing selenium; a volumetric method. R. C. Shaver and C. R. McCrosky. bibliog Ind & Eng Chem Anal ed 12:74-6 F 15 '40

POTASSIUM tartrates
Industrial uses of chemicals and related materials; potassium bitartrate. Oil Paint & Drug Rep 138:34 O 7 '40

See also
Potassium sodium tartrate

POTASSIUM thiocyanate
Activity coefficients of sodium and potassium thiocyanate in aqueous solution at 25° from isopiestic vapor pressure measurements. R. A. Robinson. Am Chem Soc J 62:3131-2 N '40

POTASSIUM uranyl acetate
Composition of lithium and potassium salts precipitated by uranyl acetate reagents for sodium. E. R. Caley and W. O. Baker. bibliog Ind & Eng Chem Anal ed 11:604-7 N 15 '39

POTASSIUM urate
Activated carbon as a catalyst in certain oxidation-reduction reactions; decomposition of hydrogen peroxide; autoxidation of stannous chloride and potassium urate. E. C. Larsen and J. H. Walton. bibliog J Phys Chem 44:70-85 Ja '40

POTATO meal
Potato products industry. il diags Chem Age (Lond) 42:267-9 My 11 '40

POTATO starch
Manufacture of white potato starch in the United States. C. A. Brautlecht. bibliog flow sheet il Ind & Eng Chem 32:893-8 Jl '40
Potato products industry. il diags Chem Age (Lond) 42:267-9, 279-81, 291-2, 301-2 My 11-Je 1 '40

POTATO wafers
Utilization of skim milk in a new potato product. R. H. Webb. flow diag il Food Ind 12:48-9 My '40

POTATO-washing machine
Potato washing. diag Chem Age (Lond) 42: 268-9 My 11 '40

POTATOES
Biochemical quality indexes for potatoes as a raw material; abstract. R. P. Nikolaev. Food Ind 12:93 Ag '40
Biology of the potato; abstract. R. N. Salaman. Chem & Ind 59:727-8 O 26 '40
Nutritive value of the potato; abstract. H. Chick. Chem & Ind 59:728 O 26 '40
Potato and its products; farina, dextrine, and glucose. E. W. S. Ventress. Chem & Ind 58:1069-70 D 9 '39
Potato products industry. il diags Chem Age (Lond) 42:267-9, 279-81, 291-2, 301-2 My 11-Je 1 '40
Potatoes with trade-marked names make consumers brand conscious. P. C. Miller. il Ptr Ink 191:19-22 Je 7 '40
Simulation by chemical agents of cooking of potato tissue; abstract. C. J. Personius and P. F. Sharp. Food Ind 12:92 My '40
Utilization of cull potatoes. Ind & Eng Chem News ed 18:107 F 10 '40

See also
Sweet potatoes

Advertising

Fast work on a week; national potato week. il Ptr Ink Mo 40:22 My '40

Statistics

White potatoes, 1936-1939. Survey of Cur Business 1940 Sup p104 [supplemented in monthly numbers]

POTATOES, Dried
Vitamin C losses in potato dehydration; abstract. W. Kröner and W. Völksen. Food Ind 12:90 Ja '40

POTENTIAL, Electric
Agaric acid and the Donnan theory of membrane equilibrium. R. J. Hartman, E. W. Kanning and J. E. Weber. Am Chem Soc J 62:1302-3 My '40
Anodic reaction and waves of cysteine at the dropping mercury electrode and at the platinum micro wire electrode. I. M. Kolthoff and C. Barnum. bibliog Am Chem Soc J 62:3061-5 N '40
Application of electromotive force measurements to binary metal systems; lead-bismuth, cadmium-antimony, zinc-antimony systems. H. Seltz. diags Electrochem Soc Trans 77 (preprint 17):219-40; Discussion. M. A. Miller. 240-2 Ap '40
Bio-electric potentials of the hen's egg; possibility of detection of vital activity of the blastoderm of fertile eggs. A. L. Romanoff and C. L. Cottrell. Science 90: 471-2 N 17 '39
Breakdown potentials of gases under alternating voltages. G. W. Fox and D. O. McCoy. diag J Ap Phys 11:592-5 S '40
Cadmium-cadmium sulfate half-cell for measuring potentials in the earth. S. Ewing. Am Gas Assn Proc 1939:635-40
Causes of corrosion of fine copper wires carrying a potential. H. N. Stephens and G. B. Gehrenbeck. Elec Eng 59:Trans 357-60; Discussion. Trans 360 Je '40
Contact difference of potential between barium and zinc; the external work function of zinc. P. A. Anderson. diags Phys R 57:122-7 Ja 15 '40
Copper-copper sulfate half-cell for measuring potentials in the earth. S. Ewing. diags Am Gas Assn Proc 1939:624-34
Corrosion-resisting properties of bronze condenser tubes; electrode potential-time relationships. J. Chapman and J. W. Cuthbertson. diag Soc Chem Ind J 58:330-4 N '39
Deposition potentials of metals from fused alkali chloride-aluminum chloride baths. W. H. Wade, G. O. Twellmeyer and L. F. Yntema. Electrochem Soc Trans 78 (preprint 17):229-42 O '40
Electrochemical potential differences at the boundary copper-insulating liquids. A. Gemant. bibliog diags Electrochem Soc Trans 78 (preprint 21):297-309 O '40
Electrode potential measurements as a means of studying the corrosion characteristics of wrought aluminum alloys of the duralumin type. H. L. Logan. pls diags J Research Nat Bur Stand 25:315-25 S '40
Electrokinetics; electrokinetic potentials of barium sulfate in solutions of electrolytes and in fifty per cent ethanol. R. G. Ruyssen. bibliog J Phys Chem 44:265-75 Mr '40
Metallized glass oxygen electrodes. H. G. Bain. bibliog Electrochem Soc Trans 78 (preprint 16):211-27 O '40
Mixed potentials at the dropping mercury electrode. I. M. Kolthoff and C. S. Miller. Am Chem Soc J 62:2171-4 Ag '40
Oxidation-reduction potentials and their applications. S. Glasstone. Electrochem Soc Trans 77 (preprint 14):183-93; Discussion. 193-5 Ap '40
Oxidation-reduction potentials measured with the dropping mercury electrode; polarographic study of quinhydrone in buffered and unbuffered solutions. O. H. Müller. Am Chem Soc J 62:2434-41 S '40
Photoelectric work functions of (100) and (111) faces of silver single crystals and their contact potential difference. H. E. Farnsworth and R. P. Winch. bibliog diags Phys R 58:812-19 N 1 '40
Recorder for electrical potentials; the damping of piezoelectric systems; ink-writing oscillograph. F. Offner. diags J Ap Phys 11:347-52 My '40
Sign of electrode potential. C. S. Hoyt. J Chem Educ 17:530-2 N '40
Silver-silver iodide electrode. R. K. Gould and W. C. Vosburgh. bibliog diag Am Chem Soc J 62:1817-19 Jl '40
Study in electrokinetics. J. D. Quist and E. R. Washburn. bibliog diag Am Chem Soc J 62:3169-72 N '40
Temperature dependence of the work function of tungsten from measurement of contact potentials by the Kelvin method. J. G. Potter. bibliog diag Phys R 58:623-32 O 1 '40
Theory of galvanic cells subject to fields of force; the gravitational field. F. O. Koenig and S. G. Grinnell. bibliog J Phys Chem 44:463-82 Ap '40
Theory of the potential and the technical practice of electrodeposition. C. Kasper. diags Electrochem Soc Trans 77 (preprint 23):275-85; (preprint 28):363-82; 78 (preprint 18):243-58; (preprint 19):259-72 Ap, O '40
Thermodynamic properties of sulfuric-acid solutions and their relation to the electromotive force and heat of reaction of the lead storage battery. D. N. Craig and G. W. Vinal. bibliog J Research Nat Bur Stand 24: 475-90 Ap '40

See also
Overvoltage
Photoelectric effect
Piezoelectricity

POTENTIOMETERS
Photo-electric potentiometer is versatile performer. il diags Elec W 113:1052-3+ Ap 6 '40
Potentiometer circuit for portable optical pyrometer. R. C. Machler. il diag R Sci Instr 10:386-8 D '39
Servistat using number of different powered potentiometers and rheostats. R. P. Turner. il diags Radio N 24:35-7+ S '40
Thermoelectric pyrometry. M. F. Behar. il diags Instruments 13:312-15 O '40
Time-temperature control for sulphite digesters; recording and controlling potentiometer instrument. J. F. Inderdohnen. il diags Paper Tr J 111:31-4 Ag 8 '40
Universal pH meter and simplified vacuum tube electrometer. F. M. Goyan, C. L. Barnes and H. W. Hind. diags Ind & Eng Chem Anal ed 12:485-8 Ag 15 '40

POTOMAC river
Congress authorizes Ohio and Potomac River compacts; first intrastate anti-pollution covenants. J. G. Ellis. Water Works & Sewerage 87:320 Jl '40
Effect of the Washington treatment works on the Potomac river; abstract and discussion. P. D. McNamee. Water Works & Sewerage 87:278 Je '40

POTOSI, Bolivia
Structure and mineral zoning of the Pailaviri section, Potosi. D. L. Evans. bibliog il map diag Econ Geol 35:737-50 S '40

POTTER, Andrey Abraham, 1882-
Lamme award. por J Eng Educ 31:1-2 S '40
Merit in teaching brings Dr Potter 1940 Lamme medal. Blast F & Steel Pl 28:803 Ag '40

POTTERIES
Clara Chipman Newton, pioneer secretary, Rookwood pottery company. Am Cer Soc Bul 18:443-5 N '39
Genuine Pennsylvania German ware; Powder Valley men who produce this ware. il Am Cer Soc Bul 19:22-4 Ja '40
History of the Pennsylvania German potteries of Berks county. G. F. Reinert. il Am Cer Soc Bul 19:24-8 Ja '40
Lewis P. Reese. E. D. Shumaker. Am Cer Soc Bul 19:302-4 Ag '40

Electric equipment
China kiln turns to purchased power; introduction motors for ventilating and exhaust fans on an oil-fired rotary kiln. il Elec W 113:1240+ Ap 20 '40

Safety devices and measures
Pottery plant checks lead hazards; Decalcomania lithograph dept. of the Onondaga pottery company. A. J. Koch. Nat Safety N 41:65 Ja '40

POTTERY
Early German art revived; historic materials used by Mrs Keyser. G. Ramey. il Am Cer Soc Bul 19:85-6 F '40

POTTERY—*Continued*
Length changes of whiteware clays and bodies during initial heating, with supplementary data on mica. R. F. Geller and E. N. Bunting. bibliog diag J Research Nat Bur Stand 25:15-40 Jl '40
Potter's book. B. Leach. 293p $6.50 Ryerson press '40
Pottery. R. D. Snively and M. E. Snively. 86p $1.25 Stephen Daye press, Brattleboro, Vt. '40
Pottery craft. J. A. F. Divine and G. Blachford. 86p $1.50 Frederick Warne & co, New York '39
Pottery; its craftsmanship and its appreciation. E. deF. Curtis. 100p bibliog(p94-7) $2 Harper '40
Pottery made easy. J. W. Dougherty. 2d ed 179p bibliog(p173) $2.25 Bruce pub. '39
Pottery of the Europeans. H. E. Stiles. 254p bibliog(p243-50) $2.50 Dutton '40
Some characteristics of Illinois pottery clay. C. G. Harman. Am Cer Soc J 23:26-9 Ja '40

See also
Ceramics
Clay
Clay industries
Clay products
Enamel and enameling
Glazes
Indians of North America—Pottery
Kilns
Porcelain
Sanitary ware
Stoneware
Tableware
Terra cotta
Tiles
also American ceramic society

Bibliography

Ceramic abstracts. Published in monthly numbers of American ceramic society journal

Decoration

Decalcomania; proposed development. A. S. Watts. Am Cer Soc J 23:341-2 N '40
Porcelain league of Cincinnati. C. C. Newton. Am Cer Soc Bul 18:445-6 N '39

History

Chinese record written two centuries ago concerning the process of manufacturing pottery. Chu Yen. il Am Cer Soc Bul 19: 29-33 Ja '40

Manufacture

American ceramic materials in pottery. H. Wilson and E. Wilson. Am Cer Soc Bul 19: 285-7 Ag '40
Early Pennsylvania pottery. R. D. Billinger. bibliog il J Chem Educ 17:407-13 S '40
Factors affecting the life of kiln furniture in the whiteware industry. G. S. Diamond. bibliog il diags Am Cer Soc Bul 19:371-8 O '40
Genuine Pennsylvania German ware; Powder Valley men who produce this ware. il Am Cer Soc Bul 19:22-4 Ja '40
Serviceability of pottery plasters; relation of physical properties to serviceability. J. F. McMahon and H. G. Schurecht. Am Cer Soc Bul 18:454-7 D '39
Some factors affecting plaster mold life. M. C. Dailey and B. Nies. il Am Cer Soc Bul 19:323-9 S '40
Symposium on substitution of American for imported clays in whiteware bodies. A. S. Watts and others. Am Cer Soc Bul 19:281-90 Ag '40

POTTERY, Chinese
Chinese ceramics at the Baltimore museum of art. E. S. King. il Am Cer Soc Bul 19:265-7 Jl '40
Chinese record written two centuries ago concerning the process of manufacturing pottery. Chu Yen. il Am Cer Soc Bul 19: 29-33 Ja '40

POTTERY, Syrian
Early pottery of the Jebeleh region. A. M. H. Ehrich. il map American Philosophical Soc [Philadelphia] Memoirs v 13:1-129, pl 1-24 bibliog(p126-9) '39

POTTERY industry
Export packing of pottery tableware. il Comm Rep p60+ Ja 20 '40

Pennsylvania
Early Pennsylvania pottery. R. D. Billinger. bibliog il J Chem Educ 17:407-13 S '40

POULTRY
Poultry-wax heater improved; plucking poultry by the wax method. C. W. Wildebour. diags Elec W 113:464 F 10 '40
Precooling poultry; abstract. W. H. Cook. Refrig Eng 39:173 Mr '40
Utilization data sheet; poultry cleaning. H. Van Wyk. il Elec West 84:43 My '40

See also
Eggs

Statistics

Poultry and eggs, 1936-1939. Survey of Cur Business 1940 Sup p112 [supplemented in monthly numbers]

POULTRY, Frozen
Frozen storage of poultry, bloom; abstract. W. H. Cook. Food Ind 12:99-100 Mr '40
Pan-prepared poultry; wax cleaning, boxing and freezing add to appeal. il Refrig Eng 39:229 Ap '40
Performance data determined for new food freezing plant; freezing of lima beans, poultry and packaged products. W. J. Finnegan. il Food Ind 12:48-9 Mr '40
Special insulation used in poultry freezing plant. Refrig Eng 38:362 D '39
Surface drying of frozen poultry during storage; abstract. W. H. Cook. Food Ind 12:94 F '40

POULTRY brooders, Electric
Electric brooding. G. H. Bliesner. diag Elec West 84:51 Ap '40
Electric brooding at low energy cost. R. J. Bugbee. Elec W 112:1480 N 18 '39
Good mayonnaise calls for electric brooders; Laura Scudder poultry ranch. il Elec West 85:48 Ag '40

POULTRY food
Egg-white injury in chicks and its relationship to a deficiency of vitamin H (biotin). R. E. Eakin, W. A. McKinley and R. J. Williams. Science 92:224-5 S 6 '40
Vitamin content of distillers' by-products. C. S. Boruff, A. F. Langlykke and S. Black bibliog il Ind & Eng Chem 32:1237-9 S '40

POULTRY houses

Equipment

Poultry mash hopper. F. W. Klay. il diags Sheet Metal Worker 31:65 O '40

Heating and ventilation

Ventilating a poultry house. P. R. Jordan. diags Sheet Metal Worker 31:39-40 My '40

POULTRY industry and trade
Ozark flavor booms market for fried chicken. H. D. Robards. il Nation's Business 28:45 S '40

POVERTY

See also
Poor relief

POWDERED copper. See Copper, Powdered

POWDERED iron. See Iron, Powdered

POWDERED metals. See Metals, Powdered

POWDERED rubber. See Rubber, Powdered

POWDERED steel. See Steel, Powdered

POWDERS
Determination of the surface of powders. F. B. Kenrick. Am Chem Soc J 62:2838 O '40
Improved technique for mounting powdered samples for X-ray diffraction. J. S. Lukesh. diags R Sci Instr 11:200-1 Je '40
Measuring average particle diameter of powders; air-permeation apparatus. E. L. Gooden and C. M. Smith. il diags Ind & Eng Chem Anal ed 12:479-82 Ag 15 '40

See also
Coal, Pulverized
Dust
Flour
Metals, Powdered
Particles
Pulverizers

POWELL, Alvin Leslie, 1889-1940
Sketch. por Illum Eng 35:652-3 S '40

POWER (mechanics)
Foundation for an understanding of power machines. P. Swain. diags Power 84:321 My '40
How much power does a bearing absorb? chart. Can Min J 61:574 S '40
Man-power. A. Roebuck. Inst Mech Eng J & Proc 143:Proc 215-17 Je '40
Measurement of cylinder power of high-speed steam locomotives. L. K. Botteron. Engineering 150:285-6 O 11 '40
Metal-cutting power calculations; reference book sheet. P. H. Miller. Am Mach 84:23, 25 Ja 10 '40
Power engineer looks at the defense program. P. Swain. il Power 84:697-9 N '40
Power from Vesuvius. Can Min J 60:823 D '39
Power resources and national strength. F. J. Pettijohn. Power Pl Eng 44:126 Ja '40
Power's contribution to Canadian mining. H. G. Cochrane. il Can Min J 60:725-31 N '39
Synchronous machine circle diagrams; charts for mechanical and electrical power. H. Rissik. Electrician 125:191-2 O 11 '40
Trends in power sources. J. V. Sherman. Barron's 20:9 Je 24 '40
Uranium 235, power fuel of the future? P. W. Swain. diags Power 84:412-15 Jl '40

See also
Air conditioning equipment—Power
Airplanes—Auxiliary power
Cement plants—Power
Coal mines and mining—Power
Compressed air
Construction equipment—Power
Dynamometers
Electric power
Electric railroads—Power
Electroplating—Power
Hydroelectric power
Machinery
Metallurgical plants—Power
Paper box factories—Power
Paper mills—Power
Petroleum engineering—Power
Pneumatic tools
Power cost
Power factor
Power plants
Power transmission
Pumping stations—Power
Ship propulsion
Steam
Steel works—Power
Textile mills—Power
Trolley buses—Power
Water power

POWER alcohol cooperative association
Fuel from corn, again; Iowa co-ops are raising money for another alky-gas plant. Business Week p22-3 Mr 16 '40

POWER contracts
Army signs contracts with utilities for power. Elec W News ed 114:1237 O 26 '40
Power supply for railroad electrification and fundamentals of power contracts. E. R. Hill. Elec Eng 59:Trans 560-2 S '40; Abstract. Ry Age 108:212 Ja 27 '40

POWER cost
Cost trends favor purchased energy. Elec W 112:1855+ D 30 '39
Diesel ice plant costs; Springdale ice & coal co. il Power Pl Eng 44:67-8 Mr '40
Easy to say no to high demand; limiting demand without cutting production. B. Marks. il Factory Management 98:82-3 My '40
Hotel power plant; private plants vs. purchased power. E. Douglas. Power Pl Eng 44:41-4+ Mr '40
March of coal mining; trends in power costs G. B. Southward. Min Cong J 26:60-1 O '40
Meeting competition in refrigeration and air conditioning field; with comparative cost data for purchased power, Diesel and gas engine plants. H. C. Gause. Edison Elec Inst Bul 8:197-200 My '40
Motor-drive methods in average factory; power factor, efficiency, connected horsepower and costs; tabulation. Elec W 113:454 F 10 '40
Power change-over saves $2,500; Illinois moulding company, Chicago, changes to purchased power. H. Molner. il Factory Management 98:82-3 Ja '40
Power factor costs; correcting power factor offers means of cutting welding costs. S. B. Vinson. Steel 106:44 Ja 8 '40
Power's contribution to Canadian mining. H. G. Cochrane. Can Min J 60:728-30 N '39
Trend of steam power station costs. J. E. Burkross. Power Pl Eng 44:81-3 Ja '40

See also
Electric plants (central stations)—Costs
Electric rates
Power factor
Power plants—Costs

POWER factor
Boost motor loading, better power factor; ammeters on induction motors; middle western soy bean mill. il Elec W 113:602 F 24 '40
Capacitors aid feeders in textile machinery plant; Whitin machine works improves power factor of own generating plant. F. D. Snyder. il Elec W 114:213-14+ Jl 27 '40
Capacitors improve distribution conditions. J. L. Collins. Elec W 113:912+ Mr 23 '40
Correcting on the low side; applications in San Joaquin. H. H. Minor. Elec West 84: 46-7 My '40
Exhaust fan drive improves power-factor. il Elec W 113:918 Mr 23 '40
Improvement of works-supply power factor. Engineering 149:551 My 31 '40
Meter testing; verification at 0.5 power factor. G. W. Stubbings. diags Elec R (Lond) 127:108 Ag 9 '40
Multiple power-factor correction by combination of synchronous motors and capacitors. Elec W 113:604 F 24 '40
Over-motoring the load; conditions affecting selection of motor. C. C. Hermann. Power Pl Eng 44:89-90 Mr '40
Power factor and voltage controlled automatically; American rolling mill company. E. G. Schlup. il diag Elec W 114:842-4 S 21 '40
Power factor as applied to fluorescent lighting. C. R. Benson. diags Elec West 84:32-3 Ap '40
Power-factor correction. il Elec R (Lond) 127:125-6 Ag 16 '40
Power factor correction. G. W. Stubbings. diag Elec R (Lond) 126:154 F 9 '40
Power factor correction for fluorescent lamps; commissions require users to install equipment at their own expense. Elec W News ed 112:1517 N 25 '39
Power factor correction ruled for fluorescent; Wisconsin public service commission prescribes uniform requirements for all types of gaseous tube lighting. Elec W 114:696 S 7 '40
Power-factor correction with synchronous motors; how to determine the maximum output. H. O. Poland. il Power 84:634-6+ O '40
Power factor costs; correcting power factor offers means of cutting welding costs. S. B. Vinson. il Steel 106:42-4 Ja 8 '40
Power factor improvement pays 86 percent return; Hempstead Village water works. W. L. King. il Power Pl Eng 44:60-2 O '40; Abstract. Elec W 114:104+ Jl 13 '40
Proper motoring first step in power factor correction. J. L. Merrill. Elec W 112:1858-60+ D 30 '39
Raise foundry power factor to 97 per cent; Ferro machine & foundry company. il Elec W 114:276 Jl 27 '40
Simple method of calculating power factor. T. D. Graybeal. Elec Eng 59:480 N '40
This matter of fluorescent power factor. W. Harrison. Elec W 112:1747 D 16 '39
When you install capacitors for power factor correction. R. E. Marbury. il Factory Management 98:76-8 S '40

See also
Reactive power

POWER factor, Dielectric
Circuit for the rapid measurement of the power factor of condensers. E. A. Walker. diag R Sci Instr 11:210-11 Jl '40
Dielectric constant, power factor, and resistivity of marble. A. H. Scott. J Research Nat Bur Stand 24:235-40 Mr '40
Dielectric loss of glass at high frequencies. H. Thurnauer and A. E. Badger. diag Am Cer Soc J 23:9-12 Ja '40

POWER factor, Dielectric—*Continued*
Dielectric losses in radio circuits. A. G. Bogle. Wireless Eng 17:198-202 My '40
Electrical properties of thermoplastics; five phenolics and one benzyl alcohol resin investigated. L. Hartshorn, N. J. L. Megson and E. Rushton. Soc Chem Ind J 59:129-33 Jl '40
Liquid dielectrics; electrical and physical properties of systems containing sparingly soluble oxidation products in liquid paraffin. J. D. Piper and others. bibliog il Ind & Eng Chem 32:1510-18 N '40
Power factor testing of long lengths of cables. E. A. Walker. bibliog J Ap Phys 11:717-20 N '40
Power-factor testing of transformer insulation. F. C. Doble and G. H. Browning. il diags Elec W 112:1583-4+ D 2 '39
Rapid-recording a-c bridge. W. Mikelson and H. W. Bousman. il diags Elec Eng 59:Trans 628-31 N '40
Report on wave form in dielectric power-factor measurements. Elec Eng 59:255-6 Je '40
Requirements for cells used for measuring low power factor liquids. diags Am Soc T M Proc 39:463-4 '39
Testing ceramic capacitors. E. T. Sherwood. il diag Electronics 13:26-9+ S '40

POWER plants
A.S.M.E. semi-annual meeting, Milwaukee, June 17-20. Power Pl Eng 44:116+ Jl '40; Elec W 113:2057 Je 29 '40
American society of mechanical engineers, 60th annual meeting; abstracts of power plant papers. il Power 83:829-36 Mid-D '39; Power Pl Eng 44:101-4 Ja '40
American society of mechanical engineers spring meeting, Worcester, Mass., May 1-3; abstracts of power plant papers. Power 84: 397-8+ Je '40
Common sense in industrial power. R. A. Langworthy. il Power 84:648-9 O '40
Engineering; developments in 1939. Textile World 90:91-2 F '40
Foundation for an understanding of power machines. P. Swain. diags Power 84:321 My '40
General plant practice; questions and answers. Power 84:750 N '40
Midwest power conference, Chicago, April 9-10. Power 84:330-1+ My '40; Power Pl Eng 44:66-8+ My '40
More power for your dollar; improvements in equipment and operating methods during the past decade. R. E. Turner. il Power Pl Eng 44:40-3 Ja '40
New power for Connecticut's veterans; home for veterans of Civil, Spanish-American and first World wars, at Rocky Hill. il Power 84:729, 732 N '40
1939, year of action. il Power 84:2-7 Ja '40
Old Chief; reminiscences of the human side of engineering. W. Doran. il Power 84:711 N '40
Operating kinks from Rochester, N.Y. P. Swain. il Power 84:242-3 Ap '40
Power economics for engineering students. R. C. Gorham. 310p $3.25 R. C. Gorham, Univ. of Pittsburgh, Pittsburgh '39
Power for Mickey Mouse; Walt Disney studio. il Power Pl Eng 44:50-2 My '40
Powered by gas and steam. il Power Pl Eng 44:68 Ap '40
Regenerative feed heating in industrial power plants. A. F. Webber. Blast F & Steel Pl 28:594-7+ Je '40
This small plant misses no tricks; Lawrence Park heat, light & power co. supplies power, steam, hot water and refrigeration. L. Rowley. il Power 84:239-40 Ap '40
Triple-duty plant serves Virginia polytechnic institute; furnishes power to both institute and Blacksburg, Va., heats campus and serves as laboratory. J. L. Dilworth. flow diag il Power 84:718-21 N '40
Turbine capacity and arrangement; problem. Power Pl Eng 44:83 F '40; Solutions. diags 44:82-4, 86 Ap '40
Typical plant questions. Power 84:49 Ja '40

See also
Boiler plants
Coal handling
Coal mines and mining—Power
Electric plants
Hydroelectric plants
Paper box factories—Power
Paper mills—Power
Piping (power plants)
Steam plants
Textile mills—Power

Cleaning
Why the heck blow that dust around; vacuum-cleaning for power plants. B. A. Briggs. il Power 83:767 D '39

Costs
Attention to details cuts cost of heating and other services; hospitals. C. W. Kimball. Heating-Piping 12:4 Ja '40
Cost trends favor purchased energy. Elec W 112:1855+ D 30 '39
Diesel costs; analysis of Diesel engine users assn. cost report. P. Beatty. Power Pl Eng 44:94-5 Ap '40
Hotel power plant; private plants vs. purchased power. E. Douglas. Power Pl Eng 44:41-4+ Mr '40
Power plant costs for warehouses. Refrig Eng 39:229 Ap '40
Sloane-Blabon corp. cuts plant costs by $0.15 per M. lb. of steam. R. R. Frederick. diag Power 84:430-2 Jl '40
Which fuel to choose? comparative economy of generating steam with anthracite, bituminous coal, and fuel oil for industrial plants in the New York area. G. A. Anbro. Mech Eng 61:804-6 N '39; Discussion. 62: 555-7 Jl '40

See also Electric plants (central stations)—Costs

Diesel engine auxiliaries
For emergency service Boot mills has installed Diesel-powered electric generating unit in engine room. F. A. Westbrook. il Textile World 90:57 Jl '40
Light load Diesel pays; Bradford dyeing assn. il Power Pl Eng 44:81 O '40
No Btu's lost in Dieselized dairy; heat recovery from Diesel and steam engines working together supplies hot-water; Borden's Willow Brook plant. il diag Power 84:22-4 Ja '40
Oil and gas power; coating mill. il Power 84: 344-5 Je '40

Diesel engine plants
Application of automatic control instruments to Diesel engines; using exhaust temperature for control purposes. G. B. Bailey. il diag Instruments 13:209-11 Ag '40
Cold power plus; waste heat recovery in gas and Diesel engine plants. J. F. Hecking. il diags Power Pl Eng 44:60-2 F '40
Diesel costs; analysis of Diesel engine users assn. cost report. P. Beatty. Power Pl Eng 44:94-5 Ap '40
Diesel engine operating and outage data; five-year data for 84 units in 27 plants. L. Schneitter. Elec W 114:993-5+ O 5 '40
Diesel engines provide power economy for many food industries plants. il Food Ind 11:680-1 D '39
Diesel ice plant costs; Springdale ice & coal co. il Power Pl Eng 44:67-8 Mr '40
Diesel ice plant data. il Power Pl Eng 44: 62-3 O '40
Diesel installation in ice plant pays for itself in six months. il Refrig Eng 40:46 Jl '40
Diesel-powered flour mill; Sperry Gerard milling co. il Power 84:169-70 Mr '40
Meeting competition in refrigeration and air conditioning field; with comparative cost data for purchased power, Diesel and gas engine plants. H. C. Gause. Edison Elec Inst Bul 8:197-200 My '40
Oil and gas power; special section with tabulated data on Diesel and gas engine installations since April 1, 1939. il Power 84:341-56 Je '40
Save $210 per month with Diesels. il Brick & Clay Rec 97:34 S '40

POWER plants—Diesel engine plants—*Cont.*
Twenty Diesels all in a row; R. G. Le-Tourneau plant, Peoria. il Power 84:103 F '40
Year's service record shows gas-Diesel economy; Coolidge Standby generating station, San Carlos irrigation project. R. G. Hornberger. il diag Power 84:724-7 N '40

Employees

Every plant will face personnel problems in defense program. Power 84:559 S '40
Keeping posted. E. A. Casey. Power Pl Eng 44:77-8 Je '40
Little education; don't spurn the correspondence course and evening classes; university extension service. R. H. Morris. Power Pl Eng 44:70-2 Je '40; Discussion. 44:95-6 O '40
New license law for New York city operators. Power 83:785 D '39
So, you want to be an engineer? H. A. Knapp. Power Pl Eng 43:794-6 D '39
Training new employees. Power Pl Eng 44: 53 My '40
We need apprentices! P. Swain. Power 83: 765-6 D '39
What! no CO_2 bonus systems? Power Pl Eng 43:806-7 D '39

Equipment

Advances in power equipment in past ten years. il diags Power Pl Eng 44:56-64 Ja '40
Booklets, catalogs, bulletins; 475 items covering equipment and supplies used by power engineers. Power 83:837-8, 840-3, 846-8 Mid-D '39
Braze tube bus with low-melt alloy. il diags Elec W 112:1470+ N 18 '39
British plant for overseas; recent noteworthy developments. il Elec R (Lond) 126:309-11 Mr 15 '40
Coke breeze and anthracite burned on traveling-grate stokers, supplement blast furnace gas; Bethlehem steel company's Steelton plant. H. K. Miller. Blast F & Steel Pl 28: 1002-3 O '40
Eavenson & Levering makes modernization pay as it goes. W. A. Lofft. il Power 84: 379-81 Je '40
Ending the instrument dilemma; Rochester athenaeum and mechanics institute trains men to design, install, adjust and maintain automatic controls. C. A. Little. il Power 84:395-6 Je '40
G. Fox store sets a new standard; steam plant for heating, air conditioning and other power services. flow diag il plans Power Pl Eng 44:40-6 Ap '40
Instruments safeguard progress; power plant instruments during past ten years. il diags Power Pl Eng 44:68-70 Ja '40
Magnaflux inspection in the power plants. J. J. Timmons. il Power Pl Eng 44:98, 100+ Ap '40
Metal lining a large concrete sunken tank. il diags Sheet Metal Worker 31:27-30 Jl '40
Metallurgical studies fostered by engineering societies. A. E. White. il Power Pl Eng 44: 71 Ja '40
Meters, the watch dogs of plant operation. R. R. Frederick. il Power 84:14-15 Ja '40
Modern power for modern refinery; Texas co.'s Port Arthur refinery. flow diags il diag plan Power 84:485-7 Ag '40
Modernization of power generation and distribution facilities at Texas co. plant. L. E. Priester and H. Flynn. il plans Oil & Gas J 38:74-7 Mr 28 '40
More Yankee ingenuity at R. Wallace & sons mfg. co. il Power 84:737-8 N '40
1940 directory of manufacturers; buyers' guide of over 400 power products. Power 83:sup 156-212 Mid-D '39
"Plenty of oil" not enough. J. E. Hyler. il Power Pl Eng 44:52-3 Jl '40
Power supply at the Manning-Ham mills of Messrs Lister and company, limited. il plan Engineering 149:329-30, 334, pl 18 Mr 29 '40
Private power supply; Rugby portland cement co. il Elec R (Lond) 125:807-8 D 29 '39
Process sets the pattern at Front Royal plant of American viscose corporation. H. A. Kuljian. flow diags il layout Power 83:740-3 D '39
Process steam; how heating and power driving requirements are met; Manor laundry, Camberwell. il Elec R (Lond) 126:207-9 F 23 '40
Progress in the development of heat cycles during past ten years. R. C. Roe. il diags Power Pl Eng 44:44-9 Ja '40
Review of power and mechanical equipment. il diags Power 83:794-828+ Mid-D '39
Simplicity, compactness, ease of operation mark Dunn sulphite paper co.'s plant. il diag plan Power 84:202-4 Ap '40
Small-plant coal-handling equipment pays; Eavenson & Levering co. wool-scouring plant. W. A. Lofft. il Power 84:26-7 Ja '40
Small plants combine elements. il diags Power Pl Eng 44:78-80 Ja '40
Small steam-pressure increase cuts coal cost $15,000 a year; University of Missouri. R. H. Sogard. il diags Power 84:136-9 Mr '40
Some will meet loads by stretching capacity; others must modernize in some of ten ways. il Power 84:554-7 S '40
Turbo-electric plant for utilising Italian fuels; Società generale della viscosa. il Engineering 148:663-4 D 15 '39
Typical industrials above 200 lb installed or under construction since January, 1939; tabulation. L. N. Rowley. Power 84:562-5 S '40
Typical industrials 200 lb and under; tabulation. L. N. Rowley. Power 84:566 S '40
Typical institutionals installed or on order since January, 1939; tabulation. L. N. Rowley. Power 84:567 S '40
Vibration; its effect on heat transfer. W. E. Mason and L. M. K. Boelter. bibliog Power Pl Eng 44:43-4+ Je '40
What's new in plant equipment. Published in monthly numbers of Power

See also
Air preheaters
Boilers
Coal handling
Condensers (steam)
Piping (power plants)
Steam plants—Equipment

Fuel

Automatic control solves dual-fuel problems; boilers of Cleveland refinery fired with oil-refinery gas and pulverized coal. W. E. Sachse. il diag Power 84:492-4 Ag '40
Coal characteristics determine furnace performance. A. L. Luke, jr. diags Power Pl Eng 44:44-8 N '40
Coal conferences at Ann Arbor, April 22. Power Pl Eng 44:116+ Je '40
Coal for power generation; its availability in the United States, means of production, and cost; hydroelectric and steam plant costs compared. C. Y. Thomas. il map Civil Eng 10:497-500 Ag '40
Coal purchasing contracts. R. W. Langtry. Power Pl Eng 44:77 Ag '40
Decade of progress in fuel utilization. R. A. Sherman. il diags Power Pl Eng 44:72-8 Ja '40
Discuss selection and utilization of coal at big fuel conference. Concrete (mill sec) 48:187-8 Je '40
Fuel prices going up, no shortage likely. Power 84:558-9 S '40
Fuel selection, coal-dust control; abstracts of ASME papers. diags Power 83:831 Mid-D '39
Heat and power in the pulp industry. M. F. A. Wulfinghoff. diag Paper Ind 22:677-8 O '40
Hotel New Yorker goes back to coal; advantages of a 2-fuel plant. W. Lewis. Power 84:498-9 Ag '40
Sloane-Blabon corp. cuts plant costs by $0.15 per M. lb. of steam. R. R. Frederick. diag Power 84:430-2 Jl '40
Steam from special fuels; making use of waste materials. diags Elec R (Lond) 126:564-6 My 24 '40
Stoker flexibility asset during coal strike. C. W. Baldwin. Power 84:215+ Ap '40

POWER plants—Fuel—*Continued*
Turbo-electric plant for utilising Italian fuels; Società generale della viscosa. il Engineering 148:663-4 D 15 '39
What the purchaser should know about coal. T. A. Marsh. Blast F & Steel Pl 27:1247, 1250-3 D '39
Which fuel to choose? comparative economy of generating steam with anthracite, bituminous coal, and fuel oil for industrial plants in the New York area. G. A. Anbro. Mech Eng 61:804-6 N '39; Discussion. 62: 555-7 Jl '40
Why not a coking index? helps solve practical coal-selection problems. C. E. Pritchard. il Power 84:302-3 My '40

See also
Boilers—Firing
Electric plants (central stations) —Fuel

Gas engine plants

Cold power plus; waste heat recovery in gas and Diesel engine plants. J. F. Hecking. il diags Power Pl Eng 44:60-2 F '40
Development and utilization of power from sewage gas at Durham, N.C.; abstract. R. S. Phillips. Water Works & Sewerage 87: 158 Ap '40
Gas engine cuts air conditioning power costs 71%; Heidelberg hotel at Jackson, Miss. il Heat & Ven 37:28 Mr '40
Gas engines save cotton mill $9000 in year; with cost data. P. K. Giffin and E. W. McIntosh. il Gas Age 85:29-30 F 1 '40
Gas engines take on another job; natural-gas units make economical and flexible pumping plant drive. G. H. Dieter. il diags Power 84:206-9 Ap '40
Meeting competition in refrigeration and air conditioning field; with comparative cost data for purchased power, Diesel and gas engine plants. H. C. Gause. Edison Elec Inst Bul 8:197-200 My '40
Natural gas engine for Trinidad. W. A. Tookey. il diags Engineer 169:551-2, 554, 575-6 Je 21-28 '40
Natural-gasoline plant in New Mexico. il Comp Air M 45:6066 Ja '40
Oil and gas power; special section with tabulated data on Diesel and gas engine installations since April 1, 1939. il Power 84:341-56, 471 Je-Jl '40
Oil field business; competing with free gas; Oklahoma natural gas company. J. A. McMullin. il Gas Age 84:52-3 D 21 '39
Power from sludge gas at Albuquerque. W. W. Wheeler. il Eng N 123:843 D 21 '39
Report of gas engine power committee. diag Am Gas Assn Proc 1939:401-7
Shreveport produce house saves with gas engines. R. M. Scoggins. il Gas Age 86:78-80 O 10 '40

Gas turbine plants

Hot air power plant; cycle employed by Escher Wyss. J. Ackeret and C. Keller. il diags Engineer 169:373-4 Ap 19 '40
Why combustion gas turbines? J. T. Rettaliata. il Power 83:732-4 D '39

Maintenance and repair

Maintenance vs. repair. R. E. Turner. Power Pl Eng 44:70 Ag '40
Plan your way out of trouble. L. Rowley. Power 84:105-7 F '40
Practical engineer and electrician; devoted to plant operation and maintenance. Published in monthly numbers of Power plant engineering
Small valves, the petty thieves. J. C. DeFoe. Power Pl Eng 44:71 Ag '40

Management

Foreman's life is not all roses. G. L. Radamaker. Power Pl Eng 44:70-1 Ag '40
Hospital power plants need a doctor! P. Swain. Power 83:730-1 D '39
It takes more than a bright idea to convince the boss; power plant operation; Beth Israel hospital. il diags Power 84:591-3 S '40
Loudspeaker system wraps up the power job at RCA mfg. co. il Power 84:12-13 Ja '40
Power plant operation problems. R. W. Crain. il diags Power Pl Eng 44:65-8 S; 84-5 O; 65-7 N '40
Those hospital plants still need a doctor! C. T. Baker. Power 84:325-6 My '40
Work schedules. E. W. Robinson. Power Pl Eng 44:63-4 S '40

Records

Power plant records. B. H. Whitehouse. Power Pl Eng 44:70-2 Jl '40

Safety devices and measures

Power plant protection. D. F. Reese. il Safety Eng 79:20-2, 24 My '40
Safety in the power plant. Power Pl Eng 44:134+ Ap '40
Safety reminders for the power plant. L. W. Larson. Power 84:742-3 N '40

Tables, calculations, etc.

Vibration; its effect on heat transfer. W. E. Mason and L. M. K. Boelter. bibliog Power Pl Eng 44:43-4+ Je '40

POWER plants, Portable
Dozen duties for a generator set; portable power equipment, Portland General electric co. il Elec West 83:27-8 D '39
Multi-purpose truck is ambassador of good will; equipped to furnish light, power or public-address service; Portland general electric co. W. W. R. May. il Elec W 113: 280-1+ Ja 27 '40

POWER pools. See Electric plants—Interconnection

POWER purchasing. See Electric plants—Isolated plants vs. purchased power; Power cost

POWER rates. See Electric rates

POWER transmission
Adjustable idler pulleys for right-angle belt drives. M. H. Ball. diags Mach 46:205 Jl '40
Brown power take-off and pulley unit. il Engineer 169:483 My 24 '40; Engineering 149: 590 Je 14 '40
Developments in the application of the internal combustion engine to railway traction in Europe and North America; with transmission types and cost data. F. T. Barwell. il diags Inst Mech Eng J & Proc 142:11-23 Ja '40
Electric-tie transmissions; new power or motion transmitting system ties movement at two or more points without mechanical connection. C. W. Drake. diags Steel 106:47-8+ Je 17 '40
Electrical and power transmission equipment at chemical exposition. il diag Chem & Met Eng 46:699-700 N '39
Handy formulas for mechanical power transmission; data sheet. Factory Management 98:96, 98 Ja '40
Industrial gears for large transmissions. E. J. Wellauer. il Metal Prog 36:725-30+ D '39
Mechanical power transmission. il diags Chem & Met Eng 47:482-8 Jl '40
Mechanical transmissions; V-belt and variable-speed. il Rayon 21:707-9 N '40
Messung des massenträgheitsmomentes von rädern und wellen in getrieben. F. Gutmann. diag V D I 83:1235-6 N 25 '39
Multiengine power unit developed by students in the College of engineering, University of Kentucky consists of six automobile engines and a unique drive system; abstract. E. S. Foreman. il Mech Eng 62:745-6 O '40
New drives, 15% more production; changing from an old lineshaft drive to combination of unit and small group drives; Dover stamping and manufacturing company. R. Whitney. il Factory Management 98:82-3 O '40
New power transmission equipment. F. J. Oliver. il Iron Age 145:37-41+ Ja 11 '40
Review of power and mechanical equipment; mechanical transmission and materials handling. il diag Power 83:805-9 Mid-D '39

POWER transmission—*Continued*
Short center drive performance. L. H. Skouger. diag Power Pl Eng 44:61-2 Je '40

Short-center drives with tension-control motor bases adopted by Lydia cotton mills. F. A. Westbrook. il Textile World 90:69 Mr '40

Short-centre rope drive. il Engineer 169:336 Ap 5 '40

Stufenlos regelbare schaltwerksgetriebe. F. G. Altmann. il diags V D I 84:333-8 My 18 '40

Two belts OK? belt drive problem. diags Power 84:674-5 O '40

What's new in power transmission equipment. F. J. Oliver. il diags Iron Age 145:51-4 Je 20 '40

See also
Bearings
Belting
Chain gear
Clutches
Compressed air
Couplings
Electric driving
Electric lines
Electric transmission
Gearing
Hydraulic transmission
Machinery
Pulleys
Shafting
Speed variation

Tables, calculations, etc.

Distance between mining machinery shaft centers. Can Min J 61:643 O '40

How much safety? graphic presentation details typical methods of working out drive applications. J. N. Smith. Steel 105:70-1+ D 4 '39

Selection of V-belts; reference book sheet. diag Am Mach 84:633, 635 Ag 21 '40

V-belt drives; horsepower ratings and service factors. R. F. Vogt. Product Eng 11:171-3 Ap '40

POZZUOLANA
Artificial pozzolanas found fully equal to natural products. Concrete (mill sec) 48: 156-7 Ap '40

Cement research in pozzolana cements in the U.S.S.R; abstract. Am Concrete Inst J 11: 702-3 Je '40

Performance of portland-pozzolan cements in concrete work. Concrete (mill sec) 48:178 My '40

Pozzolanic minerals; combination of silica and calcium oxide in water. Concrete (mill sec) 48:184 Je '40

PRAIRIE farmer (periodical)
Century on the Prairie. Sales Management 47:66 O 1 '40

PRAIRIES
White man versus the prairie. R. J. Pool. Science 91:53-8 Ja 19 '40

PRASEODYMIUM
Absorption of praseodymium ion in solutions and in the solid state. F. H. Spedding. bibliog Phys R 58:255-7 Ag 1 '40

Zeeman effects and preliminary analysis of singly-ionized praseodymium; abstract. G. R. Harrison and N. Rosen. Science 91:419 My 3 '40

PRASEODYMIUM chloride
Magnetic rotation of praseodymium, samarium, and europium chlorides in aqueous solution at 25°. C. M. Mason, J. W. Hickey and W. K. Wilson. diag Am Chem Soc J 62: 95-9 Ja '40

Solubilities of the chlorides of lanthanum, praseodymium, and neodymium. J. N. Friend and R. W. Hale. Chem Soc J p670-2 My '40

PRATT and Lambert, Incorporated
Dividend paying stock selling near quick asset value. Mag of Wall St 66:536 Ag 10 '40

PRATT and Whitney division of the Niles-Bement-Pond company
Plant at West Hartford, Conn. for the manufacture of machine and small tools. il Factory Management 98:B40-B43+ Ap '40

Pratt & Whitney; machine-tool maker. il Fortune 21:72-7+ Ap '40

Starts 80th year in new large plant. il Iron Age 145:70-4 Ja 25 '40; Steel 106:46-8 F 5 '40; Mach 46:130-1 F '40

PRATT Institute, Brooklyn

School of fine arts

Pratt architectural clinic gives experience to students, business to architects. il Arch Rec 87:8+ Ap '40

PRE-AMERINDIAN (term)
What is a pre-Amerindian? W. D. Strong. bibliog Science 91:594-6 Je 21 '40

PRECIOUS metals
Precious metals in industry; abstract. D. C. Lloyd. Chem & Ind 58:1122 D 30 '39; Same. Can Chem & Process Ind 23:634 D '39

Recent advances in the applied chemistry of the rare metals. R. H. Atkinson. flow sheets il Chem & Ind 59:191-204 Mr 23 '40

Refining precious metal wastes. C. M. Hoke. 362p bibliog(p345-54) $5 Metallurgical pub. co, 123 William st, New York '40

See also
Gold
Platinum
Platinum metals
Silver

PRECIOUS stones
Precious and semi-precious stones. M. Weinstein. 3d ed 184p bibliog(p167-9) $3 Pitman '39

See also
Diamonds
Pearls
Turquoise

PRECIPITATION
Charcoal as a gold precipitant in conjunction with flotation. M. W. von Bernewitz. flow sheets Eng & Min J 141:43-7 Mr '40

Coprecipitation of barium ion with hydrous aluminum, chromic and ferric oxides in the presence of ammonium ion. L. Lehrman, J. Been and M. Manes. bibliog Am Chem Soc J 62:1014-18 My '40

Electrometric studies of the precipitation of hydroxides; the amphoteric nature of vanadium tetroxide. H. T. S. Britton and G. Welford. Chem Soc J p758-61 Je '40

Electrometric studies of the precipitation of hydroxides; vanadous hydroxide; the nature of vanadous chloride and sulphate solutions. H. T. S. Britton and G. Welford. Chem Soc J p761-4 Je '40

Inhibiting action of minute amounts of sodium hexametaphosphate on the precipitation of calcium carbonate from ammoniacal solutions. R. F. Reitemeier and T. F. Buehrer. bibliog il J Phys Chem 44:535-74 My '40

Magnetic studies of solid solutions; methods of observations and preliminary results on the precipitation of iron from copper. F. Bitter and A. R. Kaufmann. diag Phys R 56:1044-51 N 15 '39

Precipitation of silver chromate. A. Van Hook. bibliog J Phys Chem 44:751-64 Je '40

Solubility of cracked residues in some solvents. J. Voskuil. diag Inst Pet J 26:57-71 F '40

Solution and precipitation of lead and zinc sulphides in sodium sulphide solutions. F. G. Smith. bibliog il Econ Geol 35:646-58 Ag '40

Some interesting examples of rhythmic precipitation. T. Moeller. il J Chem Educ 17: 519 N '40

Studies on aging and coprecipitation; the adsorptive properties and the determination of the specific surface of lead chromate. I. M. Kolthoff and F. T. Eggertsen. Am Chem Soc J 62:2125-31 Ag '40

Studies on aging and coprecipitation; the thermal aging of imperfect barium sulfate. I. M. Kolthoff and W. M. MacNevin. il J Phys Chem 44:921-35 O '40

Studies on aging and formation of precipitates; the aging of silver bromide. I. M. Kolthoff and A. S. O'Brien. Am Chem Soc J 61:3414-19 D '39

PRECIPITATION—*Continued*
Studies on aging and formation of precipitates; the determination of the specific surface of silver bromide by the radioactive and dye methods. I. M. Kolthoff and A. S. O'Brien. bibliog Am Chem Soc J 61:3409-14 D '39

See also
Electric precipitation
Spaulding precipitators

PRECIPITATORS, Spaulding. See Spaulding precipitators

PRECISION instruments. See Instruments—Manufacture

PREECE, Sir George
Portrait. Engineer 170:supp Jl 19 '40

PREFERENCES (law). See Bankruptcy

PREFERRED numbers
Important economies in preferred number system. H. W. Tenney. Steel 106:33 Ja 29 '40

PREFERRED stocks. See Stocks, Preferred

PREGNANEDIOL
Sterols; conversion of sarsasapogenin to pregnanediol-3(α),20(α). R. E. Marker and E. Rohrmann. Am Chem Soc J 61:3592-3 D '39
Sterols; pregnanediols from sarsasapogenin. R. E. Marker and E. Rohrmann. bibliog Am Chem Soc J 62:518-20 Mr '40

PREGNANETRIOL
Sterols; oxidation products of sarsasapogenin; pregnanetriol-3,16,20. R. E. Marker and others. bibliog Am Chem Soc J 62:525-7 Mr '40
Sterols; the oxidation of pregnanetriol-3,4,20(α) and of coprostanediol-3,4. R. E. Marker and others. bibliog Am Chem Soc J 61:3317-20 D '39
Sterols; the oxidation of pregnanetriols. R. E. Marker and D. L. Turner. bibliog Am Chem Soc J 62:2540-1 S '40

PREGNENEDIOLONE
Preparation of Δ^5-pregnenediol-3,17-one-20 from Δ^5-17-ethynyl-androstenediol-3,17. H. E. Stavely. Am Chem Soc J 62:489-91 Mr '40

PREHEATERS. See Air preheaters

PREMIUMS (merchandizing)
After hours; premiums are dear to the hearts of women. E. Wolf. Ptr Ink 192:6 S 13 '40
All this, and a premium too. A. H. Little. il Dun's R 48:10-13+ Ap '40
Answers to questions on premiums. Ptr Ink Mo 41:16+ O '40
Behind the coupon; National premium exposition, Chicago. Business Week p41-2 My 4 '40
Brand name promoted by premium; Old Dutch coffee. il Ptr Ink Mo 39:16 D '39
But how does Mrs O'Grady like premiums? S. Carewe. Adv & Sell 33:18-19 N '40
Car demonstrations spurred by premium offer; Willys-Overland motors. il Ptr Ink Mo 41:40 S '40
Flagging store and street traffic with a premium offer. F. H. Waggoner. il Sales Management 46:62-3 Ja 1 '40
Housewives prefer premiums for kitchen, home; see added values, no extra cost. il Sales Management 45:30, 32+ D 1 '39
How long will this premium orgy last? il Adv & Sell 33:17-19, 42 S '40
If premium plans fail, cause can usually be found in these 23 points. Ptr Ink 192:56-9 Jl 5 '40
Industrial property, prohibition of premiums and gifts as an advertising medium in Cuba. For Comm W 1:197-8 N 2 '40
Is the pot and pan parade a confession of weakness? L. Weinberg, jr. il Adv & Sell 33:33-4 Je '40
Novelty direct mail brings customers to dealers; Shell oil company. H. L. Curtis. il Ptr Ink 190:19-21 Ja 5 '40
Planes by the million; General Mills is distributing rubber-powered models. Business Week p39 Ap 27 '40
Poster stamps as premiums pull like mustard plasters; experiences of Jewel Tea, Skelly Oil, Bowey's, Tide water associated oil co, Horlick's, Armour & co. and others. S. A. Wright. il Sales Management 46:34, 38-9+ Je 1 '40
Premium appeal in a nutshell: buy this and buy it now. F. H. Waggoner. il Sales Management 47:42, 44 Jl 15 '40
Premium offer holds interest almost a year. il Ptr Ink Mo 40:52 Je '40
Premium users and their offers; annual compilation. il Ptr Ink Mo 40:16, 57-64 My '40
Premiums lift the sales story out of the hum-drum; No-Rub waxes and polishes. il Ptr Ink Mo 41:28 Jl '40
Premiums on the air. E. P. H. James. il Ptr Ink Mo 40:16-17+ F '40
Premiums sell breakfast foods and gasoline, why not bus rides too? post cards for children collectors. A. H. Wood. il Bus Transportation 19:510-11 O '40
Pre-testing new products; pre-test of premium deal. R. B. L. Singer. Adv & Sell 33:60 Jl '40
Stop, look, consider before you choose or advertise your premium. F. H. Waggoner. il Sales Management 46:42-3+ Mr 15 '40
Throat light as premium outpulls all previous deals for Listerine. il Sales Management 47:38+ N 15 '40
What your dealers think of premiums and deals. il Adv & Sell 33:17-20+ O '40
When the premium arrives in the home. il Ptr Ink Mo 40:38, 41-2 Mr '40

See also
Advertising copy—Premium offers

Dealer premiums
When shall we offer premiums to dealers and their clerks? F. H. Waggoner. Sales Management 46:34-5 Ap 20 '40

PRENTICE, Donald Bishop, 1889-
Sketch. por J Eng Educ 31:3-4 S '40

PRENTIS, Edmund A.
Portrait. Ind Stand 11:1 Ja '40

PRENTIS, Henning Webb, jr. 1884-
Heading the nation's manufacturers. por Barron's 20:9 Ja 22 '40

PRESBYTERIAN ministers fund
Historical sketch. T. Eagan. il Spectator (Life ed) 145:10-11 S 26 '40

PRESCRIPTION writing
Manual of prescription writing. H. N. G. Wright. 96 numb l $1.50 Burgess pub. co, Minneapolis '39

PRESERVATION of food. See Canning and preserving; Food preservation

PRESERVATION of records. See Records, Preservation of

PRESERVATION of wood. See Wood preservation

PRESIDENTIAL campaigns
Appraising the unseen vote; the radio campaign. F. H. McConnell. Barron's 20:5 Ag 12 '40
Business during presidential years since 1832. L. M. Hostetler. Barron's 20:20 Ja 29 '40
Can Willkie be elected? Mag of Wall St 66:452-3 Jl 27 '40
Election years affect business negligibly. E. E. Crabb. Bankers M 141:178-9 Ag '40
Election years bad for business? pictograph. Sales Management 46:43 F 15 '40
Fortune survey. Fortune 22:65-7+ O; 71-8 N '40
How the president is conducting a non-political campaign for re-election. E. Blair. Barron's 20:4 S 9 '40
President Roosevelt accepts support of independent voters. Comm & Fin Chr 151:1827 S 28 '40
Presidential $$$. il Fortune 22:46-9+ Jl '40
Presidential elections, business and the market; a forty-six year period at a glance; with chart. H. M. Tremaine. Mag of Wall St 65:402-3 Ja 13 '40
Roosevelt gaining as GOP surge sags. E. Blair. Barron's 20:4 S 2 '40

PRESIDENTIAL campaigns—*Continued*
Some important factors in the outlook for the election. K. K. Hoyt. Annalist 56:109 Jl 25 '40
Willkie shifts the issues. Business Week p15-16 Jl 6 '40

PRESIDENTIAL candidates
Fortune survey; again the presidency. Fortune 21:56-7 Ja '40
Fortune survey; twelve men for the White House. Fortune 21:76 My '40
Frank E. Gannett announces his candidacy for Republican presidential nomination. Comm & Fin Chr 150:367 Ja 20 '40
Position of leading contenders for Republican presidential nomination. E. Blair. Barron's 20:4 F 19 '40
Roger W. Babson accepts presidential nomination of New prohibition party. Comm & Fin Chr 150:2986 My 11 '40
Taft said he didn't know; some of his answers to questions of great interest to utility and other business men. H. Corey. Pub Util 25:579-85 My 9 '40
What I would do as president; political and economic philosophy of Wendell L. Willkie. A. P. Pinci. Barron's 20:8+ Je 17 '40
What I would do as president; political platform of Senator Robert A. Taft. Barron's 20:8 Je 24 '40
Why not change horses? opportunity for a real choice of leadership in defense effort. W. L. Crum. Barron's 20:3 Je 17 '40
Willkie candidacy, boom or bouquet? H. Corey. Pub Util 25:771-8 Je 20 '40

See also
Dewey, Thomas Edmund
Willkie, Wendell Lewis

PRESIDENTS (United States)
American presidency, an interpretation. H. J. Laski. 278p $2.50 Harper '40
Emergency powers threaten industry. L. W. Moffett. Iron Age 145:77, 80-1+ Ja 4 '40
President, office and powers. E. S. Corwin. 476p $5 New York univ. bk. store, 18 Washington pl, New York '40
Presidential leadership; the political relations of Congress and the chief executive. P. Herring. 173p $1 Farrar '40
White House; a biography. C. Hurd. 339p $3.50 Harper '40

Election
Franklin D. Roosevelt reelected. Comm & Fin Chr 151:2733-4 N 9 '40
Looking behind the Gallup poll. W. L. Crum. Barron's 20:5 O 28 '40
Polls of popular opinion on political questions: a statistical analysis. Annalist 56: 427 O 3 '40
Presidential elections from Abraham Lincoln to Franklin D. Roosevelt. C. A. M. Ewing. 226p $2.50 Univ. of Oklahoma press, Norman '40
Presidential vote, 1936; supplementing the Presidential vote, 1896-1932. E. E. Robinson. 91p pa $2 Stanford univ. press '40
Vote on the vote. Business Week p8 N 2 '40

Term of office
Democracy and the third term; a handbook for both sides. F. Rodell. 129p $1.50 Howell, Soskin & co, 17 E. 45th st, New York '40
Senate sub-committee holds hearings on measure to limit presidential term to six years. Comm & Fin Chr 151:1506, 1818 S 14, 28 '40

PRESS
See also
Foreign language press
Freedom of the press
Journalism
Newspapers
Periodicals
Public opinion

Bibliography
International news and the press. R. O. Nafziger, comp. 193p $3.75 Wilson, H.W. '40

PRESS agent publicity. See Publicity

PRESS law
Law of journalism. R. W. Jones. 395p $4 Washington law book co, Washington, D.C.; Metropolitan law book co, Brooklyn, N.Y. '40
Law of newspapers; a text and case book. W. R. Arthur and R. L. Crosman. 2d ed 615p bibliog(p473-4) $4 McGraw-Hill '40

PRESS tools
Compensating for spring back in press tools. L. Kasper. diags Am Mach 84:924 N 13 '40
Design and construction of metal stamping tools. C. L. Szalanczy. il Iron Age 144:48-51 D 14 '39
Double- vs. single-action drawing presses. A. D. Mundy. diags Am Mach 84:214-15 Ap 3 '40
Failure of press tools under fatigue and impact. C. E. Bretney. il diags Metal Prog 36:751-4 D '39
Press forming a casting; holding edges of die stocks are beveled with press tools. H. M. Darling. diags Am Mach 83:1074-5 D 27 '39
Press tools for embossing and blanking. W. B. Greener. diag Am Mach 84:923 N 13 '40
Press tools for piercing slots. C. H. Willey. diags Am Mach 84:339 My 15 '40
Tools for pressing and drawing; composite of abstracts. Metals & Alloys 11:MA134+ Mr '40

PRESSED metals of America, Inc.
Bankers enjoined on sale of stock. Comm & Fin Chr 150:3371 My 25 '40

PRESSED steel car company
Low price, active leverage stocks; thumbnail appraisal. Mag of Wall St 65:622 F 24 '40

PRESSES
Aviation's rubber stamp; use of rubber pad in press operations; Guerin process. H. E. Guerin. il Am Mach 84:206-8, 246-8 Ap 3-17 '40
Double- vs. single-action drawing presses. A. D. Mundy. diags Am Mach 84:214-15 Ap 3 '40
Equipping a cartridge case shop. E. C. Bomar. il Iron Age 146:42-52 O 10 '40
Experimental press and die. V. Waitkus. diags Mach 46:129-31 Je '40
Manufacture of corrugated-steel culverts. il Engineering 149:435, 438 Ap 26 '40
Metal stretching press; Glenn L. Martin company. il Sci Am 162:290 My '40; Automotive Ind 82:328 Ap 1 '40
Niagara streamline press. il Automobile Eng 30:88 Mr '40
Performing broaching operations in foot and power presses; slots in the arms of candelabra. M. J. Goldstein. il diags Mach 46: 98-9 Ag '40
Press shearing through an oblique plane. H. C. Lane. diags Engineer 169:205-6 Mr 1 '40
Preventing press-work troubles; Marchant calculating machine company. W. Kassebohm. diags Am Mach 84:162-3 Mr 20 '40
Shell forgings; high speed and accurate production with the Baldwin-Omes mechanical press. A. G. Hochbaum. il Iron Age 146: 57-60 O 10 '40
Shop equipment review; forming equipment. il Am Mach 84:207-12 Ja 24 '40
V and O power presses. il Automobile Eng 30: 39-40 F '40
Variable-stroke toggle-lever mechanism for press. P. Grodzinski. diag Mach 46:109-10 Mr '40
What's new in press brakes and presses. F. J. Oliver. il Iron Age 146:43-6 Jl 25 '40
What's new in presses. F. J. Oliver. il Iron Age 145:40-5+ Ja 25; 56-60 My 9 '40
Wiedemann power-operated turret press. il Am Mach 84:308 My 1 '40
Zeh & Hahnemann double crank presses. il Am Mach 84:66 F 7 '40

See also
Dies
Hydraulic presses
Printing presses

Control
Photo-electric relays pay for themselves in one day. Mach 46:154 Mr '40

PRESSES—*Continued*

Design

Changing from welded to cast frame construction in press design. E. V. Crane. il Mach 46:159-61 Ja '40; Discussion (Cast frame versus welded construction in press design). A. E. Gibson. 46:130-1 Mr; (Cast versus welded press construction). I. Patrick. 46:95 My; (Welded versus cast press frames). A. Clements. 47:146-8 N '40

Manufacture

Changing from welded to cast frame construction in press design. E. V. Crane. il Mach 46:159-61 Ja '40; Discussion (Cast frame versus welded construction in press design). A. E. Gibson. 46:130-1 Mr; (Cast versus welded press construction). I. Patrick. 46:95 My; (Welded versus cast press frames). A. Clements. 47:146-8 N '40

Deep holes in hot plates; forming and curing presses for plywood. il Am Mach 84:212-13 Ap 3 '40

Safety devices and measures

Die design for inclinable presses. J. I. Karash. il diags Mach 46:106-9 My; 126-8 Je '40

Handling in press work; Reliance electric & engineering co. il Steel 106:66+ My 27 '40; Iron Age 145:33 Je 13 '40

Littell safety press feeding devices. il Mach 46:188 Ja '40

No excuse for accidents. E. Kann. il diags Am Mach 84:702-5 S 18 '40

Power press guards. il Automobile Eng 30: 182-4 Je '40

PRESSING

Practical finishing of dress and coating fabrics. G. L. Atkinson. Textile Col 61:822-3; 62: 385-6+ D '39, Je '40

PRESSMEN'S union. See International printing pressmen and assistants' union of North America

PRESSURE

Binary liquid systems; the azeotropic composition of carbon tetrachloride-ethyl acetate mixtures as a function of the pressure. P. W. Schutz and R. E. Mallonee. Am Chem Soc J 62:1491-2 Je '40

Bottles for internal pressure. F. W. Preston. diags Glass Ind 21:272-3+ Je '40

Calculation of chemical equilibrium at high pressures. R. H. Ewell. bibliog Ind & Eng Chem 32:147-53 F '40

Druckverlust von kugelschüttungen. G. Kling. bibliog V D I 84:85-6 F 3 '40

Effect of pressure on the enthalpy of benzene. E. R. Gilliland and R. V. Lukes. bibliog flow sheet il diags Ind & Eng Chem 32:957-62 Jl '40

Effects of pressure, temperature and chemical composition on the absorption of light by mixtures of aromatic amines and nitro compounds. R. E. Gibson and O. H. Loeffler. bibliog Am Chem Soc J 62:1324-34 Je '40

Flow pattern and pressure drop in cyclone dust collectors; cyclone without inlet vane. C. B. Shepherd and C. E. Lapple. diags Ind & Eng Chem 32:1246-8 S '40

High pressure; Carnegie institution of Washington, cascade bomb apparatus. R. D. Potter. Science 91:sup10+ Mr 29 '40

Influence of pressure upon the water-gas and other equilibria. G. Sartori and D. M. Newitt. Engineering 149:157 F 9 '40

Liquid-phase reactions at high pressures; the explosive decomposition of *cyclo*pentadiene. B. Raistrick, R. H. Sapiro and D. M. Newitt. Chem Soc J p1770-3 N '39

Liquid-phase reactions at high pressures; the polymerisation of *cyclo*pentadiene and α-di-*cyclo*pentadiene. B. Raistrick, R. H. Sapiro and D. M. Newitt. diag Chem Soc J p1761-9 N '39

Liquid-vapor equilibrium relations in binary systems; the ethane-*n*-butane system. W. B. Kay. diag Ind & Eng Chem 32:353-7 Mr '40

New high pressures reached with multiple apparatus. P. W. Bridgman. Phys R 57:342-3 F 15 '40; Abstract. Science 91:sup10 Mr 1 '40

Pressure analysis chart for a hydraulic press; rubber molding. P. B. Hunt. India Rubber W 102:48-9 S '40

Pressure and temperature effects on the viscosity of liquids. D. Frisch, H. Eyring and J. F. Kincaid. bibliog J Ap Phys 11:75-80 Ja '40

Pressure drop and liquid holdup in a packed tower. E. L. Piret, C. A. Mann and T. Wall, jr. bibliog il Ind & Eng Chem 32:861-3 Je '40

Pressure drop in refrigerant liquid lines. E. Gygax and K. S. Willson. Refrig Eng 39:103-6 F '40

Pressure gradient fractionation of gases. J. W. Creely and G. C. Le Compte. bibliog diags Ind & Eng Chem 32:430-4 Mr '40

Pressure-soluble and pressure-displaceable components of monolayers of native and denatured proteins. I. Langmuir and D. F. Waugh. diags Am Chem Soc J 62:2771-93 O '40

Pressure-volume-temperature relations for *n*-butane. W. B. Kay. Ind & Eng Chem 32: 358-60 Mr '40

Pressure-volume-temperature relations of *n*-hexane and of 2-methylpentane. E. A. Kelso and W. A. Felsing. bibliog Am Chem Soc J 62:3132-4 N '40

P-V-T relations of propylene. W. E. Vaughan and N. R. Graves. bibliog il diag Ind & Eng Chem 32:1252-6 S '40

Rapid discharge of gas from a vessel into the atmosphere. E. Giffen. diags Engineering 150:134-6, 154-5, 181-3 Ag 16-23, S 6 '40

Sodium chloride at very high pressures. R. B. Jacobs. Phys R 57:1046 Je 1 '40

Solubility of carbon dioxide in benzene at elevated pressure. S. Wan and B. F. Dodge. flow sheet diags Ind & Eng Chem 32:95-8 Ja '40

Solubility of methane in benzene. E. P. Schoch and others. il diags Ind & Eng Chem 32:788-91 Je '40

System benzene-nitrogen; liquid-vapor phase equilibria at elevated pressures. P. Miller and B. F. Dodge. diags Ind & Eng Chem 32:434-8 Mr '40

Viscosity of gases and vapors at high pressures. E. W. Comings and R. S. Egly. bibliog Ind & Eng Chem 32:714-18 My '40

See also

Atmospheric pressure
Blood pressure
Compressibility
Earth pressure
Load (mechanics)
Osmotic pressure
Piezoelectricity
Steam plants—High pressure
Strains and stresses
Vacuum
Vapor pressure
Wind pressure

PRESSURE gages

Measurement of earth pressure. H. T. Hildage. diags Engineer 169:556 Je 21 '40

Pioneer vapor-proof manifold pressure gauge il Aero Digest 36:168 Ja '40

Pressure gauges, indicators, thermometers, pyrometers. J. Smith. 144p $1.50 Chemical pub. co. '39

Sensitive automatic pressure control device for high vacuum fractional distillation; Pirani tube and Wheatstone bridge. R. A. Smith. diags R Sci Instr 11:120-2 Ap '40

Vapor bomb connection saves pressure gages. D. Attaway. il diag Oil & Gas J 39:41 Ag 1 '40

See also

Ionization gage
Manometers
Vacuum gages

Testing

Testing orifice meter gages at high pressure with special water manometer. J. T. Cortelyou. diag chart Gas Age 85:27-9 Ap 25 '40

PRESSURE measurement

Absolute measurements in the pressure range up to 30,000 kg/cm². P. W. Bridgman. Phys R 57:235-7 F 1 '40

PRESSURE measurement—*Continued.*

Air forces on radial air-cooled engine cowling (as determined from pressure distribution tests). R. R. Higginbotham. il diags S A E J 47:370-96 S '40

Combining bending and hoop stresses to determine collapsing pressure of oil-country tubular goods. W. C. Main. bibliog Oil & Gas J 38:102-3+ N 17 '39

Compressibility burble and the effect of compressibility on pressures and forces acting on an airfoil. J. Stack, W. F. Lindsey and R. E. Littell. bibliog il diags U S Nat Advisory Com for Aeronautics 1939:73-96 '40

Cossor-Dodds condenser type pressure unit. diag Engineer 169:471-2 My 24 '40

Dynamometer for measuring ground pressures. W. H. Evans. il diags Engineering 149:433-4 Ap 26 '40; Abstract. Can Eng R & B 78:114 O '40

Effects of internal hydrostatic pressure on the shearing strength of soils. L. W. Hamilton. diags Am Soc T M Proc 39:1100-21 '39

Form pressure deflectometer. J. R. Griffith. il Concrete 48:33-4 O '40

Maximeter; device for determining maximum combustion pressures in cylinders of internal combustion engines. diags Automotive Ind 82:474 My 15 '40

Measurement of earth pressure. I. F. Morrison and W. E. Cornish. diags Engineer 169:504 My 31 '40

Measurement of pressures developed during the carbonization of coal. C. C. Russell. bibliog diag Am Gas Assn Mo 22:320-3 S '40

Measurement of pressures on rock pillars in underground mines, sound-velocity method. L. Obert. pls diags U S Bur Mines Rep of Invest 3111:1-15 bibliog(p14-15) '39; 3521:1-11 '40. Same (pt 1). Can Min J 60:264-71 My '39

Messung angreifender oder schwierig zu behandelnder gase und flüssigkeiten. F. Kretzschmer. il diags V D I 84:25-33 Ja 13 '40

Methods of calculating water-hammer pressures. F. M. Dawson and A. A. Kalinske. bibliog diags Am Water Works Assn J 31:1835-64 N '39

Relative volumetric gas analysis; by cascaded absorption and oxidation and pressure recorder. S. Chase. diag Instruments 13: 218-19 Ag '40

Safe Harbor hydro plant meters water flow; piezometer investigation. J. M. Mousson. il diags Power 84:650-2 O '40

Sensitive aneroid diaphragm capsule with no deflection above a selected pressure. W. G. Brombacher, V. H. Goerke and F. Cordero. pl diag J Research Nat Bur Stand 24:31-2 Ja '40

Simplified method for determining wing profile drag in flight. A. Silverstein and S. Katzoff. bibliog diags J Aeronautical Sci 7:295-301 My '40

Steam-engine indicator adapted to record differential pressure. W. B. Hess. il Instruments 13:211 Ag '40

Telemetric pressure recording system simplifies pipe-line operation. il Gas Age 85: 32 Je 20 '40

U-tube manometer for fan testing. G. G. McDonald diags Engineer 170:48-9 Jl 19 '40

Velocity pressures by pitot tube; data sheet. Power 84:399 Je '40

Water hammer studies on long pipe lines. L. E. Golt. diags map Am Water Works Assn J 31:1893-1903 N '39

Water levels and artesian pressure in observation wells in the United States in 1938. O. E. Meinzer and L. K. Wenzel. maps U S Geol S Water-supply Pa 845:1-724 '39

See also

Manometers

Pressure gages

PRESSURE regulators

Advancements in the braking of high-speed trains; with description of Decelostat for decreasing wheel slip. C. D. Stewart. Ry Age 108:861-4 My 18 '40

Alco valve introduces new line of pressure regulators. il Refrig Eng 39:192 Mr '40

Automatic control solves dual-fuel problems; boilers of Cleveland refinery fired with oil-refinery gas and pulverized coal. W. E. Sachse. il diag Power 84:492-4 Ag '40

Automatic controller for gas governors. diags Gas J (Lond) 232:34+ O 2 '40

Automatic controller maintains pressure. A. M. Spencer. il diag Gas Age 85:27-8 Ja 4 '40

Automatic loading for EMCO high pressure balanced valve regulators. il Am Gas J 153: 56 O '40

Boiler combustion control in the steel mill. M. J. Boho. flow charts diags Blast F & Steel Pl 28:806-9 Ag '40

Combustion systems, controls for gas-fired boilers. H. Cooney. diags Oil & Gas J 39:61-3+, 66 Ag 22 '40

Commercial refrigeration control systems; Polartron system. A. L. Hesselschwerdt and A. B. Newton. diags Refrig Eng 38: 357-61+ D '39

Control of fuel-air ratio in the operation of blast furnace stoves. diag Steel 106:80 Mr 25 '40

Controlled pressures on suction lines of trunk-line pumping stations. W. G. Heltzel. il plan Oil & Gas J 39:82-3 S 19 '40

EMCO introduces new model pressure regulator. il Gas Age 85:86+ My 9 '40; Am Gas J 152:47 Je '40

EMCO pilot loading system of pressure regulation. il Am Gas J 152:33 Mr '40

Flow meter accuracy governed by the piping layout, pressure tap location. L. K. Spink. il diags Heating-Piping 12:155-8 Mr '40

Freezing of natural gas regulators. W. C. Mitchell, S. Cromer and R. L. Huntington. bibliog il diags Gas Age 85:17-21+ Ja 4 '40

Installing globe valves. diags Power 84:318-20+ My '40

Instantaneous forging control. il diag Steel 106:73-4 Ap 8 '40

Manually operated valve controls steam pressure. C. F. Wendland. il Power 84:315-16 My '40

More efficient practices used to produce gas wells on Gulf. N. Williams. il Oil & Gas J 39:43-4 Ag 29 '40

More sensitive control; new automatic combustion control for chain grate, stoker-fired boilers. R. Trautschold. plan Steel 106:74+ My 6 '40

One-speed control proves efficient in gasoline plant. flow diag il Oil & Gas J 38:42 Ja 18 '40

Out-smarting trouble on motor-diaphragm valves. E. H. Hammond. il Power 84:20-1 Ja '40

Pressure air chambers in centrifugal pumping. W. L. Boerendans. diags Am Water Works Assn J 31:1865-92 N '39

Pressure-operated controls for electrical apparatus. diags Engineering 149:77 Ja 19 '40

Pressure regulator for dynamic gaseous systems. J. H. Bruun. diag Ind & Eng Chem Anal ed 11:628 N 15 '39

Pressure regulator for vacuum distillation. M. S. Newman. diag Ind & Eng Chem Anal ed 12:274 My 15 '40

Regulating condenser water for refrigeration systems. A. B. Newton. diags Heating-Piping 12:95-8 F '40

Regulators for boilers and paper machines. A. C. Wenzel. diags Paper Tr J 110:89-97 Je 27 '40

Relieving pressure in the foul main; readily adjustable and compact valve. diags Gas J (Lond) 229:640 Mr 20 '40

Selecting automatic-control equipment for continuous processes. H. H. Gorrie. diags Instruments 13:102+ Ap '40

Sensitive automatic pressure control device for high vacuum fractional distillation; Piruni tube and Wheatstone bridge. R. A. Smith. diags R Sci Instr 11:120-2 Ap '40

Service regulators; action and maintenance. B. F. Worley. il diags Gas Age 86:58-61+ O 10 '40

Servomotors control double-extraction turbines. O. N. Bryant. diag Power 84:580-2 S '40

PRESSURE regulators—*Continued*
Trouble shooting the air-conditioning system. F. O. Jordan. il diags Bus Transportation 19:504-5 O '40
Velocity and time-temperature pressure controls; Oklahoma natural gas company. E. C. McAninch. il Gas Age 84:37-9 D 21 '39
Water-hammer control by proper valve installation. E. C. Brisbane. diags Am Water Works Assn J 31:1904-8 N '39
Westinghouse combined governor and reducing valve. diags Ry Age 108:1134 Je 22 '40

PRESSURE vessels
Reinforcing welded branch connections. F. C. Fantz and W. G. Hooper. diags Heating-Piping 12:247-8 Ap '40
Sudden discharge of air from a pressure vessel. S. J. Davies. il diags Engineering 149: 17-18 Ja 5 '40
Wissenschaftliche grundlagen beim bau von druck- und dampfkesseln. E. Siebel. il diags Chemische Fabrik 13:25-30 Ja 27 '40

See also
Air compressors
Ammonia compressors
Boilers
Caissons
Compressors
Digesters (paper making)
Dust collectors
Evaporators
Gas holders

Failures

Combustion explosions in pressure vessels. W. D. Halsey. il Locomotive 43:14-19 Ja '40
Investigation of a water pressure tank explosion; zinc lining and water generate hydrogen. R. J. Karpen. il Am Water Works Assn J 32:1770-4 O '40

Manufacture

Fabrication of stainless steel into chemical and process vessels. P. L. Coddington. il Metal Prog 38:39-44 Jl '40
Perfect fits for perfect welding. H. S. Card. il diags Chem & Met Eng 47:400-2 Je '40
Reaction chambers; all-welded molybdenum-bearing steel fabrications permit shell thickness to be reduced; Babcock & Wilcox co. il Steel 105:51-2 D 18 '39
Surface cladding; new method; corrosion-resistant lining for processing vessels. G. E. Gude, jr. il Steel 107:44+ Ag 26 '40
Welding and pressure vessel codes. A. A. Fette. diags Power Pl Eng 44:67 N '40

Safety devices and measures

Design and manufacture of bursting disks. G. F. Lake and N. P. Inglis. il diags Inst Mech Eng J & Proc 142:Proc 365-76 F '40; Same cond. Engineering 148:58-60, 88-9 Jl 14-21 '39; Discussion. Inst Mech Eng J & Proc 142:Proc 377-8 F '40
Designing for failure; bursting disks; device made to burst at predetermined pressure. R. V. Sutherland. il Steel 107:46-9 Ag 12 '40

PRESSWORK. See Printing, Practical—Presswork

PRESUMPTION of death. See Death, Presumption of

PRESUMPTION of survivorship. See Survivorship, Presumption of

PRICE cutting
Developments affecting cost under the unfair practices acts. R. Tannenbaum. bibliog J Business 13:118-35 Ap '40
Fair trade in liquor goes haywire. Business Week p44-6 S 28 '40
Hit food price cuts; grocers plug for laws to stop chains' use of loss leaders. Business Week p22 Je 22 '40
How are national-brand foods being price-cut today? R. P. Wolff. il Adv & Sell 33:17-19 Ag '40; Abstract. Management R 29:293-4 Ag '40
I can get it wholesale for you. Am Business 10:23 Mr '40
Man who sells brick short won't make brick long. R. P. Stoddard. Brick & Clay Rec 96:44 My '40
New York loss leader bill submitted by J. Esquirol. Oil Paint & Drug Rep 137:3+ Ja 15 '40
Nudes have it; laissez faire in household refrigerator business. il Fortune 21:73-5+ My '40; Excerpts. Refrig Eng 39:324+ My '40
Parsons New York loss leader bill entirely revised. Oil Paint & Drug Rep 137:3+ F 26 '40
Pennsylvania fair sales act declared unconstitutional. Comm & Fin Chr 150:3137-8 My 18 '40
Refrigerator war. Business Week p37-8 F 10 '40
This refrigerator price war; a boomerang or boom? W. A Cyr. Elec West 84:29 Mr '40
What the public thinks about advertising and loss-leaders. D. Hartwell. il Food Ind 12: 56-7 S '40

See also
Gasoline—Price cutting
Price fixing, Resale

PRICE discrimination

Patman law

Action the FTC has taken under the Robinson-Patman act; nine cases summarized. Sales Management 46:56, 59-61 F 15 '40
Brokerage provision of Robinson-Patman act upheld by United States Supreme court. J. L. Brown. Comm Rep p78 Ja 27 '40
Courts seen as challenging price policies heretofore regarded as fair. G. H. Montague. Comm & Fin Chr 150:3761 Je 15 '40
F.T.C. reviews Patman act and ad control activities; annual report, year ended June 30, 1939. Oil Paint & Drug Rep 137:3+ Ja 1 '40
Food brokers dodge R-P boomerang. Business Week p34+ Ag 10 '40
Price-control schemes unable to solve business difficulties. Q. F. Walker. Comm & Fin Chr 150:1698 Mr 16 '40
Robinson-Patman act begins to acquire meaning. E. B. George. il Dun's R 48:20-8 Mr '40
Three years of Robinson-Patman: F.T.C. invokes every phase and wins all appeals. B. Werne. Ptr Ink 189:21-2+ D 8 '39
To keep right with Patman. Ptr Ink 192:24 Ag 2 '40

Complaints

A. & P. answers net price ban; chain refuses to buy from suppliers who use brokers. Business Week p30 F 3 '40
A. & P. loses appeal under Patman act. Oil Paint & Drug Rep 137:3+ Ja 8 '40
F.T.C. arraigns buyer paid by seller. Oil Paint & Drug Rep 138:3+ Ag 19 '40
F.T.C. awards 10c cosmetics to all types of retailers. Oil Paint & Drug Rep 138:3+ Ag 12 '40
F.T.C. hits discounts on split business; International salt company. Oil Paint & Drug Rep 138:4+ S 16 '40
F.T.C. order hits A & P brokerage fee. Oil Paint & Drug Rep 138:5+ Ag 5 '40
F.T.C. order hits marketing of glucose. Oil Paint & Drug Rep 138:3+ O 7 '40
14 dealers sue for damages under Robinson-Patman law. Nat Pet N 31:8 D 20 '39
Lambert co. ordered to equalize discounts. Oil Paint & Drug Rep 138:4+ Ag 26 '40
Patman act brokerage clause held applicable to cooperatives; Quality bakers of America. Oil Paint & Drug Rep 138:3+ S 16 '40
Station refuses discount, motor club sues and wins; court rules Robinson-Patman act not applicable to case. Nat Pet N 31:9 D 6 '39

PRICE fixing
Agricultural insecticide price-fixing charged. Oil Paint & Drug Rep 137:3+ Je 3 '40
American tobacco co. denies federal charges of price fixing. G. W. Hill. Comm & Fin Chr 151:927 Ag 17 '40
Cellophane converters ordered to free prices. Oil Paint & Drug Rep 138:5+ S 9 '40
Chicago cleaning and dyeing industry, a case study in controlled competition. M. Handsaker. 66p bibliog(p63-6) Univ. of Chicago libraries, Chicago '39

PRICE fixing—*Continued*
Complete text of U.S. Supreme court decision on Ethyl corporation's jobber licensing plan. Nat Pet N 32:18-20 Mr 27 '40; Same. Oil Paint & Drug Rep 137:3, 37+ Ap 1; 3, 58 Ap 8 '40
F.T.C. cites salt assn for zone price-fixing. Oil Paint & Drug Rep 138:3+ S 23 '40
Hardwood charcoal price plans hit. Oil Paint & Drug Rep 138:3+ Ag 19 '40
Manufacturers' price control; some possible disadvantages. Elec R (Lond) 126:542 My 17 '40
Paper container price-fixing charged by Federal trade commission. Oil Paint & Drug Rep 137:3+ F 26 '40
Price-fixing ban laid on fruit crates. Oil Paint & Drug Rep 137:5+ Mr 25 '40
Price-fixing ban laid on Southern vitrified pipe association, Cincinnati. Oil Paint & Drug Rep 137:3+ Je 10 '40
Price-fixing stop ordered by F.T.C.; Steel office furniture institute, Cleveland. Oil Paint & Drug Rep 137:4+ F 26 '40
To amend the law of supply and demand; price agreements should be permitted to each industry, subject to approval by a special federal court. C. R. Stevenson. Advanced Management 4 no5:115-21 '39

See also
Gasoline—Price fixing

PRICE fixing, Government
Appraisal of the Guffey act and need for its amendment. C. Thompson. Min Cong J 25: 25-8 N '39
Bituminous minimum price-fixing preliminaries enter final stages. Coal Age 45:67-70 My '40
Coal board recommends minimum bituminous coal prices. Comm & Fin Chr 150:2495-6 Ap 20 '40
Coal division price hearings end. Min Cong J 26:68-9 F '40
Constitutionality of Coal act under fire. Min Cong J 25:54 N '39
Food prices and rations. Economist 138:242 F 10 '40
King Coal or court fool? R. G. Allen. Min Cong J 26:50-1 F '40
Minimum coal price schedule for western area recommended by Department of interior. Comm & Fin Chr 150:2019 Mr 30 '40
Price control by law. N. Isaacs. bibliog Harvard Business R 18 no 4:504-9 [Jl] '40
Price control possibilities; what was done in 1917-18. Barron's 20:6 Je 17 '40
Price-fixed coal. Business Week p16 Ap 20 '40
Soft coal price-fixing due soon. Business Week p17-18 Ap 6 '40
Wartime control of food distribution and prices in France. Monthly Labor R 49:1091-3 N '39

Bibliography

Price fixing by government in the United States, 1926-1939; a selected list of references on direct price fixing of agricultural products by the federal and state governments. L. O. Bercaw, comp. 214p U.S. Bur. of agricultural economics library, Washington '39

PRICE fixing, Resale
Collapse of liquor price fixing in New York may improve the distillers' positions. L. Applegate. Annalist 56:430+ O 3 '40
Combination sales invalidate fair trade; Bathasweet corporation. Oil Paint & Drug Rep 138:5+ O 21 '40
Drug trust investigation covers fair trade practices. Oil Paint & Drug Rep 138:5 Jl 1 '40
Eastman special film denied fair trade status. Oil Paint & Drug Rep 138:3+ S 30 '40
Fair trade lowdown; FTC's version is coming soon and druggists have theirs ready. Business Week p42-3 Ap 13 '40
Fair trade practices attacked by F.T.C.; National retail liquor package stores association, New York. Oil Paint & Drug Rep 138: 3+ Jl 1 '40
Fair-trade problem; prices can only be fixed when there is competition, F.T.C. holds in Eastman complaint. Ptr Ink 193:35-6 O 4 '40
Fair trade tests; liquor and groceries in New York. Business Week p39-40 N 9 '40
Fair trade threat; druggists aroused over handling of Macy's private brands by Baltimore supermarket. il Business Week p36, 37 F 10 '40
Fair trade, with especial reference to cut-rate drug prices in Michigan. E. H. Gault. Michigan U Bur of Business Research. Business Studies v 9, no 2:1-56 '39 (pa $1)
FTC cites Eastman. Business Week p38+ O 5 '40
Is fair trade fair? druggists, who are sure it is, report survey data. Business Week p42-4 Jl 20 '40
Is fair trade fair? effects of price laws will be weighed. Business Week p43-4 Je 8 '40
Is price maintenance on the skids? H. Demarest. il Adv & Sell 33:25-7, 64+ N '40
Price maintenance in Knoxville, Tennessee under the Tennessee Fair trade act of 1937. C. W. Lewis. Univ of Tennessee Record v 42, no 6:1-64 '39
Retail price pacts banned by F.T.C.; District of Columbia exclusive retail liquor dealers association. Oil Paint & Drug Rep 137:4+ F 19 '40
State circuit courts hold unconstitutional Fair trade laws of Michigan and Maryland. Comm & Fin Chr 149:4104 D 30 '39
TNEC enters fair-trade fight. Business Week p36+ O 19 '40

See also
Consignment selling

PRICE policies
Air conditioning contractor; value of using cost estimating sheets; how selling price is found. J. H. Carter. il Heating-Piping 12: 481-3 Ag '40
Appeal of the multiple. Ptr Ink Mo 39:28 D '39
Are we selling our industry short? established price policies needed in air conditioning industry. J. deB. Shepard. Refrig Eng 40:7-10+ Jl '40
Basing points benefit steel consumers; TNEC hearings. Iron Age 145:87, 87A-87H F 1 '40
Carbide tool prices; economic consequences of the recent reductions. P. M. McKenna. il Iron Age 146:60-2 N 14 '40
Consumer price protection considered by retailers. Oil Paint & Drug Rep 138:5+ S 2 '40
Cost element in pricing. C. B. Nickerson. bibliog Harvard Business R 18 no 4:417-28 [Jl] '40
Crazy quilt of steel mill extras; abstract. W. S. Doxsey. Steel 106:25-6 My 27 '40
Formfit lifts product above price dog-fight: sales jump 50%; new product, a new price policy, and some smart advertising. W. H. Lowy. il Sales Management 46:25-6 Je 1 '40
How we put over a product whose price was ten times too high; Pignose faucet washer gets national distribution. K. Hill. il Sales Management 46:29-30, 32 F 15 '40
Manufacturers' product, package, and price policies; modern merchandise management. A. W. Frey. 429p $4.50 Ronald press '40
Nudes have it; laissez faire in household refrigerator business. il Fortune 21:73-5+ My '40; Excerpts. Refrig Eng 39:324+ My '40
Oil industry profits reasonable, Alberta Royal commission finds. il Nat Pet N 32:40-52 Ag 14 '40
Oil price basing structures; abstract. E. S. Mason, S. Nelson and W. Keim. Nat Pet N 32:24 N 13 '40
Price cutters, or price sellers? W. C. Platt, ed. Nat Pet N 32:34-6+ Jl 31 '40
Price policies of the cement and allied industries. N. C. Rockwood. Min & Met 21:425-7 S '40
Price problems in defense. G. A. Renard. Oil Paint & Drug Rep 138:3+ N 4 '40

PRICE policies—*Continued*

Price research in the steel and petroleum industries prepared for the Conference on price research. 170p $2 Nat. bur. econ. research '39

Prices and cosmetics. Ptr Ink Mo 41:24 Ag '40

Prices, key to the future. H. G. Moulton. Management R 28:414-15 D '39

Pricing. C. F. Hughes. Advanced Management 5:86-8 Ap-Je '40

Pricing processes and policies. C. D. Edwards. Ann Am Acad 209:108-21 My '40

Safeway differential; Coast chain wins lower price scale by reducing delivery cost for Kraft cheese co. Business Week p52 O 26 '40

Setting a price for plating. A. Bregman. il Iron Age 146:43-5 N 7 '40

Transparent cellulose firms must desist from agreeing to maintain uniform prices. Paper Tr J 111:11 S 5 '40

U.S. Steel defends basing point system; FTC urges abolition. Steel 106:23-4+ F 5 '40

What does control prices? presidents of rock products companies discuss economics. Rock Prod 43:46-7 Jl; 28+ O '40

See also

Cost accounting
Discount, Cash
F.O.B. (free on board)
Price cutting
Price discrimination
Price fixing, Resale
Salesmanship—Price problem
Steel—Prices
Trade-in policies

PRICE policies, Retail

Consumers' reaction to a two-price system; charging for service; abstract. L. Bader. Management R 29:331-2 S '40

Effective pricing and sales promotion; study of stores' clientele will enable manufacturers to help dealers avoid error of featuring companion lines that bear uncompanionable prices. V. Lebow. Ptr Ink Mo 40:12+ F '40

PRICES

Appraisal of Frederick C. Mills' The behavior of prices. R. T. Bye. 335p pa $1 Social science research council, 230 Park av, New York '40

Commodities and the election. Barron's 20:6 N 4 '40

Does futures trading influence prices? D. W. Malott. Harvard Business R 18 no 2:177-90 [Ja] '40

How wars affect long-term price trends; English experience in Napoleonic period very much like ours since 1914. G. M. Ule. Barron's 20:7 Jl 29 '40

Keeping the lid on inflation. P. C. Hatmaker. Barron's 20:18 N 4 '40

Price flexibility and inflexibility. J. Backman. 49p pa $1 New York univ, Law quarterly review, 100 Washington sq. E., New York '40

Price research in the steel and petroleum industries prepared for the Conference on price research. 170p $2 Nat. bur. econ. research '39

Prices and profits in a defense economy; prices to government, prices to consumers, producers' prices. E. B. George. il Dun's R 48:5-19 N '40

Pricing. C. F. Hughes. Advanced Management 5:86-8 Ap-Je '40

Relationship between cost and selling price indices as a business forecaster. G. M. Ule. Annalist 55:229 F 8 '40

Relationship of costs to prices. P. M. Atkins. N A C A Bul 21:859-76 Mr 15 '40

Textile markets, their structure in relation to price research. 266p $3 Nat. bur. econ. research '39

War and commodity prices. H. Working. Am Statis Assn J 35:309-24 Je '40

War shifts in commodities; supply-demand factors favor firming prices. J. R. Wallace. il Mag of Wall St 66:717-19+ O 5 '40

Will the war rise be resumed? enigma of commodity prices. J. D. C. Weldon. Mag of Wall St 65:272-4+ D 16 '39

See also

Advertising—Rates
Cost of living
Electric rates
Gas rates
Index numbers (economics)
Inflation (finance)
Money
Price cutting
Price policies
Public utilities—Rates
Railroads—Rates
Salesmanship—Price problem
Telephone—Rates
Wages
Water rates

also subdivision Prices under various subjects, e.g. Chemicals—Prices; Coal—Prices; Gasoline—Prices; Newsprint paper—Prices; Stocks—Prices

Regulation

Developments affecting cost under the unfair practices acts. R. Tannenbaum. bibliog J Business 13:118-35 Ap '40

Government price policy in the United States during the world war. H. Stein. 138p bibliog (p129-32) $2 Williams college, Williamstown, Mass. '39

Monetary control of price inflation thru credit restrictive measures. A. P. Woolfson. Bankers M 140:477-80 Je '40

Present role of spending-price theories of the new deal. K. K. Hoyt. Annalist 56:463 O 10 '40

Price control; British difficulties. Economist 138:726 Ap 20 '40

Price control by government. E. B. George. il Dun's R 48:9-14+ Je '40; Excerpts. Trusts & Estates 71:187 Ag '40

Price control by law. N. Isaacs. bibliog Harvard Business R 18 no 4:504-9 [Jl] '40

Price control possibilities; what was done in 1917-18. Barron's 20:6 Je 17 '40

Price levels and prosperity. J. E. Webster. Advanced Management 5:38-42 Ja-Mr '40

Prices and profits in a defense economy; prices to government, prices to consumers, producers' prices. E. B. George. il Dun's R 48:5-19 N '40

Pricing. C. F. Hughes. Advanced Management 5:86-8 Ap-Je '40

TNEC watches the price pot; hearings. Business Week p15+ D 16 '39

U.S. drive on profits strikes at heart of oncoming prosperity; move to have TNEC police finished goods prices. D. M. Shields. Ptr Ink 189:11-14 D 29 '39

United States Supreme court in 5-3 ruling refuses to pass on constitutionality of Florida law fixing citrus fruit prices; returns case to lower court. Comm & Fin Chr 150:1358-9 Mr 2 '40

Wartime control of prices. C. O. Hardy. 216p $1 Brookings institution, 722 Jackson pl, N.W, Washington, D.C. '40

Wartime food and price control in Great Britain. Monthly Labor R 50:326-7 F '40

See also

Price discrimination
Price fixing

Stabilization

Guard against unjustifiable price increases; members of pulp and paper industry assure National defense advisory commission, they will cooperate to avoid runaway markets. Paper Tr J 111:7 Ag 8 '40

Inflation and price control. S. Weintraub. Harvard Business R 18 no 4:429-36 [Jl] '40

Price problems in defense. G. A. Renard. Oil Paint & Drug Rep 138:3+ N 4 '40

Statistics

Commodity markets come to their senses; charts. Business Week p21 N 11 '39

Commodity price movements, 1939. Survey of Cur Business 20:27-33 F '40

Commodity prices, retail and wholesale prices, 1936-1939. Survey of Cur Business 1940 Sup p12-15 [supplemented in monthly numbers]

Fairchild publications retail price index. Comm & Fin Chr 150:182 Ja 13 '40 [cont monthly]

Index numbers of cost of living and food prices in various countries. Int Labour R 41:99-103, 398-403 Ja, Ap '40

PRICES—Statistics—*Continued*
Interdependence in a series. L. F. Knudsen. bibliog Am Statis Assn J 35:507-14 S '40
Price trends of industrial chemicals in the United States during the last twenty years. M. T. Copeland. Harvard Business R 18 no 4:437-47 [Jl] '40
Retail prices. Published in Monthly labor review
Retail prices in certain countries in October 1939 in 35 countries (food and heating). Int Labour R 41:428-33 Ap '40

See also
Prices, Wholesale—Statistics

Canada

Prices and price indexes, 1913-1938; commodities, securities, foreign exchange, services. 107p pa 25c Canada. Dominion bur. of statistics, Ottawa '40
Prices and price indexes supplement; 1938 and 1939. 106p pa 25c Canada. Dominion bur. of statistics, Ottawa '40

Great Britain

Commodity prices in 1939. Economist 138:sup6 F 17 '40
Rise in prices; comparison with 1914-20. Economist 138:104-6 Ja 20 '40

Russia

Increase in food prices in the Soviet Union. Monthly Labor R 51:500-1 Ag '40
Retail prices in government stores in Moscow, July 1, 1936, 1938, 1939. S. E. Grummon. Monthly Labor R 49:1276-8 N '39
Retail prices in government stores of Soviet Union, January 1, 1939 and 1940. Monthly Labor R 50:1272-4 My '40

United States

Checkup and crackdown on prices; TNEC hearings. Business Week p15-16 D 2 '39
Commodity futures prices; spot commodity prices. Published in weekly numbers of Barron's
Commodity price movements, 1939. Survey of Cur Business 20:27-33 F '40
Impact of the war on American commodity prices; a preliminary view. E. S. Mason. R Econ Statis 21:141-8 N '39
Price trend opinions voiced to TNEC. Oil Paint & Drug Rep 136:5+ D 11 '39
TNEC watches commodity prices. Business Week p20-2 N 11 '39

See also
Prices, Wholesale—United States

PRICES, Wholesale
International comparison of wholesale prices. R. C. Gilles. R Econ Statis 22:150-6 Ag '40

Statistics

Chart of average prices from 1920 to date. Chem & Ind 59:504-5 Jl 13 '40
Commodities in first war year; industrial materials make better showing than foodstuffs. Barron's 20:6 Ag 26 '40
Commodity prices gain slightly, led by textiles; farm schemes confuse outlook. L. Applegate. Annalist 55:146-7 Ja 25 '40
Daily weighted price index of 30 basic commodities. Published in monthly numbers of Dun's statistical review
Economic changes in the United States, 1856-1939; chart. Annalist 55:144-5 Ja 25 '40
Economist wholesale price index resumed. Economist 137:349-50 D 2 '39
Price movements in principal countries, 1926, 1929-1938, and monthly, Oct. 1938-Nov. 1939. Fed Res Bul 26:75 Ja '40 [cont monthly]
Week in commodities. Published in weekly numbers of Annalist
Wholesale commodity price index of the National fertilizer association. Published in weekly numbers of Commercial & financial chronicle
Wholesale commodity price index of United States Bureau of labor statistics. Published in weekly numbers of Commercial & financial chronicle
Wholesale prices by groups of commodities in January 1940. Monthly Labor R 50:772-6 Mr '40 [cont monthly]
Wholesale prices, December and year 1939. Monthly Labor R 50:505-12 F '40
Wholesale prices, groups of commodities in United States, United Kingdom, France, Germany, 1926, 1929-1938 and monthly, Oct. 1938-Nov. 1939. Fed Res Bul 26:75 Ja '40 [cont monthly]
Wholesale prices, world prices, foodstuffs and raw materials and purchasing power of the dollar, 1936-1939. Survey of Cur Business 1940 Sup p15 [supplemented in monthly numbers]

Great Britain

Wholesale prices of commodities, December 1929-38 and monthly, 1939. Economist 138: sup 48-51 F 17 '40

United States

Commodities await new impetus. Barron's 20: 6+ Ja 15 '40
Commodity prices. Published in quarterly numbers of the Index
Current market quotations (listed alphabetically by name of product). Published in weekly numbers of Oil, paint and drug reporter
Does futures trading influence prices? D. W. Malott. Harvard Business R 18 no 2:177-90 [Ja] '40
How imminent is inflation? M. Nadler. Barron's 19:3 D 25 '39
Which way for commodity prices? war, drought, and the break in sterling. J. Lloyd. il Mag of Wall St 66:12-14+ Ap 20 '40
Wholesale prices, all commodities other than farm products, monthly, 1913-July, 1940. Survey of Cur Business 20:18 S '40
Wholesale prices by groups of commodities, by months and by weeks, 1939. Fed Res Bul 26:154 F '40 [cont monthly]
Wholesale prices by groups of commodities in January 1940. Monthly Labor R 50:772-6 Mr '40 [cont monthly]
Wholesale prices, 1936-1939. Survey of Cur Business 1940 Sup p12-15 [supplemented in monthly numbers]
Will prices rise with output? some differences from 1936-37. Barron's 20:6 S 23 '40

PRIDDY, Lawrence
Retires from insurance. por East Underw 41: 6 N 8 '40

PRIESTLEY, Joseph, 1733-1804
Portrait. J Chem Educ 16:551 D '39

PRIMETIN
Synthesis of 5-hydroxy-8-methoxyflavone (primetin monomethyl ether). W. Baker, N. C. Brown and J. A. Scott. Chem Soc J p1922-7 D '39

PRINCETON, New Jersey

Sewerage

Problems in designing and building a reinforced concrete drain. I. R. Riker. Pub Works 71:13-14 Ag '40

PRINCETON university
Honorary degrees conferred by Princeton. Science 91:590-1 Je 21 '40
Index to Christian art; a progress report. H. Woodruff. Special Lib 30:347-8 D '39

PRINT cloth. See Cotton fabrics

PRINTERS
Active in print shop at 91! Lysander Hord. Inland Ptr 104:30 Ja '40
Labor's approach to job training; International printing pressmen and assistants' union. P. L. Garman. Personnel J 18:358-64 Ap '40
Old-timer points out the need of care. A. De Vil. Inland Ptr 104:50 Mr '40
Statistics show printing workers' high average wages are steady. M. M. Hamlin. Inland Ptr 104:22-4 D '39
True tales of former tourist printers. A. Floyd. il Inland Ptr 106:75-6 O '40

PRINTERS—*Continued*
Union wages, hours, and working conditions in the printing trades, June 1, 1939. F. S. McElroy. U S Bur Labor Statistics Bul 675:1-69 '40; Excerpts. Monthly Labor R 49:1483-1507 D '39

See also
International trade composition association
Printing offices—Employees
United typothetae of America

also names of printers, e.g.
Augustine, Lee
Callahan, John M.
Hagen, Fred J.
McCaffrey, Frank
Mickel, Jesse Eugene

PRINTERS' varnish. See Varnish, Printers'

PRINTING
Five billion dollar industry; United States, Great Britain, Canada, and Germany produce three-fifths of world's graphic arts. D. M. MacMaster. Inland Ptr 104:27-9 N '39
Harsh words; an address delivered at a meeting of the American institute of graphic arts. T. M. Cleland. 32p Carteret book club of Newark, New Jersey, Wilbur M. Stone, sec, room 2529, 15 Park row, N.Y. '40
Information, please! Ptg Art 68 no 3:21-5 [Ja] '40
Large Adcrafter edition devoted to the printing arts. il Inland Ptr 105:30-1 Ap '40
Printing's fifth centennial. il Ptr Ink Mo 40:10-11 Mr '40
Society of typographic arts; activities, list of members. Ptg Art 68 no 4:I 7-I 9 '40
What printing is. F. W. Goudy. il Inland Ptr 105:60 S '40

See also
Advertisements
Advertisements—Typography
Blotters
Book industry and trade
Borders (printing)
Calendars
Calico printing
Christmas printing
Color printing
Covers (printing)
Envelopes—Printing
Guidebooks
Ink
Legibility
Letterheads
Lithography
Newspapers—Printing
Paper
Photoengraving
Photography
Postage stamps—Printing
Posters
Printing offices
Printing presses
Printing trade
Proofreading
Publishing
Rotogravure
Silk screen printing
Textile printing
Type and type founding
Typesetting

Classification
Tentative condensed classification of printing industry techniques. A. L. Voge, comp. 40p U.S. Govt. ptg. office, Washington '39

Design
Design and decoration to make advertising more beautiful, by P. Carlyle and G. Oring; text by H. S. Richland. 64p $3.50 McGraw-Hill '39
Distinctive Swedish samples; book jackets and covers by Iwan Fischerström. il Inland Ptr 105:46-7 Ap '40
Garfield school's printing students show real ability; Graphic arts department of the Garfield high school, Akron, Ohio. il Inland Ptr 104:53 Ja '40
Good design is good business for the Chicago school of printing and lithography. G. Price. il insert Ptg Art 68 no 3:26-7 [Ja] '40
How to add a third dimension: depth. W. E. Lickfield. il Inland Ptr 105:36-7 Je '40
Ten tests for good design. E. G. Wulling. Inland Ptr 104:47 Ja '40
"27," Chicago designers group, shows samples of 1939 work. il Inland Ptr 105:62-3 My '40
Typocrafters stage a super-clinic. il Inland Ptr 104:51-6 Mr '40
Will H. Bradley, a man of many talents. S. Kramer. il Inland Ptr 104:35-7 Mr '40

See also
Covers (printing)
Type and type founding

Exhibitions
Graphic arts cash in on Minneapolis centennial celebration. F. M. Kofron. il Inland Ptr 104:75-6 N '39

History
First printers and their books; a catalogue of an exhibition commemorating the five hundredth anniversary of the invention of printing. E. Mongan and E. Wolf, comps. 94p pa 50c Free library of Philadelphia, Philadelphia '40
Gutenberg's life recorded in documents. D. C. McMurtrie. il Inland Ptr 105:50-2 Jl '40
Origins of printing and engraving. A. Blum. 226p bibliog(p193-211) $3 Scribner '40
Some facts concerning the invention of printing, the five-hundredth anniversary of which will be celebrated internationally in 1940. D. C. McMurtrie. 42p pa 50c Chicago club of ptg. house craftsmen, Chicago '39
Story of an old press (the Stephen Daye press). S. A. Kimber. 2d ed 47p pa 50c Univ. press, Cambridge, Mass. '39
26 lead soldiers; a salute to printers. E. S. Little. Eucalyptus press, Mills College, Calif. '39
Why we honor Gutenberg. D. C. McMurtrie. il Inland Ptr 105:36-8 Ap '40
Wings for words; the story of Johann Gutenberg and his invention of printing. D. C. McMurtrie and D. Farran. 175p $2 Rand McNally & co, 111 8th av, New York '40

Prize contests
Winners in the award of the New England conference of typographical unions annual exhibit for apprentices. il Inland Ptr 104:55 N '39

Purchasing
Printing processes. S. F. Beatty, ed. il Ptg Art 68 no 4:J 1-J 20 '40
Questions to ask before ordering printed forms. L. W. Bishop. Bankers Mo 57:306 My '40
Save money these ways on printing. F. Rundell. Ptr Ink Mo 40:45 Mr '40
Stop loss plan controls printed supplies. C. V. Putnam. il Am Business 10:30-2 Je '40
What you pay for, in buying printing. W. Willard. Ptr Ink Mo 40:50 Je '40

Specimens
Historic examples of American printing and typography. il 66p William L. Clements library, Univ. of Michigan '40
Specimen review. J. L. Frazier. Published in monthly numbers of Inland printer

Study and teaching
Fourth annual Graphic arts education guild yearbook. 163p National graphic arts education guild, 719 15th st, N.W, Washington, D.C. '39

See also
Printing, Practical—Study and teaching
Printing schools

Sweden
Distinctive Swedish samples; book jackets and covers by Iwan Fischerström. il Inland Ptr 105:46-7 Ap '40

PRINTING, Offset
Adopting offset quadrupled our volume; adding photo-offset to letterpress printing; Custom printing company. P. A. Levine. il Inland Ptr 105:50-4 My '40
Can daily paper be lithographed? Hartford newsdally. Business Week p24-6 D 2 '39
Caxton folks in 1935 published first editions by offset technique. Inland Ptr 104:75 Mr '40
Color plates are copied by offset. Inland Ptr 106:55 O '40
Cost factors on installing offset. Inland Ptr 105:28 Jl '40
How about dry offset printing? J. Stark. Inland Ptr 105:50 Ap '40
Jahrbuch's challenge is lessened; review of Klimsch's Jahrbuch, no. 32, 1939. H. Gugler. Inland Ptr 104:54 N '39
Newspaper in offset; Hartford newsdally. Ptr Ink 189:14 D 1 '39

PRINTING, Offset—*Continued*

Newspaper offset data. Inland Ptr 105:56-7 Ag '40
Offset newspapers still experimental. il Inland Ptr 105:77 My '40
Offset steps out at New York show. Inland Ptr 104:37-8 Ja '40
Offset technique. J. Stark. Published in monthly numbers of Inland printer
Plate formulas. Inland Ptr 104:39-40 F '40
Practical comparison of letterpress and offset. Inland Ptr 106:60-1 O '40
What about the ink for offset? Inland Ptr 104:74 Mr '40
Where four-color offset pays. H. A. Porter. Inland Ptr 105:59-60 Je '40

Costs

Offset-letterpress studies on illustrated book form. M. E. Powers. Inland Ptr 105:32-3 Ag '40
Which costs more: offset or direct? M. E. Powers. Inland Ptr 105:28-30 Je '40

Study and teaching

Offset trade schools. J. Stark. Inland Ptr 105: 61 Je '40

PRINTING, Practical

Arithmetic for printers. J. W. Auble. 180p $1.72; instructor's key manual pa gratis Manual arts press '40
Causes of offset. Inland Ptr 105:69-70 Je '40
Check up on annual reports as an opportunity for more business; with specimens of covers, sample pages, etc. Inland Ptr 104:28-34 Mr '40
Clinics a popular feature at the 20th annual convention of International association of printing house craftsmen. Inland Ptr 104: 78-80 N '39
Cold-set printing process blazes trail with gas-burning system. H. W. Smith, jr. il Am Gas Assn Mo 22:316-18 S '40
Five techniques of gloss finishing. C. R. Conquergood. Adv & Sell 33:36+ Jl '40
How to make type readable. D. G. Paterson and M. A. Tinker. 209p bibliog(p193-201) Harper '40
How to repair smashed electros. N. Krum. il Inland Ptr 104:48-9 Ja '40
Principles of school yearbook production and management. R. M. Benson. 288p $2.50 Yearbook pub. co, San Francisco '39
Printing process freezes ink. Sci Am 162:226-7 Ap '40
Process of printing. A. C. Rogers. Pulp & Pa of Can (Convention no) 41:98-103 [F] '40
Silk-screen and older methods, joined, give "it"; Plow & Watters, Montreal. il Inland Ptr 104:27-9 Ja '40
Trade tricks in using gloss ink. D. M. MacMaster. Inland Ptr 106:50-1 O '40
Velo cold set process in printing and its relationship to paper. F. G. Breyer. Paper Tr J 110:27-9 Je 13 '40; Abstract. Ind & Eng Chem News ed 18:274 Mr 25 '40
What should we know about printing mechanics? S. F. Beatty. Ptg Art 68 no 4: J 15-J 17 '40

See also

Advertisements—Typography
Advertising, Mail—Printing
Borders (printing)
Color printing
Ink
Letterheads
Printing offices
Printing presses
Printing trade
Proofreading
Stereotyping
Type and type founding
Typesetting
Word division

also International association of printing house craftsmen

Copy preparation

Code for simplifying markups. L. J. Spang. Inland Ptr 105:32-3 Ap '40

Costs

Hidden taxes of printing revealed. Inland Ptr 105:23 Ap '40
Offset-letterpress studies on illustrated book form. M. E. Powers. Inland Ptr 105:32-3 Ag '40
Which costs more: offset or direct? M. E. Powers Inland Ptr 105:28-30 Je '40

Estimates

New Orleans simplified pricing plan. F. A. Berger and F. H. O'Donnell. Inland Ptr 106:29-32 O '40
Printer's estimator. H. Mills. 211p 6s Sidgwick and Jackson, London '38

Layout

Correct use of white space and margins in both layout and printing. W. Laufer. diags Inland Ptr 105:44-6 S '40
Expert typographers' secrets of spacing display and text matter. W. Laufer. il Inland Ptr 105:64-6 Je '40
Helpful hints on how to become a type layout man. W. Laufer. il Inland Ptr 103:58-60 Ag; 104:54-6 O; 66-7 N '39; 104:54-6 Ja; 58-60 F '40
How to fit copy in irregular shapes. W. Laufer. il Inland Ptr 105:78-9 My '40

See also

Advertisements—Layout

Presswork

Australian friend sends pressroom a letter packed with facts; reply. Inland Ptr 105:52-3 Ag '40
Controlling ink flow. Inland Ptr 105:70-1 S '40
Differ in drying speed. J. Stark. Inland Ptr 105:29 Ap '40
Do your squeeze ideas jibe with his? W. L. Benz. Inland Ptr 104:42-3 N '39
Lighted marking-out board. E. St John. Inland Ptr 104:59 Ja '40
Modernizing the markup booths. H. N. Weinert. il Inland Ptr 105:72 My '40
Pressroom. E. St John. Published in monthly numbers of Inland printer
Silver rubs off. E. St John. Inland Ptr 105:33 Jl '40

Spacing

Expert typographers' secrets of spacing display and text matter. W. Laufer. il Inland Ptr 105:64-6 Je '40

Standardization

Four gains in using printing standards. O. E. Freedman. Inland Ptr 105:25-7 Je '40
You can use time studies and standards. G. Greenberger. Inland Ptr 105:27-8 Ag '40

Study and teaching

First year printers drill on costs. T. C. Ryther. Inland Ptr 105:54 Ag '40
New Timken vocational school has print shop. C. A. Lyle. il plan Inland Ptr 104:33-6 D '39
Printing for the beginning pupil. J. W. Loop. 192p 137 il pa $1 James W. Loop, Charleston, W.Va. '39

Style manuals

Bibliographical citation in the social sciences; a handbook of style. L. Appel, comp. 30p pa 60c Univ. of Wisconsin press, Madison '40

Tables, calculations, etc.

Accurate count of characters insures correct fitting of copy. W. Laufer. il Inland Ptr 104:58-60 F '40
Another lesson on how to fit copy in spaces of different sizes and shapes. W. Laufer. il Inland Ptr 104:48-50 Mr '40
Do your squeeze ideas jibe with his? W. L. Benz. Inland Ptr 104:42-3 N '39
Everyday arithmetic for printers. J. E. Mansfield. 3d rev ed 135p $1.50 McGraw-Hill '40
How to sell pre-checked formats; customers' planning guide. W. J. Blackburn. il Inland Ptr 105:58-9 S '40
In this lesson on fundamentals of typography, we study the em system; copy-fitting problem can be simplified. W. Laufer. diags Inland Ptr 105:26-8 Ap '40
Pre-checked formats a sales aid. W. J. Blackburn. Inland Ptr 105:40 Ag '40
Size selection simplified; a practical guide to the efficient planning and production of folders, booklets and commercial printing. W. J. Blackburn, comp. 64p $12.75 W. J. Blackburn, 560 W. 42d st, New York '40

PRINTING, Practical—Tables, calculations, etc. —*Continued*
Solving odd-shape fittings; calculating square inch measurements of irregular designs. Inland Ptr 104:74 F '40
Three savings in stock planning. W. J. Blackburn. Inland Ptr 105:36 Jl '40
Type chart that can easily be made and is simple to use. W. Laufer. il Inland Ptr 104: 66-7 N '39

PRINTING, Public
Move to curb G.P.O. gains momentum. Inland Ptr 104:23-5 F '40
Photolithography ruling. Inland Ptr 104:37-8 Mr '40
Private vs. commercial printing; arguments before the New York state Moreland commission. Inland Ptr 106:78-9 O '40
See also United States—Government printing office

PRINTING house craftsmen, International association of. See International association of printing house craftsmen

PRINTING ink. See Ink

PRINTING machinery
See also
Linotype
Printing presses
Typesetting machines

PRINTING offices
University of California press in its new home. il plan Inland Ptr 104:72-3 F '40

Air conditioning
Dehumidifying and heating needed on an industrial conditioning job; air conditioning system for rotogravure room. M. A. Ramsey. plan Heating-Piping 12:522-3 S '40
Refrigeration and air conditioning requirements of printing plants. Franklin Inst J 228:785-6 D '39

Electric equipment
Colour printing; Geo. C. Caster & co. il Elec R (Lond) 126:127-8 F 2 '40
Printing works drive; James Cond, ltd. il Elec R (Lond) 127:165-7 Ag 30 '40
Recent French installations. il Electrician 123: 437 N 17 '39
Static elimination and ink drying; utilization data sheet. J. W. Cromer. il Elec West 85: 39 Ag '40

Employees
Avoid creating more competitors; employees should sign agreement not to engage in printing business. C. R. Rosenberg, jr. Inland Ptr 105:24-5 Jl '40
Comparison of nine industries' trends shows printing in strong position. M. M. Hamlin. Inland Ptr 104:40-2 N '39
See also
Printers

Equipment
Added equipment and changed layout help a typographer give super service; Thomas P. Henry company, Detroit. W. Laufer. il plan Inland Ptr 106:33-6 O '40
Cold-set printing process blazes trail with gas-burning system. H. W. Smith, jr. il Am Gas Assn Mo 22:316-18 S '40
Cost factors on installing offset. Inland Ptr 105:28 Jl '40
Modernizing the markup booths. H. N. Wienert. il Inland Ptr 105:72 My '40
New equipment pays profit within year; public accountant's survey of twenty-four modernized printing plants. A. C. Kiechlin. Inland Ptr 105:19-22 Ag '40
Partlow equipment in PM printing plant. il Am Gas J 153:59 O '40
To compete, keep up to date. P. Dennerlein. Inland Ptr 105:66 Je '40
See also
Printing presses

Fires and fire protection
What to do to avoid fire losses. R. S. Moulton. Inland Ptr 106:79-80 O '40

Heating and ventilation
Corrosion of type; ventilate. Inland Ptr 104: 63-4 N '39

Insurance requirements
Maintain an insurance coverage in line with your current needs. C. R. Rosenberg, jr. Inland Ptr 104:58 Ja '40
Protection given a job printer by each type of insurance; checklist. Bankers Mo 57:302 My '40

Layout
Added equipment and changed layout help a typographer give super service; Thomas P. Henry company, Detroit. W. Laufer. il plan Inland Ptr 106:33-6 O '40

Lighting
Facts to guide the use of fluorescence. C. N. Everett. il diags Inland Ptr 105:37-9 S '40
Printers praise fluorescent lighting. L. W. Sagers. il Inland Ptr 105:33-5 Je '40

Management
Controlling of paper in the plant; interpreting V. L. Shaw's address. R. P. McCarthy. Inland Ptr 105:66-7 My '40
Debt-collecting ideas that work. R. McDaniel. Inland Ptr 106:51-2 O '40
How planned sales keep presses running. H. M. Greene and J. E. Bullard. Inland Ptr 105:73-4 S '40
How print shop slashed waste losses; Standard register company, of Dayton, Ohio. T. Mills. il Inland Ptr 105:27-30 My '40
How to efficiencize the composing room. E. H. Stuart. il Inland Ptr 105:23-6 Ag '40
Management policies by industries; credit hazards and insurance coverage. E. T. Miller. Bankers Mo 57:285-7+ My '40
You can use time studies and standards. G. Greenberger. Inland Ptr 105:27-8 Ag '40

Records
How planned sales keep presses running. H. M. Greene and J. E. Bullard. Inland Ptr 105:73-4 S '40

Show windows
How to make up show windows that produce printing orders. R. S. Arnold. il Inland Ptr 105:41-3 S '40

Waste
Pre-checked formats a sales aid. W. J. Blackburn. Inland Ptr 105:40 Ag '40
Three savings in stock planning. W. J. Blackburn. Inland Ptr 105:36 Jl '40

PRINTING on glass
Printing on glass plates. Inland Ptr 104:64-5 N '39

PRINTING plates
Graining zinc plates. J. Stark. Inland Ptr 105:30 Ap '40
How to repair smashed electros. N. Krum. il Inland Ptr 104:48-9 Ja '40
Magnesium alloys for photoengraving. R. T. Wood. il Metals & Alloys 11:33-41 F '40
Zinc plates get glossy. Inland Ptr 106:61-2 O '40
See also
Stereotyping

Storage
Protection in storage. Inland Ptr 104:37 Je '40

PRINTING plates, Rubber
First large-scale book production using rubber plates. Barron's 20:5 O 21 '40
Frontispiece shows fine detail one can get from rubber plates. il(p24) Inland Ptr 105: 27 Je '40
New printing method; North River press, New York, uses rubber plates. Business Week p30 Ag 3 '40
Rubber plates enter book printing field; North River press. il India Rubber W 103:33-5 N '40
Use of rubber plates; abstract. H. Cadmus. Inland Ptr 104:33-4 N '39

PRINTING presses
High-speed printing; dc unit drives for large newspaper presses. il Elec R (Lond) 126: 447-9 Ap 19 '40
Photo-electric side register control as adapted to web operated machines such as slitters, winders, web printing presses, coaters and waxers. H. E. Overacker. il diags Paper Tr J 111:12-13 Jl 11 '40
Printing press of Leonardo da Vinci. Science 92:72 Jl 26 '40
R. O. Vandercook, young inventor. Inland Ptr 104:39-40 Mr '40
Rubber plates enter book printing field; North River press. il India Rubber W 103:33-5 N '40

Design

Velocity-graph analysis for solving problems encountered in high-speed motions. H. E. Golber. Product Eng 11:311-13 Jl '40

PRINTING rollers. See Rollers, Printers'

PRINTING schools
Mack students create own book. Inland Ptr 104:26 Ja '40

Advertising

Good design is good business for the Chicago school of printing and lithography. G. Price. il insert Ptg Art 68 no 3:26-7 [Ja] '40

PRINTING trade
Adopting offset quadrupled our volume; adding photo-offset to letterpress printing; Custom printing company. P. A. Levine. il Inland Ptr 105:50-4 My '40
Anniversaries; opportunities for printers. Inland Ptr 104:32-3 Ja '40
Check up on annual reports as an opportunity for more business; with specimens of covers, sample pages, etc. Inland Ptr 104: 28-34 Mr '40
Creative ideas bring in greater profits; eleven good ideas on technique of selling the suggestion after creating it. F. Rundell. Inland Ptr 104:25-7 Mr '40
Finale on duplicators question. F. H. Branham; M. Middleton. il Inland Ptr 105:34-5 My '40
How to sell pre-checked formats; customers' planning guide. W. J. Blackburn. il Inland Ptr 105:58-9 S '40
Idea file. Published in monthly numbers of Inland printer
Printer's invoice guaranteed? C. R. Rosenberg, jr. Inland Ptr 104:38 F '40
Printing processes. S. F. Beatty, ed. il Ptg Art 68 no 4:J 1-J 20 '40
Salesmanship and service; abstract. M. K. Zudeck. Inland Ptr 104:69 N '39
Six printing faults challenge you. E. L. Bernays. Inland Ptr 105:52-3 Je '40
Taxes add an ever-increasing handicap; interview with M. E. Powers, by E. T. Miller. Inland Ptr 104:19-21 D '39
U.T.A. conferees view future. Inland Ptr 104: 31-5 N '39
What are the costs of obsolescence? new machinery and skilled labor needed. J. E. Bullard. Inland Ptr 104:23-4 Ja '40
When printers compete unfairly. C. R. Rosenberg, jr. Inland Ptr 105:43-4 My '40

Advertising

Printers need more self-advertising; appropriations, planning, copy, etc. J. M. Trytten. Inland Ptr 104:29-31 F '40
Simple, effective folders; Kalkhoff press, New York city. Inland Ptr 105:35 Je '40
Stuart's house magazine celebrates an anniversary. il Inland Ptr 105:44 My '40

Advertising service

Selling printing when it is not needed, as told to Chas. N. Tunnell. Inland Ptr 105: 21-2 Ap '40

Exhibitions

Offset steps out at New York show. Inland Ptr 104:37-8 Ja '40

Finance

Management policies by industries; job printers. E. T. Miller. Bankers Mo 57:285-7+ My '40
New equipment pays profit within year; public accountant's survey of twenty-four modernized printing plants. A. C. Kiechlin. Inland Ptr 105:19-22 Ag '40
Newcomer on the stock exchange; Cuneo press. L. Applegate. Annalist 54:732 D 7 '39

Salesmen

Dummy knows showmanship; abstract. R. C. Cowan. Inland Ptr 104:35 N '39
How to increase salesmen's production. E. H. Zimmerman. Inland Ptr 105:23-4 Jl '40
Selling printing when it is not needed, as told to Chas. N. Tunnell. Inland Ptr 105: 21-2 Ap '40
Six points for hiring the printing salesman; as told to Chas. N. Tunnell. Inland Ptr 104: 30-1 F '40

Statistics

Comparison of nine industries' trends shows printing in strong position. M. M. Hamlin. Inland Ptr 104:40-2 N '39
Graphic arts; its stature and market. F. S. Easter. map Inland Ptr 105:55-8 Jl '40
Lessons worth learning from past years. Inland Ptr 106:80 O '40
Printing and publishing, revision; monthly, 1923-June, 1940. Fed Res Bul 26:868 Ag '40

Australia

Printing in Australia; government statistics for 1937-1938. Inland Ptr 104:81 N '39

Detroit

Large Adcrafter edition devoted to the printing arts. J. Stark. il Inland Ptr 105:30-1 Ap '40

Great Britain

British printers facing war problems; paper rationing; blackouts, etc. bring other complications. Inland Ptr 105:19-20 Ap '40

Minneapolis

Graphic arts cash in on Minneapolis centennial celebration. F. M. Kofron. il Inland Ptr 104:75-6 N '39

PRIORITIES, Industrial
Defense program remodels the economic system. E. B. George. Dun's R 48:19-22+ O '40
President Roosevelt issues order requiring priority of army and navy contracts; approves priority board and administrator to handle matter. Comm & Fin Chr 151:2422 O 26 '40
Priorities board to continue voluntary preference ratings. Steel 107:21-2 O 28 '40
Priorities; President hopes industry cooperates voluntarily. H. L. Stephen. Ptr Ink 193:77, 80, 82-3 O 4 '40
Priority for munitions in Britain. Economist 139:236-7 Ag 24 '40
Priority policies. Business Week p18 N 2 '40
Priority ratings of industries in event of war or defense emergency; ratings used in 1918. L. C. Duncan. Barron's 20:3 Jl 22 '40
Ratings postpone priorities; preference plan may suffice. Business Week p15-16 S 21 '40
Voluntary priorities; Defense commission sets up system of industrial cooperation to fill U.S. orders. Business Week p16 Ag 17 '40

PRISMS
Prism and the theory of optical resolution. B. P. Ramsay, O. T. Koppius and E. L. Cleveland. bibliog diags Opt Soc Am J 30: 439-44 S '40

PRISON industries
Prison-labor legislation, as of June 1, 1940. Monthly Labor R 50:1422-9 Je '40

PRISON libraries
1000 books for prison libraries, 1936-1939. M. L. Methven, comp. 71p pa 50c Mildred L. Methven, State office bldg, St Paul '39
United States prison schools. Monthly Labor R 50:1179 My '40

PRISON schools
United States prison schools. Monthly Labor R 50:1176-9 My '40

PRISONERS
See also
Prison schools

PRISONS
Jail journey. J. L. Phelan. 384p 12s 6d Secker & Warburg, London '40
Prison community. D. Clemmer. 341p $4 Christopher pub. house, Boston '40
See also
Punishment

Heating and ventilation
Heating a modern cottage type prison; Indiana women's prison. T. R. Davis. il plans Heat & Ven 37:25-7 Mr '40

PRIVATE brands
Battle of the brands; report to executives. Business Week p27-30+ O 12 '40
Chains battling Crisco and Spry; big grocery outfits bring own shortenings. Business Week p36-8 Je 15 '40
Ex-grocer punctures consumer demand; sells IGA products. E. I. Campbell. Adv & Sell 33:44 Je '40
Supers know, department stores won't learn. Ptr Ink Mo 39:26+ D '39
See also
Advertising, National
Marketing
Sales policies
Trade marks
Trade names

PRIVATE offices. See Office management—Private offices

PRIVIES
Sanitary tax in connection with privies upheld; South Carolina Supreme court. Pub Health Rep 55:785-6 My 3 '40

PRIZE contests
Employees of the City transit co. compete for prizes in Fill that empty seat contest. il Bus Transportation 19:222-3 My '40
Magic chef draws in the prospects. Ptr Ink Mo 40:24 F '40
Play suits and gas ranges; sales campaign of Oklahoma natural gas co. H. V. Potter. il Gas Age 86:34-5 S 12 '40
Sectional advertiser stirs lively radio interest; Liberty mills sponsors South Texas high school band radio competition-festival. il Ptr Ink Mo 40:56 My '40
Servel contest is won by Meridian, Miss. student. il Gas Age 85:46 Je 20 '40
Tepees to towers; Oklahoma gas company accepts a civic challenge; sponsors essay contest. J. H. Warden. Am Gas Assn Mo 22:175-6 My '40
Treasure hunt; southern California sales stunt. il Elec West 84:37 Ja '40
See also
Advertising—Prize contests
Printing—Prize contests
Sales contests
Show windows—Contests

PRIZE law
Latest prize decisions of Lloyd's. East Underw 41:30 My 24 '40
Prize law amendments, 1939, by belligerents. E. C. Stiefel. Weekly Underw 142:68+ Ja 6 '40
Proceedings of British prize court rule on costs against the government for improper seizure. Weekly Underw 143:779 O 5 '40

France
French decree and instructions on maritime prizes. Compar Law Ser 3:319-28 Je '40

Germany
German Prize law code and Prize court code. Compar Law Ser 3:35-63 Ja '40

PRIZES. See Rewards, prizes, etc.

PROBABILITIES
Probability and frequency. H. C. Plummer. 277p $3 Macmillan '40
Theory of probability. H. Jeffreys. 380p $7 Oxford '39
Time distribution of so-called random events. A. Ruark. Phys R 56:1165-7 D 1 '39; Discussion. W. Feller. 57:906-8 My 15 '40
See also
Chi square test

PROBABLE error. See Variation (statistics)

PROBATE law
Anderson's Ohio probate code, 1939. 189p $2.50 W. H. Anderson co, Cincinnati '39
Codicil referring to will by date republishes will with intervening codicils. Trusts & Estates 69:579 N '39
Horner probate practice and estates. H. C. Horner. 4th ed 4v $40 Callaghan '40
Illinois Probate act annotated; procedure, forms. W. M. James and others, eds. 886p $13 Foundation press, Chicago '40
Kansas probate law and practice. S. E. Bartlett. 3v $30 Vernon law book co, Kansas City, Mo. '39
New Illinois probate act. M. J. Barnard. Trusts & Estates 69:515-20 N '39
Progress and legislation concerning personal suretyship for guardians. H. W. Nichols. Weekly Underw 143:710-13 S 28 '40
What constitutes proper execution of will; witness need not see signature of testator. Trusts & Estates 69:581 N '39
What proof necessary to establish lost will. Trusts & Estates 70:227-8 F '40
Wills; necessity of testator's name; mark as signature. Trusts & Estates 69:580-1 N '39
See also
Estates (law)
Executors and administrators
Inheritance tax
Wills

PROBATE records
Modernizing a probate court; Denver's county court. C. E. Kettering. Trusts & Estates 71:11-16 Jl '40
Probate records inadequate; how lack of uniformity handicaps needed actuarial data. P. S. Chalfant. Trusts & Estates 70:391-3 Ap '40
Probate records reveal how much potential business and where it is going; survey of Los Angeles county. H. H. Rolapp. Trusts & Estates 70:649-55 Je '40

PROBATE statistics
1939 statistics of New York surrogate's courts. Trusts & Estates 70:295-6 Mr '40
Probate research; study of probated estates in Washington with reference to the state tax system. J. K. Hall. Trusts & Estates 70:395-8 Ap '40

PROBATION system
Adult probation laws of the United States; topical and state by state summaries of their main provisions. G. Cosulich. 2d ed 107p pa $1.25; to members $1 National probation assn, New York '40

PROCTER and Gamble company
Annual report. Comm & Fin Chr 151:857 Ag 10 '40
Glance at the week's reports on earnings. H. Lawrence. Barron's 20:13 Ja 29 '40
Growth by filling basic needs. S. Devlin. il Mag of Wall St 65:228-9+ D 2 '39

PRODUCE terminals
Fight over terminals; two Kansas Cities and rival railroad interests. il Business Week p20+ D 16 '39
Food mart unloaded; Kansas City, Kan. gives up, leases terminal to Greater Kansas City food market, inc. Business Week p18 S 21 '40
I.C.C. report on Denver terminals. Ry Age 108:177-8 Ja 20 '40
Kansas City feud; court restrains Kansas terminal. Business Week p22 Jl 13 '40
No more coconuts; Federal court restrains Kansas City, Kan. and Union Pacific in terminal fight. Business Week p32 Mr 30 '40
See also
Railroads—Produce terminals

PRODUCE trade
See also
Dairy products
Farm produce
Food industry and trade
Fruit trade
Grain trade
Vegetables
also individual products, e.g. Butter; Eggs

PRODUCE trade—*Continued*

Finance

Handling of produce loans; Salinas national bank, Salinas, Calif. L. E. Wyatt. il Burroughs Clearing House 25:22-4 N '40

PRODUCER gas. See Gas, Producer

PRODUCT liability insurance. See Insurance, Product liability

PRODUCTION

End to progress? man-made scarcity in a fruitful world. G. Cassel. Trusts & Estates 70:25-6 Ja '40

Is industrial self-government possible? O. Tead. Advanced Management 5:21-5+ Ja-Mr '40

Less plant? what industry needs is more. J. G. Rosebush. Factory Management 98: 58-9+ My '40

Planning for productivity. K. Lönberg-Holm and C. T. Larson. 43p pa $1 International industrial relations inst, 130 E. 22d st, New York '40

Price levels and prosperity. J. E. Webster. Advanced Management 5:38-42 Ja-Mr '40

Problem of manufacturing capacity. G. Terborgh. Fed Res Bul 26:639-46 Jl '40

Productivity, wages, and national income. S. Bell. 344p $3 Brookings institution, Washington, D.C. '40

Study on the pure theory of production. S. Carlson. 128p bibliog(p127-8) 8s 6d P. S. King & son, London '39

When we expand; first we go after bottlenecks; Monsanto chemical company. C. Belknap. il Factory Management 98:52-3+ My '40

Why business fight to restore lagging prosperity is sure to triumph in end. M. Shields. Ptr Ink 191:11-14 My 10 '40

See also

Economics
Factory management
Labor productivity
Labor requirements (for production)
Machinery in industry
Manufactures
Stabilization in industry

Statistics

Advertising and industrial production usually rise and fall together; study of 1915 and present war periods. L. D. H. Weld. Ptr Ink 189:25-6+ D 29 '39

Business indexes; production, employment, etc; index totals, 1919-39; monthly, June, 1937-July, 1940; revision. Fed Res Bul 26: 979 S '40 [cont monthly]

Discrepancies in Federal reserve board's new index of industrial production. L. P. Ayres. Comm & Fin Chr 151:1656-7 S 21 '40

Indexes of industrial production, 1919-1940. Survey of Cur Business 20:12-17 Ag '40

Industrial production (Board of governors of the Federal reserve system), 1936-1939. Survey of Cur Business 1940 Sup p7-9 [supplemented in monthly numbers]

Industrial production by industries (adjusted and unadjusted indexes) June, 1939-July, 1940; revision. Fed Res Bul 26:980-3 S '40 [cont monthly]

Industrial production; major divisions expressed as points in total index; compiled with 1923 weights, monthly, 1919-1929, compiled with 1937 weights, December, 1929-July, 1940. Fed Res Bul 26:996-7 S '40

Industrial production, revision; monthly, 1923-June 1940. Fed Res Bul 26:825 Ag '40

Major divisions of production index expressed as points in the total, 1919-40; chart. Fed Res Bul 26:924 S '40

Measurement of production; theory and limitations of the new Federal Reserve index. W. Thomas and M. R. Conklin. Fed Res Bul 26:912-23 S '40

New Federal Reserve index of industrial production. Fed Res Bul 26:753-71 Ag '40; Excerpts. Comm & Fin Chr 151:910-12 Ag 17 '40; Survey of Cur Business 20:11 Ag '40

New production index defended by Federal reserve board; criticism of Colonel Ayres answered. Comm & Fin Chr 151:2581 N 2 '40

Production, 1939. Survey of Cur Business 20: 7-14 F '40

U.S. share in world production and trade; graphs. Fortune 22:50-1 S '40

World commerce and industry. Annalist 55: 109 Ja 25 '40 [cont monthly]

World industrial production by countries. Published in weekly numbers of Annalist

PRODUCTION, Limitation of

Anthracite tries a control plan. Business Week p18 F 3 '40

Chilean control of manufactures and production. H. P. Crawford. Comm Rep p1139 D 9 '39

FBI vs. print cloth group. Textile World 90: 57 Ja '40

See also

Petroleum industry and trade—United States—Overproduction problems
Petroleum laws and regulations
Rubber industry and trade
Tin industry and trade

PRODUCTION and sales, Coordination of

Planning of future earnings; formulation of operating program a year ahead fixes responsibility and improves management. W. Clark. Barron's 20:7 F 5 '40

PRODUCTION control

Assembling trucks; efficient order and production control system; Yale & Towne mfg. co. E. R. Nordin. il Steel 106:58+ Ap 29 '40

Cost control in conveyor production. M. D. Jarvis. Mech Handling 27:169-71 Ag '40

How to control and plan production; Warner & Swasey co. G. V. Black. il Iron Age 146:34-7 Jl 11 '40

Managing a small plant. W. F. Dester. il Factory Management 98:61-6 Ja '40

Production and inventory control; Timken-Detroit axle co. S. W. Warner. N A C A Bul 22:43-65 S 15 '40

Production control for a job shop. C. R. Libby. Factory Management 98:158 S '40

Production control; use of Gantt chart. E. Caldwell. il Iron Age 145:46-8 Ap 18; 46-8 Ap 25 '40

Production plus; North American's spectacular production record of the past three years. J. S. Smithson. il layouts Aviation 38:34-9 D '39

Routing raises output; Monarch machine tool co. P. A. Abe. il plan Steel 106:66-7+ Mr 18 '40

Small plant can have production control, too. J. W. Robinson. Factory Management 98: 64 N '40

Some factors affecting economic production. J. B. Samson. Engineer 170:181-3 S 20 '40

Success in byproduct production demands quality control; illustrated in manufacture of casein. J. Chrisman. flow diag il Food Ind 12:45-7+ Ag '40

Time in process, its effect on the economy of manufacturing; study of five tire factories. F. G. Moore. Advanced Management 5:11-15 Ja-Mr '40

Told at a glance; control chart up-to-date; Speed products co. il Am Mach 84:495 Jl 10 '40

See also

Factory management
Machine shop management
Production and sales, Coordination of Schedules

PRODUCTION credit associations

Banks can meet PCA competition. H. A. Bryant. Bankers M 140:453-4 My '40

Government invasion of banking; report by committee on agencies in competition with banks, Nebraska bankers' association. Bankers M 140:202-5 Mr '40

PRODUCTS, Certification of

Business backs consumer testing; new Institute of standards. il Business Week p30-1 Jl 27 '40

Heavy artillery; Good Housekeeping introduces expert witnesses. R. W. Lawrence, jr. Ptr Ink 191:67, 70-1 Ap 19 '40

PRODUCTS, Certification of—*Continued*
How Kaufmann's uses research to build business; continuous research at Mellon institute and standard of quality labeling. E. G. Thoman. il Am Business 10:26-7+ My '40
Institute has ad circles buzzing; new product testing project of McCall's. Business Week p40+ S 7 '40
McCall's launches new plan for product standards. Sales Management 47:58 Ag 1 '40
Manufacturers are invited to join new consumer standards institute being organized under the temporary sponsorship of McCall's magazine. Ind Stand 11:206-7 Ag '40
Mr Waldo's baby; how Good housekeeping institute came to be, as brought out in F.T.C. hearing. G. A. Nichols. Ptr Ink 190: 15-18 F 16 '40
National paper trade association approves certification. il Paper Tr J 110:17 Mr 14 '40
Tenth anniversary of Crown quality control plan seen as historic milestone in rayon's development. J. A. Spooner. Rayon 21:396-7 Jl '40
What is false advertising? FTC case against Good Housekeeping. Business Week p24-6 D 23 '39

PRODUCTS, Identification of
Bulk product gets identification and acceptance; Omaha packing company smoked meats. il Ptr Ink Mo 40:22 Je '40
How to identify your goods by a special selvage. H. E. Wenrich. il Rayon 21:312-13 My '40
See also
Labels

PRODUCTS, Improved
Doubling in bras; Formfit sales combination. Business Week p42-3 O 12 '40
Formfit lifts product above price dog-fight: sales jump 50%; new product, a new price policy, and some smart advertising. W. H. Lowy. il Sales Management 46:25-6 Je 1 '40
Leadership challenged, this advertiser improved item, changed its name, and advertised; Copes flowmatic regulator. D. Allshouse. il Ptr Ink 192:15-17 Jl 26 '40
Market analysis from management standpoint. R. T. Kent. Mech Eng 62:791-2+ N '40
Materials and design; twin keys to profit. G. T. Trundle, jr. il Product Eng 11:354-6 Ag '40
New uses for old materials; how modern research has improved glass, paper and rubber. J. V. Sherman. Barron's 20:13 Je 10 '40
Packaged pools at $1500 make debut on West coast. il Sales Management 47:26+ S 15 '40
See also
Design

PRODUCTS, Molded. See Molded products

PRODUCTS, New
Dress rehearsal for selling; Koolshade sun screen. Ptr Ink Mo 41:22 Jl '40
First large-scale book production using rubber plates. Barron's 20:5 O 21 '40
GE's bureau for new products. Barron's 20:5 My 13 '40
How to introduce a new building product; Dunbrik. G. W. MacNeill. Am Bld 62:49+ My '40
Low-pressure selling; advantages over high-pressure type in numerous instances. W. H. Conant. Barron's 20:9 Je 17 '40
Market analysis from management standpoint. R. T. Kent. Mech Eng 62:791-2+ N '40
Market research in introducing new industrial products. R. L. Gibson. Mech Eng 62:217-18 Mr '40
New packages and products. Published in monthly numbers of Food industries
New product via telephone; Thornado electric hammer. Ptr Ink 190:85 F 23 '40
New products. Published in weekly numbers of Business week
No business can escape change. Published in monthly numbers of Nation's business
One or many lines? harder for business to base growth on single product. W. H. Conant. Barron's 20:7 Jl 8 '40
Packaging the new product; chemicals and chemical products often present difficult problems. R. W. Lahey. il Chem & Met Eng 47:110-13 F '40
Parsley flakes prosper; reasons: price, package, publicity. R. A. Asmussen. il Sales Management 47:52-3 Ag 15 '40
Plastics in review. il Published in monthly numbers of Modern plastics
Product development. W. J. S. Naunton. Chem & Ind 59:21-3 Ja 13 '40
Sales strategy that built a new business; improved electric mixer, the Waring blendor. H. McLellan. il Am Business 10:20-1+ Ap '40
Some new products of 1939; achievements in industrial and medical chemistry. H. E. Howe. Barron's 19:18 D 4 '39
This plan will cut new product guessing; three sets of questions on competition, market and merchandise. W. Weintz. Ptr Ink 189:35+ D 29 '39
Two years of preparation, and then new product quickly wins market; how General Mills experimented with KIX, a corn cereal. D. D. Davis. il Ptr Ink 190:11-13+ F 16 '40
What's new. Published in monthly numbers of Printers' ink monthly
See also names of new products, e.g.
Nylon
Pliofilm

Advertising
New industries to advertise. il Adv & Sell 33:26-8 Je '40
Trial by jury; Ford dealer service managers endorse triple action piston rings. Ptr Ink 191:25-6 Ap 26 '40

Testing
Method for pre-testing new products. R. B. L. Singer. il Adv & Sell 33:28-30, 60+ Jl '40
Strathmore finds six practical advantages in a test territory; trying out new products, new advertising, new sales policies and tools. J. D. Zink. Sales Management 47: 48, 50-1 Ag 1 '40

PRODUCTS, Secondary
Electromaster taps new fields with line for Judy O'Grady; electric ranges at $50 to $70. il Sales Management 46:18+ Ap 20 '40
Ten points to be considered before a competitive price line is added. Ptr Ink 190:64, 67-8, 70-1 F 9 '40
Ticklish job of selling to industry; Cash company boosts sales of old valve through stress put on its more modern, more expensive competing line. il Ptr Ink Mo 40: 46+ F '40
See also
Quality of products

PRODUCTS, Used
See also
Automobile industry and trade—Used cars
Trade-in policies

PRODUCTS, Waste. See Waste products

PROFESSIONAL associations
See also
Bar associations
Engineering societies

PROFESSIONAL education
Professional standards for trust officers; fiduciary keystone in our capitalist democracy. D. McCahan. Trusts & Estates 70: 489-95 My '40
See also
Engineering education
Legal education
Library schools and training
Medical education
Scientific education

PROFESSIONAL engineers, National society of. See National society of professional engineers

PROFESSIONAL ethics
Practical aspects of professional ethics. V. H. Stempf. J Account 69:278-83 Ap '40
Professional standards for trust officers; fiduciary keystone in our capitalist democracy. D. McCahan. Trusts & Estates 70: 489-95 My '40
See also
Accounting ethics
Architectural ethics
Engineering ethics
Legal ethics

PROFESSIONAL workers
Fiscal anti-feminism; income tax of British woman professional worker with a family. Economist 138:373-4 Mr 2 '40
National roster of scientific and specialized personnel. L. Carmichael. Science 92:135-7 Ag 16 '40
Protection of professional titles. M. T. Nisot. Int Labour R 41:30-46, 115-33 Ja-F '40
See also
Accountants
Architects
Engineers
Librarians
Librarians, Special

PROFESSIONS
Statutory status of six professions; accountancy, architecture, law, medicine, nursing, teaching. Nat Education Assn Research Bul v 16, no 4:181-236 bibliog(p231-3) '38
Trust service, a profession. F. P. Storm. bibliog Trusts & Estates 70:481-7 My '40
See also
Accountants
Advertising as a profession
Architects
Dentists
Engineers
Lawyers
Librarians
Nurses and nursing
Physicians
Teachers
Trust service

PROFESSIONS, Choice of
Occupational opportunities; is a medical education a wise investment? R. W. Lane. Bankers Mo 57:456-7+ Ag '40

PROFILING
North American profiling shop; illustrations. Aviation 38:38-9 D '39
Sheet shapes for aircraft; multiple profiling; Lockheed aircraft corp. L. H. Biehler. il Am Mach 84:926-9 N 13 '40

PROFILING machines
New York tool co. high-speed vertical profiler and milling machine. il Mach 46:139 My '40
Profiling machine made by National holds work to close tolerances. il Am Mach 84:549 Jl 24 '40; Automotive Ind 83:57, 67 Jl 15 '40

PROFILOGRAPH
One millionth of an inch; profilograph studies of surface finishing. il Sci Am 162:101 F '40
Surface quality of an S.A.E. 3140 steel; profilograph study; various combinations of speeds, structures, and cutting fluids. O. W. Boston and W. W. Gilbert. il diag Mech Eng 62:785-9 N '40

PROFILOMETERS
Two new accessories and a new instrument modification extend applications of Abbott profilometer. il(p57) Automotive Ind 83: 59+ Jl 15 '40

PROFIT
Business (corporate) profits during third quarter of 1939. Comm & Fin Chr 149:3931 D 23 '39
Business (corporate) profits during fourth quarter of 1939. Comm & Fin Chr 150:1999-2000 Mr 30 '40
Business (corporate) profits during first quarter of 1940. Comm & Fin Chr 150: 3731-2 Je 15 '40
Business earnings rise sharply; fourth quarter profits. W. Beecher. Mag of Wall St 65:464-5+ Ja 27 '40
Changing profit perspective in new industrial outlook. W. Gates. Mag of Wall St 66:454-6+ Jl 27 '40
Comeback! P.I. annual review of 300 advertisers' earnings; statistics, 1933-1939. J. Lewis. Ptr Ink 191:25-6, 30+ Ap 19 '40
Companies making new profit records. S. Devlin. Mag of Wall St 65:536-7+ F 10 '40
Company backlogs and profits; mid-year unfilled orders assure earnings for certain leaders. C. G. V. White. Mag of Wall St 66:570-1 Ag 24 '40
La concurrence, le profit, les ententes économiques. J. Carlioz. Chimie & Ind 42:919-21 N '39
Corporation profits, Federal reserve bank of New York figures; revision, quarterly, 1928-38. Survey of Cur Business 20:12 Mr '40
Corporation profits, 1936-1939. Survey of Cur Business 1940 Sup p60-1 [supplemented in monthly numbers]
Course of profits of first quarter companies, 1935-1940. Economist 138:936-7, 963 My 25 '40
Distribution sins that eat the heart out of profits; statistical analysis of sales costs. Sales Management 46:32+ My 15 '40
Does added volume gained by easier credit mean more net profit? Ptr Ink 190:25-6, 29+ Ja 19 '40
Dropping small dealers cut cost of selling, but profits suffered. J. S. Scherer. Ptr Ink 193: 64, 68+ N 15 '40
Earnings of industrial companies in fourth quarter highest since September, 1929. L. Applegate. Annalist 55:295 F 22 '40
First quarter industrial earnings; quarterly net income of sixty-two industrial companies. L. Applegate. Annalist 55:652 My 9 '40
First quarter profits, 1940. Nat City Bank p57-9 My '40
Further thoughts on the management aspect of accounting control. S. A. Peck. N A C A Bul 21:549-68 Ja 1 '40
Get more exact credit information; when is a profit. R. M. Swisher. Bankers Mo 57: 505+ S '40
Half year's profits. Nat City Bank p88-90 Ag '40
How to rate war earnings; with lessons from World war prices and earnings. W. Gates. il Mag of Wall St 66:86-7+ My 4 '40
How's business? earnings tell. Business Week p42 Jl 27 '40
Impact of new taxes on third quarter earnings. J. S. Williams. il Mag of Wall St 67:136-9+ N 16 '40
Increased taxes for Canadian companies; results for 22 companies on basis of 1939 earnings. A. T. Christie. Barron's 20:18 Jl 22 '40
Industrial profits in 1939. Economist 138:sup5-6 F 17 '40
Industry reports on the war boom; nature of the gain in the fourth quarter. Business Week p55 F 10; 51 F 17 '40
New deal profits are not so bad. P. Dobbs. Mag of Wall St 65:730-1+ Mr 23 '40
New profits measure; quarterly earnings of 30 stocks in Dow-Jones industrial average down sharply since 1929. L. C. Duncan. Barron's 20:3 Mr 11 '40
1939 crop of record profits. L. C. Duncan. Barron's 20:7 Ja 22; 3 Ja 29 '40
1939 earnings reports; tabulation. Mag of Wall St 65:565 F 10 '40
Preserve the profit system. E. T. Weir. Bankers M 140:75-6 Ja '40
Prices and profits in a defense economy. E. B. George. il Dun's R 48:5-19 N '40
Profit in a union contract. J. Baker. Advanced Management 5:63-7+ Ap-Je '40
Profit margins for 1941. J. Lloyd. Mag of Wall St 66:714-16 O 5 '40
Profit selling price tables. W. F. Doak, ed. 63p 1s; 2s 6d W. Collins, sons & co, London '39
Profits and dividends; big business vs. small. E. B. George and R. L. Tebeau. bibliog il Dun's R 48:11-22 Ja '40
Profits down 15% from fourth quarter. Barron's 20:20 Ap 1 '40
Profits jump 32.3%; semi-annual compilation of earnings of 190 leading advertisers. Ptr Ink 192:17-18, 70-1 S 6 '40
Profits of leading corporations for the years 1936-1939. Nat City Bank p101 S '40
Profits of leading corporations, 1938-39. Nat City Bank p40-4 Ap '40
Profits of leading manufacturing companies in 1938-39. Nat City Bank p31-5 Mr '40

PROFIT—*Continued*
Projecting 1940 earnings trends. J. J. Hipple. Mag of Wall St 66:22-3+ Ap 20 '40
Taxation and fourth quarter's net profits. Economist 138:69, 82 Ja 13 '40
Third quarter profits. Nat City Bank p123-5 N '40
Trend of profits; second quarter companies. Economist 139:435-6 O 5 '40
Week's company results. Published in weekly numbers of the Economist
What the general manager thinks about. R. T. Kent. Mech Eng 62:370-4 My '40; Same cond. Engineer 169:523-4 Je 7 '40

See also
Capitalism
Corporations—Finance
Excess profits tax
Income
Interest
Investments
Price policies
Risk
War profits

PROFIT motive institute
In defense of profits; coast insurance men start Profit motive institute against co-operative movement. Business Week p27 Mr 9 '40

PROFIT sharing
Before you attempt to share the profits; questions and answers. E. Whitmore. il Am Business 10:11-13 F '40
Both salesmen and company earn more under profit-sharing plan; Pioneer mfg. co. Sales Management 47:54 N 15 '40
Carrier employees to share company's lot under new plan. Refrig Eng 39:62 Ja '40; Excerpt. Elec W News ed 112:1826 D 23 '39
Fortune survey; dividends, limited? Fortune 21:98 Mr '40
Increased earnings available under the general profit sharing plan of General electric company. Mass Transportation 35:361 D '39
International Harvester employes get new savings and profit-sharing plan. il Manuf Rec 109:26+ Ap '40
Nest egg for 50,000; International harvester co. retirement plan sets up accounts in which company matches percentage of savings. Business Week p33-4 Mr 30 '40
Nonexpanding economy and profit sharing. K. Fick. J Account 70:33-42 Jl '40
Profit sharing and pension plans (their creation and tax effect). C. M. Winslow and K. R. Clark. 192p $2 Commerce clearing house '39
Profit sharing and preparedness. D. Despain. il Nation's Business 28:17-19+ Ag '40
Profit sharing more than dividing profits. A. W. Gray. Bankers Mo 57:352-3 Je '40
Profit-sharing with salesmen cuts sales costs and increases volume; H. D. Taylor co. A. H. Brownell. Sales Management 46: 25-6+ Ja 15 '40
Savings and extra compensation plan of International harvester co. Monthly Labor R 51:631-3 S '40
Wage dividend plan builds loyal corps of workers for Visking. il Sales Management 46:32-3 My 1 '40

See also
Bonus system
Cooperation

Bibliography
Profit-sharing; selected references, 1923-1939. R. Fine, comp. 18 l U.S. Dept. of labor library, Washington '39

PROFIT sharing institute, American. See American profit sharing institute

PROFLAVINE
Inhibition of sulphate-reducing bacteria by dyestuffs. T. H. Rogers. Soc Chem Ind J 59:34-9 F '40

PROGESTERONE
Sterols; progesterone from hyodesoxycholic acid. R. E. Marker and J. Krueger. bibliog Am Chem Soc J 62:79-81 Ja '40

PROGRESS
End to progress? man-made scarcity in a fruitful world. G. Cassel. Trusts & Estates 70:25-6 Ja '40
Engineers necessary for continued American industrial progress. D. B. Gillies. Min & Met 21:91-4 F '40
Frontier. C. W. Kellogg. Edison Elec Inst Bul 7:569-70 D '39
Noteworthy events of 1939. H. P. Gillette. Roads & Sts 83:66+ F '40
Obstacles to human progress. G. Ives. 283p $3 Norton '39

See also
Civilization
Inventions
Social problems
Social progress

PROHIBITION
Amazing story of repeal; an exposé of the power of propaganda. F. Dobyns. 457p $3 Willett, Clark & co, 440 S. Dearborn st, Chicago '40

PROJECTILES
Chronoscope; electronic interval timer originally developed to test the velocity of rifle bullets. C. I. Bradford. il diags Electronics 13:28-30+ N '40
Shell steel specifications are more rigid than in last war. Iron Age 145:83-5 My 16 '40

See also
Bombs, Aerial
Shells (projectiles)

Manufacture
Canada arms Britain. il Am Mach 84:329-32 My 15 '40
Non-ferrous metals in the defense program. C. F. Lindsay. il Metals & Alloys 12:410-13 O '40
Theory and practice of the heat treatment of armor-piercing projectiles; abstract. J. Obremski. Metals & Alloys 11:MA143 Mr '40

PROJECTION apparatus
Mine safety appliance co.'s microprojector for examining dust samples. il Rubber Age 46:237 Ja '40
Precision measurements; Taylor, Taylor and Hobson projectors. il Automobile Eng 30:45-6 F '40
Projectoscope. H. Roger. il Am Dyestuff Rep 29:38-40 Ja 22 '40
Taylor, Taylor and Hobson precision optical apparatus. il diags Engineer 169:92-3 Ja 26 '40

See also
Light projection
Moving picture projection

Manufacture
Die casting; manufacture of a projector frame; with photographs by Van Fisher. Metal Prog 38:275-83 S '40

PROJECTOSCOPE
Projectoscope. H. Roger. il Am Dyestuff Rep 29:38-40 Ja 22 '40

PROLACTIN
International standards for prolactin and for the gonadotrophic substance of pregnant mares' serum. Chem & Ind 58:1050 D 2 '39
Modification of Riddle's method of prolactin assay. N. Uyei and others. Science 92:435 N 8 '40

PROLAMINS

See also
Secalin

PROMISSORY notes
Change open accounts into notes. M. Hirsch. Inland Ptr 105:48 My '40
Simplified forms; instalment notes and pledge agreement. Banking 33:53-7 O '40

PRONUNCIATION
Treasures from the red notebook. E. N. Teall. Inland Ptr 105:34-5 Ag '40

PRONY, Gaspard Clair François Marie Riche de, 1755-1839
La vie et l'œuvre de Prony. Génie Civil 116: 218-19 Mr 30 '40

PROOFREADERS
Printer, guardian of clean English. E. N. Teall. Inland Ptr 105:49-50 S '40

PROOFREADING
Authors' & printers' dictionary. F. H. Collins. 8th ed rev 407p $1.75 Oxford '38
Code for simplifying markups. L. J. Spang. Inland Ptr 105:32-3 Ap '40
Cultivate discernment, not rules; review of P. G. Perrin's An index to English. E. N. Teall. Inland Ptr 105:46-7 Jl '40
Proofroom. E. N. Teall. Published in monthly numbers of Inland printer
Real headaches in earlier folios. S. L. Gaber. Inland Ptr 104:78-4 N '39

See also
Compound words
Punctuation
Word division

PROPADIENE. See Allene

PROPAGANDA
American dilemma; German library of information. Ptr Ink Mo 41:32+ O '40
And now a TVA on the press-radio-amusement front; propaganda's golden age; abstract. M. Lerner. Pub Util 24:761-4 D 7 '39
Conquering the man in the street; a psychological analysis of propaganda in war, fascism, and politics. E. Freeman. 356p bibliog(p337-43) $3.50 Vanguard press, New York '40
Fine art of propaganda; a study of Father Coughlin's speeches. A. M. Lee and E. B. Lee, eds. 134p $1.50; pa 75c Harcourt '39
Footprints of the Trojan horse; some methods used by foreign agents within the United States. Citizenship educational service, 122 E. 42d st, New York '40
Group leader's guide to propaganda analysis. V. Edwards. 240p, 31p pa $2 Inst. for propaganda analysis, New York '38
Propaganda in Germany during the Thirty years war. E. A. Beller. 49p, pl 1-24 bibliog(p13-16) $10 Princeton univ. press '40
Rape of the masses; the psychology of totalitarian political propaganda. S. Chakotin. 310p bibliog(p301-3) $3 Alliance book corp, 212 5th av, New York '40
War of nerves; Hitler's helper; Mussolini aims to win five million Italo-Americans for fascism. il Fortune 22:85-7, 108+ N '40
War of nerves: U.S. front; Nazi agents in United States. il Fortune 22:46-51+ O '40
War propaganda and the United States. H. Lavine and J. Wechsler. 363p $2.75 Yale univ. press '40

See also
Fifth column
Public opinion

PROPALDEHYDE. See Propionaldehyde

PROPANE
Activities of Stargas department; Lone Star gas company distributes liquefied petroleum gas in rural districts. E. F. Schmidt. il Gas Age 86:40-1 N 7 '40
Analytical calculations of thermodynamic properties. H. M. Robinson and H. Bliss. bibliog Ind & Eng Chem 32:396-8 Mr '40
Catalytic dehydrogenation of gaseous paraffins. A. V. Grosse and V. N. Ipatieff. bibliog il Ind & Eng Chem 32:268-72 F '40
Complete dehydration facilities at Continental's K.M.A. plants. D. H. Stormont. flow diag il Oil & Gas J 39:34-6 Je 6 '40
Cost of cutting with butane, propane and acetylene. W. T. Tiffin and O. R. Eads. Iron Age 144:42-3 D 21 '39; Discussion. E. L. Mathy. 145:43+ My 16 '40
Depropanization of butane. L. J. Coulthurst. il Oil & Gas J 39:50 Jl 11 '40
Economics of liquefied petroleum gases. J. W. Vaiden. bibliog Oil & Gas J 39:74, 76+ My 23 '40
Effect of surface on cool flames in the oxidation of propane. R. A. Day, jr. and R. N. Pease. bibliog Am Chem Soc J 62:2234-7 Ag '40
Gulf plants produce high gasoline yield by polyform process. P. Östergaard and E. R. Smoley. flow sheets il Oil & Gas J 39:52-3+ S 12 '40; Same. Nat Pet N 32:R330-1+ S 18 '40
Heavier tanks and equipment required to handle propane. il Nat Pet N 32:38 Ag 14 '40
High-pressure vapor-liquid equilibrium for the systems propylene-isobutane and propane-hydrogen sulfide. E. R. Gilliland and H. W. Scheeline. bibliog Ind & Eng Chem 32:48-54 Ja '40
Partial volumetric behavior of lighter paraffin hydrocarbons in the gas phase; methane, ethane, propane, *n*-butane in binary mixtures. B. H. Sage and W. N. Lacey. bibliog Oil & Gas J 38:189-92+ N 17 '39
Phase equilibria in hydrocarbon systems; propane-*n*-pentane system. B. H. Sage and W. N. Lacey. bibliog Ind & Eng Chem 32: 992-6 Jl '40
Phase equilibria in hydrocarbon systems; the propane-*n*-butane system in the critical region. C. N. Nysewander, B. H. Sage and W. N. Lacey. bibliog diags Ind & Eng Chem 32:118-23 Ja '40
P-V-T relations for propane. W. W. Deschner and G. G. Brown. bibliog Ind & Eng Chem 32:836-40 Je '40
Propane cooling of absorption oil used at new Jal gasoline plant. D. H. Stormont. flow diag il Oil & Gas J 39:30-1, 35+ Ag 29 '40
Propane precipitation of petroleum resins. P. T. Graff and H. O. Forrest. il diags Ind & Eng Chem 32:294-8 Mr '40
Reducing the cost of metal spraying; new gun uses acetylene, propane, natural gas, or coal gas. E. T. Parkinson. il Steel 107: 46-9 S 9 '40
Refinery gas; a raw material of growing importance. R. E. Wilson. Chem & Ind 58: 1095-1101 D 23 '39; Same cond. Nat Pet N 31:R541-2+ D 13 '39; Abstract. Ind & Eng Chem News ed 17:697-8 N 20 '39
Substituting butane and propane for manufactured gas. A. C. Rathkey. il Gas Age 85:22-4 F 1 '40
Viscosity of gases and vapors at high pressures. E. W. Comings and R. S. Egly. bibliog Ind & Eng Chem 32:714-18 My '40

PROPANE, Liquid
Solvent action of liquid propane on the pentane-soluble fraction of a high-temperature bituminous coal tar. C. S. Kuhn, jr. bibliog diags Ind & Eng Chem Anal ed 12: 86-9 F 15 '40

PROPANOL. See Propyl alcohol

PROPELLERS
Aeronautics and ship design. J. L. Taylor. Engineering 148:651-2 D 8 '39
Characteristics of silent propellers. A. W. Davis. diags Engineering 149:74-6 Ja 19 '40
Effective pitch. J. L. Taylor. Engineering 150:183 S 6 '40
Problems of the singing propeller. W. Kerr, J. F. Shannon and R. N. Arnold. diags Engineering 149:470-2, 512-13, 532-4 My 3, 17-24 '40; Conclusions. Engineer 169:391-2 Ap 26 '40; Discussion. Engineering 149:442-3 Ap 26 '40

See also
Airplane propellers

Manufacture
Machine for planning marine propellers. il Engineer 169:456, 462 My 17 '40; Engineering 149:500-2 My 17 '40

PROPENE. See Propylene

PROPERTY
Right of property. L. F. V. Kruse. 495p bibliog(pxi-xvi) $7 Oxford '39

See also
Income
Joint tenancy
Real property
Taxation
Wealth

PROPERTY, Enemy. See Enemy property

PROPIONALDEHYDE
Oxidation of aldehydes; the combustion zones of butaldehyde, isobutaldehyde, propaldehyde, acetaldehyde, glyoxal, and acraldehyde. D. M. Newitt, L. M. Baxt and V. V. Kelkar. diag Chem Soc J p1703-10 N '39

PROPIONALDEHYDE—*Continued*
Oxidation of aldehydes; the products of their combustion. D. M. Newitt and L. M. Baxt. pl Chem Soc J p1711-20 N '39

PROPIONIC acid
Analysis of mixtures of aliphatic acids. S. T. Schicktanz, W. I. Steele and A. C. Blaisdell. bibliog Ind & Eng Chem Anal ed 12:320-4 Je 15 '40

Chlorinations with sulfuryl chloride; (a) the peroxide-catalyzed chlorination of aliphatic acids and acid chlorides; (b) the photochemical sulfonation of aliphatic acids. M. S. Kharasch and H. C. Brown. Am Chem Soc J 62:925-9 Ap '40

Radioactive carbon as a tracer in the synthesis of propionic acid from CO_2 by the propionic acid bacteria. S. F. Carson and others. bibliog Science 92:433-4 N 8 '40

PROPIONIC anhydride
Physical properties of the aliphatic acid anhydrides. D. T. Lewis. Chem Soc J p32-6 Ja '40

Rates of formation of sulfoaliphatic acids. T. F. Murray, jr. and W. O. Kenyon. bibliog Am Chem Soc J 62:1230-3 My '40

PROPORTIONING equipment
Automatic proportioning and blending of liquid chemicals in a reclaimed rubber plant. H. F. Palmer and J. M. Hines. il diags Am Inst Chem Eng Trans 36:233-43; Discussion. 243-4 Ap '40

Bright annealing; gas from producer sampled continuously and maintained at desired analysis by reversing motor which alters ratio of air to gas as required. il diags Steel 107:76+ Ag 12 '40

Complete control of piping systems eliminates errors at Campana plant. R. D. Frick. il Heating-Piping 12:103-5+ F '40

Control of fuel-air ratio in the operation of blast furnace stoves. diag Steel 106:80 Mr 25 '40

New automatic duplex solution feeders. il Water Works & Sewerage 87:sup92 O '40

Paper stock proportioning meter. diag Pulp & Pa of Can 41:730 O '40

Proportioning raw materials; continuous weighing and batch type devices. N. C. Rockwood. il diags Rock Prod 43:36-9+ Ag '40

Supply of gas and air to furnaces; patent proportioning device. diag Gas J (Lond) 230:444 My 29 '40

PROPRIETARY association of America
Annual meeting, 58th, New York, May 20-22. Oil Paint & Drug Rep 137:3, 47 My 27 '40

PROPYL alcohol
Investigation of the complex structure of the O-H harmonic bands of substituted alcohols, and of the effect of temperature on the relative intensities of the multiplet components. L. R. Zumwalt and R. M. Badger. bibliog Am Chem Soc J 62:305-11 F '40

See also
Acetopropanol

PROPYLAMINE
Comparative physiological actions of the optically isomeric phenisopropylamines. G. A. Alles. diags Calif Univ Pub in Pharmacology v 1, no 11:129-50 bibliog(p150) '39 (pa 25c)

PROPYL borate
Dipole moments and structures of the esters of some fatty and some inorganic acids. G. L. Lewis and C. P. Smyth. bibliog Am Chem Soc J 62:1529-33 Je '40

PROPYL bromide
Kinetics of exchange reactions; *n*-propyl, *iso*propyl, and *iso*butyl bromides. G. A. Elliott and S. Sugden. Chem Soc J p1836-8 D '39

PROPYLENE
Addition of N-haloamides to olefins. M. S. Kharasch and H. M. Priestley. Am Chem Soc J 61:3425-32 D '39

Gas imperfection; experimental determination of second virial coefficients for seven unsaturated aliphatic hydrocarbons. E. E. Roper. bibliog diag J Phys Chem 44:835-47 O '40

Halogenation of hydrocarbons; substitution of chlorine and bromine into straight-chain olefins. H. P. A. Groll and G. Hearne. bibliog diags Ind & Eng Chem 31:1530-7 D '39

High-pressure vapor-liquid equilibrium for the systems propylene-isobutane and propane-hydrogen sulfide. E. R. Gilliland and H. W. Scheeline. bibliog Ind & Eng Chem 32:48-54 Ja '40

Peroxide effect in the addition of reagents to unsaturated compounds; the addition of hydrogen iodide to propene, 1-bromopropene, allyl chloride, and allyl bromide. M. S. Kharasch, J. A. Norton and F. R. Mayo. bibliog Am Chem Soc J 62:81-6 Ja '40

P-V-T relations of propylene. W. E. Vaughan and N. R. Graves. bibliog il diag Ind & Eng Chem 32:1252-6 S '40; Correction. 32:1571 D '40

PROPYLENE bromide. See Dibromopropane

PROPYLENE glycol
Formation of acetol from αβ-propylene glycol. K. R. Butlin and W. H. D. Wince. Soc Chem Ind J 58:365-6 D '39

PROPYLIDENE fluorene
Preparation of alkylidene fluorenes from fluorene with aliphatic aldehydes. R. F. Schultz and C. F. Smullin. Am Chem Soc J 62:2904-5 N '40

PROPYLITIZATION (term)
Propylitization and related types of alteration on the Comstock lode. R. Coats. Econ Geol 35:1-16 Ja '40

PROPYNE
Catalytic hydration of acetylene and of some alkylacetylenes. R. E. Schaad and V. N. Ipatieff. bibliog Am Chem Soc J 62:178-80 Ja '40

PROSPECT lists
Crackerjack control setup for reaching the luxury market; Cadillac and LaSalle automobiles. R. W. Adams. il Sales Management 47:116-19 O 10 '40

Good prospect list from exhibit visitors. Ptr Ink Mo 39:18 D '39

Practical application of market analysis; abstract. H. W. Dodge. Management R 29: 59-60 F '40

Why not a drive-for-prospects contest as remedy for sales contest slump? D. B. Taylor. Ptr Ink 190:23-4 Mr 22 '40

See also
Mailing lists

PROSPECTING
Aerial photography grows up. H. T. Bruce. il Eng & Min J 141:48-51 Mr '40

Fields of the economic geologists widen and their technique improves. D. McLaughlin. il Min & Met 21:3-6 Ja '40

Metal-mining practice; prospecting and exploration. C. F. Jackson and J. H. Hedges. bibliog diag U S Bur Mines Bul 419:3-34 '40

Mining geology, 1939. H. Schmitt. Eng & Min J 141:77-9 bibliog(69 references, p79) F '40

Mining geology today; abstract. I. B. Joralemon. Min Cong J 26:31 O '40

See also
Mines and mineral resources
Petroleum—Prospecting

Geophysical methods

American assn. of petroleum geologists growth parallels expansion of petroleum geology. J. E. Thomas. Oil & Gas J 38:33-4 Ap 11 '40

Applied geophysics in the search for minerals. A. S. Eve and D. A. Keys. 3d ed 316p bibliog(p305-9) $4.25 Macmillan '38

Direct discovery of oil deposits is difficult. W. V. Howard. Oil & Gas J 39:27-8 Je 20 '40

Discovery on small geophysical structure arouses Mississippi. G. Weber. il map Oil & Gas J 38:25-6 Ap 11 '40

PROSPECTING—Geophysical methods—*Cont.*
Future of geophysics in the light of new developments; spectroscopic analysis of plant materials. H. Lundberg. Can Min J 61:225-6 Ap '40; Same. Engineer 170:265 O 25 '40
Geophysical exploration. C. A. Heiland. 1013p $10; school ed $8 Prentice-Hall '40
Geophysical exploration in 1939. S. F. Kelly. il Min & Met 21:41-4 Ja '40
Geophysical prospecting for oil. L. L. Nettleton. 444p bibliog(p411-15) $5 McGraw-Hill '40
Geophysical work at Steep Rock lake. Eng & Min J 141:36 My '40
Geophysical work at Steeprock lake, 1938-39. A. Brant. Can Min J 61:573-4 S '40
Marsh buggy for use in Gulf Coast fields. H. F. Simons. il Oil & Gas J 38:71 F 22 '40
Outline of direct and indirect means of locating oil. W. V. Howard. Oil & Gas J 38:27-8 Mr 21 '40
Partnership between geology and geophysics in prospecting for oil. E. A. Eckhardt. Am Assn Pet Geologists Bul 24:1204-8 Jl '40
Record counter aids in seismograph computations. P. M. Honnell. il diag Oil & Gas J 38:44 Ja 18 '40
Society of exploration geophysicists annual meeting, Chicago, April 9-12; abstracts of papers. Oil & Gas J 38:69-72 Ap 11 '40
Some practical examples of micromagnetic prospecting. W. P. Jenny. maps Oil & Gas J 38:132-4 Ap 25 '40
Some reflections on seismic prospecting. E. A. Eckhardt. il Explosives Eng 18:102-4 Ap '40
Symposium on geophysics in modern life a great success; American institute of mining and metallurgical engineers. Min & Met 21:151 Mr '40

PROSPECTORS
Old prospector, a vanishing race. J. F. Bledsoe. il Can Min J 61:159-60 Mr '40

PROSPERITY
Fortune survey; opportunity; your father's, your own, your son's. Fortune 21:133-4 F '40
See also
Business conditions
Business cycles

PROTACTINIUM. See Protoactinium

PROTECTIVE clothing. See Clothing, Protective

PROTECTIVE committees
Report on the study and investigation of the work, activities, personnel and functions of protective and reorganization committees; pursuant to section 211 of the Securities exchange act of 1934. v8, Summary of law pertaining to equity and bankruptcy reorganizations and of commission's conclusions and recommendations. 471p U.S. Securities and exchange commission, Washington; pa 50c Supt. of doc. '40

PROTECTIVE paint. See Paint, Protective

PROTEINASES
Behavior of ovomucin in the liquefaction of egg white. A. K. Balls and S. R. Hoover. bibliog Ind & Eng Chem 32:594-6 Ap '40

PROTEINS
Apparent molecular shape and molecular weight of proteins, from viscosity and diffusion measurements. H. Neurath and G. R. Cooper. Am Chem Soc J 62:2248-9 Ag '40
Cell adapted for conductivity measurements of protein solutions; abstract. T. J. Dietz. diag Franklin Inst J 229:260-3 F '40
Chemistry of allergens; isolation and properties of an active protein component of cottonseed. J. R. Spies and others. Am Chem Soc J 62:1420-3 Je '40
Chemistry of allergens; the solubility behavior of an active protein picrate from cottonseed. J. R. Spies, H. S. Bernton and H. Stevens. Am Chem Soc J 62:2793-9 O '40
Combination of wool protein with acid and base; hydrochloric acid and potassium hydroxide. J. Steinhardt and M. Harris. Am Dyestuff Rep 29:130-7, 121-7, 131-4, 147-9 bibliog(p149) Mr 4-18 '40; Same. J Research Nat Bur Stand 24:335-67 Mr '40
Composition of cottonseeds; solubility of proteins in alkaline solutions of neutral salts. H. S. Olcott and T. D. Fontaine. Am Chem Soc J 62:1334-9 Je '40
Directly air-driven transparent ultracentrifuges. J. W. McBain and A. H. Lewis. bibliog il diag J Phys Chem 43:1197-1205 D '39
Distribution of selenium in plasma and liver proteins and its fractionation in tryptic liver digests. B. B. Westfall and M. I. Smith. bibliog Pub Health Rep 55:1575-83 Ag 30 '40
Effect of phosphate buffers on the electrical mobility of hemoglobin. M. H. Gorin, H. A. Abramson and L. S. Moyer. bibliog Am Chem Soc J 62:643-4 Mr '40
Effect of thiol compounds on gonadotrophins. H. L. Fraenkel-Conrat, M. E. Simpson and H. M. Evans. bibliog Science 91:363-5 Ap 12 '40
Electrophoretic study of the proteins of egg white. L. G. Longsworth, R. K. Cannan and D. A. MacInnes. bibliog diags Am Chem Soc J 62:2580-90 O '40
Hevea latex; effect of proteins and electrolytes on colloidal behavior. A. R. Kemp and W. G. Straitiff. bibliog diags J Phys Chem 44:788-808 Je '40
Interatomic distances in proteins and related substances. R. B. Corey. bibliog Chem R 26:227-36 Ap '40
Intramolecular folding of polypeptide chains in relation to protein structure. H. Neurath. bibliog il J Phys Chem 44:296-305 Mr '40
Molecular structure of the collagen fibres. W. T. Astbury and F. O. Bell. bibliog il Soc Dyers & Col J 56:274-5 Je '40
Pressure-soluble and pressure-displaceable components of monolayers of native and denatured proteins. I. Langmuir and D. F. Waugh. diags Am Chem Soc J 62:2771-93 O '40
Procter Wilson theory of protein swelling in the light of modern ideas of protein structure; abstract. W. R. Atkin. Can Chem & Process Ind 23:550 N '39
Progress in engineering knowledge during 1939; proteins. P. L. Alger. bibliog il diag Gen Elec R 43:60-2 F '40
Protein plastics from soybean products; influence of phenolic resins or phenolic molding compounds on formaldehyde-hardened protein material. G. H. Brother and L. L. McKinney. bibliog(51 titles) Ind & Eng Chem 32:1002-6 Jl '40
Proteins in whey; abstract. M. Sorenson and S. P. L. Sorenson. Food Ind 12:90 Ag '40
Proteins under the X-rays. W. T. Astbury. Chem & Ind 59:129 F 24 '40
Soren Peter Lauritz Sörensen, memorial lecture. E. K. Rideal. Chem Soc J p554-61 Ap '40
Soybean protein dispersions in formaldehyde solutions; preparation and application. A. K. Smith and H. J. Max. Ind & Eng Chem 32:411-15 Mr '40
Splitting the CONH linkage by means of ultraviolet light. D. C. Carpenter. bibliog diags Am Chem Soc J 62:289-91 F '40
Studies on proteins in liquid ammonia; reaction of sodium in liquid ammonia with peptones and related substances. C. O. Miller and R. G. Roberts. bibliog Am Chem Soc J 61:3554-6 D '39
Study of blood serum proteins by electrophoresis. E. Jameson and C. Alvarez-Tostado. bibliog J Phys Chem 43:1165-72 D '39
Synthetic immunochemistry. C. R. Harington. Chem Soc J p119-28 F '40
Theory of protein metabolism; the transformation of proteins. C. L. A. Schmidt, F. W. Allen and H. Tarver. bibliog Science 91:18-19 Ja 5 '40

PROTEINS—*Continued*
Utilization of by-products from meat packing industry; fats, proteins, bones, etc. H. H. Young. Ind & Eng Chem News ed 18:580-1 Jl 10 '40
Viscosity and the shape of protein molecules. J. W. Mehl, J. L. Oncley and R. Simha. Science 92:132-3 Ag 9 '40
Viscosity-fluidity relations of proteins. H. P. Treffers. bibliog Am Chem Soc J 62:1405-9 Je '40
Water bound to gelatin as shown by molecular structure studies. O. L. Sponsler, J. D. Bath and J. W. Ellis. il diags J Phys Chem 44:996-1006 bibliog(52 references, p1005-6) N '40

See also
Albumin
Amino acids
Casein
Gelatin
Hemoglobin
Nucleoproteins
Sericin
Urease

PROTHROMBIN. See Thrombogen

PROTOACTINIUM
Fission of protactinium. N. Bohr and J. A. Wheeler. Phys R 56:1065-6 N 15 '39
Radioactive determination of protactinium in siliceous terrestrial and meteoritic material. W. C. Schumb, R. D. Evans and J. L. Hastings. bibliog Am Chem Soc J 61: 3451-5 D '39

PROTONS
Accurate measurement of the energy released in the disintegration of Li^6 by protons. G. J. Perlow. bibliog diag Phys R 58:218-25 Ag 1 '40
Deuteron-deuteron, proton-helium, and deuteron-helium scattering. N. P. Heydenburg and R. B. Roberts. Phys R 56:1092-5 D 1 '39
Deviation from the Coulomb law for a proton. W. E. Lamb, jr. Phys R 57:458 Mr 1 '40
Direct evidence of a proton component of the cosmic radiation. T. H. Johnson, J. G. Barry and R. P. Shutt. il Phys R 57:1047-8 Je 1 '40
Distribution in angle of alpha-particles from lithium bombarded with protons. V. J. Young, A. Ellett and G. J. Plain. diag Phys R 58:498-500 S 15 '40
Distribution in angle of protons from the deuteron-deuteron reaction. R. D. Huntoon and others. diags Phys R 58:97-102 Jl 15 '40
Distribution in angle of the long range alpha-particles from fluorine bombarded with protons. W. B. McLean, A. Ellett and J. A. Jacobs. diag Phys R 58:500-2 S 15 '40
Distribution of protons between water and other solvents. L. S. Guss and I. M. Kolthoff. bibliog Am Chem Soc J 62:1494-6 Je '40
Evidence against the existence of an excited state of He^5. R. D. Park and J. C. Mouzon. bibliog Phys R 58:43-6 Jl 1 '40
Evidence that protons are the primary particles of the hard component. T. H. Johnson. bibliog Rs Mod Phys 11:208-10 Jl-O '39; Abstract. Franklin Inst J 229:668-70 My '40
Excitation of the 455-Kev level of Li^7 by proton bombardment. C. M. Hudson, R. G. Herb and G. J. Plain. diags Phys R 57:587-92 Ap 1 '40
Excited states of the O^{16} nucleus. D. M. Dennison. Phys R 57:454-6 Mr 1 '40
Gamma-rays from aluminum due to proton bombardment. G. P. Plain and others. diags Phys R 57:187-93 F 1 '40
Neutron-proton interaction. H. B. Hanstein. bibliog Phys R 57:1045 Je 1 '40
Note on *p*-wave anomalies in proton-proton scattering. G. Breit, C. Kittel and H. M. Thaxton. Phys R 57:255-9 F 15 '40
Phase shift calculations for proton-proton scattering at high energies. H. M. Thaxton and L. E. Hoisington. Phys R 56:1194-8 D 15 '39
Pictures of acid-base reactions. T. H. Hazlehurst, jr. il J Chem Educ 17:374-6 Ag '40
Proton-deuteron transformation as a source of energy in dense stars. W. A. Wildhack. Phys R 57:81-6 Ja 15 '40
Protons from $C^{13}+H^2$. W. E. Bennett and others. Phys R 58:478-9 S 1 '40
Protons from the transmutation of boron by deuterons. E. Pollard, W. L. Davidson, jr. and H. L. Schultz. Phys R 57:1117-20 Je 15 '40
Radioactivity produced by proton bombardment of bromine and iodine. E. C. Creutz and others. il diag Phys R 58:481-6 S 15 '40
Resonances in the emission of protons from the reaction $C^{13}+H^2$. M. M. Rogers and others. Phys R 58:186 Jl 15 '40
Scattering and stopping of fission fragments. N. Bohr. Phys R 58:654-5 O 1 '40
Scattering cross section of protons for 900-kev neutrons. W. E. Good and G. Scharff-Goldhaber. bibliog diag Phys R 58:89 Jl 1 '40
Scattering of protons by protons. N. P. Heydenburg, L. R. Hafstad and M. A. Tuve. diags Phys R 56:1078-91 D 1 '39
Search for a short range group of protons in the D-D reaction. F. E. Myers and others. bibliog diag Phys R 56:1104-6 D 1 '39
Search for resonance scattered protons from B^{11} and F^{19}. W. R. Kanne, R. F. Taschek and G. L. Ragan. bibliog diags Phys R 58:693-5 O 15 '40
Study of the protons from V, Cu, Mn, and Sc under bombardment by deuterons. W. L. Davidson, jr. bibliog Phys R 56:1062 N 15 '39
Theory of the resonance scattering of protons and neutrons on helium. F. Bloch. Phys R 58:829-36 N 1 '40

See also
Neutrons

PROTOPLASM
Theoretical and experimental studies on protoplasmic streaming; abstract. W. Seifriz and N. Kamiya. Science 92:416 N 8 '40

PROTOZOA
Observations on parasites and inclusion bodies in certain intestinal protozoa; abstract. D. H. Wenrich. Science 92:416-17 N 8 '40

See also
Euglenidae

PROTOZOA, Pathogenic
Experimental transmission of trypanosoma cruzi infection in animals by triatoma sanguisuga ambigua. A. Packchanian. bibliog Pub Health Rep 55:1526-32, pl 1-2 Ag 23 '40

PROUTY, Frank Harrison, 1891-
Sketch. por(p638) Mech Eng 62:639 Ag '40

PROVIDENCE, Rhode Island

Economic conditions
Family income and expenditure in five New England cities, 1935-36; v. 1, Family income. A. D. H. Kaplan, F. M. Williams and D. McCamman. U S Bur Labor Statistics Bul 645:1-351 '39

PROVIDENT mutual life assurance association
Annual general meeting, 99th, London. Economist 138:399 Mr 2 '40

PROVIDENT mutual life insurance company of Philadelphia
Historical sketch. T. Eagan. il Spectator (Life ed) 145:12 S 26 '40
75th anniversary. East Underw 41:6 Mr 22 '40; Ins Field (Life ed) 69:5 Mr 22 '40; Nat Underw (Life ed) 44:1 Mr 22 '40; Spectator (Life ed) 144:15 Mr 28 '40; Weekly Underw 142:803 Mr 30 '40

PROXIES
Move to clip Atlas' wings; opposition to Floyd Odlum's plan for merger with Curtiss-Wright. Business Week p17-18 Ap 27 '40
SEC amends rules governing solicitation of proxies. Comm & Fin Chr 150:355 Ja 20 '40
War, and no proxies; firms with European stockholders. Business Week p48-9 Jl 6 '40

PRUDENTIAL Insurance company of America
Annual business conference, Newark. East Underw 41:3 Ap 19 '40; Nat Underw (Life ed) 44:1+ Ap 19 '40; Spectator (Life ed) 144:12-13 Ap 25 '40

PRUNES, Dried

Standards

Tentative United States standards for grades of dried prunes, effective September 11, 1939. il Food Ind 12:55-8 Ja '40

PRUSSIAN blue
Chemistry of photo-copying processes. H. D. Murray. diags Chem & Ind 59:645-6 S 14 '40

PRUSSIC acid. See Hydrocyanic acid

PSEUDOCHLOROGENIN
Sterols; *epi*-pseudosarsasapogenin, pseudosarsasapogenone and pseudochlorogenin. R. E. Marker, E. Rohrmann and E. M. Jones. Am Chem Soc J 62:648-9 Mr '40

PSEUDOCUMENE
Polymethylbenzenes; the reaction between dimethylacrylic acid and the trimethylbenzenes. L. I. Smith and W. W. Prichard. bibliog Am Chem Soc J 62:771-7 Ap '40

PSEUDOELEOSTEARIC acid
Pseudo-eleostearic acid. J. P. Kass and G. O. Burr. bibliog Am Chem Soc J 61:3292-4 D '39

PSEUDOEPHEDRINE
Acetylation of *d*-ψ-ephedrine and *l*-ephedrine. W. Mitchell. Chem Soc J p1153-5 Ag '40

PSEUDOHEMOGLOBINS
Pseudomethemoglobin and its reaction with carbon monoxide after reduction. G. Barkan and O. Schales. Science 90:616 D 29 '39

PSEUDOIONONE
Studies in the polyene series. I. M. Heilbron, W. E. Jones and A. Spinks. Chem Soc J p1554-6 O '39

PSEUDOMORPHS. See Crystallography

PSEUDOSAPOGENINS
Sterols; acid isomerization of pseudo-sapogenins to sapogenins. R. E. Marker and E. Rohrmann. bibliog Am Chem Soc J 62:896-8 Ap '40

PSEUDOSARSASAPOGENIN
Sterols; *epi*-pseudosarsasapogenin, pseudosarsasapogenone and pseudochlorogenin. R. E. Marker, E. Rohrmann and E. M. Jones. Am Chem Soc J 62:648-9 Mr '40

Sterols; pregnanediols from sarsasapogenin. R. E Marker and E. Rohrmann. bibliog Am Chem Soc J 62:518-20 Mr '40

Sterols; reactions of pseudosarsasapogenin. R. E. Marker and E. Rohrmann. Am Chem Soc J 62:521-5 Mr '40

Sterols; the structure of pseudosarsasapogenin. R. E. Marker, E. M. Jones and J. Krueger. Am Chem Soc J 62:2532-6 S '40

PSEUDOSARSASAPOGENONE
Sterols; *epi*-pseudosarsasapogenin, pseudosarsasapogenone and pseudochlorogenin. R. E. Marker, E. Rohrmann and E. M. Jones. Am Chem Soc J 62:648-9 Mr '40

PSITTACOSIS
Psittacosis case in Idaho traced to shell parakeets shipped from southern California aviary. Pub Health Rep 55:1043-4 Je 7 '40

PSYCHICAL research
Extra-sensory perception after sixty years. J. G. Pratt and others. 463p bibliog(p425-51) $2.75 Holt '40

PSYCHOANALYSIS
Outline of medical psychology. E. F. Skinner. 173p 6s H. K. Lewis & co, London '39

Successful error; a critical study of Freudian psychoanalysis. R. Allers. 266p $3 Sheed & Ward, 63 5th av, New York '40

Technique of analytical psychotherapy. W. Stekel. 408p $5 Norton '40

Dictionaries

Psychological and neurological definitions and the unconscious. S. Kahn. 219p bibliog(p149-208) $2 Meador pub. co, Boston '40

PSYCHOLOGICAL index (periodical)
New use for the Psychological index. H. L. Ansbacher. Science 91:72 Ja 19 '40
Psychological index; abstract references of volumes 26-35, 1919-1928. H. L. Ansbacher, ed. 178p $2 Am. psychological assn, Ohio state univ, Columbus '40

PSYCHOLOGICAL research
Multi-frequency oscillator for audio testing; for making records used in tonal memory tests at Human engineering laboratory of Stevens institute of technology. J. Quinn. il diags Electronics 13:23-5 My '40
Psychological approaches to the biography of genius. L. M. Terman. Science 92:293-301 O 4 '40

PSYCHOLOGY
Fields of psychology. J. P. Guilford, ed. 695p bibliog(p645-75) $3.50 Van Nostrand '40
General psychology for students of business. J. D. Weinland. 564p bibliog(p537-45) $3.50 Crofts '40
Is psychology useful? review of We call it human nature, by P. Grabbe and The psychology of normal people, by J. Tiffin, F. B. Knight and C. C. Josey. D. M. McGregor. Mech Eng 62:609-10 Ag '40
Science in 1939. Science 90:sup18 D 22 '39

See also
Ability tests
Advertising—Psychology
Discussion
Mental hygiene
Motivation (psychology)
Personality

Industrial applications

See Psychology, Industrial

PSYCHOLOGY, Applied
Constructive human relationships; practical guidance for getting along with the other fellow. G. W. Smith. 340p $3.50 G. W. Smith, box 1207, Allentown, Pa. '40
Farmers of future may not need fences; psychologists can condition cows to stay inside a string enclosure, it is predicted; meeting of the American association of applied psychology. Science 92:sup12 S 6 '40
How to work with people; scientific methods of securing co-operation. S. Harwood. 197p bibliog(p196-7) $2 Cambridge analytical services, 1278 Massachusetts av, Cambridge, Mass. '40

PSYCHOLOGY, Comparative
Comparative psychology of mental development. H. Werner. 510p bibliog(p468-501) $4 Harper '40

PSYCHOLOGY, Educational. See Educational psychology

PSYCHOLOGY, Industrial
Industrial conflict; a psychological interpretation. G. W. Hartmann and T. Newcomb, eds. 583p $2.75 Cordon co, 225 Lafayette st, New York '40
Industrial mechanisation and its effect on the operative. S. Wyatt. Mech Handling 26:323-5 N '39
Industrial uses for applied psychology. C. E. Goode and O. C. Trimble. Personnel J 18:173-6 N '39
Million dollar research; personnel counseling plan; digest and review by C. S. Slocombe of "Management and the worker" by F. J. Roethlisberger and W. J. Dickson. Personnel J 18:162-72 N '39
New technique for supervisors and foremen. A. Walton. 233p $2.50 McGraw-Hill '40
Occupational level and job satisfaction; abstract. D. E. Super. Management R 28:425-6 D '39
Psychology and management. W. H. Wulfeck. Personnel J 19:49-54 Je '40
Surroundings affect the mine foreman. J. J. Rutledge. Explosives Eng 18:214-15 Jl '40
Top management goes to school. C. A. Drake. Factory Management 98:140+ Je '40

See also
Ability tests
Advertising—Psychology
Advertising copy
Employment management
Fatigue
Safety devices and measures—Psychological aspects
Social psychology

PSYCHOLOGY, Industrial—*Continued*

Dictionaries

Dictionary of terms and expressions of industrial psychology (psychotechnics) in German, English, French, Hungarian. M. Erdélyi and F. Grossman. 98p $2.75 Pitman '39

PSYCHOLOGY, Pathological

Mucous colitis; a psychological medical study of sixty cases. B. V. White, S. Cobb and C. M. Jones. 103p bibliog(p99-103) $2 National research council '39

Practical clinical psychiatry. E. A. Strecker and F. G. Ebaugh. 5th ed 728p $5 Blakiston '40

Psychiatry for the curious. G. H. Preston. 148p $1.50 Farrar '40

Psychobiology and psychiatry. W. Muncie. 739p $8 C. V. Mosby co, St Louis '39

Sketches in psychosomatic medicine. S. E. Jelliffe. 155p $3 Nervous and mental disease monographs, New York '39

See also
Mental diseases
Personality, Disorders of

PSYCHOLOGY, Physiological

Autonomic basis of emotion. E. Gellhorn, R. Cortell and J. Feldman. bibliog Science 92:288-9 S 27 '40

Inter-relationship of mind and body; the proceedings of the Association for research in nervous and mental diseases, New York, Dec. 27th and 28th, 1938. 381p $6 Williams & Wilkins '39

Varieties of human physique; an introduction to constitutional psychology. W. H. Sheldon, S. S. Stevens and W. B. Tucker. 347p bibliog(p300-18) $4.50 Harper '40

See also
Pain
Relaxation

PSYCHOLOGY, Social. See Social psychology

PSYCHOLOGY of color. See Color—Psychology

PSYCHOLOGY of learning. See Learning, Psychology of

PSYCHOLOGY of movement. See Movement, Psychology of

PSYCHOTHERAPY

Psychotherapy. L. F. Barker. 218p bibliog(p197-210) $2 Appleton-Century '40

Technique of analytical psychotherapy. W. Stekel. 408p $5 Norton '40

PSYCHROMETRIC charts. See Humidity

PSYCHROMETRY. See Humidity

PTEROCARPIN

Chemistry of the insoluble red woods; pterocarpin and homopterocarpin. A. McGookin, A. Robertson and W. B. Whalley. Chem Soc J p787-95 Je '40

PUBLIC accountants. See Accountants, Public

PUBLIC address system. See Loud speaking apparatus

PUBLIC administration. See Administration, Public

PUBLIC buildings

Costs facts on PWA-financed public buildings in eight states. Eng N 124:918 Je 20 '40

Federal building cost index, 1934-1939. Eng N 124:924 Je 20 '40

Public buildings; a survey of architecture of projects constructed by federal and other governmental bodies between the years 1933 and 1939 with the assistance of the Public works administration. C. W. Short and R. Stanley-Brown. 697p $2.50 Supt. of doc. '39

See also

County buildings	Municipal buildings
Courthouses	Post offices
Health centers	Prisons
Hospitals	Public works
Library architecture	School buildings

Air conditioning

Eliminating refrigeration hazards, government office buildings. C. A. Peters. il Power 84:140-1 Mr '40

Some factors in air conditioning design for a federal office building; cooling equipment of Social security building, Washington, W. A. Brown. diags plans Heating-Piping 12:682-91 N '40

Heating and ventilation

Features of ventilation in a new court house; Nassau County court house, Mineola, L.I. il diags Sheet Metal Worker 30:23-6+ N '39

Space between floor joists used for heating; Shawneetown, Ill. public building construction. Heating-Piping 12:169 Mr '40

PUBLIC debts. See Debts, Public

PUBLIC health

Community hygiene. E. S. Soule and C. MacKenzie. 218p $1.75 Macmillan '40

Health is wealth. P. De Kruif. 246p $2 Harcourt '40

Housing and health relationships re-examined. B. Marquette. bibliog Pub Health Rep 55:547-54 Mr 29 '40

Influence of a public health program on a rural community; fifteen years in Rutherford county, Tennessee, 1924-1938. W. F. Walker and C. R. Randolph. 106p pa 25c Commonwealth fund, 41 E. 57th st, New York '40

New light on old health problems; the proceedings of the seventeenth annual conference of the Milbank memorial fund. 91p Milbank memorial fund, 40 Wall st, New York '39

Planning for public health. J. H. Beard. il diags Ill U Bul 37, no 2:1-46 bibliog(p41-2) '39 (pa gratis)

Tenth annual year book, American public health association, 1939-1940. 136p $1.50 Am. public health assn, 50 W. 50th st, New York '40

See also

Air pollution	Nurses and nursing, Public health
Building laws and regulations	Nutrition
Carbon monoxide poisoning	Physical examinations
Dental surveys	Quarantine
Disinfection and disinfectants	Refuse disposal
Dust removal	Safety devices and measures
Epidemics	Sanitary engineering
Health education	Sewage disposal
Hospitals	Sickness
Housing	Smoke prevention
Hygiene, Industrial	Syphilis
Infectious diseases	Tuberculosis
Insurance, Health	Venereal diseases
Medical service	Ventilation
Medical service, Industrial	Water pollution
Mental diseases	Water purification
Milk supply	Water supply
Mortality	Watersheds—Protection

also American public health association

Bibliography

Best books on public health. Munic Ref Lib Notes 25:89-104 D '39

Health books for public libraries, 1939. Booklist 36:310-12 Ap 1 '40

New York city Department of health; periodicals and serials published 1866-1939. E. Brodman. Special Lib 31:23-9, 59-64 Ja-F '40

Public health service publications; a list of publications issued during the period January-June 1940. Pub Health Rep 55:1451-5 Ag 9 '40

Public health service publications; issued during the period July-December 1939. Pub Health Rep 55:289-93 F 16 '40

Study and teaching

Delamar institute of public health of Columbia university. Science 91:517-18 My 31 '40

Brazil

Invasion of the gambiae; battle of Brazil to repulse carrier of malaria. R. B. Fosdick. il map Dun's R 48:14-15+ S '40

PUBLIC health—*Continued*

Canada

Public-health engineering. G. H. Ferguson. Can Eng W & S 78:26+ Ap '40

Chicago

History of contagious disease care in Chicago before the great fire. C. B. Webb. 169p bibliog(p151-4) pa $1.25 Univ. of Chicago press '40

Germany

Health under the swastika. V. G. Heiser. Nat Safety N 42:58 S '40

Heil hunger! health under Hitler. M. Gumpert. 128p bibliog(p119-28) $1.75 Alliance book corp, 114 5th av, New York '40

Great Britain

Building of a nation's health. G. Newman. 478p $6 Macmillan '39

Knight's annotated model bye-laws, comprising the model series issued from the Ministry of health. C. R. Woods, ed. 9th ed rev 410p 35s C. Knight & co, London '38

Indiana

Facts regarding community sanitation; program in Indiana. Pub Works 71:17-18 F '40

Louisiana

Geographic distribution of disease; a decade of poliomyelitis. A. E. Casey and B. J. Aymond. Pub Health Rep 55:1295-1300 Jl 19 '40

Mexico

Public health and medical care. M. E. Bustamante. Ann Am Acad 208:153-61 Mr '40

New Haven

Rheumatic fever in New Haven; a survey of recent hospital admissions. L. R. Farquhar and J. R. Paul. bibliog Pub Health Rep 55:1903-13 O 18 '40

New York (city)

Advances in New York city's health; annual report of the Department of health of the city of New York for 1939 with a review of developments from 1934-1939. S. Zimand, ed. 296p bibliog(p280-8) Dept. of health, City of New York, 125 Worth st, New York '40

Philadelphia

Rheumatic heart disease in Philadelphia hospitals; distribution by locality of rheumatic conditions in Philadelphia. O. F. Hedley. bibliog pls maps Pub Health Rep 55:1845-62 O 11 '40

United States

Better health for America. N. B. Van Etten. Science 91:581-5 Je 21 '40

Cancer and the public health. T. Parran, jr. Science 90:427-30 N 10 '39

City and rural health conservation contest. Science 90:458 N 17 '39

Health of industrial policyholders, 1939. Monthly Labor R 51:681-4 S '40

Health preparedness; abstract. W. S. Leathers. Science 92:sup8 O 18 '40

Health protection and army training camps; abstract. W. F. Draper. Science 92:sup8+ O 18 '40

National health. J. Stafford. Science 91:sup10 Je 7 '40

Platform of the American medical association. Science 90:507-8 D 1 '39

Public health in the national defense program. Pub Health Rep 55:1760-76 S 27 '40

Water and government. P. V. McNutt. Am Water Works Assn J 32:719-28 My '40

PUBLIC health administration

Administrative control of public-health nuisances. A. E. Berry. il Can Eng W & S 78: 19+ Je '40

Administrative factors involving effectiveness of communicable disease control. E. A. Lane. Pub Health Rep 55:711-17 Ap 26 '40

Appraisal form for local health work. 185p $1.60 Am. public health assn, Committee on administrative practice, New York '38

Neglected opportunities for teamwork in county health department practice. J. O. Dean and E. Flook. Pub Health Rep 55:573-82 Ap 5 '40

Public health administration in the United States. W. G. Smillie. 2d ed 553p $3.75 Macmillan '40

See also

Milk supply
Public health departments
Quarantine
United States—Public health service

PUBLIC health departments

Dental health organizations in state departments of health of the United States. F. C. Cady. (Public Health Bul 251) 86p U.S. Public health service; pa 15c Supt. of doc. '39

Standard methods of the Division of laboratories and research of the New York state Department of health. A. B. Wadsworth. 2d ed 681p $7.50 Williams & Wilkins '39

Directories

Historical directory of state health departments in the United States of America. R. G. Paterson. 68p bibliog(p62-3) pa $1 Ohio public health assn, Columbus, Ohio '39

Records

Place of an index in health department record keeping. J. W. Mountin and E. Flook. Pub Health Rep 55:387-93 Mr 8 '40

PUBLIC health engineering. See Sanitary engineering

PUBLIC health laws

City health department held without power to make regulations inconsistent with state law and regulations. Pub Health Rep 55: 1693-4 S 13 '40

County tax for promotion of public health upheld by Mississippi Supreme court. Pub Health Rep 55:509-10 Mr 22 '40

Court decision on public health. Published in weekly numbers of Public health reports

New York city traffic code and sanitary code, effective July 1, 1940. 72p, 16p pa 50c Eagle library, Eagle bldg, Brooklyn, N.Y. '40

Public health (drainage of trade premises) act, 1937. J. H. Garner. Chem & Ind 59: 339-43 My 18 '40

Some state legislation in 1939 affecting public health. Pub Health Rep 55:695-9 Ap 19 '40

See also

Milk supply—Laws and regulations
Venereal diseases—Law

PUBLIC health nurses. See Nurses and nursing, Public health

PUBLIC health service. See United States—Public health service

PUBLIC health surveys

Cases and days of illness among males and females, with special reference to confinement to bed; based on 9,000 families visited periodically for 12 months, 1928-31. S. D. Collins. bibliog(p83-4) Pub Health Rep 55: 47-93 Ja 12 '40

Disabling diseases of childhood; their characteristics and medical care as observed in 500,000 children in 83 cities canvassed in the National health survey, 1935-1936. D. F. Holland. bibliog Pub Health Rep 55: 135-56, 227-44 Ja 26, F 9 '40

Duration of illness from specific diseases among 9,000 families, based on nation-wide periodic canvasses, 1928-31. S. D. Collins. bibliog Pub Health Rep 55:861-93 My 17 '40

National health survey; some general findings as to disease, accidents, and impairments in urban areas. R. H. Britten, S. D. Collins and J. S. Fitzgerald. Pub Health Rep 55:444-70 Mr 15 '40

See also

Dental surveys

PUBLIC lands

See also

Municipal lands
National parks and reserves

PUBLIC lands—*Continued*

Canada

Canada, 1763-1841, immigration and settlement; the administration of the imperial land regulations. N. Macdonald. 577p bibliog(p531-59) $8.40 Longmans '39

Texas

Public land laws of Texas; an examination of the history of the public domain of this state, with the constitutional and statutory provisions, and leading cases, governing its use and disposition. G. G. Hazel. 121p $4 Gammel's, Austin, Tex. '38

United States

Hitherto unpublished data minimize significance of our vanishing frontiers; public land settlement and business conditions. D. Myrick. Annalist 56:538 O 24 '40

PUBLIC officials

Corrington Gill of Government. Fortune 22: 55+ Ag '40

Restrictions upon the interest of municipal and other public officials in governmental contracts. A. Fuller. 41p pa $1 Am. municipal assn, 1313 E. 60th st, Chicago '40

Tort liability of public officers. L. T. David. 93p pa $1 Public administration service, 1313 E. 60th st, Chicago '40

See also

Administration, Public — Government employees

also International association of governmental labor officials

PUBLIC opinion

Fortune survey (cont). Fortune 20:78-9+ D '39; 21:56-7+ Ja; 14+ F; 54-5+ Mr; 66-7+ Ap; 76-7+ My; 59-60+ Je; 22:supp Jl; supp Ag; 65-7 O; 71-8 N '40

Ideas are weapons; the history and uses of ideas. M. Lerner. 553p $3.50 Viking press '39

Introduction of public opinion. H. L. Childs. 151p $1.75 Wiley '40

Obstacles to human progress. G. Ives. 283p 10s 6d G. Allen & Unwin, London '39

People talk. B. Appel. 502p $3 Dutton '40

Polls of popular opinion on political questions; a statistical analysis. Annalist 56:427 O 3 '40

Public opinion in a democracy. G. H. Gallup. 15p pa 15c Univ. extension fund, Herbert L. Baker foundation, Princeton univ, Princeton, N.J. '39

Public opinion polls in Harrisburg and Trenton. H. D. Read. il Transit J 84:387-8 O '40

Public or private? poll reveals 55.4% favoring government ownership of food industry. Business Week p48 Je 8 '40

Public relations and the changing times. C. Robinson. Am Pet Inst Proc 21M(1):17-20 My '40

Pulse of democracy; the public-opinion poll and how it works. G. Gallup and S. F. Rae. 335p bibliog(p326-8) $2.50 Simon and Schuster, New York '40

Sampling public opinion. E. Roper. Am Statis Assn J 35:325-34 Je '40

Transit industry takes a Gallup poll of its customers. H. D. Read. Pub Util 26:593-4 O 24 '40

What the public thinks of food manufacturers; survey of consumer opinion. D. Hartwell. Food Ind 12:39-41+ Je '40

PUBLIC printing. See Printing, Public

PUBLIC relations

Advertising as a factor for good public relations. P. Truesdell. il Am Pet Inst Proc 21M(1):9-16 My '40; Same cond. Oil & Gas J 39:24+ Je 6 '40

Business and the public. Power Pl Eng 44: 55 Ap '40

Can coal benefit by organized sales promotion based on economy and satisfaction in use? J. F. Scheetz. Coal Age 45:44-5 Je '40

Development of a sound public relations program in industry; American rolling mill company. C. H. Murray. Advanced Management 5:98-103 Jl-S '40

Executive diplomacy and good public relations. A. M. Cooper. Pub Util 26:474-8 O 10 '40

For better consumer understanding; a manufacturers'-consumers' week suggested by E. N. Hopkins. Ptr Ink Mo 40:32 Ap '40

Group session on public relations. Am Pet Inst Proc 20(1):83-96 '39

How to win friends for a corporation; Skelly oil company's book, Through twenty years with Skelly. J. M. Garth. Am Business 10: 30-2 Ap '40

Impact of employees' health on industrial and public relations; abstract. C. C. Carr. Concrete (mill sec) 48:217 Ag '40

In greeting new stockholders leading advertisers find public relations asset; methods of General Motors, General Foods, Borden's and others. D. Gridley. Ptr Ink 189:71-2+ D 8; 19-22 D 15 '39

Individual in our industry. W. W. Glosser. Elec West 84:48-9 Je '40

Industrial health affects public good will; abstract. V. P. Ahearn. Concrete (mill sec) 48:226 Ag '40

Introduction of public opinion. H. L. Childs. 151p $1.75 Wiley '40

Job for public relations; publicizing industrial hygiene. C. C. Carr. Safety Eng 78:25 D '39

Management research; examples from fields of public relations and merchandizing. J. S. Perkins. Harvard Business R 18 no 4:491-3 [Jl] '40

N.A.M., a public relations job. Business Week p26+ D 16 '39

Newspapers and good public relations. W. L. Ayers. Am Pet Inst Proc 20(AT):80-4 '39

Pattern for public relations. V. H. Scales. Am Pet Inst Proc 20(1):29-31 '39

Public relations and the changing times. C. Robinson. Am Pet Inst Proc 21M(1):17-20 My '40

Public relations, good will, and the special library. N. A. Shreve. Special Lib 31:259-60 Jl-Ag '40

Public relations in industry. R. A. Hayward. Paper Tr J 110:18-21 Mr 14 '40

Public relations means you. H. H. Anderson. Oil & Gas J 38:33 F 29 '40

Selection of employees for good public relations; Humm-Wadsworth temperament scale. D. G. Humm. Pub Util 26:663-71 N 7 '40

Since clumsy letters can kill business quicker than good selling can build it, here is an inexpensive and effective plan. Ptr Ink 190: 63-4+ F 16 '40

Six printing faults challenge you. E. L. Bernays. Inland Ptr 105:52-3 Je '40

Tell your business to your customers. H. Slater. il Food Ind 12:58-60 My '40

Using the transportation department to build good-will; brewer's truck drivers trained to help motorists in trouble. J. S. Labatt. il Ptr Ink Mo 41:50+ N '40

What the public thinks of food manufacturers; survey of consumer opinion. D. Hartwell. Food Ind 12:39-41+ Je '40

See also

Banks and banking—Public relations
Electric utilities—Public relations
Engineers—Public relations
Gas companies—Public relations
Insurance companies—Public relations
Public utilities—Public relations
Railroads—Public relations
Trade unions—Public relations
Visitors

PUBLIC schools

Public education; cost and effectiveness of primary and secondary schooling. D. L. Parsons. il Dun's R 48:10-15 Jl '40

State educational system declared a failure in report to New York state chamber of commerce; cost to taxpayer. Comm & Fin Chr 150:779 F 3 '40

See also

School buildings
School finance

PUBLIC service

Engineer and public service. H. G. Hodges. Civil Eng 10:1-2 Ja '40

PUBLIC service—*Continued*
Fortune survey; government vs. business as employer. Fortune 21:133 F '40
Public management in the new democracy. F. M. Marx, E. Hobbing and L. I. Radway, eds. 266p bibliog(p253-7) $3 Harper '40
Too many elections; public service a profession, needing specialized training. C. B. Wivel. Personnel J 18:249-57 Ja '40
Training for the public-service occupations. J. R. Hawke. il U S Office of Educ Vocational Educ Bul 192, Trade and Industrial Ser 54:1-82 '38; pa 20c Supt. of doc.

See also
Civil service
Engineers—Public relations
Government employees
Municipal employees
Public officials

PUBLIC service company of Colorado
Securities offered. Comm & Fin Chr 149: 3569 D 2 '39

PUBLIC service company of Indiana
Proposed merger filed with SEC. Comm & Fin Chr 150:2894 My 4 '40
Securities offered. Comm & Fin Chr 149: 3726-7 D 9 '39

PUBLIC service company of Oklahoma
To merge Southwestern light & power co. Comm & Fin Chr 151:2659 N 2 '40

PUBLIC service corporation of New Jersey
Annual report, 1939. Comm & Fin Chr 150: 1292-3 F 24 '40
New Jersey utility budget to total $17,500,000; Public service corporation to expand facilities. Elec W News ed 113:7 Ja 6 '40

Library
Company library; how to tap a vast storehouse of information. A. C. Mitchill. Am Gas Assn Mo 22:95-6+ Mr '40

PUBLIC service electric and gas company
Earnings, 1937-39. Comm & Fin Chr 150:1293 F 24 '40

PUBLIC service transport association (formerly Tramways, light railways and transport association)
Annual meeting, London. Elec R (Lond) 126: 521 My 10 '40

PUBLIC speaking
Are you going to present a paper? S. M. Tucker. Min & Met 21:423-4 S '40
Business—and the spoken word. C. Evans. Am Gas Assn Proc 1939:106-8
Convention delegate takes the floor. G. E. Trulock. il Nation's Business 28:23-5+ N '40
Eastern public speaking conference: 1940; papers and addresses delivered at the thirty-first annual meeting, March 28-30, 1940, Washington, D.C. H. F. Harding, A. I. Allardyce and W. H. Yeager, eds. 449p $3 Wilson, H.W. '40
Effective speaking for every occasion. W. H. Yeager. 444p $3.50; school ed $2.60 Prentice-Hall '40
More power to your words! C. Wood. 308p $2.50 Prentice-Hall '40
People like to listen; so why not send a speaker? J. H. Collins. Pub Util 25:395-402 Mr 28 '40
Personal power through public speech. J. G. Brin. 96p $1.50 Harper '40
Public speaking isn't so hard. H. Graham. il Bankers Mo 57:88-90+ F '40
Public speaking today. W. G. Hoffman. 355p $2.75 McGraw-Hill '40
Self-instruction in public speaking. G. Munson. 39p pa 15c Home inst, 109 W. 19th St, New York '39
Speech study improved customer service; bank employee studied public speaking. I. L. Nelson. il Bankers Mo 57:292-4 My '40
Thinking on your feet; adventures in speaking. L. Nizer. 312p $2.50 Liveright '40
To get ahead, they learn to talk; Timken roller bearing company's Rock bit division. Factory Management 98:66+ S '40
Win your audiences; effective public speaking handbook for business and professional men. R. C. Scafe. 2d ed 88p pa $1 Edmund J. Pickup, 66 Court st, Brooklyn, N.Y. '39

Study and teaching
Public speaking at Rensselaer. H. H. Nugent. J Eng Educ 30:893-7 Je '40

PUBLIC trustees
Corporate trustee in Britain; trustee departments of banks and insurance companies and the public trustee. Economist 137:816-17 N 11 '39
Trust investments in northern Ireland; committee also considers public trustee office. Trusts & Estates 69:514 N '39

PUBLIC utilities
Public utilities and the national power policies. J. C. Bonbright. 82p bibliog(p73) $1.25 Columbia univ. press '40

See also
Air lines
Corporation law
Corporations
Electric railroads
Electric utilities
Gas, Natural—Pipe lines
Gas companies
Motor bus lines
Motor trucks in freight service
Municipal ownership
Petroleum pipe lines
Public utilities commissions
Railroads
Railroads and state
Street railroads
Telegraph
Telephone
Water companies
Waterworks

Accounting
Benefits of sound depreciation practices. A. R. Colbert. Edison Elec Inst Bul 7:549-51 N '39
Continuing property records for regulatory accounting. J. B. Klainer. Pub Util 25:535-44 Ap 25 '40
Depreciation of public utility property; a collection of papers. M. R. Scharff, F. J. Leerburger and J. Jeming. 136p, 89p bibliog(p87-9) $3 M. R. Scharff, 285 Madison av, New York '40; Review. Pub Util 26:112-13 Jl 18 '40
Depreciation: present regulatory trends. Pub Util 26:38-40 Jl 4 '40
Transition to depreciation accounting; how Public service commission and Wisconsin utilities have met this problem. A. R. Colbert. J Land & Pub Util Econ 16:129-36 My '40
Utility arithmetic and the utility accountant. F. L. Griffith. Edison Elec Inst Bul 7: 539-42 N '39; Excerpt. Am Gas Assn Mo 21:440-1+ D '39

See also
Electric utilities—Accounting
Gas companies—Accounting
Railroads—Accounting
Waterworks—Accounting

Advertising
Public utilities awards. Ptr Ink 192:12 Jl 5 '40

See also
Electric utilities—Advertising
Railroads—Advertising
Street railroads—Advertising

Appliance selling

See also
Electric utilities—Appliance selling
Gas companies—Appliance selling

Economic theory
Legal possibilities and limitations of milk distribution as a public utility. W. P. Mortenson. bibliog J Land & Pub Util Econ 15:438-47; 16:61-71 N '39-F '40
Passing of the public utility concept. H. M. Gray. bibliog J Land & Pub Util Econ 16: 8-20 F '40; Excerpts. Pub Util 25:559-61 Ap 25 '40
Public corporation as a regulatory device; British experiments. D. F. Pegrum. J Land & Pub Util Econ 16:335-43 Ag '40

Emergency service
Brighton utilities pool their A.R.P. emergency services; gas, electricity, and water. Gas J (Lond) 228:229-30 N 1 '39
Organizing for community defense. H. E. Jordan. bibliog Am Water Works Assn J 32:1732-6 O '40

PUBLIC utilities—*Continued*

Employees

Fifth column in public service. J. E. Bullard. Pub Util 26:3-9 Jl 4 '40

How experience rating reduces unemployment taxes of public utilities. E. P. Schmidt. Pub Util 25:815-17 Je 20 '40

Selection of employees for good public relations; Humm-Wadsworth temperament scale. D. G. Humm. Pub Util 26:663-71 N 7 '40

That's a mighty good company to work for! jobs and human interest appeal in public relations. J. H. Collins. Pub Util 24:667-74 N 23 '39

See also

Electric utilities—Employees
Gas companies—Employees
Meter reading
Railroads—Employees

Finance

Capital costs in the public utility industry; mathematical relationship between the proportion of funded debt and over-all capital costs. W. J. Herrman. Pub Util 26:27-30 Jl 4 '40

Corporate net earnings. Published in weekly numbers of Annalist

Financial news and comment. O. Ely. Published in bi-weekly numbers of Public utilities fortnightly

Financial reports, American telephone & telegraph co., Consolidated Edison company of New York, Western union telegraph co. Annalist 54:797 D 21 '39

Financial reports, International telephone and telegraph corp., Commonwealth & southern corp., Columbia gas and electric corp. Annalist 55:45 Ja 11 '40

Financial reports, Western Union, American Telephone & Telegraph and Columbia Gas and Electric. Annalist 55:799 Je 6 '40

How much should a utility company be allowed to earn? Illinois Supreme court holding 5 per cent not confiscatory. H. R. Booth. Pub Util 26:281-5 Ag 29 '40

Integrated utility system; status under Holding company act. J. F. Childs. map Barron's 20:9 Mr 4 '40

Large assets behind UGI stock. H. W. Witt. map Barron's 20:13 Mr 11 '40

Natural gas and electric system; status of Columbia gas & electric corp. under Holding company act appears favorable. W. W. Amos. map Barron's 20:8-9 F 26 '40

Public utilities; comparative income accounts, 1937-39. Mag of Wall St Manual p20-2 Mr 2 '40

Public utility financing in the third quarter of 1939. W. H. Evans and R. G. Dudley. J Land & Pub Util Econ 15:489-91 N '39

Public utility financing in the fourth quarter of 1939 and a summary of the year, 1939. R. G. Dudley and W. H. Evans. J Land & Pub Util Econ 16:120-5 F '40

Public utility financing in the first quarter of 1940. R. G. Dudley and W. H. Evans. J Land & Pub Util Econ 16:242-4 My '40

Ratios of depreciation and maintenance to revenues for principal utility operating companies, by systems, 1939; tabulation. Pub Util 26:368-9 S 12 '40

Utility growth continues. H. Lawrence. Barron's 20:11-12 Je 3 '40

Will rising production costs hurt utility investors? F. J. McDiarmid. Pub Util 25: 204-13 F 15 '40

See also

Holding companies
Public utilities—Regulation
Public utilities—Securities
also Consolidated Edison company of New York

Government ownership

See Government ownership

Law

Important addresses at annual convention of section of public utility law of American bar association, Philadelphia, Sept. 9-13. Pub Util 26:616-42 O 24 '40

Is fair return appropriate for municipal utilities? decision of the New York Court of appeals in the Boonville case. R. H. Riley. bibliog J Land & Pub Util Econ 16:52-60 F '40

Louisiana Public service commission laws (annotated). P. A. Frye, comp. 231p Louisiana Public service commission, Baton Rouge '40

Public utilities reports. Published in bi-weekly numbers of Public utilities fortnightly

Recent state laws on transportation and public utilities; a digest of important statutory changes and new laws enacted in 1935-1938. J. Welland and L. M. Manross, comps. 83p pa 15c Supt. of doc. '40

Responsibility of utilities for criminal use of service; telephone companies and gambling laws. R. J. Beamish. Pub Util 25:586-91; Discussion. W. H. Lamb. 591-3 My 9 '40

Temporary rate making comes of age. I. E. Jackson, jr. Pub Util 24:723-32 D 7 '39

Utilities map death sentence fight; SEC demands action on integration. maps Business Week p24-6 My 25 '40

See also

Corporation law
Holding companies—Law
Public utilities—Regulation
Public utilities commissions
Railroad law

Libraries

See also

Gas companies—Libraries
Public service corporation of New Jersey—Library

Management

Depreciation, science or phNosophy? B. S. Rodey, jr. Edison Elec Inst Bul 8:383-5+ Ag '40; Same. Pub Util 26:272-80 Ag 29 '40

Public relations

Executive diplomacy and good public relations. A. M. Cooper. Pub Util 26:474-8 O 10 '40

People like to listen; so why not send a speaker? J. H. Collins. Pub Util 25:395-402 Mr 28 '40

That's a mighty good company to work for! jobs and human interest appeal in public relations. J. H. Collins. Pub Util 24:667-74 N 23 '39

What can utilities do about public relations, today? E. L. Bernays. Pub Util 25:719-27 Je 6 '40; Discussion. R. D. Donaldson. 26: 286-8 Ag 29 '40

What the customer thinks of the utilities. E. Roper. Gas Age 86:35-6+ Ag 15 '40

See also

Electric utilities—Public relations
Waterworks—Public relations

Rates

California system of continuous utility rate inquiry. E. F. McNaughton. Pub Util 26:20-6 Jl 4 '40

Elements of utility rate determination. J. M. Bryant and R. R. Herrmann. 464p $4.50 McGraw-Hill '40

Reduced insurance and utility rates for public housing projects. Monthly Labor R 49: 1418-19 D '39

Report of the utilities committee of the Federal bar association. Pub Util 25:748+ Je 6 '40

Rôle of rate making; relation to the price level and to marketing and managerial problems of public utilities. C. O. Ruggles. bibliog Harvard Business R 18 no 2:215-30 [Ja] '40; Abstract. Pub Util 25:168-70 F 1 '40

Shall going value be included in the rate-base? I. R. Barnes. J Land & Pub Util Econ 16:286-93, 430-7 Ag-N '40

Temporary rate making comes of age. I. E. Jackson, jr. Pub Util 24:723-32 D 7 '39

PUBLIC utilities—Rates—*Continued*
Temporary rates; good and bad. J. H. LaBrum. bibliog Pub Util 25:214-20 F 15 '40

See also
Electric rates
Gas rates
Railroads—Rates
Telephone—Rates
Water rates

Regulation

California system of continuous utility rate inquiry. E. F. McNaughton. Pub Util 26:20-6 Jl 4 '40
Changing incidence of public utility taxation. J. V. Burkhead. bibliog J Land & Pub Util Econ 15:383-90 N '39; Abstract. Pub Util 25:164-6 F 1 '40
Depreciation, science or philosophy? B. S. Rodey, jr. Edison Elec Inst Bul 8:383-5+ Ag '40; Same. Pub Util 26:272-80 Ag 29 '40
How much should a utility company be allowed to earn? Illinois Supreme court holding 5 per cent not confiscatory. H. R. Booth. Pub Util 26:281-5 Ag 29 '40
Is more regulation the way to improve utility efficiency? M. Fainsod. Pub Util 26:42-4 Jl 4 '40
Passing of the public utility concept. H. M. Gray. bibliog J Land & Pub Util Econ 16:8-20 F '40; Excerpts. Pub Util 25:559-61 Ap 25 '40
Profit sharing, the key to regulatory success; the Washington plan or sliding-scale regulation of the District of Columbia. R. E. Elgen. bibliog Pub Util 25:787-96 Je 20 '40
Public corporation as a regulatory device; British experiments. D. F. Pegrum. J Land & Pub Util Econ 16:335-43 Ag '40
Rail and utility investments under expanding public control. N. L. Smith. bibliog Harvard Business R 18 no 4:397-409 [Jl] '40
Rate-making by interim order; procedure in Natural Gas Pipeline case. A. L. Stein. J Land & Pub Util Econ 16:368-71 Ag '40
Transition to depreciation accounting; how Public service commission and Wisconsin utilities have met this problem. A. R. Colbert. J Land & Pub Util Econ 16:129-36 My '40
Utility rate making as a social objective. W. D. Gay. Pub Util 26:10-19 Jl 4 '40

See also
Gas, Natural—Laws and regulations
Public utilities—Law
Public utilities commissions
Securities and exchange commission
Telephone companies—Regulation

Securities

Aspects of public acquisition of operating utility equities. E. R. Abrams. Comm & Fin Chr 150:3111-14 My 18 '40
Assets behind Standard Gas & Electric bonds. J. F. Childs. Barron's 20:19 Ap 1 '40
Bondholder's guide. Published in Barron's
Brass tacks for the investor; brief analysis of Detroit Edison, Public service of New Jersey, United corp., Chesapeake & Ohio railway. H. Lawrence. Barron's 20:20 Ja 22 '40
Earnings statements. Pub Util 25:40 Ja 4 '40 [cont monthly]
Improved earnings for Cities Service debentures. Barron's 20:19 S 30 '40
Industrial utility system; American gas & electric co. H. W. Witt. map Barron's 20:8 Ja 22 '40
Insurance policyholders' stake in the utilities; constructive criticism of present utility long-term bond contracts from the insurance investors' standpoint. F. J. McDiarmid. Pub Util 25:643-52 My 23 '40
I.B.A. declares SEC is exceeding statutory authority in regulation of public utility securities. Comm & Fin Chr 150:1865-6 Mr 23 '40
Investment results from cushion bonds; current high premiums reduce opportunities for successful averaging. W. W. Amos. Barron's 20:18 Ag 26 '40
Investment status and outlook of public utility securities, with earnings of leading companies and comments. R. Colston. Mag of Wall St 66:288-93 Je 15 '40
Market value of utility stocks. H. Lawrence. Barron's 20:10 Ap 29 '40
Need for recapitalizing many utility holding companies shown in SEC report. Comm & Fin Chr 149:3347 N 25 '39
1940 refunding operations. O. Ely. Pub Util 25:103-4 Ja 18 '40
90 security issues of electric and gas utilities aggregating $879,031,600 were offered in 1939. Comm & Fin Chr 150:763 F 3 '40
Position of leading public utility stocks. Mag of Wall St 65:470; 66:469 Ja 27, Jl 27 '40
Practical introduction to public utility security analysis. J. F. Childs and F. Woodbridge. 107p bibliog(p98-107) $1.50 Barron's pub. co, New York '40
Private financing one-third of 1940 offerings. Pub Util 26:230-1 Ag 15 '40
Public utility bonds for banks. R. R. Fairchild. Bankers Mo 57:406+ Jl '40
Public utility financing in the third quarter of 1939. W. H. Evans and R. G. Dudley. J Land & Pub Util Econ 15:489-91 N '39
Public utility financing in the fourth quarter of 1939 and a summary of the year, 1939. R. G. Dudley and W. H. Evans. J Land & Pub Util Econ 16:120-5 F '40
Public utility financing in the first quarter of 1940. R. G. Dudley and W. H. Evans. J Land & Pub Util Econ 16:242-4 My '40
Public utility holding company common stocks. J. T. Madden and J. Backman. J Business 13:213-33 Jl '40
Rail and utility investments under expanding public control. N. L. Smith. bibliog Harvard Business R 18 no 4:397-409 [Jl] '40
SEC limits state jurisdiction over security issues of local utilities; refinancing by Wisconsin electric power co. A. R. Colbert. Pub Util 26:149-58 Ag 1 '40; Reply. J. N. Frank. 26:259-71 Ag 29 '40
SEC rules on utility bonds; may be sold if stocks are not neglected. Business Week p49-50 F 17 '40
Utilities and the 1940 presidential election. J. L. Donnelly. Barron's 20:5 Ap 22 '40
Utility bonds which earned charges in 1939 and yield 5-8½%; tabulation. Pub Util 26:165 Ag 1 '40
Utility values that will stand. F. C. Fullerton. il Mag of Wall St 65:802-5+ Ap 6 '40
Varying grades of United Light obligations. Barron's 20:19 Mr 18 '40

Taxation

Changing incidence of public utility taxation. J. V. Burkhead. bibliog J Land & Pub Util Econ 15:383-90 N '39; Abstract. Pub Util 25:164-6 F 1 '40
Corporate taxes and the assessment of public utility operating property. J. W. Martin. J Land & Pub Util Econ 16:262-9 Ag '40
Where will the tax collector turn for more revenue? To privately owned utilities. T. N. Sandifer. Pub Util 24:659-66 N 23 '39

Valuation

Continuing property records for regulatory accounting. J. B. Klainer. Pub Util 25:535-44 Ap 25 '40
Corporate taxes and the assessment of public utility operating property. J. W. Martin. J Land & Pub Util Econ 16:262-9 Ag '40
Indexes of construction cost for public utility industries for use in reproduction cost valuations. C. E. Troxel. J Land & Pub Util Econ 16:363-8 Ag '40
Relative value of utility systems, 1913-1939. C. F. Lambert. Eng N 124:882-3 Je 20 '40
Shall going value be included in the rate-base? I. R. Barnes. J Land & Pub Util Econ 16:286-93, 430-7 Ag-N '40
Short cut towards utility holding company reorganization; earning power in valuation. M. L. Sindeband. Pub Util 25:515-26 Ap 25 '40

See also
Depreciation
Public utilities—Rates

California

California system of continuous utility rate inquiry. E. F. McNaughton. Pub Util 26:20-6 Jl 4 '40

PUBLIC utilities—*Continued*

Canada

Effect of Europe's war on Canada's utilities. F. J. McDiarmid. Pub Util 26:87-95 Jl 18 '40

Great Britain

Public corporation as a regulatory device; British experiments. D. F. Pegrum. J Land & Pub Util Econ 16:335-43 Ag '40

Hawaiian Islands

Regulation in Paradise. L. C. Mann. Pub Util 26:214-22 Ag 15 '40

Louisiana

Louisiana Public service commission laws (annotated). P. A. Frye, comp. 231p Louisiana Public service commission, Baton Rouge '40

United States

Outlook for 1940 for business and the utilities. O. Ely. Pub Util 25:101-2 Ja 18 '40
Public utilities, 1939. Survey of Cur Business 20:21-5 F '40
Rearmament challenges nation's utilities. T. N. Sandifer. Pub Util 25:779-86 Je 20 '40
Washington outlook for utilities, 1940. F. X. Welch. Pub Util 25:3-12 Ja 4 '40

PUBLIC utilities advertising association

Annual convention, Chicago, June 24-25. Gas Age 86:30+ Jl 18 '40; Elec W News ed 114: 9 Jl 6 '40

PUBLIC utilities commissions

New York commission reports progress; decade of utility regulation in New York state, 1930-1940. Pub Util 25:363-7 Mr 14 '40
Powers of the state utility commissions. H. Bacharach. Pub Util 26:627-32 O 24 '40
Public service commission and plant management. R. A. Nixon. Am Water Works Assn J 32:912-22 Je '40; Abstract. Water Works & Sewerage 87:328 Jl '40
Regulation in Paradise; how public utilities fare in Hawaii. L. C. Mann. Pub Util 26: 214-22 Ag 15 '40
Review of West Virginia regulation. C. A. Peairs, jr. Pub Util 26:367-8 S 12 '40
Rôle of rate making; relation to the price level and to marketing and managerial problems of public utilities. C. O. Ruggles. bibliog Harvard Business R 18 no 2:215-30 [Ja] '40
SEC limits state jurisdiction over security issues of local utilities; refinancing by Wisconsin electric power co. A. R. Colbert. Pub Util 26:149-58 Ag 1 '40; Reply. J. N. Frank. 26:259-71 Ag 29 '40

See also
Wisconsin—Public service commission

PUBLIC welfare

Administration of public welfare. R. C. White. 527p bibliog(p511-17) $3.25 Am. book co. '40
Aiding needy persons in Missouri; a report on programs of the State social security commission and the development of public relief. 180p State social security commission, Jefferson City, Mo. '39
Laws of Virginia relating to public welfare. 264p Virginia. State dept. of public welfare, Richmond '39
Place of research in the long-time planning of a state program for public welfare. D. M. Schneider. Am Statis Assn J 34:674-82 D '39
State and local public welfare agencies; an organizational and functional analysis of state and local agencies administering public welfare functions. M. Stevenson and A. MacDonald. 109p pa 60c Am. public welfare assn. 1313 E. 60th st, Chicago '39
Virginia's social awakening; the contribution of Dr Mastin and the Board of charities and corrections. A. W. James. 198p bibliog(p189-90) $3 Garrett and Massie, Richmond, Va. '39

See also
Child welfare
Hospitals
Poor relief
Public health
Safety movement
Social laws and legislation
Social work

PUBLIC works

Aerial engineering and public works. H. T. Bruce. il Pub Works 70:20-2 N '39
Construction planning and plant. A. J. Ackerman and C. H. Locher. 381p $4 McGraw-Hill '40
Construction reports. Published in weekly numbers of Engineering news-record
Public works congress, Detroit, Sept. 30-Oct. 2. Eng N 125:626-9 N 7 '40
Quelques innovations dans le domaine des travaux publics. R. Christiani. il maps diags Soc Ing Civils Mémoires 92:421-74 Jl-D '39

See also
Aqueducts
Bridges
Contracts, Government
Flood control
Highway departments
Irrigation
Municipal engineering
Municipal improvement
Pavements
Public buildings
Refuse disposal
Rivers—Regulation
Roads
Sewage disposal
Sewerage
Streets
Unemployment—Relief measures—Public works
Waterworks

Economic aspects

Economic studies for public works, with specific reference to the Central Valley project in California. E. Hyatt and R. Matthew. il Civil Eng 10:705-8 N '40
Overhead man-hours in PWA non-federal construction. J. A. Ball and B. H. Topkis. Monthly Labor R 50:334-7 F '40

See also Unemployment—Relief measures—Public works

Federal loans and grants

Federal construction subsidies for small public water supplies. S. M. Ellsworth. N E Water Works Assn J 54:49-59 Mr '40
Move begun for federal aid to cities for airport enlargement work. Eng N 125:386 S 26 '40

See also
Public works administration
Railroads—Federal loans

Finance

Construction of sewage treatment works; its relation to the national economy. A. Wolman. Water Works & Sewerage 87:201-4 My '40; Abstract. Eng N 124:506-7 Ap 11 '40
Engineer and the budget. G. R. Thompson. Civil Eng 10:353-4 Je '40
Much construction in federal budget. il Eng N 124:57-8 Ja 11 '40

Safety measures

Men working in safety; construction of East River drive, New York. R. Burkeholder. il Safety Eng 79:6-8 F '40

Spain

Le programme des grands travaux publics en Espagne. il plans Génie Civil 115:365-8 N 18 '39

United States

Analysis of civil works program statistics. P. Brown. 35p Work projects administration, Washington, D.C. '39
Building for defense. map Eng N 125:529-33 O 24 '40
Civil engineering and construction in 1939. il map Eng N 124:223-48 F 15 '40
Construction of sewage treatment works; its relation to the national economy. A. Wolman. Water Works & Sewerage 87:201-4 My '40; Abstract. Eng N 124:506-7 Ap 11 '40
Fortune survey; spending for public works; federal power plants? flood control? big national highways? airports? Fortune 21: 121 Ap '40
Major projects of 1939. il Eng N 124:259-74 F 15 '40
Six-year plan for federal construction jobs now mandatory. il Eng N 125:59 Jl 11 '40

See also
Federal works agency
Public works administration
also American public works association

PUBLIC works administration
America builds; the record of PWA. 298p U.S. Public works administration, Washington; 70c Supt. of doc. '39
Appraisal of P.W.A. and W.P.A. water supply work in New England. W. W. Brush. N E Water Works Assn J 54:34-43; Discussion. 44-8 Mr '40
Case for light and power; review of the accomplishments of the industry, with an interpretation of developments in public policy. il Nation's Business 28:45-59 Mr '40
Overhead man-hours in PWA non-federal construction. J. A. Ball and B. H. Topkis. Monthly Labor R 50:334-7 F '40
Report on present status of program. Comm & Fin Chr 150:1809-10 Mr 16 '40
Story of P.W.A. in Maine water works. F. J. Reny. N E Water Works Assn J 54:282-7 S '40

Housing division
Labor and unit costs in PWA low-rent housing. H. B. Byer and C. A. Trump. Monthly Labor R 49:578-86 S '39

PUBLICITY
Find bank news that makes headlines; with checklist of newsworthy activities. G. D. Cates. il Bankers Mo 57:92-4 F '40
Newspapers and good public relations. W. L. Ayers. Am Pet Inst Proc 20(AT):80-4 '39
Roads need publicity. E. W. Moeller. Can Eng R & B 78:89 Mr '40
So you're publicity chairman. F. Fiske. 189p $2 McGraw-Hill '40
Your industrial and commercial gas publicity as a sales tool. H. W. Smith, jr. Am Gas Assn Proc 1939:378-82; Same cond. Am Gas Assn Mo 22:47-50 F '40

See also
Advertising
Library publicity

PUBLISHERS

See also
Larsen, Roy E.

PUBLISHING
History of Stone & Kimball and Herbert S. Stone & co.; with a bibliography of their publications, 1893-1905. S. Kramer. 379p $4 Univ. of Chicago press '40
That no man's land of publishing. E. N. Teall. Inland Ptr 105:59 S '40

See also
Book industry and trade
Copyright
Errata
Newspapers
Periodicals
Printing

PUEBLO, Colorado

Sewerage
Sewage treatment coupled with irrigation. F. W. Veatch. il Eng N 124:24-6 Ja 4 '40

PUEBLO Indians
Hall of ethnology of the Museum of New Mexico. Science 92:232 S 13 '40

PUERTO RICO
Puerto Rico and its people. T. White. 383p $1.25 Grosset & Dunlap, New York '40
Puerto Rico and the Virgin Islands. D. Reck. 241p $2.50 Farrar '39

See also
Sugar industry and trade—Puerto Rico
Wages—Puerto Rico

Commerce
Foreign trade, fiscal year 1938-39, with statistical comparisons. Comm Rep p53 Ja 20 '40

Views
Our beautiful Americas; Puerto Rico where the Americas meet; text and pictures by J. W. Thompson. 75p $1.50 Hastings house, 135 Front st, New York '40

PUERTO RICO university

School of tropical medicine
Report. G. W. Bachman. Science 90:585-6 D 22 '39

PULLEYS
Adjustable idler pulleys for right-angle belt drives. M. H. Ball. diags Mach 46:205 Jl '40
Adjusting pulley sizes to give speed suited to material in process. diags Textile World 90:108 O '40
Arc of belt contact on any small pulley or sheave. Can Min J 61:149 Mr '40
Variable-diameter pulley for speed adjustment. il diag Product Eng 11:349 Ag '40

See also
Belting

PULLMAN, Incorporated
Annual report for fiscal year 1939. Ry Age 108:549, 562-4 Mr 23 '40; Excerpt. Comm & Fin Chr 150:1946 Mr 23 '40
Becomes more speculative issue. W. A. Nugent. Barron's 20:13 Jl 8 '40
Equipment boom will aid Pullman. S. Altschul. Barron's 19:7-8 N 27 '39

PULLMAN company
Arnold vs. Pullman. Business Week p17-18 Jl 20 '40
Buster Arnold sues Pullman co. Ry Age 109: 119-20 Jl 20 '40
Revenue passenger miles, passenger revenues, 1936-1939. Survey of Cur Business 1940 Sup p86 [supplemented in monthly numbers]

PULP and paper research institute of Canada
Pulp and paper research institute of Canada. A. E. Cadman. il Pulp & Pa of Can 41:539-42 Ag '40
Renew paper research agreement between the Dominion government, McGill university and the Canadian pulp and paper association. Paper Tr J 111:98 Ag 29 '40; Same. Pulp & Pa of Can 41:609 Ag '40

PULPSTONES
Advances in grinding wood. G. Shipman and J. N. Stephenson. Pulp & Pa of Can 41: 568-9 Ag '40

PULPWOOD. See Wood pulp

PULPWOOD conservation association, Southern. See Southern pulpwood conservation association

PULPWOOD hooks. See Hooks, Log, pulpwood, etc.

PULQUE
Nutritional elements in pulque, Mexican beverage; abstract. J. Roc and R. Llamas. Food Ind 12:96 O '40

PULVERIZED coal. See Boilers—Pulverized coal firing; Coal, Pulverized

PULVERIZED stone. See Stone, Crushed

PULVERIZERS
Billet heating; new type of furnace fired with pulverized coal and employs complete automatic control. C. F. Herington. il plan Iron Age 146:26-9 Ag 29 '40
Care and maintenance of grinding and pulverizing equipment. G. F. Metz. Chem Ind 45:554-5 N '39
Wear resisting metals. W. A. Gibson. il Rock Prod 43:28 Ag '40

See also
Crushing machinery

PULVERIZING
How to improve grinding. C. D. Rugen, J. A. Kivert and R. E. Boehler. il Rock Prod 43:33-4+ Mr; 31-2 Ap; 35-7 My '40

See also
Coal, Pulverized—Preparation
Crushing

PUMICE
Le gisement de pierre ponce de Rochefort-Montagne (Puy-de-Dôme). Génie Civil 116: 364 Je 1 '40

PUMPING
Analysis of crews required for pumping concrete. il Concrete 48:6 F '40
Don't hurry water; pump size for plant supply. G. P. Pearse. Power Pl Eng 44:66-7 F '40; Discussion. 44:36+ Jl '40
Draining of the Isere valley at Grenoble; water table lowered to permit conduit construction. il diags plans Engineer 169:150-2, 160 F 16 '40

PUMPING—*Continued*
How process industries are meeting their water supply problems; importance of pumping efficiency. G. L. Montgomery. Chem & Met Eng 47:624-5 S '40
More profit from suction dredges. R. L. Vaughn. Eng N 124:322-4 F 29 '40
New priming systems for use with centrifugal pumps. F. S. Broadhurst. il diags N E Water Works Assn J 54:89-102 Mr '40
Pumping of granular solids in fluid suspension. H. Chatley. Engineering 149:230-1 Mr 1 '40
Pumps act like people; what to expect when you switch operating environment on centrifugal pumps. F. A. Kristal. diags Power 83:747-8 D '39
Vortex pumps, or, slip in the centrifugal pump. O. A. Price. bibliog il diags Inst Mech Eng J & Proc 142:Proc 413-38; Discussion. Proc 438-58 Mr '40

See also
Mine pumping
Petroleum—Pumping
Pumping stations
Pumps
Sewage pumping

Tables, calculations, etc.
Centrifugal-pump specific speed; chart. Power 84:329 My '40
How to determine performance of engine-driven pumps. A. J. Stepanoff. il Power 84:722-3, 753 N '40
Pressure air chambers in centrifugal pumping. W. L. Boerendans. diags Am Water Works Assn J 31:1865-92 N '39
Pumping viscous oils with centrifugal pumps. A. J. Stepanoff. Oil & Gas J 38:78-9+ My 9 '40
Testing hot-oil pumps under actual operating conditions. A. J. Stepanoff. diags Oil & Gas J 39:52, 55+ O 31 '40

Terminology
Terminology in pumping. Water Works & Sewerage 87:sup33 Ap '40

PUMPING machinery
Diesel pumping sets for oil-field duty. il Engineering 149:304, 305 Mr 22 '40; Engineer 169:289 Mr 22 '40
Duplex double-acting horizontal oil pump for pipe lines. diags Engineering 149:410, 411-12, pl 22 Ap 19 '40
Fire department pumps, pumping equipment and pumping; a reference manual. 84p bibliog(p84) pa $1.50 Educational committee, International assn. of fire chiefs, 24 W. 40th st, New York '39
Fire fighting pumping plant. il Engineer 169:97 Ja 26 '40
Harland trailer fire pump. il Engineering 149: 245-6 Mr 8 '40
How to determine performance of engine-driven pumps. A. J. Stepanoff. il Power 84:722-3, 753 N '40
Large pipe line pump. il diags Engineer 169: 277-8 Mr 22 '40
Maintenance and operating problems at gasoline pipe-line stations. P. Reed. il Oil & Gas J 38:70+ F 29 '40
Mono Craters tunnel project; pumping and related equipment used. S. M. Dunn. il Am Water Works Assn J 32:1242-58 Ag '40
One hundred years of pumping machinery. S. W. Kitson. il diags N E Water Works Assn J 54:103-42 Mr '40; Same. Can Eng W & S 78:18-21+ Ja; 11-13+ F; 21-3+ Ap '40
Petrol-engined pumping set. il Engineering 149:207 F 23 '40
Turbine drive reduces operating costs of dredge Geo. A. McWilliams. J. M. Allen. il Marine Eng 44:566-8 D '39
Worthington centennial. il diags Power Pl Eng 44:62-5 My '40

See also
Mine pumps
Oil pumps
Petroleum pipe lines —Pumping stations
Pumping stations
Pumps
Sewage pumps
Vacuum pumps

Control
Automatic and remote station control. J. A. Beyhan. diag map Oil & Gas J 39:122 S 19 '40
Selbststeuereinrichtung von pumpspeicheranlagen. G. Reid. diags V D I 84:343-6 My 18 '40

Testing
Taking the pulse of the pumping well. D. O. Johnson. Oil & Gas J 38:46, 48+ Mr 21 '40

PUMPING machinery, Electric
Avoid water hammer by decelerating motors; sewage pumping station at East Saugus, Mass. H. Fox. il diag Elec W 113:766 Mr 9 '40
Building big pumps better earns a bonus; southern California water supply. il Eng N 125:341-3 S 12 '40
Chilcote pumping station and softening plant of the South Staffordshire waterworks company. il diags Engineering 149:451-4, 462, pl 24 My 3 '40
Circulating water pump placed outdoors; Dubuque, Iowa, plant of the Interstate power company. il Elec W 113:1540 My 18 '40
Derby baths of the Blackpool corporation. il Engineering 149:544, 553-4 My 31 '40
Drainage pump; Pomona Niagara propeller pump. W. G. McGeorge. il diag Can Eng W & S 78:17-18+ F '40
Electric drive for ordinary construction jobs; motors and control for pumps and compressors. G. H. Hall. il diags Eng N 124:442-4 Mr 28 '40
Electric-driven pumping unit speeds truck deliveries. il Nat Pet N 32:37 Mr 27 '40
Electric motors and controls for sewage treatment plants. J. O. Kammerman. Pub Works 71:36-7 Je '40
Electrical equipment of the Derby baths, Blackpool. il Engineer 169:359-60 Ap 12 '40; Elec R (Lond) 126:636 Je 14 '40
Electrification of pumping equipment in Illinois. R. E. Hammond. diags Oil & Gas J 38:44-6 Ap 18 '40
Faribault, Minn. pumping station. il plan Pub Works 71:14-16 Je '40
Fifteen years of electric pipe-line pumping. W. H. Stueve. il Oil & Gas J 39:149, 151, 155 S 19 '40
Flood control pumping stations. diags Power Pl Eng 44:72 Jl '40
Gas engines take on another job; natural-gas units make economical and flexible pumping plant drive. G. H. Dieter. il diags Power 84:206-9 Ap '40
High-efficiency, high-capacity water-pumping plant for Milwaukee. A. Rynders. il Power 84:286-8 My '40
It's done with water; plumbing installations follow electric pump sales; electric utility and plumber cooperation. il Dom Eng 154: 31-3+ D '39
Jet pumps, new sales tool in rural areas. il diags Dom Eng 155:54-6 Ap '40
Maintenance of pumps, motors and controls. J. Brower. Am Water Works Assn J 32: 423-30 Mr '40
Maintenance of sewage pumping stations. A. L. Soden. il Water Works & Sewerage 87: 417-21 S '40
150-kw portable Diesel-engine generating set for standby pumping equipment. il Engineering 150:47-8 Jl 19 '40; Engineer 170:12 Jl 5 '40
Permissible electrically operated pumps. L. C. Ilsley, E. J. Gleim and H. B. Brunot. U S Bur Mines Rep of Invest 3497:1-23. pl 1-5 '40
Seaworthy pump; molded phenolic protects the housing from salt water corrosion and electrolytic action; Fleming electric bilge pump. il Mod Plastics 17:39+ Jl '40
They looked for trouble and made it pay; advertising and selling pumps; Weber brothers. il Dom Eng 156:50-1+ Jl '40
Triple play by motorizing pumps; Puritan rubber company. G. A. Hess. il Elec W 114: 269-70 Jl 27 '40
Variable-stroke triplex pumps used on east Texas line. D. H. Stormont. il diags Oil & Gas J 39:30-1+ My 30 '40
Water falls on the Fair. il Power 84:377 Je '40

PUMPING machinery, Electric—*Continued*
Water over the hill; pumping plant for Montana irrigation. il Power 84:33 Ja '40

See also
Pumping stations—Power

Control

Automatic operation for pipe-line pump stations. J. M. Pearson. il diag Oil & Gas J 39:158, 161 S 19 '40
Automatic supervisory control for a pumping scheme. il Engineer 169:385 Ap 19 '40
Deep well pump control. Electrician 124:354 My 10 '40
Divided pumping units improve output control. A. Peterson. diags Power 84:578-9 S '40
Floatless pump control. diag Engineer 169:192 F 23 '40
Improvements to Wichita water supply. R. E. Lawrence. diags Am Water Works Assn J 32:1333-7 Ag '40
Pump motor control at unattended station; newsprint mill at Lufkin, Tex. A. P. Schnyder. diag Elec W 114:1028 O 5 '40
Reducing hydraulic dredge operation cost; use of speed control for main pump drive; two systems, Kraemer and Scherbius. B. M. Mills. il diags Eng N 124:598-601 Ap 25 '40

Installation

Mount the pumps to protect against flood damage. il Elec West 84:52 Ja '40

Testing

Testing motor-driven pumps. R. W. Angus. il Can Eng W & S 78:18-20+ Mr '40; Same. Am Water Works Assn J 32:838-44 My '40
Testing pumping equipment. C. J. Desbaillets. il diags Can Eng W & S 78:7-12+ Mr '40; Same. Am Water Works Assn J 32:845-58 My '40

PUMPING machinery, Portable

Bradby's portable generating plant. il Engineering 149:25 Ja 5 '40
Fowler transportable emergency pumping sets; semi-portable Diesel sets. il Engineering 149:150-1 F 9 '40; Engineer 169:143 F 9 '40

PUMPING stations

Catawba pumping station; abstract. J. L. Greenlee. Water Works & Sewerage 87:18 Ja '40
Powerful and sleek; Eagle Mountain station of the Colorado River aqueduct. il Power 83:761 D '39
Pumping plant at Spalding waterworks. diags Engineering 148:513, 514 N 3 '39
Water supply at Akron. F. M. Hinderschied; J. Houston. Am Water Works Assn J 32:1782-7 O '40

See also
Petroleum pipe lines—Pumping stations

Control

Remote control of Youngstown's pumping plants; use of piezoelectric crystal. R. I. Williams. il Pub Works 71:21 Ag '40

Equipment

Chilcote pumping station and softening plant of the South Staffordshire waterworks company. il diags Engineering 149:451-4, 462, 495-6, pl 24 My 3, 17 '40
Faribault, Minn. pumping station. il plan Pub Works 71:14-16 Je '40
High-efficiency, high-capacity water-pumping plant for Milwaukee. A. Rynders. il Power 84:286-8 My '40
Maintenance of pumps, motors and controls. J. Brower. Am Water Works Assn J 32:423-30 Mr '40
New filter plant and pumping station at Raleigh, N.C. W. C. Olsen. il diag plan Water Works & Sewerage 87:449-60 O '40
New pumping station at Kansas City. R. L. Baldwin and C. S. Timanus. il diag plan Am Water Works Assn J 32:1341-53 Ag '40; Abstract. Eng N 124:665 My 9 '40
Program of equipment replacement. A. M. Brenneke. Am Water Works Assn J 32:1691-3; Discussion. G. S. Rawlins. 1693-5 O '40
Putting a damper on surge; water conduits in Lake Erie supply system for Toledo, Ohio. P. Hansen and P. E. Langdon. diags Eng N 124:523-4 Ap 11 '40

See also
Pumping machinery
Pumps
Water level indicators

Power

Gas engines take on another job; natural-gas units make economical and flexible pumping plant drive. G. H. Dieter. il diags Power 84:206-9 Ap '40
New boiler, no shutdown at Toledo pumping station. E. M. Wilgus. il Power 84:645-7 O '40
Oil and gas power; municipal water pumping. il Power 84:342-3 Je '40
One hundred years of pumping machinery. S. W. Kitson. il diags N E Water Works Assn J 54:103-42 Mr '40; Same. Can Eng W & S 78:18-21+ Ja; 11-13+ F; 21-3+ Ap '40
Power factor improvement pays 86 percent return; Hempstead Village water works. W. L. King. il Power Pl Eng 44:60-2 O '40; Abstract. Elec W 114:104+ Jl 13 '40
Power supply to pumping station; water supply for the newsprint mill at Lufkin, Tex. A. P. Schnyder. Elec W 114:876+ S 21 '40
Year's service record shows gas-Diesel economy; Coolidge Standby generating station, San Carlos Irrigation project. R. G. Hornberger. il diag Power 84:724-7 N '40

PUMPS

Barnes rotary pumps. diags Power 84:58 Ja '40
Condenser pumping; trend of modern practice. F. J. Taylor. il Elec R (Lond) 126:616 Je 7 '40
Daniels three-throw vertical hydraulic pump. il diags Engineering 148:539 N 10 '39
Drainage pump; Pomona Niagara propeller pump. W. G. McGeorge. il diag Can Eng W & S 78:17-18+ F '40
Fluids handling and pumping at chemical exposition. il diags Chem & Met Eng 46:700-5, 778-80 N-D '39
Fusible link safeguards unattended pumps. E. Sterrett. diag Factory Management 97:76-7 D '39
High-pressure pump for oil well cementing. W. D. Owsley. il diag Steel 105:70-1 N 20 '39
Huber pump for corrosive liquids. il Water Works & Sewerage 86:sup66 D '39
Hydraulic control for machine tool applications. diags Automobile Eng 30:251-2 Ag '40
Improved efficiency of dredger pumps. il Engineer 169:502 My 31 '40
Installing suction pump piping. W. F. Schaphorst. diag Am Gas J 153:14 Ag '40
Intermittent pressure pumps. il diags Engineer 169:540-1 Je 14 '40
Keeping the charge in pump air chamber. diags Power 84:115-17+ F '40
Maintenance of pumps, motors and controls. J. Brower. Am Water Works Assn J 32:423-30 Mr '40
Making a jet pump. diags Power 84:529-31 Ag '40
Metals in production; oil-well pumps. W. L. Nelson. bibliog il diag Oil & Gas J 38:62 Mr 21; 92 Ap 11 '40
Morris ST-P stock pump. il Paper Tr J 109:20 D 21 '39
Nelson chemical pump. diag Power 84:126 F '40
Plastics competition; award to George W. Fleming co. il Mod Plastics 18:83, 99 O '40
Portable aspirator pump. R. C. Hockett. il Ind & Eng Chem Anal ed 12:539-40 S 15 '40
Portable pneumatic sludge pump. il diag Engineering 149:610 Je 21 '40

PUMPS—*Continued*
Pump governors. J. O. G. Gibbons. diags Textile World 90:98 Je '40
Pump has low speed, high capacity for water; Peerless pump division of Food machinery corp. il Sci Am 163:256 N '40
Pumps and fittings for rayon plants. il diag Rayon 21:375-7 Je '40
Pumps; types, selection, installation, operation, and maintenance. F. A. Kristal and F. A. Annett. 339p $3.50 McGraw-Hill '40
Racine variable volume hydraulic pump. il diags Automotive Ind 82:518-19 Je 1 '40
Review of power and mechanical equipment; pumps. il diags Power 83:825-7 Mid-D '39
Seaworthy pump; molded phenolic protects the housing from salt water corrosion and electrolytic action; Fleming electric bilge pump. il Mod Plastics 17:39+ Jl '40
Silentbloc Andre-Hutton pump for gritty fluids. diag Engineer 168:476 N 10 '39
Single or dual operation of cylinders in concrete pump. il diags Product Eng 11:104-5 Mr '40
Specific speed of pumps and turbines. J. Jennings. Engineering 150:77 Jl 26 '40; Discussion. 150:96, 115, 137, 175, 195-6, 256, 376-7, 454 Ag 2-16, 30-S 6, 27, N 8, D 6 '40
Water supply equipment in the process industries; types of pumps. G. L. Montgomery. il diags Chem & Met Eng 47:680-4 O '40
Worthington-Simpson high-pressure three-ram pumps. il Engineering 150:266 O 4 '40; Engineer 170:216 O 4 '40

See also
Mine pumps
Oil pumps
Pumping machinery
Pumping stations
Pumps, Centrifugal
Sewage pumps
Vacuum pumps

Bearings
Versuche mit pressstoffiagern an hydraulischen pumpen. W. Hensky. diag V D I 84:159-60 Mr 2 '40

History
History of rotary engines and pumps; abstract of articles in Engineer, 1939. Am Water Works Assn J 32:155-8 Ja '40
One hundred years of pumping machinery. S. W. Kitson. il diags N E Water Works Assn J 54:103-42 Mr '40; Same. Can Eng W & S 78:18-21+ Ja; 11-13+ F; 21-3+ Ap '40

Manufacture
Unique tooling for Packard water-pump bodies. il diags Mach 46:133-5 Ap '40

Statistics
Pumps, 1936-1939. Survey of Cur Business 1940 Sup p139-40 [supplemented in monthly numbers]

Tables, calculations, etc.
Power, capacity, and efficiency of pumps; chart. W. F. Schaphorst. Ind & Eng Chem News ed 18:658 Ag 10 '40

Testing
Testing pumping equipment. C. J. Desbaillets. il diags Can Eng W & S 78:7-12+ Mr '40; Same. Am Water Works Assn J 32:845-58 My '40

PUMPS, Centrifugal
Adjusting centrifugal-pump speed cuts operating costs; use of hydraulic coupling. A. Peterson. il Power 84:426-7 Jl '40
Building big pumps better earns a bonus; southern California water supply. il Eng N 125:341-3 S 12 '40
Centrifugal-pump specific speed; chart. Power 84:329 My '40
Centrifugal pumps; notes on selection and simple method of checking efficiencies. H. E. Beckwith. Water Works & Sewerage 87: sup30-3 Ap '40
Cost of centrifugal-pump power cut by check-up. Oil & Gas J 39:41 O 3 '40
Divided pumping units improve output control. A. Peterson. diags Power 84:578-9 S '40
Factors affecting efficiencies of deep well centrifugal pumps; abstract. E. O. Fabrin. Water Works & Sewerage 86:477 D '39
Forced circulation stops corrosion. il Power 84:383 Je '40
Getting the right pump packing. V. A. R. Minter. il diags Power 84:256, 257+ Ap '40
How to determine performance of engine-driven pumps. A. J. Stepanoff. il Power 84:722-3, 753 N '40
Kreiselpumpen mit senkrechter welle. R. Dziallas. bibliog diags V D I 84:141-7 Mr 2 '40
Mechanical efficiencies of similar fans and pumps. G. G. McDonald. Engineer 169:458 My 17 '40; Discussion. J. Jennings. 169: 519 Je 7 '40; Reply. 169:574 Je 28 '40
New priming systems for use with centrifugal pumps. F. S. Broadhurst. il diags N E Water Works Assn J 54:89-102 Mr '40
One hundred years of pumping machinery. S. W. Kitson. il diags N E Water Works Assn J 54:115-42 Mr '40; Same. Can Eng W & S 78:11-13+ F; 21-3+ Ap '40
Pressure air chambers in centrifugal pumping. W. L. Boerendans. diags Am Water Works Assn J 31:1865-92 N '39
Priming centrifugal sewage pumps; De Laval submerged suction system. H. V. Petersen. plans Water Works & Sewerage 86:481-3 D '39
Pump losses at various specific speeds. J. Jennings. Engineer 170:76 Ag 2 '40
Pumping viscous oils with centrifugal pumps. A. J. Stepanoff. Oil & Gas J 38:78-9+ My 9 '40
Pumps act like people; what to expect when you switch operating environment on centrifugal pumps. F. A. Kristal. diags Power 83:747-8 D '39
Selbstansaugende kreiselpumpe mit ejektoreinrichtung. R. Dziallas. il diags V D I 84: 22-3 Ja 6 '40
Series and parallel operation of centrifugal pumps. Power Pl Eng 43:804 D '39; Discussion. 44:75 Mr '40
Single-stage pump develops 650-ft head. diag Power 84:714 N '40
So you're going to put in a centrifugal pump. V. A. R. Minter. diags Power 84:144-6 Mr '40
Submerged suction priming system. diags Can Eng 77:11-12 D 5 '39
Vortex pumps, or, slip in the centrifugal pump. O. A. Price. bibliog il diags Inst Mech Eng J & Proc 142:Proc 413-38; Discussion. Proc 438-58 Mr '40
Wilson general-purpose centrifugal pump. il Marine Eng 45:72 F '40

Testing
Photo test-recordings; measuring efficiency of centrifugal pumps. R. W. Angus. il diags Can Eng W & S 78:11-15+ Je '40
Simple method of testing centrifugal pumps. H. E. Beckwith. Am Water Works Assn J 31:2098-108 D '39; Same. il Water Works & Sewerage 86:445-9 N '39

PUMPS, Feed water
Development in design of boilers and boiler house auxiliaries. A. Pollitt. diag Engineer 169:425-6 My 3 '40
Divided pumping units improve output control. A. Peterson. diags Power 84:578-9 S '40
Few facts about pH. A. S. Park. il Comp Air M 44:6018-20 N '39
Warren boiler feed pumps for new ships. il Marine Eng 45:76 Mr '40

PUMPS, Fuel
Accuracy features aircraft fuel pumps. Iron Age 146:42 Ag 15 '40
Deco hand pump tests injectors on the engine. il diag Automotive Ind 81:641 D 15 '39
4,000 die castings daily; fuel pump brackets; Stewart-Warner corp. il Am Mach 84:382-3 My 29 '40
Fuel injection in oil engines in relation to combustion. G. W. A. Green. diags Inst Mech Eng J & Proc 144:Proc 2-20 N '40; Same cond. Engineering 149:592-3, 631-3 Je 14, 28 '40; Excerpts. Automobile Eng 30:185-8 Je '40; Abstract. Engineer 169:423-4 My 3 '40; Discussion. Inst Mech Eng J & Proc 144:Proc 21-32 N '40; Engineering 149: 466-7 My 3 '40

PUMPS, Fuel—*Continued*
Fuel pump developments to meet commercial airline service. J. M. Roth. il Aero Digest 36:91+ Je '40
Processes in injection systems of oil engines. S. J. Davies and E. Giffen. diags S A E J 46:119-36 Mr '40

Manufacture
High precision manufacture; production methods at Bryce fuel injection ltd. il diags Automobile Eng 30:263-6 S '40
Tolerances at the vanishing point; on the production line of American Bosch injection pumps. H. E. Blank, jr. il diag Automotive Ind 81:564-72 D 1 '39

Testing
Study of injection requirements of high speed Diesels. L. E. Johnson. il diags Automotive Ind 81:580-7 D 1 '39

PUMPS, Submersible
Submergible electrical centrifugal pumping units and their application; abstract. P. E. Loye. Oil & Gas J 38:65 Mr 21 '40
Subsurface pump performance. S. B. Sargent. diags Oil & Gas J 39:58, 61 Jl 11 '40

PUMPS, Turbine
Standard specifications for deep well pumps. J. A. Carr. Am Water Works Assn J 32: 72-6 Ja '40

PUMPS, Vacuum. See Vacuum pumps

PUNCHED card system
Billing procedure of the Brooklyn union gas company. il Am Gas J 151:15-17 D '39
Coordinating operating system records with accounting records. N. B. Jacobs. il Am Water Works Assn J 32:225-41 F '40
Improving the operation of tabulating machine installations. G. A. Gardner. il N A C A Bul 21:481-90 D 15 '39
Methods of recording coal data; Hollerith punched-card system in preparation of structural contour maps based on altitude of key coal beds. G. H. Cady and C. C. Boley. il Econ Geol 35:876-82 N '40
Punched card accounting from the audit viewpoint. L. E. Vannais. J Account 70:200-17, 339-56 S-O '40
Rewriting meter reading sheets by alphabetic tabulating cards. J. O. Hill. il Edison Elec Inst Bul 7:591-3 D '39
Sales figures when you need them; Andrew Jergens company breaks down figures by city, district, state, brand, type, or outlet. il Am Business 10:26-7+ F '40

PUNCHES
Box-section in one stroke. L. Kasper. diags Am Mach 84:866 O 30 '40
Cast-to-form dies and punches made from Meehanite. Mach 46:170-1 Ap '40
Die for forming notched U-shaped piece from flat strip stock. V. Waitkus. diags Mach 47:136-7 O '40
Eclipse automatic centre punch. Engineering 149:401 Ap 12 '40
Holding small punches in punch pad. D. A. Baker. diags Mach 46:118 F '40
Improvised piercing tools for a rush job. E. Wittmann. diags Am Mach 84:338-9 My 15 '40
Piercing die with a special stripping device. J. J. McHenry. diag Mach 46:167-8 Ja '40
Punching instrument panels; Hickok electrical instrument co.; die making. B. Thompson. il Iron Age 145:44-7 F 8 '40
Tools of cast bronze; jigs, fixtures, punches, dies, etc. use of plaster molds; making ornamental lamps. M. Golden. il Am Mach 84: 574-6 Ag 7 '40
Universal self-aligning two-hole piercing die. W. Wells. diags Mach 46:113-14 Mr '40
You can add life to piercing punches. H. R. Hageman. diag Am Mach 84:59 F 7 '40

PUNCHING
Adjustable indexing fixture for perforating metal cylinder. J. Waitkus. diags Mach 47: 130-2 S '40
Deep drawing tests for sheet metal. H. S. Swift. diag Iron Age 145:42-5 Je 6; 34-7 Je 13 '40
Handling device for punching steel plate. il Ry Mech Eng 114:404-5 O '40
Knockout flash removal; problem in producing die cast automobile radiator grilles. H. Chase. il Am Mach 84:616 Ag 21 '40
Narrow slots with a punch; handle for the cake tray. M. Golden. il diags Am Mach 84:18-19 Ja 10 '40
Press shearing through an oblique plane. H. C. Lane. diags Engineer 169:205-6 Mr 1 '40
Press tools for piercing slots. C. H. Willey. diags Am Mach 84:339 My 15 '40

See also
Sheet metal work

PUNCHING machinery
Automatic stacking fixture. W. M. Halliday. diags Am Mach 84:20 Ja 10 '40
Changing punch from group to unit drive. il Elec W 114:277 Jl 27 '40
Hydraulic unit for punching and countersinking holes in window-trim moldings. il Mach 46:185 Ja '40
Press brake, a versatile tool. il Steel 106: 48-50 Je 10 '40
Progressive Welder's new hydraulic punching unit. il diag Automotive Ind 82:20 Ja 1 '40; Steel 106:74 F 19 '40
Punches work, feeds and heads rivets. il diag Product Eng 11:393-4 S '40
Unit punch setups. il diags Steel 105:62, 65-6 D 11 '39
Universal stock support for punch presses. A. F. Murray. il diags Mach 46:120-1 My '40
Wiedemann motor-driven turret punch. il Mach 46:136 My '40

See also
Dies
Press tools

PUNCTUATION
Hyphens and commas; satire. G. N. Copley. Chem & Ind 59:330-2 My 11 '40
Mystery of superfluous comma following "as" in dictionaries. E. N. Teall. Inland Ptr 105: 33-4 Ap '40
That comma has its defenders. E. N. Teall. Inland Ptr 105:56 Je '40

PUNISHMENT
Dilemma of penal reform. H. Mannheim. 238p $2.25 William Salloch, New York '40

See also
Crime and criminals
Prisons

PUNS
Pun parade. Ptr Ink 191:16 Ap 26 '40

PUPIN, Michael
Engineer, by accident, or conviction. L. M. Duryee. Power Pl Eng 44:138+ Ja '40

PURCHASE tax
Many electrical equipment items included. Electrician 125:181 O 4 '40
Purchase tax; date announced; commissioners' rulings. Elec R (Lond) 127:318 O 11 '40
Purchase tax established, applicable to imports of specified goods. For Comm W 1: 213 N 2 '40
Purchase tax to be collected from unregistered retailers by registered wholesalers. Economist 138:767-8; 139:9 Ap 27, Jl 6 '40

PURCHASING
Advertising and selling process. H. R. Tosdal. Ann Am Acad 209:62-70 My '40
Industrial purchasing; principles and practice. H. T. Lewis. 586p bibliog(p525-78) $4 Business publications, Chicago '40
Internal control; the purchasing function. N A C A Bul 21:1523-8 Ag 15 '40
Purchases are tied to production; North & Judd manufacturing company, New Britain, Conn. W. C. Zinck. Factory Management 98:70-1+ Mr '40
P.A.'s believe materials adequate; discussion at annual convention, Cincinnati. Business Week p16 Je 8 '40
What motivates business buyers. D. J. Duncan. Harvard Business R 18 no 4:448-54 [Jl] '40

PURCHASING—*Continued*
Why millions in orders are now cleared thru Chicago buying channels; mid-winter and mid-summer markets. L. B. Colby. il Sales Management 47:18-20+ Ag 15 '40

See also
Automobile industry and trade—Purchasing
Banks and banking—Purchasing
Chain stores—Purchasing
Coal purchasing
Consumers
Consumption (economics)
Department stores—Purchasing
Electric utilities—Purchasing
Instalment plan
Insurance, Life—Purchasing
Inventories
Machinery, Replacement of
Merchandizing
Printing—Purchasing
Purchasing agents
Quality of products
Railroads—Purchasing
Retail trade—Purchasing
Stores systems
Warranty

PURCHASING, Cooperative
Buy your books the cooperative way. G. J. Garrison. Special Lib 31:157-8 My-Je '40
Farmers' cooperative purchasing, 1913-39. Monthly Labor R 50:665-6 Mr '40
Nationally advertised brands, at cut prices, form bulk of this co-op's stock; Consumers mail order co-operative. S. Carter. il Ptr Ink 190:25-6+ Mr 22 '40

PURCHASING, Government
Army has a big job for textiles. Business Week p30+ O 19 '40
Army textile orders half placed. B. Stubblefield. il Textile World 90:60-1 O '40
Army to buy f.o.b. factory and accept split bids. Oil Paint & Drug Rep 138:3 Ag 19 '40
Back-stage in army purchasing. B. Stubblefield. il Textile World 90:42-6 Ag '40
Bulk purchases of raw materials. J. J. Llewellin. Chem Age (Lond) 42:36 Ja 20 '40
Chemical minimum wage in U.S. contracts argued. Oil Paint & Drug Rep 137:3+ Ap 15 '40
Competitive bidding and negotiated contracts. E. B. George. Dun's R 48:14-19 O '40
Consult field purchasing offices, army and navy officials advise. Steel 107:34-5 O 7 '40
Control, procurement, storage, and inventory of supplies in the Navy department. A. H. Mayo. Edison Elec Inst Bul 7:520-2+ N '39
Defense business to come through division offices; War department lists contact posts. Brick & Clay Rec 97:11-12 Ag '40
Defense buying to be coordinated by appointment of Donald M. Nelson. Iron Age 146: 74 Jl 4 '40; Same. Automotive Ind 83:81+ Jl 15 '40
Defense program remodels the economic system. E. B. George. il Dun's R 48:5-14 O '40
Defense purchases accelerated; army textiles and clothing. B. Stubblefield. il Textile World 90:66-7 S '40
Federal agencies pay less than a year ago for gas. Nat Pet N 32:20 Jl 31 '40
Federal gas prices show varied trends. Nat Pet N 32:22 Ja 10 '40
Government orders. Iron Age 146:68-9 Jl 4 '40; Steel 107:23 Jl 1 '40 [cont weekly]
Government pays more for gas than in 1939. Nat Pet N 32:23 Ap 10 '40
Government specifications approved for purchasing. Ind Stand 11:256 O '40
Government to buy added 180,000 tons of rubber in 1941. J. Jones. India Rubber W 102:49 S '40
Government to buy gas on new specifications. Nat Pet N 32:28 Ap 3 '40
Government's service station contracts run higher than current retail prices; with schedule of contracts, by states, July 1, 1940 to June 30, 1941. Nat Pet N 32:34, 36, 38 Jl 10 '40
How defense orders are placed. Business Week p15-16 Ag 24 '40
How to get government business. Management R 29:356-7 O '40
Huge U.S. orders on dotted line. Business Week p20+ Ag 24 '40
Identical bids reported on 10.15% of government orders. Iron Age 145:49-51 Ja 11 '40
Mass purchases of household equipment under defense program planned. Comm & Fin Chr 151:2740 N 9 '40
Military procurement and purchasing; instructions for manufacturers. il Elec W 114:1313-16 N 2 '40
New approved and revised federal specifications now available. Ind Stand 11:77 Mr '40
Prices and profits in a defense economy; prices to government, prices to consumers, producers' prices. E. B. George. il Dun's R 48:5-19 N '40
Quartermasters to contact for army construction work; list. Brick & Clay Rec 97:14-15 S '40
Selling the government; abstract. R. Elgen. Management R 29:139-40 Ap '40
Strategic buying planned. R. S. McBride. Eng & Min J 141:33-4 Jl '40
Strict about Walsh-Healey law; mechanics of U.S. purchasing. Steel 107:18-19 Ag 26 '40
20,500 grain bins in two months; Department of agriculture order received by Butler mfg. co. il Iron Age 144:47 N 30 '39
Uncle Sam goes to market; a summary of the organization of federal purchasing and procurement. E. B. George. il maps Dun's R 48:8-28 Ag '40
Uncle shines his armor; defense appropriations and purchases. J. G. Ellis. il Iron Age 145:82-4+ Ja 4 '40
U.S. fuel facts; more gas than ever supplied to government. G. W. Bean. Am Gas Assn Mo 22:348-9 O '40
Wage determinations under Public contracts act. Monthly Labor R 49:714, 1171-2 S, N '39
Want to sell military goods to U.S.? Here are bureaus and officials to see; army and navy field offices. S. Carter. Ptr Ink 192: 63-5 Ag 23 '40
When you want to help speed the defense program; where to apply for war orders. map Am Business 10:17+ Ag '40
Where defense orders are going; state-by-state analysis of contracts, July 1-August 31, 1940. Business Week p56 S 7 '40

See also
Contracts, Government
Munitions
Paper, Government
Priorities, Industrial

Canada
Canadian government contract requirements. O. B. North. Compar Law Ser 3:139-46 Mr '40

Greece
Government contracts, law amended. For Comm W 1:253 N 9 '40

India
Government contract requirements in India. D. C. Bliss. Compar Law Ser 3:81-98 F '40

PURCHASING, Household
Consumer market; income, expenditure, and savings. W. Alderson. Ann Am Acad 209: 1-13 My '40
To market, to market. M. T. Gamble and M. C. Porter. 279p bibliog(p263-6) $2 Bobbs '40
When you buy. M. B. Trilling, E. K. Eberhart and F. W. Nicholas. 401p $2.50; text ed $1.80 Lippincott '39

See also
Budget, Household
Buying habits
Consumption (economics)
Instalment plan
Shopping areas

PURCHASING, Municipal
Purchasing for small cities. R. Forbes and others. 2d ed 22p pa 50c Public administration service, Chicago '39

PURCHASING agents
Can a purchasing agent afford to be tough? C. J. O'Conner. Chem Ind 46:163 F '40
Chicago greets buyers; some 18,000 converge on city to stock midwestern stores with dry goods lines. Business Week p38 F 10 '40
F.T.C. arraigns buyer paid by seller. Oil Paint & Drug Rep 138:3+ Ag 19 '40

See also National association of purchasing agents

PURCHASING departments
Coal company purchasing. J. M. Knowles. il Min Cong J 26:17-22 Je '40

PURCHASING power. See Consumption (economics); Market statistics

PURCHASING power, Measurement of
Measure of purchasing power inflation and deflation. M. Shields. Am Statis Assn J 35:461-70 S '40

PURDUE university
New chemical and metallurgical engineering building at Purdue. J. L. Bray. il Min & Met 21:341 Jl '40; Same cond. Steel 106:33 Je 17 '40

New chemical and metallurgical engineering building at Purdue university. J. L. Bray. il plan Ind & Eng Chem Anal ed 12:375-8 Je 15 '40

Service through chemical change; new building for School of chemical and metallurgical engineering. S. D. Kirkpatrick. il Chem & Met Eng 47:394-5 Je '40

PURE oil company
Income account for calendar years 1936-39. Comm & Fin Chr 150:1785 Mr 16 '40

PURGATIVES
Laxatives and bowel consciousness, a clinical study. M. Kraemer. Consumers' Research Bul (Gen bul ser) 10:9-11 O '40

PURINES
Constitution of purine nucleosides; crotonoside. R. Falconer, J. M. Gulland and L. F. Story. Chem Soc J p1784-7 N '39

PURITY bakeries corporation
Fast moving low price stocks; thumbnail appraisal. Mag of Wall St 65:233 D 2 '39

PURPLE
Blue and purple dyes from aquilegia vulgaris. C. D. Mell. Textile Col 62:633 S '40

PURVIS, Arthur Blaikie, 1890-
Portrait. Business Week p50 N 18 '39

PUTNAM, Rufus Willard, 1891-
Sketch. por(p55) Civil Eng 10:57 Ja '40

PUTNAM, William Lowell, mathematical competition
Awards. Science 91:426 My 3 '40

PUTTY
See also
Lime putty

PUZZLES
See also
Crossword puzzles

PUZZOLANA. See Pozzuolana

PYCNANTHUS kombo
Component fatty acids and glycerides of some myristica fats. D. Atherton and M. L. Meara. bibliog Soc Chem Ind J 58:353-7 D '39

PYCNOMETERS
Normungsarbeiten auf dem gebiete der laboratoriumsgeräte; DIN E 12795 bis 12797 pyknometer. diags Chemische Fabrik 13:55-7 F 10 '40

PYRALIN
Pipe protection; oil pipes covered with pyralin. Sci Am 163:211 O '40

PYRANOSIDES
Alpha and beta methyl lyxosides, mannosides, gulosidcs, and heptosides of like configuration. H. S. Isbell and H. L. Frush. pls J Research Nat Bur Stand 24:125-51 bibliog(p151) F '40

PYRAZINE
Syntheses in the pyrazine series; preparation and properties of aminopyrazine. S. A. Hall and P. E. Spoerri. Am Chem Soc J 62: 664-5 Mr '40

PYRENE
Some reactions of pyrene. E. Bergmann and E. Bograchov. bibliog Am Chem Soc J 62: 3016-18 N '40

Thermal data on organic compounds; modern combustion data for some non-volatile compounds containing carbon, hydrogen and oxygen. J. W. Richardson and G. S. Parks. bibliog Am Chem Soc J 61:3543-6 D '39

PYRETHRINS
Analysis
Determination of pyrethrin I; investigation of Seil color reaction in mercury reduction method. C. S. Sherman and R. Herzog. bibliog Ind & Eng Chem Anal ed 12:136-7 Mr 15 '40

Determination of pyrethrin I; linearity of results by mercury reduction method. D. A. Holaday and J. J. T. Graham. Ind & Eng Chem Anal ed 12:80-1 F 15 '40

PYRETHRUM
Pyrethrum flower picker may spur U.S. cultivation. Oil Paint & Drug Rep 137:3+ Ap 29 '40

Pyrethrum harvesting high cost factor. Oil Paint & Drug Rep 138:3+ S 2 '40

Pyrethrum label must consider deterioration. Oil Paint & Drug Rep 137:5+ Mr 11 '40

Pyrethrum labeling. Oil Paint & Drug Rep 137:51 Je 24 '40

Pyrethrum labeling brought under law. Oil Paint & Drug Rep 137:3 Ja 29 '40

PYREX
Diffusion of helium through several glasses. P. L. Smith and N. W. Taylor. bibliog diag Am Cer Soc J 23:139-46 My '40

Heat transfer coefficients in glass exchangers. T. J. Thompson and A. S. Foust. flow diag bibliog il Am Inst Chem Eng Trans 36:555-75 Ag '40; Same cond. Chem & Met Eng 47:410-14 Je '40; Discussion. Am Inst Chem Eng Trans 36:575-8 Ag '40

Is chemical industry ready? glass for engineering and industry. L. Quigley. il Ind & Eng Chem 32:1176-8 S '40

Performance of glass and porcelain insulators. Engineering 149:434 Ap 26 '40

PYRIDINDOLE
Attempts to find new antimalarials; synthesis of some derivatives of 4-carboline and 5:6-benz-4-carboline. W. O. Kermack and W. Tebrich. Chem Soc J p314-18 Mr '40

PYRIDINE
Action of the reagent pyridine-acetic anhydride on *d*-α-glucoheptose, *d*-glucosamine and *l*-fucose oximes. E. Restelli de Labriola and V. Deulofeu. bibliog Am Chem Soc J 62:1611-13 Je '40

Acylation of aldoximes; isomerizations in the benzoylation of *syn-* and *anti*-aldoximes in pyridine. G. Vermillion and C. R. Hauser. Am Chem Soc J 62:2939-42 N '40

Arylpyridines; anisyl- and nitroanisylpyridines. J. W. Haworth, I. M. Heilbron and D. H. Hey. Chem Soc J p358-61 Mr '40

Arylpyridines; phenylpyridines and nitrophenylpyridines. J. W. Haworth, I. M. Heilbron and D. H. Hey. Chem Soc J p349-55 Mr '40

Arylpyridines; 3- and 4-pyridyldiphenyls. I. M. Heilbron, D. H. Hey and A. Lambert. Chem Soc J p1279-84 S '40

Arylpyridines; some substituted phenylpyridines. E. C. Butterworth, I. M. Heilbron and D. H. Hey. Chem Soc J p355-8 Mr '40

Chemistry of vitamin B_6; reactions and derivatives. S. A. Harris. bibliog Am Chem Soc J 62:3203-5 N '40

Color test for elementary sulfur in pyridine and other solvents. H. Sommer. bibliog Ind & Eng Chem Anal ed 12:368-9 Je 15 '40

Germicidal mercury derivatives of pyridine. M. W. Swaney, M. J. Skeeters and R. N. Shreve. Ind & Eng Chem 32:360-3 Mr '40

Gewinnung von pyridinbasen aus den abschwaden der ammoniaksättiger. W. Klempt and R. Röber. il diags Chemische Fabrik 13:65-8 F 24 '40

Metal pyridine complex salts; cobaltous and nickelous dipyridine salts of fatty acids. T. L. Davis and A. V. Logan. Am Chem Soc J 62:1276-9 My '40

Nitrosoacylarylamines; the action of some nitrosoacylarylamines on pyridine. J. W. Haworth, I. M. Heilbron and D. H. Hey. Chem Soc J p372-4 Mr '40

Organic derivatives of sulphur, selenium, and tellurium. D. T. Lewis. Chem Soc J p831-2 Jl '40

Organolithium compounds of pyridine and quinoline. H. Gilman and S. M. Spatz. Am Chem Soc J 62:446 F '40

PYRIDINE—*Continued*
Physical chemistry of gas liquor distillation. F. H. Peakin. Soc Chem Ind J 59:81-7 My '40; Same. Gas J (Lond) 230:629-30, 672-4 Je 19-26 '40
Pyridine and piperazine derivatives of sulphanilamide. W. O. Kermack and W. Tebrich. Chem Soc J p202-5 F '40
Reaction of 2-chloro-5-nitropyridine and thiourea. A. R. Surrey and H. G. Lindwall. Am Chem Soc J 62:1697-8 Jl '40
Selenium oxychloro compounds of pyridine, pyridinium chloride and related substances. J. Jackson and G. B. L. Smith. bibliog Am Chem Soc J 62:544-6 Mr '40
Sulfanilyl derivatives of pyridine and quinoline amines. R. Winterbottom. bibliog Am Chem Soc J 62:180-1 Ja '40
Sulphates of pyridine. F. H. Peakin. Soc Chem Ind J 59:56-7 Mr '40
Sulfides and sulfones of pyridine and quinoline. A. R. Surrey and H. G. Lindwall. bibliog Am Chem Soc J 62:173-4 Ja '40
Synthesis of the pyridine analog of vitamin B_1. A. H. Tracy and R. C. Elderfield. bibliog Science 92:180-1 Ag 23 '40

PYRIDINIUM chloride
Selenium oxychloro compounds of pyridine, pyridinium chloride and related substances. J. Jackson and G. B. L. Smith. bibliog Am Chem Soc J 62:544-6 Mr '40

PYRIDINIUM compounds
Quaternary ammonium salts; α-pyridinium compounds of higher fatty acids and their amides. T. N. Mehta and D. M. Trivedi. bibliog Soc Dyers & Col J 56:343-51 Ag '40

PYRIDOQUINOLINE
Attempts to find new antimalarials; derivatives of 5 : 6 : 3′ : 2′-pyridoquinoline. W. O. Kermack and A. P. Weatherhead. Chem Soc J p1164-9 Ag '40

PYRIDYLDIPHENYL
Arylpyridines; 3- and 4-pyridyldiphenyls. I. M. Heilbron, D. H. Hey and A. Lambert. Chem Soc J p1279-84 S '40

PYRIMIDINES
Reaction of thiourea with 5,5-dibromoxyhydrouracil and 5,5-dibromobarbituric acid. T. B. Johnson. Am Chem Soc J 62:2269-71 S '40
Researches on pyrimidines; the molecular rearrangement of 4-methyl-5-*n*-propyl-2,6-dimethoxypyrimidine. Y. Chi, S. Wei and M. Liang. Am Chem Soc J 61:3377-9 D '39
Series of 2-methyl-5-alkyl-4,6-dihydroxypyrimidines. L. P. Ferris, 2d, and A. R. Ronzio. Am Chem Soc J 62:606-7 Mr '40
Studies on pyrimidines related to vitamin B_1; a new synthesis of 2-methyl-6-aminopyrimidine-5-aldehyde. D. Price, E. L. May and F. D. Pickel. bibliog Am Chem Soc J 62: 2618-20 O '40
Synthesis of some new pyrimidines and uric acids from cystamine. E. J. Mills, jr. and M. T. Bogert. bibliog Am Chem Soc J 62:1173-80 My '40
Synthesis of tetrahydropyrimidines. S. R. Aspinall. bibliog Am Chem Soc J 62:2160-2 Ag '40

Analysis
Semimicro-Dumas method for difficult compounds. A. R. Ronzio. bibliog diags Ind & Eng Chem Anal ed 12:303-4 My 15 '40

PYRITE
Pyrite recovery from coal mine refuse; abstract. K. A. Spencer. Min Cong J 26:28 My '40
Underground mining at Rio Tinto, Spain. C. R. Julian. diag Engineering 148:731-3 D 29 '39

PYRITES
Fertilizer practice at Curtis bay; Davison chemical corp. R. S. McBride. il diag Chem & Met Eng 47:4-9 Ja '40
Flash-roasting of sulphides; progress in Canada. D. D. Howat. il diags Chem Age (Lond) 43:155-7 O 5 '40
Pyrites roasting and sulphur burning; recent developments meriting war-time attention. C. H. Butcher. Chem Age (Lond) 41:411-13 D 23 '39

PYROGALLOL
Indano-indanes. J. B. Niederl and R. H. Nagel. Am Chem Soc J 62:3070-2 N '40

PYROMETERS and pyrometry
Carbon arc as a radiation standard. H. G. MacPherson. Opt Soc Am J 30:189-94 My '40
Elliott optical pyrometer. il Engineer 169:298 Mr 29 '40
Experiment on Wien's energy distribution law and optical pyrometry. D. C. Stockbarger. diag Opt Soc Am J 30:224-5 My '40
Fluorescent mercury-vapor lamp as a light source for a single-point check on optical pyrometers. C. F. Lucks and H. W. Russell. bibliog il Opt Soc Am J 30:163-7 Ap '40
Industrial pyrometry. M. F. Behar. il diags Instruments 13:294-320 O '40
Measuring instruments; noteworthy developments of the past year. R. M. Archer. il Electrician 123:378-9 O 27 '39
Measuring open-hearth bath temperatures. L. O. Sordahl and R. B. Sosman. il diags Steel 106:44-7 My 20 '40
New radiation pyrometer. J. Strong. bibliog diags Opt Soc Am J 29:520-30 D '39
New two-color optical pyrometer. H. W. Russell, C. F. Lucks and L. G. Turnbull. il diags Opt Soc Am J 30:248-50 Je '40
Optical pyrometry. W. E. Forsythe. bibliog il diags J Ap Phys 11:408-20 Je '40; Abstract. Glass Ind 20:442+ D '39
Potentiometer circuit for portable optical pyrometer. R. C. Machler. il diag R Sci Instr 10:386-8 D '39
Pyrometry; as it was in 1915 and as it is in 1940. C. O. Fairchild. Metal Prog 37:287 Mr '40
Pyrometry, especially of molten steel. Metal Prog 38:549-50 O '40
Pyrometry of liquid steels and pig irons. G. R. Fitterer. il Instruments 13:157-60 Je '40
Relation of uniform pyrometer records to uniform products. J. A. Doyle. Ind & Eng Chem News ed 18:135-7 F 25 '40; Excerpts. Am Mach 84:sup43 N 13 '40
Remote acting thermometer developed by J. Strong. Science 91:sup8 Mr 8 '40
Temperature measurement and control; report of symposium. J. S. Marsh. il Metal Prog 36:731-4 D '39

See also
Pyrometric cones
Pyrometric rings
Temperature—Measurement
Thermocouples
Thermometers and thermometry

PYROMETRIC cones
New range of British Seger cones. Gas J (Lond) 229:26 Ja 3 '40
Principal physical tests for fireclay refractories. R. S. Bradley. il diags Brick & Clay Rec 96:66-9 Ap '40

PYROMETRIC rings
Pyrometric rings for measuring kiln heat treatment. L. H. Milligan. il Am Cer Soc Bul 19:247-51 Jl '40

PYRONE
Mercuration of some simple derivatives of γ-pyrone. J. R. Piles and F. Challenger. Chem Soc J p663-70 My '40

PYROPHOSPHATES
Nachweis und bestimmung von ortho-, pyro- und metaphosphation nebeneinander. B. Wurzschmitt and W. Schuhknecht. diag Angew Chemie 52:711-15 D 23 '39

See also
Copper pyrophosphate

PYROPHYLLITE
Marketing talc, pyrophyllite, and ground soapstone. B. L. Johnson. U S Bur Mines Information Circ 7080:1-13 '39; Same abr. Eng & Min J 141:169-70 F '40
Pinitized tuff of ceramic importance. P. F. Kerr. il diags map Am Cer Soc J 23:65-71 Mr '40

PYROTECHNIC snakes
Pyrotechnic snakes. T. L. Davis. il J Chem Educ 17:268-70 Je '40

PYROTECHNICS. See Fireworks

PYROXYLIN
Making croquet tough; pyroxylin patented coating process. il Mod Plastics 17:34+ My '40
Plastics and their uses in the automotive industry. G. M. Kline. S A E J 46:199-200 My '40; Same. Mod Plastics 17:49-51 Jl '40

PYROXYLIN coated fabrics
Leather cloth from chemicals. M. E. Clark. il plan Chem & Met Eng 47:544-7 Ag '40
Standard specifications and methods of test for cotton goods for rubber and pyroxlin coating. Textile Col 62:480-2+ Jl '40

PYRROLE
β-phenylfurylethylamine and analogous derivatives of thiophen and pyrrole. R. Robinson and W. M. Todd. Chem Soc J p1743-7 N '39
Staling vs. rancidity in roasted coffee; antioxygens produced by roasting. L. W. Elder, jr. bibliog il Ind & Eng Chem 32:798-801 Je '40
Studies in the pyrrole series; a dipyrrylmethene which is a true intermediate in its own formation. J. H. Paden, A. H. Corwin and W. A. Bailey, jr. Am Chem Soc J 62: 418-24 F '40

PYRROLIDINE
Electron sharing ability of organic radicals; *alpha*-thienyl- and *alpha*-mesitylpyrrolidines. J. G. Kirchner and I. B. Johns. bibliog Am Chem Soc J 62:2183-4 Ag '40

PYRROLIDONE
Some reactions of Δ^b-γ-lactones. E. Walton. Chem Soc J p438-42 Ap '40

PYRROLIDONE carboxylic acid
Method for determining glutamine in plant tissues. G. W. Pucher and H. B. Vickery. bibliog Ind & Eng Chem Anal ed 12:27-9 Ja 15 '40

PYRROLINE
Sulfanilyl pyrrolidine and pyrroline. W. E. Cass. Am Chem Soc J 62:3255-6 N '40

PYRUVIC acid
Biological synthesis of oxaloacetic acid from pyruvic acid and carbon dioxide; abstract. H. A. Krebs. Chem & Ind 59:730 O 26 '40
Mechanism of the biological citric acid synthesis. N. Hallman and P. E. Simola. bibliog Science 90:594-5 D 22 '39
Oxidative cleavage of α-keto acids and α-keto alcohols by means of lead tetraacetate. E. Baer. Am Chem Soc J 62:1597-1606 Je '40
Synthesis of phosphopyruvic acid on oxidation of lactic acid. D. L. Ferdman and S. F. Epstein. Science 91:365-6 Ap 12 '40

PYTHAGOREAN proposition
Day with Euclid. R. Fleming. J Eng Educ 30:801-2 My '40

Q

Q fever
Institutional outbreak of pneumonitis among employees in one building of the National institute of health. J. W. Hornibrook and K. R. Nelson. bibliog plan Pub Health Rep 55:1936-54, pl 1-6 O 25 '40

QUABBIN reservoir
Real estate acquisitions for metropolitan Boston's water supply in the Swift River and Ware River watersheds. J. A. Christenson. il maps N E Water Works Assn J 54:194-255 Je '40

QUALITATIVE analysis. See Chemistry, Analytic—Qualitative

QUALITY bakers of America
Eighty bakers gain strength through cooperation. H. W. Dickinson. il Ptr Ink Mo 40:44+ Mr '40
Patman act brokerage clause held applicable to cooperatives. Oil Paint & Drug Rep 138: 3+ S 16 '40

QUALITY control. See Factory management—Quality control

QUALITY of products
Eyeful for advertising critics who think consumers are being gypped; United Wallpaper campaign inspired company to build product to standard of excellence. A. J. Browning. il Sales Management 45:24-6 D 1 '39
Fair enough; Boren bill. H. R. Howe. Ptr Ink 190:36 F 23 '40
Have they forgotten quality? Ptr Ink Mo 41:27 Jl '40
House subcommittee completes hearing on Boren bill; to establish standards for consumer goods. Ind Stand 11:40-1 F '40
Quality finishes for metal products; with tabulated characteristics of finishes by price classes. A. Bregman. il Iron Age 146:28-33 S 26 '40
Relation of uniform pyrometer records to uniform products. J. A. Doyle. Ind & Eng Chem News ed 18:135-7 F 25 '40; Excerpts. Am Mach 84:sup43 N 13 '40
Sales policies that keep a 65-year-old fashion business young; Ireland brothers' marketing platform. il Sales Management 47:26, 30+ Ag 15 '40
Selecting the best material for a given application. D. R. Kellogg. Mach 46:113-14 Je '40
Some thoughts on the scientific approach to textile problems. A. C. Walker. Rayon 21: 345-6 Je '40

See also
Advertising copy—Quality appeal
Factory management—Quality control
Inspection
Institute of standards
Products, Certification of
Products, Secondary
Standardization

QUANTITATIVE analysis. See Chemistry, Analytic—Quantitative

QUANTITIES (in production)
Double logarithmic diagram for determining correct production and other quantities. P. Jessen. Advanced Management 5:139-43 Jl-S '40
Further thoughts on the management aspect of accounting control. S. A. Peck. N A C A Bul 21:549-68 Ja 1 '40

QUANTUM theory
Computation of quadrupole and magnetic-dipole transition probabilities. G. H. Shortley. Phys R 57:225-34 F 1 '40
Considerations concerning the fundaments of theoretical physics. A. Einstein. Science 91: 490-2 My 24 '40
Directional correlation of successive quanta. D. R. Hamilton. Phys R 58:122-31 Jl 15 '40
Mr Tompkins in Wonderland; or, Stories of *c*. *G*. and *h*. G. Gamow. 91p $2 Macmillan '39
Nature of the chemical bond and the structure of molecules and crystals. L. C. Pauling. 2d ed 450p $4.50 Cornell univ. press, Ithaca, N.Y. '40
Physical basis of ferromagnetism; atomic structure of ferromagnetic elements gyromagnetic effect. R. M. Bozorth. bibliog il diags Bell System Tech J 19:1-39 Ja '40
Quantum physics of solids; the energies of electrons in crystals. W. Shockley. il diags Bell System Tech J 18:645-723 O '39
Quantum world; abstract. G. Gamow. Science 90:sup8 D 15 '39
Stationary states of scalar and vector fields. H. Snyder and J. Weinberg. Phys R 57: 307-14 F 15 '40
Theoretical constitution of metallic beryllium. C. Herring and A. G. Hill. bibliog diags Phys R 58:132-62 Jl 15 '40

See also
Dirac's equation
Photoelectric effect
Wave mechanics

QUARANTINE
Development of the national maritime quarantine system of the United States. B. C. Hampton. Pub Health Rep 55:1241-57, pl 1-6 Jl 12 '40
Effective quarantine surveillance of aircraft passengers from foreign ports. J. J. Sippy. Pub Health Rep 55:751-2 My 3 '40

QUARRIES and quarrying
Pennsylvania Turnpike; fitting plants for increased production. il Rock Prod 43:45-50 S '40
Quarry shovel loading and haulage; United States Bureau of mines reports reviewed by N. C. Rockwood. il Rock Prod 43:44-5 Mr '40; Discussion. 43:41-2 My '40
Time study analyses; progress report no. 3; quarry drilling. J. R. Thoenen and E. J. Lintner. U S Bur Mines Rep of Invest 3502: 1-19 '40; Excerpts. Concrete (mill sec) 48: 189+ Je '40; Rock Prod 43:24-5 Jl '40
Two blasts at Calaveras cement company. G. S. Wheaton. il Explosives Eng 18:308-11 O '40; Abstract. Concrete (mill sec) 48: 281-2 D '40

See also
Blasting
Mines and mineral resources
Rock products plants
Stone, Crushed
Stone cutting

Accidents
Analysis of cement and quarry accident experience. I. F. LeGore. Concrete (mill sec) 48:126-7 F '40
Analysis of cement and quarry industry's accident experience. I. F. LeGore. il Concrete (mill sec) 48:264-5, 283-5 N-D '40
Inland wins coveted safety trophy. il Safety Eng 79:30 My '40
Quarry accidents in the United States during the calendar year 1937. W. W. Adams and V. E. Wrenn. U S Bur Mines Bul 426:1-73 '40
Why quarry workers need first-aid training. L. M. Thompson. Concrete (mill sec) 48: 141-2 Mr '40

Electric equipment
Electric equipment plays big part in cement manufacture; quarry operations, rock haulage, crushing, handling and grinding. il Concrete (mill sec) 48:215 Ag '40
Granite quarrying; electrical methods at Penmaenmawr. il Elec R (Lond) 126:3-6 Ja 5 '40
Quarry regulations governing the use of electricity. C. H. Smith. Elec R (Lond) 125: 699-700 D 1 '39

Equipment
Dewey quarry's biggest blast. F. W. Roman. il diag Explosives Eng 17:354-5 D '39
Dry cleaning vs. washing; Granite rock co. R. E. Fowle. flow sheet il plan Rock Prod 43:33-5 Jl; 22-3 Ag '40
Keeping old quarry up-to-date. R. S. Torgerson. il Rock Prod 43:31-3 O '40
Köping ropeway. il Engineer 170:39-41 Jl 19 '40
Latest in quarrying. il Rock Prod 43:70-1 Ja '40
Mavor and Coulson gypsum-rock extracting transporter for Messrs Cafferata and company. il diags Engineering 148:517-20, 530, pl 19 N 10 '39
New flux stone plant makes 300 tons per hour. il Rock Prod 43:34-5 O '40
Quarry haulage problems; abstract. S. Tomkins. Rock Prod 43:50 F '40
Resize and wash rock; Granite rock co. R. E. Fowle. il diags Rock Prod 43:28-32 N '40
Speed up quarry haulage; improvements of Southwest stone co R. S. Torgerson. il Rock Prod 43:25-6+ Je '40
Transporter for separating gypsum. il Mech Handling 26:351-3 D '39

Safety devices and measures
Avoiding shock with electrically-operated quarry shovels. E. L. Nicolson. plan Concrete (mill sec) 48:232-3 S '40
Heavy industry's safety program. L. P. Warner, jr. il Nat Safety N 41:12-14 Ja '40; Abstract. Concrete (mill sec) 48:105 Ja '40
National safety competition of 1939; with list of awards, 1925-1939 and honorable mention, 1939. W. W. Adams. il map Explosives Eng 18:202-11 Jl '40
Quarries improving on prevention of accidents; list of safety awards, 1939. Concrete (mill sec) 48:210 Jl '40
Safety congress; Cement and quarry section; abstracts of papers. Rock Prod 43:42-3 N '40
Safety congress holds big gathering in Chicago; Cement and quarry section. Concrete (mill sec) 48:273 N '40
Safety loading and hauling in quarry works. J. de Péron. Can Min J 61:165-6 Mr '40
Some information on reduction of quarry accidents. F. E. Cash and F. H. Shuford. U S Bur Mines Information Circ 7114:1-19 '40

Canada
Quarries in Canada; directory. Can Eng R & B 78:80, 83 Je '40

QUARTERLY journal of studies on alcohol
Official organ for the Research council on problems of alcohol. Science 91:258 Mr 15 '40

QUARTZ
Concentration of feldspathic waste from a titanium mine near Roseland, Va. D. I. Smith, R. G. O'Meara and T. N. McVay. Am Cer Soc J 23:339-41 N '40
Manufacture of quartz crystal filters. G. K. Burns. il diags Bell System Tech J 19:516-32 O '40
Oscilloscope patterns of damped vibrations of quartz plates and *Q* measurements with damped-wave amplitudes; abstract. H. A. Brown. Inst Radio Eng Proc 28:245-6 My '40
Paragenesis in the Hollinger veins. M. R. Keys. il Econ Geol 35:611-28 Ag '40
Quartz crystals; their piezoelectric properties and use in control of high frequencies. C. F. Baldwin. Gen Elec R 43:188-94, 237-43 My-Je '40
Right- and left-handedness of quartz and its relation to elastic and other properties. K. S. Van Dyke. bibliog il diags Inst Radio Eng Proc 28:399-406; Discussion. 428-9 S '40
Tests for the validity of the X-ray crystal method for determining *N* and *e* with aluminum, silver and quartz. P. H. Miller, jr. and J. W. M. DuMond. bibliog Phys R 57:198-206 F 1 '40
Thin quartz crystals as used in the Cauchois focusing X-ray spectrograph. F. R. Hirsh, jr. il diags Phys R 58:78-81 Jl 1 '40
Transmission of neutrons of different energies through quartz crystals. M. D. Whitaker, W. C. Bright and E. J. Murphy. Phys R 57:551 Mr 15 '40
Use of an etched sphere of quartz in identifying the orientation of quartz plates; abstract. K. S. Van Dyke. Inst Radio Eng Proc 28:144 Mr '40
Wave propagation in shearing quartz oscillators of high frequency. E. W. Sanders. J Ap Phys 11:299-300 Ap '40

See also
Glass
Radio frequency—Crystal control
Silica

Analysis
Rapid determination of quartz in feldspar. G. H. McIntyre and M. Bozsin. bibliog il Ind & Eng Chem Anal ed 12:326-8 Je 15 '40

QUARTZ, Fused. See Silica, Fused

QUARTZITE
Fabric criteria for distinguishing pseudo ripple marks from ripple marks. E. Ingerson. bibliog diags Geol Soc Bul 51:557-69, pl 1-2 Ap '40

QUASI contracts
Cases on restitution; selected from decisions of English and American courts. E. S. Thurston, ed. 964p $6 West '40

QUEBEC (province)

See also
Gold mines and mining—Quebec

Bureau of mines
Laboratories. M. Archambault. il plan Can Chem & Process Ind 24:471-3+ S '40

QUEBRACHITOL
Isolation of cannabinol, cannabidiol and quebrachitol from red oil of Minnesota wild hemp. R. Adams, D. C. Pease and J. H. Clark. bibliog Am Chem Soc J 62:2194-6 Ag '40

QUEENSLAND university

Medical school
Medical school of the University of Queensland. Science 91:331 Ap 5 '40

QUENCHING
Cooling quenching oil; cooler made by Heenan and Froude. diags Engineer 170:80 Ag 2 '40
Cooling system for quenching oil. il diag Iron Age 145:31 My 30 '40
Hannifin centrifugal quenching machine. il diags Mach 47:159-60 O '40
Improved quench tank. W. A. Lillienberg. Metals & Alloys 12:227 Ag '40
One method for reducing oversize holes. J. E. Corrigan. diag Am Mach 84:216 Ap 3 '40
Production quenching. W. J. Conley. Metal Prog 38:421+ O '40
Properties of quenching oils. J. A. Jones and W. W. Stevenson. Oil & Gas J 39:163-4 My 16 '40
Use of the ring joint on oil and steam piping service; temperature and quench tests. F. R. Venton and A. W. Marburg. il diags Heating-Piping 12:489-92, 548-50 Ag-S '40
See also
Steel, Quenching of

QUERCETIN
Oak colors. A. E. Karr. Textile Col 61:838-41; 62:115-19, 132 bibliog(p 118-19, 132) D '39, F '40

QUESTIONNAIRES
Ask the employee; questionnaires on safety. T. O. Armstrong. il Nat Safety N 42:22-3, 64 N '40
Factors affecting the rate of return on mailed questionnaires. W. Mitchell, jr. Am Statis Assn J 34:683-92 D '39
Follow-up value; inquiry survey brings 37% response and shows that 13.7% of prospects become purchasers, Hartmann trunk company, Racine, Wis. P. H. Erbes, jr. il Ptr Ink 192:17-20 Jl 12 '40
In agency research, results may be better if these pet don'ts are heeded. D. E. Robinson. Ptr Ink 190:61+ Mr 15 '40

QUICKSAND
Shaft sinking in quicksand; safe procedure. E. S. Tillinghast. il Eng & Min J 141.37-9 My '40

QUILLAIC acid
Conversion of quillaic acid into a hydrocarbon. G. A. R. Kon and H. R. Soper. Chem Soc J p1335 S '40
Sapogenins; the structure of quillaic acid and its relation to echinocystic acid. D. F. Elliott, G. A. R. Kon and H. R. Soper. Chem Soc J p612-17 My '40

QUINALDONITRILE
Formation of Reissert's compounds in non-aqueous media. R. B. Woodward. Am Chem Soc J 62:1626-7 Je '40

QUINHYDRONE
Oxidation-reduction potentials measured with the dropping mercury electrode; polarographic study of quinhydrone in buffered and unbuffered solutions. O. H. Müller. Am Chem Soc J 62:2434-41 S '40

QUININE
Outlook in strategic chemicals. R. H. de Greeff. Chem Ind 47:31 Jl '40
Price rise reported probable. Oil Paint & Drug Rep 137:48 Je 17 '40
Quenching of fluorescence in solution. R. W. Stoughton and G. K. Rollefson. diag Am Chem Soc J 61:2634-8; 62:2264-8 O '39, S '40
Rates of the thermal reduction of dichromic acid by quinine, hydroquinine, and cinchonine in dilute sulfuric acid at 0 to 60°. L. J. Heidt. diags Am Chem Soc J 61:3455-8 D '39
U.S. quinine stocks adequate. Oil Paint & Drug Rep 138:3+ S 30 '40

QUINOL
Derivatives of 1 : 2 : 3 : 4-tetrahydroxybenzene; the oxidation of quinol with sodium chlorate. W. Baker and I. Munk. Chem Soc J p1092-3 Ag '40

QUINOLINE
Antiplasmodial action and chemical constitution; carbinolamines derived from naphthalene and quinoline. H. King and T. S. Work. Chem Soc J p1307-15 S '40
Coupling reactions of aminoquinolines with benzenediazonium chloride; a study of orientation in the quinoline ring. R. R. Renshaw, H. L. Friedman and F. J. Gajewski. bibliog Am Chem Soc J 61:3322-6 D '39
Nitrogen compounds in petroleum distillates; isolation, ozonization and synthesis of 2,4-dimethyl-8-*s*-butylquinoline. L. M. Schenck and J. R. Bailey. Am Chem Soc J 62:1967-9 Ag '40
Organolithium compounds of pyridine and quinoline. H. Gilman and S. M. Spatz. Am Chem Soc J 62:446 F '40
Selenium oxychloro compounds of pyridine, pyridinium chloride and related substances. J. Jackson and G. B. L. Smith. bibliog Am Chem Soc J 62:544-6 Mr '40
Studies in the composition of coal; extraction of coal with quinoline. R. Belcher and R. V. Wheeler. Chem Soc J p866-9 Jl '40
Sulfanilyl derivatives of pyridine and quinoline amines. R. Winterbottom. bibliog Am Chem Soc J 62:160-1 Ja '40
Sulfides and sulfones of pyridine and quinoline. A. R. Surrey and H. G. Lindwall. bibliog Am Chem Soc J 62:173-4 Ja '40

QUINONE
Hydrogenation of quinone with palladium and platinum catalysts. E. F. Rosenblatt. Am Chem Soc J 62:1092-4 My '40
Thermal polymerisation of styrene and its inhibition. S. G. Foord. diag Chem Soc J p48-56 Ja '40

QUINONES
Additional observations on the vitamin K activity of quinones. E. Fernholz, H. B. MacPhillamy and S. Ansbacher. Am Chem Soc J 62:1619-20 Je '40
Quinonyl derivatives of fatty acids. L. F. Fieser, M. D. Gates, jr. and G. W. Kilmer. bibliog Am Chem Soc J 62:2966-70 N '40
Reaction between quinones and metallic enolates; duroquinone and the enolates of cyanoacetic ester and of β-diketones. L. I. Smith and E. W. Kaiser. bibliog Am Chem Soc J 62:138-40 Ja '40
Reaction between quinones and metallic enolates; trimethylquinone and the enolates of β-diketones. L. I. Smith and E. W. Kaiser. Am Chem Soc J 62:133-8 Ja '40

QUINONIMINE
Action of nitrosylsulphuric acid on *m*-fluorophenol; a new red *o*-quinoneimine. H. H. Hodgson and D. E. Nicholson. Chem Soc J p205-7 F '40

QUINOVIC acid
Quinovic acid from zygophyllum coccineum, L. G. Soliman. Chem Soc J p1760-1 N '39

QUIZ programs. See Radio broadcasting—Quiz programs

R

RABBIT fever. See Tularemia

RABBITS
Rabbit products marketed. il Food Ind 12:66 Jl '40
Rabbits as source of food in Germany. Monthly Labor R 50:383-4 F '40

RABI, Isidor Isaac, 1898-
Association for the advancement of science prize award to Dr. I. I. Rabi. Science 91:104 F 2 '40

RABIES
Evaluation of a mouse test for the standardization of the immunizing power of antirabies vaccines. K. Habel. bibliog Pub Health Rep 55:1473-87 Ag 16 '40
Factors influencing the efficacy of phenolized rabies vaccines. K. Habel. bibliog Pub Health Rep 55:1619-31 S 6 '40
Incubation period of rabies in dogs. Pub Health Rep 55:1540-1 Ag 23 '40

RACE problems
Atlantic presents We Americans. 127p pa 25c Atlantic monthly co, Boston '39
Validity of race-restriction agreements; sale of real property to or its occupance by certain racial groups. N. C. Farr. J Land & Pub Util Econ 15:477-9 N '39

RACE tracks
See also
Running tracks

Accounting
Accounting control at a race track. L. R. Van Duyne. il N A C A Bul 21:801-32 Mr 1 '40

RACEMIC acid. See Tartaric acid

RACEMIZATION
Racemisation of carboxylic esters by sodium ethoxide and its bearing on Claisen's condensation. J. Kenyon and D. P. Young. Chem Soc J p216-18 F '40
Racemisation of optically active co-ordination compounds; application of the Arrhenius equation. E. Bushra and C. H. Johnson. diags Chem Soc J p1937-45 D '39
Stability toward racemization of optically active compounds, with especial reference to trivalent nitrogen compounds. J. F. Kincaid and F. C. Henriques, jr. bibliog Am Chem Soc J 62:1474-7 Je '40
See also
Optical rotation

RACES
See also
Airplane races
Automobile racing

RACES of man
See also
Ethnology

RACINE, Wisconsin
Racine finds peace; goodwill campaign unifying labor and management. Business Week p37 My 18 '40

RACK railroads
World's first cog-railway Diesel-electric locomotive; Manitou and Pike's Peak railway. Mach 46:149 Ja '40; il Mass Transportation 35:361 D '39

RACKETEERING
Coronet magazine exposes rackets in insurance. Nat Underw (Life ed) 44:9 Ag 16 '40
Rackets in insurance. F. W. Brock. Weekly Underw 143:879 O 12 '40
Rackets move in on the S.E.C. front; charlatans have defrauded business men by representing ability to get S.E.C. approval of finance plans. S. F. Porter. il Nation's Business 28:21-2+ Mr '40

RACKHAM, Horace H.
Horace H. Rackham educational memorial. Ind & Eng Chem News ed 17:784 D 20 '39

RACKS
Combination work bench and sheet rack. F. W. Klay. il diags Sheet Metal Worker 30: 22+ N '39
Handling built-to-order; R. G. Le Tourneau, W. J. Brooking. il Steel 107:48, 50+ Jl 15 '40
Rack for casing and pipe made from junk tubular material. H. F. Simons. il Oil & Gas J 39:50 S 12 '40
Racks help to place beams under low headroom. E. Sterrett. il Factory Management 98:94 Jl '40
Sewing machine parts; special trucks and moveable floor racks facilitate handling; White sewing machine co. il Steel 107:66, 68+ S 2 '40
Steel makes better transformer racks. C. C. Cornelius. il diags Elec W 114:273 Jl 27 '40
See also
Plating racks

RADIATION
Absorption law for total radiation measurements. W. P. Berggren. diag Phys R 57: 1183 Je 15 '40
Bremsstrahlung of RaE. E. Stahel and J. Guillissen. Phys R 57:341-2 F 15 '40
Carbon arc as a radiation standard. H. G. MacPherson. Opt Soc Am J 30:189-94 My '40
Converter for low frequency sinusoidal voltages and a source of sinusoidal radiation intensity. L. Harris and A. C. Scholp. diags R Sci Instr 11:23-5 Ja '40
Effect of hyperfine structure upon the magnetic rotation of the plane of maximum polarization of resonance radiation. B. J. Miller. Phys R 58:258-62 Ag 1 '40
Engineer discovers lightning radiation. W. E. Berkey. il Sci Am 162:223 Ap '40
Experiment on Wien's energy distribution law and optical pyrometry. D. C. Stockbarger. diag Opt Soc Am J 30:224-5 My '40
Interaction energies in radiation theory. H. Hurwitz, jr. Phys R 58:467-71 S 1 '40
Interpretation of resonances in nuclear reactions. G. Breit. bibliog diags Phys R 58: 506-37 S 15 '40
Interreflections. P. Moon. bibliog diags Opt Soc Am J 30:195-205 My '40
Is all energy corpuscular? H. P. Gillette. Roads & Sts 83:58-9 F '40
Lecture demonstration of resonance radiation of sodium. R. W. Wood. diag Phys R 56: 1172-3 D 1 '39
Secret of life; cosmic rays and radiations of living beings. G. Lakhovsky. 201p 10s 6d W. Heinemann, London '39
Spectral distribution of radiation from lamps of various types. B. T. Barnes, W. E. Forsythe and W. J. Karash. bibliog Gen Elec R 42:540-3 D '39
Spectrum chart; radio, sound, light, etc. Electronics 13:50-1 Ap '40
Tables of Planck's radiation and photon functions. A. N. Lowan and G. Blanch. bibliog Opt Soc Am J 30:70-81 F '40
Temperature radiation emissivities and emittances. A. G. Worthing. bibliog diags J Ap Phys 11:421-37 Je '40
Theoretical maxima and minima in the anomalous scattering of alpha-particles. P. Seligmann. bibliog Phys R 58:492-8 S 15 '40
Transformations of matter-radiation gas mixtures. R. M. Whitmer. Phys R 57:516-21 Mr 15 '40

See also
Absorption of rays
Alpha rays
Beta rays
Cosmic rays
Dispersion of rays
Gamma rays
Heat
Heat radiation
Heating—Tables, calculations, etc.
Light
Quantum theory
Radiators
Radioactivity
Radiography
Radium
Raman effect
Scherrer equation
Solar radiation
Sound
Spectrum
Stars—Radiation
Ultraviolet rays
X rays

RADIATION laboratory. See California university—Radiation laboratory

RADIATORS
Cast-iron boilers and radiators, 1936-1939. Survey of Cur Business 1940 Sup p131 [supplemented in monthly numbers]
Effect of room dimensions on the performance of direct radiators and convectors. A. P. Kratz and others. il diags plans Heating-Piping 12:439-46 Jl '40
Let's figure radiator heat. diags Dom Eng 156:52-3+ N '40
Wall heat loss back of radiators. E. C. Willey. diag Heat & Ven 37:32-3 N '40
See also
Hot water heating
Steam heating

RADIATORS—*Continued*

Enclosures

Adding to business with sheet metal specialties; lighting fixtures and radiator covers; Residential conditioners, inc. il Sheet Metal Worker 31:27-8 Ag '40

Manufacture

Dies for producing radiator inlet pipe with angular flange. H. R. Wentzell. diags Mach 46:119-20 F '40

RADIATORS, Automobile. See Automobile engines—Radiators

RADIATORS, Motor bus. See Motor bus engines—Radiators

RADICALS (chemistry)

Electron sharing ability of organic radicals; alpha-substituted tetrahydroquinolines. W. Oldham and I. B. Johns. bibliog Am Chem Soc J 61:3289-91 D '39

Electron sharing ability of organic radicals; *alpha*-thienyl- and *alpha*-mesitylpyrrolidines. J. G. Kirchner and I. B. Johns. bibliog Am Chem Soc J 62:2183-4 Ag '40

Free radicals and radical stability; fluorotriphenylmethyl and the reactivity of halogen substituents in free radicals. S. T. Bowden and T. F. Watkins. Chem Soc J p1249-57 S '40

Free radicals and radical stability; methyltriphenylmethyls. S. T. Bowden and T. L. Thomas. Chem Soc J p1242-9 S '40

Free radicals and radical stability; the influence of short-lived and long-lived radicals on the reactivity of alcohols. S. T. Bowden. Chem Soc J p880-2 Jl '40

Free radicals and radical stability; the influence of the methyl group on the stability of triphenylmethyl. S. T. Bowden and D. L. Clarke. diags Chem Soc J p883-7 Jl '40

Free radicals and radical stability; the influence of the phenoxyl group on the stability of ketylic derivatives; the preparation of carbon monoxide from carbonates. S. T. Bowden and T. John. Chem Soc J p213-16 F '40

Free radicals and radical stability; the stability of formates and the reduction of triarylcarbinols. S. T. Bowden, D. L. Clarke and W. E. Harris. diags Chem Soc J p874-80 Jl '40

Free radicals in the pyrolysis of acetaldehyde. M. Burton, J. E. Ricci and T. W. Davis. bibliog diag Am Chem Soc J 62:265-7 F '40

Relative reactivities of organometallic radicals; metal-metal interconversion of triphenyllead and of tetraphenyllead with *n*-butyllithium. H. Gilman and F. W. Moore. bibliog Am Chem Soc J 62:3206-8 N '40

Rôle of free radicals in the mechanisms of gaseous explosions. A. R. Ubbelohde. bibliog Chem & Ind 59:657-9 S 21 '40

See also

Substitution (chemistry)

RADIESTHESIA

Radiesthesia and electricity. N. Macbeth. diags Electrician 123:556+; 124:7+ D 29-Ja 5 '40

RADIO advertising

Age brackets of kid programs. W. A. Burke. il Adv & Sell 33:17-19, 42 Je '40

Business goes blue; NBC's networks. Sales Management 46:78 F 1 '40

Captain Midnight flight patrol radio serial enrolls 800,000 kids for Skelly oil co. A. E. Taylor. il Sales Management 46:50, 52 Mr 1 '40

Carolina marketer is his own radio entertainer. il Nat Pet N 32:34-6 Ja 10 '40

Consistent advertising theme builds 2,000 store outlets for one-price hats; wholesale broadcasting of Madison Square Garden fights; Adam hat stores. L. S. Goldberg. il Ptr Ink 190:11-13+ Mr 8 '40

Debate: will radio advertising be better off under the present ASCAP licensing system? E. C. Mills; N. Miller. Adv & Sell 32:24-5, 56 D '39; 40+ Ja '40

F.T.C. observes advertising for a year, and here is what it now thinks. Ptr Ink 192:53-4, 56-7 Jl 19 '40

Finds radio program a sales builder; Mansfield, Ohio, products plant. il Concrete 48: 18 O '40

Football broadcasts gain ground for Tide Water in off season. il Sales Management 47:37+ N 1 '40

Highbrow radio program does double job for California utility; Pacific gas & electric co. Sales Management 46:40+ Je 15 '40

Homemakers' quiz consolidates customer goodwill via radio; Michigan consolidated gas company. I. Hickey. il Am Gas Assn Mo 22:300 S '40

How Pot o' gold promotion puts Tums on nation's tongue; Lewis-Howe co. il Sales Management 47:16-18 Jl 15 '40

Mystery chef on air again in Philadelphia area. Gas Age 86:20+ Ag 15 '40

Oldest radio script; started in 1927 by Providence Institution for savings. Ptr Ink 193: 43 N 1 '40

Parlor games help Polly gas forge ahead in the race for sales; audience-participation radio program. J. Guedel. il Sales Management 46:56 Mr 15 '40

Quaker City bus co. radio advertising. B. Welbourne. il Bus Transportation 19:285-6 Je '40

Radio advertising. E. C. Carlson and others. il Ptg Art 68 no 4:E1-E18 '40

Radio and d.s.t.; broadcasters should not cater to daylight saving. W. E. Heuermann. Ptr Ink 193:30, 32-3 O 18 '40

Radio Early bird ugly duckling turns into a swan for CKLW. Sales Management 46:46-7 Ap 1 '40

Radio insurance critics sue Metropolitan life insurance company and Prudential insurance company. Ptr Ink 189:20 D 8 '39

Radio music argument; Mr Miller replies to P.I. letter of Mr Mills, of ASCAP. Ptr Ink 192:45-6+ Ag 30 '40

Radio quarrel with composers, now approaching climax, is acute advertising problem. E. Peterson. Ptr Ink 191:23-6, 30+ Je 28 '40

Radio sells ready mix; Andersen sand and gravel co. il Rock Prod 43:89, 91-2 Ag '40

Radio solidarity; music battle dominates broadcasters' convention. E. Peterson. Ptr Ink 192:19-21, 71-2 Ag 16 '40

Radio tells the story of the bath. il Dom Eng 155:36+ Je '40

Ringing the bell; broadcast advertising for increasing radio repair sales. S. C. Milbourne. Radio N 23:26-7+ Ja '40

Sales soar when RCA sponsors music program for night owls; Victor spikes an old superstition in the radio field which insists that nobody listens to midnight broadcasts. Sales Management 46:46 My 1 '40

Sectional advertiser stirs lively radio interest; Liberty mills sponsors South Texas high school band radio competition-festival. il Ptr Ink Mo 40:56 My '40

Selling clay products over the air helps dealers get business. Brick & Clay Rec 97: 41 Jl '40

Success in radio use can be so simple. C. W. Dreppert. Ptr Ink Mo 40:57-8 Je '40

Through the mike; Greyhound's new radio program. il Bus Transportation 19:113 Mr '40

Voice of Kansas; WIBW, Topeka. Sales Management 46:64 Je 1 '40

Awards

Medal award for excellence of commercial announcements to Young & Rubicam, inc. with special reference to Jell-O. il Adv & Sell 33:70 F 15 '40

Medal award for outstanding skill in program production to J. M. Mathes, inc. with special reference to Information please. il Adv & Sell 33:68-9 F 15 '40

Medal award to David Paul Smelser for contemporary service to radio advertising. Adv & Sell 33:40 F 15 '40

WSAI wins Canada Dry promotion award. il Sales Management 46:41 My 1 '40

RADIO advertising—*Continued*

Contracts

WOR wins radio contract suit. Ptr Ink 191: 83 My 3 '40

Cost

Night shows. C. L. Menser. Ptg Art 68 no 4:E13 '40

What quiz shows can teach sponsors. M. L. Anglin. il Adv & Sell 33:22-4 Jl '40

Coverage

Measuring the listening habits of the audience; Audimeter and the Nielsen radio index. H. L. Rusch. il Ptg Art 68 no 4:E5-E6, E8 '40

Pros and cons of mechanical radio recorders. A. M. Crossley. il Adv & Sell 33:24-6, 46 O '40

Radio keyed to advertisers' distribution. H. Shively. Ptg Art 68 no 4:E2, E4 '40

Roster, coincidental, unaided recall; how they compare in counting listeners. H. S. Hettinger; R. N. King; P. F. Peter. il Adv & Sell 33:20-1+ Ag '40

Strange doings in radio after dark; influence of sky waves, sunset line; how advertiser can determine: Where are my nighttime listeners? J. M. Greene. diags Ptr Ink 191:19-23 My 3 '40

What is the turnover of radio audiences? F. Stanton. Adv & Sell 33:27-9+ My '40

What's the best way to count listeners? C. E. Hooper. Adv & Sell 33:58+ O '40

Where radio programs get largest audiences during the daytime; technical side of program transmission; three fundamentals that determine actual extent of station coverage. J. M. Greene. Ptr Ink 191:11-14, 107-9 Ap 26 '40

See also
Radio listeners

Ethics

Radio code in effect; commercial section. Ptr Ink 193:32 O 4 '40

Length of program

Is the hour program on the way out? A. W. Lehman. il Adv & Sell 33:17-19, 62+ F '40

Premium offers

Premiums on the air. E. P. H. James. il Ptr Ink Mo 40:16-17+ F '40

Program advertising

Radio's place in the advertising picture. E. C. Carlson. Ptg Art 68 no 4:E1-E2 '40

Spot radio is tonic for paint dealers with spring fever; W. P. Fuller & co. merchandises program to trade. Sales Management 47:64-5 Ag 1 '40

Rates

Should the government control radio profits? rate regulation. R. E. Stromberg. Pub Util 25:278-83 F 29 '40

Repetition

After hours. T. H. Thompson. Ptr Ink 189:6 D 22 '39

Research

Measuring the listening habits of the audience; Audimeter and the Nielsen radio index. H. L. Rusch. il Ptg Art 68 no 4:E5-E6, E8 '40

Radio trends. Ptr Ink 192:37, 40 S 13 '40

Sponsor identification

Does the dealer know you advertise? independent grocers in metropolitan New York city area tested as to their knowledge of current magazine, newspaper and radio advertising. il Sales Management 45:18-20, 56 D 15 '39

Spot radio

Spot radio is tonic for paint dealers with spring fever; W. P. Fuller & co. merchandises program to trade. Sales Management 47:64-5 Ag 1 '40

Statistics

Advertising stages a comeback; national advertising media, 1939. Business Week p38-40 Ja 20 '40

CBS and NBC 1939 billings. Ptr Ink 190:32-3 Ja 19 '40

FCC reports 1939 radio sales. Ptr Ink 192: 83 Ag 2 '40

Monthly digest of network advertising; January through May, 1940; tabulation by industry and names of advertisers. N. C. Rorabaugh. Ptr Ink Mo 41:43-4, 46-9 Jl '40 [cont monthly]

Mutual 1939 billings. Ptr Ink 190:16 Ja 12 '40

Networks' record. Sales Management 46:60-1 Ja 15 '40

1939 advertisers; 342 each invest more than $100,000 in three media; 41 more than a million; five-year analysis of magazine, radio and farm paper advertising. Ptr Ink 190:49-111 Ja 26 '40

Radio booms, summer or not. Business Week p32, 41 S 14 '40

Radio broadcasting, cost of facilities, 1936-1939. Survey of Cur Business 1940 Sup p24 [supplemented in monthly numbers]

Testing

Radio's system of checking buying habits may suggest idea to other media. C. E. Hooper. Ptr Ink 190:11-14+ Mr 22 '40

RADIO advertising, Foreign

Reaching via ether for Latin trade; short-wave advertising. Business Week p46-7 Ja 13 '40

Sharing Latin radio; U.S. firms use of local broadcasting chains in South America. Business Week p64-5 O 19 '40

RADIO aids to aviation

Aero radio digest. Published in monthly numbers of Aero digest

Airline navigation was different in Europe. L. M. Gravis. il Aviation 39:40-1+ N '40

Airplane radio frequency check stations; directory and rates. Radio N 24:17+ Jl '40

Aviation altitude via micro-waves. H. W. Roberts. il Radio N 23:12-14+ F '40

Aviation radio. C. J. Schauers. il Radio N 24:15+ N; 26 D '40

Blind landing; International telephone development company system installed at six airports. A. Klemin. il diags Sci Am 163: 260-1 N '40

Civil Aeronautics Authority instrument landing system installed at Indianapolis. H. I. Metz. il diags J Aeronautical Sci 7:383-7 Jl '40

CAA radio developments for 1940. H. W. Roberts. il Aero Digest 35:40-1+ D '39

Civil aeronautics board radio program for 1941. H. W. Roberts. il Aero Digest 37:71-2+ O '40

Civil air transport communication. A. D. Hodgson. diags plans maps Inst E E J 87: 317-43, pl 1-2 S '40; Abstract. Elec R (Lond) 126:502 My 3 '40; Discussion. Inst E E J 87:344-50 S '40

Electrons dance the rhumba; klystron, generator of powerful ultra high-frequency radio waves; useful in blind landing system for planes. A. R. Boone. il Sci Am 162:20-1 Ja '40

Export markets and aircraft radio. H. W. Roberts. il Aero Digest 37:40-1+ Ag '40

Finch facsimile demonstrated. D. Fink. il Aviation 39:48, 132 N '40

FM; what it is and what it may mean in aviation radio. D. Fink. il Aviation 39:46-7+ Je; 48-9+ Jl '40

Impetus which aviation has given to the application of ultra-high frequencies. W. E. Jackson. il map Inst Radio Eng Proc 28: 49-51 F '40

Instrument landing problems in 1940. H. W. Roberts. il diag chart Aero Digest 36:80, 83 My '40

Learadio, its factory and facilities. W. P. Lear. il Aero Digest 36:81, 96 Je '40

Needed reforms in FCC radio procedures. H. W. Roberts. il Aero Digest 37:79-80, 83 S '40

RADIO aids to aviation—*Continued*
New radio procedures for transatlantic air traffic. H. W. Roberts. il map Aero Digest 36:69-70 Ap '40
New trends in airline radio. H. W. Roberts. il Aero Digest 37:50, 53+ N '40
1940 airway construction program completed. Civil Aero J 1:397-8 Ag 15 '40
Plans cleared for ten landing beams. Civil Aero J 1:37-8+ F 1 '40
Radio direction-finding on wavelengths between 2 and 3 metres (100 to 150 Mc./s.). R. L. Smith-Rose and H. G. Hopkins. Inst E E J 87:154-8; Discussion. 159-62 Ag '40
Radio for solo instruction; Hobley-Maynard air service. il Aviation 38:74 D '39
Radio frequencies and their allocation. Civil Aero J 1:80+ Mr 15 '40
Radio in the European war. H. W. Roberts. il Aero Digest 36:51-2 Je '40
Recent progress in aeronautics. W. P. Hilliard. Mech Eng 62:114-15 F '40
Simplified approach to frequency modulation. H. W. Roberts. bibliog il diags Aero Digest 36:106, 109 F; 52, 54 Mr '40
Spartan's radio school. M. W. Balfour. il Aviation 39:64+ Je '40
Tests of FM for aircraft communication. I. R. Weir. Electronics 13:34-5+ N '40
Toward safer flight; Civil aeronautics authority's technical development program. diags Air Commerce Bul 11:155-7 D '39
UHF airport control. il Aero Digest 37:183 Jl '40
Ultra-high frequencies and their application to aeronautics. W. E. Jackson. J Aeronautical Sci 7:28-9 N '39
UHF; present and future of short-wave communication and navigation. W. E. Jackson. il diags Aviation 39:42-3, 94+ Ja; 44-5+ Ap; 63 Je '40
Utility radio developments; police, marine and aviation radio. il Radio N 24:18+ Ag '40

See also
Air lines—Radio communication
Airports—Traffic control
Direction finding apparatus
Radio apparatus on aircraft
Radio beacons
Radio compass
Radio meteorographs

RADIO aids to navigation
Radio protection for Great Lakes; abstract. T. H. Brown. Marine Eng 45:82 Ja '40

See also
Direction finding apparatus
Radio apparatus on ships

RADIO antennas
A R.R.L. antenna book. G. Grammer and E. Goodman. 139p pa 50c American radio relay league, W. Hartford, Conn. '39
Cheap at half the price! vertical antenna. H. E. Eddy. il diags Radio N 23:26+ Je '40
Current distribution and radiation properties of a shunt-excited antenna. P. Baudoux. diag Inst Radio Eng Proc 28:271-5 Je '40
Double-fed antenna in police service. J. Beall. il diag Electronics 13:46 Jl '40
Duplex operation on a single aerial; abstract. G. Builder. diag Electronics 13:61-2 F '40
Easy antenna control; quick-acting changeover relay. C. H. Malhori. il diags Radio N 24:34+ Jl '40
Electric and magnetic fields of a linear radiator carrying a progressive wave. F. M. Colebrook. bibliog diags Inst E E J 86:169-78 F '40; Discussion. 86:484 My '40
Free space propagation measurements at 75 megacycles. G. L. Haller. il diags Franklin Inst J 229:165-80 F '40
How about that antenna? E. J. Vogt. il diags Radio N 23:38-40+ Je '40
Increasing loop sensitivity; can be used as direction finder. C. Thoman. diags Radio N 23:37+ Je '40
Increasing radiator at low frequencies. M. G. Morgan. il diags Electronics 13:33-4+ Jl '40
Lear antenna reel. D. Fink. il Aviation 39:63 Jl '40
Lear Avia automatic antenna reel. il Aero Digest 37:180 Jl '40
Modernizing old receivers. C. R. Leutz. il diags Radio N 23:19-21+ Mr '40
Multifrequency tuned antenna system. H. K. Morgan. il diags Electronics 13:42+ Ag '40
Multi-wire dipole antennas. J. D. Kraus. diags Electronics 13:26-7 Ja '40
Performance and limitations of the compensated loop direction-finder. R. H. Barfield. diags Inst E E J 86:396-8 Ap '40
Radio direction-finding on wavelengths between 2 and 3 metres (100 to 150 Mc./s.). R. L. Smith-Rose and H. G. Hopkins. Inst E E J 87:154-8; Discussion. 159-62 Ag '40
Radio progress during 1939; antennas. bibliog Inst Radio Eng Proc 28:114-15 Mr '40
Universal antenna coupler. J. W. Moran. il diags Radio N 24:9+ Jl '40
Vertical vs horizontal polarization. G. H. Brown. diags Electronics 13:20-3 O '40
Wavelength of oscillations along transmission lines and antennas. E. M. Siegel. Texas U, Engineering Research Ser no32:1-50 '40

Directional antennas
Antenna arrays with closely spaced elements. J. D. Kraus. bibliog diags Inst Radio Eng Proc 28:76-84 F '40
Biconical electromagnetic horns. W. L. Barrow, L. J. Chu and J. J. Jansen. il diags Inst Radio Eng Proc 27:769-79 D '39
Calculation of the radiation properties of hollow pipes and horns. L. J. Chu. bibliog J Ap Phys 11:603-10 S '40
Dipoles and reflectors. S. Goldman. diags Electronics 13:20-2 My '40
Directional antenna chart; reference sheet. W. S. Duttera. Electronics 13:33 F '40
Multiunit electromagnetic horns. W. L. Barrow and C. Shulman. il diags Inst Radio Eng Proc 28:130-6 Mr '40
Simple beam antenna; use of bamboo. N. S. Lefors. il diag Radio N 24:27+ N '40
Simplifying adjustments of antenna arrays; abstract. J. F. Morrison. diag Electronics 13:70-1 Ja '40
Single sideband musa receiving system for commercial operation on transatlantic radio telephone circuits. F. A. Polkinghorn. il diags Bell System Tech J 19:306-35 Ap '40; Same. Inst Radio Eng Proc 28:157-70 Ap '40
Transmission of radio waves; reception of downcoming waves. diags Electrician 124:110 F 9 '40

Testing
Testing the shunt-fed antenna. diag Electronics 12:42+ D '39

RADIO apparatus
Amateur radio, a beginner's guide. J. D. Fortune. 155p 75c Thordarson electric mfg. co, 500 W. Huron st, Chicago '40
Automatic weather station. H. Diamond and W. S. Hinman, jr. bibliog diags 8 pls J Research Nat Bur Stand 25:133-48 Ag '40
Electrical developments of 1939. G. Bartlett. il Gen Elec R 43:42-4 Ja '40
Electrical stability of tubular inductance coils with deposited conductors. H. A. Thomas. Inst E E J 86:471-2 My '40
Home remote controller. W. E. Barbour, jr. il diags Radio N 23:18+ Ap '40
Institute of radio engineers and Radio manufacturers association, fall meeting, Rochester; abstracts of papers. Electronics 12:20-5 D '39
Les nouveautés dans la construction radioélectrique en France. M. Adam. diags Génie Civil 116:216-18 Mr 30 '40
Radio progress during 1939. bibliog Inst Radio Eng Proc 28:99-125 Mr '40
Theory and design of valve oscillators for radio and other frequencies. H. A. Thomas. 270p bibliog(p261-5) 18s Chapman & Hall, London '39
What's new in radio. Published in monthly numbers of Radio news

See also
Amplifiers, Vacuum tube
Direction finding apparatus
Inductance coils
Oscillators
Radio antennas
Radio apparatus industry
Radio beacons
Radio circuits
Radio communication

RADIO apparatus—See also—*Continued*
Radio compass
Radio condensers
Radio generators
Radio instruments
Radio loud speakers
Radio receiving apparatus
Radio rectifiers
Radio transmitters
Vacuum tubes

Bibliography

Abstracts and references. Published in monthly numbers of Wireless engineer
Index to abstracts and references, 1939. Wireless Eng 16:sup5-50 D '39

See also
Radio communication—Bibliography

Manufacture

Electrical supply equipment at a wireless works. il Engineer 169:482 My 24 '40
Learadio, its factory and facilities. W. P. Lear. il Aero Digest 36:81, 96 Je '40
Quartz, from raw stock to finished crystal; laboratory of the General electric company; illustrations. Electronics 13:26-7 N '40

Patents

Wireless patents; a summary of recently accepted specifications. Published in monthly numbers of Wireless engineer

Repair

Service apparatus for aircraft radio. H. W. Roberts. il Aero Digest 36:42, 45 Ja '40

See also
Radio receiving apparatus—Repair
Radio service shops

Safety devices

Safety rules for radio installations; comprising part 5 of the fifth edition National electrical safety code. U S Nat Bur Stand Handbook H35:1-25 '39
See also Radio transmitters—Safety devices and measures

Testing

Capacity tester. R. K. Wheeler. il diags Radio N 24:20-2+ O '40
How and why of the oscilloscope. E. Lovick, jr. diags Radio N 23:29-30+ Ja '40

RADIO apparatus industry

Beaver hats of tomorrow; radio and television. W. MacDonald. Ptr Ink 191:65 Je 7 '40
Decade of Electronics. Electronics 13:18-24 Ap '40
Export markets and aircraft radio. H. W. Roberts. il Aero Digest 37:40-1+ Ag '40
How Zenith handles the salesman who is a slave to habit. il Sales Management 46:58-60 F 1 '40
New radios tune into big year. Business Week p36-7 Jl 13 '40
News by commodities. Published in Foreign commerce weekly
Radio in 1939 has had its greatest year. D. Sarnoff. Comm & Fin Chr 150:528 Ja 27 '40
Tube situation and what it means to the serviceman. S. C. Milbourne. il diags Radio N 24:36-7+ Jl '40

See also
Radio corporation of America

Advertising

Ringing the bell; broadcast advertising for increasing radio repair sales. S. C. Milbourne. Radio N 23:26-7+ Ja '40

Finance

Financial reports, Crosley corporation and Zenith radio corporation. Annalist 55:629 My 2 '40
Radio set manufacturing gains; financial statistics of leading companies. L. Applegate. Annalist 55:619-20 My 2 '40

Statistics

Radio's biggest year; 1939 sales of receiving sets. il Business Week p30 Ja 27 '40

Great Britain

British radio exports. Electrician 123:488 D 1 '39
War comes to the British radio servicemen. E. J. G. Lewis. il diags Radio N 23:6-8+ My '40

RADIO apparatus on aircraft

Aircraft radio and electrical equipment. H. K. Morgan. 374p bibliog(p869) $4.50 Pitman '39
Aircraft radio equipment approved for scheduled air-carrier use; tabulation. Civil Aero J 1:41-3, 234-5 F 1, Je 1 '40
Airguide system. il Aero Digest 36:146 Je '40
Aviation radio apparatus. il Radio N 24:18+ O '40
Bendix automatic radio direction finder. il Aero Digest 37:175 S '40
Bendix communications unit. il Aero Digest 37:89 N '40
Bonding and shielding of aircraft. N. J. Clark. il diags Aero Digest 36:42-3+ Ap '40
Cathode-ray tube used as aircraft instrument indicator; flight-ray indicator. il diag Electronics 13:36+ Mr '40
Communication and electronic maintenance. W. H. Bohlke. il diags Radio N 24:12-15+ N; 24-6+ D '40
Electro-sonic altimeter for aircraft. J. H. Jupe. Electronics 13:54 Ap '40
Entertainment in the sky; individual passenger radio receivers. A. J. McQueeny. il Nation's Business 28:111 Mr '40
Flightray, a multiple instrument indicator. P. R. Bassett and J. Lyman. il diags J Aeronautical Sci 7:199-204 Mr '40; Abstract. Aero Digest 36:254+ Mr '40
Free space propagation measurements at 75 megacycles. G. L. Haller. il diags Franklin Inst J 229:165-80 F '40
Installation and maintenance of aircraft radio equipment. C. J. Schauers. il diags Radio N 24:10-12+ S; 16-18+ O '40
Lear antenna reel. D. Fink. il Aviation 39:63 Jl '40
Lear Avia automatic antenna reel. il Aero Digest 37:180 Jl '40
Lear battery units. il Aviation 39:66 Mr '40
Lear direction finder, model ADF-8. il Aero Digest 36:149 Je '40
Lear direction finder, model ADF-7. il Aero Digest 36:144 F '40
Lear gyromatic navigator. il Aero Digest 37:153 Ag '40
Learadio system. il Aero Digest 37:90 N '40
Motorola aeronaut; two-way radio communication and direction finding system. il Aero Digest 36:171 My '40
New Taylor airphone. il Aviation 38:75 D '39
Panoramic reception; all stations on dial of receiver may be indicated simultaneously on cathode-ray oscilloscope; suited to radio navigation. il Electronics 13:14-15+ Je '40
Planes radio photos; Finch facsimile equipment uses FM. il map Business Week p22+ O 12 '40
Private flying and aircraft radio. H. W. Roberts. il Aero Digest 37:80, 83+ Jl '40
Radio controls adopted by United airlines. D. Fink. il Aviation 39:63 Jl '40
Radio for private aircraft; communications, maintenance. H. T. Sagert. il Aero Digest 35:42-3 D '39
Radio for TWA passengers. il plan Aero Digest 36:147 F '40
Radio News private flyer's transmitter. K. A. Kopetzky and O. Read. il diag Radio N 23:6-9+ F '40
Service apparatus for aircraft radio. H. W. Roberts. il Aero Digest 36:42, 45 Ja '40
Two new Lear releases; automatic direction finder and accessory indicator combined with gyro compass. il Aviation 39:50 N '40
Waller Communicator aircraft transmitters. il Aero Digest 37:154 Ag '40

See also
Radio aids to aviation
Radio compass

RADIO apparatus on ships

Communication and electronic maintenance. W. H. Bohlke. il diags Radio N 24:14-15+ N; 24-6+ D '40

RADIO apparatus on ships—*Continued*
SS America radio installation. I. F. Byrnes. il RCA R 5:176-89 O '40
Trends in the application of electricity in British ships. G. O. Watson. Inst E E J 86:204-5 F '40; Same cond. Engineering 149: 289 Mr 15 '40
Western Electric new radio compass. il Marine Eng 45:65 F '40
See also
Direction finding apparatus

RADIO artists, American federation of. See American federation of radio artists

RADIO attenuators
Forty commonly used pads; table of values of elements of resistive attenuators for input and output impedances encountered in communications circuits. A. Shelton. Electronics 13:53 Ap '40

RADIO authorship. See Radio broadcasting—Program writing

RADIO beacons
Diffraction of radio ranges by hills. W. R. Haseltine. Phys R 57:717-21 Ap 15 '40
N-A-D-U radio range. F. Pope. Aero Digest 36:92+ My '40
Panoramic reception; all stations on dial of receiver may be indicated simultaneously on cathode-ray oscilloscope; suited to radio navigation. il Electronics 13:14-15+ Je '40
RCA omnidirectional beacon. il Aero Digest 37:89-90 N '40
Radio range beacon. Science 92:sup7 Jl 12 '40
See also
Direction finding apparatus

RADIO broadcasting
Compression with feedback. H. H. Stewart and H. S. Pollock. diag Electronics 13:19-21 F '40
Diary of a radio continuity acceptance editor. Ptr Ink Mo 40:9 Ja '40
Frequency modulation, a revolution in broadcasting? Electronics 13:10-14 Ja '40
FM broadcasting starts. Ptr Ink 192:61 Ag 9 '40
Long distance broadcasting. N. Ashbridge. Engineer 169:415-16, 444 My 3-10 '40
NBC frequency-modulation field test. R. F. Guy and R. M. Morris. il diags map RCA R 5:190-225 O '40
National policy for radio broadcasting; report of a committee of the National economic and social planning association. C. B. Rose, jr. 289p $3 Harper '40
Projects for radio speech; a manual for the student. H. L. Ewbank and S. P. Lawton. 158p bibliog(p156-8) pa $1.50 Harper '40
Radio and the printed page; an introduction to the study of radio and its role in the communication of ideas. P. F. Lazarsfeld. 354p $4 Duell, Sloan and Pearce, 270 Madison av, New York '40
Radio operators' manual. 4th ed 194p bibliog p52-3) $1 General electric co, Radio dept, Schenectady, N.Y. '39
Strange doings in radio after dark; influence of sky waves, sunset line; how advertiser can determine: Where are my nighttime listeners? J. M. Greene. diags Ptr Ink 191:19-23 My 3 '40
Where radio programs get largest audiences during the daytime; technical side of program transmission; three fundamentals that determine actual extent of station coverage. J. M. Greene. Ptr Ink 191:11-14, 107-9 Ap 26 '40
See also
Radio advertising
Radio broadcasting stations
Radio communication—Interference
Radio frequency modulation
Radio loud speakers
Radio receiving apparatus
also Radio corporation of America

Censorship
See also
Radio laws and regulations

Children's programs
Age brackets of kid programs. W. A. Burke. il Adv & Sell 33:17-19, 42 Je '40
Children's radio programs. Ptr Ink 189:14 D 29 '39
What children have taught me. M. Claire. il Ptg Art 68 no 4:E18 '40

Directing
Radio directing. E. McGill. 370p $3.50 McGraw-Hill '40

Directories
Variety radio directory. 1939-1940. 1352p $5 Variety, inc, 154 W. 46th st, New York '39

Farm programs
Rural programs. D. E. Kelley. Ptg Art 68 no 4:E17 '40

Finance
Broadcasting and the public interest. J. M. Herring. Harvard Business R 18 no 3:344-56 [Ap] '40
FCC reports 1939 radio sales. Ptr Ink 192:33 Ag 2 '40

Frequency modulation system
See Radio frequency modulation

Interference
See Radio communication—Interference

International aspects
Aerial warfare; radio news and propaganda. Economist 139:75-6 Jl 20 '40

Midnight programs
See Radio broadcasting—Night programs

Morning programs
Radio Early bird ugly duckling turns into a swan for CKLW. Sales Management 46:46-7 Ap 1 '40

Music
ASCAP answers. Ptr Ink 192:59-61 Jl 19 '40
ASCAP defied; B.M.I. becomes largest of world's music publishers. Business Week p50-2 N 16 '40
ASCAP offers new rates. Ptr Ink 190:18 Mr 29 '40
ASCAP v. N.A.B.; last inning score. N. Miller; E. C. Mills. Adv & Sell 33:29+ N '40
Broadcasters solid against ASCAP. Business Week p30-1 Ag 17 '40
Debate: will radio advertising be better off under the present ASCAP licensing system? E. C. Mills; N. Miller. Adv & Sell 32:24-5, 56 D '39; 40+ Ja '40
Radio eyes double deadline; frequency modulation and the showdown with ASCAP. Business Week p24-6 Ag 3 '40
Radio music argument; Mr Miller replies to P.I. letter of Mr Mills, of ASCAP. Ptr Ink 192:45-6+ Ag 30 '40
Radio music battle near showdown; Broadcast music, inc. vs. Ascap. Business Week p45-6 Jl 6 '40
Radio out to bust music trust; organize Broadcast music, inc. to break A.S.C.A.P.'s monopoly. Business Week p30+ Mr 9 '40
Radio quarrel with composers, now approaching climax, is acute advertising problem. F. Peterson. Ptr Ink 191:23-6, 30+ Je 28 '40
Radio solidarity; music battle dominates broadcasters' convention. F. Peterson. Ptr Ink 192:19-21, 71-2 Ag 16 '40

News
Associated press loosens up on radio. Ptr Ink 191:26+ Ap 26 '40
Broadcasting your news. J. O. Weaver. Am Pet Inst Proc 20(AT):85-7 '39
Fortune survey; who is your favorite radio news commentator? Fortune 21:92 Ja '40
News broadcasts. J. Harrington. Ptg Art 68 no 4:E15 '40

Night programs
Radio shows for night owls. J. Thompson. il Adv & Sell 33:20-1+ S '40

RADIO broadcasting—Night programs—*Cont.*
Sales soar when RCA sponsors music program for night owls; Victor spikes an old superstition in the radio field which insists that nobody listens to midnight broadcasts. Sales Management 46:46 My 1 '40

Performers

Radio artist dispute settled. Ptr Ink 193:83 O 18 '40
Rights of performers in broadcasting, television and the mechanical reproduction of sounds. 128p Int. labor office '39
What quiz shows can teach sponsors. M. L. Anglin. il Adv & Sell 33:22-4 Jl '40

Phonograph programs

RCA loses phonograph case; copyright bans on broadcasting phonograph records lifted. Ptr Ink 192:111 Ag 2 '40

Political uses

Appraising the unseen vote; the radio campaign. F. H. McConnell. Barron's 20:5 Ag 12 '40
Radio politics curbed by Canadian broadcasting corp. Business Week p57 F 10 '40

Program rating

Radio trends. Ptr Ink 192:37, 40 S 13 '40

Program recording

Build your own recording studio. O. Read. il diags Radio N 24:19-21+ S; 11-14+ D '40
Photoelectric tape recording. il Electronics 13:16-18 My '40

Program writing

Script shows. F. Krum. Ptg Art 68 no 4:E11-E12 '40

Programs

Best broadcasts of 1938-39. M. Wylie, ed. 576p $3.50 McGraw-Hill '39
Medal award for outstanding skill in program production to J. M. Mathes, inc. with special reference to Information please. il Adv & Sell 33:68-9 F 15 '40
Monthly digest of network advertising; January through May, 1940; tabulation by industry and names of advertisers. N. C. Rorabaugh. Ptr Ink Mo 41:43-4, 46-9 Jl '40
Producing eight types of radio programs. W. Wright and others. il Ptg Art 68 no 4:E11-E18 '40
Voice of Kansas; WIBW, Topeka. Sales Management 46:64 Je 1 '40

See also
Radio advertising—
Length of program

Quiz programs

Homemakers' quiz consolidates customer goodwill via radio; Michigan consolidated gas company. I. Hickey. il Am Gas Assn Mo 22:300 S '40
Public service programs. J. C. Waller. Ptg Art 68 no 4:E12 '40
What quiz shows can teach sponsors. M. L. Anglin. il Adv & Sell 33:22-4 Jl '40

Repeat programs

How and why of repeat radio programs. S. Kaufman. il Ptr Ink Mo 40:14+ Ja '40

Schedules

Radio and d.s.t.; broadcasters should not cater to daylight saving. W. E. Heuermann. Ptr Ink 193:30, 32-3 O 18 '40
Radio editorial planning seen as means of overcoming summer slump. C. E. Hooper. Ptr Ink 191:15-16 Je 14 '40

Scientific programs

Unlimited horizons, a weekly broadcast; schedule of programs. Science 92:374 O 25 '40

Serials

Script shows. F. Krum. Ptg Art 68 no 4:E11-E12 '40

Social aspects

Broadcasting and the public interest. J. M. Herring. Harvard Business R 18 no 3:344-56 [Ap] '40
Invasion from Mars; a study in the psychology of panic, with the complete script of the famous Orson Welles broadcast. H. Cantril. 228p $2.50 Princeton univ. press '40

Songs

In defense of swing. W. W. King. Ptr Ink 189:65 N 24 '39

Sound effects

Synthetic reverberation; recording fugitive sound pattern of original program signal on rotating phosphor-coated disk by means of modulated light source and simple optical system. P. C. Goldmark and P. S. Hendricks. il diags Inst Radio Eng Proc 27:747-52 D '39

Sporting news

Football broadcasts gain ground for Tide Water in off season. il Sales Management 47:37+ N 1 '40
Football pickup and spotting equipment. K. H. Robinson. il Electronics 12:46 D '39
Sports broadcasts. B. Elson. il Ptg Art 68 no 4:E16 '40

Summer programs

Radio editorial planning seen as means of overcoming summer slump. C. E. Hooper. Ptr Ink 191:15-16 Je 14 '40

Telephone transmission

New standard volume indicator and reference level. H. A. Chinn, D. K. Gannett and R. M. Morris. il diags Inst Radio Eng Proc 28: 1-17 Ja '40; Same. Bell System Tech J 19: 94-137 Ja '40
La transmission téléphonique, à haute fréquence, des émissions radiodiffusées en Allemagne. diag Génie Civil 116:237 Ap 6 '40

Wired radio

Radio over the mains; abstracts. P. P. Eckersley. Electrician 124:95 F 2 '40; Elec R (Lond) 126:130 F 2 '40
Wire broadcasting investigations at audio and carrier frequencies. T. Walmsley. il diags plans Inst E E J 87:76-100 Jl '40; Excerpts. Electrician 124:184 Mr 8 '40; Abstract. Elec R (Lond) 126:275-6 Mr 8 '40; Discussion. Inst E E J 87:101-6 Jl '40

Women's programs

Home forum programs. E. Howe. Ptg Art 68 no 4:E14 '40

Germany

La transmission téléphonique, à haute fréquence, des émissions radiodiffusées en Allemagne. diag Génie Civil 116:237 Ap 6 '40

Great Britain

Progress in radio broadcasting in England. Electronics 13:102-5 Ap '40

See also
British broadcasting corporation

India

Atmospherics in radio broadcast reception at Calcutta. S. P. Chakravarti, P. B. Ghosh and H. Ghosh. map Inst Radio Eng Proc 27: 780-3 D '39

Mexico

Commercial and cultural broadcasting in Mexico. P. L. Barbour. map Ann Am Acad 208:94-102 Mr '40

United States

Chains get headache over FCC report attacking exclusive outlet contracts. Business Week p22+ Je 22 '40
F.C.C. committee recommends change in system under which major radio broadcasting companies obtain outlet stations. Pub Util 26:31-2 Jl 4 '40
F-M gets go sign; new allocations for frequency modulation radio and for television. Business Week p21-2 My 25 '40

RADIO broadcasting—United States—*Continued*
Frequency modulation gets its day in court; hearing before Federal communications commission. il Electronics 13:14-16+ Ap '40
Monopoly committee of FCC accuses radio networks of abuses in broadcasting. Ptr Ink 191:53+ Je 21 '40
National policy for radio broadcasting. C. B. Rose, jr. 289p bibliog(p279-83) $3 Harper '40
Now frequency modulation; radical radio development has its day in court, Federal communications commission holds hearings. E. Peterson. il Ptr Ink 190:9-12+ Mr 29 '40
Radio revolution awaits go sign; list of stations. Business Week p20+ Mr 30 '40
Son Elliott has radio world agog; formation of new network provides latest climax in much-publicized career. Business Week p30+ N 18 '39

See also
Columbia broadcasting system
Radio broadcasting stations—United States

RADIO broadcasting stations
Atomic energy starts new radio station; WBZ. il diags Power Pl Eng 44:103 O '40
Chains get headache over FCC report attacking exclusive outlet contracts. Business Week p22+ Je 22 '40
Monopoly committee of FCC accuses radio networks of abuses in broadcasting. Ptr Ink 191:53+ Je 21 '40
Radio station is opened at gas exhibit at World's fair. il Gas Age 85:11-12 Je 20 '40
Utilization of uranium energy to turn on the new 50,000-watt transmitter of radio station WBZ. diags Mech Eng 62:741-2 O '40
Westinghouse licenses renewed. Ptr Ink 192: 28 S 13 '40

See also
Columbia broadcasting system
Transcontinental broadcasting system

Coverage
Better coverage; amplitude modulation compared with frequency modulation. diags Gen Elec R 43:425 O '40

Directories
List of radio broadcast stations, alphabetically by call letters as of January 1, 1940. 100p; Supplement containing alterations and corrections. 5p Federal communications commission, Washington, D.C. '40
List of radio broadcast stations by state and city as of January 1, 1940. 100p Federal communications commission, Washington, D.C. '40
Short wave Asiatic log for the West coast. Radio N 23:64-5 Ja '40

Equipment
Compact telephone and volume indicator set. G. Chinski. il diag Electronics 13:46+ Ja '40
FM, 105 hours per week; W2XOR, the frequency-modulated outlet of WOR. il diag Electronics 13:17-19+ S '40
New standard volume indicator and reference level. H. A. Chinn, D. K. Gannett and R. M. Morris. il diags Inst Radio Eng Proc 28: 1-17 Ja '40; Same. Bell System Tech J 19: 94-137 Ja '40
South African broadcasting equipment. il Engineer 169:524 Je 7 '40
WEAF, Port Washington. il map diag Electronics 13:20-2 S '40

See also
Radio antennas
Radio transmitters

Insurance requirements
Radio station insurance; coverages. D. Porter. il Spectator (Property ed) 5:10-14+ N 16 '39

Location
WEAF, Port Washington. il map diag Electronics 13:20-2 S '40

Management
WABC's light. Sales Management 45:58 D 15 '39

Names
Radio station E-G-O; advertisers can't remember call letters. E. Peterson. Ptr Ink 190:25-6, 30 F 9 '40

Power
1,050-ft. joint telephone-power span serves radio station. E. R. Peterson. il Elec W 113: 1082 Ap 6 '40

France
Le nouveau poste national de la radiodiffusion française, à Allouis (Cher). M. Adam. il diags Génie Civil 115:349-53 N 11 '39

South Africa
South African broadcasting equipment. il Engineer 169:524 Je 7 '40

South America
Sharing Latin radio; U.S. firms use of local broadcasting chains in South America. Business Week p64-5 O 19 '40

United States
List of radio broadcast stations, alphabetically by call letters as of January 1, 1940. 100p; Supplement containing alterations and corrections. 5p Federal communications commission, Washington, D.C. '40
List of radio broadcast stations by state and city as of January 1, 1940. 100p Federal communications commission, Washington, D.C. '40
Mutual in five-year plan. Ptr Ink 190:22 Ja 5 '40
Radio changeover under Havana treaty. Business Week p26 S 28 '40
Transcontinental station list. Ptr Ink 189:44+ D 15 '39

RADIO broadcasting studios
Acoustics in studios. M. Rettinger. plans Inst Radio Eng Proc 28:296-9 Jl '40
CBS studio building, New York city; views, plans, construction outline. Arch Forum 73: 199-204 S '40
Design decade. il Arch Forum 73:312-13 O '40
Making walls sound-proof; radio and moving picture studios. M. Rettinger. diags Eng N 124:723-5 My 23 '40
New studios for C.B.S; controlled acoustics a feature. il plans Electronics 13:23-5 S '40

Air conditioning
Air conditioning machinery for display; National broadcasting company's Hollywood, Calif. studio. il Refrig Eng 39:367-8+ Je '40
Air conditioning speeds up electrical transcription; studios of the World broadcasting system. A. V. Osier. Refrig Eng 39:200 Mr '40
Air conditioning under glass; National broadcasting company's Hollywood studio. il Dom Eng 155:47-9+ My '40
Radio studio air conditioning plant approaches ultimate in sound control; NBC studio in Hollywood. C. Strock. il diags plans Heat & Ven 37:15-19 Ap '40
Unique system conditions Asheville radio and newspaper building. S. C. Minnich, jr. il diag Heat & Ven 37:19-22 My '40

RADIO cabinets
On the air. il Mod Plastics 18:31-7, 86, 88 S '40
Plastics competition; award to Kadette radio corp. il Mod Plastics 18:52, 92 O '40
Plastics competition; award to Philco radio & television corp. il Mod Plastics 18:51, 92 O '40
Save that old cabinet. C. D. Kiebach. il Radio N 23:27 Je '40
Small radios—today and tomorrow; are plastic radio cabinets on the way out? il Mod Plastics 17:28-31+ Mr '40

RADIO circuits
Amplifier characteristics at low frequencies, with particular reference to a new method of frequency compensation of single stages. G. W. Edwards and E. C. Cherry. bibliog diags Inst E E J 87:178-88 Ag '40

RADIO circuits—*Continued*

Application of feedback to wide-band output amplifiers. F. A. Everest and H. R. Johnston. diags Inst Radio Eng Proc 28:71-6 F '40

Auto-transformers in modulation circuits. T. A. Gross. diags Electronics 13:52+ N '40

Band-spreading; its effect on the tuning rate. F. H. Woodbridge. diag Wireless Eng 17: 394-7 S '40

Bridged-T and parallel-T null circuits for measurements at radio frequencies. W. N. Tuttle. bibliog diags Inst Radio Eng Proc 28:23-9 Ja '40

Bridged-T measurement of high resistances at radio frequencies. P. M. Honnell. il diags Inst Radio Eng Proc 28:88-90 F '40

Continuously variable oscillator for parallel line measurements at 100 to 1000 megacycles. R. King. il diag R Sci Instr 11: 270-1 Ag '40

Dielectric losses in radio circuits. A. G. Bogle. Wireless Eng 17:198-202 My '40

Distortion in compensated amplifiers. J. D. Trimmer and Y. J. Liu. diags Electronics 13:22-4+ Jl '40

Doubling in oscillators by using two tubes in parallel. H. W. Kline. il diag Radio N 23:31+ Je '40

Feedback. E. K. Sandeman. diags Wireless Eng 17:342-53 Ag '40

Forty commonly used pads; table of values of elements of resistive attenuators for input and output impedances encountered in communications circuits. A. Shelton. Electronics 13:53 Ap '40

Frequency modulator. C. F. Sheaffer. diags Inst Radio Eng Proc 28:66-7 F '40

Full wave rectifier analysis. C. M. Wallis. diags Electronics 13:19-22 Mr '40

Generalized coupling theorem for ultra-high-frequency circuits. R. King. Inst Radio Eng Proc 28:84-7 F '40

Natural oscillations of electrical cavity resonators. W. L. Barrow and W. W. Mieher. bibliog diags Inst Radio Eng Proc 28:184-91 Ap '40

Negative feedback applied to oscillators. S. Sabaroff. bibliog diags Electronics 13:32-3 My '40

Neutralising screened grid valves. V. O. Stokes. diags Wireless Eng 17:354-5 Ag '40

Noise suppression by means of amplitude limiters. M. Wald. diags Wireless Eng 17: 432-8 O '40

Non-linear circuits; graphical determination of performance. J. Frommer and A. Rédl. diags Wireless Eng 17:4-12 Ja '40

Phase convention of currents and voltages in valve circuits. diags Wireless Eng 17: 95-6 Mr '40

Phase inverter circuits. C. G. McProud and R. T. Wildermuth. diags Electronics 13:50+ O '40

Resistance networks; complete design tables. C. D. Colchester and M. W. Gough. bibliog diags Wireless Eng 17:206-15 My '40

Simple pulse generating circuits. S. P. Sashoff and W. K. Roberts. diags Electronics 13:40-1+ S '40

Single-valve time-base circuit, adaptable for saw-tooth or rectangular waveforms. B. C. Fleming-Williams. diags Wireless Eng 17: 161-3 Ap '40

Some notes on coupled circuits. W. R. Ferris. diags RCA R 5:226-31 O '40

Stability of regenerative circuits. R. S. Rivlin. diags Wireless Eng 17:298-302 Jl '40

Two-way radio-telephony; a new two-wire, four-wire control terminal. M. G. Marinesco. bibliog diags Wireless Eng 17:97-104 Mr '40

Useful network theorem. J. Millman. diags Inst Radio Eng Proc 28:413-17 S '40

Variable oscillator for ultra-high frequency measurements. R. King. diags R Sci Instr 10:325-31 N '39; Abstract. Electronics 12: 60-1 D '39

RADIO communication

Audels new radioman's guide; theory, construction and servicing, television. E. P. Anderson. 756p $4 T. Audel & co, New York '40

Civil air transport communication. A. D. Hodgson. diags plans maps Inst E E J 87: 317-43, pl 1-2; Discussion. 344-50 S '40

Fessenden; builder of tomorrows. H. M. Fessenden. 362p bibliog(p358-62) $3 Coward-McCann, New York '40

Getting acquainted with radio. A. Morgan. 286p $2.50 Appleton-Century '40

Presentation of the gold medal of the American institute of the city of New York to Frank Conrad. D. Sarnoff. Science 91:129-31 F 9 '40

Radio amateur's handbook; a complete and practical guide to radio construction and repair. A. F. Collins. 8th ed 341p bibliog(p279-81) $2 Crowell '40

Radio fundamentals. 253p $3 United States naval inst, Dept. of electrical engineering, Annapolis, Md. '40

Radio handbook. W. W. Smith and others, eds. 6th ed 640p $1.50; lib ed $3 Radio, Santa Barbara, Calif. '39

Radio operating; questions and answers. A. R. Nilson and J. L. Hornung. 7th ed 415p $2.50 McGraw-Hill '40

Radio's future brightens; commercial possibilities in new engineering developments. J. J. Hipple. il Mag of Wall St 66:218-21+ Je 1 '40

Understanding radio; a guide to practical operation and theory. H. M. Watson, H. E. Welch and G. S. Eby. 603p bibliog(p580-2) $2.80 McGraw-Hill '40

See also

Electric utilities—Radio communication
Medical service, Radio
Radio apparatus
Radio broadcasting
Radio engineering
Radio frequency
Radio reception
Radio stations
Radio telegraph
Radio telephone
Radio transmission
Radio waves

Bibliography

Abstracts and references. Published in monthly numbers of Wireless engineer

Index to abstracts and references, 1939. Wireless Eng 16:sup5-50 D '39

Technical book and bulletin review. Published in monthly numbers of Radio news

Dictionaries

Dictionary of radio terms; concise definitions of commonly used words in radio, electronics and television. L. O. Gorder, ed. 1941 ed 35p pa 10c; gratis to libraries Allied radio corp, 833 W. Jackson blvd, Chicago '40

Directories

Variety radio directory, 1940-1941. E. A. Grunwald, ed. 1088p $5 Variety, 154 W. 46th st, New York '40

See also Radio broadcasting stations—Directories

Interference

Advances in carrier telegraph transmission. A. L. Matte. Bell System Tech J 19:181-90 Ap '40

Atmospherics in radio broadcast reception at Calcutta. S. P. Chakravarti, P. B. Ghosh and H. Ghosh. map Inst Radio Eng Proc 27: 780-3 D '39

Cosmic static. G. Reber. il Inst Radio Eng Proc 28:68-70 F '40

Experimental investigation of the characteristics of certain types of noise. K. G. Jansky. diags Inst Radio Eng Proc 27:763-8 D '39

Field strength of motorcar ignition between 40 and 450 megacycles. R. W. George. Inst Radio Eng Proc 28:409-12 S '40

Instruments and methods of measuring radio noise. C. V. Aggers, D. E. Foster and C. S. Young. diags Elec Eng 59:Trans 178-87; Discussion. Trans 187-92 Mr '40

Radio and sun-caused disturbances; abstract. H. T. Stetson. Science 91:sup11 Ap 26 '40

Transmission of radio waves; atmospherics. Electrician 124:125-6 F 16 '40

Transmission of radio waves; interference and fading. Electrician 123:539-40 D 22 '39

RADIO communication—*Continued*

Interference elimination

Artificial lightning used to test frequency modulation performance. il Electronics 13: 46+ My '40

Controlling radio interference. E. Van Atta. Elec West 84:139-42 Je '40

Cut loose from chaos; power line's effect on reception. W. E. Keever. il diags Radio N 24:38+ Jl; 24-5+ Ag '40

External noise silencer. L. M. Dezettel. il diag Radio N 24:15+ D '40

Frequency bands for diathermy apparatus; abstract. E. K. Jett. Science 92:sup12 S 6 '40

Frequency modulation. W. L. Everitt. bibliog diags Elec Eng 59:Trans 613-25 N '40

Frequency modulation, a revolution in broadcasting? Electronics 13:10-14 Ja '40

FM; what it is and what it may mean in aviation radio. D. Fink. il Aviation 39:46-7+ Je; 48-9+ Jl '40

Low-impedance coils block interference. H. E. Overacker. il diag Elec W 113:1236+ Ap 20 '40

Methods of controlling radio interference. C. V. Aggers. il diags Elec Eng 59:Trans 198-9; Discussion. Trans 199-201 Ap '40

Modulation limits in F-M. L. J. Black and H. J. Scott. Electronics 13:30-1+ S '40

Prevention easier than cure of radio interference; construction rules in designing and erecting distribution lines. L. V. Blake. diags Elec W 114:851-3 S 21 '40

Radio interference; the effect of suppressors on engine performance. N. Hendry. il diags Automobile Eng 30:167-73 Je '40

Radio-proof 24-kv. urban line. R. D. Iden. il Elec W 114:1182 O 19 '40

Simplified approach to frequency modulation. H. W. Roberts. bibliog il diags Aero Digest 36:106, 109 F; 52, 54 Mr '40

Tests of FM for aircraft communication. I. R. Weir. Electronics 13:34-5+ N '40

What EEI is studying in apparatus and design. G. L. Lane. Elec West 84:49 My '40

See also
Radio frequency modulation

International aspects

Aeronautical and radio law; notes and papers. H. S. LeRoy. 141p pa $3 Howard S. LeRoy, 413 Colorado bldg, Washington, D.C. '39
See also Radio broadcasting—International aspects

Rates

Should the government control radio profits? rate regulation. R. E. Stromberg. Pub Util 25:278-83 F 29 '40

Sewerage department uses

Cincinnati boasts two radio equipped sewer service trucks. il Water Works & Sewerage 87:285 Je '40

Dallas now believed to have had earliest radio directed sewer service. il Water Works & Sewerage 87:298 Jl '40

Short wave

Biconical electromagnetic horns. W. L. Barrow, L. J. Chu and J. J. Jansen. il diags Inst Radio Eng Proc 27:769-79 D '39

Experimental investigation of the propagation of radiation having wavelengths of 2 and 3 metres. J. S. McPetrie and J. A. Saxton. Inst E E J 87:146-53 Ag '40; Abstract. Electronics 13:76-7 Mr '40; Discussion. Inst E E J 87:159-62 Ag '40

Field-strength survey, 52.75 megacycles from Empire State building. G. S. Wickizer. il maps Inst Radio Eng Proc 28:291-6 Jl '40

General reciprocity theorem for transmission lines at ultra-high frequencies. R. King. Inst Radio Eng Proc 28:223-5 My '40

High-frequency propagation characteristics. F. Hamburger, jr, C. V. Larrick and M. Jones. diags Inst Radio Eng Proc 28:175-9 Ap '40

Hyperfrequency waves and their practical use. L. Brillouin. il diags Franklin Inst J 229:709-36 Je '40

Impetus which aviation has given to the application of ultra-high frequencies. W. E. Jackson. il map Inst Radio Eng Proc 28: 49-51 F '40

Long distance broadcasting. N. Ashbridge. Engineer 169:415-16, 444 My 3-10 '40

Microwaves, present and future; abstract. W. L. Barrow. Electronics 13:18-19 Jl '40

Multiunit electromagnetic horns. W. L. Barrow and C. Shulman. il diags Inst Radio Eng Proc 28:130-6 Mr '40

Portland General electric company emergency trouble dispatching network. W. A. Leidigh, jr. il plan map Edison Elec Inst Bul 8:241-4 My '40

Radio-frequency high-voltage phenomena. A. Alford and S. Pickles. diags Elec Eng 59: Trans 129-36; Discussion. Trans 136-7 Mr '40

Short wave Asiatic log for the West coast. Radio N 23:64-5 Ja '40

Short-wave radio. J. H. Reyner. 2d ed 177p $2.75 Pitman '39

State-wide frequency-modulation police network; state police of Connecticut. D. E. Noble. il diags map Electronics 13:18-22 N; 28-31+ D '40

Story of short waves. F. Conrad. Science 91: 131-2 F 9 '40

Transmission of radio waves; the range of short waves. diags Electrician 124:43-4 Ja 19 '40

Transmission of radio waves; the skip distance. Electrician 124:77-8 Ja 26 '40

Ultra-high frequencies. diags Electrician 123: 425-6, 441-2, 470, 489-90 N 10-D 1 '39

Ultra-high frequencies and their application to aeronautics. W. E. Jackson. J Aeronautical Sci 7:28-9 N '39

UHF; present and future of short-wave communication and navigation. W. E. Jackson. il diags Aviation 39:42-3, 94+ Ja; 44-5+ Ap; 63 Je '40

Ultra-high-frequency propagation through woods and underbrush. B. Trevor. il RCA R 5:97-100 Jl '40

Ultra-short-wave transmission over a 39-mile optical path. C. R. Englund, A. B. Crawford and W. W. Mumford. map Inst Radio Eng Proc 28:360-9 Ag '40

See also
Radio frequency modulation
Radio receiving apparatus—Short wave
Radio transmitters—Short wave

Wire line connections

Radio extension links to the telephone system. R. A. Heising. bibliog il diags maps Bell System Tech J 19:611-46 O '40

Two-way radio-telephony; a new two-wire, four-wire control terminal. M. G. Marinesco. bibliog diags Wireless Eng 17:97-104, 164-5 Mr-Ap '40

Yearbooks

Variety radio directory, 1940-1941. E. A. Grunwald, ed. 1088p $5 Variety, 154 W. 46th st, New York '40

United States

Defense set-up for the communications industry. Electronics 13:16-17+ N '40

RADIO communication, Military

National defense net; amateur station linkage to be administered under the National youth administration. A. Toombs. il Radio N 24:9+ S '40

Radio in the European war. H. W. Roberts. il Aero Digest 36:51-2 Je '40

Radioman of the U.S.A.; Signal corps of the army offers opportunity to learn radio. C. E. Chapel. il Radio N 23:6-9+ Ja '40

RADIO communication, Military—*Continued*
Uncle Sam needs radiomen! code teaching procedure. United States army signal corps. C. E. Chapel. il Radio N 24:6-8+ S '40
U.S. army blitzkrieg radio; how Signal corps has furnished the finest in radio communications. A. Toombs. il Radio N 24:8-10+ O '40

RADIO compass
Bendix accessory compass drive. il Aviation 39:62 O '40
Radio compasses; Dearing invention. Science 92:sup8 Ag 2 '40
Western Electric new radio compass. il Marine Eng 45:65 F '40

See also
Direction finding apparatus

RADIO condensers
Capacitor discharge chart; reference sheet. L. Hanopol. diags Electronics 13:41-2 Je '40
Costly troubles due to impurities in distilled water ended by modern instrumentation; manufacture of electrolytic condensers. M. Kevelson. diag Instruments 13:14+ Ja '40
Dielectric losses in radio circuits. A. G. Bogle. Wireless Eng 17:198-202 My '40
Ganging superheterodyne receivers. M. Wald. diag Wireless Eng 17:105-9 Mr '40
Insulation resistance of fixed condensers. J. F. Rider. Radio N 23:10+ F '40
Radio-frequency high-voltage phenomena. A. Alford and S. Pickles. diags Elec Eng 59: Trans 132-5 Mr '40

Testing
Testing ceramic capacitors. E. T. Sherwood. il diag Electronics 13:26-9+ S '40
Variable air condensers; determination of their residual parameters. R. F. Proctor. diags Wireless Eng 17:257-62 Je '40

RADIO conductors
Biconical electromagnetic horns. W. L. Barrow, L. J. Chu and J. J. Jansen. il diags Inst Radio Eng Proc 27:769-79 D '39
Calculation of the radiation properties of hollow pipes and horns. L. J. Chu. bibliog J Ap Phys 11:603-10 S '40
Damped electromagnetic waves in hollow metal pipes. A. W. Melloh. bibliog diags Inst Radio Eng Proc 28:179-83 Ap '40
Hyperfrequency waves and their practical use. L. Brillouin. il diags Franklin Inst J 229:709-36 Je '40
Multiunit electromagnetic horns. W. L. Barrow and C. Shulman. il diags Inst Radio Eng Proc 28:130-6 Mr '40
Natural oscillations of electrical cavity resonators. W. L. Barrow and W. W. Mieher. bibliog diags Inst Radio Eng Proc 28:184-91 Ap '40
Ultra-high frequencies. diags Electrician 123: 489-90 D 1 '39

See also
Radio lines

RADIO control
Home remote controller. W. E. Barour, jr. il diags Radio N 23:18+ Ap '40
Radio-controlled seadrome lights. il Aero Digest 37:180+ Jl '40
Remote control of a model boat. W. P. West. il diags Electronics 13:19-21 Ag '40

See also
Carrier current control

RADIO corporation of America
Annual report. Comm & Fin Chr 150:1612-13 Mr 9 '40
Bank loans reduced; a decade of progress. D. Sarnoff. Comm & Fin Chr 150:3062 My 11 '40
Wins points in accounting suit by Rose Druckerman and 11 other stockholders. Comm & Fin Chr 151:2659 N 2 '40

RADIO detectors
Diode operating conditions. K. R. Sturley. diags Wireless Eng 17:19-20 Ja '40
Radio physics course. A. A. Ghirardi. Radio N 24:65 D '40
Transmission of radio waves; demodulation. diag Electrician 124:248 Mr 29 '40

RADIO directing. See Radio broadcasting—Directing

RADIO echoes
Analysis of the effect of scattering in radio transmission. T. L. Eckersley. bibliog diags Inst E E J 86:548-63, pl 1-4; Discussion. 563-7 Je '40
Analysis of the ionosphere. K. K. Darrow. il diags Bell System Tech J 19:455-88 Jl '40; Same abr. Elec Eng 59:272-83 Jl '40
Developments in meteorological sounding by radio waves. A. W. Friend. il J Aeronautical Sci 7:347-50; Discussion. 350-2 Je '40
Reception of radio echoes from distant ionospheric irregularities. J. A. Pierce and H. R. Mimno. il diag Phys R 57:95-105 Ja 15 '40
Scattering of radio waves in the lower and middle atmosphere. J. H. Piddington. bibliog il diag Inst Radio Eng Proc 27:753-7 D '39

RADIO engineering
Institute of radio engineers 15th annual meeting; program and summaries of papers. Inst Radio Eng Proc 28:239-53 My '40
Institute of radio engineers; 4th Pacific Coast convention; summaries of technical papers. Inst Radio Eng Proc 28:281-6 Je '40
Joint meeting of Institute of radio engineers and American section of International scientific radio union, April 26, Washington; summaries of papers. Inst Radio Eng Proc 28:141-5 Mr '40
Problems in radio engineering. E. T. A. Rapson. 4th ed 123p $1.40 Pitman '39
Progress in engineering knowledge during 1939. P. L. Alger. bibliog diag Gen Elec R 43:74-6 F '40
Radio progress during 1939. bibliog Inst Radio Eng Proc 28:99-125 Mr '40

See also
Electric engineering
Electronics
Radio broadcasting
Radio research
Radio telegraph
Radio telephone
Television

Dictionaries and encyclopedias
Drake's cyclopedia of radio and electronics; a practical reference book. H. P. Manly and L. O. Gorder. 9th ed 1059p $5 Drake '39

Study and teaching
New postgraduate course in industry in high-frequency engineering. A. R. Stevenson, jr. and S. Ramo. Elec Eng 59:Trans 374-8; Discussion. Trans 378-80 Jl '40

See also
Radio schools and training

Tables, calculations, etc.
Biconical electromagnetic horns. W. L. Barrow, L. J. Chu and J. J. Jansen. il diags Inst Radio Eng Proc 27:769-79 D '39
Determination of the axial potential distribution in axially symmetric electrostatic fields. S. Bertram. diags Inst Radio Eng Proc 28:418-20 S '40
Distortion in valves with resistive loads; graphical methods for its determination. A. Bloch. Wireless Eng 16:592-6 D '39
Effect of the quadrature component in single sideband transmission. H. Nyquist and K. W. Pfleger. il Bell System Tech J 19:63-73 Ja '40
Electro-acoustic reactions; with special reference to quartz crystal vibrators. A. T. Starr. diags Wireless Eng 17:247-56, 303-9 Je-Jl '40
Full wave rectifier analysis. C. M. Wallis. diags Electronics 13:19-22 Mr '40
General reciprocity theorem for transmission lines at ultra-high frequencies. R. King. Inst Radio Eng Proc 28:223-5 My '40
Note on modulation. J. G. Brainerd. Inst Radio Eng Proc 28:136-9 Mr '40
Radio frequency power amplifier chart. E. H. Schulz. Electronics 12:33-4 D '39
Reflection curves and propagation characteristics of radio waves along the earth's surface. J. S. McPetrie and A. C. Stickland. bibliog Inst E E J 87:135-45; Discussion. 160 Ag '40

RADIO engineering—Tables, calculations, etc.—*Continued*
Resistance networks; complete design tables. C. D. Colchester and M. W. Gough. bibliog diags Wireless Eng 17:206-15 My '40
Some notes on coupled circuits. W. R. Ferris. diags RCA R 5:226-31 O '40
Stability of regenerative circuits. R. S. Rivlin. diags Wireless Eng 17:298-302 Jl '40
Useful network theorem. J. Millman. diags Inst Radio Eng Proc 28:413-17 S '40

RADIO engineers
What is a radio engineer? A. F. Strong. il Radio N 23:16-17 Mr '40

RADIO facsimile
Demonstrating broadcast facsimile at the New York world's fair. A. J. Baracket. il RCA R 5:3-7 Jl '40
Facsimile transmission in the United States. G. Herrick. il diags Elec R (Lond) 126:67-8 Ja 19 '40
Finch facsimile demonstrated. D. Fink. il Aviation 39:48, 132 N '40
Finch radiofacsimile intended primarily for aeronautical service. il Aero Digest 36:163 Ja '40
Future of communications; television, radio facsimile and FM broadcasting will compete with established media. J. V. Sherman. il Barron's 20:20 Jl 22 '40
Planes radio photos; Finch facsimile equipment uses FM. il map Business Week p22+ O 12 '40
Radio-facsimile, the latest. Barron's 20:5 Ja 29 '40
Radio progress during 1939; facsimile. bibliog Inst Radio Eng Proc 28:124-5 Mr '40
Radio's future brightens; commercial possibilities in new engineering developments. J. J. Hipple. il Mag of Wall St 66:220-1 Je 1 '40

RADIO fade-out. See Radio transmission—Fading

RADIO filters
Electrical wave filters employing crystals with normal and divided electrodes. W. P. Mason and R. A. Sykes. diags Bell System Tech J 19:221-48 Ap '40
Electro-acoustic reactions; with special reference to quartz crystal vibrators. A. T. Starr. diags Wireless Eng 17:247-56, 303-9 Je-Jl '40
Filter design charts. J. Borst. il diags Electronics 13:35-6 Ag; 39-40 O; 41-2 N '40
Low temperature coefficient quartz crystals. W. P. Mason. bibliog diags Bell System Tech J 19:74-93 Ja '40
Manufacture of quartz crystal filters. G. K. Burns. il diags Bell System Tech J 19: 516-32 O '40
Simple treatment of band-pass filters. J. Greig. diag Wireless Eng 17:110 Mr '40
Transversal filters. H. E. Kallmann. diags Inst Radio Eng Proc 28:302-10 Jl '40
Visual selectivity meter with a uniform decibel scale. K. R. Sturley and R. P. Shipway. il diags Inst E E J 87:189-94 Ag '40

See also
Electric filters
Radio communication—Interference elimination
Radio condensers

RADIO frequency
Generalized coupling theorem for ultra-high-frequency circuits. R. King. Inst Radio Eng Proc 28:84-7 F '40
Predictions of normal radio critical frequencies related to solar eclipses in 1940. N. Smith. bibliog J Research Nat Bur Stand 24:225-8 F '40
Radio-frequency high-voltage phenomena. A. Alford and S. Pickles. diags Elec Eng 59: Trans 120-36; Discussion. Trans 136-7 Mr '40
Radio-frequency power measurement; using a diode rectifier and a wattmeter. P. M. Honnell. il diags Electronics 13:21-4 Ja '40

See also
Radio filters
Radio modulation
Radio receiving apparatus—Tuning

Allocation
Fight for the ether; frequency modulation group wants to take one channel away from television interests. il Business Week p30+ Ja 27 '40
Frequency assignments in the radio spectrum for stations in the United States. Electronics 13:pt2 fold chart S '40
F-M gets go sign; new allocations for frequency modulation radio and for television. Business Week p21-2 My 25 '40
Radio changeover under Havana treaty. Business Week p26 S 28 '40
Radio frequencies and their allocation. Civil Aero J 1:80+ Mr 15 '40

Control
Frequency-modulation monitoring system. R. J. Pieracci. il diag Inst Radio Eng Proc 28: 374-8 Ag '40
Frequency modulator. C. F. Sheaffer. diags Inst Radio Eng Proc 28:66-7 F '40
Ham deviation meter. E. Lovick, jr. il diag Radio N 23:13+ Ap '40
Negative feedback applied to oscillators. S. Sabaroff. bibliog diags Electronics 13:32-3 My '40

Crystal control
Crystal shifter. P. V. Trice. il diags Radio N 24:15 O '40
Electro-acoustic reactions; with special reference to quartz crystal vibrators. A. T. Starr. diags Wireless Eng 17:247-56, 303-9 Je-Jl '40
Hallicrafters wide utility crystal frequency standard. diag Electronics 13:78 Mr '40
Low temperature coefficient quartz crystals. W. P. Mason. bibliog diags Bell System Tech J 19:74-93 Ja '40
New crystal unit for broadcast service, G30. il Gen Elec R 43:474 N '40
New quartz-crystal plate, designated the GT, which produces a very constant frequency over a wide temperature range. W. P. Mason. bibliog il Inst Radio Eng Proc 28:220-3 My '40
Quartz crystals; their piezoelectric properties and use in control of high frequencies. C. F. Baldwin. Gen Elec R 43:188-94, 237-43 My-Je '40

RADIO frequency modulation
Amplitude, frequency and phase-angle modulation. bibliog Wireless Eng 17:339-41 Ag '40
Artificial lightning used to test frequency modulation performance. il Electronics 13: 46+ My '40
Better coverage; amplitude modulation compared with frequency modulation. diags Gen Elec R 43:425 O '40
Boost for FM. Business Week p18 N 9 '40
Cathode-ray frequency modulation generator. R. E. Shelby. il diags Electronics 13:14-18 F '40
Design notes on a frequency modulation receptor. F. W. Walter. il diag Radio N 23: 10-12+ My '40
Fight for the ether; frequency modulation group wants to take one channel away from television interests. il Business Week p30+ Ja 27 '40
FCC amends FM rules. Ptr Ink 193:66 O 11 '40
Frequency modulation. R. E. Dynes. il diags Cornell Eng 5:10-16 Mr '40
Frequency modulation. W. L. Everitt. bibliog diags Elec Eng 59:Trans 613-25 N '40
Frequency modulation, a revolution in broadcasting? Electronics 13:10-14 Ja '40
F M; an introduction to frequency modulation. J. F. Rider. 136p bibliog(p135-6) $1 J. F. Rider, inc, 404 4th av, New York '40
FM and television. Ptr Ink 191:18 Ap 5 '40
FM broadcasting starts. Ptr Ink 192:61 Ag 9 '40
Frequency modulation communication for Indianapolis power & light company. il Elec W 114:403 Ag 10 '40
Frequency modulation for emergency communication. H. DuVal, jr. Electronics 13: 79-81 O '40

RADIO frequency modulation—*Continued*
F-M gets go sign; new allocations for frequency modulation radio and for television. Business Week p21-2 My 25 '40
Frequency modulation gets its day in court; hearing before Federal communications commission. il Electronics 13:14-16+ Ap '40
Frequency modulation in television. C. W. Carnahan; A. V. Loughren. diags Electronics 13:26-32 F '40
Frequency modulation; its production by phase shifting the side bands of an amplitude modulated wave. D. I. Lawson. Wireless Eng 17:388-93 S '40
Frequency-modulation monitoring system. R. J. Pieracci. il diag Inst Radio Eng Proc 28: 374-8 Ag '40
FM on commercial basis. Ptr Ink 191:68 My 24 '40
FM, 105 hours per week; W2XOR, the frequency-modulated outlet of WOR. il diag Electronics 13:17-19+ S '40
Frequency modulation radio. Science 91: sup8 Je 14 '40
FM; what it is and what it may mean in aviation radio. D. Fink. il Aviation 39:46-7+ Je; 48-9+ Jl '40
Frequency modulator. C. F. Sheaffer. diags Inst Radio Eng Proc 28:66-7 F '40
Future of communications; television, radio facsimile and FM broadcasting will compete with established media. J. V. Sherman. il Barron's 20:20 Jl 22 '40
Go ahead signal for FM. Ptr Ink 193:20 N 15 '40
Modulation limits in F-M. L. J. Black and H. J. Scott. Electronics 13:30-1+ S '40
Narrow-band carrier telephony. J. A. Csepely; with criticism by W. Horton. diags Electronics 13:14-17+ Mr '40
Narrow band vs wide band in F-M reception. M. L. Levy. diag Electronics 13:26-9+ Je '40
NBC frequency-modulation field test. R. F. Guy and R. M. Morris. il diags map RCA R 5:190-225 O '40
New type radio sets. R. D. Potter. Science 91:sup12 Mr 29 '40
Now frequency modulation: radical radio development has its day in court; Federal communications commission holds hearings. E. Peterson. il Ptr Ink 190:9-12+ Mr 29 '40
Planes radio photos; Finch facsimile equipment uses FM. il map Business Week p22+ O 12 '40
Radio eyes double deadline; frequency modulation and the showdown with ASCAP. Business Week p24-6 Ag 3 '40
Radio looks to new frontiers. F. X. Welch. il Nation's Business 28:25-7+ Jl '40
Radio revolution awaits go sign; list of stations. Business Week p20+ Mr 30 '40
Radio's future brightens; commercial possibilities in new engineering developments. J. J. Hipple. il Mag of Wall St 66:218-21+ Je 1 '40
Reactance-tube frequency modulators. M. G. Crosby. diags RCA R 5:89-96 Jl '40
Simplified approach to frequency modulation. H. W. Roberts. bibliog il diags Aero Digest 36:106, 109 F; 52, 54 Mr '40
State-wide frequency-modulation police network; state police of Connecticut. D. E. Noble. il diags map Electronics 13:18-22 N; 28-31+ D '40
Tests of FM for aircraft communication. I. R. Weir Electronics 13:34-5+ N '40
Transmission of radio waves; frequency modulation. Electrician 124:188-9, 209, 226-7 Mr 8-22 '40
Utility FM; Indianapolis power & light company. Gen Elec R 43:426 O '40
Visual alignment generator; frequency-modulated signal generator. H. F. Mayer. il diags Electronics 13:39-41 Ap '40
Visual selectivity meter with a uniform decibel scale. K. R. Sturley and R. P. Shipway. il diags Inst E E J 87:189-94 Ag '40

See also Radio receiving apparatus—Frequency modulation receivers

RADIO generators
Cathode-ray frequency modulation generator. R. E. Shelby. il diags Electronics 13:14-18 F '40
Electrons dance the rhumba; klystron, generator of powerful ultra high-frequency radio waves; useful in blind landing system for planes. A. R. Boone. il Sci Am 162:20-1 Ja '40
High-frequency generator calibration; to obtain the time axis of a high-voltage cathode-ray oscillograph. C. J. Tirk and P. H. McAuley. il diag Elec W 113:606 F 24 '40
Visual alignment generator; frequency-modulated signal generator. H. F. Mayer. il diags Electronics 13:39-41 Ap '40

See also
Oscillators
Vacuum tubes—Generating action

RADIO in education
Audio-visual aids to instruction. H. C. McKown and A. B. Roberts. 385p $3 McGraw-Hill '40
Broadcast receivers and phonographs for classroom use. 94p Committee on scientific aids to learning, 41 E. 42d st, New York '39
Education on the air; tenth yearbook of the Institute for education by radio. J. H. MacLatchy, ed. 436p $3 Ohio state univ, Columbus '39
Education on the air; eleventh yearbook of the Institute for education by radio. J. H. MacLatchy, ed. 367p Ohio state univ. Univ. press, Derby hall, Columbus '40
Implications of the radio in education; including a survey of the radio listening of approximately two thousand elementary school children in Michigan. 128p pa $1 Michigan education assn, Lansing '40

RADIO instruments
Balanced direct-current amplifier for alternating-current operation. R. Stair and I. F. Hand. diag R Sci Instr 11:257-9 Ag '40
Build your own signal chaser. A. B. Cooney. il diags Radio N 23:11-14 Mr '40
Capacity tester. R. K. Wheeler. il diags Radio N 24:20-2+ O '40
Channel checker to be used with oscilloscope. J. F. Gordon. il diag Radio N 24:23+ D '40
Chassis analyzer. R. J. Cartwright. il diags Radio N 23:25+ Ja '40
Differential modulation meter. V. V. Gunsolley. il diags Electronics 13:18-20 Ja '40
Direct-reading impedance bridge; abstract. L. Chrétien. diags Electronics 13:100-1 Ap '40
Full floating 1940 tube tester. R. K. Wheeler. il diags Radio N 23:14-17+ Ap '40
General hammeter; field strength meter; wave meter; phone signal monitor; neutralization aid; and over-modulation indicator. R. L. Miller. il diag Radio N 23:9 Ap '40
Ham deviation meter. E. Lovick, jr. il diag Radio N 23:13+ Ap '40
Make your own meter shunts. S. J. Varmecky. diags Radio N 23:11+ F '40
Portable tester. J. R. Blundin. il diag Radio N 24:28-9+ S '40
Serviceman's 1-tube signal tracer. C. R. Merchant. diag Radio N 23:9+ Je '40
Serviceman's tester. A. Carlin. il diags Radio N 23:38-9+ F '40
Servistat using number of different powered potentiometers and rheostats. R. P. Turner. il diags Radio N 24:35-7+ S '40
Simple audio oscillator. R. K. Wheeler. il diag Radio N 24:13+ S '40
Simple signal tracer. R. K. Wheeler. il diags Radio N 24:16-18+ Ag '40
Twin-T; new type of null instrument for measuring impedance at frequencies up to 30 megacycles. D. B. Sinclair. il diags Inst Radio Eng Proc 28:310-18 Jl '40

See also
Oscillators
Radio measurements
Radio meteorographs

Manufacture

Engineering administration in a small manufacturing company. C. T. Burke. Inst Radio Eng Proc 28:17-22 Ja '40

RADIO interference. See Radio communication—Interference

RADIO-KEITH-ORPHEUM corporation, Delaware
Listing of 6% preferred and common stock. Comm & Fin Chr 150:3214 My 18 '40

RADIO laws and regulations
Aeronautical and radio law; notes and papers. H. S. Leroy. 141p pa $3 Howard S. LeRoy, 413 Colorado bldg, Washington, D.C. '39
Broadcasting and the public interest. J. M. Herring. Harvard Business R 18 no 3:344-56 [Ap] '40
Communications if war comes; defense plans. H. Corey. Pub Util 26:323-30 S 12 '40
Foreign amateur radio communication banned by FCC. Comm & Fin Chr 150:3591 Je 8 '40
F-M rules issued. Ptr Ink 191:18 Je 28 '40
More freedom of the air. S. Sprague. 12p pa $1 New York univ. Law quarterly review, 100 Washington square E., New York '40
Needed reforms in FCC radio procedures. H. W. Roberts. il Aero Digest 37:79-80, 83 S '40
Should the government control radio profits? rate regulation. R. E. Stromberg. Pub Util 25:278-83 F 29 '40

See also
Federal communications commission
Radio frequency—Allocation

RADIO libraries and collections

See also
British broadcasting corporation—Libraries

RADIO lines
General reciprocity theorem for transmission lines at ultra-high frequencies. R. King. Inst Radio Eng Proc 28:223-5 My '40
Measuring characteristic impedance of twisted pairs. A. Alford. Electronics 13:48+ Ag '40
Natural oscillations of electrical cavity resonators. W. L. Barrow and W. W. Mieher. bibliog diags Inst Radio Eng Proc 28:184-91 Ap '40
Radio-frequency high-voltage phenomena. A. Alford and S. Pickles. diags Elec Eng 59: Trans 129-36; Discussion. Trans 136-7 Mr '40
Vacuum tube voltmeter for coaxial line measurements. G. L. Usselman. diags Electronics 13:32+ Jl '40

See also
Radio antennas
Radio conductors

RADIO listeners
Do they listen while they work? pictograph. Sales Management 47:40 S 15 '40
Measuring the listening habits of the audience; Audimeter and the Nielsen radio index. H. L. Rusch. il Ptg Art 68 no 4: E5-E6, E8 '40
Pros and cons of mechanical radio recorders. A. M. Crossley. il Adv & Sell 33:24-6, 46 O '40
Radio and the printed page; an introduction to the study of radio and its role in the communication of ideas. P. F. Lazarsfeld. 354p $4 Duell, Sloan and Pearce, 270 Madison av, New York '40
Radio listening habits, by income groups; pictograph. Sales Management 47:34 O 20 '40
Radio shows for night owls. J. Thompson. il Adv & Sell 33:20-1+ S '40
Radio social strata. Ptr Ink 190:23-4 Ja 19 '40
Roster, coincidental, unaided recall; how they compare in counting listeners. H. S. Hettinger; R. N. King; P. F. Peter. il Adv & Sell 33:20-1+ Ag '40
Social stratification of the radio audience; a study made for the Princeton radio research project. H. M. Beville, jr. 91p, 15p pa $1 Office of radio research, 15 Amsterdam av, New York '40
Telephones and listening habits; a study in statistical mis-application. S. E. Gill. Ptr Ink Mo 39:32 D '39
What is the turnover of radio audiences? F. Stanton. Adv & Sell 33:27-9+ My '40
What's the best way to count listeners? C. E. Hooper. Adv & Sell 33:58+ O '40

RADIO loud speakers
Acoustic line loudspeakers. W. D. Phelps. il diags Electronics 13:30-2 Mr '40
Coaxial loudspeaker. B. Olney. il Electronics 13:32-5+ Ap '40
Design of a loud-speaker. W. West and D. McMillan. diags Inst E E J 86:432-46 My '40; Abstract. Elec R (Lond) 125:761 D 15 '39; Discussion. Inst E E J 86:446-52 My '40
Radio physics course. A. A. Ghirardi. Radio N 23:60 Ap '40
Vented speaker enclosure. C. E. Hoekstra. diag Electronics 13:34+ Mr '40

See also
Loud speaking apparatus

Manufacture
Infra-red halves glue drying time; manufacture of radio loud speakers. il Elec W 113:1556 My 18 '40

Testing
Testing of loud speakers. R. Vermeulen. Electronics 13:70-1 Mr '40

RADIO manufacturers association
James S. Knowlson elected president; addresses directors. Comm & Fin Chr 150: 3909-10 Je 22 '40
Rochester fall meeting; abstracts of papers. Electronics 12:20-5 D '39

RADIO measurements
Apparatus for accurate measurements of audiofrequencies. R. B. Ewell, W. E. Roseveare and K. Schaaf. diags R Sci Instr 11: 39-40 Ja '40
Atmospherics in radio broadcast reception at Calcutta. S. P. Chakravarti, P. B. Ghosh and H. Ghosh. map Inst Radio Eng Proc 27: 780-3 D '39
Auroral occurrences and ionospheric disturbances from field-strength measurements, 1930-1940; abstract. H. T. Stetson. Inst Radio Eng Proc 28:141 Mr '40
Bridged-T and parallel-T null circuits for measurements at radio frequencies. W. N. Tuttle. bibliog diags Inst Radio Eng Proc 28:23-9 Ja '40
Bridged-T measurement of high resistances at radio frequencies. P. M. Honnell. il diags Inst Radio Eng Proc 28:88-90 F '40
Calibration circuit for audio oscillators. T. J. Rehfisch and H. T. Bissmire. diag Electronics 13:48+ Je '40
Continuously variable oscillator for parallel line measurements at 100 to 1000 megacycles. R. King. il diag R Sci Instr 11:270-1 Ag '40
Current distribution and radiation properties of a shunt-excited antenna. P. Baudoux. diag Inst Radio Eng Proc 28:271-5 Je '40
Damped electromagnetic waves in hollow metal pipes. A. W. Melloh. bibliog diags Inst Radio Eng Proc 28:179-83 Ap '40
Dielectric losses in radio circuits. A. G. Bogle. Wireless Eng 17:198-202 My '40
Field-strength measuring equipment at 500 megacycles. R. W. George. il diags RCA R 5:69-76 Jl '40
Field-strength survey, 52.75 megacycles from Empire State building. G. S. Wickizer. il maps Inst Radio Eng Proc 28:291-6 Jl '40
Fluctuations in space-charge-limited currents at moderately high frequencies. B. J. Thompson, D. O. North and W. A. Harris. diags RCA R 5:106-24, 244-60 Jl-O '40 (to be cont)
Free space propagation measurements at 75 megacycles. G. L. Haller. il diags Franklin Inst J 229:165-80 F '40
Generalized coupling theorem for ultra-high-frequency circuits. R. King. Inst Radio Eng Proc 28:84-7 F '40
High-frequency propagation characteristics. F. Hamburger, jr, C. V. Larrick and M. Jones. diags Inst Radio Eng Proc 28:175-9 Ap '40

RADIO measurements—*Continued*
Impedance of the magnetron in different regions of the frequency spectrum. A. F. Harvey. bibliog Inst E E J 86:297-306 Mr '40
Input conductance; measurement in high-slope high frequency amplifier valves. F. Preisach and I. Zakarias. diags Wireless Eng 17:147-57 Ap '40
Laboratory manual for radio measurements. J. B. Hershman. 2d ed 67p. pa $1.50; to libraries $1.10 J. B. Hershman, Valparaiso, Ind. '39
Measurement of incremental inductance. H. D. Short. diags Electronics 13:32+ Ja '40
Measurements of currents and voltages down to a wavelength of 20 centimeters. M. J. O. Strutt and K. S. Knol. bibliog il diags Inst Radio Eng Proc 27:783-9 D '39
Measuring characteristic impedance of twisted pairs. A. Alford. Electronics 13:48+ Ag '40
Narrow band vs wide band in F-M reception. M. L. Levy. diag Electronics 13:26-9+ Je '40
New standard volume indicator and reference level. H. A. Chinn, D. K. Gannett and R. M. Morris. il diags Inst Radio Eng Proc 28:1-17 Ja '40; Same. Bell System Tech J 19:94-137 Ja '40
Operation of electron tubes at high frequencies. H. Rothe. bibliog diag Inst Radio Eng Proc 28:325-31 Jl '40
Oscillographic method of measuring positive-grid characteristics. O. W. Livingston. diag Inst Radio Eng Proc 28:267-8 Je '40
Radio frequency amplifier for frequency monitor for North Carolina state highway patrol. C. M. Smith, jr. diag Electronics 12: 32 D '39
Radio frequency inductance measurements using beat frequency test equipment; abstract. H. R. Heese. diag Electronics 13:75 Ag '40
Radio-frequency power measurement; using a diode rectifier and a wattmeter. P. M. Honnell. il diags Electronics 13:21-4 Ja '40
Radio-frequency spark-over in air. P. A. Ekstrand. diags Inst Radio Eng Proc 28: 262-6 Je '40
Simple methods for checking radio frequency distortion or cross-modulation of pentode amplifier tubes. E. W. Herold. Electronics 13:82+ Ap '40
Testing ceramic capacitors. E. T. Sherwood. il diags Electronics 13:26-9+ S '40
Twin-T; new type of null instrument for measuring impedance at frequencies up to 30 megacycles. D. B. Sinclair. il diags Inst Radio Eng Proc 28:310-18 Jl '40
Ultra-high-frequency propagation through woods and underbrush. B. Trevor. il RCA R 5:97-100 Jl '40
Variable air condensers; determination of their residual parameters. R. F. Proctor. diags Wireless Eng 17:257-62 Je '40
Variable oscillator for ultra-high frequency measurements. R. King. diags R Sci Instr 10:325-31 N '39; Abstract. Electronics 12: 60-1 D '39
Vector-response indicator. B. D. Loughlin. il diags Elec Eng 59:Trans 355-7 Je '40
Visual selectivity meter with a uniform decibel scale. K. R. Sturley and R. P. Shipway. il diags Inst E E J 87:189-94 Ag '40

See also
Radio engineering—Tables, calculations, etc.
Radio frequency
Radio instruments
Voltmeters, Vacuum tube

RADIO medical service. See Medical service, Radio

RADIO meteorographs
Automatic weather station. H. Diamond and W. S. Hinman, jr. bibliog diags 8 pls J Research Nat Bur Stand 25:133-48 Ag '40
Improved radio sonde and its performance. H. Diamond and others. bibliog pls diags map J Research Nat Bur Stand 25:327-67 S '40
Improvement in radio-sounding balloons; a short cycle radiosonde. J. Piccard and H. Larsen. diags R Sci Instr 10:352-5 N '39
Improvements in radio sonde. Franklin Inst J 229:102-3 Ja '40
National physical laboratory; radio department; radio-sounding balloons. diags Engineering 148:644-5 D 8 '39
Robot weather observer developed by H. Diamond and W. S. Hinman, jr., of the National bureau of standards. Science 92:sup6 Jl 26 '40
Sensitive aneroid diaphragm capsule with no deflection above a selected pressure. W. G. Brombacher, V. H. Goerke and F. Cordero. pl diag J Research Nat Bur Stand 24:31-2 Ja '40
Upper-air weather soundings by radio. H. Diamond and others. il diag Elec Eng 59: Trans 321-8 Je '40

RADIO modulation
Amplitude, frequency and phase-angle modulation. bibliog Wireless Eng 17:339-41 Ag '40
Auto-transformers in modulation circuits. T. A. Gross. diags Electronics 13:52+ N '40
Cathode modulation; an economical and efficient system of modulation for radio-telephony. F. C. Jones. 86p pa $1 Pacific radio pub. co, 577 Monadnock bldg, San Francisco '39
Differential modulation meter. V. V. Gunsolley. il diags Electronics 13:18-20 Ja '40
Modulation circuit theory. D. L. Jaffe. Franklin Inst J 229:779-82 Je '40
Note on modulation. J. G. Brainerd. Inst Radio Eng Proc 28:136-9 Mr '40
Simple methods for checking radio frequency distortion or cross-modulation of pentode amplifier tubes. E. W. Herold. Electronics 13:82+ Ap '40
Transmission of radio waves; carrier modulation. Electrician 124:171-2 Mr 1 '40
Transmission of radio waves; linearity of modulation. diag Electrician 124:266-7 Ap 5 '40

See also
Radio frequency modulation

RADIO news. See Radio broadcasting—News

RADIO noise. See Radio communication—Interference; Radio receiving apparatus—Noise

RADIO operators
Navy wants 4,000 radio operators. A. Toombs. il Radio N 24:8-9+ N '40
Radio operators' license guide; containing over twelve hundred and fifty acceptable answers to the six element radio operators license examinations as embodied in the new Federal communications commission study guide. W. Miller. 155p pa $3 W. Miller, 200 Engineering bldg, Chicago '40
Uncle Sam needs radiomen! code teaching procedure, United States army signal corps. C. E. Chapel. il Radio N 24:6-8+ S '40

RADIO operators, Amateur
Foreign amateur radio communication banned by FCC. Comm & Fin Chr 150:3591 Je 8 '40
Radio amateur's license manual. 13th ed 29p pa 25c Am. radio relay league, 38 LaSalle road, West Hartford, Conn. '40
Third open American soaring contest; radio amateurs at glider meeting. K. A. Kopetzky. il diag Radio N 24:34-5+ N '40
Tribute to the radio amateur. G. W. Bailey. Gen Elec R 42:461 N '39

RADIO operators, Marine
Breaking the blockade; radio operator on board ship going through the submarine fields. J. Coldby. il Radio N 24:9+ D '40

RADIO patents. See Radio apparatus—Patents

RADIO plays
Fourteen radio plays. A. Oboler. 257p $2 Random house, New York '40
Radio workshop plays. J. M. Morris. 322p $2.25 Wilson, H.W. '40

RADIO receiving apparatus
Bass compensation by screen-grid injection. L. M. Barcus. il diag Electronics 13:44+ Je '40

RADIO receiving apparatus—*Continued*
Decade of Electronics. Electronics 13:18-24 Ap '40
Improved regenerative receiver. R. C. Bartel. il diags Radio N 24:27+ D '40
New receivers are showing many innovations. J. F. Rider. Radio N 24:8+ Jl '40
Panoramic reception; all stations on dial of receiver may be indicated simultaneously on cathode-ray oscilloscope; suited to radio navigation. il Electronics 13:14-15+ Je '40
Phase inverter circuits. C. G. McProud and R. T. Wildermuth. diags Electronics 13: 50+ O '40
Radio physics course (cont). A. A. Ghirardi. Radio N 23:52 Ja; 62 F; 60 Mr; 60 Ap '40
Radio progress during 1939; radio receivers. bibliog(55 titles) Inst Radio Eng Proc 28: 116-19 Mr '40
Single sideband musa receiving system for commercial operation on transatlantic radio telephone circuits. F. A. Polkinghorn. il diags Bell System Tech J 19:306-35 Ap '40; Same. Inst Radio Eng Proc 28:157-70 Ap '40
Volume expansion with a triode; 6K7 tube. C. G. McProud. diags Electronics 13:17-18 Ag '40

See also
Amplifiers, Vacuum tube
Direction finding apparatus
Radio apparatus industry
Radio cabinets
Radio loud speakers
Television receiving apparatus

Fidelity

Build yourself a true-fidelity receiver. J. H. Kleker. il diag Radio N 24:6-8 Ag '40
Poorman's high fidelity receiver. J. Fulleylove. il diag Radio N 24:25+ O '40
Radio News high-fidelity tuner. A. B. Cavendish. il diag Radio N 23:22-3+ F '40

Frequency modulation receivers

Design notes on a frequency modulation receptor. F. W. Walter. il diag Radio N 23: 10-12+ My '40
Frequency modulation. W. L. Everitt. diags Elec Eng 59:Trans 621-2 N '40
F-M receivers; design and performance. M. Hobbs. il diag Electronics 13:22-5 Ag '40
New type radio sets. R. D. Potter. Science 91:sup12 Mr 29 '40

Installation on automobiles

Automobile radio sets and installation. diag Radio N 23:44 Mr; 62-3 Ap '40
Experimental FM-AM mobile receiver. O. Read. il diag Radio N 24:20-1+ D '40
Ringing the bell; how to cash in on an additional source of income from an authorized A-R agency. S. C. Milbourne. il Radio N 24:23-4+ O '40

Installation on bicycles

Music while you cycle. H. G. Cisin. il diag Radio N 23:28-9+ Je '40

Installation on boats

Build your own marine receiver. R. P. Adams. il diag Radio N 23:6-7+ Je '40
Marine receiver; the loop, and how to improve it. R. P. Adams. il diags Radio N 24:36-7+ Ag '40

Manufacture

Modern radio plant practice; Stromberg-Carlson telephone manufacturing company. H. Chase. il plans Electronics 12:9-11 D '39

Noise

Experimental investigation of the characteristics of certain types of noise. K. G. Jansky. diags Inst Radio Eng Proc 27:763-8 D '39
External noise silencer. L. M. Dezettel. il diag Radio N 24:15+ D '40
Heater-cathode leakage as a source of hum. il Electronics 13:48-50 F '40
Instruments and methods of measuring radio noise. C. V. Aggers, D. E. Foster and C. S. Young. diags Elec Eng 59:Trans 178-87; Discussion. Trans 187-92 Mr '40
Noise suppression by means of amplitude limiters. M. Wald. diags Wireless Eng 17: 432-8 O '40
Radio noise reduction handbook. W. W. Smith and others, ed. 2d ed 44p 35c Radio, ltd, 1300 Kenwood rd, Santa Barbara, Calif. '40

Power supply

Analyzing power supply. J. W. Hoskins. il diags Radio N 22:33+ D '39
Cut loose from chaos; power line's effect on reception. W. E. Keever. il diags Radio N 24:38+ Jl; 24-5+ Ag '40
Improved 32v. farm power supply. A. L. Campbell. il diags Radio N 24:14-15+ Jl '40

Rating

Change in maximum ratings of receiver tubes. Electronics 12:48+ D '39

Reconstruction

Modernizing old receivers. C. R. Leutz. il diags Radio N 23:19-21+ Mr; 26-9+ Ap; 20-3+ My; 10-13+ Je '40

Repair

Ringing the bell; how much should you charge to repair a receiver? S. C. Milbourne. il Radio N 24:21-3+ Ag '40
Serviceman's case histories (cont). A. A. Ghirardi. Radio N 23:28-9+ Ja; 40-1 F; 38-40 Mr; 34+ Ap; 39+ My; 36 Je; 24;40 Jl; 40+ Ag; 42 S; 44 O; 46 N; 45 D '40 (to be cont)
Serviceman's money page; how to make temporary repairs. C. R. Leutz. diags Radio N 24:39+ Ag '40
Servicing by signal tracing. J. F. Rider. 360p $2 John Francis Rider, 404 4th av, New York '39
Signal tracing vs. catch-as-catch-can. J. F. Rider; Bradley. il Radio N 23:16-19+ Ja '40; Discussion. 23:22+ Mr '40

See also
Radio service shops

Selectivity

Visual selectivity meter with a uniform decibel scale. K. R. Sturley and R. P. Shipway. il diags Inst E E J 87:189-94 Ag '40

Short wave

Beer Mug and power transceiver; 112 mc. O. Read. il diags Radio N 24:16-18+ N '40
Beginner's complete station for $49.64. A. B. Cavendish. il diags Radio N 24:10-11 Ag '40
Beginner's receiver. R. D. Jones. il diag Radio N 23:41+ Mr '40
Experimental FM-AM mobile receiver. O. Read. il diag Radio N 24:20-1+ D '40
5m-10m converters. J. Mulligan. il diags Radio N 24:18-19 Jl '40
Improved tuned radio frequency receiver. P. Popenoe, jr. il diag Radio N 24:17+ S '40
Let's try 112 mc; transceiver. H. D. Millen. il diags Radio N 23:15+ Je '40
Mobile on 10; average car can house a low-powered transmitter and receiver. R. J. Hagerty. il diags Radio N 23:16-18+ Je '40
New 56 mc mobile rig. K. A. Kopetzky and O. Read. il diag Radio N 24:14-16+ S '40
Short wave inductance chart. F. C. Everett. Electronics 13:33 Mr '40
U-H-F oscillator frequency-stability considerations. S. W. Seeley and E. I. Anderson. diag RCA R 5:77-88 Jl '40
Ultra-high frequency superheterodyne receiver for direction finding. L. C. L. Yuan and C. E. Miller. il diags R Sci Instr 11:273-6 S '40

Statistics

Transportation and recreation expenditures of wage earners and clerical workers. Monthly Labor R 50:556-73 Mr '40

Superheterodyne

Broadcast superhet for the home builder. R. P. Adams. il diags Radio N 24:22-5+ Jl '40
Building a simple superhet. A. Hertzberg. il diag Radio N 24:31+ Ag '40

RADIO receiving apparatus—Superheterodyne —*Continued*
Design of an 8-tube superhet. R. E. Morrow. il diags Radio N 24:29-31+ O '40
Ganging superheterodyne receivers. M. Wald. diag Wireless Eng 17:105-9 Mr '40
Input capacitance of a triode oscillator. J. van Slooten. diags Wireless Eng 17:13-15 Ja '40
Ultra-high frequency superheterodyne receiver for direction finding. L. C. L. Yuan and C. E. Miller. il diags R Sci Instr 11:273-6 S '40; Abstract. Electronics 13:75 O '40

Superregenerative
Homebuilt 1-10 meter receiver. P. Popenoe, jr. il diag Radio N 23:25+ Je '40

Testing
British radio exports; receiver testing. il Electrician 123:488 D 1 '39
Build your own signal chaser. A. B. Cooney. il diags Radio N 23:11-14 Mr '40
Chassis analyzer. R. J. Cartwright. il diags Radio N 23:25+ Ja '40
Narrow band vs wide band in F-M reception. M. L. Levy. diag Electronics 13:26-9+ Je '40
Portable tester. J. R. Blundin. il diag Radio N 24:28-9+ S '40
Serviceman's 1-tube signal tracer. C. R. Merchant. diag Radio N 23:9+ Je '40
Serviceman's tester. A. Carlin. il diags Radio N 23:38-9+ F '40
Signal tracing. J. F. Rider. Radio N 24:19+ O '40
Simple signal tracer. R. K. Wheeler. il diags Radio N 24:16-18+ Ag '40
Visual alignment generator; frequency-modulated signal generator. H. F. Mayer. il diags Electronics 13:39-41 Ap '40

Tuning
Band-spreading; its effect on the tuning rate. F. H. Woodbridge. diag Wireless Eng 17: 394-7 S '40
Calibrated constant bandspread system. F. King. diag Electronics 13:32 Ja '40
Ganging superheterodyne receivers. M. Wald. diag Wireless Eng 17:105-9 Mr '40
Radio News high-fidelity tuner. A. B. Cavendish. il diag Radio N 23:22-3+ F '40

RADIO receiving apparatus, Portable
Build the camera radio. B. Bartlett. il diag Radio N 23:9+ My '40
Dialomatic revised. O. Read. il diags Radio N 24:10-11+ Jl '40
1940 completely QRR rig. O. Read. il diag Radio N 23:16-17+ My '40
Plastics competition; award to General electric co. il Mod Plastics 18:53, 92 O '40
Push midget radios. Business Week p49 S 28 '40
Small radios—today and tomorrow; are plastic radio cabinets on the way out? il Mod Plastics 17:28-31+ Mr '40
Vacation special. W. S. Hayes. il diag Radio N 24:15+ Ag '40

RADIO reception
Atmospherics in radio broadcast reception at Calcutta. S. P. Chakravarti, P. B. Ghosh and H. Ghosh. map Inst Radio Eng Proc 27: 780-8 D '39
Narrow band vs wide band in F-M reception. M. L. Levy. diag Electronics 13:26-9+ Je '40
Transmission of radio waves; defects in reception. Electrician 124:94-5 F 2 '40
See also
Radio antennas

Long distance
Long distance broadcasting. N. Ashbridge. Engineer 169:415-16, 444 My 3-10 '40

RADIO rectifiers
Full wave rectifier analysis. C. M. Wallis. diags Electronics 13:19-22 Mr '40
Non-linear circuits; graphical determination of performance. J. Frommer and A. Rédl. diags Wireless Eng 17:4-12 Ja '40
Radio-frequency power measurement; using a diode rectifier and a wattmeter. P. M. Honnell. il diags Electronics 13:21-4 Ja '40
Surface-controlled mercury-pool rectifier. T. M. Libby. il diags Inst Radio Eng Proc 28:52-9 F '40
See also
Radio condensers
Radio filters

RADIO research
Analysis of the effect of scattering in radio transmission. T. L. Eckersley. bibliog diags Inst E E J 86:548-63, pl 1-4 Je '40; Excerpt. Electrician 124:106 F 9 '40; Discussion. Inst E E J 86:563-7 Je '40
Cosmic static. G. Reber. il Inst Radio Eng Proc 28:68-70 F '40
Experimental investigation of the propagation of radiation having wavelengths of 2 and 3 metres. J. S. McPetrie and J. A. Saxton. Inst E E J 87:146-53 Ag '40; Abstract. Electronics 13:76-7 Mr '40; Discussion. Inst E E J 87:159-62 Ag '40
Hyperfrequency waves and their practical use. L. Brillouin. il diags Franklin Inst J 229:709-36 Je '40
Increasing radiator at low frequencies. M. G. Morgan. il diags Electronics 13:33-4+ Jl '40
National physical laboratory; radio department. diags Engineering 148:644-6 D 8 '39
Progress in engineering knowledge during 1939. P. L. Alger. bibliog diag Gen Elec R 43: 74-6 F '40
Radio progress during 1939; wave propagation. bibliog(96 titles) Inst Radio Eng Proc 28:108-12 Mr '40
Ultra-short-wave transmission over a 39-mile optical path. C. R. Englund, A. B. Crawford and W. W. Mumford. map Inst Radio Eng Proc 28:360-9 Ag '40

RADIO schools and training
Spartan's radio school. M. W. Balfour. il Aviation 39:64+ Je '40

RADIO service shops
As I see it! serviceman and his problems (cont). J. F. Rider. Radio N 23:10+ Ja; 10+ F; 10+ Mr; 8+ Ap; 24:8+ Jl; 9+ Ag; 18+ S; 19+ O; 11+ N; 10+ D '40
Communication and electronic maintenance. W. H. Bohlke. il diags Radio N 24:12-15+ N; 24-6+ D '40
Ringing the bell. S. C. Milbourne. il Radio N 23:26-7+ Ja; 32-3+ F; 30-1+ Mr; 24: 36-7+ Jl; 21-3+ Ag; 23-4+ O; 25-6+ N; 31-2+ D '40
Serviceman's money page. C. R. Leutz. diags Radio N 24:35+ Jl; 39+ Ag; 41+ S '40
Servicemen's legal advice. Radio N 24:25+ Jl; 23+ Ag; 26+ S; 24+ O; 24+ N; 30+ D '40

RADIO signals
Communication and electronic maintenance; discussion of signal sources. W. H. Bohlke. il diags map Radio N 24:24-6+ D '40
Developments in meteorological sounding by radio waves. A. W. Friend. il J Aeronautical Sci 7:347-50; Discussion. 350-2 Je '40
Radio improves aneroid efficiency; determining elevation of proposed pool levels along reservoir rims. E. A. Bailey. Eng N 124:719 My 23 '40
Transmit river stages with radio gages. A. S. Fry. il Elec W 114:1166-7+ O 19 '40
See also
Direction finding apparatus
Traffic signals, Radio

RADIO sonde. See Radio meteorographs

RADIO songs. See Radio broadcasting—Songs

RADIO standards
Hallicrafters wide utility crystal frequency standard. diag Electronics 13:78 Mr '40
New standard volume indicator and reference level. H. A. Chinn, D. K. Gannett and R. M. Morris. il diags Inst Radio Eng Proc 28:1-17 Ja '40; Same. Bell System Tech J 19:94-137 Ja '40

RADIO stations
Frequency assignments in the radio spectrum for stations in the United States. Electronics 13:pt2 fold chart S '40
See also
Radio broadcasting stations
Television stations

Emergency stations
Portland General electric company emergency trouble dispatching network. W. A. Leidigh, jr. il plan map Edison Elec Inst Bul 8:241-4 My '40
Short wave emergency stations are supplemented by employee amateur telegraph stations in New England power association system. W. J. Belleville and W. Phillips. Edison Elec Inst Bul 8:105-6 Mr '40
Station WALJ calling car 5921; radio station of Detroit's department of street railways. il Transit J 84:122-3 Ap '40
Use of radio in special emergencies. Edison Elec Inst Bul 8:83 F '40

RADIO stations, Amateur
Amateur radio; a beginners guide. J. D. Fortune. 155p 75c Thordarson electric mfg. co, 500 W. Huron st, Chicago '40
Beginner's complete station for $49.64. L. Le Kashman; A. B. Cavendish. il diags plan Radio N 24:6-7 Jl; 10-11 Ag '40
National defense net; amateur station linkage to be administered under the National youth administration. A. Toombs. il Radio N 24:9+ S '40
Short wave emergency stations are supplemented by employee amateur telegraph stations in New England power association system. W. J. Belleville and W. Phillips. Edison Elec Inst Bul 8:105-6 Mr '40

RADIO stations, Police
Radio frequency amplifier for frequency monitor for North Carolina state highway patrol. C. M. Smith, jr. diag Electronics 12: 32 D '39

RADIO stations, Portable
New 56 mc mobile rig. K. A. Kopetzky and O. Read. il diag Radio N 24:14-16+ S '40
1940 completely portable QRR rig. O. Read. il diag Radio N 23:14-17+ My '40

RADIO telegraph
FCC recommendation for merger of international telegraph service embracing cable and radio facilities. Pub Util 25:348-50 Mr 14 '40
International telegraph merger recommended by FCC; possibility of alien influence on carriers cited as factor for consolidation of American cable and radio facilities. Comm & Fin Chr 150:1361-2 Mr 2 '40
Telegraph, cable, and radiotelegraph carriers, 1936-1939. Survey of Cur Business 1940 Sup p87 [supplemented in monthly numbers]
Uncle Sam needs radiomen! code teaching procedure, United States army signal corps. C. E. Chapel. il Radio N 24:6-8+ S '40
See also
Amplifiers, Vacuum tube
Electric waves
Radio apparatus
Radio communication
Radio measurements
Radio transmitters
Vacuum tubes

RADIO telephone
Cathode modulation; F. C. Jones. 86p pa $1 Pacific radio pub. co, 577 Monadnock bldg, San Francisco '39
Magnetic storm of March 24, 1940; effects in the communication system. L. W. Germaine. map Edison Elec Inst Bul 8:367-8 Jl '40
Two-way radio-telephony; a new two-wire, four-wire control terminal. M. G. Marinesco. bibliog diags Wireless Eng 17:97-104, 164-5 Mr-Ap '40
See also
Amplifiers, Vacuum tube
Motor bus lines—Radio telephone
Radio apparatus
Radio broadcasting
Radio communication
Radio receiving apparatus
Radio stations
Street railroads—Radio telephone
Telephone, Carrier current
Vacuum tubes

Police uses
Frequency modulation for emergency communication. H. DuVal, jr. Electronics 13: 79-81 O '40
State-wide frequency-modulation police network; state police of Connecticut. D. E. Noble. il diags map Electronics 13;18-22 N; 28-31+ D '40
Utility radio developments; police, marine and aviation radio. il Radio N 24:18+ Ag '40

Transoceanic
Radio extension links to the telephone system. R. A. Heising. bibliog il diags maps Bell System Tech J 19:611-46 O '40
Single sideband musa receiving system for commercial operation on transatlantic radio telephone circuits. F. A. Polkinghorn. il diags Bell System Tech J 19:306-35 Ap '40; Same. Inst Radio Eng Proc 28:157-70 Ap '40

RADIO telephone on ships
Radio extension links to the telephone system. R. A. Heising. bibliog il diags maps Bell System Tech J 19:611-46 O '40

RADIO towers
Erecting steel towers. F. L. Spangler. il Steel 107:64-5 S 9 '40
Erection of a 220ft. wireless mast. il diags Engineer 169:532-3, 536 Je 14 '40
Ice age hits Alpine; illustrations showing ice deposits on tower of Major E. H. Armstrong's frequency modulation transmitter. Electronics 13:19 My '40

RADIO traffic signals. See Traffic signals, Radio

RADIO transformers
Auto-transformers in modulation circuits. T. A. Gross. diags Electronics 13:52+ N '40

RADIO transmission
Analysis of the effect of scattering in radio transmission. T. L. Eckersley. bibliog diags Inst E E J 86:548-63, pl 1-4 Je '40; Excerpt. Electrician 124:106 F 9 '40; Discussion. Inst E E J 86:563-7 Je '40
Analysis of the ionosphere. K. K. Darrow. il diags Bell System Tech J 19:455-88 Jl '40; Same abr. Elec Eng 59:272-83 Jl '40
Characteristics of the ionosphere at Washington, D.C. November, 1939, with predictions for February, 1940. T. R. Gilliland, S. S. Kirby and N. Smith. Inst Radio Eng Proc 28:40-1 Ja '40 [cont monthly]
Damped electromagnetic waves in hollow metal pipes. A. W. Melloh. bibliog diags Inst Radio Eng Proc 28:179-83 Ap '40
Free space propagation measurements at 75 megacycles. G. L. Haller. il diags Franklin Inst J 229:165-80 F '40
High-frequency propagation characteristics. F. Hamburger, jr, C. V. Larrick and M. Jones. diags Inst Radio Eng Proc 28:175-9 Ap '40
Ionosphere storms and radio transmission between North America and Europe. Franklin Inst J 230:395-6 S '40
Map showing ground conductivity in the United States. Ptr Ink 191:12 Ap 26 '40
Radio progress during 1939; wave propagation. bibliog(96 titles) Inst Radio Eng Proc 28:108-12 Mr '40
Reception of radio echoes from distant ionospheric irregularities. J. A. Pierce and H. R. Mimno. il diag Phys R 57:95-105 Ja 15 '40
Scattering of radio waves in the lower and middle atmosphere. J. H. Piddington. bibliog il diag Inst Radio Eng Proc 27:753-7 D '39
Strange doings in radio after dark; influence of sky waves, sunset line; how advertiser can determine: Where are my nighttime listeners? J. M. Greene. diags Ptr Ink 191: 19-23 My 3 '40
Transmission of radio waves. Electrician 123: 507-8, 523-4, 539-40, 557-8; 124:8-9, 24-5, 43-4, 77-8, 94-5, 110, 125-6, 171-2, 188-9, 209, 226-7, 248, 266-7 D 8 '39-F 16, Mr 1-Ap 5 '40

RADIO transmission—*Continued*
Troposphere and radio waves. R. C. Colwell. Inst Radio Eng Proc 28:299-302 Jl '40
Ultra-short-wave transmission over a 39-mile optical path. C. R. Englund, A. B. Crawford and W. W. Mumford. map Inst Radio Eng Proc 28:360-9 Ag '40
Where radio programs get largest audiences during the daytime; technical side of program transmission; three fundamentals that determine actual extent of station coverage. J. M. Greene. map Ptr Ink 191:11-14, 107-9 Ap 26 '40
Wireless waves at the earth's surface. Wireless Eng 17:385-7 S '40

See also
Radio antennas
Radio broadcasting
Radio communication—Interference
Radio lines
Radio modulation
Radio transmitters
Radio waves
Television transmitters

Fading

Origin of radio fade-outs and the absorption coefficient of gases for light of wave-length 1215.7A. W. M. Preston. bibliog Phys R 57:887-94 My 15 '40
Single sideband musa receiving system for commercial operation on transatlantic radio telephone circuits. F. A. Polkinghorn. il diags Bell System Tech J 19:306-35 Ap '40; Same. Inst Radio Eng Proc 28:157-70 Ap '40
Transmission of radio waves; defects in reception. Electrician 124:94-5 F 2 '40
Transmission of radio waves; interference and fading. Electrician 123:539-40 D 22 '39

Foliage effect

Ultra-high-frequency propagation through woods and underbrush. B. Trevor. il RCA R 5:97-100 Jl '40

RADIO transmitters
Air cooling applied to external-anode tubes. E. M. Ostlund. il diags Electronics 13:36-9 Je '40
Compression with feedback. H. H. Stewart and H. S. Pollock. diag Electronics 13:19-21 F '40
Demountable high-vacuum tubes. il Inst Radio Eng Proc 28:sup2+ Ap '40
Double-fed antenna in police service. J. Beall. il diag Electronics 13:46 Jl '40
Flexible beam power transmitter. E. F. Kiernan. il diags Electronics 13:40+ Ag '40
Oscillographic method of measuring positive-grid characteristics. O. W. Livingston. diag Inst Radio Eng Proc 28:267-8 Je '40
Radio progress during 1939; transmitters. bibliog Inst Radio Eng Proc 28:112-14 Mr '40
Resistance networks; complete design tables. C. D. Colchester and M. W. Gough. bibliog diags Wireless Eng 17:206-15 My '40

See also
Direction finding apparatus
Radio beacons
Television transmitters

Frequency modulation transmitters

Frequency modulation. W. L. Everitt. diags Elec Eng 59:Trans 621-4 N '40
FM, 105 hours per week; W2XOR, the frequency-modulated outlet of WOR. il diag Electronics 13:17-19+ S '40
State-wide frequency-modulation police network; state police of Connecticut. D. E. Noble. il diags Electronics 13:19-22 N '40

Power supply

Converting the All-Star jr. receiver to a 3-band exciter. P. V. Trice. il diags Radio N 24:27+ S '40
Electronic time-delay relay for applying plate voltage to rectifiers. L. Van Arsdale, jr. il diag Radio N 23:24 Mr '40
Improved 32v. farm power supply. A. L. Campbell. il diags Radio N 24:14-15+ Jl '40
Provides instant a.c. standby; system developed to serve studios at San Francisco fair. il diag Elec W 113:459-60 F 10 '40
Radio-frequency high-voltage phenomena. A. Alford and S. Pickles. diags Elec Eng 59: Trans 129-36; Discussion. Trans 136-7 Mr '40
Radio-frequency power measurement; using a diode rectifier and a wattmeter. P. M. Honnell. il diags Electronics 13:21-4 Ja '40
Radio-frequency spark-over in air. P. A. Ekstrand. diags Inst Radio Eng Proc 28:262-6 Je '40
Voltage-regulated power supply for electron-coupled oscillator. F. J. Gaffney and G. Turney. il diag Radio N 23:21+ F '40

Safety devices and measures

Photo-cell ham-saver; safety device for transmitter. A. Eldam. il diags Radio N 23:25-6+ F '40
Save a life with a safety relay. J. B. Quess. il diag Radio N 23:18+ My '40

Short wave

Beer Mug and power transceiver; 112 mc. O. Read. il diags Radio N 24:16-18+ N '40
Beginner's complete station for $49.64. L. Le Kashman. il diags plan Radio N 24:6-7 Jl '40
Beginner's 56mc transmitter. H. G. Gwinn. il diag Radio N 24:37+ D '40
Calibrated 40 m. electron coupled oscillator. H. Saborsky and P. V. Trice. il diags Radio N 24:28-9+ N '40
Cathode-ray frequency modulation generator. R. E. Shelby. il diags Electronics 13:14-18 F '40
Crystal shifter. P. V. Trice. il diags Radio N 24:15 O '40
Doubling in oscillators by using two tubes in parallel. H. W. Kline. il diag Radio N 23:31+ Je '40
Experimental FM-AM mobile transmitter. K. A. Kopetzky. il diag Radio N 24:16-18+ D '40
Harvey-Wells 50-watt ground station. il Aviation 39:62 O '40
Let's try 112 mc; transceiver. H. D. Millen. il diags Radio N 23:15+ Je '40
Mobile on 10; average car can house a low-powered transmitter and receiver. R. J. Hagerty. il diags Radio N 23:16-18+ Je '40
Multiple-channels; more Siebenthaler transmitters for T.W.A. Aviation 38:75 D '39
New 56 mc mobile rig. K. A. Kopetzky and O. Read. il diag Radio N 24:14-16+ S '40
RCA aeronautical transmitters. il Aero Digest 37:175-6 S '40
Radio News cross-hauler. R. P. Adams. il diags Radio N 23:31-2+ Ja '40
Radio News private flyer's transmitter. K. A. Kopetzky and O. Read. il diag Radio N 23: 6-9+ F '40
Radio receptor co. ultra-high frequency transmitters. il Aero Digest 37:198 O '40
60 simple watts; little transmitter. W. D. Haynes. il diag Radio N 24:11+ O '40
200-watt stylized phone transmitter. W. A. Woehr. il diag Radio N 23:10-12+ Ap '40
Unicontrol 5-band transmitter. K. A. Kopetzky and O. Read. il diag Radio N 23:6-9+ Mr; 20-3+ Ap '40
Waller Communicator aircraft transmitters. il Aero Digest 37:154 Ag '40
Wide-band inductive-output amplifier. A. V. Haeff and L. S. Nergaard. il diags Inst Radio Eng Proc 28:126-30 Mr '40

RADIO transmitters, Portable
Dialomatic revised. O. Read. il diags Radio N 24:10-11+ Jl '40
Increasing radiator at low frequencies. M. G. Morgan. il diags Electronics 13:33-4+ Jl '40
1940 completely portable QRR rig. O. Read. il Radio N 23:14-16 My '40
Radio News cross-hauler. R. P. Adams. il diags Radio N 23:31-2+ Ja '40

RADIO waves
Analysis of the ionosphere. K. K. Darrow. il diags Bell System Tech J 19:455-88 Jl '40; Same abr. Elec Eng 59:272-83 Jl '40
Damped electromagnetic waves in hollow metal pipes. A. W. Melloh. bibliog diags Inst Radio Eng Proc 28:179-83 Ap '40
Diffraction of radio ranges by hills. W. R. Haseltine. Phys R 57:717-21 Ap 15 '40
Electric and magnetic fields of a linear radiator carrying a progressive wave. F. M. Colebrook. bibliog diags Inst E E J 86:169-78 F '40; Discussion. 86:484 My '40

RADIO waves—*Continued*

Experimental investigation of the propagation of radiation having wavelengths of 2 and 3 metres. J. S. McPetrie and J. A. Saxton. Inst E E J 87:146-53 Ag '40; Abstract. Electronics 13:76-7 Mr '40; Discussion. Inst E E J 87:159-62 Ag '40

Frequency modulation; its production by phase shifting the side bands of an amplitude modulated wave. D. I. Lawson. Wireless Eng 17:388-93 S '40

High-frequency propagation characteristics. F. Hamburger, jr, C. V. Larrick and M. Jones. diags Inst Radio Eng Proc 28:175-9 Ap '40

Hyperfrequency waves and their practical use. L. Brillouin. il diags Franklin Inst J 229:709-36 Je '40

Measurements of currents and voltages down to a wavelength of 20 centimeters. M. J. O. Strutt and K. S. Knol. bibliog il diags Inst Radio Eng Proc 27:783-9 D '39

Microwaves, present and future; abstract. W. L. Barrow. Electronics 13:18-19 Jl '40

Radio physics course (cont). A. A. Ghirardi. Radio N 23:52 Ja; 62 F; 60 Mr; 60 Ap; 52 My; 60 Je; 24:56 Jl; 45 Ag; 48 S; 44 O; 46 N; 65 D '40 (to be cont)

Radio progress during 1939; wave propagation. bibliog(96 titles) Inst Radio Eng Proc 28: 108-12 Mr '40

Reflection curves and propagation characteristics of radio waves along the earth's surface. J. S. McPetrie and A. C. Stickland. bibliog Inst E E J 87:135-45; Discussion. 160 Ag '40

Relation between actual and virtual ionospheric height. H. G. Booker and S. L. Seaton. bibliog il Phys R 57:87-94 Ja 15 '40

Scattering of radio waves in the lower and middle atmosphere. J. H. Piddington. bibliog il diag Inst Radio Eng Proc 27:753-7 D '39

Square wave harmonics; tabular compilation of relative amplitudes of particular interest in television. D. L. Herr. diag Electronics 13:34 My '40

Troposphere and radio waves. R. C. Colwell. Inst Radio Eng Proc 28:299-302 Jl '40

Ultra-high-frequency oscillography; electron optical spectral analysis of oscillations; Lissajous figures. H. E. Hollmann. bibliog il diags Inst Radio Eng Proc 28:213-19 My '40

Ultra-high-frequency propagation through woods and underbrush. B. Trevor. il RCA R 5:97-100 Jl '40

Vertical vs horizontal polarization. G. H. Brown. diags Electronics 13:20-3 O '40

Wave energy and transconductance of velocity-modulated electron beams. W. C. Hahn. diags Gen Elec R 42:497-502 N '39

Wave reflections from diffuse boundaries. C. D. Thomas and R. C. Colwell. Phys R 56: 1214-16 D 15 '39

Wavelength of oscillations along transmission lines and antennas. E. M. Siegel. Texas U, Engineering Research Ser no32: 1-50 '40

Wireless waves at the earth's surface. Wireless Eng 17:385-7 S '40

See also
Electric waves
Plants, Effect of radio waves on
Radio transmission

RADIO workers

Do you want to get into radio? F. A. Arnold. 140p bibliog(p135-40) $1.50 Stokes '40

Occupations in radio. K. G. Bartlett and D. W. Miller. 48p bibliog(cover) pa 50c Science research associates, 600 S. Michigan av, Chicago '40

Radio as a career. J. L. Hornung. 212p bibliog(p211-12) $1.50 Funk and Wagnalls co, New York '40

Radio workers. A. V. Kellher, ed. (Picture fact books) 56p $1 Harper '40

See also
Radio schools and training

RADIOACTIVE substances

Determination of the thoron content of air and its bearing on lung cancer hazards in industry. R. D. Evans and C. Goodman. il diag J Ind Hygiene 22:89-99 bibliog(p98-9) Mr '40

Ionization measurements of the radiations from radioactive substances. C. G. Montgomery and D. D. Montgomery. diags Franklin Inst J 229:585-611 bibliog(p609-11) My '40

Nuclear fission. K. K. Darrow. bibliog il Bell System Tech J 19:267-89 Ap '40

Radioactive determination of protactinium in siliceous terrestrial and meteoritic materials. W. C. Schumb, R. D. Evans and J. L. Hastings. bibliog Am Chem Soc J 61: 3451-5 D '39

Radioactive standards being prepared under the direction of National research council. L. F. Curtiss and others. Science 91:294-5 Mr 22 '40; Same. Phys R 57:457 Mr 1 '40

Radioactive zirconium and columbium from uranium fission. A. V. Grosse and E. T. Booth. Phys R 57:664-5 Ap 1 '40

Radioactivity of sedimentary rocks and associated petroleum. K. G. Bell, C. Goodman and W. L. Whitehead. bibliog Am Assn Pet Geologists Bul 24:1529-47 S '40

Well logging by radioactivity. G. H. Westby and S. A. Scherbatskoy. il Oil & Gas J 38:62-4 F 22 '40

See also
Radioactivity
Radium
Thorium
Uranium

Standards

Radioactive standards. L. F. Curtiss and others. Econ Geol 35:571-3 Je '40; Same cond. R Sci Instr 11:205 Je '40

RADIOACTIVITY

Artificial radioactivity. G. T. Seaborg. Chem R 27:199-285 bibliog(550 references, p273-85) Ag '40

Artificial radioactivity induced in Zr and Mo. R. Sagane and others. Phys R 57:1179-80 Je 15 '40

Artificially radioactive element 85. D. R. Corson, K. R. MacKenzie and E. Segrè. diags Phys R 58:672-8 O 15 '40

Beta-spectra of iodine. G. F. Tape. bibliog Phys R 56:965-71 N 15 '39

Chemical activation by isomeric radioactive transition; the reaction of Br^{80} (18 min. half-life) with carbon tetrachloride. J. E. Willard. diag Am Chem Soc J 62:256-61 F '40

Concentration of radioactive bromine produced by gamma-radiation. W. H. Barkas and others. Phys R 58:577 S 15 '40

Distribution of radiophosphorus and radiogold in rats after oral, intraperitoneal and subcutaneous administration. J. O. Ely. Franklin Inst J 230:125-30 Jl '40

Energy levels, mass and radioactivity of A^{41}. W. L. Davidson, jr. Phys R 57:244-5 F 1 '40

Evidence for incorrect assignment of the supposed Si^{31} radioactivity of 6.7-minute half-life. H. A. Bethe and W. J. Henderson. bibliog Phys R 56:1060-1 N 15 '39

Induced radioactivity of krypton. E. P. Clancy. Phys R 58:88 Jl 1 '40

Induced radioactivity of rhenium and tungsten. K. Fajans and W. H. Sullivan. Phys R 58:276 Ag 1 '40

Internal conversion in 6.4-hour Cd. R. G. Sachs. Phys R 57:159-60 Ja 15 '40

Internally converted gamma-rays from radioactive gold. J. L. Lawson and J. M. Cork. Phys R 58:580 S 15 '40

Investigation of the exchange between a metal and ions in solution by using radioactive indicators. B. V. Rollin. Am Chem Soc J 62:86-7 Ja '40

Isotopic identification of induced radioactivity by bombardment of separated isotopes; 37-minute Cl^{38}. J. W. Kennedy and G. T. Seaborg. bibliog Phys R 57:843-4 My 1 '40

Long-lived isotope of yttrium. C. Pecher. il Phys R 58:843 N 1 '40

Mass and stability of C^{14}. E. Pollard. Phys R 56:1168 D 1 '39

RADIOACTIVITY—*Continued*

Mechanism of chemical reactions accompanying the isomeric radioactive transition of Br^{80}. J. E. Willard. bibliog Am Chem Soc J 62:3161-5 N '40

Missing heavy nuclei. L. A. Turner. Phys R 57:950-7 Je 1 '40

Neutron-induced radioactivity of tungsten. O. Minakawa. Phys R 57:1189 Je 15 '40

New radioactive isotope of masurium, $_{43}Ma^{101}$. R. Sagane and others. bibliog Phys R 57: 750 Ap 15 '40

Nuclear isomerism. R. G. Sachs. bibliog Phys R 57:194-7 F 1 '40

Nuclear isomerism in selenium and krypton. A. Langsdorf, jr. and E. Segrè. bibliog il Phys R 57:105-10 Ja 15 '40

Nuclear isomerism in zinc. J. W. Kennedy, G. T. Seaborg and E. Segrè. bibliog Phys R 56:1095-7 D 1 '39

Possible production of radioactive isotopes of element 85. D. R. Corson, K. R. MacKenzie and E. Segrè. Phys R 57:459 Mr 1 '40

Production and half-life of chlorine 33. J. B. Hoag. Phys R 57:937 My 15 '40

Production of radium-like substances. J. Stokley. Science 92:sup6 Jl 19 '40

Radiations from radioactive indium (116). B. R. Curtis and J. R. Richardson. bibliog Phys R 57:1121-4 Je 15 '40

Radiative *K* capture. P. Morrison and L. I. Schiff. Phys R 58:24-6 Jl 1 '40

Radio-iron in plasma does not exchange with hemoglobin iron in red cells. P. F. Hahn and others. Science 92:131-2 Ag 9 '40

Radio isotopes of chromium. T. Amaki, T. Iimori and A. Sugimoto. Phys R 57:751-2 Ap 15 '40

Radioactive barium and strontium from photo-fission of uranium. A. Langer and W. E. Stephens. Phys R 58:759 O 15 '40

Radioactive carbon as a tracer in the synthesis of propionic acid from CO_2 by the propionic acid bacteria. S. F. Carson and others. bibliog Science 92:433-4 N 8 '40

Radioactive carbon of long half-life. S. Ruben and M. D. Kamen. bibliog Phys R 57:549 Mr 15 '40

Radioactive element 93. P. H. Abelson. Phys R 57:1185-6 Je 15 '40

Radioactive isotopes of calcium and their suitability as indicators in biological investigations. H. Walke, F. C. Thompson and J. Holt. Phys R 57:177-84 F 1 '40

Radioactive isotopes of indium. J. L. Lawson and J. M. Cork. bibliog Phys R 57: 982-94 Je 1 '40

Radioactive isotopes of indium from alpha-bombardment of silver. L. D. P. King and W. J. Henderson. Phys R 56:1169 D 1 '39

Radioactive isotopes of scandium and their properties. H. Walke. bibliog Phys R 57: 163-71 F 1 '40

Radioactive isotopes of Sr, Y and Zr. L. A. DuBridge and J. Marshall. bibliog il Phys R 58:7-11 Jl 1 '40

Radioactive isotopes of tellurium. G. T. Seaborg, J. J. Livingood and J. W. Kennedy. bibliog Phys R 57:363-70 Mr 1 '40

Radioactive isotopes of vanadium. L. A. Turner. Phys R 58:679-81 O 15 '40

Radioactive nitrogen in the study of N_2 fixation by non-leguminous plants. S. Ruben, W. Z. Hassid and M. D. Kamen. Science 91:578-9 Je 14 '40

Radioactive products from gases produced in uranium fission. G. N. Glasoe and J. Steigman. bibliog il Phys R 58:1-6 Jl 1 '40

Radioactivity and the periodic table; an introduction to the study of atomic structure and isotopes in elementary chemistry. J. F. King and P. H. Fall. il J Chem Educ 17: 481-2 O '40

Radioactivity in biological experiments. S. Goudsmit. Science 90:615-16 D 29 '39

Radioactivity of Mn^{56}. R. H. Bacon, E. N. Grisewood and C. W. Van der Merwe. Phys R 56:1168 D 1 '39

Radioactivity of sedimentary rocks and associated petroleum. K. G. Bell, C. Goodman and W. L. Whitehead. bibliog Am Assn Pet Geologists Bul 24:1529-47 S '40

Radioactivity produced by bombarding thallium. K. Fajans and A. F. Voigt. Phys R 58:177 Jl 15 '40

Radioactivity produced by proton bombardment of bromine and iodine. E. C. Creutz and others. il diag Phys R 58:481-6 S 15 '40

Radioactivity; reprinted from Science August 27, 1909. J. Thomson. Science 92:207-10 S 6 '40

Reactions of high energy atoms produced by slow neutron capture. W. F. Libby. bibliog Am Chem Soc J 62:1930-43 Ag '40

Regularities among the heavy nuclei. L. A. Turner. bibliog Phys R 58:181-2 Jl 15 '40

Short-lived radioactivities of $_{14}Si^{27}$, $_{16}S^{31}$, and $_{18}A^{35}$. L. D. P. King and D. R. Elliott. Phys R 58:846 N 1 '40

Simultaneous emission of three particles from an excited nucleus. J. M. Cork and W. Middleton. Phys R 58:474 S 1 '40

Some experiments on the relative cross sections of the (n, α) and (n, p) reactions produced by fast neutrons. T. Amaki and A. Sugimoto. Phys R 58:659 O 1 '40

Studies on aging and formation of precipitates; the aging of silver bromide. I. M. Kolthoff and A. S. O'Brien. Am Chem Soc J 61:3414-19 D '39

Studies on aging and formation of precipitates; the determination of the specific surface of silver bromide by the radioactive and dye methods. I. M. Kolthoff and A. S. O'Brien. bibliog Am Chem Soc J 61:3409-14 D '39

Study of the nuclear radiations from antimony and arsenic. A. C. G. Mitchell, L. M. Langer and P. W. McDaniel. bibliog diags Phys R 57:1107-17 Je 15 '40

Table of induced radioactivities. J. J. Livingood and G. T. Seaborg. Rs Mod Phys 12: 30-46 references(p43-6) Ja '40

Time distribution of so-called random events. A. Ruark. Phys R 56:1165-7 D 1 '39

Transition probabilities in double beta-disintegration. W. H. Furry. bibliog Phys R 56:1184-93 D 15 '39

Use of radioactive elements as tracers in physiology. H. R. Crane. Phys R 56:1243-4 D 15 '39

Use of radioactive isotopes of the common elements in physiology. G. Hevesy. Phys R 57:240-1 F 1 '40

Use of radioactive phosphorus in soil studies. S. S. Ballard and L. A. Dean. il J Ap Phys 11:366-70 My '40

See also

Alpha rays
Atoms—Disintegration
Beta rays
Electrons
Gamma rays
Ionization, Gaseous
Radiography
Radium
Thorium
Transmutation (chemistry)
Uranium
X rays

RADIOCHEMISTRY

See also

Alpha rays
Photochemistry
Radioactivity

RADIOGRAPHY

Cold emission used in microsecond radiography. il diag Electronics 13:56+ S '40

Design and application of X-ray tubes. Z. J. Atlee. bibliog il diag Electronics 13:26-30+ O '40

Experimental radiological observations on the action of electrical current upon the respiratory and circulatory organs; respiratory organs. A. W. Greenberg. bibliog il diags J Ind Hygiene 22:104-10 Mr '40

Exposure chart for radiography of steel. H. R. Isenburger. Metal Prog 38:553 O '40

Fine focus radiography, gamma rays; using a bulb of radon. G. E. Doan and M. B. Vordahl. il diag Am Soc T M Proc 39: 741-7; Discussion. 748 '39

Glimpse of the unknown; chest X-ray. il Safety Eng 80:65-8 O '40

Identifying Shakespeare; study of portraits believed to be Edward de Vere, 17th earl of Oxford. C. W. Barrell. il Sci Am 162:4-8+ Ja '40; Discussion (Who was Shakespeare?) 162:264+ My '40

RADIOGRAPHY—*Continued*
Industrial radiography. R. G. Tobey. il diag Iron Age 145:27-30 F 29; 64-7 Mr 7 '40
Millionth-of-second radiographs. il Iron Age 146:31 Jl 25 '40
Modern X-ray practice; installations at the new Westminster hospital. il Elec R (Lond) 125:605-8 N 10 '39
Möglichkeiten der leuchtschirmphotographie für die Röntgen-grobgefügeuntersuchung. W. Schmitz and W. Wiebe. il Stahl & Eisen 60:423-6 My 16 '40
Mounting lead foil for radiographic screens. R. G. Tobey and H. E. Seemann. il diag Metals & Alloys 12:40-3 Jl '40
New X-ray tube makes microsecond radiographs. il diag Instruments 13:196 Jl '40; Product Eng 11:423 S '40; Sci Am 163:143 S '40
Pulmograph; self-contained outfit for mass X-ray examination of the chest. il Elec R (Lond) 127:32 Jl 12 '40
Radiographic development in the casting industries. C. W. Briggs. il Metals & Alloys 11:1-5 Ja '40
Serial chest roentgenograms of 3179 office employes, 1926-1938. H. H. Fellows. J Ind Hygiene 22:157-68 My '40
Use of radiography in the development of castings for mass production; abstract. D. M. McCutcheon. Metals & Alloys 11:MA292 My '40
Uses of electricity in medicine. O. R. Langworthy. bibliog il Elec Eng 59:389-94 O '40
X-ray inspection; recent developments in industrial radiographic equipment and procedure. H. R. Isenburger. il diags Steel 106:64, 66-8 Ap 1 '40
X-ray pole inspection a new engineering tool. M. Zucker. il Elec W 113:882-5+ Mr 23 '40

See also
Metallography
Metals—X rays inspection

RADIOMETEOROGRAPHS. See Radio meteorographs

RADIOMETERS
New radiation pyrometer. J. Strong. bibliog diags Opt Soc Am J 29:520-30 D '39

See also
Ultraviolet rays—Measurement

RADIOSONDE. See Radio meteorographs

RADIOTHERAPY

See also
X rays—Therapeutic use

RADIUM
Brief history of Canadian mining. W. H. Losee. Can Min J 60:663-4 N '39
Extraction of radium from Canadian pitchblende. A. Kuebel. flow sheet il J Chem Educ 17:417-21 S '40
Measurement, in roentgens, of the gamma radiation from radium by the free-air ionization chamber. L. S. Taylor and G. Singer. bibliog diags J Research Nat Bur Stand 24:247-68 Mr '40
Recent advances in the applied chemistry of the rare metals; radium developments in Canada; preparation of radium, barium sulphate concentrate from ore. R. H. Atkinson. Chem & Ind 59:194 Mr 23 '40

See also
Alpha rays
Beta rays
Gamma rays
Radioactivity
Radiography

Analysis

Internal absorption of gamma rays in radium-beryllium neutron sources. L. F. Curtiss. diag J Research Nat Bur Stand 23:617-19 N '39

RADIUM B
Determination of the masses and velocities of three radio B beta-particles; the relativistic mass of the electron. M. M. Rogers, A. W. McReynolds and F. T. Rogers, jr. bibliog Phys R 57:379-83 Mr 1 '40

RADIUM C'
Internal pair production in radium C'. R. Thomas. Phys R 58:714-15 O 15 '40

RADIUM compounds
Luminescence of pure radium and barium compounds. D. H. Kabakjian. il Phys R 57:700-5 Ap 15 '40

RADIUM E
Production of radium E and radium F (polonium) from bismuth. J. M. Cork, J. Halpern and H. Tatel. Phys R 57:371-2 Mr 1 '40

RADIUM F. See Polonium

RADIX pareiræ bravæ
Curare alkaloids; alkaloids of some chondrodendron species and the origin of radix pareiræ bravæ. H. King. Chem Soc J p737-46 Je '40

RADON
Action of radon on polymethylenes; cyclobutane and cyclobutene. G. B. Heisig. bibliog J Phys Chem 43:1207-12 D '39
Fine focus radiography, gamma rays; using a bulb of radon. G. E. Doan and M. B. Vordahl. il diag Am Soc T M Proc 39: 741-7; Discussion. 748 '39

RAFTERS
Hip rafter problems solved by means of the steel square. G. Townsend. diags Am Bld 62:78, 92-4+ Je; 72-3+ Jl '40
Miscellaneous uses of the steel square. G. Townsend. diags Am Bld 62:57+ S '40
Using the steel square to lay out common rafters. G. Townsend. diags Am Bld 62:74-5+ My '40
Using the steel square to lay out valley and jack rafters. G. Townsend. diags Am Bld 62:60-1+ Ag '40

RAGS
Processing of jute rags. S. Wouble. Textile Col 62:297-9 My '40
Rags and substitutes in the dry felt industry. A. Whittemore. Paper Tr J 110:22-3 Je 6 '40

RAGWEED
Electrophoretic isolation of constituents of ragweed pollen extracts. H. A. Abramson and others. bibliog Am Chem Soc J 62:1627 Je '40

RAHWAY, New Jersey

Water supply

Value of public park systems to Rahway watershed. M. M. Gibbons. Am Water Works Assn J 32:1022-4 Je '40

RAIL. See Rails

RAIL bonds
Periodic testing of rail-bond return circuits unmasks bad joints. H. P. Chandler. il diag Coal Age 45:51-3 S '40
Report on rail bonding. L. W. Birch. diags Min Cong J 26:49 Ja '40

RAIL joints
2,300 cars in 7 hours delivered with speed and safety by the New Orient transportation system; thermit welding of rail joints. B. K. Wentworth and A. G. Shaffer. il Coal Age 45:35-6 Ja '40
Versuche mit geschweissten eisenbahnschienen. O. Graf. il diags V D I 83:1250-3 D 2 '39

See also
Rail bonds

Testing

Second progress report of the joint investigation of continuous welded rail. H. F. Moore, H. R. Thomas and R. E. Cramer. il diags Ill U Eng Exp Sta Reprint Ser 17:1-20 '40 (pa 15c)

RAIL motor cars. See Motor cars (railroad)

RAILINGS, Bridge. See Bridge railings

RAILROAD adjustment board, National. See National railroad adjustment board

RAILROAD associations
Directory and meetings of mechanical associations and railroad clubs. Published in monthly numbers of Railway mechanical engineer

RAILROAD associations—*Continued*
Meetings and conventions. Published in Railway age
See also
Association of American railroads
Car department officers' association

RAILROAD board of mediation. See National mediation board

RAILROAD bridges. See Bridges, Railroad

RAILROAD cars. See Cars; Freight cars

RAILROAD engineering
After graduation, what? W. H. Kirkbride. Ry Age 109:73-4 Jl 13 '40
American railway engineering association, 41st annual meeting, Chicago, March 12-14. Ry Age 108:498-521 Mr 16 '40
Braking high-speed trains as an engineering problem. J. C. McCune. bibliog il diags Mech Eng 61:583-8, 657-60 Ag-S '39; Discussion. 62:408-10 My '40
Mastering momentum in transport. L. K. Silicox. Engineer 169:461-2, 480-1, 500-1, 510-11 My 17-Je 7 '40
Modern rail transport. A. M. Wright. bibliog il Elec Eng 59:400-6 O '40
New technologies in transport. F. G. Gurley. Ry Age 108:208-11+ Ja 27 '40
Progress in railway mechanical engineering, 1938-1939. il diags Mech Eng 61:863-75 D '39; Discussion. 62:484 Je '40
Railway-car engineering. D. S. Ellis. Mech Eng 62:18-22 Ja '40; Discussion. 62:483-4 Je '40
What a railway expects in the engineering graduate. J. W. Williams. Ry Age 109:70-2 Jl 13 '40
William Benson Storey; civil engineer and railroad executive; autobiographical sketch. W Soc E J 45:31-9 F '40
See also
Bridges, Railroad
Cars—Design
Grade crossing elimination
Locomotives
Railroad research
Railroads—Construction
Railroads—Maintenance and repair
Railroads—Track

Tables, calculations, etc.
Application of dimensional analysis to stresses in railway tracks. M. Daniloff. Engineering 148:660-1 D 15 '39
Computing cross-section areas by means of coordinates. J. S. Worley. Civil Eng 10:596 S '40

RAILROAD engineers
What the railways offer the engineering graduate. M. C. Blanchard. Ry Age 109:72-3 Jl 13 '40

RAILROAD labor. See Railroads—Employees

RAILROAD law
Chandler act, aid to weak railroads, expired July 31. Comm & Fin Chr 151:633 Ag 3 '40
Congress in pre-election lull; Transportation act of 1940; other bills of interest to railroads. Ry Age 109:551-3 O 19 '40
Good prospects for legislation. Ry Age 108: 8-9+ Ja 6 '40
Louisiana Public service commission laws (annotated). P. A. Frye, comp. 231p Louisiana Public service commission, Baton Rouge '40
New law for rate-making? Ry Age 109:577 O 26 '40
New price policy for the railroads: quantity or multiple-car rates; the Molasses case. E. A. Smith. bibliog J Land & Pub Util Econ 16:230-3 My '40
Outlook for railroad legislation. R. V. Fletcher. Ry Age 108:501 Mr 16 '40
Pennsylvania's excess-crew law voided by court. Ry Age 107:860 D 2 '39
Plenty left to railroad problem even if S. 2009 becomes a law. Ry Age 109:271-4 Ag 24 '40
Railroad legislation on full crew, personnel, and train lengths. bibliog Monthly Labor R 50:1429-34 Je '40
Significance of railroad transportation bill. A. Jansen. Barron's 20:9 S 16 '40
State railroad laws relating to full crew, qualifications of personnel, train lengths, Sept. 1, 1939. 46p Brotherhood of locomotive firemen and enginemen, 318 Keith bldg, Cleveland '39
See also
National mediation board
Railroad unemployment insurance act
Railroads—Pensions
Railroads—Rates
Railroads and state
Transportation—Laws and regulations

Canada
Concordance of the Railway act. A. G. Blair, ed. 115, 188, 16p $6 Canada law book co, Toronto '39

RAILROAD motor cars. See Motor cars (railroad)

RAILROAD rates. See Railroads—Rates

RAILROAD research
Railroad researchers named "modern pioneers"; dinner meeting sponsored by National association of manufacturers. Ry Age 108:295-6, 380-1, 419-21 F 10, 24-Mr 2 '40
Track stress research. W. E. Gelson and E. A. Blackwood. diags Engineering 150:141-3 Ag 23 '40

RAILROAD shops. See Car shops; Locomotive shops; Railroads—Shops

RAILROAD superintendents, American association of. See American association of railroad superintendents

RAILROAD supplies industry
Allied railway supply assn. exhibit. Ry Mech Eng 114:394-8, 509 O-N '40
Allied railway supply association; list of members. Ry Mech Eng 114:357 S '40
American steel foundries; maker of railroad equipment has added tank parts. il Fortune 22:58-64+ N '40
Capital expenditures of the railroads. H. Lasken. Survey of Cur Business 19:14-18 D '39
National railway appliances association holds successful exhibition at Chicago. il Ry Age 108:494-7 Mr 16 '40
New and improved products of the manufacturers. il diags Ry Age 108:457-65 Mr 9 '40
Track supply exhibit at meeting of Roadmasters' association; list of exhibitors. Ry Age 109:420-1 S 21 '40
See also
Locomotive industry
Railroad ties
Railroads—Equipment and supplies
Railroads—Purchasing
Rails
also General American transportation corporation

Finance
American steel foundries faces new competition. S. Altschul. Barron's 20:7 Ag 12 '40
Equipment boom will aid Pullman. S. Altschul. Barron's 19:7-8 N 27 '39
Financial reports, American brake shoe and foundry co. and Westinghouse air brake co. Annalist 55:268 F 15 '40
Financial reports; American brake shoe and foundry co.; New York air brake co.; American steel foundries. Annalist 56:406 S 26 '40
New status for rail equipments. J. J. Hipple. il Mag of Wall St 66:462-4+ Jl 27 '40

Securities
Position of leading equipment stocks; railroad. Mag of Wall St 65:468; 66:467 Ja 27, Jl 27 '40
Pullman becomes more speculative issue. W. A. Nugent. Barron's 20:13 Jl 8 '40
Railroad equipment companies, 1937-39. Mag of Wall St Manual p30 Mr 2 '40

Statistics
See also
Cars—Statistics

Great Britain
Position of British railway equipment export trade. Comm Rep p637 Jl 20 '40

RAILROAD tie plates
Rubber tie plates for New York subway. Rubber Age 46:178 D '39

RAILROAD ties
Handling gum lumber. G. R. Smiley. Ry Age 108:243-4 F 3 '40
Railroad tie decay; comprising The decay of ties in storage, by C. J. Humphrey; Defects in cross ties, caused by fungi, by C. A. Richards. 55p bibliog(p37) $2 American wood-preservers' assn, 1427 Eye st, N.W., Washington, D.C. '39
Renewing 50,000,000 ties a year. H. R. Clarke. Ry Age 109:440-1 S 28 '40
Report of A.R.E.A. committee on ties. Ry Age 108:508-9 Mr 16 '40
Santa Fe secures large return from treated crossties. G. W. Harris. il Ry Age 108: 320-4 F 17 '40
Tie men face problems; annual convention of the Railway tie association. Ry Age 108: 975-6 Je 1 '40
What about producers' tie stocks? il Ry Age 107:955-61+ D 23 '39

See also
Railroads—Track

Statistics

Table tells partial story of tie renewals in 1939. Ry Age 108:1016-18 Je 8 '40
Volume of wood treated gains slightly in 1939. R. K. Hielphenstine, jr. Ry Age 108: 1051-2+ Je 15 '40

RAILROAD turntables. See Turntables

RAILROAD unemployment insurance act
Use of carrier personnel in connection with administration of railroad unemployment insurance; abstract. M. R. Reed. Ry Age 108: 146 Ja 13 '40

RAILROADS
Key railroaders probe the industry for annual N.Y. railroad club dinner. Ry Age 107:895-6 D 9 '39
Modern railway. J. H. Parmelee. 730p $4 Longmans '39

See also
Air brakes
Bridges, Railroad
Cableways
Cars
Electric railroads
Freight car service
Freight cars
Grade crossings
Locomotive shops
Locomotives
Mine tracks
Motor cars (railroad)
Rail joints
Railroad engineering
Railroad ties
Railroads and state
Rails
Rapid transit
Street railroads
Subways
Terminals
Transportation
Tunnels and tunneling

also names of railroads, e.g. Pennsylvania railroad

Abandonment

Interstate commerce commission examiner would let Old Colony junk some lines. Ry Age 109:316 Ag 31 '40
Lines abandoned in the United States, Canada and Mexico in 1939; tabulation. G. E. Boyd. Ry Age 108:71-2 Ja 6 '40
Mileage abandoned 1932 to 1939, inclusive, U.S.; tabulation. G. E. Boyd. Ry Age 108: 70 Ja 6 '40
Narrow Gage suspends; buses take over service abandoned by Boston, Revere Beach and Lynn railroad. il Bus Transportation 19:72 F '40
Old Colony seeks to close 96 miles. map Ry Age 108:522-3 Mr 16 '40
Railroad taxation and abandonments. E. S. Lynch. bibliog Harvard Business R 18 no 4: 496-503 [Jl] '40

Accidents

Aviemore accident on the L.M.S. railway. Engineering 150:197-8, 206 S 6-13 '40
Bureau of safety reports on City of San Francisco wreck. Ry Mech Eng 114:13-14+ Ja '40
Bureau of safety reports Pioneer Zephyr wreck. Ry Mech Eng 114:107-8 Mr '40; Same cond. Ry Age 108:419 Mr 2 '40
Central's Lake Shore piles up at Little Falls curve. il Ry Age 108:741-3 Ap 27 '40
City of San Francisco wrecked by sabotage. diags Ry Age 108:106-7+ Ja 6 '40
Collision tests Zephyr train. diag Mech Eng 62:326-7 Ap '40
Crossing and trespassing accidents worry safety men. Ry Age 109:545-7 O 19 '40
Harriman safety medals awarded. Ry Age 108:1119+ Je 22 '40
Man failure causes Pennsylvania accident. il Ry Age 109:219 Ag 10 '40
New York central diverts 200 trains around blocked line at Little Falls, N.Y. map Ry Age 108:971+ Je 1 '40
Pioneer Zephyr is repaired in record time. il diag plan Ry Age 108:397-400 Mr 2 '40
Railroads win awards for employee safety. Nat Safety N 41:52 Je '40; Same abr. Ry Age 108:875 My 18 '40
Safety section, Association of American railroads, 20th annual meeting, St Paul, June 4-6. Ry Age 108:1053-6 Je 15 '40
Speed found cause of derailment at Little Falls. Ry Age 108:1102+ Je 22 '40
Trespasser casualties in steam railway accidents; abstract. E. Crane. Ry Age 108:1184+ Je 29 '40
Two accidents on the Illinois central. Ry Age 108:671-2 Ap 13 '40
Two Reich wrecks; death toll 231. Ry Age 107:1006 D 30 '39
Why all the wrecks on the German railroads? Ry Age 108:552-3 Mr 23 '40

See also
Grade crossing accidents
Railroads—Safety devices and measures

Accounting

Controlling costs by supervision. E. H. Bunnell. Ry Age 109:78-80 Jl 13 '40
Over 700 machines in Milwaukee accounting. il Ry Age 109:139-49 Jl 27 '40
Records and accounts; A.R.E.A. committee report. Ry Age 108:515-16 Mr 16 '40

See also Association of American railroads —Accounting division

Advertising

Old Rocky speaks up; Great northern railway's Rocky Mountain goat. il Ptr Ink 191:19-20 Ap 26 '40
Putting pep into railway sales. il Ry Age 108: 940, 944-6 My 25 '40
Railroads increase advertising. Ptr Ink 192: 71 Jl 12 '40
Record of association advertising. J. Benson. il Adv & Sell 33:29-30+ Je '40
Review of railroad advertising in '39. F. Snow. Adv & Sell 33:46, 48-9 Je '40
Stenciled advertising on freight equipment; Atchison, Topeka & Santa Fe. il Ry Mech Eng 114:363-4 S '40
Wabash uses comic strip advertising to advantage. il Ry Age 108:1195 Je 29 '40

See also
Street railroads—Advertising

Air line competition

Air-line competition; committee report, American association of passenger traffic officers. Ry Age 109:410-11 S 21 '40
Ratio airlines to Pullman revenue passenger miles; pictograph. Sales Management 47:35 S 15 '40

Air line tickets

Boston & Maine offers rail-air tickets at reduction. Ry Age 109:294 Ag 24 '40

Automatic stop and train control

Automatic train control. il diags Engineer 170:18-20, 36-8, 52-4, 68-70, 84-6 Jl 12-Ag 9 '40
Modern railway signalling practice. il Engineer 168:633-4 D 29 '39
Signal system, interlocking plants, and automatic train control on the San Francisco-Oakland Bay bridge railway. C. R. Davis. il Elec Eng 59:Trans 158-64 Mr '40

Automobile rental service

Auto-rail plan for West; railroads to sponsor automobile renting service to gain long-distance passenger traffic. Barron's 20:5 F 12 '40

RAILROADS—Automobile rental service—*Cont.*
Car awaits on May 1; train-auto service. Business Week p20+ Ap 27 '40
Railroad will have auto waiting in 150 cities reached by 11 major lines. Business Week p18+ F 10 '40
Rails "zine" autos; eleven western railroads to collaborate in merchandising new combined transportation service. Ptr Ink 190:38, 40 F 16 '40
Railway-auto plan to be inaugurated on May 1. Automotive Ind 82:225 Mr 1 '40
Train auto gain cited. Business Week p21-2 Ag 17 '40
Train-auto service; operated jointly by 12 western railroads. Sales Management 47: 35-6 O 10 '40

Baggage

La responsabilité du chemin de fer au sujet des bagages déposés à la consigne. A. Mestre. Génie Civil 115:407-8 D 2 '39

Biography

Who's who in railroading in North America. 10th ed 716p $7.50 Simmons-Boardman '40

Braking

Braking high-speed trains as an engineering problem. J. C. McCune. bibliog il diags Mech Eng 61:583-8, 657-60 Ag-S '39; Discussion. 62:408-10 My '40
Developments in high-speed braking. Ry Mech Eng 114:496-8 N '40; Same cond. Ry Age 109:624-5 N 2 '40
Electric braking for railroad and urban transit equipment. F. H. Craton and F. M. Turner. bibliog Elec Eng 59:Trans 489-94 S '40
Mastering momentum in transport. L. K. Sillcox. Engineer 169:480-1 My 24 '40
Stationary compressors supply air for braking ore trains; open-pit iron mine on the Mesabi range. C. E. McManus. il Comp Air M 45:6109 Mr '40

See also
Air brakes

Bridge crossing

See Bridges, Railroad

Buildings and structures

American railway bridge and building association 47th annual meeting, Chicago, Oct. 15-17. Ry Age 109:579-84, 637-41 O 26-N 2 '40
More traffic; more construction and maintenance. il Ry Age 108:22-5 Ja 6 '40

See also
Bridges, Railroad
Car shops
Coaling stations
Locomotive shops
Railroads—Concrete construction
Railroads—Shops
Railroads—Stations
Railroads—Storehouses
Railroads—Terminals

Car departments

Importance of the car department in rail transportation. J. M. Symes. Ry Age 109: 642-3+ N 2 '40; Excerpt. Ry Mech Eng 114: 473-4 N '40

See also Car department officers' association

Cars

See Cars; Dining cars; Freight cars; Motor cars (railroad); Postal cars; Refrigerator cars; Sleeping cars; Tank cars

Claims

Association of American railways, Freight claim division, 49th annual meeting, Chicago, May 21-23. Ry Age 108:972-4 Je 1 '40
Claim agents meet at Providence; fifty-first annual convention of the Association of railway claim agents. Ry Age 108:977 Je 1 '40

Commissaries

Missouri Pacific watches supplies for dining cars. il Ry Age 108:550-2 Mr 23 '40

Commuter service

Boston & Maine fetes 50-year commuters. Ry Age 108:451-2 Mr 9 '40
Commuters get first air conditioned cars. il Refrig Eng 40:87-8 Ag '40

Competitive transportation

Adjustment of rates between competing forms of transport. J. B. Eastman. Ry Age 107: 999-1001 D 30 '39; Excerpts. Comm & Fin Chr 149:4110 D 30 '39
Fifth column and private enterprise. R. S. Henry. Edison Elec Inst Bul 8:277-80 Je '40
Large possibilities in the molasses decision. Ry Age 108:120 Ja 13 '40
Lean years for the rails. L. Velie. Pub Util 24:740-50 D 7 '39; Same. Dun's R 48:23-8+ F '40
Making rates to move the freight. diags Ry Age 108:934-9 My 25 '40
Momentous decision in the trainload rate case. Ry Age 107:947-50 D 23 '39
Out-of-pocket vs. cost rates. Ry Age 108:238 F 3 '40
Problem of interterritorial and competitive rates. J. B. Eastman. Ry Age 109:590-1 O 26 '40; Same abr. Comm & Fin Chr 151: 2428-9 O 26 '40
Sound transportation policies; are railways getting a fair deal? R. V. Fletcher. Credit & Fin Management 42:6-7 Je '40
To compete or not to compete? Ry Age 109: 361 S 14 '40
Transportation future. J. B. Eastman. Ry Age 108:717-18 Ap 20 '40
Trends in transportation; waterway, truck and pipe line gains at expense of railroads may be near end. J. V. Sherman. il Barron's 20:8 Ag 5 '40
Truck revenues may be 2 billion; interview with L. W. Horning. Ry Age 108:747-9 Ap 27 '40
Who gets the credit? self-supporting and tax-paying or dependent and tax-supported business. R. S. Henry. il Credit & Fin Management 42:6-8+ My '40
Would mechanical refrigeration hold traffic? Ry Age 108:200 Ja 27 '40

See also
Motor trucks in freight service
Railroads—Motor vehicle competition
Railroads—Pipe line competition
Railroads—Waterways competition

Concrete construction

Report on masonry; A.R.E.A. committee. Ry Age 108:518-20 Mr 16 '40

Consolidation

Chicago, Rock Island & Pacific can't discharge men in merger. Ry Age 107:898+ D 9 '39
I. B. Tigrett heads G.M. & O.; merger of the Gulf, Mobile & Northern and the Mobile & Ohio. map Ry Age 109:397-8+ S 21 '40
Reviews estimated consolidation and coordination economies; study by Interstate commerce commission's Bureau of statistics. B. N. Behling. Ry Age 109:184-6 Ag 3 '40
Study of consolidation of country's railroads issued by Inter-state commerce commission. B. N. Behling. Comm & Fin Chr 151:782 Ag 10 '40
Supreme court rules ICC has right to protect workers in rail mergers. Comm & Fin Chr 149:3643-4 D 9 '39

Construction

Causes and prevention of accidents in the construction industry, 1938; building, railroad, and highway construction. M. D. Kossoris and S. Kjaer. Monthly Labor R 49: 658-73 S '39
Railroad construction indices for 1939. W. P. Bartel. Ry Age 109:285-6 Ag 24 '40
Railway construction gains slightly; U.S., Canada and Mexico. G. E. Boyd. il Ry Age 108:67-77 Ja 6 '40
Rock Island completes its Samson of the Cimarron; eight-mile cut-off, involving three-tier fills and a 1269-ft. river bridge. il diags map Ry Age 108:202-7+ Ja 27 '40
30-mile line diversion on the Southern Pacific in upper Sacramento River valley requires 12 tunnels, 8 bridges and extensive grading. il map Ry Age 108:1108-13 Je 22 '40

RAILROADS—Construction—*Continued*

Truck delivery of supplies speeds railroad construction; 30-mile line around Shasta reservoir. il Eng N 123:827 D 21 '39

See also

Bridges, Railroad
Culverts
Grade crossing elimination
Railroads—Electrification
Railroads—Stations
Railroads—Track
Railroads—Track depression
Rails
Tunnels and tunneling

Conversion to highways

From railway to highway; New Hampshire is using abandoned railway grade. C. M. Brooks. il Roads & Sts 83:60, 62 Mr '40

Cost of construction

Railroad construction, Arkansas; unit prices. Eng N 125:589 O 31 '40

Railroad construction cost indexes, 1917-1939. map Eng N 124:878 Je 20 '40

Costs

Equipment prices. Ry Age 108:51-2 Ja 6 '40

$477,000,000 for maintenance in 1940. Ry Age 108:442-4+ Mr 9 '40

Handling passenger-train cars at terminals; with cost data. Ry Age 107:792-5 N 18 '39

High-speed lightweight trains; operating and maintenance costs; steam and Diesel electric locomotives compared. C. T. Ripley. Inst Mech Eng J & Proc 142:Proc 104-10 D '39; Same. diags Engineer 168:479-81 N 10 '39

Modern locomotives; their influence on railway operation; study of costs of locomotive operation on the Canadian Pacific. J. R. Macken. Ry Age 108:317-19 F 17 '40

Railroads have an unused garand; meeting competition by rate adjustments based on cost advantages. Ry Age 107:917 D 16 '39

Some increases in railway material costs. D. A. Steel. il Ry Age 108:58-66 Ja 6 '40

See also

Railroads—Accounting

Crossings

This grade separation involved difficult traffic problem; elevating two intersecting lines and four wyes at Elizabeth, N.J. il diag plan Ry Age 107:784-8 N 18 '39

See also

Grade crossings

Curves and turnouts

Reducing curve resistance with rail lubrication. Ry Age 109:255-6 Ag 17 '40

Running passing tracks save train stops; high-speed turnouts with spring switches and signals at meeting points on single track Missouri Pacific. il diag Ry Age 108:745-6 Ap 27 '40

String-lining of railway curves. P. E. Knight. 117p 7s 6d bibliog(p viii) Railway gazette, London '38

Vertical curves. H. E. Brown. Eng N 123: 393 S 28 '39; Discussion. 124:430, 702; 125: 8-9 Mr 28, My 23, Jl 4 '40

Damage from floods, storms, etc.

Railroad fights floods; southern California deluge, March 2, 1938, and its effect on Southern Pacific lines. W. H. Kirkbride. il maps Civil Eng 9:711-14 D '39

Development work

Forestry and the railroads. C. A. Gillett. Paper Tr J 109:16-17 N 23 '39

77 new industries located on Norfolk & western railway in 1939. il Manuf Rec 109: 37+ My '40

Dictionaries

Railway engineering and maintenance cyclopedia. E. T. Howson and others, eds. 4th ed 1008p bibliog(p994-8) $5 Simmons-Boardman '39

Earthwork

Cutting culvert cost under high fills; Moffat railway. il diag Eng N 125:632-3 N 7 '40

Ditching and bank widening; methods and equipment best suited; Roadmasters committee report. Ry Age 109:444+ S 28 '40

Rock Island completes its Samson of the Cimarron; eight-mile cut-off, involving three-tier fills and a 1269-ft. river bridge. il diags map Ry Age 108:204-6 Ja 27 '40

Electric equipment

Electrical benchmarks. Ry Age 108:28+ Ja 6 '40

Electrical developments of 1939. G. Bartlett. il Gen Elec R 43:34-6 Ja '40

Electrical sections of the Engineering and Mechanical divisions, A.A.R., annual meetings, Oct. 29-30. Ry Age 109:677-82 N 9 '40

Electricity in railroad service; abstracts of papers dealing with railroad subjects; winter convention of the Am. inst. of electrical engineers. Ry Age 108:212-14 Ja 27 '40

Single-anode tank rectifier substation; automatic substation of the New York central railroad. il Elec W 112:1887-8 D 30 '39

Electrification

Le développement de l'électrification des chemins de fer dans le monde; l'exemple de l'Italie. L. Pondeveaux. Génie Civil 115: 353-5 N 11 '39

Modern rail transport. A. M. Wright. Elec Eng 59:403-6 O '40

Power supply for railroad electrification and fundamentals of power contracts. E. R. Hill. Elec Eng 59:Trans 560-2 S '40; Abstract. Ry Age 108:212 Ja 27 '40

Railway power supply. P. Torchio. Elec Eng 59:Trans 550-3 S '40; Excerpt. Ry Age 108:212 Ja 27 '40

See also

Electric locomotives
Electric railroads
Locomotives, Diesel-electric
Motor cars (railroad)—Diesel-electric

Brazil

High-speed streamlined electric locomotives of the Paulista railway. F. Guiliot. il diags plan Gen Elec R 43:151-7 Ap '40; Same cond. Ry Age 108:438-41 Mr 9 '40

France

Les autorails, type Alsthom-Soulé, de la Société nationale des chemins de fer français. il diags Génie Civil 116:289-91 My 4 '40

Sous-station mobile de traction, pour la partie électrifiée des chemins de fer français. Garnier. diag Génie Civil 116:188 Mr 16 '40

Great Britain

Remote supervisory control on the Wirral railway. il diags Engineer 169:102-4, 126-7 F 2-9 '40

Italy

Le développement de l'électrification des chemins de fer dans le monde; l'exemple de l'Italie. L. Pondeveaux. Génie Civil 115: 353-5 N 11 '39

South Africa

Railway electrification in Pretoria-Johannesburg area. W. D. Bearce. il diag map Gen Elec R 43:126-30 Mr '40

South African railways; electrification programme practically completed. il Electrician 124:3 Ja 5 '40

Switzerland

12,000-h.p. electric locomotive for the St Gotthard railway, Switzerland. il diags Engineering 149:105-8, 109, 116, pl 7 F 2 '40

Employees

Activities of National mediation board, 1938-39. Monthly Labor R 50:613-14 Mr '40

Bill would change Adjustment board; Short line association proposes amendments. Ry Age 109:451-2 S 28 '40

Chicago, Rock Island & Pacific can't discharge men in merger. Ry Age 107:898+ D 9 '39

Clubs help the rails. Business Week p28+ F 24 '40

RAILROADS—Employees—*Continued*
Employee engaged in cleaning lamps and switches in railroad yards held not engaged in interstate transportation. Weekly Underw 143:1069 N 2 '40
Employee suggestions save $100,000 annually for Illinois Central. Am Business 10:51 O '40
Good fellow solicitation is outmoded; specifications of character and education needed in successful transportation selling. A. D. Phillips. Ry Age 109:685-7 N 9 '40
How about the future? railroads should give thought to their need for executives in the years ahead. Ry Age 109:70-5 Jl 13 '40
Illinois Central workers make 16,092 suggestions. il Ry Age 108:784-5 My 4 '40
Jobless railroad men to get increased benefit payments. Ry Age 109:598+ O 26 '40
National mediation board annual report. Ry Age 108:139-40 Ja 13 '40
Operations under Railroad unemployment-insurance act, 1939. Monthly Labor R 50: 640-2 Mr '40
Pressure on S. 2009 conferees; petition calling for retention of labor protection amendment. Ry Age 108:453-5 Mr 9 '40
Railroad legislation on full crew, personnel, and train lengths. bibliog Monthly Labor R 50:1429-34 Je '40
Railroader. W. F. Cottrell. 145p $2 Stanford univ. press '40
Railroads win awards for employee safety. Nat Safety N 41:52 Je '40; Same abr. Ry Age 108:875 My 18 '40
Seniority curse. F. W. Cottrell. Personnel J 18:177-83 N '39
Supreme court rules ICC has right to protect workers in rail mergers. Comm & Fin Chr 149:3643-4 D 9 '39
Union lawyer defends Chi. board; Mulholland replies to Dickinson's charges. Ry Age 109: 110-12 Jl 20 '40
Unions urge canal tolls. Ry Age 108:418+ Mr 2 '40
Use of carrier personnel in connection with administration of railroad unemployment insurance; abstract. M. R. Reed. Ry Age 108:146 Ja 13 '40
Wagner bill passed by United States Senate amends Railroad unemployment insurance act of 1938. Comm & Fin Chr 151:631 Ag 3 '40
Workers operate Mexican roads. il Ry Age 108:43-5 Ja 6 '40

See also
Railroads—Pensions
Railroads—Wages
Street railroads—Employees

Training
Apprentice training on the Canadian National. A. H. Williams. Ry Mech Eng 113: 498-502 N '39
New Haven railroad salesmen graduate. Sales Management 47:46 S 15 '40
Training boilermaker apprentices to become better mechanics; Master boiler makers' association committee report. Ry Mech Eng 113:443-5 N '39

See also
Railroads—Train dispatchers

Equipment and supplies
Association of American railroads, Purchases and stores division annual meeting, New York, June 25-26. Ry Age 108:1151-65 Je 29 '40
Maintenance of way work equipment; A.R.E.A. committee report. Ry Age 108: 517-18 Mr 16 '40
Materials get attention at Atlantic City meeting; American society for testing materials. Ry Age 109:40-3 Jl 6 '40
Mechanization of bridge and building forces; American railway bridge and building association committee report. Ry Age 109:583 O 26 '40
More unapplied material in railway storehouses. Ry Age 108:630-6 Ap 6 '40
National railway appliances association holds successful exhibition at Chicago. il Ry Age 108:494-7 Mr 16 '40
Railway equipment. Published in weekly numbers of Foreign commerce weekly
Some increases in railway material costs. D. A. Steel. il Ry Age 108:58-66 Ja 6 '40
Still more diversified uses of treated timber. E. T. Howson. Ry Age 108:244+ F 3 '40
Volume of wood treated gains slightly in 1939. R. K. Helphenstine, jr. Ry Age 108:1051-2+ Je 15 '40

See also
Air brakes
Cars
Connectors, Train line
Freight cars
Freight handling
Locomotives
Railroad supplies industry
Railroad ties
Railroads—Purchasing
Railroads—Rolling stock
Railroads—Shops—Equipment
Rails
Turntables

Equipment trust certificates
Equipment issues, 1939. Ry Age 108:50-1 Ja 6 '40
R.R.X; watch out for the cars; even equipment trust certificates are not all prime investments. J. P. Broderick. Barron's 20: 13 O 14 '40

Exhibitions
See also New York (city)—World's fair, 1939—Transportation exhibits

Fares
Baltimore & Ohio opposes extension of 2.5-cent fare; hearing. Ry Age 108:130-3 Ja 13 '40
Early European experience with the railway passenger fare zone system; abstract. G. M. Saharov. Ry Age 108:1068 Je 15 '40
Eastern roads adopt new sliding-scale round-trip fares. Ry Age 108:527 Mr 16 '40
Eastern roads cut fares for N.Y. fair. Ry Age 108:723-4 Ap 20 '40
ICC decrees 2c fare. Business Week p19 F 24 '40
I.C.C. starts hearings on 2 ½ cent fare. Comm & Fin Chr 150:211 Ja 13 '40
No winter truce on rail front. Business Week p18+ Ja 27 '40
Rail travel to be sold on installment plan. Ry Age 108:830 My 11 '40
Railroads to continue low grand circle fares for another year. Comm & Fin Chr 151: 1214 Ag 31 '40
Twenty new streamliners in 1939; lower rates established. il Ry Age 108:19+ Ja 6 '40
Two-cent fare coming back in East. Ry Age 108:368-70 F 24 '40

Federal loans
I. C. C. throws out R. F. C. plan for M. & St. L. Ry Age 108:711-12 Ap 20 '40
RFC has arranged for $60,000,000 railroad equipment loans in last three months. Comm & Fin Chr 149:4107 D 30 '39
R.F.C. loans authorized and authorizations canceled or withdrawn for each railroad, together with the amount disbursed to and repaid by each, Aug. 31, 1940. Comm & Fin Chr 151:2424 O 26 '40
Reconstruction finance corporation loans to the railroads, 1932-1937. H. Spero. 179p bibliog(p167-73) $3.50 Bankers pub. co, 465 Main st, Cambridge, Mass. '39
Status of railroad loans by the R.F.C. Oct. 31, 1939; tabulation. Ry Age 108:47 Ja 6 '40

Finance
Basing railroad reorganizations on permanency of depression. Ry Age 109:357-60 S 14 '40
Burlington's declining coal traffic; carrier's credit adversely affected by inroads of eastern fuel. Barron's 20:18 Mr 11 '40
Capital expenditures of the railroads. H. Lasken. Survey of Cur Business 19:14-18 D '39
Change in debt and annual fixed charges under plans of reorganization, as of July 31, 1940; table. Ry Age 109:344 S 7 '40
Checking up on the railroads; how the 40 largest fared in 1939; tabulation. Business Week p24 Ap 27 '40

RAILROADS—Finance—*Continued*
Comparative income accounts of leading rails, 1937-39. Mag of Wall St Manual p19-20 Mr 2 '40
Corporate net earnings. Published in weekly numbers of Annalist
Cotton belt earnings rise; St Louis southwestern railway shows big recovery. A. Jansen. Barron's 20:19 Ap 22 '40
Doctors were wrong; Minneapolis & St Louis, pronounced hopeless by experts, gives evidence of vigorous life. il map Ry Age 108: 1000-6 Je 8 '40
Experts prescribe rail credit aids; dinner meeting, New York credit men's association, devoted to transportation problems and sound credit. Ry Age 108:255-6 F 3 '40
Financial barometer still low. J. G. Lyne. Ry Age 108:46-52 Ja 6 '40
Financial operations of class I railways, adjusted for seasonal variations, monthly, 1923-June, 1940. Survey of Cur Business 20:16 S '40
Financial reports. Published in weekly numbers of Railway age
Financial requirements of railways (summary of returns on Statistical series circular no. 26). 93p U.S. Interstate commerce commission. Bureau of statistics, Washington '39
First half's net operating income was $242,366,834. Ry Age 109:189 Ag 3 '40
Five months net operating income was $196,006,801. Ry Age 109:47-8 Jl 6 '40
Great Northern on the way back. J. J. Hipple. il Mag of Wall St 66:622-3+ S 7 '40
Great Northern's dividend prospects. A. Jansen. Barron's 20:18 Ag 19 '40
Gross and net earnings of United States railroads for the calendar year 1939. Comm & Fin Chr 150:1184-9 F 24 '40
Gross and net earnings of United States railroads for the month of November. Comm & Fin Chr 150:173-5 Ja 13 '40 [cont monthly]
Gross and net earnings of United States railroads for the six months ended June 30. Comm & Fin Chr 151:1049-52 Ag 24 '40
How drought affects business. R. P. Stewart. map Barron's 19:13 D 11 '39
How war affects Canadian Pacific; income account, 1930-39. A. T. Christie. map Barron's 20:13 My 20 '40
Illinois Central bonds decline sharply; system's earnings record, 1929-39. A. Jansen. Barron's 20:19 My 27 '40
Improvement in 1939; better outlook for 1940. Ry Age 108:1-4 Ja 6 '40
Lackawanna earnings best since 1937. A. Jansen. Barron's 20:19 S 9 '40
Lean years for the rails. L. Velie. Pub Util 24:740-50 D 7 '39; Same. Dun's R 48:23-8+ F '40
Marked increase in railroad and motor transportation. D. W. Ellsworth. Annalist 55: 120-1 Ja 25 '40
More unapplied material in railway storehouses. Ry Age 108:630-6 Ap 6 '40
Net operating income for 1939, $588,800,892. Ry Age 108:295 F 10 '40
New York Central's traffic losses. P. C. Andersen. Barron's 20:8 Je 10 '40
Nine months net operating income was $440,433,552. Ry Age 109:651 N 2 '40
1939's net income was $94,638,951. Ry Age 108:491-3 Mr 16 '40
Number of railway employees, average annual pay, total payroll and railway gross earnings, 1895-1939, inclusive; tabulation. Ry Age 109:576 O 26 '40
Operating revenues and operating expenses of class I steam railways in the United States; by districts for the month of December 1939 and for twelve months ended with December 1938 and 1939. Ry Age 108:392 F 24 '40 [cont monthly]
Pennsylvania railroad's hidden earnings. A. Jansen. Barron's 20:3 Ap 29 '40
Presidents discuss motor transport in reports. Ry Age 108:1122-5 Je 22 '40
Rail comeback; how the railroads have fared in 1940; tabulation. Business Week p20 N 9 '40
Rail earnings in first year of war. A. Jansen. Barron's 20:18 N 11 '40
Rail finances improve. A. Jansen. Barron's 20:18 S 2 '40
Railroad sinking funds and funded debt. W. H. S. Stevens and E. Limmer. 131p U.S. Interstate commerce commission. Bureau of statistics, Washington '39
Railroads complete difficult decade. A. Jansen. Barron's 20:27-8 Ja 15 '40
Railroads, 1939. Survey of Cur Business 20:22-4 F '40
Railroads show a profit again. Business Week p23-4 Ja 13 '40
Report of operations of RFC Feb. 2, 1932, to Aug. 31, 1940; transactions with railroads itemized. Comm & Fin Chr 151:2423-4 O 26 '40
Revenues and expenses of railways; month of December and twelve months of calendar year 1939. Ry Age 108:308-12 F 10 '40 [cont monthly]
Review of railroad financing, 1920-1938. H. E. Dougall and L. C. Farwell. bibliog J Land & Pub Util Econ 16:207-13, 306-17, 443-54 My-N '40
Review of railway operations in 1939. J. H. Parmelee. Ry Age 108:29-39 Ja 6 '40
Reviews estimated consolidation and coordination economies; study by Interstate commerce commission's Bureau of statistics. B. N. Behling. Ry Age 109:184-6 Ag 3 '40
Selected income and balance sheet items of class I steam railways for October, 1939. Comm & Fin Chr 150:33 Ja 6 '40 [cont monthly]
What will earnings be in 1940? Ry Age 108:5-7 Ja 6 '40
Which rails show largest traffic gains; relative performance of major roads during the first war year charted. P. C. Andersen. Barron's 20:3 N 4 '40
Who gets the credit? self-supporting and tax-paying or dependent and tax-supported business. R. S. Henry. il Credit & Fin Management 42:6-8+ My '40
Wisconsin Central in comeback. A. Jansen. Barron's 20:19 O 7 '40

See also
Railroads—Accounting
Railroads—Costs
Railroads—Federal loans
Railroads—Rates
Railroads—Receiverships
Railroads—Securities
also names of railroads, e.g. Atchison, Topeka and Santa Fe railway

Fires and fire protection
Fire in tower demoralizes terminal operations temporarily; destruction of key interlocking plant at St Louis Union station. il plan Ry Age 109:171-4 Ag 3 '40
Fire losses in 1939. Ry Age 109:633+ N 2 '40

Flood damage
See Railroads—Damages from floods, storms, etc.

Forms and blanks
Missouri-Kansas-Texas revamps purchasing methods. il Ry Age 107:849-51 D 2 '39

Freight
Association of American railroads, Freight station section annual meeting, New York, June 11-13. Ry Age 108:1103-5 Je 22 '40
Car design and the development of freight traffic. E. D. Campbell. il Ry Age 108:811-13 My 11 '40
Effect of lightweight cars on Bessemer & Lake Erie; reduced car mileage and tare ton-miles. il Ry Age 109:362-5+ S 14 '40
Express operations, local transit lines, and freight carloadings, 1936-1939. Survey of Cur Business 1940 Sup p82-4 [supplemented in monthly numbers]
Fall peak used freight power almost to full capacity. il Ry Age 108:13-14 Ja 6 '40
Freight car loading. Published in weekly numbers of Railway age
Freight-car loadings, by classes. Published in monthly numbers of Federal reserve bulletin

RAILROADS—Freight—*Continued*

Freight operating statistics of large steam railways—selected items for the month of December, 1939 compared with December 1938 for roads with annual operating revenues above $25,000,000. Ry Age 108:481-2 Mr 9 '40 [cont monthly]

Freight pooling urged; New York Central offers plan for roads' own forwarder service; Pennsylvania promptly opposes. Business Week p22-3 Je 15 '40

Freight progress number. il diags Ry Age 108:880-948 My 25 '40

Freight traffic expanding; equipment repair program remarkably successful. D. W. Ellsworth. Annalist 56:3+ Jl 4 '40

Going to town with freight trains. il Ry Age 108:20-1 Ja 6 '40

How ready are the railroads in case of war? Ry Age 108:10-12 Ja 6 '40

Is the forwarder the answer? Ry Age 108: 854 My 18 '40

Is traffic famine a dead specter? Ry Age 107:781 N 18 '39

Modern rail transport. A. M. Wright. bibliog Elec Eng 59:400-6 O '40

National association of shippers advisory boards, Chicago. Oct. 30-31. Ry Age 109: 683-4+ N 9 '40

Rail rates and shippers' costs not identical. Ry Age 107:949 D 23 '39

Railroad reserve capacity. J. H. Parmelee. il Manuf Rec 109:34-5+ Ja '40

Railroad traffic now less than 80% of potential; study by Interstate commerce commission. Ry Age 109:258 Ag 17 '40

Railroads still losing ground to competitors; study of Fluctuations in railway freight traffic compared with production. Ry Age 107:888 D 9 '39

Revenue freight car loadings. Published in weekly numbers of Commercial & financial chronicle

Selling railroad freight service; St Louis-San Francisco uses co-ordinated rail-highway operations and promotes employee campaigns. il Ry Age 107:826-7 N 25 '39

Senate forwarder hearings. Ry Age 108:1006-7, 1057-62+, 1114-18, 1181-4 Je 8-29 '40

Speedball freight; Santa Fe's 450-mile run is latest hotshot rail service developed in war with trucks. Business Week p31-2 Ja 6 '40

34 million cars loaded in 1939. Ry Age 108:139 Ja 13 '40

Union Pacific provides new merchandise service. il Ry Age 107:929-31 D 16 '39

What about l.c.l.? possibilities of regaining merchandise traffic and how it should be handled. il Ry Age 107:789-91 N 18 '39

See also

Container system (freight handling)
Freight, Perishable
Freight car service
Freight cars
Freight handling
Motor trucks in freight service
Railroads—Motor vehicle auxiliaries
Railroads—Produce terminals
Railroads—Rates
Railroads—Terminals
Refrigerator cars
Tank cars
Terminals

Fuel

Some increases in railway material costs. D. A. Steel. il Ry Age 108:58-66 Ja 6 '40

See also

Coaling stations
Locomotives—Fuel

History

Challenge of the continental divide; railway routes across the Rockies. R. Budd. il map Civil Eng 10:97-9, 161-4, 222-4 F-Ap '40

See also

Great western railway of Canada

Hotels

Hotel Roanoke goes modern; Norfolk & Western enlarges and improves unique facility. il plan Ry Age 107:820-3 N 25 '39

Hotel serves urban terminal; Hotel Vancouver, in Vancouver, B.C. il plans Arch Rec 88:92-4 Jl '40

Hotel Vancouver; electrical plant from Great Britain. F. H. Fullerton. il Elec R (Lond) 126:657 Je 21 '40

Modern design embodied in new hotel built by C.N.R. il plan Ry Age 109:150-2+ Jl 27 '40

New C.N.R. bus route in the Rockies. il map Ry Age 109:445-6 S 28 '40

Inspection

See also

Car inspection
Locomotives—Inspection

Laboratories

Railroads and chemists; Canadian national railways laboratory handles bio-chemical, general industrial and sanitary control and research. W. E. Kemp. Can Chem & Process Ind 24:33-4+ Ja '40

Loading rules

Report of committee on loading rules; A.A.R. Mechanical division. Ry Age 109:18-19 Jl 6 '40; Same. Ry Mech Eng 114:261-2 Jl '40

Report on loading rules; Car department officers' association committee. Ry Mech Eng 114:484-5 N '40

Location

30-mile line diversion on the Southern Pacific in upper Sacramento River valley requires 12 tunnels, 8 bridges and extensive grading. il map Ry Age 108:1108-13 Je 22 '40

Maintenance and repair

Car maintenance, performance and expense. O. A. Garber. Ry Mech Eng 114:474-5 N '40

Economics of railway labor; A.R.E.A. committee report. Ry Age 108:507-8 Mr 16 '40

$477,000,000 for maintenance in 1940. Ry Age 108:442-4+ Mr 9 '40

Future locomotive air-brake maintenance. J. P. Stewart. Ry Mech Eng 114:440-3 N '40

Inspection of buildings to formulate the maintenance program; American railway bridge and building association committee report. Ry Age 109:638-9 N 2 '40

Mobile railway workshops for use with the British expeditionary force in France. il diags plan Engineer 169:313 Mr 29 '40; Same cond. Mech Handling 27:86 Ap '40

More traffic; more construction and maintenance. il Ry Age 108:22-5 Ja 6 '40

Railway engineering and maintenance cyclopedia. E. T. Howson and others, eds. 4th ed 1008p bibliog(p994-8) $5 Simmons-Boardman '39

Some by-products of maintenance machines. Ry Age 109:241-2 Ag 17 '40

See also

Car wheels
Cars—Repair
Locomotive shops
Locomotives—Repair
Railroad ties
Railroads—Shops
Railroads—Track
Rails

Maintenance of way

See Railroads—Track

Management

American association of railroad superintendents 46th annual meeting, Chicago, June 4-6. Ry Age 108:1047-50 Je 15 '40

Controlling costs by supervision. E. H. Bunnell. Ry Age 109:78-80 Jl 13 '40

Doctors were wrong; Minneapolis & St Louis, pronounced hopeless by experts, gives evidence of vigorous life. il map Ry Age 108: 1000-6 Je 8 '40

Economics of railway location and operation; A.R.E.A. committee report. Ry Age 108: 502-4 Mr 16 '40

How to increase terminal locomotive efficiency; steam and Diesel-electric power compared. il Ry Age 108:249-53 F 3 '40

Importance of the car department in rail transportation. J. M. Symes. Ry Age 109: 642-3+ N 2 '40; Excerpt. Ry Mech Eng 114:473-4 N '40

Improving railroad service. C. B. Hitch. Ry Mech Eng 114:433-5 N '40

RAILROADS—Management—*Continued*
Managerial merger; two bankrupt railroads retain their identity, but have same set of general officers. Business Week p22-4 Mr 9 '40
Putting pep into railway sales. il Ry Age 108: 940-6 My 25 '40
Staff meetings as an operating aid; abstract. Ry Age 109:413 S 21 '40
Workers operate Mexican roads. il Ry Age 108:43-5 Ja 6 '40

See also
Railroads—Employees
Railroads—Purchasing

Mechanical departments

See also Association of American railroads—Mechanical division

Mileage

Railway construction gains slightly; U.S.; Canada and Mexico. G. E. Boyd. il Ry Age 108:67-77 Ja 6 '40

Military use

Are the railroads prepared? 1917-18 transportation breakdown and present capacity. E. S. Taliaferro. Barron's 20:3 Jl 29 '40
Mobilizing transportation for defense. T. N. Sandifer. Pub Util 26:657-62 N 7 '40
Moving American defense forces; map in Quartermaster General's office. Pub Util 26: 366-7 S 12 '40
On eve of big troop movement; railroads ready for job. Ry Age 108:1190-1 Je 29 '40
Railroading at army maneuvers; supply operations at Plattsburg, S. Lancaster. il map Ry Age 108:292-4 F 10 '40
Railroads declared to be unprepared for war. L. A. Jenny. Ry Age 108:1188-9 Je 29 '40; Discussion. C. E. Smith. 109:222-4 Ag 10 '40; Reply. 109:338-9 S 7 '40
Railroads move 150,000 for army maneuvers. il maps Ry Age 109:243-5+ Ag 17 '40
They'll carry the defense load; railroads and truck lines complete organization to transport arms and men. Business Week p24+ Ag 10 '40

Models

Model cars and locomotives. E. Beal and F. Taylor. 106p $2; pa $1.50 Modelmaker corp, 1568 W. Pierce st, Milwaukee '40
Model railroader cyclopedia, 1941; railroad equipment prototype plans. 4th ed 135p, pl 1-27 $2.50; pa $1.75 Kalmbach pub. co, 1568 W. Pierce st, Milwaukee, Wis. '40
Railroads in the cellar; capitalization of model railroads now runs into many millions. R. T. Griebling. il Sci Am 162:218-19 Ap '40
Scale railway modelling to-day. E. Beal. 255p $2.50 Macmillan co. of Canada, 70 Bond st, Toronto, 2 '39

Motor tour connections

Buses to scenic spots; tours for rail travelers. il Ry Age 108:752-6 Ap 27 '40

Motor vehicle auxiliaries

Co-ordination at Houston; buses and autoraller. il Ry Age 108:378 F 24 '40
Coordination of rail and highway service. H. C. Murphy. W Soc E J 44:241-4 O '39
Co-ordination on eastern shore; Pennsylvania solves delivery problems on its Delmarva division by the use of rail-highway service. map Ry Age 109:153-4 Jl 27 '40
Co-ordination speeds deliveries; Missouri Pacific gives rail-highway service on Louisiana lines. il map Ry Age 108:1120-1 Je 22 '40
Doing the whole job; Southern Pacific and its subsidiary, the Pacific motor trucking company transfer California state relief department from San Francisco to Los Angeles. il Ry Age 108:556 Mr 23 '40
Fourteen thousand trucks comprise express fleet; railway-owned express companies in the United States and Canada. il diags Ry Age 108:215-21 Ja 27 '40
How trucks and railroads can help each other and the public. Ry Age 108:659-61, 695-7, 771-4 Ap 13-20, My 4 '40
Katy begins co-ordinated service. il map Ry Age 108:222 Ja 27 '40
More for the transportation dollar; revolution in freight service. il Ry Age 108:889-92 My 25 '40
Motor workshops in South Africa. il Engineer 170:228-9 O 11 '40
Motorizing the Rio Grande valley. il map Ry Age 108:554-6 Mr 23 '40
Presidents discuss motor transport in reports. Ry Age 108:1122-5 Je 22 '40
Railroad motor vehicle use expands. C. Layng. il Ry Age 108:101-5 Ja 6 '40
Regaining fresh meat traffic; coordinated service of British railways. il Ry Age 107: 975 D 23 '39
Selling railroad freight service; St Louis-San Francisco uses co-ordinated rail-highway operations and promotes employee campaigns. il Ry Age 107:826-7 N 25 '39
Serving northern Montana; Great Northern system of co-ordinated rail and truck routes. il map Ry Age 109:595-7 O 26 '40
Texas truck routes expanded; Missouri Pacific increases fleet. il Ry Age 109:287-8 Ag 24 '40

See also
Motor bus lines—Railroad operation
Motor trucks in freight service
Railroads—Automobile rental service

Motor vehicle competition

Are cost-competitive rates inevitable? Ry Age 107:842 D 2 '39
Are present rate progressions sound? Ry Age 109:615 N 2 '40
Are railroad truck competitive rates too high? Ry Age 108:965 Je 1 '40
Bus competition; committee report, American association of passenger traffic officers. Ry Age 109:411-12 S 21 '40
Cost competition O.K. by I.C.C; decision on petroleum rates. Ry Age 109:183+ Ag 3 '40
Growers' truck line? Coast association talks of starting own refrigerator service to eastern produce markets. Business Week p27-8 Ja 20 '40
How end unfairly low truck rates? Ry Age 108:316 F 17 '40
How trucks and railroads can help each other and the public. Ry Age 108:659-61, 695-7, 733-6, 771-4 Ap 13-My 4 '40
Inherent advantages of truck service. Ry Age 109:467 O 5 '40
Is traffic famine a dead specter? Ry Age 107:781 N 18 '39
Is truck-rail rate equality sound? Ry Age 108:1045 Je 15 '40; Discussion. 108:1189 Je 29 '40
Limitations of the specialist. Ry Age 109: 541 O 19 '40
Motor carrier capitalization. Ry Age 109:670 N 9 '40
Naval stores case decided. Ry Age 108:254+ F 3 '40; Discussion. 108:276 F 10 '40
Railroads have an unused garand; meeting competition by rate adjustments based on cost advantages. Ry Age 107:917 D 16 '39
Rails losing fight against automobile; billion dollar deficit on passenger business in nine years. R. Elgen. Barron's 19:3-4 D 11 '39
Santa Fe bus line may enlarge; I.C.C. permits rounding out of routes to aid competition with Greyhound. Ry Age 108:467-8 Mr 9 '40
Shadow-boxing with transportation chaos. Ry Age 108:352 F 24 '40
Solicitation practices need critical scrutiny. Ry Age 109:274 Ag 24 '40
Specific program for recovering l.c.l. Ry Age 107:878 D 9 '39
Truck revenues may be 2 billion; interview with L. W. Horning. Ry Age 108:747-9 Ap 27 '40
Turns X-ray on truck propaganda. C. S. Duncan. Ry Age 108:281+ F 10 '40
Uncertainties in cost rate-making. Ry Age 107:811 N 25 '39
Uncommon carriers under fire; freight forwarder wages fight for ICC regulation. Business Week p38-9 D 9 '39

RAILROADS—Motor vehicle competition—*Cont.*
Vermont compares railroads vs. trucks. Ry Age 108:857-8+ My 18 '40
Worked with truckers to recover coal business; De Bardeleben coal corporation. il Ry Age 108:979 Je 1 '40

See also
Railroads—Competitive transportation
Railroads—Motor vehicle auxiliaries

Name plates
Rock Island medallion. il Ry Mech Eng 114: 75 F '40

Office management
See also
Railroads—Accounting

Officials
Williams of Lehigh. Fortune 22:54-5 Ag '40
See also American association of railroad superintendents

Passenger service
Auto-rail plan for West; railroads to sponsor automobile renting service to gain long-distance passenger traffic. Barron's 20:5 F 12 '40
Boston & Maine offers rail-air tickets at reduction. Ry Age 109:294 Ag 24 '40
How B. & M. handled a big passenger job; American Legion's big parade day in Boston. Ry Age 109:673 N 9 '40
Land cruises by train. Ptr Ink 190:19-20 Ja 12 '40
Railroads carry 33,000 to Democrats' party; New Jersey governor's day celebration. Ry Age 109:316-17 Ag 31 '40
Train-auto service; operated jointly by 12 western railroads. Sales Management 47: 35-6 O 10 '40
20,000 Willkie fans go by rail to Elwood ceremonies. il map Ry Age 109:279-80 Ag 24 '40
See also
Railroads—Trains

Passenger traffic
New York's big passenger stations take inventory. Ry Age 108:423 Mr 2 '40
Railroads spend too little for advertising; ways and means of stimulating travel. Ry Age 108:821 My 11 '40
Rails losing fight against automobile; billion dollar deficit on passenger business in nine years. R. Elgen. Barron's 19:3-4 D 11 '39
Record Christmas travel on western railroads. Ry Age 107:1006+ D 30 '39
Re-making transport package. G. A. Kelly. il Ry Age 108:330-2 F 17 '40
Seasonal variation in passenger revenue. E. S. Hobbs and M. B. Foote. Ry Age 109:481-2 O 5 '40
See also
Railroads—Fares
also American association of passenger traffic officers

Pensions
Pension board's 1938-39 report. Ry Age 108: 466+ Mr 9 '40
Pension payments exceed estimates. M. W. Latimer. Ry Age 108:559 Mr 23 '40
Present pension tax not enough. Ry Age 109: 340+ S 7 '40
Railroad retirement benefits, 1938-39. Monthly Labor R 49:1390-2 D '39
Revenue act of 1940; crediting military service for annuity purposes under the Railroad retirement acts. Comm & Fin Chr 151: 2260-1 O 19 '40

Pipe line competition
Pipeline sues, charging plot to block line. Nat Pet N 32:9+ Ja 24 '40
Southeastern gas pipeline goes ahead, despite suits. Nat Pet N 32:16 F 28 '40
Southeastern pipe line faces obstructive tactics in Georgia. P. Reed. Oil & Gas J 39:29 O 31 '40

Police
See also Association of American railroads—Protective section

Power
Electricity in railroad service; abstracts of papers dealing with railroad subjects; winter convention of the Am. inst. of electrical engineers. Ry Age 108:212-14 Ja 27 '40
See also
Electric railroads—Power
Railroads—Electrification
Locomotives

Produce terminals
Five roads join in building modern produce facilities, Denver, Colo. il plan Ry Age 108: 584-7+ Mr 30 '40
Handle with air; heating and air conditioning Rock Island fruit and produce terminal. il Dom Eng 155:51-3 Ap '40
Union Pacific gives Denver modern produce terminal. il plan Ry Age 108:401-5 Mr 2 '40
Use of transportation facilities in the Chicago fruit and vegetable market. E. A. Duddy and D. A. Revzan. J Business 13:1-86 pt 2 Jl '40

Protection
These concrete retaining walls embody novel features; cantilever-type units built on Erie. il diags Ry Age 109:281-5 Ag 24 '40

Public relations
Asset in public relations. G. A. Kelly. il Nat Safety N 42:10-11+ Jl '40
Boston & Maine fetes 50-year commuters. Ry Age 108:451-2 Mr 9 '40
Good fellow solicitation is outmoded; specifications of character and education needed in successful transportation selling. A. D. Phillips. Ry Age 109:685-7 N 9 '40
Open house on a railway system; Chicago and Eastern Illinois railway. il Nation's Business 28:103 Ap '40
Railroad in literature as a public relations medium; novels, histories, short stories, poems and songs which center upon railroading. F. Donovan, jr. bibliog Ry Age 109:307, 312 Ag 31 '40
See also
Railroads and state

Purchasing
Almost $400,000,000 of railway buying in five months. Ry Age 108:1096-8 Je 22 '40
Billion dollars of railway buying in 1939. D. A. Steel. Ry Age 108:53-7+ Ja 6 '40
Capital expenditures of the railroads. H. Lasken. Survey of Cur Business 19:14-18 D '39
Eight months purchases show gains over 1939. Ry Age 109:635-6 N 2 '40
Missouri-Kansas-Texas revamps purchasing methods. il Ry Age 107:849-51 D 2 '39
$1,015,000,000 of buying for railroads in 1939. map Ry Age 108:576-82 Mr 30 '40
Purchases and stores division, A.A.R. A. C. Mann. Ry Age 108:1095 Je 22 '40
Railroads; review and prospects. Iron Age 145:137-9 Ja 4 '40
Trains in the making; orders of Diesel-electric locomotives and streamlined cars. Business Week p23+ Ag 17 '40
What about producers' tie stocks? il Ry Age 107:955-61+ D 23 '39
See also
Railroads—Equipment and supplies

Rates
Adjustment of rates between competing forms of transport. J. B. Eastman. Ry Age 107: 999-1001 D 30 '39
All-freight to south O.K. Ry Age 108:951+ My 25 '40
Are cost-competitive rates inevitable? Ry Age 107:842 D 2 '39
Are freight rates too high? Ry Age 109:303 Ag 31 '40
Are present rate progressions sound? Ry Age 109:615 N 2 '40

RAILROADS—Rates—*Continued*
Are railroad truck competitive rates too high? Ry Age 108:965 Je 1 '40
Charges for protective service to perishable freight. Ry Age 109:692 N 9 '40
Cutting l.c.l. costs; Illinois Central announces new freight-handling plan to woo shippers away from the trucks. Business Week p20-1 Mr '40
Destination basis rates akin to protective tariffs; abstract. J. B. Eastman. Ry Age 108:724 Ap 20 '40
Forwarder aids disapproved. Ry Age 109: 290-1 Ag 24 '40
Four classes out in North N. E.; plan of the Boston & Maine and Maine Central. Ry Age 108:418 Mr 2 '40
Freight cut opposed; western wholesalers don't want chains to have benefit of car rate on assorted lots. Business Week p26 S 28 '40
Freight rates with a southern accent. C. E. Widell. il Nation's Business 28:25-7+ Ja '40
In search of an acceptable policy on competitive rates. Ry Age 108:537-40 Mr 23 '40
I.C.C. sanctions trainload rate; decision in blackstrap molasses case. Ry Age 107:969-71 D 23 '39
I.C.C. starts after rate and classification data. Ry Age 108:170-1 Ja 20 '40
I.C.C. still vexed at Sioux sidings; report on reconsideration of the Sioux City switching case. Ry Age 109:651+ N 2 '40
Is truck-rail rate equality sound? Ry Age 108:1045 Je 15 '40; Discussion. 108:1189 Je 29 '40
Large possibilities in the molasses decision. Ry Age 108:120 Ja 13 '40
Limitations of the specialist. Ry Age 109: 541 O 19 '40
Making rates to move the freight. diags Ry Age 108:934-9 My 25 '40
Merchandise committee A.A.R. recommendations. Ry Age 107:831-2 N 25 '39
Momentous decision in the trainload rate case. Ry Age 107:947-50 D 23 '39
New carload freight rates. il Manuf Rec 109:24+ F '40
New law for rate-making? Ry Age 109:577 O 26 '40
New price policy for the railroads: quantity or multiple-car rates; the Molasses case. E. A. Smith. bibliog J Land & Pub Util Econ 16:230-3 My '40
New York state commercial organizations urged to oppose radical changes in freight rate structure. Comm & Fin Chr 151:2743 N 9 '40
Out-of-pocket vs. cost rates. Ry Age 108: 238 F 3 '40
Preferential rates to quantity rail shippers ruled lawful by I.C.C. Comm & Fin Chr 149: 3801 D 16 '39
Problem of interterritorial and competitive rates. J. B. Eastman. Ry Age 109:590-1 O 26 '40; Same abr. Comm & Fin Chr 151: 2428 O 26 '40
Putting incentives into the rate structure. Ry Age 109:431 S 28 '40
Rail rates and shippers' costs not identical. Ry Age 107:949 D 23 '39
Railroads have an unused garand; meeting competition by rate adjustments based on cost advantages. Ry Age 107:917 D 16 '39
Seek to cut red tape, speed l.c.l.; railroads want fourth section relief. Ry Age 108:824-5 My 11 '40
Significance of freight rates to the people of Georgia. T. F. Green, jr. (Inst. for the study of Georgia problems, no. 6) bibliog map 35p pa 15c R. P. Brooks, Athens, Ga. '40
South wins freight rate case. Ry Age 107: 889-90+ D 9 '39
South wins rate cut. Business Week p37-8 D 9 '39
Southern l.c.l. ratings slashed. Ry Age 109: 188 Ag 3 '40
Specific program for recovering l.c.l. Ry Age 107:878 D 9 '39
Tonnage regained; Illinois Central rate experiments. Business Week p25-6 Je 8 '40
Traffic authority attacks cost rate basis. Ry Age 108:117-19 Ja 13 '40
Trainload rate set; ICC action on blackstrap is important precedent. Business Week p22-3 D 23 '39
Transportation future. J. B. Eastman. Ry Age 108:717-18 Ap 20 '40
Truckload rail rate between Chicago and St Louis. Business Week p45-7 Ap 13 '40
Uncertainties in cost rate-making. Ry Age 107:811 N 25 '39
When politicians take a hand at utility regulation; proposed national legislation for parity of railroad rates. W. M. Maupin. Pub Util 25:344-7 Mr 14 '40
Would ease order on loading levy; Trezise gives reasons why low charges are justified. Ry Age 109:652 N 2 '40

See also
Railroads—Fares

Airplanes and parts
Rail-plane dispute; roads seek increase in freight rates on aircraft unless shipper assumes all risk. Business Week p24 Mr 23 '40

Coal
Southern Tidewater coal rates upheld. Ry Age 108:639-40 Ap 6 '40

Farm produce
Agricultural dept. issues study on perishable rates. Ry Age 108:1195 Je 29 '40

Gasoline
Interstate commerce commission examiner suggests trainload rate on gasoline. Ry Age 108:787+ My 4 '40
I.C.C. may inaugurate trainload rates on Mid-continent gasoline. Oil & Gas J 39: 62 Jl 25 '40
Trainload gas rates argued. Ry Age 109:156+ Jl 27 '40
Trainload rates for gasoline is recommended to Interstate commerce commission. H. D. Ralph. Oil & Gas J 38:25 My 2 '40
Trainload rates to mid-West recommended by ICC examiner. Nat Pet N 32:9+ My 1 '40

Live stock
Draws line between rail and stock yard service on live stock. Ry Age 108:724-5 Ap 20 '40
Feeder rates stay on stock. Ry Age 108:1068 Je 15 '40
I.C.C. forbids stock pick-up. Ry Age 109:47+ Jl 6 '40

Naval stores
Naval stores case decided. Ry Age 108:254+ F 3 '40; Discussion. 108:276 F 10 '40

Petroleum and petroleum products
Ailing refiners aided; Midcontinent independents gain by new freight reductions. Business Week p20 Ja 13 '40
Cost competition O.K. by I.C.C; decision on petroleum rates. Ry Age 109:183+ Ag 3 '40
ICC opens the door to trainload rates. Nat Pet N 31:5+ D 20 '39
Long haul rates attacked by refiners and marketers. Nat Pet N 31:57-8 D 13 '39
Marketers jam ICC hearings, back rate cut. Nat Pet N 31:9+ N 22 '39
Rails say trainload's cost is higher than single car. Nat Pet N 32:27-8 O 30 '40
Trucker sues rails, asks treble damages; charges roads with planning truck destructive rates on petroleum products. Nat Pet N 32:19 Ap 17 '40

Scrap metal
$4 charge allowed for transferring scrap from improperly loaded cars. Iron Age 144:50B D 28 '39
ICC cuts rail rate on scrap at Cincinnati. Iron Age 145:64 Ja 18 '40

Tin plate
ICC suspends reduced rates on tin plate to Texas points. Iron Age 144:74 N 30 '39

Receiverships
Androscoggin & Kennebec railway foreclosure. Comm & Fin Chr 151:2340 O 19 '40
Boston & Maine refinance plan made public. Ry Age 108:108-9 Ja 6 '40

RAILROADS—Receiverships—*Continued*
Calculation of exchange values of defaulted rail bonds in reorganization. S. L. Miller. Annalist 55:515-16 Ap 11 '40
Chicago & Eastern Illinois is re-organized. map Ry Age 109:81-2 Jl 13 '40
Chicago & eastern Illinois railroad; new company authorized to acquire properties under reorganization. Comm & Fin Chr 151:2638 N 2 '40
Chicago, Milwaukee, St Paul & Pacific railway; court agrees to reorganization plan of ICC; stockholders wiped out. Comm & Fin Chr 151:2490 O 26 '40
Commission approves Erie reorganization plan. Ry Age 108:712-14 Ap 20 '40
Commission issues final Frisco plan. Ry Age 109:112-13 Jl 20 '40
Denver & Rio Grande still an embattled road; ICC reorganization plan. map Business Week p28-30 Ag 24 '40
Enigma of defaulted rail bonds; hidden earning power due to abnormal charges for maintenance. E. S. Brooks. Barron's 20:3 Mr 4 '40
Erie's reorganization plan. E. S. Brooks. Barron's 20:18 My 6 '40
First major rail reorganization; Chicago & Eastern Illinois. A. Jansen. Barron's 20:20 Ja 1 '40
First out of 77; Chicago & Eastern Illinois initial railroad to reorganize under simplified bankruptcy clause. Business Week p58 D 9 '39
ICC issues summary of reorganization plans for 25 railroads; tabulation. Comm & Fin Chr 151:1655-6 S 21 '40
I.C.C. lets bondholders take all in Missouri Pacific revamping. Ry Age 108:166-8 Ja 20 '40
ICC reorganization plan for Chicago, Milwaukee, St Paul & Pacific. A. Jansen. Barron's 20:19 Mr 11 '40
ICC reorganization plan for 'Frisco. A. Jansen. Barron's 20:15 Ag 12 '40
I. C. C. throws out R. F. C. plan for M. & St. L. Ry Age 108:711-12 Ap 20 '40
I.C.C. wipes out C. & N.W. equities. Ry Age 107:967-8+ D 23 '39
I.C.C. wipes out Milwaukee equities. Ry Age 108:405-6+ Mr 2 '40
ICC's final plan for the New Haven. A. Jansen. Barron's 20:18 Jl 1 '40
New hope for defaulted rail bonds; drastic proposal of I.C.C. examiner ignored by commission. A. Jansen. Barron's 20:19 Ja 29 '40
New type of railroad reorganization; RFC offers cash and new securities to Boston & Maine bondholders. F. E. Park, jr. Barron's 20:9 Ja 22 '40
Plan would wipe out New Haven equity. Ry Age 108:715-16 Ap 20 '40
Proposed plan for the New Haven. Ry Age 107:818-19 N 25 '39
Railroad rehabilitation by relief from excessive fixed charges. E. Schram. Comm & Fin Chr 150:624 Ja 27 '40
Railroads in the hands of receivers or trustees in 1939; tabulation. Comm & Fin Chr 150:701 Ja 27 '40
Receivers' reorganization plan for Wabash. A. Jansen. Barron's 20:18 O 21 '40
Solution to railroad reorganization problem sought; voluntary reorganizations. C. A. Graham. Comm & Fin Chr 150:1862 Mr 23 '40
Special committee of National conference of investors to study possibilities of securing revision of railroad capital structures through voluntary reorganizations. Comm & Fin Chr 150:921-2 F 10 '40
Stockholders lose; ICC rules on New Haven and Erie railroads. Business Week p50-1 Ap 20 '40
Summary of railroad receiverships and trusteeships, 1876 to 1939; railroads in the hands of receivers or trustees on Dec. 31, 1939; tabulations. J. G. Lyne. Ry Age 108:49-50 Ja 6 '40
Symposium on railroad reorganization; Duke university publishes discussion by 13 authorities on bankrupt roads. Ry Age 109: 586-9 O 26 '40
Track cleared for rail reorganizations; Supreme Court decision blasts composition of claims theory. A. Jansen. Barron's 19: 19 N 20 '39

Records

Methods of collecting data for OS reports; Railway fuel and traveling engineers association committee report; abstracts. Ry Age 109:622-3 N 2 '40; Ry Mech Eng 114:501-3 N '40
Records and accounts; A.R.E.A. committee report. Ry Age 108:515-16 Mr 16 '40
Rock Island develops new records for storekeeping. il Ry Age 107:926-8 D 16 '39
Stock cards are requisitions on C. & E.I. il Ry Age 108:1099-1102 Je 22 '40
Systematic check cuts freight car detention; Frisco lines' terminals. H. W. Johnson. il Ry Age 108:1008-10+ Je 8 '40
Why not streamline statistics? Railway fuel and traveling engineers' association committee report. Ry Mech Eng 113:480-2 N '39

See also
Railroads—Accounting

Regulation

See Interstate commerce commission; Railroads and state

Reorganization

See Railroads—Receiverships

Roadmasters

See also Roadmasters' and maintenance of way association

Rolling stock

Developments in the application of the internal combustion engine to railway traction in Europe and North America; with transmission types and cost data. F. T. Barwell. il diags Inst Mech Eng J & Proc 142:11-23 Ja '40
Engineering outlook; locomotives and rolling stock. Engineering 149:299-301 Mr 22 '40
Equipment prices. Ry Age 108:51-2 Ja 6 '40
Mobile railway workshops for use with the British expeditionary force in France. il diags plan Engineer 169:313 Mr 29 '40; Same cond. Mech Handling 27:86 Ap '40
New technologies in transport. F. G. Gurley. Ry Age 108:208-11+ Ja 27 '40
Recent innovations in railroad freight and passenger equipment. M. J. Roberts. J Business 13:56-73 Ja '40
War on weight. J. L. Walsh. il Mech Eng 62:122-3 F '40

See also
Cars
Dining cars
Freight cars
Locomotives
Motor cars (railroad)
Postal cars
Refrigerator cars
Sleeping cars
Tank cars

Safety devices and measures

Asset in public relations. G. A. Kelly. il Nat Safety N 42:10-11+ Jl '40
Bureau of safety annual report for fiscal year ended June 30, 1939. Ry Age 108:171-2 Ja 20 '40
Gates at seven Alton crossings; 24-hr. protection for Lincoln, Ill. il plan Ry Age 108:410-12 Mr 2 '40
Illinois Central celebrates year without accident. Ry Age 109:177 Ag 3 '40
Seeks greatest rail safety through regular testing; Missouri Pacific flaw detector car. il map Ry Age 109:214-18 Ag 10 '40
Shopmen celebrate a safe year; Illinois Central shops at Paducah. Nat Safety N 42:27+ S '40
Slow orders under present-day operating conditions; committee report, Roadmasters' and maintenance of way association. Ry Age 109:406-7 S 21 '40

RAILROADS—Safety devices and measures—*Continued*
Train communication installed on the Bessemer & Lake Erie; two-way telephone conversation between locomotives and cabooses of freight trains. il map Ry Age 109:114-17 Jl 20 '40

See also
Air brakes
Decelostat
Grade crossings
Harriman memorial medals for safety

Sanitation

Combating fly nuisance at C. & N. W. coach yard. il Ry Mech Eng 114:402-4 O '40
Railroads and chemists; Canadian national railways laboratory handles bio-chemical, general industrial and sanitary control and research. W. E. Kemp. Can Chem & Process Ind 24:33-4+ Ja '40

See also
Railroads—Water supply

Schedules

Every-hour-on-the-hour, New York to Boston; other changes by a number of railroads. Ry Age 108:764-5 Ap 27 '40
Fast service for southeast Texas; efficient handling of perishables. il maps Ry Age 108:449-50+ Mr 9 '40

See also
Railroads—Train speed

Scrap material

Report on scrap handling; A.A.R.Purchases and stores division. il diag Ry Age 108:1155-6 Je 29 '40
Scrap handling and reclamation practices; Santa Fe and Southern Pacific methods. P. Young; E. J. Becker. il Ry Age 109:508-11 O 12 '40
Scrap yields railroads 80 million dollars in '39. Ry Age 108:134 Ja 13 '40

Securities

Asset values behind Alleghany bonds reflect rise in C. & O. and proposed change in indentures. Barron's 20:27-8 S 16 '40; Correction. 20:19 S 23 '40
B. & O. contingent interest; secured payments mandatory next year if 1940 earnings match 1939. A. Jansen. Barron's 20:19 Mr 4 '40
Bondholder's guide. Published in Barron's
Borderline rails added to New York legal list. A. Jansen. Barron's 20:18 Jl 8 '40
Calculation of exchange values of defaulted rail bonds in reorganization. S. L. Miller. Annalist 55:515-16 Ap 11 '40
Chicago, Milwaukee, St Paul & Pacific railway; court agrees to reorganization plan of ICC; stockholders wiped out. Comm & Fin Chr 151:2490 O 26 '40
Co-operative securities research; solution of railroad portfolio problems; work of Security research bureau of Philadelphia. H. L. Umbarger. Trusts & Estates 70:121-2 F '40
Drought's threat to Atchison bonds. A. Jansen. Barron's 19:15 D 25 '39
Effect of defense taxes on rail securities. P. C. Andersen. Barron's 20:3 Je 24 '40
Enigma of defaulted rail bonds; hidden earning power due to abnormal charges for maintenance. E. S. Brooks. Barron's 20:3 Mr 4 '40
Erie junior bonds in doldrums. A. Jansen. Barron's 20:19 Mr 25 '40
Financial barometer still low. J. G. Lyne. Ry Age 108:46-52 Ja 6 '40
Guide to defaulted railroad bonds and railroad reorganization securities. P. B. McGinnis, ed. 2d ed 100p pa $1.25 Pflugfelder, Bampton & Rust, 61 Broadway, New York '40
Gulf, Mobile and Ohio railroad; listing of securities. Comm & Fin Chr 151:987-8 Ag 17 '40
High yields on Pere Marquette bonds. A. Jansen. Barron's 20:19 Ag 26 '40
Institutional liquidation depresses rail bonds. Bankers M 140:414-17 My '40
I.C.C. lets bondholders take all in Missouri Pacific revamping. Ry Age 108:166-8 Ja 20 '40
I.C.C. wipes out Milwaukee equities. Ry Age 108:405-6+ Mr 2 '40
Lehigh Valley's interest respite nearly over. A. Jansen. Barron's 20:19 O 28 '40
New hope for defaulted rail bonds; drastic proposal of I.C.C. examiner ignored by commission. A. Jansen. Barron's 20:19 Ja 29 '40
Nickel Plate's maturity problem; two issues, totaling $16,281,000 fall due next year. A. Jansen. Barron's 20:19 Je 17 '40
1939 New Haven interest payments. A. Jansen. Barron's 20:19 F 19 '40
North Western's potential earning power; reorganization should reveal substantial values for new securities. F. E. Park, jr. Barron's 20:18 Ap 1 '40
Northern Pacific refunding bonds turn upward. A. Jansen. Barron's 20:19 My 13 '40
Outlook for new railroad income bonds. A. Jansen. Barron's 19:23 D 4 '39
Outlook for railroad bonds. E. H. Leslie. Inv Banking 10:16-18 Mr '40
Pittsburgh & West Virginia's recovery. A. Jansen. Barron's 20:19 Jl 29 '40
Position of leading railroad stocks. Mag of Wall St 65:469; 66:468 Ja 27, Jl 27 '40
Rail and utility investments under expanding public control. N. L. Smith. bibliog Harvard Business R 18 no 4:397-409 [Jl] '40
Railroad bonds for banks. R. R. Fairchild. Bankers Mo 57:342-3 Je '40
Receivership rail speculation; Chicago, Milwaukee & St Paul railroad general mortgage bonds. W. H. Dayton. Barron's 20:19 S 23 '40
Review of railroad financing, 1920-1938. H. E. Dougall and L. C. Farwell. bibliog J Land & Pub Util Econ 16:207-13, 306-17, 443-54 My-N '40
Section 77 and the railroad stockholder. L. Whitfield. Bankers M 139:510-12 D '39
Southern Pacific bonds at large discount. A. Jansen. Barron's 20:19 Je 24 '40
Substantial returns on Reading bonds; road consistently has earned fixed charges. Barron's 20:19 N 11 '40
Texas & Pacific railway bonds down sharply. A. Jansen. Barron's 19:19 D 11 '39
Underlying MOP bond yields 6.56%; St Louis, Iron Mountain & Southern 4s, 1933. A. Jansen. Barron's 20:19 Ja 8 '40
Urges new type of railroad security; income-participating bond; abstract. W. H. S. Stevens. Ry Age 109:85-6 Jl 13 '40
Wabash first 5s in improved position. A. Jansen. Barron's 20:19 F 5 '40
Western Maryland's good earnings record. A. Jansen. Barron's 20:19 Jl 15 '40

See also
Railroads—Equipment trust certificates

Service

Chicago and eastern Illinois railway helps old customers find new customers; combustion research department stimulates coal consumption, increases railroad haulage. S. Ware. il Am Business 10:21-2 Ja '40
Faster trains give shippers streamlined service. il Ry Age 108:910-17 My 25 '40
How good freight service benefits the shipper. Ry Age 108:947-8 My 25 '40
More for the transportation dollar; revolution in freight service. il Ry Age 108:884-97 My 25 '40
Union Pacific provides new merchandise service. il Ry Age 107:929-31 D 16 '39

See also
Freight car service
Freight handling
Railroads—Passenger service

Shops

Are the railroads prepared? survey of opinion among mechanical men. il Ry Age 108:1094 Je 22 '40
Ingenuity plus welding saves money in railroad shop. A. Havens. Am Mach 84:666 S 4 '40
Motor workshops in South Africa. il Engineer 170:228-9 O 11 '40

RAILROADS—Shops—*Continued*
South of the border; Mexican national railway shops. F. H. Colvin. il Am Mach 83: 1076-7 D 27 '39
See also
Car shops
Locomotive shops

Equipment

Balancing high-speed rotating parts; Gisholt dynetric balancing machines. il Ry Mech Eng 114:158-60 Ap '40
Compressor plant modernization pays for itself out of savings; maintenance shops at Hagerstown, Md.; Western Maryland railway. W. J. Crabbs, jr. il diag Power 84:495-7 Ag '40
Contour sawing in railroad shops. D. M. Shields. il Iron Age 145:58 Je 6 '40
Forge shop practice at Norfolk & Western. F. J. Oliver. il diags Iron Age 146:46-51 N 7 '40
Improvements at the Readville shop facilitate demounting wheels. il plan Ry Mech Eng 114:70-3 F '40
New Atlas journal jack. il Ry Mech Eng 114: 199 My '40
Performance of Carboloy on railroad work. il Ry Mech Eng 114:368-70 S '40
Turret lathes in tool rooms. il Ry Mech Eng 114:112-13 Mr '40
Whiting drop pit table. il Ry Mech Eng 114: 27 Ja '40

Mobile shops

Mobile military repair depot. il Elec R (Lond) 126:377 Mr 29 '40
Mobile railway workshops for use with the British expeditionary force in France. il diags plan Engineer 169:313 Mr 29 '40; Same cond. Mech Handling 27:86 Ap '40

Signals

Automatic train control. il diags Engineer 170:18-20, 36-8, 52-4, 68-70, 84-6 Jl 12-Ag 9 '40
Automatic train-signal recorder. il Ry Age 108:1130 Je 22 '40; Same. Ry Mech Eng 114:285-6 Jl '40
Centralized traffic control solves problem on the Norfolk & Western. il plan Ry Age 107: 996-8 D 30 '39
Faster trains give shippers streamlined service. il Ry Age 108:913-14 My 25 '40
Gates at seven Alton crossings; 24-hr. protection for Lincoln, Ill. il plan Ry Age 108: 410-12 Mr 2 '40
Modern railway signalling practice. il diags Engineer 168:564-6, 582-3, 592, 608-10, 632-4 D 8-29 '39
Railway signal mains; counteracting voltage drop. H. C. Towers. il diags Elec R (Lond) 127:281 O 4 '40
Recent developments in railroad-highway grade crossing protection. P. M. Gault. W Soc E J 45:117-20 Je '40
Running passing tracks save train stops; high-speed turnouts with spring switches and signals at meeting points on single track on Missouri Pacific. il diag Ry Age 108:745-6 Ap 27 '40
St Louis signals Municipal bridge. il maps Ry Age 108:325-8 F 17 '40
Signal section, Association of American railroads, meeting, Washington. Ry Age 109: 548-50+ O 19 '40
Signaling construction increases. J. H. Dunn. il Ry Age 108:93-8 Ja 6 '40
Signaling faces new demands. il Ry Age 108: 26-7 Ja 6 '40

Snow protection and removal

Handling snow and ice; organization, equipment, methods; Roadmasters committee report. Ry Age 109:443-4 S 28 '40

Stations

Railroad station, La Crosse, Wis.; views and plans. Arch Forum 72:323-6 My '40
This grade separation involved difficult traffic problem; elevating two intersecting lines and four wyes at Elizabeth, N.J. il diag plan Ry Age 107:784-8 N 18 '39
This station streamlined for beauty and comfort; Burlington structure at La Crosse, Wis. il plan Ry Age 109:674-6 N 9 '40
See also
Railroads—Terminals

Lighting

Railroad terminal, Los Angeles. il Illum Eng 35:414-15 My '40

Statistics

Express operations, local transit lines, and freight carloadings, 1936-1939. Survey of Cur Business 1940 Sup p82-4 [supplemented in monthly numbers]
Fall peak used freight power almost to full capacity. il Ry Age 108:13-14 Ja 6 '40
Freight operating statistics of large steam railways—selected items for the month of December, 1939 compared with December 1938 for roads with annual operating revenues above $25,000,000. Ry Age 108:481-2 Mr 9 '40 [cont monthly]
Materials and supplies used and carried by class 1 railroads in 1939; tabulation. Ry Age 108:632-3 Ap 6 '40
Railroad construction indices for 1939. W. P. Bartel. Ry Age 109:285-6 Ag 24 '40
Railroads; review and prospects. Iron Age 145:137-9 Ja 4 '40
Railroads still losing ground to competitors; study of Fluctuations in railway freight traffic compared with production. Ry Age 107:888 D 9 '39
Railway capacity and traffic control. M. J. Gormley. 63p Eastern railroad presidents conference, Committee on public relations, 143 Liberty st, New York '39
Review of railway operations in 1939. J. H. Parmelee. Ry Age 108:29-39 Ja 6 '40
Why not streamline statistics? Railway fuel and traveling engineers' association committee report. Ry Mech Eng 113:480-2 N '39
See also
Cars—Statistics
Freight cars—Statistics
Railroads—Mileage

Storehouses

Chicago & Illinois Midland builds model storehouse. il Ry Age 109:76-7+ Jl 13 '40

Stores systems

Association of American railroads, Purchases and stores division annual meeting, New York, June 25-26. Ry Age 108:1151-65 Je 29 '40
Co-operating with the P. & S. dept. in protecting B. & B. requirements; abstract. H. R. Duncan. Ry Age 109:637-8 N 2 '40
No frills in Pennsylvania railroad storekeeping. il Ry Age 107:824-5 N 25 '39
Purchases and stores division, A.A.R. A. C. Mann. Ry Age 108:1095 Je 22 '40
Rock Island develops new records for storekeeping. il Ry Age 107:926-8 D 16 '39
Stock cards are requisitions on C. & E. I. il Ry Age 108:1099-1102 Je 22 '40
Storage and delivery of bridge and building materials; American railway bridge and building association committee report. Ry Age 109:641 N 2 '40
See also
Railroads—Commissaries

Switches, frogs, etc.

Block-signal switch built from locomotive parts. P. C. Ziemke. diags Coal Age 45:60 Jl '40
Running passing tracks save train stops; high-speed turnouts with spring switches and signals at meeting points on single track on Missouri Pacific. il diag Ry Age 108:745-6 Ap 27 '40
Switch stand with facing-point lock. il Ry Age 108:457-8 Mr 9 '40

Switching

Baldwin builds 1,000 and 660-hp. Diesel-electric switchers. il Ry Age 107:992-5+ D 30 '39; Same. Ry Mech Eng 114:56-9+ F '40

RAILROADS—Switching—*Continued*

Centralized traffic control solves problem on the Norfolk & Western. il plan Ry Age 107: 996-8 D 30 '39

Performance of Diesel locomotives in switching service; abstract and discussion. M. D. Raymond. il Ry Mech Eng 114:81 F '40

Speed in freight service demands horsepower. il Ry Age 108:931-3 My 25 '40

Taxation

Railroad taxation and abandonments. E. S. Lynch. bibliog Harvard Business R 18 no 4: 496-503 [J1] '40

Railway taxes twelve times net income. Ry Age 108:119-20 Ja 13 '40

Taxation of railroads in New Jersey. H. L. Lutz. 208p $2.50 Princeton univ. press '40

Taxicab service

Train-taxi service; sixteen railroads offering low-rate cab tie-up for arrivals in 25 cities. Business Week p24-5 Je 8 '40

Telegraph

Telephone and telegraph facilities expanded. E. J. Phillips. il Ry Age 108:99-100 Ja 6 '40

See also Association of American railroads —Telegraph and telephone section

Telephone

Telephone and telegraph facilities expanded. E. J. Phillips. il Ry Age 108:99-100 Ja 6 '40

Telephone communication on the L. & N. il map Ry Age 108:969-71 Je 1 '40

Train communication installed on the Bessemer & Lake Erie; two-way telephone conversation between locomotives and cabooses of freight trains. il map Ry Age 109:114-17 Jl 20 '40

See also Association of American railroads —Telegraph and telephone section

Terminals

Fire in tower demoralizes terminal operations temporarily; destruction of key interlocking plant at St Louis Union station. il plan Ry Age 109:171-4 Ag 3 '40

Grand Central terminal in perspective. W. J. Wilgus. il maps Am Soc C E Proc 66:1413-45 O '40

Illinois central builds three heater cars for use with Diesel-electric locomotives handling passenger equipment at terminals. H. Anderson. il Ry Mech Eng 114:186+ My '40

Los Angeles station uses gas heat and power. R. M. Richter. Gas Age 85:19+ F 15 '40

Merchandise handling gets face-lifting. il Ry Age 108:898-903 My 25 '40

Milwaukee opens new l.c.l. facilities at Chicago. il diag plan Ry Age 109:542-4 O 19 '40

New York Central freight terminal at New York has distinctive features. il diag plan Ry Age 108:699-702 Ap 20 '40

North-south junction railway, Brussels. il diags maps Engineering 150:10, 13-15, 21-3, 70, 74-5, pl 3 Jl 5-12, 26 '40

Systematic check cuts freight car detention; Frisco lines' terminals. H. W. Johnson. il Ry Age 108:1008-10+ Je 8 '40

Yards and terminals; A.R.E.A. committee report. Ry Age 108:516-17 Mr 16 '40

See also

Railroads—Produce terminals
Railroads—Stations
Railroads—Yards
Terminals

Ticket offices

Streamlined lighting for the streamliners; downtown ticket office of Union Pacific, San Francisco. il Elec West 85:38 S '40

Time tables

Unified, all-railroad time-tables between main points? F. Bertram. Ry Age 108:417 Mr 2 '40

Track

Application of dimensional analysis to stresses in railway tracks. M. Daniloff. Engineering 148:660-1 D 15 '39

Cole's Permanent way material, maintenance, points and crossings. W. H. Cole. 10th ed 196p $4.25 Chemical pub. co. '40

Effect of weight of rail on track maintenance; Roadmasters committee report. Ry Age 109: 441-2 S 28 '40

Faster trains give shippers streamlined service. il Ry Age 108:914-16 My 25 '40

$477,000,000 for maintenance in 1940. Ry Age 108:442-4+ Mr 9 '40

Maintenance of gage under today's higher speeds; committee report, Roadmasters' and maintenance of way association. Ry Age 109:409 S 21 '40

Maintenance of way work equipment; A.R.E.A. committee report. Ry Age 108:517-18 Mr 16 '40

More traffic; more construction and maintenance. il Ry Age 108:22-5 Ja 6 '40

Railroad right-of-way transformed into concrete street, Urbana, Illinois. M. H. Kinch. il Pub Works 71:38 Je '40

Railway track maintenance; track recording car. il Elec R (Lond) 125:579-80 N 3 '39

Rehabilitating a railroad to meet present-day conditions; Western Pacific has practically rebuilt its line from Oakland, Cal. to Salt Lake City. il map Ry Age 109:308-11 Ag 31 '40

Report of A.R.E.A. committee on rail. Ry Age 108:506-7 Mr 16 '40

Report of the Pacific locomotive committee, Delhi. diags Engineering 148:506-7 N 3 '39

Report on track; A.R.E.A. committee. Ry Age 108:510-11 Mr 16 '40

Roadway and ballast; A.R.E.A. committee report. Ry Age 108:511-12 Mr 16 '40

Simplification of track work. C. H. R. Howe. Ry Age 109:442-3 S 28 '40

Slow orders under present-day operating conditions; committee report, Roadmasters' and maintenance of way association. Ry Age 109:406-7 S 21 '40

Track stress research. W. E. Gelson and E. A. Blackwood. diags Engineering 150: 141-3 Ag 23 '40

Uses of concrete in transportation. M. D. Catton. il Can Eng R & B 78:23 Ag '40

Welding, its uses in track work; committee report, Roadmasters' and maintenance of way association. Ry Age 109:408-9 S 21 '40

See also

Grade crossings
Mine tracks
Rail bonds
Rail joints
Railroad ties
Railroads—Construction
Railroads—Curves and turnouts
Railroads—Switches, frogs, etc.
Rails

Track depression

This track depression imposed severe drainage problem; High Point, N.C. il plans Ry Age 107:882-7 D 9 '39

Track elevation

Holes pre-bored for underpass falsework; four-lane underpass under tracks of B. & O.C.T. railway in Chicago. il Eng N 124: 654-5 My 9 '40

This grade separation involved difficult traffic problem; elevating two intersecting lines and four wyes at Elizabeth, N.J. il diag plan Ry Age 107:784-8 N 18 '39

See also

Grade crossing elimination

Traffic

See also

Railroads—Freight
Railroads—Passenger traffic

Train dispatchers

Train dispatchers need training for their jobs. O. H. Braese. Ry Age 109:482-3 O 5 '40

Train dispatching

Centralized traffic control solves problem on the Norfolk & Western. il plan Ry Age 107: 996-8 D 30 '39

RAILROADS—Train dispatching—*Continued*
Fire in tower demoralizes terminal operations temporarily; destruction of key interlocking plant at St Louis Union station. il plan Ry Age 109:171-4 Ag 3 '40
Modern railway signalling practice. il diags Engineer 168:582-3, 592, 608-10, 632-4 D 15-29 '39
New York central diverts 200 trains around blocked line at Little Falls, N.Y. map Ry Age 108:971+ Je 1 '40
What a chief dispatcher thinks of fuel economy. T. O. Weeks. Ry Age 109:616-18 N 2 '40; Same cond. Ry Mech Eng 114:488-9 N '40

Train ferries

See Train ferries

Train speed

Advancements in the braking of high-speed trains; with description of Decelostat for decreasing wheel slip. C. D. Stewart. Ry Age 108:861-4 My 18 '40
Braking high-speed trains as an engineering problem. J. C. McCune. bibliog il diags Mech Eng 61:583-8, 657-60 Ag-S '39; Discussion. 62:408-10 My '40
Do higher speeds increase stresses in bridges? Santa Fe experiments. R. A. Van Ness. il Ry Age 108:364-7 F 24 '40
Faster trains give shippers streamlined service. il Ry Age 108:910-17 My 25 '40
More for the transportation dollar; revolution in freight service. il Ry Age 108:888-9 My 25 '40
New record in average speed of freight trains. Ry Age 108:423 Mr 2 '40
New technologies in transport. F. G. Gurley. Ry Age 108:208-11+ Ja 27 '40
Portable wayside device to check train speeds. il Ry Age 108:1065 Je 15 '40
Projet de trains automoteurs très légers et à très grandes vitesses. diags Génie Civil 115: 404-6 D 2 '39
Speed found cause of derailment at Little Falls. Ry Age 108:1102+ Je 22 '40
Speed in freight service demands horsepower. il Ry Age 108:929-33 My 25 '40

Trains

Articulated train of 14 cars features welding, stainless steel; daylight trains operated by the Southern Pacific company. il Steel 106: 60 Ja 15 '40
Chemistry in train construction; Missouri Pacific lines. il Ind & Eng Chem News ed 18:264+ Mr 25 '40
East Coast Florida resorts served by two new trains; the Atlantic Coast Line Champion and the Florida East Coast Henry M. Flagler. il Ry Age 107:962-7 D 23 '39
Experience with Diesel-electric locomotives in Seaboard Florida service. E. H. Roy. il Ry Mech Eng 113:523-5; Discussion. 525-7+ D '39
Florida streamliners placed in service. Ry Age 107:897 D 9 '39
High-speed lightweight trains. C. T. Ripley. bibliog Inst Mech Eng J & Proc 142:Proc 97-111 D '39; Same cond. diags Engineer 168:454-6, 479-81 N 3-10 '39; Excerpts. Metal Prog 37:42+ Ja '40
Highlights of the Pullman company's streamlined train development; abstract. P. Parke. S A E J 45:sup 14 D '39
Kansas City Southern-Louisiana & Arkansas streamliner Southern Belle. il Ry Age 109: 469-74+ O 5 '40; Same cond. plans Ry Mech Eng 114:523-4+ D '40
Locomotives and trains in 1939. il Engineer 169:3-5, supp 8 Ja 5 '40
Mastering momentum in transport. L. K. Sillcox. Engineer 169:461-2, 480-1, 500-1, 510-11 My 17-Je 7 '40
Missouri Pacific gets aluminum streamliners from American car and foundry co. il diags plans Ry Age 108:353-63 F 24 '40; Ry Mech Eng 114:87-93+ Mr '40
Modern rail transport. A. M. Wright. bibliog il Elec Eng 59:400-6 O '40
Modern streamlined railroading; abstract. C. R. Gray, jr. S A E J 45:sup 16 D '39
New Washington-New England coach-train to start June 21. map Ry Age 108:1071 Je 15 '40
Railway-car engineering. D. S. Ellis. Mech Eng 62:18-22 Ja '40
Re-making transport package. G. A. Kelly. il Ry Age 108:330-2 F 17 '40
Seaboard adds new cars to Silver Meteor service. il Ry Age 107:951-4 D 23 '39
Southern Pacific installs new Daylight trains. il Ry Age 108:284-8 F 10 '40
Streamliners after six years; report to executives. il Business Week p47-54 F 10 '40
Streamliners on the King's highway. L. A. Luther. il Comp Air M 45:6194-6 Jl '40
Temiskaming & Northern Ontario Diesel-powered rail train. il Ry Age 108:446-8 Mr 9 '40
Twenty new streamliners in 1939. il Ry Age 108:18-19+ Ja 6 '40

See also
Cars
Hospital trains
Motor cars (railroad)

Pictorial works

Highliners: a railroad album. L. Beebe. 103pls $5 Appleton-Century '40

Trespassing

Crossing and trespassing accidents worry safety men. Ry Age 109:545-7 O 19 '40
Fingerprinting reduces trespassing on Missouri Pacific. Ry Age 108:527 Mr 16 '40
Trespasser casualties in steam railway accidents; abstract. E. Crane. Ry Age 108: 1184+ Je 29 '40

Valuation

Big court okays rail tax basis; sustains validity of assessment of Nashville, Chattanooga & St. Louis' property. Ry Age 108:981 Je 1 '40
Rate of capitalizing railroad earnings to establish a valuation for property taxation. N. H. Jacoby. J Business 13:158-71 Ap '40

Wages

Atlantic coast line to pay more than $260,000 restitution. Ry Age 108:1031 Je 8 '40
British railway unions demand higher wages. Economist 138:826-7 My 4 '40
Circuit court voids Rutland wage cuts. Ry Age 108:341 F 17 '40
Number of railway employees, average annual pay, total payroll and railway gross earnings, 1895-1939, inclusive; tabulation. Ry Age 109:576 O 26 '40
Railroad industry minimum wage hearings. Ry Age 108:328-9, 372-4, 407-9, 455-6 F 17-Mr 9 '40
Railway wages in 1929, 1934 and 1939. Ry Age 108:661 Ap 13 '40
Refuse to arbitrate Rutland wage case. Ry Age 109:925 Ag 24 '40
Wages are determined by railroad earnings, not by union policies. Ry Age 108:313-16 F 17 '40
Wages, hours, and productivity of industrial labor, 1909 to 1939; manufactures, mining and railroads. W. Bowden. Monthly Labor R 51:517-44 S '40

Water supply

Adjusting locomotive water facilities to present conditions; American railway bridge and building association committee report. Ry Age 109:583-4 O 26 '40
Chemical treatment of boiler feedwater; Master boiler makers' association committee report. il Ry Mech Eng 113:450-3 N '39
Cycle-controlled Dearborn treating plant. il Ry Age 108:460-1 Mr 9 '40
Nalco unit-type water-treating plant. il Ry Age 108:462 Mr 9 '40
Union Pacific builds large water softening plant. il Ry Age 109:331-2+ S 7 '40
Water service, fire protection and sanitation; A.R.E.A. committee report. Ry Age 108:513-14 Mr 16 '40
Water service men fight drought on many fronts. Ry Age 108:160-2 Ja 20 '40
What water treatment has done for the Illinois central. il Ry Age 107:1002-5 D 30 '39

RAILROADS—*Continued*

Waterways competition

I.C.C. makes public report on Lake Erie-Ohio River canal. Ry Age 108:245-8 F 3 '40
ICC reports Lake Erie-Ohio canal would cause railroads heavy loss. Steel 106:29 F 5 '40
Investment value of inland waterways. F. M. Patterson. Pub Util 26:207-13 Ag 15 '40
Railroads can do their job. R. S. Henry. Elec Eng 59:361-3 S '40
River haulage not cheap. C. M. Reed. Ry Age 107:817-18 N 25 '39

Winter operation

Canadian railway operation in the winter. Engineer 169:564 Je 21 '40

Yards

Car yard walkways. il Ry Mech Eng 114:119 Mr '40
Eliminating a bottleneck; efficient yard operation, equipment and facilities. il Ry Age 108:904-9 My 25 '40
Handling passenger-train cars at terminals; with cost data. Ry Age 107:792-5 N 18 '39
How to increase terminal locomotive efficiency; steam and Diesel-electric power compared. il Ry Age 108:249-53 F 3 '40
Yards and terminals; A.R.E.A. committee report. Ry Age 108:516-17 Mr 16 '40

Alaska

White Pass and Yukon railway; historical note. G. A. Cuthbertson. il(p134) Can Min J 61:167-8 Mr '40

Argentina

Argentine railways ask increase of certain tariffs. Economist 138:467 Mr 16 '40
Argentine railways reviewed. Economist 137: 260-1 N 18 '39
Buenos Aires Great Southern results, years ended June 30th, 1937-39. Economist 137: 179 N 4 '39
Central Argentine and Buenos Aires Western results. Economist 137:223 N 11 '39
Ganz railcars on the Argentine state railways. diags plans Engineering 149:111-12 F 2 '40

Australia

Australian railway operations. Comm Rep p766-7 S 7 '40

Belgium

New Liège by-pass line. map Engineer 168: 622 D 22 '39
North-south junction railway, Brussels. il diags maps Engineering 150:10, 13-15, 21-3, 70, 74-5, pl 3 Jl 5-12, 26 '40

Brazil

San Paulo (Brazilian) railway company ordinary general meeting, London. Economist 138:837 My 4 '40

See also
Railroads—Electrification—Brazil

California

Streamliners on the King's highway. L. A. Luther. il Comp Air M 45:6194-6 Jl '40

Canada

Canada's railways are ready for war. S. W. Fairweather. Ry Age 107:891-4 D 9 '39
Canada's roads in khaki again. il Ry Age 108:40-2 Ja 6 '40
Canadian national railway and Canadian Pacific railway income accounts, 1936-39. Comm & Fin Chr 150:2084-5 Mr 30 '40
Canadian railway operation in the winter. Engineer 169:564 Je 21 '40
Modern locomotives; their influence on railway operation; study of costs of locomotive operation on the Canadian Pacific. J. R. Macken. Ry Age 108:317-19 F 17 '40
Northern rail lines across the divide. R. Budd. il Civil Eng 10:222-4 Ap '40
Railway construction gains slightly. G. E. Boyd. il Ry Age 108:67-77 Ja 6 '40
Statistics of steam railways of Canada for the year ended December 31, 1938. 212p pa 50c Canada. Dominion bur. of statistics, Ottawa '40
Summary of monthly railway traffic reports for year ended December 31, 1939. 27p pa 25c Canada. Dominion bur. of statistics, Ottawa '40
White Pass and Yukon railway; historical note. G. A. Cuthbertson. il(p134) Can Min J 61:167-8 Mr '40

See also
Canadian Pacific railway
Railroads and state—Canada

Central America

See also International railways of Central America

China

British and Chinese corporation 42d ordinary general meeting, London. Economist 138: 1057 Je 15 '40
Railway developments, first half of 1940. For Comm W 1:152-3 O 26 '40

Cuba

Consolidated railroads of Cuba, Cuba northern railways and Cuba railroad, earnings, years ended June 30, 1937-40. Comm & Fin Chr 151:1718-19 S 21 '40

Cyprus

Transportation services on the island of Cyprus; with operating statistics of the Cyprus government railway, 1937 and 1938. Comm Rep p156 F 17 '40

Eastern states

Baltimore & Ohio opposes extension of 2.5-cent fare; hearing. Ry Age 108:130-3 Ja 13 '40
Eastern roads adopt new sliding-scale round-trip fares. Ry Age 108:527 Mr 16 '40
Two-cent fare coming back in East. Ry Age 108:368-70 F 24 '40

Finland

Riding the plush in Finland. E. A. Selke. map Pub Util 25:469-74 Ap 11 '40

Florida

Tickets for Florida streamliners sold at premium prices. Ry Age 108:683 Ap 13 '40

France

Quelques problèmes de chemins de fer; leur solution dans le cadre de la S.N.C.F. Le Besnerais and others. maps Soc Ing Civils Mémoires 92:38-80 Ja '39
Recent developments in steam locomotive design in France. Chan. Engineer 169:522-3 Je 7 '40

See also
Railroads—Electrification—France

Germany

Germany's railway difficulties. Economist 138: 252 F 10 '40
Why all the wrecks on the German railroads? Ry Age 108:552-3 Mr 23 '40

See also
Railroads and state—Germany

Great Britain

Advance in home rails stocks; companies' liability for the excess profits tax. Economist 138:302-3 F 17 '40
Britain's 1938 record. Ry Age 107:887 D 9 '39
British railways at war. C. E. R. Sherrington. il Ry Age 107:843-6+ D 2 '39
British railways to-day. K. G. Fenelon. 187p bibliog(p184) 75c Nelson (Toronto) '39
Great western railway company annual general meeting, London. Economist 138:397 Mr 2 '40
Increased railway charges and prospective earnings. Economist 138:738-9 Ap 20 '40
Level of railway earnings. Economist 138: 422-3 Mr 9 '40
London and north eastern railway report, 1937-39. Economist 138:477 Mr 16 '40

RAILROADS—Great Britain—*Continued*
London Midland and Scottish railway, and other company reports. Economist 138:537-40 Mr 23 '40
Railway dividend time-table. Economist 138: 110 Ja 20 '40
Railway finance in war. Economist 138:62-3 Ja 13 '40
Railway problem. Economist 139:272-3 Ag 31 '40
Railway settlement; financial agreement with the Government. Economist 138:243-4, 254-5 F 10 '40
Railways' half-year. Economist 139:160-1 Ag 3 '40
Railways, roads and the public. C. Stuart-Williams and E. Short. 157p 6s Eyre and Spottiswoode, London '39
Southern railway dividend statement, report, and annual general meeting. Economist 138: 387, 447, 540 Mr 2-23 '40
Spiral at work; increasing railroad costs and charges. Economist 139:211-12 Ag 17 '40
See also
London, Midland and Scottish railway — Railroads and state—Great Britain
Railroads—Electrification—Great Britain

Illinois

See also
Illinois central railroad

India

Les chemins de fer de l'Inde britannique. Génie Civil 116:106 F 10 '40
4-6-0 type passenger locomotive for Jaipur state railway. il Engineering 149:630 Je 28 '40
Indian railway finance. Economist 138:13-14 Ja 6 '40
Indian railway problems. Economist 138:1111 Je 29 '40

Italy

Recent developments on the Italian state railways. il Engineering 149:34-5 Ja 12 '40

Latvia

Land transportation. il Comm Rep p93 Ja 27 '40

Massachusetts

Old Colony seeks to close 96 miles. map Ry Age 108:522-3 Mr 16 '40

Mexico

Communications and transportation. J. S. Mejorada. Ann Am Acad 208:83-8 Mr '40
Mexican railway company 149th ordinary general meeting, London. Economist 137:485 D 23 '39
Mexican railway company 150th ordinary general meeting, London. Economist 138: 1127 Je 29 '40
New lines in Mexico use Diesel-electric locomotives. T. F. Perkinson. il map Ry Age 108:169-70 Ja 20 '40
Railway construction gains slightly. G. E. Boyd. il Ry Age 108:67-77 Ja 6 '40
South of the border; Mexican national railway shops. F. H. Colvin. il Am Mach 83: 1076-7 D 27 '39
Workers operate Mexican roads. il Ry Age 108:43-5 Ja 6 '40

Near East

Strategic transportation routes in the Near East. map Comm Rep p613-14 Jl 13 '40

New England

Four classes out in North N. E.; plan of the Boston & Maine and Maine Central. Ry Age 108:418 Mr 2 '40
Rise of railroads in the Connecticut River valley. T. M. Kistler. map Smith College Studies in History v 23, nos 1-4:1-289 bibliog(p270-83) '38

New Jersey

Taxation of railroads in New Jersey. H. L. Lutz. 208p $2.50 Princeton univ. press '40

New Zealand

New Zealand acquisitions turn traffic rail-ward. il Ry Age 107:974-5 D 23 '39
New Zealand government railways. Engineering 148:508-9 N 3 '39
Railcars for New Zealand. il Engineer 170: 221-2 O 4 '40

Oregon

Statistical report, 1937-1938, railroad & express companies. 54 l Ormond R. Bean, Public utilities commissioner, Salem, Ore. '39

Philippine Islands

Philippine railway; traffic statistics and income account for calendar years, 1936-39. Comm & Fin Chr 151:254 Jl 13 '40

Rumania

Economic position of Rumanian transportation. map Comm Rep p590-2 Jl 6 '40

Russia

Soviet transport. Economist 138:412-13 Mr 9 '40

South Africa

Heavy passenger engines, South African railways. E. C. Poultney. il diags Engineer 169: 222-4, 246-9 Mr 8-15 '40
Provision of engine power on South African railways. Engineer 169:371 Ap 19 '40
Railway expansion in South Africa. Engineer 170:111-12 Ag 16 '40
See also Railroads—Electrification—South Africa

South America

Les services d'autorails en Amérique du Sud. Génie Civil 116:157 Mr 2 '40
Transcontinental railway routes. Comm Rep p671-2 Ag 3 '40

Southern states

South wins freight rate case. Ry Age 107: 889-90+ D 9 '39
See also
Southern railway

Switzerland

See also
Railroads—Electrification—Switzerland

Texas

Fast service for southeast Texas; efficient handling of perishables. il maps Ry Age 108:449-50+ Mr 9 '40
Motorizing the Rio Grande valley. il map Ry Age 108:554-6 Mr 23 '40

Trinidad

Oil-engined locomotive for Trinidad. il Engineer 169:578 Je 28 '40

United States

Are the railroads prepared? survey of opinion among mechanical men relating to motive power, freight-car equipment and repair shops. il Ry Age 108:1090-4 Je 22 '40
Association of American railroads, Mechanical division, 18th annual meeting, Chicago, June 27-28. Ry Age 109:5-39+ Jl 6 '40
Cavalcade of the rails. F. P. Morse. 370p $3.75 Dutton '40
Challenge of the continental divide; railway routes across the Rockies. R. Budd. il map Civil Eng 10:97-9, 161-4, 222-4 F-Ap '40
Coming boom in transportation; railroads prepare. H. D. Steinmetz. il Mag of Wall St 67:85-9 N 2 '40
Economics of transportation in America; the dynamic forces in development, organization, functioning and regulation. K. T. Healy. 575p bibliog(p557-8) $4 Ronald press '40
Freight traffic expanding; equipment repair program remarkably successful. D. W. Ellsworth. Annalist 56:3+ Jl 4 '40
Gross and net earnings of United States railroads for the calendar year 1939. Comm & Fin Chr 150:1184-9 F 24 '40
Gross and net earnings of United States railroads for the six months ended June 30. Comm & Fin Chr 151:1049-52 Ag 24 '40

RAILROADS—United States—*Continued*
How ready are the railroads in case of war? Ry Age 108:10-12 Ja 6 '40
Improvement in 1939; better outlook for 1940. Ry Age 108:1-4 Ja 6 '40
National defense and our transportation policy. H. D. Koontz. Pub Util 26:67-79 Jl 18 '40
No winter truce on rail front. Business Week p18+ Ja 27 '40
Problems of the railroads. R. S. Henry. Ry Age 109:592-3 O 26 '40
Progress in 1940. J. M. Davis. Comm & Fin Chr 150:502+ Ja 27 '40
Railroad reserve capacity. J. H. Parmelee. il Manuf Rec 109:34-5+ Ja '40
Railroad traffic and earnings, 1939. Fed Res Bul 26:87-8 F '40
Railroads are ready to move the defense load. il Nation's Business 28:18-20+ O '40
Railroads can do their job. R. S. Henry. Elec Eng 59:358-63 S '40
Railroads declared to be unprepared for war. L. A. Jenny. Ry Age 108:1188-9 Je 29 '40; Discussion. C. E. Smith. 109:222-4 Ag 10 '40
Railroads in 1940. A. N. Williams. Comm & Fin Chr 150:533-4 Ja 27 '40
Railroads, 1939. Survey of Cur Business 20:22-4 F '40
Railroads prepare. Business Week p50-1 O 5 '40
Railroads show a profit again. Business Week p23-4 Ja 13 '40
Railway construction gains slightly. G. E. Boyd. il Ry Age 108:67-77 Ja 6 '40
Review of railway operations in 1939. J. H. Parmelee. Ry Age 108:29-39 Ja 6 '40
Streamliners after six years; report to executives. il Business Week p47-54 F 10 '40
What's ahead in 1940? railroads. il Steel 106: 160-2 Ja 1 '40

See also
Railroads and state—
United States
also Association of American railroads
also names of railroads, e.g. New York central railroad

Vermont

Vermont compares railroads vs. trucks. Ry Age 108:857-8+ My 18 '40

Yugoslavia

Land transportation in Yugoslavia. map Comm Rep p630-1 Jl 20 '40

RAILROADS, Cable
Cable car days in San Francisco. E. M. Kahn. 124p bibliog(p123-4) $3 Stanford univ. press '40
How mass transportation is conducted in the city by the Golden Gate; cable cars. Mass Transportation 36:82-3 Ap '40

RAILROADS, Industrial
Delaware aqueduct; haulage equipment in tunneling. diags Eng N 125:419-20 S 26 '40
I.C.C. still vexed at Sioux sidings; report on reconsideration of the Sioux City switching case. Ry Age 109:651+ N 2 '40
Railroad spurs costs must be paid by users. Oil Paint & Drug Rep 138:4+ Jl 29 '40

See also
Mine tracks

Track pavement

Better paving between tracks for industrial yards. Eng N 123:829 D 21 '39

RAILROADS, Rack. See Rack railroads

RAILROADS and state
Railroads; government ownership in practice. H. B. Summers and R. E. Summers, comps. Ref Shelf v 13, no 8:1-144 bibliog(p140-4) '40 (pa 75c)

See also
Railroad law

Canada

Pacific railways and nationalism in the Canadian-American Northwest, 1845-1873. L. B. Irwin. 246p bibliog(p227-42) priv ptd Univ. of Pennsylvania, Philadelphia '39

Germany

German railway system as a standard of government operation. A. W. MacMahon and W. R. Dittmar. Pub Util 25:428-30 Mr 28 '40

Great Britain

Government control of railways; outline of financial arrangements. Engineer 169:158 F 16 '40

United States

American railroads; the thirteenth annual debate handbook, 1939-1940. B. Aly, ed. 2v ea 220p bibliog(v1, p205-18) pa $1.50 Lucas bros, publishers, Columbia, Mo. '39
Annual report of the I.C.C. Ry Age 108:126-9 Ja 13 '40
Anti-trust suit against A.A.R. Ry Age 109: 650 N 2 '40
Case for government ownership. W. J. Wilgus. Elec Eng 59:363-6 S '40; Same cond. Ry Age 109:44-6 Jl 6 '40
Col. Wilgus' advocacy of railroad socialization; letter of R. S. Buck and editorial reply. Ry Age 108:674-5 Ap 13 '40
Could the government do better? case for continued private operation of our railroads. G. W. Mathis. Mag of Wall St 65:275+ D 16 '39
Eastman issues subsidy report; study of public aids to transportation. Ry Age 108:703-7 Ap 20 '40
Eastman report shows public aids to railroads. R. Elgen. il Automotive Ind 82:401-2, 426-8 My 1 '40
Fifth column and private enterprise. R. S. Henry. Edison Elec Inst Bul 8:277-80 Je '40
Further defense of the railroads. R. S. Henry. Elec Eng 59:366-8 S '40
Good prospects for legislation. Ry Age 108: 8-9+ Ja 6 '40
Government ownership and operation of the railroads. E. R. Rankin, comp. 110p bibliog(p104-10) pa 50c Univ. of North Carolina, Extension division, Chapel Hill '39
It won't happen again; proper use of roads will preclude state control. C. H. Buford. Ry Age 109:485-6 O 5 '40
Private ownership and operation versus government ownership and operation of railroads in the United States. 64p bibliog(p62-3) Assn. of American railroads, Washington, D.C. '39
Radio debate on government ownership of the rails; Norman Thomas, H. W. Laidler, affirmative; R. S. Henry, S. B. Pettengill, negative. Pub Util 25:48-50 Ja 4 '40
Rail and utility investments under expanding public control. N. L. Smith. bibliog Harvard Business R 18 no 4:397-409 [Jl] '40
Speeches and rebuttal material on question, Resolved: That the federal government should own and operate the railroads. 44p bibliog(p43-4) pa $2 Debate coaches bur, Denison, Tex. '39
Uncle Sam at the throttle. E. Whitmore. Am Business 10:20-2, 50-1 N '40

See also
Interstate commerce commission
Railroad law
Railroads—Consolidation
Railroads—Federal loans
Railroads—Rates

RAILROADS in literature
Railroad in literature as a public relations medium; novels, histories, short stories, poems and songs which center upon railroading. F. Donovan, jr. bibliog Ry Age 109:307, 312 Ag 31 '40

RAILROADS in war
Are the railroads prepared? 1917-18 transportation breakdown and present capacity. E. S. Taliaferro. Barron's 20:3 Jl 29 '40
British railway finance in war. Economist 138: 62-3 Ja 13 '40
British railways at war. C. E. R. Sherrington. il Ry Age 107:843-6+ D 2 '39
British transport costs in wartime. Economist 138:373 Mr 2 '40

RAILROADS In war—*Continued*
Canada's railways are ready for war. S. W. Fairweather. Ry Age 107:891-4 D 9 '39
Germany's railway difficulties. Economist 138: 252 F 10 '40
How war affects Canadian Pacific. A. T. Christie. map Barron's 20:18 My 20 '40
It won't happen again; proper use of roads will preclude state control. C. H. Buford. Ry Age 109:485-6 O 5 '40
Mobile military repair depot. il Elec R (Lond) 126:377 Mr 29 '40
Mobile railway workshops for use with the British expeditionary force in France. il diags plan Engineer 169:313 Mr 29 '40; Same cond. Mech Handling 27:86 Ap '40
Railway settlement; financial agreement with the Government. Economist 138:243-4, 254-5 F 10 '40
See also
Hospital trains

RAILS
L'amélioration de la qualité des rails fabriqués en Angleterre, dans ces dernières années. Allen. Génie Civil 115:326-7 O 28 '39
Commemorated rolling of first steel rail in the United States. Blast F & Steel Pl 28:615-16 Je '40
Dimensional variations in hot-rolled steel mill products and the problem of control. A. C. Cummins. Blast F & Steel Pl 28:590 Je '40
Effect of weight of rail on track maintenance; Roadmasters committee report. Ry Age 109: 441-2 S 28 '40
Report of A.R.E.A. committee on rail. Ry Age 108:506-7 Mr 16 '40
Steel rails in the U. S.; a review of developments. H. H. Morgan. il Metal Prog 38: 36-8 Jl '40
See also
Rail joints
Railroads—Track

Failures
Is the transverse fissure problem growing? H. C. Drake. il diags Ry Age 108:277-81 F 10 '40
Rail failures still serious. Eng N 125:625 N 7 '40
Rail fissures give up secrets; Sperry detector car. il diags Sci Am 162:283 My '40
Sixth progress report of the joint investigation of fissures in railroad rails. H. F. Moore. il diags Ill U Eng Exp Sta Reprint Ser 16:1-66 '40 (pa 15c); Abstract. Ry Age 109:100-3 Jl 20 '40

Lubrication
Reducing curve resistance with rail lubrication. Ry Age 109:255-6 Ag 17 '40

Manufacture
No shatter cracks in rail, no transverse fissures; various heat treating methods. J. F. Woschitz. il diags Ry Age 108:668-70 Ap 13 '40
Prevention of flakes by holding railroad rails at various constant temperatures. R. E. Cramer and E. C. Bast. il Am Soc for Metals Trans 27:923-30 bibliog(p930, 934) D '39; Same. Blast F & Steel Pl 27:1174-6+ N '39; Discussion. Am Soc for Metals Trans 27:931-4 D '39

Statistics
Rail production up sharply in 1939. Ry Age 108:978 Je 1 '40

Stresses
Application of dimensional analysis to stresses in railway tracks. M. Danilоff. Engineering 148:660-1 D 15 '39
Track stress research. W. E. Gelson and E. A. Blackwood. diags Engineering 150: 141-3 Ag 23 '40

Testing
Is the transverse fissure problem growing? H. C. Drake. il diags Ry Age 108:277-81 F 10 '40
Rail fissures give up secrets; Sperry detector car. il diags Sci Am 162:283 My '40
Second progress report of the joint investigation of continuous welded rail. H. F. Moore, H. R. Thomas and R. E. Cramer. il diags Ill U Eng Exp Sta Reprint Ser 17: 1-20 '40 (pa 15c)
Seeks greatest rail safety through regular testing; Missouri Pacific flaw detector car. il map Ry Age 109:214-18 Ag 10 '40
Sixth progress report of the joint investigation of fissures in railroad rails. H. F. Moore. il diags Ill U Eng Exp Sta Reprint Ser 16:1-66 '40 (pa 15c); Abstract. Ry Age 109:100-3 Jl 20 '40
Sperry rail-defect detecting car. il diags plan Engineering 150:223-5, pl 15-16 S 20 '40
Versuche mit geschweissten eisenbahnschienen. O. Graf. il diags V D I 83:1250-3 D 2 '39

RAILWAY age (periodical)
Eight years' discussion of business and business problems; how editorials in Railway age from Sept. 17, 1932, to the present have pointed out upswings and downswings of business. Ry Age 109:626-33 N 2 '40
Freight progress issue wins shippers' commendation. il map Ry Age 109:435-8 S 28 '40

RAILWAY express agency
Fourteen thousand trucks comprise express fleet. il diags Ry Age 108:215-18 Ja 27 '40
I.C.C. fixes motor-act status of express agency. Ry Age 108:137-8 Ja 13 '40

Employees
Emergency board hears R.E.A. case. Ry Age 109:162-3 Jl 27 '40
Express employees demand 44-hour week. Ry Age 109:109+ Jl 20 '40
Favors 44-hour week for R.E.A. Ry Age 109: 225-6 Ag 10 '40
Strike averted by action of President Roosevelt ordering investigation of dispute over 44-hour week. Comm & Fin Chr 151:186-7 Jl 13 '40

RAILWAY extension, Inc, Chicago
Auto-rail plan for West; railroads to sponsor automobile renting service to gain long-distance passenger traffic. Barron's 20:5 F 12 '40

RAILWAY fuel and traveling engineers' association
Annual meeting, Chicago; program. Ry Mech Eng 114:356 S '40
Annual meeting, 4th, Chicago, Oct. 22-25. Ry Mech Eng 114:487-507 N '40; Ry Age 109:616-25 N 2 '40

RAILWAY mail service

Cars
See Postal cars

RAILWAY tie association
Annual meeting, Louisville, Ky. May 14. Ry Age 108:975-6 Je 1 '40

RAIN and rainfall
Papers on hydrologic investigations at Washington university. W. W. Horner and others. Civil Eng 10:230-5, 303-6 Ap-My '40
Water supply on upper Salt river, Arizona. J. Girand. map Am Soc C E Proc 65:1675-86 D '39; Discussion. 66:553-6, 777-8 Mr-Ap '40
See also
Floods
Run-off
Water storage

Statistics
Sixty-year rainfall record analyzed. H. F. Kennison. Civil Eng 10:709-10 N '40

Tables, calculations, etc.
Hydraulics of surface runoff. L. K. Sherman. diag Civil Eng 10:165-6 Mr '40
Maximum probable floods on Pennsylvania streams. C. F. Ruff. maps Am Soc C E Proc 66:1239-76 S '40

RAIN and rainfall—Tables, calculations, etc—*Continued.*
Rainfall intensity study for 1938-1939, for Edwardsville, Ill. H. G. Armistead, jr. Civil Eng 10:305-6 My '40
Relation of hourly mean rainfall to actual intensities. E. R. Breihan. Civil Eng 10: 303-5 My '40

St Louis

Depth-area relationship for an unusual storm in St Louis. H. Kroeger and H. I. Stewart. maps Civil Eng 10:230-3 Ap '40

United States

Water resources of the Mid-continent area. G. S. Knapp. il Civil Eng 10:653-5 O '40

RAINBOW
Rainbows at Honolulu; solar and lunar. C. K. Wentworth. Science 91:189 F 23 '40

RAINCOATS
Raincoats and capes; rating. diags Consumers' Research Bul (Gen bul ser) 9:2-4 Ap '40

RAINPROOFING. See Waterproofing of textiles

RAISINS
Grapes, raisins & wines; a survey of world production, consumption, and trade. 408p U.S. Tariff commission, Washington; 60c Supt. of doc. '39

RAKESTRAW, Norris Watson, 1895-
New editor of Journal of chemical education. C. A. Kraus. por(p351) J Chem Educ 17:360-1 Ag '40

RALEIGH, North Carolina

Water supply

New filter plant and pumping station. W. C. Olsen. il diag plan Water Works & Sewerage 87:449-60 O '40

RAMAN effect
Identification of paraffins; analysis of paraffinic mixtures by means of Raman spectra. A. V. Grosse, E. J. Rosenbaum and H. F. Jacobson. bibliog il Ind & Eng Chem Anal ed 12:191-4 Ap 15 '40
Raman effect and its chemical applications. J. H. Hibben. 544p bibliog(p469-507) $11 Reinhold pub. corp, New York '39
Raman spectra of acetylenes; displacements and depolarization factors for phenylacetylene and derivatives of the type $C_6H_5C{\equiv}CR$. M. J. Murray and F. F. Cleveland. bibliog Am Chem Soc J 61:3546-9 D '39
Raman spectra of acetylenes; five monosubstituted and four disubstituted acetylenes. F. F. Cleveland and M. J. Murray. bibliog Am Chem Soc J 62:3185-8 N '40
Symposium on optical methods for study of molecular structure; Raman spectra method. G. M. Murphy. bibliog il Opt Soc Am J 30:396-404 S '40

RAMBERG balance. See Balances

RAMIE
Method for degumming and bleaching decorticated ramie fiber. M. P. Ramiro. bibliog Textile Col 62:271-4 Ap '40
Method for estimating the internal surface of cellulose by means of thallous ethylate. C. A. Harris and C. B. Purves. bibliog il diags Paper Tr J 110:29-33 F 8 '40

RAMPS
Car ramp at Larne harbour. il diags Engineer 168:524-5 N 24 '39
Stairways and ramps. Nat Safety N 41:93+ Mr '40

RAMSDELL, Arthur W.
Ramsdell's plan for controlling profits by territories. H. McLellan. por Am Business 10:22-3+ Je '40

RANCIDITY
Development of rancidity in Stoddard dry cleaning solvent. A. C. Smith, C. S. Lowe and G. P. Fulton. bibliog il diags Ind & Eng Chem 32:454-60 Ap '40
Prevention of oxidation and rancidity in paper with oat flour. S. Musher. bibliog Paper Tr J 110:117-20 F 22 '40
Staling vs. rancidity in roasted coffee; antioxygens produced by roasting. L. W. Elder, jr. bibliog il Ind & Eng Chem 32:798-801 Je '40
What makes foods go rancid told by edible-oil experts. Food Ind 12:67-8 N '40

RANDALL, Theodore Amasa, 1857-1926
Organizer and for forty years secretary of the National brick manufacturers' association. por(cover) Am Cer Soc Bul 19:71-3 F '40

RANDUPSON process. See Molds (for casting)—Cement-sand molds

RANGES
Some economic aspects of western rangeland conservation. M. H. Saunderson. J Land & Pub Util Econ 16:222-6 My '40

RANGOON, Burma

Harbor

Port of Rangoon. Engineering 149:308 Mr 22 '40
Port of Rangoon. il(cover) Comm Rep p593 Jl 6 '40

Water supply

Water supply of Rangoon. il diags Engineer 169:488-9, 496, 508-9 My 31-Je 7 '40

RAOULT'S law
Hydrogen bonds involving the C-H link; the solubilities of completely halogenated methanes in organic solvents. M. J. Copley, G. F. Zellhoefer and C. S. Marvel. Am Chem Soc J 61:3550-2 D '39

RAPESEED oil
Brassicasterol, the characteristic sterol of rapeseed oil. E. Fernholz and H. E. Stavely. Am Chem Soc J 62:1875-7 Jl '40

RAPID transit
Cincinnati moves forward to meet transit needs. il Mass Transportation 36:194-200 S '40
Economics of vehicle selection; determining the proper types for use on a large system; Brooklyn survey. K. M. Hoover. il Transit J 84:389-90 O '40
Good-bye to another year; transit industry, 1939. il Transit J 84:22-7 Ja '40
How decentralization affects transit. H. Bartholomew. il Transit J 84:390-1 O '40
How mass transportation is conducted in the city by the Golden Gate. il Mass Transportation 36:79-83 Ap '40
How mass transportation is handled in Washington, D.C. il Mass Transportation 36:55-60 Mr '40
In every place it's different; comparisons of transit operations in various large cities of the United States, Canada and foreign countries. J. A. Miller. il Transit J 84:80-3 Mr '40
Mass transportation in Pittsburgh. il Mass Transportation 35:327-32 N '39
Modernization of a transit system; factors that determine the choice of vehicle. G. L. Hoard. bibliog Elec Eng 59:Trans 292-303 My '40; Excerpts. il Mass Transportation 35:333-8 N '39; Discussion. Elec Eng 59:Trans 303-5 My '40
More riders at less cost through modernization. il Transit J 84:221-3 Jl '40
Transit industry takes a Gallup poll of its customers. H. D. Read. Pub Util 26:593-4 O 24 '40
Transit supplies may require definite planning. R. S. McBride. il Transit J 84:312-13 S '40
Transport in Milwaukee coordinated. il Mass Transportation 36:3-8 Ja '40
Two cities make transit history; New York and Chicago unification plans. Business Week p17 Je 15 '40
Urban transportation; abstract. C. Gordon. il Mech Eng 62:552-3 Jl '40

See also
Electric railroads
Motor bus lines
Railroads
Street railroads
Subways
Trolley buses
also subdivision Rapid transit under names of cities, e.g. Chicago—Rapid transit

RAPID transit in war
Effect of war on European transit. Pub Util 26:424-5 S 26 '40
Transit's problems in 1917 and now. R. T. Senter. il Transit J 84:306-8 S '40

RARE earth metals
Structure of rare earth elements. L. S. Foster. J Chem Educ 17:448 S '40
Yttrium-aluminum alloys. W. Kroll. bibliog il Metals & Alloys 10:332-3 N '39
Zeeman effects in complex spectra at fields up to 100,000 gauss. G. R. Harrison and F. Bitter. il Phys R 57:15-20 Ja 1 '40

See also
Cerium
Lutecium
Monazite
Praseodymium
Scandium
Yttrium

RARE earths
Georges Urbain. A. S. Russell. Chem & Ind 59:343-4 My 18 '40

RARITAN river
Regulation of stream pollution in the Raritan River basin; abstract. L. Forman and R. P. Johns. Water Works & Sewerage 87: 82 F '40

RASCHIG rings
Absorption of sulphur dioxide in water; tower packed with one-inch Raschig rings. L. C. Jenness and J. G. L. Caulfield. bibliog diag Paper Tr J 109:37-41 D 28 '39
Distillation in packed columns. C. C. Furnas and M. L. Taylor. bibliog il diags plan Am Inst Chem Eng Trans 36:135-69; Discussion. 169-71 F '40
Performance of packed towers; experimental studies of absorption and desorption. T. K. Sherwood and F. A. L. Holloway. bibliog Am Inst Chem Eng Trans 36:21-36; Discussion. 36-7 F '40
Performance of packed towers; liquid film data for several packings. T. K. Sherwood and F. A. L. Holloway. bibliog diag Am Inst Chem Eng Trans 36:39-69; Discussion. 69-70 F '40

RAT fleas. See Fleas

RATE-of-climb indicators. See Aeronautic instruments

RATIONALIZATION
Social effects of rationalisation in Sweden. Int Labour R 41:72-8 Ja '40

See also
Economic planning
Efficiency, Industrial

RATIOS, Financial. See Financial ratios

RATS
Pantothenic acid and nutritional achromotrichia in rats. P. György and C. E. Poling. bibliog Science 92:202-3 Ag 30 '40
Ship ratproofing; abstract. P. W. Clark. diags Refrig Eng 39:100-1 F '40

Extermination
How to get rid of rats; methods used in English food factories and warehouses. E. Hardy. il Food Ind 12:58-9 O '40
Ratproofing of new ships. P. W. Clark. il U S Pub Health Service, Pub Health Rep Sup 151:1-50 '39
Trapping rats on ships. pl Pub Health Rep 55:1057-61 Je 14 '40

RATTRAY, James, 1875-1940
Sketch. East Underw 41:17 N 8 '40

RAVER, Paul Jerome, 1894-
Roosevelt names Raver power marketing agent; executive order consolidating sale and distribution of power from Bonneville and Grand Coulee dams. Elec W News ed 114:601 Ag 31 '40

RAW materials
Blood, toil, tears, and sweat; last-ditch human resources when empires fail to mobilize inanimate resources for war. maps Fortune 22:52-5+ Jl '40
British swap of bases for destroyers stirs commodities. Barron's 20:6 S 9 '40
Building up stockpiles; corporations formed under auspices of RFC will acquire huge quantities of rubber and tin. Business Week p48 Jl 6 '40
Colonies and raw materials. H. D. Henderson. 31p pa 15c Farrar '39
Ersatz raw materials for German H_2SO_4. K. Falk. il Chem & Met Eng 47:333 My '40
Essential defense materials. Barron's 20:6 Je 3 '40
Foreign nations' insufficiency; German and Italian needs emphasize trade adjustments to follow the war. Manuf Rec 109:32+ Jl '40
Germany intensifies search for metals, grains, mineral oils and other materials. Chem & Met Eng 46:738 N '39
Germany; the economic area; fate depends on what she can get from U.S.S.R. and other neutrals. il maps Fortune 20:92-6+ D '39
Hemisphere cartel proposed; commodities affected by the latest German victory. Barron's 20:6 Je 24 '40
International trade in certain raw materials and foodstuffs by countries of origin and consumption, 1938. 178p pa $1.50 Columbia univ. press '39
Japan plays for higher stakes; with statement by S. Kato explaining his country's position. H. Corey. il Nation's Business 28:23-5+ Ag '40
Materials needed for defense. Manuf Rec 109: 28-9+ Ag; 30-1 S '40
Mineral raw materials and present production. Can Chem & Process Ind 24:402-3+ Ag '40
Minerals and national defense; abstracts of papers, Western division, American mining congress. Min Cong J 26:28-31 O '40
National defense: the sinews. il maps Fortune 22:52-8+ O '40
No shortages says Stettinius. Business Week p24 Jl 20 '40
Raw material strategy in Europe; factors governing available supplies. G. Reimann. Annalist 55:35-6 Ja 11 '40; Correction. 55: 319 F 22 '40
Raw materials. 83p bibliog(p82) pa 85c Oxford '40
Raw materials in modern war. Barron's 20:3 Ap 29 '40
RFC forms two government corporations, Rubber reserve co. and Metals reserve co., to acquire stocks of rubber and tin. Comm & Fin Chr 151:42-3 Jl 6 '40
Resources and national defense. J. P. Ferris and H. Emerson. Mech Eng 62:809-12 N '40
Rubber, a strategic raw material. P. W. Barker. il Rubber Age 47:393-5 S '40
South's materials for the country's defense; survey by states. il Manuf Rec 109:28-35, 52+ Je '40
Strategic materials; items essential to national defense must be imported. Barron's 20:6 My 20; 6 My 27 '40
Strategic materials program expanded. Oil Paint & Drug Rep 137:5 Je 3 '40
Strategic metals, other than manganese and chromium. S. M. Shelton. Metal Prog 38:527 O '40
Toluol from petroleum is defense board aim; plans for other commodities. Oil Paint & Drug Rep 138:3+ Jl 22 '40
Total war and commodities. Barron's 20:6 My 13 '40
We can go ersatz, too; substitutes and new sources of strategic and critical materials. Business Week p20+ Jl 6 '40; Abstract. Trusts & Estates 71:185-6 Ag '40

See also
Cellulose
Chemicals
Coal
Cotton
Farm produce
Mineral industries
Mines and mineral resources
Oils and fats
Petroleum
Rubber
Textile fibers
Wood

Bibliography
Raw materials bibliography; general references to selected raw materials and basic economic resources. 85 l, 10 l U.S. Tariff commission, Washington '39

Prices
Commodities in the air again. il Business Week p15-16 D 23 '39

RAW materials—Prices—*Continued*
Commodity futures prices; spot commodity prices. Published in weekly numbers of Barron's
Commodity stocks in wartime; how inventory companies are affected by price movements. Barron's 20:20 My 20 '40
Divergent movements in commodities, April-June 1940; charts. Business Week p28 Je 15 '40
Purchasing agents' dilemma; drop in commodity prices, yet future is confused. Business Week p51-2 My 25 '40

Statistics
Economic alignment of the nations of the world; tabulation. Economist 137:407-9 D 16 '39
Imports of three warring nations, Germany, France, United Kingdom; with chart. Dun's R 48:43 Mr '40
Raw material production and consumption of the British and French empires, German economic territory and Danubian basin; tabulation. Nat City Bank p141 D '39
Raw materials and foodstuffs; production by countries, 1935 and 1938. 75p bibliog(p75) pa 60c Columbia univ. press '39
U.S. imports of crude materials; charts. Comm Rep p1146, 1147 D 9 '39; p296, 297 Mr 30 '40
Western hemisphere and the world's raw materials; production (1934-38 average) as percent of world total; chart. Business Week p25 S 7 '40
World stocks of foodstuffs and raw materials, 1936-1939. Survey of Cur Business 1940 Sup p10

RAYOLANDA
World progress in the cellulosic textile industry. H. A. Thomas. Rayon 20:694 D '39

RAYON
Annual rayon section; synthetics in national defense. Textile World 90:85-99 S '40
Carpet trade needs rayon; is rayon ready? J. A. Truitt. Rayon 21:33-4+, 101-3 Ja-F '40
Celanese takes lead in presenting American trend fashions. A. Perkins. il Rayon 21:601-2 O '40
Cellulose and its by-products. W. B. Campbell. Pulp & Pa of Can 40:743-4 D '39
Enemies of covered-rubber yarn; combatted by correct methods of manufacture and finishing. C. E. Bergamini. il Textile World 90:67 Ja '40
Milky viscose rayon. S. Poznanski. il Rayon 21:483-4, 524-5 Ag-S '40
National association of wool manufacturers; rayon symposium. Textile World 90:50-1 Ap '40
Next decade in textiles; how to make money make more money through synthetic fibers. il Textile World 90:102-3 F '40
Preparation of rayon blends; considered by North Carolina-Virginia operating executives. Textile World 89:83-4 D '39
Probleme der acetatseide und acetatzellwolle. K. W. Zachrich. bibliog Angew Chemie 53:144-8 Mr 30 '40
Progress in synthetic fibers. il Chem Ind 46: 150-5 F '40
Rayon, the modern textile. P. H. Kline. il map Comp Air M 45:6213-18 Ag '40
Rayonier Fernandina water treatment plant; sea water regenerated zeolite units. E. Nordell and C. E. Richheimer. il Paper Tr J 110:47-9 Mr 21 '40
Rayonier, incorporated, Fernandina, Fla.; for manufacture of bleached sulphite pulp for paper and rayon purposes. il Paper Tr J 110:27-32 Mr 21 '40
Recent developments in rayon and some of the newer manufactured textile fibers. F. Bonnet. il Rayon 21:82-3+, 145-6 F-Mr '40
Some new textile fibers. F. Bonnet. il Rayon 21:353-4 Je '40
Synthetic fibers enlisted; will assure adequate supply of textiles for both military and civilian purposes. il Textile World 90:86-9 S '40

See also
Bleaching—Rayon
Cellulose
Cellulose acetate
Dyes and dyeing—Rayon
Rayon fibers
Viscose

Analysis
Eine einfache und rasch auszuführende methode zur quantitativen trennung von kunstfaesern aus hydratcellulose und fasern aus nativer cellulose. Schwertassek. Angew Chemie 52:700-1 D 9 '39
Hemi-cellulose extract of various rayon wood pulps. G. A. Richter, C. H. Goldsmith and K. E. Glidden. Rayon 21:26-7 Ja '40
Quantitative determination of viscose rayon; in mixtures with cotton, wool or silk. R. W. McKay. Am Dyestuff Rep 29:25-8 Ja 22 '40

Delustering
Quaternary compounds; textile auxiliaries with far-reaching possibilities. J. Wakelin. Textile Col 62:159 Mr '40

Dyeing
See Dyes and dyeing—Rayon

Fabrics
See Rayon fabrics

Finishing
See Rayon finishing

Identification
Separation of viscose and cotton by solvent action. J. H. Levin and R. A. Martinell. Textile Col 62:462-3 Jl '40

Knit goods
Knitter, use caution in substitution of rayon for silk in full fashioned hosiery manufacture. M. M. Abrams. il Textile World 90:65-6 Ja '40
Latest fabric survey on rayon knit goods. A. Perkins. il Rayon 21:213-17 Ap '40
Manufacture of rayon knit goods. W. H. Brown. diags Rayon 21:219-21 Ap '40
Manufacture of warp knit rayon fabrics. il diag Rayon 21:225-6 Ap '40
Rapid methods for bleaching and dyeing knitted rayon fabric. Textile Col 62:596-7 S '40
Rayon warp knits for every purpose. W. Davis. il Rayon 21:227-8 Ap '40

Luster
See Rayon—Delustering

Patents
Progress in the historical development and patents of rayon staple fibers. E. C. Worden, 2d. bibliog Rayon 20:496-7, 575-6, 641-3, 697-8; 21:21-2, 89-90, 143-5 S '39-Mr '40
Three patents granted to Celanese corp. of America. Ind & Eng Chem News ed 18: 786 S 10 '40

Prices
Index numbers of wholesale prices of rayon and of silk; listed separately. Monthly Labor R 50:777 Mr '40
Wholesale prices of silk and rayon, index numbers, monthly, Jan. 1926-March 1940; revision. Survey of Cur Business 20:18 My '40

Stretching
New Sanforset treatment eliminates shrinkage and stretch in viscose rayons. Rayon 21:542 S '40

Testing
Tests for chemical damage on rayon. Textile Col 62:556-7+ Ag '40

RAYON carding
Spinning the longer staple fibers on the cotton system. J. McComb, pseud. il diags Rayon 21:465-6 Ag '40
Yarns from staple fiber; worsted system. J. H. Fisher. diag Rayon 21:538-9+ S '40

RAYON cords
Cordura rayon tires; abstract. W. H. Bradshaw. Rayon 21:283 My '40
Rayon for tires; Cordura. L. A. Yerkes, jr. il India Rubber W 101:41-5+ D '39

RAYON drying
Dritester moisture control for warp sizing and drying. il Rayon 21:183 Mr '40
Drying of textiles. H. Miedendorp, jr. Rayon 21:706 N '40
Progress in the technique of throwing rayon yarns. W. F. Macia. Rayon 21:417-18 Jl '40
Progress in three years of textile drying research. A. C. Walker. Rayon 21:561-3 S '40

RAYON fabrics
Celanese takes lead in presenting American trend fashions. A. Perkins. il Rayon 21: 601-2 O '40
Cloth faults traceable to reeds and healds. M. M. Taylor. il diag Textile Inst J 30: P450-62 D '39
Control in spun rayon piece goods processing. P. J. Choquette. bibliog Am Dyestuff Rep 29:222-5; Discussion. 225-6 Ap 29 '40
Fabric forecast; rayons for spring 1941. il Textile World 90:92-3 S '40
Fiberdown; electrically embossing fabrics with short-cut fibers. Textile Col 62:754+ N '40
Handle of rayon fabrics; effect of dyeing processes. Textile Col 62:627-8 S '40
Jersey-like woven fabrics. il diags Textile World 90:108 Je '40
Latest fabric survey on rayon knit goods. A. Perkins. il Rayon 21:213-17 Ap '40
Manufacture of warp knit rayon fabrics. il diag Rayon 21:225-6 Ap '40
Patterned acetate rayon pile fabrics. A. J. Hall. Textile Col 62:113 F '40
Progress in the technique of throwing rayon yarns; some suggestions for improvements. W. F. Macia. bibliog Rayon 21:292-3, 359-60, 417-18, 463-4 My-Ag '40
Rayon and silk dress fabric performances; piece goods market for spring season. Rayon 21:10-11 Ja '40
Rayons and spun rayons emphasized in children's wear. A. Perkins. il Rayon 21:81 F '40
Saponified cellulose acetate materials; rayon pile fabric on cotton back. Textile Col 62: 329-30 My '40
Should spun rayons be woven on wide looms? the effect of cloth width upon clothing manufacturer, mill man and loom builder. A. Palmer. Rayon 21:361-2+ Je '40
Spring 1941, in rayons. C. C. Mattman, jr. and T. G. Pennington. il Textile World 90: 51 Jl '40
Spun ravons and the laundry. Rayon 21:455 Ag '40
Streakiness in synthetic fabrics. J. J. Sussmuth. Rayon 21:544-6, 619-20 S-O '40 (to be cont)
Use of resins and plastics for the modification of textile fabrics; abstract. D. H. Powers. Am Dyestuff Rep 29:492 S 30 '40; Same. Textile Col 62:697 O '40

See also
Rayon weaving
Umbrella fabrics

Cotton mixtures
Problem of weaving spun rayon fabrics; blended fabrics. A. Palmer. il diags Rayon 21:95-6, 162-4 F-Mr '40; Same cond. Textile World 89:56-8 D '39
Separation of viscose and cotton by solvent action. J. H. Levin and R. A. Martinell. Textile Col 62:462-3 Jl '40

Creasing
Crease resisting processes for textiles. A. D. J. Plesse. il Rayon 21:478-9 Ag '40
Development of crease-resistance; Tootal and other patents. Textile Col 62:87-90+ F '40
Formaldehyde treated uncrushable rayon fabrics. Textile Col 62:545-6 Ag '40

Shrinkage
New Sanforset treatment eliminates shrinkage and stretch in viscose rayons. Rayon 21:542 S '40

Stiffening
Stiffened wash-resistant fabrics; cellulose parchmentizing processes. Textile Col 62: 258-9 Ap '40

Terminology
Committee on generic names for rayon fabrics. Textile Col 62:233 Ap '40
New generic names for rayon fabrics. Rayon 21:115+ F '40

Testing
Efficiency in consumption; wear tests of rayon slips. A. Sommaripa. Textile Col 62: 122-4 F '40
Progress in textile research from the consumer point of view; accuracy of sales information, fabric performance, fabric construction and dyes. P. B. Mack. bibliog Am Dyestuff Rep 28:696-9 N 27 '39
Tenth anniversary of Crown quality control plan seen as historic milestone in rayon's development. J. A. Spooner. Rayon 21:396-7 Jl '40

Wool mixtures
Problem of weaving spun rayon fabrics; blended fabrics. A. Palmer. il diags Rayon 21:95-6, 162-4 F-Mr '40; Same cond. Textile World 89:56-8 D '39

RAYON fibers
Classification of man-made textile fibers. Pulp & Pa of Can 41:284-5 Mr '40
Cut-up regenerated cellulose fibers having crimp. Textile Col 62:111 F '40
Dyeing and finishing of fabrics containing rayon staple fibres. H. DeW. Smith. bibliog Rayon 21:44-5, 107-8, 147-8 Ja-Mr '40; Same. Mech Eng 62:588-92 Ag '40; Same abr. Textile Col 62:230-3 Ap '40
Economic value of a wool-type rayon staple fiber. bibliog il Rayon 21:289-91 My '40
Fiber revolution. Rayon 21:603 O '40
Process for tinting rayon staple fibers; Tintinols. H. L. Siever. Rayon 21:690 N '40
Progress in the historical development and patents of rayon staple fibers. E. C. Worden, 2d. bibliog Rayon 20:496-7, 575-6, 641-3, 697-8; 21:21-2, 89-90, 143-5 S '39-Mr '40
Recent developments in rayon and some of the newer manufactured textile fibers. F. Bonnet. il Rayon 21:82-3+, 145-6 F-Mr '40
Recent developments in the manufacture of viscose rayon staple fiber. L. E. Lovett. il diag Rayon 21:531-2 S '40
Some observations on staple fiber and spun rayon. O. Von Kohorn. Rayon 21:533 S '40
Spinning of spun rayon yarns. C. D. Brandt. il Rayon 21:31-2+, 91-2+ Ja-F '40; Same abr. Textile World 89:54-6 D '39
Spinning the longer staple fibers on the cotton system. J. McComb, pseud. il diags Rayon 21:419-21, 465-6, 543-4, 621-2; 22:21-2 Jl-O '40, Ja '41
Survey of leading American rayon staple fibers. H. R. Mauersberger. Rayon 21:29-30 Ja '40
Teca, its properties and utilisation. H. DeW. Smith. Textile Inst J 30:P153-60 Jl '39; Same. Rayon 20:637-9, 699-701 N-D '39; Discussion. Textile Inst J 30:P160-1 Jl '39
Textile fiber atlas. W. von Bergen and W. Krauss. il Rayon 21:615-19 O '40
Tinting of staple fibers with Cumol tints. A. J. Kellner. il diag Rayon 21:540-1 S '40
Two-stage spinning for the production of special viscose rayon filaments. A. J. Hall. Am Dyestuff Rep 29:307-10 Je 10 '40
World rayon yarn and staple fiber production; tabulation. Rayon 21:339 Je '40
X-ray studies of crystallite orientation in cellulose fibers; fiber structures from coagulated cellulose. W. A. Sisson. bibliog il diags J Phys Chem 44:513-29 Ap '40

See also
Rayon flocks
Rayon spinning

RAYON finishing
Cellulose ether finishes for textiles. J. A. Clark. Am Dyestuff Rep 29:549-50 O 14 '40
Chemical modification of cellulose, with some observations on the more recent developments in textile finishing processes. J. Craik and W. R. Davis. il Soc Dyers & Col J 55:597-606 D '39
Control in spun rayon piece goods processing. P. J. Choquette. bibliog Am Dyestuff Rep 29:222-5; Discussion. 225-6 Ap 29 '40
Crease resisting processes for textiles. A. D. J. Piesse. il Rayon 21:478-9 Ag '40
Durable finishes on rayon fabrics. P. Le Brun. il Textile World 90:98-9 S '40
Dyeing and finishing of fabrics containing rayon staple fibres. H. DeW. Smith. bibliog Rayon 21:44-5, 107-8, 147-8 Ja-Mr '40; Same. Mech Eng 62:588-92 Ag '40; Same abr. Textile Col 62:230-3 Ap '40; Abstract. Textile World 89:58-9 D '39
Dyeing and finishing of rayon fabrics. B. S. Hillman. Textile Col 62:768-70 N '40
Finishing of viscose rayon fabrics. Textile Col 62:619 S '40
Finishing rayon hose; the physical properties of rayon in relation to hose finishing. Am Dyestuff Rep 29:207-8 Ap 15 '40
Finishing spun-rayon gabardines. P. LeBrun. Textile World 90:63 Ja '40
Formaldehyde treated uncrushable rayon fabrics. Textile Col 62:545-6 Ag '40
Help for laundrymen; new Sanforset process. Business Week p32-3 Ag 17 '40
Latest developments in textile processing and finishing. N. L. Deutsch. Rayon 21:239-40, 310-11 Ap-My '40
Making fabrics transparent and impermeable to fluids. C. H. S. Tupholme. Ind & Eng Chem News ed 18:766 S 10 '40
New Sanforset treatment eliminates shrinkage and stretch in viscose rayons. Rayon 21:542 S '40
Non-static cellulose acetate rayon. Textile Col 62:473-4 Jl '40
Progress in the historical development and patents of rayon staple fibers. E. C. Worden. bibliog Rayon 21:21-2 Ja '40
Proper evaluation of special finishes for textiles. E. Freedman. il Rayon 21:475-7 Ag '40
Recent applications of glycerine in textiles. G. Leffingwell and M. A. Lesser. bibliog Rayon 21:635-6 O '40
Resin and starch helps slip-resistance in spun rayons. Rayon 21:378 Je '40
Softening textile auxiliaries. Textile Col 62: 402+ Je '40
Stiffened wash-resistant fabrics; cellulose parchmentizing processes. Textile Col 62: 258-9 Ap '40
Sulfated ester of fatty acid; Onyx oil & chemical co. presents Phi-Φ-Sol. Textile Col 62:461, 531-3 Jl-Ag '40
Treatment of spun rayons with textone. G. P. Vincent, A. L. Dubeau and J. W. Ivey. Am Dyestuff Rep 29:296-9 Je 10 '40
Trend of progress in the cellulosic textile industry. H. A. Thomas. Chem & Ind 58: 623-4 Jl 1 '39; Same. Rayon 21:23-4 Ja '40
Use of resins and plastics for the modification of textile fabrics; abstract. D. H. Powers. Am Dyestuff Rep 29:492 S 30 '40; Same. Textile Col 62:697 O '40
Use of xynomines in rayon processing. Rayon 21:192-3 Mr '40
Water- and washing-resistant finishes on textiles. C. H. S. Tupholme. Am Dyestuff Rep 29:466+ S 16 '40

See also
Dyes and dyeing—Rayon
Rayon printing
Rayon sizing
Rayon—Delustering

RAYON flocks
Compression tests on rayon flock. E. J. Saxl. il Rayon 21:356-8, 429-30 Je-Jl '40

RAYON industry
American textile mills take record volume of rayon in 1939. F. A. Adams. Rayon 21:2+ Ja '40
Annual consumption of chemicals in rayon and allied industries Rayon 21:526 S '40
Curious situation caused by higher silk prices and new competitive fibers. P. M. Carlisle. Annalist 54:755 D 14 '39
How technological achievements transformed rayon into textile industry's common denominator. G. H. Conze. Rayon 21:334-7, 398-401 Je-Jl '40
I, rayon. M. B. Clark. il Textile World 90: 45-6 Jl '40
New fibers, new sales records mark 1939 as year of superlatives. Rayon 20:682-3 D '39
Rayon plant capacity, and outlook. S. B. Hunt. il Textile World 90:90-1 S '40
Year end textile review. Rayon 21:48 Ja '40

See also
Celanese corporation of America

Advertising
Du Pont's new rayon film. il Rayon 21:338 Je '40
Packaged themes; American Bemberg instruction bulletins for retail sales people and information on new products for dealers. A. H. Little. il Ptr Ink 189:17-20 D 1 '39

Finance
Big demand for rayon helps Rayonier profits. Rayon 20:685 D '39
Big earner in textile field; Celanese corp. of America. Barron's 20:19+ S 16 '40
Industrial Rayon first 4 ½s at new high. Barron's 19:19 D 18 '39
Rayon enters new phase. J. J. Hipple. il Mag of Wall St 65:681-3+ Mr 9 '40

Statistics
Annual rayon statistical survey. Rayon 21: 70-1 F '40
Annual rayon statistical survey. Textile Col 62:488 Jl '40
Consumption of rayon filament yarn; new series; monthly, Jan. 1923-Aug. 1940. Survey of Cur Business 20:16 O '40
New rayon record set in 1939. Textile World 90:124-5 F '40
1939 rayon yarn production and consumption; with figures for 1937 and 1938. Comm & Fin Chr 150:607 Ja 27 '40
Penetration of rayon in the textile industry still continues; chart. Rayon 21:518a S '40
Rayon deliveries, revision; monthly, 1923-June, 1940. Fed Res Bul 26:842 Ag '40
Rayon in 1939. Economist 138:sup46-7 F 17 '40
Rayon, 1936-1939. Survey of Cur Business 1940 Sup p155 [supplemented in monthly numbers]
Rayon stocks, monthly, 1930-1939. Survey of Cur Business 20:18 Ap '40
Synthetic fibers. Chem & Met Eng 47:77-8 F '40
World rayon production, 1939. Textile World 90:104 Jl '40
World rayon yarn and staple fiber production; tabulation. Rayon 21:339 Je '40
World's 1939 rayon production. Comm & Fin Chr 150:3578 Je 8 '40

Great Britain
British Celanese profits, years to July 1, 1937-39. Economist 137:884 D 9 '39
Courtaulds and British Celanese; profits, production prices, share prices and yields. Economist 138:1012-13 Je 8 '40
Rayon industry and the war. Economist 139: 129 Jl 27 '40

Japan
Wood pulp in Japan. Pulp & Pa of Can 41: 751-2 O '40

Philippine Islands
Philippine trade in cotton and rayon piece goods. Comm Rep p263 Mr 16 '40

Southern states
$200,000,000.00 invested in southern rayon plants. il map Manuf Rec 109:27-30 Mr '40

RAYON machinery
Accuracy in aluminum; fabrication of drying reels, part of rayon-yarn processing machines. L. A. Corey. il diags Am Mach 83:1039-40 D 18 '39

RAYON machinery—*Continued*
Butterworth scutcher and hydraulic calender. il Textile World 90:105 S '40
Inspection simplified; dial indicators for checking Rayon machinery corp.'s machine parts. L. A. Corey. il diags Am Mach 83: 1084-5 D 27 '39
Management engineering in the textile industry. H. Miedendorp, jr. Rayon 21:521-2 S '40
Mechanical transmissions; V-belt and variable-speed. il Rayon 21:707-9 N '40
Preparation of spun rayon. Textile World 90:91-2 Ja '40
Review of rayon machinery improvements. H. R. Mauersberger. il Rayon 21:581-5 S '40
Saco-Lowell long staple rayon equipment. il diag Textile World 90:103 S '40
Spinning the longer staple fibers on the cotton system. J. McComb, pseud. il diags Rayon 21:419-21, 465-6, 543-4, 621-2; 22:21-2 Jl-O '40, Ja '41
Warp slashing economy. W. L. Bentley. il Rayon 21:536-7 S '40

RAYON manufacture
Air conditioning in rayon plants and textile mills. il Rayon 21:242-4, 639-40 Ap, O '40
Chemistry of the viscose process. W. H. Hayford, jr. Rayon 21:685-7 N '40
Continuous production of finished viscose rayon yarn. flow sheet il Soc Dyers & Col J 55:568-70 N '39
Handling rayon in the mill; newest methods of making blended yarns, throwing, knitting, and finishing. il Textile World 90:94-9 S '40
How duPont rayon is made; pictorial chart. Rayon 21:570 S '40
One year of progress in rayon manufacture and processing. Textile Col 62:188-90 Mr '40
Progress in rayon manufacture and handling; notes from papers which were to be presented at symposium before Society of dyers and colourists. C. F. Goldthwait. Rayon 21:534-5 S '40
Quality production control in the mill. W. L. Bentley. il Rayon 20:261-2, 337, 389-90, 508-9, 650-1; 21:46-7, 160-1 My-Jl, S, N '39, Ja, Mr '40
Rate of xanthation of soda cellulose; effect of bulk number. P. C. Scherer and L. C. Ikenberry. bibliog Rayon 21:529-30, 611-12 S-O '40
Raw materials for rayon. Textile World 90: 89 S '40
Rayon and silk; developments in 1939. Textile World 90:86-8 F '40
Rayon soaking ingredients affect yarn running quality, fabric finish. O. P. Shelton. il Textile World 90:88-9 Jl '40
Rayon, the modern textile. P. H. Kline. il Comp Air M 45:6213-18 Ag '40
Recent developments in the manufacture of viscose rayon staple fiber. L. E. Lovett. il diag Rayon 21:531-2 S '40
Recently developed sources of cellulose. L. G. S. Hebbs. bibliog Soc Dyers & Col J 55:550-9 N '39; Excerpts. Rayon 20:635-6 N '39; Abstract. Textile Col 62:185 Mr '40
Spun-rayon symposium held at A.S.M.E. meeting. il Textile World 89:54-9 D '39
Standardization in rayon production; flowsheets. Rayon 21:28 Ja '40
Sulphide hazards shown by Department of labor report. Oil Paint & Drug Rep 137: 3+ My 27 '40
Teca, its properties and utilisation. H. DeW. Smith. Textile Inst J 30:P153-60 Jl '39; Same. Rayon 20:637-9, 699-701 N-D '39; Discussion. Textile Inst J 30:P160-1 Jl '39
Tendering of rayon by iron. H. R. Mauersberger. il Rayon 21:523-4 S '40
Trend of progress in the cellulosic textile industry. H. A. Thomas. Chem & Ind 58:617-25 bibliog(76 references, p625) Jl 1 '39; Same. Rayon 20:639-40, 694-6; 21:23-5 N '39-Ja '40
Two-stage spinning for the production of special viscose rayon filaments. A. J. Hall. Am Dyestuff Rep 29:307-10 Je 10 '40

See also
Dyes and dyeing— Rayon mills
Rayon Rayon yarn
Rayon fabrics

RAYON mills
Determination and recording of carbon disulfide and hydrogen sulfide in the viscose-rayon industry. G. M. Reece, B. White and P. Drinker. bibliog flow diag il diags J Ind Hygiene 22:416-24 N '40
Determination of carbon disulfide in air by means of copper and diethylamine in 2-methoxyethanol. F. F. Morehead. bibliog il Ind & Eng Chem Anal ed 12:373-4 Je 15 '40
Front Royal plant of American viscose corp. goes into production. il Rayon 21:210-12 Ap '40
Noteworthy advance in water conditioning practice. il Rayon 21:117-19 F '40
Rayon plant capacity, and outlook. S. B. Hunt. il Textile World 90:90-1 S '40
Sets up textile unit for rayon research at Marcus Hook; American viscose corp. Textile World 90:52 Ag '40

Accounting
Some applications of duplicating methods in the preparation of payroll records. R. R. Haskell and R. H. Robnett. N A C A Bul 21:1405-10 Jl 15 '40

Air conditioning
Air conditioning in rayon plants and textile mills. il Rayon 21:242-4, 639-40 Ap, O '40
Industrial rayon corporation; air conditioned Painesville plant. il diags Heat & Ven 37: 34-8 Ap '40
York installs largest centrifugal machine in plant of the Industrial rayon corporation. Refrig Eng 40:33 Jl '40

Electric equipment
Throwsters use electric heat. G. T. Perley. il Textile World 90:64-5 My '40
Use of hand-motor tools in the textile industry. H. E. Wenrich. il diags Rayon 21: 489-91, 576-8, 651-2 Ag-O '40

Employees
Occupational poisoning in the viscose rayon industry; abstract. A. Hamilton. Safety Eng 79:38 Je '40; Same. Textile Col 62:409 Je '40

Equipment
Efficient layout for soaking. O. P. Shelton. Textile World 90:63 Ap '40
Fabricated stainless steel in the rayon and textile industries; with special reference to the Shotweld process. H. B. Vollrath. il Rayon 20:713-15 D '39
Instrumentation of power plant and mill. il diags Rayon 21:49-52 Ja '40
New alloy fittings stand severe service; viscose mass tube parts made of Hastelloy. il Rayon 20:709 D '39
Progress in mechanical lines; materials, machinery and methods. il diags Rayon 21: 571-4+, 643-7 S-O '40
Pumps and fittings. il diag Rayon 21:375-7 Je '40

See also
Rayon machinery

Management
Quality production control in the mill. W. L. Bentley. il Rayon 20:261-2, 337, 389-90, 508-9, 650-1; 21:46-7, 160-1 My-Jl, S, N '39, Ja, Mr '40

Power
Power and steam for new viscose plant; American viscose corporation's power plant at Front Royal, Va. H. A. Kuljian. flow diag il diags Gen Elec R 43:280-4 Jl '40
Process sets the pattern at Front Royal plant of American viscose corporation. H. A. Kuljian. flow diags il layout Power 83:740-3 D '39
Turbo-electric plant for utilising Italian fuels; Società generale della viscosa. il Engineering 148:663-4 D 15 '39

RAYON mills—*Continued*

Records

Quarterly clearance records; help mills find losses, verify accuracy of fabric formulas, check inventories. B. Heller. il Textile World 90:63 Mr '40

Safety devices and measures

How an acetate rayon plant assures fire protection; carbon dioxide system, hand extinguishers and sprinklers. M. B. Morgan. il plan Chem & Met Eng 47:403-5 Je '40

RAYON patents. See Rayon—Patents

RAYON printing

Aniline black padding liquor for rayon. Textile Col 62:40 Ja '40

Bright fast pinks. R. Sansone. Textile Col 61: 817-19 D '39

Characteristics and new methods of printing rayon. P. Baffray. Textile Col 62:622-6 S '40

Developments in the printing of chrome reds. R. Sansone. Textile Col 62:240-3 Ap '40

Fast colored prints on zellwolle materials on navy blue grounds. Textile Col 62:400-1 Je '40

Patterned acetate rayon pile fabrics; patent. Textile Col 62:113 F '40

Printing by the burn-out process; abstract. P. Rouveyre. Am Dyestuff Rep 29:72 F 5 '40

Recent applications of glycerine in textiles. G. Lefflingwell and M. A. Lesser. bibliog Rayon 21:553-4 S '40

Roller printing of acetate rayon crepes. il Rayon 21:559-600, 634-5 S-O '40

Saponified cellulose acetate materials; rayon pile fabric on cotton back. Textile Col 62: 329-30 My '40

Scumming or tarnish on printed goods and its causes. F. H. M. New. il Rayon 21:480-2 Ag '40

RAYON research

American Viscose sets up experimental textile processing unit at Marcus Hook. il Rayon 21:512-13 S '40

Die mechanischen eigenschaften von acetatstreckseide. H. Lohmann. bibliog Angew Chemie 53:107-9 Mr 2 '40

Regain of rayon warps; determined by new method resulting from research on warp sizing. W. E. Yelland. Textile World 90: 138 S '40

Regional government research on cotton linters, chemical cotton, cellulose, woodpulp, etc. Rayon 21:134-5, 240-1, 347-8 Mr-Ap, Je '40

Sets up textile unit for rayon research at Marcus Hook; American viscose corp. Textile World 90:52 Ag '40

RAYON sizing

Controls tension in rayon sizing; seven-cylinder high-speed slasher at Abbeville cotton mills. il Textile World 89:90 N '39

Dritester moisture control for warp sizing and drying. il Rayon 21:183 Mr '40

Regain of rayon warps; determined by new method resulting from research on warp sizing. W. E. Yelland. Textile World 90:138 S '40

Sizing warps containing spun rayon; silk system spun rayon slashing. H. C. Roberts. Rayon 21:299-300 My '40

Sizing warps containing spun rayon; use of cotton and worsted mill equipment. H. C. Roberts. il Rayon 21:231-2 Ap '40

Warp slashing economy. W. L. Bentley. il Rayon 21:536-7 S '40

RAYON spinning

Acetate rayon animalized with protein; patent. Textile Col 61:834 D '39

Blends on cotton equipment. H. A. Franklin. il Textile World 90:94-7 S '40

Spinning the longer staple fibers on the cotton system. J. McComb, pseud. il diags Rayon 21:419-21, 465-6, 543-4, 621-2; 22:21-2 Jl, O '40, Ja '41

See also

Rayon fibers

Rayon yarn

RAYON staple fiber. See Rayon fibers

RAYON throwing

Latest trends in throwing. C. W. Bendigo. il Textile World 90:97-8 S '40

Progress in the technique of throwing rayon yarns; some suggestions for improvements. W. F. Macia. bibliog Rayon 21:292-3, 359-60, 417-18, 463-4 My-Ag '40

Rayon soaking ingredients affect yarn running quality, fabric finish. O. P. Shelton. il Textile World 90:88-9 Jl '40

Throwing progress, 1939. O. P. Shelton. Textile World 90:87 F '40

Throwsters use electric heat. G. T. Perley. il Textile World 90:64-5 My '40

RAYON waste

Rayon waste consumption steady. E. W. Dutton. Rayon 21:395 Jl '40

RAYON weavers association, National. See National rayon weavers association

RAYON weaving

Cloth faults traceable to reeds and healds. M. M. Taylor. il diag Textile Inst J 30: P450-62 D '39

Designing dobby fabrics; producing the chain draft and slasher layout; calculating yarn requirements; rayon stripe shirting. M. P. Fox. il Textile World 90:58-9 Jl '40

Efficient rayon quilling. A. King, jr. diag Textile World 89:85 D '39

Formation of good selvages. H. E. Wenrich. il diags Rayon 20:512-13, 586-7, 647-8, 706-7; 21:40-1, 166-7, 233-4 S '39-Ja, Mr-Ap '40

How technological achievements transformed rayon into textile industry's common denominator. G. H. Conze. Rayon 21:334-7, 398-401 Je-Jl '40

How to check those new rayon warps! Rayon 21:297-9 My '40

How to identify your goods by a special selvage. H. E. Wenrich. il Rayon 21:312-13 My '40

In combination-yarn weaving careful throwing and conscientious loomfixing are most important. A. C. Wayman. Textile World 90:87 Mr '40

Knowledge of dobby designing will assist weavers and loomfixers; rayon-stripe shirting. M. P. Fox. il Textile World 90:64-5 Mr '40

Loomfixers' manual; rayon and silk (cont). H. E. Wenrich. il diags Textile World 89: 88-9 D '39; 90:146-7; 99 Ap; 101 Je; 90 Ag; 113 O '40

Problem of weaving spun rayon fabrics; blended fabrics. A. Palmer. il diags Rayon 21:95-6, 162-4 F-Mr '40; Same cond. Textile World 89:56-8 D '39

Profit or loss in weaving? A. C. Wayman. Textile World 90:94 Ja '40

Rayon-yarn tension adjustments. C. S. Marshall. il Textile World 90:75 Ja '40

Should spun rayons be woven on wide looms? the effect of cloth width upon clothing manufacturer, mill man and loom builder. A. Palmer. Rayon 21:361-2+ Je '40; Excerpt. Textile World 90:68 Je '40

Study in rayon weaves. diags Rayon 20: 510-11, 581-5, 645-6, 702-3; 21:35-6, 97-8, 164-5, 301-2, 363-4, 425-7, 547-8, 623-4, 695-6 S '39-Mr, My-Jl, S-N '40 (to be cont)

Weaving developments, 1939. H. E. Wenrich. Textile World 90:87-8 F '40

RAYON yarn

Blends on cotton equipment. H. A. Franklin. il Textile World 90:94-7 S '40

Consumption of rayon filament yarn; new series; monthly, Jan. 1923-Aug. 1940. Survey of Cur Business 20:16 O '40

Continuous production of finished viscose rayon yarn. flow sheet il Soc Dyers & Col J 55:568-70 N '39

Cordura; a new rayon yarn for tire cords; comparison with cotton. W. H. Bradshaw. il diag Ind & Eng Chem News ed 18:814-17 S 25 '40

Efficient layout for soaking. O. P. Shelton. Textile World 90:63 Ap '40

Rayon-yarn tension adjustments. C. S. Marshall. il Textile World 90:75 Ja '40

Recent developments in rayon and some of the newer manufactured textile fibers. F. Bonnet. il Rayon 21:82-3+ F '40

RAYON yarn—*Continued*
Sizing warps containing spun rayon; silk system spun rayon slashing. H. C. Roberts. Rayon 21:299-300 My '40
Sizing warps containing spun rayon; use of cotton and worsted mill equipment. H. C. Roberts. il Rayon 21:231-2 Ap '40
Spinning of spun rayon yarns. C. D. Brandt. il Rayon 21:31-2+, 91-2+ Ja-F '40; Same abr. Textile World 89:54-6 D '39
Streakiness in synthetic fabrics. J. J. Sussmuth. Rayon 21:544-6, 619-20 S-O '40 (to be cont)
Tendering of rayon by iron. H. R. Mauersberger. il Rayon 21:523-4 S '40
World rayon yarn and staple fiber production; tabulation. Rayon 21:339 Je '40
Yarn problems in knitting. L. G. Goldenberg. Textile World 90:98 S '40
Yarns from staple fiber; worsted system. J. H. Fisher. diag Rayon 21:538-9+ S '40

Cotton mixtures

Preparation of rayon blends; considered by North Carolina-Virginia operating executives. Textile World 89:33-4 D '39
Rayon covered cotton threads. R. Sansone. diags Rayon 21:551-2 S '40

Tables, calculations, etc.

Progress in American deniers and filament numbers; revised table. H. R. Mauersberger. Rayon 21:158-9 Mr '40
Progress in American rayon deniers and filament numbers; revised table as of September, 1940. H. R. Mauersberger. Rayon 21:514-15 S '40
Proposed method of determining the commercial weight of continuous filament rayon yarns. Rayon 21:279 My '40

Testing

Surface friction of yarns; instrument for determination of coefficient of kinetic friction. L. W. Davis. bibliog diags Rayon 21: 93-4, 155-8, 229-30 F-Ap '40

RAYONIER, Incorporated
Big demand for rayon helps Rayonier profits. Rayon 20:685 D '39
Earnings for years ended April 30, 1939 and 1940. Comm & Fin Chr 151:255 Jl 13 '40
Makes eastern debut; modern sulfite pulp mill at Fernandina, Florida. il Manuf Rec 109:25+ F '40; Rayon 21:73 F '40
Rayonier Fernandina water treatment plant; sea water regenerated zeolite units. E. Nordell and C. E. Richheimer. il Paper Tr J 110:47-9 Mr 21 '40
Rayonier, Incorporated, Fernandina, Fla.; for manufacture of bleached sulphite pulp for paper and rayon purposes. il Paper Tr J 110:27-32 Mr 21 '40
Thumbnail stock appraisal. Mag of Wall St 66:684 S 21 '40

RAYOX. See Titanium oxides

RAYS

See also
Absorption of rays
Alpha rays
Beta rays
Cosmic rays
Dispersion of rays
Gamma rays
Radiation
Ultra-violet rays
X rays

RAYS, Absorption of. See Absorption of rays

RAYTON, Wilbur Bramley, 1884-
Sketch. por Glass Ind 21:105 Mr '40

RAZOR blades
Policies that pull Marlin out of the ruck of razor blade makers; 70-year-old firearms firm adds new line; sells by mail order and 30 or more different types of outlets. il Sales Management 46:24+ Ap 1 '40
Researches of Mellon institute 1939-40; more science in shaving. il Ind & Eng Chem News ed 18:294-5 Ap 10 '40

RAZORS
Shaver ensemble; Cooper Carryall. il Mod Plastics 18:48 N '40

See also
Electric shavers

REACTANCE
Calculation and experiment on transformer reactance in relation to transients of re-striking voltage. L. Gosland and W. F. M. Dunne. bibliog diags Inst E E J 87:163-77, pl 1-2 Ag '40
Influence of various factors upon the leakage reactance of transformers. A. L. Morris. bibliog diags Inst E E J 86:485-95 My '40

REACTIONS, Chemical. See Chemical reaction

REACTIVE power
Autotransformer connections for varhour metering. E. J. Boland. diags Gen Elec R 43:298-301 Jl '40
Reactive measurements; modifications in wattmeter connections. G. W. Stubbings. diags Electrician 125:151 S 20 '40
Reactive volt-amperes. Electrician 124:339-40, 353, 367 My 3-17 '40
Static frequency-conversion; problem of reactive volt-amperes. R. Feinberg. diags Elec R (Lond) 126:655 Je 21 '40

REACTORS
Methods of controlling radio interference. C. V. Aggers. diags Elec Eng 59:Trans 197-8 Ap '40
Neutral earthing. Electrician 124:77 Ja 26 '40
New ignitron firing circuit; application of direct as well as alternating current to a saturable-core reactor. H. Klemperer. il diags Electronics 12:12-15 D '39
Restriking-voltage characteristics under various fault conditions at typical points on the network of a large city supply authority. L. Gosland. diag Inst E E J 86:258-60 Mr '40
Smooth speed control of wound-rotor motors with special reactors. H. E. Larson. diag Power 84:607-8 S '40

See also
Petersen earth coil

READING, Pennsylvania

Rapid transit

Making people transit conscious. il Transit J 84:84-5 Mr '40

Water supply

Some experiences in water treatment. W. Strockbine. il Water Works & Sewerage 87:378-9 Ag '40
Super-chlorination with ferrous sulfate dechlorination. W. Strockbine. Am Water Works Assn J 32:1176-82 Jl '40

READING
Some effects of illumination on reading-efficiency. M. Luckiesh and F. K. Moss. Illum Eng 35:703-7 S '40
Summary of researches involving blink-rate as a criterion of ease of seeing. M. Luckiesh and F. K. Moss. bibliog Illum Eng 35:19-32 Ja '40
Transportation and recreation expenditures of wage earners and clerical workers. Monthly Labor R 50:556-73 Mr '40

See also
Books and reading

READING company
Annual report, 42d, year ended Dec. 31, 1939. Comm & Fin Chr 150:II-III Ap 27 '40; Same cond. Ry Age 108:763 Ap 27 '40
Income account for years 1936-39. Comm & Fin Chr 150:2895 My 4 '40
Substantial returns on Reading bonds; road consistently has earned fixed charges. Barron's 20:19 N 11 '40

READY-mixed concrete. See Concrete mixing—Ready mixed concrete

READY reckoners
New and improved ready reckoner. R. Porter, ed. 286p 35c John C. Winston co, Philadelphia '40

REAL estate boards, National association of. See National association of real estate boards

REAL estate bonds. See Bonds, Real estate

REAL estate business
Banking's survey; air conditioning; factor of growing importance in home-building activity and real estate market. Banking 32:30-1+ Mr '40
Banking's survey; housing and private capital. Banking 32:22-4 F '40
Basis for loans to real estate operators; with checklist of insurable hazards. M. L. Fitch. il Bankers Mo 57:464-5 Ag '40
Del Monte offers some of the world's best scenery and food, golf, and glamour. il map Fortune 21:58-67+ Ja '40
Factory houses for $2,995 in a Chicago suburb; Standard houses corp. il plan Arch Forum 72:66-7+ Ja '40
For men who move; Transferred executives guild guides business migrant to new home. il Business Week p29-30 Mr 30 '40
How to subdivide for good, small homes; Garden Oaks of Houston, Texas. il plans Am Bld 62:44-7+ Ag '40
Imported from England: shopping centers featuring impressive bulk, main street revival, friendly landlord-tenant relations. il plan Arch Forum 73:133-6+ Ag '40
Mortgages and real estate as trust investments. B. W. Utter. Trusts & Estates 70: 151-2 F '40
No booms, no bands, no ballyhoo; real estate learns sounder selling. W. H. Leimert. il Sales Management 46:51-3 Ja 1 '40
Old buildings in your town; reconstruction of blighted residential areas thru private enterprise. T. H. Reed. Banking 33:34-5 Ag '40
Outlook for the residential real estate market. R. H. Richards. J Land & Pub Util Econ 15:397-403 N '39
Plan that sells bank real estate; active promotion, supported by a simple listing system. A. G. Hewitt. Banking 32:77 My '40
Problems of the used house; proceedings of the annual Educational conference, Ann Arbor, April 23, 1939. R. U. Ratcliff, ed. Univ of Mich School of Business Administration, Business Papers 5:1-32 '39 (pa $1)
Property owners' manual. L. Birnbach, ed. 81p $1 Walter L. Frank management corp, New York '39
Real estate dictionary and appraisal manual. G. W. Hylton. 294p $5 Wetzel pub. co, 524 S. Spring st, Los Angeles '40
Real estate in war time; 1914 and 1939 compared. H. D. Pettibone. J Land & Pub Util Econ 15:391-6 N '39
Real estate management. H. R. Mandel. 218p $4 Ronald press '39
Real estate prices and rentals; survey. Banking 32:21-2 Ja '40
Real estate principles. H. E. Hoagland. 511p $4 McGraw-Hill '40
Selling real estate. S. L. McMichael. rev ed 507p $3.75 Prentice-Hall '40
Selling real estate today. H. Brady. 96p $1.50 Dartnell corp, Chicago '40
Six vital real estate answers. Banking 32:21 D '39
Transferred executives guild, the home-swapping service, has widened its facilities. Business Week p38-9 S 21 '40

See also
Banks and banking—Real estate operations
Building
Government corporations—Real estate operations
Housing projects
Leases
Mortgages
Real property
Rent
Suburban development

Bibliography
Real estate. (Business literature v 13, no 2) 2p Business branch, Newark public library, Newark, N.J. O '40

Finance
European insurance companies and real estate; with particular reference to housing. C. L. Parry. bibliog J Land & Pub Util Econ 16:294-305 Ag '40
Limited-dividend housing in New York; City & suburban home co. Monthly Labor R 50:362-4 F '40
Saving our blighted downtown areas; investment approach to government-business cooperation in replanning. H. M. Propper. il Nation's Business 28:20-2+ My '40

See also
Bonds, Real estate
Building—Finance
Home ownership—Finance
Housing finance
Mortgages

Securities
Real estate and real estate securities. H. R. Amott. Comm & Fin Chr 150:482 Ja 27 '40

See also
Bonds, Real estate

Statistics
Housing vacancies in U.S. Arch Forum 73: 68+ Jl '40

Surveys
Encouraging outlook for suburban property; survey conducted by Previews, inc. Trusts & Estates 70:153 F '40
National association of real estate boards issues 34th semi-annual survey of real estate market. Comm & Fin Chr 150:366, 1531; 151: 187, 333 Ja 20, Mr 9, Jl 13-20 '40
Origin and development of a continuous real property inventory in Cleveland. H. W. Green. maps J Land & Pub Util Econ 16: 325-34 Ag '40
Realty polled; 34th semiannual survey of National association of real estate boards. Arch Forum 72:sup4 Mr '40

Chicago
Seventy years of real estate subdividing in the region of Chicago. H. C. Monchow. 200p $2.25 Northwestern univ, Evanston, Ill. '39

Indianapolis
Growth and structure of real property uses in Indianapolis. A. E. Dickens. maps Indiana Univ Bur of Business Research, Business Studies 17:1-64 '39

REAL estate offices
New display ideas for real estate office. il plan Am Bld 62:53 N '40

REAL property
Commentaries on the modern law of real property. G. W. Thompson. rev & enl ed 12v v 1-2 794p;833p set $120 Bobbs '39
Don't be a tax spendthrift; how to treat maintenance expenses and gain or loss on sale of residential property. L. J. Freeman. Barron's 20:18 Mr 4 '40
How to compute your gain or loss on sales and exchanges; tabulation. J. K. Lasser. Am Business 10:44 Mr '40
Real estate law, with cases, text, and forms. B. R. Bentley. 2d ed 502p $5 Callaghan '40
Real property as a trust investment. M. A. Shattuck. bibliog Trusts & Estates 71:323-7 S '40
Short historical introduction to the law of real property. J. J. Lawler and G. G. Lawler. 204p $2.50 Foundation press, Chicago '40
Treatise on the modern law of real property and other interests in land. H. T. Tiffany. abridged ed 1219p bibliog(pv-vi) $6.50 Callaghan '40
Validity of race-restriction agreements; sale of real property to its occupance by certain racial groups. N. C. Farr. J Land & Pub Util Econ 15:477-9 N '39

See also
Government corporations—Real estate operations
Land tenure
Land titles
Mortgages
Real estate business
Rent

History
Preliminary survey of the law of real property. C. J. Moynihan. 154p $1.50 West '40

Taxation
Action going forward in 19 states for real estate tax relief under program adopted at National real estate tax conference. Comm & Fin Chr 151:637 Ag 3 '40

REAL property—Taxation—*Continued*
Confiscatory real estate taxation burden. W. H. Husband. Bankers M 141:436 N '40
National conference of real estate taxpayers adopts by-laws to its program for tax betterment. Comm & Fin Chr 151:2294 O 19 '40
Property taxes stressed at conference of National association of real estate boards, Washington, D.C. Comm & Fin Chr 150:2654 Ap 27 '40
Real estate tax systems of cities should be revised. W. H. Husband. Comm & Fin Chr 151:2126 O 12 '40
Survey shows real estate tax rates affect home building and buying. Am Bld 62: 120+ Ap '40

Valuation
Law of viewers in Pennsylvania. P. L. Drum. 1172p $12.50 Smith-Bennett corp, Kingston, Pa. '40
New type of appraisals today. J. G. Emery. Nat Underw (Life ed) 44:2 Jl 5 '40
Room unit system; a manual for appraisers. J. D. Cole. 216p $3.50 Cole-Layer co, 11 W. Monument av, Dayton, Ohio '39
See also Insurance, Fire—Valuation of property

Great Britain
Introduction to real property law. J. A. Watson. 2d ed 328p 15s Sweet & Maxwell, London '38
Questions and answers on real property and conveyancing. O. H. Phillips. 2d ed 184p 5s Sweet & Maxwell, London '39
Real property law. G. R. Y. Radcliffe. 2d ed 396p 15s Oxford '38
Topham's Real property; an introductory explanation of the law relating to land. A. F. Topham. 9th ed 455p, 56p 15s Butterworth & co, London '39

Tennessee
Gore on real property and abstracting (with forms). T. P. Gore. 886p $10 Michie co, Charlottesville, Va. '39

REAMERS
Fixture for fluting small taps and reamers. H. M. Darling. diags Am Mach 83:1086 D 27 '39
Slender reamers not ground after hardening. G. J. Murdock. il diags Am Mach 84:872 O 30 '40

REASON
Reason. (Pub. in philosophy) 228p pa $2.25 Univ. of Calif., Berkeley '39

REASONING
Understanding plus. D. B. Prentice. J Eng Educ 30:335-6 D '39

RECEIPTS
Henley's Twentieth century book of formulas, processes and trade secrets. G. D. Hiscox, ed. 1940 rev & enl ed 857p, 25p $4 Henley '40
Money making formulas. C. A. Crowley, ed. 480p $4.25 Popular mechanics press, 200 E. Ontario st, Chicago '39
Über eine sammlung technischer rezepte aus dem 16. jahrhundert. W. Ganzenmüller. Angew Chemie 53:88-9 F 17 '40

RECEIVABLES. See Accounts receivable

RECEIVERS
Delaware corporations and receiverships. J. Marvel. 6th ed 538p $5 Corporation service co, Wilmington, Del. '39
Responsibilities in liquidation; abstract. C. C. Jacobsen. Bankers M 141:460 N '40
See also
Bankruptcy
Electric railroads—Receiverships
Railroads—Receiverships

RECIPES. See Advertisements—Cook books and recipes

RECIPROCAL insurance. See Insurance, Reciprocal

RECIPROCAL trade agreements. See Commercial treaties and agreements

RECLAMATION bureau. See United States—Reclamation, Bureau of

RECLAMATION of land
Broad view of reclamation; federal irrigation program. J. C. Page. il Civil Eng 10:615-18 O '40
California's Central Valley reclamation project. C. F. Berry. Pub Util 25:653-9 My 23 '40
Dredging of farmland in Oregon. F. W. Libbey. Oregon Dept of Geology and Mineral Industries Bul 19:1-40, pl 1-10 '39
New agricultural empire opened for development in the South; reclaimed alluvial valley of the Mississippi river. J. A. Fox. il map Manuf Rec 109:34-7+ Jl '40
Restoration of land affected by iron-ore working. Engineering 148:637-8 D 8 '39
See also
Dikes (engineering)
Drainage
Filling
Irrigation
Land utilization

RECONSTRUCTION (European war, 1939-)
Reflections on postwar reconstruction. G. Cassel. Ann Am Acad 210:24-7 Jl '40

RECONSTRUCTION finance corporation
Aid to business furnished by RFC. J. Jones. Comm & Fin Chr 151:2123 O 12 '40
Bill introduced in both Houses widening RFC powers. Comm & Fin Chr 150:2973 My 11 '40
Building up stockpiles; corporations formed under auspices of RFC will acquire huge quantities of rubber and tin. Business Week p48 Jl 6 '40
Business-and-government. Fortune 21:42-3 My '40; Excerpts. Bankers M 140:539-40 Je '40
Companies violating labor act barred from RFC loans, says NLRB Chairman Madden; RFC Chairman Schram denies this. Comm & Fin Chr 150:1073, 1213 F 17-24 '40
Financing industrial expansion and working capital requirements of the defense program; Jesse Jones defines RFC policy. T. R. Goldsmith. Annalist 56:397+ S 26 '40
Forms two government corporations, Rubber reserve co. and Metals reserve co., to acquire stocks of rubber and tin. Comm & Fin Chr 151:42-3 Jl 6 '40
Fully guaranteed obligations by agencies, monthly, Nov. 1938-Nov. 1939. Fed Res Bul 26:41 Ja '40 [cont monthly]
House of Jesse. il Fortune 21:45-51+ My '40
How to finance your plant expansion for completion of government aircraft contracts. R. Colborn. il Aviation 39:46-7 Ag '40
Loans and investments. Fed Res Bul 26:43 Ja '40 [cont monthly]
Loans outstanding, end of month, 1935-1939. Survey of Cur Business 1940 Sup p64-5 [supplemented in monthly numbers]
RFC given authority by Congress to finance government or private plants for production of arms. Comm & Fin Chr 150:3902 Je 22 '40
RFC has arranged for $60,000,000 railroad equipment loans in last three months. Comm & Fin Chr 149:4107 D 30 '39
RFC has authorized 7,977 loans aggregating $2,319,353,786 from Feb. 19, 1938 to Aug. 14, 1939. Comm & Fin Chr 151:1075 Ag 24 '40
Reconstruction finance corporation loans to the railroads, 1932-1937. H. Spero. 179p bibliog(p167-73) $3.50 Bankers pub. co, 465 Main st, Cambridge, Mass. '39
RFC offers aid to public utility districts to buy properties of Puget Sound Power & Light. Elec W 114:547 Ag 24 '40
RFC will aid small business unless private banks furnish needed credits; abstracts. E. Schram. Comm & Fin Chr 149:3346-7 N 25 '39; Bankers M 140:23-6 Ja '40; Banking 32: 88 Ja '40
Report of operations of RFC Feb. 2, 1932, to Nov. 30, 1939. Comm & Fin Chr 150:214-15 Ja 13 '40 [cont monthly]
Senate subcommittee approves part of Glass bill but votes down sections opposed by Secretary Morgenthau. Comm & Fin Chr 150:3136-7 My 18 '40

RECONSTRUCTION finance corporation—*Cont.*
Text of newly-enacted bill giving RFC authority to finance government or private plants empowered to manufacture arms and those producing strategic materials; also to acquire stock of Federal home loan banks. Comm & Fin Chr 151:309-10 Jl 20 '40
Unreconstructed; difficulties encountered in connection with trade marks pledged as security for loans. Sci Am 163:63 Ja '40
See also
Rubber reserve company
RECORDGRAPH
Recording on film. Barron's 20:5 S 30 '40
RECORDING Instruments
Accuracy and other measuring properties of temperature instruments. M. F. Behar. diag Instruments 13:242 S '40
American apparatus, instruments, and instrumentation; automatic recorders and controllers. R. H. Müller. il diags Ind & Eng Chem Anal ed 12:604-10 O 15 '40
Automatic control of acid or alkaline baths. S. R. Waters. il diag Rayon 21:632-3 O '40
Automatic freeness recording. A. B. Green. il diags Paper Ind 22:459-62 Ag '40
Freeness as a mill tool; new recording apparatus. A. B. Green. il diags Pulp & Pa of Can 41:655-9 S '40
Indicators and recorders; their purpose and service. C. H. Butcher. Chem Age (Lond) 43:143-4 S 28 '40
Instrument savings? peek into my diary! D. Gutleben. Instruments 13:6 Ja '40
New line of Taylor recorders. il Paper Tr J 110:25 My 16 '40
Plane tests recorded. il Business Week p46 N 16 '40
Recorders find lost machine time. H. M. Scherr. il Factory Management 98:58-9 Je '40
Recording of current pulses by slow galvanometers. F. T. Rogers, jr. R Sci Instr 11:198-9 Je '40
Setting time standards when machine times vary; automatically recorded data on manually controlled machine jobs; Revere copper & brass. C. B. Carr. il Factory Management 97:48-50 D '39
Simple open-hearth control. R. Trautschold. il plan Steel 106:44+ Ap 1 '40
Torsional damping recorder. il diag Automobile Eng 30:119-20 Ap '40
What I am trying to do; application of recording instruments to classifiers. H. E. T. Haultain. il Can Min J 61:509-11 Ag '40
See also
Aeronautic instruments
Dilatometers
Indicators
Oscillographs
Photometers
Spectrograph
Spectrophotometers
Water level indicators
RECORDING Instruments, Electric
Cossor-Dodds condenser type pressure unit. diag Engineer 169:471-2 My 24 '40
Flexibility; piping interconnections permit four blowing engines to serve four blast furnaces in any combination. R. Trautschold. il plan Steel 106:45-6 Ja 8 '40
Foxboro improved verigraph recorder. il Rubber Age 46:172 D '39
High-grain d-c amplifier for bio-electric recording. H. Goldberg. diags Elec Eng 59: Trans 60-4 Ja '40
How to use available recorders for continuous records with indicating pH meters. V. F. Hanson. diags Chem & Met Eng 47:169-70 Mr '40
Irregularities in metal surfaces given in millionths of an inch; surface analyzer, developed by Brush development co. il Steel 160:58 F 5 '40
Measurement of arc welding technique; arcronograph. H. S. Card. il diag Power Pl Eng 44:66-8 Je '40
Metameter system of telemetering. F. B. Bristol and G. S. Lunge. il diags Gen Elec R 42:466-72 N '39
Method of measuring and recording the frequency error of a.c. power supplies. F. O. Morrell and G. R. Oman. diag Electrician 124:183-4 Mr 8 '40
New techniques in traffic behavior studies. E. H. Holmes and S. E. Reymer. il diags Pub Roads 21:29-45 Ap '40
Power-angle indicator and recorder for synchronous machines. E. B. Kurtz. il diags Gen Elec R 43:406-9 O '40
Railway track maintenance; track recording car. il Elec R (Lond) 125:579-80 N 3 '39
Rapid-recording a-c bridge. W. Mikelson and H. W. Bousman. il diags Elec Eng 59:Trans 628-31 N '40
Record rotor action on motor pull-in. E. W. Swanson. diag Elec W 113:1550+ My 18 '40
Recorder for electrical potentials; the damping of piezoelectric systems; ink-writing oscillograph. F. Offner. diags J Ap Phys 11:347-52 My '40
Surface profiles in microinches; Brush surface analyzer. il Iron Age 145:32-3 F 15 '40
Time-temperature control for sulphite digesters; recording and controlling potentiometer instrument. J. F. Inderdohnen. il diags Paper Tr J 111:31-4 Ag 8 '40
Valuation and tests of electrical engine-indicators. F. Lichtenberger. il diags Automotive Ind 82:368-75; Discussion. Fried and Schrader. 375 Ap 15 '40
Voltmeter records high-low points. il Elec W 114:1194 O 19 '40
See also
Demand meters
RECORDS
Streamlining the cost of record-keeping. J. S. Seidman. Management R 29:301-4 Ag '40
See also
Accounting
Banks and banking—Records
Electric utilities—Records
Files and filing (documents, etc.)
Gantt charts
Inventories
Orders
Payrolls—Records
Photographic records
Production control
Public health departments—Records
Punched card system
Railroads—Records
Sales records
Shadow pictures
Stores systems
RECORDS, Disposal of. See Files and filing (documents, etc.)
RECORDS, Microfilm. See Microfilms
RECORDS, Photographic. See Photographic records
RECORDS, Preservation of
After-a-fire value of records; news reporter digs into history of a few fire cases. C. F. Mather. il Credit & Fin Management 42:20, 22, 24 O '40
Analysis and protection of records; abstract. W. E. Hough. Management R 29:50-1 F '40
Preserving paper; method of protecting documents, developed and patented by Dr Joseph Broadman. S. Frank. Sci Am 161:352-3 D '39
Record storage practice; abstract. Management R 29:321 S '40
When we want records we have them; with time schedule for the retention of records. J. A. Hand. Bankers Mo 57:470-1 Ag '40
RECORDS, Visible
More personal loans with visible control; visible filing system and a simplified plan of operation. A. T. Roth. il Bankers Mo 57: 214-15 Ap '40
Personal loans quickly handled with this visible ledger file. R. A. Prosswimmer. Bankers Mo 57:91+ F '40
Visible liability ledger is the basis for safe loans. A. Larschan. Bankers Mo 57:337+ Je '40
RECREATION
Administration of public recreation. G. Hjelte. 416p $3 Macmillan '40
America learns to play; a history of popular recreation, 1607-1940. F. R. Dulles. 441p bibliog(p375-423) $4 Appleton-Century '40
Annual report of the Bureau of recreation, Department of public works, City of Pittsburgh, Pennsylvania. 53 l Bur. of recreation, 518 City-county bldg, Pittsburgh '39

RECREATION—*Continued*
Community recreation in the United States, 1938. Monthly Labor R 49:656-7 S '39
Community recreation in the United States, 1939. Monthly Labor R 51:652-3 S '40
Design decade. il diag plan Arch Forum 73:238-49 O '40
Employee recreation. Management R 28:406 N '39
Here is an employee club that builds morale; Carnation club. B. Masslich. Am Business 10:39-40 S '40
Introduction to community recreation. G. D. Butler. 547p bibliog(p517-30) $3.50 McGraw-Hill '40
Leisure, a national issue; planning for the leisure of a democratic people. E. C. Lindeman. 61p pa 50c Association press, 347 Madison av, New York '39
Play and recreation. W. W. Pangburn. bibliog Ann Am Acad 212:121-9 N '40
Recreation. F. J. Lipovetz. 399p bibliog (pix-xi) pa $4 Burgess pub. co, Minneapolis '40
Recreational research. G. M. Gloss. 63p bibliog(p47-63) pa $1 G. M. Gloss, School of health, physical education and recreation, Louisiana state univ, University, La. '40
Regulation of recreation on watersheds and reservoirs. R. V. Black. Am Water Works Assn J 32:1016-18 Je '40
Training for recreation; an account of the in-service training program, Division of recreation, Works progress administration, October, 1935-October, 1937. D. I. Cline. 130p bibliog(p121-30) Univ. of Chicago press '39
Transportation and recreation expenditures of wage earners and clerical workers; automobiles, radio, tobacco, movies, reading. Monthly Labor R 50:556-73 Mr '40
Twenty-fourth National recreation congress proceedings, Boston, Mass., Oct. 9-13, 1939. 189p pa $1 The Assn, 315 4th av, New York '39
Workers at play; part that industry can take. Personnel J 18:227-32 D '39

See also
Exercise
Hobbies
Swimming pools
Vacations

RECREATION areas
A.W.W.A. men study use of watersheds. Eng N 124:217+ F 15 '40
Indiana strippers; turning worked-out areas into forests and recreation centers. V. Sappenfield. il Coal Age 45:36-8 Ag '40
Landscape design in the primeval environment. G. Eckbo, D. U. Kiley and J. C. Rose. il Arch Rec 87:74-9 F '40
President Roosevelt sends Congress TVA plan for recreation area; power development not the only aim of program. Comm & Fin Chr 150:361 Ja 20 '40
Recreational use of water supply areas; symposium by New Jersey section of A.W.W.A. Water Works & Sewerage 87:107-10 Mr '40; Am Water Works Assn J 32:1009-26 Je '40

RECREATION buildings

See also
Gymnasiums
Skating rinks
Swimming pools

RECREATION centers
Municipal recreational field in Montpelier, Vt. includes asphalt swimming pool. A. D. Bishop. il diag Pub Works 71:12-14 My '40

RECREATION rooms
Double-coursed home at Sheffield, Mass. brings repeat orders; has basement game room and bar; with TruCost figures. il plans Am Bld 62:46-8+, 116 My '40
New dwelling units. il plans Arch Rec 86:49-54 D '39
Recreation rooms are more attractive with new finish materials. il Am Bld 62:54 S '40

RECRYSTALLIZATION
Experimental flow of rocks under conditions favoring recrystallization. D. Griggs. bibliog diags Geol Soc Bul 51:1001-22, pl 1-2 Jl '40

RECTIFICATION
Multicomponent rectification; estimation of the number of theoretical plates as a function of the reflux ratio. E. R. Gilliland. bibliog Ind & Eng Chem 32:1220-3 S '40
Multicomponent rectification; minimum reflux ratio. E. R. Gilliland. bibliog Ind & Eng Chem 32:1101-6 Ag '40
Multicomponent rectification; optimum feed-plate composition. E. R. Gilliland. diag Ind & Eng Chem 32:918-20 Jl '40

See also
Distillation

RECTIFIERS, Electric. See Electric rectifiers

RECTIFIERS, Radio. See Radio rectifiers

RECTIFYING apparatus. See Distillation apparatus

RED
Developments in the printing of chrome reds. R. Sansone. Textile Col 62:240-3 Ap '40
Red dye from the species of asperula. C. D. Mell. Textile Col 62:413-14 Je '40
Yellow and red zinc silicate phosphors. G. R. Fonda. bibliog il J Phys Chem 44: 851-61 O '40

RED caps. See Porters

RED cross
Agriculture department announces plan to aid Red cross in refugee food shipments. Comm & Fin Chr 150:3598 Je 8 '40
American Red cross nearing goal of $20,000,000 for war relief; President signs order establishing $50,000,000 fund. Comm & Fin Chr 151:641 Ag 3 '40
Membership in American Red cross in 1939 increased 24% over last year. Comm & Fin Chr 149:3962-3 D 23 '39
President Roosevelt asks Congress to appropriate $50,000,000 to aid civilians of war-torn Europe; to be used by Red cross mainly for food. Comm & Fin Chr 150:3752 Je 15 '40
Prevention first; Red cross first aid instruction. L. M. Thompson. il Safety Eng 79: 21, 24 Mr '40
Red cross now big farm customer. Business Week p33-4 Je 15 '40

RED HOOK houses. See Housing—New York (city)

RED lead. See Lead oxides

RED river
Oklahoma files against giant Denison project; questions right of government to construct dam on Red river without compensation to state. Elec W 112:1754 D 16 '39

REDISTRIBUTION reaction. See Chemical reaction

REDUCTION, Chemical
Alkanolamines; reducing and hydrolyzing action of the ethanolamines on the dichloronitrobenzenes. C. B. Kremer and A. Bendich. Am Chem Soc J 62:1279-81 My '40
Asymmetric reduction of β-methylcinnamic acid by *d*-glucose in the presence of Raney nickel. T. D. Stewart and D. Lipkin. Am Chem Soc J 61:3297-300 D '39
Chemistry of sulfur dioxide reduction; kinetics. R. Lepsoe. bibliog il Ind & Eng Chem 32:910-18 Jl '40
Partial reduction of acetylenes to olefins using an iron catalyst. A. F. Thompson, jr. and S. B. Wyatt. Am Chem Soc J 62: 2555-6 S '40
Preparation and asymmetric reduction of β-methylcinnamic acid. D. Lipkin and T. D. Stewart. bibliog Am Chem Soc J 61:3295-6 D '39
Rates of the thermal reduction of dichromic acid by quinine, hydroquinine, and cinchonine in dilute sulfuric acid at 0 to 60°. L. J. Heidt. diags Am Chem Soc J 61:3455-8 D '39
Reduction by amalgamated zinc; significant factors in efficiency. H. W. Stone and D. N. Hume. bibliog diag Ind & Eng Chem Anal ed 11:598-602 N 15 '39
Reduction of α-bromo ketones by aluminum isopropylate. P. G. Stevens and O. C. W. Allenby. Am Chem Soc J 62:3264-5 N '40

REDUCTION, Chemical—*Continued*
Reduction of α-bromo-ketones by aluminum isopropylate; with a note on the isomeric amino-alcohols of the ephedrine series. P. G. Stevens, O. C. W. Allenby and A. S. DuBois. bibliog Am Chem Soc J 62:1424-8 Je '40
Reduction of nitrosylsulphuric acid by sulphur monoxide. C. J. Wilkins. Chem Soc J p1157-9 Ag '40
Reduction over a Raney catalyst of the esters of α-amino acids to corresponding alkamines. G. Ovakimian, M. Kuna and P. A. Levene. Am Chem Soc J 62:676-7 Mr '40
Sterols; oxidation and reduction products of equilenin. R. E. Marker and E. Rohrmann. Am Chem Soc J 61:3314-17 D '39
Structure of cannabidiol; reduction and cleavage. R. Adams, M. Hunt and J. H. Clark. Am Chem Soc J 62:735-7 Ap '40
Surface conditions of silver halides and rate of reaction; rate of reduction of precipitated silver chloride. T. H. James. bibliog Am Chem Soc J 62:536-40 Mr '40
Surface conditions of silver halides and the rate of reaction; reduction of nucleated silver chloride. T. H. James. bibliog Am Chem Soc J 62:1649-54 Jl '40
Surface conditions of silver halides and the rate of reaction; reduction of silver chloride by hydrazine. T. H. James. bibliog Am Chem Soc J 62:1654-8 Jl '40
What you can use; oxidation and reduction reagents. Oil Paint & Drug Rep 137:56 F 5 '40

See also
Hydrogenation
Metallurgy

REDUCTION, Electrolytic
Electrolytic reduction of sugars. H. J. Creighton. Chem & Ind 59:557 Ag 3 '40
Electro-organic chemical preparations. S. Swann, jr. bibliog Electrochem Soc Trans 77 (preprint 26):315-54 Ap '40
Polarographic study of the reduction of chromate ion at the dropping mercury electrode. J. J. Lingane and I. M. Kolthoff. bibliog Am Chem Soc J 62:852-8 Ap '40

REDUCTORS
Microdetermination of iron with the silver reductor. S. M. Edmonds and N. Birnbaum. Ind & Eng Anal ed 12:60-1 Ja 15 '40
New applications of the silver reductor; determination of uranium and copper. N. Birnbaum and S. M. Edmonds. bibliog Ind & Eng Chem Anal ed 12:155-7 Mr 15 '40

REDWOOD
California redwood. il Am Bld 62:81 Ja '40
California redwood, 1936-1939. Survey of Cur Business 1940 Sup p128 [supplemented in monthly numbers]
Cold storage insulating material from forest waste; redwood bark wool. N. C. Jones. Chem & Ind 59:69-70 F 3 '40
Pulp from redwood mill waste. O. Wilson. Paper Tr J 111:20 Jl 4 '40
Wood for hot line protection. R. M. Ruth. il diags Elec W 112:1856-7+ D 30 '39

REED, Henry Morrison, 1880-
American radiator & standard sanitary corp.; President Henry Reed I, out to lick inefficiency. por Fortune 21:56-61+ Mr '40
Meet Mr Reed; a plumber who likes to get things done. A. St John. por Barron's 20:5 Ag 26 '40

REED, Philip Dunham, 1899-
G.E.'s third generation; Wilson and Reed; replace Owen D. Young and Gerard Swope. por Fortune 21:68-9+ Ja '40
Reed and Wilson named to head General electric co. Elec W News ed 112:1513-14 N 25 '39; por Barron's 19:12 D 4 '39; Business Week p15 N 25 '39

REEDER, Ralph R. & sons
Forty-second anniversary. il Sheet Metal Worker 31:59-60 Ja '40

REELS
Drum-type reels for winding paper; hazards and precautions. Nat Safety N 42:52+ S '40
New reel for strip. W. W. McBane. il diag Steel 106:50+ Ja 15 '40

REESE, Charles Lee, 1862-1940
Charles Lee Reese. bibliog por(front) R. E. Curtin, jr. Am Chem Soc J 62:1889-91 Ag '40

REESE, Lewis Paul, 1893-
Lewis P. Reese. E. D. Shumaker. por(cover) Am Cer Soc Bul 19:302-4 Ag '40

REFERENCE books
Research manual with a bibliographical guide to college studies and interests. C. B. Williams and A. H. Stevenson. 264p $1.25 Harper '40

See also
Bibliography
Encyclopedias
Periodicals—Indexes

Bibliography
Guide to the reference collections of the New York public library (cont). K. Brown, comp. N Y Pub Lib Bul 43:947-54; 44:57-61 D '39-Ja '40
Reference shelf. (Business literature v 12, no 10) 2p Business branch, Newark public library Je '40

Rating
Reference books. M. Leach. Consumers' Research Bul (Gen bul ser) 10:21-5 O '40

REFLECTION (optics)
Effect of particle size and index of refraction on reflectance. B. W. King, jr. bibliog diag Am Cer Soc J 23:221-5 Ag '40
Fresnel formulae applied to the phenomena of nonreflecting films. K. B. Blodgett. Phys R 57:921-4 My 15 '40
Interreflections. P. Moon. bibliog diags Opt Soc Am J 30:195-205 My '40
New method for investigating the refractive index and the thickness of thin interference films on glass. A. Vašiček. diags Phys R 57:925-31 My 15 '40
Reducing the reflection from glass; abstract. C. H. Cartwright. Glass Ind 21:220-1 My '40
Reflecting curbs assist the motorist to read the road he travels. W. Van Breemen. il diags Roads & Sts 83:48-50, 52, 54 My '40
Ribbons of light; New Jersey curbs designed to reflect like a mirror, especially in the rain. il diags Eng N 124:712-15 My 23 '40

REFLECTION of electrons. See Electrons—Reflection, scattering, etc.

REFLECTOMETERS
American apparatus, instruments, and instrumentation; optical instruments. R. H. Müller. il Ind & Eng Chem Anal ed 12:598-9 O 15 '40
Diffuse reflection meter (whiteness estimator) primarily designed for determining the purity of ammonium sulphate as a function of its whiteness. Chem & Ind 59:123-4 F 24 '40
Method of evaluating color variations of baked food products. W. B. Kirk. il diags Am Gas Assn Mo 22:261-4 Jl-Ag '40
Survey of abridged spectrophotometers; including list of instruments with brief descriptions and manufacturers' addresses. J. A. Van den Akker. bibliog diags Paper Tr J 111:28-37 S 12 '40

REFLECTOR buttons
Novel safety signal for coal mines. Comp Air M 44:6024 N '39
Reflectors used in highway signs and warning signals. G. A. Van Lear, jr. diags Opt Soc Am J 30:462-87 O '40

REFLECTORS
Chart temperature around infra-red lamp. E. D'Olive. Elec W 113:1394 My 4 '40
Five-foot reflectors made by electroforming; rhodium plating applied to base of electroplated nickel. il Metal Finishing 38:532+ O '40
Goodrich high intensity non-glare illumination; Protecto diffuser. il Blast F & Steel Pl 27:1272 D '39

REFLECTORS—*Continued*
Industrial illumination. D. M. Warren and A. R. Finley. il Steel 106:40, 52-3 Ja 22; 54+ Ja 29 '40
Infra-red in industry. J. Sasso. il diags Am Mach 84:742-3, 867-9 O 2-30 '40
Mechanics of light flux control by plastics. M. H. Bigelow and A. F. Wakefield. bibliog il Illum Eng Soc Trans 34:1189-96; Discussion. 1196-8 D '39
Progress in the manufacture of silvered-glass reflectors. W. Irby. diags Gen Elec R 43:89-90 F '40
Radiant energy drying with heat lamps. T. P. Brown and L. S. Ickis, jr. il diag Metal Ind 37:607-8 D '39
Reflector steps reduce lamp-stem temperature. S. B. Gaylord. il Gen Elec R 42:473 N '39
Reflector surfaces for infra-red lamps. E. R. D'Olive. diags Elec W 112:1890+ D 30 '39

REFLECTORS, Road
Reflectors used in highway signs and warning signals. G. A. Van Lear, jr. diags Opt Soc Am J 30:462-87 O '40

REFLUX ratio. See Rectification

REFORESTATION. See Forests and forestry

REFORM schools. See Reformatories

REFORMATORIES
Handbook of American institutions for delinquent juveniles; v. 2, Kentucky—Tennessee, 1940. W. B. Cox, J. A. Shelly, and G. C. Minard, eds. 293p bibliog(p273-93) pa $1.25 Osborne assn, 114 E. 30th st, New York '40
Lincoln hall, Lincolndale, N.Y.; rural boarding school and farm for rehabilitation of boys; views, plans and construction outlines. Arch Forum 73:127-32 Ag '40

REFRACTION
Dispersion of magnetic double refraction in the short infra-red spectrum. F. J. Davis. bibliog diag Opt Soc Am J 30:488-94 O '40
Tension and birefringence in a vinylite plastic. H. W. Farwell. J Ap Phys 11:274-9 Ap '40

REFRACTION, Molecular
Molecular refraction of ions of *l*-aspartic acid. V. A. Pertzoff. Am Chem Soc J 62:3150-1 N '40

REFRACTIVE index
Density, thermal expansion, vapor pressure, and refractive index of styrene, and the density and thermal expansion of polystyrene. W. Patnode and W. J. Scheiber. bibliog Am Chem Soc J 61:3449-51 D '39
Determination of total solids in canned tomato products. G. Horner. Soc Chem Ind J 59:74-8 Ap '40
Effect of particle size and index of refraction on reflectance. B. W. King, jr. bibliog diag Am Cer Soc J 23:221-5 Ag '40
Fresnel formulae applied to the phenomena of nonreflecting films. K. B. Blodgett. Phys R 57:921-4 My 15 '40
Index of refraction of methane in the infra-red and the dipole moment of the CH bond. R. Rollefson and R. Havens. bibliog diag Phys R 57:710-17 Ap 15 '40
New method for investigating the refractive index and the thickness of thin interference films on glass. A. Vašiček. diags Phys R 57: 925-31 My 15 '40
Optical dispersion and molar refraction at zero frequency for compressed nitrogen, argon, and carbon dioxide measured as functions of density. C. E. Bennett. Phys R 58:263-6 Ag 1 '40
Physical properties and chemical constitution; alkyl ketones. D. M. Cowan, G. H. Jeffery and A. I. Vogel. diag Chem Soc J p171-6 F '40
Physical properties of some purified aliphatic hydrocarbons. D. R. Brooks, F. L. Howard and H. C. Crafton, jr. bibliog J Research Nat Bur Stand 24:33-45 Ja '40
Properties of soybean oil-solvent mixtures. H. F. Johnstone, I. H. Spoor and W. H. Goss. il Ind & Eng Chem 32:832-5 Je '40
Refractive index of matter in cylindrical form. A. H. Pfund. il diag Opt Soc Am J 30:410-12 S '40
Refractive index of silicate glasses as a function of composition. M. L. Huggins. bibliog Opt Soc Am J 30:495-504 O '40
Refractivity of formamide. G. F. Smith. Chem Soc J p869-70 Jl '40
Refractometer studies on rubber-pigment mixtures. H. C. Jones. Ind & Eng Chem 32:331-4 Mr '40
Review of the relation of density and refractive index to the composition of glass. K. Sun, H. W. Safford and A. Silverman. bibliog Am Cer Soc J 23:315-26 N '40
Silicate glasses; calculation of densities, refractive indices, and dispersions from glass composition. M. L. Huggins. bibliog il Ind & Eng Chem 32:1433-6 N '40
Solvent effects with optically active saturated hydrocarbons. A. W. H. Pryde and H. G. Rule. Chem Soc J p345-7 Mr '40
Systematic qualitative organic microanalysis; determination of the refractive index of liquids. H. K. Alber and J. T. Bryant. bibliog diag Ind & Eng Chem Anal ed 12:305-7 My 15 '40
Thermodynamic properties of the hexyl alcohols; 2-methylpentanol-3 and 3-methyl-pentanol-3. F. Hovorka, H. P. Lankelma and A. E. Axelrod. bibliog Am Chem Soc J 62: 187-9 Ja '40
Thermodynamic properties of the hexyl alcohols; 3-methylpentanol-1 and 2-methylpentanol-5. F. Hovorka, H. P. Lankelma and I. Schneider. bibliog Am Chem Soc J 62:1096-8 My '40
Titanium sulfate solutions; refractive index and viscosity measurements. A. W. Hixson and J. D. Stetkewicz. bibliog Ind & Eng Chem 32:1009-15 Jl '40

REFRACTOMETERS
Systematic qualitative organic microanalysis; determination of the refractive index of liquids. H. K. Alber and J. T. Bryant. bibliog diag Ind & Eng Chem Anal ed 12:305-7 My 15 '40

REFRACTORY cement. See Cement, Refractory

REFRACTORY concrete. See Concrete, Refractory

REFRACTORY industry
Economics of the refractories industry. J. D. Ramsay. Brick & Clay Rec 97:58, 60+ N '40
Glance at the week's reports; Harbison-Walker vs. General refractories. H. Lawrence. Barron's 20:9 F 26 '40

History
Backbone of industry. J. D. Ramsay. il Brick & Clay Rec 96:54-6 Mr; 70-2 Ap; 60+ My; 58, 60+ Je; 97:50, 52+ Jl; 50+ Ag; 60+ S; 50+ O; 58, 60+ N; 48, 50 D '40

Canada
Canadian refractories limited. il Can Min J 60:sup294 N '39
Canadian refractory industry; abstract. J. W. Craig. Can Chem & Process Ind 24:501 O '40

Great Britain
War finds British self-sufficient in refractories production. Brick & Clay Rec 95:58 D '39

REFRACTORY materials
All-basic open hearth. J. H. Chesters. il Iron Age 146:35-7 Ag 15; 39-41 Ag 22 '40
Alumina and silica refractories. H. M. Kraner. flow sheet il Iron Age 145:25-30 Ja 18; 34-9 Ja 25 '40
Aluminum powder improves the strength of silicon carbide and graphite products. J. F. McMahon. Brick & Clay Rec 95:58 N '39
Basic refractories. H. C. Lee. Metal Prog 38:585+ O '40
Beryllium oxide. H. E. White, R. M. Shremp and C. B. Sawyer. bibliog il Am Cer Soc J 22:185-9; 23:157-9 Je '39, Je '40
Blast furnace refractories have the floor at A.C.S. meeting. Brick & Clay Rec 97: 52-3 S '40

REFRACTORY materials—*Continued*

Comparison of refractory costs of naturally-formed refractory material and ordinary fire brick; abstract. J. A. Bowers and J. T. MacKenzie. tables(p88, 89) Iron Age 145:51 My 16 '40

Effect of molten aluminum on various refractory brick. H. O. Burrows. il Am Cer Soc J 23:125-33 My '40

Expansion of various refractories. A. M. Morton. il Blast F & Steel Pl 28:665-6 Jl '40

First report on refractory materials; summary. Iron & Steel Inst J 139:651-2; Discussion. 653-66 no 1 '39

Five years of progress in steelworks refractories. J. H. Chesters. bibliog Blast F & Steel Pl 28:1028-9, 1119 O-N '40 (to be cont)

Heating furnace refractories. E. C. Hite and G. Soler. il Brick & Clay Rec 96:57-8 Mr; 51-2+ Je '40

Highspots of technical progress in refractories during 1939. bibliog diags Brick & Clay Rec 96:64-5 Ja '40

Industrial survey of conditions surrounding refractory service in continuous plate glass and window glass furnaces. diags Am Soc T M Proc 39:345-56 '39; Excerpt (Classification of refractories). Am Cer Soc J 23 (Cer A 19):164-5 Jl '40; Same abr. Brick & Clay Rec 97:42-4 D '40

Industrial survey of conditions surrounding refractory service in lime burning. il diag Am Soc T M Proc 39:345-8 '39

Insulating refractories provide fuel saving and added furnace life. Brick & Clay Rec 96: 58-9 F '40

Lining a small induction furnace. G. F. Comstock. Metal Prog 36:759-60 D '39

Magnesia brick linings for cement kilns permit use of high temperatures. F. Kremer. Concrete (mill sec) 48:106-7 Ja '40

100% alumina or 100% silica refractories. F. A. Harvey. Brick & Clay Rec 97:44-5 O '40

Open hearth conference, Pittsburgh, April 24-26. Steel 106:50, 52 My 6 '40

Open hearth men exchange views about service of refractories. Brick & Clay Rec 96:54-6+ My '40

Output of refractory raw-materials speeded up during 1939. P. M. Tyler and O. Bowles. Brick & Clay Rec 96:69 Ap '40

Pinite, a new refractory. Eng & Min J 141:42 Mr '40

Pouring pit refractories. E. C. Hite and G. Soler. il Brick & Clay Rec 95:54-6 N; 52-4 D '39

Present application and possible future development of blast-furnace refractories. W. R. McLain. il diags Am Cer Soc Bul 19: 62-8 F '40

Properties of refractory materials, except fireclay; data sheet. S. M. Phelps. Metal Prog 38:584 O '40

Recent advances in the applied chemistry of the rare metals; special refractories for temperatures above 1500° C. R. H. Atkinson. Chem & Ind 59:203-4 Mr 23 '40

Refractories at Noranda smelter. W. B. Boggs. diags Am Cer Soc Bul 19:338-40 S '40

Refractories containing metallic aluminum, clay and silica. J. F. McMahon. Brick & Clay Rec 95:58 N '39

Refractories for furnaces, kilns, retorts, etc. A. B. Searle. 102p bibliog(p97) 3s 6d C. Lockwood & son, London '39

Refractories for gas and coke burning appliances; extract from the 30th report of the refractory materials joint committee. L. R. Barrett and A. T. Green. Gas J (Lond) 228:627, 629-31, 687, 689-90; 229: 195-7, 199 D 20-27 '39, Ja 24 '40; Abstract. Engineering 148:724-5 D 29 '39

Refractories in steelworks; composite of abstracts. Metals & Alloys 11:MA186+ Ap '40

Refractories in the iron and steel industry. A. Stein. il Blast F & Steel Pl 28:204+, 292-4, 421-2 F-Ap '40

Refractories in the open hearth furnace of 1939. A. M. Morton. il Blast F & Steel Pl 28:47-9 Ja '40

Refractories used in high-frequency electric melting of steel and alloys. B. W. Magalis. diags Am Cer Soc Bul 19:298-301 Ag '40

Refractory materials; physical properties, makers. Chem & Met Eng 47:606-7 S '40

Refractory tubes used in heat treating furnace. il Steel 106:69 Ap 29 '40

Report of Refractories division's sessions at A.C.S. convention. Brick & Clay Rec 96:34-5 My '40

Report of the Refractory material joint committee. Chem Age (Lond) 41:385 D 9 '39

Service of basic refractories reviewed at Chicago A.C.S. meeting. Brick & Clay Rec 97:45-6 O '40

Soaking pit refractories. E. C. Hite and G. Soler. il Brick & Clay Rec 96:62-3 Ja; 60, 62 F '40

Spalling and cracking of fireclay and other refractory materials. L. Hickman. il Blast F & Steel Pl 28:516+, 620-1, 709-10, 832-5 My-Ag '40

Special refractories. G. E. Seil. Metal Prog 38:583+ O '40

Special refractories in melting furnaces; report of autumn meeting of the Refractories division of American ceramic society. J. B. Austin. Metal Prog 36:651-4 N '39

Special refractories in the open hearth. L. A. Smith. Blast F & Steel Pl 28:487, 490+ My '40

Study of the refractory properties of topaz. R. S. Bradley, F. W. Schroeder and W. D. Keller. il Am Cer Soc J 23:265-70 S '40

Trends in refractories for the basic open-hearth furnace. R. P. Heuer. bibliog il diags Metals & Alloys 11:95-8, 152-5 Ap-My '40

Use of aluminum metal in the ceramic industry; properties of refractories produced with mixtures of aluminum, fire clay, and grog. H. G. Schurecht and H. I. Sephton. Am Cer Soc J 23:259-64 S '40

Use of cast alumina refractories in the glass industry. H. N. Baumann, jr. and A. A. Turner. il Am Cer Soc J 23:334-8 N '40

Use of magnesite in kiln linings. A. W. Comber. Concrete (mill sec) 48:268+ N '40

See also

Alumina brick
Cement, Refractory
Fire brick
Olivine
Silica brick

Bibliography

Bibliography on orthosilicates of the alkaline earths with special reference to their use in the refractory field. G. E. Seil and others, comps. Am Cer Soc J 23 (Cer A 19):273-84 N '40

Ceramic abstracts. Published in monthly numbers of American ceramic society journal

J. D. Sullivan, Refractories division trustee; publications. Am Cer Soc Bul 19:234-5 Je '40

Manufacture

Basic dolomite increases plant equipment. il Blast F & Steel Pl 28:910 S '40

Blending clays to develop super duty refractories. R. Russell, jr. Brick & Clay Rec 97: 47-8 O '40

Development of superduty refractories from Ohio, Pennsylvania, and Kentucky fire clays. R. Russell, jr. il Ohio State U Eng Exp Sta Bul 105:1-81 '40 (pa 60c)

Further developments in dry mixing of ceramic bodies. F. A. Fix. Am Cer Soc Bul 19:90-1 Mr '40

Pyrometric rings for measuring kiln heat treatment. L. H. Milligan. il Am Cer Soc Bul 19:247-51 Jl '40

Patents

Ceramic abstracts. Published in monthly numbers of American ceramic society journal

What patents reveal about products and processes in refractories. diags Brick & Clay Rec 96:66+ Ja '40

Prices

Refractories prices. Published in weekly numbers of Iron age

Study and teaching

Laboratory course in refractories. N. W. Taylor. Am Cer Soc Bul 19:315-17 Ag '40

REFRACTORY materials—*Continued*

Testing

Apparatus and method for the determination of porosity in refractory materials. G. E. Sell, B. S. Tucker and H. A. Heiligman. il diag Am Cer Soc J 23:330-3 N '40

Factors affecting the life of kiln furniture in the whiteware industry. G. S. Diamond. bibliog il diags Am Cer Soc Bul 19:371-8 O '40

Raw material tests; abstract. J. O. Everhart. Brick & Clay Rec 97:54-5 N '40

Some tests either at variance with or not included in the ASTM manual; abstract. W. L. Stafford. Brick & Clay Rec 97:55-6 N '40

REFRACTORY research

Review of four years of research on refractory properties of Pacific Northwest olivine. H. Wilson and K. G. Skinner. Am Cer Soc J 23:136-8 My '40

REFRIGERANTS

Bomb method of evacuating and charging. G. S. McCloy and A. W. Haley. il diags Refrig Eng 40:12-15+ Jl '40

Frigen als kältemittel. R. Plank. bibliog diags V D I 84:165-9 Mr 9 '40

Liquid controls for flooded operation with Freon. H. A. Phillips. diags Refrig Eng 38: 340-2 D '39

Pressure drop in refrigerant liquid lines. E. Gygax and K. S. Willson. Refrig Eng 39: 103-6 F '40

Pressure-temperature chart for refrigerants; data sheet. Power 84:57 Ja '40

Refrigerant losses; preventing leakage. T. Mitchell. il Power Pl Eng 44:91-2 Mr '40

See also

Ammonia
Brine
Carbon dioxide, Solid
Dichlorodifluoromethane
Methylene chloride
Sulfur dioxide, Liquid

REFRIGERATING engineering

American society of refrigerating engineers technical committees report progress during 1939. Refrig Eng 39:170-2 Mr '40

Refrigeration then and now; advantages the refrigerating engineer enjoys today as compared with 1904. H. Sloan. Refrig Eng 39: 9-10 Ja '40

See also

Cold storage
Cooling
Refrigerating plants
Refrigeration and refrigerating machinery

Study and teaching

Requirements for vocational training in air conditioning and refrigeration. R. D. Wood. Refrig Eng 40:226-8 O '40

Schools can't teach service, employers say. Refrig Eng 39:338+ My '40

Tables, calculations, etc.

Pressure-temperature chart for refrigerants; data sheet. Power 84:57 Ja '40

REFRIGERATING engineers, American society of. See American society of refrigerating engineers

REFRIGERATING industries

How refrigeration is sold to the market man. L. Gibson. il Refrig Eng 39:290-2 My '40

Manufacturers versus distributors; how Federal anti-trust laws now in effect apply to the refrigeration industry. R. B. Thomas. Refrig Eng 40:75-7+ Ag '40

Next great industry; opportunities in refrigeration and air conditioning. L. K. Wright. 194p bibliog(p185-94) $1.50 Funk and Wagnalls co, New York '39

Opportunity for the young man in engineering. A. G. Solomon. Power Pl Eng 44:74-5 N '40

Refrigeration in 1954. S. C. Bloom. Refrig Eng 39:221-3+ Ap '40

Role of the equipment man in the refrigeration industry. K. M. Newcum. Refrig Eng 38:337-9 D '39

See also

Air conditioning industries
Cold storage
Cold storage lockers
Cooling
Refrigerators

Accounting

Distributor accounting procedure for planned profit; York ice machinery corporation. D. M. Magor. N A C A Bul 21:621-36 Ja 15 '40

Advertising

Record of association advertising. J. Benson. Adv & Sell 33:62, 66+ Je '40

Directories

Refrigeration and air conditioning directory; 1940 buyer's guide. 188p pa $1 Business news pub. co, 5229 Cass av, Detroit '40

REFRIGERATING machinery association

R.M.A. and A.C.M.A. combine organizations; as Air conditioning and refrigerating machinery association. Refrig Eng 40:103 Ag '40

REFRIGERATING plants

How foods are frozen in the Northwest. F. W. Knowles. il diags plans Food Ind 12: 54-6 Ap; 50-2 My; 59-61 Je '40

See also

Cold storage
Cold storage warehouses
Ice plants
Piping (refrigerating plants)

Accidents

Accidents in refrigerating plants. Power Pl Eng 44:86 O '40

Recent refrigerating equipment accidents. il Locomotive 43:85-90 Jl '40

REFRIGERATION, Reversed. See Heat pump

REFRIGERATION and refrigerating machinery

Absorption systems in the oil industry. G. A. Beiter. flow diag il diags Refrig Eng 40: 293-6 N '40

Absorptionskältemaschinen in der chemischen industrie. W. Niebergall. bibliog il diags V D I 84:41-7 Ja 20 '40

Air-acetylene flame in refrigeration. il Refrig Eng 38:386+ D '39

American society of refrigerating engineers and American society of heating and ventilating engineers meeting; abstracts of papers. diags Power 84:162-8 Mr '40

American society of refrigerating engineers and Refrigeration service engineers' society; abstracts of papers. Heat & Ven 37:45-8 F '40

America's first direct expansion portable rink. R. Sprague. il Refrig Eng 40:248-9 O '40

Betz Filterpure unit gives uniform air movement. il Refrig Eng 39:266 Ap '40

Bomb method of evacuating and charging. G. S. McCloy and A. W. Haley. il diags Refrig Eng 40:12-15+ Jl '40

Chieftain units used in drink dispensers; growth of coin machines opens market for refrigeration. Refrig Eng 39:174 Mr '40

Cold analysis of southern industry; refrigeration used in numerous industries. T. H. Eakle, jr. il Refrig Eng 40:112-13 Ag '40

Complete dehydration facilities at Continental's K.M.A. plants. D. H. Stormont. flow diag il Oil & Gas J 39:34-6 Je 6 '40

Condensation by refrigeration. J. W. Hunter. diags Chem & Met Eng 47:300-1 My '40

Construction and cooling of large vapor traps. D. L. Northrup, C. M. Van Atta and L. C. Van Atta. il diags R Sci Instr 11:207-10 Jl '40

Data on capillaries. D. P. Heath. Refrig Eng 39:304 My '40

Direct expansion freezing for ice skating in New Orleans. W. W. Taylor. il Refrig Eng 40:211-14 O '40

Do you run your refrigerating plant by ear? installing thermometers will make improvement. A. G. Solomon. il diag Power 84: 465-6 Jl '40

Dole refrigerating company instantaneous liquid cooler for soda fountains. il Refrig Eng 39:245 Ap '40

Dry ice convertors for making liquid CO_2. il Refrig Eng 38:348 D '39

Electrical developments of 1939. G. Bartlett. il Gen Elec R 43:47-8 Ja '40

Fin coil; evolution and development. il diags Refrig Eng 38:349-51 D '39

REFRIGERATION and refrigerating machinery —*Continued*

Flooded water coolers; new designs are used for Freon. R. M. Armstrong. il diag Refrig Eng 38:343-5 D '39

Flowers sold like perishables; Flower markets, inc, Dallas. il Refrig Eng 39:161 Mr '40

Food industry requires both air conditioning and refrigeration; Genetti food center, containing food market, dining room, restaurant, grill, and a ball room. il Refrig Eng 39:226 Ap '40

Frigibloc self-contained refrigerating plant. Engineering 149:59-60 Ja 19 '40

Gravity froster. C. Birdseye. il Refrig Eng 40:281-5 N '40

Heat conduction in refrigerating machines. W. J. Peck and H. M. Edmonds. Engineer 170:89 Ag 9 '40

How refrigeration is sold to the market man. L. Gibson. il Refrig Eng 39:290-2 My '40

How should engineers describe a surface? various machine parts and their surface requirements. O. R. Schurig. il Mech Eng 62:705-9 O '40

Important changes in refrigeration practice; comparison between 1939 and 1904. A. Baer. Refrig Eng 39:14+ Ja '40

Improved features of the modern compressor. D. C. McKinley. il Refrig Eng 40:89-91 Ag '40

Kältemaschinenanlagen für schiffe. K. Heinze. bibliog il diags V D I 84:349-54 My 25 '40

Kraft cheese company; heating and air conditioning systems co-ordinated with process steam and refrigeration. G. H. Kraft. il diags Heat & Ven 37:29-32 My '40

Many new features in design of Cayuga no. 2 recycling plant. N. C. Turner. flow chart il Oil & Gas J 38:36-7+ My 9 '40

Modern electric and gas refrigeration. A. D. Althouse and C. H. Turnquist. 3d rev & enl ed 858p $5 Goodheart-Willcox co, Chicago '39

Modern refrigerating equipment boosts Ruppert brewery efficiency. il diag Power 84:83-5 F '40

Moisture in refrigerating systems; abstract. E. W. McGovern. Refrig Eng 39:102 F '40

Operating brine tanks in parallel. A. A. Fette. diag Power Pl Eng 44:74 Ag '40

Piston rings in refrigeration service. A. F. Brewer. diags Refrig Eng 40:92-3 Ag '40

Prevention better than cure; the function of oil separators in refrigeration. E. P. Kellie. Refrig Eng 38:352-3 D '39

Progress in the ice cream industry; ice cream maker combines plant, truck body and cabinet refrigeration. R. A. Brodesser. Refrig Eng 39:377-8 Je '40

Refrigerant losses; preventing leakage. T. Mitchell. il Power Pl Eng 44:91-2 Mr '40

Refrigeration aids the Quartermaster corps. J. S. Chambers. Refrig Eng 39:23 Ja '40

Refrigeration for the low-temperature testing of electric cables. Engineering 150:178 Ag 30 '40

Refrigeration has many uses in the laboratory; research in the Department of agriculture. J. T. Bowen and W. V. Hukill. il diags plan Refrig Eng 40:287-91+ N '40

Refrigeration in butter and cheese making. L. C. Thomsen. diags Refrig Eng 39:1-6 sec 2 F '40

Refrigeration in milk plants. E. H. Paulsen. diags Refrig Eng 39:1-6 sec 2 My '40

Refrigeration in 1954. S. C. Bloom. Refrig Eng 39:221-3+ Ap '40

Refrigeration in retail stores; meat, fowl, fish and vegetables. R. E. King. Refrig Eng 40:1-6 sec 2 Jl '40

Refrigeration in the chemical industries. D. H. Killeffer. il Refrig Eng 40:145-8+ S '40

Refrigeration in the World war. H. L. Consley. il Refrig Eng 39:15-18 Ja '40

Refrigeration of fats and oils. H. S. Mitchell. flow chart il diags Refrig Eng 40:153-7+ S '40

Refrigeration of skating rinks. diags Refrig Eng 39:1-5 sec 2 Ja '40

Refrigeration questions; how would you answer? Refrig Eng 40:229-30 O '40

Refrigeration vital in large hotel; Seattle's Olympic. il Refrig Eng 40:22-3 Jl '40

Retarded doughs and refrigeration. Refrig Eng 39:124 F '40

Review of power and mechanical equipment; heating, ventilating, refrigeration and air conditioning. il diags Power 83:801-3 Mid-D '39

Review of thermal air-conditioning processes. J. deB. Shepard. Am Gas Assn Proc 1939: 430-5

Sun Valley open-air rink. R. Sprague. il Refrig Eng 39:93-4 F '40

Superior making isobutane at Kettleman absorption plant. L. P. Stockman. flow diag il Oil & Gas J 39:50-1, 53-4 Ag 15 '40

Superior valve & fittings company's rapid charger. il Refrig Eng 38:366 D '39

Turbine driven centrifugal machine improves the plant's heat balance. W. S. Bodinus. Heating-Piping 12:534 S '40

Valve designs for small compressors. S. R. Hirsch. il Refrig Eng 39:227-8+ Ap '40

Water chilled, but not for air conditioning. M. Ingels. Refrig Eng 38:342+ D '39

Young liquid distributor. il diag Refrig Eng 39:184-5 Mr '40

See also

Ammonia compressors
Car cooling
Carbon dioxide, Solid
Cold storage
Compressors
Cooling
Cooling of fruit and vegetables
Cooling of water
Electricity in air conditioning
Electricity in refrigeration
Evaporators
Freezing
Gas in air conditioning
Gas in refrigeration
Ice cream cabinets
Ice plants
Insulation (heat)
Piping (refrigerating plants)
Refrigerants
Refrigerating plants
Refrigeration on cars, trucks, etc.
Refrigeration on ships
Refrigerator cars
Refrigerators
Show cases, Refrigerated
Skating rinks

Control

Anemostat in commercial refrigeration. F. J. Kurth. Refrig Eng 38:355 D '39

Commercial refrigeration control systems; Polartron system. A. L. Hesselschwerdt and A. B. Newton. diag Refrig Eng 38:357-61+ D '39

Liquid controls for flooded operation with Freon. H. A. Phillips. diags Refrig Eng 38: 340-2 D '39

Refrigeration control problem. Power Pl Eng 44:97 Ja '40; Solution. diags 44:82, 84-5 Mr '40

Regulating condenser water for refrigeration systems. A. B. Newton. diags Heating-Piping 12:95-8 F '40

Defrosting

Automatic defrosting blower unit. il Refrig Eng 39:48+ Ja '40

Bush Defrosto unit. diag Refrig Eng 39:254 Ap '40

Defrosting coils with hot gas. S. H. Coleman. diag Power Pl Eng 44:76 Je '40

Lubrication

Oil difficulties in a refrigeration plant. W. Musial. Power Pl Eng 44:79-80 Je '40

Oiling system in the Williams Ice-O-Matic condensing unit. diag Refrig Eng 39:184 Mr '40

Refrigeration plant lubrication. A. G. Solomon. diag Power Pl Eng 44:74-5 Ag '40

Use of oil separators in the refrigeration industry. J. Askin. diag Refrig Eng 40:23 Jl '40

Maintenance and repair

Maintenance nailed to the wall; summary of directions for care of refrigerating systems. diag Refrig Eng 39:311 My '40

Purging non-condensible gases from refrigerating systems. G. Blum. Power Pl Eng 44:93 S '40

Refrigerating plant maintenance. B. T. Hensgen. il Power Pl Eng 44:49-51+ Ag '40

REFRIGERATION and refrigerating machinery —*Continued*

Power

Determining power requirements for refrigeration compressors. R. J. Panlener. Heating-Piping 12:313-14 My '40

Shreveport produce house saves with gas engines. R. M. Scoggins. il Gas Age 86:78-80 O 10 '40

Safety devices and measures

Dry ice (CO_2); hazards and precautions. Nat Safety N 41:38, 40+ F '40

Standards

American society of refrigerating engineers standards committee reviews activities. Refrig Eng 39:169-70 Mr '40

Canadian and American standard requirements agree on safety for mechanical refrigeration. C. F. Brooks. Ind Stand 11:38-9 F '40

Proposed standard water content limits for refrigerating system parts. il diags Refrig Eng 39:167-8 Mr '40

Storage systems

Power consumption and operating data for storage air conditioning presented. J. M. Dean. il diag Heating-Piping 12:163-6 Mr '40

Tables, calculations, etc.

Application of heat transfer data to practical design of horizontal shell type refrigerant condensers. H. B. Pownall. Refrig Eng 39: 27-31 Ja '40

How do others calculate refrigeration output? Power Pl Eng 44:93-4 Ja '40; Discussion. A. G. Solomon. 44:79-80 Ag '40

How to figure additional capacity for refrigeration condensers. T. L. Scopes. Power 84:327 My '40

Ice melting and freezing rates. A. H. Willis, B. E. Short and W. R. Woolrich. diags Refrig Eng 39:307-10 My '40

Law of corresponding states as applied in refrigeration. J. S. Doolittle. bibliog Refrig Eng 40:165-7 S '40

Pressure drop in refrigerant liquid lines. E. Gygax and K. S. Willson. Refrig Eng 39: 103-6 F '40

Refrigeration load calculations. S. C. Segal. Refrig Eng 39:1-4 sec 2 Mr; 1-4 sec 2 Ap '40

Refrigeration of lemons and grapefruit. H. M. Hendrickson. diag Refrig Eng 40:1-8 sec 2 O '40

Refrigeration of oranges. H. M. Hendrickson. diags Refrig Eng 40:1-8 sec 2 S '40

Report of the subcommittee appointed to report on the accuracy of the Refrigeration research committee's charts. Inst Mech Eng J & Proc 143:Proc 261-78 bibliog(166 references p262-78) S '40

Testing

Effect of superheat on compressor performance; using Freon 12. E. R. Wolfert. il diag Refrig Eng 39:379-81 Je '40

Proposed standard water content limits for refrigerating system parts. il diags Refrig Eng 39:167-8 Mr '40

Refrigeration service charts; method of locating the cause of operating troubles in commercial and domestic refrigerating equipment. J. F. Kern. Refrig Eng 38:1-11 sec 2 D '39

Refrigerator performance; an investigation into volumetric efficiency. E. Giffen and E. F. Newley. bibliog il diags Inst Mech Eng J & Proc 143:Proc 227-36 S '40

Testing refrigerating units. R. D. Heitchue. diag Power Pl Eng 44:74 Ap '40

REFRIGERATION on cars, trucks, etc.

Distribution problem solved by common carrier trucks; provide quicker, cheaper and better seasonal service than railroad; Farmers' commission house, Eastport, N.Y. il diags Food Ind 12:68-9 F '40

Mobile refrigeration units for trucks. il Automotive Ind 82:367 Ap 15 '40

Money in l.c.l. perishables; Portakold portable ice boxes. il Ry Age 108:816-17 My 11 '40

Progress in the ice cream industry; truck body refrigeration. R. A. Brodesser. Refrig Eng 39:377-8 Je '40

Refrigerated trucks essential in sale of frozen foods. M. E. Pennington. Refrig Eng 40:286 N '40

Snow icing makes rapid progress. il Refrig Eng 39:301-2 My '40

Truck refrigeration; methods in use; chart. Refrig Eng 39:172 Mr '40

Would mechanical refrigeration hold traffic? Ry Age 108:200 Ja 27 '40; Discussion (Great difficulties face mechanical refrigeration). 108:709-11 Ap 20 '40

See also
Refrigerator cars

REFRIGERATION on farms

New cooler for farm; International Harvester. il Business Week p41-2 My 11 '40

REFRIGERATION on ships

Atlantic basin iron works completes refrigeration of C-2 ships. Marine Eng 45:59 F '40

Kältemaschinenanlagen für schiffe. K. Heinze. bibliog il diags V D I 84:349-54 My 25 '40

Possibilities of freezing aboard ships. il Refrig Eng 39:166 Mr '40

Trends in the application of electricity in British ships. G. O. Watson. Inst E E J 86:207, 209 F '40; Same abr. Engineering 149:303-4 Mr 22 '40

REFRIGERATION research

National cold storage laboratory; United States horticultural station, Beltsville, Md. D. F. Fisher. il Refrig Eng 40:143-4 S '40

REFRIGERATION service engineers' society

Annual meeting, 6th, Chicago. Heat & Ven 37:44-8 F '40

REFRIGERATOR cars

Dry ice used to increasing extent for perishable shipments; wet and dry ice combination. C. T. Longaker. il diags Ry Age 109: 175-7 Ag 3 '40

Freight car inspection and preparation for commodity loading; Car department officers' association committee report. Ry Mech Eng 113:464-5 N '39

Freight car specialities for speed. Ry Age 108:927-8 My 25 '40

Growers' life line; Pacific fruit express co. in spotlight with program of refrigerator car repair. il Business Week p39 D 9 '39

Interesting construction used in plywood refrigerator cars. il diags Ry Age 109:275-8 Ag 24 '40

New structural system; Lindsay structure employing sheet steel as strain-bearing structural member. il diags Steel 106:50, 52+ Mr 4 '40

Overhead icing in Canadian National refrigerator cars. il diags Ry Mech Eng 114:211-15+ Je '40; Same, without diags. Ry Age 108:1012-15 Je 8 '40

Repairing underframes of refrigerator cars. il Ry Mech Eng 114:119-21 Mr '40

Single-board refrigerator car roof. diags Ry Mech Eng 114:121 Mr '40

Two refrigerator cars in one. il Business Week p42 O 5 '40

See also General American transportation corporation

REFRIGERATORS

Big market predicted for new household freezer; Deep Freeze. F. C. Minaker. il Am Business 10:42-3 N '40

Design featured in commercial refrigerators. il Refrig Eng 40:88+ Ag '40

Humidity in commercial refrigerators. S. C. Moncher. Refrig Eng 40:96 Ag '40

New cooler for farm; International Harvester. il Business Week p41-2 My 11 '40

Preferences on refrigerators; survey by Woman's home companion. Refrig Eng 39:100 F '40

Study Hoosier farm refrigeration at Purdue university. H. H. Slawson. il Refrig Eng 40:152 S '40

Successful farm refrigerator fills many uses. F. Erbach. il diags Refrig Eng 39:361-3 Je '40

REFRIGERATORS, Electric
Automatic refrigerators. H. L. Jones. diags Inst Mech Eng J & Proc 143:94-9 My '40
Frigidaire announces farm refrigerator. Refrig Eng 39:242 Ap '40
Frosted food refrigerator. Barron's 20:5 Ag 5 '40
Injury to trees from sulfur dioxide fumes of electric refrigerators. M. A. McKenzie and L. H. Jones. Science 91:239-40 Mr 8 '40
Kelvinator features Moist-Master humidity. il Refrig Eng 39:134 F '40
Kelvinator shakes up production, distribution, rolls out more sales. F. R. Pierce and C. T. Lawson. il Sales Management 46:22-3 Ap 1 '40
Refrigeration featured in television broadcast; non-commercial program on West coast. Refrig Eng 40:103 Ag '40
Refrigerator motors. S. F. Philpott. il diags Elec R (Lond) 127:65-6 Jl 26 '40
Small motor design progress for the refrigeration industry. M. Schiff. il Refrig Eng 38:376-7 D '39
Too many iceboxes? Business Week p32 Ag 10 '40

Manufacture

Broaching machines assemble press-fit parts. diags Steel 106:71 Je 10 '40
Electric furnace brazing by Kelvinator. E. W. Cunningham. il Metals & Alloys 11:125-30 My '40
Paint color control; use of the spectrophotometer. E. A. Zahn. Metal Ind 38:172-4 Mr '40
Protective coating sprayed on aluminum castings; evaporator unit in a domestic refrigerator. R. M. Major. Metal Prog 38:295-6 S '40
Saving with brazing; air conditioning and refrigerator parts; Westinghouse electric & mfg. co. A. K. Phillippi. il Am Mach 84: 903-6 N 13 '40

Merchandizing

A.G.A. refrigeration committee conducts Bermuda flight. Am Gas J 153:40-1 N '40
Kelvinator sales soar. Business Week p38 O 5 '40
Meeting obstacles in building refrigeration load; Philadelphia electric company. A. Monty. Edison Elec Inst Bul 8:139-40+ Ap '40
Mike's big day; G-E special event, sales reach $1,300,000. Ptr Ink 190:71-2, 74 Ja 5 '40
Refrigerator sales, December, 1938 and 1939 and year of 1939; tabulation. Edison Elec Inst Bul 8:74 F '40
Sales exceed total for 1939; statistics for 1938, 1939 and 7 months of 1940. Edison Elec Inst Bul 8:436 S '40
Sales guide. Elec West 84:37-40 Ap '40
This refrigerator price war; a boomerang or boom? W. A. Cyr. Elec West 84:29 Mr '40

Prices

Nudes have it; laissez faire in household-refrigerator business. il Fortune 21:73-5+ My '40; Excerpts. Refrig Eng 39:324+ My '40
Price war in electric refrigerators. L. Applegate. Annalist 55:229+ F 8 '40
Refrigerator war. Business Week p37-8 F 10 '40

Rating

Electric refrigerators. il Consumers' Research Bul (Gen bul ser) 9:2-5 Je '40

Repair

Refrigerator hospital; W. Vogel doctors old refrigerators, helps to solve the trade-in bugaboo. il Elec West 85:58-9 S '40

REFRIGERATORS, Gas
Servel provides flexible shelf adjustment. il Gas Age 84:46 D 7 '39
Stator gas duplex unit; combination refrigerator and water heater uses mercury vapor boiler. R. D. McNiece. Am Gas J 152:35-6 My '40

Advertising

Industrial films fight sales battles on all fronts for Servel; productions for their own salesmen, for dealers, and for city and rural prospects. G. L. Roach. Sales Management 46:58+ Je 15 '40

Manufacture

Welding on a conveyor; Servel Electrolux plant. R. G. Rodgers and W. R. Campbell. il Steel 106:54+ My 6 '40

Merchandizing

American gas association announces plans for gas refrigeration campaign. Am Gas J 152: 39 Ja '40
Companies and salesmen win awards in refrigerator campaign. Am Gas Assn Mo 22: 315 S '40
How leaders sell replacement refrigerators. Gas Age 86:66-9+ O 10 '40
1940 refrigerator campaign. Am Gas J 152:39 Mr '40
Refrigeration. R. J. Rutherford. Am Gas Assn Proc 1939:286-8
Refrigerator sales awards given to 23 companies. Gas Age 85:82 My 9 '40; Same. Am Gas Assn Mo 22:189 My '40
Servel contest is won by Meridian, Miss. student. il Gas Age 85:46 Je 20 '40
Ten-year guarantee on refrigerators announced. il Gas Age 85:13-14 Ap 25 '40

REFUGEES
America and the refugees. L. Adamic. 32p bibliog(p32) pa 10c Public affairs committee, New York '39
Refugee industries from Europe. Business Week p52-3 Mr 2 '40
Refugees build U.S. industries; survey by National refugee service. Business Week p18+ Ap 27 '40
Role of refugees in the history of American science. C. A. Browne. Science 91:203-8 Mr 1 '40
Strangers everywhere. Pem, pseud. 334p $2.50 Nelson (Toronto) '39

See also
European war, 1939—Refugees

REFUSE, Utilization of
Hog feeding with garbage under study in Los Angeles. Eng N 124:732 My 23 '40
Mechanical handling in refuse disposal works. il Mech Handling 27:77-9 Ap '40
Refuse reclamation; electricity's aid. il Elec R (Lond) 126:363-5 Mr 29 '40
Sawmill waste covers refuse fills. Eng N 123: 705 N 23 '39
Waste reclamation in England. Eng N 124: 668 My 9 '40

See also
Refuse as fertilizer
Waste, Utilization of

REFUSE as fertilizer
Value of treated town's refuse as an organic manure. E. H. Tripp. Chem & Ind 58:1102-4 D 23 '39

REFUSE collection
Collection and disposal of garbage and refuse in American cities; a survey. il Pub Works 71:9-11+ Je '40
Electric vehicles for refuse collection in Orleans. il Electrician 123:551 D 29 '39
Garbage and refuse collection and disposal practices in small communities. il Pub Works 71:9-11 F '40
Garbage collection and disposal in Houston, Texas. Pub Works 71:35 O '40
How do you carry a garbage can? Eng N 125:483 O 10 '40
Refuse disposal in St Thomas, Ont. W. C. Miller. il Can Eng W & S 78:16-17+ Ja '40
Refuse materials; classification of refuse materials; definitions, characteristics, quantities produced; all in relation to the problem of refuse collection. 44p pa 50c Am. public works assn, 1313 E. 60th st, Chicago '40
Unusual type of refuse handling vehicle. il Mech Handling 27:133 Je '40

REFUSE collection—*Continued*

Cost

Garbage collection and incineration costs in Lakewood, Ohio. Pub Works 71:47 Jl '40

REFUSE disposal

Collection and disposal of garbage and refuse in American cities; a survey. il Pub Works 71:9-11+ Je '40

Combating fly nuisance at C. & N. W. coach yard. il Ry Mech Eng 114:402-4 O '40

Disposal of garbage with sewage. K. C. Lauster. diag Pub Works 71:25-6 Ja '40

Disposal of tin cans at Los Angeles. Pub Works 71:30-1 S '40

Garbage and refuse collection and disposal practices in small communities. il Pub Works 71:9-11 F '40

Handling works waste and sweepings; application of magnetic separator. il Mech Handling 27:59 Mr '40

Health experts endorse landfills and recommend best practice. Eng N 124:446-7 Mr 28 '40

How refuse disposal is accomplished by sanitary fill. J. L. Vincenz. diag Pub Works 71:47 Mr '40

Operating a sanitary fill at Fresno, Calif. J. L. Vincenz. il Civil Eng 9:746 D '39

Refuse and sewage plant combined for profit. G. O. Consoer and D. W. Townsend. il diag plans Eng N 125:221-4 Ag 15 '40

Refuse disposal costs; use of records; abstract. R. C. Taylor. Eng N 125:628 N 7 '40

Round-table conference; methods to control odors, rats and the scattering of paper at refuse dumps. Can Eng W & S 78:27+ Jl '40

See also

Refuse collection
Refuse incinerators
Sewage disposal
Sewage disposal—Sludge and refuse mixing
Trade waste
Water pollution

Cost

Dumping board, New York; unit prices. Eng N 124:294 F 22 '40

REFUSE incinerators

Handling works waste and sweepings; application of magnetic separator. il Mech Handling 27:59 Mr '40

Incinerator replaces dump and permits development of boat harbor and playground; Mamaroneck, N.Y. H. W. Taylor. il diag Pub Works 71:14-16 Mr '40

Refuse disposal in St Thomas, Ont. W. C. Miller. il Can Eng W & S 78:16-17+ Ja '40

Schenectady's straight-line incinerator. il plans Eng N 124:177-80 F 1 '40

Waste wood destructor. il diags Engineer 170: 220 O 4 '40

Wood waste disposal; Deane wood refuse destructor. il Electrician 125:64 Ag 2 '40; Elec R (Lond) 127:95 Ag 2 '40

Costs

Garbage collection and incineration costs in Lakewood, Ohio. Pub Works 71:47 Jl '40

REGIONAL planning

American planning and civic annual, 1939. H. James, ed. 288p $3 Am. planning and civic assn, 901 Union trust bldg, Washington, D.C. '39

California planning, 1939. 64p California State planning board, Sacramento '39

Colorado planning and zoning enabling act. G. S. Wehrwein. J Land & Pub Util Econ 15:483-5 N '39

Engineer looks at the TVA. J. W. Bradner, jr. il Civil Eng 10:273-6 My '40

From the ground up. U.S. National resources com. 54p bibliog(p53-4) New England regional planning commission, 2100 Federal bldg, Boston '39

Interregional highways from municipal viewpoint; metropolitan Chicago. R. Kingery. il map Roads & Sts 83:45-8 Ja '40

Plans of men. L. W. Doob. 411p bibliog(p386-96) $3 Yale univ. press '40

Proceedings of the conference held at Boston, Massachusetts, May 15-17, 1939. 166p $2 American soc. of planning officials, Chicago '39

See also

City planning
County planning
Land utilization
Reclamation of land
Rural planning

Bibliography

Role of education in utilizing regional resources; annotations of selected basic printed materials. P. R. Hanna and others. 431 l $1 Progressive education assn, New York; P. R. Hanna, Stanford univ. '39

Zone system

Regulation or development for the Missouri Ozarks. C. H. Hammar. J Land & Pub Util Econ 16:159-67 My '40

Rural zoning for Missouri? V. Hurlburt. J Land & Pub Util Econ 16:151-8 My '40

REGIONALISM

British local government and the war. Economist 138:5-6 Ja 6 '40

Federal use of administrative areas. J. W. Fesler. bibliog Ann Am Acad 207:111-15 Ja '40

Interregional relations. E. A. Mauck. bibliog Ann Am Acad 207:124-9 Ja '40

Political regionalism and administrative regionalism. D. Davidson. Ann Am Acad 207: 138-43 Ja '40

Relation of federal regional authorities to state and local units; T.V.A. bibliog Ann Am Acad 207:130-7 Ja '40

Voluntary regionalism in the control of water resources. D. W. Robinson. bibliog Ann Am Acad 207:116-23 Ja '40

REGISTERS (heating and ventilating)

Sizing registers for air conditioning. J. H Van Alsburg. diags Sheet Metal Worker 31: 52, 54+ F '40

REGISTERS, Autographic

Injection molded, 2-minute cycle; portable register for United autographic register co. made of Tenite II. D. Szantay. il Mod Plastics 17:38+ Je '40

Plastics competition; award to United autographic register co. il Mod Plastics 18:49, 91 O '40

REGRESSION constants. See Correlation (statistics)

REGULATORS

See also

Control equipment
Governors (machinery)
Pressure regulators
Temperature regulators
Voltage regulators

REHABILITATION. See Disabled—Rehabilitation

REICHSBANK. See Banks and banking—Germany

REID, E. Emmet, 1872-

Stimulating chemical research in the southeastern states, an experiment; E. Emmet Reid, adviser to colleges. J. R. Sampey. J Chem Educ 17:214-16 My '40

REINFORCED concrete. See Concrete, Reinforced

REINFORCING steel. See Steel, Reinforcing

REINMUTH, Otto, 1900-

Editor of the Journal of chemical education, 1933-40. por J Chem Educ 17:403-5 S '40

REINSURANCE. See Insurance—Reinsurance

REINSURANCE corporation of New York

Annual statement, 1939. Weekly Underw 142: 526+ Mr 2 '40

REISSERT'S compound

Formation of Reissert's compounds in nonaqueous media. R. B. Woodward. Am Chem Soc J 62:1626-7 Je '40

RELAPSING fever

Ornithodorus hermsi; feeding and molting habits in relation to the acquisition and transmission of relapsing fever spirochetes. G. E. Davis and M. E. Walker. Pub Health Rep 55:492-504 Mr 22 '40

RELAPSING fever—*Continued*
Relapsing fever; data implicating ornithodorus hermsi as a vector in northern Idaho. C. B. Philip and G. E. Davis. Pub Health Rep 55:504-7 Mr 22 '40
Relapsing fever; ornithodoros hermsi a vector in Colorado. G. E. Davis. Pub Health Rep 54:2178-80 D 8 '39

RELATIVITY (physics)
Considerations concerning the fundaments of theoretical physics. A. Einstein. Science 91: 489-90 My 24 '40
Equations of motion in electrodynamics. L. Infeld and P. R. Wallace. Phys R 57:797-806 My 1 '40
Ether-drift experiments. N. Rosen. Phys R 57:154-5 Ja 15 '40
General relativity and flat space. N. Rosen. Phys R 57:147-53 Ja 15 '40
Measurement of velocity with atomic clocks. H. E. Ives. Science 91:79-84 Ja 26 '40
Mr Tompkins in Wonderland; or, Stories of *c*, *G*, and *h*. G. Gamow. 91p $2 Macmillan '39
Quantization of mass. B. Podolsky and H. Branson. Phys R 57:494-500 Mr 15 '40
Relativistic magnetic moment of a charged particle. H. Margenau. Phys R 57:383-6 Mr 1 '40
Theory of the double Fizeau toothed wheel. H. E. Ives. diags Opt Soc Am J 29:472-8 N '39

See also
Quantum theory

RELAXATION
Relaxation in everyday life. E. J. Boome and M. A. Richardson. 131p $1.75 S. J. Reginald Saunders, 84 Wellington st, W, Toronto '38

RELAYS
ABC's of relays. E. B. Kipp. il diag Elec West 85:44-5 Ag; 42-3 S; 52-3 O; 47 N; 47-8 '40
Anerley improved relays. il Engineer 168: 553 D 1 '39
Auxiliary equipment for ground-fault neutralizers. E. M. Hunter and S. B. Farnham. il diags Gen Elec R 43:352-6 S '40
Carrier-current relaying improved. S. L. Goldsborough. Elec W 113:156 Ja 13 '40
Condensation of the theory of relays. A. R. van C. Warrington. il diags Gen Elec R 43:370-3 S '40
Current transformers and relays for high-speed differential protection, with particular reference to offset transient currents. E. C. Wentz and W. K. Sonnemann. il diags Elec Eng 59:Trans 481-8 Ag '40
Discriminative-overcurrent and earth-leakage protection for electrical circuits. Engineering 150:15-16 Jl 5 '40
Earth leakage protection for high-frequency furnaces. P. G. H. Burbridge. il diags Engineer 168:207-8 Ag 25 '39; Excerpts. Elec W 113:150 Ja 13 '40
Electronic relay for heat control. A. C. Hall and L. J. Heidt. plan Science 92:133-4, 612 Ag 9, D 27 '40
Electronic relay for initiating vapor discharges. E. C. Dench. diag Elec Eng 59:461 N '40
General Electric biased differential relays for feeder protection. il diags Engineering 149: 125-6 F 2 '40
General Electric drawout relay. il Gen Elec R 43:183 Ap '40
Generator relays protect exciter. G. I. Smith. diag Elec W 114:1021 O 5 '40
High-speed differential relay for generator protection. W. K. Sonnemann. il diags Elec Eng 59:Trans 608-12 N '40
Inertia relay anticipates to facilitate reclosure; functions on rate of frequency or speed dip. J. T. Logan and J. H. Miles. il diag Elec W 113:1061-4 Ap 6 '40
Milliammeter protective relay. E. V. Lackey. diag Transit J 84:28-9 Ja '40
New development in thermionic relays. H. M. Waddle and W. Saeman. bibliog diag Ind & Eng Chem Anal ed 12:225 Ap 15 '40
Out-of-step blocking and selective tripping with impedance relays. H. R. Vaughan and E. C. Sawyer. bibliog il diags map Elec Eng 58:Trans 637-45; Discussion. Trans 645-6 D '39
Rack co-ordinates relay selectivity. C. L. Betts, jr. Elec W 114:996-8+ O 5 '40
Relay and circuit-breaker protection for d-c machines. H. Bany. il Gen Elec R 43:312-19 Ag '40
Relay for electric drive buses. il Gen Elec R 43:474 N '40
Relay houses save switch house space. il Elec W 113:305-6 Ja 27 '40
Relay scheme starts hydro station. plan Elec W 113:915 Mr 23 '40
Relay scheme stops synchronizing errors. E. F. Miller. diag Elec W 113:314+ Ja 27 '40
Relays for electronic circuits; electromechanical relays reviewed and classified. il Electronics 13:13-16+ Ag '40
Relays protect underexcited generators. diag Elec W 113:1228+ Ap 20 '40
Relays save $$$; protection of bus-sectionizing breaker. R. Rader. diags Elec West 85: 43-4 S '40
Reverse power relay changes exciters. G. I. Smith. Elec W 114:410+ Ag 10 '40
Save a life with a safety relay; for radio transmitters. J. B. Quess. il diag Radio N 23:18+ My '40
Starting characteristics of a trigger tube with a radioactive cathode; Westinghouse WL-759 designed to operate small relays. W. B. Nottingham. diags R Sci Instr 11:2-6 Ja '40
Switchboard designed to illustrate relay performance. A. J. Cowan. diag Gen Elec R 43:402-5 O '40
Transformer protection; the Buchholtz relay. diags Electrician 124:436 Je 21 '40
Transient and steady-state performance of potential devices. E. L. Harder, P. O. Langguth and C. A. Woods, jr. il diags Elec Eng 59:Trans 91-9; Discussion. Trans 99-102 F '40

See also
Telephone relays

Testing
Co-ordination kit checks relay operation. diag Elec W 114:99 Jl 13 '40
Electronic relay tester. S. Bagno. diag Electronics 13:44+ S '40
Short-circuit lines to test relays. Elec W 113:1916 Je 15 '40

RELAYS, Time limit
Applications and limitations of the inverse-time overload relay to the protection of an 11-kV network. J. W. Gallop and R. H. Bousfield. diags Inst E E J 87:113-22; Discussion. 122-34 Ag '40
Capacitor relay timing in industrial control. C. Stansbury and T. B. Jochem. il diags Elec Eng 59:Trans 65-9; Discussion. Trans 69-70 F '40
Electronic time-delay relay for applying plate voltage to rectifiers. L. Van Arsdale, jr. il diag Radio N 23:24 Mr '40
New method for determining relay selectivity and coordination. C. L. Betts, jr. diags Edison Elec Inst Bul 8:437-41 S '40
Relays prevent unneeded shutdowns; General foods company corn mill. il Elec W 113:918 Mr 23 '40

RELIEF work
See also
Poor relief
Red cross
Social work
Unemployment—Relief measures
Work projects administration

RELIGIOUS education
Engineering and religion. D. C. Jackson, jr. Science 92:324-6 O 11 '40

RELIGIOUS liberty
United States Supreme court upholds compulsory salute of flag if required by state laws; Justice Frankfurter's opinion. Comm & Fin Chr 150:3590 Je 8 '40

RELIGIOUS libraries
Religion as a specialty; the activity of religious libraries; should they form a national group in S.L.A. H. W. Hering. Special Lib 31:6-8 Ja '40

REMINGTON RAND, Inc.
Statistics of income, capital, stock earnings, etc. 1929-39. Annalist 55:861 Je 20 '40

REMODELED houses. See Houses, Remodeled

REMODELING (architecture)
Building types; does reconditioning pay? with check list of time-saver standards, and case studies. il plans Arch Rec 87:92-108 My '40
Florida theater is rejuvenated; Miami's Paramount. il diags plan Arch Rec 88:46-9 S '40
3-in-1 store plus space for rent; remodeling two old New York City garages into modern retail store; Rabson building. il plans Arch Rec 87:49-52 Ap '40

See also
Building—Repair and reconstruction
Heating industry—Remodeling
Buildings, Remodeled
Houses, Remodeled

REMSEN, Ira
Ira Remsen and American chemical research literature. F. H. Getman. Science 92:341-4 O 18 '40

RENNERFELT-KALLING process
Decarburisation of granulated pig iron: the R.K. process. B. Kalling and I. Rennerfelt. diags Iron & Steel Inst J 140:137-60, pl 21-2 no 2 '39; Excerpts. Iron Age 144:40-1 N 2 '39; Mech Eng 62:28-9 Ja '40
Steel powder for iron; could be produced as a by-product of the Kalling-Rennerfelt process. Steel 106:54-5 My 27 '40

RENO, Nevada
Reno woos industry. Business Week p18 My 11 '40

RENSSELAER polytechnic institute
Engineering education at the Rensselaer polytechnic institute. Science 92:395 N 1 '40

RENT
Development and issues in the theory of rent. C. R. Bye. 133p bibliog(p107-25) $1.75 Columbia univ. press '40
Family income and expenditure in five New England cities, 1935-36. A. D. H. Kaplan, F. M. Williams and D. McCamman. U S Bur Labor Statistics Bul 645:71-89 '39
Family income and expenditure in the southeastern region, 1935-36. A. D. H. Kaplan, F. M. Williams and J. S. Bernard. U S Bur Labor Statistics Bul 647:92-113 '39
Housing facilities and expenditures of wage earners and clerical workers. Monthly Labor R 50:807-24 Ap '40
Real estate prices and rentals; survey. Banking 32:21-2 Ja '40
Rent control in war and peace. E. B. Drellich and A. Emery. 124p pa 50c National municipal league, New York '39

See also
Real estate business

Law

Housing policy in wartime. C. M. Wright. Int Labour R 41:3-29 Ja '40
Wartime housing and rent laws in Great Britain. Monthly Labor R 50:608-9 Mr '40

RENTSCHLERIZATION of food. See Food, Irradiated

REO motor car company (now Reo motors, incorporated)
Reorganization effective. Comm & Fin Chr 151:2511 O 26 '40

REO motors, Incorporated
Court decision releases $2,000,000 loan to Reo. Automotive Ind 82:31 Ja 1 '40
Reorganization completed; Reo motors, inc. is new name. Automotive Ind 82:77 Ja 15 '40

REORGANIZATION. See Corporations—Reorganization

REPAIR parts
What kind of service; simple and speedy routine suggested for firms' sale of parts and repairs. W. H. Conant. Barron's 20:8 Jl 1 '40

REPAIR ships
U.S.S. Denebola reconditioned. il Marine Eng 45:78-9 S '40

REPAIR shops

See also
Car shops
Locomotive shops
Motor bus lines—Shops
Radio service shops
Railroads—Shops
Street railroads—Shops

REPAIRING

See also
Automobiles—Repair
Factories—Maintenance and repair
Locomotives—Repair
Motor bus lines—Maintenance and repair

REPLACEMENT of machinery. See Machinery, Replacement of

REPORTING
News and the human interest story. H. M. Hughes. 313p bibliog(p292-303) $3 Univ. of Chicago press '39
News gathering and news writing. R. M. Neal. 577p $2.75 Prentice-Hall '40
Newspaper reporting of public affairs; an advanced course in newspaper reporting and a manual for professional newspaper men. C. Bush. new & enl ed 455p bibliog(p435-43) $3 Appleton-Century '40

REPORTS

See also
Accountants' reports
Business—Reports
Business—Reports to executives
Business—Reports to government
Corporations—Reports and yearbooks
Mine reports
Municipal reports
Salesmen's reports

REPORTS to employees. See Employees, Reports to

REPORTS to government. See Business—Reports to government; Electric utilities—Reports to government

REPRINTS

Bibliography

Catalog of reprints in series, 1940. R. M. Orton, comp. 151p $3.50 Wilson, H.W. '40

REPRODUCTION

See also
Embryology
Genetics
Sex (biology)

REPTILES, Effect of temperature on
Possible implications of reptilian thermal tolerance. R. B. Cowles. Science 90:465-6 N 17 '39

REPUBLIC aviation corporation
Annual report. Comm & Fin Chr 151:255-6 Jl 13 '40

REPUBLIC company
Findings and opinions of the Securities and exchange commission. J Account 69:508-12 Je '40

REPUBLIC steel corporation
Brass tacks for the investor; brief analysis. Barron's 19:13 N 27 '39
Gadsden, Ala. is host to Republic steel corp. officials. C. E. Wright. Iron Age 144:66-7 N 30 '39
Guests of Republic steel corporation shown improvements at Gadsden plant. Blast F & Steel Pl 27:1257-8 D '39
Income statement for calendar years 1936-39. Comm & Fin Chr 150:1947 Mr 23 '40
Records; best quarter and best year in company history. H. L. Blackburn. il Mag of Wall St 66:32-4+ Ap 20 '40
Republic steel corp.-NLRB case. T. M. Girdler. Comm & Fin Chr 149:3195-6 N 18 '39
United States Circuit court of appeals sustains NLRB order requiring Republic steel corp. to pay back wages to men involved in 1937 strike. Comm & Fin Chr 150:47 Ja 6 '40

REPUBLICAN national committee

Library

Republican national committee library. M. R. Schmidt. Special Lib 31:272-4 Jl-Ag '40

REPUBLICAN party
Dr Glenn Frank offers program for a dynamic America. K. K. Hoyt. Annalist 55:293 F 22 '40

REPUBLICAN party—*Continued*
Fortune survey; course for the G.O.P. Fortune 21:57 Ja '40
G.O.P. takes the spot-light. Mag of Wall St 66:274-5 Je 15 '40
Position of leading contenders for Republican presidential nomination. E. Blair. Barron's 20:4 F 19 '40
Republican criticism of new deal regulatory policy; report of the special program committee. Pub Util 25:490-2 Ap 11 '40
Republican national convention to meet in Philadelphia June 24; Republican committee issues report designed as basis for presidential platform. Comm & Fin Chr 150: 1221-2 F 24 '40

Platform

See Platforms, Political

RESEARCH
Index of research projects. v 3 243p Work projects administration. Washington, D.C. '39

See also
Advertising research
Aeronautic research
Agricultural research
Business research
Cement research
Ceramic research
Chemical research
Coal research
Colleges and universities—Research
Corrosion research
Dye research
Electric research
Engineering research
Highway research
Industrial research Laboratories
Leather research
Market research
Metallurgical research
National research council
National research council of Canada, Ottawa
Paper research
Railroad research
Rubber research
Scientific research
Social research
Steel research
Textile research

RESEARCH advisory service
Business wants these things invented. Adv & Sell 33:40+ N '40
Chemical materials and processes that industry asks of research. Oil Paint & Drug Rep 138:3+ O 28 '40
Chemical specialties wanted. Oil Paint & Drug Rep 138:5+ N 11 '40
Futurama; copy writers, years hence will be writing about more than 1,000 new products and materials. E. Peterson. Ptr Ink 193: 69-70 N 8 '40
Industry's challenge to research; new products, processes or materials that research might develop. Ind & Eng Chem News ed 18:887-9, 954-6 O 25-N 10 '40 (to be cont)
Inventors challenged; bank's research service finds out what manufacturers would like to have developed. Business Week p37 O 26 '40
Paints and other finishes for which a need exists. Oil Paint & Drug Rep 138:3+ O 21 '40
Plastics and rubber industries issue challenges to research. Oil Paint & Drug Rep 138:5+ N 4 '40
Research advisory service. Ind & Eng Chem News ed 18:669 Ag 10 '40
32 inventions needed by the food industries. Food Ind 12:35 N '40

RESEARCH workers
Let science pick the growth issues; number of researchers employed by firms used as criterion. J. V. Sherman. Barron's 20:3 S 2 '40; Same cond. Management R 29:390-2 N '40
National association of manufacturers honors research workers. Oil Paint & Drug Rep 137:5+ Mr 4 '40
Opportunities for women as research bibliographers. F. W. Adams. J Chem Educ 16: 581-3 D '39

RESERVES

See also
Bank reserves

RESERVOIRS
Caron water-storage project; Moose Jaw to be supplied with water thru open ditch, 68 miles long. J. I. Strong. il Can Eng 77:2-6 N 14 '39
Cooperative investigations of the relation between mosquito control and wildlife conservation. Science 92:201-2 Ag 30 '40
Flood control and its relation to problems of stream pollution. D. F. Horton. Boston Soc C E J 27:42-52 Ja '40
Foundation treatment and reservoir rim tightening at Norris dam. J. S. Lewis, jr. il diags Am Soc C E Proc 66:385-419 Mr '40
Functional design of flood control reservoirs. C. J. Posey and Fu-Te I. diag Am Soc C E Proc 65:1317-26 O '39; Discussion. 65: 1765-6; 66:507-16, 695-706, 961-3 D '39, Mr-My '40
Grouped reservoirs control floods on the Colorado river. C. McDonough. il map Eng N 124:793-6 Je 6 '40
Improved sampler and sampling technique for cohesionless materials; equipment and methods used on Denison dam and reservoir project. H. L. Johnson. il diags Civil Eng 10:346-8 Je '40
John Martin reservoir project for flood control and water conservation in the Great Plains area. il diags map Eng N 125:614-17 N 7 '40
Ladybower reservoir, Derbyshire. il diags Engineer 168:440-2, 448 N 3 '39
Large venturi meter for Pittsburg, N.H. reservoirs. J. R. Hartley. Boston Soc C E J 27: 139-40 Ap '40
Measuring reservoir capacity from twenty thousand feet; aerial survey work. il Power Pl Eng 44:89+ N '40
Mountain water for Bethlehem. il map Eng N 125:36-8 Jl 4 '40
Pittsburgh conservation reservoir development of the New Hampshire water resources board. R. S. Holmgren. il diags plan maps Boston Soc C E J 27:110-35 Ap '40
Planned operation of a reservoir system. V. Thiemann. Edison Elec Inst Bul 8:479-84 O '40
Raising and widening concrete bridge in Chickamauga reservoir. E. Scroggie. il diag Civil Eng 10:505-7 Ag '40
Silting of reservoirs. H. M. Eakin. diags maps U S Agric Tech Bul 524:1-168 bibliog(p152-3) pl 1-15 '39
Silting of reservoirs. L. S. Hall. bibliog Am Water Works Assn J 32:25-42 Ja '40
South now has own Great Lakes; TVA dams create 650-mile chain of reservoirs. il map Business Week p18+ S 7 '40
Spare the woodman; clearing forests for reservoirs of the Tennessee Valley authority; safety work. H. E. Davis. il Nat Safety N 41:18-19, 56+ Je '40
Sun ray counts save sulphate; effect of ultraviolet rays on algae growth. R. F. Goudey. il Eng N 124:525-7 Ap 11 '40
Use of Benoclor-3 in potable water supplies; effects of weed killing chemical on tastes and odors. M. M. Gibbons. il map Water Works & Sewerage 87:231-6 My '40
Water supply at Akron. J. S. Gettrust; A. E. Goodman. Am Water Works Assn J 32:1779-81 O '40
Water supply of Rangoon, Burma. il diags Engineer 169:488-9, 496 My 31 '40
Water supply system of San Francisco. N. A. Eckart. il plan map Am Water Works Assn J 32:751-94 My '40

See also
Dams
Flood control
Irrigation
Oil reservoirs
Water supply
Water supply engineering
Water tanks
Waterworks

Cost

Detailed labor costs in placing concrete by pumping method; construction of reservoir for Duluth. il Concrete 48:17+ Mr '40
Enlarging reservoir, Massachusetts; unit prices. Eng N 124:128 Ja 18 '40
Outlet works, Fort Supply, Oklahoma; unit prices. Eng N 124:294 F 22 '40

Fish problem

Fish in reservoir resist chemical poisoning effects. Eng N 124:522 Ap 11 '40

RESERVOIRS—*Continued*

Recreational use

Regulation of recreation on watersheds and reservoirs. R. V. Black. Am Water Works Assn J 32:1016-18 Je '40

Report relative to the propriety of opening Lake San Leandro to public fishing; abstract. C. G. Hyde. Am Water Works Assn J 32:1044-5 Je '40

RESERVOIRS, Concrete

Concrete of highest quality in reservoir for Grand Rapids. il diag Concrete 48:3-4 F '40

Detailed labor costs in placing concrete by pumping method; construction of reservoir for Duluth. il Concrete 48:17+ Mr '40

Great Lakes water for Grand Rapids. il Eng N 124:450-1 Mr 28 '40

Huge reinforced concrete foundation slab is a feature of big reservoir, Mount Washington reservoir, Cincinnati. il diags Concrete 48:3-4+ Mr '40

Water storage at Ashland aids treatment of river supply. J. P. Brownstead. il Eng N 124:861 Je 20 '40

RESETTLEMENT. See Land settlement

RESIDENCE (law). See Domicile

RESILIENCE

Hysteresis in crystallization of stretched vulcanized rubber from X-ray data; correlation with stress-strain behavior and resilience. G. L. Clark and others. il Ind & Eng Chem 32:1474-7 N '40

RESIN acids

Identity of resin acids. T. Hasselstrom, J. D. McPherson and S. Hopkins, jr. bibliog Paper Tr J 110:41-3 Ja 25 '40

Miro resin; the resin acids. C. W. Brandt and L. G. Neubauer. Chem Soc J p683-6 My '40

RESINOLS

Triterpene resinols and related acids; β-amyradienol. C. W. Picard and F. S. Spring. Chem Soc J p1198-1202 Ag '40

Triterpene resinols and related acids; the oxidation of α-amyradienyl acetate. E. S. Ewen and F. S. Spring. Chem Soc J p1196-8 Ag '40

RESINOUS products

Die anwendung von ionenaustauschern auf kunstharzbasis zur entsalzung von wässern. A. Richter. il diags Angew Chemie 52:679-81 N 25 '39

Coal by-products; properties of hydrogenated indene-coumarone resins. W. H. Carmody and H. E. Kelly. il Ind & Eng Chem 32:771-5 Je '40

Coal by-products; the hydrogenation of indene-coumarone resins. W. H. Carmody and H. E. Kelly. flow sheet bibliog il diags Ind & Eng Chem 32:684-92 My '40

Coal by-products; the yellowing of indene-coumarone resins. W. H. Carmody. il Ind & Eng Chem 32:525-7 Ap '40

Copolymerization of maleic polyesters. J. B. Rust. il Ind & Eng Chem 32:64-7 Ja '40

Coumarone resins. H. Barron. Chem Age (Lond) 41:397-9 D 16 '39

Denture base material: acrylic resins. W. T. Sweeney. il diags Mod Plastics 17:43-7, 74+ F '40

Development of synthetic resins and other trends in the plastics industry. J. L. Nicholson. Annalist 54:691 N 30 '39

Developments in synthetic resins and resin emulsions. F. J. Myers. bibliog Paper Tr J 110:27-30 Ap 11 '40

Dihydronaphthalene polymers. N. D. Scott and J. F. Walker. bibliog il Ind & Eng Chem 32:312-15 Mr '40; Same abr. Chem Age (Lond) 42:197-8 Ap 6 '40

Drying oils and resins; insolubilization of maleic glycol polyesters by additive polymerization. E. L. Kropa and T. F. Bradley. bibliog il diag Ind & Eng Chem 31:1512-16 D '39

Einfluss der pressbedingungen und des aufbaues auf die eigenschaften geschichteter kunstharz-pressstoffe; kunstharz-pressholz, zellstoff- und gewebebahnen-pressstoff. W. Küch. il V D I 83:1309-16 D 30 '39

Elasticity of phenolic compounds. A. F. Shepard and L. A. Sontag. Mod Plastics 17:48+ F '40

Electroplating rack coating; material of many uses; synthetic resin tape. M. B. Diggin. il Metal Ind 38:36 Ja '40

L'emploi des résines synthétiques comme adsorbants pour l'épuration des eaux. E. Lemaire. il diags Génie Civil 116:340-4 My 25 '40

La fabrication synthétique de l'urée en Italie. C. Berthelot. il diag Génie Civil 116:200-2 Mr 23 '40

Fatty-acyl-modified resins; dicyclopentadiene, coumarone, and indene types. A. W. Ralston and others. bibliog il Ind & Eng Chem 32: 99-101 Ja '40

Glasses, organic and inorganic. H. Moore. bibliog Chem & Ind 58:1027-37 N 25 '39; Discussion. 59:157-8 Mr 9 '40

Industrial research in 1939; synthetic resins, the jewels of organic research. W. A. Hamor. il Ind & Eng Chem News ed 18: 11-13 Ja 10 '40

Lactic acid as a component of synthetic resins. J. T. Stearn, B. Makower and P. H. Groggins. bibliog il Ind & Eng Chem 32: 1335-42 O '40

Machining vinylite series V resins. diags Can Chem & Process Ind 24:161-3 Ap '40

Microscopy in the resin industry; application of micromethods in study of typical resins for various commercial uses. T. G. Rochow. il Ind & Eng Chem Anal ed 11:629-34 N 15 '39

New group of water-soluble vinyl resins. Automotive Ind 82:468 My 15 '40

New step in plastics; Carterite. Business Week p43 N 18 '39

New synthetic for car seats; material woven from Saran. il Textile World 90:65 S '40

Paracoumarone indene resins. E. R. Coyle. il Chem Ind 46:464-6 Ap '40

Plastic seat covering; Saran. il Transit J 84:400 O '40

Plastics and coal. N. J. L. Megson and K. W. Pepper. bibliog Chem & Ind 59:247-53 Ap 13 '40

Plastics and resins from hydrocarbons. P. K. Frolich and others. il diags Ind & Eng Chem 32:293-323 Mr '40

Plastics and their uses in the automotive industry; development, properties, trade names, molding methods, etc. G. M. Kline. il S A E J 46:201-14 My '40; Same. Mod Plastics 17:53, 84+ Jl; 58-61, 78+ Ag; 18:64-7, 90, 92+ S '40; Discussion. S A E J 46:214+ My '40

Plastics progress during 1939; phenolic resins. L. M. Debing. bibliog il Mod Plastics 17:48, 50+ Ja '40

Plastics progress during 1939; thermoplastic resins; with list of patents. H. S. Bunn. bibliog il Mod Plastics 17:52, 54+ Ja '40

Plastics progress during 1939; urea resins; with list of patents. M. H. Bigelow. bibliog Mod Plastics 17:56, 58 Ja '40

Polystyrene. A. J. Weith, V. H. Turkington and I. Allen, jr. bibliog il Ind & Eng Chem 32:1301-4 O '40

Putting the heat on white enamels; advantages and disadvantages of the urea, alkyd and the new melamine resins. J. M. Sanderson. il Metal Finishing 38:565-8 O '40

Removal of chlorides and sulfates by synthetic resins. M. C. Schwartz, W. R. Edwards, jr. and G. Boudreaux. bibliog(48 references) Ind & Eng Chem 32:1462-6 N '40

Resins for closure efficiency; composite liners depend on synthetics for cleanliness and effective seal. G. C. Miller. il Mod Plastics 17:33 Mr '40

Saran; new vinylidene chloride resins. W. C. Goggin. il Ind & Eng Chem News ed 18: 923-4 N 10 '40

Seats of tomorrow, today! extruded vinylidene chloride plastic woven into seat covering material for subway cars. W. C. Goggin. il Mod Plastics 18:36-9 N '40

Slush molding. E. S. Horsman. il Mod Plastics 17:35 D '39

RESINOUS products—*Continued*

Synthetic plastics and fibres. R. V. V. Nichols and P. Larose. Chem & Ind 59:434-5 Je 22 '40; Same. Can Chem & Process Ind 24:340-1 Jl '40

Synthetic resins as water softeners. Mod Plastics 17:51+ D '39

Vinylite; plasticized resin sheets. Rubber Age 46:236 Ja '40

Vinylite series V resins; plasticized copolymers of vinyl chloride and acetate. J. R. Price. il India Rubber W 102:47-9+ Je '40

Walking on air; shoes of vinyl-derived flexible, elastic plastic. R. Howell. il Mod Plastics 17:34+ Ag '40

Water-soluble synthetic resins; some recent developments. L. Light. Chem Age (Lond) 42:333 Je 22 '40

See also

Bakelite
Micarta
Phenol condensation products
Plastic materials

Adhesives

Plywood joins the marines. C. R. Simmons. il Mod Plastics 17:27-9, 74+ My '40

Speed and economy with plywood. C. R. Simmons. il Mod Plastics 17:23-5+ F '40

Superpressed plywood, bonded with thermo-setting synthetic-resin adhesives. R. K. Bernhard, T. D. Perry and E. G. Stern. bibliog il diags Mech Eng 62:189-95 Mr '40; Discussion. 62:748-51 O '40

Analysis

Analysis of synthetic resins containing maleic acid. E. Sadolin. bibliog Ind & Eng Chem Anal ed 11:608-10 N 15 '39

Chemical examination of urea coating resins. J. J. Levenson, jr bibliog diags Ind & Eng Chem Anal ed 12:332-7 Je 15 '40

Binding materials

Properties and performance of plastic bearing materials. L. M. Tichvinsky. bibliog diags Mod Plastics 17:54-7, 70, 72 My '40

Electric properties

Dielectric characteristics of a chemically pure synthetic resin. C. G. Garton. diags Inst E E J 85:625-38 bibliog(p635) N '39

Electrical properties of thermoplastics; five phenolics and one benzyl alcohol resin investigated. L. Hartshorn, N. J. L. Megson and E. Rushton. Soc Chem Ind J 59:129-33 Jl '40

Finishing materials

Air-drying resins give hard films; abstract. T. S. Hodgins and A. G. Hovey. Oil Paint & Drug Rep 137:37 Je 3 '40

Alkyd resins; development, raw materials, production and application to protective coating formulation. A. E. Byrne. il Can Chem & Process Ind 24:336-9 Jl '40

Chemical examination of urea coating resins. J. J. Levenson, jr. bibliog diags Ind & Eng Chem Anal ed 12:332-7 Je 15 '40

Improved heat-hardenable coatings and new methods of applying them. A. J. Weith. il Ind & Eng Chem News ed 18:241-5 Mr 25 '40

Influence of resins on the heat bodying of oils. R. C. Shuey. bibliog Ind & Eng Chem 32:921-30 Jl '40

Newer uses for shellac. W. H. Gardner. bibliog il Chem Ind 45:685-8 D '39

Plastics versus corrosion. C. G. Munger. il Mod Plastics 18:124-5+ O '40

Review recent developments in protective coatings for metals at Franklin Institute. Steel 106:52+ F 12 '40

Säurehärtende kunstharzlacke. A. Greth. Angew Chemie 52:663-6 N 11 '39

Synthetic resin emulsions. H. C. Cheetham. il Mod Plastics 18:63+ S '40

Synthetic resins for surface coatings; Reichhold chemicals. J. A. Lee. il Chem & Met Eng 47:334-7 My '40

Synthetic resins of corrosion-resistant paints. R. J. Moore. il Mod Plastics 17:62-4+ Je '40

Urea-formaldehyde film-forming compositions; enamel formulation, properties, and durability. T. S. Hodgins, A. G. Hovey and P. J. Ryan. bibliog il Ind & Eng Chem 32: 334-45 Mr '40

Urea resin finishes; their formation and characteristics. C. A. Knauss. Can Chem & Process Ind 24:9-10 Ja '40

Vinylite resins for can and container coatings. A. K. Doolittle. il Ind & Eng Chem News ed 18:303-5 Ap 10 '40; Abstract. Food Ind 12:94-5 Jl '40

Viscosity variations in methacrylic ester polymer solutions. D. E. Strain. Ind & Eng Chem 32:540-1 Ap '40

Das vordringen der kunstharz-anstrichstoffe im korrosionsschutz. G. Koken. Chemische Fabrik 12:502-4 D 6 '39

What you can use; resins (synthetic) used in paints. Oil Paint & Drug Rep 137:47 My 6; 48 My 13 '40

Insulating materials

H.F. insulation materials; results of laboratory tests of synthetic plastics. P. Mabb. Electrician 123:453-4 N 24 '39

Insulating materials, 1939. A. R. Dunton. il Electrician 124:57 Ja 26 '40

Manufacture

Acrylic resin plastics. D. S. Frederick. il Chem Ind 46:57-8 Ja '40

Alkyd resins; development, raw materials, production and application to protective coating formulation. A. E. Byrne. il Can Chem & Process Ind 24:336-9 Jl '40

Curing phenol resins with metal chlorides; stannous and chromic chlorides. L. E. Stout and C. R. McAlister, jr. diags Mod Plastics 18:59-61+ N '40

New vinyl molding materials; copolymerization of vinyl acetate and vinyl chloride; vinylite; abstracts. L. K. Merrill. Mod Plastics 17:64-5+ Ap '40; Chem & Ind 46:330-1 Mr '40; Ind & Eng Chem News ed 18:496-7 Je 10 '40

Production of petroleum resins. S. C. Fulton and A. H. Gleason. bibliog Ind & Eng Chem 32:304-9 Mr '40

Synthetic resins for surface coatings; Reichhold chemicals. J. A. Lee. il Chem & Met Eng 47:334-7 My '40

Vinyl resins; influence of chemical composition upon properties and uses. S. D. Douglas. bibliog il Ind & Eng Chem 32:315-19 Mr '40; Excerpt. Rayon 21:348 Je '40

Patents

Base exchange resins; patent. il Ind & Eng Chem News ed 18:399-400 My 10 '40; Same. Paper Tr J 110:21 My 16 '40

New resins for textile-chemical use. J. Warwicke. Textile Col 62:731-5 N '40

Plastics progress during 1939; thermoplastic resins; with list of patents. H. S. Bunn. bibliog il Mod Plastics 17:52, 54+ Ja '40

Plastics progress during 1939; urea resins; with list of patents. M. H. Bigelow. bibliog Mod Plastics 17:56, 58 Ja '40

Removal of chlorides and sulfates by synthetic resins. M. C. Schwartz, W. R. Edwards, jr. and G. Boudreaux. bibliog(48 references) Ind & Eng Chem 32:1462-6 N '40

Synthetic resins in water treatment. Chem Ind 46:361 Mr '40

Prices

Synthetic resins and other branded paint materials (manufacturers' list prices). Oil Paint & Drug Rep 137:20 Ja 1 '40 [cont monthly]

Statistics

Plastics continue to advance. Chem & Met Eng 47:78-80 F '40

United States production and sales of certain synthetic resins in 1939. Oil Paint & Drug Rep 137:59 Je 17 '40

Strength

Service-temperature flow characteristics of thermoplastics. W. F. Bartoe. il Mech Eng 61:892-4 D '39; Same. Mod Plastics 17:47-9+ Mr '40; Discussion. Mech Eng 62: 410-11 My '40

RESINOUS products—*Continued*

Textile uses

Attempts to improve the finishing of cotton chintz fabric. Textile Col 62:472 Jl '40

Cellulose ether finishes on cotton fabrics improved by application of urea-formaldehyde resins. Textile Col 62:617 S '40

Clothing for protection against occupational skin irritants. L. Schwartz, L. H. Warren and F. H. Goldman. diags Pub Health Rep 55:1158-63, pl 1-2 Je 28 '40

Crease resisting processes for textiles. A. D. J. Piesse. il Rayon 21:478-9 Ag '40

Development of crease-resistance; Tootal and other patents. Textile Col 62:87-90+ F '40

Development of synthetic resins for hosiery finishes. A. K. Haynes. Am Dyestuff Rep 29:186-9 Ap 15 '40

Dyeing and finishing of fabrics containing rayon staple fibers. H. DeW. Smith. Rayon 21:147-8 Mr '40

Dyeing and finishing of nylon hose. N. D. White. Rayon 21:683-5 N '40

General trend of modern finishes. L. G. Lawrie. Soc Dyers & Col J 55:352-3 Jl '39; Abstract. Am Dyestuff Rep 29:71-2 F 5 '40

Imparting affinity for acid wool dyes to regenerated cellulose fibres by incorporating synthetic resins in the spinning solution. T. Crebert. Soc Dyers & Col J 55:517-18 O '39

Important chemical developments in the textile industry. E. W. K. Schwarz. Am Dyestuff Rep 29:6-8, 19-21 Ja 8 '40; Same. Textile Col 62:25-9 Ja '40

Increasing the washing fastness of direct dyeings on cotton, viscose rayon, and other cellulose fibers with urea derivative formaldehyde resins. Textile Col 61:831 D '39

Making fabrics transparent and impermeable to fluids. C. H. S. Tupholme. Ind & Eng Chem News ed 18:766 S 10 '40

New finishes for silk hosiery. W. T. Leggis. il Textile World 90:78 Ap '40

New resins for textile-chemical use. J. Warwicke. Textile Col 62:731-5 N '40

Present trend of textile finishing. T. H. Roberts. Am Dyestuff Rep 29:396-9 Ag 5 '40

Process (E.P. 503,670) in which resin formation (from dicyandiamide) can be carried out with alkaline conditions in both stages. A. J. Hall. Textile Col 62:760 N '40

Recent advances in textile finishing agents; synthetic resins and cellulose derivatives. L. Light. bibliog Chem Age (Lond) 42:49-50 Ja 27 '40

Resin and starch helps slip-resistance in spun rayons. Rayon 21:378 Je '40

Semi-resin finishes. W. W. Trowell. Am Dyestuff Rep 29:248-50 My 13 '40

Synthetic plastics and fibres. R. V. V. Nichols and P. Larose. Chem & Ind 59:435 Je 22 '40; Same. Can Chem & Process Ind 24:340-1 Jl '40

Textile uses of resins increasing. Rayon 20: 720 D '39

Use of resins and plastics for the modification of textile fabrics; abstract. D. H. Powers. Am Dyestuff Rep 29:492 S 30 '40; Same. Textile Col 62:697 O '40

See also
Vinyon

RESINS. See Gums and resins

RESINS, Synthetic. See Resinous products

RESONANCE

Experimental investigation of resonance and electronic oscillations in magnetrons. J. S. McPetrie and L. H. Ford. bibliog Inst E E J 86:283-92 Mr '40

Natural oscillations of electrical cavity resonators. W. L. Barrow and W. W. Mieher. bibliog diags Inst Radio Eng Proc 28:184-91 Ap '40

Neuere ergebnisse der geigenforschung. H. Backhaus. V D I 84:179-80 Mr 9 '40

RESONANCE (chemistry)

Color and constitution; halochromism of an[illegible]onium bases related to the cyanine d[illegible]. L. G. S. Brooker and others. bibliog Am Chem Soc J 62:1116-25 My '40

Conjugated systems and resonance. A. Burawoy. Chem & Ind 59:594-6 Ag 17 '40

Resonance and the chemistry of histidine. T. L. Hill and G. E. K. Branch. Science 91:145-6 F 9 '40

Resonance levels of rhodium and indium. J. Hornbostel, H. H. Goldsmith and J. H. Manley. bibliog Phys R 58:18-23 Jl 1 '40

Resonance scattering of alpha-particles. M. E. Rose. bibliog Phys R 57:958-65 Je 1 '40

Resonances in the emission of neutrons from the reaction $C^{13}+H^2$. T. W. Bonner, E. Hudspeth and W. E. Bennett. Phys R 58: 185-6 Jl 15 '40

Resonances in the emission of protons from the reaction $C^{13}+H^2$. M. M. Rogers and others. Phys R 58:186 Jl 15 '40

Steric inhibition of resonance. R. T. Arnold, G. Peirce and R. A. Barnes. Am Chem Soc J 62:1627-8 Je '40

Steric inhibition of resonance in aromatic nitro compounds. G. W. Wheland and A. A. Danish. bibliog Am Chem Soc J 62:1125-7 My '40

Steric inhibition of resonance; rates of reaction of nitro- and cyano-aryl halides. W. C. Spitzer and G. W. Wheland. bibliog Am Chem Soc J 62:2995-3002 N '40

Theory of the resonance scattering of protons and neutrons on helium. F. Bloch. Phys R 58:829-36 N 1 '40

See also
Mesomerism

RESONANCE radiation. See Radiation

RESORCINOL

Aldehyde-resorcinol condensations. J. B. Niederl and H. J. Vogel. Am Chem Soc J 62: 2512-14 S '40

Condensation products improve dyeing qualities of fabrics. C. H. S. Tupholme. Textile Col 62:663-4 O '40

Dibenzofuran; isomeric metalation products of some phenols and their methyl ethers. H. Gilman and others. Am Chem Soc J 62: 667-9 Mr '40

γ-Substitution in the resorcinol nucleus; the Gattermann reaction with 4-acylresorcinols. H. A. Shah and R. C. Shah. Chem Soc J p245-7 F '40

Hydrolysis or alcoholysis of resorcinol ether sulphonic acids. G. S. Hartley. Chem Soc J p1834-6 D '39

Structure of cannabinol; synthesis of two additional isomers containing a resorcinol residue. R. Adams and B. R. Baker. Am Chem Soc J 62:2208-15 Ag '40

Sulphonates of higher alkyl phenolic ethers. G. S. Hartley. Chem Soc J p1828-34 D '39

Vicinal substituted resorcinols; alkyl resorcinols; the synthesis of γ-ethyl, γ-*n*-propyl and γ-*n*-butyl resorcinols. A. Russell, J. R. Frye and W. L. Mauldin. bibliog Am Chem Soc J 62:1441-3 Je '40

RESPIRATION

Evidence for the existence of a respiratory neurohormone. T. Koppanyi and C. R. Linegar. Science 90:141-2; 91:297-8 Ag 11 '39, Mr 22 '40

Forces driving the respiratory act. R. Gesell. il diags Science 91:229-33 Mr 8 '40

Percentage of particles of different sizes removed from dust-laden air by breathing. A. M. van Wijk and H. S. Patterson. diag J Ind Hygiene 22:31-5 Ja '40

Study of changes in the temperature and water vapor content of respired air in the nasal cavity. L. E. Seeley. il diags Heating-Piping 12:377-88 Je '40

RESPIRATION, Artificial

Control of respiration under artificial respiration; abstract. Y. Henderson. Science 91: 422 My 3 '40

Improving performance of artificial respiration. H. G. Hays. il Nat Safety N 42:22-3+ S '40

President's medal awards (cont). Nat Safety N 41:180 Mr; 60 Ap; 64 My; 59 Je; 42:56 Jl; 58 N '40

Resuscitation from shock. S. Jellinek. Elec R (Lond) 126:10-11 Ja 5 '40; Discussion (Comparison of methods). G. H. Bell and J. A. C. Knox. 127:241 S 20 '40

RESPIRATION, Artificial—*Continued*
Resuscitation performance, how effective? tests of employees in their prone-pressure application. H. G. Hays. il Elec W 114: 681-2+ S 7 '40
Summary of McCarter medal awards. A. W. Breeland. Am Gas Assn Proc 1939:305-6
Twelve resuscitation medals awarded last year. M. B. Woods. il Edison Elec Inst Bul 8:69-72+ F '40
Wins medal and eight bars for saving nine lives by resuscitation; L. C. Georgen. Nat Safety N 42:19 Jl '40
See also
Resuscitation
RESPIRATION of tissues. See Metabolism
RESPIRATORY apparatus
Les appareils à pulsation d'air, ou poumons d'acier, pour la respiration artificielle prolongée; la cabine de grande capacité, système Philips. il diags Génie Civil 116:137-8 F 24 '40
Breathe freely. W. P. Biggs. il Safety Eng 78:9-12 N; 33-4+ D '39
Care of respirators. Safety Eng 79:25 F '40
Dust mask. Sci Am 163:87-8 Ag '40
General-Collins emergency lung. il Rubber Age 46:168 D '39; Can Min J 61:402+ Je '40
Perfected rubber lung. il Sci Am 161:346 D '39
Respirator to catch silica dust weighs only 1½ ounces. il Factory Management 98:66 Je '40
Respiratory protection. il Nat Safety N 41: 14-15 Mr '40
Stop that sneeze! plastic breathing aids. C. Lichtenberg. il Mod Plastics 18:54+ S '40
Testing and design of respiratory protective devices. H. H. Schrenk. pls diags U S Bur Mines Information Circ 7086:1-11 '39; Same cond. Concrete (mill sec) 47:278; 48:104-5, 154-5 D '39-Ja, Ap '40
Use of respirator masks ends sickness absences. H. M. Scherr. il Factory Management 98:49 Ap '40
Use of respiratory protective devices under abnormal air pressure. F. E. Griffith and H. H. Schrenk. U S Bur Mines Rep of Invest 3488:1-9 '40; Excerpts. Can Min J 61:303 My '40
What to look for in respirators. W. H. Lehmberg. il Safety Eng 79:30 Ja '40

Testing

Just a human guinea pig; results of respirator tests. il Nat Safety N 41:81 Je '40
Testing respiratory protective equipment for approval. H. H. Schrenk. U S Bur Mines Information Circ 7130:1-9 '40; Excerpts. Concrete (mill sec) 49:113-14 Ja '41

RESPIRATORY organs
Experimental radiological observations on the action of electrical current upon the respiratory and circulatory organs; respiratory organs. A. W. Greenberg. bibliog il diags J Ind Hygiene 22:104-10 Mr '40

Diseases

See also
Cold (disease) Pneumonia
Lungs—Dust diseases Silicosis

RESPONSIBILITY, Legal. See Legal responsibility
REST
See also
Fatigue
REST days
Legislation on weekly rest. Monthly Labor R 50:884-8 Ap '40
Weekly rest and wages in Spain. Int Labour R 42:126-8 Ag-S '40
Weekly rest in commerce and offices. 235p Int. labor office '39
REST periods
Influence of the war and mobilisation on hours of work and rest periods; various countries. bibliog Int Labour R 41:291-306 Mr '40
Rest periods part of working time under wage and hour law. Monthly Labor R 51:418 Ag '40
Wage-law pay covers rest periods. Oil Paint & Drug Rep 137:3 Je 17 '40
REST rooms
See also
Gasoline service stations—Rest rooms
RESTAURANTS
Crossroads merchant goes modern. E. Whitmore. il(p20) Am Business 10:47 Je '40
For quiet dining; acoustical ceiling, air conditioning and indirect lighting, Schrafft's restaurant, New York. il Am Bld 62:80 Je '40
Glorified road stands pay; Howard Johnson's chain of 125 restaurants. il Business Week p26-7 F 17 '40
Howard Johnson restaurants; maker of good ice cream started with leaky soda fountain, developed chain of 132 units. il map Fortune 22:82-7+ S '40
Low-cost or people's restaurants in Latin America. Monthly Labor R 50:150-3 Ja '40
Pump room in Chicago's Ambassador East. il plan Arch Forum 73:21-4 Jl '40
Restaurants: 1940 style. Business Week p28-9 O 19 '40
See also
Hotels

Air conditioning

Air conditioned cafe in mountain country. Refrig Eng 38:353 D '39
Air conditioning in restaurants. R. E. Borden. diags plan Refrig Eng 39:1-4 sec 2 Je '40
Chemical conditioning for customers' comfort. L. T. Avery. il diags Heat & Ven 37: 23-4 Mr '40
Mechanical systems for comfort and economy in restaurants and bars. il Arch Rec 87: 80-2 Ja '40
$100,000 roadside restaurant conditioned; Smith house, Cambridge, Mass. Heat & Ven 37:52 Ag '10

Designs and plans

Building types; with illustrated case studies and time-saver standards. plans Arch Rec 87:75-102 Ja '40
Old Chicago station gets new restaurants; Fred Harvey Crossroads restaurant in Chicago's Dearborn station. il diags plans Arch Rec 88:40-3 Jl '40

Electric equipment

Electric cookery sold against gas competition; Appalachian electric power company. H. M. Kemmer. il Elec W 114:848-50+ S 21 '40
Fryers pave way for 48 kw. of new load. il Elec W 113:780 Mr 9 '40
Portland, Ore. chefs to cook electrically. il Elec W 112:1896 D 30 '39

Equipment

All-gas restaurant. F. R. Howe and R. F. Mann. il Am Gas J 151:7-8 D '39
Ershler & Krukin waterless gas heated storage and serving tables. il Am Gas J 153: 37 Jl '40

Heating and ventilation

Unit heaters prevent cold drafts at building and store entrances. D. R. Rippey. il Heating-Piping 12:249-51 Ap '40

Lighting

Champs Elysees restaurant, New York. il Illum Eng 35:666-7 S '40
Mechanical systems for comfort and economy in restaurants and bars. il Arch Rec 87:83 Ja '40

Statistics

Retail trade, restaurant chains, 1936-1939. Survey of Cur Business 1940 Sup p28
RESTRAINT of trade
Antitrust suit hits del credere plan; use of patent privileges in circumvention of Sherman and Clayton acts, conspiracy to monopolize and restrain trade in hardboard is charged. Oil Paint & Drug Rep 137:3+ Mr 18 '40

RESTRAINT of trade—*Continued*
Bottlenecks of business. T. W. Arnold. 335p $2.50 Reynal & Hitchcock, 386 4th av, New York '40
Control of competition in Canada. L. G. Reynolds. 324p bibliog(p313-18) $3 Harvard univ. press '40
F.T.C. hits limiting number of wholesalers; complaint against Detroit candy & tobacco jobbers association. Oil Paint & Drug Rep 138:3+ S 30 '40
F.T.C. procedure upheld by court. Oil Paint & Drug Rep 138:3+ O 14 '40
How to avoid illegal restraints. W. W. Woodbridge. Am Bld 62:84+ Jl '40
New test for patents; Arnold's suit against hardboard industry. Business Week p19-20 Mr 16 '40
Plans appeal in GM decision. Automotive Ind 81:593+ D 1 '39
Union bows to Arnold; bricklayers' international signs decree binding it to help prevent illegal trade restraints. Business Week p40-1 Je 15 '40

See also
Competition, Unfair
Interstate commerce
Monopolies
Patents—Licensing
Price fixing
Price fixing, Resale
Production, Limitation of
Trade associations
Trusts, Industrial

RESUSCITATION
Resuscitation from shock. S. Jellinek. Elec R (Lond) 126:10-11 Ja 5 '40
Resuscitation review board is appointed; Edison electric institute accident prevention committee. Edison Elec Inst Bul 8:234+, 372-3 My, Jl '40

See also
Respiration, Artificial

RETAIL price policies. See Price policies, Retail

RETAIL salesmen. See Salesmen, Retail

RETAIL stores. See Chain stores; Department stores; Market stores; Retail trade; Store buildings

RETAIL stores, Government
Retail prices in government stores of Soviet Union, January 1, 1939 and 1940. Monthly Labor R 50:1272-4 My '40

RETAIL trade
Competitive struggle for market control. D. R. Craig and W. K. Gabler. Ann Am Acad 209:84-107 My '40
Integrated marketing institutions. W. Girdner. Ann Am Acad 209:55-61 My '40
Statistical study of the drawing power of cities for retail trade. J. A. Pfanner, jr. bibliog J Business 13:1-81 pt 2 Ap '40
Store and the package; a survey of changes in the retail environment of packages; effects of these changes on package itself. il Mod Packaging 14:33-41+ S '40
Where trends are discovered. Ptr Ink Mo 41: 24+ Jl '40

See also
Advertising—Dealer cooperation
Advertising—Dealers, Appeal to
Cash business
Chain stores
Christmas business
Cooperative associations
Dealer helps
Dealer relations
Delivery of goods
Department stores
Display of merchandize
Electric utilities—Appliance selling
Gas companies—Appliance selling
Gasoline service stations
Grocery trade
Hardware
Instalment plan
Mail order business
Market stores
Marketing
Merchandizing
Price fixing, Resale
Price policies, Retail
Purchasing
Salesmanship, Retail
Salesmen, Retail
Self service stores
Shopping areas
Shopping centers
Show windows
Signs
Store buildings

also Kresge, S. S., company

Accounting
Inventories and receivables of department stores, instalment houses, chain stores, and other retailers; a statement by the committee on auditing procedure of the American institute of accountants. J Account 69:88-90 F '40
Verification, how far is too far? opinion of retail store executives on problems of accounts receivable and inventory verifications; abstract. E. H. Scull. Management R 29:335-6 S '40

Advertising
Campaign to revive inactive charge accounts. S. G. Levy, jr. il Ptr Ink Mo 41:53 N '40
$7,000,000 in newspaper advertising; $400,000,000 in sales! story of State street and the part newspaper advertising has played in its development. G. A. Brandenburg. il Ptg Art 68 no 4:C16+ '40

See also
Advertising—Dealer cooperation
Advertising—Dealer helps
Chain stores—Advertising
Delicatessen stores—Advertising
Department stores—Advertising

Automobile parking service
Park-N-Shop; St Louis public garage operates private buses as a profitable adjunct to its parking business; retail trade cooperation. H. Barman. il Bus Transportation 19:378-9 Ag '40

Costs
See also
Market stores—Costs

Employees
See Chain stores—Employees; Department stores—Employees; Retail workers; Salesmen, Retail

Finance
Benchmarks of profitable operation in 50 retail trades; variations in gross margin, nonmerchandise expense, and inventory turnover recorded. W. Mitchell, jr. il Dun's R 48:23-6+ O '40
Births and deaths of retail stores in Indiana, 1929-1937. G. W. Starr and G. A. Steiner. il Dun's R 48:23-8 Ja '40
How expenses and profits vary with retail credit policies; comparisons of operating ratios for typical retail stores according to the proportion of merchandise sold on cash, charge account, and installment credit terms. W. L. Mitchell, jr. Dun's R 48:26-32+ N '40

See also
Chain stores—Finance

Manufacturers' demonstrations
Demonstrations help Silex jump sales 40%. Sales Management 47:63 O 20 '40

Public relations
Retailers' wooing; stores plan to catch nation's eye in third annual National retail demonstration. Business Week p42-3 S 7 '40

Purchasing
Retailers woo Latins; Retailer's advisory committee to develop South American supply sources. Business Week p26-7 Ag 17 '40

Securities
Merchandising companies, 1937-39. Mag of Wall St Manual p41-2+ Mr 2 '40
Position of leading merchandising stocks. Mag of Wall St 65:604-5; 66:572-3 F 24, Ag 24 '40
Retail securities in profits test. J. J. Hipple. il Mag of Wall St 66:403-5+ Jl 13 '40
What is retarding R. H. Macy? the problems, and the methods being adopted to solve them. P. Dobbs. il Mag of Wall St 67:160-1+ N 16 '40

See also
Chain stores—Securities
Department stores—Securities

RETAIL trade—*Continued*

Service

Consumers' reaction to a two-price system; charging for service; abstract. L. Bader. Management R 29:331-2 S '40

Statistics

Benchmarks of profitable operation in 50 retail trades; variations in gross margin, non-merchandise expense, and inventory turnover recorded. W. Mitchell, jr. il Dun's R 48:23-6+ O '40

Births and deaths of retail stores in Indiana, 1929-1937. G. W. Starr and G. A. Steiner. il Dun's R 48:23-8 Ja '40

Consumption; retail distribution, 1939. Survey of Cur Business 20:14-15 F '40

How expenses and profits vary with retail credit policies; comparisons of operating ratios for typical retail stores according to the proportion of merchandise sold on cash, charge account, and installment credit terms. W. L. Mitchell, jr. Dun's R 48:26-32+ N '40

How local taxes eat into sales. B. L. Crandall. Adv & Sell 33:33-4 Mr '40

Measure for accounts receivable; study of receivables-to-sales ratios, 1923-37, which may be used as standards in statement analysis. R. Nugent. Credit & Fin Management 42: 9-13+ Ja '40

1938 retail sales in metropolitan area drug stores; Printers' Ink market explorations. map Ptr Ink Mo 39:34-5, 37-9 D '39

Operating results of department and specialty stores in 1939. M. P. McNair. Harvard Univ Graduate School of Business Administration, Bur of Business Research Bul 111:1-34 '40 (pa $2.50)

Retail trade in three quarters of 1939. Comm & Fin Chr 149:3175 N 18 '39

Retail trade, 1939. Economist 138:sup47-8 F 17 '40

Retail trade, 1936-1939. Survey of Cur Business 1940 Sup p27-30 [supplemented in monthly numbers]

Survey of business trends, 1939; sales and inventories; final report. Dun's R 48:5-16 My '40

Survey of business trends, 1939; sales and inventories; preliminary report. il Dun's R 48:10-19 Mr '40

Survey of buying power; estimates of 1939 effective buying income and retail sales for sections, states, trading areas, counties and cities, etc. maps Sales Management 46:7-235 Ap 10 '40

Stock

We're just out of it; lack of goods on hand loses customers; how to check stocks. W. H. Conant. Barron's 20:7 Jl 22 '40

Store buildings

See Store buildings

Store layout

Planning units for retail stores. plans Arch Rec 87:107-9 Je '40

Store interior planning & display. A. E. Hammond. 247p $5 Chemical pub. co. '39

See also
Self service stores

Store location

Crossroads merchant goes modern. E. Whitmore. il Am Business 10:18-21+ Je '40

Five retail stores; Sears, Roebuck stores in California, Illinois, Maryland, Michigan and Texas. il plans Arch Rec 88:31-42 S '40

Why downtown shopping declines; rehabilitation of blighted areas needed to check movement of business to suburban and crossroad areas. E. Whitmore. il Am Business 10:18-21+ Ag '40

Store management

American food counter; Johnson's supermarkets, Syracuse, New York. N. Hansell. il plan maps Ptr Ink Mo 40:5-8+ F '40

Brown takes the gamble out of retailing for 340 shoe merchants; management set up is parallel to that of many voluntary chains. C. R. Gamble. il Sales Management 47:22-4 S 1 '40

Ex-grocer punctures consumer demand; sells IGA products. E. I. Campbell. Adv & Sell 33:44 Je '40

Ideas to pass along to retailers. Ptr Ink Mo 41:20 O '40

Our best customer; reception room reflections of a shirt sleeve sales manager. Ptr Ink Mo 40:9 My '40

Principles of retail merchandising. H. A. Baker. 462p $4 McGraw-Hill '39

Progressive retail management. M. D. Taylor. Ann Am Acad 209:46-54 My '40

Related selling as a profit builder; Cluett, Peabody survey. Ptr Ink Mo 40:28+ Ap '40

See also
Cash and carry plan
Delivery of goods
Department stores—Management

Store size

Store and the package; fewer stores and bigger ones. il Mod Packaging 14:34-5 S '40

Study and teaching

See also
Dealer schools

Canada

Retail merchandise trade in Canada, calendar year 1939. 13p pa 25c Canada. Dominion bur. of statistics, Ottawa '40

Summary of monthly indexes of retail sales in Canada, 1929-1939. 45p pa 25c Canada. Dominion bur. of statistics, Ottawa '40

Chicago

$7,000,000 in newspaper advertising; $400,000,000 in sales! story of State street and the part newspaper advertising has played in its development. G. A. Brandenburg. il Ptg Art 68 no 4:C16+ '40

Europe

Recent retailing trends in Europe. D. R. Craig. il Dun's R 47:5-9 D '39

Great Britain

Jump in retail trade; value of sales and stocks compared with year ago. Economist 137: 183 N 4 '39

London and provincial store results, 1939-40. Economist 138:390 Mr 2 '40

Retail trade, 1939. Economist 138:sup47-8 F 17 '40

Store dividend cuts. Economist 139:255-6 Ag 24 '40

Illinois

Rural retailing trends in Illinois, 1926-1938. R. V. Mitchell. il Dun's R 48:16-22 S '40

Indiana

Births and deaths of retail stores in Indiana, 1929-1937. G. W. Starr and G. A. Steiner. il Dun's R 48:23-8 Ja '40

Business turnover of Indiana retail trades. G. W. Starr and G. A. Steiner. 59p School of business, Bur. of business research, Indiana univ, Bloomington '39

Syracuse, New York

American food counter; Johnson's supermarkets. N. Hansell. il plan maps Ptr Ink Mo 40:5-8+ F '40

United States

Future retail spending by zones. H. F. Travis. il map Mag of Wall St 66:618-21+ S 7 '40

Progressive retail management. M. D. Taylor. Ann Am Acad 209:46-54 My '40

Retailer's reference book of Federal trade commission rulings. 190 l loose-leaf $5 National retail dry goods assn, 101 W. 31st st, New York '39

RETAIL workers

Coverage of wholesale and retail trade under wage and hour law. Monthly Labor R 50: 1457-8 Je '40

RETAIL workers—*Continued*
Disabling morbidity among male and female employees in mail order stores, 1930-34, inclusive. H. P. Brinton and E. S. Frasier. bibliog Pub Health Rep 55:1163-78 Je 28 '40
Employment, wages, and labor relations in marketing. P. D. Converse. Ann Am Acad 209:149-57 My '40
Retail personnel primer. 165p bibliog(p161-5) $2.50; to members $1.50 National retail dry goods assn, Bur. of smaller stores, New York '40
Retail personnel relations. O. P. Robinson. 565p $5.35; school ed $4 Prentice-Hall '40
Retail training in principle and practice. H. M. Lester. 174p bibliog(p170-1) $2.50 Harper '40
Survey of hiring methods; digest of report by Personnel group, National retail dry goods association. Personnel J 18:284-91 F '40
See also
Chain stores—Employees
Department stores—Employees
Salesmen, Retail

RETAINING walls
Crib-type retaining wall protects street from flood damage; San Anselmo, Calif. A. H. Siemer. il Pub Works 71:24+ Jl '40
Pressure on walls; abstract. M. G. Spangler. Eng N 123:836 D 21 '39
See also
Dams
Earth pressure
Embankments
Railroads—Construction
Reservoirs
Wharves

RETAINING walls, Concrete
These concrete retaining walls embody novel features; cantilever-type units built on Erie. il diags Ry Age 109:281-5 Ag 24 '40
War christens Belgium's Albert canal. il Eng N 124:729-30 My 23 '40

RETENOL
Acetylretene and 6-retenol. W. P. Campbell and D. Todd. bibliog Am Chem Soc J 62: 1287-92 My '40

RETINA
Experiment on retinal after-image and judgment of size. R. M. Sutton. Science 90: 616-17 D 29 '39
See also
Color sense

RETIREMENT insurance. See Annuities; Insurance, Life—Retirement income policies

RETIREMENT plans. See Pensions, Industrial; Wages—Dismissal wage

RETORTS, Gas. See Gas retorts

RETROGRADE condensation (term)
Retrograde condensation. D. L. Katz and F. Kurata. il diags Ind & Eng Chem 32:817-27 bibliog(54 references, p827) Je '40

RETURNABLE containers. See Containers, Returnable

REVENUE act of 1939
1939 revenue act; with complete explanation. 99p pa $1 Prentice-Hall '39

REVENUE act of 1940
Text. Comm & Fin Chr 150:4032-5 Je 29 '40
Text of excess-profits tax-plant amortization bill; Second revenue act of 1940. Comm & Fin Chr 151:2251-61 O 19 '40
Treasury rules only defense plant expansion completed after June 10 is eligible for amortization benefits. Comm & Fin Chr 151:2733 N 9 '40
Your taxes. D. Horne. Banking 33:54-5 Ag '40

REVENUE bonds. See Bonds, Revenue

REVERBERATION. See Echo

REVERE copper and brass, inc.
To refund bonds. Comm & Fin Chr 151:2659 N 2 '40

REVERSAL process. See Photography—Reversal process

REVERSE cycle refrigeration. See Heat pump

REVERSING mechanism
Reversing mechanism for chain-driven table; wire fabricating machine. L. Kasper. diags Mach 46:121-2 Je '40
Reversing transfer mechanism; wire fabricating machine. L. Kasper. diags Mach 47:121-2 S '40

REVOLUTIONS
Revolution is on. M. W. Fodor. 239p $2.75 Houghton '40
Revolution; why, how, when? R. Hunter. 385p $3 Harper '40

REVOLVERS
Firearms in American history; vol. II, The revolver, 1800 to 1911. C. W. Sawyer. 219p $4.50 Charles Edward Chapel, 1195 Begier av, San Leandro, Calif. '39

REWARDS, prizes, etc.
Administration of the E. R. Squibb and sons award; will be given for most meritorious scientific report dealing with hormones. Science 92:423 N 8 '40
Awards of the American society of mechanical engineers. Science 90:485-6 N 24 '39
Awards of the Royal geographical society; citations. P. Chetwode. Science 90:534-5 D 8 '39
Francis Amory septennial prize of the American academy of arts and sciences. Science 90:610 D 29 '39
Munroe award to Herman Russell; Personnel practices award to R. H. Field. Am Gas J 153:18+ N '40
Report of the prize awards committee, Edison electric institute. H. P. Liversidge. Edison Elec Inst Bul 8:273-6+ Je '40
Time to win 1941 prizes is now; description of awards administered by the Edison electric institute. Edison Elec Inst Bul 8:403-4 Ag '40
Van der Vries award winners; Indianapolis chamber of commerce wins award for part in cutting local relief costs. Nation's Business 28:80+ O '40
Winners of the John M. Goodell prize established in 1931 by Engineering news-record; portraits. Eng N 124:614 My 2 '40
See also
Advertising awards
Medals
Nobel prizes
Safety contests and awards
Washington award

REYBOLD, Eugene, 1886-
Portrait. Eng N 125:199 Ag 15 '40

REYKJAVIK, Iceland
Port of Reykjavik. il(cover) Comm Rep p655-6 Jl 27 '40

REYNAUD, Paul, 1878-
Paul Reynaud: war economist; extracts from four addresses. Economist 138:91-3 Ja 20 '40
Portrait. Business Week p47 Mr 30 '40

REYNOLDS, George McClelland, 1865-1940
Sketch. Comm & Fin Chr 150:1370 Mr 2 '40

REYNOLDS, R. J., tobacco company
Annual report. Comm & Fin Chr 150:443 Ja 20 '40
Statistics of income, capital, stock earnings, etc. 1929-39. Annalist 55:159 Ja 25 '40
What's ahead for Reynolds Tobacco? P. Dobbs. il Mag of Wall St 66:478-9+ Jl 27 '40

RHENIUM
Induced radioactivity of rhenium and tungsten. K. Fajans and W. H. Sullivan. Phys R 58:276 Ag 1 '40

Analysis
Determination of rhenium in molybdenite minerals; a modified distillation and modified colorimetric technique. C. F. Hiskey and V. W. Meloche. bibliog Ind & Eng Chem Anal ed 12:503-6 S 15 '40
Possible source of error in gravimetric determinations involving use of hydrogen peroxide followed by nitron. R. C. Young and P. M. Bernays. Ind & Eng Chem Anal ed 12:90 F 15 '40

RHEOLOGY
Flow of suspensions through narrow tubes. F. J. Dix and G. W. Scott Blair. bibliog diags J Ap Phys 11:574-81 S '40

RHEOLOGY—*Continued*
Introduction to industrial rheology. G. W. Scott Blair. 143p $2.25 Blakiston '38
Pseudo-plastic properties of molten chocolate. L. E. Campbell. diags Soc Chem Ind J 59:71-4 Ap '40

See also
Fluids
Plasticity

RHEOSTATS
Servistat using number of different powered potentiometers and rheostats. R. P. Turner. il diags Radio N 24:35-7+ S '40
Water rheostat for testing Diesel locomotives. C. C. Whittaker. diags Ry Mech Eng 114:162-3 Ap '40

RHEUMATIC fever
Rheumatic fever in New Haven, Conn.; a survey of recent hospital admissions. L. R. Farquhar and J. R. Paul. bibliog Pub Health Rep 55:1903-13 O 18 '40
Rheumatic fever; studies of the epidemiology, manifestations, diagnosis, and treatment of the disease during the first three decades. M. G. Wilson. 595p $4.50 Commonwealth fund, 41 E. 57th st, New York '40
Rheumatic heart disease in Philadelphia hospitals; a study of 4,653 cases of rheumatic heart disease, rheumatic fever, Sydenham's chorea, and subacute bacterial endocarditis involving 5,921 admissions to Philadelphia hospitals from January 1, 1930, to December 31, 1934. O. F. Hedley. pls maps Pub Health Rep 55:1599-1619, 1647-91, 1707-40, 1809-31, 1845-62 bibliog(p1618-19, 1688-91, 1739-40, 1830-1, 1861-2) S 6-20, O 4-11 '40
Trends, geographical and racial distribution of mortality from heart disease among persons 5-24 years of age in the United States during recent years (1922-1936); preliminary report. O. F. Hedley. bibliog maps Pub Health Rep 54:2271-97 D 29 '39

RHEUMATISM
Guarding against rheumatism, and care for eyes and ears. Concrete (mill sec) 47:275 D '39
Rheumatic heart disease in Philadelphia hospitals; a study of 4,653 cases of rheumatic heart disease, rheumatic fever, Sydenham's chorea, and subacute bacterial endocarditis involving 5,921 admissions to Philadelphia hospitals from January 1, 1930, to December 31, 1934. O. F. Hedley. pls maps Pub Health Rep 55:1599-1619, 1647-91, 1707-40, 1809-31, 1845-62 bibliog(p1618-19, 1688-91, 1739-40, 1830-1, 1861-2) S 6-20, O 4-11 '40
Rheumatism. H. W. Crowe. 280p bibliog(p263-9) 12s 6d John Bale medical publications, London '39
Rheumatism and gout; the cause and cure. A. Vander. 111p $1.50 Chemical pub. co. '40

RHODAMINE
Fluorescence size test, an improved method and a new instrument for measuring the water resistance of paper. J. A. Van den Akker and others. bibliog il diags Paper Tr J 109:33-42 N 23 '39

RHODE ISLAND
Industries and resources
Technical industries. W. L. Morgan. map Am Inst Chem Eng Trans 35:779-87 D '39

RHODE ISLAND insurance company
Analysis. Spectator (Property ed) 5:21-5, 32 My 2 '40
To issue new stock. Ins Field (Fire ed) 69:12 My 23 '40

RHODESIAN Anglo-American, limited
Ordinary general meeting, 10th, London. Economist 137:353 D 2 '39
Profit, years ended June 30, 1937-39. Economist 137:299-300 N 25 '39

RHODIUM
Resonance levels of rhodium and indium. J. Hornbostel, H. H. Goldsmith and J. H. Manley. bibliog Phys R 58:18-23 Jl 1 '40
Zeeman effects in complex spectra at fields up to 100,000 gauss. G. R. Harrison and F. Bitter. il Phys R 57:15-20 Ja 1 '40

RHODIUM plating
Five-foot reflectors made by electroforming; rhodium plating applied to base of electroplated nickel. il Metal Finishing 38:532+ O '40
Modern rhodium plating. J. B. Kushner. il Metals & Alloys 11:137-40 My '40
Rhodium plating; composite abstract. Metals & Alloys 11:MA32 Ja '40
Study of rhodium plating. M. Weisberg. bibliog Metal Finishing 38:587-9 N '40 (to be cont)

RHONE river
L'aménagement du Haut-Rhône français. P. Calfas. il diags plan map Génie Civil 116: 21-7, 45-6 Ja 13-20 '40

RHUMBATRON
Electrons dance the rhumba; klystron, generator of powerful ultra high-frequency radio waves; useful in blind landing system for planes. A. R. Boone. il Sci Am 162:20-1 Ja '40
Ultra-high frequencies. diag Electrician 123: 425-6 N 10 '39

RHUS poisoning. See Poison ivy

RIBBONS
Showcase packages bring this product from under counters; bolts of ruffles, ribbons and tapes; Wm. E. Wright & sons co. J. T. Wright. il Sales Management 46:54-6 Mr 15 '40
Year end review on ribbons. Rayon 20:684-5 D '39

RIBOFLAVIN
Bacterial assay of riboflavin in the urine and tissues of normal and depleted dogs and rats. H. F. Fraser, N. H. Topping and H. Isbell. bibliog Pub Health Rep 55:280-9 F 16 '40
Coenzyme I and riboflavin content of livers of rats fed butter yellow. C. J. Kensler, K. Suguira and C. P. Rhoads. bibliog Science 91:623 Je 28 '40
Growth response of plants to riboflavin and ascorbic acid. R. Dennison. Science 92:17 Jl 5 '40
Nährstoffe und wuchsstoffe der milchsäurebakterien. E. F. Möller. bibliog Angew Chemie 53:205-6 My 11 '40
Ocular manifestations of ariboflavinosis. H. D. Kruse and others. bibliog Pub Health Rep 55:157-69 Ja 26 '40
Putting vitamins in their place; riboflavin returns to food. D. H. Killeffer. Ind & Eng Chem News ed 18:758 S 10 '40
Riboflavin content of yeasts determined photometrically and biologically. A. E. Schumacher and G. F. Heuser. Ind & Eng Chem Anal ed 12:203-4 Ap 15 '40
Riboflavin deficiency in man (ariboflavinosis). W. H. Sebrell and R. E. Butler. bibliog Pub Health Rep 54:2121-31 D 1 '39
Vitamin content of distillers' by-products. C. S. Boruff, A. F. Langlykke and S. Black. bibliog il Ind & Eng Chem 32:1237-9 S '40
Bibliography
Riboflavin; annotated bibliography. 119p Merck & co, Rahway, N.J. '40

RIBONUCLEIC acid
Constitution of yeast ribonucleic acid; guanine-uridylic acid. J. M. Gulland. bibliog Chem & Ind 59:321-4 My 11 '40
Constitution of yeast ribonucleic acid; syntheses of uridylic and guanylic acids, uridine-5-phosphate and guanosine-5-phosphate. J. M. Gulland and G. I. Hobday. Chem Soc J p746-52 Je '40
Constitution of yeast ribonucleic acid; the nature of the phosphatase-resistant group. J. M. Gulland and E. M. Jackson. Chem Soc J p1842-4 D '39

RICE
Exports and other statistics, 1936-1939. Survey of Cur Business 1940 Sup p106 [supplemented in monthly numbers]
New Webb law association formed to export rice and rice products. Comm Rep p1088 N 25 '39

RICE—*Continued*
News by commodities; rice in Cuba, Hawaii, Philippines, Puerto Rico. For Comm W 1: 271-2 N 9 '40
Polyploidy in soybean, pea, wheat and rice, induced by colchicine treatment. P. S. Tang and W. S. Loo. Science 91:222 Mr 1 '40
Rice in Puerto Rico, Burma, Cuba. For Comm W 1:222 N 2 '40
Science seeks oil in vineyards and from rice bran. Business Week p43 Mr 16 '40
Water requirements for rice irrigation. T. T. Cheng and C. L. Pien. Engineer 170:56-7 Jl 26 '40

RICE oil
Industrial uses of rice bran oil. Chem & Ind 58:1014 N 18 '39

RICHARDS, Boggs, and King
Management policies that help a business grow; pliofilm firm. E. Whitmore. il Am Business 9:18-20+ D '39

RICHES. See Wealth

RICHFIELD oil corporation
Earnings, 1938 and 1939. Comm & Fin Chr 150:3215 My 18 '40

RICHMOND, Virginia
Harbor
Port job for Richmond. il Business Week p18 O 5 '40
Richmond's deepwater port, 90 miles inland. il Business Week p24 F 17 '40
Richmond's deepwater terminal. il Manuf Rec 109:32 F '40
Richmond's deepwater terminal. E. Brill. il Manuf Rec 109:26-7+ Ag '40

RICHTMYER, Floyd Karker, 1881-1939
Floyd K. Richtmyer as editor of The review of scientific instruments. H. A. Barton. por R Sci Instr 10:357-60 D '39
Sketch. por(front) Phys R 57:1-2 Ja 1 '40
Sketch. E. H. Kennard. Science 90:530-1 D 8 '39
Tribute to editor of Journal of Optical society of America. E. C. Crittenden. por Opt Soc Am J 29:503-5 D '39

RICINOLEIC acid
Action of lead tetraacetate upon hydroxylated fat acids and related compounds; hydroxylated ricinoleic acid and castor oil. J. T. Scanlan and D. Swern. Am Chem Soc J 62:2309-11 S '40
Ricinus communis; oxidation of ricinoleic acid. St E. Brady. Am Chem Soc J 61:3464-7 D '39
Separation of hydroxy from non-hydroxy fat acids by means of a dibasic acid anhydride. F. E. Kurtz and P. S. Schaffer. Am Chem Soc J 62:1304-5 My '40
Studies on the chemistry of the fatty acids; the preparation of methyl ricinoleate and ricinoleic acid by fractional crystallization procedures. J. B. Brown and N. D. Green. bibliog Am Chem Soc J 62:738-40 Ap '40

RICINUS communis. See Castor beans

RICKETTS, Edwin Burnley, 1883-
Sketch. por(p638) Mech Eng 62:639 Ag '40

RICKETTS, Louis Davidson, 1859-1940
Appreciation. Eng & Min J 141:64 Ap '40
Appreciation. W. D. Thornton. Min & Met 21:217 Ap '40

RICKETTSIA
Cultivation of rickettsia diaporica in tissue culture and in the tissues of developing chick embryos. H. R. Cox and E. J. Bell. Pub Health Rep 54:2171-8 D 8 '39
Institutional outbreak of pneumonitis among employees in one building of the National institute of health. J. W. Hornibrook and K. R. Nelson. bibliog plan Pub Health Rep 55:1936-54, pl 1-6 O 25 '40
Mass production of vaccine against typhus fever of the European type. H. Zinsser, H. Plotz and J. F. Enders. bibliog Science 91: 51-2 Ja 12 '40
Preservation of the infectious agents of some of the rickettsioses. N. H. Topping. bibliog Pub Health Rep 55:545-7 Mr 29 '40
Rickettsia diaporica; its persistence in the tissues of ornithodoros turicata. G. E. Davis. Pub Health Rep 55:1862-4 O 11 '40
Rickettsia diaporica; recovery of three strains from dermacentor andersoni collected in southeastern Wyoming; their identity with Montana strain 1. G. E. Davis. Pub Health Rep 54:2219-27 D 15 '39
Seminar on rickettsial diseases. Franklin Inst J 229:528-31 Ap '40
Virus and rickettsial diseases, with especial consideration of their public health significance. 907p $6.50 Harvard univ. press '40

RIDSDALE, James S.
Sketch. por Soc Dyers & Col J 55:608-9 D '39

RIFLE sights. See Firearms—Sights

RIFLED pipes. See Pipes—Rifling

RIFLES
Mountaineers test marlin. A. D. Rathbone, 4th. il Sci Am 163:292-3 N '40
See also
Firearms
Manufacture
Automatic bender produces rifle part at rate of 2000 per day. il Steel 106:56 My 27 '40
Broaching hits the mark; operations on rifle parts. il diags Am Mach 83:994-7, 1032-5 N 29-D 13 '39
Broaching of rifle parts. il Iron Age 145:40-1 Mr 28 '40
Careful analysis of proposed products simplifies interchangeable manufacture; procedure followed in planning for quantity production of Johnson semi-automatic high-powered rifles. C. B. Gardiner. il Mach 46:162-4 Ja '40
When precision was young; Captain Hall's early work in rifle manufacture formed the basis of modern interchangeable production. E. E. MacMorland. il Am Mach 83:1078-9 D 27 '39

RIGHI-LEDUC effect
Galvano- and thermomagnetic phenomena in iron and nickel. E. H. Butler, jr. and E. M. Pugh. diags Phys R 57:916-21 My 15 '40

RIGHT of way
Cost of right-of-way on state highway systems by states, 1930-39. Roads & Sts 83:68 Jl '40
Interregional highways; legal and right-of-way problems. L. E. Boykin. il Roads & Sts 83:57-60 Ja '40
See also
Eminent domain

RIGIDITIES, Economic
Growth of rigidities. N. S. B. Gras. Harvard Business R 18 no 3:322-36 [Ap] '40

RIME. See Advertising copy—Rimes

RIMMED steel. See Steel—Rimmed steel

RIMOUSKI, Quebec
Harbor
Steel sheet pile wharf at Rimouski. J. P. Carriere. il diags Civil Eng 9:707-10 D '39

RINGS (jewelry)
This class-ring business. Consumers' Research Bul (Gen bul ser) 10:11-13 O '40

RINGWORM. See Athlete's foot (disease)

RIO DE JANEIRO, Brazil
Water supply
Steel, welding equipment from U.S. used in Brazil's new water line. il Iron Age 146:82 S 19 '40

RIO GRANDE valley
Supply canal for lower Rio Grande. map Eng N 124:662-3 My 9 '40

RIPARIAN rights. See Water rights

RIPENING of fruit. See Fruit, Ripening of

RIPPLE marks
Fabric criteria for distinguishing pseudo ripple marks from ripple marks. E. Ingerson. bibliog diags Geol Soc Bul 51:557-69, pl 1-2 Ap '40

RISK
Vain search for security; progress made in periods of great uncertainty when rewards were attractive. J. T. Adams. Barron's 20:3 Ja 15 '40

See also
Profit
Speculation

RISKS (Insurance). See Insurance—War risks; Insurance, Fire—Risks; Insurance, Life—Aviation risks; Insurance, Life—Risks

RIVER crossing. See Electric lines—River crossing; Tunnels and tunneling—Vehicular tunnels

RIVER life
Houseboat and river-bottoms people; a study of 683 households in sample localities adjacent to the Ohio and Mississippi rivers. E. T. Hiller. Ill U Studies in the Social Sciences v 24, no 1:1-146 bibliog(p140-1) '39

RIVER OAKS, Texas
Long-considered scheme develops in the environs of Houston; River Oaks community shopping center. il diag plan Arch Rec 87: 114-18 Je '40

RIVER traffic
Barges move oil 200 miles up Columbia river for the California oil companies. il map Nat Pet N 31:85-7 D 13 '39
Estimated and actual tonnage on inland waterways. Ry Age 108:966 Je 1 '40
Improving Mississippi River navigation; beneficial effects of cutoffs and channel work. G. R. Clemens. map Civil Eng 10: 359-61 Je '40
Modern developments in towboats and barges for inland waterways. A. W. Dean. il Civil Eng 10:638-40 O '40
Oil barges push farther up Mississippi waterway. il Nat Pet N 31:34-6, 40 D 13 '39
River comeback? new private navigation lines begin operation on Tennessee as result of TVA canalization. il Business Week p32-4 My 25 '40
River haulage not cheap. C. M. Reed. Ry Age 107:817-18 N 25 '39

See also
Barges
Waterways

Statistics
Waterway traffic, 1936-1939. Survey of Cur Business 1940 Sup p85 [supplemented in monthly numbers]

RIVERS
Chemical control of water weeds; algae and larvae in Wisconsin streams and lakes. Eng N 124:34 Ja 4 '40
Computing hydraulic elements of irregular cross-sections. Z. P. Kirpich. Eng N 124:335 F 29 '40
Studying sediment loads in natural streams; Enoree River laboratory of the Soil conservation service. G. C. Dobson and J. W. Johnson. il diags Civil Eng 10:93-6 F '40
Symposium on hydrobiology at the University of Wisconsin. Science 92:167-8 Ag 23 '40
Theory of meandering. H. Chatley. Engineering 149:628-9 Je 28 '40
Voluntary regionalism in the control of water resources. D. W. Robinson. bibliog Ann Am Acad 207:116-23 Ja '40

See also
Dams
Flood control
Floods
Hydraulic engineering
Hydraulics
River traffic
Stream flow
Stream piracy
Water pollution
Water rights
Water supply
Watersheds
Waterways
also names of rivers, e.g.
Columbia river
Mississippi river

Bank protection
Coast and river conservancy. E. Latham. il Engineering 148:571-3, pl 21 N 24 '39
Highway work and stream bank control experience; Texas co., Oklahoma. H. C. Williams. Pub Works 71:57-8 Ap '40

Covering
Road over River Mersey at Stockport. E. Rhodes. il diags plan Engineer 169:284-5 Mr 22 '40; Abstract. Génie Civil 116:280-2 Ap 27 '40

Regulation
L'aménagement du Haut-Rhône français. P. Calfas. il diags plan map Génie Civil 116: 21-7, 45-6 Ja 13-20 '40
Channel improvements, California; unit prices. Eng N 124:352 Mr 7 '40
Channel improvements, Conemaugh, Little Conemaugh Rivers, and Stony creek, Pennsylvania; unit prices. Eng N 123:720 N 23 '39
Chicago River control works. H. P. Ramey. il diags map Am Soc C E Proc 66:71-103 Ja '40; Discussion. 66:1161-83 Je '40
Contract unit bid prices; list of projects showing how contractors bid in 1939-1940. Eng N 124:sup205-10 Je 20 '40
Cuyahoga River straightening will cut ore unloading time; with cost data. Iron Age 145:84B F 8 '40
Developing the Santee and Cooper rivers; combined power and navigation project in South Carolina. il diags map Eng N 124:706-11 My 23 '40
Development and maintenance of a navigable channel in the Missouri river. D. R. Neff. il Civil Eng 10:578-81 S '40
Dredging the Tennessee river. C. H. Vivian. il map Comp Air M 45:6138-42 My '40
Effect of Shasta dam on the Sacramento river. F. M. S. Johnson. maps Civil Eng 10:108-10 F '40
Flood-control methods; their physical and economic limitations. Am Soc C E Proc 66: 273 F '40; Discussion. L. Crandall. 66:990, 1194-8 My-Je '40
Genissiat dam. il diags plan Engineer 168:510-12, 520 N 24 '39
Improving Mississippi River navigation; beneficial effects of cutoffs and channel work. G. R. Clemens. map Civil Eng 10:359-61 Je '40
John Martin reservoir project for flood control and water conservation in the Great Plains area. il diags map Eng N 125:614-17 N 7 '40
Lifting a river over a levee. J. D. Andrews, jr. il diags map Eng N 125:39-42 Jl 4 '40
Les méfaits du fleuve Jaune (Chine du Nord) et les moyens d'y remédier. map Génie Civil 116:34-6 Ja 13 '40
Native method of river improvement in the upper Left river. W. Li. il diag map Civil Eng 10:539-40 Ag '40
Regulation of the upper Mississippi. il diags map Engineering 150:41-3, pl 4-5 Jl 19 '40
Response of Mississippi river to channel changes. W. E. Elam. maps Civil Eng 10: 235-7 Ap '40
River control and water storage in 1939. il diag plan map Engineer 169:10-12, supp 5, 33-4 Ja 5-12 '40
Robert E. Lee, civil engineer; regulating works preserved St Louis as a river port. R. B. Brooks. il map Civil Eng 10:167-9 Mr '40
Yellow River problem. O. J. Todd and S. Eliassen. il diags maps Am Soc C E Proc 64:1921-91 D '38; Discussion. 65:550-8, 707-15, 1069-77, 1255-7, 1777-87 Mr-Ap, Je, S, D '39

See also
Colorado river
Dams
Dikes (engineering)
Flood control
Jetties
Levees
Mississippi river—Flood control projects

China

See also
Left river, China
Yellow river, China

France

See also
Rhone river

Texas
Summary of records of surface waters of Texas, 1898-1937. C. E. Ellsworth. U S Geol S Water-supply Pa 850:1-154 '39

RIVETED joints
Effect of connections and rivet holes on ductility and strength of steel angles. J. A. Van den Broek. Civil Eng 10:83-6 F '40
Fatigue provisions in riveted joints. J. Jones. Civil Eng 10:344-5 Je '40
Net sectional area of tension members. J. D. W. Ball. Engineer 169:251-2 Mr 15 '40
Punkt- und nahtschweissung von leichtmetallen. C. Haase. il V D I 84:89-96 F 10 '40
Tentative standards, American water works association; specification for riveted steel pipe. Am Water Works Assn J 32:sup7A.6 p 1-7 Ja '40

Testing
Effective moment of inertia of a riveted plate girder. S. B. Lilly and S. T. Carpenter. il diags Am Soc C E Proc 65:1407-21 O '39; Discussion. 65:1807-18; 66:167-75, 357-62, 541-5, 984-9, 1089-96 D '39-Mr, My-Je '40
Static tests of riveted joints. J. Jones. il Civil Eng 10:285-7 My '40
Tension tests of large riveted joints. R. E. Davis, G. B. Woodruff and H. E. Davis. bibliog il diags Am Soc C E Proc 65:805-57 My '39; Abstract. Eng N 122:220-1 F 16 '39; Discussion. Am Soc C E Proc 65:1289-1304, 1449-63; 66:673-89, 951-5, 1065-9 S-O '39, Ap-Je '40

RIVETING
Air screen protects rivet heater. il Ry Mech Eng 114:235 Je '40
Application of iron, steel and alloy rivets on locomotive boilers. il diags Ry Mech Eng 114:463-8 N '40
Automatic sheet-metal riveting machine operated by compressed air. P. Grodzinski. diag Mach 46:253-4 D '39
Double die speeds riveting of thin sheets. L. Kasper. diags Am Mach 84:752 O 2 '40
Joining practices for aluminum. diag Am Mach 84:628-9 Ag 21 '40
Low-cost freight cars; combined welded and riveted construction. J. W. Sheffer. il Am Mach 84:862-4 O 30 '40
Multiple-gang flush riveter. il Engineer 170: 238 O 11 '40
Punches work, feeds and heads rivets. il diag Product Eng 11:393-4 S '40
Riveting block designed to prevent distortion of small grooved stud. W. M. Halliday. diags Mach 47:159-60 N '40
Riveting practice for magnesium. diag Am Mach 84:300 My 1 '40

RIVETS
Automatic sorting; possibilities in salvaging materials; Glenn L. Martin co. il Steel 106: 50+ Je 17 '40
Explosive forms heads without backing up. Sci Am 163:153-4 S '40
Important considerations in the use of high tensile steel rivets in shipbuilding; abstract and discussion. W. G. DuBose. Marine Eng 45:64-5 Ja '40
Machines for sorting rivets. il Aero Digest 36:100 Je '40
Refrigeration for duralumin rivets for retarding age hardening. il Engineer 170:81 Ag 2 '40
Refrigeration for rivets used in giant Boeing planes. il Refrig Eng 39:186 Mr '40
Rivet-salvaging machine. Engineer 170:48 Jl 19 '40
Rivet sorting equipment. il diags Product Eng 11:346 Ag '40
Rivets; salvaging methods cut costs in airplane assembly; Glenn L. Martin aircraft company. il Sci Am 163:139 S '40
Salvaging aluminum rivets. il Iron Age 146:33 Ag 8 '40
Snap rivet. il Sci Am 163:146 S '40
Structural rivets, Pittsburgh, prices, 1929-1939; tabulation. Steel 106:290 Ja 1 '40

ROAD accidents
See also
Automobile accidents
Grade crossing accidents
Roads—Lighting
Roads—Safety devices and measures

ROAD contractors
Highway contractors sign CIO contracts. Eng N 124:427 Mr 28 '40
Texas to check contractors' finances. Eng N 123:793+ D 14 '39

ROAD laboratories. See Highway departments —Laboratories

ROAD making machinery
Adams co. motor graders. il Roads & Sts 83: 90 Mr '40
Barber-Greene road-finishing machine. il diag Engineering 149:530-1 My 24 '40
Blaw-Knox road finishing machine. il Roads & Sts 82:66 D '39
British construction equipment; illustrations. Roads & Sts 83:52 Ap '40
Combining relief labor and modern machinery to construct high type roads; Chenango county, N.Y. B. J. Scanlon. il Pub Works 71:11-13+ Mr '40
Earth-moving for roads. W. S. Tomlinson, jr. Can Eng R & B 78:26, 65-6 Ja '40
Machine-refined brick paving on monolithic concrete base. G. J. Thormyer. il Eng N 124:12-14 Ja 4 '40
Modern earth-moving; machines, methods and management. F. A. Nikirk. Can Eng R & B 78:14-16+ Je '40
Road show designs of 1940. il diags Product Eng 11:71-86 F '40
Round-table conference; keeping road construction and maintenance equipment in the most efficient operating condition. Can Eng R & B 78:29+ S '40
Slope rounding with scraper and tractor; with cost data. L. P. Davis. Roads & Sts 82:48 N '39
Small Tournapull introduced. il Can Eng R & B 78:41 Ag '40
Traveling mixing plants. H. H. Barber. Can Eng 77:8-10 D 26 '39
Turnpike equipment. Comp Air M 44:6045 D '39
See also
Road rollers
Road scrapers
Roads, Concrete—Construction equipment

Exhibitions
American road builders' association annual show, Chicago, Jan. 29-Feb. 2. P. M. Heldt. il diags Automotive Ind 82:140-4, 164-6 F 15 '40
American road builders association road-show previews. Can Eng 77:14-16 D 12 '39
Efficient equipment and new devices feature Road show exhibits, Chicago, Jan. 29-Feb. 2. il Pub Works 71:54-6 Ja '40
Equipment on parade; Road show, Chicago, Jan. 29-Feb. 2. il Eng N 124:sup73-91 F 29 '40
Exhibitors at 1940 road show. Roads & Sts 83:122+ Ja '40
Road show, Chicago, 1940; with list of Canadians who registered. il Can Eng R & B 78:12-17, 65-6, 69-70 F '40
Road show in review. G. Maxon, jr. Roads & Sts 83:82 Mr '40

ROAD maps
Seven million maps; Automobile club of southern California. A. R. Boone. il Sci Am 162:88 F '40

ROAD materials
Geology for civil engineers, as related to highway engineering. D. G. Runner. 299p $5 Gillette pub. co, Chicago '39
Graphical analyses of the stability of soil. E. S. Barber and C. E. Mershon. bibliog diags Pub Roads 21:147-57 O '40
Iron blast-furnace slag becomes important constructional material. W. H. Caruthers. Min & Met 21:337-40 Jl '40
Mineral aggregates for asphalt highway surfaces. D. J. Steele. Can Eng 77:12-14+ D 26 '39
Plant-mix soil-cement base course over blow sand; Texas tries clay blanket laid over subgrade and shoulders; with cost data. V. J. Brown. il diags map Roads & Sts 83:37-42 My '40

ROAD materials—*Continued*
Report of the Road research board for the year ended 31st March, 1939; abstract. Inst Pet J 26:298A-300A Je '40

See also
Asphalt
Bituminous materials
Cement
Coal tar
Concrete
Gravel
Limestone
Pavements
Road oils
Road tar
Sand
Stone, Crushed

Analysis
Analysis of bituminous materials, with special reference to binder content. R. Preston. il diags Soc Chem Ind J 59:99-108 Je '40
Control of bituminous road materials by analysis. G. H. Fuidge and R. Preston. il Soc Chem Ind J 59:108-14 Je '40

Testing
Bending tests on bituminous mixtures. W. O'B. Hillman. diag Pub Roads 21:69-74+ Je '40
Chemical treatment of chert-gravels for use in base-course construction. E. A. Willis and P. C. Smith. il Pub Roads 21:65-8+ Je '40
Crushing resistance of surface-treatment aggregates. T. E. Shelburne. il diags Purdue Univ Eng Exp Sta, Research Ser 76:1-67 bibliog(p54-5) '40 (pa 35c)
Degradation of aggregates under road rollers. T. E. Shelburne. bibliog il Am Soc T M Proc 39:950-68 '39; Abstract. Can Eng R & B 78:15+ Jl '40; Discussion. Am Soc T M Proc 39:969-70 '39
Flow properties of bituminous materials. A. R. Lee, J. B. Warren and D. B. Waters. bibliog diags Inst Pet J 26:101-28 Mr '40
Laboratory testing terms and methods of test. D. G. Runner. diags Roads & Sts 83:70, 72 O; 78+ N '40
Mobile soils laboratory; Maryland roads commission. G. H. Dent. il Roads & Sts 83:54+ F '40; Excerpts. Eng N 124:508-9 Ap 11 '40
Physical and chemical properties of petroleum asphalts of the 50-60 and 85-100 penetration grades. R. H. Lewis and J. Y. Welborn. Pub Roads 21:1-26 Mr '40
Stabilized soil mixtures; results of tests on circular tracks by Public roads administration. E. A. Willis. il Roads & Sts 83:37-44 F '40
Studies of water-retentive chemicals as admixtures with nonplastic road-building materials. E. A. Willis and C. A. Carpenter. il Pub Roads 20:173-87 N '39; Abstract. Pub Works 70:23-4 D '39

ROAD oils
Viscosity index of the oily constituents of asphaltic road oils. E. G. Swanson. Roads & Sts 83:80 My '40

See also
Asphalt

Testing
Kinematic viscometer for liquid asphaltic products. A. P. Anderson, K. A. Wright and R. L. Griffin. il diags Ind & Eng Chem Anal ed 12:466-8 Ag 15 '40

ROAD research. See Highway research

ROAD rollers
Compaction of earthwork; specifications, testing and construction methods on two road sections in Kansas. E. L. Seidel. il Roads & Sts 83:54, 56 Ag '40
Degradation of aggregates under road rollers. T. E. Shelburne. bibliog il Am Soc T M Proc 39:950-68 '39; Abstract. Can Eng R & B 78:15+ Jl '40; Discussion. Am Soc T M Proc 39:969-70 '39
Parsons disc tamping roller for road consolidation. il Engineering 149:303 Mr 22 '40
Road roller fitted with air compressor. il Engineering 149:97 Ja 26 '40
Shovels supply co. maintenance roller. Roads & Sts 83:89 Mr '40
Story of road rolling in Great Britain. T. Salkield. il Roads & Sts 83:49-51 Mr '40

ROAD scrapers
Bucyrus-Erie H-28 scraper. Can Eng R & B 78:47 Mr '40; il Roads & Sts 83:89 Mr '40
Modern earth-moving; machines, methods and management. F. A. Nikirk. Can Eng R & B 78:14-16+ Je '40

ROAD signs
Montana's unique historical road markers. il Comp Air M 45:6102-3 Mr '40
Reflectors used in highway signs and warning signals. G. A. Van Lear, jr. diags Opt Soc Am J 30:462-87 O '40
Safety and directional marking signs on the Henry Hudson parkway. il Pub Works 71: 30 Ja '40
Signing the Pennsylvania Turnpike. G. R. Britton. diags Roads & Sts 83:62+ Je '40
Testing visibility of highway signs; optical meter permits quantitative measurements. M. S. Kersten. il Civil Eng 10:225-6 Ap '40

ROAD tar
Evaluation of fillers for tar and other bituminous surfacings. J. G. Mitchell and A. R. Lee. bibliog Soc Chem Ind J 58:299-306 O '39
Index of the chemical nature of road tars. T. H. Blakeley. Soc Chem Ind J 59:87-8 My '40
Review of road tar uses in 1939. G. E. Martin. il Roads & Sts 83:63-4, 66 Ja '40
Soil stabilization with tar. R. Witt. il Pub Works 71:14+ F '40

See also
Roads, Tarred

ROAD traffic
Channelization of motor traffic. G. Kelcey. diags Am Soc C E Proc 65:1649-73 D '39; Discussion. diag 66:557-62, 773-6, 1003-14, 1109-16, 1519-20 Mr-Je, O '40
Delays and gas costs; abstract. A. J. Bone. Eng N 123:836 D 21 '39
For better roads; studies of present highways. T. H. MacDonald. il Sci Am 162:344-6 Je '40
Interregional highways indicated by statewide highway planning surveys. H. S. Fairbank. il maps Roads & Sts 83:37-44 Ja '40
Merritt parkway; how the recently completed automobile highway is functioning. C. G. Nichols. il Roads & Sts 83:66, 69-70 Mr '40
New techniques in traffic behavior studies. E. H. Holmes and S. E. Reymer. il diags Pub Roads 21:29-45 Ap '40
State of improvement of rural roads in relation to traffic and dwellings served. J. T. Lynch and T. B. Dimmick. Pub Roads 21: 141-6, 158-9 O '40
Statistical issue. Roads & Sts 83:33-78 Jl '40
Traffic channelization methods. G. Kelcey. il diags Civil Eng 10:645-8 O '40
Trends in modern highway practice. M. D. Van Wagoner. il Civil Eng 10:291-4 My '40
Winter roads increase volume of traffic; effect on gasoline consumption. Can Eng R & B 78:29 O '40

See also
Automobiles and roads
Bridge traffic
Highway engineering
Highway transportation
Motor trucks and roads
Street traffic
Traffic regulations
Traffic surveys

ROAD workers
Causes and prevention of accidents in the construction industry, 1938; building, railroad, and highway construction. M. D. Kossoris and S. Kjaer. Monthly Labor R 49:658-73 S '39
Highway contractors sign CIO contracts. Eng N 124:427 Mr 28 '40
Pennsylvania Turnpike accident prevention. T. W. Osgood. Roads & Sts 83:76 Je '40
Safety by remote control; South Carolina highway department. T. D. Goodale and W. S. Smith. il map Nat Safety N 41:10-11+ Ap '40
Safety completes a dream; safety in construction of Pennsylvania Turnpike. T. W. Osgood. il map Safety Eng 80:15-16, 20 Ag '40
Safety education decreases accident rate of highway employees. Roads & Sts 82:36 D '39

ROAD workers—*Continued*
Safety program for highway employees. T. D. Goodale and W. S. Smith. Roads & Sts 82:44-6 N '39
Saving money for Texas taxpayers; safety campaign among Highway department employees. J. Montgomery. il Nat Safety N 40:18-19+ D '39
Wage rates on Pennsylvania Turnpike work. Roads & Sts 83:68 F '40

ROADMASTERS' and maintenance of way association
Annual meeting, 55th, Chicago, Sept. 10-12. Ry Age 109:404-9, 440-4+ S 21-28 '40

ROADS
Construction of roads and pavements. T. R. Agg. 5th ed 483p $4 McGraw-Hill '40
Highway structures; must comprise harmonized artistic works including bridges, viaducts and subways. R. Savary. il Can Eng 77:4-6+ N 21 '39
Magic motorways. N. B. Geddes. 297p $3.50 Random house, 20 E. 57th st, New York '40
Marginal land acquisition for highways. H. R. Briggs. plans Pub Roads 21:105-18 (bibliog p118) Ag '40
Papers presented at the Highway conference held at the University of Colorado on January 18th and 19th, 1940. 85p C. L. Eckel, Dept. of civil engineering, Univ. of Colorado, Boulder '40
Proceedings of the twenty-sixth annual road school held at Purdue university, January 22-26, 1940. B. H. Petty, comp. il diags map Purdue Univ Eng Extension Dept, Extension Ser 47:1-157 '40
Proceedings, thirty-sixth annual convention, American road builders' association, March 7-10, 1939, San Francisco, California. C. M. Upham, B. F. Miller and H. B. Roland, eds. 618p $10 Am. road builders' assn, National press bldg, Washington, D.C. '39
Roads, 1640-1940; as portrayed by Imperial oil ltd. in diorama at Canadian national exhibition. il Can Eng R & B 78:18+ Ag '40
Standard specifications for road and bridge construction. 465p Michigan state highway dept, Lansing '40
Symposium on standards for secondary roads. H. E. Surman and others. In Ill U Eng Exp Sta Circ 41:59-71 '40

See also
Automobiles and roads
Bicycle paths
Forest roads
Highway administration
Highway engineering
Highway research
Highway transportation
Motor trucks and roads
Mountain roads
Pan American highway
Parkways
Pavements
Road making machinery
Road materials
Road rollers
Road traffic
Road workers
Snow removal
Street railroads
Streets
Traffic engineering

Construction equipment
Developments in modern grading equipment and practices. M. V. Burton. Can Eng R & B 78:74, 78+ O '40
Embankment densities; increase in Wyoming with increased size of grading equipment. C. F. Seifried. il diags Roads & Sts 83:44-7 Ap '40
Recommended wire rope lines for road construction and maintenance equipment. il Roads & Sts 83:54-5 Mr '40
Variable construction methods on twelve mile project; relocation of about 12 miles of Pacific highway. V. J. Brown. il diags Roads & Sts 83:29-37 O '40

See also
Road making machinery

Construction management

See also
Roads, Concrete—Construction management

Contracts
Contract system in public construction. P. M. Andrews. Can Eng R & B 78:84 Mr '40
List of contracts as awarded by the Pennsylvania Turnpike commission. Roads & Sts 82:79-82+ O '39; 83:47-8 Je '40

See also
Force account system
Road contractors

Cost
Bridges and highway, Alabama; unit prices. Eng N 125:661 N 14 '40
Bureau of statistics road data; expenditures in Ontario for year ended March 31, 1939, and in Quebec for the year ended June 30, 1938. Can Eng R & B 78:62 Ja '40
Contract unit bid prices; list of projects showing how contractors bid in 1939-1940. Eng N 124:sup164-78 Je 20 '40
Fencing Pennsylvania Turnpike; unit prices. Eng N 124:854 Je 13 '40
Highway improvements, Kansas; unit prices. Eng N 124:765 My 30 '40
Highways and landscaping, Alabama; unit prices. Eng N 124:282 F 15 '40
Highways, Chatham county, Georgia; unit prices. Eng N 124:942 Je 27 '40
Highways, Florida; unit prices. Eng N 123:733 N 30 '39
Highways, Nansemond county, Virginia; unit prices. Eng N 125:384 S 19 '40
Highways, Nevada; unit prices. Eng N 124:610 Ap 25 '40
Highways, New Hampshire; unit prices. Eng N 124:50 Ja 4 '40
Highways, New Mexico; unit prices. Eng N 125:502 O 10 '40
Highways, North Carolina; unit prices. Eng N 123:720 N 23 '39
Highways, Saskatchewan, Canada; unit prices. Eng N 125:258 Ag 22 '40
Highways, South Dakota; unit prices. Eng N 125:638 N 7 '40
Highways, Texas; unit prices. Eng N 125:316 S 5 '40
Highways, Wyoming; unit prices. Eng N 124:672 My 9 '40
How to determine economic project size; by statistical analysis lowest average unit costs are determined. J. M. Doyle. Roads & Sts 83:66+ O '40
Planning the Pennsylvania Turnpike. S. W. Marshall. il Civil Eng 10:337-9 Je '40
Road plans and expenditures, 1939-1940. il Eng N 124:105-18 Ja 18 '40
Road surfacing, South Dakota; unit prices. Eng N 124:812 Je 6 '40
Roadbuilding costs, 1922-1939. Eng N 124:906 Je 20 '40
Trends in highway grading costs. F. A. Nikirk. Roads & Sts 83:80 Ap '40

Cost of maintenance

See Roads—Maintenance and repair

Crossings

See Grade crossings; Roads—Grade separation; Roads—Intersections

Curves
Device for measuring degree of curvature. J. S. Burch and W. Thomas. il Roads & Sts 83:60+ O '40
Pavement design. C. N. Conner. Can Eng R & B 78:73-4 Ap '40
Safe sharp curve. E. L. Stewart. diag Eng N 125:175 Ag 1 '40
Vertical curves. H. E. Brown. Eng N 123:393 S 28 '39; Discussion. 124:430, 702; 125:8-9 Mr 28, My 23, Jl 4 '40

Damage from floods, etc.
Flood data for design. il map Eng N 125:359 S 12 '40

Drainage
Fundamentals of road stabilization. W. R. Woolley. Can Eng R & B 78:50, 54+ S '40
Importance of subgrade drainage in road construction. G. H. Beddoe. il diag Can Eng R & B 78:11-14+ Jl '40

ROADS—Drainage—*Continued*
Method of installing 15-ft. multiplate culvert; U.S. route 10 in Montana. S. C. Bonesteele. il Roads & Sts 83:84, 92 Je '40
Over 210 miles of clay pipe for special drains on Pennsylvania Turnpike. il Brick & Clay Rec 97:32-3 S '40
Soil erosion on slopes; correction and prevention on Massachusetts state highway system. R. D. Murphy. il Roads & Sts 83:60, 63-4 F '40
Treatments prevent slides and slipouts in California. O. J. Porter. il diags Roads & Sts 83:57-9+ Ap '40

Economic aspects

Agriculture's vital link, the township road. M. R. Parrish. Can Eng R & B 78:62 Mr '40
Canada's $300,000,000 industry needs more and better roads. D. L. Dolan. il Can Eng R & B 78:16-18+ Ap '40
Cost of operating rural-mail-carrier motor vehicles on pavement, gravel, and earth. R. A. Moyer and R. Winfrey. il Iowa Eng Exp Sta Bul 143:1-56 '39; Abstract. Eng N 125:224-5 Ag 15 '40; Summary. Pub Roads 20:217 Ja '40; Same. Pub Works 71:46 Mr '40
Economic aspects of interregional highways. H. F. Cabell. Roads & Sts 83:61-2 Ja '40
Economics of public works in wartime. A. F. W. Pumptre. il Can Eng R & B 78:13-15+ Ja '40
Farmer and the highways. F. Johnson. Am Pet Inst Proc 20(AT):34-7 '39
Good roads reduce logging costs. C. M. Upham. Pulp & Pa of Can 40:754 D '39
Planning the secondary road system. F. N. Barker. il In Ill U Eng Exp Sta Circ 41: 38-58 '40
State of improvement of rural roads in relation to traffic and dwellings served. J. T. Lynch and T. B. Dimmick. Pub Roads 21: 141-6, 158-9 O '40
Winter roads increase volume of traffic; effect on gasoline consumption. Can Eng R & B 78:29 O '40

Federal aid

Conference committee completes work on highway bill; carries amendment relative to national defense roads. Eng N 125:261-2 Ag 29 '40
Federal grade-crossing program shows quickened pace. il Ry Age 108:433-7 Mr 9 '40
Highway construction, 1936-1939. Survey of Cur Business 1940 Sup p19-20 [supplemented in monthly numbers]
Highway funds for 1942-43 slashed by 25 per cent. Eng N 124:771 Je 6 '40
National road building through the cooperation of the states and the federal government. T. H. MacDonald. Roads & Sts 82: 50, 52, 54+ D '39
1940 road allotments announced by PRA. Eng N 124:1+ Ja 4 '40
$156,000,000 federal aid apportioned; tabulation by states. Roads & Sts 83:44 Ja '40
Provisions of new Hayden-Cartwright bill. Concrete 48:35 O '40
Regular federal-aid funds authorized for 1942 and 1943. Pub Roads 21:159 O '40
Senate follows House on loans for road rights-of-way; permits RFC to aid states. Eng N 124:683 My 16 '40
Set $156,000,000 for highway aid. Automotive Ind 82:81 Ja 15 '40
Status of federal-aid highway projects. Published in monthly numbers of Public roads

Finance

American motorist and the gasoline tax. R. F. Britton. Am Pet Inst Proc 20(AT):38-41 '39
Chart on diversion of gasoline taxes and registration fees, 1934-1938, and table on distribution of gasoline dollar, 1936, by states. Roads & Sts 83:39-40 Jl '40
Constitutional safeguards against diversion. M. D. Van Wagoner. Am Pet Inst Proc 20(AT):42-4 '39
Disposition of receipts from state imposts on highway users, 1938. Roads & Sts 83:39 Jl '40
Eastman report shows motor taxes diverted. R. Eigen. il Automotive Ind 82:401-2, 426-8 My 1 '40
Financing highways in Colorado. F. L. Carmichael and J. D. McBride. 20p School of commerce, accounts and finance, Univ. of Denver, Denver '40
$509,000,000 gift to New England road users; study of highway costs in the three states. C. B. Breed. Ry Age 108:255 F 3 '40
Gasoline tax, its use and abuse. F. G. Crawford. Am Pet Inst Proc 20(AT):19-22 '39
Highway bonds and their effect upon taxes. N. S. Taber. Am Pet Inst Proc 20(AT):23-6 '39
Highway costs and motor vehicle payments in Massachusetts, Connecticut, Rhode Island. C. B. Breed. 216p pa gratis New York, New Haven and Hartford railroad, New Haven, Conn. '39
Highway users pay their own way says Eastman in subsidy report. Bus Transportation 19:242 My '40
Highways tolls and finance; abstract. T. H. MacDonald and W. Owens. Eng N 123:835-6 D 21 '39
Making headway; Kansas highway finance. Roads & Sts 83:84, 86 My '40
Municipal responsibility in road financing. T. J. Mahony. Can Eng R & B 78:20+; Discussion. J. N. Allen. 72 Mr '40
Plan for financing the Pan American highway. L. Montes de Oca. Roads & Sts 83:45-6 F '40; Same. Can Eng R & B 78:77-8 Mr '40
Problems of the highway user in the United States. F. C. Horner. Inst Mech Eng J & Proc 142:Proc 113-25 D '39
Road cost study for Vermont. C. B. Breed. Ry Age 108:788-9 My 4 '40
Roadbuilding in money and miles; financial and other statistical data, 1939-1940. Eng N 124:102-4 Ja 18 '40
State highway construction; mileage completed and expenditures in 1939 and probable mileage and expenditures in 1940. Roads & Sts 83:98+ Ja '40
State highway expenditure for calendar year 1938, by states. Roads & Sts 83:38 Jl '40
Statistical issue. Roads & Sts 83:33-78 Jl '40
Theory of highway costs and their allocation. E. D. Allen. J Land & Pub Util Econ 15: 269-76, 404-15 Ag-N '39

See also
Roads—Federal aid
Roads—Tolls

Foundations

Carrying a highway over a peat bog. diag Concrete 48:8 Jl '40
Chemical treatment of chert-gravels for use in base-course construction. E. A. Willis and P. C. Smith. il Pub Roads 21:65-8+ Je '40
Details of soil stabilization with emulsified asphalt. J. M. Loth. il Pub Works 71:14-15+ O '40
North Dakota uses stabilized gravel base under bituminous mat; with cost data. Z. E. Sevison. il diags Roads & Sts 83:36-9 S '40
Piling support on unstable foundation; pavement design for locations where subgrade is underlain with peat bogs and other swampy material. Roads & Sts 83:56 F '40; Same. Can Eng R & B 78:94-5 F '40
Plant-mix soil-cement base course over blow sand; Texas tries clay blanket laid over subgrade and shoulders; with cost data. V. J. Brown. il diags map Roads & Sts 83:37-42 My '40
Review of road tar uses in 1939. G. E. Martin. il Roads & Sts 83:64 Ja '40
Soil stabilization with tar. R. Witt. il Pub Works 71:14+ F '40
Stabilized soil mixtures; results of tests on circular tracks by Public roads administration. E. A. Willis. il Roads & Sts 83:37-44 F '40

ROADS—Foundations—*Continued*
Stresses under a loaded circular area. L. A. Palmer. diags Pub Roads 20:231-7 F '40
Studies of water-retentive chemicals as admixtures with nonplastic road-building materials. E. A. Willis and C. A. Carpenter. il Pub Roads 20:173-87 N '39; Abstract. Pub Works 70:23-4 D '39

See also
Roads—Subgrades

Concrete

Machine-refined brick paving on monolithic concrete base. G. J. Thormyer. il Eng N 124:12-14 Ja 4 '40; Abstract. Brick & Clay Rec 96:17-18 Ja '40

Frost damage

Frost action in highway bases and subgrades. H. F. Winn and P. C. Rutledge. il diags Purdue Univ Eng Exp Sta, Research Ser 73:1-100 bibliog(p89) '40 (pa 50c)
Frost boils and heaves. Can Eng R & B 78: 38+ F '40
Survey of the frost-heaving problem. J. O. Osterberg. bibliog il diags Civil Eng 10:100-2 F '40

Grade separation

Bridging the Pennsylvania Turnpike. R. F. Graef. il Eng N 125:284-7 Ag 29 '40
Design of Stoney Creek traffic circle. F. S. Hutton. il Can Eng R & B 78:18-19+ Jl '40
Precast concrete slabs face bridge abutments; grade separation bridges on Connecticut's Merritt parkway. L. G. Sumner. il diags Eng N 124:37-9 Ja 4 '40
Safety at intersections. V. S. Murray. il Can Eng R & B 78:24-5+ Ja '40
Toronto's western approach. V. S. Murray. il map Can Eng R & B 78:14-17+ My '40

Grading

Dangerous curves behind; North Carolina rebuilds an obsolete section of important state highway. J. S. Burch. il Roads & Sts 83: 41-4 Mr '40
Developments in modern grading equipment and practices. M. V. Burton. Can Eng R & B 78:74, 78+ O '40
Embankment densities; increase in Wyoming with increased size of grading equipment. C. F. Seifried. il diags Roads & Sts 83: 44-7 Ap '40
Light weight soils used in heavy Idaho fill. J. A. West. il diags map Roads & Sts 83: 48+ O '40
Ohio's first cloverleaf; grading operations on project in Cuyahoga county. T. J. Kauer. il map Roads & Sts 83:35-9 Ap '40
Trends in highway grading costs. F. A. Nikirk. Roads & Sts 83:80 Ap '40

History

Roads through the ages. C. M. Baskin. il Can Eng R & B 78:24-7+ Ap '40

Ice control

Beating Old Man Winter at his own game. L. K. Zerbe. il Pub Works 71:27-8 Ja '40
Ice control practices. Pub Works 70:28-9 N '39
Organization, methods, equipment and materials for snow and ice control. il Pub Works 71:25-8, 30-1 O '40
Pavement scaling successfully checked; fish oil stearate and Vinsol resin as chloride resistors. O. L. Moore. il Eng N 125:471-4 O 10 '40
Pavement spalling causes and a suggested remedy; effect of freezing, thawing and ice control. A. W. Wickesberg. il Pub Works 71:26+ Je '40
Salt breaks ice bond. A. C. Toaspern. il Eng N 124:503 Ap 11 '40
Snow control dependent upon summer maintenance; Oregon building new maintenance headquarters. il plan Roads & Sts 83:33-5 S '40
Snow removal and ice prevention methods and equipment. F. C. Sieber. il Pub Works 70:12-13 D '39
Winter maintenance and ice control. J. A. Racicot. Can Eng 77:8, 18-19 D 19 '39
Winter problems on divided highways; Queen Elizabeth Way. T. A. McNeill. il Can Eng R & B 78:36+ O '40

Intersections

Channelization of motor traffic. G. Kelcey. diags Am Soc C E Proc 65:1649-73 D '39; Discussion. diag 66:557-62, 773-6, 1003-14, 1109-16, 1519-20 Mr-Je, O '40
Engineering approach to the design of highway intersections. J. Barnett. diags Pub Works 71:22-4, 26-7 Ag '40
Expansion of simple Y-type intersection. L. A. Weymouth. diags Roads & Sts 83:48+ Ap '40
Highway design trends in the western states; with special reference to Colorado. C. D. Vail. diags Civil Eng 10:567-70 S '40
Ohio's first cloverleaf; grading operations on project in Cuyahoga county. T. J. Kauer. il map Roads & Sts 83:35-9 Ap '40
Paving areas at intersections. V. M. Wann Eng N 123:711 N 23 '39

See also
Roads—Grade separation

Lighting

Adequate lighting is key to reduced traffic fatalities; abstract. G. C. Buchanan. Can Eng R & B 78:67 Jl '40
Base safety lighting on accurate accident data; Southern California Edison procedure. A. L. Pryor. il Elec W 114:999+ O 5 '40
Blackouts on highways. C. E. Mealey. i. Safety Eng 78:27-8 D '39
Design for highway lighting. E. F. Anderson. Elec West 84:115-17 Je '40
Forgotten load; street and highway lighting. il Elec W 114:207-9 Jl 27 '40
Greater safety through lighting. C. H. Rex. il Can Eng R & B 78:22-3, 82-7+ Ap '40
How adequate highway lighting reduces traffic accidents. Pub Works 71:36 Mr '40
Light for accident reduction. M. J. Bankhead. diags Illum Eng 35:514-22 Je '40
Light-reflecting characteristics of pavement surfaces. Can Eng R & B 78:54 Ap '40; Excerpts. Illum Eng 35:307-8 Ap '40
Lighting up the Pennsylvania Turnpike. il Business Week p37 O 26 '40
Lighting vital to new tempo. D. M. Diggs. Safety Eng 80:58 O '40
New York parkway gets sodium lights. il Elec W 114:95 Jl 13 '40; Gen Elec R 43: 303 Jl '40
Oh say can you see? New Jersey highway safety lighting; abstract. E. R. Sherbaum. Illum Eng 35:574 Jl '40
Proof of the pudding; safety highway lighting in the state of Washington. P. L. Marble. Elec West 84:117-19 Je '40
Reflecting curbs assist the motorist to read the road he travels. W. Van Breemen. il diags Roads & Sts 83:48-50, 52, 54 My '40
Reflection from pavements; abstract. G. S. Paxson and J. D. Everson. Eng N 123:834-5 D 21 '39
Ribbons of light; New Jersey curbs designed to reflect like a mirror, especially in the rain. il diags Eng N 124:712-15 My 23 '40
Safety-light; mercury vapor luminaire for marking the entrance points of divided highways. F. M. Carter. il diags Elec West 83:45 D '39
Sodium lights the New York City Belt parkway; world's largest sodium-lighted highway installation. N. J. Kelly. il map Gen Elec R 43:438-41 N '40
Traffic safety lighting; report of the subcommittee, Illuminating engineering society. il diags Illum Eng Soc Trans 34:1025-70; Discussion. 1071-2 N '39

Location

Dangerous curves behind; North Carolina rebuilds an obsolete section of important state highway. J. S. Burch. il Roads & Sts 83:41-4 Mr '40
Interregional highways; legal and right-of-way problems. L. E. Boykin. il Roads & Sts 83:57-60 Ja '40

ROADS—Location—*Continued*

New York builds mountain highway to bypass old Storm King road. il diag map Eng N 125:415-17 S 26 '40

Problems in determining the location of a superhighway. H. W. Lochner. map In Ill U Eng Exp Sta Circ 41:116-20 '40

Variable construction methods on twelve mile project; relocation of about 12 miles of Pacific highway. V. J. Brown. il diags Roads & Sts 83:29-37 O '40

Maintenance and repair

Maintenance districts and facilities; Pennsylvania Turnpike commission. E. J. Kinney. il Roads & Sts 83:36 Je '40

Snow control dependent upon summer maintenance; Oregon building new maintenance headquarters. il plan Roads & Sts 83:33-5 S '40

Winter maintenance and ice control. J. A. Racicot. Can Eng 77:8, 18-19 D 19 '39

See also

Roads—Surface treatment
Roads, Bituminous—Maintenance and repair
Roads, Concrete—Maintenance and repair
Roads, Gravel—Maintenance and repair
Snow removal

Mileage

Statistical issue. **Roads** & Sts 83:33-78 Jl '40

Military use

Conference committee completes work on highway bill; carries amendment relative to national defense roads. Eng N 125:261-2 Ag 29 '40

County highways and military use; abstract. A. J. Yaw. Roads & Sts 83:43 O '40

Highways for army? War department's plans. map Business Week p29-30 Ja 20 '40

Highways for national defense. J. M. Carmody. il Manuf Rec 109:27+ Jl '40

Interregional highways; national defense requirements. V. J. Brown. il map Roads & Sts 83:49-53 Ja '40

Paving brick best for defense highways, reinforced brick masonry suitable for bridges. Brick & Clay Rec 97:13-14 S '40

Roads for defense. R. Harper. Roads & Sts 83:72+ S '40

Roads for national defense. il maps Eng N 124:87-100 Ja 18 '40

Role of highways in national defense. C. H. McNutt. In Ill U Eng Exp Sta Circ 41:85-7 '40

State road officials discuss military highway problems. Eng N 125:385+ S 26 '40

Wheels for defense. R. F. Black. Harvard Business R 19 no 1:14-20 [S] '40

Where we stand on roads for defense. Eng N 125:571-2 O 24 '40

Protection

Iowa road carved through loess bluffs. il diag Eng N 125:277-9 Ag 29 '40

Preventing washouts. il Roads & Sts 83:60 Ag '40

Road protection; bags of green concrete laid as rip-rap. il Sci Am 163:136 S '40

Soil erosion on slopes; correction and prevention on Massachusetts state highway system. R. D. Murphy. il Roads & Sts 83:60, 63-4 F '40

Special barrier for preventing rock falls; state route 906 between Monessen and Webster, Pa. Roads & Sts 82:39 N '39

Terracing of deep cuts; rerouting of highway no. 127, Iowa. il Can Eng R & B 78: 22+ S '40

Resurfacing

See also

Roads—Surface treatment

Safety devices and measures

Canadian highway control and safety; abstract. A. D. Campbell. Can Eng R & B 78: 78-9 F '40

Design features, Pennsylvania Turnpike. C. M. Noble. il layout Civil Eng 10:437-40 Jl '40

English aids for traffic during blackout periods. Pub Works 71:56-7 Ap '40

Glass makes highways safer; Traffiscope. il diag Glass Ind 21:323 Jl '40

Highway design and construction as a factor in accidents. S. S. Williams. Can Eng R & B 78:81-3 F '40; Same cond. Pub Works 71:40-1 F '40

Highway design trends in the western states; with special reference to Colorado. C. D. Vail. diags Civil Eng 10:567-70 S '40

Orderly traffic, the automotive safety objective; Automotive safety foundation booklet. East Underw 41:34 O 25 '40

Over the hilltop with safety; traffiscope designed to straddle road at top of a rise and to give view of what is beyond the crest. il diag Comp Air M 45:6090 F '40

See also

Grade crossings
Roads—Grade separation
Roads—Ice control
Roads—Lighting
Traffic lines
Traffic regulations

Bibliography

Highway safety bibliography. 33p Wisconsin. Highway commission, Madison '39

Shoulders

Rejuvenating cement concrete highways in Vermont; with cost data. A. J. Runnals. il Roads & Sts 82:34-5 N '39

Review of road tar uses in 1939. G. E. Martin. il Roads & Sts 83:64+ Ja '40

Road-mix surfacing on shoulders. E. Q. Sullivan. Roads & Sts 83:72 Ap '40

Slipperiness

Acid treatment of concrete pavements; abstract. Am Concrete Inst J 11:696 Je '40

Data on skid resistance; abstract. J. Beakey, K. M. Kline and W. J. Brown. Eng N 123: 835 D 21 '39

Review of road tar uses in 1939; skid resistance. G. E. Martin. il Roads & Sts 83:63-4 Ja '40

Skid-resistant qualities of roadway surfaces. T. E. Stanton. Can Eng R & B 78:101, 104 O '40

See also

Roads—Ice control

Stabilization

See Roads—Subgrades; Roads, Earth; Roads, Gravel—Stabilization

Statistics

Highway construction, 1936-1939. Survey of Cur Business 1940 Sup p19-20 [supplemented in monthly numbers]

Highways of the world. B. P. Root. Can Eng R & B 78:65-6, 69-70+ Mr '40

Road plans and expenditures, 1939-1940. il Eng N 124:105-18 Ja 18 '40

Roadbuilding in money and miles; financial and other statistical data, 1939-1940. Eng N 124:102-4 Ja 18 '40

Statistical issue. Roads & Sts 83:33-78 Jl '40

Subgrades

Accelerated settlement of embankments by blasting. A. W. Parsons. il diag Pub Roads 20:107-202 D '39

Axioms in roadway soil mechanics. H. C. Porter. Am Soc C E Proc 66:193-206 F '40; Discussion. V. J. Brown. 66:1339-40 S '40

Design features of low-cost roads. C. A. Hogentogler. Can Eng R & B 78:87-90 F '40

Developments in engineered asphalt design indicate future road economies. B. E. Gray. il Roads & Sts 83:75+ Ja '40

Embankment control in powdery magnesia soil; controlled compaction, South Dakota; with cost data. R. K. Morrell. il diags Roads & Sts 83:48+ S '40

Essential features of triaxial shear tests; use of stabilometer and other apparatus. C. A. Hogentogler and E. S. Barber. il diags Am Soc T M Proc 39:1028-45 bibliog(36 titles, p1044-5) '39; Same. Pub Roads 20:133-44, 153-4 S '39

ROADS—Subgrades—*Continued*
Frost action in highway bases and subgrades. H. F. Winn and P. C. Rutledge. il diags Purdue Univ Eng Exp Sta, Research Ser 73:1-100 bibliog(p89) '40 (pa 50c)
Fundamentals of road stabilization. W. R. Woolley. Can Eng R & B 78:50, 54+ S '40
Highway subgrade soil surveys. W. F. Hughes. Roads & Sts 83:50 Ap '40
Importance of subgrade drainage in road construction. G. H. Beddoe. il diag Can Eng R & B 78:11-14+ Jl '40
Light weight soils used in heavy Idaho fill. J. A. West. il diags map Roads & Sts 83: 48+ O '40
Ontario department hastens construction by use of explosives. H. Foster. il Can. Eng R & B 78:22 Jl '40
Plant-mix soil-cement base course over blow sand; Texas tries clay blanket laid over subgrade and shoulders; with cost data. V. J. Brown. il diags map Roads & Sts 83:37-42 My '40
Soil mechanics in foundation engineering. R. L. James. diags Inst Pet J 26:372-4 Jl '40; Same. Engineer 170:127 Ag 23 '40
Soil number developed to aid engineering judgement. K. Boyd. il Roads & Sts 83:38-43 O '40
Stresses under a loaded circular area. L. A. Palmer. diags Pub Roads 20:231-7 F '40
Subgrade behavior. J. W. Poulter. il In Ill U Eng Exp Sta Circ 41:107-12 '40
Thin concrete pavements on good subgrades; experiments in Sweden. Pub Works 70:26 D '39
Treatments prevent slides and slipouts in California. O. J. Porter. il diags Roads & Sts 83:57-9+ Ap '40

Superhighways

Canada builds a superhighway; Queen Elizabeth Way. il Explosives Eng 18:264-6 S '40
Canada's first super-express highway is model of safety; Queen Elizabeth Way. il map Concrete 48:3-4 Ag '40
Design features of the Pennsylvania Turnpike. S. W. Marshall. Pub Works 71:39 F '40
Design features, Pennsylvania Turnpike. C. M. Noble. il layout Civil Eng 10:437-40 Jl '40
Dream highway; Pennsylvania's Turnpike. C. M. Upham. il Manuf Rec 109:39+ O '40
More express roads planned by Ontario highways department. T. B. McQuesten. il Can Eng R & B 78:16-17+ S '40
Nothing shall be permitted to stop work; a review of activities of the Pennsylvania Turnpike commission. S. W. Marshall and others. il diags plan Roads & Sts 83:33-82 Je '40
Novel service stations designed for Pennsylvania's super highway. il maps plan Nat Pet N 32:25-6, 28, 30-1 My 29 '40
Paving the Pennsylvania Turnpike. il diag map Eng N 125:25-9 Jl 4 '40
Pennsylvania Turnpike; longest toll superhighway in the United States. H. H. Allen. il diags map Civil Eng 10:79-82 F '40
Pennsylvania's dream highway. Min & Met 21:500 N '40
Pennsylvania's dream highway. J. C. Cosgrove. il map Explosives Eng 18:41-50 F '40
Pennsylvania's super-highway. il map Business Week p22 N 25 '39
Planning the Pennsylvania Turnpike. S. W. Marshall. il Civil Eng 10:337-9 Je '40
Problems in determining the location of a superhighway. H. W. Lochner. map In Ill U Eng Exp Sta Circ 41:116-20 '40
Railroadbed highway; super-highway across Pennsylvania. F. E. Wood. il map Sci Am 162:270-1 My '40
Superhighways and subways for Chicago; with cost data. maps Eng N 123:696-7 N 23 '39
Superhighways, their meaning to the petroleum industry; Esso marketers, hold exclusive right to operate filling stations along Pennsylvania's new toll road. W. T. Ziegenhain. il Oil & Gas J 39:22-3 S 12 '40
Trouble on Turnpike; motor haulers protesting tolls on business traffic; four-lane Pennsylvania Turnpike. il map Business Week p16-17 O 12 '40
Tunneling on the Pennsylvania Turnpike. il diags Eng N 124:778-83 Je 6 '40

Surface treatment

Crushing resistance of surface-treatment aggregates. T. E. Shelburne. il diags Purdue Univ Eng Exp Sta, Research Ser 76:1-67 bibliog(p54-5) '40 (pa 35c)
Degradation of aggregates under road rollers. T. E. Shelburne. bibliog il Am Soc T M Proc 39:950-68; Discussion. 969-70 '39
Eliminating dust reduces maintenance costs; King co. Wash. il Pub Works 70:23 N '39
Evaluation of fillers for tar and other bituminous surfacings. J. G. Mitchell and A. R. Lee. bibliog Soc Chem Ind J 58:299-306 O '39
Pebble top-soil base for surface treatment with 1½-inch amiesite wearing surfaces. C. E. Layton. il Pub Works 71:12 Je '40
Plant-mix soil-cement base course over blow sand; Texas tries clay blanket laid over subgrade and shoulders; with cost data. V. J. Brown. Roads & Sts 83:42 My '40
Rejuvenating cement concrete highways in Vermont; with cost data. A. J. Runnals. il Roads & Sts 82:35-6 N '39
Road-mix surfacing on shoulders. E. Q. Sullivan. Road & Sts 83:72 Ap '40
Road surfacing program in King co., Wash. H. H. Sisler. Pub Works 71:18 S '40
Sealing oil-mat surfaces. D. L. Cheney. il Eng N 124:857 Je 20 '40

See also
Roads, Tarred

Surfaces

Light-reflecting characteristics of pavement surfaces. Can Eng R & B 78:54 Ap '40; Excerpts. Illum Eng 35:307-8 Ap '40
Loads and roads for war and peace. L. S. Tuttle. il Eng N 124:94-7 Ja 18 '40
Pavement roughness recorder; Viagraph. D. H. Greeley. il Sci Am 162:159 Mr '40
Polarized light for motor vehicles. H. T. Gibbs. bibliog Franklin Inst J 228:719-31 D '39
Recording road surface textures. Can Eng R & B 78:94 F '40
Reflection from pavements; abstract. G. S. Paxson and J. D. Everson. Eng N 123:834-5 D 21 '39
Skid-resistant qualities of roadway surfaces. T. E. Stanton. Can Eng R & B 78:101, 104 O '40
State of improvement of rural roads in relation to traffic and dwellings served. J. T. Lynch and T. B. Dimmick. Pub Roads 21: 141-6, 158-9 O '40
Surface regularity in bituminous surfacings. R. P. Marx. Pub Works 71:43-4 S '40

See also
Pavements
Roads—Surface treatment
Streets

Toll stations

Description of toll booths; Pennsylvania Turnpike. G. R. Tyler. il plan Roads & Sts 83:54+ Je '40
New Pennsylvania Turnpike; enameled sheet steel toll ticket stations. T. C. Campbell. il Iron Age 146:70-1 S 5 '40
Porcelain enamel finish on Turnpike stations. Steel 107:33 S 2 '40

Tolls

Highways tolls and finance; abstract. T. H. MacDonald and W. Owens. Eng N 123:835-6 D 21 '39
Merritt parkway tolls $487,000 in first year. Eng N 124:935 Je 27 '40
New York governor vetoes parkway toll bill. Eng N 124:612 My 2 '40
Overseas road to Key West paying its way. il Eng N 125:62 Jl 11 '40
Pennsylvania's dream highway. J. C. Cosgrove. Explosives Eng 18:44-5 F '40
Problems of the highway user in the United States. F. C. Horner. Inst Mech Eng J & Proc 142:Proc 117, 120-2 D '39
Toll parkway proposed for Los Angeles. il plan map Eng N 124:332-3 F 29 '40

ROADS—Tolls—*Continued*
Trouble on Turnpike; motor haulers protesting tolls on business traffic; four-lane Pennsylvania Turnpike. il map Business Week p16-17 O 12 '40

Traffic lines

See Traffic lines

Weed removal

Eradication of noxious weeds. J. D. McLeod. il Can Eng R & B 78:21, 92-6 Mr '40

Widening

Concrete highway widening utilizes new equipment and new methods. il Pub Works 71:17-18 Je '40
Road widening with sand-asphalt plant mix. il Pub Works 71:21-2 Jl '40

Winter maintenance

See Roads—Ice control; Snow removal

Alabama

Efficient organization and good management feature Jefferson County highway work. il Pub Works 71:14-16 Jl '40

Alaska

Alaska highway; its importance to British Columbia. F. M. MacPherson. Can Eng 77: 11-12 D 19 '39
Explosives carve highways in our last frontier. A. Muncaster. il Explosives Eng 18:166-70 Je '40
Proposed Alaska highway. C. E. Scanlan. Can Eng R & B 78:84-7 F '40

Arizona

Bituminous work in Arizona. A. J. Gilbert. il Roads & Sts 83:66, 69-70 S '40

Arkansas

Experimental surface-course mixtures of fine aggregate and cutback asphalt. L. W. Hall. Civil Eng 10:15-16 Ja '40

British Columbia

Alaska highway; its importance to British Columbia. F. M. MacPherson. Can Eng 77: 11-12 D 19 '39

California

Treatments prevent slides and slipouts in California. O. J. Porter. il diags Roads & Sts 83:57-9+ Ap '40

Canada

Blasting through the Trans-Canada highway. P. A. Novikoff. il map Explosives Eng 18: 330-4 N '40
Canada builds a superhighway; Queen Elizabeth Way. il Explosives Eng 18:264-6 S '40
Canada's first super-express highway is model of safety; Queen Elizabeth Way. il map Concrete 48:3-4 Ag '40
Canada's $300,000,000 industry needs more and better roads. D. L. Dolan. il Can Eng R & B 78:16-18+ Ap '40
Canadian highway control and safety; abstract. A. D. Campbell. Can Eng R & B 78:78-9 F '40
Directory, provincial highway officials; organization charts of nine provincial highway departments in Canada. Can Eng R & B 78:32+ Je '40
Evergreen route. C. H. Grant. il map Can Eng R & B 78:12-13+ My '40
Express road systems. R. M. Smith. il Can Eng R & B 78:19-21+ Ag '40
Road mileages and types in Canada. Can Eng R & B 78:24 Je '40
Trans-Canada highway. W. M. Dickson. il map Can Eng R & B 78:12-13+ Je '40
Trans-Canada highway. W. B. Hutcheson. il map Can Eng R & B 78:69-70 Ja '40

Colorado

Colorado completes America's highest highway, up Mount Evans; with cost data. il Roads & Sts 82:37-9 N '39
Highway design trends in the western states. C. D. Vail. diags Civil Eng 10:567-70 S '40
New Monarch Pass highway in Colorado. D. W. Ormsbee and J. S. Marshall. il map Civil Eng 10:693-5 N '40

Connecticut

Dual highways improves access to New London. il Eng N 125:250-1 Ag 22 '40
Merritt parkway; how the recently completed automobile highway is functioning. C. G. Nichols. il Roads & Sts 83:66, 69-70 Mr '40
Study of motor-vehicle drivers and speed in Connecticut. H. R. DeSilva. Pub Roads 21: 89-101 Jl '40

Ethiopia

La route d'Assab à Addis-Abeba. il diags map Génie Civil 116:135-7 F 24 '40

Florida

New 69-mile Everglades highway. il diag map Eng N 125:270-2 Ag 29 '40
Overseas road to Key West paying its way. il Eng N 125:62 Jl 11 '40

France

Auto-route de l'ouest. il diag plan Engineer 169:276-7, 280 Mr 22 '40

Germany

Les autoroutes en Allemagne. P. Kandaouroff. il diags plans maps Génie Civil 116: 193-8 Mr 23 '40
Deutschlands radwegebau. H. J. Schacht. il diags V D I 83:1175-8 N 4 '39
L'état actuel du réseau allemand de routes et d'autoroutes. il Génie Civil 115:440 D 16 '39
Technical specification for earthworks for German motor roads. C. Schnell and K. H. Hartmann. Pub Works 71:18 Ja '40

Great Britain

Story of road rolling in Great Britain. T. Salkield. il Roads & Sts 83:49-51 Mr '40

Hawaiian Islands

Pineapple highway, Lanai island. J. Terry. il Roads & Sts 83:78+ Mr '40

Idaho

Light weight soils used in heavy Idaho fill. J. A. West. il diags map Roads & Sts 83: 48+ O '40

Illinois

Highway development in Illinois based on statewide planning survey. H. M. Ross. W Soc E J 44:253-9 O '39
Planning the secondary road system. F. N. Barker. il In Ill U Eng Exp Sta Circ 41:38-58 '40
Prospects for 1940. C. P. Casey. In Ill U Eng Exp Sta Circ 41:7-12 '40
Safeguards to protect the public on highways. H. H. Harrison. W Soc E J 45: 15-18 F '40
Sample of data obtained in study of motor-vehicle passing practices in Illinois. F. N. Barker. il Pub Roads 20:228-30 F '40

Indiana

State highway routes through Indiana cities. Roads & Sts 83:60 My '40

Iowa

Ending rough, dusty gravel roads in Muscatine co. F. P. G. Halbfass. il Pub Works 70:13-15 N '39
Iowa road carved through loess bluffs. il diag Eng N 125:277-9 Ag 29 '40
Terracing of deep cuts; rerouting of highway no. 127. il Can Eng R & B 78:22+ S '40

Iraq

La route en construction de Halffa à Bagdad. R. Briggs. map Génie Civil 116:156-7 Mr 2 '40

Kansas

Low-cost roads in Kansas. R. B. Wills. il Civil Eng 10:520-2 Ag '40
Making headway; Kansas highway finance. Roads & Sts 83:84, 86 My '40

ROADS—*Continued*

Mexico

Communications and transportation. J. S. Mejorada. Ann Am Acad 208:79-83 Mr '40
Mexico and the control of roadside advertising; abstract. M. E. Bracho. Roads & Sts 83:48 Ja '40

Michigan

Road-mix versus plant-mix in bituminous road construction. J. G. Schaub. Can Eng R & B 78:58, 60 Mr '40; Same abr. il Pub Works 71:54-6 Ap '40

Middle Atlantic states

Road plans and expenditures, 1939-1940. il Eng N 124:107-8 Ja 18 '40

Middle western states

Road plans and expenditures, 1939-1940. il Eng N 124:110-11 Ja 18 '40

Minnesota

Minneapolis belt line highway development; WPA project. il Pub Works 71:20-1+ O '40

Mississippi

Gulf Coast road being rebuilt as a dual highway. il plan Eng N 125:351-2 S 12 '40

Montana

Montana's unique historical road markers. il Comp Air M 45:6102-3 Mr '40
Sealing oil-mat surfaces. D. L. Cheney. il Eng N 124:857 Je 20 '40

New England

$509,000,000 gift to New England road users; study of highway costs in the three states. C. B. Breed. Ry Age 108:255 F 3 '40
Road plans and expenditures, 1939-1940. il Eng N 124:105-6 Ja 18 '40

New Hampshire

From railway to highway; New Hampshire is using abandoned railway grade. C. M. Brooks. il Roads & Sts 83:60, 62 Mr '40

New Jersey

Reflecting curbs assist the motorist to read the road he travels. W. Van Breemen. il diags Roads & Sts 83:48-50, 52, 54 My '40
Ribbons of light; New Jersey curbs designed to reflect like a mirror, especially in the rain. il diags Eng N 124:712-15 My 23 '40

New York (state)

New York builds mountain highway to bypass old Storm King road. il diag map Eng N 125:415-17 S 26 '40
New York governor vetoes parkway toll bill. Eng N 124:612 My 2 '40

Newfoundland

Roads in Newfoundland. Can Eng R & B 78:73 O '40

North Carolina

Dangerous curves behind; North Carolina rebuilds an obsolete section of important state highway. J. S. Burch. il Roads & Sts 83:41-4 Mr '40
Road widening with sand-asphalt plant mix. il Pub Works 71:21-2 Jl '40

Ohio

Embankment compaction control as practiced by Ohio. H. G. Sours and C. H. Shepard. il Roads & Sts 82:29-33 N '39
Ohio's first cloverleaf; grading operations on project in Cuyahoga county. T. J. Kauer. il map Roads & Sts 83:35-9 Ap '40
Report of the Ohio Highway advisory board. 95p Ohio. Highway advisory board, Columbus '39

Ontario

Agriculture's vital link, the township road. M. R. Parrish. Can Eng R & B 78:62 Mr '40
County and township roads in Ontario. J. A. P. Marshall. Can Eng R & B 78:61-2 Ja '40
Design of Stoney Creek traffic circle. F. S. Hutton. il Can Eng R & B 78:18-19+ Jl '40
Highway improvement in northern Ontario. W. G. Nixon. Can Eng R & B 78:74 Mr '40
Milestones of Ontario highway improvement. J. D. Millar. il Can Eng R & B 78:18-19, 103-5 Mr '40
More express roads planned by Ontario highways department. T. B. McQuesten. il Can Eng R & B 78:16-17+ S '40
Municipal responsibility in road financing. T. J. Mahony. Can Eng R & B 78:20+; Discussion. J. N. Allen. 72 Mr '40
Ontario good roads association convention, Toronto, Feb. 21-22. Can Eng R & B 78: 13-17+ Mr '40
Toronto's western approach. V. S. Murray. il map Can Eng R & B 78:14-17+ My '40
Winter maintenance of northern roads. W. B. Hutcheson. il Can Eng R & B 78:34-5+ O '40
Winter problems on divided highways; Queen Elizabeth Way. T. A. McNeill. il Can Eng R & B 78:36+ O '40
Zone marking standards as adopted for Ontario highways. diags Can Eng R & B 78:14+ Ag '40

Oregon

Design for highway lighting. E. F. Anderson. Elec West 84:115-17 Je '40
Oregon plans expansion joint study. C. B. McCullough. diags Eng N 125:168-9 Ag 1 '40
Snow control dependent upon summer maintenance; Oregon building new maintenance headquarters. il plan Roads & Sts 83:33-5 S '40

Pennsylvania

Bridging the Pennsylvania Turnpike. R. F. Graef. il Eng N 125:284-7 Ag 29 '40
Building roads at $200,000 a mile; two Pennsylvania projects. C. H. Vivian. il map Comp Air M 45:6275-9 N '40
Construction progress on the Pennsylvania Turnpike. J. K. Knoerle. il Civil Eng 10: 137-41 Mr '40
Design features of the Pennsylvania Turnpike. S. W. Marshall. Pub Works 71:39 F '40
Design features; Pennsylvania Turnpike. C. M. Noble. il layout Civil Eng 10:437-40 Jl '40
Dream highway; Pennsylvania Turnpike. C. M. Upham. il Manuf Rec 109:39+ O '40
Extension of the Pittsburgh-Harrisburg superhighway proposed to road builders. Nat Pet N 32:33 F 21 '40
Modern excavating methods employed in the construction of the Pennsylvania Turnpike. il map Can Eng 77:2-4+ D 12 '39
New Turnpike required 46,000 tons of steel. T. C. Campbell. il map Iron Age 146:70-1 S 5 '40
Nothing shall be permitted to stop work; a review of activities of the Pennsylvania Turnpike commission. S. W. Marshall and others. il diags plan Roads & Sts 83:33-82 Je '40
Novel service stations designed for Pennsylvania's super highway. il maps plan Nat Pet N 32:25-6, 28, 30-1 My 29 '40
Paving the Pennsylvania Turnpike. il diag map Eng N 125:25-9 Jl 4 '40
Pennsylvania Turnpike. B. Nordberg. il map Rock Prod 43:33-50 S '40
Pennsylvania Turnpike; longest toll superhighway in the United States. H. H. Allen. il diags map Civil Eng 10:79-82 F '40
Pennsylvania Turnpike tunnels. C. H. Vivian. il diags Comp Air M 44:6026-32 D '39
Pennsylvania's dream highway. Min & Met 21:500 N '40
Pennsylvania's dream highway. J. C. Cosgrove. il map Explosives Eng 18:41-50 F '40
Pennsylvania's new Turnpike in pictures. map Pub Works 71:20-2 Ja '40
Pennsylvania's super-highway. il map Business Week p22 N 25 '39
Planning the Pennsylvania Turnpike. S. W. Marshall. il Civil Eng 10:337-9 Je '40
Railroadbed highway. F. E. Wood. il map Sci Am 162:270-1 My '40

ROADS—Pennsylvania—*Continued*
Safety completes a dream; safety in construction of Pennsylvania Turnpike. T. W. Osgood. il map Safety Eng 80:15-16, 20 Ag '40
Service stations on the Pennsylvania Turnpike. il Eng N 125:580-1 O 31 '40
Speed in paving methods as exemplified by Pennsylvania Turnpike. S. W. Marshall. il diag Can Eng R & B 78:23-6+ S '40
Superhighways, their meaning to the petroleum industry; Esso marketers, hold exclusive right to operate filling stations along Pennsylvania's new toll road. W. T. Ziegenhain. il Oil & Gas J 39:22-3 S 12 '40
Trouble on Turnpike; motor haulers protesting tolls on business traffic; four-lane Pennsylvania Turnpike. il map Business Week p16-17 O 12 '40
Tunneling on the Turnpike. il diags Eng N 124:778-83 Je 6 '40
Ventilating Pennsylvania's super-highway tunnels and Standard oil company service buildings. il diag plans map Heat & Ven 37:9-13 O '40

Quebec

Quebec road needs outlined. A. Bergeron. Can Eng 77:11 D 26 '39
Quebec's three-year program. E. Gohier. il diags maps Can Eng R & B 78:18-21+ My '40
Winter maintenance and ice control. J. A. Racicot. Can Eng 77:8, 18-19 D 19 '39
Year of progress for the Quebec roads department. C. E. Lamarche and others. il Can Eng R & B 78:19-27+ O '40

South Dakota

Record road job in South Dakota. il Roads & Sts 82:34-6 D '39

Southern states

Road plans and expenditures, 1939-1940. il Eng N 124:108-10 Ja 18 '40
Southern highway developments. H. J. McDargh. il Manuf Rec 109:26-7+ F '40

Texas

Wind erosion control in Texas. J. F. Vearling. Pub Works 71:36+ Mr '40

Transjordan

La route en construction de Haïffa à Bagdad. R. Briggs. map Génie Civil 116:156-7 Mr 2 '40

United States

Annual report of Bureau of public roads of United States Department of agriculture. Comm & Fin Chr 149:3812 D 16 '39
Governmental relationships, a committee report. Pub Works 71:41-3 F '40
Highway program for the United States. T. H. MacDonald. Am Pet Inst Proc 20(AT): 16-18 '39
Highways for army? War department's plans. map Business Week p29-30 Ja 20 '40
Highways for national defense. J. M. Carmody. il Manuf Rec 109:27+ Jl '40
Highways of history; the pictorial story of the improvement of transportation in colonial America and the United States during the past four centuries. 75p U.S. Bur. of public roads, Washington; pa 25c Supt. of doc. '39
National road building through the cooperation of the states and the federal government. T. H. MacDonald. Roads & Sts 82: 50, 52, 54+ D '39
Next 35 years. D. Beecroft. S A E J 47: sup31-2 Jl '40
Problems of the highway user. F. C. Horner. Inst Mech Eng J & Proc 142:Proc 113-25 D '39
Progress in surveys for future highway planning. T. H. MacDonald. Roads & Sts 82: 33 D '39
Record of highway construction in 1939 has its favorable side. Concrete 48:11 F '40
Record year for transport. C. S. Hill. il Eng N 124:238-40 F 15 '40
Road plans and expenditures, 1939-1940. il Eng N 124:105-18 Ja 18 '40
Roadbuilding in money and miles; financial and other statistical data, 1939-1940. Eng N 124:102-4 Ja 18 '40
Roads and the public. R. E. Harper. Can Eng R & B 78:58+ My '40
Roads for national defense. il map Eng N 124:87-90 Ja 18 '40
State highway construction; mileage completed and expenditures in 1939 and probable mileage and expenditures in 1940. Roads & Sts 83:98+ Ja '40
State of improvement of rural roads in relation to traffic and dwellings served. J. T. Lynch and T. B. Dimmick. Pub Roads 21: 141-6, 158-9 O '40
What's ahead for highways and transportation? public transportation is still the greatest public need. E. F. Downs. Pub Util 26:396-405 S 26 '40
Where we stand on roads for defense. Eng N 125:571-2 O 24 '40

See also
Roads—Federal aid

Interregional highway plan

Interregional highways. P. G. Hoffman and others. il maps Roads & Sts 83:35-62 Ja '40
War and the interregional highway plan. H. S. Fairbank. il map Eng N 124:91-3 Ja 18 '40

Venezuela

Roads in Venezuela. Can Eng R & B 78:60 Mr '40

Vermont

Rejuvenating cement concrete highways in Vermont; with cost data. A. J. Runnals. il Roads & Sts 82:34-6 N '39
Road cost study for Vermont. C. B. Breed. Ry Age 108:788-9 My 4 '40

Washington (state)

Proof of the pudding; safety highway lighting in the state of Washington. P. L. Marble. Elec West 84:117-19 Je '40
Snow types encountered in highway snow removal? V. J. Brown. il Roads & Sts 83: 45-7 S '40
Variable construction methods on twelve mile project; relocation of about 12 miles of Pacific highway. V. J. Brown. il diags Roads & Sts 83:29-37 O '40

West Virginia

Selling the highways to the public; West Virginia state roads commission. P. D. Olejar. il Roads & Sts 83:70+ F '40

Western states

Road plans and expenditures, 1939-1940. il Eng N 124:111-18 Ja 18 '40

Wisconsin

Deepest Wisconsin road cut between Hazel Green and U.S. route 61. il Roads & Sts 82:58+ D '39

Wyoming

Embankment densities; increase in Wyoming with increased size of grading equipment. C. F. Seifried. il diags Roads & Sts 83: 44-7 Ap '40

ROADS, Asphalt

Asphalt surfacing in Quebec. L. Gareau. il Can Eng R & B 78:26-7+ O '40
Developments in engineered asphalt design indicate future road economies. B. E. Gray. il Roads & Sts 83:75, 78-9, 82-3 Ja '40
Embankment densities; increase in Wyoming with increased size of grading equipment. C. F. Seifried. il diags Roads & Sts 83: 44-7 Ap '40
Kotal, a product of industry's waste piles; treating stone aggregate for asphalt road mixes. il Ind & Eng Chem News ed 18:276 Mr 25 '40
Specifications adopted for emulsified asphalts. Can Eng R & B 78:94+ O '40

See also
Pavements, Asphalt

ROADS, Asphalt—*Continued*

Cost

Cost of asphalt plant mix, Los Angeles, Calif. M. Meyer. Roads & Sts 83:44 Mr '40

ROADS, Automobile

Auto-route de l'ouest. il diag plan Engineer 169:276-7, 280 Mr 22 '40

Les autoroutes en Allemagne. P. Kandaouroff. il diags plans maps Génie Civil 116:193-8 Mr 23 '40

Chicago builds a convertible roadway; elevating curbs on Lincoln Park express road. O. K. Jelinek. il diags Eng N 124:788-91 Je 6 '40

Divided highway design. il diags Eng N 123: 816-19; 124:318-21, 380-4 D 21 '39, F 29, Mr 14 '40

Express road systems. R. M. Smith. il Can Eng R & B 78:19-21+ Ag '40

Merritt parkway; how the recently completed automobile highway is functioning. C. G. Nichols. il Roads & Sts 83:66, 69-70 Mr '40

Toll parkway proposed for Los Angeles. il plan map Eng N 124:332-3 F 29 '40

Trafficway reclaims a waterfront; East River drive, New York. il diags plan Eng N 124:640-4 My 9 '40

See also

Roads, Elevated

ROADS, Bituminous

Bituminous work in Arizona. A. J. Gilbert. il Roads & Sts 83:66, 69-70 S '40

Blast furnace slag and bitumen in road surfacing. T. Temme. Pub Works 71:22-3 F '40

Combining relief labor and modern machinery to construct high type roads; Chenango county, N.Y. B. J. Scanlon. il Pub Works 71:11-13+ Mr '40

Constructing bituminous macadam on Putnam pike. il Roads & Sts 83:52-3 Mr '40

Degradation of aggregates under road rollers. T. E. Shelburne. bibliog il Am Soc T M Proc 39:950-68 '39; Abstract. Can Eng R & B 78:15+ Jl '40; Discussion. Am Soc T M Proc 39:969-70 '39

Details of soil stabilization with emulsified asphalt. J. M. Loth. il Pub Works 71:14-15+ O '40

Eliminating dust reduces maintenance costs; King co. Wash. il Pub Works 70:23 N '39

Embankment control in powdery magnesia soil; controlled compaction, South Dakota; with cost data. R. K. Morrell. il diags Roads & Sts 83:48+ S '40

Estimating binder in road emulsions. Can Eng R & B 78:102+ O '40

Evaluating the adhesive properties of asphalt. A. Holmes. il Am Soc T M Proc 39:1140-9; Discussion. 1150-2 '39

Evaluation of fillers for tar and other bituminous surfacings. J. C. Mitchell and A. R. Lee. bibliog Soc Chem Ind J 58: 299-306 O '39; Discussion. Chem & Ind 58: 1041-2 N 25 '39

Experimental surface-course mixtures of fine aggregate and cutback asphalt; Arkansas highway tests yield data on desirable proportions of solvent, asphalt, and filler. L. W. Hall. Civil Eng 10:15-16 Ja '40

Low-cost roads in Kansas. R. B. Wills. il Civil Eng 10:520-2 Ag '40

Mineral aggregates for asphalt highway surfaces. D. J. Steele. Can Eng 77:12-14+ D 26 '39

Montana national 1939 bituminous conference. il Roads & Sts 82:54+ N '39

New 69-mile Everglades highway. il diag map Eng N 125:270-2 Ag 29 '40

North Dakota uses stabilized gravel base under bituminous mat; with cost data. Z. E. Sevison. il diags Roads & Sts 83:36-9 S '40

Optimum bitumen content for bituminous aggregate road mixes. L. D. Graves. Can Eng R & B 78:94 O '40

Pavement design. C. N. Conner. Can Eng R & B 78:68, 70+ Ap '40

Pineapple highway, Lanai island. J. Terry. il Roads & Sts 83:78+ Mr '40

Road-mix versus plant-mix in bituminous road construction. J. G. Schaub. Can Eng R & B 78:58, 60 Mr '40; Same abr. il Pub Works 71:54-6 Ap '40

Road widening with sand-asphalt plant mix. il Pub Works 71:21-2 Jl '40

Salvaging highway investments. R. Witt. Can Eng R & B 78:64 Jl '40

79% of county roads are built by force account; results of survey. il Pub Works 71:9-11+ My '40

Soil number developed to aid engineering judgement. K. Boyd. il Roads & Sts 83:38-43 O '40

Studies of water-retentive chemicals as admixtures with nonplastic road-building materials. E. A. Willis and C. A. Carpenter. il Pub Roads 20:173-87 N '39; Abstract. Pub Works 70:23-4 D '39

Surface regularity in bituminous surfacings. R. P. Marx. Pub Works 71:43-4 S '40

Tests for bituminous binders. Can Eng R & B 78:93 F '40

Traveling mixing plants. H. H. Barber. Can Eng 77:8-10 D 26 '39

12.18c per sq. yard builds year 'round dustless roads; Macon county, Ill. A. N. Buck. il Pub Works 71:16-18 Ja '40

See also

Pavements, Asphalt Roads, Tarred

Pavements, Bituminous

Cost

Highways, Rhode Island; unit prices. Eng N 124:538 Ap 11 '40

Maintenance and repair

Economics and mechanics of road maintenance. C. M. Baskin. il Can Eng R & B 78: 20-3, 73-4, 77-8 Ja '40

Grading tolerances for premix materials for patching. Roads & Sts 83:47 S '40

Special maintenance tools required; improvements already made and those desirable. T. H. Dennis. Can Eng 77:5-8 D 12 '39

Rating

Standard ratings for bituminous surfaces on various type bases. Pub Works 71:38 Ja '40

ROADS, Bituminous concrete

Bituminous surfacing of county trunk highways. E. R. Fischer. Can Eng R & B 78: 24+ F '40

ROADS, Brick

Machine-refined brick paving on monolithic concrete base. G. J. Thormyer. il Eng N 124:12-14 Ja 4 '40; Abstract. Brick & Clay Rec 96:17-18 Ja '40

Paving brick best for defense highways, reinforced brick masonry suitable for bridges. Brick & Clay Rec 97:13-14 S '40

See also

Pavements, Brick

ROADS, Cement. See Roads, Earth—Cement hardening

ROADS, Concrete

Acid treatment of concrete pavements; abstract. Am Concrete Inst J 11:696 Je '40

Carrying a highway over a peat bog. diag Concrete 48:8 Jl '40

Concrete pavements as built in the province of Quebec. D. O. Robinson. il Can Eng R & B 78:22-3 O '40

Construction progress on the Pennsylvania Turnpike. J. K. Knoerle. il Civil Eng 10: 137-41 Mr '40

Designing concrete mixtures for pavements. W. F. Kellermann. il Pub Roads 21:121-6+ S '40

Developments regarding concrete pavements during 1939. W. F. Tempest. il Roads & Sts 83:86-7 Ja '40

Experiences building and curing cement concrete roads; Suffolk county, New York. H. Tuthill. il Pub Works 71:24+ S '40

Experiences in placing highway concrete by vibratory methods. F. V. Reagel. Pub Works 71:22 F '40; Same. Can Eng R & B 78:86 Mr '40: Same. Concrete 48:8 Mr '40

ROADS, Concrete—*Continued*
Experimental data in connection with chloride salts-resistant concrete pavement. C. C. Ahles. Explosives Eng 18:267-71 S '40
Experiments with continuous reinforcement in concrete pavements. E. C. Sutherland and S. W. Benham. bibliog il diags Pub Roads 20:205-14, 218-19 Ja '40
Gulf Coast road being rebuilt as a dual highway. il plan Eng N 125:351-2 S 12 '40
Make stone sand a new way; Pittsburgh limestone corp. B. Nordberg. il diags Rock Prod 43:35-8 Mr '40
New York builds mountain highway to bypass old Storm King road. il diag map Eng N 125:415-17 S 26 '40
Open cracks in road slabs; can reinforcement prevent them? Concrete 48:8 Ja '40
Pavement design. C. N. Conner. Can Eng R & B 78:68, 70+ Ap '40
Pavement scaling successfully checked; fish oil stearate and Vinsol resin as chloride resistors. O. L. Moore. il Eng N 125:471-4 O 10 '40
Pennsylvania Turnpike. B. Nordberg. il map Rock Prod 43:33-50 S '40
Permanent traffic lines for concrete pavement; use of black magnetic iron oxide for coloring. B. G. Kesting. il Pub Works 71: 42 S '40
Progress in pavement construction. A. A. Anderson. il Can Eng R & B 78:11+ My '40
Red concrete for slow traffic. W. N. Rees. il Eng N 125:212-13 Ag 15 '40
Scaling on concrete roads; abstract. H. L. Howe. Eng N 125:627-8 N 7 '40
Selection of aggregates for concrete pavement based on service records. C. Cantrill and L. Campbell. il Am Soc T M Proc 39: 937-45; Discussion. il 946-9 '39
Thin concrete pavements on good subgrades; experiments in Sweden. Pub Works 70:26 D '39
Uses of concrete in transportation. M. D. Catton. il Can Eng R & B 78:22-3 Ag '40

See also
Pavements, Concrete
Roads, Bituminous
Roads—Foundations
concrete—Concrete

Construction equipment
Compacting and finishing stiff mixes of highway concrete. il Concrete 48:6 Ag '40
Concrete highway widening utilizes new equipment and new methods. il Pub Works 71:17-18 Je '40
Concrete paving spreaders; abstract. L. Gardiner. Eng N 124:316 F 29 '40
Jaeger H finisher. il Can Eng R & B 78:51 My '40
Modern contracting practices. H. W. Richardson. il Can Eng R & B 78:20-2+ F '40
Modern equipment and scientific control speed concrete paving. W. C. Anderson. il Pub Works 71:9-11+ Ja '40
Paving the Pennsylvania Turnpike. il diag map Eng N 125:25-9 Jl 4 '40
Planning paver equipment requirements; Pennsylvania Turnpike. R. B. Stone. il Roads & Sts 83:43-5 Je '40
Record road job in South Dakota. il Roads & Sts 82:34-6 D '39
Saving dollars in portland cement concrete highway construction; water transported in tank trucks. W. C. Anderson. il Pub Works 71:9-10 O '40
Use of the screw conveyor in placing pavement concrete. L. Gardiner. il Can Eng R & B 78:25-6 Mr '40

Construction management
Concrete design, materials control and supply; Pennsylvania Turnpike. I. L. Tyler. il Roads & Sts 83:55-7+ Je '40
Duties of a concrete inspector. C. R. Kendall. Can Eng R & B 78:60+ Ap '40
Modern equipment and scientific control speed concrete paving. W. C. Anderson. il Pub Works 71:9-11+ Ja '40
Paving procedure and performance analyzed; Pennsylvania Turnpike. J. D. Paul. Roads & Sts 83:46-51 Je '40
Speed in paving methods as exemplified by Pennsylvania Turnpike. S. W. Marshall. il diag Can Eng R & B 78:23-6+ S '40

Construction schedules
Planning paver equipment requirements; Pennsylvania Turnpike. R. B. Stone. il Roads & Sts 83:43-5 Je '40
Record road job in South Dakota. il Roads & Sts 82:34-6 D '39

Cost
Contractors defeat cost rise; unit price bids on state highway work, 1920-1939. Eng N 124:908-9 Je 20 '40
Cost of curing concrete pavements with cotton mats. R. A. Marr, jr. il Pub Roads 20: 215-16+ Ja '40; Same. Concrete 48:33-4 S '40
Highways, Connecticut; unit prices. Eng N 125:304 Ag 29 '40
Highways, Kansas; unit prices. Eng N 124:71 Ja 11 '40
Highways, Missouri; unit prices. Eng N 123: 866 D 28 '39
Highways, Pennsylvania; unit prices. Eng N 125:589 O 31 '40
Highways, Spencer county, Indiana; unit prices. Eng N 124:sup146 F 29 '40
Quantities and unit prices bid; Pennsylvania Turnpike. Roads & Sts 82:87-90 O '39; 83:51-4 Je '40
Widening pavement, Indiana; unit prices. Eng N 124:752 My 23 '40

Expansion joints
Expansion joints at long spacing. Roads & Sts 83:68 Ag '40
Oregon plans expansion joint study. C. B. McCullough. diags Eng N 125:168-9 Ag 1 '40
Some experiences with expansion joints in concrete pavements; rubber and rubber compounds used as a filler or seal. A. P. Anderson. il Pub Roads 21:57-61 My '40; Excerpt. Concrete 48:6 O '40

Failures
Influence of cement and aggregate on concrete expansion; destructive action between alkali, chert and shale. T. E. Stanton, jr. il Eng N 124:171-3 F 1 '40

Joints
Finds submerged dummy joint effective. Concrete 48:34 S '40

Maintenance and repair
Illinois jacks up paving; forcing oil, cement, lime dust, loam and water through holes. il diags Eng N 125:605-7 N 7 '40
Rejuvenating cement concrete highways in Vermont; with cost data. A. J. Runnals. il Roads & Sts 82:34-6 N '39

Testing
Cements studied on test road. R. R. Litehiser and C. W. Allen. Can Eng R & B 78:113 O '40; Same. Pub Works 71:10 O '40; Same. Concrete 48:4 N '40
Instrument detects bumps in concrete roads; Rufometer. il Comp Air M 45:6114 Mr '40

ROADS, County
Bituminous surfacing of county trunk highways. E. R. Fischer. Can Eng R & B 78: 24+ F '40
Combining relief labor and modern machinery to construct high type roads; Chenango county, N.Y. B. J. Scanlon. il Pub Works 71:11-13+ Mr '40
Contract system in public construction. P. M. Andrews. Can Eng R & B 78:84 Mr '40
County and township roads in Ontario. J. A. P. Marshall. Can Eng R & B 78:61-2 Ja '40
County highways and military use; abstract. A. J. Yaw. Roads & Sts 83:43 O '40
County organization for winter road maintenance. il Can Eng R & B 78:33+ O '40
Efficient organization and good management feature Jefferson County highway work. il Pub Works 71:14-16 Jl '40
Ending rough, dusty gravel roads in Muscatine co. Iowa. F. P. G. Halbfass. il Pub Works 70:13-15 N '39

ROADS, County—*Continued*
Equipment maintenance in Jackson county, Missouri; garage and shops; record system, etc. J. C. Black. il Roads & Sts 83:29-39 Ag '40
Highway work and stream bank control experience; Texas co., Oklahoma. H. C. Williams. Pub Works 71:57-8 Ap '40
How counties maintain highway equipment; survey. Pub Works 71:24+ My '40
Local roads and the highway program. M. C. Jones. In Ill U Eng Exp Sta Circ 41: 33-7 '40
Procedure in building tar-bound gravel mixes. C. L. Hanson. il Pub Works 71:12-14 F '40
Road surfacing program in King co., Wash. H. H. Sisler. Pub Works 71:18 S '40
Salvaging highway investments. R. Witt. Can Eng R & B 78:64 Jl '40
79% of county roads are built by force account; results of survey. il Pub Works 71: 9-11+ My '40
12.18c per sq. yard builds year 'round dustless roads; Macon county, Ill. A. N. Buck. il Pub Works 71:16-18 Ja '40

ROADS, Earth
Compaction of earthwork; specifications, testing and construction methods on two road sections in Kansas. E. L. Seidel. il Roads & Sts 83:54, 56 Ag '40
Design features of low-cost roads. C. A. Hogentogler. Can Eng R & B 78:87-90 F '40
Round-table conference; equipment and procedure in constructing stabilized soil road surfaces? Can Eng R & B 78:27 My '40

See also
Roads, Gravel
Roads, Macadam
Streets

Cement hardening
Feeder roads surfaced with cement and soil mixture. J. Stokley. il Sci Am 163:212 O '40
Plant-mix soil-cement base course over blow sand; Texas tries clay blanket laid over subgrade and shoulders; with cost data. V. J. Brown. il diags map Roads & Sts 83: 37-42 My '40
Soil-cement paving for secondary roads in America. Engineer 169:216 Mr 1 '40
Soil-cement road building in hilly country; abstract. J. E. Wood. Concrete 48:6 Je '40
Soil-cement surfaces; Camp Borden, Canada. J. M. Breen. il Can Eng R & B 78:9-11+ Je '40
Uses of concrete in transportation. M. D. Catton. il Can Eng R & B 78:24 Ag '40

ROADS, Elevated
Need for increased construction of elevated roads; abstract. V. G. Iden. Steel 106:25-6 F 5 '40
Remodeled street triples traffic room; Pittsburgh's Water street. il diags plan map Eng N 124:434-8 Mr 28 '40
Trafficway reclaims a waterfront; East River drive, New York. il diags plan Eng N 124:640-4 My 9 '40
Traveler speeds arch viaduct forms; link in the approach system of the George Washington bridge. K. A. Sheppard. il diags Eng N 125:334-6 S 12 '40

ROADS, Experimental
Experimental surface-course mixtures of fine aggregate and cutback asphalt; Arkansas highway tests yield data on desirable proportions of solvent, asphalt, and filler. L. W. Hall. Civil Eng 10:15-16 Ja '40
Experiments with continuous reinforcement in concrete pavements. E. C. Sutherland and S. W. Benham. biblog il diags Pub Roads 20:205-14, 218-19 Ja '40
Pavement scaling successfully checked; fish oil stearate and Vinsol resin as chloride resistors. O. L. Moore. il Eng N 125:471-4 O 10 '40
Thin concrete pavements on good subgrades; experiments in Sweden. Pub Works 70:26 D '39

ROADS, Forest. See Forest roads

ROADS, Gravel
Procedure in building tar-bound gravel mixes. C. L. Hanson. il Pub Works 71:12-14 F '40; Same. Can Eng R & B 78:60, 62 My '40
Round-table conference; should construction and maintenance of gravelled roads be placed on a more scientific basis? Can Eng R & B 78:29-30, 90-1 Mr '40

Cost
Highway surfacing, Montana; unit prices. Eng N 124:623 My 2 '40

Maintenance and repair
Economics and mechanics of road maintenance. C. M. Baskin. il Can Eng R & B 78: 20-3, 73-4, 77-8 Ja '40

Stabilization
Ending rough, dusty gravel roads in Muscatine co. Iowa. F. P. G. Halbfass. il Pub Works 70:13-15 N '39
Fundamentals of road stabilization. W. R. Woolley. Can Eng R & B 78:50, 54+ S '40
Halving the costs of stabilized gravel roads. J. H. Barr. Pub Works 71:37 Ja '40
Low-cost road. W. H. Root. Can Eng R & B 78:40, 92, 118 O '40
Rectangular coordinate graph method used to design aggregate-soil mixtures for stabilized road surfaces. H. E. Worley. Roads & Sts 83:70, 72, 74 My '40
Stabilized construction on Natchez Trace. il Roads & Sts 83:27-8 Ag '40
Two miles a week of bituminous stabilization with WPA. R. Witt. Pub Works 71:26-7 My '40

ROADS, Macadam
Cement bound macadam and pavement resurfacing. D. H. Murphy. In Ill U Eng Exp Sta Circ 41:113-15 '40
Combining relief labor and modern machinery to construct high type roads; Chenango county, N.Y. B. J. Scanlon. il Pub Works 71:11-13+ Mr '40
Constructing bituminous macadam on Putnam pike. il Roads & Sts 83:52-3 Mr '40

ROADS, Military
Roads for national defense. il map Eng N 124:87-90 Ja 18 '40

ROADS, Oiled
Sealing oil-mat surfaces. D. L. Cheney. il Eng N 124:857 Je 20 '40

ROADS, Soil-cement. See Roads, Earth--Cement hardening

ROADS, State
Classified state highway mileage by types by years, 1921-37. Roads & Sts 83:45 Jl '40
Cost of right-of-way on state highway systems by states, 1930-39. Roads & Sts 83:68 Jl '40
State highway construction; mileage completed and expenditures in 1939 and probable mileage and expenditures in 1940. Roads & Sts 83:98+ Ja '40
State highway routes through Indiana cities. Roads & Sts 83:60 My '40
State road bonded indebtedness; tabulation. Roads & Sts 83:43 Jl '40

See also
Roads—Federal aid

ROADS, Suburban
Interregional highways from municipal viewpoint; metropolitan Chicago. R. Kingery. il map Roads & Sts 83:45-8 Ja '40

ROADS, Tarred
Procedure in building tar-bound gravel mixes. C. L. Hanson. il Pub Works 71:12-14 F '40; Same. Can Eng R & B 78:60, 62 My '40
Tar carpets. G. H. Fuidge. Gas J (Lond) 229:187-9 Ja 24 '40

ROADS, Township
Agriculture's vital link, the township road. M. R. Parrish. Can Eng R & B 78:62 Mr '40
Local roads and the highway program. M. C. Jones. In Ill U Eng Exp Sta Circ 41: 33-7 '40

ROADSIDE lunchrooms. See Lunchrooms and cafeterias, Roadside

ROADSIDE planting
Erosion control and landscaping. A. Gries. il In Ill U Eng Exp Sta Circ 41:72-5 '40
Ground covers in highway areas; abstract. G. B. Gordon. Roads & Sts 83:83 F '40
Landscaping plans; Pennsylvania Turnpike. R. W. Stewart. plan Roads & Sts 83:73-4 Je '40
Planting difficulties in highway landscaping; approaches to the San Francisco-Oakland Bay bridge. H. D. Bowers. Eng N 124:170 F 1 '40
Protection of highway slopes and fills; banks planted to kudzu. Can Eng R & B 78: 113 O '40
Wind erosion control in Texas. J. F. Vearling. Pub Works 71:36+ Mr '40

ROADSIDES
County zoning and roadside improvement. R. Kingery. In Ill U Eng Exp Sta Circ 41:105-6 '40
Eradication of noxious weeds. J. D. McLeod. il Can Eng R & B 78:21, 92-6 Mr '40
Mexico and the control of roadside advertising; abstract. M. E. Bracho. Roads & Sts 83:48 Ja '40
Plan for roadside embellishment. R. Deschamps. Can Eng 77:7-8+ N 21 '39
Problem of the roadside. U.S. National resources com. 32 numb 1 New England regional planning commission, 2100 Federal bldg, Boston '39
Roadside control through zoning. L. D. Tilton il Civil Eng 10:11-14 Ja '40
Roadside developments; reports at the nineteenth annual meeting. 2 pts 63p; 65-105p pa 50c National research council '40
Slope rounding with scraper and tractor; with cost data. L. P. Davis. Roads & Sts 82:48 N '39
Soil erosion on slopes; correction and prevention on Massachusetts state highway system. R. D. Murphy. il Roads & Sts 83: 60, 63-4 F '40

ROASTERS, Electric. See Electric roasters

ROBINSON, Frederick Gerald
President, Canadian pulp and paper association. por Pulp & Pa of Can 41:216 F '40

ROBINSON-PATMAN act. See Price discrimination—Patman law

ROCHELLE salt. See Potassium sodium tartrate

ROCHESTER, New York
City manager government in Rochester. F. C. Mosher. 95p pa 60c Public administration service, 1313 E. 60th st, Chicago '40
Have cities stopped growing? E. Whitmore. il Am Business 10:26-8, 48 O '40

Sewerage
Designing and building a new storm sewer in tunnel. Pub Works 71:14 Ja '40

ROCHESTER athenaeum and mechanics institute
Ending the instrument dilemma. C. A. Little. il Power 84:395-6 Je '40

ROCHESTER gas and electric corporation
Offers $15,000,000 bonds privately. Comm & Fin Chr 151:427-8 Jl 20 '40

ROCK drills
Diamonds in finding and fabricating metals. E. D. Lucas, jr. il Metals & Alloys 10:358-9 D '39
Drill runners like new jackhamer mounting. il Comp Air M 45:6269 O '40
Metal mining practice over sixty years. C. F. Jackson. il diags Can Min J 60:674-6 N '39
Progress in metallic materials for mining engineering. P. D. Merica and J. E. Kerr. Can Min J 60:735-6 N '39

See also
Drilling and boring (earth and rocks)
Drills, Oil well

ROCK dust
Proposed dust control code for New York state. Rock Prod 43:30 Ag '40
Stone dust grinding plant. plan Mech Handling 27:20-1 Ja '40
Stone-dust plant. Mech Handling 27:96 Ap '40
Tests of salt as a substitute for rock dust in the prevention of coal-dust explosions in mines. H. P. Greenwald, H. C. Howarth and I. Hartmann. pl U S Bur Mines Rep of Invest 3529:1-16 '40

See also
Coal mines and mining—Rock dusting
Mine dust

ROCK dusting. See Coal mines and mining—Rock dusting

ROCK flour
Foundation treatment and reservoir rim tightening at Norris dam; use of rock flour and cement mixture. J. S. Lewis, jr. Am Soc C E Proc 66:416-18 Mr '40

ROCK glaciers
Rock glaciers in the Colorado Front range. R. L. Ives. bibliog diags map Geol Soc Bul 51:1271-94, pl 1-2 S '40

ROCK ISLAND, Illinois

Bridges
Tied arches to span the Mississippi. il diags Eng N 124:366-70 Mr 14 '40

Sanitary affairs
Refuse and sewage plant combined for profit. G. O. Consoer and D. W. Townsend. il diag plans Eng N 125:221-4 Ag 15 '40

ROCK products

See also

Aggregates	Phosphate rock
Gravel	Sand
Gypsum	Stone, Crushed
Lime	

ROCK products industry
I'll say young men have real opportunities. H. V. Owens. Rock Prod 43:22-3 F '40
Sand and gravel producer takes a glance at the past in charting his course for the future; abstract. H. H. Hughes. Rock Prod 43:35-6 F '40
Status of sand and gravel industry. V. P. Ahearn. Rock Prod 43:37-8 F '40

Advertising
Clever advertising campaign by Limerock association. il Rock Prod 43:46 Je '40

Finance
Financial notes. Published in monthly numbers of Rock products
What does control prices? presidents of rock products companies discuss economics. Rock Prod 43:46-7 Jl; 28+ O '40

ROCK products plants
Florida's new gypsum plant. il diags Rock Prod 43:47 Ja '40
Inspecting National's new gypsum plant. il Rock Prod 43:50-1 Ja '40
Pennsylvania Turnpike; fitting plants for increased production. il Rock Prod 43:45-50 S '40
Proposed dust control code for New York state. Rock Prod 43:30 Ag '40

See also
Gravel plants
Stone, Crushed

Costs
What does control prices? presidents of rock products companies discuss economics. Rock Prod 43:46-7 Jl; 28+ O '40

Employees
Joint labor contracts. Rock Prod 43:45 My '40
Wage law exemption granted to crushed stone industry. Rock Prod 43:71 Jl '40

Equipment
Better feeding means better screening. R. E. Fowle. il diags Rock Prod 43:28-32 Mr '40

ROADS, County—*Continued*
Equipment maintenance in Jackson county, Missouri; garage and shops; record system, etc. J. C. Black. il Roads & Sts 83:29-39 Ag '40
Highway work and stream bank control experience; Texas co., Oklahoma. H. C. Williams. Pub Works 71:57-8 Ap '40
How counties maintain highway equipment; survey. Pub Works 71:24+ My '40
Local roads and the highway program. M. C. Jones. In Ill U Eng Exp Sta Circ 41: 33-7 '40
Procedure in building tar-bound gravel mixes. C. L. Hanson. il Pub Works 71:12-14 F '40
Road surfacing program in King co., Wash. H. H. Sisler. Pub Works 71:18 S '40
Salvaging highway investments. R. Witt. Can Eng R & B 78:64 Jl '40
79% of county roads are built by force account; results of survey. il Pub Works 71: 9-11+ My '40
12.18c per sq. yard builds year 'round dustless roads; Macon county, Ill. A. N. Buck. il Pub Works 71:16-18 Ja '40

ROADS, Earth
Compaction of earthwork; specifications, testing and construction methods on two road sections in Kansas. E. L. Seidel. il Roads & Sts 83:54, 56 Ag '40
Design features of low-cost roads. C. A. Hogentogler. Can Eng R & B 78:87-90 F '40
Round-table conference; equipment and procedure in constructing stabilized soil road surfaces? Can Eng R & B 78:27 My '40

See also
Roads, Gravel
Roads, Macadam
Streets

Cement hardening
Feeder roads surfaced with cement and soil mixture. J. Stokley. il Sci Am 163:212 O '40
Plant-mix soil-cement base course over blow sand; Texas tries clay blanket laid over subgrade and shoulders; with cost data. V. J. Brown. il diags map Roads & Sts 83: 37-42 My '40
Soil-cement paving for secondary roads in America. Engineer 169:216 Mr 1 '40
Soil-cement road building in hilly country; abstract. J. E. Wood. Concrete 48:6 Je '40
Soil-cement surfaces; Camp Borden, Canada. J. M. Breen. il Can Eng R & B 78:9-11+ Je '40
Uses of concrete in transportation. M. D. Catton. il Can Eng R & B 78:24 Ag '40

ROADS, Elevated
Need for increased construction of elevated roads; abstract. V. G. Iden. Steel 106:25-6 F 5 '40
Remodeled street triples traffic room; Pittsburgh's Water street. il diags plan map Eng N 124:434-8 Mr 28 '40
Trafficway reclaims a waterfront; East River drive, New York. il diags plan Eng N 124:640-4 My 9 '40
Traveler speeds arch viaduct forms; link in the approach system of the George Washington bridge. K. A. Sheppard. il diags Eng N 125:334-6 S 12 '40

ROADS, Experimental
Experimental surface-course mixtures of fine aggregate and cutback asphalt; Arkansas highway tests yield data on desirable proportions of solvent, asphalt, and filler. L. W. Hall. Civil Eng 10:15-16 Ja '40
Experiments with continuous reinforcement in concrete pavements. E. C. Sutherland and S. W. Benham. bibliog il diags Pub Roads 20:205-14, 218-19 Ja '40
Pavement scaling successfully checked; fish oil stearate and Vinsol resin as chloride resistors. O. L. Moore. il Eng N 125:471-4 O 10 '40
Thin concrete pavements on good subgrades; experiments in Sweden. Pub Works 70:26 D '39

ROADS, Forest. See Forest roads

ROADS, Gravel
Procedure in building tar-bound gravel mixes. C. L. Hanson. il Pub Works 71:12-14 F '40; Same. Can Eng R & B 78:60, 62 My '40
Round-table conference; should construction and maintenance of gravelled roads be placed on a more scientific basis? Can Eng R & B 78:29-30, 90-1 Mr '40

Cost
Highway surfacing, Montana; unit prices. Eng N 124:623 My 2 '40

Maintenance and repair
Economics and mechanics of road maintenance. C. M. Baskin. il Can Eng R & B 78: 20-3, 73-4, 77-8 Ja '40

Stabilization
Ending rough, dusty gravel roads in Muscatine co. Iowa. F. P. G. Halbfass. il Pub Works 70:13-15 N '39
Fundamentals of road stabilization. W. R. Woolley. Can Eng R & B 78:50, 54+ S '40
Halving the costs of stabilized gravel roads. J. H. Barr. Pub Works 71:37 Ja '40
Low-cost road. W. H. Root. Can Eng R & B 78:40, 92, 118 O '40
Rectangular coordinate graph method used to design aggregate-soil mixtures for stabilized road surfaces. H. E. Worley. Roads & Sts 83:70, 72, 74 My '40
Stabilized construction on Natchez Trace. il Roads & Sts 83:27-8 Ag '40
Two miles a week of bituminous stabilization with WPA. R. Witt. Pub Works 71:26-7 My '40

ROADS, Macadam
Cement bound macadam and pavement resurfacing. D. H. Murphy. In Ill U Eng Exp Sta Circ 41:113-15 '40
Combining relief labor and modern machinery to construct high type roads; Chenango county, N.Y. B. J. Scanlon. il Pub Works 71:11-13+ Mr '40
Constructing bituminous macadam on Putnam pike. il Roads & Sts 83:52-3 Mr '40

ROADS, Military
Roads for national defense. il map Eng N 124:87-90 Ja 18 '40

ROADS, Oiled
Sealing oil-mat surfaces. D. L. Cheney. il Eng N 124:857 Je 20 '40

ROADS, Soil-cement. See Roads, Earth—Cement hardening

ROADS, State
Classified state highway mileage by types by years, 1921-37. Roads & Sts 83:45 Jl '40
Cost of right-of-way on state highway systems by states, 1930-39. Roads & Sts 83:68 Jl '40
State highway construction; mileage completed and expenditures in 1939 and probable mileage and expenditures in 1940. Roads & Sts 83:98+ Ja '40
State highway routes through Indiana cities. Roads & Sts 83:60 My '40
State road bonded indebtedness; tabulation. Roads & Sts 83:43 Jl '40

See also
Roads—Federal aid

ROADS, Suburban
Interregional highways from municipal viewpoint; metropolitan Chicago. R. Kingery. il map Roads & Sts 83:45-8 Ja '40

ROADS, Tarred
Procedure in building tar-bound gravel mixes. C. L. Hanson. il Pub Works 71:12-14 F '40; Same. Can Eng R & B 78:60, 62 My '40
Tar carpets. G. H. Fuidge. Gas J (Lond) 229:187-9 Ja 24 '40

ROADS, Township
Agriculture's vital link, the township road. M. R. Parrish. Can Eng R & B 78:62 Mr '40
Local roads and the highway program. M. C. Jones. In Ill U Eng Exp Sta Circ 41: 33-7 '40

ROADSIDE lunchrooms. See Lunchrooms and cafeterias, Roadside

ROADSIDE planting
Erosion control and landscaping. A. Gries. il In Ill U Eng Exp Sta Circ 41:72-5 '40
Ground covers in highway areas; abstract. G. B. Gordon. Roads & Sts 83:83 F '40
Landscaping plans; Pennsylvania Turnpike. R. W. Stewart. plan Roads & Sts 83:73-4 Je '40
Planting difficulties in highway landscaping; approaches to the San Francisco-Oakland Bay bridge. H. D. Bowers. Eng N 124:170 F 1 '40
Protection of highway slopes and fills; banks planted to kudzu. Can Eng R & B 78: 113 O '40
Wind erosion control in Texas. J. F. Vearling. Pub Works 71:36+ Mr '40

ROADSIDES
County zoning and roadside improvement. R. Kingery. In Ill U Eng Exp Sta Circ 41:105-6 '40
Eradication of noxious weeds. J. D. McLeod. il Can Eng R & B 78:21, 92-6 Mr '40
Mexico and the control of roadside advertising; abstract. M. E. Bracho. Roads & Sts 83:48 Ja '40
Plan for roadside embellishment. R. Deschamps. Can Eng 77:7-8+ N 21 '39
Problem of the roadside. U.S. National resources com. 32 numb l New England regional planning commission, 2100 Federal bldg, Boston '39
Roadside control through zoning. L. D. Tilton il Civil Eng 10:11-14 Ja '40
Roadside developments; reports at the nineteenth annual meeting. 2 pts 63p; 65-105p pa 50c National research council '40
Slope rounding with scraper and tractor; with cost data. L. P. Davis. Roads & Sts 82:48 N '39
Soil erosion on slopes; correction and prevention on Massachusetts state highway system. R. D. Murphy. il Roads & Sts 83: 60, 63-4 F '40

ROASTERS, Electric. See Electric roasters

ROBINSON, Frederick Gerald
President, Canadian pulp and paper association. por Pulp & Pa of Can 41:216 F '40

ROBINSON-PATMAN act. See Price discrimination—Patman law

ROCHELLE salt. See Potassium sodium tartrate

ROCHESTER, New York
City manager government in Rochester. F. C. Mosher. 95p pa 60c Public administration service, 1313 E. 60th st, Chicago '40
Have cities stopped growing? E. Whitmore. il Am Business 10:26-8, 48 O '40

Sewerage
Designing and building a new storm sewer in tunnel. Pub Works 71:14 Ja '40

ROCHESTER athenaeum and mechanics institute
Ending the instrument dilemma. C. A. Little. il Power 84:395-6 Je '40

ROCHESTER gas and electric corporation
Offers $15,000,000 bonds privately. Comm & Fin Chr 151:427-8 Jl 20 '40

ROCK drills
Diamonds in finding and fabricating metals. E. D. Lucas, jr. il Metals & Alloys 10:358-9 D '39
Drill runners like new jackhamer mounting. il Comp Air M 45:6269 O '40
Metal mining practice over sixty years. C. F. Jackson. il diags Can Min J 60:674-6 N '39
Progress in metallic materials for mining engineering. P. D. Merica and J. E. Kerr. Can Min J 60:735-6 N '39

See also
Drilling and boring (earth and rocks)
Drills, Oil well

ROCK dust
Proposed dust control code for New York state. Rock Prod 43:30 Ag '40
Stone dust grinding plant. plan Mech Handling 27:20-1 Ja '40
Stone-dust plant. Mech Handling 27:96 Ap '40
Tests of salt as a substitute for rock dust in the prevention of coal-dust explosions in mines. H. P. Greenwald, H. C. Howarth and I. Hartmann. pl U S Bur Mines Rep of Invest 3529:1-16 '40

See also
Coal mines and mining—Rock dusting
Mine dust

ROCK dusting. See Coal mines and mining—Rock dusting

ROCK flour
Foundation treatment and reservoir rim tightening at Norris dam; use of rock flour and cement mixture. J. S. Lewis, jr. Am Soc C E Proc 66:416-18 Mr '40

ROCK glaciers
Rock glaciers in the Colorado Front range. R. L. Ives. bibliog diags map Geol Soc Bul 51:1271-94, pl 1-2 S '40

ROCK ISLAND, Illinois

Bridges
Tied arches to span the Mississippi. il diags Eng N 124:366-70 Mr 14 '40

Sanitary affairs
Refuse and sewage plant combined for profit. G. O. Consoer and D. W. Townsend. il diag plans Eng N 125:221-4 Ag 15 '40

ROCK products

See also

Aggregates	Phosphate rock
Gravel	Sand
Gypsum	Stone, Crushed
Lime	

ROCK products industry
I'll say young men have real opportunities. H. V. Owens. Rock Prod 43:22-3 F '40
Sand and gravel producer takes a glance at the past in charting his course for the future; abstract. H. H. Hughes. Rock Prod 43:35-6 F '40
Status of sand and gravel industry. V. P. Ahearn. Rock Prod 43:37-8 F '40

Advertising
Clever advertising campaign by Limerock association. il Rock Prod 43:46 Je '40

Finance
Financial notes. Published in monthly numbers of Rock products
What does control prices? presidents of rock products companies discuss economics. Rock Prod 43:46-7 Jl; 28+ O '40

ROCK products plants
Florida's new gypsum plant. il diags Rock Prod 43:47 Ja '40
Inspecting National's new gypsum plant. il Rock Prod 43:50-1 Ja '40
Pennsylvania Turnpike; fitting plants for increased production. il Rock Prod 43:45-50 S '40
Proposed dust control code for New York state. Rock Prod 43:30 Ag '40

See also
Gravel plants
Stone, Crushed

Costs
What does control prices? presidents of rock products companies discuss economics. Rock Prod 43:46-7 Jl; 28+ O '40

Employees
Joint labor contracts. Rock Prod 43:45 My '40
Wage law exemption granted to crushed stone industry. Rock Prod 43:71 Jl '40

Equipment
Better feeding means better screening. R. E. Fowle. il diags Rock Prod 43:28-32 Mr '40

ROCK products plants—Equipment—*Continued*
Grinding and flotation; abstracts of papers of interest to rock products operators at meeting of A.I.M.M.E. reported by N. C. Rockwood. Rock Prod 43:46-8+ Mr '40
Gypsum operations in Great Britain; British plaster board co. J. Watson. il Rock Prod 43:38-9 Je '40
Machinery manufacturers contribute ideas. il Rock Prod 43:101-12 Ja '40
Make stone sand a new way; Pittsburgh limestone corp. B. Nordberg. il diags Rock Prod 43:35-8 Mr '40
New method of dewatering and classifying. R. Dull. diags Rock Prod 43:87-8 F '40
Small crushing plant designed for peak demands. B. Nordberg. il Rock Prod 43:34-5 Ap '40

Power

Power units where they are needed. il Rock Prod 43:80-1 Ja '40

ROCK wool. See Mineral wool

ROCKEFELLER, David
Rockefeller on waste, Ph.D. thesis. por Business Week p17-18+ Ag 24 '40

ROCKEFELLER, John Davison, 1839-1937
John D. Rockefeller; the heroic age of American enterprise. A. Nevins. 2v 683p, 747p $7.50 Scribner '40
Standard oil co. (N.J.); strategy that has boosted capital and surplus. por Fortune 21:49-57+ Ap '40

ROCKEFELLER, Laurance Spelman
Portrait. Business Week p28 Ap 13 '40

ROCKEFELLER, Nelson Aldrich, 1908-
Appointed by President Roosevelt as coordinator of commercial and cultural relations among Americas. Comm & Fin Chr 151: 1082 Ag 24 '40
Portrait. Business Week p28 Ap 13 '40
Welding the Americas; Nelson Rockefeller gets job of coordinating efforts at closer ties with Latins. por Business Week p16-17 Ag 24 '40

ROCKEFELLER Center. See New York (city)—Rockefeller Center

ROCKEFELLER foundation
Annual report, 1939; excerpts. Comm & Fin Chr 150:2354-5 Ap 13 '40
Appropriations, 1939. Science 91:482-3 My 17 '40

ROCKET propulsion
Characteristics of the rocket motor unit based on the theory of perfect gases. F. J. Milina. bibliog diags Franklin Inst J 230:433-54 O '40

ROCKS
Decomposition of rocks and ceramic materials with a small amount of sodium carbonate. J. I. Hoffman. J Research Nat Bur Stand 25:379-83 S '40
Essay review: the petrology of the Skaergaard intrusion Kangerdlugssuaq, east Greenland by L. R. Wager and W. A. Deer. H. H. Hess. Am J Sci 238:372-8 My '40
Geological problems of dams. I. B. Crosby. bibliog Am Soc C E Proc 66:869-90 My '40
Granitization near Killarney, Ontario. T. T. Quirke. bibliog maps Geol Soc Bul 51:237-53, pl 1-2 F '40
Handbook of rocks; for use without the petrographic microscope. J. F. Kemp. 6th ed rev 300p $3 Van Nostrand '40
Lower Mississippian rocks of the east-central interior. P. B. Stockdale. diags maps Geol Soc Special Pa no 22:1-248, pl 1-26 bibliog (p231-5) '39
Metamorphism in the southern Sierra Nevada northeast of Visalia, California. C. Durrell. il diags maps Univ of Calif Bul of Dept of Geological Sciences v 25 no 1:1-117 '40 (pa $1.25)
Morrow group of Adair county, Oklahoma. C. A. Moore. il diags map Am Assn Pet Geologists Bul 24:469-34 Mr '40
Paleontology and stratigraphy of the Silurian rocks of the Port Daniel-Black Cape region, Gaspé. S. A. Northrop. maps 28 pls Geol Soc Special Pa no 21:1-302 bibliog(p248-55) '39
Paleozoic and pre-Cambrian rocks of Vance well, Delaware county, Ohio. W. Stout and C. A. Lamey. Am Assn Pet Geologists Bul 24:672-92 Ap '40
Petrology of the alkaline intrusive at Blue mountain, Ontario. M. L. Keith. bibliog diag map Geol Soc Bul 50:1795-1826, pl 1 D '39
Preparation of foundations; masonry dams. C. H. Paul and J. Jacobs. il diags Am Soc C E Proc 66:852-68 My '40
Radioactivity of sedimentary rocks and associated petroleum. K. G. Bell, C. Goodman and W. L. Whitehead. bibliog Am Assn Pet Geologists Bul 24:1529-47 S '40
Rock alteration in the Uchi gold area. J. D. Bateman. bibliog il map Econ Geol 35:382-404 My '40
Rock book. C. L. Fenton and M. A. Fenton. 357p bibliog(p345-8) $6 Doubleday '40
Santa Fe formation in the Española valley, New Mexico. C. S. Denny. maps Geol Soc Bul 51:677-93, pl 1-4 bibliog(p692-8) My '40
Sierra Nevada tectonic pattern. A. Locke, P. Billingsley and E. B. Mayo. map Geol Soc Bul 51:513-39 bibliog(p535-8) pl 1-2 Ap '40
Size distributions of source rocks of sediments. W. C. Krumbein and F. W. Tisdel. bibliog Am J Sci 238:296-305 Ap '40
Sorby's pioneering work on the microstructure of rocks and metals. J. H. G. Monypenny. il Metal Prog 38:45-8+ Jl '40
Stone-rings on New Hampshire mountains. C. S. Denny. bibliog map Am J Sci 238:432-8, pl 1-3 Je '40
Structural and volcanic problems in the southern Absaroka mountains, Wyoming. J. T. Rouse. bibliog maps Geol Soc Bul 51: 1413-27, pl 1 S '40
Structural petrology of the schists of eastern Otago, New Zealand. F. J. Turner. diags maps Am J Sci 238:73-106, 153-91 bibliog(p191) F-Mr '40
Thermal conductivity of rocks and its dependence upon temperature and composition. F. Birch and H. Clark. bibliog diags Am J Sci 238:529-58, 613-35 Ag-S '40
Use of sedimentation features and cleavage in the recognition of overturned strata. P. J. Shenon and R. H. McConnel. bibliog il diags Econ Geol 35:430-44 My '40

See also
Breccia
Conglomerate
Crystallography
Geochemistry
Geology
Geophysics
Granite
Gypsum
Limestone
Metamorphism
Metasomatism
Minerals
Palisades of the Hudson
Phosphate rock
Phyllite
Quarries and quarrying
Ripple marks
Sandstone
Schists
Sedimentation and deposition
Stone, Crushed
Weathering

Analysis

Differentiation of the Palisade diabase, New Jersey. F. Walker. bibliog diags map Geol Soc Bul 51:1059-1105, pl 1-2 Jl '40
Essay review: the petrology of the Skaergaard intrusion Kangerdlugssuaq, east Greenland by L. R. Wager and W. A. Deer. H. H. Hess. Am J Sci 238:372-8 My '40
Extraction of alkalies in rocks; modification of the J. Lawrence Smith extraction, using barium chloride as a flux. R. E. Stevens. bibliog Ind & Eng Chem Anal ed 12:413-15 Jl 15 '40
8-Hydroxyquinoline as a reagent for the determination of magnesium, especially in carbonate and silicate rocks. C. C. Miller and I. C. McLennan. Chem Soc J p656-9 My '40
Isotopic composition of oxygen in carbonate rocks and iron oxide ores. M. Dole and R. L. Slobod. Am Chem Soc J 62:471-9 Mr '40

Classification and nomenclature

Classification of Permian rocks; the Association subcommittee on the Permian. C. W. Tomlinson and others. Am Assn Pet Geologists Bul 24:337-58 F '40

ROCKS—*Continued*

Deformation

Experimental flow of rocks under conditions favoring recrystallization. D. Griggs. bibliog diags Geol Soc Bul 51:1001-22, pl 1-2 Jl '40

Flow in stressed solids; an interpretation. R. W. Goranson. bibliog Geol Soc Bul 51: 1023-33 Jl '40

Fluorine content

Fluorine content of rocks and ocean-bottom samples. E. S. Shepherd. map Am J Sci 238:117-28 F '40

ROCKS, Igneous

Adirondack igneous rocks and their metamorphism. A. F. Buddington. (Memoir 7) 354p, 21 pls bibliog(p334-42) Geological soc. of America, New York '39

Albite and gold. D. Gallagher. bibliog (166 references) Econ Geol 35:698-736 S '40

Archean mylonite from northwestern Ontario. J. D. Bateman. bibliog Am J Sci 238:742-50, pl 1-2 O '40

Cauldron subsidence at Ascutney mountain, Vermont. R. W. Chapman and C. A. Chapman. bibliog diags Geol Soc Bul 51:191-211, pl 1 F '40

Concentric patterns in the granites of the Llano-Burnet region, Texas. D. Keppel. bibliog diags maps Geol Soc Bul 51:971-99, pl 1-5 Jl '40

Contribution of differential pressures to magmatic differentiation. R. C. Emmons. bibliog diags Am J Sci 238:1-21, pl 1-2 Ja '40

Descriptive petrography of the igneous rocks. v. 1, Introduction, textures, classifications, and glossary. A. Johannsen. rev ed 318p $4.50 Univ. of Chicago press '39

Differentiation of the Palisade diabase, New Jersey. F. Walker. bibliog diags map Geol Soc Bul 51:1059-1105, pl 1-2 Jl '40

Distribution of heavy accessory minerals in a laccolith. E. C. Dapples. Am J Sci 238:439-50 Je '40

Genetic relations of gold deposits and igneous rocks in the Canadian shield. E. S. Moore. bibliog Econ Geol 35:127-39 Mr '40

Granites of the Front range, Colorado; the Indian Creek plutons. M. F. Boos and E. Aberdeen. bibliog diags maps Geol Soc Bul 51:695-730, pl 1-9 My '40

Igneous rocks of the Terlingua-Solitario region, Texas. J. T. Lonsdale. bibliog diags map Geol Soc Bul 51:1539-1626, pl 1-7 O '40

Petrographic province of central Montana. E. S. Larsen. diags map Geol Soc Bul 51: 887-948 bibliog(p946-8) Je '40

Propylitization and related types of alteration on the Comstock lode. R. Coats. Econ Geol 35:1-16 Ja '40

Reconnaissance of the contact metamorphism of the Katahdin and Squaw Mountain intrusives, Maine. S. S. Philbrick. map Am J Sci 238:710-16, pl 1 O '40

Residual alaskite kaolin deposits of North Carolina. C. E. Hunter. il map Am Cer Soc Bul 19:98-103 Mr '40

Rock series in diabase sills at Duluth, Minnesota. G. M. Schwartz and A. E. Sandberg. bibliog maps Geol Soc Bul 51:1135-71, pl 1-6 Ag '40

Structural and volcanic problems in the southern Absaroka mountains, Wyoming. J. T. Rouse. bibliog maps Geol Soc Bul 51: 1413-27, pl 1 S '40

Studies of the Lake Superior pre-Cambrian by accessory-mineral methods. S. A. Tyler and others. diags maps Geol Soc Bul 51:1429-1537, pl 1-4 bibliog(p1533-7) O '40

Zircon studies in the New Jersey Highlands. S. A. Tyler. map Am J Sci 238:260-71 Ap '40

See also

Basalt
Granite
Lava
Nephelite syenite
Ore deposits
Pegmatites

ROCKVILLE CENTER, Long Island, N.Y.

Sewerage

Sewer maintenance. C. G. Andersen. il diags map Water Works & Sewerage 87:27-32 Ja '40

ROCKWELL, Stanley Pickett, 1886-

Presentation of Albert Sauveur achievement award. E. C. Bain. Am Soc for Metals Trans 27:1141-4 D '39

Recipient of Albert Sauveur achievement award, 1939. H. W. Staples. por Metal Prog 36:630-2 N '39

ROCKWELL hardness test. See Hardness—Testing

ROCKY Mountain national park

Clearing snow from the nation's backbone; Trail Ridge road in Colorado's Rocky Mountain national park. R. C. Elder. il map Comp Air M 45:6219-21 Ag '40

ROCKY Mountain spotted fever

Cerebral pathology in rodents in endemic typhus and Rocky Mountain spotted fevers. R. D. Lillie, R. E. Dyer and N. H. Topping. Pub Health Rep 54:2137-48 bibliog(69 titles, p2146-8) pl 1-2 D 1 '39

Highly virulent strain of Rocky Mountain spotted fever virus isolated in the eastern United States. N. H. Topping and R. E. Dyer. Pub Health Rep 55:728-31 Ap 25 '40

Rocky Mountain spotted fever; treatment of infected laboratory animals with immune rabbit serum. N. H. Topping. Pub Health Rep 55:41-6 Ja 12 '40

ROCKY mountains

Building oil pipe line across continental divide. W. G. Heltzel. il diag Oil & Gas J 39:144-5, 150+ My 16; 81, 83+ My 23; 44-5+ My 30 '40

Challenge of the continental divide: railway routes across the Rockies. R. Budd. il map Civil Eng 10:97-9, 161-4, 222-4 F-Ap '40

See also

Geology—Rocky Mountain region

ROD mills. See Rolling mills

ROD mills (for crushing). See Tube mills

RODENTS

Antler-eating by rodents. A. M. Woodbury. Science 92:127-8 Ag 9 '40

Smaller animals of the Great Plains. V. E. Shelford. Science 91:167-8 F 16 '40

Susceptibility and resistance of certain species of American deer mice, genus peromyscus, and other rodents to leptospira icterohaemorrhagiae. A. Packchanian. bibliog Pub Health Rep 55:1389-1402, pl 1-2 Ag 2 '40

Two epizootics of plague infection in wild rodents in the western United States in 1938. L. B. Byington. maps Pub Health Rep 55:1496-1501 Ag 16 '40

See also

Mice
Rats

RODS

See also

Connecting rods
Locomotives—Rods
Steel rods

ROENTGEN rays. See X rays

ROGERS, Thomas Hunton, 1895-

Modern pioneer in lubricants honored by Committee D-2. por(cover) Nat Pet N 32:R240 Je 26 '40

ROHRIG tube

Modified Rohrig extraction tube. C. W. Sullens and W. Rankin. diag Ind & Eng Chem Anal ed 12:291 My 15 '40

ROLLER bearings

A.A.R. sub-committee report on roller bearings for locomotive and tenders. Ry Age 109:36 Jl 6 '40; Same. Ry Mech Eng 114: 273-4 Jl '40

Anti-friction bearings of high capacity. E. K. Brown. diags Aero Digest 37:88, 91-2, 95+ S '40

Application of tapered roller bearings. S. M. Weckstein. diags Aero Digest 37:87-8 Ag '40

ROLLER bearings—*Continued*
Application of tapered roller bearings to oil-field uses. S. M. Weckstein. il diags Oil & Gas J 39:38+ Ag 1 '40
British Timken, limited, 20th annual general meeting, Birmingham; war efforts. Economist 138:990 Je 1 '40
Great Lakes paper co. proves success of new Timken spring mounted drier roll bearing. S. M. Weckstein. il diags Paper Tr J 111: 13-14 S 12 '40
Load rating for roller bearings. C. R. Athy. bibliog Oil & Gas J 38:41-2+ N 23 '39
Load rating of roller bearings; A.P.I. tentative standards. diags Am Pet Inst Proc 21M(4):177-9 My '40
Special bearings for snow cruiser. Blast F & Steel Pl 27:1241 D '39
Split ball and roller bearings. il diag Automobile Eng 30:72 Mr '40
Taper-roller bearings for 36-in. centre tube-boring lathe. il diag Engineering 150:106-7 Ag 9 '40
Timken double cup tapered roller bearing. il Blast F & Steel Pl 28:918 S '40; Marine Eng 45:82 O '40; Aero Digest 37:171 S '40
Timken introduces new bearing series. Blast F & Steel Pl 28:697 Jl '40

See also
Bearings, Anti-friction

Manufacture

Halves chip disposal cost; sub-floor system removes 5 carloads of chips a day from 50 screw machines; Bower roller bearing co. G. Johnson. il Factory Management 97:70-1 D '39

ROLLERS
Metal penetrated core in long iron roller; question and answer. diag Foundry 68:80+ S '40

ROLLERS (earthwork)

See also
Road rollers

ROLLERS, Printers'
Adjusting ink rollers; roller difficulties. Inland Ptr 104:35 Ja '40

ROLLING (metal work)
Aluminum rolling and forging practice in Europe; with list of alloys giving trade names and compositions. E. V. Pannell. il Iron Age 146:35-9 Ag 1 '40
As it was in 1915 and as it is in 1940. J. B. Tytus. Metal Prog 37:316 Mr '40
Betriebswirtschaftliche massnahmen zur leistungssteigerung in der eisenhüttenindustrie; beispiele aus Siemens-Martin werk, walzwerk, hammerwerk, drahtzieherei, u.s.w. F. Weichselmann. Stahl & Eisen 60:169-73 F 29 '40
Causes of roll-marks on tinplate. R. Griffiths. diag Iron & Steel Inst J 140:39-53, pl 6-8 no 2 '39; Same. Blast F & Steel Pl 27:956-9, 1046-9 S-O '39; Same. Engineering 148: 425-8 O 13 '39
Commemorated rolling of first steel rail in the United States. Blast F & Steel Pl 28: 615-16 Je '40
Continuous casting; Hazelett machine. T. W. Lippert. il diags Iron Age 145:44-7 Ap 11 '40
Continuous sheets of malleable iron and steel direct from fluid metal. H. Bessemer. il Iron Age 145:48-50 Ap 11 '40
Dimensional variations in hot-rolled steel mill products and the problem of control. A. C. Cummins. Blast F & Steel Pl 28: 577-80+, 795-7 Je, Ag '40
Direct rolling of strip. C. W. Hazelett. il Steel 106:48, 50+ Ja 29 '40; Same. Engineering 149:139 F 9 '40
Effects of low-temperature heat treatment on the elastic properties of cold rolled austenitic stainless steels; abstract. R. Franks and W. O. Binder. Iron Age 145:40-1 F 22 '40
Embossing and forming coiled metal strip stock by rolling; candy dish. M. J. Goldstein. il diags Mack 47:106-8 S '40
Experiments in rolling fluid steel. E. Norton. Iron Age 145:50-1 Ap 11 '40
Flow of metals. G. Sachs. diags Iron Age 145:36-9 F 8 '40
Heating of steel. P. J. McKimm. il diag Steel 106:54+ Je 17; 50+ Je 24; 107:52-3+ Jl 1 '40
Manufacture of seamless ferrous tubes. C. Billingsley. diags Inst Mech Eng J & Proc 143:Proc 61-72, pl 1-2 Ap '40
Plane parts from strip stock; Consolidated aircraft corporation. L. Boeing. il Am Mach 84:462-4 Je 26 '40
Production of strip metal of high melting points directly from molten metal; abstract. C. W. Hazelett. diags Metal Prog 37:43-4 Ja '40
Rolling and extruding of lead for chemical equipment. F. P. Peters. il Metals & Alloys 11:114-15 Ap '40
Rolling blooms and slabs for maximum tonnage output. T. A. Zamboky. il chart Blast F & Steel Pl 27:1121-5 N '39
Rolling corrugated sheet. il diags Aero Digest 37:88, 91 Jl '40
Rolling of sections at the Appleby-Frodingham steel company, ltd. W. T. Wilson. diags plan Iron & Steel Inst J 139:321-36, pl 20-2 no 1 '39; Same. Blast F & Steel Pl 27:512+, 622-3+, 712+, 856-7 My-Ag '39; Discussion. Iron & Steel Inst J 139:337-9 no 1 '39
Rolling of sheet and strip. G. Sachs. bibliog il diags Iron Age 145:25-7+ Mr 28; 48-51 Ap 4 '40
Rolling with the help of idle edgers. N. A. Sobolevsky. diags Blast F & Steel Pl 28: 333-7 Ap '40
Rolling world's largest copper circles. il Metals & Alloys 12:149 Ag '40
Sharp transition from brittle to ductile in hot ingot iron. M. Charlton. il Metal Prog 38:287-90 S '40
Slivers in cold reduced strip. P. J. McKimm. il Blast F & Steel Pl 28:243-6+, 338-40 Mr-Ap '40
Structural changes in copper effected by cold rolling and annealing; abstract and discussion. M. Cook and T. L. Richards. Engineering 149:548 My 31 '40
Surface quality; rolled steel surface dependent upon mold-wall surface. T. J. Woods. Iron Age 145:37-9 F 22 '40
Synchronous motor drive for gold mill; used for rolling either gold or silver plate. il Elec W 114:1346+ N 2 '40
Tolerance requirements; engineering developments must occur in process of hot rolling steel. A. C. Cummins. il Steel 107:56, 59, 77 Ag 19 '40
Transformer steel takes a new turn; silicon steel as core material; new assembly method utilizes directional effect produced by rolling. W. E. Ruder. il diags Steel 106: 58-60 Je 3 '40

See also
Rolling mills
Tin plate—Manufacture

Tension control

Cold rolled strip steel; application of tension. T. B. Montgomery. diags Steel 107:56, 58, 61+ O 21 '40; Same, with il. Blast F & Steel Pl 28:990-5 O '40
Tension control for skin pass mills. C. P. Croco. il Steel 107:68, 72+ S 16 '40

ROLLING mills
Abhängigkeit des abbrandes von der zusammensetzung der gasatmosphäre, der wärmdauer, der wärmtemperatur und der gasgeschwindigkeit. R. Bourggraff. Stahl & Eisen 60:129-37, 156-61 bibliog(139 titles, p159-61) F 15-22 '40
As it was in 1915 and as it is in 1940. J. B. Tytus. Metal Prog 37:316 Mr '40
Castle-werke der firma Guest, Keen & Nettlefolds, limited, in Cardiff. H. Fey. il plan Stahl & Eisen 60:413-15 My 9 '40
Enlarged stainless steel plant at Massillon, Ohio. il Ry Mech Eng 114:124 Mr '40
Republic expands stainless facilities; illustrations. Iron Age 145:42-3 F 29 '40
Republic to process and finish stainless steel at Massillon plant. il Blast F & Steel Pl 28:250-2 Mr '40

ROLLING mills—*Continued*

Steel employment peaks reached since continuous mills came in. Iron Age 145:77 F 15 '40

Ueber das kalibrieren von formstahl; das kalibrieren von [_]-stahl. C. Holzweiler and T. Dahl. diags Stahl & Eisen 59:725-31, 1313-18, 1336-43 Je 22, D 7-14 '39

United Engineering installs many mills in 1939. Blast F & Steel Pl 28:100-1 Ja '40

Warm- und kalt-bandblechwalzwerke der Irvin-werke der Carnegie-Illinois-steel corp. in Dravosburg bei Pittsburg. H. Fey. il Stahl & Eisen 60:227-32, pl 1 Mr 14 '40

Weirton steel company. C. Longenecker. il Blast F & Steel Pl 28:781-8 Ag '40

Youngstown increases capacity at Indiana Harbor plant; illustrations. Iron Age 144:40-1 D 21 '39

See also
Steel works

Accounting

Sales and statistical analysis for a metal manufacturer; American rolling mill co, Middletown, Ohio. E. V. Denton. il N A C A Bul 21:491-9 D 15 '39

Bearings

Austauschwerkstoffe in walzenlagern; neue erfahrungen, insbesondere mit pressstoffen. E. Rohde. bibliog diags V D I 83:1209-16 N 18 '39

Mill part fabricated by thermit and arc welding; housings of blooming mill pinions. il Iron Age 145:35 Ja 18 '40; Same. Blast F & Steel Pl 28:70 Ja '40; Same. Steel 106:80 F 12 '40

Roll neck lubrication. H. D. Kolb. il Blast F & Steel Pl 27:1137-40 N '39

Synthetic materials as bearings for mills; abstracts. C. D. Philippe. il Engineering 149:99-100 Ja 26 '40; Engineer 169:119-20 F 2 '40

Electric equipment

Electric heat for protection and preventative maintenance. C. T. Elder. diag Steel 106:52-3 Je 10 '40

Electrical developments of 1939. G. Bartlett. il Gen Elec R 43:20, 33 Ja '40

Handling coils: multiple lifting magnet. F. W. Jessop. il Steel 106:56+ F 5 '40

Hole detector simplifies quality production on shearing line. il Steel 106:55 Ap 29 '40; Blast F & Steel Pl 28:460 My '40

1939 electrical developments. L. A. Umansky. il Steel 106:48-9 Ja 22 '40; Same cond. Blast F & Steel Pl 28:83-4 Ja '40

Phototube detects pin holes in steel. il plan Elec W 114:560 Ap 24 '40

Phototube inspects steel strips for pinholes. il Electronics 13:60+ Je '40

Power factor and voltage controlled automatically; American rolling mill company. E. G. Schlup. il diag Elec W 114:842-4 S 21 '40

Precipitators keep mill motors clean. C. M. Myers. il Elec W 113:1732 Je 1 '40

Protecting motors in the steel mill. G. A. Caldwell. il Steel 106:60-2 Ap 8 '40

Some recent steel-mill installations. A. F. Kenyon. il diag Elec Eng 59:70-6 F '40

Steel strip manufacture; continuous cold rolling; Whitehead iron & steel co. il Elec R (Lond) 126:121-3 F 2 '40

Tension control for skin pass mills. C. P. Croco. il Steel 107:68, 72+ S 16 '40

Ventilate cable ducts in hot mill area; Campbell works of the Youngstown sheet and tube company. C. M. Myers. diag Elec W 113:1234 Ap 20 '40

Ventilation of electrical machinery at a steel rolling mill. il Engineer 169:376, 380 Ap 19 '40

Width gage for hot strip mills. diag Steel 107:71-2+ O 28 '40

Employees

Earnings and hours in the iron and steel industry, April 1938; occupational differences. V. S. Baril, H. O. Rogers and A. C. Lakenan. Monthly Labor R 51:709-26 S '40

See also
Steel workers

Equipment

American rolling mill company's new mill benefits strip mill; with layout plan. M. P. Sieger. il Blast F & Steel Pl 27:1255-7 D '39

Association of iron and steel engineers spring meeting, Cincinnati, April 1-2. Steel 106: 77-9 Ap 8 '40

Auxiliary equipment at the Edgar Thomson plant of the Carnegie-Illinois steel corporation. M. P. Sieger. Blast F & Steel Pl 27: 1270 D '39

Billet heating; new type of furnace fired with pulverized coal and employs complete automatic control. C. F. Herington. il plan Iron Age 146:26-9 Ag 29 '40

Continental steel corporation's Kokomo plant. C. Longenecker. il layouts Blast F & Steel Pl 28:58-68 Ja '40

Continuous pipe mill; Maryland plant, Bethlehem steel co. L. J. Hess. il Steel 106: 47-8+ Je 24 '40; Excerpts. Iron Age 145: 38-9 Je 13 '40

Conveyor tables for continuous furnace doing both normalizing and annealing; Irvin works, Carnegie-Illinois steel corp. il Steel 107:56+ Ag 26 '40

Cullen-Friestedt sheet lifter. il Blast F & Steel Pl 28:286 Mr '40

Farrel-Birmingham two-high mill for all rolling operations. il Steel 106:48 Mr 11 '40; Iron Age 145:31 Mr 28 '40

Granite City expands capacity. il Iron Age 144:51 N 23 '39

Guyer sheet gauger; mechanical micrometer. il Blast F & Steel Pl 27:1263 D '39

Instrumentation of the continuous strip mill at Ebbw Vale. Blast F & Steel Pl 28:271-2+ Mr '40

Intermittent conveyor for handling strip steel in coils. R. Trautschold. il Steel 107:52+ O 28 '40

New custom alloy shop; making guide shoes for pipe and bar mills; Youngstown alloy casting corp. G. R. Reiss. il Steel 107:111-12+ O 14 '40

New designs in steel mill auxiliary equipment. il Iron Age 146:59 S 19 '40

New reel for strip. W. W. McBane. il diag Steel 106:50+ Ja 15 '40

New slabber-edger setup at East works of American rolling mill co. il diags plan Steel 106:48-9, 76-7+ Mr 18 '40

Pouring Canada's heaviest casting; housing for rolling mill; Dominion foundries and steel ltd. il Can Eng 77:9-10 D 12 '39

Reducing mill machinery wear by facing the wearing surface. il diags Blast F & Steel Pl 27:1242-5 D '39

Roll planishing mill cuts wire coating loss. il Iron Age 144:50 N 23 '39

Rolling mill equipment reclaimed by welding. D. B. Rice. il diags Steel 107:57+ S 30 '40; Same. Blast F & Steel Pl 28:979-80 O '40; Same cond. Iron Age 146:33 O 31 '40

Rolling of sections at the Appleby-Frodingham steel company, ltd. W. T. Wilson. diags plan Iron & Steel Inst J 139:321-36, pl 20-2 no 1 '39; Same. Blast F & Steel Pl 27:512+, 622-3+, 712+, 856-7 My-Ag '39; Discussion. Iron & Steel Inst J 139:337-9 no 1 '39

Sheet galvanizing machine; Ebbw Vale works of Richard Thomas & co. V. Delport. il Steel 106:60+ Je 10 '40

Stainless steel as manufactured in an English plant; United steel companies. il Blast F & Steel Pl 28:479-82 My '40

Straight-line sheet galvanizing; Wheeling steel corp. D. A. McArthur and R. A. Geuder. il plans Iron Age 145:38-41 Ap 11 '40

Stripsheet annealing. il Steel 106:48-9+ Ap 15 '40

Welded piping system; supplies water for cooling electric machinery; Edgar Thomson works of Carnegie-Illinois steel co. H. Weiss. Steel 105:64+ N 20 '39

See also
Furnaces, Heating

ROLLING mills—*Continued*

Layout

New slabber-edger setup at East works of American rolling mill co. il diags plan Steel 106:48-9, 76-7+ Mr 18 '40

Warm- und kalt-bandblechwalzwerke der Irvin-werke der Carnegie-Illinois-steel corp. in Dravosburg bei Pittsburg. Stahl & Eisen 60:pl 1 Mr 14 '40

Lubrication

Roll neck lubrication. H. D. Kolb. il Blast F & Steel Pl 27:1137-40 N '39

Power

Boiler combustion control in the steel mill. M. J. Boho. flow charts diags Blast F & Steel Pl 28:806-9 Ag '40

100% makeup at 825 lb, 750 F; Youngstown Sheet and Tube installs high-pressure topping units. il diag plan Power 84:637-9 O '40

Rolling blooms and slabs for maximum tonnage output. T. A. Zamboky. il chart Blast F & Steel Pl 27:1121-5 N '39

Youngstown Sheet and Tube's new boilers operate on 100% make up. W. C. Kernahan. il plan Blast F & Steel Pl 28:175-8 F '40

See also

Electric driving—Rolling mills

Safety devices and measures

Meet the champion safe worker; E. Jennerjahn, roll grinder for the Kimberly-Clark corporation. Nat Safety N 42:25+ Jl '40

Tables, calculations, etc.

Rolling blooms and slabs for maximum tonnage output. T. A. Zamboky. il chart Blast F & Steel Pl 27:1121-5 N '39

Rolling with the help of idle edgers. N. A. Sobolevsky. diags Blast F & Steel Pl 28: 333-7 Ap '40

ROLLS (paper machinery)

New table roll; Hargreaves grooved tube rolls. diags Pulp & Pa of Can 41:631 Ag '40

Rubber in the paper industry. R. B. Marr. il Pulp & Pa of Can 41:440-2 Je '40

Some tips on grinding paper mill rolls. H. J. Wills. il diag Paper Tr J 110:17-19 Ja 4 '40

ROLLS (rolling mills)

Alloy cast irons in steel plants. A. B. Everest. il Blast F & Steel Pl 28:700-1 Jl '40

Converting worn rolls. W. F. Lautner. il Steel 105:42, 44 D 25 '39; Abstract. Metals & Alloys 11:MA208 Ap '40

Foundry burns new necks on rolls. il Foundry 68:99 Ag '40

Hardness testing of chill-cast rolls. Engineering 148:664 D 15 '39; Engineer 169:132 F 9 '40

Lubrication of grinding rolls; grinding and polishing rolls for rolling sheet metal. C. H. S. Tupholme. Blast F & Steel Pl 28:198-9 F '40

Mirror strip with carbide rolls. T. C. Campbell. il Iron Age 145:44-6 F 1 '40

Rolls; the past, present and future. R. P. Perry. Blast F & Steel Pl 28:414-15, 512-13, 614 Ap-Je '40

Some design considerations of forged steel rolls; abstract. J. R. Adams and H. L. Watson. Metal Prog 37:44-5 Ja '40

Stützwalzen für kaltwalzwerke. R. Hohage. il diags Stahl & Eisen 59:1197-1200; Discussion. 1200-4 N 2 '39

Manufacture

Finishing the surface of steel mill rolls; American wheelabrator airless centrifugal blasting with metallic abrasives. D. C. Turnbull. il Blast F & Steel Pl 28:495-6+ My '40

Forged working rolls for cold-rolling mills and their manufacture. R. Scherer. il Blast F & Steel Pl 27:1143-5+, 1238-41 N-D '39

Steel foundry show steady growth; Ohio steel foundry co. P. Dwyer. il Foundry 68:34-7, 94+ N '40

ROMAN Catholic church

Catholic church and leviathan (the totalitarian state). Economist 137:241-2 N 18 '39

St Peter Claver mission, Montclair, N. J. serves a Negro community; with construction outline. il plans Arch Forum 72:378-82 Je '40

ROME (city)

Antiquities

See also

Colosseum, Rome

Exhibition, 1942

L'Exposition universelle et internationale de Rome, en 1942. Lo Duca. il plans Génie Civil 115:397-401 D 2 '39

ROOF gutters. See Gutters (roof)

ROOFING

New light weight shingle offered by Gladding, McBean & co. il Brick & Clay Rec 95:44 D '39

Reeder's forty-second anniversary. il Sheet Metal Worker 31:59-60 Ja '40

Survey of roofing materials in the northeastern states. H. R. Snoke and L. J. Waldron. bibliog il map U S Nat Bur Stand Report BMS29:1-27 '39

See also

Roofs

Advertising

Letter to 500,000 farmers pulls 14.2%; mailing is preceded by 12 tests; Southern states iron roofing company. il Ptr Ink 192:17-20 Jl 5 '40

Test mailings among farmers; Southern states iron roofing co. Ptr Ink Mo 40:39-40 Ja '40

Statistics

Asphalt prepared roofing, shipments, 1936-1939. Survey of Cur Business 1940 Sup p96 [supplemented in monthly numbers]

ROOFING, Asbestos

Asbestos roofs; safety precautions essential. Chem Age (Lond) 42:284 My 18 '40

ROOFING, Copper

Correct and incorrect copper application methods. H. H. Doe. il diags Sheet Metal Worker 30:29-30 N; 34 D '39; 31:55 Ja; 25-6 F; 31-2 Mr; 32-4 Ap; 35-6 My '40

Crimped lead-coated copper replacing 61-year old tin roof on church; Reformed Dutch church of Flatbush. il diag Sheet Metal Worker 31:27-9 Je '40

Suggestions on improved valley design. P. Jahn. Sheet Metal Worker 31:72 My '40

25-ton lead-coated copper roof; County court house, Jamaica, Long Island, N.Y. il diags Sheet Metal Worker 30:23-4+ D '39

ROOFING felt. See Felt, Roofing

ROOFS

Country's longest span rigid frame roof; coliseum on Indiana's state fair grounds. il Eng N 123:858 D 28 '39

Estimating heat flow through sunlit flat roofs; reference data. C. O. Mackey and L. T. Wright, jr. Heat & Ven 37:26a-26b Ag '40

Finding length of common rafters with tables on the steel square. G. Townsend. diags Am Bld 62:106-7+ Ap '40

Hip rafter problems solved by means of the steel square. G. Townsend. diags Am Bld 62:78, 92-4+ Je; 72-3+ Jl '40

Inspecting and maintaining building walls and roofs; Yale university. W. W. Randolph. Eng N 124:336 F 29 '40

Miscellaneous uses of the steel square. G. Townsend. diags Am Bld 62:57+ S '40

Plywood and laminated timber construction. I. D. S. Kelly. il diags Civil Eng 10:25-8 Ja '40

Roof and ceiling insulation of primary importance. il diags Am Bld 61:61-3 D '39

Sheet metal worker's catechism (cont). W. Neubecker. diags Sheet Metal Worker 30: 33-4 F; 33-4 Je; 32-3 Ag; 35-6+ O; 28+ D '39; 31:33+ F; 33-4 Je; 36 Ag; 35-6 O '40 (to be cont)

ROOFS—*Continued*
Simplicity in structural design; arch rib roofs for sports buildings. G. Hadden. il Civil Eng 10:451-2 Jl '40
Skylight and roof tables. H. C. Smith. 3d ed rev & enl 508p $1.50 Scientific book corp, 15 E. 26th st, New York '40
Summer cooling load as affected by heat gain through dry, sprinkled and water covered roofs. F. C. Houghten, H. T. Olson and C. Gutberlet. il diags Heating-Piping 12: 451-8 Jl '40
Timber arches for buildings; five highway equipment buildings; reinforced concrete buttresses support glued laminated timber arches. A. S. Friedman. il Eng N 124:847 Je 20 '40
Timber trusses support roofs over 2½ acres of shops; Seattle-Tacoma shipbuilding corp. il diags Eng N 125:85 Jl 18 '40
25-ton lead-coated copper roof; County court house, Jamaica, Long Island, N.Y. il diags Sheet Metal Worker 30:23-4+ D '39
Using the steel square to lay out valley and jack rafters. G. Townsend. diags Am Bld 62:60-1+ Ag '40

See also
Architecture
Building
Car roofs
Domes
Flashing
Girders
Mine roofs
Roofing
Strains and stresses

ROOFS, Concrete
Comble en shed, en béton armé, des ateliers de la Corderie Suisse, à Schaffhouse. il diag Génie Civil 116:299-300 My 4 '40
Cracks in exterior masonry bearing walls occurring where concrete roof and floor slabs bear on the walls. A. M. Korsmo and B. M. Thorud. diags Am Concrete Inst J 12:49-54 S '40
Dynamic effect of incendiary bombs on roofs. J. D. W. Ball. diags Engineer 169:459-60 My 17 '40
Full span concrete slabs for floors and roofs; joist system made from vibrated concrete. R. S. Torgerson. il diag Rock Prod 43:59-60 My '40
Large thin-shell concrete dome dominates Montreal's skyline; St Joseph's Basilica; abstract. M. Cailloux. il diags Eng N 124:184-5 F 1 '40
Movable centring for reinforced-concrete arches. V. Cherre. il diags Engineering 149: 321-2 Mr 29 '40
Pneumatic roofs for army huts. Engineer 169:240 Mr 8 '40
Point-supported dome of thin shell type; auditorium at Tulane university. A. Tedesko. il diags Eng N 123:767-8 D 7 '39
Reinforced concrete shell on steel ribs in McAlister auditorium dome. il Concrete 48: 28 Ja '40
Summer cooling load as affected by heat gain through dry, sprinkled and water covered roofs. F. C. Houghten, H. T. Olson and C. Gutberlet. il diags Heating-Piping 12: 451-8 Jl '40
Thin-shell dome. Z. Witkin. Eng N 125:8 Jl 4 '40

ROOFS, Steel
Folded sheet-steel roofs; unique welded structure features prefabricated roof and wall sections. R. Sherman. il diag Steel 106:49-50, 52 F 19 '40
Office building completed in 79 working days; use of special cellular steel floor, roof and partition sections, bonded metal paneling for walls; H. H. Robertson co. H. B. Winslow. il diags Steel 106:46-8+ F 19 '40
Porcelain enameled factory building; Ferro enamel corp. il Iron Age 144:44 D 7 '39
Porcelain enameled roof; plant of Ferro enamel corp. il diags Steel 106:54 F 5 '40
Quebec likes steel roofing. C. Matthews. il Sheet Metal Worker 31:70-1 Ja '40
70,000 sq. ft. of steel roof deck laid in 110 working hours; Kearney & Trecker co. in West Allis, Wis. il Sheet Metal Worker 31: 38+ My '40
Sheet metal worker's catechism; galvanized sheet steel roofing. W. Neubecker. diags Sheet Metal Worker 30:35-6+ O; 28+ D '39; 31:33+ F; 33-4 Je; 36 Ag; 35-6 O '40 (to be cont)

ROOKWOOD pottery company
Clara Chipman Newton, pioneer secretary, Rookwood pottery company. Am Cer Soc Bul 18:443-5 N '39

ROOMING houses. See Lodging houses

ROOMS
Making maximum use of minimum space; interior design of minimum apartments and multipurpose rooms. V. Conner. il diags plans Arch Rec 88:61-6 S '40
New houses and new house units; the study combined with other rooms. il diags Arch Rec 87:59-64 Ja '40

See also
Bathrooms
Bedrooms
Kitchens
Living rooms
Recreation rooms

Size
Effect of room dimensions on the performance of direct radiators and convectors. A. P. Kratz and others. il diags plans Heating-Piping 12:439-46 Jl '40

ROOSEVELT, Anna Eleanor (Roosevelt) (Mrs Franklin Delano Roosevelt) 1884-
Eleanor Roosevelt; a biography. R. Black. 331p $2.50 Duell, Sloan & Pearce, 270 Madison av, New York '40
Fortune survey; Eleanor Roosevelt's career; what should she do if she does not return to the White House next year? Fortune 21: 77+ My '40
Given the Churchman award for promoting good will; also receives 1939 Humanitarian award. Comm & Fin Chr 149:3656 D 9 '39

ROOSEVELT, Elliott, 1910-
Has radio world agog; formation of new network provides latest climax in much-publicized career. por Business Week p30+ N 18 '39

ROOSEVELT, Franklin Delano, 1882-
Address to Brotherhood of teamsters declares essential the drafting of industry as well as men as basis of national defense. Comm & Fin Chr 151:1513-14 S 14 '40
Annual message to Congress; text. Comm & Fin Chr 150:26-7 Ja 6 '40
Closing political campaign addresses at Cleveland and in Brooklyn. Comm & Fin Chr 151:2744-5 N 9 '40
Country squire in the White House. J. T. Flynn. 131p $1 Doubleday '40
Fortune forum of executive opinion; Roosevelt and Willkie. Fortune 22:72-3 S '40
Fortune survey. Fortune 22:65-7+ O; 71-8 N '40
Fortune survey; presidency now. Fortune 22:supp4 Jl '40
Fortune survey; President's foreign policy with regard to the European situation up to now? Fortune 21:100+ Mr '40
Fortune survey; the presidency. Fortune 22: supp 1-2 Ag '40
Fortune survey; twelve years for the President. Fortune 21:76-7 My '40
Fortune survey; war and the third-term chances. Fortune 20:118 D '39; Same abr. Bankers M 140:78-9 Ja '40
Franklin D. Roosevelt's trust. Trusts & Estates 71:62 Jl '40
In speech by radio from Washington President Roosevelt accepts nomination for third term. Comm & Fin Chr 151:336-7 Jl 20 '40
Next president must be Roosevelt. J. Chamberlain. por Fortune 22:72-3+ O '40
Roosevelt again! J. F. Guffey. 120p $1; pa 50c Franklin pub. co, 210 S. Quince st, Philadelphia '40
Roosevelt's opportunity in next four years. E. Blair. Barron's 20:4 N 11 '40
Secretary-of State Hull's preelection radio address. Comm & Fin Chr 151:2739 N 9 '40

ROOSEVELT, Franklin D., library, Hyde Park, New York
President Roosevelt lays cornerstone. Comm & Fin Chr 149:3341-2 N 25 '39

ROOTS
Oxygen relations in hydrophytes. W. A. Cannon. Science 91:43-4 Ja 12 '40
Roots are pumps; capillary attraction has little to do with sap circulation. P. H. Smith. il Sci Am 163:205 O '40
Some soil factors affecting tree growth. R. M. Salter. bibliog Science 91:391-8 Ap 26 '40

ROOTS, Numerical
Tumminello theory of numerical roots. C. E. Tumminello. 178p $2.35 Christopher pub. house, Boston '39

ROPE
Color test for sisal and manila; the Amoa test for the detection of sisal fiber when admixed with manila fiber. A. V. Billinghame. Textile Col 62:466 Jl '40

See also
Wire rope

ROPEWAYS. See Cableways

ROSES
Defoliation of rose plants with ethylene gas. J. A. Milbrath, E. Hansen and H. Hartman. Science 91:100 Ja 26 '40

ROSIN
Prosize. B. W. Rowland and W. M. Bain. bibliog Paper Tr J 110:33-6 Ap 25 '40
Reactions of maleic anhydride with abietic acid and rosin. A. G. Hovey and T. S. Hodgins. bibliog Ind & Eng Chem 32:272-9 F '40
Retention of fillers. S. W. Martin and W. R. Willets. Paper Tr J 110:114 F 22 '40
Specific gravity; temperature relationships for rosin size milk. H. N. Bogart and D. S. Davis. Paper Ind 22:251-2 Je '40
Statistical survey of rosin as used in the paper industry. P. K. Baird and C. E. Curran. Paper Tr J 111:37-44 Jl 4 '40
Turpentine and rosin; statistics for 1939. Chem & Met Eng 47:91-2 F '40
Use of Staybelite in adhesives. Rubber Age 46:300 F '40

Analysis

Analysis of rosin size. E. A. Georgi. Paper Tr J 111:37-8 Ag 15 '40
Method of analysis of rosin wax sizes. R. B. Porter and W. M. Thomas. Paper Tr J 110:27-30 Je 20 '40

Standards

United States color standards for rosin. B. A. Brice. bibliog Opt Soc Am J 30:152-8 Ap '40

Transportation

Naval stores exchange approves metal drums. il Chem Ind 46:591 My '40

ROSSI, Bruno, 1905-
Appointment of Dr Bruno Rossi at Cornell university. Science 92:101-2 Ag 2 '40

ROTAMETERS
American apparatus, instruments, and instrumentation; high vacuum and measurement and control of gases. R. H. Müller. il Ind & Eng Chem Anal ed 12:582-3 O 15 '40
Improved rotameter. diag Water Works & Sewerage 87:sup70 Ag '40

ROTATING disks. See Disks, Rotating

ROTATION, Optical. See Optical rotation

ROTATION of molecules. See Molecules—Rotation

ROTATORY dispersion. See Dispersion of rays

ROTENONE
Fish in reservoir resist chemical poisoning effects. Eng N 124:522 Ap 11 '40
Non-crystalline constituents of tephrosia virginiana roots. L. D. Goodhue and H. L. Haller. Am Chem Soc J 62:2520-2 S '40
Rotenone-bearing roots from the tropics. For Comm W 1:267 N 9 '40

See also
Deguelin

Analysis

Determination of rotenone in derris root. T. M. Meijer and D. R. Koolhaas. bibliog Ind & Eng Chem Anal ed 12:205-9 Ap 15 '40

ROTH, Almon E.
Collective bargaining, by employers; San Francisco employers' council report to executives. por Business Week p39-46 O 26 '40
San Francisco ambassador. por Business Week p46 F 17 '40

ROTIFERA
Pearl formation induced by a rotifer. A. E. Alexander. bibliog il Am J Sci 237:920-2 D '39

ROTOGRAVURE
BTA motor best for gravure press. il Elec W 113:456 F 10 '40
Conditioning brings economies to rotogravure plant; Chicago Tribune. Refrig Eng 39:200 Mr '40
Dehumidifying and heating needed on an industrial conditioning job; air conditioning system for rotogravure room. M. A. Ramsey. plan Heating-Piping 12:522-3 S '40
Newspaper employs register control profitably. Electronics 13:60 O '40

ROTORS
Methods of balancing. K. R. Hopkirk. Engineer 170:38-9, 55-6, 72-3 Jl 19-Ag 2 '40

See also
Autogiros

ROTORS (electric machinery)
Deformation of turbo-alternator rotor windings, due to temperature rise. G. A. Juhlin. Inst E E J 85:544-52 O '39; Discussion. 86: 430-1 My '40
Fairbanks-Morse copperspun rotor. Mech Eng 62:sup24+ O '40
General Electric valv-amp rotor. il Mass Transportation 36:92 Ap '40; Same. Sci Am 163:124 S '40
Motor noise as influenced by the design of rotor. C. E. Johnson. il Product Eng 11:446-7 O '40
Record rotor action on motor pull-in. E. W. Swanson. diag Elec W 113:1550+ My 18 '40
Some factors in the mechanical design of high-speed turbogenerators. S. H. Mortensen and J. J. Ryan. bibliog il diags Elec Eng 59:Trans 51-6; Discussion. Trans 56 Ja '40
Special problems of two-pole turbine generators. C. M. Laffoon and B. A. Rose. il Elec Eng 59:Trans 30-3; Discussion. Trans 33-4 Ja '40

Testing

Simple test for opens in external circuit of rotors. H. Sauvé. diags Factory Management 98:98+ My '40

ROTTERDAM, Netherlands

Tunnels

Precision devices for sinking tunnel caissons; vehicular tunnel under the river Maas at Rotterdam. J. P. Van Bruggen. il diags Eng N 125:608-10 N 7 '40
Quelques innovations dans le domaine des travaux publics; tunnel à section triple enfoncé à grande profondeur. R. Christiani. il diags map Soc Ing Civils Mémoires 92: 466-74 Jl-D '39
Road tunnel under the river Maas at Rotterdam. J. P. Van Bruggen. il diags maps Engineering 150:101-3, 110, 161-4, 170, 244-7, pl 8, 11-12, 17 Ag 9, 30, S 27 '40
Les tunnels pour piétons et pour véhicules sous la Meuse. A. Bijls. il diags plans Génie Civil 116:113-17 F 17 '40

ROTTLERIN
Rottlerin; a spectrographic study of rottlerin and its derivatives. R. A. Morton and Z. Sawires. Chem Soc J p1052-64 Ag '40
Rottlerin; reinvestigation of derivatives. A. McGookin, A. Robertson and E. Tittensor. Chem Soc J p1579-87 O '39
Rottlerin; tetrahydro*all*orottlerin. A. McGookin, A. Robertson and E. Tittensor. Chem Soc J p1587-93 O '39

ROUGHNESS meter. See Profilometers

ROUMANIA. See Rumania

ROUNDHOUSES

See also
Locomotive shops
Railroads—Shops

ROUTING systems
Clark's twenty acres of automotive manufacturing. J. Geschelin. il Automotive Ind 83: 101-7 Ag 1 '40
Conveyor-baking setup; fabrication of sheet-metal furnace and air-conditioning cases; Forest City foundries co. W. L. Seelbach. il plan Steel 107:52+ Jl 22 '40
Packard has new arrangement for 1940 production. J. Geschelin. il Automotive Ind 82:4-15 Ja 1 '40
Routing raises output; Monarch machine tool co. P. A. Abe. il plan Steel 106:66-7+ Mr 18; 50, 52+ Mr 25 '40
Sealed Power facilities bring precision. J. Geschelin. il Automotive Ind 83:198-200 S 1 '40
Twin Disc products held to rigid specifications; manufacture of clutches and gearing. J. Geschelin. il Automotive Ind 82:314-19 Ap 1 '40
Two million carburetors a year; Carter carburetor corp. J. Geschelin. il Automotive Ind 82:411-13 My 1 '40
Unit a second at King-Seeley; manufacture of automotive equipment and panel instruments. J. Geschelin. il Automotive Ind 82: 513-14 Je 1 '40

See also
Assembling methods
Orders
Production control

ROW houses. See Houses, Row

ROYAL aeronautical society
Annual report, 75th, of the council, 1939-1940. Roy Aeronautical Soc J 44:379-416 Ap '40

ROYAL Dutch company
Profits, 1937-39. Economist 139:96 Jl 20 '40

ROYAL geographical society
Award of medals. Science 92:55 Jl 19 '40
Awards; citations. P. Chetwode. Science 90: 534-5 D 8 '39

ROYAL jelly
Chemical examination of the lipid fraction of royal jelly. G. F. Townsend and C. C. Lucas. Science 92:43 Jl 12 '40

ROYAL-LIVERPOOL insurance companies
Annual statements, 1939. East Underw 41:23 F 16 '40; Nat Underw 44:12 F 15 '40

ROYAL mail steam packet company, London
Royal mail; a centenary history of the Royal mail line, 1839-1939. T. A. Bushell. 270p 10s 6d Trade and travel publications, London '39

ROYAL society of Canada
Report of annual meeting, Ontario, May 20-22. D. A. Keys. Science 92:119-21 Ag 9 '40

ROYAL society of Edinburgh
New fellows. Science 91:308 Mr 29 '40

ROYAL society of London
Address of the president. W. Bragg. Science 92:93-8 Ag 2 '40
Award of the medals. W. Bragg. Science 90: 580-2 D 22 '39
Election of fellows. Science 91:352 Ap 12 '40
Register of scientific men. V. Coffman. Science 90:sup12+ D 1 '39

ROYLE, John, and sons
Builders of Royle extruders celebrate eighty-fifth birthday. il India Rubber W 102:54-5 Ap '40
Royle celebrates 85th anniversary. il Rubber Age 47:26-7 Ap '40

RUBBER
Application of the interferometer to the measurement of dimensional changes in rubber. L. A. Wood, N. Bekkedahl and C. G. Peters. bibliog diags J Research Nat Bur Stand 23:571-83 N '39
Chemist and the ship; applications of rubber and related products. J. E. Holmstrom. Engineer 169:228-9 Mr 8 '40
Composite elasticity of rubber. H. Mark. bibliog il diags India Rubber W 102:41-5 Je; 45-9 Ag '40
Conductive rubber; Dunlop introduces substance which eliminates danger spots by absorbing static electricity. Business Week p38-9 My 25 '40
Dilatometer studies of pigment-rubber systems. H. C. Jones and H. A. Yiengst. bibliog il diag Ind & Eng Chem 32:1354-9 O '40
Effect of vulcanization on rubber structure; a problem in probabilities. W. F. Busse. bibliog Ind & Eng Chem 31:1391-7 N '39
Electrically conductive rubber. H. E. Elden. Rubber Age 47:308+ Ag '40
Engineering properties of rubber in compression. R. W. Brown. bibliog il diags S A E J 47:432-44 O '40; Excerpts. Automotive Ind 82:564-5 Je 15 '40; Automobile Eng 30:408-9 D '40
Is chemical industry ready rubber. W. L. Semon. il Ind & Eng Chem 32:1153-4 S '40
Physical changes induced by vulcanization. W. W. Vogt. Ind & Eng Chem 31:1389-90 N '39
Refractometer studies on rubber-pigment mixtures. H. C. Jones. Ind & Eng Chem 32: 331-4 Mr '40
Rubber, a strategic raw material. P. W. Barker. il Rubber Age 47:393-5 S '40
Rubber developments for tyres, tubes and springs. Automobile Eng 30:277-9 S '40
Rubber for America; chemical factories at home, plantations in Brazil. W. B. Landis. il Sci Am 163:249-52 N '40
Rubber; history, production, and manufacture. P. W. Barker. diags U S Bur For & Dom Com Trade Promotion Ser 209:1-47 bibliog(p46-7) '40
Solvents in the rubber industry. R. K. Strong and K. Tator. India Rubber W 101:47-9 D '39; 45-6 Ja '40
Some causes of variation in the quality of raw rubber and latex; the sol : gel ratio in relation to the ultimate physical properties of rubber. D. Spence and J. D. Ferry. Soc Chem Ind J 58:345-51 D '39
X-ray structure of rubber-carbon black mixtures. S. D. Gehman and J. E. Field. bibliog il Ind & Eng Chem 32:1401-7 O '40
X-ray structure of vulcanized rubber. G. L. Clark. bibliog il Ind & Eng Chem 31:1397-1401 N '39

See also
Printing plates, Rubber
Rubber factories
Rubber goods
Rubber industry and trade
Rubber latex
Rubber plants and planting
Rubber thread
Rubberized fabrics
Tires, Automobile
Tires, Rubber
Vulcanization
also American chemical society—Rubber division

Aging
Oxidation of vulcanized rubber; effect of temperature, state of cure, and thickness. A. R. Kemp, J. H. Ingmanson and G. S. Mueller. bibliog Ind & Eng Chem 31:1472-8 D '39

Analysis
Analysis of rubber for certain diarylamine and ketone-diarylamine antioxidants. L. H. Howland and E. J. Hart. bibliog diags Ind & Eng Chem Anal ed 12:81-5 F 15 '40
Determination of free carbon in rubber; the cresol method; abstract. J. B. Roberts, jr. Chem & Ind 59:666 S 21 '40
Determination of small amounts of copper and manganese in dyes and other organic materials. G. F. Palfrey and others. Ind & Eng Chem Anal ed 12:94-6 F 15 '40
Hevea latex; correlation of nitrogen and ash with total solids content. J. McGavack and C. E. Rhines. Ind & Eng Chem 32:1072-4 Ag '40
Nitrogen content in rubber; comparison of Kjeldahl and Dumas methods. P. Schidrowitz. Rubber Age 47:90 My '40
Report of the crude rubber committee; procedure for estimation of foreign material in crude rubber. il Rubber Age 47:105-6 My '40; Same. India Rubber W 102:56-7 Je '40
Tentative procedures for testing the variability of normal and concentrated latex. bibliog diags Ind & Eng Chem Anal ed 11: 593-7 N 15 '39; Same. India Rubber W 101: 47-9 Ja; 51-3 F '40

RUBBER—Analysis—*Continued*

Testing methods for latex, latex compounds, and artificial dispersions of rubber. D. E. Fowler and W. Thompson, bibliog il Rubber Age 46:223-8 Ja '40

Bibliography

Rubber bibliography. Published in monthly numbers of India rubber world

Chemistry

Abstracts of papers to be presented before Rubber division at A.C.S. spring meeting. Can Chem & Process Ind 24:146+ Mr '40

Abstracts of papers to be presented before Rubber division at A.C.S. spring meeting. India Rubber W 102:61-2 Ap '40; Rubber Age 46:374-6 Mr '40

American chemical society; abstracts of papers at Detroit meeting. Chem & Ind 59: 648-51. 665-6 S 14-21 '40

Colloidal structure of rubber in solution; colloidal aspects of vulcanization. S. D. Gehman and J. E. Field. bibliog Ind & Eng Chem 32:282-7 F '40

Destructive hydrogenation of high-molecular-weight polymers; isobutene polymer, butadiene polymer, and natural rubber. V. N. Ipatieff and R. E. Schaad. il Ind & Eng Chem 32:762-4 Je '40

Distribution of flock size in the creaming of *Hevea* latex. E. M. McColm. India Rubber W 101:38-42 Ja '40

Division of rubber chemistry, American chemical society; abstracts of papers. Rubber Age 47:317-20 Ag '40; India Rubber W 102:51-3+ S '40

Hevea latex; effect of proteins and electrolytes on colloidal behavior. A. R. Kemp and W. G. Straitiff. bibliog diags J Phys Chem 44:788-808 Je '40

Relations between vulcanization and reinforcement. C. R. Park. bibliog il Ind & Eng Chem 31:1402-6 N '39

Report of the crude rubber committee; Division of rubber chemistry, A.C.S. Rubber Age 47:102-6 My '40; Same. India Rubber W 102:53-7 Je '40

Rubber; natural and synthetic; new materials and studies discussed at 100th A.C.S. meeting. Can Chem & Process Ind 24:500-1 O '40

Some causes of variation in the quality of raw rubber and latex; the sol : gel ratio in relation to the ultimate physical properties of rubber. D. Spence and J. D. Ferry. Soc Chem Ind J 58:345-51 D '39

Temperature coefficient of vulcanization. R. H. Gerke. bibliog Ind & Eng Chem 31:1478-81 D '39

Theories of acceleration. L. B. Sebrell. bibliog Ind & Eng Chem 31:1468-71 D '39

Vulcanization from a thermodynamic viewpoint. I. Williams. bibliog Ind & Eng Chem 31:1464-8 D '39

Vulcanization of rubber. H. L. Fisher. il Ind & Eng Chem 31:1381-9 bibliog(59 references, p1388-9) N '39; Same abr. India Rubber W 101:38-41 Mr; 56-8 Ap '40

What the rubber chemists are doing. Published in monthly numbers of India rubber world

See also
Rubber chemicals
Tensolite
Vulcanization
also American chemical society—Rubber division

Chlorination

Chlorinated rubber. A. R. Olsen. il Mod Plastics 17:50+ F '40

Chlorinated rubber and jute; abstract. D. D. Pratt and R. Handley. India Rubber W 101: 61 Mr '40

Flame-proofing agent for textiles; chlorinated rubber. Rubber Age 47:34 Ap '40

Curing

Report of the crude rubber committee, Division of rubber chemistry, A.C.S. Rubber Age 47:103-4 My '40; Same. India Rubber W 102:54-5 Je '40

See also
Vulcanization

Gas absorption

Measuring the permeability of rubber to various gases. A. S. Carpenter and D. F. Twiss. bibliog diags Ind & Eng Chem Anal ed 12:99-108 F 15 '40

History

See also
Rubber industry and trade—History

Joining to metal

New method for bonding soft rubber to steel and aluminum; Dura-bond. Blast F & Steel Pl 28:192-3 F '40; Metals & Alloys 11:MA61 F '40

Rubber coatings on metals. H. E. Cook. Metal Prog 38:480-1 O '40

Manufacture

Advances in latex technology. R. J. Noble. bibliog il Rubber Age 47:29-34 Ap '40

Chloroform extract of reclaimed rubber. H. F. Palmer and F. L. Kilbourne, jr. bibliog Ind & Eng Chem 32:512-18 Ap '40

Control by individual incorporation of vulcanizing agents. D. F. Twiss. bibliog Ind & Eng Chem 31:1461-4 D '39

Effect of particle size on processing properties and abrasion resistance of carbon black in tread stocks. G. L. Roberts. il India Rubber W 101:39-42+ F '40

Practical evaluation of commercial rubber carbon blacks by X-ray diffraction. G. L. Clark and H. D. Rhodes. bibliog il Ind & Eng Chem Anal ed 12:66-71 F 15 '40

Soaps in the rubber industry; evaluation of lubricants; zinc salts in compounding. T. L. Garner. Chem Age (Lond) 42:111 F 24 '40

Solvents in the rubber industry. R. K. Strong and K. Tator. India Rubber W 101:47-9 D '39; 45-6 Ja '40

Uses of natural and synthetic rubbers in the wet processing of textiles; vat and pipe linings, ebonite fittings, valves, rollers, transmission belting, etc. R. A. Hodgson. Soc Dyers & Col J 56:377-83; Discussion. 383-4 S '40

See also
Carbon black
Rubber factories
Rubber goods—Manufacture
Tires, Automobile—Manufacture
Vulcanization

Moisture content

Determination of water absorption of rubber in crude and vulcanized state; abstract. J. W. van Dalfsen. India Rubber W 101:73 D '39

Nitrogen content

Hevea latex; correlation of nitrogen and ash with total solids content. J. McGavack and C. E. Rhines. Ind & Eng Chem 32:1072-4 Ag '40

Patents

Patents and trade marks. Published in monthly numbers of India rubber world

Rubber at the Patent law sesquicentennial. il Rubber Age 47:99-101 My '40

See also
Rubber goods—Patents

Permeability

Measuring the permeability of rubber to various gases. A. S. Carpenter and D. F. Twiss. bibliog diags Ind & Eng Chem Anal ed 12:99-108 F 15 '40

Permeability of elastic polymers to hydrogen. T. P. Sager. J Research Nat Bur Stand 25:309-13 S '40

Prices

Market reviews. Published in monthly numbers of India rubber world

Markets. Published in monthly numbers of Rubber Age

New York rubber futures, 1939. Annalist 55: 149 Ja 25 '40

Protection

Black-out, a surface protective. India Rubber W 102:53 Ag '40

RUBBER—*Continued*

Standards

Progress in standardization by the crude rubber committee. India Rubber W 101:45-8 F '40

Strength

Dynamic fatigue life of rubber. S. M. Cadwell and others. bibliog il diags Ind & Eng Chem Anal ed 12:19-23 Ja 15 '40

Sulfur content

Diffusion of sulfur in rubber; relation to vulcanization. A. R. Kemp and others. bibliog il diags Ind & Eng Chem 32:1075-84 Ag '40

Testing

Action of ozone on rubber and other materials. F. J. Norton. il diags Gen Elec R 43:93-5 F '40; Same. Rubber Age 47:87-90 My '40

A.S.T.M. approves D-11 recommendations. India Rubber W 103:51 N '40

A.S.T.M. standards on rubber products, prepared by committee D-11 on rubber products. 210p bibliog(p198-205) pa $1.75; to members $1.25 Am. soc. for testing materials, 260 S. Broad st, Philadelphia '39

Determination of water absorption of rubber in crude and vulcanized state; abstract. J. W. van Dalfsen. India Rubber W 101:73 D '39

Dynamic fatigue life of rubber. S. M. Cadwell and others. bibliog il diags Ind & Eng Chem Anal ed 12:19-23 Ja 15 '40

Effect of particle size on processing properties and abrasion resistance of carbon black in tread stocks. G. L. Roberts. il India Rubber W 101:39-42+ F '40

Effect of rubber variability on vulcanization. J. D. Hastings and E. Rhodes. bibliog Ind & Eng Chem 31:1455-60 D '39

Engineering properties of rubber in compression. R. W. Brown. bibliog il diags S A E J 47:432-44 O '40

Exposure tests of stretched vulcanized sheets from milled rubber and from latex. W. J. Potter. bibliog India Rubber W 103:41-3 N '40

Hysteresis in crystallization of stretched vulcanized rubber from X-ray data; correlation with stress-strain behavior and resilience. G. L. Clark and others. il Ind & Eng Chem 32:1474-7 N '40

Low-temperature set as a measure of state of vulcanization. J. H. Fielding. bibliog Ind & Eng Chem Anal ed 12:4-9 Ja 15 '40

Mechanical oscillograph for routine tests of rubber and rubber-like materials. F. L. Yerzley. bibliog il diags Am Soc T M Proc 39:1180-8 '39; Same. India Rubber W 100: 43-7 Jl '39; Discussion. Am Soc T M Proc 39:1189-90 '39

Progress in standardization by the crude rubber committee. India Rubber W 101:45-8 F '40

Reclaimed rubber; application of the T-50 test. H. F. Palmer and R. H. Crossley. bibliog Ind & Eng Chem 32:1366-71 O '40

Standardization of durometers. L. Larrick. il Rubber Age 47:387-92 S '40

Standardization of rubber flexing tests. W. L. Stevens. India Rubber W 102:36-41 Ag '40

Swelling of vulcanized rubber. N. H. van Harpen. India Rubber W 102:64 My '40

Tensile properties of rubber compounds at high rates of stretch. F. L. Roth and W. L. Holt. bibliog diags J Research Nat Bur Stand 23:603-16 N '39

See also
Rubber goods—Testing

Textile uses

Development of aqueous rubber dispersions and their application to textiles. B. A. Harold. bibliog Am Dyestuff Rep 29:311-12, 332 Je 24 '40

Some recent fiber-latex developments. M. C. Teague. Am Dyestuff Rep 29:422-5 Ag 19 '40; Same cond. Rubber Age 48:23-5 O '40; Discussion. Am Dyestuff Rep 29:425-6 Ag 19 '40

Some textile developments of 1939; rubber on wool fiber. G. S. Ranshaw. Chem Age (Lond) 42:52 Ja 27 '40

See also
Elastic fabrics
Rubber thread
Rubberized fabrics

Transportation

Packaging of smoked sheets for plantations shipment. D. E. Andrews. il India Rubber W 101:33-7 Mr '40

Uses

Advances in latex technology. R. J. Noble. bibliog il diag Rubber Age 47:93-8, 167-71 My-Je '40

Chlorinated rubber. A. R. Olsen. il Mod Plastics 17:50+ F '40

New method for making vulcanized latex molds for plaster casting. A. Silver. il diags Rubber Age 48:31-4 O '40

Non-metallic conduit wiring. T. C. Gilbert. il diag Elec R (Lond) 126:211-12 F 23 '40

Rubber, an aid in oil-well shooting. F. R. Cozzens. diag India Rubber W 101:49 Mr '40

Rubber for army gas masks. M. E. Barker. il diags India Rubber W 102:33-6 My '40

Some experiences with expansion joints in concrete pavements; rubber and rubber compounds used as a filler or seal. A. P. Anderson. il Pub Roads 21:57-61 My '40; Excerpt. Concrete 48:6 O '40

War uses of rubber. India Rubber W 101:64 Ja '40

See also
Rubber goods
Rubber latex

RUBBER, Artificial

Ameripol, a new butadiene synthetic rubber. il India Rubber W 102:47-8 Jl '40

Ameripol, synthetic rubber now under production. Power Pl Eng 44:110+ Ag '40

Buna for auto tires? Barron's 20:9 F 19 '40

Buna may be made here. Ind & Eng Chem News ed 18:152 F 25 '40

Buna rubbers. A. Koch. Ind & Eng Chem 32: 464-7 Ap '40

Buna synthetic rubber. E. Konrad. Roy Aeronautical Soc J 44:439-46 My '40

Butyl rubber, a new Standard Oil synthetic. W. S. Farish. il India Rubber W 102:44 Jl '40

Butyl rubber and Ameripol, two new synthetic rubbers, are announced by Standard oil of New Jersey and Goodrich. Rubber Age 47:180 Je '40; Oil & Gas J 39:25 Je 13 '40

Le caoutchouc synthétique Buna. O. Ambros. il Soc Ing Civils Mémoires 92:224-40 Mr '39

Les caoutchoucs artificiels. il Génie Civil 116: 61-5 Ja 27 '40

Catalytic dehydrogenation of monoolefins to diolefins; source materials for synthetic rubber and resins. A. V. Grosse, J. C. Morrell and J. M. Mavity. bibliog diag Ind & Eng Chem 32:309-11 Mr '40

Characteristics and utility of neoprene latices. B. Dales. India Rubber W 102:43-5 Ap '40

Chemigum, a butadiene copolymer; abstract. R. P. Dinsmore. India Rubber W 103:44 O '40

Chemigum, a new elastomer. R. P. Dinsmore. il Ind & Eng Chem News ed 18:757+ S 10 '40

Chemist and the ship; applications of rubber and related products. J. E. Holmstrom. Engineer 169:228-9 Mr 8 '40

Crude and synthetic rubber. Manuf Rec 109: 28+ Ap '40

Cyanamid's acrylonitrile, synthetic rubber intermediate. B. W. Henderson. il Chem Ind 47:50-1 Jl '40

Data on sovprene. India Rubber W 103:66 O '40

Defense spurs chemical industry's growth. S. B. Self. il Barron's 20:16-18 S 16 '40

Firestone now producing Buna. Automotive Ind 82:434 My 1 '40

First tire of American materials announced by B. F. Goodrich co.; use of Ameripol. il Automotive Ind 82:581+ Je 15 '40

RUBBER, Artificial—*Continued*

Goodrich mechanical rubber; expands its elastic frontier with synthetics and 32,000 products. il Fortune 21:64-9+ Je '40

Goodyear announces Chemigum, its new synthetic. il India Rubber W 102:59 S '40; Oil & Gas J 39:44 S 5 '40; Rubber Age 47: 399 S '40

Goodyear introduces Pliosheen. Rubber Age 47:398 S '40

Is chemical industry ready? rubber. W. L. Semon. il Ind & Eng Chem 32:1153-4 S '40

Is chemical industry ready? synthetic rubber. E. V. Murphree. Ind & Eng Chem 32: 1157 S '40

Koroseal, a raw material for the rubber industry. S. L. Brous. il India Rubber W 101: 53-4 D '39

Mounting of aero engines with special reference to rubber and Buna material. B. Steinborn. diags Roy Aeronautical Soc J 44:447-50 My '40

New rubber synthetics; Goodyear's Chemigum; Firestone test tires. Business Week p33-4 Ag 31 '40

New synthetic rubber developed by Goodrich; Ameripol. il Aero Digest 37:55 Jl '40; Ind & Eng Chem News ed 18:540 Je 25 '40; Mach 46:206 Jl '40

Perbunan and its use. C. A. Klebsattel. India Rubber W 102:33-5 Ag; 37-9 S; 103:45-8 O '40

Permeability of elastic polymers to hydrogen. T. P. Sager. J Research Nat Bur Stand 25:309-13 S '40

Plasticity of synthetic rubber; abstract. N. A. Chesnokov. India Rubber W 102:64 Jl '40

Recent development in the field of synthetic rubber. H. Mark. Chem & Ind 59:89-90 F 10 '40

Revolution in rubber? outlook for natural and synthetic rubber. J. J. Hipple. il Mag of Wall St 66:351-3+ Je 29 '40

Rubber and like products; chemical and physical properties, makers. Chem & Met Eng 47:610-11 S '40

Rubber from petroleum developed by two firms. Oil Paint & Drug Rep 137:3+ Je 10 '40

Rubber from petroleum gases. D. North. il Chem & Met Eng 47:220-4 Ap '40

Rubber from petroleum is entering commercial stage; plans to produce Buna rubber in the United States. H. S. Norman. il Oil & Gas J 38:9-10 Ap 11 '40

Rubberlike properties of polybutene. W. J. Sparks and others. bibliog il Ind & Eng Chem 32:731-6 My '40

Science averting U.S. rubber crisis; growing family of synthetics. Business Week p42-3 Je 15 '40

Silent electrical discharges on rubber solutions. L. Hock and H. Leber. India Rubber W 102:71 Je '40

Some properties of Perbunan. I. E. Lightbown. Rubber Age 47:19-21 Ap '40

Standard Oil rubber. Business Week p51-2 Ap 13 '40

Status of synthetic rubber. J. L. Collyer. Rubber Age 48:39 O '40

Suggested system for classification of polymers. H. Mark. diags India Rubber W 102:49-51 Jl '40

Swelling of synthetic rubbers in mineral oils; effect of variation in aniline point of oils. F. H. Carman, P. O. Powers and H. A. Robinson. bibliog Ind & Eng Chem 32: 1069-72 Ag '40

Synthetic latex in brake linings; abstract. V. D. Gerasimova and E. L. Podocenova. India Rubber W 102:64 Jl '40

Synthetic 190, a polybutene of high molecular weight. India Rubber W 102:45 Je '40

Synthetic rubber. E. W. Emery. il Aero Digest 37:51-2+ Jl '40

Synthetic rubber. A. E. Williams. Engineer 170:164-6 S 13 '40

Synthetic rubber belts. Mach 47:129 O '40

Synthetic rubber for auto tires. Barron's 20:7 Je 10 '40

Synthetic rubber; neoprenes and bunas and butyls. il map Fortune 22:70-1+ Ag '40

Synthetic rubber takes to the air. H. M. Koelliker. il Aviation 39:62+ Ap '40

Synthetic rubbers; a review of their compositions, properties, and uses. L. A. Wood. India Rubber W 102:33-43, 51 bibliog (232 titles, p41-3, 51) Jl '40; Same. U S Nat Bur Stand Circ C427:1-29 '40; Same. Engineering 150:316-17, 335-6, 356, 419-20 O 18-N 1, 22 '40

Synthetic rubbers; report of November meeting, Montreal section, S.C.I. D. C. Lloyd. Can Chem & Process Ind 24:46 Ja '40

Synthetic rubbers; suitable for army and navy use. B. Longstreth. Ind & Eng Chem 32:1156 S '40

Technische anwendungen von Buna in der chemischen industrie; hartgummi aus Buna. H. Roellg. il diags Chemische Fabrik 12: 481-2 N 8 '39

Trends in the development of synthetic rubbers. P. K. Frolich. Ind & Eng Chem News ed 18:285-6 Ap 10 '40; Excerpt. Chem Age (Lond) 42:303 Je 1 '40

Tygon lining materials. Rubber Age 46:167 D '39

U.S. rushes synthetic. Business Week p60-1 O 12 '40

Use of synthetic rubbers in Germany. India Rubber W 101:64 Ja '40

Uses of natural and synthetic rubbers in the wet processing of textiles; vat and pipe linings, ebonite fittings, valves, rollers, transmission belting, etc. R. A. Hodgson. Soc Dyers & Col J 56:377-83; Discussion. 383-4 S '40

See also

Neoprene

Manufacture

Butyl rubber; new hydrocarbon product. R. M. Thomas and others. bibliog il Ind & Eng Chem 32:1283-92 O '40; Abstract. Chem Ind 47:375-8 O '40

Manufacture and properties of butyl rubber. P. K. Frolich and others. il Rubber Age 47: 383-5 S '40; Same abr. India Rubber W 103: 43-4 O '40; Excerpts. Oil & Gas J 39:194 S 19 '40; Science 92:sup10 S 13 '40

Manufacture of Vinidur products. India Rubber W 103:62-3 N '40

New company is organized to make synthetic rubber; Hydrocarbon chemical and rubber company. Rubber Age 47:323 Ag '40; India Rubber W 102:60 S '40

Patents

German patents relating to synthetic rubberlike materials. L. Voge. bibliog India Rubber W 102:48-50 Ap; 47-9 My; 45-6 Jl; 43-4 Ag; 41-4 S; 103:41-2+ O; 39-40+ N; 53-5 D '40

Patents and trade marks. Published in monthly numbers of India rubber world

Standard Oil acquires Buna patents; production in this country assured. India Rubber W 101:54 Mr '40

Standard Oil gets Buna rubber rights. Rubber Age 46:305 F '40

Testing

Materials represented as synthetic rubber; procedure for testing. A. T. McPherson. India Rubber W 101:43-4 Ja '40

RUBBER, Effect of ozone on

Action of ozone on rubber and other materials. F. J. Norton. il diags Gen Elec R 43:93-5 F '40; Same. Rubber Age 47:87-90 My '40

Exposure tests of stretched vulcanized sheets from milled rubber and from latex. W. J. Potter. bibliog India Rubber W 103:41-3 N '40

RUBBER, Effect of sunlight on

Exposure tests of stretched vulcanized sheets from milled rubber and from latex. W. J. Potter. bibliog India Rubber W 103:41-3 N '40

RUBBER, Effect of temperature on

Low-temperature set as a measure of state of vulcanization. J. H. Fielding. bibliog Ind & Eng Chem Anal ed 12:4-9 Ja 15 '40

RUBBER, Effect of temperature on—*Continued*
Oxidation of vulcanized rubber; effect of temperature, state of cure, and thickness. A. R. Kemp, J. H. Ingmanson and G. S. Mueller. bibliog Ind & Eng Chem 31:1472-8 D '39

RUBBER, Expanded
See also
Onazote

RUBBER, Powdered
Injection molding of rubber powder; abstract. F. H. Cotton and W. F. Hodson. India Rubber W 101:61 Mr '40

RUBBER, Sponge
Cooling foam rubber in process. W. S. Bodinus. il plan India Rubber W 103:47 N '40
Unicel, blowing agent for sponge rubber. Rubber Age 47:164 Je '40
Use of reclaimed rubber in sponge rubber goods. J. S. Plumb. Rubber Age 47:165-6 Je '40

Testing
Jiggling Jenny for testing foam latex cushions. il Rubber Age 46:302 F '40
Scott foamed latex sponge rubber tester. il Rubber Age 46:237-8 Ja '40; India Rubber W 101:52 Ja '40

RUBBER accelerators. See Vulcanization—Accelerators

RUBBER cement
Dunlop adhesives and cements. Automobile Eng 30:62 F '40

RUBBER chemicals
Dispersion of pigments in aqueous medium. F. K. Daniel. India Rubber W 101:50-2 D '39; 33-7 Ja '40
New zinc sulphide developed. India Rubber W 102:45 Je '40
Silene, a pigment with reenforcing properties. India Rubber W 102:49 Ag '40; Rubber Age 47:216 Jl '40
Solvents in the rubber industry. R. K. Strong and K. Tator. India Rubber W 101:47-9 D '39; 45-6 Ja '40
See also
Vulcanization—Accelerators

Analysis
Analysis of rubber for certain diarylamine and ketone-diarylamine antioxidants. L. H. Howland and E. J. Hart. bibliog diags Ind & Eng Chem Anal ed 12:81-5 F 15 '40
Determination of small amounts of copper and manganese in dyes and other organic materials. G. F. Palfrey and others. Ind & Eng Chem Anal ed 12:94-6 F 15 '40

Prices
Compounding ingredients. Published in monthly numbers of India rubber world

RUBBER coating
Anti-percussion latex films. P. Mabb. il Rubber Age 46:229-31 Ja '40
Rubber coatings on metals. H. E. Cook. Metal Prog 38:430-1 O '40
Uses of natural and synthetic rubbers in the wet processing of textiles. R. A. Hodgson. Soc Dyers & Col J 56:377-83; Discussion. 383-4 S '40

RUBBER cushions. See Cushions, Rubber

RUBBER factories
Dust control comments from rubber manufacturers. il Rubber Age 46:364+ Mr '40
Three American plants for South America. Rubber Age 46:381 Mr '40
See also
Rubber—Manufacture
Tire factories
Tires, Automobile—Manufacture

Accidents
1939 accident rates in the rubber industry. India Rubber W 102:44 S '40

Electric equipment
Preventing fires in rubber processes. G. M. Burke. il India Rubber W 102:41-2 My '40
Triple play by motorizing pumps; Puritan rubber company. G. A. Hess. il Elec W 114: 269-70 Jl 27 '40

Employees
Akron labor flareup; General tire & rubber co. strike. Business Week p30 Ap 27 '40
Club over Akron? labor difficulties, revive talk about decentralizing rubber industry. Business Week p38 My 18 '40
Collective bargaining by United rubber workers. H. Cannon. Monthly Labor R 49:604-17 S '39
Dermatitis in the rubber industry. W. E. Obetz. Rubber Age 48:27-30 O '40
Industrial valley. R. McKenney. 379p pa 98c Harcourt '39
Wages in Netherlands rubber industry. H. D. Clum. Monthly Labor R 50:473-5 F '40

Equipment
Automatic proportioning and blending of liquid chemicals in a reclaimed rubber plant. H. F. Palmer and J. M. Hines. il diags Am Inst Chem Eng Trans 36:233-43; Discussion. 243-4 Ap '40
Controlling dust in rubber factories. F. C. Morey. il Rubber Age 46:361-3 Mr '40
How Baldwin Rubber reduced its steam cost from $0.27 to under $0.20 per 1,000 pounds of coal. S. R. Hunter. flow sheet il Rubber Age 47:379-82 S '40
New equipment. Published in monthly numbers of Rubber age
New machines and appliances. Published in monthly numbers of India rubber world
Vacuum cleaning equipment for rubber factories. Rubber Age 46:363-4 Mr '40
Welding service for the renewal of Banbury parts. il India Rubber W 102:59 Ap '40
See also
Rubber machinery

Fires and fire protection
Automatic smothering of liquid fires. P. W. Eberhardt. diags India Rubber W 103:45-6 N '40
Fighting fire in the rubber factory with carbon dioxide. P. W. Eberhardt. il diag Rubber Age 47:172-4 Je '40
Preventing fires in rubber processes. G. M. Burke. il India Rubber W 102:41-3+ My '40

Lighting
Concentrated light for the rubber mill. il Rubber Age 48:26 O '40
Fluorescent lighting for the rubber industry. O. P. Cleaver. il India Rubber W 102:33-6 S '40

Power
Industrial power system based on co-operative design; supply system for rubber products plant. T. F. Offenbacker, R. Patrick and H. T. Fox. il diag Elec W 113:282-5 Ja 27 '40

RUBBER floors. See Floors, Rubber

RUBBER goods
Advances in latex technology. R. J. Noble. bibliog il diag Rubber Age 47:93-8, 167-71 My-Je '40
Akron holds its second annual rubber ball. il Rubber Age 46:177 D '39; India Rubber W 101:59 Ja '40
Census of manufactures, 1939; rubber tires and inner tubes, rubber boots and shoes, and reclaimed rubber, comparing 1939 with 1937. India Rubber W 103:37-8 O '40
Diathermy pad electrodes. il India Rubber W 101:53 Ja '40
Experiences with the new rubber joint packing. W. R. La Due. Water Works & Sewerage 87:60-1 F '40
Fitting composition products to oil-field requirements. F. R. Cozzens. il Oil & Gas J 39:164 My 16 '40
How we put over a product whose price was ten times too high; Pignose faucet washer gets national distribution. K. Hill. il Sales Management 46:29-30, 32 F 15 '40
Hyde-Ro Ring; a rubber jointing ring for poured pipe joints. R. H. Hyde. il diag Water Works & Sewerage 87:401-3 S '40

RUBBER goods—*Continued*
Many new rubber novelties are exhibited at American toy fair, New York. Rubber Age 47:43 Ap '40; India Rubber W 102:56 My '40
Modern antiseptics for the rubber industry. R. A. Engel. il Rubber Age 46:163-4+ D '39
New goods and specialties. Published in monthly numbers of India rubber world
Notion exhibit introduces new rubber items. India Rubber W 101:55 Mr 1 '40
Rubber at the Patent law sesquicentennial. il Rubber Age 47:99-101 My '40
Rubber dies for metal stamping. il Rubber Age 47:392 S '40
Rubber in the paper industry. R. B. Marr. il Pulp & Pa of Can 41:439-44 Je '40
Rubber tie plates for New York subway. Rubber Age 46:178 D '39
Seadrome contact light buoy. il Rubber Age 46:234 Ja '40
South American imports of rubber products. India Rubber W 101:42 Ja '40
Tensolite; rubber hydrochloride stretched under heat. H. D. Minich. il India Rubber W 102:51-3 Ap '40
Tensolite; tensilized rubber hydrochloride; new material, produced from Pliofilm. il Rubber Age 46:165-7 D '39

See also
Hose
Molds (for rubber)
Printing plates, Rubber
Rubberized fabrics
Stoppers
Tires, Automobile
Tires, Rubber

Manufacture

Budgeting for control; Gates rubber company, Denver, Colo. C. N. Kohl. N A C A Bul 21:746-57 F 15 '40
Casting prevulcanized latex in plaster molds. A. Silver. il diags Rubber Age 47:161-4 Je '40
Coagulation of rubber latex and its control. D. F. Twiss and P. H. Amphlett. Soc Chem Ind J 59:202-6 S '40
Injection molding of rubber powder; abstract. F. H. Cotton and W. F. Hodson. India Rubber W 101:61 Mr '40
New method for producing rubber-insulated conductors; patent method of applying coating material to rubber; continuous vulcanization. diags Rubber Age 46:297-8 F '40
Pressure analysis chart for a hydraulic press; rubber molding. P. B. Hunt. India Rubber W 102:48-9 S '40
Rubber binding sleeves for electric conductors. il Elec R (Lond) 126:162 F 9 '40
Use of reclaimed rubber in mechanical and hard rubber goods. H. F. Palmer. Rubber Age 47:249-51 Jl '40
Use of reclaimed rubber in sponge rubber goods. J. S. Plumb. Rubber Age 47:165-6 Je '40

See also
Tires, Automobile—Manufacture

Patents

New method for producing rubber-insulated conductors; patent method of applying coating material to rubber; continuous vulcanization. diags Rubber Age 46:297-8 F '40

Standards

A.S.T.M. standards on rubber products, prepared by committee D-11 on rubber products. 210p bibliog(p198-205) pa $1.75; to members $1.25 Am. soc. for testing materials, 260 S. Broad st, Philadelphia '39

Testing

A.S.T.M. standards on rubber products, prepared by committee D-11 on rubber products. 210p bibliog(p198-205) pa $1.75; to members $1.25 Am. soc. for testing materials, 260 S. Broad st, Philadelphia '39

RUBBER goods, Mechanical
Aviation's rubber stamp; use of rubber pad in press operations; Guerin process. H. E. Guerin. il Am Mach 84:206-8, 246-8 Ap 3-17 '40
Bonded-rubber flexible coupling. il diag Engineering 149:356 Ap 5 '40
Chrysler's rubber-plastics laboratory. J. C. Zeder. il Rubber Age 48:19-22 O '40
Engineering properties of rubber in compression. R. W. Brown. bibliog il diags S A E J 47:432-44 O '40; Excerpts. Automobile Eng 30:408-9 D '40
Goodrich mechanical rubber; expands its elastic frontier with synthetics and 32,000 products. il Fortune 21:64-9+ Je '40
Goodrich segmental type cutless rubber bearing. il diag Marine Eng 45:75-6 Mr '40
How to select and maintain rubber belts. J. Adams, jr. il diags Power 84:150-2 Mr '40
More street cars use more rubber. India Rubber W 102:49 S '40
Mounting of aero engines with special reference to rubber and Buna material. B. Steinborn. diags Roy Aeronautical Soc J 44:447-50 My '40
New York auto show indicates advanced engineering use of rubber. India Rubber W 103:35 N '40
Producing aircraft stampings in the Douglas plant; Guerin process. H. Chase. il Metals & Alloys 12:439-41 O '40
Rubber clutches. il Steel 105:39-40 D 25 '39
Rubber for pressing and forming of metals. P. Grodzinski. diags India Rubber W 101: 47-8 Mr '40
Rubber in woodworking machine design. India Rubber W 101:53 F '40
Rubber mountings for industrial equipment. W. C. Keys. il diag Steel 106:44-7+ Ap 8 '40
Rubber promotes efficiency on California farms. il India Rubber W 101:54-5 F '40
Rubber slabs speed aircraft production; Guerin process. il India Rubber W 103:40+ O '40
Rubber waterstops for dams. C. P. Vetter. il diags Eng N 124:159-61 F 1 '40
Standardization in the field of mechanical packing. F. C. Thorn. India Rubber W 103:37-8 N '40
Use of rubber for producing sheet metal parts. C. J. Frey and S. S. Kogut. il diags Aero Digest 37:129-30, 133-4 N '40 (to be cont)
Uses of natural and synthetic rubbers in the wet processing of textiles; vat and pipe linings, ebonite fittings, valves, rollers, transmission belting, etc. R. A. Hodgson. Soc Dyers & Col J 56:377-83; Discussion. 383-4 S '40

Manufacture

Dicalite fillers for rubber; use in mechanical goods. Rubber Age 46:228 Ja '40

Testing

Dynamic fatigue life of rubber. S. M. Cadwell and others. bibliog il diags Ind & Eng Chem Anal ed 12:19-23 Ja 15 '40

RUBBER hydrochloride. See Tensolite

RUBBER industry and trade
Advances in latex technology. R. J. Noble. bibliog il Rubber Age 46:365-8 Mr '40
Government to buy added 180,000 tons of rubber in 1941. J. Jones. India Rubber W 102:49 S '40
More tin and rubber; boosts in quotas. Business Week p43 Jl 13 '40
News by commodities. Published in Foreign commerce weekly
Revolution in rubber? outlook for natural and synthetic rubber. J. J. Hipple. il Mag of Wall St 66:351-3+ Je 29 '40
Rubber, a strategic raw material. P. W. Barker. il Rubber Age 47:393-5 S '40
Rubber; current status of a strategic commodity. map Index 20 no 2:40-7 [Je] '40
Rubber in war. Economist 139:343-4 S 14 '40
Rubber is no. 1 stockpile problem. Business Week p20+ Je 1 '40
Rubber situation reviewed in report. Rubber Age 46:176 D '39
Rubber supply further increased by International rubber regulation committee. Barron's 20:6 S 16 '40

RUBBER industry and trade—*Continued*
Synthetic rubber; neoprenes and bunas and butyls. il map Fortune 22:70-1+ Ag '40

See also
Rubber latex
Tire industry and trade

Accounting
Budgeting for control; Gates rubber company, Denver, Colo. C. N. Kohl. N A C A Bul 21:746-57 F 15 '40

Directories
1939 rubber red book; addenda and errata. Rubber Age 47:176 Je '40

Exhibitions
Rubber at the 1940 Fair. il India Rubber W 102:40+ S '40

Finance
Financial reports; United States rubber company, B. F. Goodrich company, Goodyear tire & rubber company. Annalist 56:469 O 10 '40
Financial reports, United States rubber company, Lee rubber & tire corporation, B.F. Goodrich company. Annalist 55:365 Mr 7 '40
Higher rubber profits; recent rubber company reports. Economist 138:824, 1016-17; 139:127-8 My 4, Je 8, Jl 27 '40
Kuala Muda rubber estates 15th annual general meeting, London. Economist 139:262 Ag 24 '40
London Asiatic rubber and produce company and Pataling rubber estates ordinary general meetings. Economist 138:880 My 11 '40
Rubber and the investor. Economist 139:373-4 S 21 '40
Rubber manufacturers' earnings may exceed those of recent years except 1937. W. W. Case. Annalist 54:723+ D 7 '39
SEC issues 1939 supplement for 14 manufacturers of tires and other rubber products. Comm & Fin Chr 151:2589 N 2 '40
U.S. Rubber holds its gains. W. Beecher. il Mag of Wall St 66:38-40+ Ap 20 '40

History
Builders of rubber. R. H. Wolf. il Rubber Age 46:369-72 Mr '40
Para rubber trade 90 years ago; memorandum written by Richard M. Everit on December 15, 1892. India Rubber W 103:36+ N '40

Securities
Goodrich earnings discounted. W. E. Kraemer. il Mag of Wall St 65:820-1+ Ap 6 '40
Rubber shares, 1940 and after. Economist 137: 336-7 D 2 '39
Tire companies, 1937-39. Mag of Wall St Manual p24 Mr 2 '40

Statistics
Census of manufactures, 1939; rubber tires and inner tubes, rubber boots and shoes, and reclaimed rubber, comparing 1939 with 1937. India Rubber W 103:37-8 O '40
Government's annual survey shows record consumption. Rubber Age 47:108 My '40
Imports, consumption, and stocks; United States and world statistics. Published in monthly numbers of India rubber world
Imports of crude rubber, monthly, 1913-39; revision. Survey of Cur Business 20:18 My '40
Potential crude rubber exports under the International rubber regulation agreement, 1939 to 1943. India Rubber W 101:44 Ja '40
Production of rubber products, revision; monthly, 1923-June, 1940. Fed Res Bul 26: 874-6 Ag '40
Rubber and products, 1936-1939. Survey of Cur Business 1940 Sup p148-9 [supplemented in monthly numbers]
Rubber consumption, revision; monthly, 1923-June, 1940. Fed Res Bul 26:875 Ag '40
Rubber has spectacular year. Annalist 55: 149 Ja 25 '40
Rubber in 1939. Economist 138:sup36 F 17 '40
Rubber manufacturers' earnings may exceed those of recent years except 1937. W. W. Case. Annalist 54:723+ D 7 '39
Rubber records. Business Week p58 O 19 '40
Statistics of income of the U.S. rubber manufacturing industry for 1937. India Rubber W 101:62 Ja '40
Statistics of the industry. Published in monthly numbers of Rubber age
United States crude rubber supplies. map India Rubber W 101:49-50 F '40
United States statistics. Published in monthly numbers of India rubber world

Canada
Report on the rubber industry in Canada, 1938. 18p pa 25c Canada. Dominion bur. of statistics, Ottawa '40

Ceylon
See also
Lunuva (Ceylon) tea and rubber estates

Europe
Rubber industry in Europe. Published in monthly numbers of India rubber world

Far East
Rubber industry in Far East. Published in monthly numbers of India rubber world

Germany
Effect of the war on Germany's rubber goods markets. L. Thakar. India Rubber W 102: 44-5 My '40

Great Britain
Beau Sejour rubber company and Johore rubber lands, limited, ordinary general meetings, London. Economist 137:185-6 N 4 '39
Higher rubber profits. Economist 138:631-2 Ap 6 '40
Rubber plantations investment trust 31st ordinary general meeting, London. Economist 138:792 Ap 27 '40
Rubber shares, 1940 and after. Economist 137: 336-7 D 2 '39

See also
Dunlop rubber company

Latin America
Gains in exports of rubber manufactures from United States to South America. Comm Rep p539 Je 15 '40
Survey under way of rubber producing possibilities in tropical American countries. Comm & Fin Chr 151:783 Ag 10 '40

Malaya, British
1939 production figures. India Rubber W 102:65 Jl '40

Netherlands Indies
Firms making rubber goods. India Rubber W 101:63 Mr '40

Russia
Russia's goal set at rubber independence. Rubber Age 46:383 Mr '40

South America
South American imports of rubber products. India Rubber W 101:42 Ja '40

United States
Agreement to permit United States reserve of rubber. India Rubber W 102:42+ Ag '40
American way. H. S. Firestone, Jr. India Rubber W 103:31-2+ N '40
Building up stockpiles; corporations formed under auspices of RFC will acquire huge quantities of rubber and tin. Business Week p48 Jl 6 '40
Crude and synthetic rubber. Manuf Rec 109: 28+ Ap '40
Firestone tire & rubber co. enters the new decade. J. W. Thomas. Comm & Fin Chr 150:531 Ja 27 '40
Government makes plans to acquire an additional reserve of 150,000 tons of crude rubber for emergency purposes. Rubber Age 47:254 Jl '40
Importance of reclaimed rubber to the domestic rubber industry. G. K. Trimble. Rubber Age 47:251-2 Jl '40

RUBBER industry and trade—United States—*Continued*
Increased activity was recorded in 1939. A. L. Viles. Rubber Age 46:245 Ja '40
National defense measures affecting rubber. E. G. Holt. Comm Rep p615-16, 637 Jl 13-20 '40
Our rubber situation. P. W. Litchfield. Barron's 20:6 Jl 15 '40
RFC forms two government corporations, Rubber reserve co. and Metals reserve co., to acquire stocks of rubber and tin. Comm & Fin Chr 151:42-3 Jl 6 '40
Report on effect of European war on United States imports of crude rubber issued by Tariff commission. Comm & Fin Chr 149: 3951-2 D 23 '39
Rubber industry. Annalist 55:119+ Ja 25 '40
Rubber industry busy. Business Week p38 Ag 31 '40
Rubber industry in United States. Published in monthly numbers of India rubber world
Rubber supplies due to rise. Barron's 19:6 N 20 '39
Rubber's big year, 1939. Business Week p22 D 30 '39

See also
Rubber reserve company
United States rubber company

RUBBER laboratories
Chrysler's rubber-plastics laboratory. J. C. Zeder. il Rubber Age 48:19-22 O '40

RUBBER latex
Advances in latex technology. R. J. Noble. bibliog(144 references) il diag Rubber Age 46:365-8; 47:93-8, 167-71 Mr, My-Je '40
Anti-percussion latex films. P. Mabb. il Rubber Age 46:229-31 Ja '40
Bulk quick-freezing package; new latex baglined carton. il Mod Packaging 14:87+ S '40
Casting prevulcanized latex in plaster molds. A. Silver. il diags Rubber Age 47:161-4 Je '40
Cement-latex mixtures; their composition and applications. H. J. Stern. bibliog India Rubber W 102:37-40 My '40
Determining dry rubber content in latex serum. India Rubber W 102:65 Jl '40
Dialysis of latex; abstract. G. E. van Gils. India Rubber W 103:69 O '40
Distribution of flock size in the creaming of *Hevea* latex. E. M. McColm. India Rubber W 101:38-42 Ja '40
Effect of rubber variability on vulcanization. J. D. Hastings and E. Rhodes. bibliog Ind & Eng Chem 31:1455-60 D '39
Hevea latex; correlation of nitrogen and ash with total solids content. J. McGavack and C. E. Rhines. Ind & Eng Chem 32:1072-4 Ag '40
Hevea latex; effect of proteins and electrolytes on colloidal behavior. A. R. Kemp and W. G. Straitiff. bibliog diags J Phys Chem 44:788-808 Je '40
Hevea latex of large particle size. J. McGavack. il Ind & Eng Chem 31:1509-12 D '39
Hevea latex sludge; existence of a sludge fraction in fresh unpreserved latex. E. M. McColm. il Ind & Eng Chem 32:439-40 Mr '40
Latex-casein adhesives. India Rubber W 101: 44 Mr '40
Latex cushions. il Arch Forum 73:195-6 S '40
Latex emulsions in human vascular preparations. O. V. Batson. Science 90:518-20 D 1 '39
Latex improves biological models and injected specimens. J. Rubinger. il India Rubber W 102:50-2 Je '40
Latex in paleontology; casting bones of fossil animals. J. H. Quinn. il Rubber Age 47: 237-41 Jl '40
Latex molds from Kelsanite. India Rubber W 101:48 F '40
Latex-wrapped apples. Rubber Age 46:167 D '39
Liquid latex as an injection mass for blood-vessels. D. L. Gamble. Science 90:520 D 1 '39
Mechanism of latex coagulation. H. P. Stevens; F. J. Paton. Chem & Ind 59:30 Ja 13 '40
New method for making vulcanized latex molds for plaster casting. A. Silver. il diags Rubber Age 48:31-4 O '40
Rubber bag in a box; new container for frozen foods. il Food Ind 12:67 O '40
Serum as coagulant. India Rubber W 101: 62-3 Mr '40
Some causes of variation in the quality of raw rubber and latex; the sol : gel ratio in relation to the ultimate physical properties of rubber. D. Spence and J. D. Ferry. Soc Chem Ind J 58:345-51 D '39
Some recent fiber-latex developments. M. C. Teague. Am Dyestuff Rep 29:422-5 Ag 19 '40; Same cond. Rubber Age 48:23-5 O '40; Discussion. Am Dyestuff Rep 29:425-6 Ag 19 '40
Use of latex for soil preservation; consolidation of earth, subsoil sand, masonry, concrete and similar natural or artificial foundations. Rubber Age 47:385 S '40
Variability of plantation latex; surface tension. D. S. Villars. il Ind & Eng Chem 32:368-72 Mr '40
Vulcanization of latex. C. E. Bradley. bibliog il Ind & Eng Chem 31:1485-8 D '39

Patents

See Rubber—Patents

Stabilization

Coagulation of rubber latex and its control. D. F. Twiss and P. H. Amphlett. Soc Chem Ind J 59:202-6 S '40
Instability of hevea latex. P. Stamberger. India Rubber W 103:35-6 O '40
Preservation of latex by sterilization in the presence of a buffer solution; abstract. W. S. Davey and F. Beeley. India Rubber W 103:70 O '40
Santobrite. India Rubber W 103:69-70 O '40

Testing

Exposure tests of stretched vulcanized sheets from milled rubber and from latex. W. J. Potter. bibliog India Rubber W 103:41-3 N '40
Tentative procedures for testing the variability of normal and concentrated latex. bibliog diags Ind & Eng Chem Anal ed 11: 593-7 N 15 '39; Same. India Rubber W 101: 47-9 Ja; 51-3 F '40
Testing methods for latex, latex compounds, and artificial dispersions of rubber. D. E. Fowler and W. Thompson. bibliog il Rubber Age 46:223-8 Ja '40

RUBBER lining
Large tanks rubber lined. il Iron Age 145:39 F 29 '40
Rubber in the paper industry. R. B. Marr. il Pulp & Pa of Can 41:442-4 Je '40
Tanks for cleaning and plating. C. C. Helmle. il Metal Ind 38:267 My '40
Uses of natural and synthetic rubbers in the wet processing of textiles. R. A. Hodgson. Soc Dyers & Col J 56:377-83; Discussion. 383-4 S '40

RUBBER lung. See Respiratory apparatus

RUBBER machinery
Adamson automatic press. il India Rubber W 103:39 O '40
Builders of Royle extruders celebrate eighty-fifth birthday. il India Rubber W 102:54-5 Ap '40
Farrel-Birmingham extra heavy 84-inch mill. il India Rubber W 102:54 Ag '40
H & B rubber covering machine. il diag Textile World 89:69 D '39; 90:71-2 Mr '40; Rayon 21:122 F '40
Machine for recovering rubber from low-content plants; Stacom device. il Rubber Age 46:299 F '40
Mitts & Merrill shredder. il Rubber Age 46: 302 F '40
New machines and appliances. Published in monthly numbers of India rubber world
Royle celebrates 85th anniversary. il Rubber Age 47:26-7 Ap '40

RUBBER machinery—*Continued*

Manufacture

Meehanite's role in the manufacture of rubber machinery. F. L. Dawes. il Rubber Age 47:247-8 Jl '40

RUBBER paint. See Paint materials

RUBBER patents. See Rubber—Patents; Rubber, Artificial—Patents; Rubber goods—Patents

RUBBER plants and planting

America's only crude rubber plantation; Federal plant introduction gardens, Miami, Fla. H. M. Farkas. il Rubber Age 47:91-2 My '40

Bud-grafting procedure. il India Rubber W 101:42-4 Mr '40

Machine for recovering rubber from low-content plants; Stacom device. il Rubber Age 46:299 F '40

Planting without burning. India Rubber W 101:62 Mr '40

Progress in rubber from goldenrol. L. G. Polhamus. Rubber Age 47:25 Ap '40

Rubber for America. W. B. Landis. il Sci Am 163:249-52 N '40

Sir Henry Wickham cleared as smuggler; did not smuggle Hevea rubber seeds out of Brazil. Rubber Age 46:382 Mr '40

Survey of rubber producing possibilities in tropical American countries. Franklin Inst J 230:582 N '40

Survey under way of rubber producing possibilities in tropical American countries. Comm & Fin Chr 151:783 Ag 10 '40

See also

Guayule

Rubber tapping

RUBBER research

Aims of present day accelerator research. A. M. Neal. Rubber Age 46:289-94 F '40

American modern pioneers honored on anniversary of U.S. patent system; awards to inventors connected with rubber industry. India Rubber W 101:56 Mr '40; Rubber Age 46:309 F '40

Apparatus for the study of the photochemistry of sheet materials. H. F. Launer. bibliog pls diags J Research Nat Bur Stand 24:567-77 My '40

Contribution of X-ray research to the knowledge of rubber. S. D. Gehman. il diags Chem R 26:203-26 bibliog(69 references, p225-6) Ap '40

Effect of vulcanization on rubber structure; a problem in probabilities. W. F. Busse. bibliog Ind & Eng Chem 31:1391-7 N '39

Goodrich mechanical rubber; expands its elastic frontier with synthetics and 32,000 products. il Fortune 21:64-9+ Je '40

Hysteresis in crystallization of stretched vulcanized rubber from X-ray data; correlation with stress-strain behavior and resilience. G. L. Clark and others. il Ind & Eng Chem 32:1474-7 N '40

Industrial research in 1939. W. A. Hamor. Ind & Eng Chem News ed 18:10 Ja 10 '40

Instability of hevea latex. P. Stamberger. India Rubber W 103:35-6 O '40

Measuring the permeability of rubber to various gases. A. S. Carpenter and D. F. Twiss. bibliog diags Ind & Eng Chem Anal ed 12:99-108 F 15 '40

New uses for old materials; how modern research has improved glass, paper and rubber. J. V. Sherman. Barron's 20:13 Je 10 '40

Plastics and rubber industries issue challenges to research. Oil Paint & Drug Rep 138:40 N 4 '40

Refractometer studies on rubber-pigment mixtures. H. C. Jones. Ind & Eng Chem 32:331-4 Mr '40

Silent electrical discharges on rubber solutions. L. Hock and H. Leber. India Rubber W 102:71 Je '40

Tensile properties of rubber compounds at high rates of stretch. F. L. Roth and W. L. Holt. bibliog diags J Research Nat Bur Stand 23:603-16 N '39

X-ray structure of rubber-carbon black mixtures. S. D. Gehman and J. E. Field. bibliog il Ind & Eng Chem 32:1401-7 O '40

RUBBER reserve company

Government makes plans to acquire an additional reserve of 150,000 tons of crude rubber for emergency purposes. Rubber Age 47:254 Jl '40

Terms of official agreement between the Rubber reserve company and the International rubber regulation committee. Rubber Age 47:324 Ag '40

RUBBER soles. See Soles, Rubber

RUBBER stoppers. See Stoppers

RUBBER tapping

Effect of rubber variability on vulcanization. J. D. Hastings and E. Rhodes. bibliog Ind & Eng Chem 31:1455-60 D '39

Variability of plantation latex; surface tension. D. S. Villars. il Ind & Eng Chem 32: 368-72 Mr '40

RUBBER thread

Pluralastic shugor; production of shoe goring. il Rubber Age 46:168 D '39

Rubber in knitwear. J. B. Lancashire. il Textile Col 62:53-4 Ja '40

See also

Rubber yarn

Manufacture

Constant control rubber thread covering machine. H. B. Ahlberg and C. E. Buote. il diags Rubber Age 46:232-4 Ja '40

Permoflex elastic strand. India Rubber W 103: 43 N '40

Testing

Testing elastic thread by the incline-plane machine. D. Rhee. il India Rubber W 102: 46-7+ Ap '40

RUBBER tile

115,000 square feet of rubber flooring, Bankers life building, Des Moines, Iowa. il Rubber Age 47:245-6 Jl '40

RUBBER toys

Construction solves package problem; Auburn rubber toys. il Ptr Ink Mo 41:14-15 Jl '40

RUBBER waste

Automatic proportioning and blending of liquid chemicals in a reclaimed rubber plant. H. F. Palmer and J. M. Hines. il diags Am Inst Chem Eng Trans 36:233-43; Discussion. 243-4 Ap '40

Chloroform extract of reclaimed rubber. H. F. Palmer and F. L. Kilbourne, jr. bibliog Ind & Eng Chem 32:512-18 Ap '40

Distillation products from waste rubber; abstract. F. N. Pickett. India Rubber W 102:63 Jl '40

Effect of reclaimed rubber on temperature coefficient of vulcanization. W. S. Coe. bibliog Ind & Eng Chem 31:1481-5 D '39

Importance of reclaimed rubber to the domestic rubber industry. G. K. Trimble. Rubber Age 47:251-2 Jl '40

Reclaimed rubber, a little publicized domestic source of supply. F. E. Traflet. il Chem Ind 47:27-9 Jl '40

Use of reclaimed rubber in mechanical and hard rubber goods. H. F. Palmer. Rubber Age 47:249-51 Jl '40

Use of reclaimed rubber in sponge rubber goods. J. S. Plumb. Rubber Age 47:165-6 Je '40

RUBBER workers

See also

Rubber factories—Employees

United rubber workers of America

RUBBER yarn

Elastic-yarn uses increase. H. P. Galloway. il Textile World 90:71-2 Ap '40

Enemies of covered-rubber yarn; combatted by correct methods of manufacture and finishing. C. E. Bergamini. il Textile World 90:67 Ja '40; Same abr. Rubber Age 47:28 Ap '40

H & B rubber covering machine. il diag Textile World 89:69 D '39; 90:71-2 Mr '40; Rayon 21:122 F '40

Testing

Weaving covered-rubber yarn; routine tests for maximum stretch. C. E. Bergamini. Textile World 90:58 Mr '40

RUBBERIZED fabrics
Advances in latex technology. R. J. Noble. bibliog il diag Rubber Age 47:93-7 My '40
Gas-proof fabric; application of mixtures of rubber latex and viscose. J. Warwicke. Textile Col 62:454+ Jl '40
How to select and maintain rubber belts. J. Adams, jr. il diags Power 84:150-2 Mr '40
New method for casting concrete; use of rubberized cloth tube as a core. Rubber Age 46:300 F '40
Recent developments in the deposition of rubber on to textile fibres. C. M. Blow. pls Soc Dyers & Col J 55:337-42 Jl '39; Abstracts. Textile Inst J 30:P19-20 F '39; Textile Col 61:322, 617 My, S '39; Am Dyestuff Rep 29:28-9 Ja 22 '40; Discussion. Soc Dyers & Col J 55:343-4 Jl '39
Some recent fiber-latex developments. M. C. Teague. Am Dyestuff Rep 29:422-5; Discussion. 425-6 Ag 19 '40
Source of metals in dyed cottons to be rubberized; amount of copper permissible. C. A. Seibert. Am Dyestuff Rep 29:136-9 Mr 18 '40
Standard specifications and methods of test for cotton goods for rubber and pyroxylin coating. Textile Col 62:480-2+ Jl '40

RUBEROID company
Brass tacks for the investor; brief analysis. Barron's 20:13 Ap 1 '40

RUBIDIUM
Radioactive isotopes of Sr, Y and Zr. L. A. DuBridge and J. Marshall. bibliog il Phys R 58:7-11 Jl 1 '40
Radioactive products from gases produced in uranium fission. G. N. Glasoe and J. Steigman. bibliog il Phys R 58:1-6 Jl 1 '40
Radiofrequency spectra of sodium, rubidium and caesium. S. Millman and P. Kusch. Phys R 58:438-45 S 1 '40

RUBIDIUM iodides
Solid polyiodides of rubidium. H. W. Foote and M. Fleischer. bibliog J Phys Chem 44:633-40 My '40

RUBY mountains
Geomorphology of the Ruby-East Humboldt range, Nevada. R. P. Sharp. il maps Geol Soc Bul 51:337-71, pl 1-4 bibliog(p370-1) Mr '40

RUFF, Otto, 1871-1939
Zur entwicklung der fluorchemie in Deutschland; Otto Ruff zum gedächtnis. W. Klemm. por Angew Chemie 53:25-7 Ja 20 '40

RUGS
Earnings and hours in the carpet and rug industry. H. E. Riley and E. M. Bunn. Monthly Labor R 51:164-83 Jl '40
Fluorescent lighting helps sell rugs; John C. MacInnes company, Worcester. R. G. McPhail. il Elec W 112:1894+ D 30 '39
Weaving and dyeing in North Africa. J. Gallotti. Textile Col 62:161-4, 237-9+ Mr-Ap '40

RUMANIA
Executive order and regulations on transfers of Rumanian property. Fed Res Bul 26: 1174-5 N '40
Roumania under King Carol. H. Bolitho. 175p $2.75 Longmans '40
Southern Dobruja; territorial dispute between Rumania and Bulgaria. map Economist 138: 566-7 Mr 30 '40
Vienna Diktat; Roumanian territorial losses. map Economist 139:304-5 S 7 '40

See also
Labor laws and legislation—Rumania
Petroleum industry and trade—Rumania
Transportation—Rumania

Commercial policy
Free exchange market opened under new exchange control system. Comm Rep p81 Ja 27 '40
Regulations for sale of negotiable exchange under new exchange control system; operation postponed. Comm Rep p10 Ja 6 '40
Rumania decrees leu devaluation; increases premium for all free foreign currencies. Comm & Fin Chr 150:1519 Mr 9 '40

Economic conditions
Business situation. Comm Rep p1135-6 D 9 '39
Roumania in 1939. Economist 138:sup 18 F 17 '40

RUN-OFF
Hydraulics of surface runoff. L. K. Sherman. diag Civil Eng 10:165-6 Mr '40
Runoff coefficients by model tests; useful in design of sewerage systems. I. Gutmann. diags Water Works & Sewerage 86:506-8 D '39
Transient flood peaks. H. B. Lynch. il maps Am Soc C E Proc 65:1605-24 N '39; Discussion. diags 66:176-8, 546-52, 745-69, 995-1002, 1104-8, 1337-8, 1665-70 Ja, Mr-Je, S, N '40
Unit hydrograph principle applied to small water-sheds. E. F. Brater. map Am Soc C E Proc 65:1191-1215 S '39; Discussion. 66:150-2, 317-20, 690-4, 1070-4 Ja-F, Ap, Je '40
Water resources of the Mid-continent area. G. S. Knapp. il Civil Eng 10:653-5 O '40

See also
Drainage
Rain and rainfall
Stream flow

RUNNING tracks
Running track designed from scratch for Deering high school, Portland, Me. W. E. Cullinan, jr. il diags Eng N 125:234 Ag 15 '40

RURAL electrification. See Electric service, Rural; Electricity on the farm

RURAL electrification administration
Advances in rural electrification claimed by REA. H. Slattery. Pub Util 25:422-6 Mr 28 '40
Operations, 1939. Elec W 113:123 Ja 13 '40
Part of the REA program; campaign to safeguard employees and consumers. D. A. Fleming. il Nat Safety N 42:12-13+ Ag '40
REA advances schedule of 92,000 miles of line. Elec W 114:862 S 21 '40
REA membership drive to add 100,000 members. Elec W News ed 112:1815 D 23 '39
Serving American farms; what the R.E.A. has accomplished. R. A. Wood. il Elec R (Lond) 127:85-6 Ag 2 '40
Status of western REA projects; tabulation. Elec West 84:40 F '40
Telephone service for REA customers. Elec W News ed 114:924-5 S 28 '40

Insurance requirements
Insurance needs of R. E. A. contractors; abstracts. W. B. Boyce. East Underw 41:43 O 11 '40; Nat Underw 44:30-1 O 10 '40; Weekly Underw 143:840 O 12 '40

RURAL free delivery
Cost of operating rural-mail-carrier motor vehicles on pavement, gravel, and earth. R. A. Moyer and R. Winfrey. il Iowa Eng Exp Sta Bul 143:1-56 '39; Abstract. Eng N 125:224-5 Ag 15 '40; Summary. Pub Roads 20:217 Ja '40; Same. Pub Works 71:46 Mr '40

RURAL hygiene. See Hygiene, Rural

RURAL planning
Cook county amends rural subdivision regulations. R. Kingery. J Land & Pub Util Econ 16:218-19 My '40
Regulation or development for the Missouri Ozarks. C. H. Hammar. J Land & Pub Util Econ 16:159-67 My '40
Rural zoning for Missouri? V. Hurlburt. J Land & Pub Util Econ 16:151-8 My '40
Rural zoning in Minnesota. W. F. Musbach and M. C. Williams. bibliog J Land & Pub Util Econ 16:105-9 F '40
State rural land use legislation in 1939. K. Wernimont. bibliog J Land & Pub Util Econ 16:110-16 F '40

RURAL schools
Consolidated rural school built on unit plan; New Buffalo, Mich. il plans Arch Rec 88: 94-5 O '40

RURAL schools—*Continued*
School designed to train pupils and adults for community life; Cato-Meridian central school. il plans Arch Rec 88:90-3 O '40

RURAL sociology. See Sociology, Rural

RUSHTON, Frank C. 1882-
Biography. F. A. Herr. por Metal Finishing 38:539-41 O '40

RUSSELL, Frank E. 1875-
Sketch. por Ry Age 108:381 F 24 '40

RUSSELL, Herman, 1878-
Munroe award to Herman Russell. por Am Gas J 153:18 N '40; Same cond. Am Gas Assn Mo 22:376 N '40

RUSSELL manufacturing company, Middletown, Connecticut
Stock offering. Comm & Fin Chr 151:2660 N 2 '40

RUSSIA
Land of the Soviets. N. N. Mikhailov. 351p $2.50 Lee Furman, 425 E. 24th st, New York '39
Russia—democracy or dictatorship? N. Thomas and J. Seidman. 71p bibliog(p67-71) pa 25c League for industrial democracy, 112 E. 19th st, New York '39
Stalin's Russia and the crisis in socialism. M. Eastman. 284p $2.50 Norton '40

See also
Agriculture—Russia
Air lines—Russia
European war, 1939—Russia
Pensions, Military—Russia
Petroleum supply—Russia
Prices—Russia

Army

Family allowances for soldiers in the Soviet Union. Monthly Labor R 50:328 F '40

Commerce

America still no. 1 machine-supplier. A. I. Mikoyan. Business Week p56 Ap 6 '40
Another Soviet pact; Jugoslavs to trade metals and lard. Business Week p61-2 My 18 '40
Foreign trade of the Soviet Union in 1938, by principal countries and principal commodities; tabulations. Comm Rep p37-8 Ja 13 '40
Russian-British trade possibilities. Economist 138:1041-2 Je 15 '40
Sales to Soviet hit; U.S.S.R.'s rubber and tin purchases. Business Week p60+ Ja 27 '40
Soviet-German trade prospects. Economist 139:338-9 S 14 '40
Soviet transit shipments through Istanbul, 1935-39. Comm Rep p231 Mr 9 '40
U.S. market in U.S.S.R. Business Week p59 F 24 '40
What Russia buys from the United States. Business Week p60 N 2 '40

Commercial policy

Problems and political implications of the finance of German-Russian trade. G. Reimann. Annalist 55:747+ My 30 '40
Russia-United States trade pact extended. Comm & Fin Chr 151:783 Ag 10 '40
Soviet tightens ties with Bulgaria and Germany. Business Week p58-60 Ja 27 '40
Soviet trade pact renewed by U.S. Oil Paint & Drug Rep 138:5, 29 Ag 12 '40
U.S. and Soviet sign new trade pact. Business Week p53 Ag 10 '40

Economic conditions

Economic conditions. For Comm W 1:68-9; 261-3 O 12, N 9 '40
Economic development of the Soviet Union under the second and third five-year plans; population, agriculture, industry, transportation, and standard of living. A. Abramson. Int Labour R 41:177-201 F '40
Russia in 1940. map Economist 138:4-5, 48-9, 412-13, 673-5 Ja 6-13, Mr 9, Ap 13 '40
Russia under Soviet rule; twenty years of Bolshevik experiment. N. de Basily. 508p $5 Norton '38
Soviet lists gains, 1939. Business Week p48 Ja 20 '40
War and the Soviet economy. Economist 137:285 N 25 '39

Foreign relations

Forces for peace in the Near East; buffer states along Britain's lines of empire. R. Strausz-Hupé. map Barron's 20:3 F 12 '40
Imperial Soviets. H. C. Wolfe. 294p $2.50 Doubleday '40
Russia expelled from League of nations. Comm & Fin Chr 149:3790 D 16 '39

Finland

Finland and Russia sign treaty ending hostilities. Comm & Fin Chr 150:1682-3 Mr 16 '40
What Russia is reaching for; rich Finnish economic prizes, including new International Nickel mine. map Business Week p16-18 D 9 '39
What Russia wants; Finnish crisis. Business Week p42 D 2 '39

Germany

Hitler and Stalin, friends or foes? H. C. Wolfe. Barron's 20:8 Ag 19 '40
Imperial conflicts in the Balkans; Germany and Russia. R. Strausz-Hupé. map Barron's 20:3 Jl 15 '40
Nazi-red riddle. Business Week p52-3 D 16 '39
Russian-German riddle: rivals or partners? R. Strausz-Hupé. 17p pa 20c Univ. of Pennsylvania press, Philadelphia '40

Japan

Red star behind the Rising Sun. il map Business Week p44-6 Ja 13 '40
Will reds split China with Japan? new accords with Tokyo on railroad and fishing rights. Business Week p45 Ja 6 '40

United States

Moscow eyes U.S. Business Week p65-6 O 5 '40
Secretary of State Hull says Russia failed on several occasions to fulfill obligations under 1933 agreements. Comm & Fin Chr 150:920 F 10 '40

Industries and resources

Economic development of the Soviet Union under the second and third five-year plans. A. Abramson. Int Labour R 41:177-201 F '40
What will Russia do in Balkans? economic importance of Ukraine. map Business Week p55-6+ D 16 '39

Politics and government

Dream we lost; Soviet Russia then and now. F. Utley. 371p $2.75 Day '40

Social conditions

War and the acculturation of the masses. M. Gamio. Ann Am Acad 210:28-34 Jl '40

Territorial expansion

New Soviet republics; Estonia, Latvia and Lithuania. Economist 139:122-3 Jl 27 '40
Rumania's economic losses to Soviet Union. Comm Rep p670 Ag 3 '40
Russia and the West. Economist 139:113-14 Jl 27 '40
Russian acquisition of Estonia, Latvia and Lithuania. Comm & Fin Chr 151:480-1 Jl 27 '40
Stalin collects again on Nazi I.O.U.; Russia takes Bessarabia. Business Week p51-2 Jl 6 '40
What will Russia do in Balkans? economic importance of Ukraine. map Business Week p55-6+ D 16 '39

RUSSULA foetens
Laccase from the wild mushroom, russula foetens. D. C. Gregg and W. H. Miller. bibliog Am Chem Soc J 62:1374-9 Je '40

RUST. See Corrosion and anti-corrosives

RUSTLESS iron and steel corporation
Brass tacks for the investor; brief analysis. Barron's 20:9 F 26 '40
Financial statements, 1939. Barron's 20:7 Mr 11 '40

RUSTLESS iron and steel corporation—*Cont.*
Stock offered. Comm & Fin Chr 150:1294 F 24 '40
Thumbnail stock appraisal. Mag of Wall St 67:35 O 19 '40

RUTGERS university

Graduate school of banking

Continuity for executives; management views the Graduate school and the Institute. R. N. Ball. il Trusts & Estates 70:515-16+ My '40

RUTHENIUM
Zeeman effects in complex spectra at fields up to 100,000 gauss. G. R. Harrison and F. Bitter. il Phys R 57:15-20 Ja 1 '40
Zeeman effects in the arc spectrum of ruthenium. G. R. Harrison and J. R. McNally, jr. il Phys R 58:703-8 O 15 '40

Analysis

Determination of ruthenium by thionalide; absorption of ruthenium tetroxide with hydrogen peroxide. W. J. Rogers, F. E. Beamish and D. S. Russell. bibliog Ind & Eng Chem Anal ed 12:561-3 S 15 '40

RUTHERFORD, Ernest, lord, 1871-1937
Rutherford; being the life and letters of the Rt. Hon. Lord Rutherford, O.M. A. S. Eve. 451p $5 Macmillan '39

RUTILE. See Titanium oxides

RUZICKA, Steven
Chemical developments linked with charcoal iron project in Pacific Northwest. Oil Paint & Drug Rep 137:3+ F 5 '40
Wood coke fires a controversy; Dr Ruzicka's discovery has inspired dreams of a Pittsburgh in the Northwest. Business Week p42-4 F 24 '40

RYAN school of aeronautics. See Aeronautic schools

RYE
Agricultural department's report on acreage of winter wheat and rye sown for 1940 crop. Comm & Fin Chr 149:4059-60 D 23 '39
Exports and other statistics, 1936-1939. Survey of Cur Business 1940 Sup p106 [supplemented in monthly numbers]
Physical chemistry of secalin; electro-phoresis and diffusion constant studies of the prolamine of rye. A. C. Andrews. bibliog Am Chem Soc J 62:942-8 Ap '40

RYERSON, Edward Larned, jr. 1886-
Succeeds L. E. Block as chairman of Inland steel co. por Blast F & Steel Pl 28:482 My '40

S

SABOTAGE
Floodlighting against sabotage. D. C. Borden. Pulp & Pa of Can 41:700 S '40
Foiling the saboteur. C. T. Fish. il Nat Safety N 42:56-7+ O '40
Guarding against the saboteur. W. J. Barclay. il Factory Management 98:74-6 N '40
How Canada is preventing sabotage. W. J. Scott. East Underw 41:1+ S 27 '40
New subversive technique; Chrysler plant slow-down. R. L. Greenman. Nation's Business 27:25-7 D '39
Sabotage activity by foreign agents is being watched by Federal bureau of investigation. L. A. Tamm. Nat Underw 44:4+ My 23 '40
Sabotage and water service. il Eng N 125: 86-90 Jl 18 '40
Watch for sabotage. W. J. Scott. il Safety Eng 80:32, 34+ O '40
What to do about sabotage. il Am Business 10:34-6+ Ag '40; Abstract. Management R 29:277-8 Ag '40

SACCHARIDES
Immunity to experimental pneumococcal infection with an artificial antigen containing a saccharide of synthetic origin. W. F. Goebel. Science 91:20-1 Ja 5 '40

See also
Carbohydrates
Polysaccharides

SACCHARIFICATION
Saccharification of starchy grain mashes for the alcoholic fermentation industry; comparison of several saccharifying agents; malt, moldy bran, and soybean meal. L. Schoene, E. I. Fulmer and L. A. Underkofler. bibliog Ind & Eng Chem 32:544-7 Ap '40

SACRAMENTO river
Effect of Shasta dam on the Sacramento river. F. M. S. Johnson. maps Civil Eng 10:108-10 F '40
Public ownership and the Central Valley project for flood protection, irrigation and power. J. H. Collins. Pub Util 26:195-206 Ag 15 '40
Sacramento river experiences its greatest flood. il Eng N 124:341, 343 Mr 7 '40

SAFE deposits
Adequate rates for safe deposit. G. F. Parton. Bankers M 140:207-9 Mr '40
Be a playwright, in one easy lesson! technique of putting on educational dramatic skits in a bank. H. C. Stine. il Bankers Mo 56:728-31+ D '39
Preventing safe deposit frauds; admission ticket system. J. Spence. il Burroughs Clearing House 24:22-3 Jl '40
Rates and costs in safe deposit operation. J. J. Driscoll, jr. Bankers M 140:473-6 Je '40; Excerpts. Banking 32:94 My '40
Safe deposit rates and rentals. J. A. McBain. Bankers M 140:349-50 Ap '40
Safe deposit service as a new business feeder. J. J. Reynolds. Bankers M 140:494-5 Je '40
Show safe deposit service by moving pictures and inspection trips. K. W. Murray. Banking 32:37 Ap '40
Simplified forms; safe deposit boxes. Banking 33:49-52 N '40

Accounting

Know your safe deposit costs. J. G. Manchester, jr. Bankers M 140:156 F '40

SAFES
Assets or ashes? fire resistant safes. P. H. Ryan. il Safety Eng 79:13-14 Ja '40

SAFETY at sea
Life-saving suit seals up water-tight and warm. il Sci Am 163:90 Ag '40
Reinspections for safety to life and property. E. P. White. Weekly Underw 142:143 Ja 13 '40
Safety in ship design and construction; Maritime commission eliminates hazards through fire protection provisions. H. L. Vickery. Weekly Underw 143:1026-9 N 2 '40
S.S. America; safety equipment. il Marine Eng 45:108-11 Ag '40

See also
Radio aids to navigation
Radio apparatus on ships
Ships—Fires and fire protection

SAFETY awards. See Safety contests and awards

SAFETY belts
Danger on the window sill; risks of the window cleaner's job. E. R. Granniss. il Nat Safety N 41:18-19, 58+ Ap '40
Men who let in light; window cleaner, how efficient is his protective equipment? D. C. Robinson. il Nat Safety N 42:70-1+ O '40
Safety device against shock to falling persons. diags Engineering 149:183-4 F 16 '40

SAFETY campaigns
Effective safety work by "Not over 50" club. L. H. Lippincott. Weekly Underw 142:149 Ja 13 '40
Off-the-job safety. L. B. Tipton. il Safety Eng 78:10-11 D '39

SAFETY campaigns—*Continued*
Safety activities of a newspaper publisher; Francis Murphy of the Hartford times. East Underw 40:97 D 15 '39
Safety's forgotten man; farm accidents and work of Kansas safety council. J. C. Mohler. il Nat Safety N 41:17-18+ F '40
Saving money for Texas taxpayers; safety campaign among Highway department employees. J. Montgomery. il Nat Safety N 40:18-19+ D '39
Selling safety. F. C. Lynch. Nat Underw 44: 34 O 31 '40

See also
Safety signs

SAFETY cartoons
Red Snell's personalized posters have reduced accident frequency and cloth seconds 50% in Georgia mill. il Textile World 90:121-2 S '40

SAFETY codes
New government program uses safety codes to conserve manpower in production. map Ind Stand 11:270-2 O '40
Progress on heating appliance code in California. F. A. Herr. Am Gas J 152:26-7 Je '40
Research gives data for standards to prevent dust explosions. D. J. Price and H. R. Brown. il diag Ind Stand 11:29-32 F '40
Safety codes point the way; list of codes approved by the American standards association. Nat Safety N 41:89-90 Mr '40

See also
National electrical safety code
National safety code

SAFETY committees
It means the same in both languages; bilingual posters, scoreboard and other safety work of Kenogami paper mills of Price bros. & co. W. P. C. LeBoutillier. il Nat Safety N 41:21+ My '40
Little man who was there; Preperin, Whiting corporation's safety symbol; safety program. T. S. Hammond. il Nat Safety N 42:16-17+ S '40
Planning safety for 1940. E. N. Baronet. Pulp & Pa of Can 41:222-4 F '40
Plant safety activities; who should handle them? B. H. Goodenough. Concrete (mill sec) 48:113 Ja '40; Same. Safety Eng 79: 36 F '40

SAFETY conferences
Twenty-one safety conferences in first half of 1940 by cement plant safety leaders. Concrete (mill sec) 48:242 S '40
Why safety meetings? experience of Snyder mining company. A. C. Borgeson. Nat Safety N 41:26-7+ Ap '40

SAFETY congresses
Ohio congress elects sectional officers. Nat Safety N 41:78-9 Je '40

See also
National safety council

SAFETY contests and awards
Announce safety contest winners in sand and gravel industry. Rock Prod 43:26 S '40
Brady medals awarded for transit safety. il Nat Safety N 40:51 D '39
Contest winners announced for the 12 months ending June 30, 1940. Nat Safety N 42: 106+ O '40
Council film wins AAA award for sound slide film; Testing the drinking driver. Nat Safety N 42:90 S '40
Harriman safety medals awarded. Ry Age 108:1119+ Je 22 '40
Honored for traffic safety; winners of the National traffic safety contest for 1939. Nat Safety N 41:27 My '40
If you're planning a contest. A. B. Metzger. Nat Safety N 41:15, 56 Ja '40
Indianapolis, Dubuque win Brady safety medals. il Transit J 83:439-41 N '39
It means the same in both languages; bilingual posters, scoreboard and other safety work of Kenogami paper mills of Price bros. & co. W. P. C. LeBoutillier. il Nat Safety N 41:21+ My '40
Joseph A. Holmes safety association and its awards. D. Harrington, L. Pedlow and A. P. Brown. pls U S Bur Mines Bul 421:1-121 '40
National safety competition of 1939. W. W. Adams and T. D. Lawrence. U S Bur Mines Rep of Invest 3526:1-36 '40
National safety competition of 1939; with list of awards, 1925-39 and honorable mention, 1939. W. W. Adams. il map Explosives Eng 18:202-11 Jl '40
Oil safety contest winners planned it that way. Nat Pet N 32:36+ O 16 '40
Quarries improving on prevention of accidents; list of safety awards, 1939. Concrete (mill sec) 48:210 Jl '40
Railroads win awards for employee safety. Nat Safety N 41:52 Je '40; Same abr. Ry Age 108:875 My 18 '40
Safest cities in the 1939 Inter-chamber fire waste contest. Safety Eng 79:36 My '40
Safety contest everyone can win; Hein-Werner motor parts corporation. W. Goodwin. il Factory Management 98:54+ My '40
Safety is for sale; Southeastern Greyhound safety program. N. L. Young. il Bus Transportation 19:424-6 S '40
Salute to safety; Plymouth Motors awarded trophy by Safety engineering for safety in automobile design. il Safety Eng 79:6-7 My '40
Sentinels of safety trophies presented. il Explosives Eng 17:323-30, 344-5 N '39
Sentinels of safety trophies presented. il Explosives Eng 18:297-307 O '40
Shoe-conscious; Thom McAn safety shoe contest. Safety Eng 79:34 Je '40
Slusser inter-plant safety trophy goes to far-off Java. il Nat Safety N 41:27 Ap '40
Winners of awards in safety contest sponsored by International petroleum exposition. Oil & Gas J 38:28 My 9 '40

See also
Harriman memorial medals for safety

SAFETY councils
Florida industrial safety council formed. East Underw 41:36 O 4 '40

SAFETY devices and measures
Appointment of safety committee for defense industries. Monthly Labor R 51:568-9 S '40
Ask the employee; questionnaires on safety. T. O. Armstrong. il Nat Safety N 42:22-3, 64 N '40
Conserving our greatest asset; man power. W. E. Mitchell. Edison Elec Inst Bul 8: 457-62 O '40; Same cond. il Nat Safety N 42:12-13, 66+ N '40
Dollars and sense of safety. F. J. Van Antwerpen. bibliog il Ind & Eng Chem 32: 1437-43 N '40
Don't treat them rough; hand tools. il Nat Safety N 42:112-13 O '40
Double "C" of industrial safety; control of environment and control of behavior. J. C. Stennett. il Nat Safety N 40:24-5+ D '39
Fit for the job; the doctor's influence in safe placement of employees. S. F. Meek. Nat Safety N 42:33-4+ Ag '40
Frightening photographs aid Pepperell in successful safety program at Lindale, Ga. plant. il Textile World 90:91 Jl '40
Good safety job can always be done better. J. Stilwell. Factory Management 98:78-9 F '40
Hazards overlooked. S. R. Bailey. il Safety Eng 79:8-10+ Ap '40
Health, hygiene and safety pay their way in the plant of moderate size. G. W. Cannon. Concrete (mill sec) 48:145-6 Mr '40; Same cond. il Steel 106:46-8 My 13 '40
Line up for safety! parking lot for employees' cars; Western electric company. il Safety Eng 78:21 N '39

SAFETY devices and measures—*Continued*
Management can't be careless. B. C. Heacock. il Nat Safety N 42:10-11, 56+ Ag '40
Management's responsibility for safety must be accepted. W. E. Mitchell. Concrete (mill sec) 48:266-7 N '40
Management's role in plant safety. H. L. Miner. Chem Ind 46:586-8 My '40
Naphthalene (crude and refined), $C_{10}H_8$; hazard, precautions, first aid. Nat Safety N 41:38, 40 My '40
National safety news annual safety equipment issue; buyers' guide. il Nat Safety N 41:2-210 Mr '40
No guardian angel; National safety council headquarters enjoys no immunity from common office hazards. A. W. Herdman. il Nat Safety N 41:12-13+ Ap '40
No horseplay! L. Childs. Am Mach 84:865 O 30 '40
Notes from works safety jottings; the value of publicity. J. Creevey. Chem Age (Lond) 42:283 My 18 '40
Our best safety idea. il Factory Management 98:82-8 F '40
Outside help; accident problem in the small plant; abstracts. H. W. Becker. Safety Eng 80:12 Jl '40; Nat Safety N 42:26+ S '40
Plant safety analysis. Safety Eng 80:16 Jl '40
Safe-ending drills and chisels. il diag Can Min J 61:372-3 Je '40; Same abr. Safety Eng 80:29 Jl '40
Safe rules to follow; machinery. Safety Eng 79:12 Ja '40
Safe use of screw drivers. Safety Eng 79:36 Ap '40
Safeguarding student workers; Berea college. R. Larew. il Nat Safety N 42:20+ Jl '40
Safety by remote control; South Carolina highway department. T. D. Goodale and W. S. Smith. il map Nat Safety N 41:10-11+ Ap '40
Safety exchange. il Published in monthly numbers of National safety news
Safety in small plants. E. C. Jacobs. il Steel 105:48-9 D 4 '39
Selling safety in small plants. J. D. Birch. Safety Eng 79:15-16 My '40; Same cond. Nat Safety N 42:22+ Jl '40
Sharing responsibility. W. T. Cameron. Nat Safety N 41:14-15+ F '40
Small plant is a large family; Hussey manufacturing co. P. W. Hussey. il Safety Eng 80:17-18 Ag '40
Think for yourself; workman speaks for more active interest in safety. N. R. Hill. Safety Eng 79:10 Mr '40
Two-way protection; management's responsibility for accident prevention. H. W. Heinrich. Safety Eng 79:16-18 Mr '40
Use of wrenches. Safety Eng 80:38 O '40
Westinghouse safety inventory. T. O. Armstrong and H. B. Duffus. il Personnel J 18: 211-18 D '39
When disaster strikes. E. S. Miner. il Nat Safety N 41:22-3+ F '40

See also
Accidents, Industrial
Acid handling
Air brakes
Automobile drivers
Automobile driving
Clothing, Protective
Disinfection and disinfectants
Dust removal
Electric protective apparatus
Explosives—Storage
Eye—Examination
Eye—Protection
Factories—Cleanliness
Factories—Lighting
Factory inspection
Fire protection
First aid in illness and injury
Floors—Anti-slip surfaces
Gas detectors
Gas masks
Goggles
Hand—Protection
Inflammable liquids
Inflammable mixtures
Insurance, Automobile—Preventive work
Insurance, Casualty—Preventive work
Ladders
Lighting, Industrial—Safety aspects
Lightning arresters
Lightning protection
Motor truck drivers
National safety council
Poisons, Industrial
Railroads—Signals
Safety at sea and other headings beginning Safety
Street lighting
Traffic lines
Traffic regulations
Workmen's compensation

also subdivision measures or Safety measures under special subjects, e.g.
Airplanes
Automobiles
Aviation
Chemical plants
Coal mines and mining
Electric equipment
Electric utilities
Machinery
Mining engineering
Paint spraying
Paper mills
Presses
Railroads
Roads
Scaffolding
Steel works
Welding
Woodworking shops

Bibliography
Safe practices pamphlets. Nat Safety N 41: 16+ Mr '40
Safety library. M. M. Wells. Published in monthly numbers of National safety news

Psychological aspects
Behind the scenes. J. F. Jones. Nat Safety N 42:54 Jl '40
Emotional first aid. L. G. Giberson. il Nat Safety N 41:10-11+ F '40
Human behavior and safety. V. G. Schaefer. Nat Safety N 42:28-9+ N '40

SAFETY education
Follow through! don't let your audience forget the message of the safety sound-slide film. E. I. Woodbury. il Nat Safety N 42: 17+ Ag '40
$40,000 grant to safety education program, New York university. Safety Eng 79:28 Mr '40
Health and safety education; a tentative course of study for secondary schools. Indiana Dept of Education Bul 124:1-121 bibliog(p116-21) '39
New safety horizons; Center for safety education at New York university, public forums. Safety Eng 78:15-16 N '39
Problems and topics in safety instruction. 32p bibliog(p26-32) pa 25c Nat. education assn. of the U.S. 1201 16th st, NW, Washington, D.C. '40
Program of safety education for the elementary schools of the state of Illinois. 170p bibliog(p153-70) Illinois. Dept. of public instruction, Springfield '39
Program of safety education for the secondary schools of the state of Illinois. 238p Illinois. Dept. of public instruction, Springfield '39
Safety education. C. Burt and F. Stephens. 119p bibliog(p4-5) pa 30c Benton review shop, Fowler, Ind. '39
Safety education; eighteenth yearbook. 544p bibliog(p362-73) $2 American assn. of school administrators, 1201 16th st, NW, Washington, D.C. '40
Safety education in schools should fullfill vital social function. K. N. Beadle. Weekly Underw 142:208 Ja 20 '40
Safety education in the rural school. 55p pa 35c Education division, National safety council, Chicago '39
Safety education methods; elementary school. 95p bibliog(p85-8) pa 50c Education division, National safety council, Chicago '40
Safety education methods; secondary school. 104p pa 50c Education division, National safety council, Chicago '40
Safety education thru schools. il diags Nat Education Assn Research Bul v 16, no 5:237-300 '38
Safety signals; a book of safety plays for elementary and junior high school assemblies. M. R. Kelly. 58p $1 Drama guild publishers, Boston '39
Safety training of undergraduate chemical students. A. S. Zoerb. Can Chem & Process Ind 24:90 F '40
School children learn to cross crossings cautiously. H. A. Daake. il Nat Safety N 41:56 My '40
School safety effort found of great value. H. F. Hammond. Weekly Underw 141:1076 N 18 '39

SAFETY education—*Continued*
Teaching safety in schools. K. N. Beadle. Weekly Underw 142:859 Ap 6 '40
Your safety sound-slide program; operation and care of equipment. E. I. Woodbury. diags Nat Safety N 41:24-5 My '40

See also
Moving pictures in safety education
Safety instructions and training

SAFETY engineering
Accident prevention fundamentals. Nat Safety N 41:160-1 Mr '40
Can safety be handled statistically? E. F. Brayer. Am Statis Assn J 35:382-4 Je '40
Conserving man power in the defense industries. il map Nat Safety N 42:20-1+ S '40
Engineering for safety. G. S. Jarrett. Can Min J 61:594-8 S '40
Failure prevention; maintenance engineer keeps the plant in safe operating condition. E. W. Bender, jr. il Nat Safety N 41: 14-15+ My '40
How good lighting can contribute to safety. R. A. Palmer. il diag Illum Eng 35:361-71 Ap '40
It takes health plus safety to do the job; Westinghouse electric & mfg. co. M. L. Robb. il Steel 107:44-5+ Jl 15 '40
Safety completes a dream; safety in construction of Pennsylvania Turnpike. T. W. Osgood. il map Safety Eng 80:15-16, 20 Ag '40
Safety under pressure; construction of Chicago's subway. J. M. Roche. il Nat Safety N 42:12-14+ Jl '40
Steady dividends; accident prevention. C. E. Holmes. il Safety Eng 78:26-8 N '39
What engineers can do for pedestrian protection. diags Pub Works 71:24-6 Ap '40

See also
Machinery—Safety devices
Safety inspection

Study and teaching
Professional safety training urged. C. Edison. Nat Safety N 41:71-2 Je '40

SAFETY equipment
All for safety; National safety exposition. il Nat Safety N 42:51-2, 54 N '40
Dressed for work. H. J. Segrave. il Safety Eng 79:11-12, 14 My '40
Keeping emergency equipment in the clear. il Factory Management 98:55 Ap '40
Men who let in light; window cleaner, how efficient is his protective equipment? D. C. Robinson. il Nat Safety N 42:70-1+ O '40
National safety news annual safety equipment issue; buyers' guide. il Nat Safety N 41:2-210 Mr '40
Protection marked personal. G. C. Harrold, J. C. Kerrigan and S. F. Meek. il Safety Eng 79:6-10 Ja; 16-18 F '40
Safety device against shock to falling persons. diags Engineering 149:183-4 F 16 '40

See also
Clothing, Protective
Fire extinguishers
Linemen's equipment
Respiratory apparatus

SAFETY exhibits
Dressed for the job; display at Newark museum. il Nat Safety N 41:54 F '40
South Bend learns about plant safety. il Nat Safety N 41:68 My '40
Town visits the plant; display of safety equipment; Decatur castings company. il Nat Safety N 41:64-5 Ja '40

SAFETY glass. See Glass, Safety

SAFETY hats. See Hats, Safety

SAFETY in the country
Safety's forgotten man; farm accidents and work of Kansas safety council. J. C. Mohler. il Nat Safety N 41:17-18+ F '40
Two weeks with pay. C. L. Bryant. il Safety Eng 79:15-16 Je '40

SAFETY in the home
Begin at home. K. N. Beadle. Safety Eng 79:14 F '40
Experts at home. Nat Safety N 42:92 S '40
Home accidents; where, how and why. D. B. Armstrong and W. G. Cole. East Underw 41:6 O 11 '40
No home fires burning. T. A. Fleming. il Safety Eng 78:30-2 D '39

SAFETY inspection
Cellophane seal keeps dust out of stretcher case. K. N. Banthin. diags Factory Management 98:49-50 Ap '40
85 miles of hazard; supervising protection of workers on the Delaware aqueduct. il Nat Safety N 41:20-1 Je '40
Safety up and down; elevator inspections. Safety Eng 80:30 Ag '40
Wire rope inspection. W. E. Rossnagel. il Power Pl Eng, 44:72 Mr; 72-3 My '40

SAFETY instructions and training
Around the clock with safety; illustrations of safety rules at Johns-Manville. Safety Eng 80:18-19 O '40
Education in safety; foremen and shift bosses key in effective training. C. E. McKnight. Can Min J 61:669-71 O '40
Music makes a difference; music and sound films at Bethlehem plant safety meetings. J. E. Culliney. il Nat Safety N 42:60 N '40
Right way; rules, training, discipline and protective equipment. A. J. Bartlett. il Nat Safety N 42:24-5 Ag '40
Safety education decreases accident rate of highway employees. Roads & Sts 82:36 D '39
Suggestions for the new employee. Safety Eng 80:30 O '40
Training, a leader's job. E. J. Kreh. Nat Safety N 42:18-19+ Jl '40

See also
First aid in illness and injury
Safety education
Safety posters

Bibliography
New safety instruction cards issued. Nat Safety N 42:30-1 Jl '40

SAFETY isles
Traffic channelization methods. G. Kelcey. il diags Civil Eng 10:645-8 O '40

SAFETY lamps
Coal mine illumination. T. Allen. il Min Cong J 26:61+ Ap; 44-7 My '40
Is gas present? E. G. Meiter. il Nat Safety N 41:24-5 Ja '40

SAFETY lamps, Electric
New Edison model P. electric cap lamp. Can Min J 61:116-17 F '40

SAFETY laws and regulations
Inaccessible gears; safety order of Industrial accident commission of California. Safety Eng 79:34 My '40
What do I get for my money? interpretation of state's services to industry in the prevention of accidents and occupational diseases. W. H. Winans. Nat Safety N 41: 20-1+ Ap '40

See also
Automobile laws and regulations
Factory inspection
Factory laws and legislation
Motor vehicles—Law
Traffic regulations
Workmen's compensation

SAFETY matches. See Matches

SAFETY movement
Be safe & live. L. G. Derthick, L. E. Sullivan and J. P. Henderson. 336p bibliog (p321-2) $1 Johnson pub. co, Richmond, Va. '40
Lesson from industry; how highway safety parallels industrial safety. E. R. Granniss. Safety Eng 79:18-20 Ap '40
Outside help; accident problem in the small plant; abstracts. H. W. Becker. Safety Eng 80:12 Jl '40; Nat Safety N 42:26+ S '40
Safety service during 1939; the annual report of the managing director, National safety council. W. H. Cameron. Nat Safety N 41:19+ F '40
South Bend learns about plant safety. il Nat Safety N 41:68 My '40

SAFETY movement—*Continued*
Strength for critical days. J. Stilwell. Nat Safety N 42:10-11+ N '40
Worker's stake in safety. F. Perkins. il Nat Safety N 40:10-11+ D '39
Yes, why accident prevention? J. H. Moore. il Nat Safety N 41:10-11+ Ja '40
See also
Automobile driving
Inter-American safety council
National safety council
Roads—Safety devices and measures

SAFETY nets. See Nets

SAFETY organization
Breaking the jinx; Bethlehem steel co. H. W. Darr. il Nat Safety N 41:12-13 My '40
Defense program includes safety; eight safety experts appointed by Secretary Perkins. Safety Eng 80:21 Ag '40
First three million; Milwaukee paint factory safety record. C. T. Fish. il Nat Safety N 42:14-15+ Ag '40
Plant safety activities; who should handle them? B. H. Goodenough. Concrete (mill sec) 47:274; 48:113 D '39-Ja '40; Same cond. Safety Eng 79:35-6 F '40
Safety acceptance by means of Safety key men's organization; Hudson coal co. C. A. Peterson. Coal Age 45:60-3 Ap '40
See also
Safety committees

SAFETY posters
It pays to advertise safety. il Food Ind 12: 36-7 N '40
Safety posters. Published in monthly numbers of National safety news
Safety posters; aid in works safety campaign. il Chem Age (Lond) 42:325 Je 15 '40

SAFETY shoes. See Shoes, Safety

SAFETY signs
Hold that rail! safety on stairways campaign; Illinois Bell telephone company. il Nat Safety N 42:72 O '40
Safety signs. il Nat Safety N 41:159 Mr '40

SAFETY slogans
School children learn to cross crossings cautiously. H. A. Daake. il Nat Safety N 41: 56 My '40

SAFETY standards
How a coordinated attack can help control accidents resulting from slips and falls. C. Ainsworth. il Ind Stand 11:128-33 My '40
National fire protection association acts on standards to prevent fire. P. Bugbee. Ind Stand 11:212-13 Ag '40
National safety code program goes forward under ASA. C. Ainsworth. Ind Stand 11:97-9 Ap '40
Standards for safety shoes. Safety Eng 79:29 Je '40
Up to standard; development of safety standards has contributed to human welfare. C. Ainsworth. il Safety Eng 80:11-12, 14 Ag; 24-6 S '40
See also
Safety codes

SAFETY statistics. See Accidents—Statistics

SAFEWAY stores, Inc.
Another look at Safeway stores. Mag of Wall St 66:174-5 My 18 '40
Brass tacks for the investor; brief analysis. Barron's 20:30 Ja 15 '40
Preferred stock offered. Comm & Fin Chr 150:2437-8 Ap 13 '40
Safeway stores, inc. behaves as if it were operated for the benefit of its producers, employees, and consumers. il Fortune 22: 60-4+ O '40

SAIGON, French Indo-China
Port of Saigon. il(cover) Comm Rep p29 Ja 13 '40

SAILING vessels
Planned marine museum; Franklin institute museum; Hall of marine transportation. C. M. Gay. il Franklin Inst J 229:568-72 My '40

SAILORS. See Seamen

SAILPLANES. See Gliders

ST FRANCIS river
Lifting a river over a levee. J. D. Andrews, jr. il diags map Eng N 125:39-42 Jl 4 '40

ST JOSEPH lead company
Another look. Mag of Wall St 66:99+ My 4 '40
Brass tacks for the investor; brief analysis. Barron's 20:13 Mr 4 '40
Earnings, 1936-39; production, 1930-39. Comm & Fin Chr 150:1454 Mr 2 '40
Thumbnail stock appraisal. Mag of Wall St 67:157 N 16 '40

ST LAWRENCE, Gulf of
Cruising around the St Lawrence. E. L. Chicanot. il map Comp Air M 45:6190-3 Jl '40

ST LAWRENCE paper mills company, limited
Current improvement in business. A. F. White. Pulp & Pa of Can 41:372 Ap '40

ST LAWRENCE waterway and power project
Canada saves power; propaganda for St Lawrence project. Business Week p61 S 28 '40
Canadian-American agreement on St Lawrence waterway plan reported reached; President Lawrence of New York state Chamber views plan as menace. Comm & Fin Chr 150:761 F 3 '40
Canadian and United States committees agree on engineering survey program; New York state chamber of commerce urges halting of test work. Comm & Fin Chr 151:2740 N 9 '40
Canadian looks at the new St Lawrence seaway. W. T. Jackman. Pub Util 25:556-9 Ap 25 '40
Chicago wants more water; opposes St Lawrence treaty; other objections. H. Corey. Pub Util 25:323-32 Mr 14 '40
Committees start work on St Lawrence project. Elec W News ed 114:1395 N 9 '40
Meeting at Albany in protest against proposed St Lawrence waterway. Comm & Fin Chr 150:1363-4 Mr 2 '40
National legislation affecting coal mining. J. D. Conover. Min Cong J 26:21 My '40
Negotiations for St Lawrence-Great Lakes waterway treaty. Comm & Fin Chr 150:622 Ja 27 '40
New plan being devised for St Lawrence project. Elec W News ed 114:1083 O 12 '40
Opposition to development of power plant on St Lawrence river. Comm & Fin Chr 151: 2427-8 O 26 '40
Ottawa viewpoint of the St Lawrence proposal. H. Dingman. Pub Util 25:131-4 F 1 '40
President bids for seaway again. Business Week p16-17 Ja 20 '40
President Roosevelt orders study of power development. Comm & Fin Chr 151:2283 O 19 '40
St Lawrence development; a Canadian view. L. Jack. map Barron's 20:13 N 11 '40
St Lawrence development plan. Engineer 169: 301-2 Mr 29 '40
St Lawrence power. C. Field. Elec W 114:1326 N 2 '40
St Lawrence project; power plan only an opening wedge for larger scheme. E. R. Abrams. map Annalist 56:459-60+ O 10 '40
St Lawrence seaway. F. N. Menefee. 325p bibliog(p311-15) $2.50 Edwards brothers, Ann Arbor, Mich. '40
St Lawrence seaway project. B. D. Tallamy and T. M. Sedweek. 129p lea'tte $1 Niagara frontier planning board, 40 Delaware av, Buffalo, N.Y. '40
State industries oppose St Lawrence proposals. Elec W 113:752 Mr 9 '40
Those unharnessed horses; economic effects of Great Lakes-St Lawrence project. H. M. Bratter. bibliog Pub Util 25:333-43 Mr 14 '40
Washington viewpoint of the St Lawrence proposal. G. E. Doying. Pub Util 25:135-41 F 1 '40

ST LOUIS
Studies of a near-maximum storm at St Louis; papers on hydrological investigations at Washington university. W. W. Horner and others. maps Civil Eng 10:230-5 Ap '40

ST LOUIS—*Continued*

Bridges

Bridge deadlock ends; railroads divert traffic to St Louis Municipal span. il Business Week p26-7 Ja 20 '40

St Louis Municipal bridge is ready for use. M. H. Doyne. il map Ry Age 107:923-5 D 16 '39

St Louis signals Municipal bridge. il maps Ry Age 108:325-8 F 17 '40

Harbor

Robert E. Lee, civil engineer; regulating works preserved St Louis as a river port. R. B. Brooks. il map Civil Eng 10:167-9 Mr '40

Industries

St Louis puts the pulmotor on its dying dress industry; problem of style piracy. L. B. Colby. il Sales Management 47:22-4 S 15 '40

Staying in St Louis; Emerson electric manufacturing co. thanks C.I.O. unit for offer of $100,000 loan. Business Week p35-6 Mr 16 '40

Population

Have cities stopped growing? E. Whitmore. il Am Business 10:26-8, 48 O '40

Railroads

Fire in tower demoralizes terminal operations temporarily. il plan Ry Age 109:171-4 Ag 3 '40

St Louis Municipal bridge is ready for use. M. H. Doyne. il map Ry Age 107:923-5 D 16 '39

St Louis signals Municipal bridge. il maps Ry Age 108:325-8 F 17 '40

Rapid transit

Super-modern cars. il Transit J 84:240-3 Jl '40

Super P.C.C. cars. il Mass Transportation 36:146-55 Jl '40

ST LOUIS, Iron Mountain and southern railway

Underlying MOP bond yields 6.56%; St Louis, Iron Mountain & Southern 4s, 1933. A. Jansen. Barron's 20:19 Ja 8 '40

ST LOUIS-San Francisco railway

Commission issues final Frisco plan. Ry Age 109:112-13 Jl 20 '40

ICC reorganization plan for 'Frisco. A. Jansen. Barron's 20:15 Ag 12 '40

Systematic check cuts freight car detention; Frisco lines' terminals. H. W. Johnson. il Ry Age 108:1008-10+ Je 8 '40

ST LOUIS southwestern railway

Cotton belt earnings rise. A. Jansen. Barron's 20:19 Ap 22 '40

Traffic statistics and consolidated earnings for years 1936-39. Comm & Fin Chr 150: 2438-9 Ap 13 '40

ST LOUIS stock exchange

Monthly range of prices, 1939. Comm & Fin Chr 150:586 Ja 27 '40

Weekly record. Published in weekly numbers of Commercial & financial chronicle

ST PAUL, Minnesota

Womanpower in St Paul; what a city did to rebuild and revitalize itself and its business life. il Sales Management 46:69-70 My 15 '40

Architecture

Twin Cities vote on recent architectural examples. il map Arch Rec 87:20, 22 Je '40

ST PAUL'S cathedral

How gas men helped to save St Paul's cathedral; removal of unexploded bomb; reprinted from the Gas times, London, Sept. 21. Am Gas J 153:65 N '40

ST THOMAS, Ontario

Sanitary affairs

Refuse disposal in St Thomas. W. C. Miller. il Can Eng W & S 78:16-17+ Ja '40

SALAD dressing

What the user wants in edible oils. G. W. McBride. Food Ind 12:56-8 Je '40

SALARIES

Annual salaries and wages in Canadian manufacturing, 1937. Monthly Labor R 51: 448-9 Ag '40

Compa-ratio; a means of control of salary expense. E. N. Hay. Advanced Management 5:9-10+ Ja-Mr '40

Economic status of university women. S. M. Kingsbury. Monthly Labor R 50:345-9 F '40

How office workers are paid in New York and Chicago. Am Business 10:35-8 S; 34-7 O '40

Management question box; clerical salary comparisons. Management R 29:151-2 Ap '40

Power station staffs' salaries. Elec R (Lond) 126:6 Ja 5 '40

Right pay for the job; bank salary and promotion plan. E. N. Hay. Banking 32:22-3 Mr '40

Salaries of office workers. Am Business 10: 35-8 S; 34-7 O; 40-1 N '40

Salaries of public health nurses, 1938. Monthly Labor R 50:210-12 Ja '40

Salaries of Y.M.C.A. secretaries. Monthly Labor R 50:212-13 Ja '40

Salary administration plan for your business. A. M. Hammond. il Am Business 9:11-13+ N; 24-5+ D '39; 10:30-2 Ja '40

Salary determination; common policies and selected practices in forty American corporations. J. W. Riegel. 278p bibliog(p269-70) $3.50; pa $3 Bur. of industrial relations, Univ. of Michigan, Ann Arbor '40

See also

Engineers—Salaries
Executives—Salaries
Firemen—Salaries
Government employees—Salaries
Librarians—Salaries
Salesmen—Salaries and commissions
Wages

SALEM, Massachusetts

Harbor

Restoring historic wharf at Salem. O. S. Bray. il Civil Eng 10:105-7 F '40

SALERNO, Fred G.

Salerno, the baker who laughed at depression. J. K. Westerfield. por Am Business 10:12-14+ O; 17-19+ N; 26-8+ D '40

SALES

Contracts, force majeure. Comm Rep p721-2 Ag 24 '40

C.I.F. clause interpreted by Argentine courts. H. P. Crawford. Compar Law Ser 3:483-90 S '40

Does F.O.B. mean favor of buyer? how the credit executive figures in freight problems. E. Rusch. Credit & Fin Management 42:22-5 N '40

See also

Contracts
Payment
Price fixing, Resale
Warranty

SALES, Conditional

Conditional sale in Cuba. H. P. Crawford. Compar Law Ser 3:303-9 Je '40

English Hire-purchase act, 1938; a measure to regulate instalment selling. J. E. Hamm. 59p pa 50c Russell Sage foundation, New York '40

Hire-purchase handbook. E. Westby-Nunn. 145p $2.40 Pitman '39

Law of hire and hire-purchase, including credit sale. A. A. Pereira. 2d ed 404p 21s Butterworth & co, London '39

Law of hire-purchase. W. C. Earengey. 2d ed 312p 21s Stevens & sons, London '38

Law of hire-purchase with the Hire-purchase act, 1938; annotated together with forms and precedents of agreements, etc. W. Sexton. 92p 7s 6d Jordan & sons, London '38

Law relating to hire-purchase. R. Dunstan. 4th ed 262p 15s Sweet & Maxwell, London '39

Neon sign contracts; position under the lighting restrictions. E. P. Hollis. Elec R (Lond) 126:274 Mr 8 '40

New Zealand hire-purchase agreements act. J. H. Barkmeier. Comm Rep p157 F 17 '40

Philippine Islands; installment sales, leases of personality. For Comm W 1:113 O 19 '40

SALES, Conditional—*Continued*
Problems of hire-purchase finance in wartime. Economist 138:382-3 Mr 2 '40

See also
Consignment selling
Instalment plan

SALES campaigns
Ford pegs a sales campaign on an old hoss trading symbol; used to round up used car customers. il Sales Management 47:25 S 15 '40
Formfit lifts product above price dog-fight: sales jump 50%; new product, a new price policy, and some smart advertising. W. H. Lowy. il Sales Management 46:25-6 Je 1 '40
Kellogg hoists Pep sales by climbing on vitamin bandwagon. il Sales Management 46:72, 74-5 F 15 '40
Low-pressure selling; advantages over high-pressure type in numerous instances. W. H. Conant. Barron's 20:9 Je 17 '40
Mike's big day; G-E special event, sales reach $1,800,000. Ptr Ink 190:71-2, 74 Ja 5 '40
Modern merchandising keeps dry shaver pioneer on top. il Sales Management 47:25-6 N 15 '40
Old range roundup; American Stove gets dealer support for new models. Ptr Ink 192: 51-2, 54+ S 20 '40
Three ways to conquer summer sales slump. C. Norton. Ptr Ink 191:11-12 My 24 '40
What Elgin is doing to level out a camel's back sales curve; giving dealers specific sales plans and backing them up with magazine advertising. H. D. Schaeffer. il Sales Management 47:36+ Jl 1 '40

See also
Advertising campaigns
Sales contests

SALES conferences
Check list for revitalizing sluggish sales meetings. H. Simmons. il Sales Management 47:82, 84-6 O 10 '40
How to run a sales meeting. Z. Kaufman. il Gas Age 86:24-5 S 12; 71-2 O 10; 24-5+ N 21 '40
Salespeople train one another in these lively sales meetings; Myra Deane co. R. A. Richardson. Sales Management 46:40+ Mr 1 '40
Shirt sleeve sales meetings that stimulate the will to sell; Marchant calculating machine co. H. A. Bedau. Sales Management 46:20-2 My 15 '40

See also
Sales conventions

SALES contests
Barrel-rolling contest does a whopping job for Magnus chemical co., Garwood, N.J. il Sales Management 47:96-8 O 10 '40
C.I.T. roundup drive turns cowhands into quota busters; campaign to increase purchases of time-payment notes from retail automobile dealers. il Sales Management 47:108+ O 10 '40
Dealers share cost of Pontiac's most successful sales contest. Sales Management 47: 106-7 O 10 '40
He's sure to lose, either way; prizes go to wives. C. F. Wyant. Ptr Ink 190:25-6 F 2 '40
How six firms glorify and reward top notch sales ability; American gas association, Cadillac, Iron Fireman, Chrysler, Carstairs, Alemite. il Sales Management 47:88, 90, 92 O 10 '40
In sales contests, it's honor of winning, not prizes, that counts most; group plan is suggested. K. L. Ede. Ptr Ink 191:17-20 Ap 12 '40
Modern kitchen bureau's utility water heater contest for 1940. il Edison Elec Inst Bul 8:442 S '40
Monthly sales contests; John Lucas & co. Philadelphia paint manufacturer. Ptr Ink Mo 40:24+ Ja '40
Moving picture contest pulls 35% increase in sales of sausage products for Squire's. Sales Management 47:30 O 1 '40
Oomphasizing your merchandise. H. V. Potter. Am Gas J 152:21-3 Mr '40
Prizes for home are most popular awards for sales contests. Sales Management 46:38 Ja 1 '40
Prizes spur CP Ranger club interest. il Gas Age 85:57+ My 9 '40; Same. Am Gas J 152:46+ My '40; Same. Am Gas Assn Mo 22:188-9 My '40
Sales contest guide; listing ideas for handling each of the principal elements. Ptr Ink 192:23-6+ Jl 26 '40
Salesman's contest in presidential year; Wayne pump company. il Ptr Ink Mo 41:21 Ag '40
Salesmen write own promotion bulletins in Bostitch contests. S. L. Smith. Sales Management 47:73 N 15 '40
Skelly breaks 5-year record with rolling pin contest for wives. C. B. Combs. il Sales Management 47:99 O 10 '40
Special truck for bakery star salesmen awarded to one salesman each week. il Am Business 10:47 Ag '40
Trane co. baseball contest scores homer. Sales Management 47:100 O 10 '40
What Seaside Oil has learned about year-around sales contests. G. B. Tucker. il Sales Management 47:105-6 O 10 '40
Why not a drive-for-prospects contest as remedy for sales contest slump? D. B. Taylor. Ptr Ink 190:23-4 Mr 22 '40

SALES contests, Jobbers' salesmen
What to do and what to avoid in forming incentive plans for jobbers' salesmen. Ptr Ink 191:77-82 Ap 19 '40

SALES conventions
Big show in nine cities launch Standard Oil's 1940 sales drive. il Sales Management 46: 22-3+ F 15 '40
Chevrolet adopts "Step out and sell" theme for new model drive. il Sales Management 46:47-8 Ja 1 '40
Dumore's "corn-ference" wraps sales kernels in husk of humor; meetings for salesmen should be filled with the unexpected. R. Hamilton. il Sales Management 46:28+ My 1 '40
How to be a clever host at a business lunch or dinner. il Sales Management 47:22-4+ Ag 1 '40
Sales meeting showmanship better than dreary talks by amateur orators. Ptr Ink 190:23-4, 28 Mr 29 '40
Sales training, mixed with seasoning; Apex electrical manufacturing company. il Ptr Ink Mo 39:17 D '39
Take a tip from this blueprint of a successful convention. H. A. Bedau. Sales Management 47:56-8 O 20 '40
When sales meeting is merely outlet for the big wind: eight tiresome types. D. B. Taylor. Ptr Ink 190:11-12+ F 9 '40

Mail conventions
Convention by mail; Hardware mutual casualty company inexpensively drags in some profitable between-seasons business. il Ptr Ink 190:21-3 Mr 8 '40

Plays
Sales conventions the Shuberts might have staged. il Sales Management 47:94-5 O 10 '40

SALES costs
Distribution sins that eat the heart out of profits; statistical analysis of sales costs. Sales Management 46:32+ My 15 '40
Relationship between sales and advertising of department stores. G. H. Brown and F. A. Mancina. J Business 13:1-16 Ja '40; Correction. 13:205 Ap '40

See also
Salesmen—Expenses

Accounting
Distribution costs, a new frontier for accounting. D. R. Longman. J Account 70:232-7 S '40; Abstract. Management R 29:376-7 O '40
Distribution costs; present methods of cost analysis. D. R. Longman. bibliog J Account 70:431-43 N '40

SALES costs—Accounting—*Continued*
Fixed and variable elements in selling costs. N. B. Clark. N A C A Bul 21:973-83 Ap 1 '40
Last-in, first-out. W. A. Paton. J Account 69:354-60 My '40
Ramsdell's plan for controlling profits by territories. H. McLellan. Am Business 10: 22-3+ Je '40

SALES departments
As management views credits; mutual responsibilities of the sales and credit departments. G. W. Birrell. Credit & Fin Management 41:10-12 D '39
Cooperation with sales department; how credit department can boost profits. C. Barton. Credit & Fin Management 42:15-17 O '40
Every employee can be an active member of sales department; Raybestos believes. R. B. Davis. Ptr Ink 193:11-14 O 25 '40
Gearing engineering to sales. F. B. Heitkamp. Mech Eng 62:216-17 Mr '40
Selling the credit department; to sales managers, salesmen and customers. H. Kerr. Credit & Fin Management 41:6-9+ D '39

See also
Sales managers
Sales records

SALES estimates
Computing seasonal indexes. K. E. Miller. N A C A Bul 21:1259-70 Je 1 '40
How Westinghouse makes business forecasts; abstract. F. D. Newbury. Management R 29:64-5 F '40
Making sales forecasts. Credit & Fin Management 42:50-2 O '40
Market analysis from management standpoint. R. T. Kent. Mech Eng 62:791-2+ N '40
Several phases of budgeting for an office appliance manufacturer; Monroe calculating machine co, Orange, N.J. S. Zweckbronner. N A C A Bul 21:727-45 F 15 '40

SALES executives, National federation of. See National federation of sales executives

SALES letters
Agency solicitation methods as illustrated by nine letters to a prospect. Ptr Ink 192:65+ Jl 26 '40
Employers' group offers form of letter suggesting insurance analysis. East Underw 41: 41 O 18 '40
Half a letter that sells by indirection wins award; American screw co. Sales Management 46:66 My 15 '40
How good letters were used to promote distribution in new markets; Pioneer minced sea clams. Ptr Ink 192:109-10 Ag 2 '40
Ingenious sampling device, via letter, brings upper bracket business for retailers of Washington flour. Ptr Ink 193:59+ O 4 '40
Letter to 500,000 farmers pulls 14.2%; mailing is preceded by 12 tests; Southern states iron roofing company. il Ptr Ink 197:17-20 Jl 5 '40
Letters to inquirers; analysis of subject matter, presentation and style used by 110 advertisers. Ptr Ink 192:30, 33, 36 S 6 '40
Letters turned to good sales account at L. E. Waterman co., correspondence handled by sales department. H. Dorff. Ptr Ink Mo 40: 46+ Ja '40
Letters will work for you; two tested rules for writing successful letters. H. D. Shaw. East Underw 41:126-7 pt 2 O 4 '40
Life blood of this business is its letters; Ozark goldfish. Ptr Ink Mo 40:62 Ja '40
Postscripts; enhance letters' selling appeal. C. A. Emley. Ptr Ink 190:73-4 Mr 8 '40
Rifle shot letter campaign sells shotgun shells; new product story. Ptr Ink 189:67-8+ D 1 '39
Sales letter round table. Sales Management 46:70 Ja 15 '40 [cont monthly]
Selective letters are valuable even when prospect might buy entire line; De Long follow-up policy. C. A. Emley. Ptr Ink 189:45-6 N 24 '39
Sells the sizzle in the yellow pine, not just kindling wood. Credit & Fin Management 42:30 Mr '40
Special purpose letters that build stronger dealer relations. Ptr Ink 192:54, 56 Ag 30 '40
Strengthen appeals, you strengthen the letter. A. Jackson. Ptr Ink Mo 40:65 My '40
Test mailings among farmers; Southern states iron roofing co. Ptr Ink Mo 40:39-40 Ja '40
These snappy letters pulled in 247 new customers and can be adapted; Kimball laundry company, Omaha. Ptr Ink 191:38, 40 Je 28 '40
320% increase; cost, $292.94; flies die because of this program, but sales jump; pyrethrum fly spray campaign. il Ptr Ink 190:19-22 Ja 26 '40
Use letters to plug the gap between your salesmen's calls; De Long hook & eye co. C. A. Emley. il Sales Management 47:56-7 N 15 '40
Vitamins for anemic form letters; Bantam bearings corp. J. K. Crippen. il Sales Management 46:52, 55-7 F 1 '40
Wanted: a delousing for our infested business letters! R. R. Aurner. Sales Management 47:56-8 N 1 '40

See also
Advertising, Mail
Complaints
Letterheads

Lost customers
Account revivers. Ptr Ink 192:137-9 S 27 '40
Campaign to revive inactive charge accounts. S. G. Levy, jr. il Ptr Ink Mo 41:53 N '40
In reviving sleeping accounts, letters like these have proved their worth. Ptr Ink 190:29+ F 2 '40
Salvage letters; how manufacturers write to dormant accounts. Ptr Ink 192:23-4+ S 13 '40
These last resort letters built business out of sleeping accounts. Ptr Ink 193:31-3 O 18 '40

SALES management
Achievement chart stimulates steady plugging by salesmen; week-to-week appraisal of sales efforts and correction of errors in technique; Lyon van & storage co., Los Angeles. H. M. Burgeson. Sales Management 46:60-1+ F 1 '40
Advertising manager pinch hits as sales manager 5 weeks, and learns many things. J. Ungar. Ptr Ink 192:29+ S 13 '40
Breaking men of bad habits. J. C. Aspley. Am Business 10:26-8 Ap '40
Build a fire under slow sales; when salesmen fail to push one of a line. E. N. Simons. Foundry 68:85-6 O '40
Check list for sales effort. H. L. Porter. Am Business 9:22 D '39
Coaching coaches to coach; Jewel tea co. plan of doubling sales. H. E. Fleming. il Ptr Ink Mo 41:34, 38+ N '40
Distribution sins that eat the heart out of profits; statistical analysis of sales costs. Sales Management 46:32+ My 15 '40
85 sales managers list their main problems, and give some of the answers. C. Norton. Ptr Ink 192:21-3 Jl 19 '40
Experience with selective selling; research on sales territories and sales methods; abstract. J. L. Ryon. Management R 29:103-4 Mr '40
Forty five ways to analyze sales so as properly to coordinate program as a whole. J. S. Perkins. Ptr Ink 193:15-17 N 8 '40
Full-line selling; right products and trade policies; ways of training and controlling salesmen. Ptr Ink 191:63, 66-8 My 24 '40
General shoe corp. controls its salesmen with constant check-up; supervision of every field man by mail, telephone, telegram and personal contact. G. W. Noland. Sales Management 46:31-3 Ap 20 '40
Hidden treasures in sales analyses; internal sales research. R. L. Burdick. Ptr Ink Mo 41:36, 38 S '40
How can a small company break in against big-time competition? C. E. Jamieson & co. C. E. Jamieson. Sales Management 47:48-50 N 1 '40

SALES management—*Continued*
How can we inspire salesmen to do a better all-around selling job? H. D. Lee sales force given a program of specific sales tasks. C. A. Reynolds. Sales Management 46:18-20 Ja 1 '40
How International Salt tackled the problem of excess sales cost. J. L. Ryon. maps Sales Management 47:112-15 O 10 '40
How to increase salesmen's production. E. H. Zimmerman. Inland Ptr 105:23-4 Jl '40
How to work out plan to pay sales force for general merchandising work. Ptr Ink 191: 67-8, 70 My 10 '40
How Tremco men blueprint their selling jobs for 3 months ahead. R. Brown. il Sales Management 47:109-10 O 10 '40
How we are curing salesmen of playing favorites in the line; Ballou & Wright balanced selling chart. E. C. Walling. Sales Management 47:52-3 S 15 '40
How Zenith handles the salesman who is a slave to habit. il Sales Management 46: 58-60 F 1 '40
It pays to blue-print salesmen's jobs. B. R. Canfield. Adv & Sell 33:26-7+ Ap '40
Kind of sales chief men will fight for: what is he like? T. F. McGarey. Sales Management 45:42, 44-5 D 15 '39
Market analysis from management standpoint. R. T. Kent. Mech Eng 62:791-2+ N '40
Never the twain shall meet; views of sales manager, salesman and the probable truth. Am Business 10:25 S '40
Our men are getting rusty; Pullman chair reflections of a shirt sleeve sales manager. Ptr Ink Mo 41:9 Ag '40
Over-the-barrel selling; technique of Hancock valve division, Manning, Maxwell & Moore. L. H. Brendel. Ptr Ink 189:13-15 N 24 '39
Policies that sell Chevrolets at the rate of one every 89 minutes. il Sales Management 46:78-81 Je 15 '40
Sales control to develop small accounts lifts volume for Narragansett brewing co. Sales Management 46:56, 58 Ja 15 '40
Sales management. H. C. Nolen and H. H. Maynard. 505p $4 Ronald press '40
Sales manager's handbook. J. C. Aspley, ed. 3d ed 1080p lea'tte $6.50; lea $7.50 Dartnell corp, Chicago '40
Sales personnel techniques; selection, training, supervision and compensation. W. A. Sredenschek and others. 48p Am. management assn, New York '40
Salesman who has woman trouble. R. J. Comyns. Sales Management 47:76+ N 15 '40
Salesmen lean on their shovels too often? box score posted weekly prods insurance salesmen. Sales Management 47:58 S 1 '40
Salesmen's Saturdays. Management R 29:112 Mr '40
Seven ways to induce your salesmen to use their selling tools. H. Simmons. il Sales Management 46:22-3 Ja 15 '40
Should salesmen criticize? Ptr Ink Mo 41:28 Ag '40
Spirella sells corsets intimately. F. Smith. il Adv & Sell 33:28-30, 53 Mr '40
Supervision assures successful program. G. E. Davis. Elec West 84:83-4 Je '40
That meeting yesterday; evening reflections of a shirt sleeve sales manager. il Ptr Ink Mo 40:9 F '40
This simple idea is increasing our pick-up orders 500%. L. H. Brendel. il Sales Management 46:76 Je 15 '40
Time and duty analysis of salesmen. H. C. Nolen. Management R 29:294-6 Ag '40
What happens when Bill Holler puts on his seven league boots. W. E. Holler. il map Sales Management 47:30, 32+ N 15 '40
What kind of sales manager brings out the best in his salesmen? E. L. Mathy. il Sales Management 47:18-19+ N 1 '40
When a salesman drops behind, manager can help him by using ideas like these. C. Norton. Ptr Ink 191:17-19 Ap 26 '40
Why 10 General shoe corp. factories are run in competition with one another; corporation set-up completely decentralized. W. M. Jarman. il Sales Management 46:18-20 F 1 '40

See also
Advertising
Automobiles, Salesmen's
Dealer helps
Display of merchandize
Employees as sales promoters
Employees as salesmen
Export trade—Sales management
Gas companies—Salesmen
Marketing
Printing trade—Salesmen
Production and sales, Coordination of
Sales contests
Sales conventions
Sales departments
Sales manuals
Sales policies
Sales promotion
Sales records
Sales territories
Salesmanship
Salesmen
Salesmen's bulletins
Salesmen's reports

Letters to salesmen
President writes to his salesmen; Bayuk cigar co. A. J. Newman. Adv & Sell 33: 31-3+ N '40

Two-man selling
Two-man selling. B. Bigelow. Ptr Ink 193: 15-18 O 18 '40

SALES managers
Can aptitude tests guide us in picking men for promotion? R. N. McMurray. Sales Management 46:48, 50, 52-6 My 15 '40; Excerpts. Management R 29:298-300 Ag '40
How 200 typical sales executives divide their time and run their jobs. P. Salisbury. Sales Management 47:18-19+ N 1 '40
Sales ability; how to analyze it through personal interviews. R. N. McMurray. Sales Management 46:58-61 Je 1 '40
What happens when Bill Holler puts on his seven league boots. W. E. Holler. il map Sales Management 47:30, 32+ N 15 '40
Why salesmen fail as field managers. B. Bigelow. Ptr Ink Mo 40:16-17 Je '40
Why salesmen fall down; can't carry management's responsibilities. G. A. Payne. Nation's Business 28:108 Ap '40

Expenses
Entertainment on the expense account; including payment of club dues, etc. on behalf of administrative and sales executives. Am Business 9:21-2 D '39

SALES manuals
Best sales manual; General Foods. C. White. il Ptr Ink 190:15-17+ Ja 26 '40
Salesman who has all the answers; sales manual, Yankee Hill brick mfg. co. diags Brick & Clay Rec 96:48, 50 Ja '40

SALES meetings. See Sales conferences; Sales conventions

SALES policies
Advertising and selling process. H. R. Tosdal. Ann Am Acad 209:62-70 My '40
Backbone of industry; history of sales methods in the refractory industry. J. D. Ramsay. Brick & Clay Rec 97:60+ S '40
Brown takes the gamble out of retailing for 340 shoe merchants; management set up is parallel to that of many voluntary chains. C. R. Gamble. il Sales Management 47:22-4 S 1 '40
Can we sell less and earn bigger profits? W. M. Fox. Am Business 10:28, 30 F '40
Credit men, continuing debate, differ about taking risks to promote sales. Ptr Ink 190: 71-2, 74 Mr 15 '40
Does added volume gained by easier credit mean more net profit? Ptr Ink 190:25-6, 29+ Ja 19 '40
Does easier credit boost profits? E. A. Zilmer. Credit & Fin Management 42:15-17 My '40
Doubling in bras; Formfit sales combination. Business Week p42-3 O 12 '40
From scratch to national distribution in 5 years: the story of Mission orange. A. J. P. Vandermyn. il Sales Management 47: 46-8 O 20 '40

SALES policies—*Continued*
Hills Bros.' formula for cracking and holding metropolitan markets. il Sales Management 46:20-2 Jc 15 '40
How Chicago venetian blind co. survived a blitzkrieg of mushroom competition; reorganized sales force, price maintenance, resale plan for dealers, and advertising. D. L. Jacobson. il Sales Management 47: 30, 32 S 15 '40
Kemp, Crosse & Blackwell, lead tomato juice market in New York city. Sales Management 47:53-4 Ag 1 '40
Lockheed, swamped with war orders, builds for peace-time days to come. C. B. Squier. il Sales Management 46:18-20+ F 15 '40
Management policies that help a business grow; pliofilm firm, Richards, Boggs and King. E. Whitmore. il Am Business 9:18-20+ D '39
Policies that pull Marlin out of the ruck of razor blade makers; 70-year-old firearms firm adds new line; sells by mail order and 30 or more different types of outlets. il Sales Management 46:24+ Ap 1 '40
Policies that put Kleen-Stik gummed tape in coast-to-coast markets in 5 years; pressure-sensitive adhesive with a thousand point-of-sale uses. G. J. Weigel. il Sales Management 47:20-2 Jl 1 '40
Policy changes that pulled Blatchford calf meal company back from the brink of bankruptcy. J. E. Sams. il Sales Management 47:18-20 O 1 '40
Practical application of market analysis; abstract. H. W. Dodge. Management R 29:59-60 F '40
Prodigal product; bringing back men's jewelry items to jewelry stores; Jacques Kreisler manufacturing corporation. E. Peterson. il Ptr Ink 191:23-5 Ap 5 '40
Sales policies that break records regardless of business conditions; Marchant calculating machine co. E. B. Jessup. il Sales Management 46:62, 64-5 Mr 1 '40
Sales policies that keep a 65-year-old fashion business young; Ireland brothers' marketing platform. il Sales Management 47:26, 30+ Ag 15 '40
Sales strategy that built a new business; improved electric mixer, the Waring blendor. H. McLellan. il Am Business 10:20-1+ Ap '40
Smart selling policies bring a small company to the ranks of national advertisers; Emman-Cee co, manufacturer of Italian food specialties. il Sales Management 46:38-9 Ap 1 '40
They're still freezing; house-to-house delivery and locker plants for quick-frozen foods. il Ptr Ink Mo 41:5-8+ S '40
What a dealer profit-sharing plan is doing for Baxter bros. B. H. M. White. il Sales Management 47:40-1 Jl 15 '40
Whiting offers packaged stokers, sells through appliance dealers; concentrated sales effort and concentrated advertising in a limited area, coupled with protected-territory distributors. S. H. Hammond. il Sales Management 45:50, 54-5 D 15 '39
Why 165,000 repair men fix flats the Shaler way. W. S. Coles. il Sales Management 46: 22-3+ Ja 1 '40

See also
Advertising policies
Catalogs
Christmas business
Consignment selling
Credit
Dealer helps
Dealer relations
Discount, Cash
Display of merchandize
Guaranty of goods
Instalment plan
Jobbers
Marketing
Premiums (merchandizing)
Price fixing
Price fixing, Resale
Price policies
Private brands
Products, Improved
Products, Secondary
Sales management
Sales promotion
Sales territories
Salesmen and credit
Samples (merchandizing)

Combination selling
Combination sales invalidate fair trade; Bathasweet corporation. Oil Paint & Drug Rep 138:5+ O 21 '40

Free goods
Roman Cleanser proves it doesn't take a million to advertise; dealer given a case of cleanser before advertising begins. il Sales Management 46:28, 30 F 1 '40

Selective selling
Dropping small dealers cut cost of selling, but profits suffered. J. S. Scherer. Ptr Ink 193:64, 68+ N 15 '40
How to find the plus buying power in America's major urban markets; guide to selective selling. C. E. Bosworth and R. L. Edsall. Sales Management 46:25-6+ Ja 1 '40
One way to bring down sales costs; concentrating sales effort in the top 626 counties. A. W. Ramsdell. Am Business 10:11-13, 52 N '40
Ramsdell's plan for controlling profits by territories. H. McLellan. Am Business 10: 22-3+ Je '40
What a key dealer policy has done for Heywood-Wakefield; selective selling; furniture in packages. R. S. Reed. Sales Management 47:60-1 Ag 15 '40

Special offers
Snappy, inexpensive promotion to salesmen sells 2,000 pen deals in 30 days; Waterman pens. H. Dorff and A. W. Macy. il Ptr Ink 190:13-16 F 2 '40
Taste test package jumps sales for Harvard brewing company. H. Protzman. il Sales Management 46:64 F 1 '40
What your dealers think of premiums and deals. il Adv & Sell 33:17-20+ O '40

SALES promotion
Columbia Steel makes nails exciting by Blitz-keg promotion; talking nail keg at jobbers' meetings. il Sales Management 47: 32 O 1 '40
Esso baby awards; Esso marketers offer congratulations and cash to parents of New Year's day babies in 18 states. il Adv & Sell 33:23 F '40
Glidden color centers serve people with painting problems. il Sales Management 47:25 Ag 1 '40
How the sales department can capitalize a production anniversary; General Motors, Ford, Glenmore and Underwood-Elliott-Fisher celebrate production milestones. il Sales Management 46:32, 35-7+ Mr 1 '40
How to sell more goods to department store employes. J. C. Cumming. il Sales Management 47:22-4 O 1 '40
Live-wire Christmas selling idea; how Bayuk educates jobbers and dealers. A. J. Newman. il Ptr Ink 189:15-18 D 8 '39
NCR moves in; boosts grocery-trade volume 40 per cent. A. H. Little. il Ptr Ink 189:21-4 D 29 '39
Plumbing and heating week. Dom Eng 154:34-5 D '39
Steps to sales planning. W. H. Matlack. Am Gas J 151:23-4 D '39
33 helpful ideas, frequently overlooked, that can add force to advertising. E. Peterson. Ptr Ink 189:25-6, 30, 75-7 N 24 '39
Why thousands of dealers tie up with Del Monte theme campaigns; California packing corp. retail promotion program. il Sales Management 47:40, 44 S 1 '40

See also
Advertising campaigns—Special weeks
Employees as sales promoters
Exhibits, Traveling
Instruction in use of product
Moving pictures—Publicity value
Premiums (merchandizing)
Sales campaigns

SALES promotion departments
Yes, sales promotion and advertising divisions can operate peacefully. Ptr Ink 190:149-52 Ja 26 '40

SALES records
Hidden treasures in sales analyses; internal sales research. R. L. Burdick. Ptr Ink Mo 41:36, 38 S '40

SALES records—*Continued*
How we are curing salesmen of playing favorites in the line; Ballou & Wright balanced selling chart. E. C. Walling. Sales Management 47:52-3 S 15 '40
Sales and statistical analysis for a metal manufacturer; American rolling mill co, Middletown, Ohio. E. V. Denton. il N A C A Bul 21:491-9 D 15 '39
Sales figures when you need them; Andrew Jergens company breaks down figures by city, district, state, brand, type, or outlet. il Am Business 10:26-7+ F '40

SALES research
Strathmore finds six practical advantages in a test territory; trying out new products, new advertising, new sales policies and tools. J. D. Zink. Sales Management 47:48, 50-1 Ag 1 '40

See also
Market research

SALES statistics
Forty five ways to analyze sales so as properly to coordinate program as a whole. J. S. Perkins. Ptr Ink 193:15-17 N 8 '40
Manufacturers' sales and collections on accounts receivable, November 1939. Credit & Fin Management 42:45 Ja '40 [cont monthly thru August 1940]
Sales and statistical analysis for a metal manufacturer; American rolling mill co, Middletown, Ohio. E. V. Denton. il N A C A Bul 21:491-9 D 15 '39
Survey of business trends, 1939; sales and inventories; final report. Dun's R 48:5-16 My '40
Survey of business trends, 1939; sales and inventories; preliminary report. il Dun's R 48:10-19 Mr '40
Tonnage supplements dollars in sales records. H. M. Foster. Comm & Fin Chr 150:1661-4 Mr 16 '40
Wholesalers' sales and inventories by industry and geographic regions, January 1940. Credit & Fin Management 42:46-7 Mr '40 [cont monthly]

See also
Department stores—Statistics

SALES tax
City sales taxes held constitutional; U.S. Supreme court sets new precedent. W. R. Montgomery. bibliog Credit & Fin Management 42:7-8+ Jl '40
Cuba; 2 percent gross sales tax. Comm Rep p564 Je 29 '40
New York city sales tax affects incoming goods. Oil Paint & Drug Rep 137:3+ F 5 '40
Sales tax laws, western states; the full texts of the sales, use and gross income tax laws of the states west of the Mississippi, as of Sept. 15, 1939. 244p pa $1 Commerce clearing house '39
Tax that hurts; Illinois business to fight retailers' occupational tax. Business Week p46-7 Je 8 '40
U.S. Supreme court dismisses appeal by New York city in case involving validity of sales tax as applied to oil sold for foreign commerce. Comm & Fin Chr 150:621 Ja 27 '40
United States Supreme court upholds 2% sales levy of New York city. Comm & Fin Chr 150:772 F 3 '40

See also
Stock transfer tax

SALES tax tokens. See Tokens

SALES territories
Experience with selective selling; research on sales territories and sales methods; abstract. J. L. Ryon. Management R 29:103-4 Mr '40
How International Salt tackled the problem of excess sales cost. J. L. Ryon. maps Sales Management 47:112-15 O 10 '40
How to find right size in fixing sales territory; 12 checking points. B. Bigelow. Ptr Ink 189:25-6, 30 D 1 '39
Market data sources; to help build more efficient, workable territories. B. Bigelow. Ptr Ink 189:59-60, 62-4 D 22 '39
Ramsdell's plan for controlling profits by territories. H. McLellan. Am Business 10: 22-3+ Je '40

SALES units
Jumbo packages step up volume and cut distribution costs. W. Alexander. il Adv & Sell 33:30-2 Ap '40

SALESMANSHIP
Consider the young engineer in adding to the sales force. Sales Management 47:54-5 Ag 1 '40
Creative ideas bring in greater profits; eleven good ideas on technique of selling the suggestion after creating it. F. Rundell. Inland Ptr 104:25-7 Mr '40
Expert trouble-shooting can turn customers' complaints into sales opportunities; how ten types of salesmen handle things. D. B. Taylor. Ptr Ink 191:25-6, 30 Ap 12 '40
J-E's purchasing agent gives 15 requisites for a crack salesman. H. Erlicher. il Sales Management 46:14-16 Ap 20 '40
Great American salesman has learned to outsell any man on earth. il Fortune 21:72-5+ F '40
Have you turned your telephone into a selling tool? R. Isaacson. Sales Management 47:62-3 O 1 '40
Helping people buy; the most important things a salesman can do to get ahead. E. Whitmore. 254p $2.50 Dartnell corp, 4660 Ravenswood av, Chicago '40
How far do salesmen walk? relationship of number of miles walked to sales. B. R. Canfield. Adv & Sell 33:25-7+ Ag '40
How to be a top-flight salesman. G. B. Spencer. 176p $1.75 Appleton-Century '40
How to introduce a new building product; Dunbrik. G. W. MacNeill. Am Bld 62:49+ My '40
How we meet the bugaboo of "we're satisfied, why change?" Divco salesmen sell new type of delivery truck. J. Nicol. il Sales Management 46:74-5 Je 1 '40
It pays to blue-print salesmen's jobs. B. R. Canfield. Adv & Sell 33:26-7+ Ap '40
Making customer want to buy is best way to sell; study of 6 salesmen types. D. B. Taylor. Ptr Ink 191:25-6+ My 24 '40
Mathematics of salesmanship. C. White. Ptr Ink Mo 41:34+ Ag '40
Need list gives Snap-on men concrete objective for each call; helps the salesman to build small accounts into bigger accounts. A. G. Howes. il Sales Management 45:42, 44 D 1 '39
New roads to selling. H. Simmons. 235p $2.50 Harper '40
No booms, no bands, no ballyhoo; real estate learns sounder selling. W. H. Leimert. il Sales Management 46:51-3 Ja 1 '40
On closing the sale; 24 tested methods, as used by General Electric appliance dealers and salesmen. W. D. Galpin. Ptr Ink 191: 23-6, 30 Je 21 '40
Personal strategy in successful selling. H. K. Dugdale. Sales Management 46:38+ F 1 '40
Personality flaws that cause failure. A. W. Leonard. Nat Underw (Life ed) 44:23 O 18 '40
Prospect who tries to let you down easy. J. Garth. il Am Business 10:18-19 Jl '40
Proving selling points; testimonial and demonstration method as successfully worked out by General Electric. W. D. Galpin. Ptr Ink 192:59-60 Jl 12 '40
Road to a sale through personal efficiency and sales-man-ship. P. B. Armold. 3d ed 263p, 2p bibliog(p1) $2.50 Armold book co, 617 S. Olive st, Los Angeles '40
Rochester sales managers club explains selling as a career to students. Sales Management 46:77 F 1 '40
Romance of selling. S. F. Worswick. 2d ed 91p $1 Business book house, box 112, Charlottesville, Va. '40
Sales engineering. B. Lester. 200p $2 Wiley '40
Salesmanship. C. G. Richardson. Pub Works 71:39-40 Je '40
Salesmanship, new style. B. Ellison. il Pulp & Pa of Can 40:730-2 D '39

SALESMANSHIP—*Continued*

Salesmanship; practices and problems. B. R. Canfield. 548p $3.50 McGraw-Hill '40

Secrets of closing sales. C. B. Roth. 194p $2.50 Prentice-Hall '40

Secrets of selling. M. S. Rutsky. pa $1 House of little books, 156 5th av, New York '40

Selling ideas; tactics of salesmanship. F. W. Young. Pulp & Pa of Can 41:722-3 O '40

Selling parade. C. B. Roth. 214p $2 B. C. Forbes pub. co, New York '39

Selling parade; a digest of successful selling ideas. C. B. Roth. Am Gas J 152:17-18 Ja; 17-18 F; 12-13 Mr; 37-8 Ap; 28, 31 My; 41-2 Je; 153:16-17 Jl; 23-4 Ag; 25-6 S; 31-2 O; 71-2 N '40

Selling real estate. S. L. McMichael. rev ed 507p $3.75 Prentice-Hall '40

Simple self-help checkup for your salesmen. H. Simmons. Sales Management 47:100-4 O 10 '40

Sizzlemanship; new tested selling sentences. E. Wheeler. 294p $3 Prentice-Hall '40

Spirella sells corsets intimately. F. Smith. il Adv & Sell 33:28-30, 53 Mr '40

Star salesman gives ten tips on how to sell quality; B. Wallace, purveyor of de luxe food products. Sales Management 47:52, 54-5 O 1 '40

Step out and sell? W. E. Holler. 94p $1.50 Dartnell corp, Chicago '40

This simple idea is increasing our pick-up orders 500%. L. H. Brendel. il Sales Management 46:76 Je 15 '40

Timing in salesmanship. E. Whitmore. il Am Business 10:18-20 Ja '40

Tricks and gadgets as sales aids. il Adv & Sell 33:25-6+ My '40

Twenty-five signs of the master salesman. J. G. Frederick. il Water Works & Sewerage 87:242-3 My '40

Two-man selling. B. Bigelow. Ptr Ink 193: 15-18 O 18 '40

Watch little details to close big sales. E. Whitmore. Am Business 10:26-7 S '40

What are good interview manners? a movie camera answers. J. D. Weinland. il Sales Management 46:22-3 Mr 1 '40

What department stores think of manufacturers' salesmen. E. B. Weiss. il Sales Management 47:18-20+ N 15 '40

When is a lead dead? Am Business 10:28 Ap '40

Who's afraid of the bogeymen? advice to salesmen. C. T. Burg. Sheet Metal Worker 31:41-2+ Mr '40

See also

Advertising
Advertising, Soliciting of
Advertising and salesmen
Business
Buying habits
Employees as salesmen
Insurance, Life—Agents
Insurance agents
Mail order business
Marketing
Merchandizing
Package goods
Prospect lists
Sales contests
Sales conventions
Sales letters
Sales management
Salesmen
Samples (merchandizing)

Approach

Without portfolio; liquor salesmen use unusual approach to trade. E. Peterson. il Ptr Ink 193:71, 74, 76 O 4 '40

Demonstrations

Celotex finds a way to demonstrate savings achieved by insulation. G. D. Andrews. il Sales Management 46:25-6+ F 1 '40

How Bastian-Blessing stopped the show at the metals exposition. E. L. Mills. il Sales Management 45:52+ D 1 '39

How the laundry industry is being sold through trade clinics; potent builder of sales to owners of laundries and dry cleaning establishments. R. Rockafellow. il Sales Management 46:68-71 F 15 '40

Organized promotion for commercial sales; Ohio Edison company, Akron. T. J. James. il Elec W 113:2037-8+ Je 29 '40

Portable kit dramatizes poor wiring. W. C. Heston. il diag Elec W 113:1355+ My 4 '40

Proving selling points; testimonial and demonstration method as successfully worked out by General Electric. W. D. Galpin. Ptr Ink 192:59-60 Jl 12 '40

Sales strategy that built a new business; improved electric mixer, the Waring blendor. H. McLellan. il Am Business 10:20-1+ Ap '40

Success story; Harvey-Whipple oil burners. C. B. Larrabee. Ptr Ink 193:27, 30, 32-3 N 8 '40

These salesmen use blocks in third dimension insulation selling. il Ptr Ink 190:23-4 F 9 '40

Graphic aids

Sales presentations in review; a Printers' Ink Monthly special study. il Ptr Ink Mo 40:18-21+ Je '40

Sales presentations that tell all; competition sponsored by the American management association. il Ptr Ink Mo 40:14-15 My '40

Group selling

How the laundry industry is being sold through trade clinics; potent builder of sales to owners of laundries and dry cleaning establishments. R. Rockafellow. il Sales Management 46:68-71 F 15 '40

Ten tested rules of sales strategy for selling to a buying committee. B. Bigelow. Sales Management 46:52, 54 F 15 '40

Number of calls

Myth about the law of averages; make calls more productive, not just more calls. E. Whitmore. il Am Business 10:20-2 My '40

Salesman who is too busy to sell; too many calls. J. E. Holbrook. Am Business 10: 30+ Ag '40

Price problem

When the buyer squirms at the price. J. C. Aspley. Am Business 10:17+ F '40

You can make high prices sound low! R. Giles. Adv & Sell 32:38, 40 D '39

Service

How to work out plan to pay sales force for general merchandising work. Ptr Ink 191: 67-8, 70 My 10 '40

Ideas to pass along to retailers. Ptr Ink Mo 41:20 O '40

It pays to blue-print salesmen's jobs; salesmen of national manufacturer and distributor of packaged specialty food products who call upon food retailers and take orders for delivery by food wholesalers. B. R. Canfield. Adv & Sell 33:27+ Ap '40

NCR moves in; boosts grocery-trade volume 40 per cent. A. H. Little. il Ptr Ink 189:21-4 D 29 '39

Standardized sales talk

Developing a major sales talk; important to have a basic sales story. A. K. Deutsch. Ins Field (Life ed) 69:16 Ag 23 '40

Telephone contacts

How 1,000 college seniors rate selling work as a career. P. Salisbury. Sales Management 46:22-4 F 1 '40; Replies. B. Reinhart, jr; H. D. Doughty. 46:24-6, 46 Mr 1 '40

Telephone selling. N. A. Brisco, ed. 351p $3.75 Prentice-Hall '40

SALESMANSHIP, Retail

Dealers widen sales area by personal calls on farmers. J. V. Tuttle. Bankers Mo 57: 15+ Ja '40

It pays to blue-print salesmen's jobs; automobile salesmen selling to consumers. B. R. Canfield. Adv & Sell 33:72+ Ap '40

Textbook on retail selling. H. R. Norton. 335p rev ed bibliog(p317-21) $1.60 Ginn '39

See also

Salesmen, Retail—Training

Demonstrations

Car demonstrations spurred by premium offer; Willys-Overland motors. il Ptr Ink Mo 41:40 S '40

Hotpoint serves soup; demonstration for electric water heaters. il Ptr Ink 191:24 Ap 26 '40

SALESMANSHIP, Retail—Demonstrations— *Continued*

Merchants sell more when value is demonstrated. J. V. Tuttle. il Bankers Mo 56: 718+ D '39

Small appliances are on parade; sales rise in PG and E territory with cooperative dealer demonstrations. il Elec West 83:29 D '39

SALESMEN

Are salesmen through at forty? pictograph. Sales Management 47:27 Jl 15 '40

Eyes have it; salesman who uses cosmetics. P. H. Erbes, jr. Ptr Ink 190:23-5 F 2 '40

Great American salesman has learned to outsell any man on earth. il Fortune 21:72-5+ F '40

How far do salesmen walk? relationship of number of miles walked to sales. B. R. Canfield. Adv & Sell 33:25-7+ Ag '40; Abstract. Management R 29:330-1 S '40

How much does the top quarter of your sales force sell? pictograph. Sales Management 46:35, 43 My 15 '40

National Dairy salesmen talk to the stockholders. Sales Management 47:53 O 10 '40

Simple self-help checkup for your salesmen. H. Simmons. Sales Management 47:100-4 O 10 '40

What's the marital-happiness rating of your salesmen? pictograph. Sales Management 46:33 Mr 15 '40

Why salesmen fail as field managers. B. Bigelow. Ptr Ink Mo 40:16-17 Je '40

Will the draft pinch your sales force? J. Klein. Adv & Sell 33:30+ N '40

See also

Advertising, Soliciting of
Advertising and salesmen
Automobile industry and trade—Salesmen
Employees as salesmen
Gas companies—Salesmen
Insurance, Life—Agents
Insurance agents
Printing trade—Salesmen
Sales contests
Sales conventions
Sales management
Sales territories
Salesmanship

Bonuses

Bonus for selling full line pays out in both sales and goodwill; Nesbitt fruit products. Sales Management 47:38 O 10 '40

How to work out plan to pay sales force for general merchandising work. Ptr Ink 191: 67-8, 70 My 10 '40

Significant trends in paying salesmen. J. C. Aspley. Am Business 10:17-19 My '40

Entertainment of buyers

Entertainment on the expense account. Am Business 9:21-2 D '39

How to prevent excesses in salesman's expense bills for entertainment. Ptr Ink 191: 67-8, 70-1 Ap 5 '40

Planned expense money; customer entertainment. A. H. Deute. Ptr Ink 190:15-18 F 23 '40

Expenses

Entertainment on the expense account; including payment of club dues, etc. on behalf of administrative and sales executives. Am Business 9:21-2 D '39

Hotel credit cards for business travelers. Am Business 10:43 O '40

Hotel credit service; Continental hotel service co., San Francisco. Business Week p28+ My 18 '40

How to control cost and operation of automobiles driven by salesmen. Ptr Ink 191:57-61 Je 7 '40

How to pay salesmen's auto costs. T. N. Beckman and H. C. Nolen. Adv & Sell 33: 30-1+ F '40

How to prevent excesses in salesman's expense bills for entertainment. Ptr Ink 191: 67-8, 70-1 Ap 5 '40; Abstract. Management R 29:144-5 Ap '40

See also

Automobiles, Salesmen's
Salesmen—Entertainment of buyers

Rating

Can aptitude tests guide us in picking men for promotion? R. N. McMurray. Sales Management 46:48, 50, 52-6 My 15 '40; Excerpts. Management R 29:298-300 Ag '40

Sales ability; how to analyze it through personal interviews. R. N. McMurray. Sales Management 46:58-61 Je 1 '40

Testing and rating salesmen; abstract. Management R 29:253-4 Jl '40

Salaries and commissions

Both salesmen and company earn more under profit-sharing plan; Pioneer mfg. co. Sales Management 47:54 N 15 '40

Compensation on the Schoss-Read plan. Elec West 85:30-1 Ag '40

How to work out plan to pay sales force for general merchandising work. Ptr Ink 191: 67-8, 70 My 10 '40

Profit sharing increases sales per man, stimulates initiative; Pacific fire extinguisher co. Sales Management 47:38, 40-1 O 10 '40

Profit-sharing with salesmen cuts sales costs and increases volume; H. D. Taylor co. A. H. Brownell. Sales Management 46:25-6+ Ja 15 '40

Sales plans seek appliance volume; salesmen's compensation plans. Elec W 114: 85+ Jl 13 '40

Significant trends in paying salesmen. J. C. Aspley. Am Business 10:17-19 My '40

Straight commission system for salesmen has many weak spots; statistics from help wanted advertisements. H. Simmons. Ptr Ink 190:11-12+ Ja 12 '40

What a commission payment policy did to rebuild a tottering business; Union Hardware. E. H. McGinnis. Sales Management 47:42-4 O 10 '40

What is a good salesman's compensation plan? T. N. Beckman and H. C. Nolen. Ptr Ink Mo 40:16+ Ap '40

Selection

Aptitude test for salesmen; Steward test; abstract. H. J. Cummings. Management R 28: 398-9 N '39

Can you take a salesman apart to find out what makes him tick? Humm-Wadsworth temperament test. D. G. Humm. Sales Management 47:22-4, 83-4 N 15 '40

Consider the young engineer in adding to the sales force. Sales Management 47:54-5 Ag 1 '40

How Sturtevant develops sales talent in tech school grads. Sales Management 46:44+ My 1 '40

Interviewing and rating men for sales jobs: a soup-to-nuts plan. il Sales Management 47:8-11 O 10 '40

Personality and success in selling. P. Hampton. bibliog Personnel J 19:108-15 S '40

Salesmen are not through at 40! C. C. Vaughan; C. A. Reynolds; B. R. Welsh. Sales Management 46:18-20 Je 1 '40

Six points for hiring the printing salesman; as told to Chas. N. Tunnell. Inland Ptr 104:30-1 F '40

Some simple ABC's about aptitude testing for salesmen. J. Klein. Sales Management 47: 25-6+ S 1; 60, 62-3 S 15 '40

Straight commission system for salesmen has many weak spots; statistics from help wanted advertisements. H. Simmons. Ptr Ink 190:11-12+ Ja 12 '40

Thirteen questions about aptitude testing. Sales Management 47:12-13 O 10 '40

Uncle Sam, employment agent, can help you find qualified salesmen. Sales Management 46:58, 61-2 My 15 '40

What traits distinguish the successful salesman from the dud? J. O'Connor. il Sales Management 47:29, 31-2+ N 1 '40

Where do good salesmen come from? Hiring from within is one logical answer. C. B. Larrabee. Ptr Ink 192:11-12, 67-9 Ag 23 '40

See also

Insurance, Life—Agents—Selection

SALESMEN—*Continued*

Service

See Salesmanship—Service

Time studies

How many minutes a day do your men actually sell: pictograph. Sales Management 46:43 F 15 '40

How salesmen lose time. Management R 29: 375 O '40

Training

Are we training salesmen to be yes men? E. Whitmore. il Am Business 10:24-5+ Mr '40

As the twig is bent; value of company training courses. W. H. Conant. Barron's 20:7 My 20 '40

Chain executive cites reckless exploitation of untrained men. B. Reinhart, jr. Sales Management 46:24-5+ Mr 1 '40

Chance for farm boys; Henry Ford offers them competitive openings as salaried salesmen for his new tractor. A. M. Howe. il Ptr Ink 191:25-6, 30 My 17 '40

Chevrolet adopts "Step out and sell" theme for new model drive. il Sales Management 46:47-8 Ja 1 '40

Coaching coaches to coach; Jewel tea co. plan of doubling sales. H. E. Fleming. il Ptr Ink Mo 41:34, 38+ N '40

Commercial sales training. O. C. Mayer. Elec West 84:102-4 Je '40

Films for training manufacturers', jobbers' and dealer salesman. il Sales Management 47:76-9 O 10 '40

How Sturtevant develops sales talent in tech school grads. Sales Management 46:44+ My 1 '40

How to run a sales meeting. Z. Kaufman. il Gas Age 86:24-5 S 12 '40

Industrial films fight sales battles on all fronts for Servel; productions for their own salesmen, for dealers, and for city and rural prospects. G. L. Roach. Sales Management 46:58+ Je 15 '40

Let's brush the cobwebs off selling. C. Y. Belknap. Nation's Business 28:30, 32+ My '40

Motion pictures for training salesmen and retail dealers. il Sales Management 47:60+ O 10 '40

New sales training method introduced in the gas industry; use of voice recording equipment. il Am Gas Assn Mo 22:356-7 O '40; Same cond. Am Gas J 153:84 O '40

Pool of sales experience; sales training conferences; Electric appliance society of northern California. il Elec West 83:30-1 D '39

Profession of salesmanship suffers from sins of unethical minority. H. D. Doughty. Sales Management 46:25-6 Mr 1 '40

Round table training supplants lectures at Globe-Wernicke. Sales Management 47:54+ Ag 15 '40

Sales presentation tells two stories; Hancock 500 Brinell valve. il Ptr Ink Mo 40: 22 My '40

Salespeople train one another in these lively sales meetings; Myra Deane co. R. A. Richardson. Sales Management 46:40+ Mr 1 '40

Shirt sleeve sales meetings that stimulate the will to sell; Marchant calculating machine co. H. A. Bedau. Sales Management 46:20-2 My 15 '40

Skit shows Crosley men how to interpret product to housewives. il Sales Management 47:56 Ag 15 '40

Training of media cubs; Newark News training course. J. K. Fenway. Adv & Sell 33: 42, 46 My '40

Training systems pay dividends; training foundrymen and castings salesmen. E. Bremer. il Foundry 68:92-4+ My '40

Two years' training rounds out salesmen for A. M. Byers co. G. B. Cushing. Sales Management 47:60-1 O 20 '40

Westinghouse sales auditions end. Elec West 85:52 S '40

See also

Insurance, Life—Agents—Training
Salesmen, Retail—Training
Sales manuals

SALESMEN, Jobbers'

Distribution of hardware wholesalers' salesmen by number and length of calls; chart. Dun's R 48:43 Ja '40

Wholesalers' salesmen have their interest aroused; Dennison manufacturing company issues four page monthly. J. J. Ford. il Ptr Ink Mo 40:50+ F '40

See also

Sales contests, Jobbers' salesmen

Bonuses (manufacturers')

What to do and what to avoid in forming incentive plans for jobbers' salesmen. Ptr Ink 191:77-82 Ap 19 '40

Training

DuPont quiz plan trains jobbers' men who sell Zerex. Sales Management 47:38 O 1 '40

Training distributors' salesmen; abstract. J. H. Frederick. Management R 28:437-8 D '39

SALESMEN, Missionary

It pays to blue-print salesmen's jobs; salesmen of national manufacturer and distributor of packaged specialty food products who call upon food retailers and take orders for delivery by food wholesalers. B. R. Canfield. Adv & Sell 33:27+ Ap '40

Missionaries at work. Management R 29: 219-21 Je '40

SALESMEN, Retail

See also

Salesmanship, Retail

Training

G-E announces comprehensive program for retail training. Sales Management 46:59 Mr 15 '40

G-E trains 14,000 men for selling. il Ptr Ink Mo 39:14-15 D '39

Lumbermen find sales training best public relations policy; course sponsored by the Merchandising institute of the National retail lumber dealers assn. Sales Management 47:50-1 O 1 '40

More effective use of sales helps. E. Hall. Elec West 84:88-9 Je '40

Motion pictures for training salesmen and retail dealers. il Sales Management 47:60+ O 10 '40

Packaged themes; American Bemberg instruction bulletins for retail sales people and information on new products for dealers. A. H. Little. il Ptr Ink 189:17-20 D 1 '39

Paint store clerks offered course in sales training. Oil Paint & Drug Rep 138:5 O 21 '40

Retail training in principle and practice. H. M. Lester. 174p bibliog(p170-1) $2.50 Harper '40

Sales seminar; two Armstrong trucks travel 20,000 miles on tour to educate retailers. B. McClure. il Ptr Ink 193:13-16 N 1 '40

Sales training for dealers. L. F. Dickman. Elec West 84:87-8 Je '40

6,000 recordings show Westinghouse men how to polish sales technique. F. R. Kohnstamm. il Sales Management 47:14-15 O 10 '40

Training ABC's you can give dealer salesmen without investing a fortune; Berger correspondence course on surveying instruments. H. W. Drew. il Sales Management 46:27-8 Je 15 '40

Training clinics stimulate sales for American lady corset co. il Sales Management 47:54 S 15 '40

We sound reveille for the store clerk who yawns at our product; Hart, Schaffner & Marx mailings to salesmen's homes. E. R. Richer. il Sales Management 46:36-7 Ap 20 '40

SALESMEN, Retail—Training—*Continued*
Wholesaler builds customers for tomorrow; Higginbotham-Bailey-Logan company, wholesale dry goods firm of Dallas, Texas, trains merchants and salespeople. J. K. Novins. il Am Business 10:24-6 Je '40

SALESMEN and advertising. See Advertising and salesmen

SALESMEN and credit
Others sell him, he must be good! J. A. Ritchie. Credit & Fin Management 42:18-19 O '40
Selling the credit department; to sales managers, salesmen and customers. H. Kerr. Credit & Fin Management 41:6-9+ D '39

SALESMEN'S automobiles. See Automobiles, Salesmen's

SALESMEN'S bulletins
How to build a sales bulletin so that readership value comes automatically. Ptr Ink 192:35-6, 30 Ag 2 '40
Salesmen write own promotion bulletins in Bostitch contests. S. L. Smith. Sales Management 47:73 N 15 '40
Snappy, inexpensive promotion to salesmen sells 2,000 pen deals in 30 days; Waterman pens. H. Dorff and A. W. Macy. il Ptr Ink 190:13-16 F 2 '40

SALESMEN'S equipment
Columbia Steel makes nails exciting by Blitzkeg promotion; talking nail keg at jobbers' meeting. il Sales Management 47:32 O 1 '40
Sales presentations in review; a Printers' Ink Monthly special study. il Ptr Ink Mo 40: 18-21+ Je '40
Sales presentations that tell all; competition sponsored by the American management association. il Ptr Ink Mo 40:14-15 My '40
Seeing is believing in selling, too. il Sales Management 47:22-3 N 1 '40
Seven ways to induce your salesmen to use their selling tools. H. Simmons. il Sales Management 46:22-3 Ja 15 '40
Tricks and gadgets as sales aids. il Adv & Sell 33:25-6+ My '40

SALESMEN'S magazines
This magazine is a clearing house for tested sales ideas; Swift & co.'s Merchandiser. O. E. Jones. il Sales Management 47:60, 62+ N 1 '40
Wholesalers' salesmen have their interest aroused; Dennison manufacturing company issues four page monthly. J. J. Ford. il Ptr Ink Mo 40:50+ F '40
With a screw-driver; today's company magazines concern themselves increasingly with tested techniques of selling. A. H. Little. Ptr Ink 190:79, 82-4 Mr 8 '40

SALESMEN'S portfolios
Customer presentation; American floor surfacing machine company. il Ptr Ink Mo 41:40 Jl '40
Look homeward theme gives Certain-teed men ads they use. il Sales Management 47: 18+ O 10 '40
So you find it hard to visualize the sales points of a service? Southwestern Bell gives a specialty-selling slant to an intangible. il Sales Management 47:48-9 O 10 '40
This visual presentation sells 8 out of 10 for Aero Mayflower; long-distance moving. il Sales Management 47:52 O 10 '40
You can make more money, theme gives portfolios oomph; American lady corset co. il Sales Management 47:54-5 O 20 '40

See also
Advertising portfolios
Insurance agents—Sales portfolios

SALESMEN'S reports
Brevity features these salesmen's reports. C. A. Emley. Ptr Ink Mo 41:72 N '40
My salesmen's reports. Ptr Ink Mo 41:9 O '40
This salesman's report cuts red tape but delivers the facts. E. I. Williams. Sales Management 46:60-1 Mr 1 '40

SALESMEN'S wives
Salesman who has woman trouble. R. J. Comyns. Sales Management 47:76+ N 15 '40
Skelly breaks 5-year record with rolling pin contest for wives. C. B. Combs. il Sales Management 47:99 O 10 '40

See also
Insurance, Life—Agents' wives

SALESWOMEN

See also
Insurance, Life—Agents—Women agents

SAL HEPATICA

Manufacture
Lower-cost handling, more jobs; Bristol-Myers company, Hillside, N.J. E. W. Love. il Factory Management 98:62-4 Je '40

SALICYLALDEHYDE
Reactions of ketene with salicylaldehyde and *p*-hydroxybenzaldehyde. J. W. Williams and A. Sadle. Am Chem Soc J 62:2801-3 O '40

SALICYLALDOXIME
Colorimetric determination of iron with salicylaldoxime; a spectrophotometric study. D. E. Howe and M. G. Mellon. Ind & Eng Chem Anal ed 12:448-50 Ag 15 '40
Studies of organic reagents and methods involving their use; qualitative reactions of salicylaldoxime and its 5-chloro, 3,5-dibromo, and 5-nitro derivatives with inorganic ions. J. F. Flagg and N. H. Furman. bibliog Ind & Eng Chem Anal ed 12:529-31 S 15 '40

SALICYLIC acid
Halogenation of salicylic acid. L. H. Farinholt, A. P. Stuart and D. Twiss. Am Chem Soc J 62:1237-41 My '40
Heats of solution, heats of formation, specific heats and equilibrium diagrams of certain molecular compounds. A. N. Campbell and A. J. R. Campbell. Am Chem Soc J 62:291-7 F '40
Kolbe synthesis with alkyl-*o*-xenols. S. Harris and J. S. Pierce. Am Chem Soc J 62: 2223-5 Ag '40

SALISBURY, Rhodesia

Water supply
Water supply of Salisbury. W. J. Jarvis. Engineering 150:257-8, 266-7 S 27-O 4 '40

SALIVA
Effect of fluorides on salivary amylase. F. J. McClure. bibliog Pub Health Rep 54:2165-71 D 8 '39

SALMON
Pacific salmon not established in Atlantic waters. A. G. Huntsman and J. R. Dymond. bibliog Science 91:447-9 My 10 '40
Salmon canners' union; West Coast firms will negotiate with labor as a unit. Business Week p33-5 Mr 16 '40
Salmon packers defy the union. Business Week p26+ My 4 '40
Spawning migration of the salmon. E. B. Powers. Science 92:353-4 O 18 '40
Uncle Sam to nurse forty million little fish; Columbia Basin project for culture and protection of salmon and trout. il Comp Air M 45:6174-8 Je '40
Waste utilized to improve quality of product; late season salmon brought up to par by addition of oil from inedible parts of fish. H. Cloukey. il Food Ind 12:54 Ja '40

SALMON eggs
Preservation of salmon eggs for bait. N. M. Carter. Can Chem & Process Ind 24:56 Ja '40

SALMON shades (dyes)
Salmon shades and their importance in dyeing and printing. R. Sansone. il Textile Col 62:300-3+ My '40

SALOW, Theodore
Metal spinner makes good beyond expectations. Metal Ind 38:205 Ap '40

SALT
Apparent and partial molal volumes of sodium chloride and hydrochloric acid in mixed solutions. H. E. Wirth. bibliog Am Chem Soc J 62:1128-34 My '40

SALT—*Continued*
Composition of cottonseeds; solubility of proteins in alkaline solutions of neutral salts. H. S. Olcott and T. D. Fontaine. Am Chem Soc J 62:1334-9 Je '40
F.T.C. cites salt assn. for zone price-fixing. Oil Paint & Drug Rep 138:3+ S 23 '40
F.T.C. hits discounts on split business; International salt company. Oil Paint & Drug Rep 138:4+ S 16 '40
Heat of neutralization of sodium hydroxide with hydrochloric acid. G. Kegeles. bibliog Am Chem Soc J 62:3230-2 N '40
Ionization of lactic acid in aqueous sodium chloride solutions from 0 to 37.5°. F. C. Hickey. bibliog diag Am Chem Soc J 62: 2916-19 N '40
Materials artificially aged by salt spray. Mach 46:128 Mr '40
Method for obtaining powders of uniform sodium chloride crystals in various size ranges, and the effect of size upon the intensity of X-ray reflection. F. Marshall. il Phys R 58:642-50 O 1 '40
Money that melts in the rain. il Banking 33:84 N '40
Preparation of nitriles and amides; reactions of esters with acids and with aluminum chloride; the use of the salt NaCl:AlCl$_3$ in the Friedel and Crafts reaction. J. F. Norris and A. J. Klemka. Am Chem Soc J 62:1432-5 Je '40
Salt breaks ice bond on pavements. A. C. Toaspern. il Eng N 124:503 Ap 11 '40
Sealing the lagoon lining at Treasure Island with salt. C. H. Lee. il diag map Am Soc C E Proc 66:247-63 F '40; Discussion. 66: 1187-93, 1521-5, 1825-9 Je, O, D '40
Snow and ice removal with rock salt in Newark, N.J. J. S. Flockhart. il Pub Works 71:11-12 S '40
Sodium benzoate-sodium chloride coated wrappers; a progress report on application of method to fish fillets. E. H. Crowther. Can Chem & Process Ind 24:505+ O '40
Sodium chloride at very high pressures. R. B. Jacobs. Phys R 57:1046 Je 1 '40
Specific heats of some aqueous sodium and potassium chloride solutions at several temperatures. C. B. Hess and B. E. Gramkee. bibliog diag J Phys Chem 44:483-94 Ap '40
Specific heats of some aqueous sodium and potassium chloride solutions at several temperatures. C. M. White. bibliog J Phys Chem 44:494-512 Ap '40
Stabilization of iodine in salt and feedstuffs. F. F. Johnson and E. R. Frederick. Science 92:315-16 O 4 '40
Stabilized soil mixtures; results of tests on circular tracks by Public roads administration. E. A. Willis. il Roads & Sts 83:42-3 F '40
Studies of sulfonates; effect of sodium chloride on the solubility of sodium dodecylsulfonate and sodium tetradecylsulfonate. H. V. Tartar and R. D. Cadle. bibliog J Phys Chem 43:1173-9 D '39
Studies of water-retentive chemicals as admixtures with nonplastic road-building materials. E. A. Willis and C. A. Carpenter. il Pub Roads 20:173-87 N '39; Abstract. Pub Works 70:23-4 D '39
Test methods for the evaluation of aqueous quenching media for steel hardening. F. W. Trembour and H. Scott. il Am Soc for Metals Trans 28:513-31; Discussion. 531-6 S '40
Tests of salt as a substitute for rock dust in the prevention of coal-dust explosions in mines. H. P. Greenwald, H. C. Howarth and I. Hartmann. pl U S Bur Mines Rep of Invest 3529:1-16 '40

Advertising

Sales of Kansas salt grow as direct mail reaches 10,000 jobbers and dealers; Carey salt company. C. J. Swan. il Ptr Ink 189: 17-20 N 24 '39

Manufacture

Salt for every use; grainer, vacuum pan and Alberger processes; St Clair, Mich. plant of Diamond crystal salt co. J. A. Lee. flow diags il Chem & Met Eng 47:530-4, 565-8 Ag '40

Therapeutic use

Heat fag; effects of salt loss upon workers who sweat. il Blast F & Steel Pl 28:688 Jl '40
Industrial fatigue and efficiency; abstract. D. B. Dill. Management R 28:388-9 N '39
Man's worth his salt; use of salt for heat cramps. Safety Eng 79:39-40 My '40
Midsummer misery; defensive measures against heat sickness. il Nat Safety N 41: 24-5+ Je '40
Prevent heat sickness! use of salt tablets. C. D. Looker. il Am Mach 84:375 My 29 '40
Preventing heat cramps with salt. Nat Safety N 41:134+ Mr '40

SALT cake. See Sodium sulfates

SALT domes

Drilling play reflects activity near Gulf Coast salt domes. il Oil & Gas J 38:92, 95+ Ap 25 '40
Three new interior salt domes in northeast Louisiana. M. Bornhauser and L. R. Marshall. map Am Assn Pet Geologists Bul 24:483-6 Mr '40

SALT LAKE CITY, Utah

Influence of topography on weather forecasting at Salt Lake City. G. F. Taylor. maps J Aeronautical Sci 7:18-21 N '39

Architecture

Mountain States telephone and telegraph building voted outstanding by Salt Lake citizens. il map Arch Rec 88:16+ Jl '40

SALT mines and mining

Ontario

Goderich-Maitland River area; first salt wells developed in Canada; historical note. G. A. Cuthbertson. il(p492) Can Min J 61: 532-3 Ag '40

SALT river, Arizona

Power utilization

Water supply on upper Salt river, Arizona. J. Girand. map Am Soc C E Proc 65:1675-86 D '39; Discussion. 66:553-6, 777-8, 1117-18, 1327-8 Mr-Ap, Je, S '40

SALTPETER. See Potassium nitrate

SALTPETER, Chile. See Sodium nitrate

SALTS

Equivalent weights of salts of organic acids; microdetermination by electrodialysis. K. H. Dittmer and R. G. Gustavson. diags Ind & Eng Chem Anal ed 12:297-9 My 15 '40
Hydrolysis of salts in solution. H. F. Brown and J. A. Cranston. diag Chem Soc J p578-83 My '40
Mechanism of substitution at a saturated carbon atom; a kinetic demonstration of the unimolecular solvolysis of alkyl halides; kinetics and salt effects. L. C. Bateman, E. D. Hughes and others. Chem Soc J p960-1011 Jl '40
Some observations on the effect of certain substances on the action of malt amylase on starch. R. S. Potter. Soc Chem Ind J 59:45-7 Mr '40

See also
Carbonates
Chlorides
Crystallization
Electrolytes
Halides
Ionization, Electrolytic
Nitrates
Phosphates
Salt
Sulfates

SALTS, Complex

Aldehyde complexes of copper salts. T. L. Davis and W. P. Green, jr. Am Chem Soc J 62:1272-4 My '40
Die aufbauprinzipien der inneren komplexsalze. P. Pfeiffer. bibliog Angew Chemie 53: 93-8 Mr 2 '40

SALTS, Complex—*Continued*
Complexes of polynitro-compounds; compounds of polynitro-substances with derivatives of carbostyril, etc. A. Kent, D. McNeil and R. M. Cowper. Chem Soc J p1858-62 D '39
Constitution of complex metallic salts; bridged compounds containing two different metallic atoms. F. G. Mann and D. Purdie. Chem Soc J p1230-5 S '40
Constitution of complex metallic salts; further evidence for the structure of bridged dipalladium derivatives. J. Chatt and F. G. Mann. Chem Soc J p1622-34 O '39
Constitution of complex metallic salts; the stability of the 4-covalent auric complex. F. G. Mann and D. Purdie. Chem Soc J p1235-9 S '40
Constitution of complex metallic salts; the structure of the tertiary phosphine and arsine derivatives of cadmium and mercuric halides. R. C. Evans and others. Chem Soc J p1209-30 S '40
Inner complex salts of the 8-hydroxyquinoline-5-sulfonic acid. J. Molland. Am Chem Soc J 62:541-2 Mr '40
Intermediate complexes in the Friedel and Crafts reaction. J. F. Norris and J. E. Wood, 3d. Am Chem Soc J 62:1428-32 Je '40
Metal pyridine complex salts; cobaltous and nickelous dipyridine salts of fatty acids. T. L. Davis and A. V. Logan. Am Chem Soc J 62:1276-9 My '40
Stereochemistry of complex inorganic compounds; a study of the stereoisomers of the dichloro-diammino-ethylenediamine cobaltic ion. J. C. Bailar, jr. and D. F. Peppard. Am Chem Soc J 62:105-9 Ja '40
Stereochemistry of complex inorganic compounds; the mechanism of the Walden inversion in some reactions leading to the formation of the carbonato-diethylenediamine cobaltic ion. J. C. Bailar, jr. and D. F. Peppard. bibliog Am Chem Soc J 62:820-3 Ap '40

SALTS, Double
Distribution of isomorphous salts in solubility equilibrium between liquid and solid phases. A. E. Hill, G. S. Durham and J. E. Ricci. bibliog Am Chem Soc J 62:2723-32 O '40
Some further solid solutions of picromerites, at 25°. A. E. Hill, G. C. Soth and J. E. Ricci. bibliog Am Chem Soc J 62:2717-23 O '40
System magnesium sulfate, cadmium sulfate and water at 25 and 40°. W. C. Vosburgh and others. Am Chem Soc J 62:1472-3 Je '40
Ternary systems; solid solutions of some picromites at 25°. A. E. Hill, G. S. Durham and J. E. Ricci. bibliog Am Chem Soc J 62:1031-6 My '40

SALVADOR
See also
Wages—Salvador

SALVAGE, Samuel A.
Portrait. Rayon 20:691 D '39

SALVAGE
Experience in Great Britain; 13 per cent of British ships salvaged. Weekly Underw 143: 1036 N 2 '40
Salvage decided in unusual fishboat case; North Star and the Frigidland. Weekly Underw 142:1154 My 11 '40
Salvage of H.M.S. Thetis. G. R. Critchley. il diags Engineer 169:559-61, 568-70 Je 21-28 '40; Same cond. Engineering 150:50, 56-60 Jl 19 '40
Salvage of U.S. submarine Squalus. il diags Engineer 168:584-6, 606-8 D 15-22 '39
Les services de sauvetage et de renflouement des sous-marins aux États-Unis; le renflouement du Squalus. P. Couterelle. il diags Génie Civil 116:1-5 Ja 6 '40
Sunken cargo of scrap salvaged by electric magnet. D. R. James. il Iron Age 145:50-1 Ja 18 '40
Up from forty fathoms; rescuing men from submarine Squalus and raising boat. R. G. Skerrett. il diags map Comp Air M 44:6003-9 N '39

SALVAGE (waste, etc.)
Automatic equipment salvages used copper. il Elec W 114:875 S 21 '40
Automatic sorting; possibilities in salvaging materials; Glenn L. Martin co. il Steel 106:50+ Je 17 '40
Converting worn rolls. W. F. Lautner. il Steel 105:42, 44 D 25 '39
Detinning. Metal Finishing 38:594 N '40
Disused torch batteries; reclamation process. C. C. Downie. Elec R (Lond) 126:66 Ja 19 '40
Economic disposal of waste sulphite liquor; chemical and waste heat recovery; use of magnesia. G. H. Tomlinson and L. S. Wilcoxson. flow diags plan Paper Tr J 110:31-8 Ap 11 '40; Same. Pulp & Pa of Can 41:391-8 My '40
Make profitable use of dust; new applications found for dust collectors in cement mills. R. S. Torgerson. il diag Rock Prod 43:55, 57+ Ag '40
Mine slate washed in Isabella plant addition to reclaim coal content of 30 per cent. I. A. Given. flow sheet il Coal Age 45:71-3 Ap '40
Modern black liquor recovery plant; Bathurst power and paper company. W. C. Baggs. il plans Pulp & Pa of Can 41:710-17 O '40
New Belgian pickling process saves acid for continual reuse; de Laitre process. A. McLeod. diags Steel 107:40-2, 44+ S 2 '40
Nothing recoverable escapes; salvage department of Zenith radio corporation, Chicago. E. F. McDonald, jr. il Factory Management 98:58-9+ Mr '40
Profits from waste; salvage department, Westinghouse electric & mfg. co. F. A. Buldra. il Steel 107:64+ Ag 12 '40; Abstract. *Management* R 29:290-1 Ag '40
Recovery in sulphate pulp mills; experience with the Tomlinson system in Sweden. G. Edling. diags Pulp & Pa of Can 40:681-5, 734-8 N-D '39
Recovery unit performance in burning kraft process black liquor. L. S. Wilcoxson and F. G. Ely. il diags Paper Tr J 110:30-6 My 9 '40
Rivet-salvaging machine. Engineer 170:48 Jl 19 '40
Rivets; salvaging methods cut costs in airplane assembly; Glenn L. Martin aircraft company. il Sci Am 163:139 S '40
Salvaging aluminum rivets. il Iron Age 146: 33 Ag 8 '40
Salvaging of equipment by metal spraying. J. E. Hubel. il Metal Ind 37:571-2+ D '39
Scrap handling and reclamation practices; Santa Fe and Southern Pacific methods. P. Young; E. J. Becker. il Ry Age 109:508-11 O 12 '40
Softening plant of the metropolitan water district of southern California; lime reclamation. C. P. Hoover, J. M. Montgomery and W. W. Aultman. flow sheets plans Water Works & Sewerage 87:347-50 Ag '40
Waste into production in newsprint operation. F. A. Soy. diags Pulp & Pa of Can (Convention no) 41:79-82 [F] '40
See also
Boilers, Waste heat
Electroplating—Stripping
Oil reclamation
Refuse, Utilization of
Scrap metal
Waste products

SAMARIUM chloride
Magnetic rotation of praseodymium, samarium, and europium chlorides in aqueous solution at 25°. C. M. Mason, J. W. Hickey and W. K. Wilson. diag Am Chem Soc J 62: 95-9 Ja '40

SAMOA
See also
Libraries—Samoa

SAMPLES (merchandizing)
Five-cent sample hoists sales 23-30% for Heublein's A-1 sauce. K. F. Lingo. il Sales Management 47:38 Jl 15 '40
Ingenious sampling device, via letter, brings upper bracket business for retailers of Washington flour. Ptr Ink 193:59+ O 4 '40

SAMPLES (merchandizing)—*Continued*
60,000,000 samples; Wrigley uses free distribution to back up regular advertising. P. K. Wrigley. il Ptr Ink 189:11-13+ D 22 '39
Two ideas combined; chart of felt samples shaped like a manila letter-file folder. il Inland Ptr 104:37 N '39
Why sampling to consumers is valuable selling aid; 17 methods of use. Ptr Ink 190:65-6+ Mr 22 '40
Wrigley mails 58,000,000 sticks of gum in 1939 sampling campaign. P. K. Wrigley. il Sales Management 46:32+ Ja 1 '40

SAMPLES, Shipment of
Shipment of samples and advertising matter abroad; revising supplement to Trade promotion series no. 72 (1932 edition). R. P. Wakefield. 100p pa 10c U.S. Bur. of foreign and domestic commerce '40

SAMPLING
Sampling cement materials. N. C. Rockwood. flow sheet diags Rock Prod 43:47-8, 51+ Ag '40
Sampling devices for processing portland cement. N. C. Rockwood and B. Nordberg. il diags Rock Prod 43:39-40 O '40

See also
Coal sampling
Dust sampling
Ore sampling
Sewage sampling
Water sampling

SAMPLING (statistical methods)
Sampling error of the median. E. B. Wilson. Science 92:58-9 Jl 19 '40
Sampling public opinion. E. Roper. Am Statis Assn J 35:325-34 Je '40
Tests of departure from normality. W. G. Madow. Am Statis Assn J 35:515-17 S '40
Variate difference method G. Tintner. 175p $2.50 Principia press, Bloomington, Ind. '40

SAMUEL, Herbert Louis, 1st viscount, 1870-
Recipient of Messel medal. por Chem & Ind 59:273 Ap 20 '40

SANABRIA, U. A.
Portrait. Business Week p20 S 7 '40

SAN ANSELMO, California

Streets
Crib-type retaining wall protects street from flood damage. A. H. Siemer. il Pub Works 71:24+ Jl '40

SAN ANTONIO, Texas

See also
Motor bus lines—San Antonio

Sanitary affairs
Designing water, gas and sewerage facilities for low housing project. A. Sauer. il diags Pub Works 71:20-3 S '40
Health protection in Texas; San Antonio sticker ordinance helps enforcement of plumbing code. il Dom Eng 154:47 D '39

SAN ANTONIO public service company
Bonds offered. Comm & Fin Chr 151:2512-13 O 26 '40

SANATORIUMS

See also
Tuberculosis—Hospitals and sanatoriums

SAN BERNARDINO, California
San Bernardino; settlement and growth of a pass-site city. H. F. Raup. 5pls maps Univ of Calif Pub in Geography v 8, no 1: 1-63 bibliog(p47-52) '40 (pa 75c)

SAND
Beneficiation of some Alabama glass sands. R. F. Havell and T. N. McVay. flow sheet map Am Cer Soc Bul 18:429-31 N '39
Capillary flow in porous solids. N. H. Ceaglske and F. C. Kiesling. bibliog diag Am Inst Chem Eng Trans 36:211-25 Ap '40
Compaction of soils by explosives; Franklin Falls Dam site. A. K. B. Lyman. il Civil Eng 10:205-7 Ap '40
Fine-grained molding sand resources of northern Illinois. H. B. Willman. maps Ill State Geol S Rep of Invest 57:1-53 '39
Forum on operating problems, National sand and gravel association. Rock Prod 43:39-41 F '40
Glass sands. J. O. Beach, comp. 12p bibliog(p7) Oklahoma. Geological survey, Norman '39
Gravel and sand deposits of eastern Maryland adjacent to Washington and Baltimore. N. H. Darton. diags fold maps U S Geol S Bul 906-A:1-42, pl 1-10 '39
Making prescription sand at 50 tons an hour. W. B. Gery. flow sheet il Rock Prod 43:21-3 Jl '40
Producing sand for glass; Silica co. of California. il Rock Prod 42:29-30+ D '39
Profit in stone screenings blended with natural sand. il Rock Prod 43:30+ My '40
Sand movements along the Scripps Institution pier. F. P. Shepard and E. C. LaFond. Am J Sci 238:272-85, pl 1 Ap '40
Screenings plus bank sand make concrete aggregate; Grant-Pacific rock co. il Rock Prod 43:27-8 Je '40
Simple launder pockets to grade sand; comments on E. Shaw's articles, Washing and classifying sand. diags Rock Prod 43:29-30 Je '40
Suction sluice for classifying sand. diags Rock Prod 43:58 S '40
Tough requirements and too many specifications for aggregates. B. Nordberg. Rock Prod 43:67 Ja '40
Washing and classifying sand. E. Shaw. diags Rock Prod 42:23-4 My; 41-2+ Je; 34-5 Jl; 65-6 Ag; 35-6 S; 43-4 O; 37 N; 39-41 D '39; 43:27-8 Ja; 27-8 F; 39-40 Mr; 51 Ap; 49-50 My; 28-9+ Jl; 73-4 Ag; 27+ S; 41-2 O '40 (to be cont)

See also
Aggregates
Bituminous sand
Concrete—Aggregate
Quicksand
Sand blast and other headings beginning Sand
Silica

Analysis
New laboratory method for determining the organic matter in washed fine aggregates. I. Paul. il Am Soc T M Proc 39:892-8; Discussion. 899 '39

Measurement
Electrical method for the identification of sands. W. F. Tanner. diag Am J Sci 238: 42-6 Ja '40

Stone sand
Concrete aggregate development on the Claytor hydro project. G. W. Hutchinson. il Am Concrete Inst J 11:273-95 Ja '40
Make stone sand a new way; Pittsburgh limestone corp. B. Nordberg. il diags Rock Prod 43:35-8 Mr '40
Profit in stone screenings blended with natural sand. il Rock Prod 43:30+ My '40

Testing
Comparison of results of direct shear and cylindrical compression tests. D. W. Taylor. bibliog il Am Soc T M Proc 39:1058-70 '39
Some investigations of the shearing resistance of cohesionless and cohesive materials. D. M. Burmister. bibliog diag Am Soc T M Proc 39:1071-83 '39

SAND, Filter
Filter sand. T. M. Riddick. diags Am Water Works Assn J 32:121-36; Discussion. 136-46 Ja '40
Filter sand from a producer's standpoint. H. J. Gerrard. Am Water Works Assn J 32: 152-4 Ja '40
Sewage filtration with silica sand filters. P. B. Streander. il diags Water Works & Sewerage 87:351-7, 422-9, 493-5 Ag-O '40

SAND, Foundry
American foundrymen's association; abstracts of papers. Foundry 68:74, 76, 80, 82 Jl '40
Cooling and storage of foundry sand; abstract. H. L. McKinnon. Foundry 68:72+ Jl '40
Emploi de la bauxite siliceuse en mélange dans le sable de fonderie. C. de Luca. Génie Civil 116:315 My 11 '40
Foundry cores and molds; composite of abstracts. Metals & Alloys 12:182+ Ag '40

SAND, Foundry—*Continued*
Gray iron foundry practice moves forward; review of technical literature, 1938-1939. C. H. Lorig and V. H. Schnee. Foundry 68:161+ My '40
Ills and cures in the nonferrous foundry. A. Fritschle. il Foundry 68:30-1 Jl '40
Investigates problem of cooling sand. F. H. Amos. diag Foundry 68:34-5+ Ag '40
New foundry builds truck engines; International harvester co. P. Dwyer. il Foundry 68:24-6 Mr '40
Proper preparation and testing of rebonded sand; abstract. N. J. Dunbeck. Foundry 68:134 My '40
Sprues are cleaned in tumbling mills; sand handling equipment; Buick foundry in Flint, Mich. A. H. Allen. il Foundry 68:96-7+ My '40
See also
Molds (for casting)

Reclamation
Co-ordinated electrical control saves foundry space; correlates mold production lines with sand-conditioning towers; International harvester company's motor truck engine factory. H. W. Parthemer. il diags Elec W 113:2041-3+ Je 29 '40
Molding sand; automatic system reclaims both clay and cement bonded sand; used in Randupson process at foundry of Farrel-Birmingham co. W. A. Phair. il diag plan Iron Age 145:48-52 Mr 7 '40
Removing fines from molding sand. diag Rock Prod 43:54-5 My '40

SAND bags. See Sandbags

SAND blast
Cleaning meter casings by sand blasting. W. R. La Due. diag Water Works & Sewerage 87:260 Je '40
Impact cleaning. W. A. Rosenberger. 466p $7 Penton pub. co, Cleveland '39
Metal cleaning. C. C. Hermann and R. W. Mitchell. il Iron Age 145:54-5 Mr 7 '40
Sandblasting as a cleaning method for steel. A. B. Davis. il Civil Eng 10:410-12 Jl '40

SAND drying
Dewatering wheels stage a comeback. flow diag il Rock Prod 43:77 Ja '40

SAND dunes
Adaptation and origin in the plant world. E. V. Martin and F. E. Clements. v. 1 107p bibliog(p55-8) pa 50c Carnegie inst. of Washington, Washington, D.C. '39

SAND handling
Belt takes aggregate to Shasta. il map Eng N 125:102-4 Jl 18 '40
Blend natural with pulverized sand; Iron City sand and gravel co. il diag Rock Prod 43: 24-6 S '40
Blows molding sand into molds; system of sand-conveying and mold making developed in Great Britain. diags Foundry 68:78+ S '40
Classifiers for recovering fine sands. il Rock Prod 43:76 Ja '40
Effects of rifling on four-inch pipe transporting solids. G. W. Howard. il diags Am Soc C E Proc 65:1591-1603 N '39; Discussion. il diags 66:537-40, 770-2, 991-4, 1324-6 Mr-My, S '40
Grading fine sand products; General crushed stone co. L. Gray. il diag Rock Prod 43: 33-4+ My '40
How fines are recovered. E. Shaw. flow sheets Rock Prod 43:43-4 Ag '40
Hydraulic stowing in India. L. J. Barraclough and S. B. Hall. Mech Handling 26:355-6 D '39
Long field conveyors and tractors solve transportation problem; Friant Dam aggregates plant. H. K. Herrick. il Rock Prod 43:36-8 N '40
Making prescription sand at 50 tons an hour. W. B. Gery. flow sheet il Rock Prod 43:21-3 Jl '40
New method of dewatering and classifying. R. Dull. diags Rock Prod 43:87-8 F '40
Preparing the aggregate for Shasta concrete. flow sheet il Eng N 125:100-1 Jl 18 '40
Producing sand for glass; Silica co. of California. il Rock Prod 42:29-30+ D '39
Push-over for sand and gravel; plant of Graham brothers. B. Nordberg. il Rock Prod 42:32-4 D '39
Recover sand from settling box overflow. il Rock Prod 43:49 Jl '40
Sand dewatering problem. diag Rock Prod 42:31 D '39
Shasta Dam conveyor-belt system. H. W. Young. il map Comp Air M 45:6249-53 O '40
Sprues are cleaned in tumbling mills; sand handling equipment; Buick foundry in Flint, Mich. A. H. Allen. il Foundry 68:96-7+ My '40
Surge storage pile reduces shutdowns; Wolf River sand and gravel co. il diags plan Rock Prod 43:35-7 Je '40

SAND-lime brick association
Annual meeting, New York, Feb. 12-13. Rock Prod 43:55 Mr '40

SANDBAGS
Rotproofing sandbags; creosote distillate emulsions. Chem Age (Lond) 41:332 N 11 '39; Engineering 148:579-80 N 24 '39

SANDERS, Street
Sand cars on rail lines; practices of various companies. Transit J 84:279 Ag '40

SANDIA man. See Man, Prehistoric

SAN DIEGO, California
Harbor of the sun; the story of the port of San Diego. M. Miller. 329p $3 Doubleday '40

SAN DIEGO gas and electric company
$16,000,000 bond issue approved. Comm & Fin Chr 151:2056-7 O 5 '40

SANDSTONE
Eocene Yokut sandstone north of Coalinga, California. R. T. White. bibliog il map Am Assn Pet Geologists Bul 24:1722-51 O '40
Fabric criteria for distinguishing pseudo ripple marks from ripple marks. E. Ingerson. bibliog diags Geol Soc Bul 51:557-69, pl 1-2 Ap '40
Invertebrate fauna of the late Permian Whitehorse sandstone. N. D. Newell. diags maps Geol Soc Bul 51:261-335, pl 1-10 bibliog(p323-5) F '40
Measurements of compressibility of consolidated oil-bearing sandstones. C. B. Carpenter and G. B. Spencer. U S Bur Mines Rep of Invest 3540:1-20, pl 1-5 '40; Excerpt. Pet Eng 12:135 N '40
Three types of cross-lamination in paleozoic rocks of northern Arizona. E. D. McKee. bibliog maps Am J Sci 238:811-24 N '40

SANDWICH glass. See Glassware

SANFORIZING
Too much twist in warp and filling yarns means trouble in pre-shrinking cotton fabrics. W. H. Harriss. il Textile World 89: 66-7 D '39

SAN FRANCISCO
Hetch Hetchy tie-up in San Francisco. T. L. North. Pub Util 26:338-49 S 12 '40
San Francisco skyline. E. G. Potter. 284p $3 Dodd '39
See also
Chinese in San Francisco
Street railroads—San Francisco

Architecture
Record polls San Franciscans on city's outstanding recent buildings. il map Arch Rec 87:16, 18 F '40
USHA San Francisco housing project. il diag plans Arch Rec 88:46-9 O '40

Chinatown
Mark Daniels, AIA, presents plan for Chinatown housing. il Arch Rec 87:14 F '40

Golden Gate International exposition, 1939
Coast fair: plans and postmortems. Business Week p32-4 N 25 '39
Sealing the lagoon lining at Treasure Island with salt. C. H. Lee. il diag map Am Soc C E Proc 66:247-68 F '40
Sewage pumping and disposal at Treasure Island; abstract. C. H. Lee. il Water Works & Sewerage 86:465-6 N '39

SAN FRANCISCO—Golden Gate international exposition, 1939—*Continued*

Water supply

Cathodic protection on domestic distribution system at Treasure Island. C. H. Lee. il plans Am Water Works Assn J 32:305-38 F '40

Golden Gate international exposition, 1940

Coast fair organizes. Business Week p26-7 Ja 13 '40

Coast fair out to cash in on fun. il Business Week p18+ My 18 '40

Experience in maintenance of large timber structures. J. J. Gould. diags Eng N 125: 240-2 Ag 15 '40

Let the Isle be bright for '40. C. L. Huyck. il Elec West 84:29-31 My '40

Electric exhibits and equipment

Westinghouse and General Electric to stage new Fair features. il Elec West 84:31 My '40

Finance

Coast Fair pay-off. Business Week p 16 S 21 '40

Exposition ends, 1940, season considered successful. Comm & Fin Chr 151:2293 O 19 '40

Gas exhibits and use

Gas at the fairs. R. D. Smith. il Am Gas Assn Proc 1939:497-500

Insurance coverage

California Fair loss; $125,000 on Golden Gate fire. Weekly Underw 143:769 O 5 '40

Lighting

Lighting plans for 1940 Golden Gate exposition. A. F. Dickerson. Illum Eng 35:406-7 My '40

Plumbing

Bigger and better fairs; plumbing installations. il Dom Eng 155:53+ Mr '40

Transportation problems

Fair time again. il Bus Transportation 19: 172-3 Ap '40

Water supply

Water supply system of San Francisco. N. A. Eckart. il Am Water Works Assn J 32:785-7 My '40

Harbor

Golden Gate; the story of San Francisco harbor. F. Riesenberg, jr. 347p bibliog(p344-7) $3.50 Knopf '40

Restricted seaplane landing area established in San Francisco bay. Civil Aero J 1:53-4 F 15 '40

Rapid transit

Costs down 7%, speed up 13%; Municipal railway of San Francisco modernizes bus lines. il Transit J 84:230 Jl '40

How mass transportation is conducted in the city by the Golden Gate. il Mass Transportation 36:79-83 Ap '40

Sewerage

First year's operation of Richmond-Sunset sewage treatment plant. B. Benas. flow diag il map plan Civil Eng 10:641-4 O '40

Pollution of San Francisco bay, the ocean shore and the effect of sewage treatment; abstract. A. B. Crowley. Water Works & Sewerage 86:467 N '39

Water supply

Sanitary aspects of the San Francisco water system. G. E. Arnold. il Civil Eng 9:722-3 D '39

Water supply system of San Francisco. N. A. Eckart. il plan map Am Water Works Assn J 32:751-94 My '40

SAN FRANCISCO Bay bridges

Earthquake stresses in the San Francisco-Oakland Bay bridge. N. C. Raab and H. C. Wood. diags map Am Soc C E Proc 66: 1447-68 O '40

Engineer of design; typical problems of the San Francisco-Oakland Bay bridge. G. B. Woodruff. il Cornell Eng 5:5-7 F '40

Field practice with special reference to Golden Gate bridge; protective painting. R. G. Cone. il Civil Eng 10:416-17 Jl '40

Not by paint alone; electrical maintenance; Golden Gate bridge. il Elec West 84:56-7 My '40

Paint maintenance problem on Golden Gate bridge. Eng N 123:774-5 D 7 '39

Permanent painting scaffolds for the Golden Gate bridge. R. G. Cone. diags Eng N 124:582-3 Ap 25 '40

Provision for seismic forces in design of Golden Gate bridge. L. S. Moisseiff. il diags Civil Eng 10:33-5 Ja '40

Signal system, interlocking plants, and automatic train control on the San Francisco-Oakland Bay bridge railway. C. R. Davis. il Elec Eng 59:Trans 158-64 Mr '40

SAN FRANCISCO employers' council

Boss union reports. Business Week p38-40 F 24 '40

Collective bargaining, by employers; report to executives. il Business Week p39-46 O 26 '40

SAN FRANCISCO stock exchange

Weekly record. Published in weekly numbers of Commercial & financial chronicle

SANITARY chemistry

See also

Air—Analysis
Food—Analysis
Sewage disposal
Water—Analysis

also American chemical society—Division of water, sewage, and sanitation chemistry

SANITARY districts

Law on water and sewerage districts, Colorado. W. B. Cheek. Am Water Works Assn J 32:62-4 Ja '40

Pollution abatement in New York area; interstate problems. S. G. Hess. il map Civil Eng 10:270-2 My '40

Pollution abatement in New York area; progress west of the Hudson. C. J. Velz. il maps Civil Eng 10:349-52 Je '40

Possible use of Ohio conservancy act for developing and operating water and sewerage facilities in metropolitan areas. F. H. Waring. Am Water Works Assn J 32: 570-5 Ap '40

See also

Water districts

SANITARY engineering

Air sanitation; general survey. E. B. Phelps. Am Soc C E Proc 65:1476-83 N '39; Discussion. 66:365-9, 1097-1100 F, Je '40

American public health association annual meeting; abstracts of papers. Eng N 123: 761 D 7 '39

Public-health engineering. G. H. Ferguson. Can Eng W & S 78:26+ Ap '40

Sanitary engineering, 1939. E. J. Cleary. il Eng N 124:226-8 F 15 '40

Water supply and sanitary engineering in 1939. Engineer 169:91-2 Ja 26 '40

See also

Drainage
Dust removal
Factory sanitation
Filters and filtration
Heating
Mosquitoes
Municipal engineering
Plumbing
Refuse collection
Refuse disposal
Sewage disposal
Sewerage
Smoke prevention
Snow removal
Trade waste
Ventilation
Water pollution
Water purification
Water supply
Water supply engineering

Apparatus and supplies

Industrial wastes from the equipment manufacturers' viewpoint; use of chemical, metallurgical, and sanitary engineering equipment. C. L. Knowles. il diag Ind & Eng Chem 31:1338-45 N '39

Study and teaching

What is expected of a young sanitary engineer. S. A. Greeley and P. Hansen. J Eng Educ 30:404-6 D '39

SANITARY laws. See Public health laws

SANITARY ware
Control of crazing in sanitary ware glazes by Mayer and Havas coefficient of expansion factors. A. O. Knecht. Am Cer Soc J 23:61-3 F '40
History of the Bowmans; O. O. Bowman and his sons, W. J. J. and R. K. Bowman; activities in manufacturing a full line of plumbing fixtures. il Am Cer Soc Bul 19: 175-7 My '40
Properties of clay casting slips. G. A. Loomis. Am Cer Soc J 23:159-62 Je '40
Use of North Carolina kaolin in casting bodies. W. H. Earhart. Am Cer Soc Bul 19:163-8 My '40
Use of organic dispersing agents in casting slips; effect of clay deflocculant vs. sodium silicate on the physical properties. I. E. Sproat, C. C. Treischel and E. W. Emrich. Am Cer Soc Bul 19:47-58 F '40

Standards

Sanitary cast-iron enameled ware. U S Nat Bur Stand Commercial Standard CS77-40: 1-15 '40

SANITATION
Administrative control of public-health nuisances. A. E. Berry. il Can Eng W & S 78: 19+ Je '40
Disease outbreaks resulting from faulty environmental sanitation. L. C. Frank. bibliog Pub Health Rep 55:1373-83 Ag 2 '40
Facts regarding community sanitation; program in Indiana. Pub Works 71:17-18 F '40
Jurisdiction over sanitation of recreational places. H. P. Croft. Am Water Works Assn J 32:1013-14 Je '40
Public health aspects of bathing pool sanitation. H. B. Gotaas. il Pub Works 71:23-4 O '40
Sanitary standards for hotels. G. E. Arnold. Am Water Works Assn J 32:456-63; Discussion. 464 Mr '40
Sanitation of construction areas; abstract. F. A. Marston. Eng N 125:478-9 O 10 '40
Standards and regulations for quality of water in bathing places. A. E. Berry and A. V. Delaporte. il diag Can Eng W & S 78:5-8+ Ag '40

See also
Air conditioning
Air purification
Airplanes—Sanitation
Disinfection and disinfectants
Dust removal
Factory sanitation
Fumigation
Hygiene
Hygiene, Industrial
Mosquitoes
Paper mills—Sanitation
Plumbing
Public health
Refuse disposal
Sanitary engineering
Sewage disposal
Sewerage
Ships—Sanitation
Smoke prevention
Trade waste
Ventilation
Water purification
Water supply

SANITATION, Household
Standards for sanitation. il Arch Rec 87:104-5 Mr '40

SANITATION, Rural

See also
Country houses—Mechanical equipment
Sewage disposal, Rural

SAN JUAN, Puerto Rico
Port of San Juan. il(cover) Comm Rep p575-6 Je 29 '40

SANTA ANA river
Prado dam to control floods on the Santa Ana river. Eng N 124:500 Ap 11 '40

SANTA FE, New Mexico

Libraries

History in Santa Fe. H. Jones. il Special Lib 31:83-5 Mr '40

SANTA FE formation
Santa Fe formation in the Española valley, New Mexico. C. S. Denny. maps Geol Soc Bul 51:677-93, pl 1-4 bibliog(p692-3) My '40

SANTEE river, South Carolina
Developing the Santee and Cooper rivers; combined power and navigation project in South Carolina. il diags map Eng N 124:706-11 My 23 '40
Preview of Santee Cooper. Eng N 124:375 Mr 14 '40
Uncle Sam in a swamp; Santee-Cooper project. H. Corey. Pub Util 26:647-56 N 7 '40

SANTOS, Brazil
Port of Santos. il(cover) Comm Rep p519 Je 8 '40

SAP

See also
Plants, Motion of fluids in

SAPOGENINS
Sapogenins; the occurrence and constitution of bassic acid. B. J. Heywood and G. A. R. Kon. Chem Soc J p713-20 Je '40
Sapogenins; the sapogenin of fuller's herb. G. A. R. Kon and H. R. Soper. Chem Soc J p617-20 My '40
Sapogenins; the structure of quillaic acid and its relation to echinocystic acid. D. F. Elliott, G. A. R. Kon and H. R. Soper. Chem Soc J p612-17 My '40
Saponins and sapogenins; the interrelationship of echinocystic acid and oleanolic acid. D. Todd, G. H. Harris and C. R. Noller. Am Chem Soc J 62:1624-5 Je '40
Sterols; acid isomerization of pseudosapogenins to sapogenins. R. E. Marker and E. Rohrmann. bibliog Am Chem Soc J 62:896-8 Ap '40
Sterols; sapogenins; the conversion of chlorogenin to tigogenin. R. E. Marker, D. L. Turner and P. R. Ulshafer. Am Chem Soc J 62:3009-10 N '40
Sterols; sapogenins; the preparation of dihydro-isoandrosterone from diosgenin. R. E. Marker and D. L. Turner. Am Chem Soc J 62:3003-5 N '40
Sterols; sapogenins; the supposed trillarigenin identified as a mixture of diosgenin and trillin. R. E. Marker and J. Krueger. Am Chem Soc J 62:2548-9 S '40
Sterols; steroidal sapogenins of aletris, asparagus and lilium. R. E. Marker and others. Am Chem Soc J 62:2620-1 O '40

SAPONIFICATION
Electrostatic influence of substituents on reaction rates. F. H. Westheimer. bibliog Am Chem Soc J 62:1892-5 Ag '40
Kinetics of the esterification of cyclohexanoic acid and of the saponification of its ethyl ester. H. A. Smith and H. S. Levenson. bibliog Am Chem Soc J 62:2733-5 O '40
Kinetics of the saponification of the ethyl esters of several phenyl substituted aliphatic acids. H. S. Levenson and H. A. Smith. bibliog Am Chem Soc J 62:2324-7 S '40
Saponification of ethyl esters of aliphatic acids. H. S. Levenson and H. A. Smith. Am Chem Soc J 62:1556-8 Je '40
Soaps and saponifying agents. B. Levitt. il Chem Ind 46:726-8 Je '40

SAPPHIRES, Synthetic
Synthetic sapphires; war in Europe threatens to cause shortage. W. Davis. Science 92: sup6 Ag 30 '40

SARAN
Plastic seat covering; Saran. il Transit J 84:400 O '40
Saran; new vinylidene chloride resins. W. C. Goggin. il Ind & Eng Chem News ed 18: 923-4 N 10 '40
Seats of tomorrow, today! extruded vinylidene chloride plastic woven into seat covering material for subway cars. W. C. Goggin. il Mod Plastics 18:36-9 N '40

SARDINE oil
Drying oils and resins; constitution of a drying oil gel. T. F. Bradley and H. F. Pfann. bibliog il diags Ind & Eng Chem 32:694-7 My '40
Fish oils in paints; abstract. W. H. Dexter. Oil Paint & Drug Rep 136:37 N 20 '39
Preparation of drying oils; recent developments. D. V. Stingley. bibliog il Ind & Eng Chem 32:1217-20 S '40

SARSASAPOGENIN
Sterols; conversion of sarsasapogenin to pregnanediol-3(α),20(α) R. E. Marker and E. Rohrmann. Am Chem Soc J 61:3592-3 D '39

SARSASAPOGENIN—*Continued*
Sterols; oxidation of sarsasapogenin acetate with potassium permanganate. R. E. Marker and E. Rohrmann. bibliog Am Chem Soc J 62:222-3 Ja '40
Sterols; oxidation products of dihydrosarsasapogenin. R. E. Marker and E. Rohrmann. bibliog Am Chem Soc J 61:3477-9 D '39
Sterols; oxidation products of sarsasapogenin; pregnanetriol-3,16,20. R. E. Marker and others. bibliog Am Chem Soc J 62:525-7 Mr '40
Sterols; oxidation products of sarsasapogenin; studies on the C_{22} lactone. R. E. Marker and E. Rohrmann. bibliog Am Chem Soc J 62:76-8 Ja '40
Sterols; pregnanediols from sarsasapogenin. R. E. Marker and E. Rohrmann. bibliog Am Chem Soc J 62:518-20 Mr '40
Sterols; sarsasapogenin. R. E. Marker and E. Rohrmann. Am Chem Soc J 62:900-2 Ap '40
Sterols; steroidal sapogenins of aletris, asparagus and lilium. R. E. Marker and others. Am Chem Soc J 62:2620-1 O '40
Sterols; the preparation of neotigogenin from sarsasapogenin. R. E. Marker and E. Rohrmann. Am Chem Soc J 62:647-8 Mr '40
Sterols; the preparation of testosterone and related compounds from sarsasapogenin and diosgenin. R. E. Marker. Am Chem Soc J 62:2543-7 S '40

SARTORIUS-RAMBERG micro-balance. See Balances

SAT-CHROMOSOME (term)
SAT-chromosomes. C. A. Berger. Science 92: 380-1 O 25 '40

SATELLITES
Astronomical hypothesis to explain Permian glaciation; ring of small satellites about the earth. R. L. Ives. diags map Franklin Inst J 230:45-74 bibliog(p71-4) Jl '40; Abstract. Science 92:supC-7 Ag 16 '40

SATIN
Study in rayon weaves. il Rayon 21:547-8, 623-4, 695-6, 750-1 S-D '40

SATURN (planet)
Jupiter and Saturn; triple conjunction. Science 92:supS Ag 9 '40

SAUSAGES
Armour synthetic strings and casing. Business Week p46+ N 16 '40
Biological assay of sausage in raw casings for distinction between mutton and beef; abstract. A. Peigai. Food Ind 12:96-7 Je '40
Determination of soybean flour in sausage by nonfermentable sugars. W. B. Hendrey. bibliog Ind & Eng Chem Anal ed 11:611-13 N 15 '39
Electric steam boiler; sausage cooking and drying; industrial data sheet. J. H. Hedge. il Elec West 85:49 N '40
Moving picture contest pulls 35% increase in sales of sausage products for Squire's. Sales Management 47:30 O 1 '40
Polish sausage; formula. Food Ind 12:105 S '40
Ripening of sausage in casings; abstract. M. Guastalla. Food Ind 12:98-9 Jl '40
Savory sausage; percentage distribution of various kinds produced, 1937. Dun's R 48: 44-5 F '40
Treated spices reduce spoilage. H. W. Smith. bibliog il Food Ind 12:50-1 N '40

Advertising
Sausage drive. Ptr Ink 190:33 Ja 26 '40
Sausage imagination; Visking, maker of casings, extends its consumer advertising program. il Ptr Ink 190:23-4 F 16 '40

Manufacture
Blood substituted for flour in sausage manufacture. R. G. Walker. Food Ind 12:49 F '40
General directions for sausage manufacture. Food Ind 11:712 D '39
Meat packer puts fruit enzyme to work; proteolytic enzyme in pineapple juice improves eating qualities of frankfurts and pork sausages. J. M. Ramsbottom and C. A. Rinehart. il Food Ind 12:45-7 Je '40

SAUSSURE, Horace Bénedict de, 1740-1799
Bicentenary. Chem & Ind 59:103-4 F 17 '40

SAVAGE arms corporation
Dynamic specialties; thumbnail appraisal. Mag of Wall St 66:234 Je 1 '40

SAVING
Convert random savers into regular savers. F. P. Bennett, jr. Bankers M 140:443-4 My '40
Differences in family savings between cities of different size and location, whites and Negroes. H. Mendershausen. map R Econ Statis 22:122-37 Ag '40
Function of savings in a dynamic society. P. F. Cadman. Comm & Fin Chr 151:39-40 sec 3 O 12 '40
Gold ahead. G. S. Clason. 2d ed 254p $2.50 Financial education publishers, Denver '40
How to make your budget balance. E. C. Harwood and H. Fowle. 143p pa $1 Am. institute for economic research, Cambridge, Mass. '40
International Harvester employes get new savings and profit-sharing plan. il Manuf Rec 109:26+ Ap '40
It's time to be thrifty. A. W. Atwood. Banking 32:19-20 D '39
Long-term savings of American people reached new high at end of 1938. Comm & Fin Chr 149:3493 D 2 '39; Same. Spectator (Life ed) 143:12 D 7 '39
Public education on thrift advocated; abstract. H. F. Clark. Bankers Mo 57:266+ My '40; Same abr. Bankers M 140:364-5 Ap '40
Saving still the basis of personal welfare. F. F. Lawrence. Bankers M 140:550 Je '40
Savings and extra compensation plan of International harvester co. Monthly Labor R 51:631-3 S '40
Savings in Great Britain, 1922-1935; an analysis of the causes of variations in savings. E. A. Radice. 146p bibliog(p143-4) $3.25 Oxford '39
Savings of wage earners and clerical workers, 1934-36. Monthly Labor R 51:119-39 Jl '40
Senator Downey seeks investigation of excess savings. Comm & Fin Chr 150:2980 My 11 '40
Thrift is better than taxation. J. J. Wicker. Manuf Rec 108:27+ D '39
Twenty ways to save money. R. W. Babson. 180p $1 Stokes '40
Two for the money. E. G. Carroll. 198p $2 Doubleday '40
Uninvested savings; review of Saving and investment in the American enterprise system, Machinery and allied products institute. D. S. Tucker. Mech Eng 61:907-8 D '39

See also
Building and loan associations
Christmas clubs
Credit unions
Employees as stockholders
Insurance, Industrial
Old age pensions
Pensions, Industrial
Savings banks
Savings deposits
School savings

SAVING, Compulsory
Deferred pay: the Keynes plan; review and comment on "How to pay for the war" by H. J. Keynes. E. J. Riches. Int Labour R 41:557-81 Je '40
Keynes plan; financing the war by a system of compulsory savings. Economist 138:363-4 Mr 2 '40

SAVINGS banks
Behavior of 20,484 savings accounts, Bowery savings bank, New York. H. M. Hoffman. Banking 33:56-7 Ag '40
Convert random savers into regular savers F. P. Bennett, jr. Bankers M 140:443-4 My '40
How to interpret savings trends; analysis of savings deposits of 34 banks. I. Bussing. Bankers Mo 57:6-7+ Ja '40
Know your savings accounts; A.B.A. plan of account analysis. J. R. Dunkerley. il Banking 32:86-7 Je '40
Mutual savings banks, principal assets and liabilities by states, Sept. 1938, and June and Oct. 1939. Fed Res Bul 26:162 F '40

SAVINGS banks—*Continued*
Mutual savings banks; principal assets and liabilities by states, March 29 and Dec. 30, 1939, and March 26, 1940. Fed Res Bul 26: 824 Ag '40
100 largest mutual savings banks listed in order of deposits as of January 1, 1940. Burroughs Clearing House 24:24 Mr '40
Our revised system serves more customers; East River savings bank. D. Campbell. il Bankers Mo 57:10-11+ Ja '40
Program for savings banks. I. Bussing. diags Banking 32:90-1 D '39
Savings banking leadership; abstract. A. S. Embler. Bankers M 139:547 D '39
Savings banks association of New York state 47th annual convention, Lake Placid, N.Y. Oct. 2-4. Comm & Fin Chr 151:1985-6, 2132-3 O 5-12 '40
Simplified forms; the savings department. il Banking 33:49-52 Ag '40
Stability of savings in mutual bank system. M. F. Converse. Comm & Fin Chr 151:1659 S 21 '40

See also
Banks and banking—Savings departments
Building and loan associations
Postal savings banks
Savings deposits
also National association of mutual savings banks

Advertising

See Bank advertising

Costs

Savings bank's costs; abstracts. J. J. Driscoll. Banking 32:85 D '39; Bankers M 139:528 D '39

Directories

Directory, mutual savings banks of the United States. 109p $1 Nat. assn. of mutual savings banks, 60 E. 42d st, New York '40

Insurance selling

Amendment to New York state savings bank life insurance law introduced in Senate. Comm & Fin Chr 150:1862 Mr 23 '40
Bank insurance; probable expansion in New York and its proposal in Rhode Island. Ins Field (Life ed) 69:5-6 Mr 22 '40
Bankers' convention holds bank insurance question box program. East Underw 41:8 My 24 '40
Insurance dept. stripped of supervision; New York bill turns banks' insurance administration over to superintendent of banking. East Underw 41:1+ Mr 22 '40
More New York banks may sell life insurance. East Underw 41:7 Ja 12 '40
New York savings bank insurance division head to retire July 1. Ins Field (Life ed) 69:9 Ja 26 '40
N.Y. savings life insurance. E. A. Richards. Bankers M 141:278 S '40
Outcome awaited in new life insurance setup for banks. Nat Underw (Life ed) 44:3 Jl 12 '40
Private companies net cost compared with that of New York banks. East Underw 41: 12 Ja 19 '40
Progress of savings bank life insurance in New York. C. B. Plantz. Burroughs Clearing House 24:4-5 D '39
Rhode Island Governor backs bank insurance bill. Nat Underw (Life ed) 44:3 Mr 22 '40
Savings bank life insurance. 256p pa $1.50 New York chapter, Am. inst. of banking, New York '39
Savings bank life insurance. E. H. Collins. Banking 32:25-6 D '39
Savings bank life insurance benefits. C. B. Plantz. Bankers M 141:255-6 S '40
Savings-bank life insurance in Massachusetts and New York, 1939. G. F. Felker. Monthly Labor R 50:787-96 Ap '40
Savings bank life insurance; suggested amendments to present law by New York bankers' committee. East Underw 41:17 F 2 '40; Ins Field (Life ed) 69:9 F 2 '40
Savings bank life value proved; abstract. C. B. Plantz. Ins Field (Life ed) 69:6 My 17 '40
Savings bank plan attacked. R. Pirnie. East Underw 40:14 D 8 '39
Truth about savings bank life insurance. S. N. Schwartz. 48p pa 35c John street pub. co, New York '39
Why savings bank life insurance? C. S. Casady. Bankers M 141:162-4 Ag '40

Investments

Borderline rails added to New York legal list. A. Jansen. Barron's 20:18 Jl 8 '40
Connecticut; list of legal investments for savings bank. Comm & Fin Chr 149:3586-7 D 2 '39
Outlook for the savings bank type of investment. H. Bruere. Comm & Fin Chr 150: 486 Ja 27 '40
Savings banking in wartime; investment necessities today. A. J. Casazza. Trusts & Estates 71:251-6 S '40
Taking stock of the mortgage portfolio. F. H. Allen. Bankers M 140:311-12 Ap '40

SAVINGS deposits
Address of president, A.B.A. Savings division. A. G. Gilman. Comm & Fin Chr 151: 41-2 sec 3 O 12 '40
Behavior of 20,484 savings accounts, Bowery savings bank, New York. H. M. Hoffman. Banking 33:56-7 Ag '40
How stable are savings deposits? abstract. H. V. Prochnow. Bankers M 141:157 Ag '40
How to interpret savings trends; analysis of savings deposits of 84 banks. I. Bussing. Bankers Mo 57:6-7+ Ja '40
I oppose notice for savings withdrawals. D. B. Smith. Bankers Mo 56:750 D '39
Nation's savings, year ended June 30, 1939. W. E. Albig. Banking 32:70 Ja '40
Savings deposits; savings banks in New York state, U.S. postal savings, 1936-1939. Survey of Cur Business 1940 Sup p52 [supplemented in monthly numbers]
Stabilized savings a basis for confidence. M. F. Converse. Bankers M 141:443-4 N '40
To preserve our free banking system; limiting right of withdrawal. R. W. Manuel. Bankers M 141:285-90 O '40

See also
Banks and banking—Savings departments
Christmas clubs
Postal savings banks
Savings banks

Interest

Easy money and savings interest rates. W. S. Elliott. Bankers M 140:161-2 F '40
Interest rates on savings. P. W. Albright. Comm & Fin Chr 151:49-50; Discussion. 50-1 sec 3 O 12 '40
Reduction in interest rate by several savings banks in New York city and in other communities in the state. Comm & Fin Chr 150:4053 Je 29 '40
Should banks pay interest on club accounts? W. P. Stevens. Bankers M 140:71-2 Ja '40
Split rate on savings. I. Bussing. Bankers M 141:71-2 Jl '40
Split rate vs. flat rate on savings. I. Bussing. Bankers M 140:28-31 Ja '40

SAVORD, Ruth
Sketch. Special Lib 31:67 F '40

SAWDUST
Cement sawdust concrete. R. R. Skelton. Pub Works 70:30-1 D '39
Decreasing the combustibility of sawdust; relative effectiveness of certain chemicals. J. L. McCarthy. bibliog Ind & Eng Chem 32:1494-6 N '40
Exothermic decomposition temperature of sawdust; effect of mineral salts. J. L. McCarthy and E. C. Jahn. bibliog Ind & Eng Chem 32:1257-8 S '40
Natural dyes from ipil, narra, and tangile sawdust. F. Agcaoili, M. Alde and R. J. Cochico. Textile Col 62:342-3 My '40
Study of the chemical composition of wood smoke. A. E. J. Pettet and F. G. Lane. bibliog diag Soc Chem Ind J 59:114-19 Je '40

SAWMILL waste. See Wood waste

SAWMILLS

Employees

Labor turn-over in sawmills, 1937 and 1938. Monthly Labor R 50:218-21 Ja '40

SAWMILLS—*Continued*

Equipment

Materials handling in the world's largest pine sawmill. D. S. Troy. il Mech Eng 62:813-17 N '40

SAWS

Danarm saw. diag Engineer 170:238 O 11 '40
Portable pulpwood slashers. E. E. Grainger. il diag Pulp & Pa of Can 41:297-300 Mr '40
Pulpwood cutting. A. Koroleff. il Pulp & Pa of Can 41:506-7 Jl '40
Woodworking machinery. il Automobile Eng 30:23-6 Ja '40

Manufacture

Fabrication by arc welding often requires redesign of parts; truck bearing and wheels and saw carriage as examples. il Mach 46: 102-3 F '40
Hack saw blades; heat treating work, Forsberg mfg. co. R. D. Hawkins. il Steel 106: 54, 57+ Mr 4 '40

Safety devices and measures

Circular saws; proper maintenance for safety. A. L. Uhl. il diags Safety Eng 78:12-14, 16, 26 D '39; Same abr. Nat Safety N 40:26-7+ D '39

SAWS, Electric

Pickles motor-driven continuous-chain saw. il Engineering 150:217 S 13 '40
$265 sawed off house cost; power equipment on houses, bars, millwork. il Am Bld 62: 60-1+ N '40

SAWS, Metal working

Atkins curled-chip system of metal cutting. Mach 46:141 Ag '40
Chip studies in wax; paraffin blocks for studying metal working saws. il Am Mach 84:418-19 Je 12 '40
Continental contour metal-sawing machine. il Engineering 148:729 D 29 '39
Contour sawing in railroad shops. D. M. Shields. il Iron Age 145:58 Je 6 '40
Covel-Hanchett precision saw-sharpening machine. il Mach 46:154 Je '40
Grob metal band saw. il Mach 46:139 Ag '40
Herbert jig sawing and filing machine. il Engineer 168:600 D 15 '39; Engineering 149: 100 Ja 26 '40
Midland horizontal bandsaw for non-ferrous metals. il Engineer 170:127-8 Ag 23 '40
Motch & Merryweather hydraulic cold sawing machine. il Am Mach 84:732-3 S 18 '40; Steel 107:70 Ag 26 '40
No dies for flat work; contour-sawing process is a technique of making sheet-metal parts formerly stamped with dies. G. A. Heinemann. il Am Mach 84:15 Ja 10 '40
Super Doall with new work feed. il Mach 46:216 Jl '40

Safety devices and measures

Metal saws (cold); hazards and precautions. Nat Safety N 41:51-2 Ja '40

SCAFFOLDING

Permanent painting scaffolds for the Golden Gate bridge. R. G. Cone. diags Eng N 124:582-3 Ap 25 '40
Scaffold for divers. il Eng N 123:777 D 7 '39

Safety devices and measures

Controlled-stress test of plank. W. E. Rossnagel. diags Eng N 124:647 My 9 '40
Ladders and scaffolds. il Nat Safety N 41:70-1 Mr '40
Safe painting steel stacks. W. E. Rossnagel. il diags Power 84:292-4 My '40
Safe stack scaffold cuts painting time; how to build and use an articulated steel scaffold. W. E. Rossnagel. il diags Power 84: 418-19 Jl '40
Safe use of scaffolds. Safety Eng 79:8 Je '40
Safety scaffold for transformer repair. il Elec W 113:1907 Je 15 '40

SCAFFOLDING, Steel

Safe stack scaffold cuts painting time; how to build and use an articulated steel scaffold. W. E. Rossnagel. il diags Power 84:418-19 Jl '40
Simple revolving scaffold speeds steel tank erection. diags Eng N 124:466 Mr 28 '40
Steel scaffold suitable for many jobs. il Steel 107:82 N 4 '40

SCALES

Handling scrap metal efficiently with Fairbanks dial scale. il Iron Age 146:20 S 26 '40; Steel 107:54 S 30 '40
Interesting scale application in paving mix plant. il Roads & Sts 83:70 S '40
Pendulum analysis in the scale industry. G. R. Carley. il diags J Ap Phys 11:314-24 My '40
Plastics competition; award to the Brearley co. bathroom scales. il Mod Plastics 18:60, 94 O '40
Weighing and recording mine output. G. C. Worthley. il Min Cong J 26:25 Mr '40

See also

Balances
Weighing machines

Manufacture

Efficient new plant, Toledo scale company, Toledo, Ohio. il plans Arch Rec 87:86-90 F '40
How Toledo Scale's new plant and office cuts costs. il Am Business 10:33-40 Mr '40
New scale plant; more efficient layout; Toledo scale co. il plan Steel 106:54, 56+ Ja 15 '40
Precision broaching, stamping and milling; Toledo scale co. D. R. James. il Iron Age 145:40-2 My 16 '40
Toledo scale company; heating system. G. S. Whittaker. il diags plan Heat & Ven 37: 26-32 F '40

SCANACORD

Eye-tracings of the Scanacord over advertising; mechanical recording of actual eye movements. il Adv & Sell 33:20-3 Mr '40

SCANDINAVIA

See also

Denmark
European war, 1939—Scandinavia
Insurance, Social—Scandinavia
Norway
Sweden

Commerce

Britain's trade with Scandinavia, 1937 and 1938. Economist 138:703 Ap 13 '40
On the world economic front; Scandinavian trade with U.S. and with the world, 1938, 1939. W. W. Case. Annalist 55:552-3 Ap 18 '40
Scandinavia prepares; expand volume of inter-Scandinavian trade. Economist 138:56-7 Ja 13 '40
Scandinavian warfare erects new barrier to U.S. trade. Oil Paint & Drug Rep 137:3+ Ap 15 '40
Spread of the war into Scandinavia another blow to international trade. Nat City Bank p51-3 My '40
United States trade with Scandinavia. Manuf Rec 109:30-1+ My '40
War casualty; U.S.-Scandinavian trade; charts. Business Week p56 Ap 20 '40

Economic conditions

Scandinavia in 1939. Economist 138:sup19-20 F 17 '40
War and the foreign exchanges; gold and foreign exchange holdings of Scandinavian countries. Nat City Bank p53-4 My '40

Industries and resources

Role in Europe's economic war. il Business Week p32 D 30 '39
World dependent upon Scandinavia for pulp. J. Stadler. Paper Tr J 110:12 Ap 25 '40

SCANDIUM

Magnesium-like spectra of chlorine, potassium, calcium and scandium. W. L. Parker and L. W. Phillips. Phys R 57:140-1 Ja 15 '40
Radioactive isotopes of scandium and their properties. H. Walke. bibliog Phys R 57: 163-71 F 1 '40
Study of the protons from V, Cu, Mn, and Sc under bombardment by deuterons. W. L. Davidson, jr. bibliog Phys R 56:1062 N 15 '39

SCARLET fever
Human serum as a stabilizer of scarlet fever streptococcus toxin diluted for the Dick test. M. V. Veldee. Pub Health Rep 54: 2131-7 D 1 '39

SCATTERING of electrons. See Electrons—Reflection, scattering, etc.

SCATTERING of protons. See Protons

SCATTERING of X rays. See X rays—Scattering

SCENTS. See Odors

SCHAFMAYER, A. J. 1883-
Sketch. por(p55) Civil Eng 10:56 Ja '40

SCHEDULES
Overworked executives and the short hour week. J. Garth. il Am Business 10:11-13+ My '40
Production and inventory control; Timken-Detroit axle co. S. W. Warner. N A C A Bul 22:43-65 S 15 '40
Production control; use of Gantt chart. E. Caldwell. il Iron Age 145:46-8 Ap 18; 46-8 Ap 25 '40
Routing raises output; Monarch machine tool co. P. A. Abe. il Steel 106:50, 52+ Mr 25 '40

See also
Building—Rapid construction
Railroads—Schedules

SCHENECTADY, New York

Sanitary affairs
Schenectady's straight-line incinerator. il plans Eng N 124:177-80 F 1 '40

Sewerage
Getting results from an overcrowded horse and buggy sewage plant. Pub Works 71:58-9 Ap '40

SCHENLEY distillers corporation
Annual report. Comm & Fin Chr 150:2115-16 Mr 30 '40

SCHERBAK, H.
Paper defies water; Scherbak process. Business Week p38-9 Je 8 '40

SCHERBIUS machine
Reducing hydraulic dredge operation cost; use of speed control for main pump drive. B. M. Mills. il diags Eng N 124:598-601 Ap 25 '40

SCHERRER equation
Scherrer formula for X-ray particle size determination. A. L. Patterson. bibliog Phys R 56:978-82 N 15 '39

SCHIFF bases
Some Schiff bases with *p*-aminothymol. W. T. Sumerford, W. H. Hartung and G. L. Jenkins. Am Chem Soc J 62:2082-3 Ag '40

SCHISTS
Structural petrology of the schists of eastern Otago, New Zealand. F. J. Turner. diags maps Am J Sci 238:73-106, 153-91 bibliog(p191) F-Mr '40

SCHLAKE, William, 1863-1940
Sketch. por Brick & Clay Rec 96:26-7 My '40

SCHLESINGER, George F. 1884-1939
Sketch. por Roads & Sts 82:40 D '39

SCHNELL, Harry J.
Has business jubilee. por Oil Paint & Drug Rep 138:3+ Ag 19 '40

SCHOLARSHIPS and fellowships
Award of Guggenheim fellowships. Science 91:377-9 Ap 19 '40
Beit memorial fellowships. Science 91:233-4 Mr 8 '40
Beit memorial fellowships. Science 92:166 Ag 23 '40
Bureau of mines offering 3 research fellowships. Oil Paint & Drug Rep 137:4+ Ap 22 '40
Charles A. Coffin fellowship awards, 1940-41. Gen Elec R 43:180 Ap '40
Charles LeGeyt Fortescue fellowship established. Elec Eng 59:42 Ja '40
Fellows of the Lalor foundation; winners of seven awards. Science 91:425-6 My 3 '40
Fellowships for business executives of the Massachusetts institute of technology. Science 91:210 Mr 1 '40
Fellowships in the medical sciences of the National research council. Science 92:396 N 1 '40
Guggenheim fellowships for Latin Americans. Science 92:54 Jl 19 '40
Henry Ford institute of agricultural engineering, Boreham, offers 40 free scholarships. Science 92:147 Ag 16 '40
High school chemistry contest; southern California section. A. N. Prater. Ind & Eng Chem News ed 17:788 *D 20* '39
Industrial fellowships in operation at Mellon institute during the fiscal year, March 1, 1939, to March 1, 1940. Ind & Eng Chem News ed 18:299-300 Ap 10 '40
Ledyard fellowship awards of the New York hospital. Science 91:332-3 Ap 5 '40
Leverhulme research fellowships and grants, 1940. Chem & Ind 59:525-6 Jl 20 '40
Mines bureau fellowship set up at Maryland university. Oil Paint & Drug Rep 137:5 Mr 25 '40
National research fellowships in the natural sciences. Science 91:612-13 Je 28 '40
Westinghouse research fellowships. Science 91:351 Ap 12 '40
William John Gies award, research fellowships and grants-in-aid of the American college of dentists. A. L. Midgley. Science 92:151-2 Ag 16 '40

See also Finney-Howell research foundation

SCHOOL administration
Administering the secondary school. L. V. Koos and others. 678p $3.25 Am. book co. '40
Administrative practices in large high schools. N. W. Newsom and R. E. Langfitt, eds. 659p $3.25 Am. book co. '40
Liability for school accidents; a manual for educational administrators and teachers. H. N. Rosenfield. 220p bibliog(p143-76) $2 Harper '40
Personnel administration in three non-teaching services of the public schools. H. Davis. 323p bibliog(p259-78) $2.50 Teachers college '39

SCHOOL architecture. See School buildings

SCHOOL auditoriums
Auditorium, John C. Fremont intermediate school, Anaheim, Calif.; view, plan and construction outline. Arch Forum 72:392 Je '40
Gymnasium-auditorium, Farmington high school, Farmington, Mich.; with construction outline. il plan Arch Forum 72:394-6 Je '40
School auditorium as a theater. L. Simonson. Arch Forum 72:347-8 My '40

SCHOOL buildings
Aluminum and steel members in new window system, South vocational high school, Pittsburgh. il diags Arch Rec 87:46 Ja '40
American school and university; a yearbook devoted to the design, construction, equipment, utilization, and maintenance of educational buildings and grounds, 1939. 11th annual ed 609p $2.50 American school pub. corp, 470 Fourth av, New York '39
American school and university, 1940. 12th annual ed 621p $2.50 Am. school pub. corp, 470 4th av, New York '40
Architectural concrete found economical for two Indiana schools. il Concrete 48:10+ Ap '40
Design decade; grade school. il diag plan Arch Forum 73:306+ O '40
In-service training program is of benefit to school engineers; plan of Chicago board of education. J. Howatt. il Heating-Piping 12:90-1 F '40
National council on schoolhouse construction; proceedings of the seventeenth annual meeting, New York city, Oct. 9-11, 1939. 83p pa 50c Ray L. Hamon, George Peabody college, Nashville, Tenn. '39

See also
Reformatories
School auditoriums
School shops

SCHOOL buildings—*Continued*

Air conditioning

Complete air conditioning in an educational building. S. R. Lewis. diags Refrig Eng 39:95-8 F '40; Abstract. Heating-Piping 11: 741 D '39

Wanted—more air; reconstruction of system. il Dom Eng 155:52-3+ My '40

Communication systems

Low-voltage systems for schools: telephone; sound distribution; fire alarm; program control; time-saver standards. diags plan Arch Rec 88:103-6 O '40

Designs and plans

Building types; the neighborhood school; with time-saver standards. il diags plans Arch Rec 88:85-106 O '40

Designing schools for economy and low upkeep; Nankin township, Wayne, Michigan. P. E. Brender. il Am Bld 62:99+ Ap '40

Low unit cost achieved in modern school structure; new Jefferson school at Ottawa, Ill. il diag plans Arch Rec 87:35-8 Ja '40

New Willard school, Stamford, Conn. reflects today's teaching trend; kindergarten age thru sixth grade. il plans Arch Rec 87:37-40 My '40

Nursery school, kindergarten, elementary school, intermediate school auditorium, high school gymnasium; with construction outlines. il plans Arch Forum 72:383-98 Je '40

Vocational schools; building types, with time-saver standards and case studies. il plans Arch Rec 87:87-114 Ap '40

Electric equipment

All-electric French school. il Elec R (Lond) 126.365 Mr 29 '40

Little old red schoolhouse goes modern; North Fork school, Caribou, Calif. il Elec West 84:30-1 Ap '40

Equipment

Building types; the neighborhood school; with time-saver standards. il diags plans Arch Rec 88:85-106 O '40

Fires and fire protection

Fires in school structures. D. J. Price. Weekly Underw 142:419 F 17 '40

Heating and ventilation

Ample furnace capacity simplifies building extensions; school at Cleveland Corners, N.Y. plans Sheet Metal Worker 31:46+ My '40

It pays to modernize; heating system, Wausau central school. il Dom Eng 156: 42-3+ Ap '40

Modern heating and ventilating; Longfellow elementary school, Waterloo, Iowa. M. L. Todd. il Heating-Piping 12:607-9, 659-61 O-N '40

Panel warming and cooling. E. L. Weber. il plan Heating-Piping 12:281-4 My '40

Lighting

Analysis of photoelectric classroom lighting control. D. P. Caverly. il diag Illum Eng Soc Trans 34:907-22 S '39; Discussion. Illum Eng 35:257-64 Mr '40

Better school lighting yields mutual benefits. E. Berger. il Elec W 114:239-40 Jl 27 '40

Control of natural light in schoolrooms; relative effectiveness of Venetian blinds, cloth shades, and Aeroshades for daylight control. L. H. Brown. il plan Illum Eng Soc Trans 34:606-20 Je '39; Discussion. Illum Eng 35: 249-57 Mr '40

Fluorescent gets trial in schools at Reading. il Elec W News ed 114:774 S 14 '40; Same. Electrician 125:201 O 18 '40

I.E.S. school lighting exhibit at A.A.S.A. convention. il Illum Eng 35:299-301 Ap '40

Little old red schoolhouse goes modern; North Fork school, Caribou, Calif. il Elec West 84:30-1 Ap '40

Rights of the eye. H. G. Rowell. Edison Elec Inst Bul 8:353-5+ Jl '40

Study of chalkboard visibility. W. G. Darley and L. S. Ickis. il diag Illum Eng 35:431-43 My '40

SCHOOL buses. See Motor bus lines, School

SCHOOL children

Community economic status and the dental problem of school children. H. Klein and C. E. Palmer. bibliog Pub Health Rep 55: 187-205 F 2 '40

School and child welfare. T. L. Reller. Ann Am Acad 212:51-8 N '40

See also
School hygiene

Transportation

Pupil transportation in the United States. M. C. S. Noble, jr. 541p $3.50 International textbook co, Scranton, Pa. '40

See also
Motor bus lines, School

SCHOOL finance

Financing of grant-aided education in England and Wales. F. H. Swift. Univ of Calif Pub in Education v 8, no 5:695-971 bibliog(p961-71) '39 (pa $2.50)

Financing public elementary and secondary education in Kentucky. L. E. Meece and M. F. Seay. il pl diags maps Kentucky Univ Bul of the Bur of School Service College of Education v 12, no 1:1-182 '39 (pa 50c)

Influence of tax-leeway on educational adaptability. W. D. Knott. 84p bibliog(p81-4) $1.60 Teachers college '39

State educational system declared a failure in report to New York state chamber of commerce; cost to taxpayer. Comm & Fin Chr 150:779 F 3 '40

SCHOOL hygiene

Colored chalk: a further report on its health hazard to school children. Consumers' Research Bul (Gen bul ser) 9:16 Ja '40

Health of the school child. F. L. Kelly. Ann Am Acad 212:105-10 N '40

Important new health hazard to school children; yellow crayon and lead poisoning. Consumers' Research Bul (Gen bul ser) 8: 25 Ap '39; 9:16 Ja; 5 Je '40

School health problems. L. B. Chenoweth and T. K. Selkirk. 2d ed 419p $3 Crofts '40

SCHOOL journalism. See College and school journalism

SCHOOL laws

Vaccination and compulsory education; Pennsylvania superior court. Pub Health Rep 55:1505-6 Ag 16 '40

SCHOOL libraries

Centralized school library. H. E. Rimkus. 110p bibliog(p103-8) $1.25 Wilson, H.W. '40

SCHOOL savings

A.B.A. reports school savings show gain during year ended June 30, 1940. Comm & Fin Chr 151:2419-20 O 26 '40

Cost of school savings. F. C. Morse. Banking 33:63 Jl '40

Operating a school savings system. J. W. Swenson. Bankers M 140:303-4+ Ap '40

Spirit of thrift; school savings film. il Banking 33:39 Jl '40

Thrift education and school savings important. J. W. Studebaker. Bankers M 140: 361-2 Ap '40

SCHOOL shops

Vocational schools; building types, with time-saver standards and case studies. il plans Arch Rec 87:87-114 Ap '40

Equipment and supplies

Provisions for equipment; time-saver standards. il diags plans Arch Rec 87:98-100 Ap '40

SCHOOL yearbooks

Principles of school yearbook production and management. R. M. Benson. 288p $2.50 Yearbook pub. co, 3551 Pierce st, San Francisco '39

SCHOOLHOUSES. See School buildings

SCHOOLS
Design decade. il Arch Forum 73:300-4 O '40

See also
Aeronautic schools
Colleges and universities
Education
Engineering colleges
Library schools and training
Mining schools and education
Printing schools
Prison schools
Public schools
Radio in education
Reformatories
Summer schools
Textile schools
Trade schools

Insurance requirements
Mutual insurance legality for schools to be tested in Texas. Nat Underw 43:4+ N 16 '39
Tuition fees insurance valuable protection for schools, colleges. East Underw 41:27 Je 14 '40

SCHOOLS, Rural. See Rural schools

SCHOOLS as social centers
Building types; the neighborhood school; with time-saver standards. il diags plans Arch Rec 88:85-106 O '40

SCHORI process
Pistol that sprays powdered metals and plastics; Schori pistol. R. G. Skerrett. il diag Comp Air M 45:6057-60 Ja '40

SCHOTTKY effect
Electron emission into dielectric liquids. W. R. LePage and L. A. DuBridge. diag Phys R 58:61-6 Jl 1 '40
Experiments on the periodic deviation from the Schottky line. W. B. Nottingham. Phys R 57:935 My 15 '40

SCHRAM, Emil, 1893-
Portrait. Burroughs Clearing House 24:15 Ja '40; Fortune 21:50 My '40

SCHULTZ, William Lightfoot
Early American old spice. por Fortune 21: 78-81+ Ap '40

SCIENCE
Activities in general science. S. P. Unzicker and B. C. Gruenberg. 202p pa 68c World book co, Yonkers-on-Hudson, N.Y. '39
Adventures of a biologist. J. B. S. Haldane. 281p $2.75 Harper '40
Alfred B. Nobel awards in science; classification of winners (1901-39) for countries based on population. H. C. Brill. Science 92:310-11 O 4 '40
Everyday problems in science. W. L. Beauchamp, J. C. Mayfield and J. Y. West. 752p $1.72 Scott, Foresman and co, Chicago '40
International cooperation in science. R. B. Fosdick. Science 91:547-8 Je 7 '40
Keeping cool, and other essays. J. B. S. Haldane. 280p 7s 6d Chatto & Windus, London '40
Nature and organization of scientific knowledge. R. H. Wright. J Chem Educ 17:270-3 Je '40
Nobel awards in chemistry and physics according to population. C. D. Snyder. Ind & Eng Chem News ed 18:899 O 25 '40
Physical sciences. E. J. Cable, R. W. Getchell and W. H. Kadesch. 754p bibliog(p647-71) $5; to schools $3.75 Prentice-Hall '40
Science and everyday life. J. B. S. Haldane. 284p $2 Macmillan '40
Science five thousand years hence. A. F. Blakeslee. Science 92:387-8 N 1 '40
Science for the world of tomorrow. G. Wendt. 316p $2.75 Norton '39
Science in a changing world. E. J. Cable, R. W. Getchell and W. H. Kadesch. 666p $3.75 Prentice-Hall '40
Science in 1939. Science 90:sup14, 16, 18 D 22 '39
Science in our modern world. R. K. Watkins and W. Perry. 3v 432p, 500p, 588p; v 1 $1.28; v2 $1.48; v3 $1.68 Macmillan '40
Science in your life. J. Pfeiffer. 109p 60c Macmillan '39
Science marches on. W. Shepherd. 420p $3 Harcourt '39
Science on parade. A. F. Collins. 314p $3 Appleton-Century '40
Science picture parade. W. Davis. 327p $3 Duell, Sloan & Pearce, 270 Madison av, New York '40

See also
Astronomy
Bacteriology
Biological chemistry
Biology
Botany
Chemistry
Crystallography
Evolution
Geography
Geology
Mathematics
Metallography
Meteorology
Microscope and microscopy
Optics
Paleobotany
Paleontology
Physical geography
Physics
Physiology
Scientific research
Technology
Zoology
also American association for the advancement of science; National academy of sciences

Congresses

See also
Pacific science congress

Dictionaries
French-English science dictionary for students in agricultural, biological, and physical sciences. L. De Vries. 546p bibliog (pvii-viii) $3.50 McGraw-Hill '40

Exhibitions
Preview of the annual exhibition of the American association for the advancement of science. Science 90:sup3-6, 8, 10-11 D 22 '39

History
L'évolution de la science depuis cinquante ans. E. Picard. Génie Civil 115:469-70 D 30 '39
Great theories of mankind; architects of ideas. E. R. Trattner. 426p bibliog(p405-20) $1 Blue ribbon books '40
Growth of science; an outline history. A. P. Rossiter. 372p $2 Pitman '39
Road to modern science. H. A. Reason. 297p $3 Appleton-Century '40
Short history of science. W. T. Sedgwick and H. W. Tyler. rev ed 512p bibliog(p487-500) $3.75 Macmillan '39

Periodicals
Authors' abstracts. G. S. Fulcher. Science 91:191 F 23 '40
Checklist of all scientific periodicals and of selected serials in the libraries of Duke university. M. G. Wynne, ed. 110p pa gratis Duke univ. library, Durham, N.C. '39
Efficiency in documentation. S. C. Bradford. Engineering 149:217-18 Mr 1 '40
Publication of scientific research. A. Seidell. Science 92:345-7 O 18 '40

See also
Discovery (periodical)

Philosophy
Causality and science. N. K. Brahma. 120p 6s G. Allen & Unwin, London '39
Dialectics of nature. F. Engels. 383p bibliog(p329-75) $3 International publishers co, 381 4th av, New York '40
History and science; a study of the relation of historical and theoretical knowledge. H. Miller. 201p $2 Univ. of California press, Berkeley '39
Human meaning of science. A. H. Compton. 88p $1 Univ. of North Carolina press, Chapel Hill '40
Philosophy of science. W. H. Werkmeister. 551p $4 Harper '40
Soul of the universe. G. Strömberg. 244p $2 David McKay co, Washington sq, Philadelphia '40
Universe of science. H. Levy. rev & enl ed 242p 1s Watts & co, London '38

Popularization

See also
Scientists, Amateur

Social aspects
Address of the president of the Royal society. W. Bragg. Science 92:93-8 Ag 2 '40
Chemistry in the service of the state. C. A. Sprague. Science 91:45-6 Ja 12 '40

SCIENCE—Social aspects—*Continued*
Engineering progress and the social order. F. B. Jewett and R. W. King. Science 92: 365-71 O 25 '40
Public relations of science. W. C. Mitchell. Science 90:599-607 D 29 '39
Science and American culture; abstract. A. H. Compton. Science 91:sup8 Ap 26 '40
Science and civilization. H. L. Samuel. Chem & Ind 59:499-502 Jl 13 '40
Scientific progress and its social implications. J. K. Hunt. Special Lib 30:274-6 O '39; Excerpts. Trusts & Estates 70:70-3 Ja '40
Social function of science; abstract. J. D. Bernal. Chem & Ind 59:90-1 F 10 '40
Whose fault is it? Mr Jobson defends scientists. Sci Am 162:137 Mr '40

Study and teaching

Men and machines in early Harvard science. A. D. Bliss. il J Chem Educ 17:353-60 Ag '40
Modern methods and materials for teaching science. E. D. Heiss, E. S. Obourn and C. W. Hoffman. 351p bibliog(p329-47) $2.50 Macmillan '40
Reorganization of secondary school science. F. Fordemwalt. J Chem Educ 17:541-2 N '40
Retention in the physical science survey course. H. Freud and N. D. Cheronis. J Chem Educ 17:289-93 Je '40
Science in general education at the college level. L. W. Taylor. Science 91:560-5 Je 14 '40
Science projects. R. W. Woline. J Chem Educ 17:389-94 Ag '40
Theory and practice of general science. H. S. Shelton. 123p $1.05 Nordeman pub. co, New York '39

See also
Scientific education

Australia

Scientific and industrial research in Australia. Engineering 150:235 S 20 '40

China

Science in China, under wartime conditions. P. Tang. Science 91:238-9 Mr 8 '40

United States

Role of refugees in the history of American science. C. A. Browne. Science 91:203-8 Mr 1 '40

SCIENCE and state
Ministry of science? co-ordination discussed by Association of scientific workers. Chem Age (Lond) 41:375 D 2 '39
National roster of scientific and specialized personnel. L. Carmichael. Science 92:135-7 Ag 16 '40

See also National academy of sciences

SCIENCE clubs

See also American institute science and engineering clubs

SCIENTIFIC apparatus and instruments
American apparatus, instruments, and instrumentation. R. H. Müller. bibliog il diags Ind & Eng Chem Anal ed 12:571-630 O 15 '40
Makers and users of scientific instruments. R Sci Instr 11:239-40 Ag '40
Replacing German-made apparatus and fine chemicals. Can Chem & Process Ind 23:626 D '39

See also
Aeronautic instruments
Cathode ray tubes
Chemical apparatus
Chemical laboratories—Equipment
Electric apparatus and appliances
Electric instruments
Ionization gage
Mathematical instruments
Optical instruments
Physical instruments
Physiological apparatus
Radio instruments
Surgical instruments

SCIENTIFIC education

See also
Chemical education
Science—Study and teaching

History

Science teaching at the Liverpool institute 1835-1852. C. Foster. J Chem Educ 17:136-8 Mr '40

SCIENTIFIC expeditions
Arctic and Antarctic; the technique of polar travel. C. Bertram. 125p 7s 6d W. Heffer & sons, Cambridge, Eng. '39
Expeditions of the American museum of natural history. Science 92:142-3 Ag 16 '40
Expeditions of the Smithsonian institution. Science 91:443 My 10 '40
Scientific expeditions. Science 90:437-8 N 10 '39
Total solar eclipse of October 1; expedition to Brazil under the joint auspices of the National geographic society and the National bureau of standards. Science 92:166-7 Ag 23 '40

See also
Antarctic exploration—Byrd expedition, 1939
Field museum of natural history, Chicago—Expeditions

SCIENTIFIC literature
Efficiency in documentation. S. C. Bradford. Engineering 149:217-18 Mr 1 '40
Library vs. laboratory research. A. Connolly. Ind & Eng Chem News ed 18:904-5 O 25 '40
Non-technical books on science; new undertaking of American association for the advancement of science. F. R. Moulton. Science 90:590-1 D 22 '39
Publication of scientific research. A. Seidell. Science 92:345-7 O 18 '40
Wider use for Academy of science publications through improved distribution. C. F. S. Sharpe. Science 92:403 N 1 '40

SCIENTIFIC management. See Industrial management

SCIENTIFIC methods
Mathematico-deductive theory of rote learning; a study in scientific methodology. C. L. Hull and others. 329p bibliog(p327-9) $3.50 Yale univ. press '40
Multiple-phenomena method of research. H. P. Gillette. Roads & Sts 83:58+ Ag '40

SCIENTIFIC recreations
Experimenting at home with the wonders of science. E. H. Lord. 243p $2 Appleton-Century '40
Science with simple things. R. F. Yates. 245p $2 50 Appleton-Century '40

SCIENTIFIC research
Appropriations of the Rockefeller foundation for the medical and natural sciences in 1939. Science 91:482-3 My 17 '40
British advisory council on scientific research and technical development. Science 91:257 Mr 15 '40
Carnegie institution of Washington and Dr Merriam. W. K. Gregory. Science 90:466-8 N 17 '39
Carnegie institution of Washington, year book. 394p bibliog(p367-84) $1.50; pa $1 Carnegie inst. of Washington, Washington, D.C. '39
Council for scientific and industrial research, Commonwealth of Australia; extracts from the 13th annual report for the year ended June 30, 1939. Chem & Ind 59:506-9 Jl 13 '40
Engineering and research for American defense. L. A. Hawkins. Elec Eng 59:355-7 S '40
Gifts for scientific research at Cornell university. Science 91:163-4 F 16 '40
Grants for research of the Virginia academy of science. E. C. L. Miller. Science 91:242 Mr 8 '40
Grants of the American philosophical society. Science 90:568-70 D 15 '39
Leverhulme research fellowships and grants, 1940. Chem & Ind 59:525-6 Jl 20 '40
Library vs. laboratory research. A. Connolly. Ind & Eng Chem News ed 18:904-5 O 25 '40
Mobilization of science. W. Davis. Science 91: sup10 Je 7 '40
Multiple-phenomena method of research. H. P. Gillette. Roads & Sts 83:58+ Ag '40

SCIENTIFIC research—*Continued*
L'organisation du Centre national de la recherche scientifique (décrets des 19 et 22 octobre 1939). Génie Civil 115:344-5 N 4 '39
Permanent science fund of the American academy of arts and sciences. Science 91: 12-13 Ja 5 '40
Permanent science fund of the American academy of arts and sciences. Science 92: 423-4 N 8 '40
Publication of scientific research. A. Seidell. Science 92:345-7 O 18 '40
Report on the work of the Bartol research foundation, 1938-39. W. F. G. Swann. il diags Franklin Inst J 229:281-335 bibliog(p333-5) Mr '40
Report on the work of the Bartol research foundation, 1939-40. W. F. G. Swann. il diags Franklin Inst J 230:281-354 bibliog(p350-4) S '40
Research grants of the Virginia academy of science. E. C. L. Miller. Science 90:586 D 22 '39
Role of science in the electrical industry. M. W. Smith. il Elec Eng 59:63-7 F '40
Science and civilization. H. L. Samuel. Chem & Ind 59:499-502 Jl 13 '40
Scientific and industrial research in Australia. Engineer 170:6-7 Jl 5 '40
Scientific and industrial research in Australia. Engineering 150:235 S 20 '40
Scientific progress and its social implications. J. K. Hunt. Special Lib 30:274-6 O '39; Excerpts. Trusts & Estates 70:70-3 Ja '40
Scientific research and technical development in Great Britain. Science 91:88 Ja 26 '40
Scientific research, the hope of the South. G. D. Palmer. Science 92:1-5 Jl 5 '40
Why pure science pays; discoveries applied to industry. A. C. Morrison. il Sci Am 162:145-7 Mr '40
Will taxation cripple education and research? D. S. Freeman. Nation's Business 28:21-2+ Ap '40

See also
Aeronautic research
Agricultural research
Botanical research
Chemical research
Colleges and universities—Research
Electric research
Engineering research
Industrial research
Laboratories
Medical research
Metallurgical research
Microscope and microscopy
Petroleum research
Physiological research
Rubber research
Scholarships and fellowships
Textile research
also National research council; National research council of Canada, Ottawa

SCIENTIFIC societies
Columbus meeting of the American association for the advancement of science and associated societies. Science 91:101-24, sup40-6 F 2 '40
International scientific congresses held since 1930, or announced for 1940 or later. 45p pa 25c National research council '40

See also
American association for the advancement of science
Geological society of America
Ohio academy of science
Royal society of London

SCIENTIFIC workers, American association of. See American association of scientific workers

SCIENTIFIC writing
Scientific writers. Chem & Ind 59:281-3 Ap 27 '40

SCIENTISTS
Conference of scientific and technical professions. Chem & Ind 59:179-80 Mr 16 '40
Elections of the National academy of sciences. Science 91:427-8 My 3 '40
Episodes and personalities in the development of biology at Brown. A. D. Mead. Science 91:301-5 Mr 29 '40
How they blazed the way; men who have advanced civilization. J. W. McSpadden. 279p $2.50 Dodd '39
Industry honors modern pioneers at National association of manufacturers banquet in Cleveland. Iron Age 145:81 F 8 '40; Steel 106:21-2 F 12 '40
Inventors, research workers honored as modern pioneers. Steel 106:26+ F 19; 30-3+ F 26; 76 Mr 4 '40
Men and machines in early Harvard science. A. D. Bliss. il J Chem Educ 17:353-60 Ag '40
Modern pioneers receive recognition; list of awards. Power Pl Eng 44:96, 98+ Mr '40
Moral science; physical science becomes dangerous if dishonest. Sci Am 163:204 O '40
National roster of scientific and specialized personnel. L. Carmichael. Science 92:135-7 Ag 16 '40
Production, retention and attraction of American men of science. E. L. Thorndike. Science 92:137-41 Ag 16 '40
Public relations of science. W. C. Mitchell. Science 90:599-607 D 29 '39
Role of refugees in the history of American science. C. A. Browne. Science 91:203-8 Mr 1 '40
Scientific and specialized personnel index; card file. Chem & Met Eng 47:641 S '40
Scientific collaboration between Great Britain and France. Science 91:209-10 Mr 1 '40

See also
Chemists
Geologists
Scientific writing

Germany
Role of refugees in the history of American science. C. A. Browne. Science 91:205-8 Mr 1 '40

Great Britain
Register of scientific men by the Royal society. V. Coffman. Science 90:sup12+ D 1 '39

See also
Royal society of London

SCIENTISTS, Amateur
Education and participation in science. W. S. Thomas. Science 92:331-3 O 11 '40

SCIOTO river, Ohio
Limitations of euglenidae as polluted water indicators. J. B. Lackey and R. S. Smith. diags Pub Health Rep 55:268-75 F 16 '40

SCOTT, Charles Felton, 1864-
Engineer, educator, co-ordinator. por(front) Elec Eng 59:349-53 S '40

SCOTT, Walter Moody, 1892-
Appointed to Southern regional research laboratory. Textile Col 61:834 D '39

SCOTT, William Berryman, 1855-
Award of the Penrose medal of the Geological society of America. Science 90:560-1 D 15 '39

SCOTT paper company
Earnings, 1936-39. Comm & Fin Chr 150:1455 Mr 2 '40
Preferred stock offered. Comm & Fin Chr 149:3883 D 16 '39
Scott paper co. buys Anacortes pulp mill. Paper Tr J 111:17 S 19 '40

SCOURING machines
Improved action scouring machine. G. L. Atkinson. diags Textile Col 62:601-3 S '40

SCOURING of textiles
Consideration of the practical aspects of the dyeing and processing of tubular knit goods; wool, cotton, and rayon. L. Gleklen. il Am Dyestuff Rep 29:182-3, 201-2 Ap 15 '40
Observations on screen printing; soaping azoic and chrome mordant prints. Textile Col 62:268-70, 322+ Ap-My '40
Pretreatment of pile fabrics to give uniform and even dyeings. J. C. Kopasz. Textile World 90:92 Jl '40
Scouring action of soap and the modern sulfonated textile auxiliaries. J. Davidsohn and A. Davidsohn. bibliog Am Dyestuff Rep 29:43-6 Ja 22 '40

See also
Wool scouring

SCOURING powders. See Cleaning compositions

SCOVILL manufacturing company
Debentures offered. Comm & Fin Chr 151: 257 Jl 13 '40
Thumbnail stock appraisal. Mag of Wall St 66:169 My 18 '40

SCRAP material
Waste paper and junk fires. Safety Eng 79:30 Je '40

See also
Cotton waste
Railroads—Scrap material
Rubber waste
Salvage (waste, etc.)
Scrap metal
Spoilage
Waste fuel
Waste paper
Wood waste
Wool waste

SCRAP metal
Electric-arc furnace for melting steel scrap. il Engineering 149:330-2 Mr 29 '40
Fast weighing solves scrap handling problem. il Factory Management 98:67 S '40
Handling scrap metal efficiently with Fairbanks dial scale. il Iron Age 146:20 S 26 '40; Steel 107:54 S 30 '40
How gas undertakings can help the steel industry; augmenting the country's supplies of scrap iron and steel. Gas J (Lond) 228: 232+ N 1 '39
P&H model 255 magnet crane for handling scrap metal. il Blast F & Steel Pl 27:1265 D '39
Refiner makes display signs from scrap metal. W. T. Ziegenham. il Oil & Gas J 39:58 Jl 18 '40
Sunken cargo of scrap salvaged by electric magnet. D. R. James. il Iron Age 145:50-1 Ja 18 '40
Uses and metallurgy of ferrous scrap metals. M. W. Von Bernewitz. il Blast F & Steel Pl 27:1226-30 D '39

See also
Railroads—Scrap material
Salvage (waste, etc.)

Prices

Composite prices, 1914-1939; chart. Iron Age 145:55-60 Ja 4 '40
Iron and steel scrap. Published in weekly numbers of Iron age
Iron and steel scrap prices, 1929-1939; tabulation. Steel 106:287-8 Ja 1 '40
Monthly average scrap prices, 1903-1939; tabulation. Iron Age 145:176-8 Ja 4 '40
Steel, iron and scrap price composites, 1928-1939; tabulation. Steel 106:291 Ja 1 '40

SCRAP metal industry
Institute of scrap iron & steel yearbook. 87p Inst. of scrap iron & steel, 11 W. 42d st, New York '39
Institute of scrap iron & steel yearbook. 103p pa $1 Inst. of scrap iron & steel, 11 W. 42d st, New York '40
Japan, hoping for new trade pact, revises U.S. scrap buying policies. Steel 106:38 F 5 '40
Part played by steel scrap in national defense: no prospective shortage. G. R. Kinzie. Annalist 55:517+ Ap 11 '40
Roosevelt bans scrap to Japan. Iron Age 146: 68-9 O 3 '40
Scrap embargo unlikely to disturb domestic market. Steel 107:13-14 S 30 '40
Scrap licensing law won't involve foreign policy, House group told. Iron Age 145:82 F 15 '40
Scrap scandal in Britain. Economist 139:21 Jl 6 '40
Steel scrap; United Kingdom steel production, scrap consumption and trade in scrap. Economist 138:424-5 Mr 9 '40
Uniform contract proposed; abstract. B. Schwartz. Iron Age 145:52-3 Ja 18 '40

See also Institute of scrap iron and steel

Statistics

Bureau of mines survey shows ample supply of scrap. Iron Age 144:99, 99A-99B D 7 '39; Same cond. Steel 105:33 D 11 '39
1939 is 4th highest year for domestic scrap consumption. E. C. Barringer. Iron Age 145:200 Ja 4 '40
No embargo, try to get license! sales to Japan, Italy, United Kingdom, 1936-39. Business Week p18+ Ag 3 '40
Raw materials for steel industry; developments in 1939. il Steel 106:248 Ja 1 '40
Scrap exports. E. C. Barringer. Steel 106: 328 Ja 1 '40
Scrap exports expand. Iron Age 145:96+ Ja 4 '40
Scrap inventories reduced nine per cent in first quarter. Steel 107:33 Jl 15 '40
Scrap stocks by consuming districts shown by Bureau of mines survey. Iron Age 145: 54+ Ja 25 '40
Survey shows 7,596,000 tons scrap held by users, dealers. Steel 106:28 Ap 22 '40

SCRAPERS
Cable care and selection for coal handling. F. L. Spangler. il Power Pl Eng 44:69-71 S '40
Drag scraper. il diags Mech Handling 27: 137-8 Je '40
Drag scrapers; patent specifications. diags Mech Handling 27:184-6 Ag '40
Electric drive for ordinary construction jobs; simple hoists for cable-operated scrapers. G. H. Hall. il Eng N 124:659-62 My 9 '40
Metal mining practice over sixty years. C. F. Jackson. il Can Min J 60:678-9 N '39
Scraper loading. Mech Handling 27:171 Ag '40
Scrapers make 800 mile overland trip. il Roads & Sts 83:47 Ap '40
65,000 yards daily at Hansen dam. il Eng N 124:497-500 Ap 11 '40

See also
Road scrapers

SCRAPERS, Pipe
Cleaning pipe lines with welded scrapers. il Oil & Gas J 38:50 D 7 '39

SCRAPING machines (metal work)
Anderson electrically driven scraping machine. il Engineer 169:483 My 24 '40

SCREEN printing. See Silk screen printing

SCREENING
Better feeding means better screening. R. E. Fowle. il diags Rock Prod 43:28-32 Mr '40
Blending ten aggregate sizes on long tunnel conveyor. F. M. Welch. il diag map Rock Prod 43:24-7 O '40
Impracticable gravel specifications; discussion of practicability of simplified practice recommendation for coarse aggregates, U.S. Bureau of standards, R163-39. I. Warner. Rock Prod 43:40-2 Mr '40; Discussion. 43:33 Ap '40
Make stone sand a new way; Pittsburgh limestone corp. B. Nordberg. il Rock Prod 43:36-8 Mr '40
Relieving conveyor by adding crusher. L. D. H. Anderson. il diags Rock Prod 43:29-30+ O '40
Screening under water for phosphate recovery; use of flotation: Swift and company fertilizer works. B. Nordberg. flow diag il Rock Prod 43:26-9+ My '40
Slurry screens reduce grinding cost. A. E. Reed. il diags Rock Prod 43:61-2 Ag '40

See also
Coal screening
Sewage disposal—Screening

SCREENS
Check screens for efficiency; aggregate grading. E. T. Nettleton. Rock Prod 42:35-6 D '39
Clearing clogged screens. Eng & Min J 141: 58 My '40
L'influence du mouvement du piston sur l'enrichissement des minerais par les cribles à secousses. P. Balsamo. Génie Civil 116:55-6 Ja 20 '40
Joining fine wire screen. C. C. Notebaert. diag Steel 106:66+ F 12 '40
Marsden vibrating screen. il Engineer 168: 599 D 15 '39
Metal screen made by electroplating; Lektromesh. Metals & Alloys 11:MA60 F '40; Same. il Sci Am 162:158 Mr '40; Same cond. il Steel 106:64 Mr 4 '40
Overstrom mud screen. G. W. Jarman, jr. il Am Cer Soc Bul 19:251-3 Jl '40

SCREENS—*Continued*
Platinum-clad metals for sheet, screen, tubing and wire. F. E. Carter. il Steel 106:54-5+ Mr 18 '40
Producing sand for glass; Silica co. of California. il Rock Prod 42:29-30+ D '39
Recent progress in dust collecting equipment; cloth screen dust filters. il diags Sheet Metal Worker 31:22-4 F '40
Reciprocating screen; patent specification. il Mech Handling 27:166 Jl '40
Rota-Vibra vibrating screen. il Mech Handling 27:26 Ja '40
Vibrating apparatus; out-of-balance device; patent specifications. diag Mech Handling 27:74 Mr '40
Vibrating screens; patent specification. diag Mech Handling 27:95-6 Ap '40
Vibratory equipment. F. J. Van Antwerpen. il Ind & Eng Chem 32:768-9 Je '40
Washing and classifying sand; conditions where classifiers and screens in combination will attain desired results. E. Shaw. Rock Prod 43:27-8 Ja '40

See also
Coal screening

Standards

Screen standards; abstract. F. E. Lathe and R. H. Field. Can Chem & Process Ind 24: 499 O '40

Testing

How to study screen efficiency. E. T. Nettleton. flow sheets Rock Prod 43:44-5 My '40

SCREW conveyors. See Conveying machinery—Screw conveyors

SCREW machines
Angle-gage for screw machine work. R. E. Hulse. diags Mach 46:167 Ja '40
Assembling machine tools; National acme co. F. B. Jacobs. il Steel 107:68-9+ Jl 8 '40
Greenlee six-spindle automatic screw machine. il Automobile Eng 30:89 Mr '40
Gyromatic vertical automatic screw machine. il Am Mach 84:895-6 O 30 '40; Mach 47:176 N '40
Increasing production in the screw machine. E. O. Schray. diags Am Mach 84:290 My 1 '40
Petermann automatic screw machine. il Am Mach 84:183-4 Mr 20 '40; Mach 46:185 Ap '40
Unit machinery co. screw machine. il(p210) Automotive Ind 83:211 S 1 '40
Unusual tooling for screw machine product; Rollator plant of Borg-Warner corp., Detroit. H. Chase. il diags Iron Age 146:46-8 O 17 '40

SCREW threads
Aero-thread, a new method of making threaded connections. diag Mach 46:125 Je '40
Fatigue strength of castings improved by new screw thread system. H. Caminez. diags Aero Digest 37:102, 105-6, 109 O '40
Precision thread grinding; Wright aeronautical corp. H. E. Linsley. il Am Mach 84: 908-9 N 13 '40

See also
Thread cutting

Standards

Liaison representatives named by ASA on government screw thread committee. Ind Stand 10:279 N '39
Revision of British standards for Whitworth screw threads. Engineering 148:562-3 N 17 '39
Screw-thread standards for federal services, 1939; superseding the reports of the National screw tread commission. diags U S Nat Bur Stand Handbook H25:1-171 '40

Testing

Gaertner optical thread tool gage permits rapid checking. il Am Mach 84:640 Ag 21 '40
Screw threads; the effect of method of manufacture on the fatigue strength. A. M. Smith. il Iron Age 146:23-8 Ag 22 '40

SCREWDRIVERS
Safe use of screw drivers. Safety Eng 79:36 Ap '40

SCREWS
Aufrechterhaltung der vorspannung in stiftverschraubungen. G. Bergmann. V D I 84: 52-3 Ja 20 '40
Festigkeitseigenschaften von leichtmetallschrauben. F. Bollenrath, H. Cornelius and W. Siedenburg. il diags V D I 83:1169-73 N 4 '39
Joining and welding; developments in 1939. Steel 106:350-2 Ja 1 '40
Republic announces new screw steel. Iron Age 146:82 Jl 4 '40
Union Maxcut, Union Multicut, new Bessemer and open hearth screw steel. Automotive Ind 83:70 Jl 15 '40

Advertising

Builds quick acceptance for better product in industrial markets; American screw company. H. Mayoh. il Ptr Ink 193:75-8+ N 1 '40

Manufacture

Brief resumé of special cold heading wire requirements; abstract. A. M. Reeder. Metals & Alloys 11:MA197 Ap '40
Schrauben. K. Schimz. V D I 84:151-4 Mr 2 '40

Standards

Scnrauben. K. Schimz. V D I 84:151-4 Mr 2 '40

SCRIPPS institution of oceanography
Sand movements along the Scripps Institution pier. F. P. Shepard and E. C. LaFond. Am J Sci 238:272-85, pl 1 Ap '40

SCULPTURE, Architectural
Art forms in architecture; new techniques affect both; sculpture. il Arch Rec 88:77-80 O '40
Casts large plaque of stainless steel. il Foundry 68:49+ Je '40
Heroic sculpture in stainless completed for Associated press building, Rockefeller Center. il Iron Age 145:94-5 Ap 11 '40
Lesson from history on sculpture and architecture. M. Glickman. il Arch Rec 87:84-5 My '40
News sculptured in steel; plaque for Associated press building, Rockefeller Center. il Min & Met 21:218 My '40
Notable plaque in stainless steel over the main entrance of the Associated press building in Rockefeller Center. il Metals & Alloys 11:135-6 My '40
Problems the artist faces in today's architecture. B. Meyers. il Arch Rec 87:82-3 My '40
Stainless steel comes of age in architecture; plaque by I. Noguchi for Associated press building, Rockefeller Center. H. H. Harris. il Metal Prog 37:536-40+ My '40
Structural sculpture. R. Foster. Arch Forum 72:190 Mr '40

SCUTTLES, Automobile. See Automobiles—Cowls

SEA level changes
Isostatic control of fluctuations of sea level. A. C. Lawson. Science 92:162-4 Ag 23 '40
Late quaternary changes of level in western and southern Newfoundland. R. F. Flint. bibliog maps Geol Soc Bul 51:1757-80, pl 1-5 N '40

SEA power
Air power and sea power. C. Caldwell. il Aero Digest 36:36-9, 158 Je '40
Anatomy of British sea power; a history of British naval policy in the pre-dreadnought era, 1880-1905. A. J. Marder. 580p $5 Knopf '40
Evolution of sea power. C. W. Domville-Fife, ed. 258p $5 Ryerson press '39
Sea power and today's war. F. Pratt. 237p $3 Harrison-Hilton books, 420 Madison av, New York '39
U.S. defense; sea power and the U.S. Fortune 22:136+ S '40

See also
Navies

SEA urchins
Sperm agglutination in the keyhole limpet and the sea-urchin. A. Tyler and S. W. Fox. Science 90:516-17 D 1 '39

SEA walls
Seawall, Brooklyn, N.Y.; unit prices. Eng N 124:160 Ap 25 '40

See also
Dikes (engineering) Harbors
Docks Jetties

SEA walls, Concrete
Pinch-hitting for a contractor; blasting concrete seawall. A. M. Williams. diags Explosives Eng 18:62-3 F '40
Precast concrete sea wall; diatomaceous silica resists action of salt water. H. H. Bierman. il diag Rock Prod 43:59, 61 N '40

See also
Wharves, Concrete

SEA water
Advances on many fronts; sea water bitterns. il Chem & Met Eng 46:685 N '39
Bromine from sea water; Ethyl-Dow chemical co.; flow sheets. il Chem & Met Eng 46: 771-4 D '39
Deposition of calcium sulfate from sea water. E. Posnjak. bibliog Am J Sci 238:559-68 Ag '40
Magnesium from sea water; plant to be erected by Dow chemical co. Min & Met 21:246 My '40
Metal from the sea; plant will extract lightweight industrial metal, magnesium, from solution. il Sci Am 163:62-3 Ag '40
Mining magnesium from the sea; Dow chemical co. il Sheet Metal Worker 31:29 Ag '40
Remote-control instrumentation; plant for processing sea-water. F. Rooney and C. Romano. diag Instruments 13:215-16 Ag '40
Sea water, but pay dirt for Dow; wide variety of strategic minerals from the ocean. Business Week p20, 22-3 S 21 '40
Sea water for mixing concrete. Am Concrete Inst J 11:313-14 Ja '40
Sealing the lagoon lining at Treasure Island with salt. C. H. Lee. il diag map Am Soc C E Proc 66:247-63 F '40; Discussion. 66: 1187-93, 1521-5 Je, O '40
Sensitive method of flow control; plant for the production of magnesium oxide from sea-water bittern. M. G. Mastin. diag Instruments 13:214-15 Ag '40

See also
Marine structures
Ocean

Analysis
Nitrosolignin colorimetric test for sulphite waste liquor in sea water. I. A. Pearl and H. K. Benson. bibliog Paper Tr J 111:35-6 O 31 '40

SEABOARD air line railway
Annual report. Comm & Fin Chr 150:3216 My 18 '40
Bondholders' committee seeks permission to submit reorganization plan. Comm & Fin Chr 149:3728 D 9 '39
Outlook for 1940. W. H. Coverdale. Comm & Fin Chr 150:498+ Ja 27 '40
Reorganization plan. Comm & Fin Chr 150: 853-4 F 3 '40

SEABOARD surety company
Analysis. Spectator (Property ed) 6:22-3 Ag 8 '40

SEAFARING life
There go the ships. R. Smale. 313p $4 Caxton printers, Caldwell, Idaho '40

SEAMEN
Compensation for Canadian seamen and fishermen. Monthly Labor R 50:605 Mr '40
Establishment of 8-hour day in Brazilian merchant marine, 1939. W. C. Burdett. Monthly Labor R 51:161 Jl '40
Labor conditions in coastwise and intercoastal shipping. Monthly Labor R 50:65-6 Ja '40
NLRB upholds discharge of Bethlehem company seamen; National maritime union's sit-down strikes. Iron Age 144:66 D 7 '39
New wage scale for Swedish seamen. Monthly Labor R 50:1487 Je '40
Plan to aid seamen unemployed as result of Neutrality act. Comm & Fin Chr 149:3195 N 18 '39
They sailed and sailed. F. M. Fox. 224p $2 Dutton '40
Wartime increase in wages of Norwegian seamen. Monthly Labor R 49:1380 D '39
Who's who in seamen's welfare agencies, 1939. M. G. Jackson, comp. 71p American seamen's friend soc, 550 W. 20th st, New York '39

Training
Training of merchant marine personnel. Monthly Labor R 49:1413-16 D '39

SEAPLANE bases
Building Alaska bases for naval aircraft. il Eng N 125:556-7 O 24 '40
Charleston's airport facilities. il Aero Digest 37:103 S '40
C.A A.-N.Y.A. seaplane base development program. Civil Aero J 1:197-8 My 1 '40
Marine railway at sea plane base at LaGuardia field, New York city. il Marine Eng 45: 85 Mr '40
Restricted seaplane landing area established in San Francisco bay. Civil Aero J 1:53-4 F 15 '40
Seadrome contact light buoy. il Rubber Age 46:234 Ja '40
Take to the water; substantial profits may be had from seaplane base. C. Norcross. il Aviation 39:32-35, 94, 97 My '40
Transatlantic seaplane base, Baltimore, Maryland. W. W. Pagon. il diags plans maps Am Soc C E Proc 66:1469-89 O '40

Lighting
Radio-controlled seadrome lights. il Aero Digest 37:180+ Jl '40

SEAPLANES
Admiralty jurisdiction in air law. C. Zollmann. Aero Digest 37:167 Jl; 136 Ag '40
Hints on seaplane operation. F. H. Smith. il Aero Digest 36:40-1+ My '40

See also
Airplanes, Amphibian
Flying boats

Floats
Pneumatic seaplane floats. il Sci Am 162:224 Ap '40

Launching
Shipboard catapults. C. A. Nicholson. il Aero Digest 36:58, 61-2 F '40

SEAPORTS. See Ports

SEARCHLIGHTS
Flickering searchlight beam for the study of the atmosphere; abstract. E. A. Johnson. Science 90:sup8 N 17 '39
G.E. installs new mercury searchlight. il Elec W News ed 113:233 Ja 20 '40
Measurement of light scattered by the upper atmosphere from a search-light beam. E. A. Johnson and others. Opt Soc Am J 29:512-17 D '39
New searchlight uses capillary lamps. il Elec W 113:1736 Je 1 '40
New searchlight utilizes water-cooled mercury lamps. il Marine Eng 45:62 Ap '40

SEARLES lake, California
Electricity in the manufacture of potash; Searles Lake plant of the American potash and chemical corporation. G. F. Maughmer. il diags Gen Elec R 43:392-8 O '40
Lake bromine; American potash and chemical corporation to recover bromine from Searles Lake brine. Sci Am 162:356 Je '40

SEARS, Roebuck and company
Balanced portfolio of stocks. J. S. Williams. Mag of Wall St 66:459 Jl 27 '40
Earnings, Jan. 31, '37-Jan. 31, '40. Comm & Fin Chr 150:3528 Je 1 '40
Five retail stores. il plans Arch Rec 88:31-42 S '40
Good old days; a history of American morals and manners as seen through the Sears, Roebuck catalogs, 1905 to the present. D. L. Cohn. 597p $3.75 Simon & Schuster, New York '40
How the Infotag helps Sears sell. F. C. Hecht. il Ptr Ink Mo 41:10-12+ Ag '40
How to sell through department-store chains; retail organization of Sears, Roebuck and co. E. B. Weiss and J. C. Cumming. il Ptr Ink Mo 41:6-7 Jl '40

SEARS, Roebuck and company—*Continued*
Mail order companies go to town. W. P. Black. Barron's 20:3 F 26 '40
Montgomery Ward vs. Sears Roebuck. J. C. Clifford. il Mag of Wall St 67:146-7+ N 16 '40
Sears gives old tires a new push; program of mounting farm equipment on used rubber. Business Week p40+ Mr 23 '40
Sears standardizing wage plans. Business Week p26-8 Ap 27 '40
Store building, Los Angeles; with construction outline. il diags plans Arch Forum 72:70-6 F '40

SEASHORE
See also
Beaches
Shore protection

SEASIDE houses. See Beach houses

SEASONAL industries
Twenty industrial operations seasonal under wage and hour law. Monthly Labor R 50: 1461-4 Je '40
What Elgin is doing to level out a camel's back sales curve; giving dealers specific sales plans and backing them up with magazine advertising. H. D. Schaeffer. il Sales Management 47:36+ Jl 1 '40
See also
Stabilization in industry
Summer business
Winter business
also names of seasonal industries and products, e.g.
Building trades
Coal trade
Hats
Millinery
Refrigerators, Electric
Turkeys

SEASONAL variation (statistics)
Computing seasonal indexes. K. E. Miller. N A C A Bul 21:1259-70 Je 1 '40
Eliminating changing seasonals by multiple regression analysis. H. Mendershausen. R Econ Statis 21:171-7 N '39
How consumer purchases vary with the seasons in 29 regions. L. D. H. Weld. il map Dun's R 48:15-20 Je '40
Seasonal variations in the economic activities of Japan. W. A. Spurr. Univ of Nebraska Studies v 40, no 1:1-129 bibliog(p120-5) '40 (pa $1.50)

SEASONS
Rheumatic heart disease in Philadelphia hospitals; influence of season and certain meteorological conditions. O. F. Hedley. Pub Health Rep 55:1809-31 bibliog(p1830-1) O 4 '40

SEATRAINS
Seatrain Texas, car carrier. il Marine Eng 45:110+ N '40

SEATS
See also
Airplanes—Seats
Automobiles—Seats
Theater seats

SEATTLE, Washington

Architecture
Citizens judge recent Seattle architecture. il map Arch Rec 87:12, 14 Ja '40
Houses on Puget Sound; new regional type known as Puget Sound architecture; views, plans and construction outline. Arch Forum 72:264-73 Ap '40

Bridges
Bridge that floats. C. F. A. Mann. il Sci Am 162:75-7 F '40
Dynamic model of Tacoma Narrows bridge. F. B. Farquharson. il diags Civil Eng 10: 445-7 Jl '40
Lake Washington floating bridge; anchoring and assembling the concrete pontoons. C. E. Andrew. il diags Roads & Sts 83:33-6 F '40
Lake Washington pontoon bridge. C. E. Andrew. il diags map Civil Eng 9:703-6; 10:17-20 D '39-Ja '40
Moorings for Lake Washington bridge. il diags Eng N 125:82-5 Jl 18 '40
Pacific Northwest bridges completed. il map Eng N 125:58 Jl 11 '40
Seattle's floating bridge. H. W. Young. il Comp Air M 45:6072-8 F '40
Watertight concrete pontoons for Lake Washington bridge. il Eng N 124:162-3 F 1 '40

Economic conditions
Money disbursements of wage earners and clerical workers in five cities in the Pacific region, 1934-36. F. M. Williams and A. C. Hanson. maps U S Bur Labor Statistics Bul 639:1-358 '39

Rapid transit
40 year public prayer granted; Seattle to get revision of transit service. J. W. Abbott. il Bus Transportation 18:599-600 D '39

Sewerage
Henderson Street sewage treatment plant. M. O. Sylliaasen. il diag map Civil Eng 10:575-7 S '40

SEAVER, William P.
Landlord William P. Seaver, assistant administrator of U.S. housing authority. por Arch Forum 73:sup2 O '40

SEAWALLS. See Sea walls

SEAWATER. See Sea water

SEAWEED
See also
Algae

SEBACIC acid
Chemicals from castor oil; sebacic acid and capryl alcohol. Chem Age (Lond) 43:71 Ag 10 '40

SEBORRHEA capitis. See Dandruff

SEBRELL, William Henry, 1901
Wins award for vitamin B studies. Pub Health Rep 55:699 Ap 19 '40

SECALIN
Physical chemistry of secalin; electrophoresis and diffusion constant studies of the prolamine of rye. A. C. Andrews. bibliog Am Chem Soc J 62:912-5 Ap '40

SECRET service

Germany
German secret service at work. B. Newman. 264p $2.75 Robert M. McBride & co, New York '40

SECRETARIES
See also Young men's Christian associations—Secretaries

SECRETARIES, Private
After hours. T. H. Thompson. Ptr Ink 192:6 Ag 9 '40
Ask my secretary . . .; the art of being a successful business girl. G. Torson. 247p $2 Greenberg, New York '40
Experience manual, with work sheets for Secretarial efficiency. F. A. Faunce and F. G. Nichols. 100p $1.25 McGraw-Hill '39
Office and secretarial training. R. Stickney and B. G. Stickney. rev ed $1.60 Prentice-Hall '40
Private secretary's manual. B. C. Turner. rev ed 641p $3.50; school ed $2.20 Prentice-Hall '40
Salaries of office workers in fifty-eight cities. Am Business 10:40-1 N '40
Secretarial training. E. J. McNamara. rev ed 304p $2.75 Ronald press '40
Secretary's handbook & office manual. E. W. Leighton. 418p $2.98 Doubleday '40

SECURITIES
Answers to inquiries. Published in bi-weekly numbers of Magazine of Wall Street
Brass tacks for the investor; brief analysis. Published in Barron's
Ebb and flow of investment values. E. S. Mead and J. Grodinsky. 513p $5 Appleton-Century '39
How to mobilize your securities, for greater safety, income and profit in 1940. A. T. Miller. 126p $2.50 Magazine of Wall st. and business analyst, New York '40
Introduction to investment analysis. K. Field. 340p $3.50 Ronald press '40
Investing for a widow, a year later; first year's results in Barron's second contest. Barron's 20:3-4 S 23 '40

SECURITIES—*Continued*
Investment and finance; a monthly survey of current developments affecting the bank investment market. O. Lasdon, ed. Published in monthly numbers of the Bankers magazine
Investment clinic; vulnerability of high grade securities. J. S. Williams. Mag of Wall St 65:560-1 F 10 '40
Relation of accounting statements and reports to security issues. W. W. Werntz. Edison Elec Inst Bul 7:537-8+ N '39
Security analysis; principles and technique. B. Graham and D. L. Dodd. 2d ed 851p $5 McGraw-Hill '40
Six securities largely or relatively tax immune; thumbnail appraisal. Mag of Wall St 67:102-4 N 2 '40
Today's opportunities in bonds and preferreds; change in status relative to common stocks. J. S. Williams. Mag of Wall St 66: 616-17+ S 7 '40
Utility preferreds and air transports bought by trusts; portfolio changes in first quarter. Barron's 20:18 Ap 15 '40

See also
Airplane industry and trade—Securities
Automobile industry and trade—Securities
Banks and banking—Investments
Banks and banking—Stock
Bonds
Chemical industries—Securities
Electric utilities—Securities
Insurance companies—Investments
Insurance companies—Securities
Investment trusts
Investments
Investments, Foreign
Mining industry and finance—Securities
Mortgages
Municipal bonds
Petroleum industry and trade—Securities
Public utilities—Securities
Railroads—Equipment trust certificates
Railroads—Securities
Retail trade—Securities
Savings banks—Investments
Speculation
Steel industry and trade—Securities
Stock exchange
Stockholders
Stocks
Trusts and trustees—Investments

Advertising

Advertising the stock exchange. W. W. Craig. il Adv & Sell 33:32, 40 F '40
Over-the-counter campaign. Ptr Ink 190:20 Ja 12 '40

Law

Action on amendments to the Federal securities act to be postponed until next session of Congress. Comm & Fin Chr 150:3902 Je 22 '40
Administrative policies of SEC; Securities act of 1933 and the Securities and exchange act of 1934. Comm & Fin Chr 150:1217-18 F 24 '40
Amendments to the securities acts. Inv Banking 10 2-4 Jl '40
Brown-Lea bill offers vitally needed amendments to Securities act of 1933. J. Mead Annalist 56 111-12 Jl 25 '40
Clearance for new offerings in California. Inv Banking 10:27-8 My '40
Congress prepared to amend securities acts. E. F. Connely. Comm & Fin Chr 150:2981 My 11 '40
Federal securities laws. 1940 ed 194p pa $1 Commerce clearing house '40
Financial world of 1940; an interpretation of new deal investment controls. A. W. May. Trusts & Estates 70:283-7 Mr '40
Head of N.Y. curb exchange urges congressional inquiry into effect of securities acts. G. P. Rea. Comm & Fin Chr 150:2194 Ap 6 '40
I.B.A. declares SEC is exceeding statutory authority in regulation of public utility securities. Comm & Fin Chr 150:1865-6 Mr 23 '40
I.B.A. president asks study leading to fundamental revision of laws administered by SEC; Otis & co. protests. Comm & Fin Chr 150:2195-6 Ap 6 '40
I.B.A. redoubles securities fight. Business Week. p48-9 Ag 10 '40
Law of stock exchanges, stockbrokers & customers. W. H. Black. 2v $25 West '40
New York stock exchange suffers from philosophy of government paternalism. W. M. Martin, jr. Comm & Fin Chr 150:2194 Ap 6 '40
President Connely of I.B.A. concurs in proposal of Chairman Frank of SEC to defer action on amendments to Securities act until next session of Congress. Comm & Fin Chr 150:4060-1 Je 29 '40
Proposals for Securities act amendment. Nat City Bank p102-4 S '40
Prospects for security law revisions. B. H. McCormack. Barron's 20:8 Jl 22 '40
Review of securities acts urged. G. P. Rea. Comm & Fin Chr 150:1864 Mr 23 '40
Revision of Securities act needed. A. M. Pope. Comm & Fin Chr 150:2024 Mr 30 '40
Revision of the securities acts. H. M. Fleming. Comm & Fin Chr 151:153-4 Jl 13 '40; Excerpt. Inv Banking 10:4-5 Jl '40
SEC discusses with security dealers and members of IBA amendments to securities acts. Comm & Fin Chr 151:489 Jl 27 '40
SEC issues statement of policy on 20-day waiting period incident of registration of new security offerings under Securities act of 1933; I.B.A. will seek further changes in law. Comm & Fin Chr 151:1215-16 Ag 31 '40
Trust indenture act of 1939. S. E. Howard. J Land & Pub Util Econ 16:168-80 My '40
Uniform blue sky forms proposed by National association of securities commissioners. Inv Banking 10:28 My '40

Listing and delisting

Advantages of listing securities on national exchange. Comm & Fin Chr 149:3793 D 16 '39
Ettingon Schild company delisting recommended. Comm & Fin Chr 150:2723 Ap 27 '40
Exchange seeks delisting of stock. Comm & Fin Chr 150:2441 Ap 13 '40

Listing requirements

New York stock exchange adopts new policy on listing requirements as to preferred stock voting rights. Comm & Fin Chr 150:2968 My 11 '40

Marketing

Bouquets to bankers; from New York Journal and American, June 6, 1940. L. Gould. Inv Banking 10:25-6 Jl '40
Capital loans to smaller business by the Equitable life assurance society of the United States. G. McHugh. Comm & Fin Chr 150:627 Ja 27 '40
Competitive bidding for new issues of securities. F. T. McClintock. 73p H. Ripley & co, 63 Wall st, New York '39
Competitive bidding in issuance of corporate security issues criticized. A. M. Pope. Comm & Fin Chr 150:628 Ja 27 '40
Competitive bidding in securities issues disregards the public's rights. A. M. Pope. Barron's 20:5 F 5 '40
Financing of securities by private sale. A. W. Atwood. Pub Util 25:387-94 Mr 28 '40
I.B.A. tells the SEC; bankers challenge legality of competitive-bid rule. Business Week p18 Mr 23 '40
Memo on competitive bidding for new issues of corporate securities. H. Stanley. Inv Banking 10:6-11 Ja '40
Memo on private placing. E. F. Connely. Inv Banking 10:8-12 N '40
Monopolizing investments; private placements. Inv Banking 10 27-30 Jl '40
Others oppose competitive bidding. G. Wanders. Inv Banking 10:10 My '40
Plight of the medium-size business; no financial market for such securities. R. A. Foulke. il Nation's Business 28:27-8+ F '40
Private financing one-third of 1940 offerings. Pub Util 26:230-1 Ag 15 '40
Private placement of securities is outgrowth of Securities act of 1933. E. F. Connelly. Comm & Fin Chr 151:2128 O 12 '40
Private sales of securities during 1939. Comm & Fin Chr 150:21 Ja 6 '40

SECURITIES—Marketing—*Continued*
SEC asks National association of security dealers to discuss arms-length bargaining rule; Association's letter of criticism. Comm & Fin Chr 150:2978 My 11 '40
SEC Chairman Frank urges Congress to create loan system to aid small business; proposes organizing regional banks to supply equity capital. Comm & Fin Chr 150:363 Ja 20 '40
SEC challenged; competitive bidding fracas. Business Week p68-9 Mr 16 '40
SEC move to widen competitive securities bidding. Nat Underw (Life ed) 44:6 Mr 1 '40
SEC publishes study of cost of flotation of small issues; compares cost for 1935-1938 with 1925-1929 period. Comm & Fin Chr 150:2977 My 11 '40
SEC rules on utility bonds; may be sold if stocks are not neglected. Business Week p49-50 F 17 '40
Slamming the door on the small investor; private issues increasing because of governmental red tape. C. B. Reeves. il Nation's Business 28:17-19+ N '40
Spreads too small. Inv Banking 10:9 Mr '40
Statement presented on Dec. 19 to the TNEC. H. Stanley. Comm & Fin Chr 149:3954-5 D 23 '39; Abstract. Pub Util 25:232-3 F 15 '40
Underwriters' battle flares again; competitive bidding for Consumers power co. proposals and offering for L. & N.R.R. Business Week p17-18 Ja 6 '40

Obsolete securities

Smythe's valuable extinct securities guide. 1939 ed 128p $2 R. M. Smythe, inc, 79 Wall st, New York '38

Over-the-counter marketing

Concerning the over-the-counter market; abstract. F. Rizzo. Inv Banking 10:18-19 Ja '40
Dealers balk at surprise dividends by Thompson Arms. Business Week p56 S 28 '40
National association of securities dealers Board of governors 1st meeting, Washington, Jan. 22-23. Comm & Fin Chr 150:625 Ja 27 '40
NASD gets going; self-regulatory association of dealers who trade over the counter. J. P. Broderick. Barron's 20:18 Ja 22 '40
National association of securities dealers uniform practice committee approves standards for trade practices in over-the-counter securities business. Comm & Fin Chr 151:2289 O 19 '40
1939 price range of over-the-counter trading. Annalist 55:186 Ja 25 '40
Over-the-counter securities market; what it is and how it operates. J. C. Loeser. 192p bibliog(p185-92) $2 National quotation bur, 46 Front st, New York '40; Review. Inv Banking 10:27-31 O '40
Quotations on over-the-counter securities. Published in weekly numbers of Commercial & financial chronicle

Prices

Course of security prices in Kansas City, Mo. Comm & Fin Chr 150:584 Ja 27 '40
London active security prices and yields. Published in weekly numbers of the Economist
SEC issues analysis of regulation of pegging, fixing and stabilizing of security prices; Commissioner Healey presents dissenting views. Comm & Fin Chr 150:1868-4 Mr 23 '40
Security prices, United States, United Kingdom, France, Germany, Netherlands, 1926, 1929-1938 and monthly, Oct. 1938-Nov. 1939. Fed Res Bul 26:76 Ja '40 [cont monthly]

See also
Bonds—Prices
Stocks—Prices

Private placement

See Securities—Marketing

Rating

How to use advisory investment service; various printed services. R. R. Fairchild. Bankers Mo 57:136-7+ Mr '40

See also
Bonds—Rating

Regulation

American Sumatra tobacco corporation; review of decision as to necessity for public disclosure of information. J. L. Dohr. J Account 70:478-9 N '40
Better federal securities laws urged at annual meeting of New York security dealers association. Comm & Fin Chr 150:2023-4 Mr 30 '40
Cash on delivery transactions under regulation T. Fed Res Bul 26:1172-4 N '40
Excessive regulation of securities markets can cause state capitalism. E. F. Connelly. Comm & Fin Chr 151:2126 O 12 '40
Executive order prohibiting dealings in certain foreign securities. F. D. Roosevelt. Fed Res Bul 26:935-6 S '40
Financial unpreparedness. B. M. Anderson, jr. Inv Banking 10:6-10 Jl '40
National association of securities dealers explains SEC rules on keeping and preserving records. Comm & Fin Chr 150:200 Ja 13 '40
New York stock exchange urges SEC to revise regulations to aid defense program. Comm & Fin Chr 151:329-30 Jl 20 '40
President Roosevelt tightens control over wealth in United States of invaded countries; securities bearing foreign stamps subject to Treasury department control. Comm & Fin Chr 151:629-30 Ag 3 '40
Records required; S.E.C. rules that registered dealers must preserve business correspondence. Inv Banking 10:22 Ja '40
SEC adopts rules governing transactions to stabilize prices of securities in limited types of situations. Comm & Fin Chr 150:45 Ja 6 '40
SEC may favor cut in 20-day waiting period in public financing of utility issues; to confer on Securities act changes. Pub Util 26: 101-2. 114 Jl 18 '40
SEC regarded as unsympathetic to normal functioning of securities markets. B. M. Anderson, jr. Comm & Fin Chr 150:3291-2 My 25 '40
Securities imported from any foreign country must be submitted for examination by Federal reserve bank, Treasury department rules. Comm & Fin Chr 150:3587 Je 8 '40
Uniform set of accounting requirements to apply to majority of SEC's registration and report forms adopted. Comm & Fin Chr 150: 1352 Mr 2 '40
Uniform state regulation of securities business urged. P. W. Russell. Comm & Fin Chr 151:2127 O 12 '40

See also
New York stock exchange—Rules
Securities and exchange commission
Stocks—Margin buying

Statistics

Character and grouping of new corporate issues in the United States for five years, 1935-39. Comm & Fin Chr 150:24 Ja 6 '40
SEC issues tabulations on characteristics of corporate security issues proposed for sale, January to June, 1940. Comm & Fin Chr 151:775 Ag 10 '40
SEC publishes statistics on underwriting for fourth quarter. Comm & Fin Chr 150:1207-8 F 24 '40
SEC publishes statistics on underwriting in second quarter. Comm & Fin Chr 151:626 Ag 3 '40
SEC reports third quarter security registrations. Comm & Fin Chr 151:2579 N 2 '40
Summary of corporate, foreign government, farm loan and municipal financing for five years, 1935-39. Comm & Fin Chr 150:24 Ja 6 '40

Valuation

How the law controls trust operations; corporate securities and the estate tax. L. R. Bloomenthal. bibliog Bankers Mo 57:149-51+ Mr '40

Australia

Control over securities imposed. Comm Rep p1060 N 18 '39

SECURITIES—*Continued*

Canada

British liquidating holdings of Canadian securities. Comm & Fin Chr 151:2571 N 2 '40
Canadian stocks. Published in weekly numbers of Annalist
Effect of Europe's war on Canada's utilities. F. J. McDiarmid. Pub Util 26:87-95 Jl 18 '40
Financial Post survey of corporate securities. 256p pa $2 Maclean pub. co, 481 University av, Toronto 2 '40
Restrictions on trading in Canadian securities amended. Comm Rep p80 Ja 27 '40

Finland

Investment in Finland. Economist 137:381-2 D 9 '39

Germany

German potash loan paradox; present market position is anomalous. Economist 138:160 Ja 27 '40

Great Britain

Bombing and industrial yields. Economist 139:435 O 5 '40
Boom in cotton shares? Economist 138:18-20 Ja 6 '40
British share prices, 1811-1850. A. D. Gayer, A. Jacobson and I. Finkelstein. R Econ Statis 22:78-93 My '40
Capital issues and the control; first quarter, 1940. Economist 138:695 Ap 13 '40
Capital issues under control; home corporation stocks. Economist 139:95-6 Jl 20 '40
Defending gilt-edged; comparisons of prices and redemption yields. Economist 138:1079-80 Je 22 '40
Dividend limitation abandoned. Economist 138:1015 Je 8 '40
Lesson of four months; changes in individual securities. Economist 138:24 Ja 6 '40
Limited dividends and equities; a British war measure. Economist 138:774-5 Ap 27 '40
London active security prices and yields. Published in weekly numbers of the Economist
New capital issues in Great Britain. Comm & Fin Chr 150:328 Ja 20 '40 [cont monthly]
New capital issues, 1939. Economist 138:sup9-10 F 17 '40
New dealing regulations affecting enemy and non-resident ownership. Economist 138:905-6 My 18 '40
New issues slump, 1939; with comparative figures. Economist 138:26-7 Ja 6 '40
Next year's maturities and Dominions conversions possibilities. Economist 137:518+ D 30 '39
S.1.B. regulations. Economist 139:436 O 5 '40
United Kingdom; control of capital issues. Comm Rep p10 Ja 6 '40

See also
Bonds, Government—Great Britain
London stock exchange

Hungary

Hungary to continue paying interest on 17 long term dollar bonds under 1937 agreement. Comm & Fin Chr 151:624 Ag 3 '40

Italy

Business opinion in Italy; current prices of variable dividend securities on the stock exchanges. Economist 137:286-7 N 25 '39

Poland

Polish government suspends interest payments on all issues for duration of war; plan for issuing funding bonds dropped. Comm & Fin Chr 150:42-3 Ja 6 '40

Scandinavia

Scandinavian securities and the invasion of Denmark and Norway by Germany. Economist 138:694 Ap 13 '40

United States

As Britain mobilizes to buy; England nationalizes holdings of 60 American stocks. Business Week p55-6 F 24 '40
Britain mobilizes on the financial front; list of 60 U. S. industrial securities. Mag of Wall St 65:629 F 24 '40
British mobilization of American securities; with list of securities requisitioned. Fed Res Bul 26:206-7, 408-9 Mr, My '40
British mobilize American securities; with list of securities mobilized. Barron's 20:13 F 26; 13 Ap 22 '40
British Treasury taking over holdings of its nationals in American securities; T. J. C. Gifford to represent Great Britain in United States in sale of securities. Comm & Fin Chr 150:1205-6 F 24 '40
British Treasury to take over more holdings of American securities from its nationals. Comm & Fin Chr 150:2499, 2964 Ap 20, My 11 '40
Can the fifth column sit in at directors' meetings? foreign ownership of American securities. J. Lloyd. il Mag of Wall St 66:460-1+ Jl 27 '40
Capital flotations, by use of proceeds, type of security, and type of borrower, 1935-1939. Survey of Cur Business 1940 Sup p66-70 [supplemented in monthly numbers]
Capital flotations in the United States, calendar year 1939. Comm & Fin Chr 150:19-26 Ja 6 '40
Capital flotations in the United States during the month of September and for the nine months of the calendar year 1940. Comm & Fin Chr 151:1954-8 O 5 '40
Course of prices of government securities on New York stock exchange in 1939, monthly; tabulation. Comm & Fin Chr 150:77 Ja 6 '40
Financial news of the week. Published in weekly numbers of Annalist
First requisition of dollar stocks in Britain. Economist 138:342 F 24 '40
Listings on the New York stock exchange for the year 1939. Comm & Fin Chr 150:329-31 Ja 20 '40
New capital flotations in the United States during the month of December. Comm & Fin Chr 150:19-26 Ja 6 '40 [cont monthly]
New capital security offerings of domestic corporations, by quarters, 1929-39. Nat City Bank p15 F '40; Same. Comm & Fin Chr 150:727 F 3 '40
New domestic security issues for productive uses, monthly, 1921-July, 1940. Survey of Cur Business 20:17 S '40
Registration of new issues under Securities act effective during January. Comm & Fin Chr 150:1207 F 24 '40 [cont monthly]
Report on the study and investigation of the work, activities, personnel and functions of protective and reorganization committees; pursuant to section 211 of the Securities exchange act of 1934. v8, Summary of law pertaining to equity and bankruptcy reorganizations and of commission's conclusions and recommendations. 471p U.S. Securities and exchange commission, Washington; pa 50c Supt. of doc. '40
SEC issues tabulations on characteristics of corporate security issues proposed for sale during fourth quarter of 1939. Comm & Fin Chr 150:933-4 F 10 '40
SEC reports new issues in 1939 and 1938 effectively registered under Securities act. Comm & Fin Chr 150:1064-5 F 17 '40
Stocks pushed around by the war; Britain's mobilization of more American security holdings. Business Week p49-50 Ap 20 '40

See also
Bonds, Government—United States
New York stock exchange
New York curb exchange

SECURITIES and exchange commission

Accounting regulation S-X. J Account 69:319-21 Ap '40
Accounting requirements of the Securities and exchange commission for the preparation of financial statements. B. B. Greidinger. 517p bibliog(p489-95) $5 Ronald press '39
Action designed to regionalize registration of securities. Comm & Fin Chr 151:2734-5 N 9 '40

SECURITIES and exchange commission—*Cont.*
Administrative policies of SEC; Securities act of 1933 and the Securities and exchange act of 1934. Comm & Fin Chr 150:1217-18 F 24 '40
Amended requirements for financial statements prescribed by the Securities and exchange commission in regulation S-X. H. N. Sweet. J Account 69:167-74 Mr '40
Annual report, 5th. Comm & Fin Chr 150: 774-6 F 3 '40
Bankers challenge the SEC; underwriters campaign to revise regulatory methods and objectives. W. L. Greenway. Mag of Wall St 65:794-5+ Ap 6 '40
Brown-Lea bill offers vitally needed amendments to Securities act of 1933. J. Mead. Annalist 56:111-12 Jl 25 '40
Fifth annual report; activities of the Commission in the field of accounting and auditing. J Account 69:231-3 Mr '40
Integration and public utility investors. J. N. Frank. Annalist 55:779+ Je 6 '40; Abstract. Pub Util 26:35-7 Jl 4 '40
Integration defined; it's disintegration. Business Week p17 Je 15 '40
I.B.A. declares SEC is exceeding statutory authority in regulation of public utility securities. Comm & Fin Chr 150:1865-6 Mr 23 '40
I.B.A. tells the SEC; bankers challenge legality of competitive-bid rule. Business Week p18 Mr 23 '40
Investor protection in reorganization. J. A. Panuch. Harvard Business R 19 no 1:21-32 [S] '40
Issue between the I.B.A. and S.E.C. Inv Banking 10:7-9 My '40
Issues 1939 supplement covering financial operations of listed corporations producing and distributing dairy products. Comm & Fin Chr 151:2735 N 9 '40
Issues statement of policy on 20-day waiting period incident of registration of new security offerings under Securities act of 1933: I.B.A. will seek further changes in law. Comm & Fin Chr 151:1215-16 Ag 31 '40
Rackets move in on the S.E.C. front; charlatans have defrauded business men by representing ability to get S.E.C. approval of finance plans. S. F. Porter. il Nation's Business 28:21-2+ Mr '40
Ready to speed Utility act enforcement. Elec W News ed 114:1391 N 9 '40
Recent pronouncements of the Securities and exchange commission on accounting subjects. W. H. Bell. J Account 69:430-7 Je '40
Registration of new issues under Securities act effective during January. Comm & Fin Chr 150:1207 F 24 '40 [cont monthly]
SEC adopts rule under Investment company act granting temporary exemption from certain sections of Act to companies issuing periodic payment plan certificates. Comm & Fin Chr 151:2578 N 2 '40
SEC amends rules of practice to provide for proceedings in suspension or revocation of investment advisers registrations under new act. Comm & Fin Chr 151:2123 O 12 '40
SEC and the Street; I.B.A.'s fight with Commission. Business Week p49 Ap 6 '40
SEC challenged; competitive bidding fracas. Business Week p68-9 Mr 16 '40
SEC establishes experimental unit in San Francisco to assist prospective security issuers. Comm & Fin Chr 150:3757-8 Je 15 '40
SEC has taken Wall Street into protective custody, now shoulders the white man's burden among utility owners. pors Fortune 21: 90-2+ Je '40
SEC innovation; regional offices allowed to pass on new issues. Business Week p55-6 N 9 '40
SEC integration starts; proceeding under Holding company act. Comm & Fin Chr 150: 1360-1 Mr 2 '40
SEC issues analysis of regulation of pegging, fixing and stabilizing of security prices; Commissioner Healey presents dissenting views. Comm & Fin Chr 150:1863-4 Mr 23 '40
SEC issues new series of reports on survey of American listed corporations. Comm & Fin Chr 150:763 F 3 '40
SEC limits state jurisdiction over security issues of local utilities. A. R. Colbert. Pub Util 26:149-58 Ag 1 '40; Reply. J. N. Frank. 26:259-71 Ag 29 '40
SEC prods life insurance again; WPA case-study in low-income brackets. Business Week p18+ Ag 31 '40
SEC proposes to simplify rules on small issues. Comm & Fin Chr 151:1821-2 S 28 '40
SEC publishes statistics on underwriting in 1939. Comm & Fin Chr 150:4057-8 Je 29 '40
SEC ready to proceed on utility integration. E. D. White. Elec W 112:1751-2 D 16 '39
SEC regarded as unsympathetic to normal functioning of securities markets. B. M. Anderson, jr. Comm & Fin Chr 150:3291-2 My 25 '40
S.E.C. report on investment trusts; excerpts of interest to accountants. J Account 69: 321-32 Ap '40
SEC upheld by United States Supreme court in matter of participation in reorganizations under Chandler bankruptcy act. Comm & Fin Chr 150:3442-3 Je 1 '40
Shadow-boxing on the integration issue. O. Ely. Pub Util 25:673-5 My 23 '40
Simplified procedure for handling declarations and applications regarding financial transaction under Holding company act announced by SEC. Comm & Fin Chr 151:185 Jl 13 '40
Slow death sentence; integrated utility system not yet defined. Business Week p28-9 N 25 '39
Text of measure as signed by President to provide for regulation by the SEC of investment companies and investment advisers. Comm & Fin Chr 151:1336-52 S 7 '40
Trusts join hands to aid SEC. Business Week p57 O 12 '40
Uniform set of accounting requirements to apply to majority of SEC's registration and report forms adopted. Comm & Fin Chr 150: 1352 Mr 2 '40
United Corporation case J Account 69:131-2 F '40
United States Circuit court in Washington upholds SEC power to publish data of firms. Comm & Fin Chr 150:211 Ja 13 '40
Walter-Logan bill nips at SEC; aims to curb administrative powers of many new deal agencies. Business Week p55-6 Ap 27 '40

Findings and opinions

Charges against industrial insurance; analysis of SEC report to TNEC. L. A. Mack. Weekly Underw 143:799-802 O 5 '40
Findings and opinions. Published in monthly numbers of Journal of accountancy
SEC issues three opinions in its accounting series. Comm & Fin Chr 150:2020 Mr 30 '40

SECURITIES dealers, National association of. See National association of securities dealers

SECURITY life insurance company of America
Trustee's report; recommends that another liquidating dividend be paid. Nat Underw (Life ed) 44:1 Ag 23 '40

SECURITY research bureau of Philadelphia
Co-operative securities research; solution of railroad portfolio problems. H. L. Umbarger. Trusts & Estates 70:121-2 F '40

SEDATIVES
Disubstituted aminoacetones containing two unlike substituents. J. W. Magee and H. R. Henze. Am Chem Soc J 62:910-12 Ap '40

SEDELIUS, Wolfgang
Über eine sammlung technischer rezepte aus dem 16. jahrhundert. W. Ganzenmüller. Angew Chemie 53:88-9 F 17 '40

SEDIMENTATION
Effect of solvation on frictional constants and frictional ratios as determined with the ultracentrifuge and by diffusion. E. O. Kraemer. Franklin Inst J 229:680-7 My '40

SEDIMENTATION—*Continued*
Fine particle suspensions in organic liquids. C. R. Bloomquist and R. S. Shutt. bibliog il diags Ind & Eng Chem 32:827-31 Je '40
Fractionation of nonplastic powders by sedimentation in water. S. E. Lull and A. S. Watts. bibliog il Am Cer Soc Bul 19:68-70 F '40
Sedimentation and flocculation. M. B. Donald. bibliog Chem & Ind 59:105-9 F 17 '40; Same cond. Engineering 149:248-9 Mr 8 '40; Abstract. Chem Age (Lond) 42:100 F 17 '40
Sedimentation in the laboratory; design data from laboratory experimentation. H. T. Ward and K. Kammermeyer. bibliog il Ind & Eng Chem 32:622-6 My '40
Sedimentation of suspensions. L. T. Work and A. S. Kohler. bibliog diag Ind & Eng Chem 32:1329-34 O '40; Same. Am Inst Chem Eng Trans 36:701-19 O '40

See also
Dorn effect
Particles

SEDIMENTATION and deposition
Deposition of calcium sulfate from sea water. E. Posnjak. bibliog Am J Sci 238:559-68 Ag '40
Deposition of Lissie and Beaumont formations of Gulf coast of Texas. R. J. Metcalf. map Am Assn Pet Geologists Bul 24: 693-700 Ap '40
Electrical method for the identification of sands. W. F. Tanner. diag Am J Sci 238: 42-6 Ja '40
Pleistocene features of the Atlantic coastal plain; review of the literature. R. F. Flint. fold map Am J Sci 238:757-87 bibliog(p785-7) N '40
Proterozoic (?) rocks in Utah. A. J. Eardley and R. A. Hatch. diags maps Geol Soc Bul 51:795-843 bibliog(p841-3) Je '40
Quaternary history of Louisiana. R. J. Russell maps Geol Soc Bul 51:1199-1233 bibliog (p1230-3) Ag '40
Recent marine sediments; a symposium. P. D. Trask, ed. 736p $5 American assn. of petroleum geologists, Tulsa, Okla. '39
Recent shoreline process, Brazoria county, Texas. W. H. Curry. il maps Am Assn Pet Geologists Bul 24:731-5 Ap '40
Size distributions of source rocks of sediments. W. C. Krumbein and F. W. Tisdel. bibliog Am J Sci 238:296-305 Ap '40
Three types of cross-lamination in paleozoic rocks of northern Arizona. E. D. McKee. bibliog maps Am J Sci 238:811-24 N '40
Use of sedimentation features and cleavage in the recognition of overturned strata. P. J. Shenon and R. H. McConnel. bibliog il diags Econ Geol 35:430-44 My '40

See also
Beaches
Erosion
Loess
Rocks
Sand dunes
Silt

Bibliography
Selected annotated bibliography on sedimentation as related to soil conservation and flood control. C. B. Brown and F. F. Barnes, comps. 40 numb l U.S. Soil conservation service, Washington '39

SEDIMENTATION apparatus
Sedimentation tube for measuring particle-sizes. P. M. Travis. Concrete (mill sec) 48: 177 My '40

SEDIMENTS
Studies on Connecticut lake sediments; chemical analyses of a core from Linsley pond, North Branford. G. E. Hutchinson and A. Wollack. bibliog Am J Sci 238:493-517 Jl '40

SEDITION
President Roosevelt calls upon Congress and states for laws against seditious acts. Comm & Fin Chr 151:778 Ag 10 '40

SEEDS

See also
Cottonseed
Flaxseed
Germination

SEEPAGE
Application of flow figures to computation of seepage through earth fills; tr. by I. F. Morrison and H. R. Webb. R. Muller. diags Can Eng W & S 78:14-20+ Jl '40

SEERSUCKER
Weaving seersucker; simple devices applicable to any loom. diags Textile World 90:141-2 F '40

SEIBERLING rubber company
Preference stock offered. Comm & Fin Chr 150:286-7 Ja 13 '40

SEIL color reaction
Determination of pyrethrin I; investigation of Seil color reaction in mercury reduction method. C. S. Sherman and R. Herzog. bibliog Ind & Eng Chem Anal ed 12:136-7 Mr 15 '40

SEISMIC prospecting. See Prospecting—Geophysical methods

SEISMOGRAPHS
Damsite surveying by seismograph. A. E. Wood. map Eng N 124:438-41 Mr 28 '40
Record counter aids in seismograph computations. P. M. Honnell. il diag Oil & Gas J 38:44 Ja 18 '40
Some reflections on seismic prospecting. E. A. Eckhardt. il Explosives Eng 18:102-4 Ap '40

SEISMOLOGICAL society of America
Eastern section 15th annual meeting, Cincinnati, May 31-June 1. Science 92:150 Ag 16 '40

SEISMOMETERS

Testing
Production testing of seismometers. P. M. Honnell. il diag Oil & Gas J 39:57-8 Ag 15 '40

SEISMOMETRY

See also
Earthquakes

SELECTIVE selling. See Sales policies—Selective selling

SELENATES

Analysis
Volumetric determination of selenate. G. C. Soth and J. E. Ricci. bibliog diag Ind & Eng Chem Anal ed 12:328-9 Je 15 '40

SELENAZINES
Semiquinones of oxazines, thiazines and selenazines. S. Granick, L. Michaelis and M. P. Schubert. bibliog Am Chem Soc J 62: 1802-10 Jl '40

SELENIDES
Reaction between hydrogen selenide, formaldehyde, and secondary amines. A. H. Binz, F. E. Reinhart and H. C. Winter. Am Chem Soc J 62:7-8 Ja '40

SELENIUM
Action of selenium at high temperatures on *gem*-methylethyl groups. R. L. Barker and G. R. Clemo. Chem Soc J p1277-9 S '40
Catalytic toxicity and chemical structure; simple anions containing toxic elements. E. B. Maxted and R. W. D. Morrish. Chem Soc J p252-6 Mr '40
Internuclear distances in Se_2, Te_2, and HgCl by electron diffraction. L. R. Maxwell and V. M. Mosley. bibliog diag Phys R 57:21-3 Ja 1 '40
Nuclear isomerism in selenium and krypton. A. Langsdorf, jr. and E. Segrè. bibliog il Phys R 57:105-10 Ja 15 '40
Physical and astronomical information concerning particles of the order of magnitude of the wave-length of light. F. Ehrenhaft. il diags Franklin Inst J 230:381-93 S '40
Selenium. L. Sanderson. Can Min J 61:370-1 Je '40
Selenium rectifiers; construction and operation. W. O. Julius. diags Elec R (Lond) 126:543 My 17 '40
Tellurium, selenium and sulphur in copper alloys. H. L. Burghoff. il Iron Age 144:35-9 D 7 '39

Analysis
Analysis of selenium in glass. A. E. Pavlish and R. W. Silverthorn. diag Am Cer Soc J 23:116-18 Ap '40

SELENIUM—Analysis—*Continued*
Analysis of sulfite solutions containing selenium; a volumetric method. R. C. Shaver and C. R. McCrosky. bibliog Ind & Eng Chem Anal ed 12:74-6 F 15 '40
Microtitration of selenium as applied to abnormal amounts of selenium in urine. G. Wernimont and F. J. Hopkinson. bibliog il diag Ind & Eng Chem Anal ed 12:308-10 My 15 '40

SELENIUM cells
Selenium rectifier for electroplating. J. B. Kushner. il diag Metal Finishing 38:424-6 Ag '40

SELENIUM chlorides
Dipole moments and structures of certain compounds of sulfur, selenium and phosphorus. C. P. Smyth and others. bibliog Am Chem Soc J 62:1219-23 My '40

SELENIUM compounds
Dipole moments and structures of chlorine compounds of germanium, chromium, selenium and tellurium. C. P. Smyth, A. J. Grossman and S. R. Ginsburg. Am Chem Soc J 62:192-5 Ja '40
Organoselenium compounds; derivatives of phenylseleninic acid and phenylseleninamide. C. K. Banks and C. S. Hamilton. bibliog Am Chem Soc J 62:1859-60 Jl '40

See also
Cobalt selenide

SELENIUM hydride. See Hydrogen selenide

SELENIUM iodide
Evidence for existence of a selenium iodide. J. D. McCullough. Am Chem Soc J 61:3401-2 D '39

SELENIUM oxides
Les applications de l'oxyde de sélénium à l'oxydation des composés organiques. Y. Mayor. bibliog Chimie & Ind 43:188-94 F 5 '40
Reaction between ammonia and $SeO_2.2HCl$ and $SeO_2.2HBr$. J. Jackson and G. B. L. Smith. bibliog Am Chem Soc J 62:543-4 Mr '40

SELENIUM oxychloride
Dipole moments and structures of certain compounds of sulfur, selenium and phosphorus. C. P. Smyth and others. bibliog Am Chem Soc J 62:1219-23 My '40
Selenium oxychloro compounds of pyridine, pyridinium chloride and related substances. J. Jackson and G. B. L. Smith. bibliog Am Chem Soc J 62:544-6 Mr '40

SELENIUM poisoning
Distribution of selenium in plasma and liver proteins and its fractionation in tryptic liver digests. B. B. Westfall and M. I. Smith. bibliog Pub Health Rep 55:1575-83 Ag 30 '40
Selenium and duck sickness. A. C. Twomey, S. J. Twomey and L. R. Williams. Science 90:572-3 D 15 '39
Selenium, the new enigma. L. L. Woods. bibliog J Chem Educ 17:483-4 O '40
Studies in chronic selenosis. M. I. Smith and others. (Bul. 174) Nat. inst. of health, Washington '40; Review. Pub Health Rep 55:1406-7 Ag 2 '40

SELENOBENZOIC acid
Organic derivatives of sulphur, selenium, and tellurium. D. T. Lewis. Chem Soc J p831-2 Jl '40

SELENOSIS. See Selenium poisoning

SELF-consistent field. See Atoms

SELF culture
Creative adult. H. Mearns. 300p $3 Doubleday '40

SELF inductance. See Inductance

SELF service stores
American food counter; Johnson's supermarkets, Syracuse, New York. N. Hansell. il plan maps Ptr Ink Mo 40:5-8+ F '40
Illumination designed for buying in self-service food stores. G. Gilleard. bibliog Illum Eng 35:503-13 Je '40
NCR moves in; boosts grocery-trade volume 40 per cent. A. H. Little. il Ptr Ink 189:21-4 D 29 '39
Self-serve druggist; Katz chain of Kansas City adds two more cafeteria units. il Business Week p33-4 Ag 10 '40
Self-service and semi-service food stores. C. W. Dipman and J. E. O'Brien. 312p $3 Progressive grocer, 161 6th av, New York '40
Supermarkets and self-service stores: recent facts and figures on where they are, how many, and their turnover percentage of local grocery sales. D. Curtiss. il fold map Adv & Sell 33:22-4 Je '40

SELSYN apparatus
Telegon unit for aircraft instrument use. A. G. Binnie. il diag J Aeronautical Sci 7:211-12 Mr '40

SELVAGES
Formation of good selvages. H. E. Wenrich. il diags Rayon 20:512-13, 586-7, 647-8, 706-7; 21:40-1, 166-7, 233-4 S '39-Ja, Mr-Ap '40
How to identify your goods by a special selvage. H. E. Wenrich. il Rayon 21:312-13 My '40

SEMICARBAZIDES
Preparation of certain optically active semicarbazides and a resolution of benzoin. A. J. Little, J. M'Lean and F. J. Wilson. Chem Soc J p336-8 Mr '40

SEMICARBAZONES
Stable and labile semicarbazones from methyl *n*-amyl ketone. W. S. Rapson and R. G. Shuttleworth. Chem Soc J p99 Ja '40
Studies in the polyene series. J. W. Batty, I. M. Heilbron and W. E. Jones. Chem Soc J p1556-60 O '39
Studies in the polyene series. I. M. Heilbron, W. E. Jones and A. Spinks. Chem Soc J p1554-6 O '39

SEMIQUINONES
Semiquinone radicals of the thiazines. L. Michaelis, M. P. Schubert and S. Granick. diags Am Chem Soc J 62:204-11 Ja '40
Semiquinones of oxazines, thiazines and selenazines. S. Granick, L. Michaelis and M. P. Schubert. bibliog Am Chem Soc J 62:1802-10 Jl '40

SENATORS, State
Compensation awarded for injury to a state senator. Monthly Labor R 50:889-90 Ap '40

SENIOR, Leon Samson, 1873-1940
Sketch. por East Underw 41:36 F 9 '40; Nat Underw 44:23 F 8 '40

SENIORITY. See Employees—Length of service

SENSES and sensation

See also

Hearing	Sight
Pain	Taste

SENSITOMETRY. See Photography—Sensitometry

SEPARATION
Adsorption as a means of separation. J. W. Hassler. il Ind & Eng Chem 32:640-4 bibliog(41 references, p644) My '40
Calculation of particle trajectories. C. E. Lapple and C. B. Shepherd. bibliog Ind & Eng Chem 32:605-17 My '40
Emulsion deoiling process separates oil-wax mixtures. A. H. Schutte. flow chart il diags Nat Pet N 32:R402-4, R406, R408 N 13 '40; Same. Oil & Gas J 39:113-14, 117+ N 14 '40
Froth flotation and agglomerate tabling of feldspars. R. G. O'Meara, J. E. Norman and W. E. Hammond. Am Cer Soc Bul 18: 286-92 Ag '39; Excerpts. Concrete (mill sec) 48:136 Mr '40
Separation and fractionation of colloidal systems. E. A. Hauser and J. E. Lynn. flow sheet bibliog diag Ind & Eng Chem 32:659-62 My '40
Separation processes; the principle of minimum dilution in design of new or unusual processes. M. Randall and B. Longtin. bibliog diags Ind & Eng Chem 32:125-9 Ja '40
Sharpness of separation in batch fractionation. A. Rose, L. M. Welshans and H. H. Long. bibliog Ind & Eng Chem 32:668-76 My '40

SEPARATION—*Continued*
Symposium on separation operations. Ind & Eng Chem News ed 18:45-7 Ja 25 '40
Theory of the separation of isotopes by thermal or centrifugal methods. A. Bramley. Science 92:427-8 N 8 '40
Trennung von flüssigkeitsgemischen durch thermodiffusion. Chemische Fabrik 13:156-7 My 4 '40
See also
Dialysis
Distillation apparatus
Dust
Dust removal
Electric precipitation
Electrostatic separators
Filters and filtration
Filters and filtration (technical chemistry)
Flotation process
Magnetic separators
Ore treatment
Osmosis
Separators
Sink-and-float process

SEPARATORS
Cleaning of air and gas by thermal repulsion. S. C. Blacktin. diags Soc Chem Ind J 58: 334-8; 59:153-4 N '39, Jl '40
Efficiency of differently designed tubes for the thermal separation of gases and isotopes. A. Bramley and A. K. Brewer. Franklin Inst J 229:390-2 Mr '40
Gas-recovery system installed by Kendall. J. P. O'Donnell. il diag Oil & Gas J 38: 34-5 F 8 '40
Schneible entrainment separator. il Steel 106: 69-70 Ja 15 '40
Separator for effluents. diags Am Gas J 152: 45 Je '40
See also
Centrifuges
Classifiers
Crystallizers
Dust collectors
Electrostatic separators
Evaporators
Filters and filtration
Filters and filtration (technical chemistry)
Magnetic separators
Oil separators
Screens
Steam traps
Thickeners

SEPARATORS, Electrostatic. See Electrostatic separators

SEPTIC tanks
Vacuum cleaner for septic tanks. A. J. Lazenby. il diag Eng N 124:801-2 Je 6 '40

SERIAL publications
See also
Periodicals

SERICIN
Concerning the existence of fractions of the sericin in raw silk. H. A. Rutherford and M. Harris. bibliog Am Dyestuff Rep 29: 213-16 Ap 29 '40; Same. J Research Nat Bur Stand 24:415-21 Ap '40

SERICITE
Pinitized tuff of ceramic importance. P. F. Kerr. il diags map Am Cer Soc J 23:65-71 Mr '40

SERIES, Statistical
See also
Time series

SERUM
Action of pepsin on the proteins of normal and immune sera; abstract. M. G. Macfarlane and D. E. Dolby. Chem & Ind 59:730 O 26 '40
Conjugation of horse serum albumin with 1,2-benzanthryl isocyanates. H. J. Creech and R. N. Jones. bibliog Am Chem Soc J 62: 1970-5 Ag '40
Human serum as a stabilizer of scarlet fever streptococcus toxin diluted for the Dick test. M. V. Veldee. Pub Health Rep 54: 2131-7 D 1 '39
Hydrolysis of glutathione by blood serum; abstract. G. E. Woodward. Franklin Inst J 228:662-3 N '39
Preparation and purification of brucella antiserum. I. F. Huddleson and R. B. Pennell. Science 90:571-2 D 15 '39
Study of blood serum proteins by electrophoresis. E. Jameson and C. Alvarez-Tostado bibliog J Phys Chem 43:1165-72 D '39
Study of pneumococcus typing serums for the purpose of standardizing a test for potency. B. E. Eddy. bibliog Pub Health Rep 55:347-61, pl 1 Mr 1 '40
See also
Antigens and antibodies

Analysis
Determination of sodium in biological fluids. M. C. Darnell, jr. and B. S. Walker. bibliog Ind & Eng Chem Anal ed 12:242-4 Ap 15 '40
Electrophoretic analyses of hyperimmune sera. J. van der Scheer and R. W. G. Wyckoff. bibliog Science 91:485-6 My 17 '40
Microdetermination of cholesterol in serum. H. K. Alber and J. T. Bryant. Franklin Inst J 229:118-25 Ja '40

Storage
Frozen serum. Sci Am 161:355-6 D '39

SERUMTHERAPY
Chemotherapy and serum therapy of pneumonia. F. T. Lord, E. S. Robinson and R. Heffron. 174p $1 Commonwealth fund, New York '40
Effect of sulfapyridine and sulfanilamide with and without serum in experimental meningococcus infection. S. E. Branham. Pub Health Rep 55:12-22 Ja 5 '40
Rocky Mountain spotted fever; treatment of infected laboratory animals with immune rabbit serum. N. H. Topping. Pub Health Rep 55:41-6 Ja 12 '40
See also
Antigens and antibodies

SERVANTS
Conditions of domestic employment in the Scandinavian countries. Int Labour R 41: 614-33 Je '40
Fortune survey; but no servants. Fortune 21: 134 F '40
Putting servants under law boosts California writings of workmen's compensation. Nat Underw 43:24 N 2 '39
Speaking of servants; how to hire, train, and manage household employees. E. M. Barber. 256p $2 McGraw-Hill '40

SERVICE (in industry)
Building for service; Lockheed ask its customers what they want, builds it, helps in its maintenance. J. R. Hargrove. Aero Digest 37:72, 75-6+ Jl '40
Glidden color centers serve people with painting problems. il Sales Management 47:25 Ag 1 '40
Service men go to school; Coca-Cola company's service training school. il Ptr Ink Mo 40:10-11 My '40
What kind of service; simple and speedy routine suggested for firms' sale of parts and repairs. W. H. Conant. Barron's 20:8 Jl 1 '40
See also
Banks and banking—Service
Credit departments—Service
Customer relations
Dealer helps
Gas companies—Service
Retail trade—Service

SERVICE charge. See Banks and banking—Service charge

SERVICE industries
See also
Beauty shops
Cleaning industry
Garages
Hotels
Laundries
Moving
Photography, Commercial
Railway express agency
Tires, Automobile—Repair

SERVO-MECHANISMS
Servomotors control double-extraction turbines. O. N. Bryant. diag Power 84:580-2 S '40

SESAME oil
Modified Villavecchia test (A.O.A.C.); qualitative detection of sesame oil. Ind & Eng Chem Anal ed 12:380 Jl 15 '40

SETTLING basins
Design of clarifiers for waterworks. R. Walton and T. D. Key. diags Engineering 150: 157-60 Ag 23 '40
Double-deck settling basins; Chicago's water filtration plant. L. D. Gayton. il diags Eng N 124:528-30 Ap 11 '40
Model study of Green Mountain Dam spillway. J. H. Douma. diag Civil Eng 10:156 Mr '40
Saving by sand settling. E. Shaw. Rock Prod 43:39-40 Mr '40
Technical aspects of the silt problem on the Colorado river. C. P. Vetter. il Civil Eng 10:698-701 N '40

SETTLING tanks
See also
Sewage tanks

SEWAGE
Biochemical oxidation in acid water containing sewage. C. C. Ruchhoft, M. B. Ettinger and W. W. Walker. Ind & Eng Chem 32: 1394-8 O '40
Buffer values of sewage during purification. R. S. Ingols and H. Heukelekian. bibliog Ind & Eng Chem 32:401-4 Mr '40
See also
Sewage sludge
Sewerage
Trade waste

Aeration
Effect of bubbles of gas on mixtures of sewage and activated sludge; amount of organic carbon removed with bubbles of air, oxygen, hydrogen, and nitrogen. E. Williams. Soc Chem Ind J 59:39-41 F '40

Analysis
Determination of hydrogen sulphide. G. Martin. diags Water Works & Sewerage 86:501 D '39
Sewage analyses. R. Pomeroy. Water Works & Sewerage 87:33-7 Ja '40
Sulfide determinations by improved methods. R. Pomeroy. Water Works & Sewerage 87: sup173-4 Ap '40
Test for residual chlorine; use of adsorption reaction between iodine and alpha-naphthoflavone. F. J. Hallinan. Ind & Eng Chem Anal ed 12:452-3 Ag 15 '40

Bacteriology
Effect of chromate on the purification of sewage by treatment in bacterial filters. S. H. Jenkins and C. H. Hewitt. Soc Chem Ind J 59:41-4 F '40
Effect on animal health of feeding sewage; swine and cattle in severe six-month test remain in good condition. A. B. Crawford and A. H. Frank. il Civil Eng 10:495-6 Ag '40
Infantile paralysis; water supply and sewerage as factors in infection. Eng N 124: 668 My 9 '40
Introduction to the microbiology of water and sewage for engineering students. P. L. Gainey. 283p spiral binding $3 Burgess pub. co, Minneapolis '39
Role of sphaerotilus in activated sludge bulking; abstract and discussion. C. C. Ruchhoft and J. F. Kachmar. Water Works & Sewerage 87:466-7 O '40
Studies of sewage purification; the biology of sphaerotilus natans Kutzing in relation to bulking of activated sludge. J. B. Lackey and E. Wattie. bibliog diags Pub Health Rep 55:975-87, pl 1-3 My 31 '40

Gas recovery
See **Sewage sludge—Gas production**

Testing
Effect of chromate on the purification of sewage by treatment in bacterial filters. S. H. Jenkins and C. H. Hewitt. Soc Chem Ind J 59:41-4 F '40

SEWAGE, Utilization of
Flash drying system of sludge disposal; sludge used as fertilizer and fuel; abstract. W. Dundas. Water Works & Sewerage 86:493-4 D '39
Fuel oil from sewage sludge; abstract. Shibata. Eng N 124:810 Je 6 '40
Making waste pay; Chicago packing house waste used for fuel and fertilizer. Can Eng 77:16 D 26 '39
Sludge disposal and power generation; Southwest sewage treatment works, Chicago. W. A. Dundas. flow diag il W Soc E J 45:19-30 F '40
See also
Sewage irrigation
Sewage sludge—Gas production
Sewage sludge as fertilizer

SEWAGE disposal
Aurora sewage plant problems. W. A. Sperry. Eng N 125:350 S 12 '40
California sewage works association 12th annual convention, Oakland, Sept. 18-19. Water Works & Sewerage 86:464-7 N '39
California sewage works association 12th annual spring conference, Catalina Island, May 19-21. Water Works & Sewerage 87: 321-5 Jl '40
Canadian institute on sewage and sanitation 7th annual meeting, Toronto, Oct. 24-25. Can Eng W & S 78:11-38 O '40
Central states sewage works association 12th annual meeting, Chicago, Oct. 12-13. Water Works & Sewerage 86:492-500 D '39
City's sewage goes to sea. N. A. Bowers. il Eng N 123:689-91, 764-6, 846-8 N 23, D 7, 21 '39
Complete sewage disposal for a small community; Lake George village, N.Y. M. Vrooman, jr. il diags plan Water Works & Sewerage 87:130-3 Mr '40
Discussion of problems of sewerage and sewage disposal in metropolitan Boston. H. P. Eddy, jr. and A. L. Fales. maps plans Boston Soc C E J 27:79-101 Ap '40
Disposal of sewage, a text-book for the use of engineers, sanitary inspectors and students. T. H. P. Veal. 2d ed rev 179p 10s 6d Chapman & Hall, London '39
Disposal of sewage and industrial wastes; developments and trends in 1939. F. W. Mohlman. il Water Works & Sewerage 87: 47-58, 93-101 F-Mr '40
Effect of bubbles of gas on mixtures of sewage and activated sludge; amount of organic carbon removed with bubbles of air, oxygen, hydrogen, and nitrogen. E. Williams. Soc Chem Ind J 59:39-41 F '40
Federation reorganization; proposal to create a National sewage works association; editorial. L. H. Enslow. Water Works & Sewerage 87:340 Jl '40
First year's operation of Richmond-Sunset sewage treatment plant. B. Benas. flow diag il map plan Civil Eng 10:641-4 O '40
Geographic distribution of disease; a decade of poliomyelitis in Louisiana. A. E. Casey and B. J. Aymond. Pub Health Rep 55: 1295-1300 Jl 19 '40
Grapefruit canning; treatment of wastes; abstract. Ratliff. Eng N 125:176 Ag 1 '40
Hays process of sewage treatment; abstract. C. C. Hays. Water Works & Sewerage 86: 473-4 D '39
Laboratory studies of textile mill wastes treatment. Pub Works 71:14 S '40
Los Angeles plans to spend $32,000,000 for handling sewage. map Eng N 124:315-16 F 29 '40
Major projects of 1939. il Eng N 124:261-2 F 15 '40
Meat packing waste; abstract. Childress. Eng N 125:360 S 12 '40
Milk waste in sewage disposal. Eng N 124: 810 Je 6 '40
Milk waste; three treatment processes (trickling filter, Guggenheim and activated sludge); abstract. Hatch and Bass. Eng N 125:410 S 26 '40
New England sewage association meeting, Middletown, Conn. April 16. Water Works & Sewerage 87:237-9 My '40

SEWAGE disposal—*Continued*

New Jersey sewage works association silver anniversary convention, Trenton, March 20-22. Water Works & Sewerage 87:152-64 Ap '40

New York state sewage works association annual spring meeting, Syracuse. Water Works & Sewerage 87:314-20 Jl '40

Notes on sewage disposal (cont). il Eng N 123:778 D 7 '39

Observations on textile waste treatment; Greensboro, N.C. plant. C. W. Mengel. il plan Civil Eng 10:267-9 My '40

Oil field waste water disposal as practiced in three plants serving southern California fields. W. Humphreys and A. M. Rawn. il diag map Water Works & Sewerage 87:341-6 Ag '40

Ontario sewerage plans for 1940. A. E. Berry. Can Eng 77:7-8 N 14 '39

Operating experiences at Buffalo; abstract. C. R. Velzy, J. W. Johnson and G. E. Symons. Water Works & Sewerage 87: 315-16 Jl '40

Operating problems in sewage treatment; round table. Water Works & Sewerage 87: 19-20 Ja '40

Operation of sewage-treatment plants. W. A. Hardenbergh. 219p lea'tte $2.50 International textbook co, Scranton, Pa. '39

Packinghouse wastes treatment at Austin, Minn.; abstract. P. Hansen and K. V. Hill. Water Works & Sewerage 86:496-7 D '39

Pennsylvania sewage works assn. 14th annual meeting, State College, June 26-28. Water Works & Sewerage 87:369-75 Ag '40

Pointers on sewage disposal service in New Jersey; Joint Meeting in Essex and Union counties. P. A. Smith. il Eng N 124:389-91 Mr 14 '40

Pollution abatement in New York area; interstate problems. S. G. Hess. il map Civil Eng 10:270-2 My '40

Pollution abatement in New York area; progress west of the Hudson. C. J. Velz. il maps Civil Eng 10:349-52 Je '40

Pollution abatement in New York area; the city itself. R. H. Gould. Civil Eng 10:508-9 Ag '40

Pollution abatement in New York area; Westchester and Long Island. J. L. Barron. il maps Civil Eng 10:441-4 Jl '40

Pollution of Boston harbor. S. A. Greeley. maps Boston Soc C E J 27:102-9 Ap '40

Pollution of Boston harbor. A. D. Weston and G. P. Edwards. il maps Am Soc C E Proc 65:383-418 Mr '39; Discussion. 65:1103-4, 1797-9; 66:312-16, 648-50 Je, D '39, F, Ap '40

Practice and problems in sewage disposal service; abstracts of papers, Federation of sewage works associations. Eng N 125:611-13 N 7 '40

Proceedings of the thirteenth annual conference. 114p Maryland-Delaware water and sewerage assn, 2411 N. Charles st, Baltimore '39

Sanitary engineering, 1939. E. J. Cleary. il Eng N 124:227-8 F 15 '40

Selecting the sewage-treatment process. A. Potter and M. H. Klegerman. flow diag il Can Eng W & S 78:14-16, 47-9 F '40

Sewage disposal in Canada. A. E. Berry. il Can Eng W & S 78:14-15, 46-50 Ja '40

Sewage disposal project of Buffalo, New York. S. A. Greeley. flow diags diags plans Am Soc C E Proc 65:1341-65 O '39; Discussion. 65:1638-40; 66:739-44, 964-6 N '39, Ap-My '40

Sewage-disposal works for Barrie, Ont. G. G. Reid. il diags plans Can Eng W & S 78:13+ Ja; 7-11+ S '40

Sewage plant operation at Grand Rapids, N.D. Pub Works 71:8 Ag '40

Sewage treatment. K. Imhoff and G. M. Fair. 370p bibliog(p342-7) $3 Wiley '40

Sewage treatment at Buffalo, New York; with flow sheets. G. E. Symons, C. R. Velzy and R. Morey. bibliog Am Inst Chem Eng Trans 36:325-44 Je '40

Sewage treatment projects of Ossining, N.Y.; with cost data. J. C. Harding. flow diag il plan Water Works & Sewerage 87:358-64 Ag '40

Sewerage and sewage treatment. H. E. Babbitt. 5th ed 648p bibliog(p601-15) $5 Wiley '40

Sludge disposal by vacuum filtration and incineration at three cities. F. W. Mohlman. Eng N 125:44 Jl 4 '40

Sludge filtration and incineration at Buffalo; abstracts. C. R. Velzy. Water Works & Sewerage 86:496 D '39; diag Eng N 124: 393-4 Mr 14 '40

Some considerations to the questions of sludge density. G. J. Wiest. Water Works & Sewerage 87:216 My '40

Thirteenth annual report, Ohio conference on sewage treatment, Toledo, Ohio, Oct. 5-6, 1939. 149p pa $1.25 B. M. McDill, sec, room 302, Dept. of state bldg, Columbus '40

Treatment and control of industrial wastes; problems along U.S.-Canada boundary. M. P. Adams. il diag Can Eng W & S 78:50, 53-4+ O '40

Treatment methods for waste from citrus juice canning plants. C. A. Billings. flow diag il Pub Works 71:7-8 Ag '40

Treatment of liquid wastes from the textile industry. C. R. Hoover. bibliog il diags Ind & Eng Chem 31:1352-8 N '39

Treatment of textile wastes. H. B. Gotaas. bibliog Mech Eng 62:805-8 N '40

Trend of practice in sewage treatment and sludge disposal at recent large plants. A. L. Fales. bibliog flow diags il Can Eng W & S 78:7-15, 55-8 My '40

Trends and newer features in sewage treatment. S. A. Greeley. il diags Can Eng W & S 78:41-4+ O '40

Trituration of sewage screenings. W. W. Watkins. Water Works & Sewerage 87: supl72 Ap '40

War and sewage treatment; Shanghai public works report for 1939; abstract. Abbott. Eng N 125:176 Ag 1 '40

Waste chlorinated water used to treat sewage; East Baton Rouge, La. Pub Works 71:41 Ja '40

Water supply and sanitary engineering in 1939. Engineer 169:91-2 Ja 26 '40

See also

Cesspools
Plumbing
Refuse disposal
Sewage disposal plants
Sewage incinerators
Sewage irrigation
Sewage pumping
Sewage sludge
Sewage tanks
Sewer pipes
Sewerage
Sewers, Concrete
Trade waste
Water pollution

Activated sludge method

Activated sludge bulking. L. H. Enslow. Water Works & Sewerage 87:supl61-4 Ap '40

Activated sludge oxidation; abstract. C. N. Sawyer. Water Works & Sewerage 86:498 D '39

Activated sludge thickening to improve digester performance and reduce supernatant liquor. D. Travaini. diags Water Works & Sewerage 87:supl75-6 Ap '40

Buffer values of sewage during purification. R. S. Ingols and H. Heukelekian. bibliog Ind & Eng Chem 32:401-4 Mr '40

Control of sludge bulking; abstract. E. M. Berg. Water Works & Sewerage 86:475 D '39

Dual units solve resort sewage problem; activated sludge disposal plant in the Iowa Great Lakes region. A. D. Swisher. il Eng N 125:405-6 S 26 '40

Effect of bubbles of gas on mixtures of sewage and activated sludge; amount of organic carbon removed with bubbles of air, oxygen, hydrogen, and nitrogen. E. Williams. Soc Chem Ind J 59:39-41 F '40

Enzymes; principles underlying activated sludge process. Eng N 124:186 F 1 '40

Experiences with a small mechanical activated sludge plant; abstract. L. L. Gwin. Water Works & Sewerage 87:375 Ag '40

SEWAGE disposal—Activated sludge method—*Continued*
Methods and results of activated sludge treatment of dairy wastes. S. D. Montagna. Pub Works 70:27-8 D '39
Oxidation of lactose by activated sludge. S. H. Jenkins and R. Wilkinson. Soc Chem Ind J 59:125-8 Je '40
Partial activated sludge. Eng N 124:810 Je 6 '40
Problems and trends in activated sludge practice. R. T. Regester. Am Soc C E Proc 65:1501-25 bibliog(65 titles, p1522-5) N '39; Discussion. 66:519-24, 717-20, 1101-3, 1319-23 Mr-Ap, Je, S '40
Role of sphaerotilus in activated sludge bulking; abstract and discussion. C. C. Ruchhoft and J. F. Kachmar. Water Works & Sewerage 87:466-7 O '40
Rotary blowers in activated sludge plants. D. L. Dowling. il diags Water Works & Sewerage 87:440-7 S '40
Some developments in the water pollution research program of the Public health service. J. K. Hoskins. Pub Health Rep 55:893-9 bibliog(p899) My 17 '40
Some of the newer developments in control of the activated sludge process; abstract and discussion. G. P. Edwards. Water Works & Sewerage 87:464-6 O '40
Something to boast about; activated sludge plant, Jackson, Mich. Water Works & Sewerage 87:382 Ag '40
Studies of sewage purification; metabolism of glucose by activated sludge. C. C. Ruchhoft, J. F. Kachmar and O. R. Placak. bibliog Pub Health Rep 55:582-601 Ap 5 '40
Studies of sewage purification; the biology of sphaerotilus natans Kutzing in relation to bulking of activated sludge. J. B. Lackey and E. Wattie. bibliog diags Pub Health Rep 55:975-87, pl 1-3 My 31 '40
Studies of sewage purification; the removal of glucose from substrates by activated sludge. C. C. Ruchhoft, J. F. Kachmar and W. A. Moore. Pub Health Rep 55:393-423 bibliog(p422-3) Mr 8 '40
Supernatant liquor; effect on bulking of activated sludge; abstract. E. J. M. Berg. Eng N 125:176 Ag 1 '40
System activated sludge-oxygenated water; controlled adsorption. D. Dickinson. bibliog Soc Chem Ind J 59:78-80 Ap '40
Waste sulfite liquor-sewage mixtures; activated sludge treatment. C. N. Sawyer. bibliog Ind & Eng Chem 32:1469-73 N '40

Bacterial methods

Biofiltration comes East; process adopted by Liberty, N.Y. flow diag il diag Eng N 125:402-4 S 26 '40
Biofiltration process of sewage treatment. A. J. Fischer and R. B. Thompson. flow sheets il Can Eng W & S 78:16, 38-41+ My '40
Biofiltration system. A. J. Fischer. flow sheets il diags Water Works & Sewerage 87:481-8 O '40
Biological processes for treating waste; bioprecipitation and anaerobic fermentation. A. M. Buswell. bibliog Ind & Eng Chem 31:1349-51 N '39

Bibliography

Information on water and sewage works problems; where to find it (revised). L. H. Enslow. Water Works & Sewerage 87: sup13-15 Ap '40

Chemical treatment

See also
Sewage disposal—Coagulation

Chlorination

Chlorine in sewage plants; discussion. Can Eng W & S 78:19-24+ O '40
Handling of chlorine at water and sewage plants. J. B. Baty. il diags Can Eng W & S 78:24-5, 66-9 Ap '40
Problems and progress in the chlorination of sewage; abstract and discussion. A. E. Griffin. Water Works & Sewerage 87:83-4 F '40
Simple chlorine deficiency alarm. H. O. Johnson and F. M. Jablon. diags Water Works & Sewerage 87:135 Mr '40

Coagulation

Improved sewage clarification by prefloccculation; abstracts. A. J. Fischer and A. Hillman. Pub Works 71:54 F '40; Water Works & Sewerage 87:82-3 F '40
Influence of activated silica in sewage coagulation. C. W. Christenson and I. Lavine. bibliog Am Inst Chem Eng Trans 36:71-88; Discussion. 88-90 F '40

Filtration

Aerated filters. Eng N 123:778 D 7 '39
Biofiltration comes East; process adopted by Liberty, N.Y. flow diag il diag Eng N 125: 402-4 S 26 '40
Biofiltration for sewage treatment at Liberty, N.Y. flow sheet il plans Pub Works 71:28-30+ Jl; 16-18 O '40
Biofiltration process of sewage treatment. A. J. Fischer and R. B. Thompson. flow sheets il Can Eng W & S 78:16, 38-41+ My '40
Biofiltration system. A. J. Fischer. flow sheets il diags Water Works & Sewerage 87:481-8 O '40
Design details for trickling filter underdrains and ventilation. diags Pub Works 71:17-20 Ag '40
Economics of filters; abstract. Wilson and Hamlin. Eng N 125:360 S 12 '40
Effect of chromate on the purification of sewage by treatment in bacterial filters. S. H. Jenkins and C. H. Hewitt. Soc Chem Ind J 59:41-4 F '40; Abstract. Eng N 125:44 Jl 4 '40
Filter dressing rig. W. D. Sheets. il diag Water Works & Sewerage 86:490-1 D '39
How to reduce filter cloth blinding. Eng N 125:622 N 7 '40
Packinghouse waste treatment; Armour & co. plant featuring multi-stage high-rate filtration. L. R Howson. flow diag il Water Works & Sewerage 87:217-22 My '40
Peat filters. Eng N 123:778 D 7 '39
Results from high rate trickling filters at Baltimore; abstract and discussion. C. E. Keefer and H. Kratz, jr. Water Works & Sewerage 87:277-8 Je '40
Role of the trickling filter in sewage treatment; abstract and discussion. M. Levine. Water Works & Sewerage 87:467-8 O '40
Sewage filtration with silica sand filters. P. B. Streander. il diags Water Works & Sewerage 87:351-7, 422-9, 493-5 Ag-O '40
Sludge disposal at Minneapolis; abstracts. G. J. Schroepfer. Water Works & Sewerage 86:495-6 D '39; il Eng N 124:394-6 Mr 14 '40
Sludge filtration and incineration; symposium. Water Works & Sewerage 87:316-19 Jl '40
Temperature and filters. Eng N 123:778 D 7 '39
Trickling filters. M. Levine. Can Eng W & S 78:10-11, 42-7 Jl '40; Abstract and discussion. Water Works & Sewerage 87:156-7 Ap '40
Trickling filters; their design, construction and operation. il diags Pub Works 71:26-8, 30, 32-7 F; 23-9 Mr; 62-74 Ap; 28-33 My '40
Trickling filters with open sidewalls to improve aeration. L. J. Voorhies. il Pub Works 71:13-14 S '40

Gas recovery

See Sewage sludge—Gas production

Grease and oil removal

Grease flotation features new sewage treatment plant at Bellefontaine, Ohio. F. G. Browne. il Pub Works 70:10 D '39
Oil and grease problem; experiences with a method for degreasing sewage; abstract and discussion. G. J. Wiest. Water Works & Sewerage 87:373-5 Ag '40

Grit chambers

Constructing a complicated grit chamber. E. W. Downward. Pub Works 71:14 S '40
Grit chambers. M. B. Tark and J. J. Gilbert. il diags Water Works & Sewerage 87:186-9 Ap '40

SEWAGE disposal—Grit chambers—*Continued*
Grit; its collection and washing. R. D. Nichols. il diags Water Works & Sewerage 87: 190-3 Ap '40
Grit removal from sewage. W. A. Kivell and N. B. Lund. il diags Water Works & Sewerage 87:176-85 Ap '40

History

Genius of sanitation. G. M. Fair. Boston Soc C E J 27:67-78 Ap '40

Laws and regulations

Pollution legislation; its present status. Eng N 123:775-6 D 7 '39
Public health (drainage of trade premises) act, 1937. J. H. Garner. Chem & Ind 59: 339-43 My 18 '40

Ozone treatment

South Jersey sewage operators inspect experimental ozonation plant at Moorestown. Water Works & Sewerage 87:289 Je '40

Screening

Sewage screenings problem, and how it was solved; Bloomington, Ill. O. G. Hendryx and K. Carrington. il Water Works & Sewerage 87:40-1 Ja '40

Sludge and refuse mixing

Disposal of garbage with sewage. K. C. Lauster. diag Pub Works 71:25-6 Ja '40
Garbage grinding at Gary. L. R. Howson. il plan Eng N 125:273-4 Ag 29 '40
Problems in garbage-sewage treatment, Lansing, Mich. il plan Eng N 125:407-9 S 26 '40

SEWAGE disposal, Rural

Attractive sewage treatment plant located at edge of village, Excelsior, Minn. E. E. Bardwell. il Pub Works 71:16-18 My '40
Design notes for camp, residential, hotel and other small sewage treatment works. Pub Works 71:60-1 Ap '40
Protection of watershed for Syracuse supply. A. F. Gregory. il diags maps Am Water Works Assn J 32:555-69 Ap '40

SEWAGE disposal plants

Architectural concrete; its adaptation in water and sewage works construction. W. D. M. Allan. il Water Works & Sewerage 86: 427-30 N '39
Attractive control building for the sewage treatment works at Phoenixville, Pa.; view and floor plan. Pub Works 71:13 Jl '40
Construction of a sewage treatment plant under the provisions of section 40: 1-79 of the revised statutes of New Jersey (sewer rentals); abstract. R. C. Hendrickson. Water Works & Sewerage 87:157-8 Ap '40
Construction of sewage treatment works; its relation to the national economy. A. Wolman. Water Works & Sewerage 87: 201-4 My '40
Detroit's disposal plant; abstract. C. W. Hubbell. Eng N 125:626-7 N 7 '40
Disposal of sewage and industrial wastes at Chicago; abstract. F. W. Mohlman. Water Works & Sewerage 87:160-1 Ap '40
Flow diagram and description of typical sewage plant at Danforth Park, East York township, Ont. G. R. Jack. il Can Eng W & S 78:15 S '40
Getting results from an overcrowded horse and buggy sewage plant. Pub Works 71:58-9 Ap '40
Hespeler's new sewage treatment works. W. B. Redfern. diags plans Can Eng W & S 78:9-11 Ag '40
Hoopeston, Ill. builds sewage treatment works; constructed under new WPA; contract procedure; with cost data. K. V. Hill. il diag Water Works & Sewerage 86:423-6 N '39
Improving the operation of a small sewage treatment plant at Annapolis, Maryland. C. G. Weber. il diags plan Water Works & Sewerage 87:309-13 Jl '40
Indianapolis sewage plant needs enlargement. Eng N 125:358 S 12 '40
Installation and operation of a small dairy waste treatment plant; abstract. C. M. Nichols. Water Works & Sewerage 87:158-9 Ap '40
Multiple digestion of sludge at Grand Forks, N.D. K. W. Riley. il diag Pub Works 71: 12-14 Ja '40
New disposal plant for Toronto's sewage; with cost data. map Can Eng W & S 78: 22, 54-6 Ja '40
New sewage treatment plant of Dallas. R. M. Dixon. il plans Water Works & Sewerage 87:245-55 Je '40
Operating experiences at Butler, Pa.; abstract. T. R. Haseltine. Water Works & Sewerage 87:372 Ag '40
Operating problems at the Southwest plant; symposium. Water Works & Sewerage 86: 494-5 D '39
Plant operation and maintenance; symposium. Water Works & Sewerage 87:162-4 Ap '40
Refuse and sewage plant combined for profit. G. O. Consoer and D. W. Townsend. il diag plans Eng N 125:221-4 Ag 15 '40
Round-table conference; in hot weather, how do you control the odors at your sewage-disposal plant? Can Eng W & S 78:23+ Je '40
Seattle's Henderson Street sewage treatment plant. M. O. Sylliaasen. il diag map Civil Eng 10:575-7 S '40
Sewage-disposal plants in Canada by provinces. Can Eng W & S 78:21-3 Ag '40
Sewage treatment at Buffalo, New York; with flow sheets. G. E. Symons, C. R. Velzy and B. Morey. bibliog Am Inst Chem Eng Trans 36:325-44 Je '40
Sewage-treatment works, administration and operation. C. E. Keefer. 673p $6 McGraw-Hill '40
Sludge disposal and power generation; Southwest sewage treatment works, Chicago. W. A. Dundas. flow diag il W Soc E J 45:19-30 F '40
Small plant operators' clinic. Water Works & Sewerage 86:499-500 D '39
Small up-to-date treatment plant; Dickinson, North Dakota. L. W. Viegel. Pub Works 70:37 N '39
Treatment works of Gary; abstract. L. R. Howson. Water Works & Sewerage 86:497-8 D '39
Typical treatment plant for sewage of small city; Marseilles, Ill. plan Concrete 47:5+ D '39

Cost

Cost details submitted on Toronto sewage-disposal plant; abstract. A. E. Berry, W. Storrie and W. B. Redfern. Can Eng 77:14 D 5 '39
Trituration of sewage screenings. W. W. Watkins. Water Works & Sewerage 87: sup172 Ap '40

Electric equipment

Electric motors and controls for sewage treatment plants. J. O. Kammerman. Pub Works 71:36-7 Je; 38+ Jl '40

Employees

Certification in Ontario being favorably considered. A. E. Berry. Can Eng W & S 78: 20+ S '40
Licensing and certification of operators of water and sewage plants. J. B. Baty. il Can Eng W & S 78:18-19+ S '40
School for operators of water and sewage plants. C. L. Walker. il Can Eng W & S 78:16-17+ S '40
Short school instruction for superintendents and operators. W. A. Hardenbergh. il maps Pub Works 71:13-15+ Ap '40

Equipment

Attractive sewage treatment plant located at edge of village, Excelsior, Minn. E. E. Bardwell. il Pub Works 71:16-18 My '40
Classified index of products used in the water works and sewerage fields. Water Works & Sewerage 87:sup4-12 Ap '40
Coal handling at Chicago's sewage-treatment works. W. G. Hudson. il diag Power 84: 507-9 Ag '40

SEWAGE disposal plants—Equipment—*Cont.*
Complete sewage disposal for a small community; Lake George village, N.Y. M. Vrooman, jr. il diags plan Water Works & Sewerage 87:130-3 Mr '40
Dry feeders; design, maintenance and operation. F. J. Lammers. diags Water Works & Sewerage 87:240-1 My '40
Dual units solve resort sewage problem; activated sludge disposal plant in the Iowa Great Lakes region. A. D. Swisher. il Eng N 125:405-6 S 26 '40
Filter dressing rig. W. D. Sheets. il diag Water Works & Sewerage 86:490-1 D '39
First year's operation of Richmond-Sunset sewage treatment plant. B. Benas. flow diag il map plan Civil Eng 10:641-4 O '40
Garbage grinding at Gary. L. R. Howson. il plan Eng N 125:273-4 Ag 29 '40
Grease flotation features new sewage treatment plant at Bellefontaine, Ohio. F. G. Browne. il plan Pub Works 70:9-11 D '39
Grit; its collection and washing. R. D. Nichols. il diags Water Works & Sewerage 87:190-3 Ap '40
Manufacturers and distributors, Canada; equipment for waterworks and sewage plants; by companies, and by products. Can Eng W & S 78:14-16, 18-20 Ag '40
New England's newest sewage works, Springfield, Mass. E. J. Cleary. il diags Eng N 125:396-401 S 26 '40
New treatment plant of Hibbing. C. Foster. il plan Water Works & Sewerage 87:115-19 Mr '40
Old and new sewage equipment at Plainfield, N.J. Pub Works 71:41 Jl '40
Package delivery waste treatment plants; all-steel construction makes for economy and erection simplicity. E. B. Mallory. flow diags il Water Works & Sewerage 87:102-6 Mr '40
Power from sludge gas at Albuquerque. W. W. Wheeler. flow diag il Eng N 123:842-3 D 21 '39
Rotary blowers in activated sludge plants. D. L. Dowling. il diags Water Works & Sewerage 87:440-7 S '40
Sewage treatment coupled with irrigation; Pueblo, Colo. sewage disposal plant. F. W. Veatch. il Eng N 124:24-6 Ja 4 '40
Sewage treatment projects of Ossining, N.Y.; with cost data. J. C. Harding. flow diag il plan Water Works & Sewerage 87:358-64 Ag '40
Small Georgia sewage treatment plant treats 200,000 gallons per day; tuberculosis sanitarium at Alto. il Pub Works 71:13 O '40
Trend of practice in sewage treatment and sludge disposal at recent large plants. A. L. Fales. bibliog flow diags il Can Eng W & S 78:7-15, 55-8 My '40
Trickling filters with open sidewalls to improve aeration. L. J. Voorhies. il Pub Works 71:13-14 S '40
Two years' experience with chemical treatment of sewage; Butler, Pennsylvania. T. R. Haseltine. il Pub Works 70:31-5 N '39

See also
Sewage pumps
Sewage tanks

Laboratories

Equipping the sewage plant laboratory, with particular reference to the smaller plants. N. C. Wittwer. il Water Works & Sewerage 87:70-5 F '40

Models

Model of a modern sewage treatment plant as a project in high-school chemistry. W. Mayrose. il diags J Chem Educ 17:167-70 Ap '40

Painting

Experiences with paints at a sewage treatment plant. Kleven. il Pub Works 71:32-3 O '40

Power

Electrical equipment for sewage disposal plant; borough of Luton. Engineer 169:424 My 3 '40
Oil and gas power; sewage disposal. il Power 84:346-7 Je '40
Sludge disposal and power generation; Southwest sewage treatment works, Chicago. W. A. Dundas. flow diag il W Soc E J 45:25-9 F '40
World's largest sewage plant steam-powered; Chicago's Southwest sewage treatment works; special boiler furnaces supply heat for sludge drying, destroy vapors, burn sludge, and generate steam for turbine-driven blowers and pumps, and for auxiliary-power turbine-generators. J. M. Mercer. il diags Power 84:68-71 F '40

Public relations

Public relations; discussion. Can Eng W & S 78:26, 29-30+ O '40

Safety devices and measures

Danger ahead! sewage gas hazards. J. S. Wiley. Eng N 125:488-9 O 10 '40
Gas hazards at sewage-treatment plants; committee's instructions; New Jersey sewage works association. Can Eng W & S 78:73-4, 77-8 Ap '40
Gas hazards; methods of reducing such at sewage treatment plants. Water Works & Sewerage 87:sup155-7 Ap '40
Sewage gas utilization systems; abstract. L. L. Langford. Water Works & Sewerage 87:238-9 My '40
Water and sewerage system safety. C. A. Hechmer. il Water Works & Sewerage 86:459-61 N '39

SEWAGE flow
Hydraulics in connection with water and sewage works. M. L. Crist. Water Works & Sewerage 87:433-5; Discussion. E. R. Stapley. 435-6 S '40
Laminar flow of sludges in pipes with special reference to sewage sludge. H. E. Babbitt and D. H. Caldwell. il diags Ill U Eng Exp Sta Bul 319:1-58 bibliog(p57-8) '39 (pa 65c)
Measuring flows in Cranford, N.J. T. J. McLaughlin. diag Pub Works 71:41+ Mr '40
Venturi meters for sewage and sludge. C. G. Richardson. il diags Water Works & Sewerage 86:502-5 D '39

SEWAGE incinerators
Sludge filtration and incineration at Buffalo; abstract. C. R. Velzy. diag Eng N 124:393-4 Mr 14 '40
Sludge filtration and incineration at Minneapolis-St Paul plant; abstract. G. Schroepfer. il Eng N 124:394-6 Mr 14 '40
Sludge filtration and incineration; symposium. Water Works & Sewerage 87:316-19 Jl '40

SEWAGE irrigation
Landwirtschaftliche verwertung gewerblicher abwässer in Schlesien. F. Reinhold. V D I 83:1275 D 9 '39
Sewage irrigation as practiced in the western states. W. A. Hutchins. il U S Agric Tech Bul 675:1-60 bibliog(p56-9) '39; Abstract. Pub Works 71:32, 34-5 Ja '40
Sewage treatment coupled with irrigation; Pueblo, Colo. sewage disposal plant. F. W. Veatch. il Eng N 124:24-6 Ja 4 '40

SEWAGE pumping
Avoid water hammer by decelerating motors; sewage pumping station at East Saugus, Mass. H. Fox. il diag Elec W 113:766 Mr 9 '40
Sewage-pumping stations; discussion. Can Eng W & S 78:32, 37 O '40

SEWAGE pumps
Electric motors and controls for sewage treatment plants. J. O. Kammerman. Pub Works 71:36-7 Je; 38+ Jl '40
Maintenance of sewage pumping stations. A. L. Soden. il Water Works & Sewerage 87:417-21 S '40
Priming centrifugal sewage pumps; De Laval submerged suction system. H. V. Petersen. plans Water Works & Sewerage 86:481-3 D '39
Sewage and sludge pumping. H. Ryon. Water Works & Sewerage 87:sup143-6 Ap '40
Submerged suction priming system. diags Can Eng 77:11-12 D 5 '39

SEWAGE sampling
Sewage analyses. R. Pomeroy. Water Works & Sewerage 87:33-4 Ja '40

SEWAGE sludge
Disposal of wet sludge; discussion. Can Eng W & S 78:15-19 O '40
Laminar flow of sludges in pipes with special reference to sewage sludge. H. E. Babbitt and D. H. Caldwell. il diags Ill U Eng Exp Sta Bul 319:1-58 biblog(p57-8) '39 (pa 65c)
Some considerations to the question of sludge density. G. J. Wiest. Water Works & Sewerage 87:216 My '40
See also Sewage disposal—Activated sludge method

Analysis
See Sewage—Analysis

Drying
Aurora sewage plant problems; abstract. W. A. Sperry. Eng N 125:350 S 12 '40
Flash drying system of sludge disposal; sludge used as fertilizer and fuel; abstract. W. Dundas. Water Works & Sewerage 86:493-4 D '39
Sludge dewatering and drying at Tenafly, N.J.; abstract. J. K. Adams. Water Works & Sewerage 87:164 Ap '40
Sludge disposal and power generation; Southwest sewage treatment works, Chicago W. A. Dundas. flow diag il W Soc E J 45:19-30 F '40
Sludge drying; abstract. N. C. Wittwer. Eng N 125:360 S 12 '40
Use of alum in sludge drying at Aurora. W. Sperry. Pub Works 71:28+ S '40
World's largest sewage plant steam-powered; Chicago's Southwest sewage treatment works; special boiler furnaces supply heat for sludge drying, destroy vapors, burn sludge, and generate steam for turbine-driven blowers and pumps, and for auxiliary-power turbine-generators. J. M. Mercer. il diags Power 84:68-70 F '40

Gas production
Development and utilization of power from sewage gas at Durham, N.C.; abstract. R. S. Phillips. Water Works & Sewerage 87:158 Ap '40
Gas hazards; methods of reducing such at sewage treatment plants. Water Works & Sewerage 87:sup155-7 Ap '40
Multiple digestion of sludge at Grand Forks, N.D. K. W. Riley. il diag Pub Works 71: 12-14 Ja '40
Oil and gas power; sewage disposal. il Power 84:346-7 Je '40
Power from sludge gas at Albuquerque. W. W. Wheeler. flow diag il Eng N 123:842-3 D 21 '39
Precautions in handling sludge gas. Pub Works 71:18 O '40
Refuse and sewage plant combined for profit. G. O. Consoer and D. W. Townsend. il diag plans Eng N 125:221-4 Ag 15 '40
Sewage gas utilization systems; abstract. L. L. Langford. Water Works & Sewerage 87:238-9 My '40
Sewage treatment byproducts; abstract. M. W. Tatlock. Eng N 125:626 N 7 '40
Sewage treatment coupled with irrigation; Pueblo, Colo. sewage disposal plant. F. W. Veatch. il Eng N 124:25-6 Ja 4 '40
Sludge gas for motor fuel. Eng N 124:44 Ja 4 '40
Utilization of gas from sewage sludge. A. E. Berry. il Can Eng W & S 78:9-10, 40+ F '40

Heating
Heating sludge; abstract. Jenkins. Eng N 125: 176 Ag 1 '40

SEWAGE sludge as fertilizer
Sewage treatment byproducts; abstract. M. W. Tatlock. Eng N 125:626 N 7 '40
Sludge fertilizer; abstract. Temple. Eng N 125:360 S 12 '40
Use of sewage sludge as fertilizer and soil conditioner. L. W. Van Kleeck. il Pub Works 71:20-2 Je '40

SEWAGE tanks
Development of the digestion tank. W. A. Craig. Boston Soc C E J 27:36-41 Ja '40
Scum removal. Eng N 124:398 Mr 14 '40

SEWAGE tanks, Concrete
Forming and concreting sewage tanks. il diags Eng N 125:461-3 O 10 '40

SEWAGE tanks, Steel
Package delivery waste treatment plants; all-steel construction makes for economy and erection simplicity. E. B. Mallory. flow diags il Water Works & Sewerage 87:102-6 Mr '40

SEWAGE works associations, Federation of.
See Federation of sewage works associations

SEWER cleaning
Oak Park sewer and street cleaning. Eng N 125:356 S 12 '40
Sewer maintenance hints. R. S. Nelle. il Eng N 124:396-7 Mr 14 '40
Sewer maintenance; some practices at Rockville Centre, L.I. C. G. Andersen. il diags map Water Works & Sewerage 87:27-32 Ja '40

SEWER design
City's sewage goes to sea. N. A. Bowers. il Eng N 123:689-91, 764-6, 846-8 N 23, D 7, 21 '39
Design details for trickling filter underdrains and ventilation. diags Pub Works 71:17-20 Ag '40
English designs for sewer manholes. diags Pub Works 70:17-18 N '39
Hydraulic model studies solve backwater gate design; Detroit sewage disposal project. G. E. Hubbell. il diags Eng N 124: 645-6 My 9 '40
Laminar flow of sludges in pipes with special reference to sewage sludge. H. E. Babbitt and D. H. Caldwell. il diags Ill U Eng Exp Sta Bul 319:1-58 biblog(p57-8) '39 (pa 65c)
Relief-sewer construction in Ottawa. J. H. Irvine. diags map Can Eng W & S 78:7-10, 12+ Je '40
Runoff coefficients by model tests; useful in design of sewerage systems. I. Gutmann. diags Water Works & Sewerage 86:506-8 D '39
Storage basins as a supplement to storm sewer capacity. J. A. Rousculp. diags Civil Eng 10:715-18 N '40

SEWER gas
Danger ahead! sewage gas hazards. J. S. Wiley. Eng N 125:488-9 O 10 '40
Gas hazards at sewage-treatment plants; committee's instructions; New Jersey sewage works association. Can Eng W & S 78: 73-4, 77-8 Ap '40
Gas hazards; methods of reducing such at sewage treatment plants. Water Works & Sewerage 87:sup155-7 Ap '40
Prevention of explosions in sewerage systems. W. F. M. Bryce. il Can Eng W & S 78:7-8+ F '40
Testing for sewer gas. Eng N 124:800 Je 6 '40

SEWER pipes
City's sewage goes to sea. N. A. Bowers. il Eng N 123:689-91, 764-6, 846-8 N 23, D 7, 21 '39
Designing water, gas and sewerage facilities for low cost housing project in San Antonio. A. Sauer. il diags Pub Works 71: 20-3 S '40
Handy piling method cuts sewer pipe breakage. il Brick & Clay Rec 95:36 D '39
Practices in sewer construction in wet ground. Pub Works 70:32 D '39
Proper sewer jointing. W. A. Goff. Water Works & Sewerage 87:sup134-5 Ap '40
Sewer and drainage pipe of conduit fibre (known as Orangeburg sewer pipe). Water Works & Sewerage 87:sup85 My '40
Unique scheme of floating outfall sewer into position and lowering; spiral paper tubes used on 1,000 ft. of pipe. C. W. Geiger. il Water Works & Sewerage 87:239 My '40

SEWER pipes—*Continued*

Manufacture

Effect of thermal process on physical properties; structural clay products. R. Russell, jr. bibliog il Am Cer Soc Bul 19:1-12 Ja '40

Tables, calculations, etc.

Laminar flow of sludges in pipes with special reference to sewage sludge. H. E. Babbitt and D. H. Caldwell. il diags Ill U Eng Exp Sta Bul 319:1-58 bibliog(p57-8) '39 (pa 65c)

Testing

Measuring flows in Cranford, N.J. T. J. McLaughlin. diag Pub Works 71:41+ Mr '40

Method of testing for infiltration and exfiltration in sewer lines. W. L. Dunn. diag Pub Works 71:40-1 Mr '40

SEWER pipes, Concrete

Laying heavy concrete pipe in a restricted space under a fill. R. V. Terrill. diags Pub Works 71:20 Jl '40

Revamping a 50-year-old sewer system for Decatur, Ill. W. D. P. Warren. il diags Eng N 125:475-6 O 10 '40

SEWER pipes, Vitrified clay

Combine technology and machinery to make better sewer pipe; plant of W. S. Dickey. il Brick & Clay Rec 97:17-20 S '40

Cost data on clay sewers. M. W. Hayes and I. W. Mendelsohn. Eng N 124:391-2 Mr 14 '40

Over 210 miles of clay pipe for special drains on Pennsylvania Turnpike. il Brick & Clay Rec 97:32-3 S '40

SEWER rentals. See Sewerage—Finance

SEWER workers

See also
Sewage disposal plants—Employees

SEWERAGE

Arizona sewage and water works association 14th annual meeting, Tucson, April 19-21. Water Works & Sewerage 87:286-9 Je '40

Arkansas water and sewage conference, 10th, Fayetteville, April 15-17. Water Works & Sewerage 87:290-1 Je '40

Caving sewer trenches whipped by trailer box pulled by trench excavator. diag Eng N 123:705 N 23 '39

Constructing a sewer in tunnel. H. M. Stanley. diag Pub Works 71:15 S '40

Designing and building a new storm sewer in tunnel; Rochester, N.Y. Pub Works 71:14 Ja '40

Federation of sewage works associations 1st annual meeting, Chicago, Oct. 3-5. Water Works & Sewerage 87:461-8, 509-19 O-N '40

History of sanitation in Chicago. R. I. Randolph. maps W Soc E J 44:227-40 O '39

Jacking 72-inch culvert pipe under outfall sewer. R. Shepherd. il diag Am Water Works Assn J 32:414-22 Mr '40

Laying heavy concrete pipe in a restricted space under a fill. R. V. Terrill. diags Pub Works 71:20 Jl '40

Maryland-Delaware water and sewerage association meeting, Salisbury, Md. May 16-17. Water Works & Sewerage 87:276-81 Je '40

New York state sewage works assn. Long Island section quarterly meeting, Dec. 14. Water Works & Sewerage 87:42-4 Ja '40

Our readers want to know; 52 questions on water and sewerage. Pub Works 71:29-30 S '40

Practices in sewer construction in wet ground. Pub Works 70:32 D '39

Relief-sewer construction in Ottawa. J. H. Irvine. diags map Can Eng W & S 78:7-10, 42+ Je '40

Sand hog box speeds sewer in wet sand. il diag Pub Works 70:16+ N '39

Sewerage. W. A. Hardenbergh. $3.50 International textbook co, Scranton, Pa. '39

Sewerage and sewage treatment. H. E. Babbitt. 5th ed 648p bibliog(p601-15) $5 Wiley '40

Sewerage engineering. L. B. Escritt. 241p 25s Contractors record and municipal engineering, London '39

Sewers needn't become clogged; use of stilling basins and suitable manholes. J. H. Stoutenberg. diags Factory Management 98:79 N '40

Storage basins as a supplement to storm sewer capacity. J. A. Rousculp. diags Civil Eng 10:715-18 N '40

War and sewers. Eng N 124:810 Je 6 '40

Water works and sewerage reference and data section. Water Works & Sewerage 87: supl-208 Ap '40

See also

Pipe laying	Sewer design
Plumbing	Sewer pipes
Sanitary engineering	Sewers, Brick
Sewage disposal	Sewers, Concrete
Sewage sludge	Trade waste
Sewer cleaning	Water pollution

also subdivision Sewerage under names of cities, e.g. New York (city)—Sewerage

Bibliography

Sewerage digest. Published in monthly numbers of Public works

Cost

Bulkhead wall and sewers, New York; unit prices. Eng N 125:432 S 26 '40

Contract unit bid prices; list of projects showing how contractors bid in 1939-1940. Eng N 124:sup198-201 Je 20 '40

Cost data on clay sewers. M. W. Hayes and I. W. Mendelsohn. Eng N 124:391-2 Mr 14 '40

Interceptor sewer, Indianapolis; unit prices. Eng N 125:362 S 12 '40

Labor cost in lining a small tunnel with a concrete pump. il diags Concrete 48:3-4 My '40

Los Angeles plans to spend $32,000,000 for handling sewage. map Eng N 124:315-16 F 29 '40

Pollution abatement in New York area; the city itself. R. H. Gould. Civil Eng 10:508-9 Ag '40

Pumping plants, Tell City, Indiana; unit prices. Eng N 124:623 My 2 '40

Sewage plant, water lines, Monahans, Texas; unit prices. Eng N 124:623 My 2 '40

Sewer pipe cost. M. W. Hayes and I. W. Mendelsohn. Eng N 124:930 Je 20 '40

Sewer relocation, California; unit prices. Eng N 123:852 D 21 '39

Sewer submain, Louisville, Kentucky; unit prices. Eng N 125:178 Ag 1 '40

Sewer system, Oakland, California; unit prices. Eng N 123:782 D 7 '39

Sewers, West Warwick, Rhode Island; unit prices. Eng N 123:670 N 16 '39

Finance

Billing for sewage disposal; abstract. H. F. Smith. Eng N 125:627 N 7 '40

Experiences in establishing sewer rental charges. F. O. Wallene. Am Water Works Assn J 31:1964-9 N '39

Joint administration and collection of water and sewer accounts. Am Water Works Assn J 31:1957-63 N '39

Sewer rental financing. W. Storrie. Can Eng W & S 78:46, 48-52, 54-5 Mr '40; Same. Am Water Works Assn J 32:625-40 Ap '40

Inspection

Sewer infiltration and its measurement; symposium. diags Pub Works 71:40-1+ Mr '40

Maintenance and repair

Bentonite stops sewer leakage. E. C. Hallock. Eng N 124:39 Ja 4 '40

Cincinnati boasts two radio equipped sewer service trucks. il Water Works & Sewerage 87:285 Je '40

Dallas now believed to have had earliest radio directed sewer service. il Water Works & Sewerage 87:298 Jl '40

New sewer maintenance truck. E. P. Decher. il Water Works & Sewerage 87:489-91 O '40

Repairing a 48-inch brick sewer. Pub Works 71:36 Ja '40

SEWERAGE—Maintenance and repair—*Cont.*
Revamping a 50-year-old sewer system for Decatur, Ill. W. D. P. Warren. il diags Eng N 125:475-6 O 10 '40
Sewer maintenance hints. R. S. Nelle. il Eng N 124:396-7 Mr 14 '40
Sewer maintenance; some practices at Rockville Centre, L.I. C. G. Andersen. il diags map Water Works & Sewerage 87:27-32 Ja '40

Safety devices and measures
Prevention of explosions in sewerage systems. W. F. M. Bryce. il Can Eng W & S 78:7-8+ F '40

Canada
Sewage disposal in Canada. A. E. Perry. il Can Eng W & S 78:14-15, 46-50 Ja '40
Sewage-disposal plants by provinces. Can Eng W & S 78:21-3 Ag '40
Sewers in Canada. Can Eng W & S 78:24 Ag '40

Chile
Water and sewage works in Chile. L. Lira. Am Water Works Assn J 31:1949-53; Discussion. C. R. Cox. 1953-6 N '39

Colorado
Law on water and sewerage districts. W. B. Cheek. Am Water Works Assn J 32:62-4 Ja '40

Great Britain
War measures in protecting Britain's water and sewerage services. J. S. Trevor. il Water Works & Sewerage 87:256-9 Je '40

Michigan
Treatment and control of industrial wastes; problems along U.S.-Canada boundary. M. P. Adams. il diag Can Eng W & S 78:50, 53-4+ O '40

New Jersey
Pointers on sewage disposal service; Joint Meeting in Essex and Union counties. P. A. Smith. il Eng N 124:389-91 Mr 14 '40
Selecting the sewage-treatment process. A. Potter and M. H. Klegerman. flow diag il Can Eng W & S 78:14-16, 47-9 F '40
Twenty five years of progress in sanitation; abstract. C. Potts. Water Works & Sewerage 87:162 Ap '40

New York (state)
Pollution abatement in New York area; Westchester and Long Island. J. L. Barron. il maps Civil Eng 10:441-4 Jl '40

Ohio
Possible use of Ohio conservancy act for developing and operating water and sewerage facilities in metropolitan areas. F. H. Waring. Am Water Works Assn J 32:570-5 Ap '40

Ontario
Ontario sewerage plans for 1940. A. E. Berry. Can Eng 77:7-8 N 14 '39
Ontario's 1939 activities in waterworks and sewerage. A. E. Berry. Can Eng W & S 78:20+ My '40

West Virginia
Ohio River pollution survey's relation to stream pollution problems in West Virginia. E. S. Tisdale. map Am Water Works Assn J 32:545-54 Ap '40

SEWERS, Brick
Repairing a 48-inch brick sewer. Pub Works 71:36 Ja '40
Simplified stress analysis of three-ring brick sewers. G. I. Sawyer. diags Civil Eng 10: 720-2 N '40

SEWERS, Concrete
Building a big sewer in bad ground; compressed air tunneling methods; Memphis, Tenn. W. B. Fowler. il diags map Eng N 124:720-3 My 23 '40
Labor cost in lining a small tunnel with a concrete pump. il diags Concrete 48:3-4 My '40
Problems in designing and building a reinforced concrete drain, Princeton, N.J. I. R. Riker. Pub Works 71:13-14 Ag '40
Revamping a 50-year-old sewer system for Decatur, Ill. W. D. P. Warren. il diags Eng N 125:475-6 O 10 '40

SEWING machines
Cleaning the sewing machine. diag Consumers' Research Bul (Gen bul ser) 9:8-11 Ap '40

Manufacture
Sewing machine parts; special trucks and moveable floor racks facilitate handling; White sewing machine co. il Steel 107:66, 68+ S 2 '40

SEWING machines, Portable
Magnesium for lightness. C. E. Colegrove. il diag Product Eng 11:116-17 Mr '40

SEX (biology)
Divergent pathways in sexual development. W. R. Coe. Science 91:177-82 F 23 '40
Uber die betruchtungsstoffe und geschlechtsbestimmenden stoffe. R. Kuhn. bibliog il Angew Chemie 53:1-6 Ja 6 '40

SEX differences
Comparative temperature reactions of men and women. Refrig Eng 40:214-15 O '40
Difference between men and women in their response to heat and cold; abstract. E. F. DuBois and J. D. Hardy. Science 91:421-2 My 3 '40

SEXTANTS
Correction table for the effect of Coriolis acceleration on bubble sextant altitudes. J. Q. Stewart. R Sci Instr 11:310-11 O '40
Earth's rotational effect on the bubble sextant. P. V. H. Weems and T. L. Thurlow. diags Aero Digest 37:54+ N '40

SEYCHELLES
In the wake of a traveling engineer. J. C. Cosgrove. Explosives Eng 17:340 N '39

SHADE cloth. See Window shades

SHADING of maps. See Maps—Shading

SHADOW pictures
Shadowgraph recording of avena coleoptile curvatures. H. G. Albaum and S. Kaiser. diag Science 92:114 Ag 2 '40

SHAFFER, Clem
Wooden wonderland; animals from twisted trees; hobby of C. Shaffer. J. Kirby. Comp Air M 45:6238-9 S '40

SHAFT sinking
Construction and equipment of no. 5 shaft at Lake Shore mine, limited; with cost data. J. C. Adamson. il diags Can Min J 61:10-14 Ja '40
Hazleton shaft deepened. R. D. Hall. diags Coal Age 45:37-9 Mr '40
Metal mining practice over sixty years. C. F. Jackson. diags Can Min J 60:680-1 N '39
Mono Craters tunnel construction problems. H. L. Jacques. diags Am Water Works Assn J 32:47-9 Ja '40
Mono Craters tunnel project; pumping and related equipment used. S. M. Dunn. Am Water Works Assn J 32:1245-7 Ag '40
Parallel electric blasting circuits in shafts and tunnels. D. P. Ryan. il diags Explosives Eng 18:230-3 Ag '40
Shaft sinking in quicksand; safe procedure. E. S. Tillinghast. il Eng & Min J 141: 37-9 My '40
Shaft sinking through overburden at Lapa Cadillac. D. H. Sharp. il plans Can Min J 61:287-91 My '40

See also
Drilling and boring (earth and rocks)
Mine shafts

SHAFTING
Carlyle Johnson friction clutches for line shafting. diags Engineering 150:286-7 O 11 '40
Eliminating shaft deflection. W. F. Schaphorst. diag Water Works & Sewerage 86: 426 N '39
How to measure bearing clearance without a micrometer. W. F. Schaphorst. diag Paper Ind 22:562 S '40

SHAFTING—*Continued*
Lining-up shafting; simple devices made in mill shop aid accurate alignment of bearings. C. L. Hubbard. diags Textile World 90:66-7 Mr '40

See also
Belting
Power transmission
Pulleys

SHAFTS
Large hydro-generator shaft repaired in place. W. H. Mitchell. il diags Power 84:416-17 Jl '40
Link mechanism for increasing angular movement of shaft. J. L. Helminen. diag Mach 46:151 Ja '40
Making meter shafts; Westinghouse electric & mfg. co. U. Jelinek. il diag Steel 105: 40-1 D 11 '39
Mechanism for increasing angular movement of shaft. M. Jacker. diag Mach 46:103 My '40
Repair generator shaft in place. J. H. Siegfried. il Elec W 113:1208-9 Ap 20 '40
Stuffing boxes. A. Brothman. diags Product Eng 11:417-19, 520-2 S, N '40
Two-way stop for angular movement of shaft. J. L. Helminen. diag Mach 46:104 My '40
Vertical shaft design with calculations for high speed rotor effects. A. Brothman. diags Product Eng 11:159-62 Ap '40

See also
Crankshafts

SHAFTS, Mine. See Mine shafts

SHAKESPEARE, William
Identifying Shakespeare; infra-red photography and X ray study of portraits believed to be Edward de Vere, 17th earl of Oxford. C. W. Barrell. il pors Sci Am 162: 4-8+ Ja '40; Discussion (Who was Shakespeare?) 162:264+ My '40

SHAKING apparatus
Magnetic shaking device. S. Kiyomizu. diag Ind & Eng Chem Anal ed 12:174 Mr 15 '40

SHALE
Field tests of a shale foundation; Possum Kingdom dam. A. E. Niederhoff. il diags Am Soc C E Proc 65:1239-54 S '39; Discussion. 66:117-20, 321-2, 1217-24 Ja-F, Je '40
Geological problems of dams. I. B. Crosby. Am Soc C E Proc 66:877-81 My '40
Influence of cement and aggregate on concrete expansion; destructive action between alkali, chert and shale. T. E. Stanton, jr. il Eng N 124:171-3 F 1 '40
Shales and surface clays of Ohio. R. E. Lamborn, C. R. Austin and D. Schaaf. il fold maps 281p Geol Survey of Ohio, Columbus '39

See also
Oil shales

SHALE oil. See Oil shales

SHAMPOOS
Sulphonated oils and fatty alcohols; castor and olive oils in shampoos, disinfectants, etc. G. S. Collingridge. Chem Age (Lond) 42:17-19 Ja 13 '40

SHANGHAI
Business revival. Economist 138:101 Ja 20 '40
Port of Shanghai. il (cover) Comm Rep p230 Mr 9 '40

Sewerage
War and sewage treatment; Shanghai public works report for 1939; abstract. Abbott. Eng N 125:176 Ag 1 '40

SHAPERS
Cincinnati rapid-traverse shapers with improved features. il Mach 46:178 Ap '40
Gun barrel spline shaping machine. il Engineer 170:224 O 4 '40
Recent developments in the use of hydraulic power. H. C. Town. diags Inst Mech Eng J & Proc 143:Proc 137-9 My '40
Slotting rod bushings on a shaper. diags Ry Mech Eng 114:202 My '40

SHARE-expense travel. See Automobile touring—Share-expense travel

SHARE the work plans. See Part-time employment

SHAREHOLDERS. See Stockholders

SHARKS
Tiger shark and a basking shark rammed by steamers. E. W. Gudger. Science 91:356-7 Ap 12 '40

SHARON steel corporation
Volatile low priced equities; thumbnail appraisal. Mag of Wall St 65:689 Mr 9 '40

SHARP, Clayton Halsey, 1869-
United States national committee of IEC names C. H. Sharp honorary chairman. H. S. Osborne. por Ind Stand 11:66-7 Mr '40

SHARPENING
Barber-Colman automatic hob-sharpening machine. il Mach 46:175 Ap '40; Am Mach 84: 221 Ap 3 '40; Automotive Ind 82:280-1 Mr 15 '40; Automobile Eng 30:125-6 Ap '40
Covel-Hanchett precision saw-sharpening machine. il Mach 46:154 Je '40
Drill points for deep-hole drilling. F. O. Hoagland. il diags Mach 47:120-1 O '40
For tool grinding only; Packard motor car company's new centralized department. il layout Am Mach 84:238-9 Ap 17 '40
Pratt & Whitney deep-hole drill sharpener. il Mach 46:215 Jl '40; Steel 107:70 Jl 15 '40
Regrinding machine knives. A. Rousseau. il Pulp & Pa of Can 41:476-7 Je '40
Rogers CC-3 circular knife grinder. il Paper Tr J 109:56 N 30 '39
Seybold precision shear knife grinder sharpens most kinds of straight knives. il Am Mach 84:592 Ag 7 '40
Tap sharpening fixtures. M. H. Ball. diags Am Mach 84:384 My 29 '40

See also
Milling cutters—Sharpening

SHASTA dam. See Dams, Concrete

SHATTUCK, Lemuel
Lemuel Shattuck statist, founder of the American statistical association. W. F. Willcox. Am Statis Assn J 35:224-35 pt 2 Mr '40

SHAVING cream

Advertising
Burma Shave; roadside jingles help bring a shave cream yearly sales increases since their debut. il Adv & Sell 33:33 Ja '40

SHAW, Edmund, 1870-1939
Sketch. N. C. Rockwood. por Rock Prod 43: 113 Ja '40

SHEARS (machines)
Cincinnati 16-ft. all steel shear. il Am Mach 81:477 Je 26 '40
Edwards rotary shearing machine for sheet metals. il Engineering 148:543 N 10 '39
Niagara power squaring shears. il Mach 46: 148 Mr '40; Am Mach 84:222-3 Ap 3 '40; Automotive Ind 82:329 Ap 1 '40
Square shear has conveyor and stop; production of laminations for armatures and fields of electric motors. J. I. Karash. il Am Mach 84:91-2 F 21 '40

SHEAVE wheels
Arc of belt contact on any small pulley or sheave. Can Min J 61:149 Mr '40
Borehole cable suspended from large sheave; Cannelton coal & coke co. J. F. Dangerfield. il Coal Age 45:40-1 N '40
Changes for API specifications on V-belts and sheaves proposed at Fort Worth, May 1940. Am Pet Inst Proc 21M(4):154-63 My '40
Drum and sheave design; effect of diameter ratio factors on life of wire ropes. F. L. Spangler. Product Eng 11:13-15 Ja '40
Flame-hardening of sheaves. W. L. Nelson. diags Oil & Gas J 39:71 S 26 '40
Hard sheaves increase wire-rope service. il Coal Age 45:68+ Ja '40
Sheave design and wire rope economy. F. L. Spangler. il Eng N 124:15-18 Ja 4 '40

SHEEP
Synthesis of nicotinic acid in the body of sheep. A. H. Winegar, P. B. Pearson and H. Schmidt. Science 91:508-9 My 24 '40

See also
Wool

SHEEPSKIN
Tanning sheepskins for meter diaphragms. S. McIntire. Gas Age 85:27-8 F 1 '40

SHEET iron
Continuous sheets of malleable iron and steel direct from fluid metal. H. Bessemer. il Iron Age 145:48-50 Ap 11 '40
Corrugated iron porcelain enameled. il Iron Age 146:62 N 14 '40
New departure in barges; lap-welded iron sheeting over decks. il Steel 106:62 Ja 15 '40

See also
Sheet steel

SHEET metal
Continuous casting; Hazelett machine. T. W. Lippert. il diags Iron Age 145:44-7 Ap 11 '40
Guyer sheet gauger; mechanical micrometer. il Blast F & Steel Pl 27:1263 D '39
Platinum-clad metals for sheet, screen, tubing and wire. F. E. Carter. il Steel 106:54-5+ Mr 18 '40
Prefinished metals find many applications. H. W. Lancaster. il Metal Ind 38:252-4 My '40

See also
Sheet iron
Sheet steel
Tin plate

Testing
Deep drawing tests for sheet metal. H. S. Swift. diag Iron Age 145:42-5 Je 6; 34-7 Je 13 '40

SHEET metal, Corrugated
Corrugated panels under combined compression and shear load. P. A. Sanderson and J. R. Fischel. bibliog il diag J Aeronautical Sci 7:148-53 F '40
Rolling corrugated sheet. il diags Aero Digest 37:88, 91 Jl '40
Stainless steel in aircraft fabrication. H. W. Perry. il diags Steel 107:72, 75 Ag 5 '40

SHEET metal, Enameled
Architectural porcelain enamel; Chicago vitreous enamel product co. reception room. il Iron Age 145:49 Ap 25 '40
Chemistry and vitreous enamels. E. P. Poste. bibliog il Ind & Eng Chem 32:9-15 Ja '40
Corrugated iron porcelain enameled. il Iron Age 146:62 N 14 '40
Effect of enamel on the strength of enameling iron. A. I. Andrews and E. W. Dietterle. Am Cer Soc J 23:29-32 Ja '40
Improved porcelain enamel panel finish for interiors. il Am Bld 62:74 Jl '40
New Pennsylvania Turnpike; enameled sheet steel toll ticket stations. T. C. Campbell il Iron Age 146:70-1 S 5 '40
Porcelain enamel finish on Turnpike stations Steel 107:33 S 2 '40
Porcelain enamel in the architectural field; abstract. L. A. Estes. Steel 105:30 N 20 '39
Porcelain enamel installation of gutters and downspouts. il Sheet Metal Worker 31:66 Ag '40
Porcelain enameled business façades. il Steel 105:58 D 18 '39
Porcelain enameled factory building; Ferro enamel corp. il Iron Age 144:44 D 7 '39
Porcelain enameled roof; plant of Ferro enamel corp. il diags Steel 106:54 F 5 '40
Refractory radiant tubes; fuel fired furnace with recuperator type heat exchanger and silicon carbide radiant tubes used for enameling. W. F. Ross. il Iron Age 146:42-4 S 12 '40
Welding fabrications for porcelain enamel finishes. il Steel 107:64, 66, 68-9+ S 23 '40
Welding for enameling; tanks and tubs for household washing machines. J. C. Lewis. il Steel 106:68, 71+ Je 17 '40

SHEET metal buildings
Le Tourneau builds frameless cellular shop. L. Hyler. il diags Eng N 125:458-60 O 10 '40
Light load bearing structures feature speed welding; industrial project of R. G. Le Tourneau, inc. at Toccoa, Ga. il Am Bld 62: 68-9 O '40
New form of steel building. plan Engineer 169:502-3 My 31 '40
Pre-fabricated buildings; 20 panel-type utility structures and buildings at Irvin works of Carnegie-Illinois steel corp. il Steel 106:44-5 Ja 15 '40
Shop-built all-steel utility buildings at new Irwin works of Carnegie-Illinois steel corporation, Pittsburgh. il diags Am Bld 62:64-5+ My '40
Why not sell portable steel buildings and steel ceilings? Lutters' portable garage co. il Sheet Metal Worker 31:27-8 Ap '40

SHEET metal handling
Conveyor-baking setup; fabrication of sheet-metal furnace and air-conditioning cases; Forest City foundries co. W. L. Seelbach. il plan Steel 107:52+ Jl 22 '40
Conveyor tables; for continuous furnace doing both normalizing and annealing; Irvin works, Carnegie-Illinois steel corp. il Steel 107:56+ Ag 26 '40
Cullen-Friestedt sheet lifter. il Blast F & Steel Pl 28:286 Mr '40
Flash baking oven; making electric motor laminations; synchronized sheet slitter, varnish applicator and conveyorized flash-baking oven at Reliance electric & engineering co. K. H. Meyer. il diag Steel 105:54+ D 4 '39
Handling in press work; Reliance electric & engineering co. il Steel 106:66+ My 27 '40; Iron Age 145:33 Je 13 '40
Meter manufacture; Sangamo electric co. G. Ralph. il Steel 106:64+ Je 24 '40
Principles of sheet metal jigging. il diags Sheet Metal Worker 31:27-9 F '40
Special handler speeds loading of steel sheets. E. H. Trick. il Factory Management 98:67-8 S '10
Stamping plant; power truck increases production; Strong mfg. co. W. U. Pfaeffli. il Steel 105:54, 56+ D 18 '39
Straight-line sheet galvanizing; Wheeling steel corp. D. A. McArthur and R. A. Geuder. il plans Iron Age 145:38-41 Ap 11 '40

SHEET metal houses

See also
Steel houses

SHEET metal, roofing, heating and air conditioning contractors national association
Proposed code of regulations and by-laws. Sheet Metal Worker 31:133-4 Ja '40

SHEET metal shops
From the ore dock through the press shop at Dearborn. J. Geschelin. il Automotive Ind 83:478-82 N 1 '40
Metal man an effective advertiser; stovepipe man stands in front of showrooms of Nielsen heating co. il Sheet Metal Worker 30:54 D '39
Mickley adds a manufacturing unit to make candy counter display cases. il Sheet Metal Worker 31:49-50+ Ja '40
Shop handling out-of-the-general run work; J. & W. Schiering. il layout Sheet Metal Worker 31:65-6+ Ja '40
Shop with a modernistic touch in prominent location; with layout plans; Virginia roofing and sheet metal co. il Sheet Metal Worker 31:29-31 S '40
What it takes to operate a business at a profit; Charles DeMuth & sons. il Sheet Metal Worker 31:104, 106+ Ja '40
What to do with orders for smoking opium tin. T. J. Gorman. il Sheet Metal Worker 31:37-8 S '40

Costs
Study of overhead of twenty-five shops. J. E. Davis. Sheet Metal Worker 31:26 Jl '40; Discussion. 31:26+ Ag '40

SHEET metal shops—*Continued*

Equipment

Combination work bench and sheet rack. F. W. Klay. il diags Sheet Metal Worker 30:22+ N '39

Directory section; containing names and addresses of manufacturers of equipment and products used in warm air heating, air conditioning, ventilation and sheet metal work. Sheet Metal Worker 31:157-75 Ja '40

Equipping a cartridge case shop. E. C. Bomar. il Iron Age 146:42-52 O 10 '40

Stamping plant; power truck increases production; Strong mfg. co. W. U. Pfaeffil. il Steel 105:54, 56+ D 18 '39

Stepping up shop output with power machinery; P. Feiner & sons. il Sheet Metal Worker 31:27-8+ My '40

See also
Sheet metal handling

Lighting

Lighting the sheet metal shop. G. J. Taylor. il Sheet Metal Worker 31:24-6 O '40

Management

Adding to business with sheet metal specialties; lighting fixtures and radiator covers; Residential conditioners, inc. il Sheet Metal Worker 31:27-8 Ag '40

These management methods helped Brewster aeronautical corporation turn the corner. E. Clifford. il Am Business 10:20-2 F '40

Records

Using records to catch the time jokers in estimating. Sheet Metal Worker 31:36-8 Mr; 29-31 Ap '40

SHEET metal trade

Buying and business guide; for the heating, air conditioning, sheet metal, and roofing industry. B. Crawford, comp. 1940 Central states ed 136p Etta Cohn, 105 W. Monroe st, Chicago '40

New York state sheet metal, roofing and air conditioning contractors association 17th annual convention, Utica, March 26-28. Sheet Metal Worker 31:66-7+ Ap '40

Opportunities for sheet metal men to increase their business. C. Balsam. il Sheet Metal Worker 31:89-90+ Ja; 46, 48+ F '40

Reeder's forty-second anniversary. il Sheet Metal Worker 31:59-60 Ja '40

Sell 'em what they want to buy; experience of the Turner-Harrison co. il Sheet Metal Worker 30:52+ D '39

Sheet metal and roofing contractors association of Pennsylvania annual meeting, Harrisburg, June 13-14. Sheet Metal Worker 31:67-8 Jl '40

Sheet metal contractors' association of Illinois annual meeting, Peoria, Jan. 17-18. Sheet Metal Worker 31:61-2 F '40

See also Sheet metal, roofing, heating and air conditioning contractors national association

SHEET metal work

Air-conditioning new 28-story office building; Metropolitan life insurance co. il diag Sheet Metal Worker 31:44, 46+ O '40

Arc welding sheet metal. G. G. Landis. il Sheet Metal Worker 31:39-40 S; 27+ O; 31-2 N; 18 D '40; 32:63+ Ja '41

Atomic welding; high strength joints produced between aluminum and aluminum alloys or between ferrous metals; Colaweld process. J. Steel. Steel 106:66+ Ja 15 '40

Aviation's rubber stamp; use of rubber pad in press operations; Guerin process. H. E. Guerin. il Am Mach 84:206-8, 246-8 Ap 3-17 '40

Box-section in one stroke. L. Kasper. diags Am Mach 84:866 O 30 '40

Brake fabrication without reverse bending. il Iron Age 145:50 My 2 '40; Steel 106:66 Je 10 '40

Christmas tree metal stand. G. H. Klay. diags Sheet Metal Worker 31:35 Ag '40

Dividing circle and making hand holes in ducts. F. W. Klay. diags Sheet Metal Worker 31:37 My '40

Drawing of aluminum. L. J. Weber and J. T. Weinzierl. il diags Am Soc for Metals Trans 27:1052-71 D '39

Extruding holes; sheet steel motor conduit base; Reliance electric & engineering co. il diags Steel 106:48-9 Ja 15 '40

Fabricating presteel aluminum alloy propeller hub domes; Worcester pressed steel co. H. T. Burke and C. C. Higgins. il Aero Digest 36:87+ My '40

Features of ventilation in a new court house; Nassau County court house, Mineola, L.I. il diags Sheet Metal Worker 30:23-6+ N '39

Flaming the fans; fans for portable tools assembled by bronze welding. J. E. Taylor. il diags Am Mach 83:1030-1 D 13 '39

Hemming dies for folding over edge of metal to form reinforcement. C. R. Cory. diags Mach 46:98-9 My '40

Low temperature joining of sheet metal: Colaweld atomic welding paste and Meltomatic paste solder. il Iron Age 145:31 Ja 11 '40

Magnesium-base alloys; sheet working methods. diag Am Mach 84:299-300 My 1 '40

Making meter parts; Sangamo electric mfg. co. G. Ralph. il Steel 106:64-5 Je 17; 64+ Je 24 '40

Metal lining a large concrete sunken tank. il diags Sheet Metal Worker 31:27-30 Jl '40

Mickley adds a manufacturing unit to make candy counter display cases. il Sheet Metal Worker 31:49-50+ Ja '40

Narrow slots with a punch; handle for the cake tray. M. Golden. il diags Am Mach 84: 18-19 Ja 10 '40

New opportunities for the sheet metal contractor; design and construction of spray painting tables, benches and booths. R. L. Grayford. il diags Sheet Metal Worker 31: 31-2+ Jl; 24-5+ Ag; 35-6 S; 28-30 O; 33-4 N '40

No dies for flat work; contour-sawing process is a technique of making sheet-metal parts formerly stamped with dies. G. A. Heinemann. il Am Mach 84:15 Ja 10 '40

Oil-soaked brown wrapping paper kept sheet steel from breaking; making oil pans for motor truck. Sheet Metal Worker 31:31+ S '40

Ordinance creating demand for cooling towers. il diags Sheet Metal Worker 31:54, 56+ S '40

Plane parts from strip stock; Consolidated aircraft corporation. L. Boeing. il Am Mach 84:462-4 Je 26 '40

Poultry mash hopper. F. W. Klay. il diags Sheet Metal Worker 31:65 O '40

Principles of sheet metal jigging. il diags Sheet Metal Worker 31:27-9 F '40

Producing aircraft stampings in the Douglas plant. H. Chase. il Metals & Alloys 12:436-41 O '40

Rubber slabs speed aircraft production; Guerin process. il India Rubber W 103: 40+ O '40

Rust proofing and finishing of unit heater casings and convector enclosures. C. T. Perkins. il Metal Ind 37:602-4 D '39

Sheet metal boat. T. C. Sheperdson. il Sheet Metal Worker 31:58 Ja '40

Sheet-metal operations in an airplane plant. il Mach 46:240-2 D '39

Sheet shapes for aircraft; multiple profiling; Lockheed aircraft corp. L. H. Biehler. il Am Mach 84:926-9 N 13 '40

Something new in duct connections. diag Sheet Metal Worker 31:44 Jl '40

Stamping; developments in 1939. Steel 106: 214+ Ja 1 '40

Strain-bearing panel system; Permagrip fastening method of making stressed-skin structures applicable to auto, truck and railroad car bodies, etc. E. Schaefer. diags Steel 106:52, 54+ F 26 '40

Structural details of galvanized iron sink; diagrams. V. A. Puccio. Sheet Metal Worker 31:26 Ap '40

They stand on their own feet; jigs used in making Harlow all-metal plane. F. A. Hoffman. il Aviation 39:36-7, 90 Ja '40

SHEET metal work—*Continued*
Tips on sheet metal welding. il diags Bus Transportation 19:83-4 F '40
Unique football utility cart. il Sheet Metal Worker 31:29 Je '40
Unique practices in producing Oldsmobile front fenders. C. O. Herb. il Mach 46:83-8 Ag '40
Unusual jobs that taxed contractor's ingenuity. il diags plans Sheet Metal Worker 31:64, 66, 68 S '40
Unusual product of a sheet metal shop; fountain. il Sheet Metal Worker 31:58 My '40
Use of rubber for producing sheet metal parts. C. J. Frey and S. S. Kogut. il diags Aero Digest 37:129-30, 133-4 N '40 (to be cont)
Use of the hydraulic press. H. O. Thweatt. il Aero Digest 36:36-7+ Ja '40
Welding magnesium alloy sheets. diags Iron Age 145:48-9 Ja 18 '40
Wings of metal. J. La Rue. il Am Mach 83: 1028-9 D 13 '39
Wire stitching of steel sheets. il Iron Age 145:55 My 9 '40
Wire stitching steel. Mech Eng 62:404-5 My '40
Working of carbon sheet steel; classification, surface treatment, polishing, welding, cold working machinery, etc. Am Mach 84: 825-7 O 16 '40

See also
Air conditioning equipment
Air pipes
Copperwork
Exhaust systems
Pipe elbows
Pipes
Press tools
Presses
Rolling (metal-work)
Rolling mills
Sheet metal, Enameled
Sheet steel
Shells (metal work)
Stamping
Tin cans
Tin plate
Tubes
Ventilators
Water tanks

Estimates
Using records to catch the time jokers in estimating. Sheet Metal Worker 31:36-8 Mr; 29-31 Ap '40

Pattern making
Developing patterns for multiple piece elbows with any throat radius. R. M. Harding. diag Sheet Metal Worker 31:26 Je '40
Laying out rectangular ducts and fittings (cont). O. W. Kothe. diags Sheet Metal Worker 30:25-7+ D '39; 31:110+ Ja; 30-2 F; 33-5 Mr; 25-6 Ap; 30-2 Je; 33-4+ Jl; 37-8 Ag; 41-2 S; 31+ O; 26-7 N; 20-1 D '40 (to be cont)
Pattern for an unusual conductor pipe elbow. J. H. Teschmacher. il diags Sheet Metal Worker 31:32-4 My '40
Poultry shell and grit hopper. F. W. Klay. diags Sheet Metal Worker 31:68 Jl '40

Study and teaching
Faust aircraft sheet metal training school. il Sheet Metal Worker 31:33+ Ag '40
Innovations in students' tests. diag Sheet Metal Worker 31:35+ Je '40
Teachers' examinations for license. Sheet Metal Worker 30:28 S '39; Answers to examination questions. 30:27-8+ N; 29-30 D '39; 31:74 Ja '40
Trade school stock and tool room. G. H. Klay. plan Sheet Metal Worker 31:32 Je '40

Tables, calculations, etc.
Cartridge case technique. S. D. Brootzkoos. diags Am Mach 84:46-9 F 7 '40
Estimating weight of sheetmetal ductwork. H. M. Hendrickson. diags Refrig Eng 39: 230-1+ Ap '40
Pressures and blanks for press work; reference book sheets. diags Am Mach 84:933, 935 N 13 '40

SHEET metal work, Architectural
Monel metal to solve corrosion problems in park shelters. il Sheet Metal Worker 31: 20-1 F '40
New era in metal cornice. N. W. Brownyard. il diags Sheet Metal Worker 31:22-3+ Ap '40
Porcelain enamel installation of gutters and downspouts. il Sheet Metal Worker 31:66 Ag '40
Porcelain enameled factory building; Ferro enamel corp. il Iron Age 144:44 D 7 '39
Sheet metal work in glass block installations. il Sheet Metal Worker 31:25+ Jl '40
Sheet metal worker's catechism (cont). W. Neubecker. diags Sheet Metal Worker 30: 28+ D '39; 31:33+ F; 33-4 Je; 36 Ag; 35-6 O '40 (to be cont)

See also
Steel houses

SHEET metal work, Artistic
Embossing and forming coiled metal strip stock by rolling; candy dish. M. J. Goldstein. il diags Mach 47:106-8 S '40

SHEET metal work, Decorative
Light-gage stainless steel used in ornamental eagle for top of Landplane administration building, North Beach airport. il Steel 105: 52 D 18 '39

SHEET metal working machinery
Aircraft machine tools at the Northrop plant. R. R. Nolan. il Aero Digest 37:84, 87+ S '40
Automatic sheet-metal riveting machine operated by compressed air. P. Grodzinski. diag Mach 46:253-4 D '39
Bending press dies for airplane manufacture. C. J. Bath. il diags Mach 47:152-5 N '40
Boeing specializes on four-engine planes. C. O. Herb. il Mach 46:158-63 Jl '40
Douglas builds the world's largest airplane. G. A. Strompl. il Mach 46:146-51 Jl '40
Kontinuierliches warmrichten von blechen und warmblechrichtmaschinen. P. Peffer. il diags Stahl & Eisen 60:48-52 Ja 18 '40
Lock forming machines and duct work. G. C. Burr. il diags Sheet Metal Worker 30:50+ N '39
Lockheed builds planes for commerce and defense. J. H. Sreenan. il Mach 46:140-5 Jl; 117-19 O '40
Modern shop equipment builds our mechanized ordnance. N. F. Ramsey. il Mach 46:238-9 D '39
Press brakes in mass production in an English plant; filing cabinets. il diags Mach 47:149 S '40
Shapes for sky ships; press brakes. il diags Steel 107:64-5 O 28 '40
What's new in press brakes and presses. F. J. Oliver. il Iron Age 146:43-6 Jl 25 '40

See also
Presses
Shears (machines)

SHEET mills. See Rolling mills

SHEET piling
Chicago River control works. H. P. Ramey. il diags map Am Soc C E Proc 66:71-103 Ja '40; Discussion. 66:1161-83 Je '40
New pier design for deep overburden; Missouri River bridge at Brownville, Neb. E. E. Howard. il diags Eng N 123:687-8 N 23 '39
Shaft sinking through overburden at Lapa Cadillac. D. H. Sharp. il plans Can Min J 61:287-91 My '40
Something new in bulkhead anchorages; sheetpile bulkhead along rectified Cuyahoga River channel. G. B. Sowers. il diags Eng N 125:355-6 S 12 '40
Steel sheet pile wharf at Rimouski, Quebec. J. P. Carriere. il diags Civil Eng 9:707-10 D '39; Discussion. 10:173-4 Mr '40
Submerged barriers for shore protection; lake frontage, Chicago. E. E. R. Tratman. diags map Engineer 169:226-8 Mr 8 '40
Substructure for long bridge built in fast time; Jamestown bridge over Narragansett bay. il diag Eng N 124:181-3 F 1 '40
Underwater seawall widens Chicago beach; jetties on Lincoln Park lakefront connected by sheetpile wall to form pockets for sandfill. plan Eng N 123:762-3 D 7 '39

SHEET steel
Annealing of sheet; as it was in 1915 and as it is in 1940. E. G. deCoriolis. Metal Prog 37:306 Mr '40

SHEET steel—*Continued*
Bonderizing sheets to hold paint. il Sheet Metal Worker 31:32-4 S '40
Continuous sheets of malleable iron and steel direct from fluid metal. H. Bessomer. il Iron Age 145:48-50 Ap 11 '40
Control of sulphur in basic open hearth. T. L. Joseph and F. W. Scott. il diag Iron Age 144:34-7 N 23; 30-4 N 30 '39
Experiments in rolling fluid steel. E. Norton. Iron Age 145:50-1 Ap 11 '40
General Electric gauges for the steel plant. Min & Met 21:526 N '40
Die herstellung von kupfer- und tombakplattierten tiefziehstahl-blechen und ihre verarbeitung. C. Rademacher. diags Stahl & Eisen 59:1379-82 D 28 '39
Hot rolled, cold rolled and galvanized sheets, Pittsburgh, prices, 1929-1939; tabulation. Steel 106:289 Ja 1 '40
How to anneal for superior drawing qualities. J. N. Cromble. il diag Steel 106:44-7 Mr 18 '40
Improving drawability of steel by controlling nitrogen. C. L. Altenburger. Metal Prog 37:639-43 Je '40
New structural system; Lindsay structure employing sheet steel as strain-bearing structural member. il diags Steel 106:50,-52+ Mr 4 '40
Oil-soaked brown wrapping paper kept sheet steel from breaking; making oil pans for motor truck. Sheet Metal Worker 31:31+ S '40
Producing steel to meet physical test requirements. C. H. Herty, jr. Iron Age 145: 54+ My 23 '40
Rolling of sheet and strip. G. Sachs. bibliog il diags Iron Age 145:25-7+ Mr 28; 48-51 Ap 4 '40
Rotational and alternating hysteresis losses in electrical sheet steel. L. P. Tarasov. Phys R 56:1170 D 1 '39
Sheet steel. R. S. Burns. Metal Prog 38: 377+ O '40
Stainless steel hangars at Municipal airport, Flushing, Long Island. il diags Sheet Metal Worker 31:32-4 O '40
Stamping; developments in 1939. Steel 106: 214+ Ja 1 '40
Steel sheets a structural material; Lindsay structure. il Iron Age 145:39 Mr 21 '40
Steel switchgear. L. F. Dytrt. il Steel 106: 52-3+ My 27 '40
Stripsheet annealing. il Steel 106:48-9+ Ap 15 '40
Surface quality; rolled steel surface dependent upon mold-wall surface. T. J. Woods. Iron Age 145:37-9 F 22 '40
Surface treatment of steel prior to painting. R. E. Pollard and W. C. Porter. il Metal Finishing 38:514-18, 569-71, 620-1 S-N '40; Excerpts. Iron Age 146:48-9 Jl 11 '40
Working of carbon sheet steel; classification, surface treatment, polishing, welding, cold working machinery, etc. Am Mach 84:825-7 O 16 '40

See also
Containers, Steel
Rolling (metal work)
Steel, Automobile
Steel, Strip
Steel plates
Tanks, Steel

Bibliography
Bibliography on the production of steel sheets and strip; compiled by the Sheffield city libraries. Blast F & Steel Pl 28:828-9, 922-3, 1020-1 Ag-O '40

Testing
Residual tin in steel. P. J. McKimm. Steel 106:64, 67-8 My 6; 60, 64, 69 My 13 '40

SHEETS
New sheeting finish with alkali-soluble cellulose ethers is permanent after repeated launderings; Ceglin. M. A. Golrick, jr. il diags Textile World 90:55-7 Mr '40

SHEFFIELD university
Department of glass technology
Department of glass technology. il Am Cer Soc Bul 18:442-8 N '39

SHELL oil company
Shell specialties are now one big family. C. J. Cunneen. il Chem Ind 47:414-15 O '40
Shell's moving day. Ptr Ink 192:18 Ag 30 '40

SHELL transport and trading company
Profits, 1937-39 and annual general meeting. Economist 139:18-19, 58 Jl 6-13 '40

SHELL union oil corporation
Earnings, 1936-39. Comm & Fin Chr 150:2268 Ap 6 '40
Statistics of income, capital, stock earnings, etc. 1929-38. Annalist 54:332-3 D 28 '39

SHELLAC
Derivatives of natural resins and their polymerization. R. Bhattacharya. bibliog Chem & Ind 59:325-8 My 11 '40
Hot spraying of shellac; a new method of coating surfaces. diag Chem Age (Lond) 41:345; 42:314 N 18 '39, Je 8 '40
Newer uses for shellac. W. H. Gardner. bibliog il Chem Ind 45:685-8 D '39
Pattern coatings; abstract. F. C. Cech and V. J. Sedlon. Foundry 68:82 Jl '40
Plastics and their uses in the automotive industry. G. M. Kline. S A E J 46:200 My '40; Same. Mod Plastics 17:51-2 Jl '40
Studies in the oxidation of drying oils and cognate substances; blonde shellac. R. S. Morrell and E. O. Phillips. Soc Chem Ind J 59:146 Jl '40

Statistics
Shellac. Published in weekly numbers of Oil, paint and drug reporter

SHELLFISH
See also
Crabs
Oyster culture

SHELLS (metal work)
Drawing and forming deep tapered shells. M. J. Goldstein. il diags Mach 46:95-6 Mr '40
Roller type tool for shell trimming machine. J. A. Honegger. diags Mach 46:132-4 Je '40
Some novel operations in making a spot-light lamp. M. J. Goldstein. il diags Mach 46: 112-15 F '40
Theory of plates and shells. S. Timoshenko. 492p $6 McGraw-Hill '40
Using one set of dies for two different shells. M. J. Goldstein. il diags Mach 46:115-17 Je '40

See also
Boilers
Sheet metal work
Tanks, Steel

SHELLS (projectiles)
Converter steel for shrapnel shells. A. M. Portevin. Metal Prog 38:294 S '40

Advertising
Rifle shot letter campaign sells shotgun shells; new product story. Ptr Ink 189:67-8+ D 1 '39

Manufacture
A.S.M.E. discusses shell manufacture at Pittsburgh meeting, Sept. 11. Mech Eng 62:762-4 O '40
Baldwin-Omes shell forging presses combine mechanical piercing and drawing. il Am Mach 84:518+ Jl 10 '40
Differences in production methods discussed at A.S.M.E. meeting on shell manufacture. Am Mach 84:892m-892n O 30 '40
Forged cavity shells. J. Haydock. Am Mach 84:581 Ag 7 '40
How to machine 75-mm. shell. C. Grazioso. diags Am Mach 84:668-78 S 4 '40
Hydraulic and mechanical methods of forging shells. F. G. Schranz. Mach 47:145-6 O '40
Latest practice in forging shells. C. O. Herb. il diags Mach 46:89-92 Mr '40
Machine capable of turning shell a minute; abstract. T. Berna. Steel 107:15 O 21 '40
Manufacture of shell discussed at A.S.M.E. meeting. Iron Age 146:40-1+ O 24 '40
Manufacture of shell forgings by the extrusion process. diags Mach 46:96-7 My '40

SHELLS (projectiles)—Manufacture—*Continued*
Modern shrapnel shell production methods; Frankford arsenal. G. W. Birdsall. il Steel 106:38-41+ Mr 11 '40
Morey heavy-duty shell-manufacturing lathe with finger-tip control. il Mach 47:173 N '40
New machine bands shells by swaging. il Steel 107:78 N 11 '40
Shell forging, finishing methods revolutionized since World war; ASME meeting on manufacture of shell. Steel 107:15 O 21 '40
Shell forgings; high speed and accurate production with the Baldwin-Omes mechanical press. A. G. Hochbaum. il Iron Age 146: 57-60 O 10 '40

SHELTERS
Monel metal to solve corrosion problems in park shelters. il Sheet Metal Worker 31: 20-1 F '40

SHELVING, Steel
Modernized stockroom; Swift mfg. co. F. J. Mills. il Textile World 89:53 D '39

SHENANDOAH, Pennsylvania
Robbing mine supports may have caused Shenandoah subsidence. E. J. Cleary. il plans Eng N 124:358-60 Mr 14 '40

SHERMAN, Roger, 1721-1793
Roger Sherman, colonial surveyor. E. D. Kingman. il Civil Eng 10:514-15 Ag '40

SHERMAN antitrust law
Antitrust laws and trade association. W. Berge. Paper Tr J 110:74+ F 22 '40
Law over labor. C. B. Coates. il Factory Management 98:48-53+ Mr '40
Must business men go to jail if they cooperate in pushing defense? call for congressional action in establishing rule of reason in applying Sherman act. G. H. Montague. Pr Ink 191:33, 36-7 Je 14 '40
Practice of medicine and the Sherman antitrust law. Science 91:257-8 Mr 15 '40
Washington explains the plumbing indictment. Dom Eng 155:42-3 Ap '40

See also
Trusts, Industrial—Law

SHIFT schedules. See Hours of labor—Shift schedules

SHINGLE fabric
Processing of shingle fabric. S. Wouble. Textile Col 62:371-2 Je '40

SHINGLES
Western red cedar shingles. il Am Bld 62: 90 Ja '40

SHINGLES, Asbestos
Asbestos siding; application methods for long life. J. H. Hawkins. il diags Am Bld 62:46-9 S '40
Asbestos siding featured in full value homes; Garling homes for Ford workers in Dearborn. J. H. Hawkins. il plans Am Bld 62:62-4 O '40

SHINGLES, Concrete
Structural concrete shingle developed in Florida. il diag Concrete 48:30 My '40

SHINGLES, Cotton-cement
Cotton cement shingle. G. Holcomb. il Manuf Rec 109:32 S '40

SHIP decoration
Art on the America; illustrations. Arch Forum 73:sup10 Ag '40
Metal decorations in the S.S. America; illustrations. Metals & Alloys 12:284-7 S '40
S.S. America: interior architecture. il Marine Eng 45:98-106 Ag '40
S.S. America, luxury liner. il Mod Plastics 18: 38+ S '40
United States liner America. H. F. Norton and J. F. Nichols. Engineering 150:178 Ag 30 '40; Same. Engineer 170:174-5 S 13 '40

SHIP libraries
Libraries that go to sea. H. L. Howe. il Special Lib 31:9-14 Ja '40

SHIP model tanks
Work of the Stevens towing tank; annual report. il Marine Eng 45:61-2 Ap '40

SHIP models
Auto-electric model railways, with a chapter on radio control of model boats. A. D. Stubbs. 197p $1.50 Nelson '39
Making models of famous ships. R. J. Marran. 152p $2 Appleton-Century '40
Model shipbuilder's manual of fittings and guns. A. P. Isard. 327p $5 '39 David McKay co, Philadelphia '39
Remote control of a model boat. W. P. West. il diags Electronics 13:19-21 Ag '40

SHIP plates
Buckling of ships' deck plating. J. L. Taylor. Engineering 148:605-6 D 1 '39
Flame-cut ship plates. il Am Mach 84:240-1 Ap 17 '40
Ship plating under compression and hydrostatic pressure; abstract and discussion. H. W. Bengston. Marine Eng 44:586-8 D '39

SHIP propellers. See Propellers

SHIP propulsion
Electric couplings. M. R. Lory, L. A. Kilgore and R. A. Baudry. il diag Elec Eng 59: Trans 423-8 Ag '40
Electric couplings for marine Diesel engine drive; motorship Mormacpenn. Mach 46:101 My '40
Electric couplings in marine service. J. A. Wasmund. il Marine Eng 45:83-4 My '40
First twenty years of screw propulsion. E. C. Smith. Engineering 149:126-7, 182-3 F 2, 16 '40
Geared Diesel marine application. W. D. Leggett, jr. diags Marine Eng 44:572-5; Discussion. 592-3 D '39
General Electric meter for measuring shaft horsepower. Mach 46:106 Mr '40
Grundsätzliches über die hauptantriebsanlagen von kriegsschiffen. K. Thannemann. bibliog V D I 83:821-6 Jl 15 '39; Abstract. Génie Civil 116:65-7 Ja 27 '40
Jet-propelled motor lifeboat for Minehead. il diags Engineer 168:444-6 N 3 '39; Excerpt. Mech Eng 62:26-7 Ja '40
Kort nozzle equipped tugboats. H. S. Falk and J. P. Pulliam. il Marine Eng 45:65-7 S '40
Marine applications of Diesel engines. L. R. Ford. Marine Eng 45:70, 72 Ap '40
New Westinghouse gears for main propulsion. il Marine Eng 44:575 D '39
Novel test of Farrel gear drives for five C-1 ships. il Marine Eng 45:77 S '40
Les possibilités actuelles de la turbine à gaz à pression constante; la turbine à détente totale fractionnée sur un seul disque. M. Gautier. Génie Civil 116:117-20, 132-5, 148-51 F 17-Mr 2 '40
Propulsion system for liner America lifeboats. il Marine Eng 45:79 O '40
Schiffsdieselanlage mit pneumatischer kraftübertragung. A. Pischinger. V D I 84:195-6 Mr 16 '40
Some problems in the design and operation of merchant vessels. R. C. Lee. Inst Mech Eng J & Proc 142:Proc87-90 D '39
S.S. America; machinery. il plans Marine Eng 45:120-30+ Ag '40

See also
Boilers, Marine
Diesel engines, Marine
Gas and oil engines, Marine
Gas turbines, Marine
Motor ships
Propellers
Ship resistance
Steam turbines, Marine
Steamboats

SHIP propulsion, Electric
E. G. Diefenbach, electric ferryboat. il Marine Eng 45:115 N '40
E. G. Diefenbach, new Diesel electric ferryboat. il Marine Eng 45:54-6 Ap '40
Early developments in electric ship propulsion in Great Britain. S. R. Yates. il diags Inst Mech Eng J & Proc 143:76-83 Ap '40
Edmond J. Moran, ocean tug. il diags plans Marine Eng 45:70-5 O '40
Electrical propulsion of ships; recent technical and practical developments. A. C. Hardy. Electrician 125:73 Ag 9 '40
Electricity in the United States navy. L. Dreller. Elec Eng 59:267-70 Jl '40

SHEET steel—*Continued*
Bonderizing sheets to hold paint. il Sheet Metal Worker 31:32-4 S '40
Continuous sheets of malleable iron and steel direct from fluid metal. H. Bessemer. il Iron Age 145:48-50 Ap 11 '40
Control of sulphur in basic open hearth. T. L. Joseph and F. W. Scott. il diag Iron Age 144:34-7 N 23; 30-4 N 30 '39
Experiments in rolling fluid steel. E. Norton. Iron Age 145:50-1 Ap 11 '40
General Electric gauges for the steel plant. Min & Met 21:526 N '40
Die herstellung von kupfer- und tombakplattierten tiefziehstahl-blechen und ihre verarbeitung. C. Rademacher. diags Stahl & Eisen 59:1379-82 D 28 '39
Hot rolled, cold rolled and galvanized sheets, Pittsburgh, prices, 1929-1939; tabulation. Steel 106:289 Ja 1 '40
How to anneal for superior drawing qualities. J. N. Crombie. il diag Steel 106:44-7 Mr 18 '40
Improving drawability of steel by controlling nitrogen. C. L. Altenburger. Metal Prog 37:639-43 Je '40
New structural system; Lindsay structure employing sheet steel as strain-bearing structural member. il diags Steel 106:50,-52+ Mr 4 '40
Oil-soaked brown wrapping paper kept sheet steel from breaking; making oil pans for motor truck. Sheet Metal Worker 31:31+ S '40
Producing steel to meet physical test requirements. C. H. Herty, jr. Iron Age 145: 54+ My 23 '40
Rolling of sheet and strip. G. Sachs. bibliog il diags Iron Age 145:25-7+ Mr 28; 48-51 Ap 4 '40
Rotational and alternating hysteresis losses in electrical sheet steel. L. P. Tarasov. Phys R 56:1170 D 1 '39
Sheet steel. R. S. Burns. Metal Prog 38: 377+ O '40
Stainless steel hangars at Municipal airport, Flushing, Long Island. il diags Sheet Metal Worker 31:32-4 O '40
Stamping; developments in 1939. Steel 106: 214+ Ja 1 '40
Steel sheets a structural material; Lindsay structure. il Iron Age 145:39 Mr 21 '40
Steel switchgear. L. F. Dytrt. il Steel 106: 52-3+ My 27 '40
Stripsheet annealing. il Steel 106:48-9+ Ap 15 '40
Surface quality; rolled steel surface dependent upon mold-wall surface. T. J. Woods. Iron Age 145:37-9 F 22 '40
Surface treatment of steel prior to painting. R. E. Pollard and W. C. Porter. il Metal Finishing 38:514-18, 569-71, 620-1 S-N '40; Excerpts. Iron Age 146:48-9 Jl 11 '40
Working of carbon sheet steel; classification, surface treatment, polishing, welding, cold working machinery, etc. Am Mach 84:825-7 O 16 '40

See also
Containers, Steel
Rolling (metal work)
Steel, Automobile
Steel, Strip
Steel plates
Tanks, Steel

Bibliography
Bibliography on the production of steel sheets and strip; compiled by the Sheffield city libraries. Blast F & Steel Pl 28:828-9, 922-3, 1020-1 Ag-O '40

Testing
Residual tin in steel. P. J. McKimm. Steel 106:64, 67-8 My 6; 60, 64, 69 My 13 '40

SHEETS
New sheeting finish with alkali-soluble cellulose ethers is permanent after repeated launderings; Ceglin. M. A. Golrick, jr. il diags Textile World 90:55-7 Mr '40

SHEFFIELD university
Department of glass technology
Department of glass technology. il Am Cer Soc Bul 18:442-8 N '39

SHELL oil company
Shell specialties are now one big family. C. J. Cunneen. il Chem Ind 47:414-15 O '40
Shell's moving day. Ptr Ink 192:18 Ag 30 '40

SHELL transport and trading company
Profits, 1937-39 and annual general meeting. Economist 139:18-19, 58 Jl 6-13 '40

SHELL union oil corporation
Earnings, 1936-39. Comm & Fin Chr 150:2268 Ap 6 '40
Statistics of income, capital, stock earnings, etc. 1929-38. Annalist 54:832-3 D 28 '39

SHELLAC
Derivatives of natural resins and their polymerization. R. Bhattacharya. bibliog Chem & Ind 59:325-8 My 11 '40
Hot spraying of shellac; a new method of coating surfaces. diag Chem Age (Lond) 41:345; 42:314 N 18 '39, Je 8 '40
Newer uses for shellac. W. H. Gardner. bibliog il Chem Ind 45:685-8 D '39
Pattern coatings; abstract. F. C. Cech and V. J. Sedlon. Foundry 68:82 Jl '40
Plastics and their uses in the automotive industry. G. M. Kline. S A E J 46:200 My '40; Same. Mod Plastics 17:51-2 Jl '40
Studies in the oxidation of drying oils and cognate substances; blonde shellac. R. S. Morrell and E. O. Phillips. Soc Chem Ind J 59:146 Jl '40

Statistics
Shellac. Published in weekly numbers of Oil, paint and drug reporter

SHELLFISH
See also
Crabs
Oyster culture

SHELLS (metal work)
Drawing and forming deep tapered shells. M. J. Goldstein. il diags Mach 46:95-6 Mr '40
Roller type tool for shell trimming machine. J. A. Honegger. diags Mach 46:132-4 Je '40
Some novel operations in making a spot-light lamp. M. J. Goldstein. il diags Mach 46: 112-15 F '40
Theory of plates and shells. S. Timoshenko. 492p $6 McGraw-Hill '40
Using one set of dies for two different shells. M. J. Goldstein. il diags Mach 46:115-17 Je '40

See also
Boilers
Sheet metal work
Tanks, Steel

SHELLS (projectiles)
Converter steel for shrapnel shells. A. M. Portevin. Metal Prog 38:294 S '40

Advertising
Rifle shot letter campaign sells shotgun shells; new product story. Ptr Ink 189:67-8+ D 1 '39

Manufacture
A.S.M.E. discusses shell manufacture at Pittsburgh meeting, Sept. 11. Mech Eng 62:762-4 O '40
Baldwin-Omes shell forging presses combine mechanical piercing and drawing. il Am Mach 84:518+ Jl 10 '40
Differences in production methods discussed at A.S.M.E. meeting on shell manufacture. Am Mach 84:892m-892n O 30 '40
Forged cavity shells. J. Haydock. Am Mach 84:581 Ag 7 '40
How to machine 75-mm. shell. C. Grazioso. diags Am Mach 84:668-78 S 4 '40
Hydraulic and mechanical methods of forging shells. F. G. Schranz. Mach 47:145-6 O '40
Latest practice in forging shells. C. O. Herb. il diags Mach 46:89-92 Mr '40
Machine capable of turning shell a minute; abstract. T. Berna. Steel 107:15 O 21 '40
Manufacture of shell discussed at A.S.M.E. meeting. Iron Age 146:40-1+ O 24 '40
Manufacture of shell forgings by the extrusion process. diags Mach 46:96-7 My '40

SHELLS (projectiles)—Manufacture—*Continued*
Modern shrapnel shell production methods, Frankford arsenal. G. W. Birdsall. il Steel 106:38-41+ Mr 11 '40
Morey heavy-duty shell-manufacturing lathe with finger-tip control. il Mach 47:173 N '40
New machine bands shells by swaging. il Steel 107:78 N 11 '40
Shell forging, finishing methods revolutionized since World war; ASME meeting on manufacture of shell. Steel 107:15 O 21 '40
Shell forgings; high speed and accurate production with the Baldwin-Omes mechanical press. A. G. Hochbaum. il Iron Age 146: 57-60 O 10 '40

SHELTERS
Monel metal to solve corrosion problems in park shelters. il Sheet Metal Worker 31: 20-1 F '40

SHELVING, Steel
Modernized stockroom; Swift mfg. co. F. J. Mills. il Textile World 89:53 D '39

SHENANDOAH, Pennsylvania
Robbing mine supports may have caused Shenandoah subsidence. E. J. Cleary. il plans Eng N 124:358-60 Mr 14 '40

SHERMAN, Roger, 1721-1793
Roger Sherman, colonial surveyor. E. D. Kingman. il Civil Eng 10:514-15 Ag '40

SHERMAN antitrust law
Antitrust laws and trade association. W. Berge. Paper Tr J 110:74+ F 22 '40
Law over labor. C. B. Coates. il Factory Management 98:48-53+ Mr '40
Must business men go to jail if they cooperate in pushing defense? call for congressional action in establishing rule of reason in applying Sherman act. G. H. Montague. Ptr Ink 191:33, 36-7 Je 14 '40
Practice of medicine and the Sherman antitrust law. Science 91:257-8 Mr 15 '40
Washington explains the plumbing indictment. Dom Eng 155:42-3 Ap '40
See also
Trusts, Industrial—Law

SHIFT schedules. See Hours of labor—Shift schedules

SHINGLE fabric
Processing of shingle fabric. S. Wouble. Textile Col 62.371-2 Je '40

SHINGLES
Western red cedar shingles. il Am Bld 62: 90 Ja '40

SHINGLES, Asbestos
Asbestos siding; application methods for long life. J. H. Hawkins. il diags Am Bld 62:46-9 S '40
Asbestos siding featured in full value homes; Garling homes for Ford workers in Dearborn. J. H. Hawkins. il plans Am Bld 62:62-4 O '40

SHINGLES, Concrete
Structural concrete shingle developed in Florida. il diag Concrete 48:30 My '40

SHINGLES, Cotton-cement
Cotton cement shingle. G. Holcomb. il Manuf Rec 109:32 S '40

SHIP decoration
Art on the America; illustrations. Arch Forum 73:sup10 Ag '40
Metal decorations in the S.S. America; illustrations. Metals & Alloys 12:284-7 S '40
S.S. America: interior architecture. il Marine Eng 45:98-106 Ag '40
S.S. America, luxury liner. il Mod Plastics 18: 38+ S '40
United States liner America. H. F. Norton and J. F. Nichols. Engineering 150:178 Ag 30 '40; Same. Engineer 170:174-5 S 13 '40

SHIP libraries
Libraries that go to sea. H. L. Howe. il Special Lib 31:9-14 Ja '40

SHIP model tanks
Work of the Stevens towing tank; annual report. il Marine Eng 45:61-2 Ap '40

SHIP models
Auto-electric model railways, with a chapter on radio control of model boats. A. D. Stubbs. 197p $1.50 Nelson '39
Making models of famous ships. R. J. Marran. 152p $2 Appleton-Century '40
Model shipbuilder's manual of fittings and guns. A. P. Isard. 327p $5 '39 David McKay co, Philadelphia '39
Remote control of a model boat. W. P. West. il diags Electronics 13:19-21 Ag '40

SHIP plates
Buckling of ships' deck plating. J. L. Taylor. Engineering 148:605-6 D 1 '39
Flame-cut ship plates. il Am Mach 84:240-1 Ap 17 '40
Ship plating under compression and hydrostatic pressure; abstract and discussion. H. W. Bengston. Marine Eng 44:586-8 D '39

SHIP propellers. See Propellers

SHIP propulsion
Electric couplings. M. R. Lory, L. A. Kilgore and R. A. Baudry. il diag Elec Eng 59: Trans 423-8 Ag '40
Electric couplings for marine Diesel engine drive; motorship Mormacpenn. Mach 46:101 My '40
Electric couplings in marine service. J. A. Wasmund. il Marine Eng 45:83-4 My '40
First twenty years of screw propulsion. E. C. Smith. Engineering 149:126-7, 182-3 F 2, 16 '40
Geared Diesel marine application. W. D. Leggett, jr. diags Marine Eng 44:572-5; Discussion. 592-3 D '39
General Electric meter for measuring shaft horsepower. Mach 46:106 Mr '40
Grundsatzliches über die hauptantriebsanlagen von kriegsschiffen. K. Thannemann. bibliog V D I 83:821-6 Jl 15 '39; Abstract. Génie Civil 116:65-7 Ja 27 '40
Jet-propelled motor lifeboat for Minehead. il diags Engineer 168:444-6 N 3 '39; Excerpt. Mech Eng 62:26-7 Ja '40
Kort nozzle equipped tugboats. H. S. Falk and J. P. Pulliam. il Marine Eng 45:65-7 S '40
Marine applications of Diesel engines. L. R. Ford. Marine Eng 45:70, 72 Ap '40
New Westinghouse gears for main propulsion. il Marine Eng 44:575 D '39
Novel test of Farrel gear drives for five C-1 ships. il Marine Eng 45:77 S '40
Les possibilités actuelles de la turbine à gaz à pression constante; la turbine à détente totale fractionnée sur un seul disque. M. Gautier. Génie Civil 116:117-20, 132-5, 148-51 F 17-Mr 2 '40
Propulsion system for liner America lifeboats. il Marine Eng 45:79 O '40
Schiffsdieselanlage mit pneumatischer kraftübertragung. A. Pischinger. V D I 84:195-6 Mr 16 '40
Some problems in the design and operation of merchant vessels. R. C. Lee. Inst Mech Eng J & Proc 142:Proc87-90 D '39
S.S. America: machinery. il plans Marine Eng 45:120-30+ Ag '40
See also
Boilers, Marine
Diesel engines, Marine
Gas and oil engines, Marine
Gas turbines, Marine
Motor ships
Propellers
Ship resistance
Steam turbines, Marine
Steamboats

SHIP propulsion, Electric
E. G. Diefenbach, electric ferryboat. il Marine Eng 45:115 N '40
E. G. Diefenbach, new Diesel electric ferryboat. il Marine Eng 45:54-6 Ap '40
Early developments in electric ship propulsion in Great Britain. S. R. Yates. il diags Inst Mech Eng J & Proc 143:76-83 Ap '40
Edmond J. Moran, ocean tug. il diags plans Marine Eng 45:70-5 O '40
Electrical propulsion of ships; recent technical and practical developments. A. C. Hardy. Electrician 125:73 Ag 9 '40
Electricity in the United States navy. L. Dreller. Elec Eng 59:267-70 Jl '40

SHIP propulsion, Electric—*Continued*
Marine electricity; ships under construction or recently completed. A. C. Hardy. Electrician 123:345 O 13 '39
Navajo, Seminole and Cherokee, navy fleet tugs. il diag Marine Eng 45:70-5 My '40
1939 marine electrical developments. H. C. Coleman. Marine Eng 45:52 Ja '40
Rowan Card, tugboat. il Marine Eng 45:59 Ja '40
Trends in the application of electricity in British ships. G. O. Watson. Inst E E J 86:210 F '40; Same. Engineering 149:304 Mr 22 '40

SHIP resistance
Further form resistance experiments; abstract and discussion. E. F. Eggert. Marine Eng 45:65-6 Ja '40

SHIP subsidies
American superliners, they will pay! abstracts. G. C. Gaede. Marine Eng 45:60-2 Ja '40; Mech Eng 61:919-20 D '39; Discussion. Marine Eng 45:68, 70 Ja '40

SHIPBUILDING
Bottoms down; Britain needs ships and will buy and build them here. Business Week p14 N 9 '40
C-3 cargo ship Sea Arrow; first ship of new program completed on West coast at Moore yard. il diag plans Marine Eng 45:68-76 Jl '40
Entwicklungsarbeit der schiffbautechnik. V D I 84:121 F 17 '40
European passenger liner construction; Stockholm and motor ship for Rotterdam Lloyd. il Marine Eng 45:59-60 Je '40
Flame-cut ship plates. il Am Mach 84:240-1 Ap 17 '40
From the shipowner's point of view. T. R. Cairns. Engineer 168:647-8 D 29 '39
Gas helps build battleship at Brooklyn navy yard. Gas Age 86:50 Ag 15 '40
Important considerations in the use of high tensile steel rivets in shipbuilding; abstract and discussion. W. G. DuBose. Marine Eng 45:64-5 Ja '40
Machine flame cutting; application to class C cargo ships. J. M. Heller, R. F. Helmkamp and A. H. Yoch. il diags Marine Eng 45:64-7 Ap; 78-82 My '40
Modern shipfitter's handbook. W. E. Swanson. 269p $2.50 Cornell maritime press, 350 W. 23d st, New York '40
New Ingalls shipyard. A. J. Grassick. il Marine Eng 45:39-55 F '40
Planned marine museum; Franklin institute museum; Hall of marine transportation. C. M. Gay. il Franklin Inst J 229:575-7 My '40
Safety in ship design and construction. H. L. Vickery. Weekly Underw 143:1026-9 N 2 '40
Ship construction and repair news. Published in monthly numbers of Marine engineering and shipping review
Shipbuilding and marine engineering in 1939. il Engineer 169:18-21, supp 2, 46-8, 59-62 Ja 5-19 '40
Shipbuilding costs and the approval of plans; abstract. H. G. Smith. Marine Eng 44:586 D '39
S.S. America; construction. il diags plans Marine Eng 45:86-97 Ag '40

See also

Barges
Ferryboats
Freight ships
Motor boats
Motor ships
Naval architecture
Navy yards and naval stations
Propellers
Ship propulsion
Ship resistance
Ships
Ships, Concrete
Shipyards
Steam turbines, Marine
Steamboats
Submarine boats
Tank ships
Towboats
Warships
Yachts and yachting

Costs
Some problems in the design and operation of merchant vessels. R. C. Lee. Inst Mech Eng J & Proc 142:Proc91-4 D '39

Labor conditions
See Shipyards—Employees

Materials
Chemist and the ship. J. E. Holmstrom. Engineer 169:228-30 Mr 8 '40
Hi-tensile steel ships. G. deRooy and P. Schoenmaker. diags Steel 106:56, 58+ Mr 18; 68, 70-1+ Mr 25 '40
New marine insulating material; fiberglas. G. Slayter. il Marine Eng 45:60-5 F '40

Statistics
Pay rolls in manufacturing industries; shipbuilding, monthly, Jan. 1923-Aug. 1940. Survey of Cur Business 20:16 O '40
Quarterly report of merchant vessel construction under way in American yards, July 1, 1940, including only vessels of 2000 gross tons and over; tabulation. Marine Eng 45:78-80 Jl '40
Shipbuilding increases 74 percent in 1939. Marine Eng 45:36-45 Ja '40
Shipbuilding, revision; monthly, 1923-June, 1940. Fed Res Bul 26:831 Ag '40
Shipbuilding, world, quarterly, 1936-June, 1939. Survey of Cur Business 1940 Sup p161 [Data discontinued since outbreak of war]
Shipping and shipbuilding in 1939. Economist 138:sup42-3 F 17 '40

Welding operations
All-welded shipbuilding in Mississippi; Ingalls shipbuilding corporation, Pascagoula. il Manuf Rec 109:28-9+ My '40
Electric welding as an integral part of structural design. B. P. Haigh. il diags Engineering 149:21-5, 49-51 Ja 5-12 '40
Electric welding in shipbuilding, Unionmelt process. T. M. Jackson. Metal Prog 38:487+ O '40; Same. Steel 107:184+ O 14 '40
Hi-tensile steel ships. G. deRooy and P. Schoenmaker. diags Steel 106:56, 58+ Mr 18; 68, 70-1+ Mr 25 '40
Modern tanker design. N. J. Pluymert. Marine Eng 44:577-80 D '39; Same. Engineering 149:266-7 Mr 8 '40; Discussion. Marine Eng 44:590-2 D '39
New Ingalls shipyard. A. J. Grassick. il Marine Eng 45:49-54 F '40
Section moduli of cut channel stiffeners. W. A. Baker. Marine Eng 45:80-1 S '40
Shipbuilding on a production basis; Ingalls shipbuilding corp. A. J. Grassick. il Steel 107:44-7+ Jl 8 '40
Two new all-welded vessels built at Sturgeon Bay. il Marine Eng 45:67 Ap '40
Welding and the business of shipbuilding. E. C. Rechtin. Marine Eng 45:68-70 Ap '40
Welding as a substitute for casting. S. F. Dorey. Engineering 149:237-9 Mr 1 '40

Belgium
Le paquebot à moteurs Baudouinville, de la Compagnie maritime belge. il diags plans Génie Civil 116:41-5 Ja 20 '40

Europe
Motorship building in Europe. il Marine Eng 45:58-60 Ap '40

Great Britain
Engineering outlook; marine engineering. Engineering 149:364-6 Ap 5 '40
Outlook for shipbuilding and marine engineering companies. Economist 137:260 N 18 '39
Shipbuilding and ship repairing industries after the war; abstracts. A. Hurd. Engineering 149:315, 340-1 Mr 22-29 '40; Engineer 169:259-60 Mr 15 '40
Shipbuilding shares; output and profits of four representative companies, 1913-39. Economist 138:733-4 Ap 20 '40

Sweden
Shipbuilding active. For Comm W 1:114 O 19 '40

United States
Capacity of private shipyards adequate for present needs. Marine Eng 45:37 F '40
Distinctive ships, 1940. il diags plans Marine Eng 45:77-120 N '40
Events of 1939 prove wisdom of U.S. shipbuilding policy. H. G. Smith. Marine Eng 45:49-50 Ja '40

SHIPBUILDING—United States—*Continued*
Full speed on expanding America's merchant fleet; tabulation. Business Week p16 Jl 27 '40
Naval construction program. C. Edison. Marine Eng 45:46-8 Ja '40
Quarterly report of merchant vessel construction under way in American yards, July 1, 1940, including only vessels of 2000 gross tons and over; tabulation. Marine Eng 45: 78-80 Jl '40
Record shipbuilding relative to need. S. L. Miller. Annalist 55:118-19 Ja 25 '40
Sea calls Cramp's again; historic Philadelphia shipyard may reopen. il Business Week p17-18 Ag 17 '40
Shipbuilders face expansion need. F. B. Dezendorf. Barron's 20:13 S 23 '40
Shipbuilding at highest point since World war. H. G. Smith. il Manuf Rec 109:33+ Ja '40
Shipbuilding increases 74 percent in 1939. Marine Eng 45:36-45 Ja '40
Shipbuilding industry needs new capacity to handle all business offered. S. L. Miller. Annalist 56:107-8 Jl 25 '40
Shipbuilding; review and prospects. Iron Age 145:139-40 Ja 4 '40
Shipyards spending $585,000,000 for materials and equipment. Marine Eng 45:57-8 Mr '40
Southern ships for southern trade; Mississippi shipping company building three new passenger cargo ships. il diag plan Manuf Rec 108:16-17, 52+ D '39
What's ahead in 1940? shipbuilding. il Steel 106:171-2+ Ja 1 '40
See also National council of American shipbuilders; Newport News shipbuilding and dry dock company

SHIPMENT of advertising literature. See Advertising literature, Shipment of

SHIPMENT of goods
Shipment of articles or materials by mail, under the Neutrality act of 1939, to certain foreign countries. Comm Rep p99-100, 204-5 F 3, Mr 2 '40
Speeding shipments; unique conveyor layout is combined with dispatching system; Westinghouse electric & mfg. co. O. J. Greenway. il diag Steel 106:50, 52+ Ap 8; 50, 52+ Ap 15 '40
Traffic problems in credit; claims and C.O.D. collections. E. Rusch Credit & Fin Management 42:11-13+ Jl '40; Discussion. D. W. C. Becker. 42:32 S '40
Two money-saving ideas for the mailing department; Servel, inc. I. A. Herrmann. il Am Business 10:26-7 Ja '40

See also
Cement—Transportation
Containers (for shipping)
Delivery of goods
Freight car service
Freight handling
Loading and unloading—Cars
Orders
Packing for shipment
Railroads—Rates
River traffic
Shipping departments
Transportation

SHIPMENT of samples. See Samples, Shipment of

SHIPPING
Shipping and transportation on the edge of a boom? W. Gates. il Mag of Wall St 65: 796-9 Ap 6 '40
Les transports maritimes; les tonnages des flottes de guerre et de commerce en janvier 1939. C. Berthelot. Chimie & Ind 43:351-4 F 20 '40
War, neutrality, and shipping. il Business Week p51 N 18 '39

See also
Barges
European war, 1939—Shipping
Freight handling
Harbors
Insurance, Marine
Longshoremen
Merchant marine
Ports
Railroads—Waterways competition
River traffic
Salvage
Shipbuilding
Shipment of goods
Steamboat lines
Steamboats
Terminals
Train ferries
Transportation
Waterways

Claims
See also Insurance, Marine—Adjustment of claims

History
Conquest of the seas; the history and adventure of sea and ships. F. C. Bowen. 423p bibliog(p411-14) $3.50 Robert M. McBride & co, New York '40
Water transportation. D. G. Deihl. 24pl $1.95 Univ. press, box 1066, Des Moines, Ia. '40

Law
See Maritime law

Rates
Freights and prices in Britain. Economist 138:288 F 17 '40
Shipping freight rates. Economist 137:335-6 D 2 '39
Wartime control of ocean freight rates in foreign trade; a world survey. A. E. Sanderson. U S Bur For & Dom Com Trade Promotion Ser 212:1-47 '40

Statistics
Position of United States shipping and probable effect of the present European war on shipping. G. G. Johnson, jr. map Survey of Cur Business 19:8-13+ D '39
Shipping and shipbuilding in 1939. Economist 138:sup42-3 F 17 '40

Canada
Shipping report, year ended March 31, 1940. 58p pa 25c Canada. Dominion bur. of statistics, Ottawa '40

Chile
Chilean shipping company increases capital and enlarges facilities. For Comm W 1:195 N 2 '40

Great Britain
British shipping. R. H. Thornton. 304p $2.50 Macmillan '39
British tighten the control of shipping. Weekly Underw 143:438 Ag 31 '40
Chamber of shipping of the United Kingdom. P. Haldin. Engineering 149:259 Mr 8 '40
Furness, Withy and company 49th annual general meeting, London. Economist 139: 260 Ag 24 '40
Shipping and ports. Economist 139:217-18 Ag 17 '40
Shipping in 1914-18. Economist 138:587 Mr 30 '40
Shipping in war. Economist 138:937-8, 978-9 My 25-Je 1 '40
Shipping policy. Economist 137:279-80 N 25 '39
Shipping problems and earnings. Economist 138:393-4 Mr 2 '40
Shipping shares. Economist 137:419-21 D 16 '39
See also Peninsular and Oriental steam navigation company

Great Lakes
Development of navigation on the Great Lakes. R. W. Putnam. W Soc E J 45:131-8 Je '40
Down to the Lakes in ships. il map Fortune 22:30-42+ Jl '40
Lake shipping starts with a rush. il Business Week p18+ My 4 '40
Marine premiums on Great Lakes risks to show increases. East Underw 41:1+ Ag 23 '40
Oil movement on Great Lakes will set record this year. il map Nat Pet N 32:25-6+ Jl 17 '40
Ore, ships, and gentlemen; Cleveland's 99 per cent integrated industry. il Fortune 22:43-4+ Jl '40
Pere Marquette launches world's largest lake car ferry. il map Ry Age 109:479-81 O 5 '40
Radio protection for Great Lakes; abstract. T. H. Brown. Marine Eng 45:82 Ja '40
Up and down the Great Lakes. Published in monthly numbers of Marine engineering and shipping review

SHIPPING—*Continued*

Japan

Transportation in Japan. For Comm W 1:206-7 N 2 '40

Netherlands

Netherlands shipping and trading committee. Economist 139:341 S 14 '40

Russia

Operations in the Soviet Arctic in 1940. For Comm W 1:116-17 O 19 '40

Sweden

Sweden; transportation and communications. For Comm W 1:20-2 O 5 '40

United States

Definition of a combat area by the President of the United States. map(supp) Comm Rep p548 Je 22 '40

Finish ship reshuffling job; what the Neutrality act did to United States shipping. Business Week p48-9 Ja 13 '40

Flight from the flag; the continuing effect of the Civil war upon the American carrying trade. G. W. Dalzell. 292p bibliog(p275-8) $3.50 Univ. of North Carolina press, Chapel Hill '40

Geolexigraph of the Neutrality act of 1939. S. E. Perkins. map (supp) Comm Rep p1056-8 N 18 '39; Correction. p1082 N 25 '39

Geolexigraph of the Neutrality act of 1939; revision and consolidation of articles in Commerce reports; with text of law, proclamations, regulations, etc. S. E. Perkins. maps Compar Law Ser 3:241-85 My '40

Geolexigraph of the Neutrality act of 1939; transactions with Canada and other belligerent countries located in the Western Hemisphere north of the United States. S. E. Perkins. map charts Comm Rep p182-3, 189, 195-6 F 24 '40

Geolexigraph of the Neutrality act of 1939 (transfer of title). S. E. Perkins. Comm Rep p130-1 F 10 '40

I.C.C. sets up Bureau of water carriers. Ry Age 109:492 O 5 '40

Merchant ships transferred or sold to foreign registry from Jan. 1, 1939, to March 27, 1940. Marine Eng 45:76 Ap '40

Opposition to bill regulating water carriers in domestic commerce voiced by Merchants' association of New York. Comm & Fin Chr 150:926-7 F 10 '40

Position of United States shipping and probable effect of the present European war on shipping. G. G. Johnson, jr. map Survey of Cur Business 19:8-13+ D '39

Present operation of American vessels formerly engaged in services to combat zones. Marine Eng 45:78+ Ap '40

President Roosevelt issues proclamation to control movement of foreign and domestic ships in American waters and in vicinity of Panama canal. Comm & Fin Chr 150: 4055 Je 29 '40

President Roosevelt re-defines combat areas; extends definition to waters around Scandinavia, Finland and northern Russia. Comm & Fin Chr 150:2343 Ap 13 '40

Ship clearances in foreign trade, 1936-1939. Survey of Cur Business 1940 Sup p85 [supplemented in monthly numbers]

Shipping industry rides high on wartide. F. B. Dezendorf. Barron's 20:9 My 20 '40

U.S. tanker fleet in ascendancy. J. P. O'Donnell. il Oil & Gas J 39:20-1 O 17 '40

What happens to the war boom in exports? record of outgoing vessels from port of New York. Business Week p56 Je 22 '40

See also

Merchant marine—United States

SHIPPING departments

Stop the mistakes campaign stops the mistakes; Hall brothers, Kansas City, Mo. W. P. Harsh. il Factory Management 98: 72-3+ Mr '40

Two money-saving ideas for the mailing department; Servel, inc. I. A. Herrmann. il Am Business 10:26-7 Ja '40

Equipment

Conveyors solve the problem; conveyors connected by spiral chutes sort and handle cartons of paint cans; Sherwin-Williams company. E. O. Merkel. il Factory Management 98:64-5+ S '40

Improved shipping department equipment; Merck & co. R. M. Cooley. il Chem Ind 46: 538-40 N '39

SHIPPING rooms

Layout

Changed layout saves $2,500; motion study on a hand-wrapping operation; Kraft Walker cheese co, Melbourne, Australia. E. O. Pelling. il diags Factory Management 98:64-5+ F '40

SHIPS

Distinctive ships, 1940. il diags plans Marine Eng 45:77-120 N '40

Electrolytic corrosion of ship structures. J. H. Paterson. Engineering 149:425-7 Ap 19 '40; Same cond. Engineer 169:463-4 My 17 '40

Mechanical engineering problems in marine transport. S. B. Freeman. diags Inst Mech Eng J & Proc 142:Proc 1-12 N '39; Same. Engineering 149:153-6 F 9 '40; Same cond. Engineer 169:164-6 F 16 '40; Excerpts. Mech Eng 61:882-4 D '39

Ships, boats and craft. S. E. Beck. 144p 5s H. Jenkins, London '39

Symmetrical arrangements. Marine Eng 45: 92 Mr '40

Water transportation. D. G. Deihl. 24pl $1.95 Univ. press, box 1066, Des Moines, Ia. '40

See also

Airplane carriers
Barges
Colliers
Dredges
Ferryboats
Fishing boats
Freight ships
Lighthouse tenders
Loading and unloading—Ships
Merchant marine
Motor ships
Naval architecture
Navies
Propellers
Radio apparatus on ships
Safety at sea
Sailing vessels
Salvage
Seamen
Ship propulsion
Ship resistance
Shipbuilding
Shipping
Steamboats
Tank ships
Towboats
Train ferries
Warships
Yachts and yachting

Air conditioning

Admiral, air conditioned Mississippi River excursion steamer. Marine Eng 45:79 S '40

Air conditioning aweigh; equipment on board the Admiral. il Dom Eng 156:48-9 N '40

Air conditioning steamboat 'round the bend! S.S. Admiral. J. H. Bailey. Heating-Piping 12:542 S '40

Cargocaire goes to sea; hold ventilation and humidity control installed on Exporter. il diags Marine Eng 44:562-3 D '39

Heating, ventilating and air conditioning on shipboard. J. H. Clarke. il Heating-Piping 12:467-71, 529-33, 610-14 Ag-O '40

Large cooling system for new river boat. Refrig Eng 39:111 F '40

Auxiliary machinery

S.S. America; hull equipment. il Marine Eng 45:112-17 Ag '40

Cargo

Cargocaire goes to sea; hold ventilation and humidity control installed on Exporter. il diags Marine Eng 44:562-3 D '39

See also

Cargo handling
Freight ships

Cost of operation

American superliners, they will pay! abstracts. G. C. Gaede. Marine Eng 45:60-2 Ja '40; Mech Eng 61:919-20 D '39; Discussion. Marine Eng 45:68, 70 Ja '40

Deck coverings

Cement-latex mixtures; their composition and applications. H. J. Stern. bibliog India Rubber W 102:37-40 My '40

SHIPS—*Continued*

Disinfection, fumigation, etc.

Chloropicrin as a prewarning gas in ship fumigation. G. C. Sherrard. Pub Health Rep 54:2297-302, pl 1-2 D 29 '39

Unusual infestation of a ship with black widow spiders. Pub Health Rep 54:2195-6 D 15 '39

Electric equipment

ABC's of electricity. J. A. Wasmund. il diags Marine Eng 45:40-8 Ap; 58-62 O '40

British plant for Dutch ship. il Elec R (Lond) 126:8 Ja 5 '40

Device for keeping ships in convoy station. il diag Engineer 170:112-13 Ag 16 '40

Electric couplings in marine service. J. A. Wasmund. il Marine Eng 45:83-4 My '40

Electricity in ships; revised I.E.E. regulations. A. Regnauld. Elec R (Lond) 125: 784 D 22 '39

Electricity in the United States navy. L. Dreller. Elec Eng 59:267-70 Jl '40

Electricity on the steamship America. H. F. Norton and J. F. Nichols. il Elec Eng 59: 398-9 O '40

Handling cargo on the Exporter. A. O. Loomis. il Marine Eng 44:564-5 D '39

1939 marine electrical developments. H. C. Coleman. il Marine Eng 45:51-2 Ja '40

Oscillating sound signal. Marine Eng 45:80 Ap '40

Recommended practise for electrical installations on shipboard. rev ed 98p pa $1.50 Am. inst. of electrical engineers, New York '40

Seaworthy pump; molded phenolic protects the housing from salt water corrosion and electrolytic action; Fleming electric bilge pump. il Mod Plastics 17:39+ Jl '40

S.S. America; electrical plant. il Marine Eng 45:136, 138 Ag '40

Trends in the application of electricity in British ships. G. O. Watson. Inst E E J 86:203-11 F '40; Same cond. Engineering 149:289, 303-5 Mr 15-22 '40

See also
Ship propulsion, Electric

Equipment

C-3 cargo ship Sea Arrow; first ship of new program completed on West coast at Moore yard. il diag plans Marine Eng 45:68-76 Jl '40

Chemist and the ship. J. E. Holmstrom. Engineer 169:228-30 Mr 8 '40

Exporter class cargo ships. il diags plans Marine Eng 44:558-61 D '39

Mechanite housings used for gear drives of C-1 ships. il Marine Eng 45:65-6 O '40

Mormacpenn, motor ship. il diags plans Marine Eng 45:62-75 Mr '40

Motorship Sea Witch. il diags plans Marine Eng 45:50-8 S '40

New bars installed on Good Neighbor ships. il Marine Eng 45:81 Mr '40

Passenger and cargo liner Delbrasil to run between New Orleans and the East coast of South American ports. il diags plans Marine Eng 45:18-62 Jl '40

Passenger-cargo ships for the South. il Manuf Rec 109:30-1+ Jl '40

Sea Fox and Frederick Lykes, turbine-drive C-3 cargo ships. il diags Marine Eng 45: 54-61 My '40

S.S. America; navigation, safety, hull, propulsion and other equipment. il plans Marine Eng 45:107-31 Ag '40

Survey ship Explorer. il plans Marine Eng 45:46-54 Je; 47 Jl '40

United States liner America. H. F. Norton and J. F. Nichols. il diags plans Engineering 150:145-8, 150, 178, 183-8, 190, pl 10, 13 Ag 23-S 6 '40; Same cond. Engineer 170: 142-4, 158-60, 173-6, 188-90, 204-6 Ag 30-S 27 '40; Excerpts, Marine Eng 45:43-5 Je '40; Mech Eng 62:685-7 S '40; Discussion. Marine Eng 45:41-2 Je '40

Warren boiler feed pumps for new ships. il Marine Eng 45:76 Mr '40

See also
Boilers, Marine
Lifeboats
Propellers
Radio apparatus on ships

Fires and fire protection

Fire prevention, safety features of new merchant vessel America. R. Williams. East Underw 41:28+ My 10 '40

Fire protection on the Mormacpenn. H. H. Dierksen. il Marine Eng 45:77-8 Mr '40

Insulating material for ship structures; Firefoil. Marine Eng 44:568 D '39

Maintenance and care of fire-extinguishing apparatus on board ship. Marine Eng 45:75 O '40

New liner America built to be safest transatlantic liner afloat. S. D. Livingston. East Underw 41:28 S 6 '40

Safety in ship design and construction. H. L. Vickery. Weekly Underw 143:1026-9 N 2 '40

S.S. America; safety equipment. il Marine Eng 45:110-11 Ag '40

Heating and ventilation

Heating, ventilating and air conditioning on shipboard. J. H. Clarke. il Heating-Piping 12:467-71, 529-33, 610-14 Ag-O '40

Kitchens

S.S. America; galleys and pantries. il plans Marine Eng 45:118-19 Ag '40

Manning

Merchant marine personnel. H. L. Seward. Marine Eng 45:74, 76 F '40; Discussion. 45: 66+ Ja '40

Model testing

Further form resistance experiments; abstract and discussion. E. F. Eggert. Marine Eng 45:65-6 Ja '40

Rolling experiments with ships and models in still water. R. W. L. Gawn. Engineering 149:552-3, 559-60 My 31-Je 7 '40

Rolling of ships under way; the decrement of roll due to hull and bilge keels. G. S. Baker. Engineering 148:527-8 N 10 '39

See also
Ship model tanks

Painting

Chemist and the ship; paints and finishes. J. E. Holmstrom. Engineer 169:229-30 Mr 8 '40

Performance

Notable performance records made by new export ships. Marine Eng 45:80 O '40

Pilot houses

Master control for the pilot house. G. M. Marr. Marine Eng 45:36-7 F '40

Piping

Distinctive markings for piping, A M S C 16, developed by American marine standards committee. Marine Eng 45:104+ My '40

Graphical analysis of pipe stresses; abstract and discussion. O. J. Baggerud and K. W. Jernstrom. Marine Eng 44:588-90 D '39

Radio apparatus

See Radio apparatus on ships

Reconstruction

Collier converted to self-unloader. il Marine Eng 45:62-6 My '40

Conversion of yacht Sea Fox into an auxiliary schooner. il Marine Eng 45:67-8 O '40

U.S.S. Denebola reconditioned. il Marine Eng 45:78-9 S '40

Repair

See also
Repair ships

Safety

See Lifeboats; Safety at sea; Ships—Fires and fire protection

Sanitation

Accuracy of foreign deratization exemption certificates. Pub Health Rep 55:244-5 F 9 '40

Ratproofing of new ships. P. W. Clark. il U S Pub Health Service, Pub Health Rep Sup 151:1-50 '39

SHIPS—Sanitation—*Continued*
Sanitary units on ships; organization and operation. G. C. Sherrard. Pub Health Rep 55:470-3 Mr 15 '40
Ship ratproofing; abstract. P. W. Clark. diags Refrig Eng 39:100-1 F '40
Ship ratproofing; abstract and discussion. P. W. Clark. Marine Eng 45:63-4 Ja '40
Trapping rats on ships. pl Pub Health Rep 55:1057-61 Je 14 '40

See also
Ships—Disinfection, fumigation, etc.

Stability

Ausbau der stabilitätstheorie der schiffe. C. von den Steinen. V D I 84:53-4 Ja 20 '40
Cross curves of stability. L. A. Baier. diags Marine Eng 44:581-2 D '39
Directional stability of ships. J. L. Taylor. Engineering 150:275 O 4 '40
Kenyon stability and trim indicator. il Marine Eng 45:82-3 S '40
Rolling experiments with ships and models in still water. R. W. L. Gawn. Engineering 149:552-3, 559-60 My 31-Je 7 '40
Rolling of ships under way; the decrement of roll due to hull and bilge keels. G. S. Baker. Engineering 148:527-8 N 10 '39

Testing

Merchant ship testing. E. S. Land. il Marine Eng 45:59-61 Mr '40
Standardization trials of the Red Jacket. Marine Eng 45:48-9 Ap '40

Vibration

Characteristics of silent propellers. A. W. Davis. diags Engineering 149:74-6 Ja 19 '40

Windows

S.S. America; hull equipment. il Marine Eng 45:114-15 Ag '40

Wrecking

Demolition of the Mauretania; abstracts. M. Wilkinson Engineering 149:341, 370-1 Mr 29-Ap 5 '40; Engineer 169:442-3 My 10 '40

SHIPS, Concrete
Revived interest in ships of concrete recalls World-war experience. il Concrete 48:5-6 My '40

See also
Barges, Concrete

SHIPWAYS
New ways at Sparrows Point yard. il Marine Eng 45:61-2 Je '40

SHIPWORMS. See Teredos

SHIPWRECKS
Yankee skippers to the rescue. F. Riesenberg, jr. 283p $2 Dodd '40

SHIPYARDS
All-welded shipbuilding in Mississippi; Ingalls shipbuilding corporation, Pascagoula. il Manuf Rec 109:28-9+ My '40
Capacity of private shipyards adequate for present needs. Marine Eng 45:37 F '40
New Elco plant nearing completion. il Marine Eng 45:82-3 Mr '40
New Ingalls shipyard. A. J. Grassick. il Marine Eng 45:39-55 F '40
New ways at Sparrows Point yard. il Marine Eng 45:61-2 Je '40
Newport News shipbuilding & dry dock co.; underwriters named. Comm & Fin Chr 151: 854 Ag 10 '40
Norfolk area and national defense. F. E. Turin. il Manuf Rec 109:29+ N '40
Shipyard construction begins for two-ocean navy. Eng N 125:503 O 17 '40
Sold: a shipyard and a tradition; investment trusts and bankers acquire Newport News enterprise. il Business Week p24+ My 18 '40
Timber trusses support roofs over 2½ acres of shops; Seattle-Tacoma shipbuilding corp. il diags Eng N 125:85 Jl 18 '40
Wm. Cramp & sons ship & engine building co.; reopening of shipyards discussed. Comm & Fin Chr 151:842 Ag 10 '40
Wm. Cramp and sons ship and engine building co. reorganization plan. Comm & Fin Chr 151:1430 S 7 '40

See also
Navy yards and naval stations
Shipbuilding

Employees

Shipyards need men; state officials, union leaders battle over Knox suggestion to import men to Philadelphia. Business Week p36 Ag 3 '40
Union agreements in shipbuilding. Monthly Labor R 51:597-613 S '40

Equipment

Flame-cut ship plates. il Am Mach 84:240-1 Ap 17 '40
Machine flame cutting; application to class C cargo ships. J. M. Heller, R. F. Helmkamp and A. H. Yoch. il diags Marine Eng 45: 64-7 Ap; 78-82 My '40
Shipbuilding on a production basis; Ingalls shipbuilding corp. A. J. Grassick. il Steel 107:44-7+ Jl 8 '40
Shipyard handling units; screw luffing, full revolving, tower type cranes. il Steel 106: 43-4+ Ja 29 '40; Same cond. Marine Eng 45:70+ F '40

SHIRTS
Designing dobby fabrics; producing the chain draft and slasher layout; calculating yarn requirements; rayon stripe shirting. M. P. Fox. il Textile World 90:58-9 Jl '40
Knowledge of dobby designing will assist weavers and loomfixers; rayon-stripe shirting. M. P. Fox. il Textile World 90:64-5 Mr '40
Shirts are for rent; Rent-a-shirt system, inc, Evanston, Ill. Business Week p35 Mr 9 '40

See also
Collars

SHOCK absorbers
Problem of aircraft parts; manufacture shock absorbers for landing gear; Bendix aircraft. R. J. Wenger. il Am Mach 84:876-8 O 30 '40
Servicing shock absorbers. il Nat Pet N 32:25-6+ My 22 '40
Shock absorbers for cushioning water hammer. il diag Water Works & Sewerage 87: sup72 Ag '40
Springs and shock absorbers, 1941 cars; specifications tabulated. Automotive Ind 83:449 O 15 '40

Testing

Drop test of shock absorber; Bendix Aviation's photographic apparatus. W. C. Trautman. il Aviation 39:55+ O '40

SHOE fabrics
Some recent fiber-latex developments; shoe fabric protection. M. C. Teague. Am Dyestuff Rep 29:422-3 Ag 19 '40; Same cond. Rubber Age 48:23-4 O '40

SHOE factories
Bata to continue Maryland plant. il Business Week p18+ Ja 6 '40
Old board mill experiences reincarnation; Canadian paperboard property at Frankford converted to shoe production by Bata. G. W. Dickson. il Pulp & Pa of Can 41: 325-7 Ap '40

Electric equipment

Modern shoemaking; electrical installation; John White (Impregnable boots), ltd. il Elec R (Lond) 125:667-9 N 24 '39

Employees

Labor turn-over in the boot and shoe industry, 1938 and 1939. H. B. Byer. Monthly Labor R 50:1238-41 My '40
Out of the red; industrial relations plan of Scott-McHale shoe co. of London, Can. H. F. Unger. Manuf Rec 109:52 F '40
Shoes; the workers and the industry. H. B. Davis. 256p bibliog(p225-50) $2 International publishers, 381 4th av, New York '40
Wages in Netherlands leather and rubber industries. H. D. Clum. Monthly Labor R 50:471-5 F '40

SHOE factories—Employees—*Continued*
Why Endicott-Johnson employees voted six to one against the unions; with excerpts from statements made twenty years ago by George F. Johnson. il Am Business 10:18-19+ F '40

Power

Exhaust fan drive improves power-factor. il Elec W 113:918 Mr 23 '40

SHOE industry and trade
Brown takes the gamble out of retailing for 340 shoe merchants; management set up is parallel to that of many voluntary chains. C. R. Gamble. il Sales Management 47:22-4 S 1 '40
Causes of the depressed state of the hide, leather and footwear industries. P. M. Carlisle. Annalist 56:238-9 Ag 22 '40
General shoe corp. controls its salesmen with constant check-up; supervision of every field man by mail, telephone, telegram and personal contact. G. W. Noland. Sales Management 46:31-3 Ap 20 '40
Leather and shoe companies; 1937-39. Mag of Wall St Manual p35 Mr 2 '40
Shoe and leather business in 1940. C. F. Danner. Comm & Fin Chr 150:500+ Ja 27 '40
Shoes; the workers and the industry. H. B. Davis. 256p bibliog(p225-50) $2 International publishers, New York '40
Why 10 General shoe corp. factories are run in competition with one another; corporation set-up completely decentralized. W. M. Jarman. il Sales Management 46:18-20 F 1 '40

See also
International shoe company

Advertising

Consumer contest pulls 35,000 shoe designs for Brown shoe company. A. G. White. il Sales Management 45:46, 48+ D 15 '39

Securities

Growth through filling basic needs; Melville Shoe. W. Gates. Mag of Wall St 65:292+ D 16 '39

Statistics

Boots, shoes, and slippers, 1936-1939. Survey of Cur Business 1940 Sup p124 [supplemented in monthly numbers]
Shoe production, revision; monthly, 1923-June, 1940. Fed Res Bul 26:849 Ag '40

Great Britain

Improved boot and shoe earnings; profits, 1937-39. Economist 138:162 Ja 27 '40

SHOE repair shops
Planning units for retail stores. plan Arch Rec 87:109 Je '40

SHOE stores
Atlanta, Ga.; three shops in one store for mixed clientele. il plans Arch Rec 87:42-5 Ja '40
I. Miller & sons, inc. New York, and Halle bros. shoe department, Cleveland; views, plans, finishes and equipment. Arch Forum 71:438-40 D '39
Los Angeles salon-type shoe store for middle-class trade remodeled. il diags plans Arch Rec 86:29, 34-7 D '39

SHOES
Design decade; Caterpillar arch shoe. il diags Arch Forum 73:285 O '40
Plastic modes; shoes, ornaments, etc. il Mod Plastics 18:40-2 S '40
Plastics competition; award to Saks Fifth Avenue. il Mod Plastics 18:81, 99 O '40
Walking on air; shoes of vinyl-derived flexible, elastic plastic. R. Howell. il Mod Plastics 17:34+ Ag '40

See also
Arch supports
Shoe factories

Manufacture

Gas in the shoe industry. Gas J (Lond) 230: 482 Je 5 '40
Modern shoemaking; electrical installation; John White (Impregnable boots), ltd. il Elec R (Lond) 125:667-9 N 24 '39
Pluralastic shugor; production of shoe goring. il Rubber Age 46:168 D '39
W. B. Coon shoe company dehumidifies shoe drying shed. il diag Heat & Ven 37:25-6 O '40

SHOES, Children's

Rating

Report on children's shoes. diags Consumers' Research Bul (Gen bul ser) 10:13-16 O '40

SHOES, Rubber

See also
Soles, Rubber

Statistics

Census of manufactures, 1939. India Rubber W 103:37-8 O '40
Rubber and canvas footwear, 1936-1939. Survey of Cur Business 1940 Sup p149 [supplemented in monthly numbers]

SHOES, Safety
Foot protection. il Nat Safety N 41:8 Mr '40
On your toes! contribution to industrial safety made by Arthur A. Williams. il Safety Eng 79:11-12 F '40
Safety shoes cut foundry injuries for Pontiac motor division factory employees. il Nat Safety N 41:38+ Mr '40
Shoe-conscious; Thom McAn safety shoe contest. Safety Eng 79:34 Je '40
Standards for safety shoes. Safety Eng 79:29 Je '40
Suggestions for fitting safety shoes. Nat Safety N 42:127 O '40
They must fit or they're not safety shoes. J. R. Bury. il Nat Safety N 41:24-5+ Ap '40

SHOP courses. See High schools—Shop courses

SHOPPING

Transportation service

Park-N-Shop; St Louis public garage operates private buses as a profitable adjunct to its parking business; retail trade cooperation. H. Barman. il Bus Transportation 19:378-9 Ag '40

SHOPPING areas
Average drawing power for retail trade; pictograph. Sales Management 47:40 Ag 15 '40
Does your merchandising match the movements of buying power? L. Jones. map Adv & Sell 33:30-2, 42 O '40
Statistical study of the drawing power of cities for retail trade. J. A. Pfanner, jr. bibliog J Business 13:1-81 pt 2 Ap '40

SHOPPING centers
Community shopping centers; building types; with time-saver standards and case studies. il diags plans Arch Rec 87:99-120 Je '40
Five retail stores; Sears, Roebuck stores in California, Illinois, Maryland, Michigan and Texas. il plans Arch Rec 88:31-42 S '40
Imported from England: shopping centers featuring impressive bulk, main street revival, friendly landlord-tenant relations. il plan Arch Forum 73:133-6+ Ag '40
Main Street remade, by a Briton; new block of stores in Linden, N. J. il Business Week p24+ N 11 '39
Shopping center in glass and metal; Ardmore, Pa. il plans Am Bld 62:74-5 Mr '40

SHOPPING service
Air shopper; Mildred Johnson. il Sales Management 46:2+ F 15 '40

SHOPS

See also
Automobile shops
Car shops
Locomotive shops
Machine shops
Motor bus lines—Shops
Plumbing shops
Railroads—Shops
Sheet metal shops
Street railroads—Shops
Workshops, Farm

SHOPS, School. See School shops

SHORE lines
Recent shoreline process, Brazoria county, Texas. W. H. Curry. il maps Am Assn Pet Geologists Bul 24:731-5 Ap '40

See also
Coastal plains

SHORE protection
American shore and beach preservation association annual meeting, Washington. Eng N 124:77+ Ja 18 '40
Beach erosion studies. E. I. Brown. il diags Am Soc C E Proc 65:69-91 Ja '39; Discussion. il diags 65:757-60, 901-6, 1091-7; 66: 303-11, 501-6 Ap-Je '39, F-Mr '40
Coast and river conservancy. E. Latham. il Engineering 148:571-3, pl 21 N 24 '39
Submerged barriers for shore protection; lake frontage, Chicago. E. E. R. Tratman. diags map Engineer 169:226-8 Mr 8 '40
Underwater seawall widens Chicago beach; jetties on Lincoln Park lakefront connected by sheetpile wall to form pockets for sandfill. plan Eng N 123:762-3 D 7 '39

See also
Dikes (engineering)
Flood control
Groins
Harbors
Jetties
Levees
Rivers—Bank protection

SHORING and underpinning
Underpinning beats subway threat to famous Chicago building; Monadnock office building carried on floating foundations underpinned with caissons; piers picked up through grillages resting on the foundation mats. il diags Eng N 125:422-6 S 26 '40

See also
Building
Foundations

SHORT circuits
Calculation and experiment on transformer reactance in relation to transients of restriking voltage. L. Gosland and W. F. M. Dunne. bibliog diags Inst E E J 87:163-77, pl 1-2 Ag '40
Determination of short-circuit currents in low-voltage industrial feeders. E. F. Kubler. Gen Elec R 43:459-66 N '40
Effect of sequential switching on short-circuit currents in synchronous machines. F. Von Roeschlaub. il Gen Elec R 43:256-61 Je '40
Metrovick tester for detection of short-circuited turns in coils after winding. F. Brailsford. il diag Engineer 169:432-3 My 10 '40
Researches on the clearing of short-circuits on overhead networks by means of ultra-rapid pneumatic circuit breakers. H. Thommen. il diags Engineering 148:522-4 N 10 '39
Sectionalized buses; various arrangements with respect to short-circuit current, regulation, and stability. W. M. Hanna. diags Gen Elec R 43:399-402 O '40
Series capacitor protector control. R. E. Marbury. il diag Elec W 112:1476 N 18 '39
Short circuit destroys new switchboard. il Locomotive 43:49-50 Ap '40
Short-circuit testing station; Crompton Parkinson plant. il Elec R (Lond) 127:3-4 Jl 5 '40
Short circuit tests on high tension overhead lines. Electrician 123:483 D 1 '39
Some effects of short-circuits on three-phase transmission lines. T. F. Wall. diags Engineering 149:352-6, 405-7, 478-9, 539-40, 578-80, 608-10 Ap 5, 19, My 10, 31, Je 14-21 '40

SHORTENING (cookery)
Chains battling Crisco and Spry; big grocery outfits bring own shortenings. Business Week p36-8 Je 15 '40
Cooking fats and oils. Consumers' Research Bul (Gen bul ser) 10:5-8 O '40
Fats and oils battle for food industries market. G. W. McBride. Food Ind 12:70-3 Mr '40
New day in fat frying. W. E. Broeg. Food Ind 12:51-2 Ap '40
Refrigeration of fats and oils. H. S. Mitchell. flow chart il Refrig Eng 40:156-7+ S '40

Advertising
Selling technique in instruction book; Spry recipes. il Ptr Ink Mo 41:14-15 N '40

SHORTER process. See Case hardening—Shorter process

SHORTHAND
Correlated dictation and transcription. H. L. Forkner, A. E. Osborne and J. E. O'Brien. Gregg ed 545p $1.80 Heath '40
Medical stenographer. E. B. Smither. 399p $2 Gregg '39
Modern course in Pitman's shorthand. I. Pitman. new era ed 160p pa 70c Pitman '39
Talk and take; Thomas natural shorthand. M. De M. Frick, E. Vietti and C. A. Thomas. 86p $1.40 Prentice-Hall '40
Twenty shortcuts to shorthand speed. C. I. Blanchard. 100p $1 Gregg '39
Willis shorthand. S. T. Willis. 2d ed 120p $3 Stephen T. Willis, 850 W. Hastings st, Vancouver, B.C. '39

See also
Stenotype

Dictionaries
Vocabulary for Shorthand skills; 10,000 shorthand forms most commonly used in dictation. E. C. Donaldson, A. J. Kean and M. Mahaffy. 100 numb l $1.75 Burgess pub. co, Minneapolis '40

Exercises for dictation
Correlated dictation and transcription. H. L. Forkner, A. E. Osborne and J. E. O'Brien. Gregg ed 545p $1.80 Heath '40
Ellis dictation. J. B. Sardiga. 194p pa 75c Ellis pub. co, Battle Creek, Mich. '40
Individual study guide for Gregg shorthand. H. Harms and P. Harms. 4th ed 173p pa $1.40 Gregg '40
Script shorthand dictation course. G. Dewey. 454p $1.60 General shorthand corp, Lake Placid Club, N.Y. '39
Supplementary dictation exercises. G. Dewey. 184p $1.20 General shorthand corp, Lake Placid club, N.Y. '40

Study and teaching
Script shorthand dictation course; teacher's handbook. G. Dewey. 158p $1.20 General shorthand corp, Lake Placid Club, N.Y. '39
Supplementary dictation exercises; teacher's handbook. G. Dewey. 52p 60c General shorthand corp, Lake Placid club, N.Y. '40

SHOT blasting
Wheelabrator shot-blast cleaning machine for light work. il Engineering 149:113 F 2 '40

SHOVELING machines
Black Hawk, at Mogollon, adapts mining method to shovel loading. I. L. Wright. diags Eng & Min J 141:61-2 Ag '40
Coal storage at pit in wartime; cost of putting coal on prepared stocking ground and reloading into wagons. G. Mullin. diag plan Mech Handling 27:115-16 My '40
Dipper-door control reduces slap. il Coal Age 45:63 Ja '40
Four switches level Bucyrus-Erie 33-yd. shovel. il diag Product Eng 11:396-7 S '40
Materials in the design of mechanical shovels. J. Cooper. Mech Handling 27:60-1 Mr '40
Mechanical shoveling in underground metal mines. M. Mosier and J. H. Steinmesch. pls diags U S Bur Mines Bul 423:1-97 '40
Metal mining practice over sixty years. C. F. Jackson. il Can Min J 60:677-8 N '39
Osgood power shovel controlled by air clutches. il Comp Air M 45:6245 S '40

See also
Electric shovels
Excavating machinery

SHOW cards
Counter cards in the 5 and 10. A. L. Karp. il Ptr Ink Mo 39:9 D '39

SHOW cases, Refrigerated
Design featured in commercial refrigerators. il Refrig Eng 40:88+ Ag '40
Refrigeration efficiency; molded phenolic nonwarping door frames and rails aid in insulating cold storage display cases. il Mod Plastics 18:44-5+ S '40

SHOW windows
Bell-ringer displays of 1940 in drug, food and hardware stores; inventory study of 1,250 windows in 11 large cities. Sales Management 47:18-20, 80-2 S 1 '40

SHOW windows—*Continued*
California shop has two display frontages; George Benioff fur shop, Oakland. il plans Arch Rec 87:52-4 My '40
Clever use of dog appeal gets Sergeant's into many windows. il Sales Management 47:53 S 1 '40
Design decade. il Arch Forum 73:296-7 O '40
Display material statistics. Ptr Ink 191:14 Je 7 '40
Displays that sell cosmetics. 96p $2 Drug and cosmetic industry, New York '40
Glass-house five & dime; W. T. Grant co. merchandise counter and window display. il Adv & Sell 33:24 Mr '40
How to make up show windows that produce printing orders. R. S. Arnold. il Inland Ptr 105:41-3 S '40
Merry Christmas window. il Dom Eng 156:39 N '40
Point-of-sale displays through dealers' eyes; Printers' Ink Monthly special study. A. M. Howe. il Ptr Ink Mo 39:20-2+ D '39
Waste in display materials, and how to cure it. G. L. DeBeer. il Sales Management 47:50, 54-5 S 1 '40
Weco products knows its windows pull; tests prove it. il Sales Management 47: 46-7 S 1 '40

See also
Banks and banking— Show windows
Gas companies— Show windows
Insurance agents— Show windows

Contests

Clocks; G-E window display contest won by Pasadena department store. il Elec West 84:34 Ap '40
Denver union bus depot gets first monthly award. il Bus Transportation 19:178 Ap '40
Last round-up; four displays are chosen for monthly awards. il Bus Transportation 19: 384-5 Ag '40
License tags tell this travel story; Penn-Greyhound terminal, New York wins second window display award. il Bus Transportation 19:221 My '40
Schuylkill Valley lines, inc. wins award for the best window display of the year. il Bus Transportation 19:437-9 S '40

Lighting

Shop window lighting; new regulations for displays and signs. diags Elec R (Lond) 125:731 D 8 '39; Electrician 123:501 D 8 '39; Light & Lighting 32:248-9 D '39
Shop window lighting; photometric tests of fitting by A.R.P. department. J. B. Harris. Electrician 124:107 F 9 '40
Two case histories of lighting technique J. H. Rich. il Elec W 113:432-3 F 10 '40

SHOWROOMS
Display it to sell it; Miller bros., New Hyde Park, N.Y. il Dom Eng 155:50+ Mr '40
Offices and show rooms, National cash register co, New York; views, plans, construction outline. Arch Forum 72:29-32 Ja '40
Setting for sweets; candy display room. il Mod Plastics 18:50-1 S '40

See also
Electric utilities— Showrooms
Gas companies— Showrooms

SHRIMPS
Louisiana's shrimp industry. il Manuf Rec 109:50 F '40

SHRINKAGE of metals
Contraction in grey cast iron. E. Longden. diags Engineer 170:11-12, 30-1 Jl 5-12 '40

SHRINKAGE of textiles
Drying characteristics of regenerated cellulose cylinders. A. W. Hawkins and W. L. Beuschlein. bibliog Ind & Eng Chem 32:944-6 Jl '40
Simple laboratory method of studying fulling phenomena. G. C. Le Compte and J. W. Creely. Am Dyestuff Rep 29:387-90, 408-9 Ag 5 '40
Study of mercerization. W. Schramek and H. Thomas. Am Dyestuff Rep 29:415-16 Ag 19 '40
Woven dress fabrics; testing and reporting, strength, color fastness, etc. Textile Col 62:318-19, 379 My-Je '40
X-ray studies of crystallite orientation in cellulose fibers; fiber structures from coagulated cellulose. W. A. Sisson. bibliog il diags J Phys Chem 44:513-29 Ap '40

See also
Cotton fabrics— Shrinkage
Rayon fabrics— Shrinkage
Sanforizing
Textile fabrics— Shrinkage
Wool, Unshrinkable
Woolen and worsted fabrics—Shrinkage

Testing

Tentative textile standard no. 1, 1939; standard method for measurement of resistance to shrinkage of wool fabrics. il diags Textile Inst J 30:S22-8 O '39; Same. Soc Dyers & Col J 56:225-7 My '40

SHRUBS
Illustrated manual of California shrubs. H. E. McMinn. 689p bibliog(p643-7) $5 J. W. Stacey, San Francisco '39
Wall shrubs and hardy climbers. W. J. Bean. 182p $2.25 Macmillan '40

SHULTON, Incorporated
Early American old spice; record of a merchant of toiletries. il Fortune 21:78-81+ Ap '40
Sales increase 40-fold in 2 years; advertising cost drops to 6.9% from 15.6%; Early American old spice toiletries. C. J. Swan. il Ptr Ink 191:11-14 Ap 19 '40

SHUTDOWNS
Labor and the shut-down of the Amoskeag textile mills. D. Creamer and C. W. Coulter. 342p Works projects administration, Washington, D.C. '39; Review. Monthly Labor R 50:1380-4 Je '40

SHUTT, Frank Thomas, 1859-1940
Sketch. Can Chem & Process Ind 24:38 Ja '40; por Chem & Ind 59:98-9 F 10 '40

SIAM (Thailand)
In the wake of a traveling engineer. J. C. Cosgrove. il map Explosives Eng 18:57-9 F '40
Siam in transition; a brief survey of cultural trends in the five years since the revolution of 1932. K. P. Landon. 328p bibliog (p237-47) $2.50 Univ. of Chicago press '40
Thailand, kingdom of the free. M. A. Pugh. For Comm W 1:190-1 N 2 '40

SIBLEY college. See Cornell university—Sibley college

SICK

See also
Sickness

SICK, Home care of
Home care of sick. Pub Health Rep 55:1865-8 O 11 '40

SICK benefit plans
Disabling morbidity among employees in the slaughter and meat packing industry, 1930-34. H. P. Brinton, H. E. Seifert and E. S. Frasier. bibliog Pub Health Rep 54:2196-219 D 15 '39
Studies on the duration of disabling sickness; duration of disability from sickness and nonindustrial injuries among the male and female memberships of 25 industrial sick benefit organizations, 1935-37, inclusive. W. M. Gafafer and E. S. Frasier. bibliog Pub Health Rep 55:1892-1903 O 18 '40

SICK leave
Payment for absence due to illness. Management R 28:448-50 D '39

SICKNESS
Cases and days of illness among males and females, with special reference to confinement to bed; based on 9,000 families visited periodically for 12 months, 1928-31. S. D. Collins. bibliog(p83-4) Pub Health Rep 55: 47-93 Ja 12 '40
Classification of hospital morbidity; experience in a study of hospital discharges in New York city. M. Fraenkel. Am Statis Assn J 35:489-97 S '40

SICKNESS—*Continued*
Course of disabling morbidity among industrial workers, 1921-38. W. M. Gafafer. bibliog Pub Health Rep 55:962-74 My 31 '40
Diagnosis code for use in tabulating morbidity statistics. T. Parran and W. L. Austin. Pub Health Rep 55:1558-75 Ag 30 '40
Disabling morbidity among employees in the slaughter and meat packing industry, 1930-34. H. P. Brinton, H. E. Seifert and E. S. Frasier. bibliog Pub Health Rep 54:2196-219 D 15 '39
Disabling morbidity among industrial workers, third quarter and the first 9 months of 1939. W. M. Gafafer. Pub Health Rep 55:1-3 Ja 5 '40
Disabling morbidity among industrial workers, final quarter of 1939 and the entire year. W. M. Gafafer. Pub Health Rep 55: 650-2 Ap 12 '40
Disabling morbidity among male and female employees in mail order stores, 1930-34, inclusive. H. P. Brinton and E. S. Frasier. bibliog Pub Health Rep 55:1163-78 Je 28 '40
Disabling morbidity among male and female industrial workers during 1938 and 1939, and among males during the first quarter of 1940, with an inquiry into the occurrence of multiple attacks of disabling sickness and non-industrial injuries, 1939. W. M. Gafafer. bibliog Pub Health Rep 55:1402-6 Ag 2 '40
Duration of illness from specific diseases among 9,000 families, based on nation-wide periodic canvasses, 1928-31. S. D. Collins. bibliog Pub Health Rep 55:861-93 My 17 '40
Frequency and volume of doctors' calls among males and females in 9,000 families, based on nation-wide periodic canvasses, 1928-31. S. D. Collins. Pub Health Rep 55:1977-2020 bibliog(p2012) N 1 '40
National health survey; some general findings as to disease, accidents, and impairments in urban areas. R. H. Britten, S. D. Collins and J. S. Fitzgerald. Pub Health Rep 55: 444-70 Mr 15 '40
Sick absenteeism; how reported in the cement industry. A. J. R. Curtis. Concrete (mill sec) 48:221-2 Ag '40
Sickness absenteeism; abstract. C. D. Selby. Mech Eng 62:327 Ap '40
Sickness among male industrial employees, 1939. Monthly Labor R 51:679-81 S '40
Sickness among workers big loss to industry; preliminary report, sick absenteeism in industry. Concrete (mill sec) 48:188 Je '40
Studies on the duration of disabling sickness; duration of disability from sickness and nonindustrial injuries among the male and female memberships of 25 industrial sick benefit organizations, 1935-37, inclusive. W. M. Gafafer and E. S. Frasier. bibliog Pub Health Rep 55:1892-1903 O 18 '40
Trend of morbidity and mortality during 1939 and recent preceding years. Public Health Rep 55:801-21 My 10 '40

See also
Diseases
Hygiene
Infectious diseases
Insurance, Health
Medical service
Mortality
Public health

SIDE lines
Adding to business with sheet metal specialties; lighting fixtures and radiator covers; Residential conditioners, inc. il Sheet Metal Worker 31:27-8 Ag '40
Policies that pull Marlin out of the ruck of razor blade makers; 70-year-old firearms firm adds new line; sells by mail order and 30 or more different types of outlets. il Sales Management 46:24+ Ap 1 '40

SIDEWALKS, Concrete
Street surfacing, walks, Milwaukee, Wis.; unit prices. Eng N 125:198 Ag 8 '40

SIERRA NEVADA
Gravity section across the Sierra Nevada. W. D. Johnston, jr. map Geol Soc Bul 51: 1391-6 S '40
Metamorphism in the southern Sierra Nevada northeast of Visalia, California. C. Durrell. il diags maps Univ of Calif Bul of Dept of Geological Sciences v 25 no 1: 1-117 '40 (pa $1.25)
Sierra Nevada tectonic pattern. A. Locke, P. Billingsley and E. B. Mayo. map Geol Soc Bul 51:513-39 bibliog(p535-8) pl 1-2 Ap '40

SIERRA Pacific power company
Plans private bond sale. Comm & Fin Chr 151:2661 N 2 '40

SIEVES
American standard specifications for sieves. J. C. Pearson. Am Concrete Inst J 11:sup [news letter] 10, 12 Je '40
Disintegrators, sifting, separating and dust collection at chemical exposition. il diags Chem & Met Eng 46:694-6 N '39
Sifting mechanically through standard testing sieves. F. A. W. Davis and D. A. Deaderick. il diags Eng & Min J 141:58 S '40
Study of sieves for coarse aggregates. A. H. D. Markwick. diags Soc Chem Ind J 59:89-92 My '40

See also
Screens

Standards
New American standard correlates requirements for test sieves. L. T. Work. Ind Stand 11:63-5 Mr '40

SIGATOKA. See Bananas—Diseases and pests

SIGHT
Basic mechanics of human vision. R. B. Simpkins. 228p $4 Sherwood press, Box 552, Edgewater branch, Cleveland '39
How common is defective sight? Illum Eng 35:581 Jl '40
Komplextheorie of visual sensation; abstract. A. H. Holway and M. J. Zigler. Opt Soc Am J 30:270 Je '40
Lighting and eyesight. G. V. Downer. Electrician 125:149 S 20 '40
Measurement of sight. L. H. Hardy. bibliog il diags Illum Eng 35:605-24 Jl '40
Nerve messages in the fibers of the visual pathway. H. K. Hartline. bibliog il Opt Soc Am J 30:239-47 Je '40
Progress in engineering knowledge during 1939; seeing and lighting. P. L. Alger. il diag Gen Elec R 43:84-6 F '40
Seeing at night; importance during the blackout. R. G. Hopkinson. Elec R (Lond) 126: 241-2 Mr 1 '40
Subjective phenomenon of vision in polarized light. H. H. Neuberger. diags Opt Soc Am J 30:258 Je '40
Summary of researches involving blink-rate as a criterion of ease of seeing. M. Luckiesh and F. K. Moss. bibliog Illum Eng 35:19-32 Ja '40
Supra-threshold visibility. M. Luckiesh and F. K. Moss. il diags Opt Soc Am J 30: 62-9 F '40
Vision and colour-vision. F. W. Edridge-Green. pl Chem & Ind 59:567-71 Ag 10 '40

See also
Blind
Color sense
Eye
Lighting
Optical illusions
Optics, Physiological
Spectacles
Visibility

SIGN painting
How to write signs, tickets and posters. P. N. Hasluck, ed. 160p pa 35c David McKay co, 604 S. Washington sq, Philadelphia '40

SIGNAL corps. See United States—Army—Signal corps

SIGNALS and signalling
Excerpts from the International code of signals for use in preparation for signalling requirements of the examination for licensed deck officers and the qualification as signalman in the merchant marine. pa 50c Cornell maritime press, 350 W. 23d st, New York '40

See also
Automobile signal lights
Electric signals
Fire alarms
Light signals
Mine signals
Radio signals
Railroads—Signals

SIGNATURES
Witness to signature card. Banking 32:32 D '39
See also
Checks—Indorsement

SIGNS
From A to Z; molded letters, in complete sets of various sizes. il Mod Plastics 17:36+ Mr '40
Illuminated sign display in which plastics provide economies in operation and permanence. R. L. Davidson. il Mod Plastics 17: 25-7, 70+ Mr '40
Standard A.R.P. signs. il Light & Lighting 32:247 D '39
See also
Electric signs
Road signs
Street signs

Manufacture

Refiner makes display signs from scrap metal. W. T. Ziegenhain. il Oil & Gas J 39:58 Jl 18 '40

SIGNS, Dealers'
Checking up on dealer signs; Westinghouse Electric. P. W. Endriss. Ptr Ink Mo 40:48 F '40
Survey shows need for better point-of-sale identification. Sales Management 46:78 Mr 1 '40

SILAGE

Analysis

Chemical changes in phosphoric acid silage. E. Pagé and L. A. Maynard. bibliog Ind & Eng Chem 32:1140-3 Ag '40

SILANE. See Silicane

SILCOX, Ferdinand Augustus, 1882-1939
Sketch. H. S. Graves. Science 91:62-3 Ja 19 '40

SILENCERS
Maxim gun silencer has industrial counterparts. il Comp Air M 45:6092 F '40

SILENE
Silene, a pigment with reenforcing properties. India Rubber W 102:49 Ag '40; Rubber Age 47:246 Jl '40

SILICA
Adsorption of water vapor on silica surfaces, by direct weighing. H. M. Barrett, A. W. Birnie and M. Cohen. diag Am Chem Soc J 62:2839-44 O '40
Alumina and silica refractories. H. M. Kraner. flow sheet il Iron Age 145:25-30 Ja 18; 34-9 Ja 25 '40
Catalytic cracking of aliphatic hydrocarbons. G. Egloff and others. bibliog Am Chem Soc J 61:3571-80 D '39
Die chemischen eigenschaften der im wasser gelösten kieselsäure und ihr einfluss auf den hochdruckkesselbetrieb. A. Splittgerber. bibliog diags Chemische Fabrik 13:169-73 My 18 '40
Constitution of the alleged Thiessen hydrates. H. B. Weiser, W. O. Milligan and W. J. Coppoc. bibliog diag J Phys Chem 43:1109-20 D '39
Equilibria in the systems Na_2O-SiO_2-H_2O and Na_2O-Al_2O_3-H_2O at 25°C. J. W. Sprauer and D. W. Pearce. bibliog il J Phys Chem 44: 909-16 O '40
Equilibrium between vapor and liquid phases in the system CO_2—H_2O—K_2O—SiO_2. G. W. Morey and M. Fleischer. bibliog diag Geol Soc Bul 51:1035-57 Jl '40
Explosibility of aluminum powder-silica dust clouds. R. B. Mason and C. S. Taylor. Ind & Eng Chem 32:67-8 Ja '40
Glass melts in the systems zirconia-alumina-silica and titania-alumina-silica. A. E. Badger and L. M. Doney. bibliog diag Glass Ind 21:309-11+ Jl '40
Identification of aluminum hydrate films of importance in silicosis prevention. L. H. Germer and K. H. Storks. bibliog il Ind & Eng Chem Anal ed 11:583-92 N 15 '39; Abstract. Bell System Tech J 19:152-5 Ja '40
Mat glazes and the lime-alumina-silica system. H. Wilson. diags Am Cer Soc Bul 18: 447-54 D '39
New mechanism for the action of the vanadium pentoxide-silica-alkali pyrosulfate catalyst for the oxidation of sulfur dioxide. J. H. Frazer and W. J. Kirkpatrick. bibliog Am Chem Soc J 62:1659-60 Jl '40
Pozzolanic materials; combination of SiO_2 and CaO in the presence of water. Concrete (mill sec) 48:130 F '40
Prevention of silicosis; experimental investigations on the action of certain non-siliceous dusts and silica in the origin and development of silicosis. C. Naeslund. J Ind Hygiene 22:1-30 bibliog(p28-30) Ja '40
Removal of silica from water by cold process. L. D. Betz, C. A. Noll and J. J. Maguire. bibliog il Ind & Eng Chem 32:1320-3 O '40
Removal of silica from water by hot process. L. D. Betz, C. A. Noll and J. J. Maguire. il diag Ind & Eng Chem 32:1323-9 O '40
Settling characteristics of various inorganic dusts. L. H. Berkelhamer. bibliog diag J Ind Hygiene 22:276-87 S '40
Silica dust control at Hiwassee dam. L. P. Hatch and D. F. Shaw. il diag plan Civil Eng 10:582-5 S '40
Silica in boiler feedwater. W. F. Peters, jr. and W. D. Turner. bibliog Power Pl Eng 44:54-7 Mr; 47-9 Ap '40
Sorption of water vapor by vermiculite and its silica. L. A. Hansen, W. S. Samuel, jr. and P. A. Forni. bibliog diag Ind & Eng Chem 32:116-18 Ja '40
Study of heterogeneous equilibria in aqueous solutions of the sulfates of pentavalent vanadium at 30°. O. E. Lanford and S. J. Kiehl. Am Chem Soc J 62:1660-5 Jl '40
System calcium oxide—silica—water at 30°; the association of silicate ion in dilute alkaline solution. P. S. Roller and G. Ervin, jr. bibliog Am Chem Soc J 62:461-71 Mr '40
Volcanic ash as a source of silica for the silicification of wood. K. J. Murata. Am J Sci 238:586-96 bibliog(p594-5) Ag '40
See also
Diatomaceous earth
Glass
Quartz
Sand
Silica gel
Water purification—Silica removal

Analysis

Correcting ignited silica precipitates for non-volatile material. J. S. Billheimer, P. H. Faust and E. H. Swift. bibliog Ind & Eng Chem Anal ed 12:409-11 Jl 15 '40
Decomposition of rocks and ceramic materials with a small amount of sodium carbonate. J. I. Hoffman. J Research Nat Bur Stand 25:379-83 S '40
Determination of quartz (free silica) in refractory clays. L. J. Trostel and D. J. Wynne. Am Cer Soc J 23:18-22 Ja '40
Determination of silica and R_2O_3 in portland cement. L. R. Dawson and R. V. Andes. bibliog Ind & Eng Chem Anal ed 12:138-9 Mr 15 '40
Quantitative analysis by X-ray diffraction; the determination of quartz. J. W. Ballard, H. I. Oshry and H. H. Schrenk. pls U S Bur Mines Rep of Invest 3520:1-10 '40
Silicomolybdate method for silica. H. W. Knudson, C. Judav and V. W. Meloche. bibliog Ind & Eng Chem Anal ed 12:270-3 My 15 '40

Bibliography

Silica in water. M. C. Schwartz. diags Louisiana State Univ and Agricultural and Mechanical College, Univ Bul v 30, new ser no 14:1-46 '38

SILICA, Fused
Glass; chemical trends. H. H. Blau. il Ind & Eng Chem 32:1419-23 N '40
Impact strength of transparent and translucent fused silica and of recrystallised alumina. B. Moore. Soc Chem Ind J 59:119-20 Je '40
Physical properties of low-expansion glasses, fused quartz and fused silica and makers of equipment. Chem & Met Eng 47:604 S '40

SILICA, Fused—*Continued*
Study of quartz-fusing operations with special reference to the measurement and control of silica fumes. E. C. Riley and J. M. DallaValle. diags Pub Health Rep 54:352-9 Mr 3 '39; Excerpts. Heat & Ven 37:23 Ap '40
Trends in high-intensity mercury lamps. G. A. Freeman. bibliog il diag Elec Eng 59: 444-7 N '40
Vitreosil. Chem & Ind 59:364-5 My 25 '40

SILICA brick
Alumina and silica refractories. H. M. Kraner. flow sheet il Iron Age 145:34-9 Ja 25 '40
Coke oven refractories. W. C. Rueckel. diags Am Gas Assn Proc 1939:567-72
Five years of progress in steelworks refractories. J. H. Chesters. bibliog Blast F & Steel Pl 28:1028-9, 1119 O-N '40
100% alumina or 100% silica refractories. F. A. Harvey. Brick & Clay Rec 97:44-5 O '40
Spalling and cracking of fireclay and other refractory materials. L. Hickman. Blast F & Steel Pl 28:832-3 Ag '40
Trends in refractories for the basic open-hearth furnace. R. P. Heuer. bibliog il diags Metals & Alloys 11:95-8, 152-5 Ap-My '40

Testing

Anomalies in the properties and behaviour of silica bricks. C. Edwards and H. M. Spiers. bibliog Gas J (Lond) 231:282, 285-6, 411-12, 417 Ag 14, S 4 '40; Correction. 231: 362 Ag 28 '40

SILICA gel
Adsorption analysis; relation between adsorption isotherm and position on the adsorption column. H. G. Cassidy. Am Chem Soc J 62:3076-9 N '40
Application of the hydrogen-bridge theory to sorption from solution by silica gel. A. L. Elder and R. A. Springer. bibliog J Phys Chem 44:943-9 O '40
Bryant silica gel dehumidifier. diag Chem & Met Eng 46:789 D '39
Change in marketing silica gel. Ind & Eng Chem News ed 18:275 Mr 25 '40
Edgar P. Lewis & sons; manufacturer of candy; use of ten Bryant silica-gel type air dehumidifiers. D. R. McNally. il Heat & Ven 37:37-40 Ag '40
Keeping goods dry in transit; silica gel proposed for dehydration in addition to accepted packaging and sealing methods. R. L. Hockley. Chem & Met Eng 46:775-6 D '39; Abstract. Chem Age (Lond) 42:20 Ja 13 '40
Novocol chemical mfg. co. uses silica gel unit to dry air. R. Sanford. il diag plan Heat & Ven 37:43-5 Ap '40
Progress with Bryant gas-operated silica gel dehumidifiers. C. F. Cushing. flow diags il diag Am Gas Assn Proc 1939:448-58
Silica gel adsorption. F. C. Dehler. il diag Chem & Met Eng 47:307-10 My '40
Silica gel as a drying agent. R. L. Hockley. Refrig Eng 39:234 Ap '40
Trocknung von stadtgas mit kieselgel. H. Klaus. V D I 84:123 F 17 '40
Vapor-phase esterification of benzoic acid with ethyl alcohol; effect of oxides on catalytic activity of silica gel. A. A. Vernon and B. M. Brown. bibliog diag Ind & Eng Chem 32:534-6 Ap '40

SILICANE
Thermal and photochemical oxidation of the chlorinated silanes. H. J. Emeléus and A. J. E. Welch. diag Chem Soc J p1928-37 D '39

SILICATES
Density of silicate glasses as a function of composition. M. L. Huggins. bibliog Opt Soc Am J 30:420-30 S '40
Equilibrium between vapor and liquid phases in the system CO_2—H_2O—K_2O—SiO_2. G. W. Morey and M. Fleischer. bibliog diag Geol Soc Bul 51:1035-57 Jl '40
Refractive index of silicate glasses as a function of composition. M. L. Huggins. bibliog Opt Soc Am J 30:495-504 O '40
Silicate glasses; calculation of densities, refractive indices, and dispersions from glass composition. M. L. Huggins. bibliog il Ind & Eng Chem 32:1433-6 N '40
Summary of occurrence, properties, and uses of vermiculite at Libby, Montana. W. W. Kriegel. il Am Cer Soc Bul 19:94-7 Mr '40

See also
Albite
Alkaline earth silicates
Aluminum silicates
Analcite
Beryl
Fuller's earth
Glass
Glauconite
Kaolin
Mica
Rocks
Slag
Sodium silicates
Vermiculite
Zeolites
Zircon

SILICIC acid
Der einfluss von kieselsäure, titansäure, und tonerde auf die zähigkeit einer sauren synthetischen schlacke und berechnung der zähigkeit saurer und basischer hochofenschlacken aus der chemischen zusammensetzung. K. Endell and G. Brinkmann. Stahl & Eisen 59:1319-21 D 7 '39

SILICIC acid gel
Silicic acid as a protective colloid for manganese dioxide sols. F. Hazel. bibliog J Phys Chem 44:422-7 Ap '40
Studies on silicic acid gels; the effect of a change of pH upon the time of set of some acid gels. C. B. Hurd and H. W. Paton. bibliog J Phys Chem 44:57-62 Ja '40
Studies on silicic acid gels; the time of set of acidic and basic mixtures containing phosphoric acid. C. B. Hurd and A. J. Marotta. bibliog Am Chem Soc J 62:2767-70 O '40
Studies on silicic acid gels; the time of set of gel mixtures containing high concentrations of mineral acids. C. B. Hurd and R. W. Barclay. bibliog J Phys Chem 44:847-51 O '40

SILICIFICATION of wood. See Petrified wood

SILICOMOLYBDIC acid
Silicomolybdate method for silica. H. W. Knudson, C. Juday and V. W. Meloche. bibliog Ind & Eng Chem Anal ed 12:270-3 My 15 '40

SILICON
Die chemie des siliciums. R. Schwarz. bibliog Angew Chemie 53:6-11 Ja 6 '40
Electric furnace cast irons containing copper. T. E. Barlow. il Metals & Alloys 12.36-9, 158-65 Jl-Ag '40

Isotopes

Beta-radiation from Si^{27} and I^{130}. W. H. Barkas and others. Phys R 58:383 Ag 15 '40

SILICON alloys
Ferromagnetic anisotropy of iron and iron-rich silicon alloys. L. P. Tarasov. Phys R 56:1231-40 D 15 '39

See also
Iron alloys—Silicon alloys
Silicon bronze

SILICON bronze
Silicon bronzes; to prevent steel pickup during welding of silicon bronzes to steel, surfaces are first tinned with bronze, using oxyacetylene flame. H. Lawrence. diags Steel 106:67-8 Je 3 '40

SILICON carbide
Aluminum powder improves the strength of silicon carbide and graphite products. J. F. McMahon. Brick & Clay Rec 95:58 N '39
Refractory radiant tubes; fuel fired furnace with recuperator type heat exchanger and silicon carbide radiant tubes used for enameling. W. F. Ross. il Iron Age 146: 42-4 S 12 '40

SILICON compounds
Die chemie des siliciums. R. Schwarz. bibliog Angew Chemie 53:6-11 Ja 6 '40

SILICON compounds—*Continued*
Redistribution reaction; alkyl compounds of mercury, tin, silicon and zinc. G. Calingaert, H. Soroos and H. Hnizda. bibliog Am Chem Soc J 62:1107-10 My '40

See also
Silica
Silicates

SILICON cyanates
Cyanates of silicon, phosphorus and boron; instability of certain ternary boron compounds. G. S. Forbes and H. H. Anderson. Am Chem Soc J 62:761-3 Ap '40

SILICON dioxide. See Silica

SILICON steel
Electrical steel sheets. (Tech. bul. no. 1) 117p Carnegie-Illinois steel corp, Pittsburgh '39
Germans turn to manganese and silicon for alloying in steel. Metal Prog 38:163-4 Ag '40
Transformer steel takes a new turn; silicon steel as core material; new assembly method utilizes directional effect produced by rolling. W. E. Ruder. il diags Steel 106: 58-60 Je 3 '40

SILICON tetramethyl
Hindered internal rotation of methyl groups; the entropy of silicon tetramethyl. J. G. Aston and R. M. Kennedy. Am Chem Soc J 62:2567 S '40

SILICOSIS
Air hygiene in the mining industry. L. U. Gardner. il Min Cong J 26:34-6 Ja '40
Air hygiene; technical notes from fourth fall meeting of the Air hygiene foundation. P. Drinker. Can Chem & Process Ind 24:98 F '40
Aluminium dust combats silicosis. Eng N 125:17 Jl 4 '40
Cement does not cause silicosis. L. U. Gardner and others. Eng N 125:148 Ag 1 '40
Critical review of occupational disease legislation. T. C. Waters. Min Cong J 25:34-6 D '39
Dust count technique in Tri-state mines. H. C. Chellson. il Eng & Min J 140:29-33 D '39
Dust, foe of management, employe and machine. Brick & Clay Rec 96:24-5 Ap '40
Dyspnea of silicosis; abstract. L. G. Cole and W. G. Cole. J Ind Hygiene 22:sup 15-16 Ja '40
Grammar of Witwatersrand silicosis. A. Mavrogordato. Chem & Ind 59:510-12 Jl 13 '40
Health hazards; control measures in New York state Department of labor. F. S. Miller Safety Eng 79:45-6 Ap '40
Identification of aluminum hydrate films of importance in silicosis prevention. L. H. Germer and K. H. Storks. bibliog il Ind & Eng Chem Anal ed 11:583-92 N 15 '39; Abstract. Bell System Tech J 19:152-5 Ja '40
Medicolegal aspects of silicosis; abstract. T. C. Waters. J Ind Hygiene 22:sup165 O '40
Modifying influences of silicosis with infection upon the healthy chest; abstract. E. P. Pendergrass and P. J. Hodes. J Ind Hygiene 22:sup147 S '40
New treatment for silicosis; aluminum powder; abstract. D. Irwin. Science 92:sup10 O 18 '40
Pneumoconiosis (silicosis), the story of dusty lungs; a preliminary report. L. G. Cole and W. G. Cole. various paging $1 John B. Pierce foundation, New York '40
Present status of silicosis; abstract. A. J. Lanza. J Ind Hygiene 22:sup 11-12 Ja '40
Prevention of silicosis; experimental investigations on the action of certain non-siliceous dusts and silica in the origin and development of silicosis. C. Naeslund. J Ind Hygiene 22:1-30 bibliog(p28-30) Ja '40
Recent developments in relation to silicosis; abstract. L. U. Gardner. Am Cer Soc J 23 (Cer A 19):205-6 Ag '40
Relation of quartz dust to silicosis. Science 90:sup12 N 24 '39
Saranac laboratory pushing studies of silica dust. Concrete (mill sec) 48:184 Je '40
Silicosis and type III pneumococcus pneumonia; an experimental study. A. J. Vorwald, A. B. Delahant and M. Dworski. bibliog 4pls J Ind Hygiene 22:64-78 F '40
Silicosis in gold miners of gold mines of Belliére in Maine-et-Loire; abstract. R. Amsler and J. Cady. J Ind Hygiene 22:sup 57 Mr '40
Silicosis prevention; dust control in foundries. 25p bibliog(p25) U.S. Dept. of labor; pa 10c Supt. of doc. '39
Silicosis; proceedings of the International conference held in Geneva from 29 August to 9 September, 1938. 223p pa $1.25 Int. labor office '40
Silicosis; Tri-state dust storm; report on Oklahoma, Kansas, and Missouri mines. Business Week p51-2 D 9 '39
To stop silicosis; the resistance-efficiency problem. S. C. Blacktin. bibliog diags Chem Age (Lond) 42:97-9 F 17 '40
X-ray alone can not determine extent of injury from silicosis. Concrete (mill sec) 48: 186 Je '40

See also
Lungs—Dust diseases

SILK
Hints on winding. A. King, jr. Textile World 90:86-7 Ag '40
Textile fiber atlas. W. von Bergen and W. Krauss. bibliog pls Rayon 21:349-53 Je '40
Variations of shape and area of cross-section in single silk filaments and their effect upon extensibility. A. C. Goodings and L. H. Turl. diags Textile Inst J 31:T207-18 S '40

See also
Dyes and dyeing—Silk
Silk manufacture
Silk mills
Silk trade
Silk weaving
Silk yarn

Chemistry
Concerning the existence of fractions of the sericin in raw silk. H. A. Rutherford and M. Harris. bibliog Am Dyestuff Rep 29: 213-16 Ap 29 '40; Same. J Research Nat Bur Stand 24:415-21 Ap '40
Recent developments in the chemistry of silk and silk processing, Sept. 1939 to Oct. 1940. W. M. Scott. bibliog Am Dyestuff Rep 29: 534-8+ O 14 '40

Moisture content
Density and swelling of silk filaments in relation to moisture content. A. C. Goodings and L. H. Turl. bibliog diag Textile Inst J 31:T69-80 Je '40; Abstract. Textile Col 62:835+ D '40
Electrical conductance measurements of water extracts of textiles. A. C. Walker. diag Am Soc T M Proc 39:1233-9; Discussion. il 1240-1 '39

Prices
New York silk futures, 1939. Annalist 55:150 Ja 25 '40
Wholesale prices of silk and rayon, index numbers, monthly, Jan. 1926-March 1940; revision. Survey of Cur Business 20:18 My '40

Swelling
See Silk—Moisture content

SILK, Artificial. See Rayon; Textile fibers, Synthetic

SILK, Insulating
Electrical conductance measurements of water extracts of textiles. A. C. Walker. diag Am Soc T M Proc 39:1233-9; Discussion. il 1240-1 '39

SILK fabrics
Lousiness in silk. T. Hayashi. Rayon 21:688-9 N '40
Rayon and silk dress fabric performances; piece goods market for spring season. Rayon 21:10-11 Ja '40

Testing
Progress in textile research from the consumer point of view; accuracy of sales information, fabric performance, fabric construction and dyes. P. B. Mack. bibliog Am Dyestuff Rep 28:696-9 N 27 '39

SILK finishing
Development of synthetic resins for hosiery finishes. A. K. Haynes. Am Dyestuff Rep 29:186-9 Ap 15 '40
Making fabrics transparent and impermeable to fluids. C. H. S. Tupholme. Ind & Eng Chem News ed 18:766 S 10 '40
New finishes for silk hosiery; synthetic resins. W. T. Leggis. il Textile World 90:78 Ap '40
New hosiery finishes. Textile World 89:62 D '39
Recent developments in the chemistry of silk and silk processing, Sept. 1939 to Oct. 1940. W. M. Scott. bibliog Am Dyestuff Rep 29: 534-8+ O 14 '40
Sulfated ester of fatty acid; Onyx oil & chemical co. presents Phi-Φ-Sol. Textile Col 62:460-1 Jl '40

SILK manufacture
Fading of tint in soaking silk. A. J. Kellner. Rayon 21:291 My '40
Rayon and silk; developments in 1939. Textile World 90:86-8 F '40
See also
Rayon manufacture
Silk mills
Silk weaving

SILK mills
Electric equipment
Throwsters use electric heat. G. T. Perley. il Textile World 90:64-5 My '40
Employees
Protection of child workers in Shanghai. Monthly Labor R 49:1103 N '39
Equipment
Efficient layout for soaking. O. P. Shelton. Textile World 90:63 Ap '40
Heating and ventilation
How we improved the heating of our plant; Phoenix silk corp. H. A. Richardson. il diag Heating-Piping 12:235-8 Ap '40

SILK screen printing
Blackout relief; luminous paint printing. Inland Ptr 104:74 F '40
Hows and whys of silk-screen work. J. L. Biegeleisen. il Inland Ptr 105:39-40 My '40
Observations on screen printing. Textile Col 61:739-42+, 835-7; 62:46-8, 120-1, 267-70, 322+ N '39-F, Ap-My '40
Printing of wool; screen printing. E. W. Pierce. Am Dyestuff Rep 29:155-6 Ap 1 '40
Silk-screen and older methods, joined, give "it"; Plow & Watters, Montreal. il Inland Ptr 104:27-9 Ja '40

SILK thread
Silk and cotton sewing thread constructions. H. Miedendorp, jr. Rayon 21:236-7 Ap '40

SILK throwing
Throwing progress, 1939. O. P. Shelton. Textile World 90:87 F '40
Throwsters use electric heat. G. T. Perley. il Textile World 90:64-5 My '40

SILK trade
Curious situation caused by higher silk prices and new competitive fibers. P. M. Carlisle. Annalist 54:755 D 14 '39
How technological achievements transformed rayon into textile industry's common denominator. G. H. Conze. Rayon 21:334-7, 398-401 Je-Jl '40
Silk and its future. P. Gerli. Can Chem & Process Ind 24:264 My '40
Statistics
Raw silk; United States imports declined, reexports increased in 1939. Comm Rep p163 F 17 '40
Silk deliveries, revision; monthly, 1923-June, 1940. Fed Res Bul 26:843 Ag '40
Silk in 1939. Economist 138:sup38-9 F 17 '40
Silk, 1936-1939. Survey of Cur Business 1940 Sup p155 [supplemented in monthly numbers]
Silk prices up 140% to ten-year peaks. Annalist 55:150 Ja 26 '40
Japan
Japan's 1939 cocoon crop; raw silk production and domestic consumption. Comm Rep p1172 D 16 '39
Success of silk pegging doubtful. Barron's 20:6 Ag 5 '40

SILK weaving
Formation of good selvages. H. E. Wenrich. il diags Rayon 20:512-13, 586-7, 647-8, 706-7; 21:40-1, 166-7, 233-4 S '39-Ja, Mr-Ap '40
Loomfixers' manual; rayon and silk (cont). H. E. Wenrich. il diags Textile World 89:88-9 D '39; 90:146-7 F; 99 Ap; 101 Je; 90 Ag; 113 O '40
Profit or loss in weaving? A. C. Wayman. Textile World 90:94 Ja '40
Weaving developments, 1939. H. E. Wenrich. Textile World 90:87-8 F '40

SILK weighting
Effect of finishing treatments on durability. O. Mecheels. Textile Col 61:831-2 D '38
Recovering tin from waste phosphate liquors. C. C. Downie. Textile Col 62:394+ Je '40

SILK yarn
Efficient layout for soaking. O. P. Shelton. Textile World 90:63 Ap '40
Influence of twist on shortening, diameter, dullness and torsion of silk hosiery yarns. W. P. Seem, T. Andrew and E. Simmat. il Rayon 21:104-6, 168-70, 223-5, 303-5, 365-7, 423-4, 467-8 F-Ag '40
Terminology
Influence of twist on shortening, diameter, dullness and torsion of silk hosiery yarns; definitions and nomenclature. W. P. Seem, T. Andrew and E. Simmat. il Rayon 21:104-6 F '40

SILKWORMS
Silk-fibroinogen of bombyx mori; abstract. W. Ramsden. Chem & Ind 59:730 O 26 '40

SILLIMANITE
Sillimanite in spark plugs; pictorial story of insulator production. Can Chem & Process Ind 24:392-3 Ag '40

SILLS. See Rocks, Igneous

SILOS
Tile silos outlast concrete by ratio of two to one. C. H. Reed. Brick & Clay Rec 95:16 N '39
See also
Grain elevators

SILOS, Concrete
Flow method for the determination of the effects of soluble chemicals on concrete. D. G. Miller, C. F. Rogers and P. W. Manson. il diag Am Soc T M Proc 39:900-7; Discussion. 908-12 '39
Laboratory tests of concrete and mortars exposed to weak acids. D. G. Miller, P. W. Manson and C. F. Rogers. Concrete 48:43+ Ap '40
Permeability, acid, and absorption tests of mortars used in dry tamped silo staves. C. A. Hughes. il diag Am Concrete Inst J 11:553-78 Je '40
Proposed specifications and methods of testing for concrete staves to be used in farm silo construction; report of committee 714. diags Am Concrete Inst J 11:401-6 F '40
Silo manufacturers hear talks on better concrete for staves; 27th annual meeting of the National association of silo manufacturers, Chicago. Concrete 48:25 Ja '40

SILT
Silting of reservoirs. L. S. Hall. bibliog Am Water Works Assn J 32:25-42 Ja '40
Studying sediment loads in natural streams; Enoree River laboratory of the Soil conservation service. G. C. Dobson and J. W. Johnson. il diags Civil Eng 10:93-6 F '40
Technical aspects of the silt problem on the Colorado river. C. P. Vetter. il Civil Eng 10:698-701 N '40
Yellow River problem. O. J. Todd and S. Eliassen. il diags maps Am Soc C E Proc 64:1921-91 D '38; Discussion. 65:550-8, 707-15, 1069-77, 1255-7, 1777-87 Mr-Ap, Je, S, D '39

SILURIAN period. See Geology, Stratigraphic—Silurian

SILVER

Arc spectrum of silver. A. G. Shenstone. Phys R 57:894-8 My 15 '40

Cold welding of silver; pressure welding at temperatures from room temperature to red heat. G. R. Van Duzee and J. M. Thomas. Electrochem Soc Trans 77 (preprint 6):73-82 Ap '40

Dispersion of supersonic waves in cylindrical rods of polycrystalline silver, nickel, and magnesium. S. K. Shear and A. B. Focke. bibliog diags Phys R 57:532-7 Mr 15 '40

Fundamental relation between lattice constants and density. F. Foote and E. R. Jette. bibliog Phys R 58:81-6 Jl 1 '40

Investigation of antitarnish paper. H. W. Rowe and O. Kress. bibliog Paper Tr J 110: 33-6 Ja 11 '40

Investigation of the exchange between a metal and ions in solution by using radioactive indicators. B. V. Rollin. Am Chem Soc J 62:86-7 Ja '40

Investigation of thin evaporated silver films on glass. J. Strong and B. Dibble. diag Opt Soc Am J 30:431-8 S '40

Isomeric silver and the Weizsäcker theory. L. W. Alvarez, A. C. Helmholz and E. Nelson. bibliog Phys R 57:660-1 Ap 1 '40

Keto-cyclol tautomerism of 1,6-diketones; 1,4-dibromo-1,4-dibenzoylbutane. T. Kao. Am Chem Soc J 62:356-8 F '40

New applications of the silver reductor; determination of uranium and copper. N. Birnbaum and S. M. Edmonds. bibliog Ind & Eng Chem Anal ed 12:155-7 Mr 15 '40

New energy levels in the silver atom E. Rasmussen. Phys R 57:243 F 1 '40

Photoelectric work functions of (100) and (111) faces of silver single crystals and their contact potential difference. H. E. Farnsworth and R. P. Winch. bibliog diags Phys R 58:812-19 N 1 '40

Photographic silver-gelatin paper as a reagent in spot analysis. G. Schwarz. Ind & Eng Chem Anal ed 12:369-72 Je 15 '40

Radioactive isotopes of indium from alpha-bombardment of silver. L. D. P. King and W. J. Henderson. Phys R 56:1169 D 1 '39

Recent advances in the applied chemistry of the rare metals; quest for stainless silver; a new method of protecting silver against tarnish. R. H. Atkinson. Chem & Ind 59:202 Mr 23 '40

Revision of the atomic weight of iodine; the ratio of silver to silver iodide; the ratio of silver iodide to silver chloride. G. P. Baxter and O. W. Lundstedt. bibliog Am Chem Soc J 62:1829-34 Jl '40

Secondary emission from films of silver on platinum. A. E. Hastings. bibliog diag Phys R 57:695-9 Ap 15 '40

Silver-silver iodide electrode. R. K. Gould and W. C. Vosburgh. bibliog diag Am Chem Soc J 62:1817-19 Jl '40

Spark spectrum of silver. E. Rasmussen. Phys R 57:840-1 My 1 '40

Tests for the validity of the X-ray crystal method for determining *N* and *e* with aluminum, silver and quartz. P. H. Miller, jr. and J. W. M. DuMond. bibliog Phys R 57: 198-206 F 1 '40

Textiles of tomorrow; Pamilla silver cloth. K. H. Barnard. Textile Col 61:845 D '39; Same. Am Dyestuff Rep 28:739 D 25 '39

Transformations chimiques de l'argent d'une image photographique. A. Seyewetz. Chimie & Ind 43:632-6 Ap 20 '40

Work functions of different faces of silver single crystals. H. E. Farnsworth and R. P. Winch. Phys R 56:1067 N 15 '39

See also

Silver as money

Analysis

Determination of silver in silver cyanide plating solutions. D. M. Gillies and W. M. McNabb. Metal Finishing 38:377-8 Jl '40

Industrial applications

Air circuit-breaker contacts. L. B. Hunt. il Elec R (Lond) 126:656 Je 21 '40

Industrial uses for silver. Franklin Inst J 229: 236-8 F '40

Low-temperature silver brazing alloy used on heavy current conductors. Mach 46:139 Mr '40

New uses for silver; producers' research project moved to Bridgeport, Conn. Business Week p35 Je 1 '40

Silver buttons control generator voltage. C. E. Valentine. il diag Elec W 113:1392+ My 4 '40

Silver in engineering; composite of abstracts. Metals & Alloys 11:MA351-2 Je '40

Silver in stainless steel. Mech Eng 62:238 Mr '40

Silver in stainless steel. R. J. Norton. Metals & Alloys 11:18-19 Ja '40

Silver, in stainless steel and bottle linings. Min & Met 21:60-1 Ja '40

Staining glasses with silver; a possibility of studying inhomogeneities. J. C. Turnbull and W. A. Weyl. il Glass Ind 21:13-18+ Ja '40

Stainless steels containing silver and molybdenum. Engineering 150:8 Jl 5 '40

Physiological effect

Argyria; the pharmacology of silver. W. R. Hill and D. M. Pillsbury. 172p bibliog(p134-48) $2.50 Williams & Wilkins '39

Prices

Silver speculation in India. Economist 137: 379-80; 138:207 D 9 '39, F 3 '40

Statistics

Monetary statistics, 1936-1939. Survey of Cur Business 1940 Sup p59-60 [supplemented in monthly numbers]

SILVER acetate

Solubilities of salts in dioxane-water solvents. T. W. Davis, J. E. Ricci and C. G. Sauter. bibliog Am Chem Soc J 61:3274-84 D '39

Solubility product; a demonstration introducing the common ion effect and formation of complex ions. S. Zuffanti. J Chem Educ 17:433 S '40

SILVER alloys

Atomic distribution in aluminum-silver alloys during aging. C. S. Barrett and A. H. Geisler. bibliog il diags J Ap Phys 11:733-9 N '40

Low temperature brazing with silver alloys. R. H. Leach. Iron Age 146:45-7 Jl 11; 36-9 Jl 18 '40

Reflectivity measurements of silver alloys; possibility of producing tarnish resistant oxide coatings; abstracts. E. Raub and M. Engel. Metal Ind 38:33 Ja '40; Metals & Alloys 11:MA99 F '40

SILVER as money

United States

Bill ending foreign silver purchases. Comm & Fin Chr 150:1533 Mr 9 '40

Secretary of Treasury Morgenthau furnishes data on United States silver purchases to Senate committee. Comm & Fin Chr 150: 1856 Mr 23 '40

Senate rejects proposal to terminate administration's authority to purchase foreign silver. Comm & Fin Chr 150:3901 Je 22 '40

Townsend bill to end Treasury purchases of foreign silver favorably reported by Senate banking and currency committee; memoranda by Secretary Morgenthau and Senator Pittman oppose measure. Comm & Fin Chr 150:1858-60 Mr 23 '40

United States should halt purchases of foreign silver. H. H. Heimann. Comm & Fin Chr 150:2024-5 Mr 30 '40

United States urged to stop buying of foreign silver. P. H. Johnston. Comm & Fin Chr 150:3596 Je 8 '40

SILVER bromide

Action of Grignard reagents on heavy metal salts; the formation of olefins in the reaction with silver bromide. J. H. Gardner and C. J. Snyder. Am Chem Soc J 62:2879-80 O '40

SILVER bromide—*Continued*
Photovoltaic behavior of pure silver bromide. H. L. Sanders and I. M. Kolthoff. bibliog J Phys Chem 44:936-43 O '40
Photovoltaic cells with silver-silver bromide electrodes; optical sensitizing by dyes. S. E. Sheppard, W. Vanselow and G. P. Happ. bibliog il diag J Phys Chem 44:411-21 Ap '40
Studies on aging and formation of precipitates; the aging of silver bromide. I. M. Kolthoff and A. S. O'Brien. Am Chem Soc J 61:3414-19 D '39
Studies on aging and formation of precipitates; the determination of the specific surface of silver bromide by the radioactive and dye methods. I. M. Kolthoff and A. S. O'Brien. bibliog Am Chem Soc J 61:3409-14 D '39
Thermodynamics of the silver bromide-mercurous bromide cell. T. W. Dakin and D. T. Ewing. bibliog Am Chem Soc J 62: 2280-4 S '40

SILVER chloride
Revision of the atomic weight of iodine; the ratio of silver iodide to silver chloride. G. P. Baxter and A. C. Titus. diag Am Chem Soc J 62:1826-8 Jl '40
Revision of the atomic weight of iodine; the ratio of silver to silver iodide; the ratio of silver iodide to silver chloride. G. P. Baxter and O. W. Lundstedt. bibliog Am Chem Soc J 62:1829-34 Jl '40
Surface conditions of silver halides and rate of reaction; rate of reduction of precipitated silver chloride. T. H. James. bibliog Am Chem Soc J 62:536-40 Mr '40
Surface conditions of silver halides and the rate of reaction; reduction of nucleated silver chloride. T. H. James. bibliog Am Chem Soc J 62:1649-54 Jl '40
Surface conditions of silver halides and the rate of reaction; reduction of silver chloride by hydrazine. T. H. James. bibliog Am Chem Soc J 62:1654-8 Jl '40

SILVER chromate
Precipitation of silver chromate. A. Van Hook. bibliog J Phys Chem 44:751-64 Je '40

SILVER coating
Silver, in stainless steel and bottle linings. Min & Met 21:60-1 Ja '40

SILVER cyanide
Determination of silver in silver cyanide plating solutions. D. M. Gillies and W. M. McNabb. Metal Finishing 38:377-8 Jl '40

SILVER halides
Lattice defects in silver halide crystals. F. Seitz. Phys R 56:1063-4 N 15 '39
See also
Silver bromide
Silver chloride
Silver iodide

SILVER industry and trade
Silver and the war: supplies ample; recurrence of 1915-1919 boom not likely. D. H. Leavens. Annalist 55:7 Ja 4 '40
See also
Silver as money

Statistics
Annual review of silver market by Handy & Harman. Comm & Fin Chr 150:627-8 Ja 27 '40
Gold and silver by months; exports, imports and net balance, 1936-39. Comm & Fin Chr 150:753 F 3 '40
Gold and silver sales of copper companies, 1929, 1938; tabulation. L. Applegate. Annalist 54:726 D 7 '39
Silver, 1939. H. M. Bratter. Eng & Min J 141:43-4+ F '40
Silver production, revision; monthly, 1923-June, 1940. Fed Res Bul 26:882 Ag '40
World production of refined silver, monthly July-Oct. 1939 and totals, Jan.-Oct. 1938 and 1939. Comm & Fin Chr 149:3942 D 23 '39

Great Britain
English gold and silver markets. Comm & Fin Chr 150:2519 Ap 20 '40 [cont monthly]
India bans silver imports; effect on London market. Economist 137:175 N 4 '39
Silver in suspense; British and Indian governments to prohibit import except under licence. Economist 137:255-6 N 18 '39
Three-decker silver market. Economist 137: 422, 472-3 D 16-23 '39

SILVER iodide
Iodides of some polyvalent metals. H. W. Foote and M. Fleischer. bibliog J Phys Chem 44:647-52 My '40
Revision of the atomic weight of iodine; the ratio of silver iodide to silver chloride. G. P. Baxter and A. C. Titus. diag Am Chem Soc J 62:1826-8 Jl '40
Revision of the atomic weight of iodine; the ratio of silver to silver iodide; the ratio of silver iodide to silver chloride. G. P. Baxter and O. W. Lundstedt. bibliog Am Chem Soc J 62:1829-34 Jl '40
Silver-silver iodide electrode. R. K. Gould and W. C. Vosburgh. bibliog diag Am Chem Soc J 62:1817-19 Jl '40

SILVER metallurgy
Progress reports, Metallurgical division; ore-testing studies; primarily precious metals. E. S. Leaver, J. A. Woolf and A. P. Towne. U S Bur Mines Rep of Invest 3515: 1-76 '40
Roasting gold-silver sulphide ores and concentrates. M. W. von Bernewitz. bibliog diags plan Can Min J 61:220-4, 297-9, 364-70, 437-41, 518-24, 651-7 Ap-Ag, O '40
Summit King mills 70 tons of silver-gold ore daily. P. G. Dobson. flow sheet il diag Eng & Min J 141:51-2 Ag '40
See also
Cyanide process

SILVER mines and mining

Arizona
Mining and milling methods and costs at the Ash Peak mine of the Veta mines, inc., Duncan, Ariz. H. L. Lines pls U S Bur Mines Information Circ 7119:1-26 '40

Bolivia
Structure and mineral zoning of the Pailaviri section, Potosi. D. L. Evans. bibliog il map diag Econ Geol 35:737-50 S '40

Canada
Brief history of Canadian mining. W. H. Losee. il Can Min J 60:652-4 N '39
First large scale silver mining operations in Canada, Silver islet, off Thunder cape, Lake Superior, 1869. G. A. Cuthbertson. Can Min J 61:604-5 S '40
Summary review of the silver mining industry in Canada, 1938. 28p pa 25c Canada. Dominion bur. of statistics, Ottawa '39
Summary review of the silver mining industry in Canada, 1939. 25p pa 25c Canada. Dominion bur. of statistics, Ottawa '40

Idaho
Microscopic features of ore from the Sunshine mine. R. J. Anderson. il Econ Geol 35:659-67 Ag '40
Streamlined ventilation at Sunshine. J. Edgar and A. W. Knoerr. il diags plans Min Cong J 26:23-6 Ag '40

Nevada
Summit King mills 70 tons of silver-gold ore daily. P. G. Dobson. flow sheet il diag Eng & Min J 141:50-2 Ag '40

Utah
Drainage and development at a Utah mine; Park City consolidated mines company. G. M. Wiles and others. il diag map Eng & Min J 141:58-61 Ag '40

SILVER nitrate
Revolutionary process of mirror manufacture; by which a pure silver-reflecting film can be produced by spraying a solution of silver nitrate on glass. il Ind & Eng Chem News ed 18:199-200 Mr 10 '40

SILVER nitrate—*Continued*
Viscosity of solutions of electrolytes as a function of the concentration; silver nitrate, potassium sulfate and potassium chromate. G. Jones and J. H. Colvin. Am Chem Soc J 62:338-40 F '40

SILVER ores
Aikinite and silver enrichment at the St Louis mine, Butte county, Idaho. A. L. Anderson. il Econ Geol 35:520-33 Je '40
Microscopic features of ore from the Sunshine mine. R. J. Anderson. il Econ Geol 35:659-67 Ag '40
Roasting gold-silver sulphide ores and concentrates. M. W. von Bernewitz. bibliog diags plan Can Min J 61:220-4, 297-9, 364-70, 437-41, 518-24, 651-7 Ap-Ag, O '40
Zonal mineralization and silicification in the Horseshoe and Sacramento districts, Colorado. R. D. Butler and Q. D. Singewald. bibliog il diag maps Econ Geol 35:793-838 N '40

SILVER phosphate
Silver phosphate in quantitative analysis. C. R. Johnson and L. G. Nunn, jr. J Chem Educ 17:528-9 N '40

SILVER plating
Determination of silver in silver cyanide plating solutions. D. M. Gillies and W. M. McNabb. Metal Finishing 38:377-8 Jl '40
Electroplating power closely controlled; Reed & Barton il Elec W 113:1914 Je 15 '40
Finishing band instruments. F. K. Savage. il Metal Ind 38:135-6 Mr '40
Silver plating at very high current densities; abstract. A. C. Simon and J. T. Lumley. Iron Age 146:42-3 Jl 4 '40
Silver plating; copper contacts. G. B. Hogaboom, jr. Metal Finishing 38:330 Je '40

SILVER solder
Broach repair method; brazing with silver solder; with cost data. il Steel 107:66 S 9 '40
Joining fine wire screen. C. C. Notebaert. diag Steel 106:66+ F 12 '40
Low temperature brazing with silver alloys. R. H. Leach. Iron Age 146:45-7 Jl 11; 36-9 Jl 18 '40

SILVER sulfate
Determination of sulfur in organic compounds. E. W. D. Huffman. bibliog diags Ind & Eng Chem Anal ed 12:53-8 Ja 15 '40
Solubilities of salts in dioxane-water solvents. T. W. Davis, J. E. Ricci and C. G. Sauter. bibliog Am Chem Soc J 61:3274-84 D '39
System silver sulfate—aluminum sulfate—water. J. A. Addlestone, L. R. Marsh and G. C. Hall. J Phys Chem 44:256-9 F '40

SILVERING
Method of silvering. C. S. Walton. Sci Am 163:33-4 Jl '40
New mirror process; Libbey-Owens-Ford buys control of new method of silvering mirrors by spraying. il Business Week p37-8 Ja 27 '40
Progress in the manufacture of silvered-glass reflectors. W. Irby. diags Gen Elec R 43:89-90 F '40
Revolutionary process of mirror manufacture; by which a pure silver-reflecting film can be produced by spraying a solution of silver nitrate on glass. il Ind & Eng Chem News ed 18:199-200 Mr 10 '40

See also
Glass—Silvering

SILVERSMITHS
Ancient trade guilds. J. D. Little. il Metal Ind 38:257-9 My '40

SILVERWARE
Silver firm makes gold strike in small town market; Manchester silver co., Providence. Sales Management 47:34+ O 1 '40
Silverware, solid and plated; a survey of the various types of silverware, the organization of the industry, and the trade in silverware, with special reference to factors essential to tariff consideration; under the general provisions of section 332, title III, part II, Tariff act of 1930. (Report no. 139; 2d ser) 141p U.S. Tariff commission, Washington '40
Silverware survey issued by Tariff commission. Comm & Fin Chr 150:2978-9 My 11 '40

See also
Silver plating

SIMMONS, E. C. d. 1920
When a business stops to admire itself; success of Simmons hardware company and subsequent decline. E. Whitmore. por Am Business 10:31-2 Jl '40

SIMMONS company
Brass tacks for the investor; brief analysis. Barron's 20:20 Ap 8 '40

SIMONDS saw and steel company
Controlled comfort for workers. il Sci Am 162:19 Ja '40
Stock priced at five to eight times earnings; thumbnail appraisal. Mag of Wall St 66:742 O 5 '40

SIMPLIFICATION in industry
Kelvinator shakes up production, distribution, rolls out more sales. F. R. Pierce and C. T. Lawson. il Sales Management 46:22-3 Ap 1 '40
Policy changes that pulled Blatchford calf meal company back from the brink of bankruptcy. J. E. Sams. il Sales Management 47:18-20 O 1 '40
Why not simplify the problem of steel selection? E. C. Smith. Steel 106:44-6+ Je 3 '40

SINGAPORE
Port of Singapore. il(cover) Comm Rep p605+ Jl 13 '40

SINGING as a profession
How to sing for money; the art and business of singing popular songs professionally. C. Henderson and C. Palmer. 369p $2.49 Harcourt '40

SINGLE tax
Life of Joseph Fels. M. Fels. 192p $1.50 Doubleday '40
Progress and poverty. H. George. rev ed 232p $1 Robert Schalkenbach foundation, 32 E. 29th st, New York '40

SINK-and-float process
Anthracite cleaned by sink-and-float methods; Locust coal co. il diag plan Coal Age 45:37-9 N '40
Coal preparation at Glass Houghton and Castleford collieries. il Mech Handling 27: 45-8 F '40
Differential density mineral separation. Can Min J 61:226-7 Ap '40
Differential density separation at Mascot, Tennessee; American Zinc's sink-and-float process. flow sheets il Eng & Min J 141: 35-9 Jl '40; Same. Min Cong J 26:21-6 Jl '40
Facilities for testing Canadian ores; Bureau of mines installs sink and float pilot plant. Can Min J 61:647 O '40
Mineral dressing, 1939. A. W. Fahrenwald. diag Eng & Min J 141:81-3 F '40
Progress reports, Metallurgical division; ore-dressing studies; properties of suspension mediums for float-and-sink concentration (corrected reprint). F. D. DeVaney and S. M. Shelton. pls U S Bur Mines Rep of Invest 3469-R:1-25 '40
Sink-and-float separation applied successfully on the Mesabi; ferrosilicon provides efficient medium. G. J. Holt. flow sheets il Eng & Min J 141:33-8 S '40; Same. Min Cong J 26:25-9, 64 S '40
Sixty years of development in ore dressing; with special attention to the last ten years. C. S. Parsons il Can Min J 60:703-7 N '39

SINKING funds
Sinking-fund v. straight-line depreciation accounting. L. S. Ready. Pub Util 26:570-82 O 24 '40

SINKS
Structural details of galvanized iron sink; diagrams. V. A. Puccio. diags Sheet Metal Worker 31:26 Ap '40

SINTERING
Lead metallurgy, 1939. G. L. Oldright. Eng & Min J 141:89+ F '40
Sintering iron powder; composite of abstracts. Metals & Alloys 11:MA268+ My '40

SINTERING—*Continued*
Sintering of Alnico. G. H. Howe. il Iron Age 145:27-31 Ja 11 '40; Abstract. Metals & Alloys 11:MA204 Ap '40
Thirty years of iron sintering. E. W. Shallock. flow sheet Blast F & Steel Pl 28:71-5, 169-70 Ja-F '40
Use of sinter in blast furnace burdens; abstract. J. H. Slater. Iron Age 145:54 My 2 '40

SINTERLOY steel. See Steel, Powdered

SINUSITIS
Sinus infection (sinusitis). Pub Health Rep 55:2028-9 N 1 '40

SIOUX FALLS gas company
Sale to Central electric & telephone co. approved. Comm & Fin Chr 150:2116 Mr 30 '40

SIPHONAPTERA. See Fleas

SIPHONS
Design of a high-head siphon spillway. E. Rock. diags Am Soc C E Proc 65:607-18 Ap '39; Discussion. 65:1098-1100, 1469-72, 1641-6; 66:666-70 Je, O-N '39, Ap '40
Irrigation siphons constructed by arc welding methods. il Can Eng W & S 78:14+ S '40
Lifting a river over a levee. J. D. Andrews, jr. il diags map Eng N 125:39-42 Jl 4 '40
Quarter century of aqueduct maintenance; Los Angeles aqueduct; interview with J. E. Phillips. il diag Eng N 124:784-7 Je 6 '40
Siphon self-supporting in long spans; pipeline carrying Heart Mountain irrigation canal across the Shoshone river. P. J. Bier. il diags Eng N 124:852-5 Je 20 '40

SIRENS. See Whistles

SIRUPS
Clearing up the confusion about sugar sirups. L. Wickenden. il Food Ind 12:42-3 Ap '40
Sirup from sweet potato starch. L. E. Stout. il Manuf Rec 109:33+ F '40
Sirup from sweet potato starch; a pilot-plant investigation. L. E. Stout and C. G. Ryberg, jr. bibliog diag Ind & Eng Chem 31: 1451-4 D '39

See also
Corn sirup
Maple sirup
Sorghum sirup

SISCO, Frank Thayer
Portrait. Min & Met 21:322 Jl '40

SIT-down strikes. See Strikes—Sit-down strikes

SITOSTEROL
Sterols; cholesterol and sitosterol derivatives. R. E. Marker and E. Rohrmann. Am Chem Soc J 62:516-17 Mr '40

SIZE (physiology)
Oncoming reversal of the human growth tide. C. A. Mills. Science 92:401-2 N 1 '40

SIZELOVE, Oliver J. 1880-1939
Sketch. por Metal Ind 37:563 D '39

SIZES (merchandizing)

See also
Package goods—Size
Tin cans—Size

SIZING (textiles)
Automatic speed control in sizing. il Rayon 21:643 O '40
Breaking strength, elongation, and folding endurance of films of starches and gelatin used in textile sizing. M. S. Furry. il diags U S Agric Tech Bul 674:1-36 bibliog(p35-6) '39
Increase slasher production on cotton yarns. il Textile World 90:82-3 My '40
Modified starches; degradation of starches by acidic and alkaline oxidising agents, acids, etc. G. B. Jambuserwala and K. R. Kanitkar. Textile Inst J 31:T1-16 Ja '40; Abstract. Textile Col 62:401-2 Je '40
Rigidity of starch pastes used in sizing and printing. diag Textile Col 62:332-3 My '40
Sur la fabrication industrielle des enzymes microbiennes. I. A. Effront. Chimie & Ind 43:7-10 Ja 5 '40
Textile starches. W. L. Morgan. diag Am Dyestuff Rep 29:494-6 S 30 '40

See also
Cotton sizing
Rayon sizing

SIZING of paper. See Paper sizing

SKAGIT river

Power utilization
L'aménagement de la Skagit river pour la fourniture de l'électricité à la ville de Seattle (Washington, É.-U.); le barrage Ross. P. Caufourier. il plan map Génie Civil 116:177-9 Mr 16 '40

SKANEATELES lake
Protection of watershed for Syracuse supply. A. F. Gregory. il diags maps Am Water Works Assn J 32:555-69 Ap '40

SKATES

Rating
Ice skates and shoes. Consumers' Research Bul (Gen bul ser) 9:19-21 Ja '40

SKATING rinks
America's first direct expansion portable rink. R. Sprague. il Refrig Eng 40:248-9 O '40
Design concrete floor for skating rink and all-round service. il diag Concrete 48:34 Je '40
Direct expansion freezing for ice skating in New Orleans. W. W. Taylor. il Refrig Eng 40:211-14 O '40
Ice skating a la carte at Arrowhead. il Elec West 84:51 Ja '40
Outdoor skating rink equipped by Frick; Philadelphia gardens. Refrig Eng 39:385 Je '40
Reconstruction of the ice skating rink at the University of Illinois; corrosion of brine pipes cause failure of original floor. J. Doak. il diags Am Concrete Inst J 11:1-20 S '39; Discussion. 11:sup20[1]-20[6] F '40
Refrigeration equipment in Madison Square Garden never fails for hockey games. Refrig Eng 39:262 Ap '40
Refrigeration of skating rinks. diags Refrig Eng 39:1-5 sec 2 Ja '40
Skating on natural gas; Tropical ice gardens near Los Angeles. il Power 83:762 D '39
Sun Valley open-air rink. R. Sprague. il Refrig Eng 39:93-4 F '40
They're skating on thin ice; piping set in concrete for skating pond in Rockefeller Center's sunken plaza. il Dom Eng 155: 28-9+ F '40
Vacuumized concrete and terrazzo finish placed on same day; Rockefeller Center skating pond. il Concrete 48:42 Mr '40

SKELLY oil company
$16,000,000 financing. Comm & Fin Chr 150: 1295 F 24 '40

SKI cabins. See Cabins

SKIDS
Costs cut 40 per cent; handling steel axle housings. il Steel 106:64+ F 19 '40
Handling built-to-order; R. G. LeTourneau. W. J. Brooking. il Steel 107:52-3, 79 Jl 8; 48, 50+ Jl 15 '40

SKILLED labor. See Technical workers

SKIM milk. See Milk, Skimmed

SKIN

Care and hygiene
Safe skin cleansers. J. V. Klauder and E. R. Gross. il Nat Safety N 41:22-3, 60+ Ja '40

Diseases
Camera fans and camera hands; danger of skin diseases from photographic chemicals. C. P. McCord. Nat Safety N 42:86 S '40
Clothing for protection against occupational skin irritants. L. Schwartz, L. H. Warren and F. H. Goldman. diags Pub Health Rep 55:1158-63, pl 1-2 Je 28 '40; Excerpt. Safety Eng 80:38 Ag '40
Dermatitis and plastics; protective methods of the Bakelite corporation. A. H. Oak. Chem Age (Lond) 43:35 Jl 20 '40
Dermatitis from cashew nut shell oil. J. G. Downing and S. W. Gurney. il J Ind Hygiene 22:169-74 My '40
Dermatitis in chemical industries. Chem & Ind 59:439-40 Je 22 '40

SKIN—Diseases—*Continued*
Dermatitis in the courts; idiosyncrasy and supersensitivity. H. E. Cox. Chem & Ind 59:454-5 Je 29 '40; Same. Textile Col 62: 661-2 O '40; Same, without chemical symbols. Oil Paint & Drug Rep 138:3+ Ag 12 '40
Dermatitis in the rubber industry. W. E. Obetz. Rubber Age 48:27-30 O '40
Dermatitis venenata resulting from contact with an aqueous solution of ethyl mercury phosphate. F. J. Vintinner. il J Ind Hygiene 22:297-300 S '40
Dermatologic allergy. M. B. Sulzberger. 540p $8.50 C. C. Thomas, Springfield, Ill. '40
Dermatology and syphilology for nurses. J. H. Stokes. 3d ed rev 365p bibliog(p315-16) $2.75 Saunders '40
Gardiner's Handbook of skin diseases. F. Gardiner. 4th ed 239p $3.50 Williams & Wilkins '39
Handbook of skin diseases. L. H. Warren. 321p bibliog(p286) $3.50 P. B. Hoeber, New York '40
Industrial dermatitis. Safety Eng 79:35-7 Je '40; Food Ind 12:51 O '40
Industrial dermatitis; abstract. H. E. Collier. Management R 29:55-6 F '40
Manual of dermatology. C. S. Wright. 376p $4 Blakiston '40
Modern dermatology and syphilology. S. W. Becker and M. E. Obermayer. 871p $12 Lippincott '40
Most common occupational disease; causes and control. Nat Safety N 42.34+ Jl '40
Occupational leukoderma. L. Schwartz, E. A. Oliver and L. H. Warren. Pub Health Rep 55:1111-30, pl 1-8 Je 21 '40
Prevention of industrial dermatitis with reference to protective hand creams, soap and the harmful role of some cleansing agents; abstract. J. V. Klauder, E. R. Gross and H. Brown. J Ind Hygiene 22:sup103-6 My '40
Protective applications; hand creams and liquids; formulas. J. V. Klauder and E. R. Gross. il Nat Safety N 41:17+ My '40
Skin-deep, cleanliness as preventive of skin diseases. Safety Eng 79:40+ Mr '40
Skin diseases a big factor in occupational cover losses. L. F. Weber. Nat Underw 44: 22 F 22 '40
Skin hazards in American industry. L. Schwartz. Review. Pub Health Rep 55:473-4 Mr 15 '40
Skin infections from cutting oils. Nat Safety N 41:146 Mr '40
Skin troubles and machine tools. A. Duckham. Engineer 169:501-2 My 31 '40
Text-book of occupational diseases of the skin. L. Schwartz and L. Tulipan. 799p $10 Lea & Febiger, Philadelphia '39
See also
Poison ivy

SKIN effect
Wireless waves at the earth's surface. Wireless Eng 17:385-7 S '40

SKIP tracers company
Sleuthing for compressed gas flasks. Comp Air M 45:6243 S '40

SKIS and skiing
American skiing. O. E. Schniebs. 232p $3.50 Dutton '39
Ski biz bolsters winter slack; Washington motor coach co. J. W. Abbott. il Bus Transportation 19:79-80 F '40

SKY
Calculation of illumination from sun and sky. E. Elvegård and G. Sjöstedt. bibliog Illum Eng 35:333-42 Ap '40

SKY, Color of
Sky is blue. W. M. Reed. 151p $1.50 Harcourt '40

SKYLIGHTS
Skylight and roof tables. H. C. Smith. 3d ed rev & enl 508p $1.50 Scientific book corp, 15 E. 26th st, New York '40
Skylight improved by adaptation of piling section. C. A. Rosengarten. diags Civil Eng 10:594 S '40

SKYSCRAPERS. See High buildings

SLABS, Concrete. See Concrete slabs

SLAG
Action of alkalis on blast-furnace slag. A. O. Purdon. Soc Chem Ind J 59:191-202 S '40
Blast furnace slag and bitumen in road surfacing. T. Temme. Pub Works 71:22-3 F '40
Chemical treatment of chert-gravels for use in base-course construction. E. A. Willis and P. C. Smith. il Pub Roads 21:65-8+ Je '40
Control of sulphur in basic open hearth. T. L. Joseph and F. W. Scott. il Iron Age 144:30-4 N 30; 49-53 D 7 '39
Effect of magnesia and low alumina in blast furnace slags on furnace operation and desulphurization. L. F. Sattele. Blast F & Steel Pl 28:659-64 Jl '40
Der einfluss von kieselsäure, titansäure, und tonerde auf die zähigkeit einer sauren synthetischen schlacke und berechnung der zähigkeit saurer und basischer hochofenschlacken aus der chemischen zusammensetzung. K. Endell and G. Brinkmann. Stahl & Eisen 59:1319-21 D 7 '39
Iron blast-furnace slag becomes important constructional material. W. H. Caruthers. Min & Met 21:337-40 Jl '40
Manufacture of steel by the Perrin process. B. Yaneske. Engineering 150:324-5, 357-8 O 25-N 1 '40 (to be cont)
Open hearth slag control; abstract. C. H. Herty, jr. Steel 106:56, 58 F 26 '40
Open-hearth slag control; composite of abstracts. Metals & Alloys 11:MA190-1 Ap '40
Radiant heat from slag used to raise steam; Douglas copper smelter of the Phelps Dodge corporation. Comp Air M 44:6046 D '39
Refinery slags; zinc-gold precipitate. M. B. Scott. Can Min J 61:292-6 My '40
Refining of metal in the basic open-hearth furnace; the influence of fluorspar on the process. W. B. Lawrie. bibliog Iron & Steel Inst J 139:257-80 no 1 '39; Same. il Blast F & Steel Pl 27:675-9, 943-6, 1043-5 Jl, S-O '39; Discussion. Iron & Steel Inst J 139:281-5 no 1 '39
Slag and gypsum cements. F. O. Anderegg. Rock Prod 43:52 Mr '40
Slag control; obtaining desired quality in low-carbon rimming steel for strip. J. B. Malloy. Steel 105:48-51 D 25 '39
Slag inclusions and acid open-hearth refining of high-carbon steel. H. Styri. Iron & Steel Inst J 139:287-96 no 1 '39
Slag prints. R. Mitsche. Metal Prog 37:68 Ja '40
Some of the chemistry of electric steel melting; from lectures by C. H. Herty and C. E. Sims at Battelle memorial institute. A. J. Scheid, jr. il Metal Prog 37:527-32 My '40
Sulphur control in the basic open hearth. H. J. Sweeney. il Blast F & Steel Pl 28: 393-4+ Ap '40
Theory and practice of basic open hearth slag control. F. M. Washburn and W. O. Philbrook. diag Iron Age 145:21-5 F 22; 31-5 F 29; 58-62 Mr 7; 27-30 Mr 14 '40
Wastes problems in the nonferrous smelting industry. R. E. Swain. Ind & Eng Chem 31: 1360-1 N '39
Wastes problems of the iron and steel industries. W. W. Hodge. Ind & Eng Chem 31: 1365 N '39

SLAG (in boilers)
Coal characteristics determine furnace performance. A. L. Luke, jr. diags Power Pl Eng 44:44-8 N '40
Modern furnace design. G. C. Kohlar. Power Pl Eng 44:60-3 S '40

SLANDER. See Libel and slander

SLASHERS. See Sizing (textiles)

SLATE
Colored slates of Vermont and New York. D. M. Larrabee. il diags map Eng & Min J 140: 47-53 D '39; 141:48-53 Ja '40

SLAYTER, Games
Recipient of N.A.M. award. por Am Cer Soc Bul 19:106-7 Mr '40; Excerpts. Refrig Eng 39:258 Ap '40
Sketch. por Glass Ind 21:105 Mr '40

SLEDGES. See Sleighs and sledges

SLEEPING cars
Coach-sleepers on Seattle run. il Ry Age 108:1193-4 Je 29 '40
More 3-deck sleepers. Business Week p36+ S 7 '40
Pullman develops triple-deck coach-sleeper. il Ry Mech Eng 114:241-2 Je '40; Same. Ry Age 108:750-1 Ap 27 '40
Pullman lounge-bedroom cars with plastic lens-controlled fluorescent lighting. il Ry Age 108:859-60 My 18 '40
Pullman produces the coach-sleeper. il Business Week p34 Ap 27 '40

SLEIGHS and sledges
One-runner logging sleighs. A. Koroleff. diags Pulp & Pa of Can 41:733-5+ O '40

SLIDE films
Advertising, general publicity, consumer sales and other films. il Sales Management 47:80-1 O 10 '40
Colored slides prepared this way sell more clay products. Brick & Clay Rec 97:30 Ag '40
Commercial films in Chicago business. il Ptg Art 68 no 4:G6, G8 '40
Council film wins AAA award for sound slide film; Testing the drinking driver. Nat Safety N 42:90 S '40
Distribution of business films. il Ptg Art 68 no 4:G3-G5 '40
Films for training manufacturers', jobbers' and dealer salesman. il Sales Management 47:76-9 O 10 '40
Films teach foremen tact. il Factory Management 98:62-3 O '40
Follow through! don't let your audience forget the message of the safety sound-slide film. E. I. Woodbury. il Nat Safety N 42: 17+ Ag '40
G-E trains 14,000 men for selling. il Ptr Ink Mo 39:14-15 D '39
How to sell bank service; a slide film, Plumber forgets his tools. I. L. Sperling. il Banking 33:45-6 O '40
Industrial films fight sales battles on all fronts for Servel; productions for their own salesmen, for dealers, and for city and rural prospects. G. L. Roach. Sales Management 46:58+ Je 15 '40
Music makes a difference; music and sound films at Bethlehem plant safety meetings. J. E. Culliney. il Nat Safety N 42:60 N '40
New eye safety film. il Safety Eng 80:23 Ag '40
1940 films prove potent sales builders for many industries. il Sales Management 47: 56 O 10 '40
Ozite's eye-opener for dealers who suffer from a price complex; film presentation. L. H. Regensburg. il Sales Management 46: 24-6 My 15 '40
Rise of business film. il Ptg Art 68 no 4:G1-G2 '40
Slide films; dealer and jobber relations problems. il Sales Management 47:73-6 O 10 '40
Tact in contact; use of sound slide films in employee training. J. J. Quinn. il Am Gas Assn Mo 22:307-8 S '40
Your safety sound-slide program; operation and care of equipment. E. I. Woodbury. diags Nat Safety N 41:24-5 My '40

Cost of production

Production cost of industrial films; factors entering into the determination of the cost of producing both industrial motion pictures and slide films. R. M. Cronin. Ptr Ink Mo 40:23-4+ Ap '40

SLIDE rule
Slide rule for water technology calculations. A. A. Hirsch. bibliog diag Ind & Eng Chem Anal ed 12:542-3 S 15 '40
Slide-rule interpolation for six-place trigonometric functions. B. J. Greulich. Civil Eng 10:238-9 Ap '40
Study of the problems in teaching the slide rule. C. N. Shuster. 103p bibliog(p96-8) $1.85 Teachers college '40

SLINGS and hitches
Angular effect of double slings. C. O. Hagen. Am Mach 83:1089-90 D 27 '39
Sling chains. H. A. Delano. il Steel 106:54-6+ F 19 '40
Slings. il Steel 106:42 Ap 1 '40

SLIPS (ceramics)
Properties of clay casting slips. G. A. Loomis. Am Cer Soc J 23:159-62 Je '40
Use of organic dispersing agents in casting slips; effect of clay deflocculant vs. sodium silicate on the physical properties. I. E. Sproat, C. C. Treischel and E. W. Emrich. Am Cer Soc Bul 19:47-58 F '40

SLIPS (underwear)
Efficiency in consumption; wear tests of rayon slips. A. Sommaripa. Textile Col 62:122-4 F '40

SLIPWAYS
Marine railway at sea plane base at LaGuardia field, New York city. il Marine Eng 45:85 Mr '40

SLOGANS
New slogans. Ptr Ink 191:73-4 Ap 5; 192:55 Jl 5 '40
Pun parade. Ptr Ink 191:16 Ap 26 '40
Slogan for Americanism, Isn't it great to be an American! Nation's Business 28:74-7 Je '40
Slogan is valuable advertising aid if fashioned to fit modern requirements. Ptr Ink 191:73-6 Ap 12 '40
War cries of business. A. H. Little. il Dun's R 48:21-4 Je '40

SLOT machines. See Moving picture machines—Slot machines

SLOT machines, Vending. See Vending machines

SLOTHS, Fossil
Megalonyx hogani, a new species of ground sloth from Gould, Oklahoma. J. W. Stovall. bibliog il Am J Sci 238:140-6, pl 1 F '40

SLOTTING machines
Ormerod heavy-duty slotting machine. il Engineer 169:543 Je 14 '40; Engineering 150: 37 Jl 12 '40

SLOVAKIA
Captive of the German clearing. Economist 138:684 Ap 13 '40

SLOWDOWN. See Sabotage

SLUDGE, Sewage. See Sewage sludge

SLUICE gates. See Gates, Hydraulic

SLUMS
Slum clearance by private enterprise; Philadelphia's black belt remodeled. A. Paxton. il Nation's Business 27:29-30, 70-1 D '39
Small scale; slum rehabilitation gets needed federal mortgage insurance. Arch Forum 72:sup2+ Mr '40

See also
Housing
Municipal improvement

SLUSHER mining. See Mining methods

SMALL business. See Business—Small business

SMALL claims courts. See Courts, Small claims

SMALL loans. See Loans, Small

SMALL manufacturers, National federation of. See National federation of small manufacturers

SMALLPOX
Reaction of variola vaccine virus to Roentgen rays. J. W. Gowen and A. M. Lucas. bibliog Science 90:621-2 D 29 '39

SMELL

See also
Odors

SMELSER, David Paul, 1891-
Medal award for contemporary service to radio advertising. por Adv & Sell 33:40 F 15 '40

SMELTING
Blast furnace smelting; as it was in 1915 and as it is in 1940. W. Mathesius. Metal Prog 37:298 Mr '40
Concentrates being smelted near New York. M. W. Tuthill. Eng & Min J 140:66 D '39

SMELTING—*Continued*
Contributions to the art of smelting lead products. V. Miller, R. Bainbridge and R. Ellison. U S Bur Mines Rep of Invest 3512:1-12 '40

Copper smelting in Central Urals. Can Min J 61:676 O '40

Development in base metal smelting and refining in Canada in the last sixty years. il Can Min J 60:713-23 N '39

Oxide analysis in iron ore reduction problems. T. L. Joseph, F. W. Scott and M. H. Kalina. bibliog il Blast F & Steel Pl 28:975-8, 1073-7 O-N '40

Pacific Coast steel industry; electric furnace smelting. T. W. Lippert. il diags Iron Age 145:28-31 Mr 21 '40

Refinery slags; zinc-gold precipitate. M. B. Scott. Can Min J 61:292-6 My '40

See also
Blast furnaces
Furnaces, Metallurgical
Metallurgy
Ore treatment
Slag

SMELTING, Electric. See Electrometallurgy

SMELTING works
Consolidated mining and smelting company of Canada, limited. il Can Min J 60:sup278-83 N '39

Copper metallurgy, 1939. W. B. Boggs. Eng & Min J 141:87-8 F '40

Lead metallurgy, 1939. G. L. Oldright. Eng & Min J 141:89+ F '40

Metallurgy of copper in 1939. P. D. I. Honeyman. il Min & Met 21:16 Ja '40

Refractories at Noranda smelter. W. B. Boggs. diags Am Cer Soc Bul 19:338-40 S '40

Unique small-scale smelter; Philippine smelting company. C. A. Weekley and S. W. Norton. flow sheet il diags Eng & Min J 141:77-80 Ag '40

See also
Blast furnaces

Equipment

Nonferrous metals smelter; handling system; Federated metals division of American smelting & refining co. H. T. Hansen. il plan Steel 107:60+ Ag 19 '40

Waste

Effects of sulphur dioxide on vegetation; investigation of smelter at Trail, B.C. G. S. Whitby. Chem & Ind 58:991-7; Discussion. 997-9 N 11 '39

Wastes problems in the nonferrous smelting industry; sulfur, arsenic, slag, etc. R. E. Swain. il Ind & Eng Chem 31:1358-61 N '39

SMILAGENIN. See Isosarsasapogenin

SMILEY, Thomas F.
Journal veteran retires from service. C. O. Willson. por Oil & Gas J 39.13 Jl 4 '40

SMITH, William Sooy, 1830-1916
Fourth president, the Western society of engineers. W. L. Abbott. W Soc E J 44: 311-14 D '39

SMITHSONIAN institution
Expeditions. Science 91:443 My 10 '40

SMITS, Andreas, 1870-
Portrait. J Chem Educ 17:151 Ap '40

SMOKE
Agriculture and smoke pollution. H. T. Jones. Gas J (Lond) 231:206 Jl 31 '40

Fighting smoky fires. Safety Eng 79:33-4 Je '40

Les méfaits de la fumée, des poussières et gaz toxiques. R. Humery. Soc Ing Civils Mémoires 92:364-71 My '39

Study of the chemical composition of wood smoke; abstract. A. E. J. Pettet and F. G. Lane. Chem & Ind 59:258 Ap 13 '40

Visibility through haze and smoke, and a visibility meter. G. D. Shallenberger and E. M. Little. bibliog il diags Opt Soc Am J 30:168-76 Ap '40

Where there's smoke there's fire; gaseous compounds and carbon monoxide dangerous. G. W. Booth. il Weekly Underw 142:846-8 Ap 6 '40

See also
Combustion
Flue dust
Fuel
Fumes
Locomotives—Smoke problem

Analysis

Study of the chemical composition of wood smoke. A. E. J. Pettet and F. G. Lane. bibliog diag Soc Chem Ind J 59:114-19 Je '40

SMOKE houses. See Smokehouses

SMOKE point
Smoke, flash, and fire points; applicable to animal and vegetable oils and fats. diags Ind & Eng Chem Anal ed 12:380-2 Jl 15 '40

SMOKE prevention
Cities fight smoke; St Louis ordinance. Business Week p33-4 Ap 6 '40

Coal mustn't smoke; new St Louis requirements. Business Week p48-9 Ap 20 '40

Defining equitable limits of dust emission from stacks. P. H. Hardie. Mech Eng 61:895-6 D '39; Same. Concrete (mill sec) 48:137-8 Mr '40; Discussion. Mech Eng 62: 557-62 Jl '40

Dividends from smoke abatement in furniture factory. J. Donaly. il Power Pl Eng 44:45-6 F '40

Les foyers en relation avec la fumivorité. Baud. Soc Ing Civils Mémoires 92:379-88 My '39

La lutte contre les fumées par emploi des combustibles non fumeux. M. Fresson. Soc Ing Civils Mémoires 92:372-8 My '39

New smoke ordinance in St Louis aids mechanical fuel burning equipment. Heat & Ven 37:28 Je '40

Place in the sun for St Louis. Power 84:295 My '40

St Louis coal blues. Business Week p20-1 Ag 31 '40

Smoke elimination committees present recommendations to Mayor of St Louis. Heating-Piping 12:234 Ap '40

Smoke inspector reports; Hudson county, N.J. W. G. Christy. Power Pl Eng 44:118+ My '40

Smoke prevention association issues manual. Mech Eng 62:29-30 Ja '40

Spotting smoke from office on skyhooks. P. Swain. il Power 84:158-9 Mr '40

See also
Chimneys
Combustion
Electric precipitation
Locomotives—Smoke problem

SMOKED fish. See Fish, Smoked

SMOKED turkey. See Turkey, Smoked

SMOKEHOUSES
Better product by air conditioning. O. F. Gilliam. il diags Heating-Piping 12:370-2 Je '40

Gas sales in food storage locker plants; smoking of meats. plan Gas Age 85:60, 61-2 My 9 '40

SMOKELESS fuel. See Coke

SMOKING
How men split their smoke dollars; pictograph. Sales Management 46:42 Ja 15 '40

See also
Cigarets
Cigars

SMOOTHNESS testing. See Surfaces—Smoothness testing

SNAKES
Poisonous snakes of the United States; first aid treatment for their bites. Nat Safety N 41:38, 40+ Ap '40

SNEEZING
Photograph of a sneeze. Pub Health Rep 55.1315-16, pl 1 Jl 19 '40

Super-speed picture of a sneeze. Science 91: sup10 Ap 26 '40

SNOW
Ablation of snow under the vertical sun in Hawaii. C. K. Wentworth. Am J Sci 238: 112-16, pl 1 F '40

SNOW—*Continued*
Snow drift control by highway design; result of wind tunnel investigations. E. A. Finney. il Roads & Sts 83:45-8 Mr '40; Abstract. Pub Works 71:29-30 Je '40
Snow types encountered in highway snow removal; prairies and mountains of Washington. V. J. Brown. il Roads & Sts 83: 45-7 S '40
See also International association of scientific hydrology—Commission of snow and glaciers

SNOW cruisers
Antarctic snow cruiser. il plans Engineer 169: 413-15 My 3 '40
Antarctic snow cruiser. P. J. FitzPatrick. il W Soc E J 45:121-30 Je '40
How the snow cruiser wheels were made. Mach 46:132-3 F '40
Snow cruiser, a mobile base for Antarctica. il plan Sci Am 162:25 Ja '40
Snow cruiser welded. il Iron Age 144:24-5 D 28 '39
Some of the engineering details of the Antarctica snow cruiser. Mach 46:149 Ja '40
Special bearings for snow cruiser. Blast F & Steel Pl 27:1241 D '39

SNOW fences
Winter maintenance of northern roads. W. B. Hutcheson. il Can Eng R & B 78:34-5 O '40

SNOW plows
Hesperus II; wrecker-snow-plow-tow-car built by United electric railways, Providence. il Bus Transportation 19:380-1 Ag '40
Niagara C41 rotary snow plow. il Can Eng R & B 78:50 O '40
Organization, methods, equipment and materials for snow and ice control. il Pub Works 71:25-8, 30-1 O '40
Winter maintenance of northern roads. W. B. Hutcheson. il Can Eng R & B 78:34-5+ O '40

SNOW removal
Beating Old Man Winter at his own game. L. K. Zerbe. il Pub Works 71:27-8 Ja '40
Clearing snow from the nation's backbone; Trail Ridge road in Colorado's Rocky Mountain national park. R. C. Elder. il map Comp Air M 45:6219-21 Ag '40
County organization for winter road maintenance. il Can Eng R & B 78:33+ O '40
Equipment used in snow removal and mileage cleared. il Pub Works 70:27-8 N '39
Organization and proper equipment. il Can Eng R & B 78:28 O '40
Organization, methods, equipment and materials for snow and ice control. il Pub Works 71:25-8, 30-1 O '40
Round-table conference; should municipalities own or rent snow-removal equipment? Can Eng R & B 78:27-8+ F '40
Round-table conference; when should snow-removal work be started? Can Eng R & B 78:29-30 Ja; 37+ F '40
Snow and ice removal with rock salt in Newark, N.J. J. S. Flockhart. il Pub Works 71:11-12 S '40
Snow control dependent upon summer maintenance; Oregon building new maintenance headquarters. il plan Roads & Sts 83:33-5 S '40
Snow removal and ice prevention methods and equipment. F. C. Sieber. il Pub Works 70:12-13 D '39
Snow types encountered in highway snow removal; prairies and mountains of Washington. V. J. Brown. il Roads & Sts 83:45-7 S '40
Winter problems on divided highways; Queen Elizabeth Way. T. A. McNeill. il Can Eng R & B 78:36+ O '40
Winter roads increase volume of traffic; effect on gasoline consumption. Can Eng R & B 78:29 O '40
See also
Street railroads—
Snow protection and removal

SNYDER tool and engineering company
Stock offered. Comm & Fin Chr 151:2810 N 9 '40

SOAKING pits. See Furnaces, Heating

SOAP
Abrasives for soaps and scouring powders; abstract. R. J. Roley. Can Chem & Process Ind 24:16 Ja '40
New method of gas analysis; using soap films as gas meters. W. J. Gooderham. il diags Soc Chem Ind J 59:1-8 Ja '40
Perfumes and spices, including an account of soaps and cosmetics. A. H. Verrill. 304p $3 L. C. Page & co, Boston '40
Physical chemistry of the newer detergent processes. M. Dole. Am Dyestuff Rep 29: 314-21; Discussion. 321-2 Je 24 '40
Safe skin cleansers. J. V. Klauder and E. R. Gross. il Nat Safety N 41:22-3, 60+ Ja '40
Simple proof of the thermodynamic stability of materials taken up by solutions containing solubilizers such as soap. J. W. McBain and J. J. O'Connor. diags Am Chem Soc J 62:2855-9 O '40
Soaps in the rubber industry; evaluation of lubricants; zinc salts in compounding. T. L. Garner. Chem Age (Lond) 42:111 F 24 '40
Über den experimentellen nachweis adsorbierter seifenschichten. R. Brill and F. Rieder. il Angew Chemie 53:100-3 Mr 2 '40
See also

Saponification	Sodium oleate
Soap, Textile	Sodium palmitate

Analysis
Effect of glycerol on distillation method for water. R. B. Trusler. Ind & Eng Chem Anal ed 12:509-10 S 15 '40

SOAP, Metallic
Bearing failures accelerated by metallic soap detergents; abstract. H. R. Wolf. Nat Pet N 32:R418 N 13 '40
Recovering soaps and greases from wool-scouring liquors. C. H. S. Tupholme. Ind & Eng Chem News ed 17:789 D 20 '39

SOAP, Powdered
Geographic soap; zoned to fit the water of region in which you live. Business Week p41 O 19 '40

SOAP, Textile
Facts about fulling. diag Textile World 90:70 Ag '40
Scouring action of soap and the modern sulfonated textile auxiliaries. J. Davidsohn and A. Davidsohn. bibliog Am Dyestuff Rep 29:43-6 Ja 22 '40
Soap; discussion of its position as related to its industrial consumption. H. B. Burke. Am Dyestuff Rep 29:65-8 F 5 '40
Soap in the wool industries. Textile Col 62: 478-9+ Jl '40

SOAP industry and trade
Colgate-Palmolive-Peet; expands earnings on minor dips in business conditions. H. F. Travis. il Mag of Wall St 65:684-5+ Mr 9 '40
Colgate-Palmolive-Peet stages comeback. W. A. Nugent. Barron's 20:13 Jl 29 '40
Geographic soap; zoned to fit the water of region in which you live. Business Week p41 O 19 '40
Growth by filling basic needs; Procter & Gamble. S. Devlin. il Mag of Wall St 65: 228-9+ D 2 '39
Mr Countway takes the job of building Lever Bros.' U.S. business. il Fortune 22: 94-100+ N '40
Soaps, toiletries, and essential oils. Published in weekly numbers of Foreign commerce weekly

Advertising
Mr Countway takes the job of building Lever Bros.' U.S. business. il Fortune 22: 94-100+ N '40

Statistics
Toilet soap sales; pictograph. Sales Management 47:32 Jl 15 '40

Canada
Soaps, washing compounds and cleaning preparations, 1938. Can Chem & Process Ind 24:69 F '40

SOAP industry and trade—*Continued*

Germany

Germany limits soap use in effort to conserve fats. Oil Paint & Drug Rep 136:3+ D 4 '39

SOAP manufacture

Dyeing of soaps; abstract. W. Richter. Am Dyestuff Rep 29:455-6 S 2 '40

Soap boiling on a laboratory scale. W. C. Preston. diag J Chem Educ 17:476-8 O '40

Soap manufacture; the chemical processes. J. H. Wigner. 162p $4 Chemical pub. co. '40

Soaps and saponifying agents. B. Levitt. il Chem Ind 46:726-8 Je '40; Same abr. Chem Age (Lond) 43:32-3 Jl 20 '40

La synthèse des acides gras par oxydation catalytique des hydrocarbures lourds; leur emploi à la fabrication du savon et de graisses alimentaires. E. Lemaire. il diag Génie Civil 115:413-17 D 9 '39

SOAPING machine

Soaping machine aids uniform preparation of woolens and worsteds for fulling or washing. D. Welsh. diags Textile World 90:88 Mr '40

SOAPSTONE

Marketing talc, pyrophyllite, and ground soapstone. B. L. Johnson. U S Bur Mines Information Circ 7080:1-13 '39; Same abr. Eng & Min J 141:169-70 F '40

Talc, steatite, and soapstone; pyrophyllite. H. S. Spence. 146p bibliog(p140) pa 50c Canada. Dept. of mines and resources, Ottawa '40

SOARING. See Gliders

SOBISMINOL

Treatment of syphilis. Science 90:sup9 D 15 '39

SOCIAL adjustments, incorporated

Private homesteads for the Okies; plan for gradual acquisition of idle, repossessed California land by migrant families. il Business Week p24-6 Mr 9; 24-6 Ap 6 '40

SOCIAL conditions

In all countries. J. Dos Passos. 277p 3s 6d Constable & co, London '39

War is changing the social structure; demands of the have-nots increase while wealth is being destroyed. J. T. Adams. Barron's 20:3 Je 10 '40

SOCIAL credit. See Credit, Social

SOCIAL ethics

Fortune survey; heritage for the next generation; do you feel obligation to pass on anything. Fortune 21:136 F '40

See also

Cooperation (ethics)

SOCIAL insurance. See Insurance, Social

SOCIAL laws and legislation

Social legislation; American laws dealing with family, child, and dependent. H. I. Clarke. 655p $4.50 Appleton-Century '40

Social legislation in wartime. bibliog Int Labour R 40:779-819 D '39

Social legislation in wartime; the problem of agricultural labour. Int Labour R 42:95-107 Ag-S '40

See also

Housing laws
Insurance, Social
Old age pensions
Safety laws and regulations
Social security act, 1935
Unemployment—Relief measures

Brazil

Maternity and child protection in Brazil. Int Labour R 42:131-2 Ag-S '40

Programs for benefit of Brazilian labor. C. H. Foster. Monthly Labor R 50:1396-1402 Je '40

Netherlands

Netherlands family allowance act, 1939. Monthly Labor R 51:455-7 Ag '40

West Indies, British

Social programme for the British West Indies. Int Labour R 41:517-28 My '40

SOCIAL problems

American life and problems. C. C. Barnes and J. B. Dail. 626p bibliog(p597-601) $1.76 Longmans '40

Challenges to American youth. J. I. Arnold. 696p $1.80 Row, Peterson & co, Evanston, Ill. '40

Contemporary social problems; a tentative formulation for teachers of social studies. L. Wirth, ed. 2d ed 68p pa $1 Univ. of Chicago press '40

Crusaders for American liberalism. L. Filler. 422p bibliog(p403-7) $3.50 Harcourt '39

Everyday problems of American democracy. J. T. Greenan and A. B. Meredith. new ed 570p $1.80 Houghton '40

For a better world tomorrow. O. Chew. 41p $1 Dorrance and co, Philadelphia '40

Magnificent delusion. F. G. Clark. 152p $1 McGraw-Hill '40

Men, groups, and the community; a survey in the social sciences. T. H. Robinson and others. 965p $3.50 Harper '40

Multidimensional society; directions in midst of change. C. M. Perry. 51p pa 50c Cooperative books, Norman, Okla. '40

Problems & values of today. E. Hilton. 742p $1.96 Little '40

Problems of American democracy. H. Kidger. 546p $1.68 Ginn '40

Social pathology; obstacles to social participation. S. A. Queen and J. R. Gruener. rev ed 662p $3.50 Crowell '40

Social problems. C. M. Rosenquist. 519p $4; school ed $3 Prentice-Hall '40

See also

Child labor
Child welfare
Cost of living
Crime and criminals
Housing
Immigration and emigration
Insurance, Social
Labor and laboring classes
Liquor problem
Liquor traffic
Medical service
Old age pensions
Pensions, Industrial
Public health
Safety movement
Unemployment
Woman—Employment
Youth

Bibliography

Outline for a course in social problems, by I. N. Murphy; and, How and where to find information, by H. Mason. 58p Helen Mason, 6310 Maryland drive, Los Angeles '39

SOCIAL progress

Freedom, the mental climate of progress. B. Acheson. Am Pet Inst Proc 20(1):38-42 '39

Life, liberty and the pursuit of bread. C. Shafer and C. Shafer. 207p bibliog(p184-96) $2.25 Columbia univ. press '40

SOCIAL psychology

After the deluge; a study of communal psychology. L. Woolf. v 2, 1830 & 1832. 317p $3.50 Harcourt '39

Beyond the clinical frontiers; a psychiatrist views crowd behavior. E. A. Strecker. 210p bibliog(p202-10) $2 Norton '40

Human nature and the social order. E. L. Thorndike. 1019p bibliog(p988-99) $4 Macmillan '40; Review, by R. S. Woodworth. Science 92:36-8 Jl 12 '40

Human nature writ large. F. Creedy. 484p $3 Univ. of North Carolina press, Chapel Hill '39

Ideas are weapons; the history and uses of ideas. M. Lerner. 553p $3.50 Viking press '39

Individual and his society; the psycho-dynamics of primitive social organization. A. Kardiner. 503p $3.50 Columbia univ. press '39

Industrial conflict: a psychological interpretation; first yearbook of the Society for the psychological study of social issues. G. W. Hartmann and T. Newcomb, eds. 583p $2.75 Cordon co, 226 Lafayette st, New York '40

Man and society in an age of reconstruction; studies in modern social structure. K. Mannheim. 469p bibliog(p383-455) $3.50 Harcourt '40

SOCIAL psychology—*Continued*
Measuring human relations; an introduction to the study of the interaction of individuals. E. D. Chapple and C. M. Arensberg. 147p bibliog(p131) pa $3 Journal press, Provincetown, Mass. '40
Plans of men. L. W. Doob. 411p bibliog(p386-96) $3 Yale univ. press '40
Psychology of social movements; a psychoanalytic view of society. P. Hopkins. 284p $3 Norton '38
Rape of the masses; the psychology of totalitarian political propaganda. S. Chakotin. 310p bibliog(p301-3) $3 Alliance book corp, 212 5th av, New York '40
Social psychology. C. Bird. 564p $3.50 Appleton-Century '40
Social psychology. O. Klineberg. 570p $3 Holt '40
See also
Cooperation (ethics)
Public opinion
Radio broadcasting—Social aspects

SOCIAL research
Critiques of research in the social sciences: 3, Appraisal of Walter Prescott Webb's the Great plains: a study in institutions and environment. F. A. Shannon. 254p pa $1 Social science research council, 320 Park av, New York '40
Place of research in the long-time planning of a state program for public welfare. D. M. Schneider. Am Statis Assn J 34:674-82 D '39
See also
Social surveys

Bibliography
Catalog of research and statistical publications. 22p Work projects administration, Washington, D.C. '40

SOCIAL sciences
Century of social thought; a series of lectures delivered at Duke university during the academic year 1938-1939. 172p $2 Duke univ. press, Durham, N.C. '39
Historian and scientist. G. Salvemini. 203p $1.75 Harvard univ. press '39
What is social science? E. B. Wilson. Science 92:157-62 Ag 23 '40
See also
Economics
Sociology

Bibliography
Book reviews. Published in bi-monthly numbers of Annals of the American academy of political and social science

Methodology
Historical method in social science. M. M. Postan. 38p pa 50c Macmillan '39

Philosophy
Plans of men. L. W. Doob. 411p bibliog(p386-96) $3 Yale univ. press '40

Study and teaching
Future of the social studies; proposals for an experimental social-studies curriculum. J. A. Michener, ed. 178p pa $1.50 National council for the social studies, 13 Lawrence hall, Kirkland st, Cambridge, Mass. '39
Social studies in general education. 401p bibliog(pxi-xii) $2.75 Appleton-Century '40

Textbooks
Our reconstructed educational system. A. G. Rudd. Nation's Business 28:27-8+ Ap '40

SOCIAL security act, 1935
Actuarial principles vs. financial principles; the untenable assumption of the Social security act amendments. G. B. Robinson. Annalist 56:531-2+ O 24 '40
Social security act; chart of principal features of act as amended. C. W. Six. Min Cong J 26:32-3 Ja '40
Social security from the life underwriter's viewpoint. I. Bendiner. Spectator (Life ed) 144:12-16+ F 15 '40
See also
Insurance, Social—United States
Insurance, Unemployment—United States
Old age pensions
Payrolls—Taxation

Bibliography
Books on the social security program. C. H. Farman. Booklist 36:355-8 My 15 '40
Brief reading list on the Social security act, including references on the amendments of 1939. 12p U.S. Social security board, Washington '39

SOCIAL security board
House sustains President Roosevelt's veto of bill to repay Ohio for money withheld by Social security board. Comm & Fin Chr 150:620 Ja 27 '40

SOCIAL settlements
Through the dock gates. R. K. Kennedy-Cox. 285p $3.50 Ryerson press '39

SOCIAL statistics
See also
Employment—Statistics
Labor and laboring classes—Statistics
Population—Statistics
Unemployment—Statistics
Wages—Statistics

SOCIAL surveys
Appraising urban communities; techniques and objectives. W. L. Bailey. J Land & Pub Util Econ 16:1-7 F '40
Exploring your community. M. P. Keohane and R. E. Keohane. 529p $1.72 Harcourt '40
See also
Standard of living
Unemployment surveys

SOCIAL welfare
Reciprocity of social insurance and assistance among the northern European countries. G. M. Drachmann. Int Labour R 42: 47-57 Jl '40

SOCIAL welfare associations

Directories
Directory for liberals. K. Knapp and D. H. Scull, eds. 64p bibliog(p63-4) pa 50c Liberal survey, 4309 3d st, N.W., Washington, D.C. '39

SOCIAL work
Adventuring for democracy. W. C. Phillips. 380p $3 Social unit press, 118 E. 28th st, New York '40
Civil service procedures for social work positions. F. Booth. 78p bibliog(p75-8) pa $1 Am. public welfare assn, Chicago '39
Community and social service. W. Blackshaw. 266p $3 Pitman '39
Education for social understanding; programs of case work and group work agencies. G. Hawkins. 207p $1.25 Am. assn. for adult education, 60 E. 42d st, New York '40
Guidebook for beginners in public assistance work. E. L. Cowgill. 49p pa 40c Family welfare assn. of America, New York '40
Help them live. I. K. Boss. 277p $2.50 Gilbert press, New York '40
Introduction to social case work. J. Strode and P. R. Strode. 219p $2.50 Harper '40
President Roosevelt opens mobilization for human needs drive. Comm & Fin Chr 151: 2280-1 O 19 '40
Problems of administration in social work. P. Atwater. 319p $3.50 Univ. of Minnesota press, Minneapolis '40
Proceedings of the National conference of social work, selected papers, sixty-sixth annual conference, Buffalo, New York, June 18-24, 1939. 655p $3 Columbia univ. press '39
Public assistance; American principles and policies. E. Abbott. v 1 894p $4.50 Univ. of Chicago press '40
Public welfare administrator. E. Street. 422p $4 McGraw-Hill '40
Social agencies and public education in New York city. W. Jansen. 136p bibliog(p135-6) $1.85 Teachers college '40
Social case work in practice; six case studies. F. Hollis. 313p bibliog(p308-13) $2.50 Family welfare assn. of America, New York '40
Social work engineering; an outline of topics for survey, planning and appraisal. J. P. Guild and A. A. Guild. rev ed 136p $1.75 Harper '40

SOCIAL work—*Continued*

Supervision in social group work. S. J. Lindenberg. 141p $1.50 Association press, New York '39

Theory and practice of social case work. G. Hamilton. 388p bibliog(p373-7) $3 Columbia univ. press '40

See also

Child welfare
Group work
Legal aid
Poor relief
Social research
Unemployment—Relief measures
Vocational guidance

Dictionaries

New social worker's dictionary. E. F. Young, ed. 160p bibliog(p7-8) $1 Social work technique, Los Angeles '39

Directories

Directory of social and health agencies, San Francisco. H. S. Kerwin, comp. 193p $1.50 Community chest of San Francisco, Dept. of social work, San Francisco '38

Handbook of social agencies in Nebraska. H. P. Williams, comp. 164p pa $1 Univ. of Nebraska, Lincoln '40

Social service directory, Chicago, 1939; a handbook of social service in Chicago and suburbs, including a directory of national organizations. 7th ed 271p $1.50; pa $1.25 Council of social agencies of Chicago, 343 S. Dearborn st, Chicago '39

Who's who in seamen's welfare agencies, 1939. M. G. Jackson, comp. 71p American seamen's friend soc, 550 W. 20th st, New York '39

Group work

Statistical measurement in group work; a manual on statistical records for use by staff members. F. A. Hall. il U S Children's Bur Pub 248:1-103 bibliog(p85-7) '39

SOCIAL work, Medical

See also

Dispensaries

SOCIAL work, Rural

Child welfare work in rural communities M. I. Atkinson. Ann Am Acad 212:209-15 N '40

Leadership for rural life. D. Sanderson. 127p bibliog(p121-4) $1.25 Assn. press, 347 Madison av, New York '40

SOCIAL workers

Civil service in public welfare; a discussion of effective selection of public social work personnel through the merit system. A. C. Klein. 444p bibliog(p407-27) $2.25 Russell Sage foundation, New York '40

SOCIALISM

Creeping paralysis of state socialism. M. M. Rice. Pub Util 26:80-6 Jl 18 '40

Dialectics of nature. F. Engels. 383p bibliog(p371-5) $3 International publishers, 381 4th av, New York '40

Economics on socialism. H. D. Dickinson. 262p bibliog(p241-50) $3.25 Oxford '39

Is plenty too much for the common people? G. R. Kirkpatrick. 311p bibliog(p301-3) $1; pa 60c Florence H. Kirkpatrick, San Gabriel, Calif. '39

Modern economic and social systems. R. E. Westmeyer. 604p bibliog(p588-96) $3 Farrar '40

New system; with a sketch of the socialism. C. A. Sahlberg. 203p $3 New system pub. co, 417 N. Clark st, Chicago '40

New world order. H. G. Wells. 145p $1.50 Knopf '40

Textbook of dialectical materialism. D. Guest. 107p bibliog(p101-7) $1 International publishers, New York '39

To the Finland station. E. Wilson. 509p $4 Harcourt '40

What this war means; the philosophy of modern revolutionary movements. E. D. Martin. Banking 33:33-4 N '40

See also

Communism

SOCIETIES

See also

Benefit societies
Engineering societies
Insurance associations
Scientific societies
Trade associations
Trade unions

SOCIETY, Primitive

Economic life of primitive peoples. M. J. Herskovits. 492p, 23p bibliog(p471-92) $4.50 Knopf '40

Principles of economic sociology; the economics of primitive life as illustrated from the Bantu peoples of South and East Africa. D. M. Goodfellow. 289p $3.50 Blakiston '39

SOCIETY for personnel administration

Society for personnel administration. R. W. Cooper. Personnel J 18:309-12 F '40

SOCIETY for the advancement of management

Meeting, Cleveland, April 11-12. Steel 106: 76-7 Ap 22 '40

SOCIETY for the promotion of engineering education

Annual meeting, Berkeley, Calif. Eng N 125:7 Jl 4 '40

Progress in engineering education, 1939. J Eng Educ 30:832-41 Je '40; Summary. Science 92:303-4 O 4 '40

Year book; list of members. J Eng Educ 30: 1-201 F '40

SOCIETY of American bacteriologists

First forty years of the Society. C. E. A. Winslow. Science 91:125-9 F 9 '40

SOCIETY of automotive engineers

Annual meeting, 35th, Detroit, Jan. 15-19. S A E J 46:sup 15-24, 29-33, 35-51, 64 F '40; Automotive Ind 82:91-2, 106-18 F 1 '40

Members prominent among modern pioneers. S A E J 46:sup19+ Ap '40

National aeronautic meeting, Washington, March 14-15. S A E J 46:sup13-16, 23-6 Ap '40; Automotive Ind 82:320-7 Ap 1 '40; Nat Pet N 32:21-2 Mr 20 '40

National aircraft production meeting; abstracts of papers. Aero Digest 37:137-8, 141-2+ N '40

National fuels and lubricants meeting, Tulsa, Nov. 7-8. Nat Pet N 32:21-2 N 13 '40

National production meeting, Hartford, Conn. May 7-8. S A E J 46:sup14-16+ Je '40

National tractor meeting, Milwaukee, Sept. 24-25. S A E J 47:sup21, 25 N '40; Automotive Ind 83:432-3, 453-5 O 15 '40

National transportation and maintenance meeting and public utility fleet supervisors conference, Pittsburgh, March 28-29. S A E J 46:sup11-16 My '40

National transportation and maintenance meeting, St Louis, Oct. 26-27. S A E J 45: sup 11-13 D '39

New officers. Steel 106:20 Ja 22 '40

Remember when? reproductions of old photographs of members, cars, etc. S A E J 47: sup41-8 Jl '40

Section chairmen for 1940-1941; portraits. S A E J 47:sup22-3 O '40

SAE defense aid implemented. S A E J 47:sup 11-13 Ag '40

SAE in national defense. E. E. MacMorland. S A E J 47:sup18-19+ Jl '40

SAE men called to help government organize national defense program. S A E J 47:sup 69-72 Jl '40

SAE papers in digest (cont). S A E J 46: sup30 Ja; sup28+ Mr; 47:sup24-30 Ag '40

SAE standards mark progress of industry. J. A. C. Warner. il Ind Stand 10:285-7 N '39

Summer meeting, White Sulphur Springs, June 9-14. S A E J 47:sup18-25, 28, 52-63 Jl '40; Automotive Ind 82:543-8, 563-74 Je 15 '40; Nat Pet N 32:15-16 Je 19 '40; Bus Transportation 19:316-18 Jl '40

West coast transportation and maintenance meeting, Seattle, Aug. 16-17. S A E J 47: sup11-16 S '40

SOCIETY of chemical industry

Annual general meeting, 59th, London, July 9. Chem Age (Lond) 43:19-20+ Jl 13 '40; Chem & Ind 59:493-502 Jl 13 '40

Fifty-ninth annual report of council. Chem & Ind 59:471-83 Jl 6 '40

Canadian section

Some Canadian chemical history; development of Society of chemical industry and Canadian institute of chemistry. F. J. Hambly. Can Chem & Process Ind 24:426-7 Ag '40

SOCIETY of dyers and colourists
Annual general meeting, 56th, Bradford, March 8. Soc Dyers & Col J 56:197-202 My '40

SOCIETY of economic geologists
Abstracts of papers to be presented at the twentieth annual meeting. Econ Geol 34: 939-48 D '39

SOCIETY of economic paleontologists and mineralogists
Annual meeting, Chicago, April 9-12; abstracts of papers. Oil & Gas J 38:63, 66-7 Ap 11 '40
Society of economic paleontologists and mineralogists firmly established. R. C. Moore. Oil & Gas J 38:42+ Ap 11 '40

SOCIETY of exploration geophysicists
Annual meeting, Chicago, April 9-12; abstracts of papers. Oil & Gas J 38:69-72 Ap 11 '40
Society of exploration geophysicists celebrate tenth anniversary. W. T. Born. Oil & Gas J 38:45 Ap 11 '40

SOCIETY of naval architects and marine engineers
Annual meeting, New York, Nov. 16-17. Marine Eng 44:585-93; 45:63-6+ D '39-Ja '40; Engineering 149:121, 150, 181-2 F 2-16 '40

SOCIETY of photographic illustrators, Chicago
Organization of the Chicago chapter; specimen photographs. Ptg Art 68 no 4:I 10-I 11 '40

SOCIETY of typographic arts, Chicago
Activities; list of members. Ptg Art 68 no 4: I 7-I 9 '40
Information, please! Ptg Art 68 no 3:21-5 [Ja] '40

SOCIOLOGY
Class and American sociology; from Ward to Ross. C. H. Page. 319p bibliog(p255-312) $3.50 Dial press, New York '40
Contemporary social theory. H. E. Barnes, H. Becker and F. B. Becker, eds. 947p bibliog(p889-912) $5 Appleton-Century '40
Folkways; a study of the sociological importance of usages, manners, customs, mores, and morals. W. G. Sumner. centennial ed 692p $4 Ginn '40
Foundations of sociology. G. A. Lundberg. 556p $3.50 Macmillan '39
Four pillars of democracy. E. J. Goodspeed. 148p $1.75 Harper '40
Fundamental concepts of sociology (Gemeinschaft und gesellschaft). F. Tönnies. 293p $3 Am. book co. '40
Introduction to sociology. E. R. Groves and H. E. Moore. 737p $3.25 Longmans '40
Man and society in an age of reconstruction; studies in modern social structure. K. Mannheim. 469p bibliog(p383-455) $3.50 Harcourt '40
Modern human relations; an elementary sociology. N. M. Kastler. 462p bibliog(p449-51) $1.72 Little '40
New-age sociology. E. A. Ross. 597p $3.25 Appleton-Century '40
Order and possibility in social life. D. G. Haring and M. E. Johnson. 772p $4 R. R. Smith, New York '40
Our social world. W. D. Wallis, G. A. Wallis and G. H. McCune. rev ed 402p $1.68 McGraw-Hill '40
Social science. J. Huxley. Science 90:sup8 D 8 '39
Sociology. W. F. Ogburn and M. F. Nimkoff. 953p $3.50 Houghton '40
State of the masses; the threat of the classless society. E. Lederer. 245p $2.50 Norton '40

See also
Cities and towns
Crime and criminals
Economics
Group work
Heredity
Immigration and emigration
Labor and laboring classes
Liquor traffic
Poor relief
Population
Social problems
Socialism
Unemployment

History
Development of social thought. E. S. Bogardus. 564p $3.50 Longmans '40

Methodology
Study of society; methods and problems. F. C. Bartlett and others, eds. 498p $3.50 Macmillan '39

See also
Social research

SOCIOLOGY, Christian
Christian alternative to world chaos. L. J. Shafer. 208p $2 Round table press, New York '40

SOCIOLOGY, Rural
Elements of rural sociology. N. L. Sims. 3d ed 690p $3.75 Crowell '40
Landscape of rural poverty; corn bread and creek water. C. M. Wilson. 309p bibliog (p295-7) $3 Holt '40
Rural life in process. P. H. Landis. 599p $3.75 McGraw-Hill '40
Rural roads to security; America's third struggle for freedom. L. G. Ligutti and J. C. Rawe. 387p bibliog(p361-78) $2.75 Bruce pub. '40
Sociology of rural life. T. L. Smith. 595p $3.50 Harper '40
Study of rural society; its organization and changes. J. H. Kolb and E. de S. Brunner. rev & enl ed 694p bibliog(p663-9) $3.75 Houghton '40
What's ahead for rural America; proceedings of the twenty-second American country life conference. 172p $2 Univ. of Chicago press '40

See also
Social work, Rural

Bibliography
Rural psychology; a partial list of references. M. T. Olcott. 76p bibliog(pvi) U.S. Bur. of agricultural economics, library, Washington '39

SOCONY-VACUUM oil company
Annual report for 1939. Comm & Fin Chr 150:2897 My 4 '40

SODA. See Sodium carbonates; Sodium hydroxide

SODA ash
Alkalis and chlorine. Chem & Met Eng 47: 70-2 F '40
Desulphurizing with fused soda ash; abstract. W. Levi. Iron Age 145:50-1 My 16 '40
Practical answer to a feedwater problem; amount of soda ash needed to give suitable pH value. Power 84:173 Mr '40
Soda-ash treatment aids de-airing, does not replace it; Barker-Troug method. il Brick & Clay Rec 97:20-1 O '40

SODA fountains
Dole refrigerating company instantaneous liquid cooler for soda fountains. il Refrig Eng 39:245 Ap '40
Service men go to school; Coca-Cola company's service training school. il Ptr Ink Mo 40:10-11 My '40
Soda fountain and luncheonette drinks and recipes. L. P. De Gouy. 237p bibliog(p229-36) $2 Dahls, Haviland rd, Stamford, Conn. '40

SODAMIDE. See Sodium amide

SODIUM
Apparatus for experiment on absorption of light by sodium vapor. D. C. Stockbarger. il diags Opt Soc Am J 30:362-4 Ag '40
Comparison of the use of crystal-reflected and filtered X-rays in liquid diffraction patterns. R. Q. Gregg and N. S. Gingrich. R Sci Instr 11:305-7 O '40
Condensations by sodium; a study of the possible conversion of amylsodium to amylidenedisodium. A. A. Morton and G. M. Richardson. Am Chem Soc J 62:129-31 Ja '40
Condensations by sodium; comments on the formation of triphenylene. A. A. Morton, J. T. Massengale and G. M. Richardson. bibliog Am Chem Soc J 62:126-9 Ja '40

SODIUM—*Continued*
Condensations by sodium; reactions of disodium compounds with ethylidene and methylene chlorides. A. A. Morton and J. T. Massengale. bibliog Am Chem Soc J 62:120-3 Ja '40
Condensations by sodium; the formation of decane in the Wurtz reaction. A. A. Morton and G. M. Richardson. Am Chem Soc J 62:123-6 Ja '40
Development of sodium cooling of exhaust valves. Automotive Ind 82:417-18 My 1 '40
Free radicals and radical stability; the influence of the phenoxyl group on the stability of ketylic derivatives; the preparation of carbon monoxide from carbonates. S. T. Bowden and T. John. Chem Soc J p213-16 F '40
Lecture demonstration of resonance radiation of sodium. R. W. Wood. diag Phys R 56: 1172-3 D 1 '39
Modern aircraft valves; development of the sodium-cooled valve. A. T. Colwell. bibliog il diags S A E J 46:147-65 Ap '40
Photoelectric and optical properties of sodium and barium. R. J. Maurer. bibliog diags Phys R 57:653-8 Ap 1 '40
Production and use of metallic sodium; abstract. C. B. Hess. Min & Met 21:239 My '40
Radioactive isotope study of the absorption of phosphorus and sodium by corn seedlings. A. K. Brewer and A. Bramley. Science 91: 269-70 Mr 15 '40
Radiofrequency spectra of sodium, rubidium and caesium. S. Millman and P. Kusch. Phys R 58:438-45 S 1 '40
Structure of the *L* absorption of sodium metal and its halides. H. M. O'Bryan. Phys R 57:995-7 Je 1 '40
Studies on proteins in liquid ammonia; reaction of sodium in liquid ammonia with peptones and related substances. C. O. Miller and R. G. Roberts. bibliog Am Chem Soc J 61:3554-6 D '39
Theoretical magnetic susceptibilities of metallic lithium and sodium. J. B. Sampson and F. Seitz. bibliog Phys R 58:633-9 O 1 '40

Analysis

Determination of sodium and potassium in cements. L. G. Carmick. Pub Roads 21:79-81 Je '40; Same Concrete (mill sec) 48: 224-5 Ag '40
Determination of sodium in biological fluids. M. C. Darnell, jr. and B. S. Walker. bibliog Ind & Eng Chem Anal ed 12:242-4 Ap 15 '40
Determination of sodium in the presence of other metals. E. C. Elliott. bibliog Ind & Eng Chem Anal ed 12:416-17 Jl 15 '40

Manufacture

American contemporaries; Hector Russell Carveth; sodium manufacturer at Niagara Falls. M. J. Brown. Ind & Eng Chem News ed 18:389-90 My 10 '40

SODIUM acetate
Acetometallates; acetozincate. A. Lehrman and P. Skell. Am Chem Soc J 61:3340-2 D '39
Rate and mechanism in the reactions of benzyl chloride with water, hydroxyl ion and acetate ion. G. W. Beste and L. P. Hammett. Am Chem Soc J 62:2481-7 S '40
Triple ions and transference numbers. M Dole. Electrochem Soc Trans 77 (preprint 3):39-48 Ap '40
Union of aryl nuclei; a modification of the Gomberg reaction. J. Elks, J. W. Haworth and D. H. Hey. Chem Soc J p1284-6 S '40

SODIUM alcoholates
alpha-Bromo secondary alkyl ketones; reaction with sodium alcoholates; a new synthesis of tertiary acids by rearrangement. J. G. Aston and R. B. Greenburg. bibliog Am Chem Soc J 62:2590-5 O '40

SODIUM alginate
Comparison of gelatine and sodium alginate as stabilizers in ice cream; abstract. P. H. Tracy and S. L. Tuckey. Food Ind 12:94-5 Ap '40; Correction. 12:94 Jl '40
Sodium alginate gaining attention as concrete admixture. Concrete (mill sec) 48:258 O '40

SODIUM alkyl sulfates
Detergents from kerosene; alkyl sulfates. A. R. Padgett and E. F. Degering. bibliog Ind & Eng Chem 32:204-8 F '40

SODIUM alkyl sulfonates
Surface tension of aqueous solutions of some paraffin chain colloidal electrolytes, including a comparison of the capillary rise and sessile bubble methods of measurement. H. V. Tartar, V. Sivertz and R. E. Reitmeier. bibliog diag Am Chem Soc J 62: 2375-80 S '40

SODIUM alloys
Lead-sodium alloy as a drying agent. H. Soroos. diag Ind & Eng Chem Anal ed 11: 657-8 D 15 '39; Same. Chem Age (Lond) 42:21 Ja 13 '40
Lead-sodium master alloy available. Iron Age 145:52 Je 6 '40

SODIUM aluminate
Effect of carbonate-ion concentration in water softening T. E. Larson. bibliog Ind & Eng Chem 32:1240-1 S '40
Effect of water hardness on the formation of floc from sodium aluminate. L. B. Miller and R. L. Lanz. Paper Tr J 110:131-3 F 22 '40
Theoretical limits of the lime-soda method of water softening. T. E. Larson and A. M. Buswell. bibliog il Ind & Eng Chem 32:130-2 Ja '40

SODIUM aluminum chloride
Catalytic alkylation of isobutane with gaseous olefins. F. H. Blunck and D. R. Carmody. bibliog Ind & Eng Chem 32:328-30 Mr '40

SODIUM aluminum silicate
See also
Albite

SODIUM amide
Amination in the heterocyclic series by sodium amide. R. N. Shreve and others. bibliog flow sheet il diags Ind & Eng Chem 32:173-8 F '40
Studies in the polyene series. E. Barraclough and others. Chem Soc J p1549-54 O '39
Synthesis of polyenes; reactions of β-methylallyl chloride with sodamide in liquid ammonia M. S. Kharasch, W. Nudenberg and E. Sternfeld. Am Chem Soc J 62: 2034-6 Ag '40

SODIUM amyl
Condensations by sodium; a study of the possible conversion of amylsodium to amylidenedisodium. A. A. Morton and G. M. Richardson. Am Chem Soc J 62:129-31 Ja '40

SODIUM arsenate
Chemical treatment for the control of algae and weeds. Pub Works 71:41 S '40

SODIUM arsenite
Manganese and chromium in steel; modified persulfate-arsenite method. R. P. Forsyth and W. F. Barfoot. Ind & Eng Chem Anal ed 11:625 N 15 '39
Porous carbon electrodes; oxidation of arsenite. M. Janes. diag Electrochem Soc Trans 77 (preprint 5):59-71 Ap '40

SODIUM benzoate
Catchup packers disagree on benzoate of soda. Food Ind 12:70 O '40
Sodium benzoate-sodium chloride coated wrappers; a progress report on application of method to fish fillets. E. H. Crowther. Can Chem & Process Ind 24:505+ O '40

SODIUM bismuth compounds
Some complex sodium bismuth salts of triethanolamine and triisopropanolamine. W. T. Miller. Am Chem Soc J 62:2707-9 O '40

SODIUM bromomalonate
Mechanism of substitution at a saturated carbon atom; polar effect of the carboxylate ion group as illustrated by the hydrolysis of the bromomalonate and α-bromomethylmalonate ions. E. D. Hughes and N. A. Taher. Chem Soc J p956-60 Jl '40

SODIUM calcium silicate
Scaling of boilers; identification of phases in calcium silicate scales. L. M. Clark and C. W. Bunn. Soc Chem Ind J 59:155-8 Ag '40

SODIUM carbonates
Alkali slurry for CO_2 recovery from flue gases. G. T. Reich. diags Chem & Met Eng 47:152-5 Mr '40
Comparative value of water softeners; effects of sodium carbonate. Chem Age (Lond) 42: 22 Ja 13 '40
Decomposition of rocks and ceramic materials with a small amount of sodium carbonate. J. I. Hoffman. J Research Nat Bur Stand 25:379-83 S '40
Efficacité des produits employés pour adoucir l'eau destinée au blanchissage domestique et économiser le savon. Génie Civil 115:368-70 N 18 '39
Kinetics of isotopic exchange between carbon dioxide, bicarbonate ion, carbonate ion and water. G. A. Mills and H. C. Urey. bibliog Am Chem Soc J 62:1019-26 My '40
Occurrence of a deposit of trona; Sweetwater county, Wyoming. W. C. Mendenhall. Science 91:11-12 Ja 5 '40
Production of reactive gas coke by alkali activation. H. H. Thomas and P. J. Askey. Gas J (Lond) 230:580-5 Je 12 '40; Excerpt. Chem Age (Lond) 42:335 Je 22 '40
Reaction of calcined phosphate rock with alkali carbonate solutions. K. A. Kobe, W. S. Hamm and A. Leipper. bibliog Ind & Eng Chem 32:981-3 Jl '40
Resistance of aluminum-magnesium alloys to attack by sodium carbonate solutions. R. B. Mears and L. J. Benson. bibliog Ind & Eng Chem 32:1343-7 O '40
Significance of suspending power in detergent processes. J. Powney and R. W. Noad. Textile Inst J 30:T157-71 N '39
Specific gravity and viscosity of Na_2CO_3 solutions. D. S. Davis. Chem & Met Eng 47:690-1 O '40
System trisodium phosphate—sodium carbonate—water. K. A. Kobe and A. Leipper. bibliog il Ind & Eng Chem 32:198-203 F '40
See also
Soda ash

Manufacture

Modernism with a purpose; Church & Dwight, Inc., a new baking soda plant. il Food Ind 12:48-9 Ag '40
New plant for Church & Dwight at Syracuse. il Chem & Met Eng 47:109 F '40
Rowland Hazard, 1829-1898, father of the American alkali industry; Solvay process. W. Haynes. il Chem Ind 47:248-53 S '40

SODIUM cetyl sulfate
Change with time of the surface tension of solutions of sodium cetyl sulfate and sodium lauryl sulfate. G. C. Nutting, F. A. Long and W. D. Harkins. Am Chem Soc J 62:1496-1504 Je '40

SODIUM chitin xanthate
Preparation and properties of alkali chitin. C. J. B. Thor and W. F. Henderson. bibliog Am Dyestuff Rep 29:461-4 S 16 '40

SODIUM chlorate
Derivatives of 1 : 2 : 3 : 4-tetrahydroxybenzene; the oxidation of quinol with sodium chlorate. W. Baker and I. Munk. Chem Soc J p1092-3 Ag '40
Reactions of high energy atoms produced by slow neutron capture. W. F. Libby. Am Chem Soc J 62:1938-40 Ag '40
Sodium chlorate cell design. P. H. Groggins, A. L. Pittman and F. H. Davis. diags Chem & Met Eng 47:468-70 Jl '40

SODIUM chloride. See Salt

SODIUM chlorite
Bleaching cotton and rayon with chlorite. G. P. Vincent. Textile Col 62:736+ N '40
Chlorite vs. hypochlorite for bleaching. J. F. White and G. P. Vincent. bibliog Paper Tr J 111:39-44 S 19 '40; Abstract. Chem & Met Eng 47:630 S '40
Sodium chlorite being produced commercially for first time. G. P. Vincent. il Chem Ind 47:280-2 S '40
Sodium chlorite, properties and reactions. M. C. Taylor and others. bibliog Ind & Eng Chem 32:899-903 Jl '40; Abstract. Chem Ind 46:596 My '40
Textone. G. P. Vincent. Am Dyestuff Rep 29: 269-71 My 27 '40
Treatment of spun rayons with textone. G. P. Vincent, A. L. Dubeau and J. W. Ivey. Am Dyestuff Rep 29:296-9 Je 10 '40

SODIUM chromate
Chromate salts from domestic ores; abstracts. H. A. Doerner and others. flow sheet Eng & Min J 141:50-1+ My '40; Chem & Met Eng 47:688-9 O '40
Tests of corrosion inhibitors for water treatment in air-conditioning equipment. J. H. Wilson and E. C. Groesbeck. pl diags J Research Nat Bur Stand 24:665-76 Je '40; Same cond. Heat & Ven 37:55-7 N '40

SODIUM compounds
Auto-metalation with *m*-tolylsodium. H. Gilman and H. A. Pacevitz. Am Chem Soc J 62:673-4 Mr '40
Introduction of substituted vinyl groups; (primary 1-alkenyl) alkyl malonic esters. A. C. Cope and others. bibliog Am Chem Soc J 62:314-16 F '40
Solubilities of sodium and potassium salts of nitrophenols and related acids. O. C. Dermer and V. H. Dermer. bibliog Am Chem Soc J 61:3302-3 D '39
Sulfonated arylstearic acids; wetting properties of the sodium salts. A. J. Stirton, R. F. Peterson and P. H. Groggins. bibliog Ind & Eng Chem 32:1136-7 Ag '40
Synthesis of the sodium salt of tetradecamethylene disulfonic acid. G. C. H. Stone. bibliog Am Chem Soc J 62:571-2 Mr '40

SODIUM copper cyanide
Study of the electrolysis of the sodium cuprocyanide solution. J. V. Petrocelli. bibliog Electrochem Soc Trans 77 (preprint 4):49-57 Ap '40

SODIUM cyanide
Case hardening in liquid baths. F. D. Waterfall. il Iron Age 145:27-31 Je 27; 146:32-5 Jl 4 '40
Introductory study of the nitriding of hardened high speed steel by the use of molten cyanides. J. G. Morrison and J. P. Gill. il diags Am Soc for Metals Trans 27: 935-1011; Discussion. 1011-14 D '39
Reversible inhibition of tobacco mosaic virus in living cells with 0.0002 molar sodium cyanide. M. W. Woods. bibliog Science 81: 295-6 Mr 22 '40

Analysis

Analysis of free sodium cyanide in brass plating solutions. W. M. McNabb and S. Heiman. bibliog Ind & Eng Chem Anal ed 12:161-3 Mr 15 '40; Same. Metal Ind 38: 260-2 My '40

SODIUM dichlorobenzenoneindophenol
Stable 2,6-dichlorobenzenoneindophenol solutions. I. Stone. bibliog Ind & Eng Chem Anal ed 12:415 Jl 15 '40

SODIUM dichromate
Chromate salts from domestic ores; abstracts. H. A. Doerner and others. flow sheet Eng & Min J 141:50-1+ My '40; Chem & Met Eng 47:688-9 O '40
pH of sodium dichromate solutions; dilution effects. H. J. Kaufmann, W. B. Lauder and R. K. Kepner. bibliog Ind & Eng Chem 32:423-6 Mr '40

SODIUM enolates
Reaction between quinones and metallic enolates; trimethylquinone and the enolates of β-diketones. L. I. Smith and E. W. Kaiser. Am Chem Soc J 62:133-8 Ja '40

SODIUM ethoxide
Condensations brought about by bases; the conversion of ethyl benzoyldimethylacetate to ethyl benzoate and ethyl isobutyrylisobutyrate in the presence of sodium ethoxide and triphenylmethane; the reversibility of the Claisen type of condensation. C. R. Hauser and B. E. Hudson, jr. bibliog Am Chem Soc J 62:62-6 Ja '40

SODIUM ethoxide—*Continued*
Racemisation of carboxylic esters by sodium ethoxide and its bearing on Claisen's condensation. J. Kenyon and D. P. Young. Chem Soc J p216-18 F '40

SODIUM ethyl mercury thiosalicylate. See Merthiolate

SODIUM fluoride
Fluorides in food and drinking water; a comparison of effects of water-ingested vs. food-ingested sodium fluoride. F. J. McClure. il pls diags U S National Inst of Health Bul 172:1-53 bibliog(p49-53); pa 15c Supt. of doc. '39
Fluorine compounds as wood preservatives. D. Steinherz. bibliog Can Chem & Process Ind 23:601 D '39
New method for obtaining sodium fluoride. Chem Ind 47:411 O '40

SODIUM formate
Crystal structure of sodium formate, $NaHCO_2$. W. H. Zachariasen. Am Chem Soc J 62: 1011-13 My '40

SODIUM glutarate
Ionic equilibria in acid salts of dibasic acids. C. W. Davies. Chem Soc J p1850-3 D '39

SODIUM halides
Corrosion of copper by sodium halide solutions. F. J. Asselin and F. A. Rohrman. Ind & Eng Chem 32:1015-16 Jl '40
Structure of the *L* absorption of sodium metal and its halides. H. M. O'Bryan. Phys R 57: 995-7 Je 1 '40

SODIUM hexametaphosphate
Adaptation of hexametaphosphate for corrosion control and prevention of scale formation; abstract. R. C. Bardwell. Water Works & Sewerage 87:412-13 S '40
Corrosion control and stabilization by threshold treatment. O. Rice. il Water Works & Sewerage 87:sup103-4 Ap '40
Corrosion control by sodium hexametaphosphate. H. T. Gidley and R. S. Weston. diags map Am Water Works Assn J 32: 1484-94 S '40; Abstract. Eng N 124:666 My 9 '40
Corrosion prevention by sodium hexametaphosphate. E. C. Trax. Am Water Works Assn J 32:1495-7 S '40; Abstract and discussion. Water Works & Sewerage 87:272-3 Je '40
Corrosion protection by rust inhibitors. E. P. Partridge. Metal Prog 38:382 O '40
Inhibiting action of minute amounts of sodium hexametaphosphate on the precipitation of calcium carbonate from ammoniacal solutions. R. F. Reitemeier and T. F. Buehrer. bibliog il J Phys Chem 44:535-74 My '40
Investigations on calgonizing. Ind & Eng Chem News ed 18:288 Ap 10 '40
Keeping iron in or out of solution; abstract and discussion. L. R. Caplan. Water Works & Sewerage 87:279-80 Je '40
Physiological effects of sodium hexametaphosphate; abstract. K. K. Jones. Water Works & Sewerage 87:273 Je '40
Progress report on the use of sodium hexametaphosphate at Garden City, N.Y. A. H. Rogers. Am Water Works Assn J 32:1498-1500 S '40
Sodium hexametaphosphate as an aid in the control of corrosion. O. Rice. diag N E Water Works Assn J 54:25-33 Mr '40
Sodium metaphosphate in laundering. B. H. Gilmore, C. J. Munter and E. R. Burnett. bibliog Ind & Eng Chem 32:1233-7 S '40
Station K wins battle against condenser scale. J. O. Olson. il diags Power 84:164-5 Mr '40

Physiological effect
Physiology of sodium hexametaphosphate. K. K. Jones. bibliog il Am Water Works Assn J 32:1471-83 S '40

SODIUM hydroxide
Action of alkalis on blast-furnace slag. A. O. Purdon. Soc Chem Ind J 59:191-202 S '40
Action of solutizers in mercaptan extraction. D. L. Yabroff and E. R. White. bibliog Ind & Eng Chem 32:950-3 Jl '40
Caustic wash takes most of load of doctor sweetening process. il diag Nat Pet N 32: R115-16 Ap 3 '40
Caustic washing of gasoline and caustic regeneration. L. M. Henderson, G. W. Ayers, jr. and C. M. Ridgway. bibliog Oil & Gas J 38:114+ Mr 28 '40
Cellulose sheet swelling; effect of temperature and concentration of sodium hydroxide solutions. G. A. Richter and K. E. Glidden. bibliog il Ind & Eng Chem 32:480-6 Ap '40
Cellulose sheet swelling; effect of temperature, secondary reagents, and sheet physical properties on swelling in sodium hydroxide solutions. G. A. Richter and K. E. Glidden. il Ind & Eng Chem 32:1122-8 Ag '40
Composition of cottonseeds; solubility of proteins in alkaline solutions of neutral salts. H. S. Olcott and T. D. Fontaine. Am Chem Soc J 62:1334-9 Je '40
Conditioned boiler water; resulting chemical problems. F. Kenyon. Elec R (Lond) 125: 641-3 N 17 '39
Effect of adsorbed electrolytes on properties of monodisperse clay-water systems. S. Speil. bibliog Am Cer Soc J 23:33-8 F '40
Extraction of mercaptans with alkaline solutions. D. L. Yabroff. bibliog il Ind & Eng Chem 32:257-62 F '40
Heat of dilution of aqueous sodium hydroxide solutions at 25°. J. M. Sturtevant. Am Chem Soc J 62:2276-80 S '40
Heat of neutralization of sodium hydroxide with hydrochloric acid. G. Kegeles. bibliog Am Chem Soc J 62:3230-2 N '40
Ionization constant of monoethanolammonium hydroxide at 25° from electrical conductance measurements. V. Sivertz, R. E. Reitmeier and H. V. Tartar. bibliog Am Chem Soc J 62:1379-82 Je '40
Mercerisation of various cellulose fibres. J. R. Katz and J. Seiberlich. bibliog Pulp & Pa of Can 41:337-40 Ap '40
Organic substances that cause swelling. J. R. Katz and J. Seiberlich. Rayon 21:42-3 Ja '40
Polarographic study of the reduction of chromate ion at the dropping mercury electrode. J. J. Lingane and I. M. Kolthoff. bibliog Am Chem Soc J 62:852-8 Ap '40
Preparation and properties of alkali chitin. C. J. B. Thor and W. F. Henderson. bibliog Am Dyestuff Rep 29:461-4 S 16 '40
Preparation of desulphonated lignin from calcium lignosulphonate. I. A. Pearl and H. K. Benson. bibliog Paper Tr J 111:29-31 N 7 '40
Quantitative determination of viscose rayon in mixtures with cotton, wool or silk. R. W. McKay. Am Dyestuff Rep 29:25-8 Ja 22 '40
Rate and mechanism in the reactions of benzyl chloride with water, hydroxyl ion and acetate ion. G. W. Beste and L. P. Hammett. Am Chem Soc J 62:2481-7 S '40
Significance of suspending power in detergent processes. J. Powney and R. W. Noad. Textile Inst J 30:T157-71 N '39
Solubility of arsenious oxide in dilute solutions of hydrochloric acid and sodium hydroxide. A. B. Garrett, O. Holmes and A. Laube. bibliog Am Chem Soc J 62:2024-8 Ag '40
Some aspects of white water flocculation. E. N. Poor. Paper Tr J 110:37-8 Mr 7 '40
Specifications for battery acid and sodium hydroxide. Can Chem & Process Ind 24: 272 My '40
Test method for the evaluation of aqueous quenching media for steel hardening. F. W. Trembour and H. Scott. il Am Soc for Metals Trans 28:513-31; Discussion. 531-6 S '40
Thermodynamics of concentrated aqueous solutions of sodium hydroxide. G. Åkerlöf and G. Kegeles. diag Am Chem Soc J 62: 620-40 Mr '40

See also
Mercerizing
also Westvaco chlorine products company

SODIUM hydroxide—*Continued*

Manufacture

Anhydrous sodium hydroxide production by partial-pressure evaporation; pilot plant. D. F. Othmer and J. J. Jacobs, jr. flow sheet il diags Ind & Eng Chem 32:154-60 F '40

Growth of the electrolytic alkali and chlorine industry in the United States development and importance of the deposited diaphragm cell; with list and location of plants in the United States. R. L. Murray. il diag map Am Inst Chem Eng Trans 36:445-62 Ag '40; Same cond. Chem & Met Eng 47: 396-9+ Je '40

Statistics

Alkalis and chlorine. Chem & Met Eng 47: 70-2 F '40

SODIUM hyposulfite

Hydrosulphites and their derivatives; structure, development and use in the textile industry. G. S. Ranshaw. Chem Age (Lond) 41:359-60 N 25 '39

SODIUM iodide

Sodium polyiodides. G. H. Cheesman, D. R. Duncan and I. W. H. Harris. Chem Soc J p837-9 Jl '40

System sodium iodide-water. T. R. Briggs and W. F. Geigle. bibliog J Phys Chem 44: 373-7 Mr '40

SODIUM laurate

Surface tension of aqueous solutions of some paraffin chain colloidal electrolytes, including a comparison of the capillary rise and sessile bubble methods of measurement. H. V. Tartar, V. Sivertz and R. E. Reitmeier. bibliog diag Am Chem Soc J 62: 2375-80 S '40

SODIUM lauryl sulfate

Change with time of the surface tension of solutions of sodium cetyl sulfate and sodium lauryl sulfate. G. C. Nutting, F. A. Long and W. D. Harkins. Am Chem Soc J 62:1496-1504 Je '40

Detergents from kerosene; alkyl amine hydrochlorides. A. R. Padgett and E. F. Degering. bibliog Ind & Eng Chem 32:486-8 Ap '40

Sulphonated oils and fatty alcohols; some industrial applications. G. S. Collingridge. Chem Age (Lond) 42:17-19 Ja 13 '40

SODIUM malonate

Ionic equilibria in acid salts of dibasic acids. C. W. Davies. Chem Soc J p1850-3 D '39

SODIUM metaphosphate

See also

Sodium hexametaphosphate

SODIUM methyl cyanoacetate

Reaction between quinones and metallic enolates; duroquinone and the enolates of cyanoacetic ester and of β-diketones. L. I. Smith and E. W. Kaiser. bibliog Am Chem Soc J 62:138-40 Ja '40

SODIUM methylate

Some Michael condensations involving benzyl cyanide. R. W. Helmkamp, L. J. Tanghe and J. T. Plati. bibliog Am Chem Soc J 62:3215-19 N '40

SODIUM naphthalene

Dihydronaphthalene polymers. N. D. Scott and J. F. Walker. bibliog il Ind & Eng Chem 32:312-15 Mr '40; Same abr. Chem Age (Lond) 42:197-8 Ap 6 '40

SODIUM nitrate

Chilean Nitrate results and prospects. Economist 137:475 D 23 '39

Chilean nitrates still a big business. Nation's Business 28:109 My '40

New heat transfer medium for high temperatures. W. E. Kirst, W. M. Nagle and J. B. Castner. bibliog Am Inst Chem Eng Trans 36:371-90 Je '40; Same cond. il Chem & Met Eng 47:472-5 Jl '40; Abstracts. Nat Pet N 32:R220+ Je 12 '40; Chem Age (Lond) 43:100-1 Ag 31 '40; Discussion. Am Inst Chem Eng Trans 36:390-4 Je '40

Synthetic optical crystals. H. C. Kremers. bibliog il Ind & Eng Chem 32:1478-83 N '40

SODIUM nitrite

Action of sodium nitrite on Michler's hydrol in hydrochloric acid. A. C. Hutchison and T. H. Reade. Chem Soc J p93-6 Ja '40

Experimental studies in cardiovascular pathology; pathological changes in the organs of rats produced by chronic nitrite poisoning; abstract. W. C. Hueper and J. W. Landsberg. J Ind Hygiene 22:sup163 O '40

Molten salt, a new heat transfer medium for high temperatures. W. E. Kirst, J. B. Castner and W. M. Nagle. Business Week p39 My 25 '40

New heat transfer medium for high temperatures. W. E. Kirst, W. M. Nagle and J. B. Castner. bibliog Am Inst Chem Eng Trans 36:371-90 Je '40; Same cond. il Chem & Met Eng 47:472-5 Jl '40; Abstracts. Nat Pet N 32:R220+ Je 12 '40; Chem Age (Lond) 43:100-1 Ag 31 '40; Discussion. Am Inst Chem Eng Trans 36:390-4 Je '40

Nitrite nitrogen standards. W. F. Reindollar. bibliog Ind & Eng Chem Anal ed 12:325 Je 15 '40

Preservative ice containing sodium nitrite; abstract. H. L. A. Tarr and P. A. Sunderland. Food Ind 12:98 Jl '40

Tearing of vitreous enamels. J. E. Rosenberg and A. F. Langerman. il Am Cer Soc J 23:80-6 Mr '40

SODIUM nitrophenoxide

Deepening of color of sodium nitrophenolate solutions with elevation of temperature. T. L. Davis and J. L. Richmond. bibliog Am Chem Soc J 62:756-61 Ap '40

SODIUM nucleohistone

Physical chemical investigation of certain nucleoproteins; preparation and general properties; nucleohistone of calf thymus, and nucleoprotein of hog thyroid. R. O. Carter and J. L. Hall. bibliog Am Chem Soc J 62:1194-6 My '40

SODIUM oleate

Phase rule behavior of concentrated aqueous systems of a typical colloidal electrolyte; sodium oleate. R. D. Vold. bibliog il diag J Phys Chem 43:1213-31 D '39

Significance of suspending power in detergent processes. J. Powney and R. W. Noad. Textile Inst J 30:T157-71 N '39

SODIUM oxides

Equilibria in the systems Na_2O-SiO_2-H_2O and Na_2O-Al_2O_3-H_2O at 25°C. J. W. Sprauer and D. W. Pearce. bibliog il J Phys Chem 44: 909-16 O '40

SODIUM palmitate

Some properties of sodium palmitate curd as studied in the centrifuge. J. W. McBain and T. F. Ford. il diag Am Chem Soc J 62: 866-9 Ap '40

SODIUM perborate

Protective ointment for the prevention of poison ivy dermatitis. L. Schwartz, L. H. Warren and F. H. Goldman. Pub Health Rep 55:1327-33, pl 1-4 Jl 26 '40

SODIUM perchlorate

Reactions of high energy atoms produced by slow neutron capture. W. F. Libby. Am Chem Soc J 62:1938-9 Ag '40

SODIUM phosphates

Colloidal behavior of clays as related to their crystal structure. T. F. Ford, A. G. Loomis and J. F. Fidiam. bibliog J Phys Chem 44: 1-12 Ja '40

Complex phosphates for deflocculation of drilling mud. C. F. Bonnet. Oil & Gas J 38:39+ F 1 '40; Correction. 38:76 F 29 '40

Conditioned boiler water; resulting chemical problems. F. Kenyon. Elec R (Lond) 125: 641-3 N 17 '39

Industrial uses of chemicals and related materials; sodium beta-N-dodecylphenoxyethyl phosphate. Oil Paint & Drug Rep 137:33 F 5 '40

Prevention of dull shades due to the presence of iron in the dyebath, when dyeing with chrome dyes; iron in the water supply; effect on eriochrome verdone S and solochrome dark blue. C. L. Bird and E. Molloy. bibliog Soc Dyers & Col J 55:560-4 N '39; Abstract. Am Dyestuff Rep 29:108 Mr 4 '40

SODIUM phosphates—*Continued*
Significance of suspending power in detergent processes. J. Powney and R. W. Noad. Textile Inst J 30:T157-71 N '39; Abstract. Textile Col 62:186-7 Mr '40
Stabilizers in water treatment. Eng N 124: 331 F 29 '40
System trisodium phosphate—sodium carbonate—water. K. A. Kobe and A. Leipper. bibliog il Ind & Eng Chem 32:198-203 F '40
Tests of corrosion inhibitors for water treatment in air-conditioning equipment. J. H. Wilson and E. C. Groesbeck. pl diags J Research Nat Bur Stand 24:665-76 Je '40; Same cond. Heat & Ven 37:55-7 N '40

See also
Sodium hexametaphosphate

SODIUM plumbite
Total removal of sulfur compounds is goal of sweetening technique. P. M. Robinson. Nat Pet N 32:R298-300; Discussion. C. D. Lowry, jr.; P. W. Emery; G. G. Rumberger. R300-R302+ Ag 21 '40

SODIUM potassium cobaltinitrite
Determination of minute amounts of potassium; iodometric evaluation of the cobaltinitrite precipitate, using ceric sulfate. I. A. Kaye. bibliog Ind & Eng Chem Anal ed 12: 310-11 My 15 '40

SODIUM salicylate
Effect of salicylate on the oxygen uptake of the tubercle bacillus. F. Bernheim. Science 92:204 Ag 30 '40

SODIUM silicates
Copper sulfate-sodium silicate reaction. H. V. Anderson and F. P. Hochgesang. bibliog il J Phys Chem 44:439-46 Ap '40
L'emploi du silicate de soude pour accélérer la clarification des eaux traitées par les aluns. Génie Civil 115:391-2 N 25 '39
Fractionated coagulation; a new procedure. R. A. Trelles, D. J. Bengolea and A. G. Poccard. Am Water Works Assn J 32:748-9 My '40
Influence of activated silica in sewage coagulation. C. W. Christenson and I. Lavine. bibliog Am Inst Chem Eng Trans 36:71-88; Discussion. 88-90 F '40
Mechanism of the hardening of clay-sodium-silicate mixtures. W. R. Morgan, W. L. Peskin and S. J. Kronman. Am Cer Soc J 23:170-3 Je '40
Performance of sodium silicate adhesives in the manufacture of corrugated fiberboard. E. R. Boller, J. G. Lander and R. Morehouse. il Paper Tr J 110:51-60 Mr 21 '40
Significance of suspending power in detergent processes. J. Powney and R. W. Noad. Textile Inst J 30:T157-71 N '39; Abstract. Textile Col 62:186-7 Mr '40
Silica in boiler feedwater. W. F. Peters, jr. and W. D. Turner. bibliog Power Pl Eng 44:54-7 Mr '40
Silicate glasses; calculation of densities, refractive indices, and dispersions from glass composition. M. L. Huggins. bibliog il Ind & Eng Chem 32:1433-6 N '40
Silicate of soda affects mortar strength Brick & Clay Rec 96:56 Je '40
Studies in the use of sodium silicates. H. E. Lordley and M. C. Smith. Am Water Works Assn J 31:2149-56 D '39
Tests of corrosion inhibitors for water treatment in air-conditioning equipment. J. H. Wilson and E. C. Groesbeck. pl diags J Research Nat Bur Stand 24:665-76 Je '40; Same cond. Heat & Ven 37:55-7 N '40
Use of organic dispersing agents in casting slips; effect of clay deflocculant vs. sodium silicate on the physical properties. I. E. Sproat, C. C. Treischel and E. W. Emrich. Am Cer Soc Bul 19:47-58 F '40

SODIUM silicofluoride
Coagulation of rubber latex and its control. D. F. Twiss and P. H. Amphlett. Soc Chem Ind J 59:202-6 S '40

SODIUM stannate
Study of sodium stannate tin plating solution; abstract. F. Bauch. Metal Finishing 38:374-5 Jl '40

SODIUM stearate
Significance of suspending power in detergent processes. J. Powney and R. W. Noad. Textile Inst J 30:T157-71 N '39
Über den experimentellen nachweis adsorbierter seifenschichten. R. Brill and F. Rieder. il Angew Chemie 53:100-3 Mr 2 '40

SODIUM succinate
Ionic equilibria in acid salts of dibasic acids. C. W. Davies. Chem Soc J p1850-3 D '39

SODIUM sulfates
Desert chemical company rushes soda sulphate plant at Dale Lake, Calif. Oil Paint & Drug Rep 137:31 Je 10 '40
Imports of salt cake into the United States during the first 9 months of 1940. For Comm W 1:218 N 2 '40
New ideas on the use of salt cake in kraft pulp mills. W. L. Savell. Paper Tr J 109: 18, 20, 22 D 14 '39
Sodium sulfate error in measuring acid content of carbonizing baths. H. C. Olsen, W. B. Prescott and H. C. Chapin. Am Dyestuff Rep 28:669-71 N 13 '39
Solubilities of certain inorganic compounds in ordinary water and in deuterium water. R. D. Eddy and A. W. C. Menzies. bibliog J Phys Chem 44:207-35 F '40
Solubility of calcium oxalate in various salt solutions. H. Shehyn and D. B. Pall. diag J Phys Chem 44:166-71 F '40

See also
Sodium alkyl sulfates
Sodium thiosulfate

Statistics
Salt cake. Chem & Met Eng 47:86-7 F '40

SODIUM sulfides
Determination of phenol when present in minute amounts in water containing sodium sulphides. L. S. Renzoni. Can Eng W & S 78:36-8 Mr '40; Same. Am Water Works Assn J 32:1038-41; Discussion. D. Feben. 1042-3 Je '40
Solution and precipitation of lead and zinc sulphides in sodium sulphide solutions. F. G. Smith. bibliog il Econ Geol 35:646-58 Ag '40
Studies of ionisation in non-aqueous solvents; the formation of certain sulphides in methyl and in ethyl alcohol. W. L. German and T. W. Brandon. Chem Soc J p1329-33 S '40

SODIUM sulfites
Determination of furfural in furfural-furfuryl alcohol solution; sodium bisulfite—iodine method. A. P. Dunlop and F. Trimble. bibliog Ind & Eng Chem Anal ed 11:602-3 N 15 '39
Determination of sulfate by tetrahydroxyquinone method; effect of sodium sulfite and procedure for its elimination. H. L. Kahler. Ind & Eng Chem Anal ed 12:266-7 My 15 '40
Douglas fir as a pulpwood; a modified sodium sulphite process. L. C. Haffner and K. A. Kobe. bibliog il Paper Tr J 111:93-8 Ag 29 '40

SODIUM sulfonates
Studies of sulfonates; the effect of sodium chloride on the solubility of sodium dodecylsulfonate and sodium tetradecylsulfonate. H. V. Tartar and R. D. Cadle. bibliog J Phys Chem 43:1173-9 D '39

SODIUM tannate
Colloidal behavior of clays as related to their crystal structure. T. F. Ford, A. G. Loomis and J. F. Fidiam. bibliog J Phys Chem 44: 1-12 Ja '40

SODIUM terephthalate
Terephthalic acid method for determination of the acidity of paper. B. L. Browning and G. C. Kimble. bibliog Paper Tr J 110:24-7 Je 20 '40

SODIUM thiocyanate
Activity coefficients of sodium and potassium thiocyanate in aqueous solution at 25° from isopiestic vapor pressure measurements. R. A. Robinson. Am Chem Soc J 62:3131-2 N '40

SODIUM thiosulfate
Topochemical effect in post-fixation development. G. Kornfeld. bibliog Franklin Inst J 229:181-9 F '40

SODIUM triphenylmethyl
Condensations brought about by bases; the acylation of ethyl isobutyryl-isobutyrate and the cyclization of a 3,5-diketo-ester by means of sodium triphenylmethyl. B. E. Hudson, jr. and C. R. Hauser. bibliog Am Chem Soc J 61:3567-70 D '39
Condensations; the alkylation of ethyl isobutyrate and of certain other esters by means of sodium triphenylmethyl and alkyl halides. B. E. Hudson, jr. and C. R. Hauser. bibliog Am Chem Soc J 62:2457-9 S '40

SODIUM vanadate
Physicochemical studies of complex acids; the basic nature of vanadium pentoxide. H. T. S. Britton and G. Welford. Chem Soc J p895-9 Jl '40

SODIUM vapor electric lamps. See Electric lamps, Sodium vapor

SOFT drinks. See Beverages

SOFTENING agents
Softening textile auxiliaries. Textile Col 62: 402+ Je '40

SOFTNESS tester
Instrumentation studies; the Clark paper softness tester, with an important note on the Gurley stiffness tester. il diag Paper Tr J 110:29-37 F 15 '40
Instrumentation studies; the Gurley-Hill S-P-S tester. il diags Paper Tr J 110:27-33 Je 6 '40

SOIL analysis
Analysis of some factors involved in geochemical prospecting. W. V. Howard. bibliog maps Oil & Gas J 39:33-4 Jl 4; 50, 53-4 Jl 18 '40
Base-exchange capacity determination of soils and other materials; using colorimetric manganese method. C. A. Bower and E. Truog. Ind & Eng Chem Anal ed 12:411-13 Jl 15 '40
Comparison between electrical well logging and core analysis. P. B. Leavenworth. bibliog Oil & Gas J 38:197-8, 201 Ap 25 '40
Critical survey of recent developments in geochemical prospecting. S. J. Pirson. diags Am Assn Pet Geologists Bul 24:1464-74 Ag '40
Determination of organic phosphorus in soils. R. W. Pearson. bibliog diag Ind & Eng Chem Anal ed 12:198-200 Ap 15 '40
Determination of zinc in plant materials using the dropping mercury electrode. J. F. Reed and R. W. Cummings. bibliog Ind & Eng Chem Anal ed 12:489-92 Ag 15 '40
Determining presence of oil by estimation of hydrocarbon content of soil. M. LeBaron. diags Oil & Gas J 38:43+ Ja 11 '40
Discussion of geochemical exploration (soil analysis). E. E. Rosaire and others. Am Assn Pet Geologists Bul 24:1434-63 Ag '40
Examination of the Morgan rapid method of soil testing; the analytical procedures for phosphorus, potassium, and calcium. J. Tinsley and N. H. Pizer. Soc Chem Ind J 59:206-10 S '40
Geochemical prospecting; a new method of gas and oil exploration. S. E. Slipper. il Am Gas J 153:31-3 Ag '40
Geochemical prospecting for petroleum. E. E. Rosaire. diags Am Assn Pet Geologists Bul 24:1400-33 bibliog(p1432-3) Ag '40
Geochemical well logging. E. E. Rosaire. Oil & Gas J 38:114, 116+ Ap 25 '40
Isolation of phytin from soil. W. J. Dyer, C. L. Wrenshall and G. R. Smith. bibliog Science 91:319-20 Mr 29 '40
New cell for electrodialysis especially of soils. A. W. Marsden. bibliog diag Soc Chem Ind J 59:60-2 Mr '40
Petroleum exploration by means of soil analysis. J. W. Merritt. diags Oil & Gas J 39:68-9 Je 13 '40
Portable laboratories for core analysis. D. H. Stormont. Oil & Gas J 38:49-50 My 2 '40
Potentiometric determination of exchangeable hydrogen in unsaturated soils. K. A. Maehl. diag Ind & Eng Chem Anal ed 12:24-7 Ja 15 '40
Scope of soil analysis increased during year. H. F. Simons. il Oil & Gas J 38:54 F 29 '40
Soil analysis. C. H. Wright. 2d ed rev & enl 276p bibliog(p7-9) $5 Van Nostrand '39
Spectrographic determination of trace elements in soils; the cathode layer arc. R. L. Mitchell. Soc Chem Ind J 59:210-13 S '40
Spectrographic determination of trace elements in soils; the variable internal standard method, applied to the determination of chromium in the cathode layer arc. A. M. M. Davidson and R. L. Mitchell. Soc Chem Ind J 59:213-16 S '40
Toulene method of determining soil moisture content. J. C. Horvath. diag Pub Works 70:18 D '39

Mechanical analysis
Mobile soils laboratory; Maryland roads commission. G. H. Dent. il Roads & Sts 83: 54+ F '40
Shell material in dams of Miami conservancy district. C. H. Eiffert. il Eng N 124:863 Je 20 '40

SOIL bacteriology
Agent, isolated from a soil bacillus, which inhibits encapsulation of Friedländer's bacterium and is highly bactericidal for gram-positive microörganisms. J. C. Hoogerheide. Franklin Inst J 229:677-80 My '40
Further studies on the bactericidal agents obtained from soil bacilli. E. McDonald. il Franklin Inst J 229:805-15 Je '40
Germ-killing chemical from soil bacilli; abstract. R. B. Little, R. J. Dubos and R. D. Hotchkiss. Science 92:sup8 Jl 26 '40
Soil as a source of microorganisms antagonistic to disease-producing bacteria; abstract. S. A. Waksman and H. B. Woodruff. Science 91:454-5 My 10 '40

SOIL cement roads. See Roads, Earth—Cement hardening

SOIL conservation
Farm-credit policy as a factor in soil conservation. E. C. Johnson. J Land & Pub Util Econ 15:377-82 N '39
Fortune round table; agricultural policy and national welfare. Fortune 22:68-9+ Jl '40
Principles of gully erosion in the Piedmont of South Carolina. H. A. Ireland, C. F. S. Sharpe and D. H. Eargle. il diags maps U S Agric Tech Bul 633:1-143 bibliog(p141-2) '39
Refrigeration, meat and the soil in the South; smaller locker plants advocated. J. P. Ferris. Refrig Eng 40:180+ S '40
Shelterbelt comes true; changes into 17,000 belts. il diags map Business Week p20, 22-4 Ap 6 '40; Excerpts. Ind Stand 11:210-11 Ag '40
Soil conservation. H. H. Bennett. 993p $6 McGraw-Hill '39
Soil conservation; survey by Dr W. C. Lowdermilk. Science 90:611 D 29 '39
White man versus the prairie. R. J. Pool. Science 91:53-8 Ja 19 '40

Bibliography
Selected annotated bibliography on sedimentation as related to soil conservation and flood control. C. B. Brown and F. F. Barnes, comps. 40 numb l U.S. Soil conservation service, Washington '39

SOIL corrosion. See Corrosion and anticorrosives—Underground corrosion

SOIL disinfection
Develops continuous-belt soil sterilizer; Joseph Harris seed company. L. S. Caple. il Elec W 114:716 S 7 '40
Six applications in greenhouse load. J. C. Scott. il Elec W 113:318 Ja 27 '40

SOIL erosion. See Erosion; Soil conservation

SOIL heating
Electricity as an aid to gardening. il Electrician 124:335 My 3 '40
See also
Hotbeds, Electric
SOIL mechanics
Application of soil mechanics in building the New York world's fair. G. L. Freeman, G. W. Glick and H. Gray. il plans Civil Eng 10:649-52 O '40
Axioms in roadway soil mechanics. H. C. Porter. Am Soc C E Proc 66:193-206 F '40; Discussion. 66:1339-40, 1526 S-O '40
Conference on soil mechanics and its applications at Purdue university, West Lafayette, Indiana, Sept. 2-6, 1940. J Eng Educ 30:714-15 Ap '40
Effects of internal hydrostatic pressure on the shearing strength of soils. L. W. Hamilton. diags Am Soc T M Proc 39:1100-21 '39
Les essais de géophysique pour la mesure des propriétés des sols et des terrains. Y. Poisson. diags Génie Civil 116:276-80, 291-4 Ap 27-My 4 '40
Gelatin models for photoelastic analysis of stress in earth masses. F. B. Farquharson and R. G. Hennes. il Civil Eng 10:211-14 Ap '40; Discussion. T. A. Middlebrooks. 10: 529-30 Ag '40
Graphical analyses of the stability of soil. E. S. Barber and C. E. Mershon. bibliog diags Pub Roads 21:147-57 O '40
Plastic state of stress around a deep well. H. M. Westergaard. Boston Soc C E J 27: 1-5 Ja '40
Road officials show interest in soil engineering; Purdue conference on soil mechanics. R. F. Legget. il Can Eng R & B 78:37-8+ O '40
Shearing resistance of soil; its measurement and practical significance. W. S. Housel. il diags Am Soc T M Proc 39:1084-99 '39
Soil mechanics and foundations. F. L. Plummer and S. M. Dore. 473p bibliog(p463-7) $4.50 Pitman '40
Soil mechanics in foundation engineering. R. L. James. diags Inst Pet J 26:365-74 Jl '40; Same. Engineer 170:126-7 Ag 23 '40; Discussion. A. H. D. Markwick. Inst Pet J 26:374 Jl '40
Stresses under a loaded circular area. L. A. Palmer. diags Pub Roads 20:231-7 F '40
Symposium on shear testing of soils. il diags Am Soc T M Proc 39:999-1121 '39
Technique of triaxial compression tests. J. D. Watson. diags Civil Eng 9:731-3 D '39
See also
Earth pressure
Foundation soils
SOIL moisture
Axioms in roadway soil mechanics. H. C. Porter. Am Soc C E Proc 66:193-206 F '40; Discussion. V. J. Brown. 66:1339-40 S '40
Design features of low-cost roads. C. A. Hogentogler. Can Eng R & B 78:87-90 F '40
Effects of internal hydrostatic pressure on the shearing strength of soils. L. W. Hamilton. diags Am Soc T M Proc 39:1100-21 '39
Soil moisture; simple test. Sci Am 163:153 S '40
Toluene method of determining soil moisture content. J. C. Horvath. diag Pub Works 70:18 D '39
SOIL sampling
Device for measuring volume of soil samples; cavolimeter. S. R. King. il Eng N 123:749 D 7 '39
Improved sampler and sampling technique for cohesionless materials; equipment and methods used on Denison dam and reservoir project. H. L. Johnson. il diags Civil Eng 10:346-8 Je '40
Sondeuses échantillonneuses pour l'étude des sols de fondation. diags Génie Civil 115: 408-9 D 2 '39
Undisturbed soil samples. Can Eng R & B 78:116-17 O '40
SOIL stabilization
Compaction of earthwork; specifications, testing and construction methods on two road sections in Kansas. E. L. Seidel. il Roads & Sts 83:54, 56 Ag '40
Consolidation of embankment and foundation materials; progress report of subcommittee no. 2 of the committee of the soil mechanics and foundations division on earth dams and embankments. diags Am Soc C E Proc 66: 1491-1509 O '40
Design features of low-cost roads. C. A. Hogentogler. Can Eng R & B 78:87-90 F '40
Details of soil stabilization with emulsified asphalt. J. M. Loth. il Pub Works 71:14-15+ O '40
Embankment compaction control as practiced by Ohio. H. G. Sours and C. H. Shepard. il Roads & Sts 82:29-33 N '39
Embankment control in powdery magnesia soil; controlled compaction, South Dakota; with cost data. R. K. Morrell. il diags Roads & Sts 83:48+ S '40
Omaha airport runways. W. H. Campen. Roads & Sts 83:62+ My '40
Published proceedings of the Highway conference held in Knoxville, March 14-15, 1940. bibliog il diags Univ of Tenn Record v 43, no 4:1-71 '40
Research in soil stabilization with emulsified asphalt. C. L. McKesson. il diags Am Soc T M Proc 39:1123-33; Discussion. 1134-9 '39
Soil-cement runway found economical for army air base. il Concrete 48:3-4 N '40
Soil stabilization with tar. R. Witt. il Pub Works 71:14+ F '40
Stabilized soil mixtures; results of tests on circular tracks by Public roads administration. E. A. Willis. il Roads & Sts 83:37-44 F '40
Use of bitumen emulsion in soil stabilization. A. E. Lawrence. Inst Pet J 26:357-64 Jl '40
Use of latex for soil preservation; consolidation of earth, subsoil sand, masonry, concrete and similar natural or artificial foundations. Rubber Age 47:385 S '40
See also
Roads, Earth
Roads, Gravel—Stabilization
SOILLESS agriculture. See Plants—Soilless culture
SOILS
Fitting rolled earth dams to local materials. B. K. Hough, jr. il diags Civil Eng 10:689-92 N '40
Flow of suspensions through narrow tubes. F. J. Dix and G. W. Scott Blair. bibliog diags J Ap Phys 11:574-81 S '40
Relations of soils and surface in the South Carolina Piedmont. D. H. Eargle. Science 91:337-8 Ap 5 '40
Soil classification and testing. diags Pub Works 70:43-7 D '39
Soil classification by weight. K. B. Woods. Pub Works 70:36-7 N '39
Soils and periglacial phenomena in the Carolinas. K. Bryan. bibliog Science 91:523-4 My 31 '40
Some soil factors affecting tree growth. R. M. Salter. bibliog Science 91:391-8 Ap 26 '40
What does the soil need? H. T. Rutledge. il Sci Am 162:207 Ap '40
See also
Agriculture
Base exchanging compounds
Clay
Drainage
Earthwork
Erosion
Fertilizers
Foundation soils
Irrigation
Reclamation of land
Roads—Subgrades
Sand
Soil analysis

Analysis
See Soil analysis

Boron content
Boron deficiencies in Connecticut. B. A. Brown. Science 91:338 Ap 5 '40

Color
Darkening light-color soils with coal-mine waste. S. J. Broderick. pl U S Bur Mines Rep of Invest 3516:1-6 '40

SOILS—*Continued*

Consolidation

Compaction of soils by explosives; Franklin Falls Dam site. A. K. B. Lyman. il Civil Eng 10:205-7 Ap '40
Cut-and-fill yardages equal where compaction is effective. Eng N 124:388 Mr 14 '40
Soil tests control stadium fill at Lynchburg, Va. G. Hadden. il diag Eng N 124:590-2 Ap 25 '40

Freezing

See also
Frost heaving

Frost penetration

Studies of frost penetration. H. U. Fuller. N E Water Works Assn J 54:275-81 S '40
Temperature deficiencies and frost penetration; abstracts. H. U. Fuller. Water Works & Sewerage 87:122 Mr '40; Pub Works 71: 40 Ag '40

Nitrogen content

Loss of biologically fixed nitrogen from soils and its bearing on crop production. T. R. Bhaskaran and S. C. Pillai. Science 90: 595-6 D 22 '39

Phosphorus content

Use of radioactive phosphorus in soil studies. S. S. Ballard and L. A. Dean. il J Ap Phys 11:366-70 My '40

Testing

Comparison of methods for estimating soil corrosivity. K. H. Logan and E. A. Koenig. bibliog Oil & Gas J 38:130, 133-4+ N 17 '39
Soil classification and testing. diags Pub Works 70:43-7 D '39
Soil number developed to aid engineering judgement. K. Boyd. il Roads & Sts 83:38-43 O '40
Soil tests check Chicago subway work. R. B. Peck. diag Eng N 123:769-70 D 7 '39
Soil tests control stadium fill at Lynchburg, Va. G. Hadden. il diag Eng N 124:590-2 Ap 25 '40
Symposium on shear testing of soils. il diags Am Soc T M Proc 39:999-1121 '39
Trailer laboratory speeds soil testing. G. H. Dent. il Eng N 124:508-9 Ap 11 '40

See also
Foundation soils—Testing
Soil analysis—Mechanical analysis

SOLAR aircraft company
Preferred stock offered. Comm & Fin Chr 150: 1005-6 F 10 '40

SOLAR eclipses. See Eclipses, Solar

SOLAR heaters
Heating by solar radiation tested. Steel 106: 362-3 Ja 1 '40
M.I.T. investigates domestic use of solar heat. il Arch Rec 87:48 Ja '40
M.I.T. to study use of sun's heat. Power Pl Eng 44:116+ F '40
Solar heaters for service water. A. Merle. il diags map Heat & Ven 37:22-6 Ag '40
Solar radiation; trapping heat of sun and storing it for house heating to be attempted at Massachusetts institute of technology. Science 90:sup10 N 17 '39
Study uses of solar heat at Massachusetts institute of technology. Heating-Piping 12:179 Mr '40
Sun rays furnish hot water for homes. il Am Bld 62:117 Ap '40
Trapping the sun's rays to heat buildings; solar test house at the Massachusetts institute of technology. il Sheet Metal Worker 30:40 D '39

SOLAR radiation
Composition of the sun. Science 91:sup10 Mr 15 '40
11-year and 27-day solar periods in meteorology. H. H. Clayton. diags Smithsonian Misc Coll v 99, no 5:1-20 '40 (pa 15c)
Estimating heat flow through sunlit walls. C. O. Mackey and L. T. Wright, jr. Heat & Ven 37:43-7 Mr; 29-32 Ap; 23-6 My '40
Heat flow through sunlit walls of one material; reference data. Heat & Ven 37:58a-58b Je '40
Heat gain through glass blocks by solar radiation and transmittance. F. C. Houghten and others. il diags Heating-Piping 12: 264-70 Ap '40
Heating by solar radiation tested. Steel 106: 362-3 Ja 1 '40
How to reduce sun heat through windows. C. Strock. tables Heat & Ven 36:35-40 D '39
M.I.T. to study use of sun's heat. Power Pl Eng 44:116+ F '40
Origin of radio fade-outs and the absorption coefficient of gases for light of wave-length 1215.7A. W. M. Preston. bibliog Phys R 57:887-94 My 15 '40
Proposed standard solar-radiation curves for engineering use. P. Moon. bibliog Franklin Inst J 230:583-617 N '40
Regular cycles in variation of the radiation of the sun. Science 92:sup9 Jl 19 '40
Scientists find six periodic fluctuations in sun constant. Heat & Ven 37:26 Ag '40
Solar influences on the cosmic ray intensity at high elevations. S. A. Korff. bibliog Franklin Inst J 229:21-7 Ja '40
Solar radiation and the weather. Science 90:sup10 D 8 '39
Solar radiation; trapping heat of sun and storing it for house heating to be attempted at Massachusetts institute of technology. Science 90:sup10 N 17 '39
Sun as an aid to heating. T. W. Reynolds. Heat & Ven 37:23 N '40
Sun heat transmission of single windows; reference data. Heat & Ven 37:54a-54b My '40
Sun ray counts save sulphate; effect of ultraviolet rays on algae growth. R. F. Goudey. il Eng N 124:525-7 Ap 11 '40
Sunshine is wonderful, outdoors; reducing solar heat through windows; sun screen made of fine mesh bronze. L. Avery. plan Heating-Piping 12:477-9 Ag '40
Temperature rise of electrical apparatus as affected by radiation. G. W. Penney. bibliog diag Elec Eng 59:Trans 338-42 Je '40; Summary. Elec W 114:564 Ag 24 '40; Discussion. Elec Eng 59:Trans 342-5 Je '40
Trapping the sun's rays to heat buildings; solar test house at the Massachusetts institute of technology. il Sheet Metal Worker 30:40 D '39
U.S. Weather unit at Harvard for observing sun's radiation. Science 92:422 N 8 '40

See also
Solar heaters
Ultra-violet rays

SOLAR system
Life on other worlds. H. S. Jones. 299p $3 Macmillan '40

See also
Earth
Planets, Theory of
Sun

SOLARITE. See Coke

SOLARIZATION. See Photography—Exposure; Photography—Reversal process

SOLDER and soldering
Air-acetylene flame in refrigeration. il Refrig Eng 38:386+ D '39
Colaweld Metaljoiner for aluminum and all other metals. il Refrig Eng 40:54 Jl '40
Fluxes for soldering; abstract. B. W. Gonser and E. E. Slowter. Chem Age (Lond) 43: 60 Ag 3 '40; Same abr. Can Chem & Process Ind 24:394 Ag '40
How to solder cable lugs; illustrations. Power 84:606 S '40
Induction melting and soldering in the optical industry. W. J. Wrighton and T. C. Jarrett. il Metals & Alloys 11:185-7 Je '40
Lead-tin-arsenic wiping solder. E. E. Schumacher and G. S. Phipps. il Metals & Alloys 11:75-6 Mr '40; Same. Bell System Tech J 19:262-6 Ap '40; Discussion. C. L. Barber. il Metals & Alloys 12:301-2 S '40
Low temperature joining of sheet metal: Colaweld atomic welding paste and Meltomatic paste solder. il Iron Age 145:31 Ja 11 '40

SOLDER and soldering—*Continued*
Magnesium alloys; soldering. diags Am Mach 84:302 My 1 '40
Repair welding, brazing and soldering of light metal castings. E. R. Thews. diags Metal Ind 38:84-6, 149-53 F-Mr '40
Soft soldering. J. L. Miller. Metal Prog 38: 290+ S '40
Soft soldering of monel, nickel and inconel. Iron Age 145:44 Je 20 '40
Soft solders. G. O. Hiers. Metal Prog 38:529+ O '40
Soldered metal to glass or porcelain seals. S. T. Martin, jr. R Sci Instr 11:205-6 Je '40
Solders for electrical work. il Electrician 123:464-5 N 24 '39
Use of soft solders. R. W. Shoup. Coal Age 45:112+ Ap '40

See also
Brazing
Welding

SOLDERING apparatus
Automatic soldering. E. J. Stone. il Steel 106:68-9+ Ap 22 '40
Elektrisches lötgerät. P. Buhl. il V D I 83: 1275-6 D 9 '39

SOLDIERS, Discharged
Reinstatement of soldiers in civil employment in Australia. Monthly Labor R 50:845 Ap '40

SOLEDONS
Vat dye progress. A. J. Hall. Am Dyestuff Rep 29:58-60, 68-71 F 5 '40

SOLENOIDS
Method for improving the uniformity of the central magnetic field in a thick solenoid. L. W. McKeehan. bibliog R Sci Instr 10: 371-3 D '39

SOLES, Rubber
Crepe sole rubber imports dutiable. India Rubber W 102:46 My '40

SOLID solutions. See Solutions, Solid

SOLIDIFICATION points
Solidification point of fatty acids. diag Ind & Eng Chem Anal ed 12:383-4 Jl 15 '40

SOLIDS
Absolute rates of solid reactions; diffusion. A. E. Stearn and H. Eyring. J Phys Chem 44:955-80 bibliog(72 references, p979-80) N '40
Calculating the solids content of reduced organic finishing materials. W. G. Sheane. Metal Ind 38:176-7 Mr '40; [cont as] Metal Finishing 38:361 Je '40
Modern theory of solids. F. Seitz. 698p $7 McGraw-Hill '40
Quantum physics of solids; the energies of electrons in crystals. W. Shockley. il diags Bell System Tech J 18:645-723 O '39
Some illustrations of reactions between solids. H. S. van Klooster. bibliog J Chem Educ 17:361-3 Ag '40

See also
Crystals
Expansion (heat)
Granular materials
Melting points
Particles
Solutions, Solid

SOLOMON, king of Israel
Pittsburgh of old Palestine; buried city with smelter in which King Solomon refined copper; Ezion-geber. N. Glueck. il map Sci Am 162:22-4 Ja '40

SOLUBILITY
Aqueous solubilities of some aliphatic ketones. P. M. Ginnings, D. Plonk and E. Carter. Am Chem Soc J 62:1923-4 Ag '40
Chemistry of allergens; the solubility behavior of an active protein picrate from cottonseed. J. R. Spies, H. S. Bernton and H. Stevens. Am Chem Soc J 62:2793-9 O '40
Composition of cottonseeds; solubility of proteins in alkaline solutions of neutral salts. H. S. Olcott and T. D. Fontaine. Am Chem Soc J 62:1334-9 Je '40
Deposition of calcium sulfate from sea water. E. Posnjak. bibliog Am J Sci 238:559-68 Ag '40
Distribution of isomorphous salts in solubility equilibrium between liquid and solid phases. A. E. Hill, G. S. Durham and J. E. Ricci. bibliog Am Chem Soc J 62:2723-32 O '40
Effect of carbonate-ion concentration in water softening. T. E. Larson. bibliog Ind & Eng Chem 32:1240-1 S '40
Effect of mechanical gelatinization on the solubility of wood in cuprammonium solution. J. Levy and E. C. Jahn. bibliog Paper T J 109:45-9 D 7 '39
Empirical relation between solubility of slightly soluble electrolytes and dielectric constant of the solvent. J. E. Ricci and T. W. Davis. bibliog Am Chem Soc J 62:407-13 F '40
Equilibrium in the system calcium oxide—phosphorus pentoxide—water. K. L. Elmore and T. D. Farr. bibliog Ind & Eng Chem 32:580-6 Ap '40
Freezing point and solubility data for the system chlorine monoxide-water. C. H. Secoy and G. H. Cady. Am Chem Soc J 62:1036-8 My '40
Hydrogen bonds involving the C-H link; nitriles and dinitriles as solvents for hydrogen containing halogenated methanes. M. J. Copley, G. F. Zellhoefer and C. S. Marvel. Am Chem Soc J 62:227-8 Ja '40
Hydrogen bonds involving the C-H link; the solubilities of completely halogenated methanes in organic solvents. M. J. Copley, G. F. Zellhoefer and C. S. Marvel. Am Chem Soc J 61:3550-2 D '39
Hydrogen bonds involving the C-H link; the solubility of donor solutes in halogenated hydrocarbons. C. S. Marvel, F. C. Dietz and M. J. Copley. bibliog Am Chem Soc J 62:2273-5 S '40
Interaction of ions and dipolar ions; solubility of barium and calcium iodates in glycine and in alanine solutions. R. M. Keefer, H. G. Reiber and C. S. Bisson. bibliog Am Chem Soc J 62:2951-5 N '40
Linseed oil films; permeability, adsorption, and solubility. H. F. Payne. bibliog il Ind & Eng Chem 32:737-43 My '40
Miscibility of carbon dioxide and water under high pressure. D. L. Katz. Am Chem Soc J 62:1629-30 Je '40
Nomograph for paraffin wax solubility in petroleum fractions. D. S. Davis. Ind & Eng Chem 32:1293 O '40
Pressure-soluble and pressure-displaceable components of monolayers of native and denatured proteins. I. Langmuir and D. F. Waugh. diags Am Chem Soc J 62:2771-93 O '40
Refrigeration in the chemical industries; solubility control. D. H. Killeffer. il Refrig Eng 40:146-8 S '40
Simple proof of the thermodynamic stability of materials taken up by solutions containing solubilizers such as soap. J. W. McBain and J. J. O'Connor. diags Am Chem Soc J 62:2855-9 O '40
Solubilities of certain inorganic compounds in ordinary water and in deuterium water. R. D. Eddy and A. W. C. Menzies. bibliog J Phys Chem 44:207-35 F '40
Solubilities of inorganic and metal organic compounds; a compilation of quantitative solubility data from the periodical literature. A. Seidell. 3d ed v 1 1698p $12 Van Nostrand '40
Solubilities of salts in dioxane-water solvents. T. W. Davis, J. E. Ricci and C. G. Sauter. bibliog Am Chem Soc J 61:3274-84 D '39
Solubilities of sodium and potassium salts of nitrophenols and related acids. O. C. Dermer and V. H. Dermer. bibliog Am Chem Soc J 61:3302-3 D '39
Solubilities of the chlorides of lanthanum, praseodymium, and neodymium. J. N. Friend and R. W. Hale. Chem Soc J p670-2 My '40
Solubility and molecular rotation of certain tetra-, penta- and hexa-substituted benzenes. C. P. Smyth and G. L. Lewis. bibliog Am Chem Soc J 62:949-52 Ap '40
Solubility of a zirconium oxide opacifier in enamel glasses. A. I. Andrews and R. W. Gates. bibliog Am Cer Soc J 23:288-90 O '40

SOLUBILITY—*Continued*

Solubility of arsenious oxide in dilute solutions of hydrochloric acid and sodium hydroxide; the character of the ions of trivalent arsenic; evidence for polymerization of arsenious acid. A. B. Garrett, O. Holmes and A. Laube. bibliog Am Chem Soc J 62: 2024-8 Ag '40

Solubility of barium iodate monohydrate in solutions of uni-univalent electrolytes at 25°, and the calculation of the dissociation constant of iodic acid from solubility data. S. Naidich and J. E. Ricci. bibliog Am Chem Soc J 61:3268-73 D '39

Solubility of beta-cellulose in aqueous solutions of inorganic and organic compounds. J. R. Katz and J. Seiberlich. Paper Tr J 110: 37-8 F 15 '40

Solubility of cadmium and zinc oxalates in salt solutions. W. C. Vosburgh and J. F. Beckman. Am Chem Soc J 62:1028-31 My '40

Solubility of calcium oxalate in various salt solutions. H. Shehyn and D. B. Pall. diag J Phys Chem 44:166-71 F '40

Solubility of carbon dioxide in benzene at elevated pressure. S. Wan and B. F. Dodge. flow sheet diags Ind & Eng Chem 32:95-8 Ja '40

Solubility of carbon dioxide in water at various temperatures from 12 to 40° and at pressures to 500 atmospheres; critical phenomena. R. Wiebe and V. L. Gaddy. Am Chem Soc J 62:815-17 Ap '40

Solubility of cracked residues in some solvents. J. Voskuil. bibliog diag Inst Pet J 26:57-71 F '40

Solubility of lead iodate in ammonium acetate solution. S. M. Edmonds and N. Birnbaum. Am Chem Soc J 62:2367-9 S '40

Solubility of methane in benzene. E. P. Schoch and others. il diags Ind & Eng Chem 32:788-91 Je '40

Solubility of methane in cyclohexane. E. P. Schoch, A. E. Hoffmann and F. D. Mayfield. bibliog diag Ind & Eng Chem 32:1351-3 O '40

Solubility of sulfur dioxide in water. W. L. Beuschlein and L. O. Simenson. diag Am Chem Soc J 62:610-12 Mr '40

Solubility product; a demonstration introducing the common ion effect and formation of complex ions. S. Zuffanti. J Chem Educ 17:433 S '40

Studies of sulfonates; effect of sodium chloride on the solubility of sodium dodecylsulfonate and sodium tetradecylsulfonate. H. V. Tartar and R. D. Cadle. bibliog J Phys Chem 43:1173-9 D '39

Study of heterogeneous equilibria in aqueous solutions of the sulfates of pentavalent vanadium at 30°. O. E. Lanford and S. J. Kiehl. Am Chem Soc J 62:1660-5 Jl '40

System benzene-nitrogen; liquid-vapor phase equilibria at elevated pressures. P. Miller and B. F. Dodge. diags Ind & Eng Chem 32:434-8 Mr '40

System ethyl alcohol-glycerol-benzene at 25°. H. J. McDonald. Am Chem Soc J 62:3183-4 N '40

System trisodium phosphate—sodium carbonate—water. K. A. Kobe and A. Leipper. bibliog il Ind & Eng Chem 32:198-203 F '40

Systems magnesium chromate—water and ammonium chromate—water from 0 to 75°. A. E. Hill, G. C. Soth and J. E. Ricci. Am Chem Soc J 62:2131-4 Ag '40

Ternary systems involving cyclohexene, water, and methyl, ethyl, and isopropyl alcohols. E. R. Washburn and others. Am Chem Soc J 62:1454-7 Je '40

Unesterified primary hydroxyls in acetone soluble cellulose acetate. F. B. Cramer and C. B. Purves. bibliog Am Chem Soc J 61: 3458-62 D '39

Unesterified secondary hydroxyls in acetone soluble cellulose acetate. F. B. Cramer, R. C. Hockett and C. B. Purves. bibliog Am Chem Soc J 61:3463-4 D '39

Vapor pressures of some organic compounds. J. M. Stuckey and J. H. Saylor. bibliog diag Am Chem Soc J 62:2922-5 N '40

Variation of the solubility of unimolecular films with surface pressure, and its effect on the measurement of true surface pressure. F. Sebba and H. V. A. Briscoe. Chem Soc J p114-18 F '40

What to know about food colors; solubility at different temperatures, reactivity with solvents and container materials. W. H. Kretlow. il Food Ind 12:38-9 My '40

See also
Electrolytes
Solution (chemistry)

SOLUTION (chemistry)

Application of the hydrogen-bridge theory to sorption from solution by silica gel. A. L. Elder and R. A. Springer. bibliog J Phys Chem 44:943-9 O '40

Approximate rules for solute activities in dilute solutions of non-electrolytes, generalized form of Bury's rule. M. Randall, W. F. Libby and B. Longtin. J Phys Chem 44: 313-21 Mr '40

Calculation of equilibria in dilute water solutions. D. S. McKinney. bibliog Am Soc T M Proc 39:1191-1203; Discussion. 1218-20 '39

Calculation of solute activities from activities of the solvent; limiting behavior of the h and j functions in dilute solutions. M. Randall and B. Longtin. J Phys Chem 44: 306-13 Mr '40

Change with time of the surface tension of solutions of sodium cetyl sulfate and sodium lauryl sulfate. G. C. Nutting, F. A. Long and W. D. Harkins. Am Chem Soc J 62: 1496-1504 Je '40

Convergence of tie lines in ternary liquid systems. I. Bachman. bibliog J Phys Chem 44:446-9 Ap '40

Correlating vapor pressure and latent heat data; vapor compositions of solutions of volatile liquids; benzene, toluene, ethanol. D. F. Othmer. bibliog Ind & Eng Chem 32: 853-4 Je '40

Distribution of isomorphous salts in solubility equilibrium between liquid and solid phases. A. E. Hill, G. S. Durham and J. E. Ricci. bibliog Am Chem Soc J 62:2723-32 O '40

Effect of solvation on frictional constants and frictional ratios as determined with the ultracentrifuge and by diffusion. E. O. Kraemer. Franklin Inst J 229:680-7 My '40

Effect of solvation upon molecular weight determinations by means of ultracentrifugal methods. E. O. Kraemer. Franklin Inst J 229:531-8 Ap '40

Effects of pressure, temperature and chemical composition on the absorption of light by mixtures of aromatic amines and nitro compounds. R. E. Gibson and O. H. Loeffler. bibliog Am Chem Soc J 62:1324-31 Je '40

Heats of dilution, heat capacities, and activities of urea in aqueous solutions from the freezing points to 40°. F. T. Gucker, jr and H. B. Pickard. bibliog Am Chem Soc J 62:1464-72 Je '40

pH of sodium dichromate solutions; dilution effects. H. J. Kaufmann, W. B. Lauder and R. K. Kepner. bibliog Ind & Eng Chem 32:423-6 Mr '40

Hydrolysis of salts in solution. H. F. Brown and J. A. Cranston. diag Chem Soc J p578-83 My '40

Influence of alkyl groups upon reaction velocities in solution; the alkaline and acid hydrolyses of the ethyl esters of the lower saturated aliphatic acids in aqueous acetone. G. Davies and D. P. Evans. Chem Soc J p339-45 Mr '40

Influence of Brownian movement on the viscosity of solutions. R. Simha. bibliog J Phys Chem 44:25-34 Ja '40

Ionic entropies and free energies and entropies of solvation in water-methanol solutions. W. M. Latimer and C. M. Slansky. bibliog Am Chem Soc J 62:2019-23 Ag '40

Krystal classifying crystallizer. H. Svanoe. il diags Ind & Eng Chem 32:636-9 My '40

Molal volumes of solutes. O. Redlich. J Phys Chem 44:619-29 bibliog(52 titles, p628-9) My '40

SOLUTION (chemistry)—*Continued*
Observations of surface tension in the Pockels-Langmuir-Adam-Wilson-McBain trough. J. W. McBain, J. R. Vinograd and D. A. Wilson. bibliog Am Chem Soc J 62:244-8 F '40
Probable solvation of aniline hydrochloride, aniline hydriodide, and α-naphthylamine hydriodide in aniline solution; a simple mathematical treatment. H. H. Hodgson and E. Marsden. Soc Chem Ind J 59:23-4 Ja '40
Quenching of fluorescence in solution; temperature of solvent effects. R. W. Stoughton and G. K. Rollefson. Am Chem Soc J 62:2264-8 S '40
Relation between the coefficient of thermal expansion and structure of solutions. R. Wright. Chem Soc J p870-3 Jl '40
Solubilizing and detergent action in non-ionizing solvents. J. W. McBain, R. C. Merrill, jr. and J. R. Vinograd. Am Chem Soc J 62:2880-1 O '40
Some further solid solutions of picromerites, at 25°. A. E. Hill, G. C. Soth and J. E. Ricci. bibliog Am Chem Soc J 62:2717-23 O '40
Specific gravity and viscosity of Na_2CO_3 solutions. D. S. Davis. Chem & Met Eng 47: 690-1 O '40
Studies of solutions of hydrocinnamic acid and of lauryl sulfonic acid with the film balance. J. W. McBain and W. V. Spencer. Am Chem Soc J 62:239-44 F '40
Study of the kinetics of the reactions in the zinc-hydrogen irreversible cell. J. I. Jolley and H. V. Tartar. diag Electrochem Soc Trans 78 (preprint 10):139-59 O '40
Vapor pressures of salt solutions. M. F. Bechtold and R. F. Newton. diag Am Chem Soc J 62:1390-3 Je '40

See also
Boiling points
Colloids
Crystallization
Diffusion
Electrolysis
Electrolytes
Ions
Precipitation
Solubility
Solvents

SOLUTION, Heat of
Entropies of large ions; the heat capacity, entropy and heat of solution of potassium chloroplatinate, tetramethylammonium iodide and uranyl nitrate hexahydrate. L. V. Coulter, K. S. Pitzer and W. M. Latimer. bibliog Am Chem Soc J 62:2845-51 O '40
Heat of hydration of calcium sulfates; direct and heat-of-solution measurements. J. C. Southard. bibliog diag Ind & Eng Chem 32: 442-5 Mr '40
Heat of solution of gadolinium sulfate octahydrate and the entropy of gadolinium ion. L. V. Coulter and W. M. Latimer. bibliog Am Chem Soc J 62:2557-8 S '40
Heats of solution, heats of formation, specific heats and equilibrium diagrams of certain molecular compounds. A. N. Campbell and A. J. R. Campbell. Am Chem Soc J 62:291-7 F '40
Heats of solution of alkali halides and of hydrogen chloride in water-methyl alcohol solutions at 25°. C. M. Slansky. bibliog diags Am Chem Soc J 62:2430-4 S '40
Specific heats of some aqueous sodium and potassium chloride solutions at several temperatures. C. B. Hess and B. E. Gramkee. bibliog diag J Phys Chem 44:483-94 Ap '40
Specific heats of some aqueous sodium and potassium chloride solutions at several temperatures. C. M. White. bibliog J Phys Chem 44:494-512 Ap '40

SOLUTIONS, Solid
Application of electromotive force measurements to binary metal systems; lead-bismuth, cadmium-antimony, zinc-antimony systems. H. Seltz. diags Electrochem Soc Trans 77 (preprint 17):219-40; Discussion. M. A. Miller. 240-2 Ap '40
Basic calcium phosphates and related systems; some theoretical and practical aspects. S. Eisenberger, A. Lehrman and W. D. Turner. Chem R 26:257-96 bibliog (230 references, p290-6) Ap '40
Crystal-chemical studies of the alums; further solid solution studies. H. P. Klug and L. Alexander. bibliog Am Chem Soc J 62:2993-5 N '40
Crystal-chemical studies of the alums; solid solutions of potassium aluminum alum and ammonium aluminum alum. H. P. Klug and L. Alexander. bibliog Am Chem Soc J 62: 1492-3 Je '40
Distribution of isomorphous salts in solubility equilibrium between liquid and solid phases. A. E. Hill, G. S. Durham and J. E. Ricci. bibliog Am Chem Soc J 62:2723-32 O '40
Magnetic studies of solid solutions; methods of observations and preliminary results on the precipitation of iron from copper. F. Bitter and A. R. Kaufmann. diag Phys R 56:1044-51 N 15 '39
Some further solid solutions of picromerites, at 25°. A. E. Hill, G. C. Soth and J. E. Ricci. bibliog Am Chem Soc J 62:2717-23 O '40
Ternary systems; solid solutions of some picromites at 25°. A. E. Hill, G. S. Durham and J. E. Ricci. bibliog Am Chem Soc J 62:1031-6 My '40
Ternary systems; some further solid solutions of alums, at 25°. A. E. Hill, N. O. Smith and J. E. Ricci. bibliog diags Am Chem Soc J 62:858-66 Ap '40

SOLVATES, Crystalline. See Crystallization

SOLVAY process. See Sodium carbonates—Manufacture

SOLVENTS
Acid-base reactions in non-protonic solvents. J. P. McReynolds. bibliog J Chem Educ 17:116-19 Mr '40
Acid catalysis in non-aqueous solvents; the rearrangement of N-chloroacetanilide in chlorobenzene solution at 100°. R. P. Bell and P. V. Danckwerts. Chem Soc J p1774-6 N '39
Action of solutizers in mercaptan extraction. D. L. Yabroff and E. R. White. bibliog Ind & Eng Chem 32:950-3 Jl '40
Analysis of bituminous materials, with special reference to binder content. R. Preston. il diags Soc Chem Ind J 59:99-108 Je '40
Application of rectangular coordinate methods to solvent extraction design. J. O. Maloney and A. E. Schubert. flow diag Am Inst Chem Eng Trans 36:741-57 O '40
Aromatic petroleum solvents; abstract. W. J. Sweeney and E. H. McArdle. Oil Paint & Drug Rep 138:5+ S 9 '40
Barium chloride from barite and calcium chloride; factors affecting production. R. N. Shreve and R. K. Toner. bibliog Ind & Eng Chem 32.568-73 Ap '40
Calculation of solute activities from activities of the solvent; limiting behavior of the *h* and *j* functions in dilute solutions. M. Randall and B. Longtin. J Phys Chem 44:306-13 Mr '40
Chemical preparation of colloidal suspensions in non-aqueous solvents. A. A. Vernon and H. A. Nelson. bibliog J Phys Chem 44:12-25 Ja '40
Chlorination of 1-hexyne in reactive solvents. R. O. Norris and G. F. Hennion. Am Chem Soc J 62:149-50 F '40
Coal by-products; pseudopolymer and synthetic aromatic oils. W. H. Carmody and H. E. Kelly. Ind & Eng Chem 32:954-7 Jl '40; Same. Gas J (Lond) 231:158, 163 Jl 24 '40
Conductance of salts in monoethanolamine. H. T. Briscoe and T. P. Dirkse. bibliog J Phys Chem 44:388-97 Mr '40
Continuous extraction of aqueous solutions by acetone-petroleum ether. M. Wayman and G. F. Wright. diag Ind & Eng Chem Anal ed 12:91 F 15 '40
Current research work at University of Birmingham, England, on principles and methods of refining lubricating oil and paraffin wax. T. Brown. bibliog Oil & Gas J 38:103+ D 28 '39
Determination of sludge in used or oxidized motor oils. C. G. Ludeman. bibliog Ind & Eng Chem Anal ed 12:520-5 S 15 '40

SOLVENTS—*Continued*

Development of rancidity in Stoddard dry cleaning solvent. A. C. Smith, C. S. Lowe and G. P. Fulton. bibliog il diags Ind & Eng Chem 32:454-60 Ap '40

Distribution of protons between water and other solvents. L. S. Guss and I. M. Kolthoff. bibliog Am Chem Soc J 62:1494-6 Je '40

Effect of nonvolatile material on solvent balance; plasticizers. J. B. Dorsch. Ind & Eng Chem 32:279-82 F '40

Effect of sulfur and sulfur compounds in naphtha upon certain corrosion tests; sensitivity of the doctor test. L. M. Henderson, M. S. Agruss and G. W. Ayers, jr. bibliog Ind & Eng Chem Anal ed 12:1-3 Ja 15 '40

Empirical relation between solubility of slightly soluble electrolytes and dielectric constant of the solvent. J. E. Ricci and T. W. Davis. bibliog Am Chem Soc J 62:407-13 F '40

Evaluation of nitrocellulose lacquer solvents; ester activation by alcohols and the use of alcohols as lacquer diluents. V. W. Ware and W. M. Bruner. bibliog Ind & Eng Chem 32:519-24 Ap '40

Evaluation of nitrocellulose lacquer solvents; study of hydrocarbon diluents by the constant-viscosity procedure. V. W. Ware and W. M. Bruner. bibliog Ind & Eng Chem 32: 78-82 Ja '40

Extraction of a bituminous coal; influence of the nature of solvents. M. W. Kiebler. il diags Ind & Eng Chem 32:1389-94 O '40; Same. Gas J (Lond) 232:433-6 D 4 '40

Film-forming plastics; effect of solvents, diluents, and plasticizers on properties of films formed from airplane dopes. F. W. Reinhart and G. M. Kline. Ind & Eng Chem 31:1522-9 D '39

Fluorochloroethanes as solvents for the cryoscopic determination of molecular weights. J. Bernstein and W. T. Miller. bibliog Am Chem Soc J 62:948-9 Ap '40

Fundamentals of solvent refining operation. E. W. Gard and E. G. Ragatz. diags Oil & Gas J 39:49-50+ Je 6 '40

Gunk. Sci Am 162:34 Ja '40

Hydrogen bonds involving the C-H link; effect of structure on bonding of donor and acceptor molecules. C. S. Marvel, M. J. Copley and E. Ginsberg. bibliog Am Chem Soc J 62:3109-12 N '40

Improved profit outlook for Commercial Solvents; new management and new products. W. Gates. il Mag of Wall St 66:584-5+ Ag 24 '40

Influence of a solvent on the strength of the hydrogen bridge. E. A. Moelwyn-Hughes. Chem Soc J p850-5 Jl '40

Influence of solvents and other factors on the rotation of optically active compounds; asymmetric solvent action. T. S. Patterson, A. H. Lamberton and C. Buchanan. Chem Soc J p1453-9 Ag '37; p290-3 Mr '40

Magnitude of the solvent effect in dipole-moment measurement; resolution of the solvent effect into its contributory factors. F. R. Goss. Chem Soc J p752-8 Je '40

Magnitude of the solvent effect in dipole-moment measurements; polarisation and association of alcohols in the liquid phase. F. R. Goss. Chem Soc J p888-94 Jl '40

Mechanism of substitution at a saturated carbon atom; a kinetic demonstration of the unimolecular solvolysis of alkyl halides; kinetics and salt effects. L. C. Bateman, E. D. Hughes and others. Chem Soc J p960-1011 Jl '40

Mixture of ketones used to dewax motor lubricants. A. J. Mueller. flow diag Oil & Gas J 38:54+ Ap 18 '40

New conception of petroleum solvents and thinners. E. M. Toby, jr. Oil Paint & Drug Rep 137:3+ Mr 4; 33, 33A Mr 11; 5+ Mr 18 '40; Same. Metal Finishing 38:354-6, 410-11, 413 Je-Jl '40

Nitroparaffins and their derivatives. C. L. Gabriel. il Chem Ind 45:664-8 D '39

Partial pressure of hydrogen bromide from its solutions in some aprotic solvents at 25°; comparison with hydrogen chloride. S. J. O'Brien and E. G. Bobalek. bibliog Am Chem Soc J 62:3227-30 N '40

Petroleum solvents, lubricants, fuels. Published in weekly numbers of Oil, paint and drug reporter

Photolysis of ethyl iodide in various solvents. W. West and J. Fitelson. bibliog Am Chem Soc J 62:3021-6 N '40

Properties of soybean oil-solvent mixtures. H. F. Johnstone, I. H. Spoor and W. H. Goss. il Ind & Eng Chem 32:832-5 Je '40

Quenching of fluorescence in solution; temperature and solvent effects. R. W. Stoughton and G. K. Rollefson. Am Chem Soc J 62:2264-8 S '40

Reactions and reagents in liquid ammonia. C. A. Kraus. Chem R 26:95-104 F '40

Recent progress in solvents and plasticisers. E. H. Brittain. Chem Age (Lond) 41:443-4 D 30 '39

Solubility of cracked residues in some solvents. J. Voskuil. diag Inst Pet J 26:57-71 F '40

Solubilizing and detergent action in non-ionizing solvents. J. W. McBain, R. C. Merrill, jr. and J. R. Vinograd. Am Chem Soc J 62:2880-1 O '40

Solvent action of liquid propane on the pentane-soluble fraction of a high-temperature bituminous coal tar. C. S. Kuhn, jr. bibliog diags Ind & Eng Chem Anal ed 12: 86-9 F 15 '40

Solvent effects with optically active saturated hydrocarbons. A. W. H. Pryde and H. G. Rule. Chem Soc J p345-7 Mr '40

Solvents for oil-sand extraction. S. T. Yuster. Am Pet Inst Proc 21M(4):131-2 My '40

Solvents in industry. Metal Ind 37:609; 38: 71-2, 127, 183, 245 D '39-Ap '40; [cont as] Metal Finishing 38:418, 470, 627 Jl-Ag, N '40

Solvents in the rubber industry. R. K. Strong and K. Tator. India Rubber W 101:47-9 D '39; 45-6 Ja '40

Solvents, old and new; petroleum solvents and thinners; trends in research and development; wartime formulation. G. H. C. Smith. bibliog Can Chem & Process Ind 24:286-7 Je '40

Surface tension of a solvent-diluent mixture. J. K. Stewart and G. C. Hook. bibliog il Ind & Eng Chem 32:871-6 Je '40

Synthesis of glycol glucosides. S. Karjala and K. P. Link. bibliog Am Chem Soc J 62:917-20 Ap '40

Trichloroethylene as a bituminous solvent. Can Eng 77:6 N 28 '39

Trimethylcarbinol as a cryoscopic solvent. F. H. Getman. Am Chem Soc J 62:2179-80 Ag '40

Viscosity of synthetics in mixed hydrocarbons; abstract. R. H. Huff. Oil Paint & Drug Rep 138:51 N 4 '40

War affects paint solvents. Nat Pet N 32:R326 S 4 '40

See also

Acetone
Alcohol
Alcohols
Ammonia
Benzene
Butyl alcohol
Calcium thiocyanate
Carbon disulfide
Carbon tetrachloride
Chloroform
Cleaning compositions
Cyclohexane
Furfural
Glycol
Isobutyl acetate
Isopropyl alcohol
Methanol
Trichloroethylene

Physiological effect

Factors influencing carcinogenesis with methylcholanthrene; the effect of solvents. M. B. Shimkin and H. B. Andervont. bibliog Pub Health Rep 55:537-45 Mr 29 '40

Hygiène et protection des ateliers de manipulation des solvants. R. Barthe. bibliog Chimie & Ind 43:259-68 F 5 '40

Recovery

Hydrocarbon solvents cleansing still offered. diag Oil Paint & Drug Rep 137:25 Ap 15 '40

New psychrometric chart; with application to chemical dehydrating and solvent recovery. D. F. Othmer. Chem & Met Eng 47:296-9 My '40

SOLVENTS—Recovery—*Continued*
Recovery of solvent vapors. A. B. Ray. flow diag il Chem & Met Eng 47:329-32 My '40; Abstract. Chem Age (Lond) 43:29-30 Jl 20 '40
Solvent recovery; apparatus for the reclamation of trichlorethylene. il Automobile Eng 30:270 S '40
Use of psychrometric principles. E. J. Barta and H. J. Garber. bibliog il charts Chem & Met Eng 47:287-93 My '40

Safety measures
Downdraft ventilation; for solvents producing heavier-than-air vapors. W. C. L. Hemeon. il diag Safety Eng 79:12, 14 Ap '40
Fire prevention in chemical plants. G. A. Shattuck. il Chem Ind 47:274-6 S '40
Precautions in the use of organic finishing materials. R. F. Peabody. il diag Metal Finishing 38:462-4 Ag '40

Statistics
Alcohol and solvents. Chem & Met Eng 47: 84-6 F '40

Testing
Petroleum solvents for paints compared by new solvency tests. S. S. Kurtz, jr. Nat Pet N 32:R270, R272-3 Jl 24 '40

SOLWAY ultra-blue
Adsorption at the interface between two fluids; the adsorption of five dyes at a mercury-water interface. C. W. Gibby and C. Argument. diag Chem Soc J p596-600 My '40

SONGS
See also
Radio broadcasting—Songs

SOOT
Cleaning soot from boiler tops. diags Power 84:458-60 Jl '40
Effect of soot on rating of heating boilers; tests reported in BMS54. Franklin Inst J 230:652-3 N '40
Soot in oil-fired systems. Dom Eng 156:58+ N '40
See also
Smoke

SOOT blowers
Boiler tube erosion attributed to steam from soot blower. il Locomotive 43:113-15 O '40
British Thomson-Houston electrically operated soot blowing equipment. il Engineer 169:191-2 F 23 '40
Development in design of boilers and boiler house auxiliaries. A. Pollitt. Engineer 169: 406 Ap 26 '40

SORBITOL
Chemistry of naturally occurring monoanhydrohexitols; synthetic tetramethylstyracitol. W. Freudenberg and J. T. Sheehan. bibliog Am Chem Soc J 62:558-60 Mr '40
Electrolytic reduction of sugars. H. J. Creighton. Chem & Ind 59:557 Ag 3 '40
Sorbose from sorbitol; semiplant-scale production by acetobacter suboxydans. P. A. Wells and others. Ind & Eng Chem 31: 1518-21 D '39
Sugar alcohols; a study of the effect of the anhydrides of sorbitol on the dissociation constant of boric acid. F. K. Bell, C. J. Carr and J. C. Krantz, jr. bibliog J Phys Chem 44:862-5 O '40

SORBOSE
Sorbose from sorbitol; semiplant-scale production by acetobacter suboxydans. P. A. Wells and others. Ind & Eng Chem 31: 1518-21 D '39

SORBY, Henry Clifton, 1826-1908
Sorby's pioneering work on the microstructure of rocks and metals. J. H. G. Monypenny. Metal Prog 38:45-8+ Jl '40

SÖRENSEN, Soren Peter Lauritz, 1868-1939
Memorial lecture. E. K. Rideal. por Chem Soc J p554-61 Ap '40; Abstract. Soc Dyers & Col J 56:398-9 S '40

SORENSON, Stanley Severin, 1864-1939
Appreciation. P. Yeatman. Min & Met 21:63 Ja '40

SORGHUM sirup
Jellying and crystallization of sirups made from different parts of the sorgo stalk at different stages of maturity; abstract. E. K. Ventre, S. Byall and C. F. Walton, jr. Food Ind 12:95 F '40

SORTING devices
Automatic sorting; possibilities in salvaging materials; Glenn L. Martin co. il Steel 106: 50+ Je 17 '40
Letter-sorting machines at the Brighton general post office. il diags Engineering 148: 459-62, 627-31, 640, pl 17, 24 O 27, D 8 '39
Machines for sorting rivets. il Aero Digest 36:100 Je '40
Rivet-salvaging machine. Engineer 170:48 Jl 19 '40
Rivet sorting equipment. il diags Product Eng 11:346 Ag '40
Salvaging aluminum rivets. il Iron Age 146: 33 Ag 8 '40
Sorting papersheets by machine. W. S. Reed. Paper Tr J 110:81-2 Je 27 '40

SOUND
Elements of acoustical engineering. H. F. Olson. 344p $6 Van Nostrand '40
National physical laboratory; measurement of sound, noise abatement, sound transmission through walls, floors and pipes. Engineering 148:494-5 N 3 '39
Roof, face and rib testing if closely studied will reveal hazards with more certainty. J. E. Jones. diags Coal Age 45:62-4 S; 166+ O; 70 D '40
Sound; a physical text-book. E. G. Richardson. 3d ed 339p $5.25 Longmans '40
Sound in the theater; abstract. H. Burris-Meyer. Electronics 13:99 Ap '40
See also
Electroacoustics
Hearing
Noise
Sound waves
Soundproofing
Speech
Vibration

Absorption
Absorption of supersonic waves in water and in aqueous suspensions. G. K. Hartmann and A. B. Focke. Phys R 57:221-5 F 1 '40
See also
Sound absorbent materials

Apparatus
Amplification and distribution of sound. A. E. Greenlees. 254p $4 Sherwood press, Box 552, Edgewater branch, Cleveland '38
Electro-sonic altimeter for aircraft. J. H. Jupe. Electronics 13:54 Ap '40
Hidden pipe lines do not slow up this power shovel; use of WTP pipe anticipator. il Comp Air M 45:6244 S '40
Laryngophone; method by which telephonic communications may be maintained in very noisy surroundings; abstract. J. de Boer and K. de Boer. Electronics 13:90 Je '40
Radio progress during 1939; electroacoustics. bibliog(56 titles) Inst Radio Eng Proc 28: 99-102 Mr '40
Receiver testing with an artificial ear. S. Ballantine. bibliog il diags Electronics 13: 34-5+ Je '39
Seeing eye of excavation, the pipe anticipator. il Pub Works 71:51 My '40; Roads & Sts 83:88 My '40
Servicing sound equipment. J. R. Cameron. 4th ed 506p $7.50 Cameron pub. co, Woodmont, Conn. '40
Soundless sound waves; odd realm of supersonics. W. L. Finlay. il diags Sci Am 162: 148-9, 216-17 Mr-Ap '40
Synthephone. C. A. Culver and D. T. Williams. il diags R Sci Instr 10:319-21 N '39
Synthetic reverberation; recording fugitive sound pattern of original program signal on rotating phosphor-coated disk by means of modulated light source and simple optical system. P. C. Goldmark and P. S. Hendricks. il diags Inst Radio Eng Proc 27:747-52 D '39

SOUND—Apparatus—*Continued*

Vocoder, electrical re-creation of speech. H. Dudley. il plan W Soc E J 44:306-10 D '39

See also

Interferometers, Sonic
Loud speaking apparatus
Microphones
Moving pictures, Talking
Phonograph
Radio apparatus
Sound—Measurement
Sound—Recording and reproducing
Telephone
Tuning forks

Bibliography

Journal of the Acoustical society of America; cumulative index, volumes 1-10. 131p pa $3 Publications manager, Am. inst. of physics, 175 5th av, New York '39

Measurement

American institute of electrical engineers annual conference on sound. Elec Eng 59:128-9 Mr '40

Apparatus for accurate measurements of audiofrequencies. R. B. Ewell, W. E. Roseveare and K. Schaaf. diags R Sci Instr 11: 39-40 Ja '40

Attenuation of sound in ducts of commercial size. R. B. Steffens and W. T. Young. il plan Heating-Piping 12:567-72 S '40

Clapograph details; visible-meter method of indicating applause. diags Radio N 24:23 S '40

Computation of the composite noise resulting from random variable sources; statistical method for computing reading on a sound level meter. E. Dietze and W. D. Goodale, jr. bibliog Bell System Tech J 18:605-23 O '39

Experimental investigation of the characteristics of certain types of noise. K. G. Jansky. diags Inst Radio Eng Proc 27:763-8 D '39

Fixed path acoustic interferometer for the study of matter. J. C. Hubbard and I. F. Zartman. bibliog diags R Sci Instr 10:382-6 D '39

Instruments and methods of measuring radio noise. C. V. Aggers, D. E. Foster and C. S. Young. diags Elec Eng 59:Trans 178-87; Discussion. Trans 187-92 Mr '40

Measurements of noise and vibration; abstract. H. H. Scott. Inst Radio Eng Proc 28:284-5 Je '40

Methods of rating the noise from air conditioning equipment. J. S. Parkinson. Heating-Piping 12:447-50 Jl '40

Motor noise finder; recording frequency analyzer. Sci Am 162:100-1 F '40

New standard volume indicator and reference level. H. A. Chinn, D. K. Gannett and R. M. Morris. il diags Inst Radio Eng Proc 28:1-17 Ja '40; Same. Bell System Tech J 19:94-137 Ja '40

Receiver testing with an artificial ear. S. Ballantine. bibliog il diags Electronics 13: 34-5+ Je '40

Room noise at telephone locations. D. F. Seacord. Elec Eng 58:255-7; 59:232-4 Je '39, Je '40

Sound level ratios key to noise problem. Elec W 113:1731 Je 1 '40

Soundproofing research. K. Martinez. il plan Aero Digest 36:26-8+ Ap '40

To combat noise; Westinghouse devices for study of sound. J. A. Baubie. il Sci Am 162:10-11 Ja '40

Ultrasonic stroboscope for measuring sound wave-length in liquids. F. E. Fox and G. D. Rock. il diags R Sci Instr 10:345-8 N '39

Recording and reproducing

Acoustics in studios. M. Rettinger. plans Inst Radio Eng Proc 28:296-9 Jl '40

Bass compensation by screen-grid injection. L. M. Barcus. il diag Electronics 13:44+ Je '40

Build your own recording studio. O. Read. il diags Radio N 24:19-21+ S; 11-14+ D '40

Central sound systems for schools [report, by W. M. Hall, with a chapter by P. C. Reed]. 69p gratis Committee on scientific aids to learning, National research council, 41 E. 42d st, New York '40

Cuttings by recorder. il Radio N 24:13+ Jl; 14+ Ag; 24+ S; 28+ O; 22 N; 32 D '40

Disc-cutting problems. C. J. Lebel. il diags Electronics 12:17-19 D '39

Embossing at constant groove speed, a new recording technique. E. E. Griffin. il Electronics 13:26-7+ Jl '40

Enhanced stereophonic recordings demonstrated by Bell laboratories. il Electronics 13:30-1 My '40

Flight test data mechanically recorded; pilots oral report during test is recorded on steel tape; Planetest magnograph. J. B. Darragh, jr. il Aero Digest 37:96, 99, 180 S '40

Fundamentals of recording. O. Read. il diags Radio N 23:16-19+ F '40

Handy utility amplifier. F. U. Dillon. il diag Radio N 24:10+ N '40

High fidelity recording amplifier. I. J. Abend. diags Electronics 13:44+ O '40

Junk box hurdy-gurdy. S. H. Giffin. il diag Radio N 23:6-7+ Ap '40

Magnetic recording of sound; variations in sound recorded as variations of magnetism along steel wire or tape. S. R. Irish, jr. il diags Cornell Eng 5:5-7, 26+ N '39

Mikes; heads; pickups; home recording equipment; descriptions and technical data. il diags Radio N 24:37+ S; 22 O; 29 N; 41-2 D '40

Moving sound in Disney film. Barron's 20:5 N 11 '40

Multi-frequency oscillator for audio testing, for making records used in tonal memory tests at Human engineering laboratory of Stevens institute of technology. J. Quinn. il diags Electronics 13:23-5 My '40

New sales training method introduced in the gas industry; use of voice recording equipment. il Am Gas Assn Mo 22:356-7 O '40; Same cond. Am Gas J 153:84 O '40

Orthacoustic recording; abstract. R. M. Morris. Electronics 13:59-60+ F '40

Photoelectric tape recording. il Electronics 13:16-18 My '40

Recent improvements in recording. C. J. Lebel. il Electronics 13:33-5+ S '40

Recording on film. Barron's 20:5 S 30 '40

Reproduction of sound. Electrician 122:663-4, 695-6, 742, 773-4, 803-4, 843-4; 123:17-18, 44-5, 71-2, 100-1, 129-30, 155-6, 184-5, 214-15, 239-40, 260-1, 276-7, 291-2 My 26-S 22 '39

Reversed speech; recording sound and then reproducing it with rotation of record reversed; throws light on habits of speech. E. W. Kellogg. RCA R 5:101-5 Jl '40

6,000 recordings show Westinghouse men how to polish sales technique. F. R. Kohnstamm. il Sales Management 47:14-15 O 10 '40

Some problems of disk recording. S. J. Begun. il diags Inst Radio Eng Proc 28:389-98 S '40

Sound recording equipment for schools. 52p Committee on scientific aids to learning, 41 E. 42nd st, New York '40

Special film projection installed in lecture hall of Paris museum of ethnology. il Electrician 124:375 My 24 '40

See also

Moving pictures, Talking
Phonograph

Velocity

Fixed path acoustic interferometer for the study of matter. J. C. Hubbard and I. F. Zartman. bibliog diags R Sci Instr 10:382-6 D '39

Measurement of pressures on rock pillars in underground mines; sound-velocity method. L. Obert. pls diags U S Bur Mines Rep of Invest 3444:1-15 bibliog(p14-15) '39; 3521:1-11 '40; Same (pt 1). Can Min J 60: 264-71 My '39

SOUND absorbent materials

Effect of paint on the sound absorption of acoustic materials. V. L. Chrisler. pls J Research Nat Bur Stand 24:547-53 My '40; Abstracts. Sheet Metal Worker 31:28+ N '40; Power Pl Eng 44:80-1 D '40

How to use sound-absorbing materials in air conditioning equipment. P. H. Geiger. diags Heat & Ven 37:20-2 Ap '40

SOUND absorbent materials—*Continued*
Noise control in ventilating systems; Q-T ductliner, a sound absorbing material. diags Sheet Metal Worker 31:48, 50+ O '40
Sonic environment. P. E. Sabine. Arch Rec 87:69, 71 Ja '40
Sound insulation. K. C. Morrical. il Arch Rec 87:72-3 Ja '40

See also
Soundproofing

SOUND waves
Answer, echo, answer. A. Carr. diags Sci Am 161:342-4 D '39
Sound energy; noise speeds chemical reaction; abstract. W. C. Schumb and E. S. Rittner. Sci Am 163:264-5 N '40

See also
Ultrasonic waves

SOUNDPROOFING
Awfully quiet; super-sound-conditioning for testing motors. Business Week p36-7 N 9 '40
Campaign against noise! N. D. Stone. il Bankers Mo 57:461-2+ Ag '40
Control of sound in buildings. bibliog il diags Arch Rec 87:66-73 Ja '40
Floating foundations for quiet fan operation; use of vibracork. il diag Sheet Metal Worker 30:31-2 D '39
For quiet dining; acoustical ceiling, air conditioning and indirect lighting, Schrafft's restaurant, New York. il Am Bld 62:80 Je '40
Generator housed to reduce 3,600-r.p.m. noise; also housings about boiler gage boards and high-pressure steam reducing valves. F. E. Hertel. il Elec W 113:2046-8+ Je 29 '40
How to use sound-deadening materials in air conditioning equipment. P. H. Geiger. il Heat & Ven 37:42-5 My '40
Insulating air ducts against heat loss and noise. il diags Sheet Metal Worker 31:36-8 Je '40
Insulation against heat, humidity and sound; abstract. P. D. Close. Heat & Ven 37:61 Jl '40
Making walls sound-proof; radio and moving picture studios. M. Rettinger. diags Eng N 124:723-5 My 23 '40
National physical laboratory; measurement of sound, noise abatement, sound transmission through walls, floors and pipes. Engineering 148:494-5 N 3 '39
Noise-reduction in enclosed spaces, Accousticelotex tiling. Engineering 150:328 O 25 '40
Radio studio air conditioning plant approaches ultimate in sound control; NBC studio in Hollywood. C. Strock. il diags plans Heat & Ven 37:15-19 Ap '40
Rubber mountings for industrial equipment. W. C. Keys. il diag Steel 106:44-7+ Ap 8 '40
Silent substation for cinema production. G. F. Maughmer. il Elec W 112:1762+ D 16 '39
Sound conditioning with insulation board. il diags Am Bld 61:67-9 D '39
Sound-conditioning your business. il Business Week p45-50 O 19 '40
Soundproofing research; Boeing development of acoustical laboratory in cooperation with University of Washington physics department. K. Martinez. il plan Aero Digest 36: 26-8+ Ap '40
Standards for sound control. il Arch Rec 87: 102-3 Mr '40
When motors make too much noise. A. A. Currie. il diags Factory Management 98: 69-71 N '40

See also
Acoustics, Architectural — Sound absorbent materials

SOUTH
Big freeze ravages the South. il Business Week p 17-18 F 3 '40

Commerce
South's foreign trade with South America. Manuf Rec 108:24-6, 38, 48+ D '39

Economic conditions
Consumer incomes and family budgetary expenditures; Printers' Ink market explorations; Alabama, Florida, Georgia, Kentucky, Louisiana, Mississippi, North Carolina, South Carolina, Tennessee and Virginia. maps Ptr Ink 193:sup1-55 O 25 '40
Family income and expenditure in the southeastern region, 1935-36. A. D. H. Kaplan, F. M. Williams and J. S. Bernard. map U S Bur Labor Statistics Bul 647:1-520 '39
News: TVA aids private business; vast experimental empire, dedicated to economic reconstruction of the South. il Business Week p26+ My 25 '40
South counts loss in January freeze. Business Week p16 F 17 '40
South in progress. K. D. Lumpkin. 256p bibliog(p235-50) $2.50 International publishers, 381 4th av, New York '40
South plans own reconstruction. Business Week p24+ F 3 '40
South refutes reports of market-killing snows. Sales Management 46:50+ F 15 '40

Industries and resources
Greatest economic opportunity in the nation. R. C. Irvine. Manuf Rec 109:33 Ag '40
Republic enlarges plant in South, adds wire mesh, bolts, nuts to output; other southern industries. G. W. Birdsall. il Steel 105:19-20 N 27 '39
Scientific research, the hope of the South. G. D. Palmer. Science 92:1-5 Jl 5 '40
South and its opportunities for industry. map Manuf Rec 109:27-30 Ja '40
South bids to share in defense effort. T. N. Sandifer. Manuf Rec 109:24-5+ Je '40
Southern industrial mobilization; meeting, Atlanta, June 10, called by Governor Rivers of Georgia as chairman of Southern governors' conference. Manuf Rec 109:24-6 Jl '40
South's advantages. P. D. Wagoner; I. J. Harvey, jr. Manuf Rec 109:24-5+ N '40
South's materials for the country's defense; survey by states. il Manuf Rec 109:28-35, 52+ Je '40
South's resources. il maps Manuf Rec Extra no 109:35-242 S '40

See also
Paper industry and trade—Southern states — Rayon industry—Southern states

Politics and government
State centralization in the South. P. W. Wager. bibliog Ann Am Acad 207:144-50 Ja '40

SOUTH AFRICA
My vanished Africa. P. W. Rainier. 307p $2.75 Yale univ. press '40

See also
Labor and laboring classes—South Africa — Railroads—Electrification—South Africa

Economic conditions
Business situation. Published in Commerce reports [cont as Foreign commerce weekly beginning O 5]
Economic conditions. For Comm W 1:260-1 N 9 '40
South Africa in 1939. Economist 138:sup22 F 17 '40
Union of South Africa in 1939. Comm Rep p273-4 Mr 23 '40

Economic policy
State interference in South Africa. F. J. Van Biljon. 322p 15s P. S. King & son, London '39

Industries and resources
Industrial development corporation of South Africa. J. O. Janousek. Comm Rep p663 Ag 3 '40
Standard bank of South Africa report; comprehensive survey of African industries. Economist 139:131-5 Jl 27 '40

See also
Gold mines and mining—South Africa

SOUTH AMERICA
Discovering South America. L. R. Freeman. 360p $1.39 Blue ribbon books '40
East coast of South America. S. A. Clark. 315p $3 Prentice-Hall '40
114 markets of South America; Printers' Ink Monthly special study. W. LaVarre. il Ptr Ink Mo 40:17-20+ Mr '40
South America looks at Europe. Economist 137:506-7 D 30 '39
South American excursion. E. Young. 368p $5 Longmans '40
Want to sell South America? also notes for job seekers. W. G. Ashmore. il Textile World 90:116-17 F '40

See also
Latin America
Plastic industries—South America

Antiquities

Early man in America; index to localities, and selected bibliography. E. H. Sellards. Geol Soc Bul 51:404-12 bibliog(p430-1) Mr '40

Commerce

Export trade to South America. Engineering 149:588-9 Je 14 '40
Exports to Germany and the United States. Manuf Rec 108:20-1+ D '39
South America takes the strain. Economist 139:246-7 Ag 24 '40
South American trade losses; effect of the war. Manuf Rec 109:24-5 Ag '40
South America's trade losses. Nat City Bank p81-2 Jl '40
South's foreign trade with South America. Manuf Rec 108:24-6, 38, 48+ D '39
Trade of the smaller American republics. Economist 139:369-70 S 21 '40
Will the U.S. fall heir to Germany's South American trade? J. S. McCain. map Am Mach 84:41 F 7 '40

See also
Latin America—Commerce

Economic conditions

Economic geography of South America. R. H. Whitbeck, F. E. Williams, and W. F. Christians. 3d ed 469p bibliog(p437-52) $3.50 McGraw-Hill '40

SOUTH CAROLINA
Spirit leveling in South Carolina; southern South Carolina, 1896-1938. J. G. Staack. U S Geol S Bul 890-B:1-766, pl 1-2 '40

See also
Hydroelectric plants—South Carolina
Physical geography—South Carolina

Economic conditions

Discussion of economic conditions of South Carolina. 107p bibliog(p107) Univ. of South Carolina, Extension division, Columbia '40

Industries and resources

New horizons for South Carolina. il map Manuf Rec Extra no 109:187-94 S '40

SOUTH DAKOTA

See also
Paleontology—South Dakota

SOUTH Pittsburgh water company
Preferred stock sold; capitalization as of June 30, 1940. Comm & Fin Chr 151:2206-7 O 12 '40

SOUTH Porto Rico sugar company
Low-priced stocks paying dividends; thumbnail appraisal. Mag of Wall St 65:297 D 16 '39

SOUTH SEA islands
In the wake of a traveling engineer. J. C. Cosgrove. il map Explosives Eng 18:184-5 Je '40

SOUTH WATER market. See Chicago—Markets

SOUTHEASTERN gas and water company
Bondholders' views on reorganization sought. Comm & Fin Chr 150:3373 My 25 '40
Voluntary plan of exchange of securities proposed. Comm & Fin Chr 151:1290 Ag 31 '40

SOUTHEASTERN underwriters association
Annual meeting, Virginia Beach, Va. Weekly Underw 142:1441+ Je 15 '40

SOUTHERN advance bag and paper company
Bonds offered. Comm & Fin Chr 150:3065 My 11 '40

SOUTHERN California Edison company
Annual report. Comm & Fin Chr 150:1787-8 Mr 16 '40
Brass tacks for the investor; brief analysis. Barron's 20:10 Ap 29 '40
California utility shows expansion in business. Elec W News ed 114:1081 O 12 '40
Offering of $108,000,000 3s; history and business; list of underwriters. Comm & Fin Chr 151:2207-8 O 12 '40

SOUTHERN California gas company
Bonds offered. Comm & Fin Chr 151:1911 S 28 '40

SOUTHERN California university
New college of architecture and fine arts combined with a new art gallery in Los Angeles. il diags plans Arch Rec 87:39-43 Ap '40

SOUTHERN combed yarn spinners association
Annual meeting, Gastonia, N.C. Sept. 10. Textile World 90:67 O '40

SOUTHERN gas association
Annual meeting, 32d, Hot Springs, Feb. 12-14. Gas Age 85:30+ Mr 14 '40

SOUTHERN hosiery manufacturers association
Annual meeting, Asheville, N.C. Sept. 13-14. Textile World 90:70-1 O '40

SOUTHERN kraft corporation
Charges filed against Southern Kraft; action invokes so-called hot goods clause of Fair labor act. Paper Tr J 111:10-11 S 5 '40

SOUTHERN Pacific railroad
Annual report, 1939. Ry Age 108:1028-31 Je 8 '40; Same. Comm & Fin Chr 150:1949-51 Mr 23 '40
Railroad enterprise in 1939. A. D. McDonald. Comm & Fin Chr 150:521-2 Ja 27 '40
Southern Pacific bonds at large discount. A. Jansen. Barron's 20:19 Je 24 '40
30-mile line diversion on the Southern Pacific in upper Sacramento River valley requires 12 tunnels, 8 bridges and extensive grading. il map Ry Age 108:1108-13 Je 22 '40
Volatile low-price stock; thumbnail appraisal. Mag of Wall St 65:819 Ap 6 '40

SOUTHERN pine association
Southern Pine case. W. Compton. J Land & Pub Util Econ 16:214-16 My '40
Southern Pine federal case of interest to all associations. Brick & Clay Rec 96:42 Mr '40

SOUTHERN planter (periodical)
Southern planter's first hundred years. il Sales Management 45:74 D 1 '39

SOUTHERN pulpwood conservation association
Annual meeting, 1st, Atlanta, Jan. 18-19. Paper Tr J 110:13-14 F 29 '40

SOUTHERN railway
Annual report. Comm & Fin Chr 150:2593-4 Ap 20 '40
Equipment trust certificates. Comm & Fin Chr 151:2662 N 2 '40
Low price, active leverage stocks; thumbnail appraisal. Mag of Wall St 65:623 F 24 '40
To cease payments on Mobile & Ohio certificates. Comm & Fin Chr 151:2058 O 5 '40

SOUTHERN textile association
Annual convention, Blowing Rock, N.C. June 7-8. Textile World 90:48-9 Jl '40
Highlights of S.T.A. meetings; spinning, weaving, and finishing problems. Textile World 90:93-5 Je '40

SOUTHLAND paper mills, incorporated
Southland paper mills, Lufkin, Texas. V. H. Schoffelmayer. il Paper Tr J 110:16-26 Mr 21 '40

SOUTHWEST
Direct evaporative cooling for homes. A. J. Rummel. il diags plan Heating-Piping 12: 621-6 O '40; Excerpts. Sheet Metal Worker 31:50+ N '40

SOUTHWEST—*Continued*
Engineer's reminiscences of the Southwest. C. F. Allen. il Civil Eng 10:355-8 Je '40
Our Southwest. E. Fergusson. 376p $3.50 Knopf '40

SOUTHWESTERN development company
Note issue approved to acquire debentures of pipeline company. Comm & Fin Chr 151: 2663 N 2 '40

SOUTHWESTERN gas and electric company
Bonds called; issue affirmed by SEC. Comm & Fin Chr 150:1295-6 F 24 '40
Securities offered. Comm & Fin Chr 150: 1146-7 F 17 '40

SOUTHWESTERN light and power company
Bonds offered. Comm & Fin Chr 149:4041 D 23 '39
To dissolve and merge with parent, Public service co. of Okla. Comm & Fin Chr 151: 2663 N 2 '40

SOYBEAN flour
Soya not a competitor of wheat flour; abstract. A. A. Horvath. Food Ind 12:87-8 N '40

Analysis
Determination of soybean flour in sausage by nonfermentable sugars. W. B. Hendrey. bibliog Ind & Eng Chem Anal ed 11:611-13 N 15 '39

SOYBEAN meal
Composition of cottonseeds; solubility of proteins in alkaline solutions of neutral salts. H. S. Olcott and T. D. Fontaine. Am Chem Soc J 62:1334-9 Je '40
New plastic mixture; soybean research yields a solution already being used in textiles, paper, and leather. Business Week p32-3 Je 22 '40
Protein plastics from soybean products; influence of phenolic resins or phenolic molding compounds on formaldehyde-hardened protein material. G. H. Brother and L. L. McKinney. bibliog(51 titles) Ind & Eng Chem 32:1002-6 Jl '40
Saccharification of starchy grain mashes for the alcoholic fermentation industry; comparison of several saccharifying agents; malt, moldy bran, and soybean meal. L. Schoene, E. I. Fulmer and L. A. Underkofler. bibliog Ind & Eng Chem 32:544-7 Ap '40

SOYBEAN oil
Bodying dehydrated castor oil and others. Oil Paint & Drug Rep 138:49 N 4 '40
Chemical engineering advances in soybean processing. G. W. McBride. il diags Chem & Met Eng 47:614-18 S '40; Same cond. Food Ind 12:55-7 O '40
Drying oils and resins; reactions involving the carbon-to-carbon unsaturation during the thermal treatment of some esters of unsaturated C_{18} fatty acids. T. F. Bradley and W. B. Johnston. bibliog il diag Ind & Eng Chem 32:802-9 Je '40
Laboratory-type molecular or short-path still for vegetable and animal fats and oils. S. B. Detwiler, jr. and K. S. Markley. bibliog il diags Ind & Eng Chem Anal ed 12:348-50 Je 15 '40
Preparation of drying oils; recent developments. D. V. Stingley. bibliog il Ind & Eng Chem 32:1217-20 S '40
Properties of soybean oil-solvent mixtures. H. F. Johnstone, I. H. Spoor and W. H. Goss. il Ind & Eng Chem 32:832-5 Je '40
Smoke, flash, and fire points of soybean and other vegetable oils; abstract. S. B. Detwiler, jr. and K. S. Markley. Food Ind 12: 95 Ap '40
Soya-bean oil as Diesel engine fuel. A. B. d'Ollivier. Automobile Eng 30:126 Ap '40
Soybean oil in flat wall paint. Oil Paint & Drug Rep 138:46-7 N 4 '40
Sterol glucosides from expressed soybean oil. M. H. Thornton, H. R. Kraybill and J. H. Mitchell, jr. bibliog Am Chem Soc J 62: 2006-8 Ag '40
Sterols from crude soybean oil. H. R. Kraybill, M. H. Thornton and K. E. Eldridge. bibliog Ind & Eng Chem 32:1138-9 Ag '40
Use expanding widely. Oil Paint & Drug Rep 138:5+ S 16 '40
Use of soybean oil in paints and varnishes. G. H. Hamilton. Oil Paint & Drug Rep 138:31 O 7 '40

Analysis
Modified Gardner break test; applicable to crude soybean oil. Ind & Eng Chem Anal ed 12:382-3 Jl 15 '40

SOYBEANS
Chemical engineering advances in soybean processing. G. W. McBride. il diags Chem & Met Eng 47:614-18 S '40; Same cond. Food Ind 12:55-7 O '40
La culture du soja en France et aux colonies; ses applications industrielles au Japon. Génie Civil 116:69-70 Ja 27 '40
Evaluation of calcium carbonate coating colors formulated with various adhesives. H. F. Roderick and A. E. Hughes. Paper Tr J 110:104-8 F 22 '40
La fabrication, au Japon, d'une laine artificielle tirée du soja ou de certains animaux marins. Génie Civil 115:357-9 N 11 '39
Ford and plastics. W. T. Cruse. il Mod Plastics 17:23-9 Ja '40; Abstract. Mech Eng 62:236-7 Mr '40
Industrial outlook for soybeans. A. A. Horvath. il diag Manuf Rec 109:36-7 Je '40
Lecithin from soy bean; its uses in industry, especially in the textile industry. E. W. K. Schwarz. bibliog Am Dyestuff Rep 29: 220, 234-6 Ap 29 '40; Same. Rayon 21:295-6 My '40
1939 output 30% above last year. Oil Paint & Drug Rep 136:53 N 20 '39
Polyploidy in soybean, pea, wheat and rice, induced by colchicine treatment. P. S. Tang and W. S. Loo. Science 91:222 Mr 1 '40
Soya beans; world trade and German imports. Economist 138:33-4 Ja 6 '40
Soybean exports soar. Business Week p17-18 N 11 '39
Soybean industry. A. A. Horvath. 2d ed 221p bibliog(p191-7) $4 Chemical pub. co. '39
Soybean production hits new high. R. H. McCarroll. Barron's 20:5 Ja 1 '40
Soybean protein dispersions in formaldehyde solutions; preparation and application. A. K. Smith and H. J. Max. Ind & Eng Chem 32:411-15 Mr '40
Synthetic fiber from soya beans. R. D. Potter. Science 91:sup13 Mr 15 '40
Too many soybeans? Business Week p63-4 S 14 '40

SPACE, Interstellar
Interstellar gas; astronomers are finding matter as particles between the stars. H. N. Russell. Sci Am 163:128-9 S '40

SPACE buyers. See Advertising agencies—Space buyers

SPACE charge
Electronic-wave theory of velocity-modulation tubes. S. Ramo. diags Inst Radio Eng Proc 27:757-63 D '39
Fluctuations in space-charge-limited currents at moderately high frequencies. B. J. Thompson, D. O. North and W. A. Harris. diags RCA R 5:106-24, 244-60 Jl-O '40 (to be cont)
High frequency behavior of a space charge rotating in a magnetic field. J. P. Blewett and S. Ramo. diags Phys R 57:635-41 Ap 1 '40
Space-charge limitations on the focus of electron beams. B. J. Thompson and L. B. Headrick. Inst Radio Eng Proc 28:318-24 Jl '40
Theory of the thermionic diode. E. L. E. Wheatcroft. Inst E E J 86:473-84 My '40
Wave energy and transconductance of velocity-modulated electron beams. W. C. Hahn. diags Gen Elec R 42:497-502 N '39

SPACE perception
Induced size effect. K. N. Ogle. diags Opt Soc Am J 30:145-51 Ap '40

SPACE selling. See Advertising, Soliciting of

SPAIN
See also
Finance—Spain
Industrial laws and legislation—Spain
Labor laws and legislation—Spain
Public works—Spain
Telephone—Spain
Trade unions—Spain

Commerce
Spanish foreign trade in 1939. H. T. Goldstein. Comm Rep p819-20 S 28 '40

Economic conditions
Business situation. Comm Rep p272-3, 473, 733-4 Mr 23, My 25, Ag 31 '40
Economic conditions. For Comm W 1:209-10 N 2 '40

Economic policy
Non-belligerent Spain. Economist 139:121-2, 155-6 Jl 27-Ag 3 '40

Foreign relations
Sufier mission. Economist 139:459-60 O 12 '40

History
Civil war, 1936-1939
Cost of the Spanish civil war. Economist 139: 184 Ag 10 '40

Politics and government
Future of Spain. Economist 138:248-9 F 10 '40
Spain in the war. Economist 138:90-1 Ja 20 '40

SPALDING, England
Water supply
Pumping plant at Spalding waterworks. diags Engineering 148:513, 514 N 3 '39

SPALLING
Disintegration of face brick by crystallization of soluble salt. J. M. Hardesty. bibliog il Am Soc T M Proc 39:971-5; Discussion. il 976-8 '39
Pavement spalling causes and a suggested remedy; effect of freezing, thawing and ice control. A. W. Wickesberg. il Pub Works 71:26+ Je '40
Principal physical tests for fireclay refractories; thermal and structural spalling. R. S. Bradley. il Brick & Clay Rec 96:53-4+ Je '40
Spalling and cracking of fireclay and other refractory materials. L. Hickman. il Blast F & Steel Pl 28:516+, 620-1, 709-10, 832-5 My-Ag '40

SPANISH language
Study and teaching
Northwestern national life completes study of Spanish. Ins Field (Life ed) 69:9 O 4 '40

SPARK gap
Effect of small projections on breakdown in air. H. H. Race. diags Gen Elec R 43: 365-9 S '40
Enclosed spark gaps. W. E. Berkey. bibliog il diags Elec Eng 59:Trans 429-33 Ag '40
Low-cost bird-proof gaps protect rural transformers effectively. C. E. Bathe. il diag Elec W 114:1002-3 O 5 '40
Mechanism of spark discharge in air at atmospheric pressure. L. B. Loeb and J. M. Meek. bibliog il diags J Ap Phys 11:438-47, 459-74 Je-Jl '40
Radio-frequency spark-over in air. P. A. Ekstrand. diags Inst Radio Eng Proc 28: 262-6 Je '40
Surge-voltage breakdown characteristics for electrical gaps in oil. R. W. Sorensen. il diag Elec Eng 59:Trans 78-81; Discussion. Trans 81-4 F '40
Theoretical determination of breakdown voltage for sphere-gaps. J. M. Meek. Franklin Inst J 230:229-42 Ag '40

SPARK plugs
Aviation fuels and engines. F. R. Banks. il S A E J 45:397-400 S '39; Abstract. Automotive Ind 82:270 Mr 15 '40
Ceramic insulators for spark plugs. F. H. Riddle. il diag S A E J 46:236-42 Je '40; Abstract. Automotive Ind 82:108-9 F 1 '40
Ceramic spark plugs for aircraft engines; abstract. A. L. Beall. diag Automotive Ind 82:107-8 F 1 '40
Polonium alloy for spark plug electrodes. J. H. Dillon. J Ap Phys 11:291-9 Ap '40; Discussion. R. D. Evans. J Ap Phys 11:561-2 Ag '40
Polonium plug introduced. A. H. Allen. Steel 106:37-8 Mr 18 '40; Discussion. J. H. Dillon. 106:4 Ap 22 '40
Radio interference; the effect of suppressors on engine performance. N. Hendry. il diags Automobile Eng 30:167-73 Je '40
Servicing gives the leads for spark plug sales. il Nat Pet N 32:27-8+ Mr 20 '40
Shortcomings of mica insulation for aviation spark plugs. V. Cronstedt. il diags S A E J 46:233-5+ Je '40; Abstract. Automotive Ind 82:108 F 1 '40
SAE annual meeting; aircraft-engine sessions. S A E J 46:sup37-8 F '40
Some factors controlling the development of electrical ignition of aero engines. G. E. Bairsto. bibliog il diags Roy Aeronautical Soc J 44:119-62; Discussion. 162-75 F '40

Manufacture
Broaching spark plugs to improve finish. il diags Mach 46:89 My '40
Conveyor lubrication with colloidal graphite; Champion spark plug co. il Steel 106:70+ Ap 22 '40
Sillimanite in spark plugs; pictorial story of insulator production. Can Chem & Process Ind 24:392-3 Ag '40

Testing
Spark plugs; testing methods developed by San Antonio public service. il diags Bus Transportation 19:266-8 Je '40

SPARK testing. See Steel—Testing—Spark testing

SPARKS, Electric. See Electric sparks

SPAULDING precipitators
Cold lime-soda water softening; experiences with Spaulding precipitators. S. B. Applebaum. bibliog il diags Ind & Eng Chem 32:678-84 My '40

SPEAR, Walter E. 1874-1940
Sketch. por Eng N 124:472 Ap 4 '40

SPECIAL assessments
Local improvement assessments in New York city. Roads & Sts 83:78 F '40
Vancouver, Washington, provides improved streets; methods of calculating assessments. V. J. Brown. Roads & Sts 83:64 S '40

SPECIAL collections. See Libraries—Special collections

SPECIAL librarians. See Librarians, Special

SPECIAL libraries. See Libraries, Special

SPECIAL libraries (periodical)
Advertising for employment in Special libraries. Special Lib 31:86 Mr '40

SPECIAL libraries association
Glimpse into SLA's future. A. C. Mitchill. Special Lib 31:113-14 Ap '40
Library of Congress and the Special libraries association; cooperation in bibliographical service. Special Lib 31:155-6 My-Je '40
Professional cooperation in library progress. E. Cavanaugh. Special Lib 31:197-8 Jl-Ag '40
Schedule of SLA convention, Indianapolis, June 3-6. I. M. Strieby. Special Lib 31:115-17 Ap '40
SLA's secretaries. Special Lib 31:329 S '40
Tentative program, 32d annual convention. Special Lib 31:160-4 My-Je '40
Who's who among the speakers; SLA convention, June 3-6. Special Lib 31:165-6 My-Je '40

Methods exhibit
Roaming exhibit. Special Lib 31:357 O '40

National defense committee
SLA National defense committee report. M. L. Alexander. Special Lib 31:358-60 O '40

SPECIAL offers. See Sales policies—Special offers

SPECIAL weeks. See Advertising campaigns—Special weeks

SPECIALTY industries

Securities

Miscellaneous companies, 1937-39. Mag of Wall St Manual p43 Mr 2 '40

SPECIALTY stores

Florida store has 4 shops in 1; Miami Beach branch, Saks. il diags plan Arch Rec 88: 37-41 Ag '40

Making the most of a narrow frontage; Postman's, New York. il diags plan Arch Rec 87:57-9 Mr '40

Operating results of department and specialty stores in 1939. M. P. McNair. Harvard Univ Graduate School of Business Administration, Bur of Business Research Bul 111:1-34 '40 (pa $2.50)

See also
Cosmetic shops

SPECIES

See also
Phylogeny

SPECIFIC gravity

Automatic effusiometer for determination of specific gravity of gases. G. V. Feskov. il diag Ind & Eng Chem Anal ed 11:653-4 D 15 '39

Density and viscosity of glycerol solutions at low temperatures. E. Green and J. P. Parke. Soc Chem Ind J 58:319-20 O '39

Density, thermal expansion, vapor pressure, and refractive index of styrene, and the density and thermal expansion of polystyrene. W. Patnode and W. J. Scheiber. bibliog Am Chem Soc J 61:3449-51 D '39

Fundamental relation between lattice constants and density. F. Foote and E. R. Jette. bibliog Phys R 58:81-6 Jl 1 '40

Gravity correction chart for emulsified petroleum. Oil & Gas J 38:34 F 1 '40

Macleod constant and its dependence on physicochemical factors. D. T. Lewis. bibliog J Phys Chem 44:1007-11 N '40

Nomographic chart for temperature correction of aqua ammonia densities, with additional scales for interconversion of physical data. E. Berl. Chem & Met Eng 46:788 D '39

Nomographic chart for the temperature correction of potassium carbonate solution densities, with additional scales for interconversion of physical data. E. Berl. Chem & Met Eng 46:731 N '39

Physical properties and chemical constitution; alkyl ketones. D. M. Cowan, G. H. Jeffery and A. I. Vogel. diag Chem Soc J p171-6 F '40

Properties of liquids in fine capillaries; surface tension and density. L. H. Cohan and G. E. Meyer. diag Am Chem Soc J 62: 2715-16 O '40

Reduction of specific gravity at 25°/25° C. to density at any temperature from 0° to 40° C. R. R. Dreisbach. Ind & Eng Chem Anal ed 12:160-1 Mr 15 '40

Specific gravity and viscosity of Na_2CO_3 solutions. D. S. Davis. Chem & Met Eng 47: 690-1 O '40

Specific gravity of iodine pentoxide and the atomic weight of iodine. G. P. Baxter and W. M. Kelley. Am Chem Soc J 62:1824-5 Jl '40

Suggest correlation of gas gravity and gasoline content. K. Davison Oil & Gas J 38: 54 F 8 '40

Thermodynamic properties of fluorochloromethanes and -ethanes; orthobaric densities and critical constants of three fluorochloromethanes and trifluorotrichloroethane. A. F. Benning and R. C. McHarness. bibliog il Ind & Eng Chem 32:814-16 Je '40

SPECIFIC heat

Entropies of large ions; the heat capacity, entropy and heat of solution of potassium chloroplatinate, tetramethylammonium iodide and uranyl nitrate hexahydrate. L. V. Coulter, K. S. Pitzer and W. M. Latimer. bibliog Am Chem Soc J 62:2845-51 O '40

Heat capacities, heats of transition and fusion, and entropies of ethylene dichloride and ethylene dibromide. K. S. Pitzer. bibliog Am Chem Soc J 62:331-5 F '40

Heat capacity and entropy, heats of fusion and vaporization and the vapor pressure of isobutane. J. G. Aston, R. M. Kennedy and S. C. Schumann. bibliog Am Chem Soc J 62:2059-63 Ag '40

Heat capacity and entropy, heats of fusion and vaporization and the vapor pressure of methyl chloride. G. H. Messerly and J. G. Aston. bibliog Am Chem Soc J 62:886-90 Ap '40

Heat capacity and entropy, heats of fusion and vaporization and the vapor pressure of *n*-butane. J. G. Aston and G. H. Messerly. bibliog Am Chem Soc J 62:1917-23 Ag '40

Heat capacity and entropy, heats of fusion and vaporization and the vapor pressure of *n*-pentane. G. H. Messerly and R. M. Kennedy. bibliog Am Chem Soc J 62:2988-91 N '40

Heat capacity of nickel oxide from 68-298°K. and the thermodynamic properties of the oxide. H. Seltz, B. J. DeWitt and H. J. McDonald. bibliog Am Chem Soc J 62:88-9 Ja '40

Heats of dilution, heat capacities, and activities of urea in aqueous solutions from the freezing points to 40°. F. T. Gucker, jr. and H. B. Pickard. bibliog Am Chem Soc J 62:1464-72 Je '40

Heats of solution, heats of formation, specific heats and equilibrium diagrams of certain molecular compounds. A. N. Campbell and A. J. R. Campbell. Am Chem Soc J 62:291-7 F '40

Measurement of the heat capacity of a small volume of liquid by the piezo-thermometric method. J. S. Burlew. bibliog diags Am Chem Soc J 62:681-700 Ap '40

α- and β-Monopalmitin, heats of combustion and specific heats at 25°. T. H. Clarke and G. Stegeman. bibliog Am Chem Soc J 62:1815-17 Jl '40

New specific heats. R. C. H. Heck. Mech Eng 62:9-12 Ja '40

Phase equilibria in hydrocarbon systems; Joule-Thomson coefficients for gaseous mixtures of methane and *n*-butane. R. A. Budenholzer, B. H. Sage and W. N. Lacey. bibliog Ind & Eng Chem 32:384-7 Mr '40

Specific heat of some ethylene halides. W. E. Railing. Am Chem Soc J 61:3349-53 D '39

Specific heat ratios for hydrocarbons. W. C. Edmister. Ind & Eng Chem 32:373-5 Mr '40

Specific heats at low temperatures of tantalum oxide and tantalum carbide. K. K. Kelley. bibliog Am Chem Soc J 62:818-19 Ap '40

Specific heats of brines. R. S. Jessup. Refrig Eng 40:100-1 Ag '40

Specific heats of some aqueous sodium and potassium chloride solutions at several temperatures. C. B. Hess and B. E. Gramkee. bibliog diag J Phys Chem 44:483-94 Ap '40

Specific heats of some aqueous sodium and potassium chloride solutions at several temperatures. C. M. White. bibliog J Phys Chem 44:494-512 Ap '40

Thermal data; the heat capacities and entropies of guanidine carbonate, glutamic acid hydrochloride, ornithine dihydrochloride, *d*-lactic acid and *l*-lactic acid. H. M. Huffman, E. L. Ellis and H. Borsook. Am Chem Soc J 62:297-9 F '40

Thermodynamic properties of fluorochloromethanes and -ethanes; heat capacity of the liquid and vapor of three fluorochloromethanes and trifluorotrichloroethane. A. F. Benning and others. bibliog diags Ind & Eng Chem 32:976-80 Jl '40; Correction. 32:1074 Ag '40

Thermodynamics of *n*-heptane and 2,2,4-trimethylpentane, including heat capacities, heats of fusion and vaporization and entropies. K. S. Pitzer. bibliog Am Chem Soc J 62:1224-7 My '40

SPECIFIC heat—*Continued*
Variation of the adiabatic and isothermal elastic moduli and coefficient of thermal expansion with temperature through the λ-point transition in ammonium chloride. A. W. Lawson. bibliog diags Phys R 57:417-26 Mr 1 '40

SPECIFIC surface
Measuring average particle diameter of powders; air-permeation apparatus. E. L. Gooden and C. M. Smith. il diags Ind & Eng Chem Anal ed 12:479-82 Ag 15 '40
Particle size and shape of colloidal carbon as revealed by the electron microscope. bibliog il Rubber Age 47:309-16 Ag '40
Specific surface and particle size distribution of finely divided materials; with data on use of photelometer. M. N. States. il diags Am Soc T M Proc 39:795-807; Discussion. 808-9 '39
Studies on aging and coprecipitation; the adsorptive properties and the determination of the specific surface of lead chromate. I. M. Kolthoff and F. T. Eggertsen. Am Chem Soc J 62:2125-31 Ag '40
Studies on aging and coprecipitation; the thermal aging of imperfect barium sulfate. I. M. Kolthoff and W. M. MacNevin. il J Phys Chem 44:921-35 O '40
Studies on aging and formation of precipitates; the determination of the specific surface of silver bromide by the radioactive and dye methods. I. M. Kolthoff and A. S. O'Brien. bibliog Am Chem Soc J 61:3409-14 D '39

SPECIFIC volume
Partial volumetric behavior of lighter paraffin hydrocarbons in the gas phase; methane, ethane, propane, *n*-butane in binary mixtures. B. H. Sage and W. N. Lacey. bibliog Oil & Gas J 38:189-92+ N 17 '39
Phase equilibria in hydrocarbon systems; methane-decane system. B. H. Sage, H. M. Lavender and W. N. Lacey. bibliog Ind & Eng Chem 32:743-7 My '40
Phase equilibria in hydrocarbon systems; methane-*n*-butane system in the gaseous and liquid regions. B. H. Sage, R. A. Budenholzer and W. N. Lacey. bibliog Ind & Eng Chem 32:1262-77 S '40
Phase equilibria in hydrocarbon systems; methane—*n*-butane system in the two-phase region. B. H. Sage, B. L. Hicks and W. N. Lacey. bibliog Ind & Eng Chem 32:1085-92 Ag '40
Phase equilibria in hydrocarbon systems; propane-*n*-pentane system. B. H. Sage and W. N. Lacey. bibliog Ind & Eng Chem 32: 992-6 Jl '40
Phase equilibria in hydrocarbon systems; the methane-ethane system in the gaseous region. B. H. Sage and W. N. Lacey. bibliog Ind & Eng Chem 31:1497-1509 D '39
Phase equilibria in hydrocarbon systems; the propane-*n*-butane system in the critical region. C. N. Nysewander, B. H. Sage and W. N. Lacey. bibliog diags Ind & Eng Chem 32:118-23 Ja '40
Physical chemical investigation of certain nucleoproteins; preparation and general properties; nucleohistone of calf thymus, and nucleoprotein of hog thyroid. R. O. Carter and J. L. Hall. bibliog Am Chem Soc J 62:1194-6 My '40
Properties of soybean oil-solvent mixtures. H. F. Johnstone, I. H. Spoor and W. H. Goss. il Ind & Eng Chem 32:832-5 Je '40
Solubility of methane in benzene. E. P. Schoch and others. il diags Ind & Eng Chem 32:788-91 Je '40
Solubility of methane in cyclohexane. E. P. Schoch, A. E. Hoffmann and F. D. Mayfield. bibliog diag Ind & Eng Chem 32:1351-3 O '40
Specific volume factor in ultracentrifugal analysis. E. O. Kraemer. Franklin Inst J 229:393-7 Mr '40
Thermodynamic properties of substances; vapor volumes as functions of reduced temperature alone. H. A. Fales and C. S. Shapiro. Am Chem Soc J 62:393-406 bibliog (p404) F '40

SPECIFICATIONS
Federal specifications issued. Ind Stand 11: 140 Je '40
Government specifications approved for purchasing. Ind Stand 11:256 O '40
Standard specifications. Pulp & Pa of Can 41: 659-60 S '40

SPECTACLES
Eclipse to order; Polaroid variable day glass. il Mod Plastics 17:45+ Je '40
Eye protection; Polaroid variable sun glasses. il Sci Am 163:148 S '40
Glasses help in aligning floodlights. il Elec W 114:1196+ O 19 '40
Induction melting and soldering in the optical industry. W. J. Wrighton and T. C. Jarrett. il Metals & Alloys 11:185-7 Je '40
Optician's dispensing manual. E. T. Hartinger. 3d ed 226p $3.50 Edward T. Hartinger, New York '40
Vibration dampener for spectacles. diags Sci Am 162:38-9 Ja '40
What do you pay for eyeglasses? wholesalers who retail, and eye examiners who hide their fees and pocket rebates. Fortune 22: 103-4 O '40

See also
Goggles
Lenses

Standards
Blown, drawn, and dropped lenses for sun glasses. il U S Nat Bur Stand Commercial Standard CS79-39:1-7 '39
Ground and polished lenses for sun glasses. il U S Nat Bur Stand Commercial Standard CS78-39:1-7 '39
Standards control quality in optical manufacture; American optical company. W. H. Lehmberg. il Ind Stand 11:249-51 O '40

SPECTROGRAPH
American apparatus, instruments, and instrumentation; optical instruments. R. H. Müller. il Ind & Eng Chem Anal ed 12: 592-4 O 15 '40
Continuous source for the Spekker photometer. H. H. Darby. il diag Am Chem Soc J 62: 1874-5 Jl '40
Exact and approximate computation of Schmidt cameras. F. A. Lucy. Opt Soc Am J 30:251-4 Je '40
High power tungsten light source. H. Beutler and N. Metropolis. diags Opt Soc Am J 30:115-17 Mr '40
Investigation of the volatility of glaze constituents by the use of the spectrograph. H. C. Harrison, W. G. Lawrence and D. J. Tucker. il Am Cer Soc J 23:111-16 Ap '40
Luminous and high resolving universal X-ray spectrograph. E. Ingelstam. il R Sci Instr 11:160-4 My '40
Method for obtaining long optical paths. H. D. Smith and J. K. Marshall. il diags Opt Soc Am J 30:338-42 Ag '40
Push-pull photoelectric photodensitometer for determining fine structure in ultraviolet absorption spectra. J. R. Loofbourow. bibliog diag Opt Soc Am J 29:535-7 D '39
Qualitative spectrographic analysis in the arc, with graphite electrodes. W. C. Pierce, O. R. Torres and W. W. Marshall. il diag Ind & Eng Chem Anal ed 12:41-5 Ja 15 '40
Some applications of the spectrograph to the quantitative analysis of ferrous and nonferrous metals. F. G. Barker. bibliog Iron & Steel Inst J 139:211-45, pl 6-15 no 1 '39; Same cond. Engineer 167:601-4, 629-32 My 12-19 '39; Same cond. Engineering 147:572-4, 605-7 My 12-19 '39; Discussion. Iron & Steel Inst J 139:246-55 no 1 '39; Engineer 167:626 My 19 '39; Engineering 147:586 My 19 '39
Theory of the electrostatic beta-particle energy spectrograph. F. T. Rogers, jr. bibliog diags R Sci Instr 11:19-22 Ja '40
Thin quartz crystals as used in the Cauchois focusing X-ray spectrograph. F. R. Hirsh, jr. il diags Phys R 58:78-81 Jl 1 '40

SPECTROGRAPHY
Die kritische auswahl colorimetrischer spektralphotometrischer und spektrographischer methoden zur absorptionsmessung. G. Kortüm and M. Seiler. Angew Chemie 52:687-93 D 2 '39

SPECTROMETERS

Concave spherical crystals of barium-copper-stearate for use in long wave-length X-ray spectrometers. C. L. Andrews. il diag R Sci Instr 11:111-14 Ap '40

Design of a magnetic beta-ray spectrometer. J. L. Lawson and A. W. Tyler. bibliog diags R Sci Instr 11:6-18 Ja '40

K-absorption edges and $K\beta_{2,5}$-emission lines of two Zn-Ni alloys. J. A. Bearden and W. W. Beeman. Phys R 58:396-9 S 1 '40

X-ray $K\beta_{2,5}$-emission lines and *K*-absorption limits of Cu-Zn alloys. J. A. Bearden and H. Friedman. bibliog Phys R 58:387-95 S 1 '40

SPECTROMETERS, Mass

Application of mass spectrometer to petroleum-industry problems. H. Hoover, jr. and H. Washburn. Oil & Gas J 38:48-9 F 22 '40

Ionization and dissociation of water vapor and ammonia by electron impact. M. M. Mann, A. Hustrulid and J. T. Tate. bibliog diags Phys R 58:340-7 Ag 15 '40

Mass spectrometer for routine isotope abundance measurements; isotope analyses of carbon, nitrogen, and other light elements. A. O. Nier. bibliog diags R Sci Instr 11: 212-16 Jl '40

Record-breaking magnetic field employed in new mass spectrometer. il Electronics 13: 40+ My '40

SPECTROPHOTOMETERS

American apparatus, instruments, and instrumentation; optical instruments. R. H. Müller. il Ind & Eng Chem Anal ed 12: 597-8 O 15 '40

Automatic mechanical analyzer for metals. Science 92:sup6 Jl 26 '40; Same abr. Sci Am 163:203-4 O '40

Color comparison devices. R. H. Park. bibliog il Am Dyestuff Rep 29:272-8 My 27 '40

Improved high speed recording spectrophotometer. G. R. Harrison and E. P. Bentley. bibliog il diags Opt Soc Am J 30:290-4 Jl '40

Measurement of color of pulps. R. S. Hatch. Paper Tr J 111:35-8 S 19 '40; Excerpts. Paper Ind 22:288+ Je '40

Measurement of the color of pulps. R. S. Hatch. Paper Ind 22:288+ Je '40

Neutral wedge abridged spectrophotometer. P. A. Clifford and B. A. Brice. bibliog diag Ind & Eng Chem Anal ed 12:218-22 Ap 15 '40

Null-type photoelectric spectrophotometer. C. J. Barton and J. H. Yoe. bibliog il diags Ind & Eng Chem Anal ed 12:166-8 Mr 15 '40

Paint color control; use of the spectrophotometer. E. A. Zahn. Metal Ind 38:172-5 Mr '40

Precision spectrophotometer for use in the range 450 to 820 mμ. S. Jacobsohn, H. E. Bent and A. J. Harrison. diag R Sci Instr 11:220-6 Jl '40

Residual photometric errors in the commercial recording spectrophotometer. O. W. Pineo. il diag Opt Soc Am J 30:276-89 Jl '40

Simplified spectrophotometer uses self-generating photo cell. Electronics 13:44+ My '40

Survey of abridged spectrophotometers; including list of instruments with brief descriptions and manufacturers' addresses. J. A. Van den Akker. bibliog diags Paper Tr J 111:28-37 S 12 '40

Survey of spectrophotometers; use of photoelectric cell for accurate colorimetric specification of white and near-white materials. K. S. Gibson. Paper Tr J 111:33-7 bibliog(p36-7) S 5 '40

SPECTROPHOTOMETRY

Conjugation of horse serum albumin with 1,2-benzanthryl isocyanates. H. J. Creech and R. N. Jones. bibliog Am Chem Soc J 62:1970-5 Ag '40

Investigation of the fundamental scattering and absorption coefficients of dyed handsheets. W. J. Foote. bibliog Paper Tr J 109:31-8 D 21 '39

Die kritische auswahl colorimetrischer, spektralphotometrischer und spektrographischer methoden zur absorptionsmessung. G. Kortüm and M. Seiler. Angew Chemie 52:687-93 D 2 '39

Matching porcelain enamels. F. H. Emery. Steel 106:48, 50 My 20 '40

Quantitative absorption spectrophotometry; an internal control method. J. S. Owens. Ind & Eng Chem Anal ed 11:643-6 D 15 '39

Quantitative biological spectroscopy. E. S. Miller. 213 numb l bibliog(l 193-213) $3.50 Burgess pub. co, Minneapolis '39

Symposium on spectrophotometry in the pulp and paper industries. J. L. Parsons and others. Paper Tr J 111:31-7 S 5; 27-38 S 12; 35-8 S 19; 35-41 S 26; 39-44 O 3; 31-8 O 10 '40

Use of spectrophotometry on coated paper. W. J. Foote. Paper Ind 22:614+ S '40

Wide range intensity measurements in photoelectric spectrophotometry. W. C. Bosch and B. B. Brown. diag Opt Soc Am J 29: 466-9 N '39

Bibliography

Absorption spectrophotometry and its applications; bibliography and abstracts 1932 to 1938. O. J. Walker. 68p 7s 6d A. Hilger, London '39

SPECTROSCOPY

New methods in spectroscopy. G. R. Harrison. Science 91:225-8 Mr 8 '40

Proceedings of the seventh summer conference (1939) on spectroscopy and its applications. G. R. Harrison. 154p pa $2.75 Wiley '40

Spectroscopic evidence for hydrogen bonds: SH, NH and NH_2 compounds. W. Gordy and S. C. Stanford. bibliog Am Chem Soc J 62:497-505 Mr '40

Synthetic optical crystals. H. C. Kremers. bibliog il Ind & Eng Chem 32:1478-83 N '40

See also

Spectrum analysis

SPECTRUM

Anomalous scattering of neutrons by helium and the *d-d* neutron spectrum. E. Hudspeth and H. Dunlap. diag Phys R 57:971-5 Je 1 '40

Determination of the energy spectrum of primary cosmic rays. M. S. Vallarta. Rs Mod Phys 11:239-40 Jl-O '39

Electrical quadrupole moment of the deuteron; the radiofrequency spectra of HD and D_2 molecules in a magnetic field. J. M. B. Kellogg and others. bibliog Phys R 57:677-95 Ap 15 '40

Halogen molecule spectra; interval relations and relative intensities in the long wavelength spectra. R. S. Mulliken. bibliog Phys R 57:500-15 Mr 15 '40

Mazda lamps and the spectrum; chart. Gen Elec R 43:64-5 F '40

Nuclear isotope shift in the spectrum of ZnH. S. Mrozowski. bibliog Phys R 58:597-9 O 1 '40

Observation of the spectrum of Ne V. F. W. Paul. Phys R 56:1067 N 15 '39

Optimum efficiency conditions for white luminescent screens in kinescopes; zinc-cadmium sulphide phosphor systems. H. W. Leverenz. bibliog diag Opt Soc Am J 30: 309-15 Jl '40

Photoelectric measurement of scale marks and spectrum lines. G. R. Harrison and J. P. Molnar. il diags Opt Soc Am J 30: 343-7 Ag '40

Photographic plate spectrum of *d-d* neutrons. H. T. Richards and E. Hudspeth. il Phys R 58:382 Ag 15 '40

Principal *M*-series emission lines of tungsten and the *K* absorption of magnesium and aluminum. J. H. Munier, J. A. Bearden and C. H. Shaw. bibliog diag Phys R 58:537-43 S 15 '40

Properties of the witch of Agnesi; application to fitting the shapes of spectral lines. R. C. Spencer. bibliog Opt Soc Am J 30: 415-19 S '40

Spark spectrum of silver. E. Rasmussen. Phys R 57:840-1 My 1 '40

SPECTRUM—*Continued*
Spectra of highly ionized argon. W. L. Parker and L. W. Phillips. Phys R 58:93-4 Jl 1 '40
Spectral distribution of radiation from lamps of various types. B. T. Barnes, W. E. Forsythe and W. J. Karash. bibliog Gen Elec R 42:540-3 D '39
Spectrum lines. Chem & Ind 58:1050-1 D 2 '39
Spectrum of turbulence. J. Kampé de Fériet. bibliog diag J Aeronautical Sci 7: 518-19 O '40
Symposium on optical methods for study of molecular structure; Raman spectra method. G. M. Murphy. bibliog il Opt Soc Am J 30:396-404 S '40
Tellurium-vapor lamp produces continuous spectrum. Electronics 13:58+ Je '40
Ultra-high-frequency oscillography; electron-optical spectral analysis. H. E. Hollmann. bibliog il diags Inst Radio Eng Proc 28:213-15 My '40
Water vapor molecule. B. T. Darling and D. M. Dennison. bibliog Phys R 57:128-39 Ja 15 '40
Zeeman effect in the second and third spectra of xenon. C. J. Humphreys, W. F. Meggers and T. L. deBruin. bibliog J Research Nat Bur Stand 23:683-99 D '39

See also
Light
Raman effect
Spectrum analysis
Stars—Spectra
Ultraviolet rays
Zeeman effect

Absorption spectra

Absorption and fluorescence spectra of certain dihydroisobenzofurans and isobenzofurans. R. Adams and M. H. Gold. Am Chem Soc J 62:2038-42 Ag '40
Absorption of praseodymium ion in solutions and in the solid state. F. H. Spedding. bibliog Phys R 58:255-7 Ag 1 '40
Absorption spectra of *N*-substituted auramine dyes. G. Breuer and J. Schnitzer. Chem Soc J p461-3 Ap '40
Absorption spectrum of hypericin. N. Pace and G. Mackinney. Am Chem Soc J 61:3594-5 D '39
Absorption spectrum of single-crystal ZnS phospors. C. J. Brasefield. Phys R 57:162 Ja 15 '40
Apparatus for experiment on absorption of light by sodium vapor. D. C. Stockbarger. il diags Opt Soc Am J 30:362-4 Ag '40
Change of the ultraviolet absorption spectrum of acrolein with time. A. M. Buswell and others. bibliog Am Chem Soc J 62:325-8 F '40
Color phenomena associated with quinquevalent molybdenum solutions; absorption spectra in solutions of various hydrochloric acid concentration. C. F. Hiskey and V. W. Meloche. Am Chem Soc J 62:1819-24 Jl '40
Conjugation of carbonyl groups and the absorption spectrum of triketopentane. M. Calvin and C. L. Wood. bibliog diags Am Chem Soc J 62:3152-5 N '40
Drying oils and resins; ultraviolet absorption study of esters of the acids of drying oils. T. F. Bradley and D. Richardson. bibliog il diag Ind & Eng Chem 32:963-9 Jl '40
Effect of an activator on the absorption spectrum of zinc sulphide powders. C. J. Brasefield. Phys R 58:436-8 S 1 '40
Effect of ions of the lyotropic series on the infrared absorption spectrum of water. A. M. Buswell, R. C. Gore and W. H. Rodebush. bibliog J Phys Chem 43:1181-4 D '39
Estimate of the absorption of air in the extreme ultraviolet. E. G. Schneider. il Opt Soc Am J 30:128-32 Mr '40
Far infra-red absorption spectrum and the rotational structure of the heavy water vapor molecule. N. Fuson, H. M. Randall and D. M. Dennison. bibliog il Phys R 56: 982-1000 N 15 '39
Hydrogen arc for absorption spectroscopy. A. J. Allen and R. G. Franklin. bibliog il diag Opt Soc Am J 29:453-5 O '39; Abstract. Franklin Inst J 229:125-7 Ja '40
Hydrogen bridging in cellulose as shown by infrared absorption spectra. J. W. Ellis and J. Bath. bibliog il Am Chem Soc J 62:2859-61 O '40
Infrared absorption spectra of drying oils. D. L. Gamble and C. E. Barnett. bibliog Ind & Eng Chem 32:375-8 Mr '40
Method for obtaining long optical paths. H. D. Smith and J. K. Marshall. il diags Opt Soc Am J 30:338-42 Ag '40
Phthalocyanines and related compounds; tetrabenzporphin, tetrabenzmonazaporphin and their metallic derivatives. P. A. Barrett and others. Chem Soc J p1079-92 Ag '40
Principal *M*-series emission lines of tungsten and the *K* absorption of magnesium and aluminum. J. H. Munier, J. A. Bearden and C. H. Shaw. bibliog diag Phys R 58:537-43 S 15 '40
Rotatory dispersion and circular dichroism of *l*-menthyl *d*-β-chloro-β-nitrosobutyrate. S. Mitchell and G. K. Simpson. Chem Soc J p784-7 Je '40
Rottlerin; a spectrographic study of rottlerin and its derivatives. R. A. Morton and Z. Sawires. Chem Soc J p1052-64 Ag '40
Spectrographic study of the formation of 1,3-cyclohexadiene from cyclohexene. H. Stücklen, H. Thayer and P. Willis. bibliog Am Chem Soc J 62:1717-19 Jl '40
Spectroscopic evidence for hydrogen bonds: the hexyl alcohols. S. C. Stanford and W. Gordy. bibliog Am Chem Soc J 62:1247-51 My '40
Splitting the CONH linkage by means of ultraviolet light. D. C. Carpenter. bibliog diags Am Chem Soc J 62:289-91 F '40
Structure of cannabidiol; absorption spectra compared with those of various dihydric phenols. R. Adams, C. K. Cain and H. Wolff. bibliog Am Chem Soc J 62:732-4 Ap '40
Structure of the *L* absorption of sodium metal and its halides. H. M. O'Bryan. Phys R 57:995-7 Je 1 '40
Studies on inner complexes; ortho-hydroxy azo dye inner complexes. H. M. Haendler and G. M. Smith. bibliog Am Chem Soc J 62:1669-72 Jl '40
Study of the configuration of the nickel salt of formyl camphor. H. S. French and G. Corbett. bibliog Am Chem Soc J 62:3219-22 N '40
Ultra-violet absorption spectra of nitrogenous heterocyclic compounds; effect of *p*H and irradiation on the spectrum of adenine. J. R. Loofbourow and M. M. Stimson. Chem Soc J p844-8 Jl '40
Ultra-violet absorption spectra of nitrogenous heterocyclic compounds; effect of pH and irradiation on the spectrum of barbituric acid. J. R. Loofbourow and M. M. Stimson. Chem Soc J p1275-7 S '40
Ultraviolet absorption spectra of organic molecules; the dependence upon restricted rotation and resonance. M. T. O'Shaughnessy and W. H. Rodebush. Am Chem Soc J 62:2906-11 N '40
Ultraviolet absorption spectra of some derivatives of 1,2-benzanthracene. R. N. Jones. bibliog Am Chem Soc J 62:148-52 Ja '40

Band spectra

Band spectrum of antimony chloride. W. F. C. Ferguson and I. Hudes. bibliog il Phys R 57:705-7 Ap 15 '40
Conditions influencing the intensity of the $^1\Pi$—$^1\Sigma$ Cameron bands of CO. G. E. Hansche. bibliog il Phys R 57:289-91 F 15 '40
Emission spectrum of antimony nitride. N. H. Coy and H. Sponer. bibliog il Phys R 58:709-13 O 15 '40
Nuclear isotope shift in the spectra of HgH^+ and HgD^+. S. Mrozowski. bibliog diags Phys R 58:332-40 Ag 15 '40
Rotational analysis of some CS_2 bands in the near ultraviolet system. L. N. Liebermann. Phys R 58:183 Jl 15 '40

Excitation

Correlation method for the elimination of errors due to unstable excitation conditions in quantitative spectrum analysis. S. Levy. bibliog J Ap Phys 11:480-7 Jl '40

SPECTRUM—*Continued*

Explosion spectrum

Polarization of light emitted by electrically exploded wires. W. M. Cohn. bibliog il Phys R 58:50-1 Jl 1 '40

Fine structure

Electric quadrupole moments of Ga^{69} and Ga^{71}; an atomic beam study of the hyperfine structures of the $^2P_{1/2}$ and $^2P_{3/2}$ states. N. A. Renzetti. bibliog diags Phys R 57: 753-65 My 1 '40

Evidence for a nuclear electric quadrupole moment for Sb^{123}. D. H. Tomboulian and R. F. Bacher. Phys R 58:52-4 Jl 1 '40

Fine structure of the X-ray absorption limits of bromine and chlorine. T. M. Snyder and C. H. Shaw. bibliog Phys R 57:881-6 My 15 '40

Hyperfine structure of the quadrupole line 2815A and of some other lines of ionized mercury. S. Mrozowski. bibliog Phys R 57: 207-11 F 1 '40

Isotope shift in magnesium. J. P. Vinti. bibliog Phys R 56:1120-32 D 1 '39

Precise determination of the fine structure constant. R. F. Christy and J. M. Keller. Phys R 58:658 O 1 '40

Push-pull photoelectric photodensitometer for determining fine structure in ultraviolet absorption spectra. J. R. Loofbourow. bibliog diag Opt Soc Am J 29:535-7 D '39

Radiofrequency spectra of atoms; hyperfine structure and Zeeman effect in the ground state of Li^6, Li^7, K^{39} and K^{41}. P. Kusch, S. Millman and I. I. Rabi. bibliog Phys R 57: 765-80 My 1 '40

Radiofrequency spectra of sodium, rubidium and caesium. S. Millman and P. Kusch. Phys R 58:438-45 S 1 '40

Fluorescence

Absorption and fluorescence spectra of certain dihydroisobenzofurans and isobenzofurans. R. Adams and M. H. Gold. Am Chem Soc J 62:2038-42 Ag '40

Forbidden lines

Computation of quadrupole and magnetic-dipole transition probabilities. G. H. Shortley. Phys R 57:225-34 F 1 '40

Hyperfine structure of the quadrupole line 2815A and of some other lines of ionized mercury. S. Mrozowski. bibliog Phys R 57: 207-11 F 1 '40

Intensity

Conditions influencing the intensity of the $^2\Pi$—$^1\Sigma$ Cameron bands of CO. G. E. Hansche. bibliog il Phys R 57:289-91 F 15 '40

Quantitative spectrographic analysis. J. T. M. Malpica. Gen Elec R 43:288-97, 333-5 Jl-Ag '40

Use of step weakeners in photographic photometry. G. E. Moore and H. W. Webb. Opt Soc Am J 30:413-14 S '40

Magnetic rotation spectra

Rotational magnetic moments of H_2, D_2, and HD molecules; the rotational radiofrequency spectra of H_2, D_2, and HD in magnetic fields. N. F. Ramsey, jr. bibliog Phys R 58:226-36 Ag 1 '40

Multiplets

Computation of quadrupole and magnetic-dipole transition probabilities. G. H. Shortley. Phys R 57:225-34 F 1 '40

Investigation of the complex structure of the O-H harmonic bands of substituted alcohols, and of the effect of temperature on the relative intensities of the multiplet components. L. R. Zumwalt and R. M. Badger. bibliog Am Chem Soc J 62:305-11 F '40

Partially inverted multiplets in MgI. L. Pincherle. Phys R 58:251-4 Ag 1 '40

Zeeman effects in complex spectra at fields up to 100,000 gauss. G. R. Harrison and F. Bitter. il Phys R 57:15-20 Ja 1 '40

Pressure effects

Effect of pressure on the wave-lengths of the International secondary standards in the first spectrum of iron. C. J. Humphreys. bibliog J Research Nat Bur Stand 24:389-93 Ap '40

Impact broadening of spectral lines. L. Spitzer, jr. bibliog Phys R 58:348-57 Ag 15 '40

Pressure effect on infra-red absorption. J. Strong and K. Watanabe. Phys R 57:1049 Je 1 '40

Tables, etc.

Arc spectrum of cobalt. H. N. Russell, R. B. King and C. E. Moore. bibliog Phys R 58:407-36 S 1 '40

Arc spectrum of silver. A. G. Shenstone. Phys R 57:894-8 My 15 '40

Description and analysis of the second spectrum of vanadium (VII). W. F. Meggers and C. E. Moore. bibliog J Research Nat Bur Stand 25:83-132 Jl '40

First spectrum of tin. W. F. Meggers. bibliog pls J Research Nat Bur Stand 24:153-73 F '40

Magnesium-like spectra of chlorine, potassium, calcium and scandium. W. L. Parker and L. W. Phillips. Phys R 57:140-1 Ja 15 '40

New lines and terms in the arc and first spark spectra of molybdenum: Mo I and Mo II. Sister M. R. Schauls and R. A. Sawyer. bibliog Phys R 58:781-3 N 1 '40

Spectra of Y V and Zr VI. F. W. Paul and W. A. Rense. bibliog Phys R 56:1110-13 D 1 '39

Zeeman effects in the arc spectrum of ruthenium. G. R. Harrison and J. R. McNally, jr. il Phys R 58:703-8 O 15 '40

SPECTRUM, Infrared

Dispersion of magnetic double refraction in the short infra-red spectrum. F. J. Davis. bibliog diag Opt Soc Am J 30:488-94 O '40

Effect of ions of the lyotropic series on the infrared absorption spectrum of water. A. M. Buswell, R. C. Gore and W. H. Rodebush. bibliog J Phys Chem 43:1181-4 D '39

Far infra-red absorption spectrum and the rotational structure of the heavy water vapor molecule. N. Fuson, H. M. Randall and D. M. Dennison. bibliog il Phys R 56: 982-1000 N 15 '39

Hydrogen bridging in cellulose as shown by infrared absorption spectra. J. W. Ellis and J. Bath. bibliog il Am Chem Soc J 62: 2859-61 O '40

Index of refraction of methane in the infra-red and the dipole moment of the CH bond. R. Rollefson and R. Havens. bibliog diag Phys R 57:710-17 Ap 15 '40

Infrared absorption spectra of drying oils. D. L. Gamble and C. E. Barnett. bibliog Ind & Eng Chem 32:375-8 Mr '40

Infrared absorption studies; bonding of hydrogen in nitrogen compounds. A. M. Buswell, J. R. Downing and W. H. Rodebush. bibliog Am Chem Soc J 61:3252-6 D '39

Infrared absorption studies; NH-N and NH-O bonds. A. M. Buswell, J. R. Downing and W. H. Rodebush. bibliog Am Chem Soc J 62:2759-65 O '40

Infrared absorption studies of some hydrocarbons. F. T. Wall and G. W. McMillan. bibliog Am Chem Soc J 62:2225-7 Ag '40

Infrared arc spectrum of germanium. C. C. Kiess. bibliog J Research Nat Bur Stand 24:1-5 Ja '40

Infra-red spectra of polyatomic molecules. D. M. Dennison. Rs Mod Phys 12:175-214 bibliog(p213-14) Jl '40

Infra-red spectroscopy in industrial research. Sci Am 162:101-2 F '40

Infrared spectrum of potassium cyanate solutions. D. Williams. Am Chem Soc J 62: 2442-4 S '40

Infrared studies of the porphyrin molecule. C. S. Vestling and J. R. Downing. bibliog Am Chem Soc J 61:3511-13 D '39

Pressure effect on infra-red absorption. J. Strong and K. Watanabe. Phys R 57:1049 Je 1 '40

SPECTRUM, Infrared—*Continued*
Spectra of lead hydride and tin hydride in the near infra-red. W. W. Watson and R. Simon. Phys R 57:708-9 Ap 15 '40
Spectroscopic evidence for hydrogen bonds: SH, NH and NH_3 compounds. W. Gordy and S. C. Stanford. bibliog Am Chem Soc J 62:497-505 Mr '40
Transmission of infra-red light by fog. J. A. Sanderson. bibliog Opt Soc Am J 30: 405-9 S '40

SPECTRUM, Solar
Proposed standard solar-radiation curves for engineering use. P. Moon. bibliog Franklin Inst J 230:583-617 N '40

SPECTRUM, Ultraviolet
Change of the ultraviolet absorption spectrum of acrolein with time. A. M. Buswell and others. bibliog Am Chem Soc J 62:325-8 F '40
Drying oils and resins; ultraviolet absorption study of esters of the acids of drying oils. T. F. Bradley and D. Richardson. bibliog il diag Ind & Eng Chem 32:963-9 Jl '40
Estimate of the absorption of air in the extreme ultraviolet. E. G. Schneider. il Opt Soc Am J 30:128-32 Mr '40
Push-pull photoelectric photodensitometer for determining fine structure in ultraviolet absorption spectra. J. R. Loofbourow. bibliog diag Opt Soc Am J 29:535-7 D '39
Ultra-violet absorption spectra of nitrogenous heterocyclic compounds; effect of *p*H and irradiation on the spectrum of adenine. J. R. Loofbourow and M. M. Stimson. Chem Soc J p844-8 Jl '40
Ultra-violet absorption spectra of nitrogenous heterocyclic compounds; effect of pH and irradiation on the spectrum of barbituric acid. J. R. Loofbourow and M. M. Stimson. Chem Soc J p1275-7 S '40
Ultraviolet absorption spectra of organic molecules; the dependence upon restricted rotation and resonance. M. T. O'Shaughnessy and W. H. Rodebush. Am Chem Soc J 62:2006-11 N '40
Ultraviolet absorption spectra of some derivatives of 1,2-benzanthracene. R. N. Jones. bibliog Am Chem Soc J 62:148-52 Ja '40

SPECTRUM, X ray
Copper and nickel X-ray $K\beta_2$- and $K\beta_5$-emission lines and *K*-absorption limits in Cu-Ni alloys. H. Friedman and W. W. Beeman. Phys R 58:400-6 S 1 '40
Fine structure of the X-ray absorption limits of bromine and chlorine. T. M. Snyder and C. H. Shaw. bibliog Phys R 57:881-6 My 15 '40
K-absorption edges and $K\beta_{2,5}$-emission lines of two Zn-Ni alloys. J. A. Bearden and W. W. Beeman. Phys R 58:396-9 S 1 '40
K-absorption edges of Br (35) and Kr (36). C. H. Shaw. Phys R 57:877-81 My 15 '40
Luminous and high resolving universal X-ray spectrograph. E. Ingelstam. il R Sci Instr 11:160-4 My '40
X-ray emission spectra and electronic energy bands of compounds. J. Valasek. bibliog Phys R 58:213-18 Ag 1 '40
X-ray $K\beta_{2,5}$-emission lines and *K*-absorption limits of Cu-Zn alloys. J. A. Bearden and H. Friedman. bibliog Phys R 58:387-95 S 1 '40

Satellites
Double ionization by the Auger effect: the cause of a satellite intensity anomaly for the X-ray diagram line $M\alpha_1$. F. R. Hirsh, jr. il Phys R 57:662-3 Ap 1 '40
La satellite lines for elements Mo(42) to Ba(56). C. A. Randall and L. G. Parratt. bibliog Phys R 57:786-91 My 1 '40

SPECTRUM analysis
A.S.T.M. methods of chemical analysis of metals; analytical procedures for ferrous and non-ferrous metals; spectrochemical analysis methods. 250p $2.50; pa $2 Am. soc. for testing materials, Philadelphia '39
Analysis of organic materials for traces of metallic impurities. T. M. Hess, J. S. Owens and L. G. Reinhardt. bibliog Ind & Eng Chem Anal ed 11:646-9 D 15 '39
Correlation method for the elimination of errors due to unstable excitation conditions in quantitative spectrum analysis. S. Levy. bibliog J Ap Phys 11:480-7 Jl '40
Drying oils and resins; ultraviolet absorption study of esters of the acids of drying oils. T. F. Bradley and D. Richardson. bibliog il diag Ind & Eng Chem 32:963-9 Jl '40
Fast steel analysis by spectroscope. A. Fisher. il Steel 107:46-8 S 23 '40
Future of geophysics in the light of new developments; spectroscopic analysis of plant materials. H. Lundberg. Can Min J 61:225-6 Ap '40; Same. Engineer 170:265 O 25 '40
Identification of paraffins; analysis of paraffinic mixtures by means of Raman spectra. A. V. Grosse, E. J. Rosenbaum and H. F. Jacobson. bibliog il Ind & Eng Chem Anal ed 12:191-4 Ap 15 '40
Iron arc as a standard source for spectrochemical analysis. M. Slavin. bibliog diags Ind & Eng Chem Anal ed 12:131-3 Mr 15 '40
Modern analysis in the foundry; combustion-type carbon and sulphur determinators, and spectroscope equipment, Fairbanks, Morse & co. G. W. Zabel and J. Schuch. il Iron Age 145:31-7 My 2 '40
Qualitative spectrographic analysis in the arc, with graphite electrodes. W. C. Pierce, O. R. Torres and W. W. Marshall. il diag Ind & Eng Chem Anal ed 12:41-5 Ja 15 '40
Quantitative absorption spectrophotometry; an internal control method. J. S. Owens. Ind & Eng Chem Anal ed 11:643-6 D 15 '39
Quantitative analysis of plant tissues for lithium by the ramage flame spectrographic method. N. L. Kent. il diag Soc Chem Ind J 59:148-53 Jl '40
Quantitative spectrochemical analysis by measurement of relative intensities. E. K. Jaycox and A. E. Ruehle. bibliog Ind & Eng Chem Anal ed 12:195-6 Ap 15 '40
Quantitative spectrochemical analysis of dilute solutions; a safe alternating current high-voltage arc circuit. A. E. Ruehle and E. K. Jaycox. bibliog diag Ind & Eng Chem Anal ed 12:260-1 My 15 '40
Quantitative spectrographic analysis. J. T. M. Malpica. Gen Elec R 43:288-97, 333-5 Jl-Ag '40
Quantitative spectrographic analysis with the microphotometer. D. M. Smith. Engineering 149:589 Je 14 '40
Solution method for spectrographic analysis; utilizing a dropping electrode. R. J. Keirs and D. T. Englis. bibliog diag Ind & Eng Chem Anal ed 12:275-6 My 15 '40
Some applications of the spectrograph to the quantitative analysis of ferrous and non-ferrous metals. F. G. Barker. bibliog Iron & Steel Inst J 139:211-45, pl 6-15 no 1 '39; Same cond. Engineer 167:601-4, 629-32 My 12-19 '39; Same cond. Engineering 147:572-4, 605-7 My 12-19 '39; Discussion. Iron & Steel Inst J 139:246-55 no 1 '39; Engineer 167:626 My 19 '39; Engineering 147:586 My 19 '39
Spectrochemical analysis; a composite of abstracts. Metals & Alloys 12:576+ O '40
Spectrochemical analysis of metals. L. Griffith. Can Chem & Process Ind 24:311-12+ Je '40
Spectrochemical analysis of sheet steel at the Great Lakes steel company. R. A. Sawyer and H. B. Vincent. il diag J Ap Phys 11:452-8 Jl '40
Spectrographic analysis of lead and its alloys. J. N. Mrgudich. il Iron Age 146:21-5 Ag 29; 40-3 S 5 '40
Spectrographic analysis of steel. J. L. Gregg and P. R. Irish. il Iron Age 145:33-7 My 9 '40
Spectrographic analysis of tin. J. W. Stewart. bibliog diag Am Soc T M Proc 39:788-93; Discussion. 794 '39
Spectrographic determination of trace elements in soils; the cathode layer arc. R. L. Mitchell. Soc Chem Ind J 59:210-13 S '40
Spectrographic determination of trace elements in soils; the variable internal standard method, applied to the determination of chromium in the cathode layer arc. A. M. M. Davidson and R. L. Mitchell. Soc Chem Ind J 59:213-16 S '40

SPECULATION

Ever-liquid account; acid test of successful investment or speculation. G. M. Loeb. Barron's 20:7 Ap 8 '40

How to trade in stocks; the Livermore formula for combining time element and price. J. L. Livermore. 133p $2.50 Duell, Sloan & Pearce, 270 Madison av, New York '40

Is stock speculation finished? past declines were followed by recovery. B. Ravits. Barron's 20:8 Jl 8 '40

Making the most of stop-loss orders; level 16% below highest close held preferable for traders in volatile stocks. J. S. Dunham. Barron's 20:13 Mr 25 '40

New wrinkle in election bets; traders in options find puts and calls convenient way of making their own odds. Business Week p59-61 O 26 '40

Recognizing danger zones created by the concentrated placement of stop-loss orders. F. K. Dodge. Mag of Wall St 66:94-5 My 4 '40

Wall Street's grocery stores; growing number of New York stock exchange firms execute orders in commodities. M. W. Jiler. il Nation's Business 28:53-4, 56-7 N '40

See also

Arbitrage
Brokers' loans
Investments
Securities
Stock exchange

SPECULUM metal

Speculum metal revived. Iron Age 145:44 Mr 21 '40

Speculum or white bronze plating. Iron Age 145:50 Je 20 '40

SPEECH

Abnormal speech. E. J. Boome, H. M. S. Baines and D. G. Harries. 162p bibliog(p152-4) $2.50 Sherwood press, Cleveland '39

Carrier nature of speech. H. Dudley. il diags Bell System Tech J 19:495-515 O '40

Experiences in speaking. H. F. Seely and W. A. Hackett. 512p $1.72 Scott, Foresman and co, 623 S. Wabash av, Chicago '40

Handbook of voice and diction. F. L. D. Holmes. 279p $2 Crofts '40

Interpretation of the printed page; mental technique of speech. S. H. Clark. rev ed 402p $2 Prentice-Hall '40

Reversed speech; recording sound and then reproducing it with rotation of record reversed; throws light on habits of speech. E. W. Kellogg. RCA R 5:101-5 Jl '40

Vocoder, electrical re-creation of speech. H. Dudley. il plan W Soc E J 44:306-10 D '39

Voice and articulation drillbook. G. Fairbanks. 234p $1.25 Harper '40

See also

Stammering

SPEECHES

Anthology of public speeches. M. Platz, comp. 852p $3.75 Wilson, H.W. '40

Representative American speeches: 1938-1939. A. C. Baird, comp. Ref Shelf v 13, no 3:1-265 '39 ($1.25)

Representative American speeches: 1939-1940. A. C. Baird, comp. Ref Shelf v 14, no 1: 1-458 '40 ($1.50)

See also

Public speaking

SPEED

Four fastest; speed progress in automobiles, ships, airplanes, and trains. il Sci Am 162: 15 Ja '40

Study of the influence of speed on the torsion impact test. O. V. Greene and R. D. Stout. il diags Am Soc T M Proc 39:1292-8 '39

See also

Railroads—Train speed
Velocity

SPEED indicators

See also

Tachometers

SPEED variation

Adjustable-speed drive speeds cable making. il Steel 106:49 Ja 22 '40

Adjusting centrifugal-pump speed cuts operating costs; use of hydraulic coupling. A. Peterson. il Power 84:426-7 Jl '40

Adjusting pulley sizes to give speed suited to material in process. diags Textile World 90:108 O '40

Appareil de changement de marche continu par engrenages. C. F. Couleru. diags Génie Civil 116:14 Ja 6 '40

Automatic speed control in sizing. il Rayon 21:643 O '40

Divided pumping units improve output control. A. Peterson. diags Power 84:578-9 S '40

E-M magnetic drive. il Blast F & Steel Pl 28:286-7 Mr '40

Electric-tie transmissions; new power or motion transmitting system ties movement at two or more points without mechanical connection. C. W. Drake. diags Steel 106:47-8+ Je 17 '40

Fluid drive in Canadian paper mills for speed control of rotating screen cylinders of vacuum filters. il diag Paper Tr J 111: 14-15 Jl 11 '40

General Electric speed-variator equipment. il Ry Mech Eng 114:416 O '40

Governing of Diesel engines. O. F. Zahn, jr. diags Automotive Ind 82:456-65 My 15 '40

Hydraulic coupling for variable speed machines. il diag Pulp & Pa of Can 41:698-700 S '40

Kansas City pumping station; hydraulic coupling to vary speed of pump; abstract. C. S. Timanus and R. L. Baldwin. Eng N 124:665 My 9 '40

Laboratory electric stirring motor; ball bearing pulley assembly. E. B. Hershberg. il diags Ind & Eng Chem Anal ed 12:293-6 My 15 '40

Mechanical power transmission. il diags Chem & Met Eng 47:482-8 Jl '40

Mechanical transmissions; V-belt and variable-speed. il Rayon 21:707-9 N '40

Mercury switches control speed of reel motor. A. W. Siewert. il Factory Management 97:78 D '39

Motch & Merryweather hydraulic cold sawing unit has nine speeds. il Steel 107:70 Ag 26 '40

New alternating-current adjustable-speed motor made by Louis Allis co. il diag Steel 106:66 Mr 11 '40

New clutch has high torque at low slip; eddy current clutch. R. J. Owen. diag Elec W 113:1090+ Ap 6 '40

New power transmission equipment. F. J. Oliver. il Iron Age 145:37-41+ Ja 11 '40

New speed control system heads off changes before they occur; gyroscopic governor. il Steel 107:44+ Jl 29 '40

One-speed control proves efficient in gasoline plant. flow diag il Oil & Gas J 38:42 Ja 18 '40

Reducing hydraulic dredge operation cost; use of speed control for main pump drive; two systems, Kraemer and Scherbius. B. M. Mills. il diags Eng N 124:598-601 Ap 25 '40

Reeves variable speed control equipment. il(p168) Automotive Ind 83:171 Ag 15 '40

Single-phase capacitor motors; methods of starting and speed control. diags Electrician 125:15 Jl 12 '40

Smooth speed control of wound-rotor motors with special reactors. H. E. Larson. diag Power 84:607-8 S '40

Speed adjustment; variable- and adjustable-speed alternating-current motors. F. A. Annett. diags Power 84:228-9 Ap '40

Speed as you like it with V-belts. il diag Power 84:467-8+ Jl '40

Speed control, direct current motors. F. A. Annett. diags Power 84:95 F '40

Straight-line sheet galvanizing; Wheeling steel corp. D. A. McArthur and R. A. Geuder. il plans Iron Age 145:38-41 Ap 11 '40

Stufenlos regelbare schaltwerksgetriebe. F. G Altmann. il diags V D I 84:333-8 My 18 '40

Suiting the motor to the process; torque and speed control: Schräge motor. Electrician 123:406 N 3 '39

SPEED variation—*Continued*
Theory and design of NEMA resistors for motor starting and speed control. G. C. Armstrong. diag Elec Eng 59:Trans 277-81 My '40
Variable-diameter pulley for speed adjustment. il diag Product Eng 11:349 Ag '40
Variable speed drives for textile finishing operations. C. H. S. Tupholme. Textile Col 62:334-7 My '40
Variable speed drives; Schräge motor. Electrician 123:330 O 6 '39
Variable speed through electronic control; Rivett 1020 cabinet lathe. il diags Product Eng 11:244-7 Je '40
Wide speed control on press power unit. il Power 84:258 Ap '40

SPEEDOMETERS
Electronic typewriting speedometer. B. Ephraim. diags Electronics 12:32+ D '39
Producing 1,750,000 speedometers a year; manufacturing eighteen basic types of automotive equipment; Stewart-Warner corp. J. Geschelin. il Automotive Ind 82:94-102 F 1 '40

SPELLING
See also
Compound words

SPELLING reform
Two sides to reforms in spelling. E. N. Teall. Inland Ptr 105:74 My '40

SPENDING. See Consumption (economics); Government expenditures

SPERMATOZOA
Sperm agglutination in the keyhole limpet and the sea-urchin. A. Tyler and S. W. Fox. Science 90:516-17 D 1 '39

SPERRY corporation
Sperry; the corporation. il Fortune 21:52-6+ My '40

SPERRY gyroscope company
Sperry's spinning wheel; gyroscope. il diags Fortune 21:57-64+ My '40

SPHAEROTILUS
Role of sphaerotilus in activated sludge bulking; abstract and discussion. C. C. Ruchhoft and J. F. Kachmar. Water Works & Sewerage 87:466-7 O '40

SPHALERITE
Minor elements in sphalerite. R. E. Stoiber. bibliog Econ Geol 35:501-19 Je '40
Solution and precipitation of lead and zinc sulphides in sodium sulphide solutions. F. G. Smith. bibliog il Econ Geol 35:646-58 Ag '40
Sphalerite and galena in sedimentary rocks in Ohio. K. Ver Steeg. Science 92:259 S 20 '40

SPHERE gap. See Spark gap

SPHERICAL surfaces
Buckling of spherical shells by external pressure. T. von Kármán and H. Tsien. bibliog J Aeronautical Sci 7:43-50 D '39
Grinding spherical shapes in a lathe. J. W. Gerdel. diags Mach 46:263-4 D '39
Machining spherical surfaces. S. Porritt. diags Am Mach 84:91 F 21 '40

SPHEROIDIZING of steel. See Steel—Metallography; Steel, Heat treatment of

SPICER, Clarence Winfred, 1875-1939
Sketch. por S A E J 46:sup20-1 Ja '40

SPICER manufacturing corporation
Dynamic specialties; thumbnail appraisal. Mag of Wall St 66:234 Je 1 '40

SPICES
Effects of storage on microbial content of spices. H. W. Smith. Food Ind 12:52+ N '40
Keeping quality of packaged ground spices; abstract. C. Griebel and G. Hess. Food Ind 12:88 Ag '40
Perfumes and spices. A. H. Verrill. 304p $3 L. C. Page & co, Boston '40
Spice oils give uniform flavor; experience in replacing dry spices for pickle manufacture with spice essential oils and oleoresins. A. H. Downey. il Food Ind 12:54-5 S '40
Treated spices reduce spoilage on fresh pork sausage. H. W. Smith. bibliog il Food Ind 12:50-1 N '40

Advertising
Why Mrs America is growing more and more spice-conscious; American spice trade and Durkee advertising. il Sales Management 45:46, 48, 51 D 1 '39

Statistics
Spices. Published in weekly numbers of Oil, paint and drug reporter

SPIDERS
Black widow spiders; hazards and precautions. Nat Safety N 41:40+ Je '40
Unusual infestation of a ship with black widow spiders. Pub Health Rep 54:2195-6 D 15 '39

SPIEGEL, incorporated
Dividend paying stock selling near quick asset value. Mag of Wall St 66:535-6 Ag 10 '40
Statistics of income, capital, stock earnings, etc. 1929-39. Annalist 55:525 Ap 11 '40

SPIEGELEISEN
Monthly price averages for eleven years, 1929-1939; tabulation. Steel 106:284 Ja 1 '40

SPILLWAYS
Concrete surfaces improved by absorptive form lining for spillways of high dams. il Eng N 124:40-2 Ja 4 '40
Design of a high-head siphon spillway. E. Rock. diags Am Soc C E Proc 65:607-18 Ap '39; Discussion. 65:1098-1100, 1469-72, 1641-6; 66:666-70 Je, O-N '39, Ap '40
Design of Hiwassee dam. C. E. Pearce. diags plan Civil Eng 10:342-3 Je '40
Find way to eliminate voids under forms on concrete surface; form lining of absorptive insulating board. C. O. Crane. il Concrete 48:5-6+ Mr '40
Flash-board pins; formulas and stress values for the design of pipe supports. C. A. Wright and C. A. Betts. bibliog il diags plan Am Soc C E Proc 65:771-803 My '39; Discussion. 65:1628-34, 1803-4; 66:185-90, 671-2 N '39-Ja, Ap '40
Foundation conditions and treatment at Guntersville dam. V. Gongwer. il Am Soc C E Proc 66:436-9 Mr '40
Lead seal for Tainter gates. O. N. Floyd. diags Eng N 123:763 D 7 '39
Method of determining lip of circular pipe spillway. P. J. Cannell. diag Civil Eng 10:450-1 Jl '40
Model studies of overflow spillway sections. A. S. Offitzeroff. Civil Eng 10:523-6 Ag '40
Model study of Green Mountain Dam spillway. J. H. Douma. il diags Civil Eng 10:153-6 Mr '40
Outside rods hold semi-circular concrete form without interior ties; spillway section of Guntersville dam. il diags Eng N 125:489 O 10 '40
Probable maximum flood flow from a small watershed. J. K. Bartlett and T. G. Pfiffner. Civil Eng 10:233-5 Ap '40
Small dam for a big job; Cranston Pond project in Rhode Island; inclusion of fish ladder. C. A. Frye. il diags Eng N 124:726-8 My 23 '40
Two hydraulic models; spillways of Idanha and Pego do Altar dams. il diags plan Engineer 170:212-14 O 4 '40
See also
Dams

SPINAL cord
Cerebrospinal pathology of experimental poliomyelitis in the eastern cotton rat, sigmodon hispidus hispidus, and in the white mouse, mus musculus. R. D. Lillie and C. Armstrong. Pub Health Rep 55:718-25, pl 1-4 Ap 25 '40

SPINASTEROL
Constitution of α-spinasterol. E. Fernholz and W. L. Ruigh. Am Chem Soc J 62:2341-3 S '40

SPINDLES (machine tools)
New die-milling method; abstract. F. J. Trecker. diags Mech Eng 62:740-1 O '40
Testing alignment of tailstock spindles. H. Moore. diags Am Mach 84:508 Jl 10 '40

SPINE
Injured back and its treatment. J. D. Ellis, ed. 377p $5.50 Charles C. Thomas, 220 E. Monroe st, Springfield, Ill. '40

Fractures
In case of accident. H. E. Conwell. il Sci Am 162:169-70 Mr '40

SPINNING
See also
Cotton spinning
Rayon spinning
Woolen and worsted spinning
Yarn

Tables, calculations, etc.
Production-efficiency chart; roving and spinning frame calculations. S. V. Mehn. Textile World 90:84 S '40

SPINNING machinery
Characteristics and power requirements of spinning frames. E. A. Untersee. Elec Eng 59:Trans 1-4, 336-8 Ja, Je '40
H & P American machine co. ring twister. il Textile World 90:77 Ja '40
Long-drafting practice in cotton mills. il Textile World 90:80-1 My '40
90,000 new spindles; Pacific Mills' program of modernization. il Textile World 90:62-3 Je '40
Production-efficiency chart; roving and spinning frame calculations. S. V. Mehn. Textile World 90:84 S '40

Cleaning
Cleaning schedule for Super-draft speeders; abstract. C. L. Carrow, jr. Textile World 89:84 D '39

Lubrication
Spinning frame oiled in 1 min. il Textile World 89:105 N '39

Testing
Spindle vibrometer. W. W. Egee. il Textile World 90:67-8 Je '40

SPINOR equations
Spinor equations for particles with arbitrary spin and rest mass zero. J. S. de Wet. Phys R 58.236-42 Ag 1 '40

SPIRALS
Simple formula aids in running spirals. C. W. Charleson. Civil Eng 9:740-1 D '39

SPIRO compounds
Spirochromans. J. B. Niederl and R. H. Nagel. Am Chem Soc J 62:324-5 F '40

SPIROCHETES
Ornithodorus hermsi; feeding and molting habits in relation to the acquisition and transmission of relapsing fever spirochetes. G. E. Davis and M. E. Walker. Pub Health Rep 55:492-504 Mr 22 '40

SPIROCHETICIDES
Relation between the trypanocidal and spirocheticidal activities of neoarsphenamine; the spirocheticidal activity of the several American brands of neoarsphenamine. T. F. Probey. bibliog Pub Health Rep 54:2242-7 D 22 '39

SPLICES. See Knots and splices

SPLINES. See Keys and keyways (machinery)

SPODUMENE
Beneficiating raw materials by froth flotation. J. Norman and E. W. Giesecke. Concrete (mill sec) 48:216-17 Ag '40

SPOILAGE
Exposing waste to fight it; scrap display tables, review of rework orders, and employees' scrap records; Addressograph-multigraph corporation. J. E. Sturm. il Factory Management 98:58-9 Jl '40
See also
Salvage (waste, etc.)

SPONGES
Florida sponge grounds devastated by disease. Oil Paint & Drug Rep 137:33B Mr 11 '40

SPONTANEOUS combustion
Fire hazards of bleaching; fires in furniture factories caused by hydrogen peroxide. Safety Eng 79:33-4 F '40
Hay fires that start themselves. H. E. Roethe. Nat Safety N 42:54 Ag '40
Ignition and ignitibility. H. C. Porter. bibliog il Ind & Eng Chem 32:1034-6 Ag '40
Spontaneous combustion of Egyptian sugar cane molasses. C. A. Browne. il Ind & Eng Chem News ed 17:734-6 D 10 '39
Spontaneous ignition: four groups of substances. Nat Safety N 42:61 O '40

SPORTING goods
See also
Baseballs
Football helmets
Golf balls

Advertising
Promoting the pro; Wilson sporting goods campaign, mentioning no merchandise, sells services of club professional to golfers. il Ptr Ink 190:19-20 Mr 8 '40

SPORTS
Design decade. il diag plan Arch Forum 73: 238-49 O '40
See also
Recreation areas

SPOT analysis. See Microanalysis

SPOT radio. See Radio advertising--Spot radio

SPOT stocks. See Warehousing

SPOT test. See Microanalysis

SPOT welding. See Electric welding

SPOTTED fever. See Rocky Mountain spotted fever

SPRAY drying. See Drying

SPRAY guns. See Spraying apparatus

SPRAY painting. See Paint spraying

SPRAY residue on fruits and vegetables
Avoiding obvious residue from nicotine-bentonite sprays. C. G. Vinson and S. A. McCrory. Science 92:79 Jl 26 '40
Fruit spray residue limits not raised. Oil Paint & Drug Rep 138:5+ Ag 5 '40
Lead, arsenic residue tolerances increased. Oil Paint & Drug Rep 138:5+ Ag 19 '40
Spray residue tolerances for apples and pears. Ind Stand 11:229 S '40

SPRAYING and dusting
Calculation of particle trajectories. C. E. Lapple and C. B. Shepherd. bibliog Ind & Eng Chem 32:605-17 My '40
Green dragon of the tropics; banana fungus, cercospora musae zimm, called sigatoka. C. M. Wilson. il Sci Am 162:199-202 Ap '40
See also
Spraying materials

SPRAYING apparatus
Accelerated spray test for the corrodibility of ferrous materials. T. Swinden and W. W. Stevenson. diag Engineer 170:216-17 O 4 '40
Air cleaners for clean spraying of organic finishing materials. L. F. Johnston. il diags Metal Ind 38:297-9 My '40
Disinsectization of aircraft. C. L. Williams. diags Pub Health Rep 55:1005-10, pl 1-2 Je 7 '40
Limmer and Trinidad Lake asphalt co.; new method of applying asphalt by gunning. Chem & Ind 59:647 S 14 '40
No fumes from this meter jewel cleaner; inclosed carbontetrachloride spray device. il diags Elec W 114:1182-3 O 19 '40
Pistol that sprays powdered metals and plastics; Schori pistol. R. G. Skerrett. il diag Comp Air M 45:6057-60 Ja '40
Reducing the cost of metal spraying; new gun uses acetylene, propane, natural gas, or coal gas. E. T. Parkinson. il Steel 107: 46-9 S 9 '40
Spray rinsing. J. D. Tierney. il diags Steel 105:63, 66+ D 4 '39
Storts high velocity spray rinse for plated work. il Metals & Alloys 11:MA2 Ja '40

SPRAYING materials
Distribution of nicotine between water and petroleum oils. L. B. Norton. bibliog Ind & Eng Chem 32:241-4 F '40
See also
Insecticides
SPREADING
Pressure-soluble and pressure-displaceable components of monolayers of native and denatured proteins. I. Langmuir and D. F. Waugh. diags Am Chem Soc J 62:2771-93 O '40
Spreading of binary mixtures of volatile organic liquids on water. C. P. Keim and E. R. Washburn. bibliog Am Chem Soc J 62:2318-20 S '40
Spreading of volatile organic liquids on water in the presence of unimolecular films. E. R. Washburn and C. P. Keim. bibliog Am Chem Soc J 62:1747-9 Jl '40
See also
Films
SPRINGER, Alfred, 1854-
American chemical society and Dr Springer. Science 91:137 F 9 '40
SPRINGFIELD, Illinois
Family income and expenditure in nine cities of the east central region, 1935-36; v. 1, Family income. A. D. H. Kaplan, F. M. Williams and R. Hellman. map U S Bur Labor Statistics Bul 644:1-538 '39
Water supply
Sterilization of new mains at Springfield. S. T. Anderson. Am Water Works Assn J 32: 645-8 Ap '40
SPRINGFIELD, Massachusetts
Sewerage
New England's newest sewage works. E. J. Cleary. il diags Eng N 125:396-401 S 26 40
SPRINGFIELD fire and marine insurance companies
Annual statements, 1939. East Underw 41:26 F 16 '40; Nat Underw 44:5+ F 15 '40
Parent company's 90th birthday. Weekly Underw 142:536 Mr 2 '40
SPRINGS
See also
Geysers
Hot springs
SPRINGS (mechanism)
Austempering improves valve springs. A. Oreffice. Metal Prog 38:71 Jl '40
Belleville springs for spring thrust loaded spindles. W. W. Boyd. diag Product Eng 11:66 F '40
Calculation of helical compression springs; discussion of paper by H. C. Keysor. I. Opatowski. Mech Eng 62:755 O '40
Endurance of valve springs. A. Oreffice. Metal Prog 36:759 D '39
Factors in the fatigue of helical springs. R. R. Tatnall. il Mech Eng 62:289-92 Ap '40; Same. Engineering 150:36-7 Jl 12 '40; Discussion. Mech Eng 62:752-5 O '40
Federgelenke im messgerätebau. H. Stabe. bibliog diags V D I 83:1189-96 N 11 '39
Helical spring selection chart; reference book sheet. A. C. Rasmussen. Product Eng 11: 433-4 S '40
Micrometer attachment for measuring coil springs. H. Moore. diag Mach 46:112 Ag '40
Spring tension varied automatically on a wire-forming machine. L. Kasper. diags Am Mach 84:509-10 Jl 10 '40
Springing of colliery tubs; buffer springing and spring drawbar gear. diags Mech Handling 27:163-4 Jl '40
Theory and design of springs. F. M. Cousins. 99p bibliog(p97-9) Edwards bros, Ann Arbor, Mich. '40
Up, down and sideways; use of cork, felt, and springs for isolation of vibratory air conditioning machinery. il diags Dom Eng 155:44-5+ Je '40
Valve-spring design data; abstract. L. H. Dawtrey. Automotive Ind 83:266 S 15 '40
See also
Automobiles—Springs and suspension
Motor buses—Springs and suspensions
Car springs
Manufacture
Coil springs for Buicks. il Steel 107:46-7 Jl 15 '40
Laminated springs; production methods, Jonas Woodhead and sons. il Automobile Eng 30: 3-7 Ja '40
Testing
Emmericher spring-testing machine. il Automobile Eng 30:152 My '40
Measures torque of instrument springs. diag Elec W 114:422 Ag 10 '40
Simple method of timing the recoil action of springs. M. Jacker. diags Mach 47:139 O '40
Woodhead power presses. il diag Automobile Eng 30:102-3 Ap '40
SPRINKLERS
Lawn sprinklers; rating. il Consumers' Research Bul (Gen bul ser) 9:6-8 Je '40
SPRINKLING systems
Efficient utilization of water for fire fighting. C. Goldsmith. Am Water Works Assn J 31: 2028-30 D '39
How an acetate rayon plant assures fire protection; carbon dioxide system, hand extinguishers and sprinklers. M. B. Morgan. il plan Chem & Met Eng 47:403-5 Je '40
Pressure rise in sprinkler systems. Power Pl Eng 43:801 D '39; Solutions. diags 44:83-4, 86, 88 F '40
Save $25 a year in valve room heating. K. N. Banthin. Elec W 113:1912 Je 15 '40
Tighten defense against fire. il Safety Eng 80:31-2 Ag '40
Freezing
How to prevent freeze-ups in fire protection equipment; Associated factory mutual fire insurance companies. Factory Management 97:79-80 D '39
SPROCKET wheels
Manufacture
Knocking out sprockets; Cleveland tractor company. il diags Am Mach 84:414-15 Je 12 '40
SPRUCE
Decay in insect-killed spruce in Gaspé. C. G. Riley. Pulp & Pa of Can 41:611-12 Ag '40
Density and rate of growth in the spruces and balsam fir of eastern Canada. J. D. Hale and J. B. Prince. (Dominion forest service bul. 94) 43p Canada. Dept. of mines and resources, Ottawa '40
Economic possibilities of using high density wood. C. McMichael and R. J. McInnis. Pulp & Pa of Can (Convention no) 41:194-5 [F] '40
Heart bluestain of white spruce and balsam fir. I. H. Crowell. il Pulp & Pa of Can 41: 451-2 Je '40
Preparation and marketing of spruce sawmill waste for chemical-pulp chips in Quebec and the Maritime provinces. E. S. Fellows. 16p Canada. Dept. of mines and resources, Forest products laboratories, Ottawa '39
Some economic aspects of the use of sawmill waste for chemical pulp in Quebec and the maritime provinces. J. B. Prince and E. S. Fellows. Pulp & Pa of Can (Convention no) 41:185-90 [F] '40
Spruce waste in the sawmills of Quebec and the Maritime provinces. J. B. Prince. 9p Canada. Dept. of mines and resources, Forest products laboratories, Ottawa '39
Structure of the ethanolysis products from spruce and maple wood. L. Brickman and others. Am Chem Soc J 62:986 Ap '40
Studies on lignin and related compounds; identification of vanillin and vanilloyl methyl ketone as ethanolysis products from spruce wood. L. Brickman, W. L. Hawkins and H. Hibbert. Am Chem Soc J 62:2149-54 Ag '40

SPRUCE—*Continued*
Toughness testing machine developed; determining quality of spruce used in aircraft. Civil Aero J 1:428 S 15 '40
West Coast woods of the Douglas fir region. diags Am Bld 62:78-80 Ja '40

SPRUCE sawfly
Spruce sawfly outbreak in 1939. R. E. Balch. map Pulp & Pa of Can 41:249-53 F '40

SPRUE
Cause of sprue; failure of pituitary gland. E. B. Vedder. Science 90:supl0 N 24 '39

SQUARE (instrument)
ABC of the steel square and its uses. F. T. Hodgson. 136p Drake '40
Draft specification of engineers' squares. Engineering 149:436 Ap 26 '40
Steel square, F. T. Hodgson. 2d ed 246p, 231p $2 Drake '39
Steel square; uses. G. Townsend. diags Am Bld 62:67+ F; 81+ Mr; 106-7+ Ap; 74-5+ My; 78, 92-4+ Je; 72-3+ Jl; 60-1+ Ag; 57+ S '40

SQUARE D company
Another look. Mag of Wall St 65:627 F 24 '40
Earnings, 1936-39. Comm & Fin Chr 150: 2269-70 Ap 6 '40

SQUARE root
Simplified extraction of the square root. A. Di Lorenzo. Civil Eng 10:309 My '40

SQUARE root extractor
Square root extractor; useful in calculating the total volume flow. H. D. Green. il diags R Sci Instr 11:262-4 Ag '40

SQUASH
Ascorbic acid oxidase from summer crookneck squash (C. pepo condensa). P. L. Lovett-Janison and J. M. Nelson. bibliog Am Chem Soc J 62:1409-12 Je '40

SQUIBB, E. R., and sons
Administration of the E. R. Squibb and sons award; will be given for most meritorious scientific report dealing with hormones. Science 92:423 N 8 '40

STABILIZATION in industry
Can production of automobiles be stabilized by making their prices flexible? W. I. King. Am Statis Assn J 34:641-51 D '39
Concept of demand and price elasticity; the dynamics of automobile demand. C. F. Roos and V. von Szeliski. Am Statis Assn J 34: 652-66 D '39
National welfare and business stability; the permanent functions of public spending. J. Bauer. 182p bibliog(p179-80) $2 Harper '40
Profit in a union contract. J. Baker. Advanced Management 5:63-7+ Ap-Je '40
Stabilizing jobs and wages through better business management. H. Feldman. 334p $3.50 Harper '40

See also
Business cycles
Economic planning
Economic policy
Employment—Stability
Industry
Production and sales, Coordination of
Unemployment—Relief measures

STABILIZERS. See Airplane stability and stabilizers; Gyroscope; Ships—Stability

STABILOMETERS. See Foundation soils—Testing

STABLES. See Barns and stables

STADIUMS
Baltimore stadium job boasts 325 kw. J. C. Fisher. il Elec W 113:1396 My 4 '40
Rigid arch frame spans 250-ft. arena; Indianapolis Coliseum designed for quick conversion from ice rink to livestock pavilion to convention hall. il Arch Rec 88: 47 Jl '40
Soil tests control stadium fill at Lynchburg, Va. G. Hadden. il diag Eng N 124:590-2 Ap 25 '40
Stadium in Helsinki. il Arch Forum 72:412 Je '40

STAGE lighting
Brighton's new theatre. il Elec R (Lond) 126:587 My 31 '40
Double feature for school plays; Santa Rosa junior college auditorium has remote control lighting system combining light and ventilation. il diag Elec West 85:50-1 N '40
Home-built lighting equipment for the small stage. T. Fuchs. 39p pa $2.50 Samuel French, 25 W. 45th st, New York '39
Method of lighting the stage. S. R. McCandless. rev ed 143p $1.50 Theatre arts, New York '39

STAGE setting and scenery. See Moving pictures—Setting and scenery; Theaters—Stage setting and scenery

STAGGERED hours
Reducing peaks through staggered hours of business and industry. J. A. Beeler. il Transit J 84:309-11 S '40

STAINED glass
Future of stained glass. W. D. Teague. Arch Forum 73:99-100 Ag '40
Stained glass craft. J. A. F. Divine and G. Blachford. 115p $1.75 Frederick Warne & co, New York '40
Stained glass of the middle ages in England & France. H. Arnold. 1939 ed 269p, 50 col pl $15 Macmillan (Toronto) '39

STAINLESS steel. See Steel, Stainless

STAINS
Asphalt gloss- and stain meter. A. P. Anderson and T. E. Reamer. il diag Ind & Eng Chem Anal ed 12:423-4 Jl 15 '40

Removal
See also
Cleaning

STAINS and staining (microscopy)
American azures in the preparation of satisfactory Giemsa stains for malaria parasites. M. A. Roe, R. D. Lillie and A. Wilcox. Pub Health Rep 55:1272-8 Jl 12 '40
Color atlas for fiber identification. J. H. Graff. 27p bds $12.50 Institute of paper chemistry, Appleton, Wis. '40
Direct method of determining the erythrocyte, leucocyte and thrombocyte count of fowl blood. F. W. Wetmore. Science 92:386 O 25 '40
Examination of damaged cotton by the Congo red test; further developments and applications. G. G. Clegg. Textile Inst J 31:T49-68, pl 1-11 My '40
Histological technic, including a discussion of botanical microtechnic. A. A. Krajian. 272p $3.50 C. V. Mosby co, St Louis '40
New technic for staining vaginal smears. E. Shorr. Science 91:321-2, 579-80 Mr 29, Je 14 '40
Rapid thick film blood stain; Wright-Giemsa method for blood parasites, particularly malaria parasites. L. Michelson and A. Wilcox. Pub Health Rep 55:1221-2 Jl 5 '40
Simple stain for tissue cultures. J. S. Craig. Science 92:226 S 6 '40
Staining of clay minerals as a rapid means of identification in natural and beneficiated products; with a general discussion on staining technique. G. T. Faust. bibliog U S Bur Mines Rep of Invest 3522:1-21 '40

See also Commission on standardization of biological stains

STAIRWAYS
Hold that rail! safety on stairways campaign; Illinois Bell telephone company. il Nat Safety N 42:72 O '40
Stair building. G. Townsend. 200p $2 American technical soc, New York '40
Stairways and ramps. Nat Safety N 41:93+ Mr '40
Storage; bookshelves in wall of stairway. il diag Arch Rec 88:64 Ag '40

STALIN, Joseph, 1879-
Stalin: czar of all the Russias. E. Lyons. 292p $2.50 Lippincott '40

STALING of coffee. See Coffee

STAMMERING
How to overcome stammering. M. F. Gifford. 169p bibliog(p159-64) $2.25; school ed $1.70 Prentice-Hall '40

STAMP plan. See Federal surplus commodities corporation; Food stamp plan

STAMP tax
Graduated farm land transfer stamp tax for checking speculative booms in land values. J. A. Baker. J Land & Pub Util Econ 16: 21-9 F '40
Stamp laws in relation to bankers. G. H. Fender. 2d ed 209p, 11p 6s Butterworth & co, London '38
Stamp taxes on legal documents; levies in various states. W. C. Porth. Credit & Fin Management 41:20-2 D '39

See also
Stock transfer tax

STAMPING
Aids for hand stamping. M. H. Ball. Am Mach 83:688 S 6 '39; Discussion. R. S. Alexander; M. Harris. diag 84:215-16 Ap 3 '40
Can we produce airplanes by stamping? E. V. Crane. il Aero Digest 37:36-8 Jl '40
Design and construction of metal stamping tools. C. L. Szalanczy. il Iron Age 144: 48-51 D 14 '39
Improved alloy developed for metal stamping dies; Kirksite A. Aero Digest 36:100 My '40
Multiple die castings vs. stampings for thin rings. R. L. Wilcox. il Metals & Alloys 12: 588 O '40
New die alloy aids drop-hammer work; contains zinc, aluminum, copper and magnesium; Kirksite A. W. W. Broughton. il Steel 107:52-3 Ag 26 '40
Producing aircraft stampings in the Douglas plant. H. Chase. il Metals & Alloys 12: 436-41 O '40
Rubber dies for metal stamping. il Rubber Age 47:392 S '40
Stamped or die cast; which, when and why! H. Chase. il diags Iron Age 145:36-9+ Ja 18 '40
Stamping; developments in 1939. Steel 106: 214+ Ja 1 '40
Stamping plant; power truck increases production; Strong mfg. co. W. U. Pfaeffli. il Steel 105:54, 56+ D 18 '39
Steel-faced cast iron dies for drop hammer work. J. H. Engel. il Iron Age 145:46-8 Mr 21 '40
Three in one stamping; one-piece construction incorporates fender, headlamp shell and portion of hood. il Steel 105:46-7 D 4 '39

STAMPS, Postage. See Postage stamps

STANDARD accident insurance company
To sell new stock in refinancing. East Underw 41:29 N 8 '40; Nat Underw 44:21 N 7 '40; Weekly Underw 143:1102 N 9 '40

STANDARD brands, incorporated
Earnings, 1938 and 1939. Comm & Fin Chr 150:1006 F 10 '40
Watches profit margins. W. Kraemer. Mag of Wall St 65:624-5+ F 24 '40

STANDARD Coosa-Thatcher company
Modernization at Piedmont shows way company keeps equipment up-to-date. il Textile World 90:52-4 Jl '40

STANDARD costs. See Cost accounting—Standard costs

STANDARD deviation. See Variation (statistics)

STANDARD gas and electric company
Annual report. Comm & Fin Chr 150:2743-4 Ap 27 '40
Assets behind Standard Gas & Electric bonds. J. F. Childs. Barron's 20:19 Ap 1 '40
Construction budget for 1940. B. W. Lynch. Comm & Fin Chr 150:517-18 Ja 27 '40
Files answer to SEC integration order. Comm & Fin Chr 150:3990-1 Je 22 '40
Plan of exchange; note and debenture holders offered San Diego consolidated gas & electric co. stock. Comm & Fin Chr 151:1291-2 Ag 31 '40
Standard gas and electric co. to meet the requirements of paragraph 11. Pub Util 25: 548-51; 26:37-8 Ap 25, Jl 4 '40
Trustee files accounting suit seeking recovery of funds from bankers and others. Comm & Fin Chr 150:1457 Mr 2 '40

STANDARD of living
Effect of manufacturing on the standard of living in Ohio. J. R. Robinson; R. K. Williams. bibliog Ohio State U, Eng Exp Sta Circ 37:1-31 '40
International survey of recent family living studies; families of unemployed workers. bibliog Int Labour R 41:645-62 Je '40
Methods of family living studies; income, expenditure, consumption. R. M. Woodbury. 144p bibliog(p115-18) pa $1 Int. labor office '40
Minimum standard of living; Britain should establish irreducible minimum as a war measure. Economist 139:4-5, 302-4 Jl 6, S 7 '40
U.S. and European living standards. Adv & Sell 33:35 S '40
War is changing the social structure; demands of the have-nots increase while wealth is being destroyed. J. T. Adams. Barron's 20:3 Je 10 '40
Why America lives as well as it does today. il Factory Management 98:B1-B12 Ag '40

See also
Budget, Household
Cost of living

STANDARD oil companies
Cash dividend payments for the first quarter of 1940. Comm & Fin Chr 150:1343 Mr 2 '40
Dividend payments, 1939. Comm & Fin Chr 149:3465-6 D 2 '39
Standard oil co. (N.J.). il map Fortune 21: 49-57+ Ap; 78-87+ My; 61-3+ Je '40

STANDARD oil company (N.J.)
Annual report for 1939. Comm & Fin Chr 150:3217-19 My 18 '40
Standard oil co. (N.J.). il Fortune 21:49-57+ Ap; 78-87+ My; 61-3+ Je '40

See also
Standard oil development company

STANDARD oil company of California
Earnings, 1936-39. Comm & Fin Chr 150:3066 My 11 '40

Laboratories
New research laboratory. R. A. Halloran. il Ind & Eng Chem Anal ed 12:312 My 15 '40

STANDARD oil company of Indiana
Big shows in nine cities launch Standard Oil's 1940 sales drive. il Sales Management 46:22-3+ F 15 '40
Company pays $92,000 voluntarily in wage-hour ruling. Nat Pet N 32:14 O 30 '40
First fifty, 1889-1939. F. L. Babcock. 57p Standard oil co (Indiana), Chicago '39
Standard of Indiana loses Pan-Am stockholders' suit. Nat Pet N 32:12 Je 12 '40

STANDARD oil company of Kansas
Earnings, 1936-39. Comm & Fin Chr 150:2270 Ap 6 '40

STANDARD oil company of New Jersey
Standard Oil acquires Buna patents; production in this country assured. India Rubber W 101:54 Mr '40

STANDARD oil company of Ohio
Annual report. Comm & Fin Chr 150:1788-9 Mr 16 '40
Celebrates its 70th anniversary. il Nat Pet N 32:17-18 Ja 17 '40
Recent progress. M. Pescatello. Barron's 20:13 Jl 22 '40

STANDARD oil company of Pennsylvania

Service buildings
Service stations on the Pennsylvania Turnpike. il Eng N 125:580-1 O 31 '40
Ventilating Pennsylvania's super-highway tunnels and Standard oil company service buildings. il diag plans map Heat & Ven 37:9-13 O '40

STANDARD oil development company
Achievement via group effort; award for chemical engineering achievement for 1939. Chem & Met Eng 46:750-3 D '39

STANDARD oil development company—*Cont.*
Triumph of a technology. S. D. Kirkpatrick. flow diags il Chem & Met Eng 46:670-8 N '39

STANDARD power and light corporation
To divest itself of Standard gas & electric co. holdings; would become investment trust. Comm & Fin Chr 151:2811 N 9 '40

STANDARD register company
How print shop slashed waste losses. T. Mills. il Inland Ptr 105:27-30 My '40

STANDARDIZATION
Federal government and standardization; chart showing the present organization, with analysis showing sections interested in standardization. J. H. Courtney. Ind Stand 10:279-81 N '39; Correction. 10:302 D '39
Flame hardening standardization. A. L. Hartley. il diags Iron Age 146:25-34 O 17; 34-8 O 24; 34-43 O 31; 54-63 N 7; 48-52 N 14 '40
Four gains in using printing standards. O. E. Freedman. Inland Ptr 105:25-7 Je '40
House subcommittee completes hearing on Boren bill; to establish standards for consumer goods. Ind Stand 11:40-1 F '40
La journée d'études et de propagande de la normalisation (Paris, 21 décembre 1939). P. Razous. Génie Civil 116:27-9 Ja 13 '40
Man's love of round numbers; new American standard rules for rounding off numerical values. P. G. Agnew. Ind Stand 11:230-3 S '40; Excerpts. Heating-Piping 12:606+ O '40
Measurement of motor vibration; cooperation of manufacturers through N.E.M.A. in standardizing method. W. R. Hough. il diag Elec W 112:1743+ D 16 '39
La normalisation en temps de guerre. Lhoste. Soc Ing Civils Mémoires 92:402-13 My '39
La normalisation: régulateur de l'économie, complément du progrès technique. J. Coutrot. Chimie & Ind 43:81-2 Ja 5 '40
Operating efficiency increased at Manvel by standardization. N. Williams. il diag Oil & Gas J 39:57+ Jl 11 '40
Product standards and labeling for consumers. A. L. Edwards. 134p bibliog(p125-7) $2.50 Ronald press '40; Review, by M. Gertz. Ind Stand 11:68-9 Mr '40
Reports of A.P.I. committees on the standardization of oil-field equipment. diags Am Pet Inst Proc 21M(4):145-277 My '40
Standard versus special; manufacture of gas furnaces. A. H. Koch. Steel 107:36-7 Jl 29 '40
Standardization and the Institute. F. M. Farmer. Elec Eng 59:395-7 O '40
Standardization in the field of mechanical packing. F. C. Thorn. India Rubber W 103:37-8 N '40
Standardization in the steel industry. R. E. Zimmerman. Ind Stand 11:242-4 S '40; Same. Steel 107:68+ N 11 '40
Standardization of airplane parts; abstract. J. T. Thompson. Science 92:supl0 N 8 '40
Standardization simplifies use of antifriction bearings. E. C. Reither. diags Min Cong J 26:21 Mr '40
Standardization, the automatic pilot of management; standards in merchandizing, selling, research; organizing the standardization. J. Gaillard. Advanced Management 4 no5:145-50 '39
Standards in our social order. P. G. Agnew. il Ind Stand 11:141-8 Je '40

See also
Color—Standards
Electric equipment—Standards
Electric standards
Fits (machinery)
Preferred numbers
Trade associations—Standardization work
Windows—Size
Wire rope—Standards
also American standards association

STANDARDS
American ceramic society; committee on standards. Am Cer Soc Bul 19:218-20 Je '40
ASTM annual meeting approves 77 new tentative standards. Ind Stand 11:214-19 Ag '40
A.S.T.M. approves new standards. Eng N 123:702-3 N 23 '39
Commercial standards and their value to business. 3d ed il U S Nat Bur Stand Commercial Standard CS0-40:1-22 '40
Consumer standards and marketing. D. E. Montgomery. Ann Am Acad 209:141-8 My '40
Diverse local standards bar free trade in many states; testimony submitted to TNEC. A. H. Martin, jr. diags Ind Stand 11:181-4 Jl '40
How standards eliminate trade barriers; testimony by P. G. Agnew before Temporary national economic committee. Ind Stand 11: 81-7 Ap '40
Materials standards in national preparedness. W. C. Young. Ind Stand 11:197-202 Ag '40; Abstract. Steel 107:25-6 Jl 1 '40
National defense production needs coordinated standards. A. Iddles. Ind Stand 11:165-9 Jl '40
1939 book of A.S.T.M. standards including tentative standards (a triennial publication). 3 pts pt 1, Metals; pt 2, Nonmetallic materials—constructional; pt 3, Nonmetallic materials—general. 1308p; 1217p; 1175p ea $8; set $22 Am. soc. for testing materials, 260 S. Broad st, Philadelphia '39
Rochester industry organizes to exchange ideas on standards. J. A. Thetford. Ind Stand 11:152-4 Je '40
Standards as an integrating community force. R. H. Lansburgh. Ind Stand 11:9-13 Ja '40
Standards bureau tests confidential; may not be used for advertising purposes. Oil Paint & Drug Rep 138:3 Jl 29 '40
Standards control quality in optical manufacture; American optical company. W. H. Lehmberg. il Ind Stand 11:249-51 O '40

See also
Electric standards
Preferred numbers
Products, Certification of
Quality of products
also subdivision Standards under various subjects, e.g.
Canned food
Color
Documentation
Office management
Safety standards
Textile standards
Time study
Weights and measures
Radioactive substances
Screw threads
Wire rope

Bibliography
ASA standards activities; standards approved since October. Ind Stand 10:291 N '39 [cont monthly]
French and Canadian standards received by ASA library. Ind Stand 11:135 My '40
New Australian, Canadian, and British standards. Ind Stand 11:236 S '40
New foreign standards available to members from ASA library. Ind Stand 10:307; 11:37, 71, 87, 162-3, 268 D '39, F-Ap, Je, O '40
Price list of American standards; indexed. 12p Am. standards assn, 29 W. 39th st, New York '40
Standards from Great Britain, South Africa, and Argentina. Ind Stand 11:204 Ag '40

STANDARDS, Engineering
Engineering standards in China. A. J. Percival. Elec R (Lond) 126:399-400 Ap 5 '40
How should engineers describe a surface? various machine parts and their surface requirements. O. R. Schurig. il Mech Eng 62:703-11 O '40

See also
Electric standards
Fits (machinery)
Standardization
also subdivision Standards under special subjects, e.g. Boilers—Standards

STANDARDS, Institute of. See Institute of standards

STANDARDS departments
Standardization, the automatic pilot of management; standards in merchandizing, selling, research; organizing for standardization. J. Gaillard. Advanced Management 4 no5:145-50 '39

STANDARDS of length
Sidelights on our weights and measures. P. Hoffman. il Comp Air M 45:6079-80 F '40

STANDARDS of measurement. See Measurement; Weights and measures

STANDPIPES
Maintenance of tanks and standpipes. W. S. Staub. diags Water Works & Sewerage 87: sup78-9 Ap '40
Useful life of iron and steel standpipes. C. W. Sherman. N E Water Works Assn J 54:149-54 Je '40; Discussion. A. V. Ruggles. 54:456-67 D '40

Freezing
Protection of standpipes in cold weather. H. G. Hunter. Can Eng 77:8+ O 3 '39; Same. N E Water Works Assn J 54:73-5 Mr '40

STANFORD university
Stanford university, California. S. B. Morris. il J Eng Educ 30:637-42 Ap '40

STANLEY, Robert Crooks
First Rand medalist; sketch. por Min & Met 21:512 N '40

STANNOUS chloride. See Tin chlorides

STANOLIND companies
Name new officers. Oil & Gas J 39:37 N 7 '40

STAPHYLOCOCCI
Biotin (bios IIB, vitamin H), an essential growth factor for certain staphylococci. J. R. Porter and M. J. Pelczar, jr. Science 91:576-7 Je 14 '40
New chemical remedy for staphylococcus throat infections; sulfamethylthiazol. Science 91:sup 14 Ap 19 '40
Vitamin B_6 as an accessory growth factor for staphylococcus albus. S. P. Vilter and T. D. Spies. Science 91:200-1 F 23 '40

STARCH
Acetolysis of methylated starch. S. Peat and J. Whetstone. Chem Soc J p276-80 Mr '40
Breaking strength, elongation, and folding endurance of films of starches and gelatin used in textile sizing. M. S. Furry. il diags U S Agric Tech Bul 674:1-36 bibliog(p35-6) '39
British starch industry. J. M. Faulds. Chem Age (Lond) 42:342+ Je 29 '40
Constitution of banana starch. E. G. E. Hawkins, J. K. N. Jones and G. T. Young. Chem Soc J p390-4 Ap '40
Disintegration of starch paste by irradiation with ultrasonic waves; abstract. S. Ono. Food Ind 12:88 N '40
Evaluation of calcium carbonate coating colors formulated with various adhesives. H. F. Roderick and A. E. Hughes. Paper Tr J 110:104-8 F 22 '40
Modified starches; degradation of starches by acidic and alkaline oxidising agents, acids, etc. G. B. Jambuserwala and K. R. Kanitkar. Textile Inst J 31:T1-16 Ja '40; Abstract. Textile Col 62:401-2 Je '40
Organic substances that cause swelling. J. R. Katz and J. Seiberlich. Rayon 21:42-3 Ja '40
Photosensitized production of reducing sugars from starch. L. J. Heidt. Am Chem Soc J 61:3588-9 D '39
Potato products industry. il diags Chem Age (Lond) 42:267-9, 279-81 My 11-18 '40
Relation of starch to microbiological problems and methods for controlling bacterial growth. A. Frieden. Paper Tr J 110:29-32 Ap 25 '40
Relative reducing potential of starch. R. W. Kerr. bibliog Am Chem Soc J 62:2735-8 O '40
Resin and starch helps slip-resistance in spun rayons. Rayon 21:378 Je '40
Rigidity of starch pastes used in sizing and printing. diag Textile Col 62:332-3 My '40
Sirup from sweet potato starch; a pilot-plant investigation. L. E. Stout and C. G. Ryberg, jr. bibliog diag Ind & Eng Chem 31:1451-4 D '39
Some observations on the effect of certain substances on the action of malt amylase on starch. R. S. Potter. Soc Chem Ind J 59:45-7 Mr '40
Starch and its derivatives. J. A. Radley. 346p $6 Van Nostrand '40
Sweetpotato starch output expanded. H. G. Knight. Oil Paint & Drug Rep 137:27 Ja 29 '40
Textile starches. W. L. Morgan. diag Am Dyestuff Rep 29:494-6 S 30 '40
Use of starch in papermaking. B. W. Rowland. bibliog Paper Tr J 111:71-4 Ag 29 '40

See also
Cornstarch

Analysis
Determination of starch in plants. W. Z. Hassid, R. M. McCready and R. S. Rosenfels. bibliog Ind & Eng Chem Anal ed 12: 142-4 Mr 15 '40
Pasting and identification of starches. W. L. Morgan. il diag Ind & Eng Chem Anal ed 12:313-17 Je 15 '40
Simplified alkali-liability determination for starch products. T. J. Schoch and C. C. Jensen. bibliog Ind & Eng Chem Anal ed 12:531-2 S 15 '40

Manufacture
Manufacture of white potato starch in the United States. C. A. Brautlecht. bibliog flow sheet il Ind & Eng Chem 32:893-8 Jl '40

STARCH factories
Manufacture of white potato starch in the United States. C. A. Brautlecht. bibliog flow sheet il Ind & Eng Chem 32:893-8 Jl '40

STARRETT, L. S., company
Selected war beneficiaries. Mag of Wall St 66:320 Je 15 '40
Stock priced at five to eight times earnings; thumbnail appraisal. Mag of Wall St 66: 742 O 5 '40

STARS
Largest known star. Science 92:sup8 N 1 '40
Proton-deuteron transformation as a source of energy in dense stars. W. A. Wildhack. Phys R 57:81-6 Ja 15 '40
Stars that have chemistries; atmospheres like oxidizing and reducing atmospheres of the chemical laboratory. H. N. Russell. Sci Am 162:208-9 Ap '40
Super-heavyweight stars. Science 90:sup8 D 15 '39
What's inside the stars? H. N. Russell. il Sci Am 161:334-5 D '39

See also
Astronomy
Milky way
Nebulae

Magnitudes
Masses of the stars, with a general catalogue of dynamical parallaxes. H. N. Russell and C. E. Moore. 236p pa $3.50 Univ. of Chicago press '40

See also
Stars, Variable

New
Super-explosions of stars in distant nebulae. Science 90:sup6 D 29 '39
Types of novae. F. Zwicky. il Rs Mod Phys 12:66-85 Ja '40

Radiation
Atomic structure of metals; study of stellar radiation; abstract. O. Struve. Science 92: sup6 Jl 26 '40
Cosmic static. G. Reber. il Inst Radio Eng Proc 28:68-70 F '40

Spectra
Interstellar gas; astronomers are finding matter as particles between the stars. H. N. Russell. Sci Am 163:128-9 S '40
Spectra of long-period variable stars. P. W. Merrill. 107p pa $2.50 Univ. of Chicago press '40
Spectrum of Nova Aquilae (1918). A. B. Wyse. p93-215 pa $2.25 Univ. of California press, Berkeley '39

Temperature
Stellar temperatures. G. P. Kuiper. bibliog J Ap Phys 11:241-9 Ap '40

STARS, Double
Algol's eclipses. H. N. Russell. Sci Am 162: 86-7 F '40

STARS, Variable
Astronomy is improving its yardstick; abstract. H. Shapley. Science 91:sup8 My 24 '40
Magnitudes and coordinates of comparison stars in 52 regions of variable stars and magnitudes of 284 variables. C. P. Olivier and others. 66p pa $1.50 Univ. of Pennsylvania press, Philadelphia '40

STATE, The
Organic state; an historical view of contemporary politics. R. J. S. Hoffman. 116p $1.50 Sheed & Ward, 63 5th av, New York '40

See also
Education and state
Industry and state
Railroads and state
Science and state

STATE accounting
Positive check on public expenditures in New York state. M. S. Tremaine. Bankers M 141:309-11 O '40

STATE advertising
Ads aiding farmers; nine states now promoting their own products. Business Week p29 Mr 16 '40
American tourism heads for top. Business Week p20, 22-4 My 18 '40
New gold for Oregon; tourists, influenced by Highway commission advertising, spend $45,000,000 there in 1939. H. B. Say. il Ptr Ink 190:17-20 Ja 19 '40
Plans of states to attract travel dollars shown by two surveys. Ptr Ink 191:75-6, 78-82 Ap 5 '40
State advertising of farm products. B. Hibbs. il Adv & Sell 33:19-21+ Ja '40
States fight it out with ads; vie for tourists, industries, and farm markets. Business Week p20-1 D 30 '39
What the states will spend, and how, for advertising this year; tabulation. Business Week p40 Mr 23 '40

STATE automobiles. See Automobiles, State

STATE banks. See Banks and banking, State

STATE bonds
Attorney General Bennett of New York opposes Treasury proposals to tax state and municipal bonds. Comm & Fin Chr 149: 4108-9 D 30 '39
Case for municipal bonds. C. Clark. Barron's 20:18 Jl 29 '40
Constitutional immunity of state and municipal securities; a legal defense of the continued integrity of the fiscal powers of the states. 420p Conference on state defense, 111 8th av, New York
Danger of federal taxation of municipals. J. S. Linen. Comm & Fin Chr 150:149-50 Ja 6 '40
Fiscal and economic aspects of the taxation of public securities; a report. H. L. Lutz. 241p Morris S. Tremaine, Comptroller, Albany, N.Y. '39
Highway bonds and their effect upon taxes. N. S. Taber. Am Pet Inst Proc 20(AT): 23-6 '39

STATE employees
Federal-state personnel relations. G. C. S. Benson. bibliog Ann Am Acad 207:38-43 Ja '40
House judiciary committee tables Hatch bill to extend anti-politics provisions to state employees paid with federal funds. Comm & Fin Chr 150:2810 My 4 '40
President Roosevelt signs Hatch bill extending political activity ban to state and municipal employees receiving pay from federal funds. Comm & Fin Chr 151:486 Jl 27 '40
Senate committee votes to extend Hatch law to state employees receiving pay from federal funds. Comm & Fin Chr 150:1357 Mr 2 '40
Senate passes Hatch act amendments. Comm & Fin Chr 150:1858 Mr 23 '40
State personnel administration, with special reference to departments of education. K. A. Frederic. 271p bibliog(p213-27) U.S. Advisory committee on education, Washington; pa 35c Supt. of doc. '39
Survey of public personnel legislation and administrative regulations. C. M. Ross. 143p bibliog(p135-43) pa $1 Bur. of public administration, box 1667 University station, Charlottesville, Va. '40

STATE Farm insurance companies
Continuous modernization to control costs. il Am Business 10:33-42 My '40

STATE finance
Financial statistics of states: 1937; summary bulletin. 19p U.S. Bur. of the census; 5c Supt. of doc. '39
Fiscal aspects of state-local relations. G. W. Spicer. bibliog Ann Am Acad 207:151-60 Ja '40
Need for longer-range economic planning and reform in state finance. J. W. Meader. Annalist 55:355-6 Mr 7 '40
Positive check on public expenditures in New York state. M. S. Tremaine. Bankers M 141:309-11 O '40
State finance; trend toward budgetary equilibrium. Index 20 no 2:23-33, 36-9 [Je] '40; Excerpt. Bankers M 141:75-6 Jl '40

See also
State bonds
Taxation, State

Federal aid
Future of federal grants-in-aid. J. P. Harris. bibliog Ann Am Acad 207:14-26 Ja '40

STATE governments
American state government and administration. A. F. Macdonald. rev ed 639p $3.75 Crowell '40
Deficiencies in state and local government data. E. R. Gray. Ann Am Acad 207:194-202 Ja '40
Intergovernmental relations in the United States. W. B. Graves, ed. Ann Am Acad 207:1-218 bibliog(p210-18) Ja '40
Manual of state administrative organization in Michigan. 240p bibliog(p227-32) pa $1 Bur. of government, Univ. of Michigan, Ann Arbor '40
Oklahoma business men fight waste in government. J. G. Hill. il Am Business 10:26-8+ Mr '40
Proceedings of the National association of secretaries of state, 1939, twenty-second conference, August 16-19, 1939, Dixville Notch, N.H. 101p pa $1 Council of state governments, 1313 E. 60th st, Chicago '39

See also
Highway departments
State legislatures

Bibliography
Bibliography of intergovernmental relations in the United States. D. C. Culver, comp. Ann Am Acad 207:210-11 Ja '40

Federal relations
Federal-state personnel relations. G. C. S. Benson. bibliog Ann Am Acad 207:38-43 Ja '40
Interregional relations. E. A. Mauck. bibliog Ann Am Acad 207:124-9 Ja '40
Interstate compacts and administrative cooperation. G. C. Routt. bibliog Ann Am Acad 207:93-102 Ja '40
Politics and administration in intergovernmental relations. G. H. Durham. bibliog Ann Am Acad 207:1-6 Ja '40
Readjusting governmental areas and functions. W. B. Graves. Ann Am Acad 207:203-9 Ja '40
Relation of federal regional authorities to state and local units; T.V.A. bibliog Ann Am Acad 207:130-7 Ja '40
State law applicable to employees injured on federal building upheld; New York state labor law. Monthly Labor R 50:1174-5 My '40

STATE governments—Federal relations—*Cont.*
State legislation facilitative of federal action. V. O. Key, jr. bibliog Ann Am Acad 207:7-13 Ja '40

See also
State finance—Federal aid

STATE labor boards. See Labor boards, State

STATE laws
Crime control; state laws, 1935-1938, inclusive. E. A. Banks, comp. (State law digest report, no. 3) 76p pa 10c Supt. of doc. '40
Developments affecting cost under the unfair practices acts. R. Tannenbaum. bibliog J Business 13:118-35 Ap '40
Digest of laws and regulations relating to the prevention and control of syphilis and gonorrhea in the forty-eight states and the District of Columbia. 438p $5 Am. social hygiene assn, 50 W. 50th st, New York '40
Extra loans on collateral protected by field warehousing. J. Y. Beaty. map Bankers Mo 57:202-3 Ap '40
Is there a need for a revision of capital requirements; with tabulation by states. Bankers Mo 57:134-5 Mr '40
Let's co-operate to reduce losses on N.S.F. checks; with analysis of state laws and model statute. E. Boroff and E. M. Goldman. Bankers Mo 57:82-5+ F '40; Discussion. C. W. Fishbaugh. 57:179 Mr '40
Minimum-wage legislation as of January 1, 1940. Monthly Labor R 50:891-909 Ap '40
P.I. model statute. map Ptr Ink 191:21-4 My 31 '40
Principal features of workmen's compensation laws, as of January 1, 1940. C. F. Sharkey. Monthly Labor R 50:574-600 Mr '40
Progress of state minimum-wage legislation in 1939. L. Stitt and F. P. Smith. Monthly Labor R 50:312-23 F '40
Recent state laws on transportation and public utilities; a digest of important statutory changes and new laws enacted in 1935-1938. J. Welland and L. M. Manross, comps. 83p pa 15c Supt. of doc. '40
Stamp taxes on legal documents; levies in various states. W. C. Porth. Credit & Fin Management 41:20-2 D '39
State law index; an index to the legislation of the states of the United States enacted during the biennium, 1937-1938. seventh biennial volume 700p $1.50 Supt. of doc. '40
State legislation facilitative of federal action. V. O. Key, jr. bibliog Ann Am Acad 207:7-13 Ja '40
State rural land use legislation in 1939. K. Wernimont. bibliog J Land & Pub Util Econ 16:110-16 F '40
State trade barriers; survey released by WPA. Ptr Ink 190:83-6 F 16 '40
Survey of public personnel legislation and administrative regulations. C. M. Ross. 143p bibliog(p135-43) pa $1 Bur. of public administration, box 1667 University station, Charlottesville, Va. '40
Trade barriers between states. F. E. Melder. bibliog Ann Am Acad 207:54-61 Ja '40
Trade barriers within the United States. R. Cassady, jr. bibliog Harvard Business R 18 no 2:231-47 [Ja] '40
Troubles of the bus man; improvement in lessening of ports of entry and of antagonistic laws. H. Corey. Pub Util 26: 387-95 S 26 '40
Unemployment compensation plans. M. Saxe. Banking 32:26-7, 82-3 Ja '40
Uniform legislation in the United States. R. L. Mott. Ann Am Acad 207:79-92 Ja '40

See also
Income tax, State
Inheritance tax
Taxation, State

Bibliography

Sources of information on legislation, 1937-1938; a supplementary list of published material reporting legislative enactments of 1937 and 1938, received in the Library of Congress since publication of the State law index. J. Lyons, comp. 56p State law index, Legislative reference service, Library of Congress, Washington, D.C. '40
Sources of information on legislation, 1939; a bibliographical list of published material received in the Library of Congress prior to January 1, 1940. J. Lyons, comp. 35p pa 10c Supt. of doc. '40

STATE legislatures
Legislative sessions in 1940. Monthly Labor R 49:1424 D '39
Proposals for legislative reorganization. M. S. Culver. 20 numb l bibliog(l 20) 50c Council of state governments, Chicago '39

STATE libraries
State library agency; its functions and organization. 3d ed rev 36 l pa 50c Am. library assn, 520 N. Michigan av, Chicago '39

STATE mutual life assurance company
Annual statement. East Underw 41:15 Mr 29 '40

STATE officials. See International association of governmental labor officials

STATE parks and reserves
American planning and civic annual, 1939. H. James, ed. 288p $3 Am. planning and civic assn, 901 Union trust bldg, Washington, D.C. '39
Landscape design in the primeval environment. G. Eckbo, D. U. Kiley and J. C. Rose. il Arch Rec 87:74-9 F '40

STATE planning
State legislation on planning, zoning and platting. rev ed 60p National resources planning board, Washington, D.C. '39

STATE printing. See Printing, Public

STATE publications
History behind the Manual. J. K. Wilcox Special Lib 31:330-1 S '40
Manual on the use of state publications J. K. Wilcox, ed. 342p $6 American library assn, Chicago '40

STATE rights
Can state rights be saved? O. K. Armstrong. Nation's Business 28:36, 38, 66+ S '40
House overrules President's veto of bill permitting states to intervene in certain federal court proceedings. Comm & Fin Chr 151:780 Ag 10 '40
Oklahoma files against giant Denison project; questions right of government to construct dam on Red river without compensation to state. Elec W 112:1754 D 16 '39

See also
Federal power commission

STATE senators. See Senators, State

STATE statistics
Problems and progress in state statistics; coordination in New York state; personnel matters. R. L. Gillett. Am Statis Assn J 35:335-40 Je '40
Wisconsin committee on statistics. E. W. Morehouse. Am Statis Assn J 35:483-8 S '40

STATE Street trust company
Some reservations on the State Street trust company case; legal responsibility of public accountants. J. L. Dohr. J Account 70:218-24 S '40

STATE taxation. See Taxation, State

STATESMEN
Rulers of the world. M. Crain. 335p $2.50 Crowell '40

STATIC electricity. See Electricity, Static

STATICE
Dyes and tans in the species of statice. C. D. Mell. Textile Col 62:59-60 Ja '40

STATICS
Elementary statics; a text-book for engineers. M. Appleby. 164p $2.25 Macmillan '39

See also

Dynamics	Graphic statics
Elasticity	Hydrostatics
Electrostatics	Strains and stresses

STATIONERY

Articles of stationery and allied materials; their chemistry and technical examination. H. A. Bromley and J. Shore. 126p 10s 6d Grafton & co, London, W.C. 1 '39

See also
Envelopes
Letterheads

STATISTICAL mechanics

Chemical equilibria, free energies, and heat contents for gaseous hydrocarbons. K. S. Pitzer. Chem R 27:39-57 bibliog(41 references, p56-7) Ag '40

Establishment of grand canonical distributions. R. C. Tolman. Phys R 57:1160-8 Je 15 '40

Fluctuations, thermodynamic equilibrium and entropy. E. C. Kemble. bibliog Phys R 56: 1013-23 N 15 '39

Present status of the statistical method of calculating thermodynamic functions. E. B. Wilson, jr. Chem R 27:17-38 bibliog(182 references, p34-8) Ag '40

Quantum-mechanical basis of statistical mechanics. E. C. Kemble. Phys R 56:1146-64 D 1 '39

Some observations on the thermodynamics of hydrocarbons and related compounds. J. G. Aston. il Chem R 27:59-73 bibliog(p72-3) Ag '40

Statistical mechanics. J. E. Mayer and M. G. Mayer. 495p $5.50 Wiley '40

Statistical thermodynamics; a version of statistical mechanics for students of physics and chemistry. R. H. Fowler and E. A. Guggenheim. 693p $9.50 Macmillan '39

Viscous flow of large molecules. W. Kauzmann and H. Eyring. bibliog diag Am Chem Soc J 62:3113-25 N '40

Yield of nuclear reactions with heavy elements; calculated as functions of energy of bombarding particles by means of statistical methods. V. F. Weisskopf and D. H. Ewing. bibliog Phys R 57:472-85 Mr 15 '40

See also
Wave mechanics

STATISTICAL methods

Assumptions implied in least squares demand techniques. L. A. Metzler. R Econ Statis 22:138-49 Ag '40

Calculating most probable numbers in coli-aerogenes analyses. R. Pomeroy. bibliog Am Water Works Assn J 32:478-86 Mr '40

Chemical computations and errors. T. B. Crumpler and J. H. Yoe. 247p bibliog(p227-9) $3 Wiley '40

Computation of the composite noise resulting from random variable sources; statistical method for computing reading on a sound level meter. E. Dietze and W. D. Goodale, jr. bibliog Bell System Tech J 18:605-23 O '39

Design of experiments. R. A. Fisher. Oliver & Boyd, Edinburgh, Scotland '40; Review, by H. A. Freeman. Mech Eng 62:231-2 Mr '40

Elementary statistics for students of education and psychology. E. B. Van Ormer and C. O. Williams 111p bibliog(p93-4) $1.50 Edwards bros, Ann Arbor, Mich. '40

Factorial design and covariance in the biological assay of vitamin D. C. I. Bliss. Am Statis Assn J 35:498-506 S '40

How old are our cities? rational approach to estimates of population growth. C. J. Velz and H. F. Eich. map Civil Eng 10: 619-22 O '40

How to determine economic project size; by statistical analysis lowest average unit costs are determined. J. M. Doyle. Roads & Sts 83:66+ O '40

Leistungssteigerung in betrieben durch grosszahlforschung. E. Franke. V D I 83:1179-83 N 4 '39

Practical difficulties met in the use of experimental designs. A. E. Brandt. Am Statis Assn J 35:101-6 Mr '40

Scientific approach to textile problems. A. C. Walker. Am Dyestuff Rep 29:217-20 Ap 29 '40; Same. Rayon 21:345-6 Je '40

Sixty-year rainfall record analyzed. H. F. Kennison. Civil Eng 10:709-10 N '40

Standardization of rubber flexing tests. W. L. Stevens. India Rubber W 102:36-41 Ag '40

Statistical analysis in educational research. E. F. Lindquist. 266p $3 Houghton '40

Statistical analysis of compression tests on mortar cylinders, cubes and prisms. H. W. Leavitt and H. A. Pratt. bibliog Am Soc T M Proc 39:851-8; Discussion. 859 '39

Statistical analysis of metallurgical problems. E. M. Schrock. il Metal Prog 38:153-8 Ag '40

Statistical method from the viewpoint of quality control. W. A. Shewhart. 155p $2.50 Graduate school, Dept. of agriculture, Washington, D.C. '39; Review, by L. C. Young. Mech Eng 62:475-6 Je '40; Review, by J. Gaillard. il Ind Stand 11:109-18 My '40; Review. Franklin Inst J 229:816-17 Je '40

Statistical methods and factors of safety: an argument for the revision of existing standards. W. T. O'Dea. bibliog Inst E E J 87:22-31; Discussion. 31-2 Jl '40

Statistical methods for research workers. R. A. Fisher. 7th ed rev & enl 356p bibliog (p341-52) 15s Oliver and Boyd, Edinburgh '38

Statistical procedures and their mathematical bases. C. C. Peters and W. R. Van Voorhis. 516p $4.50 McGraw-Hill '40

Statistical techniques adapted to home economics problems. C. M. Brown and H. M. Hatcher. 104 numb l bibliog(numb l 90-3) $1.75 Burgess pub. co, Minneapolis '39

Statistics and engineering practice. B. P. Dudding and W. J. Jennett. bibliog Inst E E J 87:1-15; Discussion. 15-21 Jl '40

Statistics takes a second breath; review of the literature. C. A. Bliss. Harvard Business R 18 no 4:510-19 [Jl] '40

Technical evaluation of textile finishing treatments; a comparison of certain methods of measuring stiffness in fabrics. L. J. Winn and E. R. Schwarz. bibliog il Am Dyestuff Rep 29:469-76 S 16 '40

Technical evaluation of textile finishing treatments; use of rank correlation for comparison of data. L. J. Winn and E. R. Schwarz. Am Dyestuff Rep 29:400-4 Ag 5 '40

Time distribution of so-called random events. A. Ruark. Phys R 56:1165-7 D 1 '39; Discussion. W. Feller. 57:906-8 My 15 '40

See also

Correlation (statistics)	Probabilities
Frequency distribution (statistics)	Sampling (statistical methods)
Graphic methods	Seasonal variation (statistics)
Index numbers (economics)	Time series (statistics)
Interpolation	Variation (statistics)

STATISTICAL workers. See Statisticians

STATISTICIANS

Problems and progress in state statistics; coordination in New York state; personnel matters. R. L. Gillett. Am Statis Assn J 35:335-40 Je '40

Directories

Centenary membership directory. Am Statis Assn J 35.1-83 pt 2 Je '40

STATISTICS

Statistical trends. W. F. Ogburn. Am Statis Assn J 35:252-60 pt 2 Mr '40

Statistics applied to education and psychology. C. T. Gray and D. F. Votaw. 278p $3.25 Ronald press '39

See also

Business statistics	Index numbers (economics)
Census	Industrial statistics
Commercial statistics	Market statistics
Correlation (statistics)	Sales statistics
Economic statistics	Statistical methods
Government statistics	Time series (statistics)

also subdivision Statistics under various subjects, e.g.

Accidents, Industrial	Mortality
Cotton trade	Population
Employment	Production
Labor and laboring classes	Railroads
	Unemployment

STATISTICS—*Continued*

Bibliography

Sources of data. Survey of Cur Business 1940 Sup p239-40

Study and teaching

Experiment in the teaching of statistics. J. B. Cohen and J. M. Firestone. Am Statis Assn J 34:714-15 D '39

STATUTE of limitations. See Limitation of actions

STAUDINGER equation

Viscosities of polyester solutions and the Staudinger equation. P. J. Flory and P. B. Stickney. bibliog Am Chem Soc J 62: 3032-8 N '40

STAVES, Concrete. See Concrete staves

STAYBOLTS

Typical forms of welded staybolts. diags Mech Eng 62:489 Je '40

STEAM

Boiler tube erosion attributed to steam from soot blower. il Locomotive 43:113-15 O '40

Bridge paint is steam-cleaned; San Francisco-Oakland Bay bridge. il Eng N 126:238-9 Ag 15 '40

Calculation of the distribution of carbon dioxide between water and steam. A. M. Amorosi and J. R. McDermet. Am Soc T M Proc 39:1204-17; Discussion. 1218-20 '39

Change from water into steam. W. Y. Lewis and S. A. Robertson. diag Blast F & Steel Pl 28:491-3 My '40

Corrosion in steam heating systems; eliminating deleterious gases from steams. L. F. Collins and E. L. Henderson. diag Heating-Piping 12:24-7 Ja '40

Destillation und rektifikation mit wasserdampf. K. Thormann. Chemische Fabrik 13:3-9 Ja 13 '40

Determination by the evaporation method of small amounts of dissolved solids in water such as condensed steam from boilers. R. C. Ulmer. diags Am Soc T M Proc 39:1221-7; Discussion. 1228-32 '39

Dominion-Cram film system of dryer drainage. bibliog diags Pulp & Pa of Can 41:234-7 F '40

Estimation of the leakage through a labyrinth gland. B. Hodkinson. diag Inst Mech Eng J & Proc 141:Proc 283-8 My '39; Discussion. 142:Proc 459-67 Mr '40

General equation of state; equations for ammonia and steam. J. L. Finck. Franklin Inst J 229:201-21 F '40

Reduced yard storage by steam curing; plant of L. G. Randolph. il Rock Prod 43:87-8 Ag '40

Review and summary of developments in heat transfer by conduction and convection. W. H. McAdams. il Am Inst Chem Eng Trans 36:13-16 F '40

Some factors affecting the form of condensation of steam. C. L. Old. il diags Inst Mech Eng J & Proc 142:199-209 D '39

Steam-carbon complex. S. Muller and J. W. Cobb. diag Chem Soc J p177-83 F '40; Summary. Gas J (Lond) 230:443 My 29 '40

Steam consumption for humidifying. Heating-Piping 11:752 D '39

Steam consumption of locomotive auxiliaries. E. E. Chapman. Ry Mech Eng 114:492-4 N '40; Excerpt. Ry Age 109:619-20 N 2 '40

Steam generator for small-scale operations. il diag Comp Air M 44:6044 D '39

Sur l'économie des combustibles; étude de la vaporisation et du vaporigène transformant de la chaleur en travail. L. Fassina. diag Chimie & Ind 43:717-20 My 5 '40

See also

Boilers
Condensers (steam)
Electric plants (central stations)
Evaporators
Feed water purification
Steam engines
Steam heating
Steam pipes
Steam plants
Steam turbines
Thermodynamics

Cost

Distribution and control of steam costs. W. P. Fiske and R. W. Arentson. Am Inst Chem Eng Trans 36:245-65; Discussion. 265-8 Ap '40

See also

Steam plants—Costs

Tables, calculations, etc.

Critical flow through nozzles and the gas constant of superheated steam. J. R. Finniecome. Engineering 149:454-5 My 3 '40

Drop-wise and film condensation of steam. F. L. Shea, jr. and N. W. Krase. bibliog diags Am Inst Chem Eng Trans 36:463-87; Discussion. 487-90 Ag '40

1939 Callendar steam tables. G. S. Callendar and A. C. Egerton, eds. 64p 12s 6d; with thumb index 15s E. Arnold & co, London '39

Non-boiling heat transfer coefficients in annuli. A. S. Foust and G. A. Christian. diag Am Inst Chem Eng Trans 36:541-54 Ag '40

Velocity and pressure drop chart for saturated and superheated steam. G. A. Gaffert. Power Pl Eng 44:88 Mr '40

Wärmemengenzählung mit dampf-durchfluss-integratoren. H. Lohmann and H. Jordan. V D I 83:1217-18 N 18 '39

What diameter? what pressure? how many pounds of steam? W. F. Schaphorst. Ind & Eng Chem News ed 17:764 D 10 '39

See also

Steam flow
Steam pipes—Tables, calculations, etc.
Steam plants—Tables, calculations, etc.

STEAM, Natural

Italienische erddampf-kraftwerke. il V D I 83:1224 N 18 '39

Piero Ginori Conti; his work in chemistry; boric acid manufacture with volcanic steam. bibliog Ind & Eng Chem News ed 18:108 F 10 '40

STEAM accumulators

Stored steam increases plant capacity. il Heating-Piping 12:668 N '40

STEAM boilers. See Boilers

STEAM condensers. See Condensers (steam)

STEAM distribution

High pressure reduces power costs in industrial plant; National vulcanized fibre co. sells surplus power and steam to Marshall bros. il diags Power Pl Eng 44:56-8+ Je '40

Management of combined municipal utilities; Lansing, Michigan, supplies water, electricity and steam. O. E. Eckert. Am Water Works Assn J 32:1435-41; Discussion. F. W. Martin. 1441-5 S '40

This small plant misses no tricks; Lawrence Park heat, light & power co. supplies power, steam, hot water and refrigeration. L. Rowley. il Power 84:239-40 Ap '40

See also

Piping (power plants)
Steam pipe lines
Steam pipes

STEAM ejectors. See Steam jets

STEAM engineering

Boiler operator's guide. H. M. Spring, jr. 353p $3 McGraw-Hill '40

See also

Boiler plants
Evaporators
Marine engineering
Mechanical engineering
Power (mechanics)
Steam engines
Steam fitting
Steam heating
Steam pipes
Steam plants
Steam turbines
Steamboats
Superheated steam

Tables, calculations, etc.

Estimation of the leakage through a labyrinth gland. B. Hodkinson. diag Inst Mech Eng J & Proc 141:Proc 283-8 My '39; Discussion. 142:Proc 459-67 Mr '40

STEAM engineers

So, you want to be an engineer? H. A. Knapp. Power Pl Eng 43:794-6 D '39

STEAM engines
Aluminium alloys and the modern steam engine. E. D. Illiff. Engineer 168:597-8 D 15 '39
Census of steam engine manufacture; 1939 census of manufacturers of establishments whose principal products are steam engines, steam turbines, water wheels and water turbines. Power Pl Eng 44:118+ N '40
Fifty years of marine engineering. A. L. Mellanby. diags Inst Mech Eng J & Proc 143:Proc328-48, pl 1-2 bibliog(p347-8) O '40; Same cond. Engineering 149:328, 371-3, 381-2 Mr 29-Ap 12 '40; Same cond. Engineer 169:270-2, 308-9 Mr 22-29 '40
Figuring indicated horsepower. P. Swain. Power 84:181 Mr '40
How to line-up duplex machines. H. B. Dieter. diags Power 84:108-9 F '40
Steam-driven air compressor takes small space, has high efficiency. P. K. Richardson. il Power 84:632-3 O '40
Three steam engines involved in one accident. il Locomotive 43:34-5 Ap '40
Valve changes stops steam engine pounding. R. E. Fontaine. Power 84:317 My '40
Water in engine cylinder. diags Power 84:747-9+ N '40

See also
Airplane engines, Steam — Locomotives
Boilers — Steam plants
Condensers (steam) — Steam turbines
Steamboats

Control
Engine control helps heat balance. L. M. Duryee. il Power Pl Eng 44:74-5 Je '40

Design
Lentz steam engine. diags Mech Eng 62:824 N '40

Exhaust
No Btu's lost in Dieselized dairy; heat recovery from Diesel and steam engines working together supplies hot-water; Borden's Willow Brook plant. il diag Power 84:22-4 Ja '40

History
History of rotary engines and pumps; abstract of articles in Engineer, 1939. Am Water Works Assn J 32:155-8 Ja '40
History of the growth of the steam-engine. R. H. Thurston. centennial ed 555p $3 Cornell univ. press, Ithaca, N.Y. '39
One hundred years of pumping machinery. S. W. Kitson. il diags N E Water Works Assn J 54:103-18 Mr '40; Same. Can Eng W & S 78:18-21+ Ja; 11-13 F '40
Some early Burrell engines. R. H. Clark. il diag Engineer 169:104-8 F 2 '40

Lubrication
Cylinder lubrication with superheated steam. W. G. Forbes. il Power 84:681-2 O '40
Cylinder-oil lubrication chart. V. J. Kosmatka. Power 84:125 F '40
How to lubricate cylinders on wet steam. W. G. Forbes. il diags Power 84:609-10 S '40
Lubricating steam engine. diag Power 84:114 F '40
What makes a good steam-engine-cylinder oil? W. G. Forbes. il diags Power 84:362-4 Je '40

Testing
How to indicate a steam engine; illustrations with explanatory text. Power 84:533-4 Ag '40

STEAM fitting
Cross connections to steam boilers. R. F. Goudey. Water Works & Sewerage 87:365-7 Ag '40
Facts and fallacies in heating piping. T. W. Reynolds. diags Heat & Ven 37:46-9 Ap; 39-41 My; 46-9 Je; 49-50 Jl; 27-9 Ag '40
Installing globe valves. diags Power 84:318-20+ My '40
Pointers on piping. Pulp & Pa of Can 41:228-31 F '40
Pointers on the choice of reducing valves for supplying process steam. J. O. G. Gibbons. Chem & Met Eng 47:431 Je '40
She won't work; unit heater trouble; mistakes in piping designs. diags Dom Eng 155:50-1+ Ja; 46-8+ F '40; Discussion (This time, she works). 155:48-9+ Mr '40

See also
Piping (power plants) — Steam pipes
Steam traps

STEAM flow
Critical flow through nozzles and the gas constant of superheated steam. J. R. Finniecome. Engineering 149:454-5 My 3 '40
Thermocouples take turbine temperatures; measurement of steam flow by the temperature-drop method. B. O. Buckland and S. S. Stack. diag Elec W 113:567 F 24 '40

STEAM generators. See Boilers

STEAM hammers
Steel sheet pile wharf at Rimouski, Quebec. J. P. Carriere. il diags Civil Eng 9:709-10 D '39; Discussion. 10:173-4 Mr '40

STEAM heaters
New plant heated by steam and hot water; Toledo scale co. il Heating-Piping 12:184, 186 Mr '40
Pratt & Whitney aircraft heats with unit heaters using exhaust steam from engines. il Heat & Ven 37:37-9 S '40
She won't work; unit heater trouble; mistakes in piping designs. diags Dom Eng 155:50-1+ Ja; 46-8+ F '40; Discussion (This time, she works). 155:48-9+ Mr '40
Toledo scale company; heating system. G. S. Whittaker. il diags plan Heat & Ven 37:26-32 F '40
Vought-Sikorsky aircraft uses both projection and blast unit heaters. il Heat & Ven 37:49-51 S '40

Testing
Electric radiant heat vs. steam convection. D. Dow. il Elec W 114:395-6 Ag 10 '40

STEAM heating
Air conditioning Buffalo's new Kleinhans music hall. M. C. Beman. il Heat & Ven 37:24-6 N '40
Amount of steam for heating a greenhouse determined by test. G. K. Saurwein. diag plan Heating-Piping 12:182 Mr '40
Anthracite as a fuel for domestic heating. A. J. Johnson. il Mech Eng 62:208-10 Mr '40
Block heating for two family houses. C. Strock. il plan Heat & Ven 37:47-9 My '40
Chanute field gets up steam; Army technical aviation school; steam generating plant. il plans Power Pl Eng 44:48-53+ O '40
Coffee plant of the General foods corp. at Hoboken, N.J. J. F. Kern, jr. il Heat & Ven 36:18-22 D '39
Consolidated aircraft; problems of heating southern California buildings differ from those in the East. W. A. Maloney. il Heat & Ven 37:56-8 S '40
Corrosion in steam heating systems. L. F. Collins and E. L. Henderson. diags Heating-Piping 11:539-42, 620-2, 675-7, 735-8; 12:24-7, 99-101, 159-62, 243-6, 299-301 S '39-My '40
Effect of room dimensions on the performance of direct radiators and convectors. A. P. Kratz and others. il diags plans Heating-Piping 12:439-46 Jl '40
Eleven ways heating has been improved. L. W. Mauger. Heating-Piping 12:174 Mr '40
English village, Cranford, N.J.; heating equipment; illustrations. Heat & Ven 37:40 Jl '40
Facts and fallacies in heating piping. T. W. Reynolds. diags Heat & Ven 37:46-9 Ap; 39-41 My; 46-9 Je; 49-50 Jl; 27-9 Ag '40
Fuel consumption record forms help to promote heating economy. L. W. Mauger. Heating-Piping 11:753-4 D '39
Handle with air; heating and air conditioning Rock Island fruit and produce terminal. il Dom Eng 155:51-3 Ap '40
Heat distribution in high factory room. diags Heat & Ven 37:32 F '40
Heating a modern cottage type prison; Indiana women's prison. T. R. Davis. il plans Heat & Ven 37:25-7 Mr '40

STEAM heating—*Continued*

Heating and cooling the world's largest airport; New York's new LaGuardia field. M. C. Hamje. il diags plan Heat & Ven 37: 17-22 Mr '40

Heating of Rockefeller Center. J. H. Rawson and C. W. Walton, jr. il Heating-Piping 12:221-4 Ap '40

How we improved the heating of our plant; Phoenix silk corp. H. A. Richardson. il diag Heating-Piping 12:235-8 Ap '40

Kraft cheese company; heating and air conditioning systems co-ordinated with process steam and refrigeration. G. H. Kraft. il diags Heat & Ven 37:29-32 My '40

Marcy village, Indianapolis, Ind.; heating equipment, illustrations. Heat & Ven 37:44 Jl '40

Meeting increased steam needs in distillery plant. H. G. Burrill. il diags Power Pl Eng 44:62-4 Ap '40

Modern heating and ventilating; Longfellow elementary school, Waterloo, Iowa. M. L. Todd. il Heating-Piping 12:607-9, 659-61 O-N '40

993 buildings report steam use; joint committee of National association of building owners and managers and National district heating association completes study of heating requirements. E. Shultz and J. C. Butler. Power 84:510-12 Ag '40

No one complains about this heating plant; Pennsylvania lawn mower co. C. C. Hermann. il Power 83:763-4 D '39

O. K. to slab heating; steam pipes laid under concrete floor. il plan Dom Eng 155:46-7+ Ap '40

Ogontz manor, Philadelphia; illustrations. Heat & Ven 37:45 Jl '40

Piping changes increase efficiency; large building heating. W. S. Downs. diags Heating-Piping 12:591-2 O '40

Serve piping hot; installing simple gravity steam systems. diags Dom Eng 155:32-4+ F '40

Standard register co.; air conditioning and other equipment of two new factory buildings and new office building. C. Strock. il diags plans Heat & Ven 37:30-4 Mr '40

Theater steam system operation improved by utilization engineering. D. W. Blair. diag Heat & Ven 37:59-60 F '40

310-12 S. Camac st. Philadelphia; illustrations and plans. Heat & Ven 37:36 Jl '40

Tremendous field for improvement in existing plant heating systems. S. R. Lewis. il diags Heating-Piping 12:16-18 Ja '40

2601 Parkway, Philadelphia; illustrations. Heat & Ven 37:41 Jl '40

Uniform temperature and humidity protect valuable Italian exhibit; Art institute of Chicago. il Heating-Piping 12:5+ Ja '40

Unique system conditions Asheville radio and newspaper building. S. C. Minnich, jr. il diag Heat & Ven 37:19-22 My '40

U.S. army Air corps, McChord field; central heating plant. W. S. Leland. il Heat & Ven 37:25-7 S '40

U.S. army Air corps, McChord field; steam distribution and heating. J. W. A. Drummond. il Heat & Ven 37:28-31 S '40

See also

Boilers, Heating
Heating
Heating from central stations
Hot water heating
Radiators
Steam pipes
Steam plants—By-product power
Steam plants—Combined power and heating
Steam traps

Control

Automatic heating controls. C. O. Radden. Heat & Ven 37:50-1 Ap '40

Greenwich apartments, Seattle, Wash.; modernization cuts fuel cost and improves temperature distribution. M. N. Musgrave. il Heat & Ven 37:30-1 Jl '40

Harvard makes savings by careful control of its heating systems. G. K. Saurwein. il Heat & Ven 37:24-8 Ap '40

Manually operated valve controls steam pressure. C. F. Wendland. il Power 84: 315-16 My '40

School heating and ventilating; Longfellow elementary school, Waterloo, Iowa. M. L. Todd. Heating-Piping 12:660-1 N '40

Cost

How to choose economical fuel for heating boilers. P. R. Unger. Heating-Piping 12: 295-7 My '40

Return systems

Facts and fallacies in heating piping; Hartford return connections. T. W. Reynolds. diags Heat & Ven 37:49-50 Jl '40

Facts and fallacies in heating piping; wet and dry returns. T. W. Reynolds. diags Heat & Ven 37:46-9 Je '40

Losses due to re-evaporated steam for various trap inlet pressures when outlet pressure is atmospheric; chart. S. G. Saunders. Power Pl Eng 44:88 N '40

Tables, calculations, etc.

Heating coil selection by the by-pass method. C. O. Mackey and L. T. Wright, jr. Heat & Ven 37:19-21 Ag '40

How much steam for heating? steam consumption for various types of buildings. E. Shultz and J. C. Butler. Heating-Piping 12:545-7 S '40

Let's figure radiator heat. diags Dom Eng 156:52-3+ N '40

STEAM jacketed kettles. See Kettles, Steam jacketed

STEAM jets

Applications of gas to air conditioning. G. E. May. diags Heating-Piping 12:395-8 Je '40

Case histories; gas summer air conditioning on the delta; steam jet for Roosevelt hotel. G. E. May, R. E. Judd and J. M. Guillory. il Am Gas Assn Mo 22:337-8 O '40

Characteristics of the steam jet system. R. H. Stevens. il Refrig Eng 40:149-51 S '40

Factor *C* in the performance of ejectors as a function of molecular weights of vapors. L. T. Work and A. Miller. diags Ind & Eng Chem 32:1241-3 S '40

Improved methods of railroad air conditioning; the Santa Fe prefers steam ejector equipment. A. E. Voigt. il Refrig Eng 40: 16-17 Jl '40

Making a jet pump. diags Power 84:529-31 Ag '40

Review of thermal air-conditioning processes. J. deB. Shepard. Am Gas Assn Proc 1939: 431

Steam jet conditioning. il Dom Eng 156:43-5+ O '40

STEAM locomotives. See Locomotives

STEAM pipe coverings

Study of heat-insulation problems in steam power plants. E. T. Cope and W. F. Kinney. il diags Mech Eng 62:466-8 Je '40; Same. Heating-Piping 12:524-6 S '40

STEAM pipe lines

Long steam line shows low losses. H. K. Miller. il diags Power Pl Eng 44:48-50 N '40

U.S. army Air corps, McChord field; steam distribution and heating. J. W. A. Drummond. il Heat & Ven 37:28-31 S '40

See also

Heating from central stations
Piping (power plants)

STEAM pipes

Corrosion in steam heating systems. L. F. Collins and E. L. Henderson. diags Heating-Piping 11:539-42, 620-2, 675-7, 735-8; 12:24-7, 99-101, 159-62, 243-6, 299-301 S '39-My '40

Corrosion of pipes. F. N. Speller. il Blast F & Steel Pl 28:885-8+ S '40

Fallacy of oversize steam mains for process steam supply. J. O. G. Gibbons. Chem & Met Eng 47:118 F '40

How to figure the cost of a process piping shutdown. A. C. Kirkwood. diags Heating-Piping 12:87-9 F '40

Piping changes increase efficiency; large building heating. W. S. Downs. diags Heating-Piping 12:591-2 O '40

STEAM pipes—*Continued*

Pointers on piping. Pulp & Pa of Can 41:228-31 F '40

Serve piping hot; installing simple gravity steam systems. diags Dom Eng 155:32-4+ F '40

Thirty years' experience with a steam main. W. H. Wilson. il diags Heating-Piping 12: 348-50 Je '40

Tremendous field for improvement in existing plant heating systems. S. R. Lewis. il diags Heating-Piping 12:16-18 Ja '40

Use of the ring joint on oil and steam piping service. F. R. Venton and A. W. Marburg. diags Heating-Piping 12:425-7, 489-92, 548-50 Jl-S '40

Will these piping changes pay? with cost data A. C. Kirkwood. il Heating-Piping 12:110-11 Jl '40

See also

Heating from central stations
Pipe fittings
Piping (power plants)
Steam heating
Steam traps

Tables, calculations, etc.

Heat loss curves for uninsulated wrought iron pipe as a function of the saturated steam pressure; chart. Power Pl Eng 44:90 F '40

Testing

Test rack for steam-heat connectors. il diags Ry Mech Eng 114:196 My '40

STEAM plants

Consumers power company dedicates its new John C. Weadock station Edison Elec Inst Bul 8:371 Jl '40

Modern steam power generation: the latest progress in chemical engineering. D. Brownlie. Chem & Ind 59:633-7 S 7 '40

More power for your dollar; improvements in equipment and operating methods during the past decade. R. E. Turner. il Power Pl Eng 44:40-3 Ja '40

Some contributions of chemistry and chemical engineering to steam generation. G. W. Howson and R. L. Rees. bibliog Inst Chem Eng Trans 17:43-69; Discussion. 69-79 '39 [for abstracts see 1939 annual]

Steam competition. P. D. Lawrence. diags Edison Elec Inst Bul 8:201-6 My '40

Steam power stations G. A. Gaffert. 2d ed 592p $4 50 McGraw-Hill '40

See also

Boiler plants
Boilers
Electric plants
Feed water
Hydroelectric plants —Combination with steam plants
Piping (power plants)
Power plants
Steam
Steam engines
Steam turbines

Auxiliaries

See also

Steam plants—Diesel engine auxiliaries
Steam plants—Gas engine auxiliaries

By-product power

Clean-cut design, careful operation produce results: New England laundry co. il Power 84:665-6 O '40

Electricity in chemical plants. K. Pinder. diags Elec Eng 59:77-80 F '40

Engine control helps heat balance. L. M. Duryee. il Power Pl Eng 44:74-5 Je '40

Combined heating and process steam

Good to the last drop; steam plant of the new Maxwell House plant. il diag Power Pl Eng 44:48-51 Je '40

Kraft cheese company; heating and air conditioning systems co-ordinated with process steam and refrigeration. G. H. Kraft. il diags Heat & Ven 37:29-32 My '40

No one complains about this heating plant; Pennsylvania lawn mower co. C. C. Hermann. il Power 83:763-4 D '39

Combined power and heating

Cheap power and heat for dyeing plants. C. H. S. Tupholme. Am Dyestuff Rep 28:741, 755-7 D 25 '39

Cost of by-product steam for heating. E. Caldwell. Power Pl Eng 44:58-9 Jl '40

Diesels go to college; combined with back-pressure turbines in Connecticut College's power plant. il diag Power 83:726-8 D '39

G. Fox store sets a new standard; steam plant for heating, air conditioning and other power services. flow diag il plans Power Pl Eng 44:40-6 Ap '40

Gas engine driven generator improves operation at Franklin heating station; Rochester, Minn.; engine and steam turbine units working together promote efficiency. N. D. Adams. il diags Heating-Piping 12:643-5 N '40

Hotel power plant; a stimulant for a five billion dollar convalescent industry. E. Douglas. Power Pl Eng 44:50-3 F; 41-4+ Mr '40; Discussion. R. R. Williams. 44:82 Je '40

Small steam-pressure increase cuts coal cost $15,000 a year; University of Missouri. R. H. Sogard. il diags Power 84:136-9 Mr '40

Triple-duty plant serves Virginia polytechnic institute; furnishes power to both institute and Blacksburg, Va., heats campus and serves as laboratory. J. L. Dilworth. flow diag il Power 84:718-21 N '40

See also

Steam plants—By-product power

Combined power and process steam

A. G. Spalding puts the squeeze play on steam-generating costs; modernization and installation of automatic control. V. T. Fahringer. il Power 84:587 S '40

5520 tons of coal per year saved; modernization at Southern bleachery and print works. il Power 84:653 O '40

Heat and power in the pulp industry. M. F. A. Wulfinghoff. diags Paper Ind 22:677-81+ O '40

High pressure reduces power costs in industrial plant; National vulcanized fibre co. sells surplus power and steam to Marshall bros. il diags Power Pl Eng 44:56-8+ Je '40

How Baldwin Rubber reduced its steam cost from $0.27 to under $0.20 per 1,000 pounds of coal. S. R. Hunter. flow sheet il Rubber Age 47:379-82 S '40

Industrial power correlation; abstract. G. G. Hollins. Mech Eng 62:551 Jl '40

Modern power for modern refinery; Texas co.'s Port Arthur refinery. flow diags il diag plan Power 84:485-7 Ag '40

Paper mill power. G. Keeth. Pulp & Pa of Can 41:445-8 Je '40

Paper mill steam plants. H. O. Keay. il Pulp & Pa of Can 41:583-5 Ag '40

Power and steam for new viscose plant; American viscose corporation's power plant at Front Royal, Va. H. A. Kuljian. flow diag il diags Gen Elec R 43:280-4 Jl '40

Power for the refinery. R. L. Meyer. il Oil & Gas J 38:40+ My 2 '40

Power supply at the Manning-Ham mills of Messrs Lister and company, limited. il plan Engineering 149:329-30, 334, pl 18 Mr 29 '40

Process sets the pattern at Front Royal plant of American viscose corporation. H. A. Kuljian. flow diags il layout Power 83:740-3 D '39

Process steam; how heating and power driving requirements are met; Manor laundry, Camberwell. il Elec R (Lond) 126:207-9 F 23 '40

Simplicity, compactness, ease of operation mark Dunn sulphite paper co.'s plant. il diag plan Power 84:202-4 Ap '40

Condensate recovery

Explosions of condensate receiving tanks. il Locomotive 43:12-13 Ja '40

Treating boiler feedwater at Federal central heating plant, Washington, D.C. C. B. Overman. il Power 84:489-91 Ag '40

Westco automatic boiler return systems. il Refrig Eng 40:170 S '40

Costs

Air heater and economizer selection. A. Johnson. Power Pl Eng 43:773-5+ D '39

STEAM plants—Costs—*Continued*
Coal for power generation; its availability in the United States, means of production, and cost; hydroelectric and steam plant costs compared. C. Y. Thomas. il map Civil Eng 10:497-500 Ag '40
Cost of by-product steam for heating. E. Caldwell. Power Pl Eng 44:58-9 Jl '40
Cost of steam with coal as fuel; chart. I. E. Brooke. Heating-Piping 12:537-8 S '40
Cost of steam with gas as fuel; charts. I. E. Brooke. Heating-Piping 12:669-70 N '40
Cost of steam with oil as fuel. I. E. Brooke. chart Heating-Piping 12:615-16 O '40
Fourth steam station cost survey; 56 representative plants. A. E. Knowlton. il Elec W 112:1585-1600 D 2 '39; Discussion. 113: 1057-60+ Ap 6 '40
Trend of steam power station costs. J. E. Burkross. Power Pl Eng 44:81-3 Ja '40
Will these piping changes pay? with cost data. A. C. Kirkwood. il Heating-Piping 12:410-11 Jl '40

Design

Clean-cut design, careful operation produce results; New England laundry co. il Power 84:665-6 O '40
How ten utilities hook up new units. S. A. Tucker. plans Power 84:654-7 O '40

Diesel engine auxiliaries

Diesels go to college; combined with back-pressure turbines in Connecticut College's power plant. il diag Power 83:726-8 D '39
Modern distillery uses Diesel power. H. C. Blankmeyer. il Comp Air M 45:6240-1 S '40

Efficiency

Application of superheated steam to combination-unit prime movers. A. E. Harnsberger. il diags Am Pet Inst Proc 21M(3): 24-8 My '40; Same. Oil & Gas J 39:35, 38 My 30 '40; Discussion. Am Pet Inst Proc 21M(3):28-9 My '40
High limits, low limits; desirability, practical considerations and limitations of temperatures and pressures at both ends of the power generating cycle. M. T. Lewellan. Power Pl Eng 44:60+ Jl '40
Integrated program improves station reliability. J. A. Keeth and R. L. Frisby. il Elec W 114:1160-2 O 19 '40
Integrating steam consumption; choice of the most economical size of turbine. R. C. Golding. Elec R (Lond) 127:263-4 S 27 '40
Letters from a turbine specialist on station performance. F. S. Kohl and E. L. Auyer. diag Power 84:86 F '40
Load pickup and steam standby. F. G. Philo. Gen Elec R 42:520-4 D '39
Millers Ford; three years of high temperature operation. R. D. Gillespie. il diags layout Power Pl Eng 44:38-42, 52-3 Je; 54-6 Jl '40
Progress in the development of heat cycles during past ten years. R. C. Roe. il diags Power Pl Eng 44:44-9 Ja '40
Review of forty years' development in mechanical engineering plant for power stations. L. Pearce. diags plans fold charts Inst Mech Eng J & Proc 142:Proc 305-63, pl 1-8 F '40; Same abr. Engineering 149: 254, 263-4, 308, 317-19, 397-9, 423-5, 472-3, 492-3. pl 12-13 Mr 8, 22, Ap 12-19, My 3-10 '40; Excerpts. Engineer 169:85-6, 108-9 Ja 26-F 2 '40
10-year efficiency record; Milwaukee works of International harvester co.; abstract. P. A. Moe. Power 84:331+ My '40
Which fuel to choose? comparative economy of generating steam with anthracite, bituminous coal, and fuel oil for industrial plants in the New York area. G. A. Anbro. Mech Eng 61:804-5 N '39; Discussion. 62: 555-7 Jl '40

Equipment

Advances in power equipment in past ten years. il diags Power Pl Eng 44:56-64 Ja '40
Air heater and economizer selection. A. Johnson. Power Pl Eng 43:301-3+, 475-6, 773-5+ My, Jl, D '39
Boston Edison co. increases 1400 lb. boiler output at Edgar. C. H. Danforth. il diags Power Pl Eng 44:40-6 My '40
Characteristics of cloth filters handling coal dust and air mixtures. A. R. Mumford, A. A. Markson and T. Ravese. diags Concrete (mill sec) 48:152-3 Ap '40
Circulating water pump placed outdoors; Dubuque, Iowa, plant of the Interstate power company. il Elec W 113:1540 My 18 '40
Coal handling at Bryce E. Morrow. H. V. Schiefer. il Power 84:428-9 Jl '40
Derby tops; installation of superposed unit by the Derby gas & electric co. C. O. Lenz and J. B. Saxe. flow diag il diags Power Pl Eng 43:762-6, 798-9 D '39
Development of metals for power plant equipment; ten years' progress. J. J. Kanter. il Power Pl Eng 44:50-5 Ja '40
Diagram board at Lansing station shows the piping and valve layout. R. C. Roe. il Heating-Piping 12:102 F '40
Electric plant adorns swamp; Holland, Mich. C. G. Bouwkamp and T. S. Lovell. flow diag il diags Power Pl Eng 44:40-3, 49-51 Jl '40
Experience with water-cooled stokers at Seward station. V. L. Jones. il diags Power Pl Eng 44:46-8 Ag '40
Generator housed to reduce 3,600-r.p.m. noise; also housings about boiler gage boards and high-pressure steam reducing valves. F. E. Hertel. il Elec W 113:2046-8+ Je 29 '40
High-pressure turbine installation at Edmonton, Canada. il Engineer 168:649 D 29 '39
Instrumentation of power plant and mill. il diags Rayon 21:49-52 Ja '40
Instruments safeguard progress; power plant instruments during past ten years. il diags Power Pl Eng 44:68-70 Ja '40
Integrated program improves station reliability. J. A. Keeth and R. L. Frisby. il Elec W 114:1160-2; 1296-8+ O 19-N 2 '40
Mississippi makeup; Louisiana station of Gulf states utilities co; storage and materials-handling system for chemicals required to treat water. A. C. Klein. il diag Power 84:278-9 My '40
Power generation forging ahead. E. L. Hopping. Elec W 113:1888-9 Je 15 '40
Profitable fly-ash handling; State Line plant uses Redler conveyors and electrostatic precipitators; fly ash used in concrete. N. W. Elmer. il diag Steel 106:64-5+ F 12 '40
Review of forty years' development in mechanical engineering plant for power stations. L. Pearce. diags plans fold charts Inst Mech Eng J & Proc 142:Proc305-63, pl 1-8 F '40; Same abr. Engineering 149:254, 263-4, 308, 317-19, 397-9, 423-5, 472-3, 492-3, pl 12-13 Mr 8, 22, Ap 12-19, My 3-10 '40; Excerpts. Engineer 169:85-6, 108-9 Ja 26-F 2 '40
Rivesville topping reduces B.t.u per kw.-hr. one-third. W. V. Drake. il diags Elec W 113:564-6+ F 24 '40
Sludge disposal and power generation; Southwest sewage treatment works, Chicago. W. A. Dundas. flow diag il W Soc E J 45:25-9 F '40
Small plants combine elements. il diags Power Pl Eng 44:78-80 Ja '40
Steam station designed as hydro adjunct; Orem station, Utah power & light company. S. B. Flagg. il diags plan Elec W 114:522-5+ Ag 24 '40
Study of heat-insulation problems in steam power plants. E. T. Cope and W. F. Kinney. il diags Mech Eng 62:465-70 Je '40; Excerpt. Heating-Piping 12:524-6 S '40
This hospital plant took the doctor's advice; St Lukes hospital engineers modernize power plant. il Power 84:519-21 Ag '40
Topping, condensing operation combined in one turbine; Walnut station of the Columbus & southern Ohio electric company; flexible steam provisions for combination turbine; boiler units in Walnut station. C. A. Butler, jr. flow diag il diags plan Elec W 114:70-3+, 397-9+ Jl 13, Ag 10 '40

STEAM plants—Equipment—*Continued*
Treating boiler feedwater at Federal central heating plant, Washington, D.C. C. B. Overman. flow diag il Power 84:488-91 Ag '40
Utility plant in mill yard; steam stand-by on Amoskeag mill property, Manchester, New Hampshire. A. A. Winters. il diag Elec W 113:2034-6+ Je 29 '40
Water-cooled stoker for Richmond, Ind. municipal plant. flow diag il diag Power 84:8-11 Ja '40
World's largest sewage plant steam-powered; Chicago's Southwest sewage treatment works; special boiler furnaces supply heat for sludge drying, destroy vapors, burn sludge, and generate steam for turbine-driven blowers and pumps, and for auxiliary-power turbine-generators. J. M. Mercer. il diag Power 84:70-1 F '40

See also
Boilers
Condensers (steam)
Steam engines
Steam turbines
Stokers, Mechanical
Superheaters

Gas engine auxiliaries

Gas engine driven generator improves operation at Franklin heating station; Rochester, Minn. N. D. Adams. il diags Heating-Piping 12:643-5 N '40

High pressure

Advancing boiler pressure; abstract. A. A. Potter. Power Pl Eng 44:106+ Je '40
Boston Edison co. increases 1400 lb. boiler output at Edgar. C. H. Danforth. il diags Power Pl Eng 44:40-6 My '40
Fisk station topping-unit operation. A. E. Grunert. Engineering 149:209-11 F 23 '40
High-pressure, high-temperature super-imposed installations at Waterside station. J. C. Falkner. Engineering 149:184-5 F 16 '40
High pressure reduces power costs in industrial plant; National vulcanized fibre co. sells surplus power and steam to Marshall bros. il diags Power Pl Eng 44:56-8+ Je '40
Logan operating experience. P. Sporn. Engineering 149:294-5 Mr 15 '40
Progress in the development of heat cycles during past ten years. R. C. Roe. il diags Power Pl Eng 44:44-9 Ja '40
Progress of higher pressures in the industrial plant; with cost data. W. F. Ryan. Mech Eng 62:447-51 Je '40; Same cond. Engineer 170:25 Jl 12 '40; Same cond. Engineering 150:296-8 O 11 '40
Superposed installation at Omaha station of Nebraska power company. L. Elliott. Engineering 149:232 Mr 1 '40

See also
Steam plants—Superposition

Peak load

New peak load capacity justifies 275-lb. turbine; Kansas City power & light co. J. A. Keeth. Elec W News ed 112:1515 N 25 '39

Process steam

Fallacy of oversize steam mains for process steam supply. J. O. G. Gibbons. Chem & Met Eng 47:118 F '40
How to figure the cost of a process piping shutdown. A. C. Kirkwood. diags Heating-Piping 12:87-9 F '40
Process steam supply; problem. diag Power Pl Eng 44:78 My '40; Solutions. diags 44: 82-4 Jl '40
Steam required for corn canning. S. H. Coleman. Power Pl Eng 44:54 Ap '40

See also Steam plants—Combined power and process steam

Standards

Power-plant standardisation. C. H. S. Tupholme. Engineering 149:538-9 My 31 '40

Superposition

Central stations build for 1941; progress reports on 25 new installations. il Power 84: 280-3 My '40
Chester station adds 50,000-kw top. D. F. Schick, jr. and C. F. Bishop. il diags map Power 84:700-5 N '40
Derby tops; installation of superposed unit by the Derby gas & electric co. C. O. Lenz and J. B. Saxe. flow diag il diags Power Pl Eng 43:762-6, 798-9 D '39
Electrical changes in topped plant. W. V. Drake. diags Elec W 113:600 F 24 '40
Fisk station topping-unit operation. A. E. Grunert. Engineering 149:209-11 F 23 '40
Forced circulation for Montaup Electric. Elec W 114:225 Jl 27 '40
High-pressure, high-temperature super-imposed installations at Waterside station. J. C. Falkner. Engineering 149:184-5 F 16 '40
Letters from a turbine specialist, on a governing question. F. S. Kohl and L. B. Wales. flow diag Power 84:25 Ja '40
Letters from a turbine specialist on station performance. F. S. Kohl and E. L. Auyer. diag Power 84:86 F '40
Logan operating experience. P. Sporn. Engineering 149:294-5 Mr 15 '40
Mercury turbine increases plant capacity. A. R. Smith. Power Pl Eng 44:112+ F '40
Millers Ford; three years of high temperature operation. R. D. Gillespie. il diags layout Power Pl Eng 44:38-42, 52-3 Je; 54-6 Jl '40
100% makeup at 825 lb, 750 F; Youngstown Sheet and Tube installs high-pressure topping units. il diag plan Power 84:637-9 O '40
Rivesville topping reduces B.t.u. per kw.-hr. one-third. W. V. Drake. il diags Elec W 113:564-6+ F 24 '40
Superposed installation at Omaha station of Nebraska power company. L. Elliott. Engineering 149:232 Mr 1 '40
Superposed turbine blade research. F. T. Hague. il diags Mech Eng 62:275-7 Ap '40; Same. Power Pl Eng 44:51-4 Ap '40
Superposition experience discussed in A.S.M.E. symposium. Elec W 112:1734-5+ D 16 '39
They live with tops; abstracts of ASME papers. Power 83:829+ Mid-D '39
Topping, condensing operation combined in one turbine; Walnut station of the Columbus & southern Ohio electric company; flexible steam provisions for combination turbine; boiler units in Walnut station. C. A. Butler, jr. flow diag il diags plan Elec W 114:70-3+, 397-9+ Jl 13, Ag 10 '40
Turbine blade research points to solution of vibration troubles. F. T. Hague. il diags Elec W 113:726-8 Mr 9 '40

Tables, calculations, etc.

Circulating water, heat transmission, and heat discharge in condensing plants. R. H. Parsons. Engineer 168:499-501 N 17 '39
Economic dimensions of condensers and cooling plants. A. Fonó. diag Engineering 149: 79-82 Ja 26 '40
Figuring indicated horsepower. P. Swain. Power 84:181 Mr '40
Power station performance; estimating probable results. R. C. Golding. Elec R (Lond) 126:272 Mr 8 '40

STEAM research
Drop-wise and film condensation of steam. F. L. Shea, jr. and N. W. Krase. bibliog diags Am Inst Chem Eng Trans 36:463-87; Discussion. 487-90 Ag '40

STEAM traps
Losses due to re-evaporated steam for various trap inlet pressures when outlet pressure is atmospheric; chart. S. G. Saunders. Power Pl Eng 44:88 N '40
Thermostatic steam traps. il diag Engineer 168:623-4 D 22 '39

STEAM turbines
Advances in power equipment in past ten years. Power Pl Eng 44:61-2 Ja '40
Devise new strainer for steam turbines. G. B. Warren. il diag Elec W 113:1916+ Je 15 '40
Electrical developments of 1939; power generation. G. Bartlett. il Gen Elec R 43:4-6 Ja '40
Electrical engineering in 1939. il Engineer 169:6-7, 14, supp 3 Ja 5 '40

STEAM turbines—*Continued*

Fisk station topping-unit operation; turbine outages and repairs. A. E. Grunert. Engineering 149:209-10 F 23 '40

Hüttner (German) rotary boiler turbine. Automobile Eng 30:224 Jl '40

Integrated program improves station reliability. J. A. Keeth and R. L. Frisby. il Elec W 114:1160-2 O 19 '40

Integrating steam consumption; choice of the most economical size of turbine. R. C. Golding. Elec R (Lond) 127:263-4 S 27 '40

Letters from a turbine specialist. il diags Power 83:521, 593, 667, 729; 84:25, 86, 143, 205 S '39-Ap '40

Making turbine shafts run true; Weaver process. il Power Pl Eng 44:38 My '40

New peak load capacity justifies 275-lb. turbine; Kansas City power and light co. J. A. Keeth. Elec W News ed 112:1515 N 25 '39

Power plant operation problems; starting and stopping turbine units. R. W. Crain. diag Power Pl Eng 44:65 N '40

Rebuilt turbo-unit trims production costs; 25-cycle unit converted to 60-cycle; Riverton station of the Empire district electric company. G. W. Irey and E. J. Drewelow. il diag Elec W 113:889-91+ Mr 23 '40

Review of forty years' development in mechanical engineering plant for power stations. L. Pearce. diags plans Inst Mech Eng J & Proc 142:Proc 305-6, 324-32, pl 1-7 F '40; Same. Engineering 149:254, 263-4, 308, 317-19, 423-5, pl 12-13 Mr 8, 22, Ap 19 '40

Steam turbines; comments on maintenance and safety. T. B. Richardson. Locomotive 43:105-10 O '40

Study of heat-insulation problems in steam power plants. E. T. Cope and W. F. Kinney. il Mech Eng 62:469-70 Je '40

Thermocouples take turbine temperatures; measurement of steam flow by the temperature-drop method. B. O. Buckland and S. S. Stack. diag Elec W 113:567 F 24 '40

Topping, condensing operation combined in one turbine; Walnut station of the Columbus & southern Ohio electric company; flexible steam provisions for combination turbine; boiler units in Walnut station. C. A. Butler, jr. flow diag il diags plan Elec W 114:70-3+, 397-9+ Jl 13, Ag 10 '40

Turbine capacity and arrangement; problem. Power Pl Eng 44:83 F '40; Solutions. diags 44:82-4, 86 Ap '40

Turbine driven centrifugal machine improves the plant's heat balance. W. S. Bodinus. Heating-Piping 12:534 S '40

Werkstoffe für heissdampf von 600°. E. Schulz. V D I 84:160-1 Mr 2 '40

Blades

Blade vibration viewed in experimental turbine. diag Elec Eng 59:159 Ap '40; Same. Engineer 169:514 Je 7 '40

Eignung nickelarmer stähle für dampfturbinenbeschauflungen. il V D I 84:361-3 My 25 '40

More efficient steam turbines; research on blades; abstract. F. T. Hague. Science 91: sup9 Mr 8 '40; Same. Sci Am 163:142-3 S '40

New tests on blades made by pictures; abstract. M. W. Smith. Elec W 113:590 F 24 '40

Operation ok's blade research. N. D. Gove. il diag Power 84:156-7 Mr '40

Superposed turbine blade research. F. T. Hague. il diags Mech Eng 62:275-7 Ap '40; Same. Power Pl Eng 44:51-4 Ap '40

Turbine-blade fatigue testing. R. P. Kroon. il Mech Eng 62:531-5 Jl '40; Same cond. Engineer 170:80-1 Ag 2 '40

Turbine blade research points to solution of vibration troubles. F. T. Hague. il diags Elec W 113:726-8 Mr 9 '40

Turbines, blades, steam; abstracts of ASME papers. Power 83:835 Mid-D '39

Vibratory stresses; temperature, impact and speed effects by optical methods; superposed turbines. F. T. Hague. diag Product Eng 11:174-5 Ap '40

Cleaning

Letters from a turbine specialist; washing out turbines. F. S. Kohl and H. M. King. diag Power 84:205 Ap '40

Washing turbine improves performance. plan Elec W 113:1386 My 4 '40

Control

Operating and designing engineers get together on governor performance; abstracts of ASME papers. diag Power 83:832-4 Mid-D '39

Quick starting turbines. J. T. Moffett. il diags Power Pl Eng 44:93-4, 96 My '40

Servomotors control double-extraction turbines. O. N. Bryant. diag Power 84:580-2 S '40

Turbine governors can't talk; functions, selection, maintenance. R. W. McLaughlin. il Power Pl Eng 44:71-5 S '40

Design

Internal by-pass for high temperature. W. E. Blowney. diag Elec W 113:2074 Je 29 '40

Progress in design and performance of modern large steam turbines for generator drive. G. B. Warren. bibliog il diags Gen Elec R 43:374-83, 412-19, 442-51 S-N '40; Excerpt. Power Pl Eng 44:66-7 Ag '40

Some researches on steam-turbine nozzle efficiency. H. L. Guy. il diags Engineering 148:700-4, 712-16 D 22-29 '39; Same. Engineer 169:70-1, 73, 94-7, 116-18 Ja 19-F 2 '40

Why turbines have changed. C. C. Franck. diags Power Pl Eng 44:65-8 O '40

Efficiency

Engine efficiency calculations of large turbines; abstract. G. B. Warren and P. H. Knowlton. Power 84:504 Ag '40

Some researches on steam-turbine nozzle efficiency. H. L. Guy. il diags Engineering 148:700-4, 712-16 D 22-29 '39; Same. Engineer 169:70-1, 73, 94-7, 116-18 Ja 19-F 2 '40

Turbine expansion lines for estimating purposes. W. F. Fischer. Power Pl Eng 44: 73-6 Jl '40

Exhaust

Turbine-exhaust pressure. Power 84:388 Je '40

Extraction

ABC's of feed heating. N. D. Gove. diags Power 84:16-19 Ja '40

Regenerative feed heating in industrial power plants. A. F. Webber. Blast F & Steel Pl 28:594-7+ Je '40

Servomotors control double-extraction turbines. O. N. Bryant. diag Power 84:580-2 S '40

Failures

Atmospheric relief valve sticks; turbine explodes. il Locomotive 43:111-13 O '40

Failures of auxiliary steam turbines. il Locomotive 43:66-9 Jl '40

History

Historic turbine goes to Smithsonian institution; Parsons' reaction-type steam turbogenerator. il Power Pl Eng 44:104 Ap '40

Lubrication

Turbine oil conditioned by acid correction. E. M. May. diags Power 84:78-9 F '40

Turbine oil practice. Elec W 113:1207-8 Ap 20 '40

Outdoor installation

Outdoor turbine; Glendale will have first hydrogen-cooled unit to be unhoused. il Elec West 84:45 Ap '40

Repair

Small lathe saves big expense on turbine-generator repair. N. D. Jackson. il diag Power 84:739 N '40

Statistics

Census of steam engine manufacture; 1939 census of manufacturers of establishments whose principal products are steam engines, steam turbines, water wheels and water turbines. Power Pl Eng 44:118+ N '40

STEAM turbines—Statistics—*Continued*
Turbine statistics; turbine-generators ordered from General Electric since January 1, 1939, in ratings of 10,000 kw and higher. Gen Elec R 43:181 Ap '40

Tables, calculations, etc.

Estimation of the leakage through a labyrinth gland. B. Hodkinson. diag Inst Mech Eng J & Proc 141:Proc 283-8 My '39; Discussion. 142:Proc 459-67 Mr '40
Turbine expansion lines for estimating purposes. W. F. Fischer. Power Pl Eng 44: 73-6 Jl '40
Turbine performance calculations. P. S. Austen. diag Power Pl Eng 44:77-8 Ap '40
Turbine vacuum-correction factor; data sheet. G. B. Warren and P. H. Knowlton. Power 84:511 Ag '40

Vibration

Blade vibration viewed in experimental turbine. diag Elec Eng 59:159 Ap '40; Same. Engineer 169:514 Je 7 '40
Erratic vibration, a case for the specialist. R. P. Kroon. diags Power 84:212-15 Ap '40
Superposed turbine blade research. F. T. Hague. il diags Mech Eng 62:275-7 Ap '40; Same. Power Pl Eng 44:51-4 Ap '40
Turbine-blade fatigue testing. R. P. Kroon. il Mech Eng 62:531-5 Jl '40
Turbine blade research points to solution of vibration troubles. F. T. Hague. il diags Elec W 113:726-8 Mr 9 '40

STEAM turbines, Marine
Fifty years of marine engineering. A. L. Mellanby. diags Inst Mech Eng J & Proc 143:Proc335-42, pl 2 O '40; Same cond. Engineering 149:372-3, 381-2 Ap 5-12 '40; Same cond. Engineer 169:307-9 Mr 29 '40
Marine equipment developments in 1939. G. Bartlett. Marine Eng 45:76 Ja '40
S.S. America; machinery. il Marine Eng 45: 121-2 Ag '40
Turbine drive reduces operating costs of dredge Geo. A. McWilliams. J. M. Allen. il Marine Eng 44:566-8 D '39
United States liner America. H. F. Norton and J. F. Nichols. il Engineering 150:153-4, 190, pl 13 S 6 '40; Same Engineer 170:188-90 S 20 '40

Gearing

Efficiency of gearing. G. H. Gibson. diags Marine Eng 45:90+ F '40
Geared for defense; turbine-gear sets; General electric company. A. A. Ross. il diag Am Mach 84:874-5 O 30 '40
Gears for U.S. defense and trade; marine turbine gears; manufacturing and testing operations; General electric company. A. A. Ross. il Gen Elec R 43:434-7 N '40; Same. Power Pl Eng 44 58-61 N '40; Same. Marine Eng 45:62-7 D '40

Lubrication

Steam turbine lubrication. W. G. Forbes. il Marine Eng 45:55-6 Je; 82, 84 Jl; 84+ S; 77-8 O '40

Manufacture

General Electric expands turbine department. Marine Eng 45:55 O '40

STEAM turbines, Portable
Richardsons, Westgarth and company's 350-h.h.p portable geared turbine and condensing plant. il Engineering 148:705 D 22 '39; Engineer 168:623 D 22 '39

STEAM vehicles. See Motor vehicles, Steam

STEAMBOAT lines
American-flag ships in the Latin-American trade; tonnage, passenger accommodations, services. Comm Rep p168 F 17 '40
Southern ships for southern trade; Delta line. il diag plan Manuf Rec 108:16-17, 52+ D '39

See also
Merchant marine—
United States
Safety at sea
also Peninsular and Oriental steam navigation company

Advertising

Conclusive test of advertising; Panama line increases patronage. il Ptr Ink Mo 40:55 Je '40

Finance

American superliners, they will pay! abstracts. G. C. Gaede. Marine Eng 45:60-2 Ja '40; Mech Eng 61:919-20 D '39; Discussion. Marine Eng 45:68, 70 Ja '40
United States lines co. income account for year ended Dec. 31, 1939. Comm & Fin Chr 150.3681 Je 8 '40

STEAMBOATS
Admiral, air conditioned Mississippi River excursion steamer. Marine Eng 45:79 S '40
Air conditioning aweigh; equipment on board the Admiral. il Dom Eng 156:48-9 N '40
America, United States liner. il Marine Eng 45:78-81+ N '40
Bethlehem launches the Delbrasil at Sparrows Point for Delta line. il Marine Eng 45:106 Ja '40
Delbrasil, passenger liner. il diags Marine Eng 45:88-90+ N '40
Excursion steamer, 1940 model. il Business Week p37 N 25 '39
Explorer, survey ship. il diag plan Marine Eng 45:96-7+ N '40
Exporter class cargo ships. il diags plans Marine Eng 44:558-61 D '39
Mechanical engineering problems in marine transport. S. B. Freeman. diags Inst Mech Eng J & Proc 142.Proc 1-12 N '39; Same. Engineering 149:153-6 F 9 '40; Same cond. Engineer 169:164-6 F 16 '40
Modern tanker design. N. J. Pluymert. Marine Eng 44:577-80 D '39; Same. Engineering 149:266-7 Mr 8 '40; Discussion. Marine Eng 44:590-2 D '39
New engineering in the navy. C. Edison. il Sci Am 162:138-9 Mr '40
Ohio, Texas tanker. il plans Marine Eng 45: 48-52 O '40
Passenger and cargo liner Delbrasil to run between New Orleans and the East coast of South American ports. il diags plans Marine Eng 45:48-62 Jl '40
Planned marine museum; Franklin institute museum; Hall of marine transportation. C. M. Gay. il Franklin Inst J 229:572-5 My '40
La première traversée de l'Atlantique du paquebot Queen Elizabeth, des chantiers de la Clyde à New York. il Génie Civil 116: 257-9 Ap 20 '40
President Jackson, round-the-world passenger liner. il diag plan Marine Eng 45:108-9+ N '40
Le remplacement de deux paquebots et d'un navire de charge français, sur la ligne de Dieppe à Newhaven. Génie Civil 116:71 Ja 27 '40
Sea Fox and Frederick Lykes, turbine-drive C-3 cargo ships. il diags Marine Eng 45:54-61 My '40
Shipbuilding and marine engineering in 1939. il Engineer 169:19-20, supp 2, 46-8, 59-62 Ja 5-19 '40
S.S. America; design, construction, decoration and equipment. il diags plans Marine Eng 45:79-138 Ag '40
Survey ship Explorer. il plans Marine Eng 45:46-51 Je '40
United States liner America. H. F. Norton and J. F. Nichols. il plans Engineering 150:145-8, 150, 178, 183-8, 190, pl 10, 13 Ag 23-S 6 '40; Same cond. Engineer 170:142-4, 158-60, 173-6, 188-90, 204-6 Ag 30-S 27 '40; Excerpts. Marine Eng 45:43-5 Je '40; Mech Eng 62:685-7 S '40; Excerpt (Electricity on the steamship America). Elec Eng 59: 398-9 O '40; Discussion. Marine Eng 45: 41-2 Je '40

See also
Boilers, Marine
Freight ships
Naval architecture
Ship propulsion
Shipbuilding
Shipping
Ships
Steam turbines, Marine
Steamboat lines
Towboats
Warships

STEAMBOATS—*Continued*

History

British Columbia steam coal tried for the first time, commercially, on S.S. Beaver, 1836. G. A. Cuthbertson. il (p798) Can Min J 60:819-20 D '39

First twenty years of screw propulsion. E. C. Smith. Engineering 149:126-7, 182-3 F 2, 16 '40

Reconstruction

Rebuilding the steamship Olga. J. A. V. Hyatt. il Marine Eng 45:86+ Mr '40

STEARANILIDE

Splitting the CONH linkage by means of ultraviolet light. D. C. Carpenter. bibliog diags Am Chem Soc J 62:289-91 F '40

STEARATES

X-ray and optical properties of built-up films. S. Bernstein. bibliog il Am Chem Soc J 62:374-8 F '40

See also
Methyl stearate

STEARIC acid

Adsorption analysis; relation between adsorption isotherm and position on the adsorption column. H. G. Cassidy. Am Chem Soc J 62:3076-9 N '40

Adsorption analysis; the adsorption of higher fatty acids. H. G. Cassidy. bibliog Am Chem Soc J 62:3073-6 N '40

Equilibrium constants for the systems alkyl formates and alkyl acetates with stearic acid. C. Barkenbus, C. A. Roswell and A. E. Mitts. bibliog Am Chem Soc J 62:1251-3 My '40

Preparation of pure stearic acid. J. P. Kass and L. S. Keyser. bibliog Am Chem Soc J 62:230 Ja '40

Sulfonated arylstearic acids; wetting properties of the sodium salts. A. J. Stirton, R. F. Peterson and P. H. Groggins. bibliog Ind & Eng Chem 32:1136-7 Ag '40

Variation of the solubility of unimolecular films with surface pressure, and its effect on the measurement of true surface pressure. F. Sebba and H. V. A. Briscoe. Chem Soc J p114-18 F '40

Viscosity of monolayers; a test of the canal viscosimeter. G. C. Nutting and W. D. Harkins. bibliog diags Am Chem Soc J 62:3155-61 N '40

STEARIC anilide. See Stearanilide

STEBBINS, Mrs Kathleen Brown

SLA's secretaries. Special Lib 31:329 S '40

STEEL, R., and sons

Handy men to many industries; R. Steel & sons operates combined forge and machine shop. R. G. Skerrett. il Comp Air M 45:6143-6 My '40

STEEL

Converter steel for shrapnel shells. A. M. Portevin. Metal Prog 38:294 S '40

Diffusion of hydrogen from water through steel. F. J. Norton. diags J Ap Phys 11: 262-7 Ap '40

Dimensional variations in hot-rolled steel mill products and the problem of control. A. C. Cummins. Blast F & Steel Pl 28: 577-80+, 795-7 Je, Ag '40

Edelstahl; zum 25jährigen bestehen des edelstahl-verbandes am 12. dezember 1939. W. Kossmann. il Stahl & Eisen 59:1333-6 D 14 '39

Equilibria for gas-steel reactions; relation between gas composition, temperature, and carbon content in steel; data sheet. Metal Prog 38:594 O '40

Gas content vs steel behavior; Republic's vacuum extraction technique. G. T. Motok. il Iron Age 144:25-8 N 30; 40-3 D 7 '39

Influence of various lubricants on the seizure characteristics of hard steel and bronze. D. Clayton. il Engineering 149:131-5, 144 F 9 '40

Iron and steel in 1939. M. J. R. Morris. il Min & Met 21:54-6 Ja '40

Making, shaping and treating of steel. J. M. Camp and C. B. Francis. 5th ed 1440p $7.50 Carnegie-Illinois steel corp, Pittsburgh '40

New lighter steels are used in trucks and their equipment. il Nat Pet N 31:59-60, 64, 66 D 13 '39

New steels. Metals & Alloys 12:173 Ag '40

Republic announces new screw steel. Iron Age 146:82 Jl 4 '40

Stahlleichtbau bei werkzeugmaschinen; grundlagen und ausführungsbeispiel. C. Krug. il diags V D I 84:11-16 Ja 6 '40

Steel rails in the U. S.; a review of developments. H. H. Morgan. il Metal Prog 38:36-8 Jl '40

Steel selection guide; physical properties, machinability, cost, application and heat treatment of machinery steels. A. W. Ainsworth. Steel 106:68-70 Ja 22 '40

Steel versus copper fire-boxes. Engineer 170: 175-6 S 13 '40

Steels and irons. il diags Metal Prog 38:373-94 O '40

Survey of factors affecting the surface quality of semi-finished steel. H. B. Emerick. Blast F & Steel Pl 28:799-803 Ag '40

Union Maxcut, Union Multicut, new Bessemer and open hearth screw steel. Automotive Ind 83:70 Jl 15 '40

See also

Annealing
Bessemer process
Bridges, Iron and steel
Case hardening
Chromium nickel steel
Chromium steel
Concrete, Reinforced
Corrosion and anti-corrosives
Electrolytic corrosion
Foundry practice
Freight cars, Steel
Iron
Magnetism
Manganese steel
Molybdenum steel
Nickel steel
Open hearth process
Pipes, Steel
Rails
Rolling (metal work)
Rolling mills
Sheet steel
Silicon steel
Springs (mechanism)
Steel, Aircraft
Steel, Automobile
Steel, Cold working of
Steel, Corrosion resisting
Steel, Hardening of
Steel, Heat resisting
Steel, Heat treatment of
Steel, Reinforcing
Steel, Stainless
Steel, Structural
Steel alloys
Steel castings
Steel construction
Steel forgings
Steel houses
Steel ingots
Steel metallurgy
Steel plates
Steel works
Tool steel
Tubes, Steel

Aging

Age hardening of cold reduced strip. P. J. McKimm. Steel 107:44, 46, 48-9 S 30; 46, 48, 50, 78-81 O 7; 139-40 bibliog(114 titles, p79-81, 139-40) O 14 '40

Critical review of the published work on the aging of iron and steel; abstract. R. L. Kenyon and R. S. Burns. il Steel 105:58+ N 27 '39

Improving drawability of steel by controlling nitrogen. C. L. Altenburger. Metal Prog 37:639-43 Je '40

Permanence of the quench-age-hardening of mild steel. H. Wilhelm and J. Reschka. Engineer 169:sup[Metallurgist] 118-19 Je 28 '40

Quench ageing, strain ageing and cold working of steel; abstract. J. H. Andrews and others. Metals & Alloys 12:335-6 S '40

Strain-ageing of dead-mild steel strip used in the pressing of automobile bodies and accessories. J. W. Rodgers and H. A. Wainwright. diags Iron & Steel Inst J 139:387-418, pl 25; Discussion, 419-34 no 1 '39

Study of strain-age-hardening of mild steel. C. A. Edwards, H. N. Jones and B. Walters. bibliog Iron & Steel Inst J 139:341-85, pl 23-4 no 1 '39; Summary. Iron Age 144:39 D 21 '39; Discussion. Iron & Steel Inst J 139: 419-33 no 1 '39

Aluminum content

Laugenbeständigkeit von flussstahl in abhängigkeit von alterungsneigung, wärmebehandlung und aluminiumgehalt. F. Nehl and W. Werner. diag Stahl & Eisen 59:1155-7 O 19 '39; Abstract (Mild steel for chemical plant). Engineer 169:sup[Metallurgist] 101-2 Ap 26 '40

STEEL—*Continued*

Analysis

Analyses of S.A.E. steels; data sheet. Metal Prog 38:388 O '40

Die anwendung von ueberchlorsäure für die photometrische bestimmung von chrom und nickel in stahl. Stahl & Eisen 59:1275 N 23 '39

Carbon determination; Bureau of mines improves coercimeter. Steel 106:44, 46+ Mr 11 '40

Colorimetric determination of arsenic in ferrous and nonferrous alloys. C. J. Rodden. bibliog diag J Research Nat Bur Stand 24: 7-11 Ja '40

Determination of molybdenum in cast iron and steel. C. Sterling and W. P. Spuhr. Ind & Eng Chem Anal ed 12:33-4 Ja 15 '40; Same cond. Chem Age (Lond) 42:155-6 Mr 16 '40

Estimation of hydrogen in steel and other metals. W. C. Newell. bibliog diag Iron & Steel Inst J 141:243-53, pl 7 no 1 '40; Same cond. Engineering 149:479-80 My 10 '40; Discussion. Iron & Steel Inst J 141:254-62 no 1 '40

Fast steel analysis by spectroscope. A. Fisher. il Steel 107:46-8 S 23 '40

Gas content vs steel behavior; Republic's vacuum extraction technique. G. T. Motok. il Iron Age 144:25-8 N 30; 40-3 D 7 '39

How gases and oxides affect machinability; vacuum fusion extraction analyses. G. T. Motok. il Steel 106:62-3+ Ap 29 '40

Hydrogen and nitrogen in molten steel; composite of abstracts. Metals & Alloys 11: MA252 My '40

Magnetic determination of carbon in steel; Carbanalyzer; abstracts. H. K. Work and H. T. Clark. bibliog diags Engineer 170:46-7 Jl 19 '40; Steel 106:62+ F 5 '40; Engineering 150:138-9 Ag 16 '40

Manganese and chromium in steel; modified persulfate-arsenite method. R. P. Forsyth and W. F. Barfoot. Ind & Eng Chem Anal ed 11:625 N 15 '39

Manganese, chromium, and nickel in 18-8 alloy steels; a rapid sequence titration. L. Silverman and O. Gates. bibliog Ind & Eng Chem Anal ed 12:518-19 S 15 '40

Mercury cathode in metallurgical analysis. A. E. Pavlish and J. D. Sullivan. il Metals & Alloys 11:56-9 F '40

Rapid determination of oxygen in steel. L. Singer. il diags Ind & Eng Chem Anal ed 12:127-30 Mr 15 '40

Ein schnellverfahren zur bestimmung des kohlenstoffgehaltes von unlegierten stählen. H. Fucke. diag Stahl & Eisen 59:1323-4 D 7 '39

Spectrochemical analysis of sheet steel at the Great Lakes steel company. R. A. Sawyer and H. B. Vincent. il diag J Ap Phys 11: 452-8 Jl '40

Spectrographic analysis of steel. J. L. Gregg and P. R. Irish. il Iron Age 145:33-7 My 9 '40

Steel sampling instrument; Carbanalyser. diag Elec R (Lond) 127:113 Ag 9 '40

Use of Carbanalyzer; the Leeka process for carbon determination; discussion at conference of Open hearth committee. Iron Age 145:56 My 2 '40

Bibliography

Complete list of Kaiser Wilhelm institute 1939 bulletins. Iron Age 145:74-5 My 23 '40; Same. Blast F & Steel Pl 28:591 Je '40

Review of iron and steel literature for 1939. E. H. McClelland. Blast F & Steel Pl 28: 81C-81D, 101, 171, 194, 196 Ja-F '40 [reprinted by Carnegie library, Pittsburgh]

Survey of literature on the manufacture and properties of iron and steel, and kindred subjects. Iron & Steel Inst J 139:1A-397A no 1; 140:1A-368A no 2 '39

Survey of literature on the manufacture and properties of iron and steel, and kindred subjects. Iron & Steel Inst J 141:1A-321A no 1 '40

Zeitschriften- und bücherschau. Stahl & Eisen 60:78-86 Ja 25 '40 [cont monthly]

Brittleness

Brittle constituent in chromium-nickel-iron alloys. H. Hougardy. Metal Prog 37:64-5+ Ja '40

Brittleness of frigid metal. N. Davidenkoff. Metal Prog 38:184-5 Ag '40

Embrittlement of creep resisting steels at high temperatures. E. Siebel and K. Wellinger. Engineer 170:sup[Metallurgist] 121-2 Ag 30 '40

Hydrogen, flakes and shatter cracks. C. A. Zapffe and C. E. Sims. bibliog il Metals & Alloys 11:177-84 Je '40

Improving drawability of steel by controlling nitrogen. C. L. Altenburger. Metal Prog 37: 639-43 Je '40

Work-brittleness test for steel. H. W. Graham and H. K. Work. Am Soc T M Proc 39: 571-80; Discussion. 581-2 '39

Case hardening

See Case hardening

Cleaning

Flame-cleaning apparatus. F. C. Hutchison. il Civil Eng 10:414-16 Jl '40

Flame-cleaning method. F. H. Dill. il Civil Eng 10:412-14 Jl '40

Flame cleaning steel for painting. E. W. Deck. il Eng N 125:411-14 S 26 '40

Flame descaling, cleaning, dehydrating. J. G. Magrath. il Steel 106:54-6 Ap 1 '40

Mercury lighting for billet chipping; Youngstown sheet & tube company. il Elec W 113:1390 My 4 '40

Relationship of cleaning techniques and adhesion of electrodeposits; abstract. B. F. Lewis. Iron Age 146:41 Jl 4 '40

Sandblasting as a cleaning method. A. B. Davis. il Civil Eng 10:410-12 Jl '40

Symposium on conditioning steel for painting. Eng N 124:566 Ap 25 '40

Taking the stain off stainless. G. C. Kiefer. il Am Mach 84:50-2 F 7 '40

Way to clean stainless steel. G. C. Kiefer. il Food Ind 12:48-9 Je '40

Working of carbon sheet steel; methods in common use for cleaning and pickling; tabulation. Am Mach 84:828 O 16 '40

Color

Coloring stainless steel; patent. Metal Ind 38:274 My '40

Improved black finish on steel; Jetal process. Iron Age 146:54 Ag 1 '40; Same. Metal Finishing 38:446+ Ag '40; Same. Steel 107: 50 Ag 5 '40

Copper content

Copper steels; results of tests to determine effect of copper on corrosion resistance. C. T. Greenidge and C. H. Lorig. bibliog diag Iron Age 145:21-5 F 15 '40

High-tensile structural steels containing copper. Engineer 169:sup[Metallurgist] 93-5 F 23 '40

Welding copper steels; a review of the literature to July 1, 1937; abstract. W. Spraragen and G. E. Claussen. Metals & Alloys 11:MA26+ Ja '40

See also

Chromium copper steel

Cost

Weight and cost of rolled steel flats; reference book sheet. H. A. Valentine. Am Mach 83:1047-8 D 13 '39

Decarburization

Die oberflächenentkohlung des stahles als eine diffusionsfrage. H. Wentrup. Stahl & Eisen 60:52-3 Ja 18 '40

Surface decarburization; cause of discrepancies between apparent strength and effective strength of steel automotive parts. L. A. Danse. il Steel 106:60-1 F 5 '40

Defects

Effects of soaking pit operation upon steel conditioning; abstract. C. L. Labeka. Iron Age 146:35-7 O 3 '40

STEEL—Defects—*Continued*
Flakes and cooling cracks in forgings; problem in ordnance. F. B. Foley. il Metals & Alloys 12:442-5 O '40
Forged working rolls for cold-rolling mills and their manufacture. R. Scherer. il Blast F & Steel Pl 27:1143-5+, 1238-41 N-D '39
Grinding cracks in quenched steels. K. Monma. il Iron Age 145:44-5 F 29 '40
Hydrogen, flakes and shatter cracks; correlated abstract. C. A. Zapffe and C. E. Sims. il Metals & Alloys 11:145-51, 177-84 bibliog(239 titles, p 148-51, 184); 12:44-51, 145-8 My-Ag '40
Nondestructive production test for steel tubing. il Steel 107:38-40+ O 21 '40
Prevent hot tears in steel castings. W. J. Phillips. il diag Foundry 68:27-8+ Jl '40
Prevention of flakes by holding railroad rails at various constant temperatures. R. E. Cramer and E. C. Bast. il Am Soc for Metals Trans 27:923-30 bibliog(p930, 934) D '39; Same. Blast F & Steel Pl 27:1174-6+ N '39; Discussion. Am Soc for Metals Trans 27:931-4 D '39
Slivers in cold reduced strip. P. J. McKimm. il Blast F & Steel Pl 28:243-6+, 338-40 Mr-Ap '40
Temper cracks in high speed steels. K. Monma. Iron Age 145:54-5+ Ap 4 '40

Deoxidation

Theory and practice of basic open hearth slag control. F. M. Washburn and W. O. Philbrook. il Iron Age 145:30 Mr 14 '40

Desulfurization

See Steel—Sulfur content

Failure

Accidents caused by the breaking of drill steel. R. H. Cleland. Can Min J 61:453-4 Jl '40
Failure of low carbon steel still tubes. R. W. Moore. il Metals & Alloys 11:123 Ap '40; Discussion. 11:123; 12:298-300 Ap, S '40
Failure of press tools under fatigue and impact. C. E. Bretney. il diags Metal Prog 36:751-4 D '39
Fatigue failure; effects of stress raisers on the fatigue strength of metals and alloys; correlated abstract. G. Sachs. bibliog il diag Iron Age 146:31-4 S 5; 36-40 S 12 '40
Investigation into the occurrence and causes of locomotive tyre failures. C. W. Newberry. diags Inst Mech Eng J & Proc 142: Proc 289-303, pl 1-4 Ja '40; Discussion. 143:Proc 349-62, pl 5-8, O '40
Stress corrosion cracking of the austenitic chromium-nickel steels and its industrial implications. J. C. Hodge and J. L. Miller. il diags Am Soc for Metals Trans 28:26-67; Discussion. 67-82 Mr '40

See also
Steel—Brittleness

Finishing

Analysis of machinability data from cold finished and heat treated S.A.E. 1045 steel. O. W. Boston and W. W. Gilbert. il Am Soc for Metals Trans 28:186-205; Discussion. 205-8 Mr '40
Better finishing methods produce improved cutter efficiency. V. H. Ericson. il Steel 107:80+ Ag 12 '40
Billet grinding; factors affecting cost. A. O. Rousseau. il Iron Age 145:45-7 Je 20 '40
Bright dipping of stainless steel. Metal Ind 37:584 D '39
Chemical polishing method; stainless steel polished by anodic treatment. A. L. Feild and I. C. Clingan. il Steel 106:54, 56+ Ap 22 '40; Abstract. Mech Eng 62:549 Jl '40
Conditioning of semi-finished steel. il Metal Prog 38:168-70 Ag '40
Cutting and surface conditioning. H. Ullmer. Metal Prog 38:487 O '40
Electrolytic polishing of stainless steel. G. Kiefer. il diag Iron Age 144:30-2+ D 21 '39
Electropolishing. S. Tour. il Metal Finishing 38:308-12 Je '40
Electro-polishing stainless. S. Tour. il Steel 106:72+ Je 17 '40
Finishing filing cabinets and allied steel office units. F. V. Faulhaber. il Metal Finishing 38:622-4 N '40 (to be cont)
Finishing metal containers. C. Cleveland. il Metal Finishing 38:619+ N '40
Finishing the surface of steel mill rolls; American wheelabrator airless centrifugal blasting with metallic abrasives. D. C. Turnbull. il Blast F & Steel Pl 28:495-6+ My '40
Flame descaling, cleaning, dehydrating. J. G. Magrath. il Steel 106:54-6 Ap 1 '40
Flame scarfing billets. J. Heffley. Steel 107: 54-5+ Jl 15 '40
Hot scarfing of billets, blooms and slabs; abstract. E. A. Doyle. Iron Age 146:39-40 O 3 '40
Metallurgical aspects of hydrogen in electroplating; abstract. C. A. Zapffe and C. L. Faust. Iron Age 145:43 Je 27 '40
Mirror strip with carbide rolls. T. C. Campbell. il Iron Age 145:44-6 F 1 '40
Modernized finishing department for steel cabinets. J. R. Williams. il plan Metal Ind 38:125-6+ F '40
Pickle polished stainless steel. T. W. Lippert. il Iron Age 145:22-6 Ja 11 '40
Plastic-on-metal finishes; new type of protection for steel products. il Iron Age 146: 48-50 Ag 15 '40
Polishing and its phases. J. G. Sterling. Metal Finishing 38:427-8 Ag '40
Rust proofing and finishing of unit heater casings and convector enclosures. C. T. Perkins. il Metal Ind 37:602-4 D '39
Scarfing billets and slabs. il Steel 107:62, 64+ N 11 '40
Superfinish. D. A. Wallace. il diags S A E J 46:69-92 F '40
Surface quality of an S.A.E. 3140 steel; profilograph study; various combinations of speeds, structures, and cutting fluids. O. W. Boston and W. W. Gilbert. il diag Mech Eng 62:785-9 N '40
Surface treatment of steel prior to painting. R. E. Pollard and W. C. Porter. il Metal Finishing 38:514-18, 569-71, 620-1 S-N '40; Excerpts. Iron Age 146:48-9 Jl 11 '40
What counts is the finish; super-finishing process has been further refined. A. M. Swigert. il Am Mach 84:8-11 Ja 10 '40
Working of carbon sheet steel; polishing and buffing. Am Mach 84:830-1 O 16 '40

Flakes

See Steel—Defects

Gas content

Gas content vs steel behavior; Republic's vacuum extraction technique. G. T. Motok. il Iron Age 144:25-8 N 30; 40-3 D 7 '39
Gases and metals; composite of abstracts. Metals & Alloys 11:MA164-5 Mr '40
How gases and oxides affect machinability; vacuum fusion extraction analyses. G. T. Motok. il Steel 106:62-3+ Ap 29 '40
Hydrogen and nitrogen in molten steel; composite of abstracts. Metals & Alloys 11: MA252 My '40
Studies evolution of gas from solidifying ingots; abstract. J. Chipman. Steel 105:78 N 27 '39

See also
Steel—Hydrogen content
Steel—Nitrogen content

Hydrogen attack

Hydrogen, flakes and shatter cracks; correlated abstract. C. A. Zapffe and C. E. Sims. il Metals & Alloys 11:145-51, 177-84 bibliog(239 titles, p 148-51, 184); 12:44-51, 145-8 My-Ag '40
Influence of the steel-base composition on the rate of formation of hydrogen-swells in canned-fruit tinplate containers. T. P. Hoar, T. N. Morris and W. B. Adam. bibliog diags Iron & Steel Inst J 140:55-92, pl 9; Discussion. 93-4 no 2 '39

STEEL—*Continued*

Hydrogen content

Estimation of hydrogen in steel and other metals. W. C. Newell. bibliog diag Iron & Steel Inst J 141:243-53, pl 7 no 1 '40; Same cond. Engineering 149:479-80 My 10 '40; Discussion. Iron & Steel Inst J 141:254-62 no 1 '40

Relation of defects in enamel coatings to hydrogen in steel. C. A. Zapffe and C. E. Sims. il diags Am Cer Soc J 23:187-219 bibliog(219 titles, p215-19) Jl '40; Discussion. 23:291-6; Reply. 296-300 O '40

Inclusions

Classification of inclusions in steel. il S A E J 46:sup17-19 Je '40

Control of sulphur in basic open hearth. T. L. Joseph and F. W. Scott. il diag Iron Age 144:34-7 N 23; 30-4 N 30; 49-53 D 7 '39

Metallographic grinding with abrasives fixed in lead disks; method preserves inclusions. K. Amberg. il diags Metal Prog 37:146-9 F '40

Method for identification of inclusions in iron and steel; chart. W. Campbell and others. Metal Prog 38:376 O '40

Rating of inclusions (dirt chart) in use by Chevrolet motor co. G. W. Walker. Metal Prog 38:378 O '40

Relation of defects in enamel coatings to hydrogen in steel. C. A. Zapffe and C. E. Sims il diags Am Cer Soc J 23:187-219 bibliog(219 titles, p215-19) Jl '40; Discussion. 23 291-6; Reply. 296-300 O '40

Slag inclusions and acid open-hearth refining of high-carbon steel. H. Styri. Iron & Steel Inst J 139:287-96 no 1 '39

Slag prints. R. Mitsche. Metal Prog 37:68 Ja '40

Sulphide inclusions from clay packing. G. K. Manning. il Metal Prog 36:747-8 D '39

What is being done to minimize inclusions in steel through improved runner linings? discussion at Open hearth conference. Brick & Clay Rec 96:54 My '40

What pouring pit refractory is the worst offender in causing fireclay inclusions in killed steels? discussion at Open hearth conference. Brick & Clay Rec 96:54 My '40

X-ray diffraction study of grain boundary inclusions in steel. R. Morgan, S. Steckler and E. B. Schwartz. bibliog Franklin Inst J 229:191-9 F '40

Lead content

Discussion of leaded steels. F. J. Robbins and G. R. Caskey. bibliog il Am Soc for Metals Trans 27:887-915; Discussion. 915-22 D '39

Lead-bearing steel machining speeds important in defense. O. E. Harder. Steel 107: 166 O 14 '40

Lead-bearing steels; control of possible health hazards during fabrication. J. W. Halley and E. D. Martin. il diag Metal Prog 37:112-18 Ap '40

Leaded steels. Mech Eng 62:237-8 Mr '40

Properties and machinability of a leaded steel. T. J. Dolan and B. R. Price. il diag Metals & Alloys 11:20-7 Ja '40

Standard sample of leaded steel. L. J. Briggs. Metal Prog 37:64 Ja '40

Machinability

See Steel cutting

Metallography

Annealing of low carbon rimmed, aluminum-killed and silicon-killed steels. W. P. Wallace and R. L. Rickett. il Am Soc for Metals Trans 28:333-50; Discussion. 350-3 Je '40

Case carburization of steel. E. G. Mahin. il Iron Age 145:53-7 Je 6 '40

Characteristics of 5.0 and 7.0 per cent chromium steels with varying molybdenum and vanadium content. W. G. Hildorf, C. L. Clark and A. E. White. il Am Soc for Metals Trans 27:1090-1114; Discussion. 1114-17 D '39

Cinétique de la décomposition fractionnée des austénites. H. Jolivet and A. Portevin. Génie Civil 115:464-5 D 30 '39

Columnar structure in steel ingots; abstract. R. Hohage and R. Schäfer. Engineer 168: sup[Metallurgist] 78-9 D 29 '39

Deformation and fracture of mild steel under cyclic stresses in relation to crystalline structure. H. J. Gough and W. A. Wood. diags Inst Mech Eng J & Proc 141:Proc 175-85, pl 1-4 Ap '39; Discussion. 142:Proc 175-83, pl 5-6 D '39

Effect of nitrogen additions and heat treatment on the properties of high-chromium steels. E. W. Colbeck and R. P. Garner. bibliog diags Iron & Steel Inst J 139:99-136, pl 2-5; Discussion. 137-46, pl 5a no 1 '39

Effect of phosphorus in 5 per cent Cr, 0.50 Mo steel. H. D. Newell and Z. E. Olzak. il Metals & Alloys 11:106-11 Ap '40

Effect of rate of heating through the transformation range on austenitic grain size. S. J. Rosenberg and T. G. Digges. bibliog 15 pls J Research Nat Bur Stand 25: 215-28 Ag '40

Effect of titanium on the macrostructure and grain coarsening temperature of forging steel. G. F. Comstock. il Am Soc for Metals Trans 28:608-18 S '40

Electrolytic polishing of iron and steel. Engineer 167:sup [Metallurgist] 39 Je 30 '39; Same. Metal Prog 36:771-2 D '39

Electrolytic preparation of iron and steel micro-specimens. G. E. Pellissier, jr, H. Markus and R. F. Mehl. il diag Metal Prog 37:55-6 Ja '40

Electro-polishing technique for steel microspecimens. N. A. D. Parlee and R. E. Dimock. il diag Can Chem & Process Ind 24:367-9+ Jl '40

Flame hardening standardization. A. L. Hartley. il diags Iron Age 146:54-63 N 7 '40

Fundamental action; transformation of austenite. T. G. Digges. Metal Prog 38:419 O '40

Grain size and heat treatment of steel; composite of abstracts. Metals & Alloys 12:196+ Ag '40

Grain size of steel. J. R. Vilella. bibliog il Mech Eng 62:293-307 Ap '40

Hardenability of molybdenum S.A.E. steels. R. M. Parke and A. J. Herzig. bibliog il Metals & Alloys 11:6-13 Ja '40

Heat etching as a means of revealing austenite grain size. M. J. Day and J. B. Austin. il diag Am Soc for Metals Trans 28:354-68; Discussion. 369-71 Je '40

How alloying elements affect high alloy steels. P. Payson. il Iron Age 145:31-5 Ap 18; 55-40 Ap 25 '40

How and why of time quenching. J. L. Burns and V. Brown. il Am Mach 84:523-6 Jl 24 '40

How to anneal for superior drawing qualities. J. N. Crombie. il diag Steel 106:44-7 Mr 18 '40

Influence of austenitic grain size on the critical cooling rate of high-purity iron-carbon alloys. T. G. Digges. bibliog 8pls diags J Research Nat Bur Stand 24:723-42 Je '40

Influence of ferrite on the intercrystalline corrosion of chromium-nickel austenitic steels. Engineer 170:sup[Metallurgist] 124-7 Ag 30 '40

Influence of rate of cooling on the transformations in chromium steels. Engineer 169: sup[Metallurgist] 105-8 Ap 26 '40

Influence of rate of cooling on the transformations in vanadium steels. F. Wever and A. Rose. Engineer 168:sup[Metallurgist] 87-8 D 29 '39

Interpretation of thermal curves and some applications to ferrous alloys. T. F. Russell. Iron & Steel Inst J 139:147-76; Discussion. 177-86 no 1 '39

Iron, iron carbide equilibrium diagram. Metal Prog 38:422 O '40

Isothermal transformation in steels. E. S. Davenport. il diag Am Soc for Metals Trans 27:837-86 bibliog(73 titles, p881-6) D '39; Same cond. Metal Prog 36:623-9 N '39; Excerpts. Iron Age 144:48-53 N 2 '39; Metals & Alloys 11:MA24 Ja '40

STEEL—Metallography—*Continued*
Kinetics of the austenite to martensite transformation in steel. A. B. Greninger and A. R. Troiano. bibliog il Am Soc for Metals Trans 28:537-63; Discussion. 563-74 S '40
Mechanical properties of the isothermal decomposition products of austenite. M. Gensamer, E. B. Pearsall and G. V. Smith. bibliog il Am Soc for Metals Trans 28: 380-95; Discussion. 396-8 Je '40
Metallographic grinding with abrasives fixed in lead disks; method preserves inclusions. K. Amberg. il diags Metal Prog 37:146-9 F '40
Metallographic identification of ferro magnetic phases; colloid pattern technique. H. S. Avery, V. O. Homerberg and E. Cook. bibliog il diag Metals & Alloys 10:353-5 N '39
Method of sclero-grating employed for the study of grain boundaries and of nitrided cases; grain structures revealed by cutting. B. O. W. L. Ljunggren. diags Iron & Steel Inst J 141:341-400, pl 22-39 bibliog(p339-400) no 1 '40; Summary. Engineering 149: 517-18 My 24 '40; Discussion. Iron & Steel Inst J 141:401-4 no 1 '40
Microscope aids "mike"; steel examined to determine causes of cutting difficulties. R. C. Gibbons. il Am Mach 84:170-3 Mr 20 '40
Names for steel's microconstituents. N. T. Belaiew. Metal Prog 38:68-9 Jl '40
Problem of primary crystallisation in steel; the undercooling capacity and the formation of nuclei in the liquid state; abstract. P. Bardenheuer and R. Bleckmann. Engineer 169:sup[Metallurgist] 102-4 Ap 26 '40
Relation of grain size to creep strength of carbon-molybdenum steel. S. H. Weaver. il Gen Elec R 43:357-64 S '40
Report on further experiments with a proposed acceptance test: effect of grain size. C. L. Clark and A. E. White. il Am Soc T M Proc 39:225-33 '39
Report on metallographic examination of 18 per cent chromium, 8 per cent nickel steels. il Am Soc T M Proc 39:203-9 '39
Some metallurgical phases of flame hardening. R. O. Day. il Metals & Alloys 12:166-71 Ag '40
Sorby's pioneering work on the microstructure of rocks and metals. J. H. G. Monypenny. il Metal Prog 38:45-8+ Jl '40
Spheroidizing of steel by isothermal transformation. P. Payson, W. L. Hodapp and J. Leeder. il Am Soc for Metals Trans 28: 306-29 bibliog(p327-9); Discussion. 329-32 Je '40
Standard grain sizes for steels; data sheet. Metal Prog 38:380 O '40
Strength of steel and cast iron; filament theory. M. G. Corson. Iron Age 145:32-5 Je 20 '40
Tempering of high speed steel. M. Cohen and P. K. Koh. flow sheet il diag Am Soc for Metals Trans 27:1015-47 bibliog(p1046-7); Discussion. 1047-51 D '39
Tensile testing of steels with duplex microstructure. H. Hougardy. Metal Prog 37:565-6 My '40
Testing steel with the cutting flame. J. R. Cady. bibliog il diag Am Soc for Metals Trans 28:646-60 S '40
Transformation of austenite in 4140 alloy steel at constant sub-critical temperature; chart. Metal Prog 38:171 Ag '40
Transformation of austenite in 0.78% carbon steel and in 4140 alloy steel; charts. Metal Prog 38:432-3 O '40
Transformation of austenite on cooling; morphology and genesis of the aggregates formed. H. Jolivet. Iron & Steel Inst J 140:95-114, pl 10-17 no 2 '39
Transformation of austenite on quenching high-purity iron-carbon alloys. T. G. Digges. pls diags J Research Nat Bur Stand 23:151-62 Jl '39; Same. bibliog Am Soc for Metals Trans 28:575-600; Discussion. 600-7 S '40
Transformations in manganese steels. F. Wever and K. Mathieu. Engineer 169:sup [Metallurgist] 116-18 Je 28 '40
Troostite or fine pearlite (magnetic behavior of iron carbide). O. A. Tesche. il Metal Prog 35:274-6; 36:757-9 Mr, D '39
Tschernoff's centenary. N. T. Belaiew. Metal Prog 36:744-6 D '39

Nitrogen content

Effect of nitrogen additions and heat treatment on the properties of high-chromium steels. E. W. Colbeck and R. P. Garner. bibliog diags Iron & Steel Inst J 139:99-136, pl 2-5 no 1 '39; Excerpts. Engineering 147: 726-9 Je 16 '39; Discussion. Iron & Steel Inst J 139:137-46, pl 5a no 1 '39
Improving drawability of steel by controlling nitrogen. C. L. Altenburger. Metal Prog 37: 639-43 Je '40
Nitrogen is the carbon of ferritic steels. A. M. Portevin. Metal Prog 38:185-6 Ag '40

Oxygen content

Rapid determination of oxygen in steel. L. Singer. il diags Ind & Eng Chem Anal ed 12:127-30 Mr 15 '40

See also
Steel—Deoxidation

Phosphorus content

Effect of phosphorus in 5 per cent Cr, 0.50 Mo steel. H. D. Newell and Z. E. Olzak. il Metals & Alloys 11:106-11 Ap '40
Influence of phosphorus. bibliog Blast F & Steel Pl 27:1246+ D '39
Manufacture of steel by the Perrin process. B. Yaneske. Engineering 150:324-5, 357-8 O 25-N 1 '40 (to be cont)
Method of rapid dephosphorization of Bessemer steel. G. M. Yocom. Iron Age 146: 52-3, 83 O 31 '40
Phosphorus steels for vitreous enameling. C. H. Lorig and D. E. Krause. il Am Cer Soc J 23:107-10 Ap '40
Rapid dephosphorization of rimmed soft steels. A. M. Portevin. Metal Prog 37:660+ Je '40
Theory and practice of basic open hearth slag control; removal of phosphorus. F. M. Washburn and W. O. Philbrook. Iron Age 145:60-2 Mr 7 '40

Prices

Advance in iron and steel prices. Engineer 169:360-3 Ap 12 '40
Advance in iron and steel prices; control order. Engineer 169:145-6 F 9 '40
Average monthly quotations in 1939; tabulation. Steel 106:266 Ja 1 '40
Basing points benefit steel consumers; TNEC hearings. Iron Age 145:87, 87A-87H F 1 '40
Basing points for steel and pig iron; listed geographically and by products. Iron Age 145:105-12 Mr 7 '40
Comparative prices of stainless steels. Chem & Met Eng 47:603-4 S '40
Comparison of prices; market prices at date, and one week, one month, and one year previous. Published in weekly numbers of Iron age
Composite prices, 1914-1939; chart. Iron Age 145:55-60 Ja 4 '40
Crazy quilt of steel mill extras; abstract. W. S. Doxsey. Steel 106:25-6 My 27 '40
Divergences in international steel prices. Economist 138:116 Ja 20 '40
Domestic market summary, 1939. Steel 106: 282-3 Ja 1 '40
European iron and steel export prices, 1939; tabulation. Steel 106:275 Ja 1 '40
European iron, steel domestic prices, 1939; tabulation. Steel 106:270 Ja 1 '40
Finished steel prices, 1929-1939; tabulation. Steel 106:288-91 Ja 1 '40
Inter-relationship between prices, costs and steel demand. T. O. Yntema. Steel 106:13-17 Ja 29 '40; Excerpts. Iron Age 145:67 Ja 25 '40
ICC finds further basing point revision injurious to Pittsburgh. Iron Age 145:62 F 8 '40
Iron and steel scrap prices; finished and semi-finished iron and steel prices; iron and steel warehouse prices. Published in weekly numbers of Iron age
Market week. Published in weekly numbers of Steel

STEEL—Prices—*Continued*
Meaning of the steel price cut. Barron's 20: 9 Ap 15 '40
Monthly average steel prices, 1903-1939; tabulation. Iron Age 145:170-3 Ja 4 '40
Price research in the steel and petroleum industries prepared for the Conference on price research. 170p $2 Nat. bur. econ. research '39
Steel, iron and scrap price composites, 1928-1939; tabulation. Steel 106:291 Ja 1 '40
Steel prices were weak a year after outbreak of war in 1914. Iron Age 145:81F Ap 18 '40
TNEC turns heat on steel prices. Business Week p15-16 N 18 '39
United States steel corporation T.N.E.C. papers; v. 3, Basing point method. 101p U.S. steel corp, 71 Broadway, New York '40
U.S. Steel defends basing point system; FTC urges abolition. Steel 106:23-4+ F 5 '40
U.S. Steel illustrates some effects of a uniform f.o.b. mill price system. map Iron Age 145:78-80 F 8 '40

See also
Steel, Structural—Prices

Protection

Angriffsarten des zinks auf stahl bei der feuerverzinkung. W. Rädeker and R. Haarmann. il diags Stahl & Eisen 59:1217-27 N 9 '39
Bituminöse schutzanstriche für bauwerke. W. Becker. bibliog Angew Chemie 53:82-8 F 17 '40
Bright dipping of stainless steel. Metal Ind 37:584 D '39
Dropping tests for measuring the thickness of zinc and cadmium coatings on steel. A. Brenner. diag Metal Ind 38:91-5; Discussion. 95 F '40
Hard plating of plastic molds. A. W. Logozzo. il Metal Finishing 38:579-84 N '40
Hard-surfacing steel and cast iron; reference book sheet. Am Mach 83:1007-8 N 29 '39
Outdoor exposure tests of electroplated nickel and chromium coatings on steel and nonferrous metals. W. Blum and P. W. C. Strausser. J Research Nat Bur Stand 24: 443-74 Ap '40
Paint for steelwork; application to wet and weathered surfaces. U. R. Evans. Chem Age (Lond) 42:sup18 Ap 6 '40
Paint maintenance problem on Golden Gate bridge. Eng N 123:774-5 D 7 '39
Phosphatising; the importance of the chromate rinse. Automobile Eng 29:459-60 D '39
Plastic-on-metal finishes; new type of protection for steel products. il Iron Age 146: 48-50 Ag 15 '40
Plating protects plastic molds. E. Smith. il Am Mach 83:1072-3 D 27 '39
Preparing structural steel surfaces for painting; symposium on methods of preventing corrosion. E. R. Needles and others. il Civil Eng 10:405-17 Jl '40
Protecting steel against corrosion. J. C. Hudson. il Iron Age 145:28-31 F 15 '40
Protecting steel structures from severe corrosion; American railway bridge and building association committee report. Ry Age 109:639-40 N 2 '40
Protective coatings against corrosion-fatigue of steel; composite of abstracts. Metals & Alloys 12:208 Ag '40; Same. Oil & Gas J 39:48 O 24 '40
Protective coatings for hydro structures. L. J. Pospisil. Elec West 84:127-8 Je '40
Report on corrosion research work at Cambridge university interrupted by the outbreak of war. U. R. Evans. diags Iron & Steel Inst J 141:229-32 no 1 '40
Rust problems. R. W. Baker. diags Steel 107:62-4 Jl 1 '40; Same cond. Nat Safety N 42:74-5+ O '40
Rust proofing and finishing of unit heater casings and convector enclosures. C. T. Perkins. il Metal Ind 37:602-4 D '39
Saving material; chromium plating as method of conservation. Automobile Eng 30:258 S '40
Surface coatings found to affect properties of steel; combination corrosion-fatigue tests. il Steel 107:80-2 N 4 '40
Surface treatment of steel prior to painting. R. E. Pollard and W. C. Porter. il Metal Finishing 38:514-18, 569-71, 620-1 S-N '40; Excerpts. Iron Age 146:48-9 Jl 11 '40
Working of carbon sheet steel; surface treatments and coatings. Am Mach 84:827-30 O 16 '40

See also Water tanks, Steel—Cathodic protection

Quenching

See Steel, Quenching of

Rimmed steel

Control of sulphur in basic open hearth. T. L. Joseph and F. W. Scott. il diag Iron Age 144:34-7 N 23; 30-4 N 30; 49-53 D 7 '39
Fatigue endurance of killed, capped and rimmed steels. J. F. McDowell. il Metals & Alloys 11:27-32 Ja '40
Manufacture of rimming steel at Briton Ferry. J. S. Lewis. Engineering 148:687 D 22 '39
Manufacture of rimming steel by the basic Bessemer process at Corby. W. L. Kerlie. Engineering 148:569 N 17 '39
Rapid dephosphorization of rimmed soft steels. A. M. Portevin. Metal Prog 37:660+ Je '40
Rimming steel from open hearth furnaces. J. S. Lewis and R. S. Rolfe. il Blast F & Steel Pl 27:1223-5 D '39
Slag control; obtaining desired quality in low-carbon rimming steel for strip. J. B. Malloy. Steel 105:48-51 D 25 '39

Scaling

Abhängigkeit des abbrandes von der zusammensetzung der gasatmosphäre, der wärmdauer, der wärmtemperatur und der gasgeschwindigkeit. R. Bourggraff. Stahl & Eisen 60:129-37, 156-61 bibliog(139 titles, p159-61) F 15-22 '40
Antiscaling compound for high temperatures; Ferritrol. il Steel 106:52 Ja 8 '40
Beseitigung des zunders von walzgut durch hochdruck-spritzwasser. H. Klaus. diag V D I 84:194-5 Mr 16 '40
Effect of humidity of air on the oxidation of a low carbon steel. C. A. Siebert and H. G. Donnelly. bibliog Am Soc for Metals Trans 28:372-7; Discussion. 377-9 Je '40
Flame descaling, cleaning, dehydrating. J. G. Magrath. il Steel 106:54-6 Ap 1 '40
Protecting steel against corrosion. J. C. Hudson. il Iron Age 145:28-30 F 15 '40
Slivers in cold reduced strip; effect of scale. P. J. McKimm. il Blast F & Steel Pl 28: 338-40 Ap '40

Specifications

Control of steel composition and the problem it presents. E. C. Smith. Blast F & Steel Pl 28:791-4 Ag '40
Producing steel to meet physical test requirements. C. H. Herty, jr. Blast F & Steel Pl 28:581-5, 667-9 Je-Jl '40; Same cond. Iron Age 145:51-4+ My 23 '40
Quality of steel. A. Portevin. Engineer 169: sup[Metallurgist] 113-14 Je 28 '40
Reducing creep in alloy steel bolting materials. J. J. Kanter. il Steel 106:44-8, 72 Mr 4 '40
Shell steel specifications are more rigid than in last war. Iron Age 145:83-5 My 16 '40
Tolerance requirements; engineering developments must occur in process of hot rolling steel. A. C. Cummins. il Steel 107:56, 59, 77 Ag 19 '40
Why not simplify the problem of steel selection? E. C. Smith. Steel 106:44-6+ Je 3 '40

Standards

Standardization in the steel industry. R. E. Zimmerman. Ind Stand 11:242-4 S '40; Same. Steel 107:68+ N 11 '40
Why not simplify the problem of steel selection? E. C. Smith. Steel 106:44-6+ Je 3 '40

See also
Tool steel—Standards

STEEL—*Continued*

Sulfur content

Control of sulphur in basic open hearth. T. L. Joseph and F. W. Scott. il diag Iron Age 144:34-7 N 23; 30-4 N 30; 49-53 D 7 '39

Refining of metal in the basic open-hearth. furnace; the influence of fluorspar on the process. W. B. Lawrie. bibliog Iron & Steel Inst J 139:258-65 no 1 '39; Same. il Blast F & Steel Pl 27:675-9 Jl '39

Sulphur control in the basic open hearth. H. J. Sweeney. Blast F & Steel Pl 28:391-4+ Ap '40

Theory and practice of basic open hearth slag control; removal of sulphur. F. M. Washburn and W. O. Philbrook. Iron Age 145:27-8 Mr 14 '40

Welding high sulphur steels; adding manganese to parent metal and electrodes. J. H. Hruska. il Steel 106:40-3 F 26 '40

Tables, calculations, etc.

Maximum allowable working stresses for ferrous materials in lb. per sq. in.; boiler construction code; tabulation. Mech Eng 62:486-7 Je '40

Weight and cost of rolled steel flats; reference book sheet. H. A. Valentine. Am Mach 83: 1047-8 D 13 '39

Terminology

Names for steel's microconstituents. N. T. Belaiew. Metal Prog 38:68-9 Jl '40

Testing

Beeinflussung der lebensdauer wechselbeanspruchter teile durch ruhepausen. K. Daeves, E. Gerold and E. H. Schulz. Stahl & Eisen 60:100-3 F 1 '40

Combined stress experiments on a nickel-chrome-molybdenum steel. J. M. Lessells and C. W. MacGregor. bibliog il diags Franklin Inst J 230:163-81 Ag '40

Combined tension-torsion loadings; abstract. E. A. Davis. Steel 107:42-+ Jl 29 '40

Creep under combined tension and torsion. H. J. Tapsell and A. E. Johnson. il diags Engineering 150:24-5, 61-3, 104-5, 134, 164-6 Jl 12, 26, Ag 9-16, 30 '40

Crosshead speed versus rate of strain; experiments on screw-driven testing machines. L. H. Fry. Metal Prog 37:46-8 Ja '40

Damping capacity of steel and its measurement. G. P. Contractor and F. C. Thompson. bibliog diags Iron & Steel Inst J 141: 157-201, pl 5-6; Discussion. 202-18 no 1 '40

Deformation and fracture of mild steel under cyclic stresses in relation to crystalline structure. H. J. Gough and W. A. Wood. diags Inst Mech Eng J & Proc 141:Proc 175-85, pl 1-4 Ap '39; Discussion. 142:Proc 175-83, pl 5-6 D '39

Detecting flaws in steel; Magnaflux method. C. A. McCune. il Nat Safety N 41:52, 54 My '40

La détection magnétique des défauts dans les alliages métalliques. J. Fluvot. il diags Génie Civil 115:333-7, 355-7 N 4-11 '39

Diamond pyramid hardness measurements with Rockwell hardness tester. J. H. Hruska. il Iron Age 145:29-33 F 1 '40

Discussion of leaded steels. F. J. Robbins and G. R. Caskey. bibliog il Am Soc for Metals Trans 27:887-915; Discussion. 915-22 D '39

Effect of capacity for work hardening on the tensile properties of austenitic steel. J. A. Jones. Engineer 169:sup[Metallurgist] 95-9 F 23 '40

Exposure chart for radiography of steel. H. R. Isenburger. Metal Prog 38:553 O '40

Fatigue endurance of killed, capped and rimmed steels. J. F. McDowell. il Metals & Alloys 11:27-32 Ja '40

Fatigue resistance of steel as affected by acid pickling. G. L. Kehl and C. M. Offenhauer. il diags Am Soc for Metals Trans 28:238-54; Discussion. 254-6 Mr '40

Hardenability of carburizing steels. W. H. Bruckner. bibliog il diag Ill U Eng Exp Sta Bul 320:1-62 '39 (pa 70c)

Hardenability test for shallow hardening steels. W. E. Jominy. il diag Am Soc for Metals Trans 27:1072-85; Discussion. 1085-9 D '39

High speed impact testing. N. Davidenkoff. Metal Prog 38:69-70 Jl '40

How and why of time quenching. J. L. Burns and V. Brown. il Am Mach 84:523-6 Jl 24 '40

Influence of magnetic fields on damping capacity. E. R. Parker. bibliog il Am Soc for Metals Trans 28:661-8; Discussion. 668-70 S '40

Interpretation of test results. O. W. McMullan. il Iron Age 145:23-6 Mr 14; 40-4 Mr 21 '40

Interrelation between stress and strain in the tensile test. E. J. Janitzky and M. Baeyertz. Am Soc for Metals Trans 28:714-23; Discussion. 723-4 S '40

Laugenbeständigkeit von flussstahl in abhängigkeit von alterungsneigung, wärmebehandlung und aluminiumgehalt. F. Nehl and W. Werner. diag Stahl & Eisen 59:1155-7 O 19 '39; Abstract (Mild steel for chemical plant). Engineer 169:sup[Metallurgist] 101-2 Ap 26 '40

Phototube detects pin holes in steel. il plan Elec W 114:560 Ag 24 '40

Properties and machinability of a leaded steel. T. J. Dolan and B. R. Price. il Metals & Alloys 11:20-7 Ja '40

Pyramidal-diamond tool measures indentations. Steel 105:66 D 11 '39

Report on further experiments with a proposed acceptance test: effect of grain size. C. L. Clark and A. E. White. il Am Soc T M Proc 39:225-33 '39

Screw threads; the effect of method of manufacture on the fatigue strength. A. M. Smith. il Iron Age 146:23-8 Ag 22 '40

Static and fatigue torsion strengths of various steels with circular, square, and rectangular sections. E. G. Holley. diags Inst Mech Eng J & Proc 143:Proc 237-16, pl 1-2 S '40

Static crack strength of metals; its determination and significance. M. Gensamer. il diag Metal Prog 38 59-64 Jl '40; Correction. 38:181 Ag '40; Discussion. D. J. McAdam, jr. 180-1 Ag '40

Steel hardenability as related to physical properties. G. T. Williams. bibliog Steel 107: 49-50, 52, 54+ Ag 19 '40

Strength of steel and cast iron; filament theory. M. G. Corson. Iron Age 145:32-5 Je 20 '40

Stress raisers; their effects on the mechanical properties of metals and alloys. G. Sachs. bibliog diags Iron Age 146:31-4 Ag 1; 34-7 Ag 8 '40

Surface coatings found to affect properties of steel; combination corrosion-fatigue tests. il Steel 107:80-2 N 4 '40

Surface quality of an S.A.E. 3140 steel; proflograph study; various combinations of speeds, structures, and cutting fluids. O. W. Boston and W. W. Gilbert. il diag Mech Eng 62:785-9 N '40

Tensional effects of torsional overstrain in mild steel. H. W. Swift. diags Iron & Steel Inst J 140:181-211, pl 39-40 no 2 '39; Same cond. Engineering 148:453-6 O 20 '39

Test-piece for investigating the yield point in iron and steel. A. M. Baxter and C. F. Elam. Engineering 149:176 F 16 '40

Testing steel with the cutting flame. J. R. Cady. bibliog il diag Am Soc for Metals Trans 28:646-60 S '40

Time factor in the tensile testing of austenitic steels. il Engineer 168:sup[Metallurgist] 80-2 D 29 '39

Time quenching. J. L. Burns and V. Brown. il Am Soc for Metals Trans 28:209-29; Discussion. 229-37 Mr '40

Toughness, particularly of toolsteel. R. S. Rose. Metal Prog 37:407-11 Ap '40

Troostite or fine pearlite (magnetic behavior or iron carbide). O. A. Tesche. il Metal Prog 35:274-6; 36:757-9 Mr, D '39

Wechselbeanspruchung und kristallzustand. H. Möller and M. Hempel. il V D I 83:1183-4 N 4 '39

STEEL—Testing—*Continued*

Work-brittleness test for steel. H. W. Graham and H. K. Work. Am Soc T M Proc 39: 571-80; Discussion. 581-2 '39

X-raying nine inches of steel; abstract. R. Berthold, E. Ebert and O. Vaupel. diag Iron Age 146:35 O 17 '40

Yield of mild steel with particular reference to the effect of size of specimen. J. L. M. Morrison. bibliog diags Inst Mech Eng J & Proc 142:Proc 193-223, pl 1-2 Ja '40; Discussion. 144:Proc 33-41 N '40

See also

Stoel, Automobile—Testing
Steel, Corrosion resisting—Testing
Steel, Reinforcing—Testing
Steel, Strip—Testing
Steel, Structural—Testing
Steel alloys—Testing
Steel castings—Testing
Steel forgings—Testing
Tool steel—Testing

Spark testing

Reclaiming bearing balls; spark test for tungsten steel. Automobile Eng 30:14 Ja '40

Spark test for metals; data sheet. Metal Prog 38:386A O '40

Sparks from grinding. H. W. Wagner. il Steel 107:85-6 N 4 '40

Temperature effects

Brittleness of frigid metal. N. Davidenkoff. Metal Prog 38:184-5 Ag '40

Characteristics of 5.0 and 7.0 per cent chromium steels with varying molybdenum and vanadium content. W. G. Hildorf, C. L. Clark and A. E. White. il Am Soc for Metals Trans 27:1090-1114; Discussion. 1114-17 D '39

Creep at high temperatures. H. J. Tapsell. Engineering 149:287-8 Mr 15 '40; Abstract. Metals & Alloys 11:MA348 Je '40

Creep of some chromium-molybdenum steels. H. D. Newell. il Metals & Alloys 10:342-5 N '39

Creep rates from tests of short duration. J. J. Kanter and E. A. Sticha. bibliog il Am Soc for Metals Trans 28:257-71; Discussion. 271-7 Je '40

Effect of hardness and of temperature on the strength, ductility, and toughness of a heat treated carbon steel. S. W. Lyon. il diags Am Soc for Metals Trans 28:128-40; Discussion. 141-2 Mr '40

Embrittlement of creep resisting steels at high temperature. E. Siebel and K. Wellinger. Engineer 170:sup[Metallurgist] 121-2 Ag 30 '40

Factors affecting notched-bar impact tests on steel at low temperatures. W. Crafts and J. J. Egan. bibliog diag Am Soc T M Proc 39:659-71; Discussion. 672-3 '39

High-temperature creep strength checked for low-alloy steels used in fabrication of still tubes. R. F. Miller, W. G. Benz and W. E. Unverzagt. Nat Pet N 32:R306, R309-12 Ag 21 '40

Impact properties of some low alloy nickel steels at temperatures down to -200 degrees Fahr. T. N. Armstrong and A. P. Gagnebin. bibliog diag Am Soc for Metals Trans 28: 1-19; Discussion. 19-24 Mr '40

Influence of ferrite on the intercrystalline corrosion of chromium-nickel austenitic steels. Engineer 170:sup[Metallurgist] 124-7 Ag 30 '40

Properties of metals at low temperatures. Engineer 170.sup[Metallurgist] 122-4 Ag 30 '40

Relation of grain size to creep strength of carbon-molybdenum steel. S. H. Weaver. il Gen Elec R 43:357-64 S '40

Report on torsion creep tests for comparison with tension creep tests on a carbon-molybdenum steel. F. L. Everett and C. L. Clark. il diags Am Soc T M Proc 39:215-24 '39

Sharp transition from brittle to ductile in hot ingot iron. M. Charlton. il Metal Prog 38:287-90 S '40

Steel at high temperature. S. H. Weaver. Power, Pl Eng 44:148+ O '40

Stress raisers. G. Sachs. bibliog Iron Age 146:34-7 Ag 8 '40

Sub-size Charpy relationships at sub-zero temperatures. H. Habart and W. J. Herge. il diags Am Soc T M Proc 39:649-58 '39

See also

Steel, Heat resisting

Transportation

ICC approved Midwest trucking rate cuts on steel products. Iron Age 145:70 F 22 '40

See also

Steel handling

Uses

Expanding markets for stainless. P. F. Voigt, jr. Metal Prog 38:459+ O '40

Stainless steel in the fighting line. J. Palmer. Blast F & Steel Pl 28:811-12 Ag '40

Welding

Application and welding of stainless steel for lining tanks. E. W. P. Smith. bibliog diags Paper Tr J 110:34-7 Je 6 '40

Atomic hydrogen, for welding hot strip off the 30-in. mill at the Otis plant. R. M. Fenton and E. W. Dougherty. il diag Iron Age 146:40-2 Jl 18 '40

Boiler advances; welding at Barberton, O. plant of Babcock & Wilcox co. il diag Steel 105:64-5+ N 27 '39

Carbon-moly piping. R. W. Emerson. diags Heating-Piping 12:651-2 N '40

Castings or welded steel? composite of abstracts. Metals & Alloys 11:MA148+ Mr '40

Changing from welded to cast frame construction in press design. E. V. Crane. il Mach 46:159-61 Ja '40; Discussion (Cast frame versus welded construction in press design). A. E. Gibson. 46:130-1 Mr; (Cast versus welded press construction). I. Patrick. 46:95 My; (Welded versus cast press frames). A. Clements. 47:146-8 N '40

Diesel engine frames; advantages of welding. M. Essl. il Steel 106:72, 74+ My 20 '40

18-gage 18-8 stainless welded automatically by smothered arc. T. R. Lichtenwalter. Steel 107:181-2 O 14 '40

Examination and tests of welded parts for steam power plant. A. H. Goodger. bibliog diags Inst Mech Eng J & Proc 142:Proc 261-87, pl 1-12 Ja '40; Discussion. 143:Proc 73-80, pl 13-16 Ap '40

Fabricated stainless steel in the rayon and textile industries; with special reference to the Shotweld process. H. B. Vollrath. il Rayon 20:713-15 D '39

Festigkeitsverhalten von rohrschweissungen bei dauerbelastung. E. Siebel and K. Wellinger. il diags V D I 84:57-9 Ja 27 '40

Industrial trucks; units arc arc welded from sheared, flame cut or sawed steel plate; Yale & Towne plant. F. Stewart. il Steel 106:76, 79 My 13 '40

Lead-bearing steels; control of possible health hazards during fabrication. J. W. Halley and E. D. Martin. il diag Metal Prog 37:412-18 Ap '40

New method to weld stainless-clad steel, developed by Composite steel division of Jessop steel co. il diags Steel 105:68 N 27 '39

Notch-bar test behavior of some welding steels; abstract. C. E. Jackson and E. A. Rominski. Metals & Alloys 11:MA43 Ja '40

Oxy-acetylene welding procedure for high pressure and temperature piping; abstracts. R. M. Rooke, F. C. Saacke and A. N. Kugler. il diags Heating-Piping 12:308-10+ My '40; Oil & Gas J 39:49 Je 20 '40; Power 84:432-4 Jl '40

Perfect fits for perfect welding. H. S. Card. il diags Chem & Met Eng 47:400-2 Je '40

Reaction chambers; all-welded molybdenum-bearing steel fabrications permit shell thickness to be reduced; Babcock & Wilcox co. il Steel 105:51-2 D 18 '39

Repair by welding of a cast-steel hydraulic cylinder. il diag Engineering 149:475-7, pl 25 My 10 '40

Schweissbarkeit von stahl; erfahrungen und versuche. R. Kühnel. il diags Stahl & Eisen 60:405-9; Discussion. 409-12 My 9 '40

STEEL—Welding—*Continued*
Schweissen von korrosions- und hitzebeständigen stählen, nach einer schrifttumsübersicht von W. Spraragen u. G. E. Claussen; zusammengestellt von H. Cornelius. V D I 84:132-6, 173-7 bibliog(p 176-7) F 24, Mr 9 '40
Silicon bronzes; to prevent steel pickup during welding of silicon bronzes to steel, surfaces are first tinned with bronze, using oxyacetylene flame. H. Lawrence. diags Steel 106:67-8 Je 3 '40
Snow cruiser welded. il Iron Age 144:24-5 D 28 '39
Some observations on metallic arc fluxes. W. Andrews. Engineer 169:224-6 Mr 8 '40; Excerpts. Metal Prog 37:578-9+ My '40
La soudabilité des métaux; abstract. A. Leroy. Génie Civil 115:456-7 D 23 '39
Stainless steel and aircraft trends; Shotweld process. M. Watter. Aero Digest 36: 72 My '40
Symposium on weldability. Metals & Alloys 12:326+ S '40
Tendency of welds to crack; abstract. E. Helin and S. Svantesson. Iron Age 145:46 Je 27 '40
Titanium and some properties of Cr-Mo steel for airplane tubing. G. F. Comstock. il Metals & Alloys 12:21-6 Jl '40
Tubes electrically welded; new method produces grain structures in weld indistinguishable from parent metal. J. B. Borgat. il diag Steel 106:52, 54+ Mr 11 '40
Weld hardening of carbon and of alloy steels; abstracts. H. J. French and T. N. Armstrong. Oil & Gas J 38:203 Ja 25 '40; Metals & Alloys 11:MA24+ Ja '40
Welded smoke stacks replace cast iron. A. H. Carroll. il diags Am Mach 84:706-7 S 18 '40
Welded tubular frame solves heavy machine construction problem. E. Walters. il Mach 46:170-1 Ja '40
Welding and alloy steel in tender cistern construction; Master boiler makers' association committee report. Ry Mech Eng 113: 441-3 N '39
Welding as a substitute for casting. S. F. Dorey. Engineering 149:237-9 Mr 1 '40
Welding copper steels; a review of the literature to July 1, 1937; abstract. W. Spraragen and G. E. Claussen. Metals & Alloys 11:MA26+ Ja '40
Welding electrodes for steel; composite of abstracts. Metals & Alloys 11:MA265-6 My '40
Welding high sulphur steels; adding manganese to parent metal and electrodes. J. H. Hruska. il Steel 106:40-3 F 26 '40
Welding in the manufacture of valves for high pressures and temperatures; abstract. W. F. Crawford and L. H. Carr. Metals & Alloys 11:MA83 F '40
Welding of stainless steel and its alloys. G. H. Tweney. il Aero Digest 35:45+ D '39
Welding tool steels. H. A. Gonser. il Steel 106:66+ F 5 '40
Welding tubes; new processing line employs fixed precision forming rolls and drives each roll spindle. G. Kentis, jr. il Steel 107:64, 67-8+ O 7 '40
Welding tungsten steels; a review of literature to July 1, 1937; abstract. W. Spraragen and G. E. Claussen. Metals & Alloys 11: MA81 F '40
Working of carbon sheet steel; welding. diags Am Mach 84:831-2 O 16 '40

See also
Steel, Structural—Welding
Steel construction—Welding

STEEL, Aircraft
Corrosion of metals used in aircraft. W. Mutchler. bibliog J Research Nat Bur Stand 25:75-82, pl 1-12 Jl '40
Modern aircraft materials and their testing. K. R. Jackman. il S A E J 47:461-73+ N '40
Modern aircraft valves; development of the sodium-cooled valve. A. T. Colwell. bibliog il diags S A E J 46:147-65 Ap '40
Molybdenum important element in new aircraft alloy steels. A. J. Herzig. Steel 107: 163 O 14 '40
Rating of aircraft quality steels; magnaflux inspection. J. B. Johnson. Metal Prog 38: 382-3 O '40
Recent developments in propeller blade design. L. H. Enos. il Aero Digest 37:48-51 Ag '40
Stabilisation of a thin sheet by a continuous supporting medium. G. S. Gough, C. F. Elam and N. A. de Bruyne. il diags Roy Aeronautical Soc J 44:12-43 Ja '40
Stainless steel and aircraft trends. M. Watter. il Aero Digest 36:67-8, 71-2, 75+ My '40
Stainless steel for aircraft. C. de Ganahl. il Steel 106:46-8 Ap 29 '40
Stainless steel for aircraft structures; abstract. H. W. Perry. Metals & Alloys 11: MA282+ My '40
Stainless steel in aircraft fabrication. H. W. Perry. il diags Steel 107:72, 75 Ag 5 '40
Stainless steel in planes shown at Bolling Field. Iron Age 145:57 My 30 '40
Stainless steel, the next step for aircraft. W. B. Stout. Metal Prog 38:461-2 O '40
Standardized steel types needed to speed aircraft production. Automotive Ind 82:582-3 Je 15 '40
Steel aircraft; use of stainless steel. E. J. W. Ragsdale. il Steel 106:70+ My 6 '40
Steel castings in aircraft; abstract. A. Finlayson. Metals & Alloys 11:MA132 Mr '40
Stout's new plane, radical in design, emphasizes use of steel. W. F. Sherman. Iron Age 145:88A-88B Je 20 '40
Structural and other uses of stainless steel in airplanes. il Aero Digest 35:50-2+ D '39
Welding of stainless steel and its alloys. G. H. Tweney. il Aero Digest 35:45+ D '39

Testing
Pack method for compressive tests of thin specimens of materials used in thin-wall structures. C. S. Aitchison and L. B. Tuckerman. bibliog il U S Nat Advisory Com for Aeronautics 1939:133-43 '40
Tensile elastic properties of 18:8 chromium-nickel steel as affected by plastic deformation. D. J. McAdam, jr. and R. W. Mebs. bibliog U S Nat Advisory Com for Aeronautics 1939:539-80 '40

STEEL, Automobile
Analyses of S.A.E. steels; data sheet. Metal Prog 38:388 O '40
Automotive buying procedures differ from those of other industries. W. F. Sherman. Iron Age 145:48+ F 15 '40
Hardenability of carburizing steels. W. H. Bruckner. bibliog il diag Ill U Eng Exp Sta Bul 320:1-62 '39 (pa 70c)
John Wandersee and the Ford motor co. H. W. McQuaid. Metal Prog 37:645-6 Je '40
Nickel steels in the automobile. R. C. Stanley. Automotive Ind 82:152 F 15 '40
Selection and application of automotive steels. A. L. Boegehold, W. H. Graves and E. W. Upham. Automotive Ind 82:364-6+ Ap 15 '40
Surface decarburization; cause of discrepancies between apparent strength and effective strength of steel automotive parts. L. A. Danse. il Steel 106:60-1 F 5 '40

Testing
Hardness characteristics of some medium carbon S.A.E. steels. P. Klain and C. H. Lorig. il diags Am Soc for Metals Trans 28:83-121; Discussion. 121-7 Mr '40
Strain-ageing of dead-mild steel strip used in the pressing of automobile bodies and accessories. J. W. Rodgers and H. A. Wainwright. diags Iron & Steel Inst J 139:387-418, pl 25; Discussion. 419-34 no 1 '39

STEEL, Clad
Composite metal is welding outgrowth. R. E. Kinkead. Elec W 114:108+ Jl 13 '40
Plural compositions from a new melting process; pluramelt. V. Browne and H. S. Blumberg. il diags Metal Prog 37:163-8 F '40
Plural melting process produces composite ingots with stainless or tool steels on one or both sides of mild steel base; pluramelt. H. G. Batcheller. diags Steel 106:54, 56+ F 12 '40

STEEL, Clad—*Continued*
Pluramelt, a new steel making process. Mach 46:123-4 Mr '40
Use of clad metals in Germany. W. Rädeker. il Metal Prog 38:292-3 S '40
See also
Steel, Stainless clad

STEEL, Cold working of
Analysis of machinability data from cold finished and heat treated S.A.E. 1045 steel. O. W. Boston and W. W. Gilbert. il Am Soc for Metals Trans 28:186-205; Discussion. 205-8 Mr '40
Cold rolled strip steel; application of tension. T. B. Montgomery. diags Steel 107: 56, 58, 61+ O 21 '40; Same, with il. Blast F & Steel Pl 28:990-5 O '40
Magnetic permeability of some austenitic iron-chromium-nickel alloys as influenced by heat treatment and cold work. J. B. Austin and D. S. Miller. diag Am Soc for Metals Trans 28:743-55 S '40
Manufacture of seamless ferrous tubes; cold drawing process. C. Billingsley. diags Inst Mech Eng J & Proc 143:Proc 67-9, pl 1-2 Ap '40
Quench ageing, strain ageing and cold working of steel; abstract. J. H. Andrews and others. Metals & Alloys 12:335-6 S '40
Steckel patent truce. Business Week p42 S 28 '40
Strain annealing; combination of cold working and low temperature annealing. F. J. Robbins. Iron Age 144:33-8 D 14; 37-9 D 21 '39
Work-brittleness test for steel. H. W. Graham and H. K. Work. Am Soc T M Proc 39: 571-80; Discussion. 581-2 '39
Working of carbon sheet steel; cold-working and machining. diags Am Mach 84:833-6 O 16 '40

STEEL, Corrosion resisting
A-B-C of corrosion and heat resisting steels; data sheet. F. R. Palmer. Metal Prog 38: 460 O '40
Corrosion-resisting steels; properties required in service and their development by proper manufacturing methods. W. B. Thompson. il diag Can Chem & Process Ind 23:596-9 D '39
Effect of phosphorus in 5 per cent Cr, 0.50 Mo steel. H. D. Newell and Z. E. Olzak. il Metals & Alloys 11:106-11 Ap '40
High-strength steel for condenser rotor; Mayari R. il Elec W 114:1192 O 19 '40
Intercrystalline corrosion of chromium-manganese steels. A. de Sy. Engineer 168: sup[Metallurgist] 79-80 D 29 '39
Materials of construction for chemical engineering equipment; ferrous and non-ferrous alloys; physical and mechanical properties; corrosion, heat and abrasion resistance; makers. Chem & Met Eng 47:supp S '40
Some new developments in corrosion resistant steel. G. F. Landgraf. Electrochem Soc Trans 77 (preprint 30):395-9 Ap '40
Tubes for oil heaters; titanium or columbium in 5% Cr-Mo-Si steel. H. Habart. il Metal Prog 37:401-5 Ap '40
See also
Chromium nickel steel
Chromium steel
Steel, Stainless

Testing
Copper steels; results of tests to determine effect of copper on corrosion resistance. C. T. Greenidge and C. H. Lorig. bibliog diag Iron Age 145:21-5 F 15 '40
Corrosion resisting alloy lined vessels in the paper industry. M. A. Scheil. il Paper Tr J 110:36-42 Ap 18 '40
Service life of Cor-Ten steel in hopper cars; tests made in cars with USS Cor-Ten sheets in one end and copper steel or USS Man-Ten steel in the other. il Ry Age 107: 847-8 D 2 '39; Same. Ry Mech Eng 114:60-1+ F '40

STEEL, Effect of sea water on
Deterioration of structures in sea water. Engineering 150:177-8 Ag 30 '40
Rapid steel erosion caused by salt water seepage in Turkish bath building at Coney Island. W. Eipel and H. Eipel. il Eng N 124:741 My 23 '40

STEEL, Effect of temperature on. See Steel—Testing—Temperature effects; Steel, Heat resisting

STEEL, Galvanized
Angriffsarten des zinks auf stahl bei der feuerverzinkung. W. Rädeker and R. Haarmann. il diags Stahl & Eisen 59:1217-27 N 9 '39
Bonderizing sheets to hold paint. il Sheet Metal Worker 31:32-4 S '40
Galvanizing steel sash. W. G. Imhoff. il Steel 106:47-8 Ja 8 '40
Pinhole corrosion in galvanized watering tanks; relation to tin content. W. M. Peirce and G. C. Bartells. il Metals & Alloys 11: 42-4 F '40
Quebec likes steel roofing. C. Matthews. il Sheet Metal Worker 31:70-1 Ja '40
Sheet galvanizing machine; Ebbw Vale works of Richard Thomas & co. V. Delport. il Steel 106:60+ Je 10 '40
Sheet metal worker's catechism; galvanized sheet steel roofing. W. Neubecker. diags Sheet Metal Worker 30:35-6+ O; 28+ D '39; 31:33+ F; 33-4 Je; 36 Ag; 35-6 O '40 (to be cont)
Surface treatment of steel prior to painting. R. E. Pollard and W. C. Porter. il Metal Finishing 38:514-18, 569-71, 620-1 S-N '40; Excerpts. Iron Age 146:48-9 Jl 11 '40

STEEL, Hardening of
Age hardening of cold reduced strip. P. J. McKimm. Steel 107:44, 46, 48-9 S 30; 46, 48, 50, 78-81 O 7; 139-40 bibliog(114 titles, p79-81, 139-40) O 14 '40
Bright hardening of tool steels without decarburization or distortion. J. R. Gier and H. Scott. il Am Soc for Metals Trans 28: 671-84; Discussion. 685-6 S '40
Die steel with high wear resistance and minimum distortion; Sparta steel. il Mach 46: 137-8 Je '40
Effect of capacity for work hardening on the tensile properties of austenitic steel. J. A. Jones. Engineer 169:sup [Metallurgist] 95-9 F 23 '40
Erreichbare festigkeitseigenschaften bei chrom-molybdän-baustählen nach härtung oder vergütung. H. Voss and F. Krämer. il diags Stahl & Eisen 59:913-20 Ag 10 '39; Abstract (Chromium-molybdenum steels). Engineer 168:sup[Metallurgist] 84-6 D 29 '39
Furnaces for tool hardening. A. H. d'Arcambal. Metal Prog 38:592 O '40
Gas blanket prevents burning and carbon loss in steel hardening. il Sci Am 163:254 N '40
Grinding of hardened gears. J. C. Dixon. il diags Iron Age 145:29-32 F 22; 49-52 Ap 18 '40
Hack saw blades; heat treating work, Forsberg mfg. co. R. D. Hawkins. il Steel 106: 54, 57+ Mr 4 '40
Hard-faced dies; their design and fabrication; depositing and hardening welds of oil, water or air-hardening steel. A. R. Butler. il Steel 107:66, 68-9 O 28 '40
Hardenability and quenching; use of charts. M. A. Grossmann and M. Asimow. Iron Age 145:25-9 Ap 25; 39-45 My 2 '40
Hardenability of carburizing steels. W. H. Bruckner. bibliog il diag Ill U Eng Exp Sta Bul 320:1-62 '39 (pa 70c); Conclusions. Iron Age 145:51 Ap 4 '40
Hardenability of chromium-molybdenum and chromium-nickel carburizing steels; abstract. A. Pomp and A. Krisch. Metals & Alloys 11:MA142-3 Mr '40
Hardenability of molybdenum S.A.E. steels. R. M. Parke and A. J. Herzig. bibliog il Metals & Alloys 11:6-13 Ja '40
Hardenability studies on tool steel. A. J. Scheid, jr. il Am Soc for Metals Trans 28:445-66; Discussion. il 466-71 Je '40
Hardenability test for shallow hardening steels. W. E. Jominy. il diag Am Soc for Metals Trans 27:1072-85; Discussion. 1085-9 D '39

STEEL, Hardening of—*Continued*
Hardenability testing tool steels by oil quenching small cones. E. K. Spring and J. K. Desmond. il Steel 107:58, 60-2 O 28 '40
Hardenability tests. W. E. Jominy. Metal Prog 38:423+ O '40
Hardenability variations in alloy steels; some investigations with the end-quench test. G. T. Williams. bibliog il diag Am Soc for Metals Trans 28:157-82; Discussion. 182-5 Mr '40
Hardened by induction; Chevrolet valve-mechanism parts. il Am Mach 84:82-3 F 21 '40
Hardening high speed steel; tongs, tools and tricks to avoid distortion. G. B. Berlien. il Metals & Alloys 12:587 O '40
Hardening small parts by high-frequency electric induction; Jacobs mfg. co. il Steel 107:126+ S 16 '40
Hardening stainless steel. Metals & Alloys 12:111 Jl '40
Hardening tappets for Chevrolet engines. il Steel 106:54+ Ja 22 '39
Hardness characteristics of some medium carbon S.A.E. steels. P. Klain and C. H. Lorig. il diags Am Soc for Metals Trans 28:83-121; Discussion. 121-7 Mr '40
Hardness conversion chart for hardened steels; reference book sheet. H. Scott and T. H. Gray. Am Mach 84:101, 103 F 21 '40
Hardness conversion for hard metals. T. H. Gray and H. Scott. tables Iron Age 145:39-41 Je 6 '40
Hardness conversion for hardened steels; tables. H. Scott and T. H. Gray. Metal Prog 38:428 O '40
Hardness conversion relations for hardened steels. H. Scott and T. H. Gray. Am Soc for Metals Trans 28:399-416; Discussion. 416-23 Je '40
High hardenability and toughness in carbon and low alloy steels; use of Grainal. J. Strauss. Metals & Alloys 11:174-6 Je '40
Improved technique triples die life; nail heading dies; Wilson steel & wire co. il diags Iron Age 146:41 Ag 29 '40
Improving the durability of large industrial gears. E. J. Wellauer. il Metal Prog 37:653-7+ Je '40
Introductory study of the nitriding of hardened high speed steel by the use of molten cyanides. J. G. Morrison and J. P. Gill. il diags Am Soc for Metals Trans 27:935-1011; Discussion. 1011-14 D '39
Iron and steel in 1939. M. J. R. Morris. Min & Met 21:55-6 Ja '40
Machining hard alloy steels. il Steel 106:74-5 My 27 '40
Machining heat-treated alloy steels. Mach 47:148 S '40
Magnetism measures hardness. R. C. Gibbons. il Am Mach 84:426-7 Je 12 '40
Memo. on desirable properties of steel for cutting tools and on Rockwell hardness test of axes. G. St G. Sproule. diags Pulp & Pa of Can 41:456, 458+ Je '40
New air-hardening die steel is developed. il Steel 106:66-7 F 26 '40; Same cond. Iron Age 145:53 Mr 7 '40; Same cond. Mach 46: 136-7 Mr '40; Same cond. Automotive Ind 82:274-6 Mr 15 '40; Excerpts. Am Mach 84: 188 Mr 20 '40
New flame-hardening process gives greater hardness. il Paper Tr J 110:17 F 29 '40
Ohio chapters of A.S.M. study methods for hardening steel. Steel 106:49+ Ap 29 '40
Oil-hardened and tempered manganese steels. H. Kallen and F. Meyer. Engineer 169:sup [Metallurgist] 114-16 Je 28 '40
Permanence of the quench-age-hardening of mild steel. H. Wilhelm and J. Reschka. Engineer 169:sup[Metallurgist] 118-19 Je 28 '40
Salt bath heat treating. W. F. Sherman. il diags Iron Age 146:43-7 N 14 '40
Selection and application of automotive steels. A. L. Boegehold, W. H. Graves and E. W. Upham. Automotive Ind 82:364-6+ Ap 15 '40
Sixth progress report of the joint investigation of fissures in railroad rails. H. F. Moore. il diags Ill U Eng Exp Sta Reprint Ser 16:1-66 '40 (pa 15c); Abstract. Ry Age 109:100-3 Jl 20 '40
Slender reamers not ground after hardening. G. J. Murdock. il diags Am Mach 84:872 O 30 '40
Steel hardenability as related to physical properties. G. T. Williams. bibliog Steel 107:49-50, 52, 54+ Ag 19 '40
Straightening hardened parts. W. P. Boyle. il Steel 107:46+ Jl 22 '40
Strain-ageing of dead-mild steel strip used in the pressing of automobile bodies and accessories. J. W. Rodgers and H. A. Wainwright. diags Iron & Steel Inst J 139:387-418, pl 25; Discussion. 419-34 no 1 '39
Strength of steel and cast iron; filament theory. M. G. Corson. Iron Age 145:32-5 Je 20 '40
Study of strain-age-hardening of mild steel. C. A. Edwards, H. N. Jones and B. Walters. bibliog Iron & Steel Inst J 139: 341-85, pl 23-4 no 1 '39; Summary. Iron Age 144:39 D 21 '39; Discussion. Iron & Steel Inst J 139:419-33 no 1 '39
Temper cracks in high speed steels. K. Monma. Iron Age 145:54-5+ Ap 4 '40
Tempering of high speed steel. M. Cohen and P. K. Koh. flow sheet il diag Am Soc for Metals Trans 27:1015-47 bibliog(p1046-7); Discussion. 1047-51 D '39
Weld hardening of carbon and of alloy steels; abstracts. H. J. French and T. N. Armstrong. Oil & Gas J 38:203 Ja 25 '40; Metals & Alloys 11:MA24+ Ja '40
What heat for treating? dilatometer readings help secure best results. S. P. Rockwell. Am Mach 84:12-14 Ja 10 '40
Working of high-speed steels; heat-treatment. Am Mach 84:97-9 F 21 '40

See also
Case hardening
Steel—Aging
Steel, Heat treatment of
Steel, Quenching of

STEEL, Heat resisting
A-B-C of corrosion and heat resisting steels; data sheet. F. R. Palmer. Metal Prog 38:460 O '40
Babcock & Wilcox stainless-steel clad carbon-molybdenum plate for high-temperature service; Croloy. il Mach 46:275 D '39
Chromium steels from 2 to 16% chromium. H. D. Newell. Metal Prog 38:384-5 O '40
Design of large high-pressure steel valves. F. D. Cotterman and R. E. Falls il Engineer 170:229-30 O 11 '40
Development of metals for power plant equipment; ten years' progress. J. J. Kanter. il Power Pl Eng 44:50-5 Ja '40
Effect of phosphorus in 5 per cent Cr, 0.50 Mo steel. H. D. Newell and Z. E. Olzak. il Metals & Alloys 11:106-11 Ap '40
Heat resisting steels. W. H. Hatfield. Iron Age 145:35-7 Mr 14 '40
Irons and steels at high temperatures; a composite of abstracts. Metals & Alloys 12:344 S '40
Materials of construction for chemical engineering equipment; ferrous and non-ferrous alloys; physical and mechanical properties; corrosion, heat and abrasion resistance; makers. Chem & Met Eng 47:supp S '40
Modern steels to combat high temperatures; role of alloying ingredients. C. L. Clark. il Min & Met 21:521-3 N '40
Properties of the principal Cr-Fe alloys and Cr-Ni-Fe alloys; data sheets Metal Prog 38:464-5 O '40
Stainless steel, 1939. T. W. Lippert. Iron Age 145:33-40 My 23 '40
Tubes for oil heaters; titanium or columbium in 5% Cr-Mo-Si steel. H. Habart. il Metal Prog 37:401-5 Ap '40
Valves and valve seat material; data sheet. S. D. Heron, O. E. Harder and M. R. Nestor. Metal Prog 38:470 O '40
Werkstoffe für heissdampf von 600°. E. Schulz. V D I 84:160-1 Mr 2 '40

See also
Steel—Testing—
Temperature effects

STEEL, Heat treatment of
Abhängigkeit des abbrandes von der zusammensetzung der gasatmosphäre, der wärmdauer, der wärmtemperatur und der gasgeschwindigkeit. R. Bourggraff. Stahl & Eisen 60:129-37, 156-61 bibliog(139 titles, p159-61) F 15-22 '40
Addendum to section IX of the second report of the Alloy steels research committee; the inverse-rate curves of steel no. 10. F. W. Jones and C. Sykes. diag Iron & Steel Inst J 139:537-47 no 1 '39
Analysis of machinability data from cold finished and heat treated S.A.E. 1045 steel. O. W. Boston and W. W. Gilbert. il Am Soc for Metals Trans 28:186-205; Discussion. 205-8 Mr '40
Annealing of low carbon rimmed, aluminum-killed and silicon-killed steels. W. P. Wallace and R. L. Rickett. il Am Soc for Metals Trans 28:333-50; Discussion. 350-3 Je '40
Antimony in mild steel. B. Jones and J. D. D. Morgan. Iron & Steel Inst J 140:120-8 no 2 '39
Antiscaling compound for high temperatures; Ferritrol. il Steel 106:52 Ja 8 '40
As it was in 1915 and as it is in 1940. H. W. McQuaid. Metal Prog 37:307 Mr '40
As it was in 1915, and as it is in 1940; survey of progress. Metal Prog 37:284-7, 306-10 Mr '40
Austempering improves valve springs. A. Oreffice. Metal Prog 38:71 Jl '40
Blankglühen von chromhaltigen stählen. O. Dahl and F. Pawlek. il Stahl & Eisen 60: 137-12 F 15 '40
Brittle constituent in chromium-nickel-iron alloys. H. Hougardy. Metal Prog 37:64-5+ Ja '40
Composition and heat-treatment of tools for cold working carbon steel; table Am Mach 84:835 O 16 '40
Control in modern gear manufacture. R. S. Marthens. il Iron Age 144:33-6 D 21 '39
Discussion of leaded steels. F. J. Robbins and G. R. Caskey. bibliog il Am Soc for Metals Trans 27:887-915; Discussion. 915-22 D '39
Effect of hardness and of temperature on the strength, ductility, and toughness of a heat treated carbon steel. S. W. Lyon. il diags Am Soc for Metals Trans 28:128-40; Discussion. 141-2 Mr '40
Effect of humidity of air on the oxidation of a low carbon steel. C. A. Siebert and H. G. Donnelly. bibliog Am Soc for Metals Trans 28:372-7; Discussion. 377-9 Je '40
Effect of nitrogen additions and heat treatment on the properties of high-chromium steels. E. W. Colbeck and R. P. Garner. bibliog diags Iron & Steel Inst J 139:99-136, pl 2-5; Discussion. 137-46, pl 5a no 1 '39
Effect of rate of heating through the transformation range on austenitic grain size. S. J. Rosenberg and T. G. Digges bibliog 15 pls J Research Nat Bur Stand 25:215-28 Ag '40
Effect of temperature of pretreatment on creep characteristics of 18-8 stainless steels; abstract. C. R. Austin and C. H. Samans Iron Age 145:39-40 F 22 '40
Effect of titanium on the macrostructure and grain coarsening temperature of forging steel. G. F. Comstock. il Am Soc for Metals Trans 28:608-18 S '40
18 and 8 and related stainless steels. W. M. Mitchell. il Metals & Alloys 11:60-4, 88-93 F-Mr '40
Equilibria for gas-steel reactions; relation between gas composition, temperature, and carbon content in steel; data sheet. Metal Prog 38:594 O '40
Erreichbare festigkeitseigenschaften bei chrom-molybdän-baustählen nach härtung oder vergütung. H. Voss and F. Krämer. il diags Stahl & Eisen 59:913-20 Ag 10 '39; Abstract (Chromium-molybdenum steels). Engineer 168:sup[Metallurgist] 84-6 D 29 '39
Failure of press tools under fatigue and impact. C. E. Bretney. il diags Metal Prog 36:751-4 D '39
Festigkeitsverhalten von rohrschweissungen bei dauerbelastung. E. Siebel and K. Wellinger. il diags V D I 84:57-9 Ja 27 '40
Flame hardening and softening. R. L. Rolf. Metal Prog 38:495-6 O '40
Flame strengthening. J. H. Zimmerman. il Iron Age 145:38-9 F 1 '40; Same. Steel 106: 60, 62 F 19 '40
Forgings and their heat treatment. L. B. Herfurth. Ry Mech Eng 113:491-4 N '39
Fundamental action; transformation of austenite. T. G. Digges. Metal Prog 38:419 O '40
Gear materials and their heat-treatment. E. J. Wellauer. Mach 46:103-5 Mr '40
Grain size and heat treatment of steel; composite of abstracts. Metals & Alloys 12:196+ Ag '40
Grain size of steel. J. R. Vilella. bibliog il Mech Eng 62:293-307 Ap '40
Hardenability of carburizing steels. W. H. Bruckner. bibliog il diag Ill U Eng Exp Sta Bul 320:1-62 '39 (pa 70c)
Heat treating; developments in 1939. il Steel 106:196, 198, 200+ Ja 1 '40
Heat treating industrial gears. T. R. Rideout. il Iron Age 146:46-7 Ag 1 '40
Heat-treating troubles and their correction; reference book sheet. R. B. Seger. Am Mach 84:837, 839 O 16 '40
Heat treatment in the Ford new tool and die shop. E. F. Cone. il Metals & Alloys 10: 326-31 N '39
Heat-treatment of tool steels. R. C. Deale. Mach 46:33-5, 257-61 S, D '39
High-temperature creep strength checked for low-alloy steels. R. F. Miller, W. G. Benz and W. E. Unverzagt. Nat Pet N 32:R306, R309-12 Ag 21 '40
High-tensile structural steels containing copper. Engineer 169:sup[Metallurgist] 93-5 F 23 '40
How alloying elements affect high alloy steels. P. Payson. il Iron Age 145:31-5 Ap 18; 35-40 Ap 25 '40
Improving drawability of steel by controlling nitrogen. C. L. Altenburger. Metal Prog 37:639-43 Je '40
Improving stainless by a low-temperature treatment. R. Franks and W. O. Binder. Steel 107:56, 58+ Jl 22 '40; Abstract. Iron Age 145:40-1 F 22 '40
Industrial gears for large transmissions. E. J. Wellauer. il Metal Prog 36:725-30+ D '39
Influence of rate of cooling on the transformations in vanadium steels. F. Wever and A. Rose. Engineer 168:sup[Metallurgist] 87-8 D 29 '39
Interpretation of thermal curves and some applications to ferrous alloys. T. F. Russell. Iron & Steel Inst J 139:147-76; Discussion. 177-86 no 1 '39
Interrelation between stress and strain in the tensile test. E. J. Janitzky and M. Baeyertz. Am Soc for Metals Trans 28:714-23; Discussion. 723-4 S '40
Isothermal transformation in steels. E. S. Davenport. il diag Am Soc for Metals Trans 27:837-86 bibliog(73 titles, p881-6) D '39; Same cond. Metal Prog 36:623-9 N '39; Excerpts Iron Age 144:48-53 N 2 '39; Metals & Alloys 11:MA24 Ja '40
Jones & Laughlin produces spring wire by an electric direct resistance method. il Automotive Ind 83:264 S 15 '40; Iron Age 146:81+ S 19 '40; Steel 107:56 S 2 '40; Am Mach 84:789-90 O 2 '40; Blast F & Steel Pl 28:1006 O '40
Magnetic permeability of some austenitic iron-chromium-nickel alloys as influenced by heat treatment and cold work. J. B. Austin and D. S. Miller. diag Am Soc for Metals Trans 28:743-55 S '40
Mechanical properties of the isothermal decomposition products of austenite. M. Gensamer, E. B. Pearsall and G. V. Smith. bibliog il Am Soc for Metals Trans 28:380-95; Discussion. 396-8 Je '40
New die steel developed for short-run work. il Steel 106:48+ F 12 '40
Nickel-iron-aluminium permanent-magnet alloys. W. Betteridge. bibliog Iron & Steel Inst J 139:187-208 no 1 '39; Same abr. Engineering 147:632-4 My 26 '39; Discussion. Iron & Steel Inst J 139:209-10 no 1 '39

STEEL, Heat treatment of—*Continued*
No shatter cracks in rail; no transverse fissures; various heat treating methods. J. F. Woschitz. il diags Ry Age 108:668-70 Ap 13 '40
Prevention of flakes by holding railroad rails at various constant temperatures. R. E. Cramer and E. C. Bast. il Am Soc for Metals Trans 27:923-30 bibliog(p930, 934) D '39; Same. Blast F & Steel Pl 27:1174-6+ N '39; Discussion. Am Soc for Metals Trans 27:931-4 D '39
Quenched and tempered locomotive forgings. L. E. Grant and J. W. Crossett. il diags Ry Mech Eng 114:219-22 Je '40
Reconditioning carbon-steel springs; Point St Charles locomotive shops. il Ry Mech Eng 114:201-2 My '40
Reducing creep in alloy steel bolting materials. J. J. Kanter. il Steel 106:44-8, 72 Mr 4 '40
Relation of grain size to creep strength of carbon-molybdenum steel. S. H. Weaver. il Gen Elec R 43:357-64 S '40
Report on further experiments with a proposed acceptance test: effect of grain size. C. L. Clark and A. E. White. il Am Soc T M Proc 39:225-33 '39
Salt bath heat treating. W. F. Sherman. il diags Iron Age 146:43-7 N 14 '40
Salt baths and furnaces therefor. W. Adam, jr. Metal Prog 38:592-3 O '40
Selection of steel and heat treatment for spur gears. H. B. Knowlton and E. H. Snyder. bibliog il diags Am Soc for Metals Trans 28:687-708; Discussion. 708-13 S '40
Sixth progress report of the joint investigation of fissures in railroad rails. H. F. Moore. il diags Ill U Eng Exp Sta Reprint Ser 16:1-66 '40 (pa 15c); Abstract. Ry Age 109:100-3 Jl 20 '40
Spheroidizing of steel by isothermal transformation. P. Payson, W. L. Hodapp and J. Leeder. il Am Soc for Metals Trans 28:306-29 bibliog(p327-9); Discussion. 329-32 Je '40
Spheroidizing to obtain ductility required for cold-heading work. il Steel 106:64+ Ap 15 '40
Strain annealing; combination of cold working and low temperature annealing. F. J. Robbins. Iron Age 144:33-8 D 14; 37-9 D 21 '39
Strand heat treating cold strip. N. P. Goss and C. H. Vaughan. il Steel 107:52, 54, 56-7+ S 9 '40
Stress relief by electric furnace treatment. M. V. Healey and F. H. Miller. il Gen Elec R 43:170-3 Ap '40
Surface decarburization; cause of discrepancies between apparent strength and effective strength of steel automotive parts. L. A. Danse. il Steel 106:60-1 F 5 '40
Theory and practice of the heat treatment of armor-piercing projectiles; abstract. J. Obremski. Metals & Alloys 11:MA143 Mr '40
Tool hardening atmospheres. W. A. Schlegel. Metals & Alloys 12:226 Ag '40
Toughness, particularly of toolsteel. R. S. Rose. Metal Prog 37:407-11 Ap '40; Discussion. N. Levinsohn. 38:66-7; Reply. 67 Jl '40
Transformation of austenite on cooling; morphology and genesis of the aggregates formed. H. Jolivet. Iron & Steel Inst J 140:95-114, pl 10-17 no 2 '39
Truck axle parts; heat-treating procedure. F. B. Jacobs. il Steel 107:114+ O 14 '40
Tubes for oil heaters; titanium or columbium in 5% Cr-Mo-Si steel. H. Habart. il Metal Prog 37:401-5 Ap '40
Welded dies, their design and fabrication; with tool steel analyses and recommended heat treatment. A. R. Butler. il Steel 107: 106, 108+ O 14 '40
Working, heat treating, and welding of steel; supplemented with a series of laboratory assignments. H. L. Campbell. 2d ed 230p bibliog(p190) $2.25 Wiley '40
Working of high-speed steels; heat-treatment. Am Mach 84:97-9 F 21 '40
Yield of mild steel with particular reference to the effect of size of specimen. J. L. M. Morrison. bibliog diags Inst Mech Eng J & Proc 142:Proc 193-223, pl 1-2 Ja '40

See also
Annealing
Electric furnaces, Heat treating
Electric furnaces, Steel making
Furnaces, Heat treating
Steel, Quenching of

STEEL, Molten
Continuous sheets of malleable iron and steel direct from fluid metal. H. Bessemer. il Iron Age 145:48-50 Ap 11 '40
Experiments in rolling fluid steel. E. Norton. Iron Age 145:50-1 Ap 11 '40
Problem of primary crystallisation in steel; the undercooling capacity and the formation of nuclei in the liquid state; abstract. P. Bardenheuer and R. Bleckmann. Engineer 169:sup[Metallurgist] 102-4 Ap 26 '40
Pyrometry, especially of molten steel. Metal Prog 38:549-50 O '40
Pyrometry of liquid steels and pig irons. G. R. Fitterer. il Instruments 13:157-60 Je '40
Temperature measurements of liquid steel. S. Fornander and T. Omberg. Iron Age 145: 39 Je 27 '40
Temperature of liquid steel. Engineering 148: 433-4 O 20 '39; Abstract. Mech Eng 62:28 Ja '40

STEEL, Powdered
Powdered metal produces steel parts of high quality; Sinterloy. Mach 46:128-9 Ag '40
Sinterloy powder pressed, then sintered to form steel. Am Mach 84:188-9 Mr 20 '40
Steel powder for iron; could be produced as a by-product of the Kalling-Rennerfelt process. Steel 106:54-5 My 27 '40
Three compositions of Sinterloy steel. Iron Age 145:25 F 22 '40

STEEL, Quenching of
Automatic preset control for electric heat treating and quenching equipment; South Works plant of Carnegie-Illinois steel corp. il Steel 107:50, 54+ S 2 '40; Same. Blast F & Steel Pl 28:893-5 S '40
Cooling power of quenching baths; chart. M. Asimow and M. A. Grossmann. Metal Prog 37:427 Ap '40
Crankshaft hardening; oxyacetylene flames and water quenching jets. il Steel 106:50, 52+ Ap 29 '40
Dimension changes of tool steels during quenching and tempering. E. Ameen. bibliog diags Am Soc for Metals Trans 28:472-512 Je '40
Grinding cracks in quenched steels. K. Monma. il Iron Age 145:44-5 F 29 '40; Summary. Metals & Alloys 11:MA208+ Ap '40
Hardenability and quenching; use of charts. M. A. Grossmann and M. Asimow. Iron Age 145:25-9 Ap 25; 39-45 My 2 '40
Hardenability testing tool steels by oil quenching small cones. E. K. Spring and J. K. Desmond. il Steel 107:58, 60-2 O 28 '40
Hardenability variations in alloy steels; some investigations with the end-quench test. G. T. Williams. bibliog il diag Am Soc for Metals Trans 28:157-82; Discussion. 182-5 Mr '40
How and why of time quenching. J. L. Burns and V. Brown. il Am Mach 84:523-6 Jl 24 '40
Influence of austenitic grain size on the critical cooling rate of high-purity iron-carbon alloys. T. G. Digges. bibliog 8 pls diags J Research Nat Bur Stand 24:723-42 Je '40; Abstract. Engineer 170:sup[Metallurgist] 133-5 O 25 '40
Kinetics of the austenite to martensite transformation in steel. A. B. Greninger and A. R. Troiano. bibliog il Am Soc for Metals Trans 28:537-63; Discussion. 563-74 S '40
One method of quenching curved dies. F. H. Colvin. il Am Mach 84:429-30 Je 12 '40
Permanence of the quench-age-hardening of mild steel. H. Wilhelm and J. Reschka. Engineer 169:sup[Metallurgist] 118-19 Je 28 '40
Proper quench tanks save time and energy. diag Iron Age 145:38 My 2 '40

STEEL, Quenching of—*Continued*
Quenching and quenching media. R. C. Stewart. il diags Iron Age 146:45-50 S 12 '40
Temper cracks in high speed steels. K. Monma. Iron Age 145:54-5+ Ap 4 '40
Test method for the evaluation of aqueous quenching media for steel hardening. F. W. Trembour and H. Scott. il Am Soc for Metals Trans 28:513-31; Discussion. 531-6 S '40
Time quenching. J. L. Burns and V. Brown. il Am Soc for Metals Trans 28:209-29; Discussion. 229-37 Mr '40
Transformation of austenite on quenching high-purity iron-carbon alloys. T. G. Digges. pls diags J Research Nat Bur Stand 23:151-62 Jl '39; Same. bibliog Am Soc for Metals Trans 28:575-600; Discussion. 600-7 S '40

STEEL, Reinforcing
Effect of impact on reinforced concrete beams. T. D. Mylrea. il Am Concrete Inst J 11:581-94 Je '40; Discussion. 12:sup596[1]-596[2] S '40
High yield-point steel as tension reinforcement in beams. B. Johnston and K. C. Cox. il diags Am Concrete Inst J 11:65-80 S '39; Discussion. 11:sup 80[1]-80[12] Ap '40
Permit high working stress in new type of bar; Isteg reinforcing steel now in production in eastern steel mill. il Concrete 48:8 S '40
Rusted reinforcement. H. J. Gilkey. Eng N 124:151 F 1 '40
Stress increases in compressive steel under constant load caused by shrinkage. G. A. Maney and M. B. Lagaard. diags Am Concrete Inst J 11:541-52 Je '40; Discussion. 12:sup552[1]-552[11] S '40

See also
Concrete, Reinforced

Testing
Bond strength of rusted deformed bars. B. Johnston and K. C. Cox. il Am Concrete Inst J 12:57-72 S '40

STEEL, Sheet. See Sheet steel

STEEL, Stainless
Airplanes of stainless steel. Barron's 20:5 N 4 '40
American electric and alloy steel industry. E. F. Cone. il Metals & Alloys 12:27-9 Jl '40
Application and welding of stainless steel for lining tanks E. W. P. Smith. bibliog diags Paper Tr J 110:34-7 Je 6 '40
As it was in 1915 and as it is in 1940. F. M. Becket. Metal Prog 37:304 Mr '40
Bright dipping of stainless steel. Metal Ind 37: 584 D '39
Carbon monoxide as an inhibitor for stainless steel. H. H. Uhlig. bibliog Ind & Eng Chem 32:1490-4 N '40
Casts large plaque of stainless steel. il Foundry 68:49+ Je '40
Chemical polishing method; stainless steel polished by anodic treatment. A. L. Feild and I. C. Clingan. il Steel 106:54, 56+ Ap 22 '40
Coloring stainless steel; patent. Metal Ind 38:274 My '40
18 and 8 and related stainless steels. W. M. Mitchell. il Metals & Alloys 11:14-18, 60-4, 88-93, 118-22 Ja-Ap '40
Electrolytic polishing of stainless steel. G. Kiefer. il diag Iron Age 144:30-2+ D 21 '39
Electrolytic polishing of stainless steels. H. H. Uhlig. bibliog Electrochem Soc Trans 78 (preprint 25):343-50 O '40
Electro-polishing stainless. S. Tour. il Steel 106:72+ Je 17 '40
Enlarged stainless steel plant at Massillon, Ohio. il Ry Mech Eng 114:124 Mr '40
Expanding markets for stainless. P. F. Voigt, jr. Metal Prog 38:459+ O '40
Fabrication of stainless steel into chemical and process vessels. P. L. Coddington. il Metal Prog 38:39-44 Jl '40
Ferrous metallurgy fills new needs. W. J. Priestly. il Blast F & Steel Pl 28:40-1 Ja '40
Heat and corrosion resistant castings. D. W. Talbott. il Steel 107:38-40 Jl 29 '40
Heroic sculpture in stainless completed for Associated press building, Rockefeller Center. il Iron Age 145:94-5 Ap 11 '40
Iron and steel in 1939. M. J. R. Morris. Min & Met 21:55 Ja '40
Light-gage stainless steel used in ornamental eagle for top of Landplane administration building, North Beach airport. il Steel 105: 52 D 18 '39
Lincoln announces new stainless steel electrode. Marine Eng 45:81 Mr '40
Lochfrass bei säurebeständigen stählen. E. F. Baerlecken and H. Hougardy. il diags Stahl & Eisen 60:210-13 Mr 7 '40
Machining stainless steel. C. W. Alesch and G. J. Stevens. il diags Iron Age 145:23-9 Ja 25 '40
Manufacture of wrought alloys. A. L. Feild. Metal Prog 38:458-9 O '40
Modern methods of handling hydrogen peroxide. R. L. Ericsson. il Am Dyestuff Rep 29:343-5 Jl 8 '40
More and more stainless. L. K. Urquhart. il Factory Management 98:46-7 Ap '40
News sculptured in steel; plaque for Associated press building, Rockefeller Center. il Min & Met 21:248 My '40
Nitrided stainless steels. H. Drever. il Metals & Alloys 12:271-3 S '40
Nitriding of stainless steel. Iron Age 146:55 S 19 '40
Non-corrosive metals. R. Trautschold. il Rayon 21:485-7 Ag '40
Notable plaque in stainless steel over the main entrance of the Associated press building in Rockefeller Center. il Metals & Alloys 11:135-6 My '40
Oberflächenangriff, interkristalliner kornzerfall und elektrochemisches verhalten der nichtrostenden stähle. H. Hougardy. Stahl & Eisen 60:119-21 F 8 '40
Pickle polished stainless steel. T. W. Lippert. il Iron Age 145:22-6 Ja 11 '40
Pickling and polishing of metals; Blaut-Lang process. S. Tour. il Iron Age 145:26-30 My 30 '40
Polishing technique for stainless steels. W. M. Mitchell. il diags Iron Age 144:56-9+ O 19; 32-5, 92 O 26 '39; Excerpt (pt 2) Metal Ind 38:216 Ap '40
Progress in metallic materials for mining engineering. P. D. Merica and J. E. Kerr. Can Min J 60:736-8 N '39
Republic expands stainless facilities; illustrations. Iron Age 145:42-3 F 29 '40
Republic Steel expands facilities for stainless steel production. il Mach 46:161 Ap '40
Republic to process and finish stainless steel at Massillon plant. il Blast F & Steel Pl 28:250-2 Mr '40
Rustless iron & steel corp. completes $2,500,000 expansion. il Manuf Rec 109:42-3 N '40; Iron Age 146:53-5 N 14 '40; Steel 107:54-5 N 11 '40; Blast F & Steel Pl 28:1160-2 D '40; Mach 47:148-9 D '40
Selecting materials of construction. H. L. Maxwell. Chem & Met Eng 47:471 Jl '40
Stainless equipment in amateur darkrooms. il Sci Am 163:37-9 Jl '40
Stainless steel as manufactured in an English plant; United steel companies. il Blast F & Steel Pl 28:479-82 My '40
Stainless steel at LaGuardia field. il plan Steel 106:48-9 Mr 25 '40
Stainless steel comes of age in architecture; plaque by I. Noguchi for Associated press building, Rockefeller Center. H. H. Harris. il Metal Prog 37:536-40+ My '40
Stainless steel for aircraft. C. de Ganahl. il Steel 106:46-8 Ap 29 '40
Stainless steel for decorative effect. C. B. Templeton. Metal Prog 38:461+ O '40
Stainless steel in aircraft. C. De Ganahl. il diags Am Mach 84:527-9 Jl 24 '40
Stainless steel in aircraft fabrication. H. W. Perry. il diags Steel 107:72, 75 Ag 5 '40
Stainless steel in planes shown at Bolling Field. Iron Age 145:57 My 30 '40
Stainless steel in the fighting line. J. Palmer. Blast F & Steel Pl 28:811-12 Ag '40

STEEL, Stainless—*Continued*
Stainless steel in the pulp and paper industry. J. H. Faunce, jr. il Paper Ind 22:142-5 My '40
Stainless steel production, 1939. Blast F & Steel Pl 28:46 Ja '40
Stainless steel rolled products. P. B. Greenawald. Electrochem Soc Trans 77 (preprint 15):197-205 Ap '40
Stainless steel tanks to haul bulk milk on rail-truck system. il Steel 106:27 F 19 '40
Stainless steel, the next step for aircraft. W. B. Stout. Metal Prog 38:461-2 O '40
Stainless steels; a composite of abstracts. Metals & Alloys 12:98+ Jl '40
Stainless steels in the defense program. P. L. Coddington. Metal Prog 38:462 O '40
Structural and other uses of stainless steel in airplanes. il Aero Digest 35:50-2+ D '39
Supplies of chromium (essential to the stainless steels). J. H. Critchett. Metal Prog 38:457 O '40
Taking the stain off stainless. G. C. Kiefer. il Am Mach 84:50-2 F 7 '40
Tarnishing of stainless steels. Franklin Inst J 229:646-7 My '40
Trash racks use stainless steel; Holtwood hydro plant of Pennsylvania water & power co. il Elec W 114:702+ S 7 '40
Use of stainless steels in the dyeing and finishing industry. J. W. Grayson. il Soc Dyers & Col J 56:209-16; Discussion. 216-17 My '40
Vacuum chucking used in polishing stainless. il Steel 107:71 Jl 29 '40
Way to clean stainless steel. G. C. Kiefer. il Food Ind 12:48-9 Je '40
Welding of stainless steel and its alloys. G. H. Tweney. il Aero Digest 35:45+ D '39
What it takes to turn stainless; Crown cork & seal company. il diags Am Mach 84:195-8 Ap 3 '40

See also
Chromium nickel steel
Chromium steel
Steel, Corrosion resisting

Prices

See Steel—Prices

Statistics

Stainless steel, 1939. T. W. Lippert. Iron Age 145:33-40 My 23 '40
Study in export data of stainless and alloy steels. Metals & Alloys 10:380 D '39

STEEL, Stainless clad
Babcock & Wilcox stainless-steel clad carbon-molybdenum plate for high-temperature service; Croloy. il Mach 46:275 D '39
Giving steel a stainless coat; process developed by Robert Kinkead. Barron's 19: 5 N 27 '39
Machine gas cutting of stainless-clad plates; Crown cork & seal co. W. Lyon and M. G. Wicker. il Iron Age 145:42-3 Ap 11 '40
New method to weld stainless-clad steel developed by Composite steel division of Jessop steel co. il diags Steel 105:68 N 27 '39
New process for making composite metals. R. Kinkead. Blast F & Steel Pl 27:1245-6 D '39
New process for metal coatings; Kinkead methods will be used by Carnegie-Illinois Steel. Business Week p32-4 D 2 '39
New process for producing corrosion-resistant sheet steel; Kinkead arc welding process. Mach 46:116 F '40
New steel making process. Chem Ind 46:563 My '40
Plural compositions from a new melting process; pluramelt. V. Browne and H. S. Blumberg. il diags Metal Prog 37:163-8 F '40
Plural melting process produces composite ingots with stainless or tool steels on one or both sides of mild steel base; pluramelt. H. G. Batcheller. diags Steel 106:54, 56+ F 12 '40
Pluramelt, a new steel making process. Mach 46:123-4 Mr '40
Pluramelt, new steel making process. Automotive Ind 82:277 Mr 15 '40
Pluramelt, new steel process. Metals & Alloys 11:MA120 Mr '40
Pluramelt steel; Allegheny Ludlum now using Hopkins process. Business Week p41 F 17 '40
Stainless clad. T. S. Fitch. Metal Prog 38: 463+ O '40
Stainless surface on carbon steel in new product called Pluramelt. Iron Age 145:80 F 8 '40
Surface cladding; new method; corrosion-resistant lining for processing vessels. G. E. Gude, jr. il Steel 107:44+ Ag 26 '40
Wear-resistant composite metal made by Kinkead process. Metals & Alloys 11:MA116 Mr '40
Welding and cutting of stainless clad steel; abstract. W. B. Keelor. Metals & Alloys 11: MA28 Ja '40

STEEL, Strip
Age hardening of cold reduced strip. P. J. McKimm. Steel 107:44, 46, 48-9 S 30; 46, 48, 50, 78-81 O 7; 139-40 bibliog(114 titles, p79-81, 139-40) O 14 '40
Atomic hydrogen, for welding hot strip off the 30-in. mill at the Otis plant. R. M. Fenton and E. W. Dougherty. il diag Iron Age 146:40-2 Jl 18 '40
Cold and hot rolled strip, Pittsburgh, prices, 1929-1939; tabulation. Steel 106:290 Ja 1 '40
Cold rolled strip steel; application of tension. T. B. Montgomery. diags Steel 107:56, 58, 61+ O 21 '40; Same, with il. Blast F & Steel Pl 28:990-5 O '40
Electrolytic manufacture of tinplate strip. C. C. Downie. Blast F & Steel Pl 28:183-4+ F '40
Handling coils; multiple lifting magnet. F. W. Jessop. il Steel 106:56+ F 5 '40
Intermittent conveyor for handling strip steel in coils. R. Trautschold. il Steel 107:52+ O 28 '40
Mirror strip with carbide rolls. T. C. Campbell. il Iron Age 145:44-6 F 1 '40
New reel for strip. W. W. McBane. il diag Steel 106:50+ Ja 15 '40
Producing steel to meet physical test requirements. C. H. Herty, jr. Iron Age 145: 54+ My 23 '40
Production of strip metal of high melting points directly from molten metal; abstract. C. W. Hazelett. diags Metal Prog 37:43-4 Ja '40
Rolling of sheet and strip. G. Sachs. bibliog il diags Iron Age 145:25-7+ Mr 28; 48-51 Ap 4 '40
Slag control; obtaining desired quality in low-carbon rimming steel for strip. J. B. Malloy. Steel 105:48-51 D 25 '39
Slivers in cold reduced strip. P. J. McKimm. il Blast F & Steel Pl 28:243-6+, 338-40 Mr-Ap '40
Steel strip manufacture; continuous cold rolling, Whitehead iron & steel co. il Elec R (Lond) 126:121-3 F 2 '40
Strain-ageing of dead-mild steel strip used in the pressing of automobile bodies and accessories. J. W. Rodgers and H. A. Wainwright. diags Iron & Steel Inst J 139:387-418, pl 25; Discussion. 419-34 no 1 '39
Strand heat treating cold strip. N. P. Goss and C. H. Vaughan. il Steel 107:52, 54, 56-7+ S 9 '40
Stripsheet annealing. il Steel 106:48-9+ Ap 15 '40

Bibliography

Bibliography on the production of steel sheets and strip; compiled by the Sheffield city libraries. Blast F & Steel Pl 28:828-9, 922-3, 1020-1 Ag-O '40

Marking

Marking hot steel; two compounds available in seven colors. V. L. Staley. il Steel 107: 64+ N 4 '40

Testing

Cambridge thickness gauge for steel strip. il diags Engineer 169:297-8 Mr 29 '40
Residual tin in steel. P. J. McKimm. Steel 106:64, 67-8 My 6; 60, 64, 69 My 13 '40

STEEL, Structural
Bridge piers of structural steel piles meet with favor on the C.N.R. il diag Ry Age 108:544-9 Mr 23 '40
Designing for high tensile steels. H. M. Priest. diags chart Ry Mech Eng 113:528-33; 114:15-19 D '39-Ja '40
Dimensional variations in hot-rolled steel mill products and the problem of control. A. C. Cummins. Blast F & Steel Pl 28:577-80+ Je '40
Engineering review; structural steel and reinforced concrete, with solutions of structural design problems given in examinations for licensed professional engineers in New York state. C. Kandall. 162p $2.50 Cord publishers, New York '40
Fatigue provisions in riveted joints. J. Jones. Civil Eng 10:344-5 Je '40
High-tensile structural steels containing copper. Engineer 169:sup[Metallurgist] 93-5 F 23 '40
Nailing channel permits ceiling to be attached mechanically. il Steel 106:50 Je 3 '40
New life for old steel sash. S. B. Bingham. il diags Factory Management 98:75-7 Je '40
New Pennsylvania Turnpike required 46,000 tons of steel; reinforcing, overpasses, tunnels and enameled sheet metal ticket stations. T. C. Campbell. il map Iron Age 146:70-1 S 5 '40
Oxygen cutting (flame cutting) of structural steel; progress report of committee. Am Soc C E Proc 66:627-31 Ap '40
Preparing structural steel surfaces for painting; symposium on methods of preventing corrosion. E. R. Needles and others. il Civil Eng 10:405-17 Jl '40
Steel sheets a structural material; Lindsay structure. il Iron Age 145:39 Mr 21 '40
Steel; survey of trends in building materials. M. Salvadori and B. Funaro. il diags Arch Rec 87:73-80 Ap '40
Unique panel construction in LeTourneau hangar. il Aero Digest 37:168 S '40
Vanadium in steel. J. Strauss. Metal Prog 38:389+ O '40
What's ahead in 1940? construction. il Steel 106:163-5+ Ja 1 '40

See also
Bridges, Iron and steel
Concrete, Reinforced
Riveting
Steel, Aircraft
Steel, Automobile
Steel, Reinforcing
Steel alloys
Steel construction

Prices
Structural shapes, Pittsburgh, prices, 1929-1939; tabulation. Steel 106:289 Ja 1 '40

Statistics
Fabricated structural steel orders in the United States, net tons; monthly, 1912-1939; tabulation. Iron Age 145:164 Ja 4 '40
Weekly bookings of construction steel. Published in weekly numbers of Iron age

Testing
Der aufschweissbiegeversuch und seine eignung zur prüfung von baustählen. E. Houdremont, K. Schönrock and H. J. Wiester. bibliog il Stahl & Eisen 59:1241-8, 1268-73 N 16-23 '39
Brief review of steel column tests. L. T. Wyly. bibliog il diags W Soc E J 45:99-113; Discussion. 113-16 Je '40
Effect of connections and rivet holes on ductility and strength of steel angles. J. A. Van den Broek. Civil Eng 10:83-6 F '40
Fatigue machines for testing structural units. R. L. Templin. bibliog il diags Am Soc T M Proc 39:711-21; Discussion. 722 '39

Welding
Der aufschweissbiegeversuch und seine eignung zur prüfung von baustählen. E. Houdremont, K. Schönrock and H. J. Wiester. bibliog il Stahl & Eisen 59:1241-8, 1268-73 N 16-23 '39
Cracking tendency of welds proper with special reference to the chemical composition of structural steel; abstract. E. Helin and S. Svantesson. Metals & Alloys 11: MA329 Je '40
Fatigue tests of welded joints; summary. W. M. Wilson and A. B. Wilder. Oil & Gas J 38:194 Mr 28 '40
Forge welding heavy sections. il Steel 107: 64-5 S 30 '40
Hi-tensile steel ships. G. deRooy and P. Schoenmaker. Steel 106:56, 58+ Mr 18; 68, 70-1+ Mr 25 '40
Shear reinforcing for concrete beams; diagonal bars welded to top and bottom steel. D. M. McCain. diags Steel 107:58-9+ Jl 15 '40
Stainless steel in aircraft. C. De Ganahl. il diags Am Mach 84:527-9 Jl 24 '40
Structural steel welding research committee of the Engineering foundation. Science 91: 496 My 24 '40
Welded cable saddles for Tacoma Narrows bridge. J. Jones. il diags Eng N 123:773-4 D 7 '39
Welded connections for tier buildings; diagrams. Metal Prog 38:57 Jl '40
Zusammenhang zwischen schweissbarkeit und stahleigenschaften bei baustahl St 52. O. Werner. Stahl & Eisen 59:1344-6 D 14 '39

See also
Steel construction—Welding

STEEL, Tool. See Tool steel

STEEL alloys
Die abbrandverhältnisse im kernlosen induktionsofen. H. Weitzer. Stahl & Eisen 59: 1353-6; Discussion. 1357-8 D 21 '39
Alloy steels dramatized; subject of sound motion picture film produced by U.S. Bureau of mines. Power Pl Eng 44:106+ Ag '40
Alloy steels of high elastic strength. Chem Age (Lond) 42:sup21 My 4 '40
Alloys for paper mill equipment; composite of abstracts. Metals & Alloys 12:210-11 Ag '40
American electric and alloy steel industry. E. F. Cone. il Metals & Alloys 12:27-9 Jl '40
Analyses of S.A.E. steels; data sheet. Metal Prog 38:388 O '40
As it was in 1915 and as it is in 1940. E. E. Thum. Metal Prog 37:302 Mr '40
Castability of alloy steel castings. R. J. Wilcox. il Foundry 67:28-9, 94, 96 D '39
Copperweld goes alloy; works at Warren, Ohio. T. C. Campbell. il plan Iron Age 145: 30-2 Je 13 '40
Corrosion-resisting steels; properties required in service and their development by proper manufacturing methods. W. B. Thompson. il diag Can Chem & Process Ind 23:596-9 D '39
Development of metals for power plant equipment; ten years' progress. J. J. Kanter. il Power Pl Eng 44:50-5 Ja '40
Edelstahl; zum 25jährigen bestehen des Edelstahl-verbandes am 12. dezember 1939. W. Kossmann. il Stahl & Eisen 59:1333-6 D 14 '39
Effects of alloying elements in steel; abstract. A. B. Kinzel. Iron Age 145:81A Ap 18 '40
Eignung nickelarmer stähle für dampfturbinenbeschaufluugen. il V D I 84:361-3 My 25 '40
Exhaust valve materials for internal combustion engines; abstracts. S. D. Heron, O. E. Harder and M. R. Nestor. Metal Prog 37:418+, 541 Ap-My '40; Metals & Alloys 11: MA216+ Ap '40
Ferrous metallurgy fills new needs. W. J. Priestly. il Blast F & Steel Pl 28:40-1 Ja '40
Functions of the alloying elements in steel; a series of five educational lectures on the functions of the alloying elements in steel presented to members of the A.S.M. during the twenty-first National metal congress and exposition, Chicago, Ill, Oct. 23 to 27, 1939. E. C. Bain. 312p $4 American soc. for metals, Cleveland '39

STEEL alloys—*Continued*
Grinding balls take to the airways; copper molybdenum forged alloy steel balls help solve high-cost air transportation problem of La Luz mines, ltd. F. A. McCoy. il Min Cong J 26:34-5 Ag '40
Hardenability of chromium-molybdenum and chromium-nickel carburizing steels; abstract. A. Pomp and A. Krisch. Metals & Alloys 11:MA142-3 Mr '40
High hardenability and toughness in carbon and low alloy steels; use of Grainal. J. Strauss. Metals & Alloys 11:174-6 Je '40
How alloying elements affect high alloy steels. P. Payson. il Iron Age 145:31-5 Ap 18; 35-40 Ap 25 '40
Influence of phosphorus. bibliog Blast F & Steel Pl 27:1246+ D '39
Interpretation of thermal curves and some applications to ferrous alloys. T. F. Russell. Iron & Steel Inst J 139:147-76; Discussion. 177-86 no 1 '39
Iron and steel in 1939. M. J. R. Morris. il Min & Met 21:54-6 Ja '40
Isothermal transformation in steels. E. S. Davenport. il diag Am Soc for Metals Trans 27:837-86 bibliog(73 titles, p881-6) D '39; Same cond. Metal Prog 36:623-9 N '39; Excerpts. Iron Age 144:48-53 N 2 '39
Kornwachstum bei stählen mit aluminium-, vanadin- oder titanzusatz. G. Hieber. Stahl & Eisen 60:143-4 F 15 '40
Machining hard alloy steels. il Steel 106: 74-5 My 27 '40
Metals in drilling. W. L. Nelson. bibliog il Oil & Gas J 38:53 D 14 '39; 45+ Ja 18 '40
Metals in production. W. L. Nelson. bibliog il Oil & Gas J 38:56 Mr 14 '40
Modern alloy steel manufacture; Copperweld plant at Warren, Ohio. W. C. Kernahan. il plan Blast F & Steel Pl 28:671-6 Jl '40
Modern steels to combat high temperatures; role of alloying ingredients. C. L. Clark. il Min & Met 21:521-3 N '40
Molybdenum in iron and steel. T. D. Parker. bibliog Mech Eng 62:793-9 N '40
New alloy steel machined at 450 brinell; chromium-nickel-molybdenum alloy. Steel 106:362 Ja 1 '40
New custom alloy shop; Youngstown alloy casting corp. G. R. Reiss. il Steel 107:111-12+ O 14 '40
Nickel alloy steels; characteristics and properties required for tractor parts. H. L. Geiger. Product Eng 11:67-70 F '40
Nickel-chromium-molybdenum steel shafts used on industrial trucks. Mach 46:139 Mr '40
Pickling alloy steels; a new method of employing hydrofluoric acid. Automobile Eng 30:261 S '40
Progress in metallic materials for mining engineering. P. D. Merica and J. E. Kerr. il Can Min J 60:733-9 N '39
Properties of the principal Cr-Fe alloys and Cr-Ni-Fe alloys; data sheets. Metal Prog 38:464-5 O '40
Reducing creep in alloy steel bolting materials. J. J. Kanter. il Steel 106:44-8, 72 Mr 4 '40
Die reduktion von titansäure mit festem kohlenstoff und kohlenstoffhaltigem eisen. W. Baukloh and R. Durrer. Stahl & Eisen 60:12-13 Ja 4 '40
Role of metals in deep-well drilling. W. L. Nelson. Oil & Gas J 38:37+ N 30 '39
Ryerson develops a new steel; H.T.M. alloy. Automotive Ind 81:624 D 15 '39; Excerpt. Iron Age 145:29 Ja 25 '40
Ryerson now handling new steel alloy; new carburizing nickel-molybdenum steel. Steel 107:76 Jl 1 '40
Second report of the Alloy steels research committee; summary. Iron & Steel Inst J 139:535-7; Discussion. 547-98, pl 30 no 1 '39
Specialty steels lead the industry; company earnings. W. Kraemer. il Mag of Wall St 66:222-4+ Je 1 '40
Specific effects of alloys in steel; tabulation. E. C. Bain. Metal Prog 36:643 N '39
Titanium in steel and iron. G. F. Comstock. Metal Prog 38:387+ O '40
Today's ball-bearing metallurgy. C. T. Hewitt. il Steel 107:38-9+ Jl 22 '40
Transformation of austenite in 4140 alloy steel at constant sub-critical temperature; chart. Metal Prog 38:171 Ag '40
Transformation of austenite on cooling; morphology and genesis of the aggregates formed. H. Jolivet. Iron & Steel Inst J 140: 95-114, pl 10-17 no 2 '39
Tubes for oil heaters; titanium or columbium in 5% Cr-Mo-Si steel. H. Habart. il Metal Prog 37:401-5 Ap '40
Twenty years of alloy steel. J. H. Critchett. il Chem Ind 46:285-90, 444-8 Mr-Ap '40
Welding and alloy steel in tender cistern construction; Master boiler makers' association committee report. Ry Mech Eng 113:441-3 N '39

See also
Chromium copper silicon steel
Chromium molybdenum steel
Chromium nickel steel
Chromium steel
Ferroalloys
Invar
Iron alloys
Manganese steel
Molybdenum steel
Nickel steel
Silicon steel
Steel, Automobile
Steel, Corrosion resisting
Steel, Heat resisting
Steel, Stainless
Steel, Structural
Tool steel
Tungsten steel
Vanadium steel

Analysis

See Steel—Analysis

Testing

La détection magnétique des défauts dans les alliages métalliques. J. Fluvot. il diags Génie Civil 115:333-7, 355-7 N 4-11 '39
Field tests on alloy-steel chains; abstract. L. Lahoussay. Oil & Gas J 39:66 O 17 '40
Hardenability variations in alloy steels; some investigations with the end-quench test. G. T. Williams. bibliog il diag Am Soc for Metals Trans 28:157-82; Discussion. 182-5 Mr '40

STEEL balls. See Balls, Steel

STEEL bars
Billet grinding; factors affecting cost. A. O. Rousseau. il Iron Age 145:45-7 Je 20 '40
Chart for bar stock calculations. M. A. Markel. Am Mach 84:143, 145 Mr 6 '40
Dimensional variations in hot-rolled steel mill products and the problem of control. A. C. Cummins. Blast F & Steel Pl 28:577-9 Je '40
Flame scarfing billets. J. Heffley. Steel 107: 54-5+ Jl 15 '40
Producing steel to meet physical test requirements. C. H. Herty, jr. Blast F & Steel Pl 28:583-5 Je '40; Same abr. Iron Age 145:53 My 23 '40
Shearing of bar steel. D. M. Henderson, jr. il Iron Age 146:33-5 Jl 18 '40
Straightening fixture for removing twists from rectangular bars. L. Chabrand. diag Mach 47:162 N '40
Strain annealing; combination of cold working and low temperature annealing. F. J. Robbins. Iron Age 144:33-8 D 14; 37-9 D 21 '39

Prices

Finished steel prices, 1929-1939; tabulation. Steel 106:288, 289, 290 Ja 1 '40
Semifinished material; prices, 1929-1939; tabulation. Steel 106:286 Ja 1 '40

Tables, calculations, etc.

Weight of bar stock; reference book sheet. L. de L. Berg. Am Mach 84:341, 343 My 15 '40
Weights of metric steel sizes in English units; conversion table for round, square, and hexagonal stock and for flat stock; reference book sheets. H. S. Cameron. Am Mach 84:545, 547 Jl 24 '40

STEEL bins. See Bins, Steel

STEEL buildings
New type of structure for airplane hangars. il diag Aero Digest 37:142+ Ag '40
Stainless steel hangars at Municipal airport, Flushing, Long Island. il diag Sheet Metal Worker 31:32-4 O '40

STEEL cars. See Cars, Steel; Freight cars, Steel

STEEL castings

American foundrymen's association meeting; abstracts of papers. Steel 106:56 My 20 '40

American steel foundries; maker of railroad equipment has added tank parts. il Fortune 22:58-64+ N '40

Application of controlled directional solidification to large steel castings; abstract. J. A. Duma and S. W. Brinson. Metals & Alloys 11:MA252+ My '40

Application of external chills in production of steel castings; abstract. W. F. McKee. diags Iron Age 145:48-50, 51 My 16 '40

As it was in 1915 and as it is in 1940. H. A. Schwartz. Metal Prog 37:305+ Mr '40

Cast steel; effect of additions on quality. C. H. Lorig. il Product Eng 11:258-9 Je '40

Cast steel gears. W. J. Phillips and T. D. West. bibliog il diags Steel 107:48-50 O 21 '40

Cast steel gears. J. A. Shuffstall. il diags Foundry 68:28-30, 92+ Ja '40

Cast steel parts for the Ford tractor. R. H. McCarroll and E. C. Jeter. il diag Metal Prog 37:521-6 My '40

Castability of alloy steel castings. R. J. Wilcox. il Foundry 67:28-9, 94, 96 D '39

Casting; developments in 1939. il Steel 106: 245-6+ Ja 1 '40

Casting steel for Ford tractors. R. H. McCarroll and E. C. Jeter. il Iron Age 145:34-9 F 15 '40; Same. Foundry 68:30-3+ F '40

Castings or welded steel? composite of abstracts. Metals & Alloys 11:MA148+ Mr '40

Centrifugally cast gear blanks introduced by Ford. C. O. Herb. il diags Mach 46:85-8 My '40

Chromium steel castings. E. K. Smith. il Metal Prog 37:49-54 Ja '40

Chromium steel castings; abstract. K. Roesch. Engineer 168:sup[Metallurgist] 77 D 29 '39

Ford cast steel crankshafts now poured continuously. E. F. Cone. il Metals & Alloys 12:267-70 S '40

Foundry industry and army ordnance. N. F. Ramsey. il diags Foundry 68:28-9, 78+ Mr; 28-9, 98+ Ap '40

Foundry of Monroe steel castings co. A. H. Allen. il Foundry 67:44, 46+ D '39

Foundry practice affects yield. J. B. Atkinson. il Foundry 68:28-9+ Ag '40

Gating and feeding of castings. A. Johnson. diags Iron Age 145:26-8 F 22 '40

Heat and corrosion resistant castings; variety of chrome-nickel-iron alloys. D. W. Talbott. il Steel 107:40-4 Jl 22; 38-40 Jl 29 '40

Heat treatment of cast steels and irons; as it was in 1915 and as it is in 1940. R. H. McCarroll. Metal Prog 37:308 Mr '40

Impact properties of some low alloy nickel steels at temperatures down to -200 degrees Fahr. T. N. Armstrong and A. P. Gagnebin. Am Soc for Metals Trans 28:9-13 Mr '40

Industrial gears for large transmissions. E. J. Wellauer. il Metal Prog 36:725-30+ D '39

Making steel castings; composite of abstracts. Metals & Alloys 12:184+ Ag '40

Management policies by industries; steel castings industry. O. E. Mount. il Bankers Mo 57:95-6, 98, 100 F '40

Pouring Canada's heaviest casting; housing for rolling mill; Dominion foundries and steel ltd. il Can Eng 77:9-10 D 12 '39

Practice in the steel casting field; abstract. J. H. Hall. Foundry 68:118+ My '40

Prevent hot tears in steel castings. W. J. Phillips. il diag Foundry 68:27-8+ Jl '40

Produces variety of steel castings; West Michigan steel foundry co. D. F. Seyferth. il Foundry 68:44-5+ Je '40

Progress in metallic materials for mining engineering. P. D. Merica and J. E. Kerr. Can Min J 60:738-9 N '39

Some recent developments in iron and steel castings. R. C. Good. il Foundry 68:46-8+ O; 42-4+ N '40

Stainless steel comes of age in architecture; plaque by I. Noguchi for Associated press building, Rockefeller Center. H. H. Harris. il Metal Prog 37:536-40+ My '40

Steel and iron castings. E. Bremer. Metal Prog 38:373-4 O '40

Steel casting costs; factors that effect costs. H. L. McClees. il Steel 106:70-1 My 13 '40

Steel casting production technique studied at American foundrymen's association; abstracts of papers. Foundry 68:103-4 Je '40

Steel castings in aircraft; abstract. A. Finlayson. Metals & Alloys 11:MA132 Mr '40

Steel foundry; Crane co. H. W. Maack. il Steel 106:38, 40-1 Ja 8 '40

Steel foundry progress in melting and heat treating. E. F. Cone. il Metals & Alloys 11: 99-102 Ap '40

Steel foundry shows steady growth; Ohio steel foundry co. P. Dwyer. il Foundry 68: 34-7, 94+ N '40

Steel valve castings. J. J. Kanter. il Iron Age 146:29-33 Jl 11 '40

See also
Steel ingots

Statistics

Steel castings, 1936-1939. Survey of Cur Business 1940 Sup p132 [supplemented in monthly numbers]

Steel castings orders in the United States, net tons; monthly, 1922-1939; tabulation. Iron Age 145:165 Ja 4 '40

World production of steel ingots and castings, 1929-1939; tabulation. Steel 106:269 Ja 1 '40

Testing

Getting inside information; portable X ray camera for study of steel castings. il Power Pl Eng 44:34 F '40

STEEL chimneys. See Chimneys, Steel

STEEL construction

Composite steel and reinforced concrete construction for highway bridges. C. P. Cueni. il diags Roads & Sts 82:48-9 D '39

Corrosion, the structural common cold. E. R. Needles. il Civil Eng 10:405-7 Jl '40

Engineering review; structural steel and reinforced concrete with solutions of structural design problems given in examinations for licensed professional engineers in New York state. C. Kandall. 162p $2.50 Cord publishers, 147 4th av, New York '40

Fifteen-acre plant for bombers built in 90 days; Boeing aircraft plant no. 2. il diags plan Eng N 125:566-70 O 24 '40

New design features; steel wall surfaces, no interior columns; home office building of Bankers life co. il Steel 107:51 Jl 22 '40

New form of steel building. plan Engineer 169:502-3 My 31 '40

New structural system; Lindsay structure employing sheet steel as strain-bearing structural member. il diags Steel 106:50, 52+ Mr 4 '40

Prefabricated steel panel system for industrial buildings; Lindsay structure. il diags Am Bld 62:110+ Ap '40

Steel corrosion; its nature and prevention. C. F. Rassweiler. il Civil Eng 10:407-10 Jl '40

Steel; survey of trends in building materials. M. Salvadori and B. Funaro. il diags Arch Rec 87:73-80 Ap '40

Survey reveals wide use of 20,000 lb. unit stress. Eng N 124:299 F 29 '40

See also

Bridges, Iron and steel
Concrete, Reinforced
Concrete construction
Corrosion and anti-corrosives
Girders
Riveting
Roofs, Steel
Sewage tanks, Steel
Steel, Structural
Steel houses
Strains and stresses
Strength of materials
Towers, Steel

Concrete encasement

Rebuilding stacks; heat-resistant cement applied with gun to corroded steel stacks. il Steel 105:64-5+ D 18 '39

Design

Allowable unit stresses for steel columns; charts and formulas. Roads & Sts 83:58, 60 My '40

STEEL construction—Design—*Continued*
Automatic design of continuous frames in steel and reinforced concrete. L. E. Grinter. 141p $3 Macmillan '39
Construction and operation of the 10,000,000 cubic foot waterless holder at Everett, Mass. D. S. Reynolds. il diags Am Gas J 153:23-7 Jl '40
Design economy by connection restraint. B. Johnston and R. A. Hechtman. bibliog diags Eng N 125:484-7 O 10 '40
Designing for high tensile steels. H. M. Priest. diags chart Ry Mech Eng 113:528-33; 114:15-19 D '39-Ja '40
Effect of connections and rivet holes on ductility and strength of steel angles. J. A. Van den Broek. Civil Eng 10:83-6 F '40
Electric welding as an integral part of structural design. B. P. Haigh. il diags Engineering 149:21-5, 49-51 Ja 5-12 '40
Fatigue provisions in riveted joints. J. Jones. Civil Eng 10:344-5 Je '40
Folded sheet-steel roofs; unique welded structure features prefabricated roof and wall sections. R. Sherman. il diags Steel 106: 49-50, 52 F 19 '40
Le Tourneau builds frameless cellular shop. L. Hyler. il diags Eng N 125:458-60 O 10 '40
Non-axial loads on structural steelwork beams. R. F. Davis. diags Engineering 150: 81-4 Ag 2 '40
Present trends in structural design; developments of the past twenty-five years. O. H. Ammann. il Civil Eng 10:21-4 Ja '40
Seats for nine thousand fans; Duke university's new gymnasium. A. C. Lee. il diag Eng N 124:376-8 Mr 14 '40
Superstructure of theme building of New York world's fair. S. Hardesty and A. Hedefine. il diags Am Soc C E Proc 66:1277-1316 S '40
Theory of elastic stability applied to structural design. L. S. Moisseiff and F. Lienhard. Am Soc C E Proc 66:31-70 bibliog(52 titles, p67-70) Ja '40
Theory of limit design. J. A. Van den Broek. Am Soc C E Proc 65:193-216 F '39; Discussion. diags 65:928-46, 1130-52, 1269-76, 1431-4, 1795-6; 66:121-4, 287-300 My-Je, S-O, D '39-F '40
Theory of limit design. J. A. Van den Broek. diags W Soc E J 44:245-53 O '39
Welded rigid-frame factory building. O. Bondy. diags Engineering 150:281-3, 321-2, 323, 330, pl 20, 23 O 11, 25 '40
Wind design procedure; report of Am. Soc. C. E. committee on wind bracing in steel buildings. diags Eng N 124:175 F 1 '40

Erection

Construction and operation of the 10,000,000 cubic foot waterless holder at Everett, Mass. D. S. Reynolds. il diag Am Gas J 153:27-8 Jl '40
Deformation controlled; handling system using hydraulic jacks for aligning parts of huge tanks during field erection. W. A. Sandberg. il Steel 107:50, 52+ Ag 12 '40
Erecting steel towers. F. L. Spangler. il Steel 107:64-5 S 9 '40
Fast erection of building trusses; Tiffany building, New York. il diags Eng N 124:22-3 Ja 4 '40
Simple revolving scaffold speeds steel tank erection. diags Eng N 124:466 Mr 28 '40

Failures

Rapid steel erosion caused by salt water seepage in Turkish bath building at Coney Island. W. Eipel and H. Eipel. il Eng N 124:741 My 23 '40

Testing

Effective moment of inertia of a riveted plate girder. S. B. Lilly and S. T. Carpenter. il diags Am Soc C E Proc 65:1407-21 O '39; Discussion. 65:1807-18; 66:167-75, 357-62, 541-5, 984-9, 1089-96 D '39-Mr, My-Je '40

Welding

All-welded machine shop frame designed for rapid erection; Dravo corp. S. H. Newburn. il Eng N 124:445 Mr 28 '40
All-welded road bridge at Clayhithe. il diags Engineering 149:409-11, 414 Ap 19 '40
Beam splicing by welding. A. N. Kugler. Steel 106:71 My 13 '40
Costs of a welded mill building; comparison with riveting costs; barge assembly shop of the Dravo corp. G. H. Atwood. Eng N 124: 158 F 1 '40
Deformation controlled; handling system using hydraulic jacks for aligning parts of huge tanks during field erection. W. A. Sandberg. il Steel 107:50, 52+ Ag 12 '40
Design of welded steel structures. A. R. Moon. 140p bibliog(p137-8) $5 Pitman '39
Electric welding as an integral part of structural design. B. P. Haigh. il diags Engineering 149:21-5, 49-51 Ja 5-12 '40
Examination of welded steel specimens from the Hasselt bridge; abstract. L. Reeve. Metals & Alloys 11:MA324+ Je '40
Folded sheet-steel roofs; unique welded structure features prefabricated roof and wall sections. R. Sherman. il diag Steel 106:49-50, 52 F 19 '40
Hainault bridge; all-welded construction for the London passenger transport board. il Electrician 124:412 Je 7 '40
Important structures welded. G. D. Fish. il Metal Prog 37:661-2 Je '40
Le Tourneau builds frameless cellular shop. L. Hyler. il diags Eng N 125:458-60 O 10 '40
Light load bearing structures feature speed welding; industrial project of R. G. Le Tourneau, inc. at Toccoa, Ga. il Am Bld 62:68-9 O '40
Mounting of the 200-inch telescope. F. Fredericks and N. L. Mochel. il diags Metals & Alloys 10:334-41, 362-8 N-D '39
New Georgia factory built and equipped for arc welding; Le Tourneau factory project. J. R. Morrill. il Manuf Rec 109:28-9 S '40
New York's largest all-welded building; Union airlines terminal. il Iron Age 145: 86-7 Ap 4 '40
Welded building construction costs. G. D. Fish. Eng N 124:920, 922 Je 20 '40
Welded connections for tier buildings; diagrams. Metal Prog 38:488 O '40
Welded railway trestle. T. H. Gardner. il Steel 105:55, 58+ D 11 '39
Welded rigid-frame factory building. O. Bondy. diags Engineering 150:281-3, 321-2, 323, 330, pl 20, 23 O 11, 25 '40
Welded rigid frames, European style; Main Ave bridge project, Cleveland, Ohio. F. L. Plummer. il diags Eng N 125:91-3 Jl 18 '40
Welding cuts cost of Air lines terminal in New York. L. Grover. il diags plans Eng N 125:94-7 Jl 18 '40

STEEL construction in mines
Construction and equipment of no. 5 shaft at Lake Shore mine, limited; with cost data. J. C. Adamson. il diags Can Min J 61:5-28 Ja '40
Steel roof supports for mechanical loading in western Pennsylvania. G. B. Southward. il diags Min Cong J 25:18-20 D '39
Use of steel timbering in Ellsworth mines. T. R. Johns. il Min Cong J 26:15-17 Mr '40

STEEL cutting
Adjustable support for stacks of steel plates. F. Sidney. il Am Mach 84:385 My 29 '40
Analysis of machinability data from cold finished and heat treated S.A.E. 1045 steel. O. W. Boston and W. W. Gilbert. il Am Soc for Metals Trans 28:186-205; Discussion. 205-8 Mr '40
Breaker grooves for carbide tools. P. M. McKenna. il Am Mach 84:413 Je 12 '40
Carbides for cutting steel. P. M. McKenna. diags Am Mach 84:917-19 N 13 '40
Cutting and surface conditioning. H. Ullmer. Metal Prog 38:487 O '40
Cutting steel with carbides on older machines. J. R. Longwell. Iron Age 146:40 S 12 '40; Same. Aero Digest 37:125 O '40; Same. Steel 107:49+ S 23 '40
Discussion of leaded steels. F. J. Robbins and G. R. Caskey. bibliog il Am Soc for Metals Trans 27:887-915; Discussion. 915-22 D '39

STEEL cutting—*Continued*
Efficient torch cutting. E. K. Carlson. il Steel 106:62-4 My 20 '40
Flame-cut ship plates. il Am Mach 84:240-1 Ap 17 '40
Flame machining. J. G. Magrath. il diags Am Mach 84:456-9, 503-6 Je 26-Jl 10 '40
How gases and oxides affect machinability; vacuum fusion extraction analyses. G. T. Motok. il Steel 106:62-3+ Ap 29 '40
Industrial trucks; units are arc welded from sheared, flame cut or sawed steel plate; Yale & Towne plant. F. Stewart. il Steel 106:76, 79 My 13 '40
Influence of various lubricants on the seizure characteristics of hard steel and bronze. D. Clayton. il Engineering 149:131-5, 144 F 9 '40
Large hydro-generator shaft repaired in place. W. H. Mitchell. il diags Power 84:416-17 Jl '40
Lead-bearing steel machinery speeds important in defense. O. E. Harder. Steel 107:166 O 14 '40
Machine flame cutting; application to class C cargo ships. J. M. Heller, R. F. Helmkamp and A. H. Yoch. il diags Marine Eng 45:64-7 Ap; 78-82 My '40
Machine gas cutting of stainless-clad plates; Crown cork & seal co. W. Lyon and M. G. Wicker. il Iron Age 145:42-3 Ap 11 '40
Machining chrome-nickel-molybdenum steels of high tensile strength. A. J. Snyder. Mach 46:208 Jl '40
Machining hard alloy steels. il Steel 106:74-5 My 27 '40
Machining heat-treated alloy steels. Mach 47:148 S '40
Machining stainless steel. C. W. Alesch and G. J Stevens. il diags Iron Age 145:23-9 Ja 25 '40
Metal mystery; researchers believe they have key to steel's response to cutting tools. Business Week p42 N 16 '40
Microscope aids "mike"; steel examined to determine causes of cutting difficulties. R. C. Gibbons. il Am Mach 84:170-3 Mr 20 '40
Oxyacetylene gouging process; abstract. R. F. Flood. Steel 106:74 Ap 22 '40
Oxygen cutting (flame cutting) of structural steel; progress report of committee. Am Soc C E Proc 66:627-31 Ap '40
Oxygen cutting with natural gas. il Oil & Gas J 38:49 D 21 '39
Press shearing through an oblique plane. H. C. Lane. diags Engineer 169:205-6 Mr 1 '40
Properties and machinability of a leaded steel. T. J. Dolan and B. R. Price. il Metals & Alloys 11:20-7 Ja '40
Report of ferrous metals committee; oxygen cutting. il diag Am Gas Assn Proc 1939: 412-22
Shaping edges for welding; oxyacetylene cutting torch setups with multiple nozzles. H. E Rockefeller. il diags Steel 106:60-2+ Mr 11 '40
Shearing of bar steel. D. M. Henderson, jr. il Iron Age 146:33-5 Jl 18 '40
Stack-cutting identical parts; abstract. Metals & Alloys 11:MA140 Mr '40
Steel gear blanks cut with carbides; Nuttall works of the Westinghouse gearing division. il Iron Age 146:48 S 5 '40
Strain annealing; combination of cold working and annealing; effect on machinability. F. J. Robbins. Iron Age 144:37-9 D 21 '39
Surface quality of an S.A.E. 3140 steel; profilograph study; various combinations of speeds, structures, and cutting fluids. O. W. Boston and W. W. Gilbert. il diag Mech Eng 62:785-9 N '40
Testing steel with the cutting flame. J. R. Cady. bibliog il diag Am Soc for Metals Trans 28:646-60 S '40
Toolsteels for hot working iron and steel; data sheet. H. E. Replogle. Metal Prog 38: 512 O '40
What it takes to turn stainless; Crown cork & seal company. il diags Am Mach 84:195-8 Ap 3 '40
Where welding aids machining; portable electric shear made by Black & Decker. H. Chase. il Am Mach 84:134-5 Mr 6 '40
Working of carbon sheet steel; cold-working and machining. diags Am Mach 84:833-6 O 16 '40
Working of high-speed steels; machining. diags Am Mach 84.91-6 F 21 '40

See also
Cutting tools
Machine tools
Metal cutting
Steel—Lead content

Cost
Cost of cutting with butane, propane and acetylene. W. T. Tiffin and O. R. Eads. Iron Age 144:42-3 D 21 '39; Discussion. E. L. Mathy. 145:43+ My 16 '40

STEEL desks. See Desks, Steel

STEEL equipment company limited
History. il Can Min J 60:sup308-9 N '39

STEEL forgings
Effect of titanium on the macrostructure and grain coarsening temperature of forging steel. G. F. Comstock. il Am Soc for Metals Trans 28:608-18 S '40
Electric annealing forged steel unions; Rockwood sprinkler company. il Elec W 113:774 Mr 9 '40
Electric furnace alloy steels for forgings. H. P. Rassbach. Electrochem Soc Trans 77 (preprint 29):383-94 Ap '40
Flakes and cooling cracks in forgings; problem in ordnance. F. B. Foley. il Metals & Alloys 12:442-5 O '40
Forgeability of steels. A. M. Portevin. diags Metal Prog 38:70-1 Jl '40
Forged working rolls for cold-rolling mills and their manufacture. R. Scherer. il Blast F & Steel Pl 27:1143-5+, 1238-41 N-D '39
Forging; developments in 1939. Steel 106:216+ Ja 1 '40
Forgings and their heat treatment. L. B. Herfurth. Ry Mech Eng 113:491-4 N '39
How to forge tool steel. A. M. Steever. il diags Iron Age 146:21-7 Jl 25 '40
Industrial gears for large transmissions. E. J. Wellauer. il Metal Prog 36:725-30+ D '39
Production of 200-ton forging at the Atlas works, Sheffield. il Engineering 148:725 D 29 '39
Quenched and tempered locomotive forgings. L. E. Grant and J. W. Crossett. il diags Ry Mech Eng 114:219-22 Je '40
Some design considerations of forged steel rolls; abstract. J. R. Adams and H. L. Watson. Metal Prog 37:44-5 Ja '40
Some practical notes on high speed steel forgings. W. H. Wills. il diags Am Soc for Metals Trans 28:424-39; Discussion. il 440-4 Je '40
Working of high-speed steels; forging. diags Am Mach 84:100 F 21 '40

Testing
Effect of nitrogen additions and heat treatment on the properties of high-chromium steels. E. W. Colbeck and R. P. Garner. bibliog diags Iron & Steel Inst J 139:99-136, pl 2-5; Discussion. 137-46, pl 5a no 1 '39
Fatigue strength of machined forgings 6 to 7 in. in diameter. O. J. Horger and H. R. Neifert. bibliog il diag Am Soc T M Proc 39:723-37; Discussion. 738-40 '39

STEEL founders society of America
Annual meeting, Chicago. Iron Age 145:54 F 22 '40

STEEL handling
Handling coils; multiple lifting magnet. F. W. Jessop. il Steel 106:56+ F 5 '40
Intermittent conveyor for handling strip steel in coils. R. Trautschold. il Steel 107:52+ O 28 '40
New handling, new savings; Hamilton manufacturing co, Two Rivers, Wis. S. R. Teranes. il Factory Management 98:48-9+ F '40
Steel warehousing facilities being expanded; warehouses of Bethlehem steel co. and Joseph T. Ryerson & son. il Iron Age 145: 71 F 22 '40
Warehousing steel. M. E. Neeley. il Steel 107: 56, 58+ N 4 '40

STEEL houses
G.B. system of sheet-steel building. diags Engineering 150:16-17 Jl 5 '40
One hundred year home tested; steel frame, metal lath, concrete stucco. E. M. Lurie. il plans Am Bld 62:70-1+ My '40
Structural properties of Bender steel home wall construction sponsored by the Bender body company. H. L. Whittemore, A. H. Stang and V. B. Phelan. il diags U S Nat Bur Stand Report BMS27:1-14 '39

STEEL industry and trade
Future demand for iron and steel products. N. Yaworski and O. E. Kiessling. Min & Met 21:430-1 S '40
Management policies by industries; steel castings industry. O. E. Mount. il Bankers Mo 57:95-6, 98, 100 F '40
Raw materials for steel industry; developments in 1939. il Steel 106:248 Ja 1 '40
Testimony on technological accomplishments by steel industry as a whole and continuous rolling mill in particular; abstracts. C. R. Hook. Iron Age 145:62+ Ap 18 '40; Steel 106:25+ Ap 15 '40
War in Scandinavia dislocates United States steel exports. map Steel 106:23-4 Ap 15 '40
Why not simplify the problem of steel selection? E. C. Smith. Steel 106:44-6+ Je 3 '40

See also
Iron industry and trade
Rolling mills
Sheet steel
Steel—Prices
Steel, Structural
Steel workers
Steel works

Bibliography
Iron and steel trade. (Business literature v 12, no 6) 2p Business branch, Newark public library F '40

Finance
Active fourth quarter reflected in steel producers' earnings. Steel 106:21-2 F 5 '40
American Rolling Mill continues recovery. J. C. Clifford. il Mag of Wall St 67:90-1+ N 2 '40
Big steel companies in favorable position. Barron's 20:13 Ag 5 '40
Big steels achieve new earning power. Barron's 20:20 N 4 '40
Brass tacks for the investor; brief analysis of U.S. Steel, Continental Steel, Republic Steel. Barron's 19:13 N 27 '39
Crucible Steel in profitable era; '40 earnings approach '37 level with backlog still growing. P. Dobbs. il Mag of Wall St 67:30-1+ O 19 '40
Financial problems of the steel industry; abstract. F. Purnell. Steel 106:22+ My 27 '40
Financial reports, Bethlehem Steel, United States Steel, Youngstown Sheet & Tube. Annalist 55:660 My 9 '40
Financial reports, Inland Steel, Republic Steel, National Steel. Annalist 55:237 F 8 '40
Financial reports, United States Steel, Bethlehem Steel, Youngstown sheet & tube co. Annalist 56:181 Ag 8 '40
Inter-relationship between prices, costs and steel demand. T. O. Yntema. Steel 106:13-17 Ja 29 '40
Investing and trading in steels. F. K. Dodge. Mag of Wall St 66:732-3+ O 5 '40
1939 taxes more than double steel dividends. Steel 106:13-14 Ap 1 '40
Provisions for new taxes reduce steelmakers' quarterly income. Steel 107:20-1 Jl 22 '40
Records for Republic Steel. H. L. Blackburn. il Mag of Wall St 66:32-4+ Ap 20 '40
Specialty steels lead the industry; company earnings. W. Kraemer. il Mag of Wall St 66:222-4+ Je 1 '40
Steel companies earned 4.2 per cent on investment during last year. Blast F & Steel Pl 28:591 Je '40
Steel earnings in 1939; with tabulated financial analysis of 23 companies. W. A. Phair. supp(table) Iron Age 145:90 Ap 4 '40
Steel producers' net earnings 309 per cent over 1939. Steel 107:21-3 Ag 5 '40
Steel's first quarter profits moderate. Steel 106:21-2+ My 6 '40
Steel's 1939 earnings third best since 1930, but still meager; analysis of 22 companies. supp(table) Steel 106:40 Ap 15 '40
Steel's 1939 profits half those of other manufacturing industries. Steel 106:21-3+ Mr 18 '40
Stock market watches steel for cue. Business Week p46 My 4 '40
Third quarter steel earnings 145 per cent higher than in 1939. Steel 107:21-3 N 4 '40

See also
Bethlehem steel corporation
United States steel corporation

History
Commemorated rolling of first steel rail in the United States. Blast F & Steel Pl 28: 615-16 Je '40
Country's oldest industrial concern; Taylor-Wharton iron & steel company. C. H. Vivian. il Comp Air M 45:6049-56 Ja '40

Securities
Big Steel's $3.07 a share. Business Week p55 N 2 '40
Position of leading steel stocks. Mag of Wall St 65:545; 66:524-5 F 10. Ag 10 '40
Status of Jones & Laughlin 4 ¼s, 1961. Barron's 20:19 Jl 22 '40
Steel companies, 1937-39. Mag of Wall St Manual p26+ Mr 2 '40
Steel shares in wartime; British companies. Economist 137:173-4 N 4 '39
What the war means to Bethlehem Steel. W. Gates. il Mag of Wall St 66:280-3+ Je 15 '40
Why? steel operations up, market values down. J. J. Hipple. il Mag of Wall St 65: 538-40+ F 10 '40

Statistics
American electric and alloy steel industry. E. F. Cone. il Metals & Alloys 12:27-9 Jl '40
Automobile industry consumed 16.7% of rolled steel shipped in 1939; tabulation by industries. Iron Age 145:insert Mr 21 '40
Automobiles retain lead, railroads gain, in steel consumption; 1939 statistics. Steel 106: 21-5 Ap 22 '40
Census to yield complete data on steel, consuming industries. Iron Age 144:58-9 N 30 '39
Consumers obtain 30% more, and better, steel for the same money; Brookings Institution report. S. Bell. Iron Age 145:73 My 23 '40
Consumers' steel inventories show little change in first quarter. Steel 106:26-7 Ap 22 '40
Domestic market summary, 1939. Steel 106: 282-3 Ja 1 '40
Exports more than 10% of steel sold in first half. Iron Age 146:80 Ag 8 '40
Finished steel production in 1939 totals 39,003,556 tons. Iron Age 145:56 My 30 '40
First quarter, 1940, finished steel production. Iron Age 145:93 My 23 '40; Same. Steel 106: 40 My 27 '40
First quarter steel exports triple same period last year. Steel 106:27 Ap 29 '40
Industrial America; iron and steel; Printers' Ink market explorations. Ptr Ink Mo 41: 30-1, 33 Ag '40
Industry's first half active, but below 1937. Steel 107:21-2 Jl 8 '40
Iron and steel production, revision; monthly, 1923-June, 1940. Fed Res Bul 26:827 Ag '40
Iron and steel products; United States exports register further gains, 1939. Comm Rep p134 F 10 '40
Iron ore resources and steel output of the belligerents, 1913 and 1938; tabulation. Nat City Bank p142 D '39
Iron, steel exports and imports of principal countries, 1913, 1936-1939; tabulation. Steel 106:269 Ja 1 '40
Light steels for consumer goods 45 per cent of 1939 shipments. Steel 106:26 Mr 18 '40
Monthly production of open hearth and Bessemer steel ingots, January, 1938 to December, 1939. Comm & Fin Chr 150:194 Ja 13 '40 [cont monthly]

STEEL industry and trade—Statistics—*Cont.*
Monthly shipments of steel products by United States steel corp., tons, 1931-1939; tabulation. Iron Age 145:164 Ja 4 '40
1939 production of steel ingots, castings and finished products, announced by Steel institute; tabulation. Steel 106:44-5 My 27 '40
Penton's almanac, 1940-1941; facts and figures for the ferrous and nonferrous metal producing and consuming industries. 144p bibliog(p143-4) Penton pub. co. '40
Production of iron and steel for sale in 1939; tabulation. Iron Age 145:75 F 29 '40; Same. Steel 106:32 Mr 11 '40
Prospect of a durable goods recovery best in 10 years; statistical survey, index numbers and charts. Steel 106:257-63 Ja 1 '40
Shipments of rolled and finished steel products, U. S. steel corporation, yearly, 1902-1939; monthly, 1929-1939. Survey of Cur Business 20:18 Ap '40
Stainless steel, 1939. T. W. Lippert. Iron Age 145:33-40 My 23 '40
Steel, crude, semimanufactured, and manufactured products, 1936-1939. Survey of Cur Business 1940 Sup p132-4 [supplemented in monthly numbers]
Steel makes a new high but decade shows a heavy loss. Iron Age 145:87, 90+ Ja 4 '40
Steel warehouse distributors move record tonnage in 1939. Steel 106:40 Ap 29 '40
Steel's brain trust tackles TNEC; Dr Yntema tells hearing that price reductions would not stimulate consumption, denies volume cuts production costs. Business Week p 15-16 F 3 '40
United States steel corporation T.N.E.C. papers; v.2, Chart studies. 191p U.S. steel corp, 71 Broadway, New York '40
World electric steel output; including Soviet Russia. A. M. Samarin. Metals & Alloys 10: 356 N '39
World steel production, spurred by war demands, establishes new record. V. Delport. Steel 106:268-9+ Ja 1 '40
World's steel soars. Iron Age 145:102-4+ Ja 4 '40

See also
Steel castings—Statistics
Steel ingots—Statistics

Taxation

Excess profits tax to fall lightly on steel producers. Steel 107:78 O 14 '40
1939 taxes more than double steel dividends. Steel 106:13-14 Ap 1 '40
Steel's 1939 taxes 37% above 1929; output less. Steel 106:27 My 6 '40

Australia

Australian iron and steel industry. Blast F & Steel Pl 28:688, 690 Jl '40

Belgium

War limits Luxemburg, Belgian ore, coke supply. Steel 106:278-9 Ja 1 '40

Brazil

Brazil's iron, steel industry expanding. Steel 107:30-1 Ag 26 '40
United States to lend Brazil $20,000,000 to finance steel industry; Brazilian government will also invest $25,000,000 in project. Comm & Fin Chr 151:1820-1 S 28 '40

Canada

Canada's industrialization. C. E. Wright. Iron Age 144:48-9+ N 30 '39
Iron and steel; imports and exports; Canada, 1939. Can Eng R & B 78:62+ Ap '40
Latest census lists 1391 Canadian factories in iron and steel group. Iron Age 145:67 My 30 '40

Europe

Europe expands steel output despite war difficulties. V. Delport. il Steel 106:21-3 Ap 29 '40
European industry in the war. V. Delport and others. il Steel 106:271-81 Ja 1 '40
Germany controls 55 per cent of all Europe's steel capacity. V. Delport. Steel 107:15-16 Jl 29 '40
Iron and steel industries of Europe. C. W. Wright. map U S Bur Mines Economic Pa 19:1-98 '39; Abstract. Engineering 148:491-3, 573-4, 632-3 N 3, 24, D 8 '39
Some recent developments in the iron and steel industry of European countries. H. A. Brassert. il diags maps Blast F & Steel Pl 28:78-81, 81A-81B+, 147-53+, 262-3, 269-70, 280-1, 341, 347-50+ Ja-Ap '40

France

French steel industry put on war footing. L. Jaudoin. il Steel 106:276-8 Ja 1 '40

Germany

British and German steel supplies. Economist 138:1114-15 Je 29 '40
German steel plant best in Europe, lacks iron ore. Steel 106:280-1 Ja 1 '40
Germans turn to manganese and silicon for alloying in steel. Metal Prog 38:163-4+ Ag '40
Germany controls 55 per cent of all Europe's steel capacity. V. Delport. Steel 107:15-16 Jl 29 '40

See also
Steel works—Germany

Great Britain

Advance in iron and steel prices. Engineer 169:360-3 Ap 12 '40
Advance in iron and steel prices; control order. Engineer 169:145-6 F 9 '40
Baldwins report, 1939 and profits, 1937-39. Economist 138:527 Mr 23 '40
British and German steel supplies. Economist 138:1114-15 Je 29 '40
British steel industry sustains war machine. J. A. Horton. Steel 106:273-4 Ja 1 '40
British steel output larger than at war's outbreak. V. Delport. Steel 107:73-5 O 14 '40
Case of Ebbw Vale; industry resists Richard Thomas & co. modernization. Economist 138:776-7 Ap 27 '40
Distribution of steel scheme. Engineer 170: 222-3 O 4 '40
Dorman, Long and company profits, 1937-39 and ordinary general meeting, London. Economist 137:383, 441 D 9-16 '39
Die englische eisenwirtschaft im Weltkriege. J. W. Reichert. Stahl & Eisen 60:149-56 F 22 '40
How gas undertakings can help the steel industry; augmenting the country's supplies of scrap iron and steel. Gas J (Lond) 228: 232+ N 1 '39
Iron and steel in 1939. Economist 138:sup 40-1 F 17 '40
Iron and steel products control; Minister of supply order. Engineer 168:481-2 N 10 '39
Lancashire steel corporation ordinary general meeting, Warrington. Economist 138:545 Mr 23 '40
New steel distribution scheme. Engineer 169: 337 Ap 5 '40
Presidential address before Iron and steel institute. J. Craig. Iron & Steel Inst J 141:53-62 no 1 '40
Richard Thomas and company profits, years to March 31, 1938-40, and ordinary general meeting. Economist 139:52, 168 Jl 13, Ag 3 '40
Scrap scandal. Economist 139:21 Jl 6 '40
South Durham steel and iron company profits, 1937-39. Economist 137:383-4 D 9 '39
Steel and steel makers; economic history. Economist 139:39-40 Jl 13 '40
Steel in war; British scheme for allocation and distribution thru government departments. Economist 138:688-9 Ap 13 '40
Steel shares in wartime. Economist 137:173-4 N 4 '39
Stewarts and Lloyds profits, 1937-39. Economist 138:867 My 11 '40
Tube investments, limited; report of profits and ordinary general meeting of shareholders, Birmingham. Economist 137:342-3, 391 D 2-9 '39
United Steel expansion. Economist 139:467-8 O 12 '40

See also
Steel works—Great Britain

STEEL Industry and trade—*Continued*

Hungary

Rimamurány-Salgótarján iron works company 58th ordinary general meeting, Budapest. Economist 137:394 D 9 '39

Italy

Steel drive in Italy. Economist 138:1076-7 Je 22 '40

Mexico

Mexican steel; as demonstrated by Harry Wright's La Consolidada of Mexico City, now planning to expand into Texas. il map Fortune 22:81-7+ O '40

Pacific coast

Administration to push Roosevelt's idea of development of steel industry in the West through utilization of cheap water power. L. W. Moffett. Iron Age 144:54+ N 30 '39

Bonneville Dam project seeks iron, steel plant for Oregon. Steel 106:18 Ja 22 '40

Coast steel industry? Bonneville seeks a steel mill. il Business Week p22-4 Ja 27 '40

Industrial development in Pacific Northwest. R. C. Hill. il map Steel 106:13-15+ F 26 '40

Pacific Coast steel industry. T. W. Lippert. il diags map Iron Age 145:25-32 Mr 21 '40

Russia

World electric steel output; including Soviet Russia. A. M. Samarin. Metals & Alloys 10: 356 N '39

South America

U.S. must buy as well as sell to expand Latin American trade. Steel 105:15 D 25 '39

Sweden

Die leistung der schwedischen warmwalzwerke und presswerke im jahre 1938. Stahl & Eisen 59:1329 D 7 '39

United States

Another steel bargain week. Business Week p15-16 Ap 20 '40

Der aufstieg der amerikanischen stahlindustrie im Weltkriege 1914 bis 1918. J. W. Reichert. Stahl & Eisen 59:1358-64 D 21 '39

Boom in steels, but what about dividends and equity values? J. J. Hipple. il Mag of Wall St 66:730-2 O 5 '40

Car steel purchases on "as needed" basis. Automotive Ind 83:517 N 1 '40

Cooperation of steel industry in defense program pledged. I. S. Olds. Comm & Fin Chr 151:1644-5 S 21 '40

Cycle complete; what of outlook? W. G. Gude. Steel 106:13-14+ Mr 11 '40

Deferred buying in 30s brightens prospects for present decade. Steel 106:11-12+ Ja 8 '40

F. D., a laggard in defense, while provoking bad foreign relations. E. T. Weir. Steel 106: 23-4+ My 27 '40

Institute filed briefs opposing reciprocal trade agreements. Steel 106:17 F 26 '40

Iron, steel export prospects considered best since 1920; January-February exports triple those for same period last year. Steel 106: 18-19 Ap 1 '40

Manufacture of war materials in the United States. E. L. Ryerson, jr. Blast F & Steel Pl 28:1007-8 O '40

1939 in steel. W. S. Tower. Steel 106:329-30 Ja 1 '40; Same. Iron Age 144:50E D 28 '39; Same. Manuf Rec 109:32 Ja '40; Same. Comm & Fin Chr 150:532 Ja 27 '40

On the world economic front: the U.S. steel industry and war-time demand. W. W. Case. Annalist 55:715 My 23 '40

Ore, ships, and gentlemen; Cleveland's 99 per cent integrated industry. il Fortune 22: 43-4+ Jl '40

Outlook for steel. C. E. Wright and others. chart Iron Age 145:52-4, 130-42 Ja 4 '40

SEC issues 1939 supplement for 12 steel companies with assets over $100,000,000 each. Comm & Fin Chr 151:929 Ag 17 '40

Some ferrous problems in the defense program. G. B. Waterhouse. il Metals & Alloys 12:406-9 O '40

Steel; analysis of dangers of abnormal production rise. T. W. Lippert. il Iron Age 145: 70-6 Ja 4 '40

Steel capacity will stretch. Business Week p16-17 N 9 '40

Steel industry's preparedness. W. S. Tower. Steel 107:75-6 O 14 '40

Steel leaders favor reciprocal trade treaty act in principle. Steel 106:23-5 F 19 '40

Steel makes a new high but decade shows a heavy loss. Iron Age 145:87, 90+ Ja 4 '40

Steel outlook promising for first half of new year; inventory position sound. C. E. Wright. Annalist 55:112-13 Ja 25 '40

Steel situation near crucial test; a major key to the question: which way for near term industrial activity? J. J. Hipple. il Mag of Wall St 65:792-3+ Ap 6 '40

Steel weighs defense impact. Business Week p28-9 Jl 27 '40

Steel's brain trust tackles TNEC; Dr Yntema tells hearing that price reductions would not stimulate consumption, denies volume cuts production costs. Business Week p 15-16 F 3 '40

TNEC steel hearings (cont). Iron Age 144: 62+ D 14 '39; 145:87, 87A-87H F 1 '40

TNEC steel hearings (cont). Steel 106:13-18+ Ja 29; 23-4+ F 5 '40

TNEC turns heat on steel prices. Business Week p15-16 N 18 '39

United States steel corporation T.N.E.C. papers. 3v 411p; 191p; 101p U.S. steel corp, 71 Broadway, New York '40

War and politics to shape 1940 business pattern. B. K. Price. Steel 106:152-8+ Ja 1 '40

What's ahead in 1940? review of principal outlets for steel. il Steel 106:160-92, 281, 292 Ja 1 '40

Why? steel operations up, market values down. J. J. Hipple. il Mag of Wall St 65: 538-40+ F 10 '40

See also
Steel workers

also American steel foundries; Crucible steel company of America; Republic steel corporation; United States steel corporation; Youngstown sheet and tube company

STEEL ingots

Anti-piping compounds and their influence on major segregation in steel ingots. E. Gregory. Iron & Steel Inst J 141:263-72, pl 8-15 no 1 '40; Excerpts. Iron Age 145: 48-9 My 2 '40; Engineering 149:517 My 24 '40; Discussion. Iron & Steel Inst J 141: 273-89 no 1 '40; Engineering 149:517 My 24 '40

Application of the Durville rotatory process to the casting of steel. L. Northcott. diags Iron & Steel Inst J 139:297-304, pl 16-19 no 1 '39; Same. Engineer 167:659-61 My 26 '39; Same cond. Metal Prog 36:41-2 Jl '39; Discussion. Iron & Steel Inst J 139.305-14 no 1 '39

Columnar structure in steel ingots; abstract. R. Hohage and R. Schäfer. Engineer 168: sup[Metallurgist] 78-9 D 29 '39

Control of steel composition and the problem it presents. E. C. Smith. Blast F & Steel Pl 28:575-6 Je '40

Control of sulphur in basic open hearth. T. L. Joseph and F. W. Scott. il diag Iron Age 144:34-7 N 23; 30-4 N 30 '39

Effects of soaking pit operation upon steel conditioning; abstract. C. L. Labeka. Iron Age 146:35-7 O 3 '40

Eighth report on the heterogeneity of steel ingots; summary. Iron & Steel Inst J 139: 599-601; Discussion. 601-50, pl 31 no 1 '39

Heating of steel. P. J. McKimm. il diag Steel 106:54+ Je 17; 50+ Je 24; 52-3+ Jl 1 '40

Lunke-rite; compound added to ingots. Blast F & Steel Pl 28:611 Je '40

Manufacture of rimming steel at Briton Ferry. J. S. Lewis. Engineering 148:687 D 22 '39

STEEL ingots—*Continued*
Ninth report on the heterogeneity of steel ingots; summary and discussion. Iron & Steel Inst J 140:213-20 no 2 '39
Plural compositions from a new melting process; pluramelt. V. Browne and H. S. Blumberg. il diags Metal Prog 37:163-8 F '40
Plural melting process produces composite ingots with stainless or tool steels on one or both sides of mild steel base; pluramelt. H. G. Batcheller. diags Steel 106:54, 56+ F 12 '40
Pouring practice. E. H. Hollenback. il Steel 106:60, 68-9 Ap 29 '40
Present and future in open hearth steel making. J. O. Griggs. Blast F & Steel Pl 28:981-6+ O '40
Problem of primary crystallisation in steel; the undercooling capacity and the formation of nuclei in the liquid state; abstract. P. Bardenheuer and R. Bleckmann. Engineer 169:sup[Metallurgist] 102-4 Ap 26 '40
Rimming steel from open hearth furnaces. J. S. Lewis and R. S. Rolfe. il Blast F & Steel Pl 27:1223-5 D '39
Slow cooling of ingots; use of limestone and magnesia for thermal insulation. W. J. Rees. diag Iron & Steel Inst J 139:315-18; Discussion. 319-20 no 1 '39
Studies evolution of gas from solidifying ingots; abstract. J. Chipman. Steel 105:78 N 27 '39

Molds

Surface quality; rolled steel surface dependent upon mold-wall surface. T. J. Woods. Iron Age 145:37-9 F 22 '40
Untersuchung zur verbesserung der kokillenhaltbarkeit A. Ristow. il Stahl & Eisen 60:427-9; Discussion. 429-33 My 16 '40
Untersuchung zur verbesserung der kokillenhaltbarkeit; gemeinschaftsarbeit der unterausschüsse für den Siemens-Martinbetrieb und für den Thomasbetrieb. A Ristow. Stahl & Eisen 60:401-4 My 9 '40

Statistics

District ingot production, per cent of capacity; weekly statistics. Published in weekly numbers of Iron age
Monthly production (1914-1939) and average weekly production (1928-1939) of steel ingots in the United States; tabulation. Iron Age 145:163 Ja 4 '40
Monthly steel ingot production and average monthly capacity, 1914-1939; chart. Iron Age 145:55-60 Ja 4 '40
Steel ingot production, revision; monthly, 1923-June, 1940. Fed Res Bul 26:828 Ag '40
Steel ingot production and operating rates, 1929-1939; tabulation. Steel 106:264 Ja 1 '40
Steel ingot production in the United States; monthly, 1902-1939; tabulation. Iron Age 145:163 Ja 4 '40
Steel ingot production, monthly, June 1917-March 1940; annually, 1913-39; revision. Survey of Cur Business 20:17 My '40
Steel ingot production (open hearth and Bessemer) per cent of capacity; monthly average and weekly production; graphs. Published in weekly numbers of Iron age
World production of steel ingots and castings, 1929-1939; tabulation. Steel 106:269 Ja 1 '40

Testing

Effect of nitrogen additions and heat treatment on the properties of high-chromium steels. E. W. Colbeck and R. P. Garner. bibliog diags Iron & Steel Inst J 139:99-136, pl 2-5 no 1 '39; Excerpts. Engineering 147: 726-9 Je 16 '39; Discussion. Iron & Steel Inst J 139:137-46, pl 5a no 1 '39

STEEL lining
Application and welding of stainless steel for lining tanks. E. W. P. Smith. bibliog diags Paper Tr J 110:34-7 Je 6 '40
Building Baltimore's big tunnel. J. J. Hunt and B. L. Werner. diags Eng N 125:469-70 O 10 '40
Fabrication of dam penstock and pump inlet linings for Grand Coulee. il Steel 106:44-6+ Je 17 '40
Steel-faced cast iron dies for drop hammer work. J. H. Engel. il Iron Age 145:46-8 Mr 21 '40
Surface cladding; new method; corrosion-resistant lining for processing vessels. G. E. Gude, jr. il Steel 107:44+ Ag 26 '40

STEEL metallurgy
Anti-piping compounds and their influence on major segregation in steel ingots. E. Gregory. Iron & Steel Inst J 141:263-72, pl 8-15 no 1 '40; Excerpts. Iron Age 145:48-9 My 2 '40; Discussion. Iron & Steel Inst J 141:273-89 no 1 '40
Better carbon steels. R. W. Roush. Metal Prog 38:379+ O '40
Boiler plate; increase in pressure during hundred years necessitated development of stronger steel. W. G. Theisinger. Power Pl Eng 44:85 Ag '40
Carbon determination; research in steel. Steel 106:44, 46+ Mr 11 '40
Control of steel composition and the problem it presents. E. C. Smith. Blast F & Steel Pl 28:572-6, 791-4 Je, Ag '40
Crucible steel made in America; with photographs by Van Fisher; LaBelle works, Crucible steel co. of America. Metal Prog 37: 543-51 My '40
Developments in the iron and steel industry during 1939; abstract. W. H. Burr. Metals & Alloys 11:MA188+ Ap '40
Effect of nitrogen additions and heat treatment on the properties of high-chromium steels. E. W. Colbeck and R. P. Garner. bibliog diags Iron & Steel Inst J 139:99-136, pl 2-5 no 1 '39; Excerpts. Engineering 147: 726-9 Je 16 '39; Discussion. Iron & Steel Inst J 139:137-46, pl 5a no 1 '39
Effect of phosphorus in 5 per cent Cr, 0.50 Mo steel. H. D. Newell and Z. E. Olzak. il Metals & Alloys 11:106-11 Ap '40
Ferrous metallurgy fills new needs. W. J. Priestly. il Blast F & Steel Pl 28:40-1 Ja '40
High hardenability and toughness in carbon and low alloy steels; use of Grainal. J. Strauss. Metals & Alloys 11:174-6 Je '40
How alloying elements affect high alloy steels. P. Payson. il Iron Age 145:31-5 Ap 18; 35-40 Ap 25 '40
Improving drawability of steel by controlling nitrogen. C. L. Altenburger. Metal Prog 37:639-43 Je '40
Manufacture of rimming steel at Briton Ferry. J. S. Lewis. Engineering 148:687 D 22 '39
Manufacture of steel by the Perrin process. B. Yaneske. Engineering 150:324-5, 357-8 O 25-N 1 '40 (to be cont)
Metal mystery; researchers believe they have key to steel's response to cutting tools. Business Week p42 N 16 '40
Neue untersuchungen und erkenntnisse über den ablauf des basischen windfrischverfahrens. W Eichholz, G. Behrendt and T. Kootz. il diag Stahl & Eisen 60:61-72 Ja 25 '40
Nitrogen is the carbon of ferritic steels. A. M. Portevin. Metal Prog 38:185-6 Ag '40
Process alloys for steelmaking afford important improvements; Grainal alloys. Steel 107:52 Jl 15 '40
Producing steel to meet physical test requirements. C. H. Herty, jr. Blast F & Steel Pl 28:581-5, 667-9 Je-Jl '40; Same cond. Iron Age 145:51-4+ My 23 '40
Progress in metallurgical application of titanium in 1939. G. F. Comstock. il Blast F & Steel Pl 28:45-6 Ja '40
Progress in steel metallurgy during the last ten years. W. H. Hatfield. Blast F & Steel Pl 28:185-6 F '40
Progress in steelmaking in 1939. il Steel 106: 219+ Ja 1 '40
Pyrometry, especially of molten steel. Metal Prog 38:549-50 O '40
Pyrometry of liquid steels and pig irons. G. R. Fitterer. il Instruments 13:157-60 Je '40
Quality of steel. A. Portevin. Engineer 169: sup[Metallurgist] 113-14 Je 28 '40

STEEL metallurgy—*Continued*
Refining of metal in the basic open-hearth furnace; the influence of fluorspar on the process. W. B. Lawrie. bibliog Iron & Steel Inst J 139:257-80 no 1 '39; Same. il Blast F & Steel Pl 27:675-9, 943-6, 1043-5 Jl, S-O '39; Discussion. Iron & Steel Inst J 139:281-5 no 1 '39
Residual tin in steel. P. J. McKimm. Steel 106:64, 67-8 My 6; 60, 64, 69 My 13 '40
Some ferrous problems in the defense program. G. B. Waterhouse. il Metals & Alloys 12:406-9 O '40
Some recent developments in the iron and steel industry of European countries. H. A. Brassert. il diags map Blast F & Steel Pl 28:78-81, 81A-81B+, 147-53+, 262-3, 269-70, 280-1, 341, 347-50+ Ja-Ap '40
Statistical analysis of metallurgical problems. E. M. Schrock. il Metal Prog 38:153-8 Ag '40
Survey of factors affecting the surface quality of semi-finished steel. H. B. Emerick. Blast F & Steel Pl 28:799-803 Ag '40
Symposium on steelmaking (acid and basic open-hearth practice). 609p bibliog(p545-609) 10s Iron and steel inst, London '38
Tschernoff's centenary. N. T. Belaiew. Metal Prog 36:744-6 D '39
Twenty years of alloy steel. J. H. Critchett. il Chem Ind 46:285-90, 444-8 Mr-Ap '40
Uses and metallurgy of ferrous scrap metals. M. W. Von Bernewitz. il Blast F & Steel Pl 27:1226-30 D '39
Vanadium in iron and steel; composite of abstracts. Metals & Alloys 11:MA316+ Je '40
Working, heat treating, and welding of steel; supplemented with a series of laboratory assignments. H. L. Campbell. 2d ed 230p bibliog(p190) $2.25 Wiley '40

See also
Bessemer process
Case hardening
Furnaces, Steel making
Iron metallurgy
Open hearth furnaces
Open hearth process
Steel, Hardening of
Steel, Heat treatment of
Steel alloys
Steel castings
Steel ingots
Steel works

Electrometallurgy

Die abbrandverhältnisse im kernlosen induktionsofen. H. Weitzer. Stahl & Eisen 59: 1353-6; Discussion. 1357-8 D 21 '39
American electric and alloy steel industry. E. F. Cone. il Metals & Alloys 12:27-9 Jl '40
Electric furnaces and national defense. W. M. Farnsworth and M. J. R. Morris. il Metals & Alloys 12:446-50 O '40
Electric Tropenas process of steel manufacture. Engineering 149:59 Ja 19 '40
Electrically manufactured steels. H. A. Sieveking. il diags Inst E E J 86:401-23 My '40; Abstracts. Engineering 148:686-7 D 22 '39; Elec R (Lond) 125:704-5 D 1 '39; Discussion. Inst E E J 86:423-30 My '40
Fortschritte der schmelztechnik im kernlosen induktionsofen. O. Dörrenberg and W. Bottenberg. il diags Stahl & Eisen 60: 116-19 F 8 '40
Pacific Coast steel industry. T. W. Lippert. il diags map Iron Age 145:25-32 Mr 21 '40
Rapid dephosphorization of rimmed soft steels. A. M. Portevin. Metal Prog 37:660+ Je '40
Simplified list of electric furnace steels for seamless tubes for service at high temperature; tabulation. Metal Prog 38:385 O '40
Some of the chemistry of electric steel melting; from lectures by C. H. Herty and C. E. Sims at Battelle memorial institute. A. J. Scheid, jr. il Metal Prog 37:527-32 My '40
Titanium concentrate in the electro-metallurgy of steel. Blast F & Steel Pl 28:390 Ap '40
World electric steel output; including Soviet Russia. A. M. Samarin. Metals & Alloys 10: 356 N '39

See also
Electric furnaces, Steel making

STEEL piling. See Sheet piling

STEEL plates
Adjustable support for stacks of steel plates. F. Sidney. il Am Mach 84:385 My 29 '40
Adjustable supports for stacks of steel plates. W. J. Tangerman. diag Am Mach 83:1087 D 27 '39
Anvils of rolled steel plate. il Iron Age 146:34 Ag 29 '40
Bookings of fabricated steel plate in the United States, net tons; monthly, 1925-1939; tabulation. Iron Age 145:165 Ja 4 '40
Car ends oil heated. W. J. Tangerman. il Am Mach 84:201 Ap 3 '40
Deep holes in hot plates; forming and curing presses for plywood. il Am Mach 84:212-13 Ap 3 '40
Designing for high tensile steels. H. M. Priest. diags chart Ry Mech Eng 113:528-33 D '39
Dimensional variations in hot-rolled steel mill products and the problem of control. A. C. Cummins. Blast F & Steel Pl 28:579-80 Je '40
Efficient torch cutting. E. K. Carlson. il Steel 106:62-4 My 20 '40
Fabrication of dam penstock and pump inlet linings for Grand Coulee. il Steel 106:44-6+ Je 17 '40
Handling device for punching steel plate. il Ry Mech Eng 114:404-5 O '40
Plugs for aqueduct testing formed from steel plates; new Boston pressure aqueduct. S. M. Dore. il Eng N 124:330-1 F 29 '40
Producing steel to meet physical test requirements. C. H. Herty, jr. Blast F & Steel Pl 28:582-3 Je '40; Same abr. Iron Age 145:52-3 My 23 '40
Tank plates, Pittsburgh, prices, 1929-1939; tabulation. Steel 106:288 Ja 1 '40

See also
Armor plate

Tables, calculations, etc.

Weights of metric steel sizes in English units; conversion table for flat stock; reference book sheet. H. S. Cameron. Am Mach 84:547 Jl 24 '40

STEEL rails. See Rails

STEEL research
Allegheny Ludlum steel corporation does extensive research. Blast F & Steel Pl 28:612-13 Je '40
Antimony in mild steel. B. Jones and J. D. D. Morgan. bibliog Iron & Steel Inst J 140:115-36, pl 18-20 no 2 '39; Excerpts. Iron Age 144:47 O 12 '39
Discontinuities in the resistance-temperature curves of commercially pure iron and steel. C. Sykes and F. W. Jones. diag Iron & Steel Inst J 139:435-42 no 1 '39; Same. Engineering 147:574-5 My 12 '39
Engineers necessary for continued American industrial progress. D. B. Gillies. Min & Met 21:93-4 F '40
Gas content vs steel behavior; Republic's vacuum extraction technique. G. T. Motok. il Iron Age 144:25-8 N 30; 40-3 D 7 '39
Influence of cyclic stress on corrosion pitting of steels in fresh water, and influence of stress corrosion on fatigue limit. D. J. McAdam, jr. and G. W. Geil. 29 pls J Research Nat Bur Stand 24:685-722 bibliog (p715) Je '40
Interpretation of thermal curves and some applications to ferrous alloys. T. F. Russell. Iron & Steel Inst J 139:147-76; Discussion. 177-86 no 1 '39
Isothermal transformation in steels. E. S. Davenport. il diag Am Soc for Metals Trans 27:837-86 bibliog(73 titles, p881-6) D '39; Same cond. Metal Prog 36:623-9 N '39; Excerpts. Iron Age 144:48-53 N 2 '39
Kornwachstum bei stählen mit aluminium-, vanadin- oder titanzusatz. G. Hieber. Stahl & Eisen 60:143-4 F 15 '40
Method of surface-working small metallic specimens. E. M. Sherwood. il diag Metals & Alloys 12:43 Jl '40
Recherches sur le mécanisme structural du comportement des métaux aux températures élevées. Génie Civil 115:361 N 11 '39
Research in steel metallurgy. W. H. Hatfield. Engineering 148:567 N 17 '39

STEEL research—*Continued*
Second report of the Alloy steels research committee; summary. Iron & Steel Inst J 139:535-7; Discussion. 547-98, pl 30 no 1 '39
Static and fatigue torsion strengths of various steels with circular, square, and rectangular sections. E. G. Holley. diags Inst Mech Eng J & Proc 143:Proc 237-46, pl 1-2 S '40
Transformation of austenite on cooling; morphology and genesis of the aggregates formed. H. Jolivet. Iron & Steel Inst J 140:95-114, pl 10-17 no 2 '39

STEEL rods
Semifinished material; prices, 1929-1939; tabulation. Steel 106:287 Ja 1 '40

STEEL roofs. See Roofs, Steel

STEEL straps
Packing for export; steel ties afford valuable strengthening. W. J. Auburn. il Steel 106: 56+ Je 3; 56+ Je 10 '40
Wire strapping saves in work, material, freight; no crates used. il Steel 106:71+ My 20 '40

STEEL tanks. See Tanks, Steel

STEEL tires. See Tires, Steel

STEEL towers. See Towers, Steel

STEEL using industries
Automobile industry consumed 16.7% of rolled steel shipped in 1939; tabulation by industries. Iron Age 145:insert Mr 21 '40
Automobiles retain lead, railroads gain, in steel consumption; 1939 statistics. Steel 106:21-5 Ap 22 '40
Census to yield complete data on steel, consuming industries. Iron Age 144:58-9 N 30 '39
Consumers' steel inventories gain 12.2 per cent in two months; summary of survey. Steel 105:23-4 N 20 '39
Consumers' steel inventories show little change in first quarter. Steel 106:26-7 Ap 22 '40
Inventories, normal or excessive? D. R. James. Iron Age 145:66-9 Ja 4 '40
Steel consumers report first quarter net profit. Steel 106:26 Ap 29; 22 My 6 '40
What's ahead in 1940? appliances, pipelines, air conditioning, machinery; uses for steel. il Steel 106:175-6 Ja 1 '40
What's ahead in 1940? review of principal outlets for steel. il Steel 106:160-92, 281, 292 Ja 1 '40

STEEL warehouse association, American. See American steel warehouse association

STEEL water pipes. See Water pipes, Steel

STEEL wire. See Wire, Steel

STEEL work
Classification of important composite steel products. M. A. Scheil. Metal Prog 38:383+ O '40
Large bulkheads spun from one-piece circles. il Steel 106:54 Je 10 '40
Lead-bearing steels; control of possible health hazards during fabrication. J. W. Halley and E. D. Martin. il diag Metal Prog 37: 412-18 Ap '40
Steel switchgear. L. F. Dytrt. il Steel 106: 52-3+ My 27 '40
Taking the stain off stainless. G. C. Kiefer. il Am Mach 84:50-2 F 7 '40
Working, heat treating, and welding of steel; supplemented with a series of laboratory assignments. H. L. Campbell. 2d ed 230p bibliog(p190) $2.25 Wiley '40

STEEL workers
American steel & wire co. recognizes employee service. Blast F & Steel Pl 28:1026 O '40
As steel goes, unionism in a basic industry. R. R. R. Brooks. 275p bibliog(p261-8) $3 Yale univ. press '40
Bethlehem hires 25,000 in 1939, liberalizes 1940 vacation plan; report to employees. E. G. Grace. Iron Age 145:87-8 Mr 7 '40
Bethlehem labor policies restated. G. W. Vary. Steel 105:21 D 11 '39
Bethlehem showdown, S.W.O.C. rank-and-file pressure brings official and unofficial strikes. il Business Week p56-7 O 5 '40
Bethlehem under fire; C.I.O. men will ask government to cancel contracts with company. Business Week p44 Ag 10 '40
Carnegie-Illinois steel corporation revises pension plan. Blast F & Steel Pl 28:602 Je '40
Earnings and hours in the iron and steel industry, April 1938. V. S. Baril, H. O. Rogers and A. C. Lakenan. Monthly Labor R 51:421-42, 709-26 Ag-S '40
Earnings of steel industry employees, cents per hour, 1901-1939; tabulation. Iron Age 145:165 Ja 4 '40
Economic effects of cost reductions; impact of technological change upon labor; efficiencies and improvements from joint management-union research of production problems. C. S. Golden. Advanced Management 5:104-9 Jl-S '40
How U.S. Steel adjusts pension to federal security benefits. Steel 106:17+ Ja 22 '40
Injury experience in the iron and steel industry, 1937 and 1938. R. F. Fleming. Monthly Labor R 49:1111-20 N '39
Injury experience in the iron and steel industry, 1938 and 1939. G. R. McCormack. Monthly Labor R 51:322-33 Ag '40
Labor board's decision 99 per cent invective, says Weirton. Steel 107:26 Jl 15 '40
No signature needed; Inland Steel collective bargaining decision. Business Week p41 Ja 13 '40
No written contract required by Wagner act; Inland steel company case. Iron Age 145: 77 Ja 18 '40
Order requiring reinstatement of steel strikers sustained. Monthly Labor R 50:1437 Je '40
Quarter century men hailed at Sheet & tube co. Iron Age 145:79-80 My 23 '40
Solicitor General Jackson takes steel wage case to Supreme court. Iron Age 144:77-8 D 21 '39
Steel companies lose wage appeal in U.S. Supreme court. Comm & Fin Chr 150: 2810-11 My 4 '40
Steel employment, average hours, wages, June 1933-Oct. 1939; tabulation. Steel 106: 330 Ja 1 '40
Steel employment peaks reached since continuous mills came in. Iron Age 145:77 F 15 '40
Steel wage determination held invalid by United States Court of appeals for the District of Columbia. Monthly Labor R 49:1136-7 N '39
Steel wage determination sustained. Monthly Labor R 51:114-15 Jl '40
Steel wage history, 1915-1937; tabulation. Steel 106:331 Ja 1 '40
Steel wages ruling creates new problems in East, South. Steel 106:23-4 My 6 '40
Steelworkers' efficiency, wages and output increase since 1936. Steel 106:38 Mr 25 '40
Technological changes and employment in the steel industry; testimony at hearing before Temporary national economic committee. Monthly Labor R 50:1112-18 My '40
Testimony on technological accomplishments by steel industry as a whole and continuous rolling mill in particular; abstracts. C. R. Hook. Iron Age 145:62+ Ap 18 '40; Steel 106:25+ Ap 15 '40
United States Circuit court of appeals at Chicago reverses NLRB decision on Inland steel co. pact. Comm & Fin Chr 150:361-2 Ja 20 '40
United States Circuit court of appeals sustains NLRB order requiring Republic steel corp. to pay back wages to men involved in 1937 strike. Comm & Fin Chr 150:47 Ja 6 '40
U.S. Steel adopts pension plan for $3,000 plus group. Iron Age 145:70 My 23 '40
U.S. Steel contributory pension plan. Min Cong J 26:40 Je '40
U.S. Steel establishes pension plan to include all employes. Steel 106:38 My 20 '40

See also Steel works—Safety devices and measures

STEEL workers organizing committee
Annual meeting, Chicago. Iron Age 145:79 My 23 '40
As steel goes, unionism in a basic industry. R. R. R. Brooks. 275p bibliog(p261-8) $3 Yale univ. press '40
C.I.O. still labors. J. A. Rowan. il Iron Age 145:62-5 Ja 4 '40
Fruits of industrial peace; union-management cooperation in steel mills. H. J. Ruttenberg. Harvard Business R 18 no 3:285-94 [Ap] '40
Launches national drive. Business Week p30-2 My 18 '40
Profit in a union contract. J. Baker. Advanced Management 5:64-5 Ap-Je '40

STEEL works
Copperweld goes alloy; works at Warren, Ohio. T. C. Campbell. il plan Iron Age 145: 30-2 Je 13 '40
Copperweld steel co. new electric steel plant. il Metals & Alloys 11:MA360-1 Je '40
Copperweld steel company puts new Warren, Ohio, plant into operation. Am Mach 84:434h Je 12 '40
From the ore dock through the press shop at Dearborn. J. Geschelin. il Automotive Ind 83:476-8, 482 N 1 '40
Guests of Republic steel corporation shown improvements at Gadsden plant. Blast F & Steel Pl 27:1257-8 D '39; Same. Manuf Rec 108:30 D '39
Navy's armor plant at South Charleston, W.Va. rehabilitated. Blast F & Steel Pl 28:822-3 Ag '40
New custom alloy shop; Youngstown alloy casting corp. G. R. Reiss. il Steel 107:111-12+ O 14 '40
Pre-fabricated buildings; 20 panel-type utility structures and buildings at Irvin works of Carnegie-Illinois steel corp. il Steel 106:44-5 Ja 15 '40
Republic enlarges plant in South, adds wire mesh, bolts, nuts to output. G. W. Birdsall. il Steel 105:19 N 27 '39
Rustless iron & steel corp. completes $2,500,000 expansion. il Manuf Rec 109:42-3 N '40; Iron Age 146:53-5 N 14 '40; Steel 107:54-5 N 11 '40; Blast F & Steel Pl 28:1160-2 D '40; Mach 47:148-9 D '40
Steelworks expansion in 1939. J. D. Knox. il Steel 106:250+ Ja 1 '40
Vanadium-alloys steel company; a pioneer maker of alloyed steels. C. Longenecker. il Blast F & Steel Pl 28:599-602 Je '40
Weirton steel company; history and plant. C. Longenecker. il diag plan Blast F & Steel Pl 28:773-90+ Ag '40

See also
American steel foundries
Blast furnaces
Foundries
Rolling mills
Steel metallurgy
Steel workers

Accounting

Standard cost procedure; application to steel mill operation. F. Ryder. bibliog Blast F & Steel Pl 28:896-9+, 996-9, 1087-9 S-N '40 (to be cont)

Costs

Pacific Coast steel industry. T. W. Lippert. il diags map Iron Age 145:25-32 Mr 21 '40

Electric equipment

Automatic preset control for electric heat treating and quenching equipment; South Works plant of Carnegie-Illinois steel corp. il Steel 107:50, 54+ S 2 '40; Same. Blast F & Steel Pl 28:893-5 S '40
Quality electric alloy steels produced at new Warren plant; Copperweld steel company. il diag plan Elec W 114:678-80+ S 7 '40

Employees

See Steel workers

Equipment

Blaw-Knox offers new dolomite thrower for making up open-hearth banks. il Iron Age 146:39 S 5 '40; Steel 107:48 S 23 '40
Continental steel corporation's Kokomo plant. C. Longenecker. il layouts Blast F & Steel Pl 28:58-68 Ja '40
Copperweld's new alloy steel plant. J. D. Knox. il plan Steel 106:91-4+ Je 3 '40
Create jobs through quality products. E. H. Waldman. Instruments 13:22-3 Ja '40
Gas washing. A. J. Boynton. il diags Steel 105:50, 52-3 D 4 '39
Mass handling of ore cars; new car dumper; Edgar Thomson works, Carnegie-Illinois steel corp. il Steel 106:45-6 Ja 22 '40
Modern alloy steel manufacture; Copperweld plant at Warren, Ohio. W. C. Kernahan. il plan Blast F & Steel Pl 28:671-6 Jl '40
Pouring pit refractories. E. C. Hite and G. Soler. il Brick & Clay Rec 95:54-6 N; 52-4 D '39
Pretoria steel works. Engineer 169:192-3 F 23 '40
Republic's blast furnace largest in effective working volume. il diags Blast F & Steel Pl 27:1219-22 D '39
Some recent developments in the iron and steel industry of European countries; basic Bessemer process at Corby and Ebbw Vale. H. A. Brassert. il Blast F & Steel Pl 28:81, 81A-81B+, 147-8 Ja-F '40
Some recent developments in the iron and steel industry of European countries; Hermann Göring steel plants at Braunschweig and Linz. H. A. Brassert. il diags Blast F & Steel Pl 28:148-53+ F '40
Ten years' development in steam engineering at the Port Kembla steelworks, N.S.W., Australia. H. Escher. diags Iron & Steel Inst J 139:443-73, pl 26-9 no 1 '39; Same, without pls. Blast F & Steel Pl 27:490-1+, 602-3, 624, 692-3, 704-5, 849-51, 960-2 My-S '39; Discussion. Iron & Steel Inst J 139: 474-7 no 1 '39

Fuel

Manufacture of pig iron in America. W. A. Haven. map Iron & Steel Inst J 141: 420-4, pl 45-6 no 1 '40; Same. Blast F & Steel Pl 28:484-6 My '40
Place of coal in the steel plant, past, present, and future. H. V. Flagg. il Min & Met 21:457-61 O '40

Layout

Copperweld's new alloy steel plant. J. D. Knox. Steel 106:92-3 Je 3 '40
Modern alloy steel manufacture; Copperweld plant at Warren, Ohio. W. C. Kernahan. Blast F & Steel Pl 28:674-5 Jl '40

Maintenance and repair

Dozen heads are better than one; meetings of maintenance chiefs of Republic Steel's plants. C. W. Phillips and I. N. Tull. Factory Management 98:82-3 S '40; Same abr. Management R 29:405-6 N '40

Management

Fruits of industrial peace; union-management cooperation in steel mills. H. J. Ruttenberg. Harvard Business R 18 no 3:285-94 [Ap] '40
Statistical analysis of metallurgical problems. E. M. Schrock. il Metal Prog 38:153-8 Ag '40

Power

Administration to push Roosevelt's idea of development of steel industry in the West through utilization of cheap water power. L. W. Moffett. Iron Age 144:54+ N 30 '39
Bethlehem Steel installs central boiler plant at Steelton. H. K. Miller. flow diags il Power Pl Eng 44:36-40 Mr '40
Coke breeze and anthracite burned on traveling-grate stokers, supplement blast furnace gas; Bethlehem steel company's Steelton plant. H. K. Miller. Blast F & Steel Pl 28: 1002-3 O '40
Electrically manufactured steels. H. A. Sieveking. il diags Inst E E J 86:401-23; Discussion. 423-30 My '40
Hot blast gas for Dominion Steel at Sydney, N.S. W. S. Wilson. diag Power 84:733 N '40
Interconnection of networks with different current characteristics; group of steel works, France. il plan Electrician 124:165 Mr 1 '40

STEEL works—Power—*Continued*
Pacific Coast steel industry. T. W. Lippert. il diags map Iron Age 145:25-32 Mr 21 '40
Power storage in the Ruhr; the Herdecke and Brauweiler units and their contribution to electric steel production. diag map Electrician 125:46-7 Jl 26 '40
Ten years' development in steam engineering at the Port Kembla steelworks, N.S.W., Australia. H. Escher. diags Iron & Steel Inst J 139:443-73, pl 26-9 no 1 '39; Same, without pls. Blast F & Steel Pl 27:490-1+, 602-3, 624, 692-3, 704-5, 849-51, 960-2 My-S '39; Discussion. Iron & Steel Inst J 139: 474-7 no 1 '39
Waste-heat boilers, utilizing heat from exhaust of heavy duty blower-gas engines; Bethlehem steel co. T. A. Lewis. il Steel 106:62, 64+ Mr 25 '40

Safety devices and measures

Breaking the jinx; Bethlehem steel co. H. W. Darr. il Nat Safety N 41:12-13 My '40
Welfare-safety program pays; American manganese steel division of American brake shoe & foundry co. il Steel 107:38-9 S 2 '40

Waste

Investigations looking to the treatment and disposal of acid industrial wastes; abstract. W. W. Hodge. Water Works & Sewerage 87:372-3 Ag '40
New Belgian pickling process saves acid for continual reuse; de Lattre process. A. McLeod. diags Steel 107:40-2, 44+ S 2 '40
Waste problems of the iron and steel industries; slag, flue dust, spent pickle liquor. W. W. Hodge. flow sheet il Ind & Eng Chem 31:1364-80 bibliog(139 references, p1379-80) N '39

Brazil

Brazil's new steel plant, costing $45,000,000, to be fully integrated. Iron Age 146:78 O 3 '40

Canada

Hull steel foundries ltd. Can Min J 60:sup299 N '39

Chicago

Chicago steel producers account for large tonnage. il Steel 107:88-9, 92 S 16 '40

Germany

Some recent developments in the iron and steel industry of European countries; Hermann Göring steel plants at Braunschweig and Linz. H. A. Brassert. il diags Blast F & Steel Pl 28:148-53+ F '40

Great Britain

Some recent developments in the iron and steel industry of European countries; basic Bessemer process at Corby and Ebbw Vale. H. A. Brassert. il Blast F & Steel Pl 28: 81, 81A-81B+, 147-8 Ja-F '40

India

Tata iron and steel co., ltd., builds a blast furnace. E. T. Warren. il Blast F & Steel Pl 28:473-4+ My '40

South Africa

Pretoria steel works. Engineer 169:192-3 F 23 '40

STEELE, W. L. 1858-1940
Sketch. Nat Underw 44:19 O 31 '40

STEENBOCK, Harry, 1886-
Portrait. Iron Age 145:80 F 29 '40; Steel 106: 23 Mr 4 '40

STEERING gear
S.S. America; hull equipment. il Marine Eng 45:113-14 Ag '40

See also
Automobiles—
Steering gear

STEFANINI, Giuseppe, 1882-1938
Memorial. J. Gardner. por (pl 12) Geol Soc Proc 1939:229-39 bibliog(p232-9) Je '40

STEIN, Hall and company
Stein, Hall & co. inc. celebrates. Textile Col 62:416 Je '40

STEINHARDT, Laurence A. 1892-
Portrait. Fortune 20:50 D '39

STEINMETZ *memorial lectures*
List of lectures given to date. Gen Elec R 42:509 D '39

STELLITE
Grooving operations performed with Haynes stellite tools. il Mach 46:100-1 F '40
Increasing the life of cutting tools by an improved method of grinding. L. J. St Clair. Mach 46:267-70 D '39
Modern aircraft valves; use of stellite for hard facing. A. T. Colwell. bibliog il diags S A E J 46:147-65 Ap '40
New alloys produced; 1939 developments show trend toward standardization. Blast F & Steel Pl 28:84+ Ja '40

STEMMING. See Blasting

STENCIL work
Applying colors to metal; automobile hubcaps, bumpers, nameplates, louvers, radio grilles, instrument panels and other parts. il Steel 106:52+ Je 3 '40
Dyeing and printing coir; stencil printing of coir mats. A. E. Cabell. il diag Textile Col 62:591-5+ S '40
Permanent labels for commercial glass containers; silk screen process for application of fused-on colours. C. S. Sidebottom. Can Chem & Process Ind 23:541-2 N '39; Same cond. Chem Age (Lond) 42:3-4 Ja 6 '40

See also
Silk screen printing

STENCILS and stencil cutting
How to make the most of the stencil duplicator in the library. G. H. Miller, jr. 25p pa 35c A. B. Dick co, Chicago '39

STENOGRAPHERS
Carrier's experiences with centralized correspondence; costs cut by use of bonus plan and machine dictation. M. I. Hart. il Am Business 10:22-4+ S '40
Reducing correspondence costs; abstract. H. N. Rasely. Management R 28:422-3 D '39
Salaries of office workers in fifty-eight cities. Am Business 10:40-1 N '40
Why we prefer a centralized correspondence department; eight expense-control and time-saving ideas. V. Young. il Am Business 9: 16-17+ D '39

STENOTYPE
Stenotype story. Business Week p28 F 17 '40

STENTERS. See Textile machinery

STEREOCHEMISTRY
Aromatic stabilized double bonds; Mills-Nixon problem. R. T. Arnold and R. L. Evans. bibliog Am Chem Soc J 62:556-8 Mr '40
Die aufbauprinzipien der inneren komplexsalze. P. Pfeiffer. bibliog Angew Chemie 53: 93-8 Mr 2 '40
Constituents of natural phenolic resins; 1 : 2 : 3 : 4-tetrahydronaphthalene-2 : 3-dicarboxylic acid and the 1-phenyl derivative. R. D. Haworth and F. H. Slinger. Chem Soc J p1321-7 S '40
Molecular rearrangements in the sterols; the structure of i-cholestanone. K. Ladenburg, P. N. Chakravorty and E. S. Wallis. bibliog Am Chem Soc J 61:3483-7 D '39
Optical activation of acids, and a new resolution process depending on it. M. M. Jamison and E. E. Turner. Chem Soc J p264-76 Mr '40
Stereochemistry of biphenyls; comparison of the interference of a methoxyl and an hydroxyl group. R. Adams and H. M. Teeter. bibliog Am Chem Soc J 62:2188-90 Ag '40
Stereochemistry of complex inorganic compounds; a study of the stereoisomers of the dichloro-diammino-ethylenediamine cobaltic ion. J. C. Bailar, jr. and D. F. Peppard. Am Chem Soc J 62:105-9 Ja '40
Stereochemistry of complex inorganic compounds; the mechanism of the Walden inversion in some reactions leading to the formation of the carbonato-diethylenediamine cobaltic ion. J. C. Bailar, jr. and D. F. Peppard. bibliog Am Chem Soc J 62: 820-3 Ap '40

STEREOCHEMISTRY—*Continued*
Stereochemistry of 3-covalent arsenic; isomeric forms of 5 : 10-di-*p*-tolyl-5 : 10-dihydroarsanthren. J. Chatt and F. G. Mann. Chem Soc J p1184-92 Ag '40
Study of the configuration of the nickel salt of formyl camphor. H. S. French and G. Corbett. bibliog Am Chem Soc J 62:3219-22 N '40
Table of molecular structure by electron diffraction; configurations, bond angles, and interatomic distances. L. R. Maxwell. Opt Soc Am J 30:382-95 bibliog(148 references, p382, 394-5) S '40

See also
Atoms
Chemistry, Physical and theoretical
Isomerism
Molecular rearrangements
Molecules

STEREOISOMERISM. See Isomerism

STEREOSCOPIC photography. See Photography, Stereoscopic

STEREOTYPING
Stereo plate casting; industrial electric heating development. il Elec R (Lond) 126:267-70 Mr 8 '40
Stereotype pot, utilization data sheet. E. E. Haroldsen. il Elec West 85:48 N '40

STERIC hindrance
Steric hindrance in ketone-naphthol condensations; the condensations of the naphthols with cyclohexanone. J. B. Niederl, V. Niederl and J. Charney. Am Chem Soc J 62: 322-3 F '40
Steric hindrance in ketone-phenol condensations; the condensation of guaiacol with cyclic ketones. J. B. Niederl, V. Niederl and J. Grumer. Am Chem Soc J 62:320-2 F '40
Steric inhibition of resonance. R. T. Arnold, G. Peirce and R. A. Barnes. Am Chem Soc J 62:1627-8 Je '40
Steric inhibition of resonance in aromatic nitro compounds. G. W. Wheland and A. A. Danish. bibliog Am Chem Soc J 62: 1125-7 My '40
Steric inhibition of resonance; rates of reaction of nitro- and cyano-aryl halides. W. C. Spitzer and G. W. Wheland. bibliog Am Chem Soc J 62:2995-3002 N '40

STERILAMP. See Ultraviolet rays—Lamps

STERILIZATION
Flip of a switch; use of Sterilamp to destroy harmful microorganisms. T. R. Porter. il Safety Eng 80:15-16 S '40
Germicidal lamps, a new tool for industry and a contribution to health. L. C. Porter and P. W. Neidhardt. il diags Gen Elec R 43: 202-5 My '40
Ozone in the chemical industry; sterilization, oxidation, and air purification. A. E. Williams. diags Chem Age (Lond) 43:131-3 S 21 '40
Sterilization process sterilizes animal fibers without damage. Sci Am 163:255 N '40

See also
Disinfection and disinfectants
Water pipes—Sterilization

STERILIZERS
British canning plant. il plan Engineer 169: 528-30 Je 14 '40
Electric steam boiler; sausage cooking and drying; industrial data sheet. J. H. Hedge. il Elec West 85:49 N '40
Electric steam boilers for sterilizing dairy utensils; abstract. J. R. Tavernetti and K. F. McIntire. Mech Eng 62:551-2 Jl '40

STERILIZERS, Electric
Develops continuous-belt soil sterilizer; Joseph Harris seed company. L. S. Caple. il Elec W 114:716 S 7 '40

STERLING products, Inc.
Annual report. Comm & Fin Chr 150:1296-7 F 24 '40

STERNSON laboratories ltd.
Research company incorporated, Brantford, Ont. il Pulp & Pa of Can 41:266 F '40

STEROIDS
High-vacuum distillation of the steroids. K. C. D. Hickman. bibliog il Ind & Eng Chem 32:1451-3 N '40
Photodehydrogenation of steroids; 2,4-cholestadiene. R. P. Jacobsen and C. Z. Nawrocki. Am Chem Soc J 62:2612-14 O '40
Steroids and related compounds; steroid diosphenols. V. A. Petrow and W. W. Starling. Chem Soc J p60-5 Ja '40
Synthesen in der reihe der steroide. E. Dane. Angew Chemie 52:655-9 N 4 '39
Total synthesis of a non-benzenoid steroid. L. W. Butz and others. Am Chem Soc J 62:995-6 Ap '40

STEROLS
Experiments on the synthesis of substances related to the sterols; tetracyclic ketones. R. Robinson and J. M. C. Thompson. Chem Soc J p1739-42 N '39
High-vacuum distillation of the steroids. K. C. D. Hickman. bibliog il Ind & Eng Chem 32:1451-3 N '40
Interactions between polycyclic hydrocarbons and sterols in mixed surface films at the air-water surface. W. W. Davis, M. E. Krahl and G. H. A. Clowes. Am Chem Soc J 62:3080-98 N '40
Molecular rearrangements in the sterols; the structure of 4-cholestanone. K. Ladenburg, P. N. Chakravorty and E. S. Wallis. bibliog Am Chem Soc J 61:3483-7 D '39
Speculation regarding the ring structure of the sterols and related substances. R. Robinson. Chem Soc J p509-10 Ap '40
Sterol glucosides from expressed soybean oil. M. H. Thornton, H. R. Kraybill and J. H. Mitchell, jr. bibliog Am Chem Soc J 62: 2006-8 Ag '40
Sterols; acid isomerization of pseudosapogenins to sapogenins. R. E. Marker and E. Rohrmann. bibliog Am Chem Soc J 62:896-8 Ap '40
Sterols; chlorogenin. R. E. Marker, E. M. Jones and D. L. Turner. bibliog Am Chem Soc J 62:2537-40 S '40
Sterols; cholesterol and sitosterol derivatives. R. E. Marker and E. Rohrmann. Am Chem Soc J 62:516-17 Mr '40
Sterols; conversion of isosarsasapogenin (smilagenin) to tigogenin. R. E. Marker, E. Rohrmann and E. M. Jones. Am Chem Soc J 62:1162-3 My '40
Sterols; conversion of sarsasapogenin to pregnanediol-3(α),20(α). R. E. Marker and E. Rohrmann. Am Chem Soc J 61:3592-3 D '39
Sterols; desoxotestosterone and its conversion to testosterone. R. E. Marker, E. L. Wittle and B. F. Tullar. Am Chem Soc J 62:223-6 Ja '40
Sterols; diosgenin. R. E. Marker, T. Tsukamoto and D. L. Turner. bibliog Am Chem Soc J 62:2525-32 S '40
Sterols; diosgenin from certain American plants. R. E. Marker, D. L. Turner and P. R. Ulshafer. Am Chem Soc J 62:2542-3 S '40
Sterols; *epi*-pseudosarsasapogenin, pseudosarsasapogenone and pseudochlorogenin. R E. Marker, E. Rohrmann and E. M. Jones. Am Chem Soc J 62:648-9 Mr '40
Sterols; estrane derivatives. R. E. Marker and E. Rohrmann. bibliog Am Chem Soc J 62: 73-5 Ja '40
Sterols from crude soybean oil. H. R. Kraybill, M. H. Thornton and K. E. Eldridge. bibliog Ind & Eng Chem 32:1138-9 Ag '40
Sterols from various sources; cantharides, Mexican flies, ant eggs, chicken feces, etc. R. E. Marker and A. C. Shabica. Am Chem Soc J 62:2523-5 S '40
Sterols; oxidation and reduction products of equilenin. R. E. Marker and E. Rohrmann. Am Chem Soc J 61:3314-17 D '39
Sterols; oxidation of sarsasapogenin acetate with potassium permanganate. R. E. Marker and E. Rohrmann. bibliog Am Chem Soc J 62:222-3 Ja '40
Sterols; oxidation of the diacetate of cholestanediol-3,6. R. E. Marker and others. Am Chem Soc J 62:645-6 Mr '40

STEROLS—*Continued*
Sterols; oxidation products of dihydrosarsasapogenin. R. E. Marker and E. Rohrmann. bibliog Am Chem Soc J 61:3477-9 D '39
Sterols; oxidation products of sarsasapogenin; pregnanetriol-3,16,20. R. E. Marker and others. bibliog Am Chem Soc J 62:525-7 Mr '40
Sterols; oxidation products of sarsasapogenin; studies on the C_{27} lactone. R. E. Marker and E. Rohrmann. bibliog Am Chem Soc J 62: 76-8 Ja '40
Sterols; persulfate oxidation of *allo*-pregnane derivatives. R. E. Marker and others. Am Chem Soc J 62:650-1 Mr '40
Sterols; pregnanediols from sarsasapogenin. R. E. Marker and E. Rohrmann. bibliog Am Chem Soc J 62:518-20 Mr '40
Sterols; progesterone from hyodesoxycholic acid. R. E. Marker and J. Krueger. bibliog Am Chem Soc J 62:79-81 Ja '40
Sterols; reactions of chlorogenin. R. E. Marker and E. Rohrmann. bibliog Am Chem Soc J 61:3479-82 D '39
Sterols; reactions of pseudosarsasapogenin. R. E. Marker and E. Rohrmann. Am Chem Soc J 62:521-5 Mr '40
Sterols; sapogenins; the conversion of chlorogenin to tigogenin. R. E. Marker, D. L. Turner and P. R. Ulshafer. Am Chem Soc J 62:3009-10 N '40
Sterols; sapogenins; the preparation of dihydro-isoandrosterone from diosgenin. R. E. Marker and D. L. Turner. Am Chem Soc J 62:3003-5 N '40
Sterols; sapogenins; the supposed trillarigenin identified as a mixture of diosgenin and trillin. R. E. Marker and J. Krueger. Am Chem Soc J 62:2548-9 S '40
Sterols; sarsasapogenin. R. E. Marker and E. Rohrmann. Am Chem Soc J 62:900-2 Ap '40
Sterols; steroidal sapogenins of aletris, asparagus and lilium. R. E. Marker and others. Am Chem Soc J 62:2620-1 O '40
Sterols; sterols from sow pregnancy urine. R. E. Marker and E. Rohrmann. bibliog Am Chem Soc J 61:3476-7 D '39
Sterols; the oxidation of pregnanetriol-3, 4,20(α) and of coprostanediol-3,4. R. E. Marker and others. bibliog Am Chem Soc J 61:3317-20 D '39
Sterols; the oxidation of pregnanetriols. R. E. Marker and D. L. Turner. bibliog Am Chem Soc J 62:2540-1 S '40
Sterols; the position of the hydroxyl groups in chlorogenin. R. E. Marker and others. bibliog Am Chem Soc J 62:3006-9 N '40
Sterols; the preparation of dihydroandrosterone and related compounds from diosgenin and tigogenin. R. E. Marker. Am Chem Soc J 62:2621-5 O '40
Sterols; the preparation of neotigogenin from sarsasapogenin. R. E. Marker and E. Rohrmann. Am Chem Soc J 62:647-8 Mr '40
Sterols; the preparation of testosterone and related compounds from sarsasapogenin and diosgenin. R. E. Marker. Am Chem Soc J 62:2543-7 S '40
Sterols; the structure of pseudosarsasapogenin. R. E. Marker, E. M. Jones and J. Krueger. Am Chem Soc J 62:2532-6 S '40
Studies in the activation in sterols. J. W. M. Bunker, R. S. Harris and L. M. Mosher. Am Chem Soc J 62:1760-2 Jl '40
Studies in the sterol group; the bromination of 7-ketocholesteryl acetate. H. Jackson and E. R. H. Jones. Chem Soc J p659-63 My '40
Studies in the sterol-oestrone group; derivatives of 2-phenyl*cyclo*hexanone. J. C. Bardhan. Chem Soc J p848-50 Jl '40

See also
Brassicasterol
Cholesterol
Corticosterone
Sitosterol

STETTINIUS, Edward Reilly, 1900-
Boys, you take it from here, said Myron Taylor to Stettinius, Fairless, and Voorhees. por Fortune 21:64-7+ Mr '40
Mr Knudsen goes to Washington; Mr Stettinius, too. Factory Management 98:46-9 Jl '40
Stettinius keeps cool, does the job. por Business Week p22-3+ Ag 24 '40

STEVEDORES. See Longshoremen

STEVENS, Frederic Cushing, 1878-1939
Sketch. Automotive Ind 81:652 D 15 '39

STEVENS institute of technology
Laboratory of powder metallurgy established. il Ind & Eng Chem News ed 18:548-9 Je 25 '40
Work of the Stevens towing tank; annual report. il Marine Eng 45:61-2 Ap '40

Human engineering laboratory
Executive and clerical aptitudes; fitness tests for education and job applicants. L. W. Yawger. Trusts & Estates 70:529-32 My '40

STEWART, Rowe, 1877-1940
Sketch. por Ptr Ink 191:15 My 17 '40

STEWART-WARNER corporation
Income account for calendar years 1936-39. Comm & Fin Chr 150:1951 Mr 23 '40
Producing 1,750,000 speedometers a year; manufacturing eighteen basic types of automotive equipment. J. Geschelin. il Automotive Ind 82:94-102 F 1 '40

STIBONIUM compounds
Tetra-aryl phosphonium, arsonium, and stibonium salts; a new method of preparation. J. Chatt and F. G. Mann. Chem Soc J p1192-6 Ag '40

STIFFNESS tester
Instrumentation studies; the Clark paper softness tester, with an important note on the Gurley stiffness tester. il diag Paper Tr J 110:29-37 F 15 '40
Technical evaluation of textile finishing treatments; a comparison of certain methods of measuring stiffness in fabrics. L. J. Winn and E. R. Schwarz. bibliog il Am Dyestuff Rep 29:469-76 S 16 '40
Testing the stiffness of yarns and twines. D. C. Scott. diag Am Dyestuff Rep 29:77-80 F 19 '40

STIGMASTEROL
Sterols from crude soybean oil. H. R. Kraybill, M. H. Thornton and K. E. Eldridge. bibliog Ind & Eng Chem 32:1138-9 Ag '40

STIGMASTEROLDIBROMIDE
Elimination of hydrogen bromide from stigmasterol 22.23-dibromide. E. Fernholz, W. L. Ruigh and H. E. Stavely. Am Chem Soc J 62:1554-6 Je '40

STILBENE
Absorption and re-emission of light by *cis*- and *trans*-stilbenes and the efficiency of their photochemical isomerization. G. N. Lewis, T. T. Magel and D. Lipkin. bibliog Am Chem Soc J 62:2973-80 N '40
Bromine-bromine distance in the dibromides of *cis*- and *trans*-stilbene. J. D. McCullough. bibliog Am Chem Soc J 62:480-2 Mr '40
Oxygen inhibition in the photobromination of cinnamic acid. R. F. Brown and F. Daniels. bibliog Am Chem Soc J 62:2820-5 O '40
Synthesis of certain carbalkoxystilbenes. R. C. Fuson and H. G. Cooke, jr. Am Chem Soc J 62:1180-3 My '40
Thermal data on organic compounds; modern combustion data for some non-volatile compounds containing carbon, hydrogen and oxygen. J. W. Richardson and G. S. Parks. bibliog Am Chem Soc J 61:3543-6 D '39

STILBENEDIOLS
Enediols; *cis-trans* isomerism. R. C. Fuson and others. bibliog Am Chem Soc J 62:2091-4 Ag '40
Enediols; hexaisopropylstilbenediols. R. C. Fuson and E. C. Horning. bibliog Am Chem Soc J 62:2962-4 N '40

STILBESTROLS
Synthesis of dihydrodiethylstilbestrol. A. M. Docken and M. A. Spielman. Am Chem Soc J 62:2163-4 Ag '40

STILLS. See Distillation apparatus

STILWELL, Colonel John, 1886-
Sketch. por Explosives Eng 18:324-5 N '40

STINE, Charles Milton Altland, 1882-
Personalities in chemistry. A. D. McFadyen. por Chem Ind 46:742 Je '40
Presentation of Perkin medal. H. E. Howe. Chem & Ind 59:180-1 Mr 16 '40
Receives Perkin medal. por Oil Paint & Drug Rep 137:3+ Ja 15 '40; Can Chem & Process Ind 24:36 Ja '40; Ind & Eng Chem 32:137 F '40; Science 91:sup8 Ja 19 '40

STINNES, Hugo, corporation
Extension of notes proposed. Comm & Fin Chr 151:258 Jl 13 '40

STIRRERS
All-glass ball valve stirrer. S. Liotta. il diags Ind & Eng Chem Anal ed 12:173 Mr 15 '40
Inexpensive stirrer for large water baths. A. Hemingway and W. B. Shelley. diag R Sci Instr 11:204-5 Je '40
Laboratory electric stirring motor; ball bearing pulley assembly. E. B. Hershberg. il diags Ind & Eng Chem Anal ed 12:293-6 My 15 '40
Method for measuring agitator performance. P. B. Yates and H. E. Watson. diag Soc Chem Ind J 59:63-6 Ap '40
Safety stirring device proves effective and easy on glassware; for pH determination and titrations. W. Strockbine. il Water Works & Sewerage 86:511 D '39
Vacuum stirrer for the laboratory. J. H. Read. diag Soc Chem Ind J 59:218 S '40
Vapor-proof laboratory stirrer. G. Calingaert. diags Ind & Eng Chem Anal ed 12:51 Ja 15 '40

STOCK cars
My idea of a stock car. D. V. Costello. Ry Mech Eng 114:157-8 Ap '40

STOCK company association
Election. Ins Field (Fire ed) 69:18-19 My 16 '40

STOCK control. See Stores systems

STOCK dividends. See Dividends

STOCK exchange
Appraising the stock market. M. D. Morehouse and J. Edgerton; L. M. Hostetler. Barron's 20:3 Ag 19 '40
As the trader sees today's market. F. K. Dodge. Published in bi-weekly numbers of Magazine of Wall Street
Blitzkrieg in Wall Street. Pub Util 25:739-40 Je 6 '40
Business and securities reached peak levels in 1939 on recovery rather than war factors. A. T. Miller. Mag of Wall St Manual p 1-2+ Mr 2 '40
Chicago and Boston exchanges clarify stand on multiple trading. Comm & Fin Chr 151: 2573 N 2 '40
Closer cooperation viewed as aid to Exchanges. W. A. Mandell. Comm & Fin Chr 151:2582 N 2 '40
Economic continuity broken, investors face entirely new financial situation. E. W. Axe. Annalist 56:70-1+ Jl 18 '40
Election year market swings since 1900; chart. Mag of Wall St 66:450 Jl 27 '40
Financial interests urged to prepare for economic changes following war. M. W. Pask. Comm & Fin Chr 151:187 Jl 13 '40
How and when to buy and sell securities. T. Wright. 298p $2 Bobbs '40
How to trade in stocks; the Livermore formula for combining time element and price. J. L. Livermore. 133p $2.50 Duell, Sloan & Pearce. 270 Madison av, New York '40
Is stock speculation finished? past declines were followed by recovery. B. Ravits. Barron's 20:8 Jl 8 '40
Law of stock exchanges, stockbrokers & customers. W. H. Black. 2v $25 West '40
Making the most of stop-loss orders; level 16% below highest close held preferable for traders in volatile stocks. J. S. Dunham. Barron's 20:13 Mr 25 '40
Management-trading and stock-market profits, March 1935-Feb. 1939; results of trading in stocks of their own companies by officers, directors, and large stockholders. F. P. Smith. J Business 13:103-17 Ap '40
Market at grips with war. A. T. Miller. Mag of Wall St 66:8-9 Ap 20 '40
Market of cross currents; year-end review and prospects. H. J. Nelson. Barron's 20:23-4+ Ja 15 '40
Market turn in the making; charts. A. T. Miller. Mag of Wall St 66:505-7 Ag 10 '40
Market's long-term trend; major movements can go sideways as well as up or down. Barron's 20:13 O 7 '40
Meeting in New York acts to form committee to study effect of European war on American markets in line with proposal of M. W. Pask. Comm & Fin Chr 151:489-90 Jl 27 '40
Money and the markets. Published in weekly numbers of Business week
New market influences at work under cover of the averages. F. K. Dodge. Mag of Wall St 66:172-3 My 18 '40
1915-1940; pattern of war economy shapes up. H. M. Tremaine. il Mag of Wall St 65:458-60+ Ja 27 '40
Odds on seasonal market rise. S. Fritz, jr. and A. M. Shumate. Barron's 20:20 Ag 5 '40
Panics and the aftermath. Barron's 20:1 My 27 '40
Presidential elections, business and the market; a forty-six year period at a glance; with chart. H. M. Tremaine. Mag of Wall St 65:402-3 Ja 13 '40
Public confused by failure of stock markets to keep pace with business activity. G. P. Rea. Comm & Fin Chr 150:44-5 Ja 6 '40
Recognizing danger zones created by the concentrated placement of stop-loss orders. F. K. Dodge. Mag of Wall St 66:94-5 My 4 '40
Sources of buying and selling orders, as revealed by SEC compilations. D. Myrick. Annalist 55:6+ Ja 4 '40
Stock exchanges. Published in weekly numbers of the Economist
Stock market and business prospects; speculation no longer sustains recovery. J. F. Hughes. Annalist 55:195+ F 1 '40
Stock market at a glance; price changes, earnings and dividends; New York stock and curb exchanges. Published in weekly numbers of Barron's
Stock market, credit and capital formation. F. Machlup. 416p $5 Macmillan '40
Trader gives his views of the market. H. J. Nelson. Published in weekly numbers of Barron's
Wall Street and war; bull market, following Norse invasion, was national reaction, and not staged E. Lokey; H. B. Joseph. Ptr Ink 191:67-9 My 17 '40
What market action to take under adverse war developments A. T. Miller. Mag of Wall St 66:264-6 Je 15 '40
What's ahead for the market. A. T. Miller. Published in bi-weekly numbers of Magazine of Wall Street

See also

Arbitrage	Money
Bonds	Prices
Brokers' loans	Securities
Dow theory	Speculation
Investments	Stocks
also names of exchanges, e g.	
Boston stock exchange	New York curb exchange
Chicago stock exchange	New York stock exchange
London stock exchange	Philadelphia stock exchange
Montreal stock exchange	

Hours of business

Additional trading hour on Chicago stock exchange justifies itself by its volume in first month's operation. A. M. Betts. Comm & Fin Chr 151:2731 N 9 '40

Options

How option traders view the market. Published in Barron's
New wrinkle in election bets; traders in options find puts and calls convenient way of making their own odds. Business Week p59-61 O 26 '40

STOCK exchange—*Continued*

Regulation

Can business and government work together today? W. M. Martin, jr. Comm & Fin Chr 149:3652-3 D 9 '39

Cash on delivery transactions under regulation T. Fed Res Bul 26:1172-4 N '40

Obtaining payment for purchase of securities in cash account under Regulation T. Fed Res Bul 26:772-3 Ag '40

Ruling by governors of Federal reserve system; purchase of securities in special cash account under Regulation T. Comm & Fin Chr 151:482-3 Jl 27 '40

Stock deposited with broker for him to lend; not prohibited by margin rule under Regulation T. Fed Res Bul 26:647-9 Jl '40

See also

Securities and exchange commission
Stocks—Margin buying

STOCK liquidation agreements

Laboratory analysis of a business insurance case. J. E. Rappoport. Trusts & Estates 71:435-40 O '40

Stock purchase agreement. Spectator (Life ed) 144:6 Ap 11 '40; Same. Trusts & Estates 71:94-6 Jl '40

STOCK options for executives. See Executives as stockholders

STOCK purchase agreements. See Stock liquidation agreements

STOCK transfer tax

At budget hearing in Albany reduction of state stock transfer tax urged. W. M. Martin, jr. Comm & Fin Chr 150:1074 F 17 '40

Bargains in stock transfer taxes; comparison of taxes in New York, Boston and Chicago. B. H. McCormack Barron's 20:13 F 12 '40

Hearing at Albany on bill proposing revision of New York stock transfer tax. Comm & Fin Chr 150:1215-16 F 24 '40

High state stock transfer tax driving business from New York. Comm & Fin Chr 150: 361 Ja 20 '40

New York state stock transfer taxes must be modified if business is to prosper. W. M. Martin, jr. Comm & Fin Chr 150.1064 F 17 '40

New York state taxation of stock transfers. Bankers M 140:134 F '40

Reduction in New York state stock transfer tax urged by Association of customer's men. Comm & Fin Chr 150:216 Ja 13 '40

Reduction in New York state stock transfer taxes urged. W. M. Martin, jr. Comm & Fin Chr 150:50-1 Ja 6 '40

Revenue act of 1940 increases stock and bond transfer tax rates Comm & Fin Chr 150: 4052 Je 29 '40

San Francisco opposes campaign of New York stock exchange to secure revision of state transfer tax. Comm & Fin Chr 150: 761 F 3 '40

Stock transfer tax laws practically applied. I. A. Brodsky 267p $5 F. E. Fitch, inc, 136 Pearl st, New York '40

Stock transfer taxes inequitable; Committee finds American system inferior to others. Trusts & Estates 71:18 Jl '40

STOCK transfers

Handling stock transfers. Management R 29: 309-10 Ag '40

Transfer of stock. F. T. Christy. 2d ed 1086p bibliog(p991-6) $16.50 Baker, Voorhis & co, New York '40

STOCKHOLDERS

Evolution of management attitudes as applied to the employe, the customer, the stockholder, to government and the public. C. C. Conway. Advanced Management 4 no5:141-4 '39

General Mills annual report, via sound movie. Business Week p56 N 16 '40

General Mills meets its stockholders in 8 regional sessions. A. M. Howe. Ptr Ink 193: 21-4 N 15 '40

In greeting new stockholders leading advertisers find public relations asset; methods of General Motors, General Foods, Borden's and others. D. Gridley. Ptr Ink 189:71-2+ D 8; 19-22 D 15 '39

Investor protection in reorganization. J. A. Panuch. Harvard Business R 19 no 1:21-32 [S] '40

Management-trading and stock-market profits, March 1935-Feb. 1939; results of trading in stocks of their own companies by officers, directors, and large stockholders. F. P. Smith. J Business 13:103-17 Ap '40

Meet the owner; General Mills' stock-holders' meetings. Business Week p22+ Mr 2 '40

Report to stockholders; what should it contain? Printers' Ink Monthly special study. A. M. Howe. il maps Ptr Ink Mo 40:19-22+ Ja '40

Ruling by U.S. Supreme court in Lumber products co. case upholds priority of bondholders before participation by stockholders in reorganization of corporations under Bankruptcy act; ruling in case of Kansas City terminal railway co. Comm & Fin Chr 149:3481-2 D 2 '39

School for stockholders and employees; Washington water power co. educational meetings. il Elec West 84:25 Mr '40

Section 77 and the railroad stockholder. L. Whitfield. Bankers M 139:510-12 D '39

SEC submits study to TNEC on ownership of non-financial corporations; shows small group controls power. Comm & Fin Chr 151: 2285-6 O 19 '40

Selling your firm to the stockholders. C. Gore. Adv & Sell 33:68+ Mr '40

Stockholders (common stock) 1936-1939. Survey of Cur Business 1940 Sup p76 [supplemented in monthly numbers]

Supreme court rules on stockholders' rights in reorganization. Pub Util 24:759 D 7 '39

War, and no proxies; firms with European stockholders. Business Week p48-9 Jl 6 '40

See also

Advertising—Stockholders, Appeal to
Corporation law
Corporations—Finance
Executives as stockholders
Proxies
Public utilities—Securities

STOCKPORT, England

Streets

Road over River Mersey at Stockport. E. Rhodes. il diags plan Engineer 169:284-5 Mr 22 '40

STOCKROOMS. See Stores systems

STOCKS

Accent on safety; the case against common stocks for a widow's investments. Barron's 20.8 Mr 4 '40

Annual dividend forecast, 1940. Mag of Wall St 65:466-71, 541-7, 604-9 Ja 27-F 24 '40

Another look at American Metal, Air Reduction, B. F. Goodrich, U.S. Rubber, Loew's, Miami Copper, General American transportation. il Mag of Wall St 66:678-80+ S 21 '40

Another look at El Paso natural gas co., Endicott Johnson, Warner bros. pictures, P. Lorillard & co., St Joseph lead co. Mag of Wall St 66:98-9+ My 4 '40

As the trader sees today's market; seven groups in the dividend forecast considered for technical action. F. K. Dodge. Mag of Wall St 65:610-11+ F 24 '40

Avoiding fashions in widow's investments. T. E. Brittingham, jr.; G. A. Drew; G. Webb. Barron's 20:20 Mr 18 '40

Balanced portfolio of six stocks. J. S. Williams. Mag of Wall St 66:457-9+ Jl 27 '40

Behavior of industrial earnings; stability and growth trends. R. L. Johnson. Banking 32: 25-6 Mr '40

Capitalization of earnings in wartime; based on 1914-18 figures for 110 stocks. J. H. Lewis. Annalist 55:196-7+ F 1 '40

Common stocks as long-run investments. W. J. Eiteman. Annalist 56:331+ S 12 '40

Common stocks as trust investments. L. M. Little. Trusts & Estates 69:507-10 N '39

Common stocks as trust investments. H. Prud'homme. Trusts & Estates 70:148-50 F '40

STINE, Charles Milton Altland, 1882-
Personalities in chemistry. A. D. McFadyen. por Chem Ind 46:742 Je '40
Presentation of Perkin medal. H. E. Howe. Chem & Ind 59:180-1 Mr 16 '40
Receives Perkin medal. por Oil Paint & Drug Rep 137:3+ Ja 15 '40; Can Chem & Process Ind 24:36 Ja '40; Ind & Eng Chem 32:137 F '40; Science 91:sup8 Ja 19 '40

STINNES, Hugo, corporation
Extension of notes proposed. Comm & Fin Chr 151:258 Jl 13 '40

STIRRERS
All-glass ball valve stirrer. S. Liotta. il diags Ind & Eng Chem Anal ed 12:173 Mr 15 '40
Inexpensive stirrer for large water baths. A. Hemingway and W. B. Shelley. diag R Sci Instr 11:204-5 Je '40
Laboratory electric stirring motor; ball bearing pulley assembly. E. B. Hershberg. il diags Ind & Eng Chem Anal ed 12:293-6 My 15 '40
Method for measuring agitator performance. P. B. Yates and H. E. Watson. diag Soc Chem Ind J 59:63-6 Ap '40
Safety stirring device proves effective and easy on glassware; for pH determination and titrations. W. Strockbine. il Water Works & Sewerage 86:511 D '39
Vacuum stirrer for the laboratory. J. H. Read. diag Soc Chem Ind J 59:218 S '40
Vapor-proof laboratory stirrer. G. Calingaert. diags Ind & Eng Chem Anal ed 12:51 Ja 15 '40

STOCK cars
My idea of a stock car. D. V. Costello. Ry Mech Eng 114:157-8 Ap '40

STOCK company association
Election. Ins Field (Fire ed) 69:18-19 My 16 '40

STOCK control. See Stores systems

STOCK dividends. See Dividends

STOCK exchange
Appraising the stock market. M. D. Morehouse and J. Edgerton; L. M. Hostetler. Barron's 20:3 Ag 19 '40
As the trader sees today's market. F. K. Dodge. Published in bi-weekly numbers of Magazine of Wall Street
Blitzkrieg in Wall Street. Pub Util 25:739-40 Je 6 '40
Business and securities reached peak levels in 1939 on recovery rather than war factors. A. T. Miller. Mag of Wall St Manual p 1-2+ Mr 2 '40
Chicago and Boston exchanges clarify stand on multiple trading. Comm & Fin Chr 151: 2573 N 2 '40
Closer cooperation viewed as aid to Exchanges. W. A. Mandell. Comm & Fin Chr 151:2582 N 2 '40
Economic continuity broken, investors face entirely new financial situation. E. W. Axe. Annalist 56:70-1+ Jl 18 '40
Election year market swings since 1900; chart. Mag of Wall St 66:450 Jl 27 '40
Financial interests urged to prepare for economic changes following war. M. W. Pask. Comm & Fin Chr 151:187 Jl 13 '40
How and when to buy and sell securities. T. Wright. 298p $2 Bobbs '40
How to trade in stocks; the Livermore formula for combining time element and price. J. L. Livermore. 133p $2.50 Duell, Sloan & Pearce, 270 Madison av, New York '40
Is stock speculation finished? past declines were followed by recovery. B. Ravits. Barron's 20:8 Jl 8 '40
Law of stock exchanges, stockbrokers & customers. W. H. Black. 2v $25 West '40
Making the most of stop-loss orders; level 16% below highest close held preferable for traders in volatile stocks. J. S. Dunham. Barron's 20:13 Mr 25 '40
Management-trading and stock-market profits, March 1935-Feb. 1939; results of trading in stocks of their own companies by officers, directors, and large stockholders. F. P. Smith. J Business 13:103-17 Ap '40
Market at grips with war. A. T. Miller. Mag of Wall St 66:8-9 Ap 20 '40
Market of cross currents; year-end review and prospects. H. J. Nelson. Barron's 20:23-4+ Ja 15 '40
Market turn in the making; charts. A. T. Miller. Mag of Wall St 66:505-7 Ag 10 '40
Market's long-term trend; major movements can go sideways as well as up or down. Barron's 20:13 O 7 '40
Meeting in New York acts to form committee to study effect of European war on American markets in line with proposal of M. W. Pask. Comm & Fin Chr 151:489-90 Jl 27 '40
Money and the markets. Published in weekly numbers of Business week
New market influences at work under cover of the averages. F. K. Dodge. Mag of Wall St 66:172-3 My 18 '40
1915-1940; pattern of war economy shapes up. H. M. Tremaine. il Mag of Wall St 65:458-60+ Ja 27 '10
Odds on seasonal market rise. S. Fritz, jr. and A. M. Shumate. Barron's 20:20 Ag 5 '40
Panics and the aftermath. Barron's 20:1 My 27 '40
Presidential elections, business and the market; a forty-six year period at a glance; with chart. H. M. Tremaine. Mag of Wall St 65:402-3 Ja 13 '40
Public confused by failure of stock markets to keep pace with business activity. G. P. Rea. Comm & Fin Chr 150:44-5 Ja 6 '40
Recognizing danger zones created by the concentrated placement of stop-loss orders. F. K. Dodge. Mag of Wall St 66:94-5 My 4 '40
Sources of buying and selling orders, as revealed by SEC compilations. D. Myrick. Annalist 55:6+ Ja 4 '40
Stock exchanges. Published in weekly numbers of the Economist
Stock market and business prospects; speculation no longer sustains recovery. J. F. Hughes. Annalist 55:195+ F 1 '40
Stock market at a glance; price changes, earnings and dividends; New York stock and curb exchanges. Published in weekly numbers of Barron's
Stock market, credit and capital formation. F. Machlup. 416p $5 Macmillan '40
Trader gives his views of the market. H. J. Nelson. Published in weekly numbers of Barron's
Wall Street and war; bull market, following Norse invasion, was national reaction, and not staged. E. Lokey; H. B. Joseph. Ptr Ink 191:67-9 My 17 '40
What market action to take under adverse war developments A. T. Miller. Mag of Wall St 66:264-6 Je 15 '40
What's ahead for the market. A. T. Miller. Published in bi-weekly numbers of Magazine of Wall Street

See also

Arbitrage	Money
Bonds	Prices
Brokers' loans	Securities
Dow theory	Speculation
Investments	Stocks

also names of exchanges, e.g.

Boston stock exchange	New York curb exchange
Chicago stock exchange	New York stock exchange
London stock exchange	Philadelphia stock exchange
Montreal stock exchange	

Hours of business
Additional trading hour on Chicago stock exchange justifies itself by its volume in first month's operation. A. M. Betts. Comm & Fin Chr 151:2731 N 9 '40

Options
How option traders view the market. Published in Barron's
New wrinkle in election bets; traders in options find puts and calls convenient way of making their own odds. Business Week p59-61 O 26 '40

STOCK exchange—*Continued*

Regulation

Can business and government work together today? W. M. Martin, jr. Comm & Fin Chr 149:3652-3 D 9 '39

Cash on delivery transactions under regulation T. Fed Res Bul 26:1172-4 N '40

Obtaining payment for purchase of securities in cash account under Regulation T. Fed Res Bul 26:772-3 Ag '40

Ruling by governors of Federal reserve system; purchase of securities in special cash account under Regulation T. Comm & Fin Chr 151:482-3 Jl 27 '40

Stock deposited with broker for him to lend; not prohibited by margin rule under Regulation T. Fed Res Bul 26:647-9 Jl '40

See also

Securities and exchange commission
Stocks—Margin buying

STOCK liquidation agreements

Laboratory analysis of a business insurance case. J. E. Rappoport. Trusts & Estates 71:435-40 O '40

Stock purchase agreement. Spectator (Life ed) 144:6 Ap 11 '40; Same. Trusts & Estates 71:94-6 Jl '40

STOCK options for executives. See Executives as stockholders

STOCK purchase agreements. See Stock liquidation agreements

STOCK transfer tax

At budget hearing in Albany reduction of state stock transfer tax urged. W. M. Martin, jr. Comm & Fin Chr 150:1074 F 17 '40

Bargains in stock transfer taxes; comparison of taxes in New York, Boston and Chicago. B. H. McCormack Barron's 20:13 F 12 '40

Hearing at Albany on bill proposing revision of New York stock transfer tax. Comm & Fin Chr 150:1215-16 F 24 '40

High state stock transfer tax driving business from New York. Comm & Fin Chr 150: 361 Ja 20 '40

New York state stock transfer taxes must be modified if business is to prosper. W. M. Martin, jr. Comm & Fin Chr 150:1064 F 17 '40

New York state taxation of stock transfers. Bankers M 140:134 F '40

Reduction in New York state stock transfer tax urged by Association of customer's men. Comm & Fin Chr 150:216 Ja 13 '40

Reduction in New York state stock transfer taxes urged. W. M. Martin, jr. Comm & Fin Chr 150:50-1 Ja 6 '40

Revenue act of 1940 increases stock and bond transfer tax rates. Comm & Fin Chr 150: 4052 Je 29 '40

San Francisco opposes campaign of New York stock exchange to secure revision of state transfer tax. Comm & Fin Chr 150: 764 F 3 '40

Stock transfer tax laws practically applied. I. A. Brodsky. 267p $5 F. E. Fitch, inc, 136 Pearl st, New York '40

Stock transfer taxes inequitable; Committee finds American system inferior to others. Trusts & Estates 71:18 Jl '40

STOCK transfers

Handling stock transfers. Management R 29: 309-10 Ag '40

Transfer of stock. F. T. Christy. 2d ed 1086p bibliog(p991-6) $16.50 Baker, Voorhis & co, New York '40

STOCKHOLDERS

Evolution of management attitudes as applied to the employe, the customer, the stockholder, to government and the public. C. C. Conway. Advanced Management 4 no5:141-4 '39

General Mills annual report, via sound movie. Business Week p56 N 16 '40

General Mills meets its stockholders in 8 regional sessions. A. M. Howe. Ptr Ink 193: 21-4 N 15 '40

In greeting new stockholders leading advertisers find public relations asset; methods of General Motors, General Foods, Borden's and others. D. Gridley. Ptr Ink 189:71-2+ D 8; 19-22 D 15 '39

Investor protection in reorganization. J. A. Panuch. Harvard Business R 19 no 1:21-32 [S] '40

Management-trading and stock-market profits, March 1935-Feb. 1939; results of trading in stocks of their own companies by officers, directors, and large stockholders. F. P. Smith. J Business 13:103-17 Ap '40

Meet the owner; General Mills' stock-holders' meetings. Business Week p22+ Mr 2 '40

Report to stockholders; what should it contain? Printers' Ink Monthly special study. A. M. Howe. il maps Ptr Ink Mo 40:19-22+ Ja '40

Ruling by U.S. Supreme court in Lumber products co. case upholds priority of bondholders before participation by stockholders in reorganization of corporations under Bankruptcy act; ruling in case of Kansas City terminal railway co. Comm & Fin Chr 149:3481-2 D 2 '39

School for stockholders and employees; Washington water power co. educational meetings. il Elec West 84:25 Mr '40

Section 77 and the railroad stockholder. L. Whitfield. Bankers M 139:510-12 D '39

SEC submits study to TNEC on ownership of non-financial corporations; shows small group controls power. Comm & Fin Chr 151: 2285-6 O 19 '40

Selling your firm to the stockholders. C. Gore. Adv & Sell 33:68+ Mr '40

Stockholders (common stock) 1936-1939. Survey of Cur Business 1940 Sup p76 [supplemented in monthly numbers]

Supreme court rules on stockholders' rights in reorganization. Pub Util 24:759 D 7 '39

War, and no proxies; firms with European stockholders. Business Week p48-9 Jl 6 '40

See also

Advertising—Stockholders, Appeal to
Corporation law
Corporations—Finance
Executives as stockholders
Proxies
Public utilities—Securities

STOCKPORT, England

Streets

Road over River Mersey at Stockport. E. Rhodes. il diags plan Engineer 169:284-5 Mr 22 '40

STOCKROOMS. See Stores systems

STOCKS

Accent on safety; the case against common stocks for a widow's investments. Barron's 20:8 Mr 4 '40

Annual dividend forecast, 1940. Mag of Wall St 65:466-71, 541-7, 604-9 Ja 27-F 24 '40

Another look at American Metal, Air Reduction, B. F. Goodrich, U.S. Rubber, Loew's, Miami Copper, General American transportation. il Mag of Wall St 66:678-80+ S 21 '40

Another look at El Paso natural gas co., Endicott Johnson, Warner bros. pictures, P. Lorillard & co., St Joseph lead co. Mag of Wall St 66:98-9+ My 4 '40

As the trader sees today's market; seven groups in the dividend forecast considered for technical action. F. K. Dodge. Mag of Wall St 65:610-11+ F 24 '40

Avoiding fashions in widow's investments. T. E. Brittingham, jr.; G. A. Drew; G. Webb. Barron's 20:20 Mr 18 '40

Balanced portfolio of six stocks. J. S. Williams. Mag of Wall St 66:457-9+ Jl 27 '40

Behavior of industrial earnings; stability and growth trends. R. L. Johnson. Banking 32: 25-6 Mr '40

Capitalization of earnings in wartime; based on 1914-18 figures for 110 stocks. J. H. Lewis. Annalist 55:196-7+ F 1 '40

Common stocks as long-run investments. W. J. Eiteman. Annalist 56:331+ S 12 '40

Common stocks as trust investments. L. M. Little. Trusts & Estates 69:507-10 N '39

Common stocks as trust investments. H. Prud'homme. Trusts & Estates 70:148-50 F '40

STOCKS—*Continued*

Companies likely to pay extra year-end dividends; distribution to shareholders should exceed that of year ago despite higher taxes. J. S. Williams. Mag of Wall St 67: 80-1 N 2 '40

Companies making new profit records. S. Devlin. Mag of Wall St 65:536-7+ F 10 '40

Company backlogs and profits; mid-year unfilled orders assure earnings for certain leaders. C. G. V. White. Mag of Wall St 66:570-1 Ag 24 '40

Corporate casualties of the war; problems created in the last six months for International Nickel, American Metal, Woolworth, National Cash Register, Loew's and International Telephone. P. Dobbs. Mag of Wall St 65:428-9+ Ja 13 '40

Corporate war casualties; National Cash Register. S. Devlin. il Mag of Wall St 66:41+ Ap 20 '40

Eight low price dividend payers; thumbnail appraisals. Mag of Wall St 67:32-5 O 19 '40

Eight moderate-priced newcomers to the New York stock exchange; thumbnail appraisal. Mag of Wall St 65:752-5 Mr 23 '40

Eight volatile low-price stocks; thumbnail appraisal. Mag of Wall St 65:816-19 Ap 6 '40

Evaluating the leaders under excess profits tax. J. Lloyd. Mag of Wall St 66:628-9 S 7 '40

Financial world stock factographs. 18th ed 288p pa $3.85 Financial world, 21 West st, New York '40

Flexible investment program for the new year. J. S. Williams. Mag of Wall St 65: 332-3 D 30 '39

45 stocks investment trusts prefer. L. Tomlinson. Barron's 20:9 F 5 '40

45 stocks investment trusts prefer; second quarter transactions. Barron's 20:20 Ag 26 '40

Investing for a widow; a balanced program. H. C. Bond. Barron's 19:20 N 27 '39

Investing for a widow; growth stocks to predominate. P. C. Hatmaker. Barron's 19: 20 N 20 '39

Investing for a widow, 1939 style; Barron's contest provided a poll of investor sentiment. L. Tomlinson. Barron's 19:8-9 D 11 '39

Investing in growth industries. J. S. Williams. Mag of Wall St 65:474-5+ Ja 27 '40

Investing in secondary stocks. J. S. Williams. Mag of Wall St 65:800-1+ Ap 6 '40

Investing trust funds today; a defensive program contemplating common stocks. D. C. Miller. Trusts & Estates 71:220-1 Ag '40

Investment clinic; are income stocks more attractive than good bonds? J. S. Williams. Mag of Wall St 65:676-7+ Mr 9 '40

Investment trust first quarter portfolio changes. Barron's 20:4 My 13 '40

Investment trust third quarter portfolio changes; utility commons bought by State Street; four new stocks among Lehman holdings. Barron's 20:20 O 21 '40

Little change in Lehman corp.'s cash holdings; preference shown in second quarter for auto equipment stocks. Barron's 20:16 Jl 8 '40

Low-priced stocks paying dividends; thumbnail appraisal. Mag of Wall St 65:295-7 D 16 '39

Mid-year security appraisal and forecast. Mag of Wall St 66:465-71+, 519-27, 572-3 Jl 27-Ag 24 '40

New cyclical leaders; with tabulation of companies and industries exceeding past peaks. J. Lloyd. il Mag of Wall St 66:666-8 S 21 '40

Outlook for common stocks in 1940 made uncertain by world political upheaval. E. W. Axe. Annalist 55:104+ Ja 25 '40

Position of important stocks unclassified as to industry; tabulation. Mag of Wall St 65: 609 F 24 '40

Projecting 1940 earnings trends. J. J. Hipple. Mag of Wall St 66:22-3+ Ap 20 '40

Recovery laggards; some will do better next quarter. H. F. Travis. Mag of Wall St 65: 237+ D 2 '39

Setting new earnings records; list of 40 concerns. Mag of Wall St 65:243 D 2 '39

Six dividend paying stocks selling near quick asset value. Mag of Wall St 66:534-6 Ag 10 '40

Six dynamic specialties; thumbnail appraisal. Mag of Wall St 66:234-6 Je 1 '40

Six fast-moving low price stocks; thumbnail appraisal. Mag of Wall St 65:555-7 F 10 '40

Six high yield common stocks; thumbnail appraisal. Mag of Wall St 66:418-20 Jl 18 '40

Six safe stocks for income and protection. il Mag of Wall St 66:364-6+ Je 29 '40

Six selected war beneficiaries. il Mag of Wall St 66:302-4+ Je 15 '40

Six sound stocks yielding over 5 per cent; thumbnail appraisals. Mag of Wall St 67: 155-7 N 16 '40

Six stocks favored in new market phase; thumbnail appraisal. Mag of Wall St 66:109-11 My 4 '40

Six stocks priced at five to eight times earnings; thumbnail appraisals. Mag of Wall St 66:740-2 O 5 '40

Six stocks priced at three to five times earnings; thumbnail appraisals. Mag of Wall St 66:682-4 S 21 '40

Small companies with large earnings; thumbnail stock appraisal. Mag of Wall St 65:490-4 Ja 27 '40

Some trusts increased cash in first quarter; portfolio changes. Barron's 20:13 Ap 22 '40

Stocks purchased by some investment trusts during the second quarter of 1940. Barron's 20:18 Jl 22 '40

Strategic portfolios for today's conditions. F. K. Dodge. Mag of Wall St 66:268-9+ Je 15 '40

Ten fast moving low price stocks; thumbnail appraisal. Mag of Wall St 65:230-4 D 2 '39

Ten low price, active leverage stocks; thumbnail appraisal. Mag of Wall St 65:619-23 F 24 '40

Ten market leaders for 1940. il Mag of Wall St 65:395-9+ Ja 13 '40

Ten stocks in the low-price range; thumbnail appraisal. Mag of Wall St 65:355-9 D 30 '39

Uncovering special situations; companies with a future for profit and income. E. A. Barnes. Mag of Wall St 65:806-8; 66:46-8+ Ap 6-20 '40

Utility preferreds bought by trusts; third quarter portfolio changes show predominance of selling in merchandising issues. Barron's 20:20 N 4 '40

What value common stocks? new concepts in appraising various types of securities. J. S. Williams. il Mag of Wall St 67:18-21+ O 19 '40

Where new taxes hit hardest; estimated profit of leading companies; tabulation. L. C. Duncan. Barron's 20:3 O 14 '40

Which stocks in new tax era; armament companies with low average return on invested capital appear likely to fare best. L. C. Duncan. Barron's 20:18+ Ag 5 '40

Why common stocks for trust funds. C. A. Scully. Trusts & Estates 71:294-9; Discussion (If common stocks; traditional rules of trust investment would require modifications). L. C. Bradley, jr. 300-5 S '40

Widow's investments; criticism; bonds vs. income stocks. S. R. Thayer. Barron's 19:7 D 18 '39

Widow's investments; two more criticisms J. D. Weiss; B. G. Bechhoefer. Barron's 19:7-8 D 25 '39

Yes, you can get a 5% return; selected common stocks for income and growth. J. S. Williams. Mag of Wall St 65:740-1+ Mr 23 '40

See also

Automobile industry and trade—Securities
Banks and banking—Stock
Bonds
Corporations
Dividends
Electric utilities—Securities
Insurance companies—Securities
Investments
Mining industry and finance—Securities

STOCKS—See also—*Continued*
Petroleum industry and trade—Securities
Public utilities—Securities
Railroads—Securities
Speculation
Stock exchange
Stocks, Preferred
also names of exchanges, e.g. New York curb exchange; New York stock exchange

Insider trading

As the trader sees today's market; significance of September liquidation by insiders. F. K. Dodge. Mag of Wall St 65:238-9 D 2 '39
Insiders sellers of stock; with chart. Barron's 20:1 Jl 15 '40
Management-trading and stock-market profits, March 1935-Feb. 1939; results of trading in stocks of their own companies by officers, directors, and large stockholders. F. P. Smith. J Business 13:103-17 Ap '40

Law

Conversion of Brazilian corporate stock into preference shares. H. P. Crawford. Comm Rep p365-6 Ap 20 '40
Ruling by governors of Federal reserve system; purchase of securities in special cash account under Regulation T. Comm & Fin Chr 151:482-3 Jl 27 '40
Stock deposited with broker for him to lend; not prohibited by margin rule under Regulation T. Fed Res Bul 26:647-9 Jl '40

Margin buying

Cash on delivery transactions under regulation T. Fed Res Bul 26:1172-4 N '40
Effect of margin requirements on customer's position. Fed Res Bul 26:532-3 Je '40
New York stock exchange amends margin rules on accounts having only "short" security positions. Comm & Fin Chr 150:2501 Ap 20 '40
New York stock exchange Governors amend rule regarding margin trading by member firms carrying margin accounts for general public. Comm & Fin Chr 150:763 F 3 '40

Odd lots

Odd-lot buying heaviest since war began. Barron's 20:1 Je 3 '40
Odd-lot trading on New York stock exchange. Published in weekly numbers of Commercial & financial chronicle
Odd-lotters add further holdings since beginning of German invasion of low countries. Barron's 20:1-2 S 16 '40

Price-earnings ratios

Appraising the stock market; effects of uncertain governmental taxes and regulations. M. D. Morehouse and J. Edgerton. Barron's 20:3 Ag 19 '40
As the trader sees today's market; resistance of the war orphans. F. K. Dodge. Mag of Wall St 66:676-7+ S 21 '40
89 stocks earning 10%; opportunities and risks in stocks selling at bargain prices. H. Lawrence. Barron's 20:8 Mr 18 '40
Low price-earnings ratios for 35 stocks. Barron's 20:7 Ag 12 '40

Price indexes and averages

Annalist stock market averages, by calendar weeks. Published in weekly numbers of Annalist
Annalist stock market averages, by months, 1934-39; graphs. Annalist 55:105 Ja 25 '40
Annalist stock market averages; revision. Annalist 55:623 My 2 '40
Barron's group stock averages. Published in weekly numbers of Barron's
British share prices, 1811-1850. A. D. Gayer, A. Jacobson and I. Finkelstein. R Econ Statis 22:78-93 My '40
Common stock index. Published in biweekly numbers of Magazine of Wall Street
Common-stock indexes. A. Cowles, 3d. and others. 2d ed 499p $6 Principia press, Bloomington, Ind. '39
Doubtful significance of large triangles; no great decline followed 1864-93 pattern, much like that since 1929. B. Ravits. Barron's 20:5+ Jl 1 '40; Discussion. J. J. Pflieger. 20:16 Jl 15 '40
Dow-Jones averages. Published in weekly numbers of Barron's
Magazine of Wall Street's common stock price index; fourteenth annual revision. Mag of Wall St 65:501-2+ Ja 27 '40
Market laboratory. Published in weekly numbers of Barron's
Stock and bond market averages and volume of trading. Published in weekly numbers of Annalist
Stock market's refusal to follow business; chart shows how much share average has lagged behind production index. R. M. MacLaury. Barron's 20:13 O 21 '40
Stock prices, Nov. 1938-Nov. 1939. Fed Res Bul 26:40 Ja '40 [cont monthly]
Stocks day by day; chart. Published in weekly numbers of Business week
Stocks, prices, 1936-1939. Survey of Cur Business 1940 Sup p74-5 [supplemented in monthly numbers]
Three-year record of Barron's group averages, 1937-39; graphs. Barron's 20:24 Ja 15 '40
Why own common stocks? majority of industry groups have shown less favorable results than broad cross-section. J. W. Bridges. Barron's 20:8 Jl 15 '40
Why own common stocks? 25 year record shows twice as many opportunities for profit as for loss. J. W. Bridges. Barron's 20:3 Je 3 '40

Prices

Appraising the stock market; effects of uncertain governmental taxes and regulations. L. M. Hostetler. Barron's 20:3 Ag 19 '40
As the trader sees today's market; price trends as check on fundamentals. F. K. Dodge. Mag of Wall St 65:472-3+ Ja 27 '40
As the trader sees today's market; year-end report on the averages. F. K. Dodge. Mag of Wall St 65:348-9+ D 30 '39
Chicago stock exchange record of prices for 1939. Comm & Fin Chr 150:579-81 Ja 27 '40
Cleveland stock exchange monthly range of prices, 1939. Comm & Fin Chr 150:585-6 Ja 27 '40
Course of prices of railroad and miscellaneous stocks on New York stock exchange for 1939, monthly, tabulation. Comm & Fin Chr 150:67-76 Ja 6 '40
Divergent war market trends; list of stocks. Mag of Wall St 65:691 Mr 9 '40
Dynamics of share-price formation. J. Tinbergen. R Econ Statis 21:149-60 N '39
Economic changes in the United States, 1856-1939; chart. Annalist 55:144-5 Ja 25 '40
Explanations for major fluctuations; price changes compare closing stock quotations of 1939 with prices at end of 1938. Barron's 20:29 Ja 15 '40
Leaders and laggards of 1939; net advances and declines, dividends and yields of 250 stocks during 1939. L. Tomlinson. Barron's 20:8 Ja 8 '40
Leaders in summer recovery; 1940 declines and recoveries of 250 active stocks. L. Tomlinson. Barron's 20:5+ S 16 '40
Market of cross currents; year-end review and prospects. H. J. Nelson. Barron's 20:23-4+ Ja 15 '40
Monthly and yearly range of prices on Detroit stock exchange, 1939. Comm & Fin Chr 150:581-3 Ja 27 '40
Monthly range of prices on Cincinnati stock exchange, 1939. Comm & Fin Chr 150:583-4 Ja 27 '40
Monthly range of prices on the New York stock exchange, Jan.-June, 1940. Comm & Fin Chr 151:349-57 Jl 20 '40
New York curb exchange—weekly and yearly record. Published in weekly numbers of Commercial & financial chronicle
New York stock record. Published in weekly numbers of Commercial & financial chronicle
1939 monthly price range of 125 most active stocks on New York exchange. Annalist 55:171 Ja 25 '40

STOCKS—Prices—*Continued*
1939 price range of over-the-counter trading. Annalist 55:186 Ja 25 '40
Quick assets at discounts or near parity; tabulation. Mag of Wall St 66:299 Je 15 '40
Range of prices of Columbus (Ohio) stocks and bonds for years 1938 and 1939. Comm & Fin Chr 150:587 Ja 27 '40
Record of N. Y. curb exchange in 1939. Mag of Wall St Manual p7-10 Mr 2 '40
Record of N. Y. stock exchange in 1939. Mag of Wall St Manual p3-7 Mr 2 '40
St Louis stock exchange monthly range of prices, 1939. Comm & Fin Chr 150:586 Ja 27 '40
Some rise in stocks possible if non-economic factors stay neutral, or better. E. W. Axe. Annalist 55:549+ Ap 18 '40
Stock market at a glance; price changes, earnings and dividends; New York stock and curb exchanges. Published in weekly numbers of Barron's
Stock transactions, New York stock exchange. Published in weekly numbers of Annalist
Stock transactions, New York stock exchange, 1939. Annalist 55:162-70 Ja 25 '40
Stocks moving against market trend; consumer goods shares lag behind industrial price index. H. Lawrence. Barron's 20:9 N 11 '40
Threatening or breaking previous 1940 highs. Mag of Wall St 66:687 S 21 '40
Transactions on out-of-town markets. Published in weekly numbers of Annalist
Transactions on out-of-town markets, 1939. Annalist 55:182-4 Ja 25 '40
Transactions on the New York curb exchange. Published in weekly numbers of Annalist
Transactions on the New York curb exchange, 1939 Annalist 55:177-80 Ja 25 '40
Trend of stock prices, 1895-1940; chart. Annalist 56:331 S 12 '40
Two-year trends of 250 stocks; with list. L. Tomlinson. Barron's 20:9 Je 10 '40
War babies and recovery stocks; advances and declines of 200 stocks since Aug. 31, 1939. L. Tomlinson. Barron's 19:17 N 20 '39
War deflation in the stock market with record of active stocks since their September, 1939, highs. L. Tomlinson. Barron's 20:7 Ap 29 '40
Year of war in the market leaders; tabulation. Mag of Wall St 66:625 S 7 '40

Short selling

Short interest on New York stock exchange during December and on the last business day of each month since Dec. 31, 1936. Comm & Fin Chr 150:198 Ja 13 '40 [cont monthly]

Statistics

Changes in amount of their own stock reacquired by companies listed on New York stock and New York curb exchanges. Comm & Fin Chr 150:198 Ja 13 '40 [cont monthly]
Leaders and laggards of 1939; net advances and declines, dividends and yields of 250 stocks during 1939. L. Tomlinson. Barron's 20:8 Ja 8 '40
Management-trading and stock-market profits, March 1935-Feb. 1939; results of trading in stocks of their own companies by officers, directors, and large stockholders. F. P. Smith. J Business 13:103-17 Ap '40
Market value of listed stocks on New York stock exchange on Dec. 30. Comm & Fin Chr 150:44 Ja 6 '40 [cont monthly]
Security markets, 1936-1939. Survey of Cur Business 1940 Sup p74-6 [supplemented in monthly numbers]
Sources of buying and selling orders, as revealed by SEC compilations. D. Myrick. Annalist 55:6+ Ja 4 '40
Stocks listed on New York stock exchange; analysis of figures for 1939. Comm & Fin Chr 150:1686 Mr 16 '40
Value of securities listed on New York stock exchange on the last day of 1938 and 1939, by industrial group. Mag of Wall St 65:427 Ja 13 '40
Volume of unreported trading in New York stock exchange stocks. D. Myrick. Annalist 56:140 Ag 1 '40
What big investors are doing; Securities and exchange commission's summary of purchases and sales by company officials and principal stockholders. Published in Barron's

Treasury stock

Changes in amount of their own stock reacquired by companies listed on New York stock and New York curb exchanges. Comm & Fin Chr 150:198 Ja 13 '40 [cont monthly]
Nature of the gain on treasury stock. D. P. Musselman. J Account 70:104-16 Ag '40; Discussion. R. W. Snyder. 70:268 S '40

Valuation

How to rate war earnings; with lessons from World war prices and earnings. W. Gates. il Mag of Wall St 66:86-7+ My 4 '40
Stock price estimating formulas, 1930-39. J. W. Meader. Annalist 55:890 Je 27 '40

Voting privileges

New York stock exchange adopts new policy on listing requirements as to preferred stock voting rights. Comm & Fin Chr 150:2968 My 11 '40

Yields

Common stocks yield 4.8%. Barron's 20:1 Mr 25 '40
Increase your income today; attractive yields and suggested switches. G. W. Mathis. Mag of Wall St 66:566-7 Ag 24 '40
Stocks, yields, 1936-1939. Survey of Cur Business 1940 Sup p76 [supplemented in monthly numbers]
Why own common stocks? profit and loss experience compared with that in bonds during past 25 years. J. W. Bridges. Barron's 20:18 Je 24 '40

STOCKS, Preferred
Flexible investment program for the new year. J. S. Williams. Mag of Wall St 65: 332-3 D 30 '39
High yields on investment trust preferreds; with tabulation of 16 cumulative issues currently selling at substantial discounts. L. Tomlinson. Barron's 20:18 F 19 '40
How sound are preferred stocks? H. Lawrence. Barron's 19:18 N 27 '39
Industrial bond and preferred stock refundings, 1933-1937. J. B. Hubbard. R Econ Statis 20:161-84; 22:17-44, 182 N '38, F, N '40
Investing for a widow, 1939 style; Barron's contest provided a poll of investor sentiment. L. Tomlinson. Barron's 19:3-4 D 4 '39
Investment clinic; speculating in dividends. J. S. Williams. Mag of Wall St 65:614-15 F 24 '40
Listed preferred stocks with dividend accumulations. Mag of Wall St 66:737 O 5 '40
Opportunities in preferred stocks. R. S. Drew. Trusts & Estates 70:144-7 F '40
Preferred stocks with first claim to earnings; tabulation. Mag of Wall St 65:299 D 16 '39
Preferreds with arrears; tabulation. Mag of Wall St 65:363 D 30 '39
Stretching the widow's income. N. Piccirilli and others. Barron's 20:18 Mr 25 '40
Today's opportunities in bonds and preferreds; change in status relative to common stocks. J. S. Williams. Mag of Wall St 66:616-17+ S 7 '40
Why should preferred stocks be considered under present conditions as trust investments? M. J. Roberts. Trusts & Estates 69:502-5 N '39

Convertible stocks

SEC limits state jurisdiction over security issues of local utilities; refinancing by Wisconsin electric power co. A. R. Colbert. Pub Util 26:149-58 Ag 1 '40
Stretching the widow's income. N. Piccirilli and others. Barron's 20:18 Mr 25 '40
27 convertible preferred stocks. H. Lawrence. Barron's 19:19 D 4 '39
37 preferreds with dividend arrears. H. Lawrence. Barron's 19:19 D 18 '39

STOCKYARDS
Are stockyards common carriers? I.C.C. examiners put 15 out of 25 into this category. Ry Age 109:688 N 9 '40

See also
Live stock

STODDARD solvent
Development of rancidity in Stoddard dry cleaning solvent. A. C. Smith, C. S. Lowe and G. P. Fulton. bibliog il diags Ind & Eng Chem 32:454-60 Ap '40
Effect of sulfur and sulfur compounds in naphtha upon certain corrosion tests; sensitivity of the doctor test. L. M. Henderson, M. S. Agruss and G. W. Ayers, jr. bibliog Ind & Eng Chem Anal ed 12:1-3 Ja 15 '40
Evaporation rate of Stoddard dry cleaning solvent. C. S. Lowe and A. C. Lloyd. bibliog il diags Ind & Eng Chem 32:1310-13 O '40
Stoddard solvent. 3d ed diag U S Nat Bur Stand Commercial Standard CS3-40:1-21 '40

STOICHIOMETRY
Stoichiometric problems. Am Inst Chem Eng Trans 36:sup9-12 S '40

STOKER manufacturers' association
Stoker manufacturers publish business standards code. Coal Age 45:76+ S '40

STOKERS, Mechanical
Berkley locomotive stoker. il Ry Age 108: 1127 Je 22 '40; Same. Ry Mech Eng 114:414-15 O '40
Bituminous stoker sales pass half million mark. il diags Sheet Metal Worker 31:44+ S '40
Chain grate stoker operation. A. Bement. Power Pl Eng 44:72 Ag '40; Discussion. J. R. Darnell. 44:90-1 O '40
Coke breeze and anthracite burned on traveling-grate stokers, supplement blast furnace gas; Bethlehem steel company's Steelton plant. H. K. Miller. Blast F & Steel Pl 28:1002-3 O '40
Commercial stokers for anthracite. R. A. Krauss. il diag Heat & Ven 36:33-4 D '39
Decade of progress in fuel utilization. R. A. Sherman. Power Pl Eng 44:71-5 Ja '40
Development in design of boilers and boiler house auxiliaries. A. Pollitt. Engineer 169: 405-6 Ap 26 '40
Dividends from smoke abatement in furniture factory. J. Donaly. il Power Pl Eng 44:45-6 F '40
Draft for boilers; tests of stoker-fired boiler operation. W. Knox. Dom Eng 156:54+ N '40; Abstract. Heat & Ven 37:37 N '40
Experience with water-cooled stokers at Seward station. V. L. Jones. il diags Power Pl Eng 44:46-8 Ag '40
Flat floor coal bins favored for bin-feed stokers. diag Sheet Metal Worker 31:30 Jl '40
Flexible heat, lowered fuel costs result from stoker installation; Avondale garage and car house of the Cincinnati street railway. T. A. Marsh. il diag Heat & Ven 37:44-5 N '40
Hotel reduces steam costs. H. Devol. il diags Power Pl Eng 44:63-4 F '40
How to build big-unit efficiency into the small boiler plant. J. Breslove, jr. il diags Power 84:715-17+ N '40
Ignition in beds of solid fuel. M. A. Mayers and H. G. Landau. bibliog Ind & Eng Chem 32:563-8 Ap '40
Installing and servicing bituminous coal stokers. W. Knox. Heat & Ven 37:46-7 O '40
Koppers coal company opens stoker research laboratory; will study stoker coals for house heating. il Heat & Ven 37:59 Mr '40
Martin locomotive stoker. il Ry Mech Eng 114:412-13 O '40
Minimum setting heights for stokers. M. G. Huth. Heat & Ven 37:21 O '40
More sensitive control; new automatic combustion control for chain grate, stoker-fired boilers. R. Trautschold. plan Steel 106:74+ My 6 '40
Performance of a stoker-fired warm-air furnace as affected by burning rate and feed rate. A. P. Kratz and S. Konzo. diags Heating-Piping 12:55-60 Ja '40
Recent advances in bituminous domestic stokers. R. A. Sherman. il diags Sheet Metal Worker 30:54, 56+ N '39
Safe operation and installation of automatic stokers. H. B. Evans. Heat & Ven 37:50 My '40
Setting heights for underfeed stokers. Power Pl Eng 44:108+ My '40
Shipbuilding and marine engineering in 1939; stoker fired boilers. il Engineer 169:60 Ja 19 '40
Some contributions of chemistry and chemical engineering to steam generation. G. W. Hewson and R. L. Rees. Inst Chem Eng Trans 17:47-52 '39
Stoker firing of kilns. J. E. Martin. il Am Cer Soc Bul 19:334-5 S '40
Stoker flexibility asset during coal strike. C. W. Baldwin. Power 84:215+ Ap '40
Stoker operation. A. Bement. Power Pl Eng 44:73 My '40
Stokers steam-driven in emergencies. il Elec W 113:1384 My 4 '40
Use of Iowa coals in domestic stokers. M. P. Cleghorn and R. J. Helfinstine. enl ed il map Iowa Eng Exp Sta Bul 144:1-40 '39
Water-cooled stoker for Richmond, Ind. municipal plant. flow diag il diag Power 84: 8-11 Ja '40

Advertising
Code of business practice for stoker industry. Sheet Metal Worker 31:62 S '40

Merchandizing
Looking ahead in the anthracite stoker field. il diag Sheet Metal Worker 31:50, 52, 54+ Ag '40
Stoker promotion program succeeds; Kansas City power & light company. Elec W 114: 112+ Jl 13 '40
Stoker tie-in; cooperative campaign in Utah Power & Light territory. Elec West 83:32 D '39
Successful stoker merchandising. il Sheet Metal Worker 31:54+ O '40
Thorough canvassing the key to successful stoker sales. il Sheet Metal Worker 31:36, 38 F '40
Utah power & light co. in stoker campaign. Elec W 113:1398 My 4 '40
Whiting offers packaged stokers, sells through appliance dealers; concentrated sales effort and concentrated advertising in a limited area, coupled with protected-territory distributors. S. H. Hammond. il Sales Management 45:50, 54-5 D 15 '39

Repair
Reclaiming locomotive-stoker screws. A. Havens. il Am Mach 84:922-3 N 13 '40

Statistics
Growth of small stokers, 1933-1939; chart. Coal Age 45:supp Ap '40
Mechanical stokers, sales, 1936-1939. Survey of Cur Business 1940 Sup p139 [supplemented in monthly numbers]

STOLL, Louis Francis, 1889-1940
Tribute. J. H. McGraw, jr. por Aviation 39:23 F '40; Same. Bus Transportation 19:1 Ja '40; Same. Transit J 84:34 Ja '40

STOMACH
Studies on some possible causative factors of the spontaneous adenomatous lesion of the stomach in mice of strain I. H. B. Andervont. bibliog Pub Health Rep 54: 2085-93. pl 1-4 N 24 '39

STONE, Herbert S., and company, Chicago
History of Stone & Kimball and Herbert S. Stone & co.; with a bibliography of their publications, 1893-1905. S. Kramer. 379p $4 Univ. of Chicago press '40

STONE, Witmer, 1866-1939
Sketch. Science 90:434-5 N 10 '39

STONE
See also
Blasting
Building stone
Granite
Gravel
Limestone
Marble
Quarries and quarrying
Road materials
Rocks

STONE, Artificial
See also
Concrete stone

STONE, Crushed
Business conditions in the crushed stone industry. Rock Prod 43:49-50 F '40
Charts to plot analyses of materials. R. E. Fowle; E. Shaw. Rock Prod 43:45 Je '40
Crusher mounted on rails to salvage boulders. B. Nordberg. il Rock Prod 43:29-30+ Ap '40
Crushing, sizing, testing and specifying of aggregates (cont). E. T. Nettleton. il Rock Prod 43:25-6 Ja; 29-30+ F; 43-4 Mr; 39-40 Ap; 44-5 My; 31-2 Je; 39-40 Jl; 31-2 Ag; 43-4 O; 44+ N '40 (to be cont)
Dry cleaning vs. washing; Granite rock co. R. E. Fowle. flow sheet il plan Rock Prod 43:33-5 Jl; 22-3 Ag '40
Impact crusher on modernized dredge. B. Nordberg. flow sheet il Rock Prod 43:36-8 Ap '40
Pennsylvania Turnpike; fitting plants for increased production. il Rock Prod 43:45-50 S '40
Profit in stone screenings blended with natural sand. il Rock Prod 43:30+ My '40
Push-over for sand and gravel; plant of Graham brothers. B. Nordberg. il Rock Prod 42:32-4 D '39
Reducing segregation in loading trucks and cars. il Rock Prod 43:73 Ja '40
Resize and wash rock; Granite rock co. R. E. Fowle. il diags Rock Prod 43:28-32 N '40
Silica dust control at Hiwassee dam. L. P. Hatch and D. F. Shaw. il diag plan Civil Eng 10:582-5 S '40
Small crushing plant designed for peak demands. B. Nordberg. il Rock Prod 43:34-5 Ap '40
Speed up quarry haulage; improvements of Southwest stone co. R. S. Torgerson. il Rock Prod 43:25-6+ Je '40
Surge storage permits capacity operation. flow diag Rock Prod 43:52 Je '40
See also National crushed stone association

Testing
Plant testing pays dividends; with cost data. E. T. Nettleton. il Rock Prod 43:31-2 Je '40

Washing
Washing crushed stone. E. T. Nettleton. il diags Rock Prod 43:43-4 Mr '40

STONE and Webster, Inc.
Observe 50th anniversary. Comm & Fin Chr 149:3963 D 23 '39

STONE bridges. See Bridges, Stone

STONE cutting
Cutting and polishing stones. M. W. von Bernewitz and F. Hess. bibliog pls U S Bur Mines Information Circ 7107:1-23 '40
Dust control in the granite cutting industry. W. C. L. Hemeon. bibliog il diags Heat & Ven 37:41-5 Je; 54-8 Jl; 41-5 Ag '40

STONE handling
Barnegat Inlet jetties. C. C. Harrington. il map Comp Air M 45:6088-9 F '40
Clean-shipping problems; handling crushed stone. E. T. Nettleton. il Rock Prod 43:31-2 Ag '40
Dry cleaning vs. washing; Granite rock co. R. E. Fowle. flow sheet il plan Rock Prod 43:33-5 Jl; 22-3 Ag '40
Loading stone for shipment by water. plan Rock Prod 43:81 Ag '40
New type of rock spreader puts facing on earth dam. il Eng N 125:239 Ag 15 '40

STONE implements
Was the American mano and metate an invention made during pleistocene time? C. N. Ray. Science 91:190 F 23 '40

STONE sand. See Sand—Stone sand

STONEWARE
Chemical stoneware equipment. P. C. Kingsbury. il Chem Ind 45:564-6 N '39
Chemical stoneware, porcelain, cements; physical properties, makers. Chem & Met Eng 47:605-6 S '40
Development of ceramic ware for the chemical industry. P. C. Kingsbury. bibliog Am Inst Chem Eng Trans 36:433-42 Je '40

Manufacture
Chemical stoneware; flowsheet. il Chem & Met Eng 47:637-40 S '40

STOP-loss orders
Making the most of stop-loss orders; level 16% below highest close held preferable for traders in volatile stocks. J. S. Dunham. Barron's 20:13 Mr 25 '40
Recognizing danger zones created by the concentrated placement of stop-loss orders. F. K. Dodge. Mag of Wall St 66:94-5 My 4 '40

STOP mechanism
Two-way stop for angular movement of shaft. J. L. Helminen. diag Mach 46:104 My '40

STOPING methods. See Mining methods

STOPPERS
Removal of adhered rubber stoppers. diag Ind & Eng Chem Anal ed 12:224 Ap 15 '40
Removal of adhered rubber stoppers. A. J. Bailey. il Ind & Eng Chem Anal ed 12: 52 Ja 15 '40

STORAGE
Conveyors solve the problem; conveyors connected by spiral chutes sort and handle cartons of paint cans; Sherwin-Williams company. E. O. Merkel. il Factory Management 98:64-5+ S '40
Right place for each item cuts costs; warehouse and storage space layout; Acme builders supply & fuel co. il Brick & Clay Rec 95:35 D '39
Warehousing steel. M. E. Neeley. il Steel 107:56, 58+ N 4 '40
See also
Bins
Cold storage
Eggs—Storage
Fruit—Storage
Gasoline storage
Grain elevators
Oil storage
Racks
Stores systems
Tanks
Warehouses
Water storage

Safety devices and measures
Material at rest. H. S. Irwin. il Nat Safety N 42:68-9+ O '40

STORAGE batteries
Batteries; what the maintenance experts recommend. il diags Bus Transportation 18: 582-3, 626-7 N-D '39
Burning old storage battery boxes still a source of lead poisoning in infants and children. Pub Health Rep 55:1278 Jl 12 '40
Cadmium-nickel storage battery. A. P. Hauel. Elec W 112:1476 N 18 '39
Diesel cranking batteries. L. E. Lighton and H. C. Riggs. Power Pl Eng 44:86-8 Je '40
Edison storage cell of greater capacity. il Ry Age 108:1134 Je 22 '40
Electric storage batteries for trucks. il diags Mech Handling 27:7-11 Ja '40
Light batteries that do not deteriorate; Triumph explosives, inc. il Sci Am 162:230 Ap '40
Paste compositions for isolated lighting plant lead storage batteries. E. H. Van Kooten and O. W. Brown. Electrochem Soc Trans 77 (preprint 2):29-37 Ap '40
Porosity of lead storage battery plates. A. P. Hauel. il diags Electrochem Soc Trans 78 (preprint 8):107-25 O '40
Selection and care of storage batteries for mine haulage; abstract. W. H. Burkey. Coal Age 45:110 F '40
Sells batteries by making it easy for dealers to handle them. il Nat Pet N 32:30-1 F 28 '40
Servicing is first step to a battery sale. il Nat Pet N 32:26+ F 14 '40

STORAGE batteries—*Continued*
Storage batteries: a review of their application. E. C. McKinnon. pl diags Inst E E J 87:225-42 S '40; Excerpts. Engineering 149: 129 F 2 '40; Discussion. Inst E E J 87:243-50 S '40
Storage battery explosions. Nat Safety N 42:89 N '40
Thermodynamic properties of sulfuric-acid solutions and their relation to the electromotive force and heat of reaction of the lead storage battery. D. N. Craig and G. W. Vinal. bibliog J Research Nat Bur Stand 24:475-90 Ap '40
Traction batteries; a vehicle maker's views. H. G. Wilson. il Elec R (Lond) 126:183 F 16 '40

Charging

Explosion hazards in storage-battery rooms. G. W. Jones and others. il plan U S Bur Mines Tech Pa 612:1-16 '40

Cleaning

Small steam generator for cleaning batteries. il Transit J 84:170-1 My '40

Manufacture

They get the dust before it gets them; Edison-Emark battery division. B. F. Morris. il Factory Management 98:82-3 Mr '40

STORE blocks
Design decade; store block. diags plans Arch Forum 73:294-5 O '40

STORE buildings
Atlanta, Ga.; three shops in one store for mixed clientele; shoe store. il plans Arch Rec 87:42-5 Ja '40
Auditorium at an angle makes efficient use of rectangular site; Hollywood theater, Sioux Falls, S.D., and four shops. il plans Arch Rec 87:39-41 Ja '40
Background for merchandising; variety of plastics find architectural and decorative applications in W. T. Grant's new Buffalo store. il Mod Plastics 17:28-9, 74 D '39
Porcelain enameled business façades. il Steel 105:58 D 18 '39

See also
Department stores
Shopping centers

Air conditioning

Air conditioning a store all year 'round; gas appliance store. E. F. Roth. il Gas Age 85:14-15 Je 20 '40
Air conditioning equipment upstairs; J. J. Newbury co. store at Texarkana, Tex. il Elec W 114:566+ Ag 24 '40
Chicago furrier finds air conditioning profitable. Refrig Eng 39:198 Mr '40
Drug store installs gas air-conditioning plant. il Gas Age 86:46 S 12 '40
Year 'round conditioning system for a store has three-in-one coil. J. M. Aikman. plans Heating-Piping 12:117-18 F '40

See also
Department stores—
Air conditioning

Designs and plans

Chicago two-department store is built without interior columns; Straus and Schram. il diag plans Arch Rec 88:50-3 O '40
Department store for the May department stores co, Los Angeles; views, plans and construction outline. Arch Forum 72:353-7 My '40
Five retail stores; Sears, Roebuck stores in California, Illinois, Maryland, Michigan and Texas. il plans Arch Rec 88:31-42 S '40
Los Angeles two-unit shop building. il plan Am Bld 62:61 My '40
Making the most of a narrow frontage; Postman's, New York. il diags plan Arch Rec 87:57-9 Mr '40
Shopping center in glass and metal; Ardmore, Pa. il plans Am Bld 62:74-5 Mr '40
Store building for Sears, Roebuck and co. Los Angeles; with construction outline. il diags plans Arch Forum 72:70-6 F '40
Stores. il diags plans Arch Forum 71:427-45 D '39
3-in-1 store plus space for rent; remodeling two old New York City garages into modern retail store; Rabson building. il plans Arch Rec 87:49-52 Ap '40

See also
Women's apparel shops

Electric equipment

Large store installation; problems associated with distribution. il diag Elec R (Lond) 126:149-52 F 9 '40

Heating and ventilation

Modernize department store with zoned heating, air conditioning; James McCreery & co. A. E. Elgar. il Heating-Piping 12:175-6 Mr '40
Unit heaters prevent cold drafts at building and store entrances. D. R. Rippey. il Heating-Piping 12:249-51 Ap '40

Lighting

Daylight impractical for store lighting; Sears, Roebuck & company retail store in Los Angeles. il Elec W 114:270 Jl 27 '40
Fluorescent lighting helps sell rugs; John C. MacInnes company, Worcester. R. G. McPhail. il Elec W 112:1894+ D 30 '39
Fluorescent shop lighting. J. B. Harris. il Elec R (Lond) 125:706 D 1 '39
Illumination designed for buying in self-service food stores. G. Gilleard. bibliog Illum Eng 35:503-13 Je '40
Jaeckel's inc, New York. il Illum Eng Soc Trans 34:990-1 N '39
Large store installation; problems associated with distribution. il diag Elec R (Lond) 126:149-52 F 9 '40
Light sells clothes for Bond. il Elec West 84:51 Mr '40
Luminous store front model. il Illum Eng 35:488-9 Je '40
Ninth I.E.S. prize competition; women's wear shop. il plans Illum Eng 35:311-20 Ap '40
Scores with commercial fixtures; New York power & light corporation. R. P. Wagner. Elec W 114:242-3 Jl 27 '40
Sears, Roebuck light a store; retail store in Los Angeles a windowless structure. il Elec West 83:43 D '39
Store and the package; light and the package. il Mod Packaging 14:38-9 S '40
Two case histories of lighting technique. J. H. Rich. il Elec W 113:432-3 F 10 '40

STORE fixtures
Store interior planning & display. A. E. Hammond. 247p $5 Chemical pub. co. '39

STORE layouts. See Retail trade—Store layouts

STORE lighting. See Store buildings—Lighting

STORE management. See Retail trade—Store management

STORE signs. See Signs

STORE size. See Retail trade—Store size

STORE windows. See Show windows

STOREHOUSES

See also
Railroads—Storehouses

STORER, Norman Wilson, 1868-
Awarded 1939 Lamme medal. Mech Eng 62: 402-3 My '40
Awarded 1939 Lamme medal by A.I.E.E. por Elec W News ed 113:659 Mr 2 '40
1939 Lamme medalist; personal tribute by A. M. Dudley; response by Mr Storer. por Elec Eng 59:322-5 Ag '40

STORES (retail trade)
Design decade. il diags plans Arch Forum 73: 286-95 O '40
Sears, Roebuck light a store; retail store in Los Angeles a windowless structure. il Elec West 83:43 D '39

See also
Candy stores
Chain stores
Department stores
Dress shops

STORES (retail trade)—See also—*Continued*
Drug stores
Electric shops (retail trade)
Florists' shops
Food stores
Fur stores
Grocery stores
Market stores
Men's stores
Paint stores
Plumbing shops
Retail trade
Shoe stores
Show windows
Specialty stores
Store buildings
Women's apparel shops

STORES systems
Albrecht stock control plan for wholesalers. il Am Business 9:28-9 D '39
Control, procurement, storage, and inventory of supplies in the Navy department. A. H. Mayo. Edison Elec Inst Bul 7:520-2+ N '39
Cut accounting expense by grouping requisitions. H. A. Biesen. Factory Management 98:160+ Je '40
In and out of stores with handling equipment. il Factory Management 98:68-71 Jl '40
Inventory control for 45,000 items stocked in 22 branches; United Motors service. R. G. French. il Am Business 10:22-4+ Ap '40
Maintenance forms; requisitioning the material. Factory Management 98:82-3 N '40
Modernized stockroom; Swift mfg. co. F. J. Mills. il Textile World 89:53 D '39
Prices marked on material save accounting time. il Factory Management 98:50 Ap '40
Quick reference file of equipment and supply information. J. R. Humphreys. Bankers Mo 57:307-9 My '40
Storage and issuance of hospital supplies. N. Gorgas. 78p bibliog(p75-8) pa 50c Am. college of hospital administrators, 18 E. Division st, Chicago '40; Same. J Business 13:172-204, 275-315 Ap-Jl '40
Truck-storage units for handling and assembling lathe parts; Monarch machine tool co. il Steel 105:41+ D 25 '39

See also
Electric utilities—Stores systems
Inventories
Motor bus lines—Stores systems
Office supplies
Railroads—Stores systems
Tool rooms
Tools

STOREY, William Benson, 1857-1940
Civil engineer and railroad executive; autobiographical sketch. W Soc E J 45:31-9 F '40
Sketch. por Ry Age 109:634-5 N 2 '40

STORMS
Depth-area relationship for an unusual storm in St Louis. H. Kroeger and H. I. Stewart. maps Civil Eng 10:230-3 Ap '40
Storm causes floods below Boulder dam. L. J. Foster. Eng N 123:753-4 D 7 '39

See also
Hurricanes
Lightning
Rain and rainfall
Tornadoes
Winds

STOVES

See also
Electric stoves
Gas stoves

Manufacture
New porcelain-enameling plant; Tappan stove co. il plan Steel 107:54, 56, 59+ Ag 12 '40

STRADIVARIUS violins. See Violins

STRAIGHTEDGES
Suggested improvement in straight-edges. F. L. Southwick. il Am Mach 84:338 My 15 '40

STRAIGHTENING
Straightening hardened parts. W. P. Boyle. il Steel 107:46+ Jl 22 '40

STRAIGHTENING machines
Kontinuierliches warmrichten von blechen und warmblechrichtmaschinen. P. Peffer. il diags Stahl & Eisen 60:48-52 Ja 18 '40
Mackintosh-Hemphill machines for cold straightening. il Iron Age 144:35 D 28 '39

STRAIN gages
Characteristics of the Huggenberger strain gage. T. R. Cuykendall and G. Winter. il diags Civil Eng 10:448-50 Jl '40
Field tool gauges movement of cables. il diag Elec W 114:562 Ag 24 '40
New strain measurement method offers unusual possibilities. il Steel 107:57+ Jl 1 '40
Strain gage; SR-4 Metalectric gage. il Sci Am 163:265 N '40
Tensor gage. W. B. Klemperer. il J Aeronautical Sci 7:403-4 Jl '40

STRAINERS
Auto-Klean motor-driven strainers. il diags Engineer 169:163 F 16 '40

See also
Air filters
Filters and filtration
Oil filters
Screens

STRAINS and stresses
Analyzing non-homogeneous sections subjected to bending and direct stress. W. G. S. Saville. Civil Eng 10:170-2 Mr '40; Correction. 10:310 My '40
Bemessung von kehlnahtverbindungen bei wechselbiegebeanspruchung. A. Thum and A. Erker. il diags V D I 83:1293-7 D 23 '39
Brittle lacquers as an aid to stress analysis. A. V. de Forest and G. Ellis. il J Aeronautical Sci 7:205-8 Mr '40; Excerpts. Aviation 39:122 Mr '40
Buckling of ships' deck plating. J. L. Taylor. Engineering 148:605-6 D 1 '39
Buckling of spherical shells by external pressure. T. von Kármán and H. Tsien. bibliog J Aeronautical Sci 7:43-50 D '39
Circles of strain. J. A. Wise. bibliog J Aeronautical Sci 7:438-40 Ag '40
Combined stress experiments on a nickel-chrome-molybdenum steel. J. M. Lessells and C. W. MacGregor. bibliog il diags Franklin Inst J 230:163-81 Ag '40
Combining bending and hoop stresses to determine collapsing pressure of oil-country tubular goods. W. C. Main. bibliog Oil & Gas J 38:102-3+ N 17 '39
Corrosion cracking; also data on residual stresses and various types of stress relief; correlated abstract. G. Sachs. il Iron Age 146:21-9 bibliog(p28-9) O 3 '40
Corrugated panels under combined compression and shear load. P. A. Sanderson and J. R. Fischel. bibliog il diag J Aeronautical Sci 7:148-53 F '40
Design of dowels in transverse joints of concrete pavements. B. F. Friberg. diags Am Soc C E Proc 64:1809-28 N '38; Discussion. 65:529-35, 1053-63; 66:945-50 Mr, Je '39, My '40
Determination of cross-sectional areas of structural members. J. A. Miller. pls diags J Research Nat Bur Stand 23:621-36 N '39
Effect of Biot's modulus on transient thermal stresses in concrete cylinders. G. Pickett. Am Soc T M Proc 39:913-18 '39
Effect of service stresses on impact resistance, X-ray diffraction patterns, and microstructure of 25S aluminum alloy. J. A. Kies and G. W. Quick. bibliog il diags U S Nat Advisory Com for Aeronautics 1939:343-64 '40
Effective moment of inertia of a riveted plate girder. S. B. Lilly and S. T. Carpenter. il diags Am Soc C E Proc 65:1407-21 O '39; Discussion. 65:1807-18; 66:167-75, 357-62, 541-5, 984-9, 1089-96 D '39-Mr, My-Je '40
Effective widths in stiffened panels under compression. J. R. Fischel. J Aeronautical Sci 7:213-16 Mr '40
Flow of metals. G. Sachs. diags Iron Age 145: 34-7 F 1 '40
Gelatin models for photoelastic analysis of stress in earth masses. F. B. Farquharson and R. G. Hennes. il Civil Eng 10:211-14 Ap '40
General stress analysis for rings with one axis of symmetry. H. P. Liepmann. bibliog J Aeronautical Sci 7:509-12 O '40
Influence of initial stress on elastic waves. M. A. Biot. bibliog J Ap Phys 11:522-30 Ag '40
Influence of taper on the efficiency of wide flanged box-beams. E. Reissner. J Aeronautical Sci 7:353-7 Je '40
Interrelation between stress and strain in the tensile test. E. J. Janitzky and M. Baeyertz. Am Soc for Metals Trans 28:714-23; Discussion. 723-4 S '40

STRAINS and stresses—*Continued*
Maximum beam stress and deflection from falling bodies. R. Fleming. Can Eng 77:10+ D 19 '39
Nomographic solution of a stress problem; determining stress in surface of metal by means of precision crystal lattice measurements made with X-rays. D. E. Thomas. Engineer 170:120 Ag 23 '40
Nut tightness. H. L. Dawtrey. diag Engineer 169:214-15 Mr 1 '40
Photoelastic analysis of three-dimensional stress systems using scattered light. R. Weller and J. K. Bussey. bibliog il diags Roy Aeronautical Soc J 44:74-88 Ja '40
Photoelastic analysis of two- and three-dimensional stress systems. B. Fried and R. Weller. il diags Ohio State U, Eng Exp Sta Bul 106:1-28 '40 (pa 40c)
Photoelastic study of the stresses in wing ribs. T. J. Dolan and D. G. Richards. bibliog il diags J Aeronautical Sci 7:340-6 Je '40
Plastic state of stress around a deep well. H. M. Westergaard. Boston Soc C E J 27: 1-5 Ja '40
Plastic yielding and fatique of ductile metals; a criterion and its application. R. W. Bailey. bibliog Inst Mech Eng J & Proc 143:Proc 101-7 My '40
Principal stresses from three strains at 45°. H. W. Sibert J Aeronautical Sci 7:26-7 N '39
Rigid frames; detailed procedure for stress calculations. O. F. Kendler. diags Product Eng 11:121-4 Mr '40
Service-temperature flow characteristics of thermoplastics. W. F. Bartoe. il Mech Eng 61:892-4 D '39
Shear center of a leading-edge wing beam. H. W. Sibert. J Aeronautical Sci 7:520-3 O '40
Similarity of the stress distributions in a circular disk and a square plate. H. Okubo. J Ap Phys 11:720-3 N '40
Simplified stress analysis of three-ring brick sewers. G. L. Sawyer diags Civil Eng 10: 720-2 N '40
Simplified wind-stress analysis of tall buildings. O. Gottschalk. diag Am Soc C E Proc 64:2023-32 D '38; Discussion. 65:729-30, 1081-6; 66:651-65 Ap-Je '39, Ap '40
Some stress-strain studies of metals. R. L. Templin and R. G. Sturm. il J Aeronautical Sci 7:189-98 Mr '40
Stress analysis by three-dimensional photoelastic methods. D. C. Drucker and R. D. Mindlin. diags J Ap Phys 11:724-32 N '40
Stress analysis of thin metal construction. H. L. Cox diags Roy Aeronautical Soc J 44:231-72 bibliog(85 titles, p269-72); Discussion. 272-82 Mr '40
Stress corrosion cracking of the austenitic chromium-nickel steels and its industrial implications. J. C. Hodge and J. L. Miller. il diags Am Soc for Metals Trans 28:26-67; Discussion. 67-82 Mr '40
Stress distribution around a tunnel. R. D. Mindlin. diags Am Soc C E Proc 65:619-42 Ap '39; Discussion. 65:1465-8; 66:323-31, 1063-4 O '39, F, Je '40
Stress in pipe lines due to the combined effects of pressure and expansion; abstract. D. B. Rossheim and A. R. C. Markl. il Heating-Piping 12:31-2 Ja '40
Stress increases in compressive steel under constant load caused by shrinkage. G. A. Maney and M. B. Lagaard. diags Am Concrete Inst J 11:541-52 Je '40; Discussion. 12: sup552[1]-552[11] S '40
Stress measurement by magnetostriction. F. D. Smith and C. A. Luxford. diags Inst Mech Eng J & Proc 143:Proc 56-9, pl 6 Ap '40
Stress raisers; their effects on the mechanical properties of metals and alloys. G. Sachs. bibliog diags Iron Age 146:31-4 Ag 1; 34-7 Ag 8 '40
Stress-strain analysis from crack formations in brittle lacquer coatings. il Product Eng 11:266-8 Je '40
Stress, strain, and structural damage. H. F. Moore. il diags Am Soc T M Proc 39:549-70 '39; Same. Ill U Eng Exp Sta Reprint 15:1-24 '39 (pa 15c)
Stress-strain characteristics of the torsion impact test. O. V. Greene and R. D. Stout. bibliog il diag Am Soc for Metals Trans 28:277-98; Discussion. 298-305 Je '40
Stresses in bottles or jars from differences in outside and inside temperatures (static temperature gradient). F. W. Preston. diags Am Cer Soc J 23:119-21 Ap '40
Stresses in freely falling chimneys and columns. F. P. Bundy. il diags J Ap Phys 11:112-23 F '40
Stresses under a loaded circular area. L. A. Palmer. diags Pub Roads 20:231-7 F '40
Stressing of rotating-blade aerofoils. J. B. B. Owen. Engineering 148:511-13 N 3 '39
Suspension of high-temperature piping. J. K. Wood. il diags Power 84:358-61+ Je '40
Symposium on shear testing of soils. il diags Am Soc T M Proc 39:999-1121 '39
Tensile properties of rubber compounds at high rates of stretch. F. L. Roth and W. L. Holt. bibliog diags J Research Nat Bur Stand 23:603-16 N '39
Tension tests of large riveted joints. R. E. Davis, G. B. Woodruff and H. E. Davis. bibliog il diags Am Soc C E Proc 65:805-57 My '39; Discussion. 65:1289-1304, 1449-63; 66: 673-89, 951-5, 1065-9 S-O '39, Ap-Je '40
Tensional effects of torsional overstrain in mild steel. W. H. Swift. diags Iron & Steel Inst J 140:181-211, pl 39-40 no 2 '39; Same cond. Engineering 148:453-6 O 20 '39
Theory of limit design. J. A. Van den Broek. diags W Soc E J 44:215-53 O '39
Theory of plates and shells. S. Timoshenko. 492p $6 McGraw-Hill '40
Visual stress analysis; use of polarized light and celluloid models. E. W. P. Smith. diag Steel 106:60+ Je 24 '40
Wechselbeanspruchung und kristallzustand. H. Möller and M. Hempel. Il V D I 83:1183-4 N 4 '39
Whip stress in a locomotive main rod. M. W. Davidson. Engineering 150:117-20 Ag 9 '40
Yield of mild steel with particular reference to the effect of size of specimen. J. L. M. Morrison. bibliog diags Inst Mech Eng J & Proc 142 Proc 193-223, pl 1-2 Ja '40; Discussion. 144 Proc 33-41 N '40
Yield surface in combined stress. J. J. Guest. bibliog Engineering 150:261-3 O 4 '40

See also
Beams
Bending moment
Bridge design
Bridges—Load
Bridges—Stresses
Building
Columns
Concrete, Reinforced—Testing
Concrete construction—Design
Creep of materials
Creep of metals
Deformations (mechanics)
Earth pressure
Elasticity
Fatigue in metals
Friction, Internal
Girders
Hysteresis (mechanics)
Impact
Load (mechanics)
Photoelasticity
Rails—Stresses
Riveting
Roofs
Soil mechanics
Steel construction—Design
Strength of materials
Torsion
Trusses
Wind pressure

STRATIGRAPHIC geology. See Geology, Stratigraphic

STRATOSPHERE. See Atmosphere, Upper

STRAW
Fodder from straw; abstract. K. D. M. McGowan. Chem Age (Lond) 42:198 Ap 6 '40

Analysis
Determination of cellulose in fibrous agricultural wastes; a rapid method using monoethanolamine. J. D. Reid, G. H. Nelson and S. I. Aronovsky. bibliog diag Ind & Eng Chem Anal ed 12:255-9 My 15 '40

STRAW hats
See also
Panama hats

STRAW votes. See Presidents (United States)—Election

STRAWBERRY pickers
Migratory strawberry pickers of McCracken county, Kentucky, and White county, Arkansas in 1939. R. G. Fuller. Monthly Labor R 50:1416-17 Je '40

STRAWBOARD. See Paper board

STRAY currents
Electrolysis stopped in industrial plant. Elec W 114:418 Ag 10 '40
Electronic circuit spots stray impulses. diag Elec W 113:1918 Je 15 '40
Joint corrosion committee for electrolysis mitigation. M. W. Ghen. diags Edison Elec Inst Bul 8:231-3 My '40
Stray current corrodes underground mains. Nat Safety N 42:91 S '40
Stray electrical currents create serious blasting hazards when grounding of equipment is inadequate. P. C. Ziemke. il Coal Age 45:46-8 N '40

STREAM flow
Model studies of overflow spillway sections. A. S. Offitzeroff. Civil Eng 10:523-6 Ag '40
Theory of meandering. H. Chatley. Engineering 149:628-9 Je 28 '40
See also
Stream measurement
Water flow

STREAM measurement
Computing hydraulic elements of irregular cross-sections. Z. P. Kirpich. Eng N 124: 335 F 29 '40
Transmit river stages with radio gages. A. S. Fry. il Elec W 114:1166-7+ O 19 '40
Water supply on upper Salt river, Arizona. J. Girand. map Am Soc C E Proc 65:1675-86 D '39; Discussion. 66:553-6, 777-8, 1117-18, 1327-8 Mr-Ap, Je, S '40

STREAM piracy
Formation of watergaps by solution and piracy; Smoke Hole in eastern West Virginia. K. Ver Steeg. map Am J Sci 238:32-41, pl 1 Ja '40
Watergaps by solution and piracy; a reply to Ver Steeg. H. M. Fridley. Am J Sci 238:226-33 Mr '40

STREAM pollution. See Water pollution

STREET accidents
What engineers can do for pedestrian protection. diags Pub Works 71:24-6 Ap '40
See also
Automobile accidents
Grade crossing accidents
Street lighting—Safety aspects

STREET cars
Adding one rider per mile; Chicago's 83 P.C.C. cars. il Transit J 84:239 Jl '40
Baltimore's new equipment. il Mass Transportation 35:363 D '39
80,000,000 miles prove their worth; operating figures with P.C.C. cars on nine properties. E. A. Palmer. il Transit J 84: 269-71 Ag '40
Happy birthday; three years of Chicago's P.C.C. cars. il Transit J 83:488 D '39
Modern street cars produce profits. W. J. Clardy. il Mass Transportation 35:353-6 D '39
Modernization of a transit system; factors that determine the choice of vehicle. G. L. Hoard. bibliog Elec Eng 59:Trans 292-303 My '40; Excerpts. Mass Transportation 35: 333-8 N '39; Discussion. Elec Eng 59:Trans 303-5 My '40
More recent cars are worth saving on lines where elimination is not indicated. J. S. McWhirter. Mass Transportation 35:366 D '39
More street cars use more rubber. India Rubber W 102:49 S '40
Now is the time to buy equipment. R. E. Elgen. Transit J 83:442-3 N '39
P.C.C. car operation. W. A. Keller. Mass Transportation 36:129-31 Je '40
P.C.C. cars proven by 75 million car miles. il Mass Transportation 36:33-5 F '40
Progress and trends in 1939 in mass transportation. il Mass Transportation 36:15-16, 25+ Ja '40
64 new cars do work of 68 old ones; P.C.C. cars in Toronto. il Transit J 84:237 Jl '40
Snow and P.C.C. cars mix in Pittsburgh. il Mass Transportation 36:62-3 Mr '40
Super-modern cars for St Louis. il Transit J 84:240-3 Jl '40
Super P.C.C. cars for St Louis. il Mass Transportation 36:146-55 Jl '40
They can take it; performance of P.C.C. cars in the winter's worst storm in Pittsburgh. il Transit J 84:120-1 Ap '40
20% more passengers, 5% less equipment; P.C.C. cars in Philadelphia. il Transit J 84:238 Jl '40
Les véhicules de transports en commun de l'agglomération bruxelloise. il Génie Civil 115:374-5 N 18 '39
See also
Car cleaning
Car lighting
Car painting and finishing
Street railroads
Trolley buses

Curtains
Curtains for protection of bus or car operator against glare; practices of various companies. Transit J 84:137-8 Ap '40

Doors
Information on vehicles equipped with center doors; operating time; tabulation. Transit J 84:252 Jl '40

Electric equipment
Application of traction motors. F. E. Wynne and G. M. Woods. Elec Eng 59:Trans 369-74 Jl '40
Control circuit testing set. E. A. Prather. il Transit J 83:493 D '39
Exhibit of modern equipment; pictorial review. Transit J 84:342 S '40
General Electric solenoid control of spring drum brake for P.C.C. cars. il Transit J 84:288 Ag '40
Modern transportation motors. H. W. Gouldthorpe. il Mass Transportation 36:64-6 Mr '40
New features of the St Louis Streamliner. il Mass Transportation 36:154-5 Jl '40

Equipment
Exhibit of modern equipment; equipment for passenger comfort and aids for operators; pictorial review. Transit J 84:340-1 S '40

Lubrication
Waste made good as new; Chicago surface lines reclaims wool waste and oil for packing motor and journal bearings. il Transit J 84:169 My '40

Reconstruction
Cars remodeled for today's needs; reconditioning of ten units for Birmingham electric company. il Transit J 84:131 Ap '40
Rebuilding for tomorrow; Lehigh Valley transit company's central shop. il plan Transit J 84:54-5 F '40
Washington modernizes cars. il Transit J 84:397 O '40

Repair
See also
Street railroads—Shops

Upholstery
Exhibit of modern equipment; pictorial review. Transit J 84:330-2 S '40

STREET cleaning
Oak Park sewer and street cleaning. Eng N 125:356 S 12 '40
See also
Refuse collection
Snow removal

STREET cleaning apparatus
London street-cleaning carts. il Can Eng R & B 78:51 My '40

STREET lighting
A.R.P. street lighting. il Electrician 123:564; 124:10 D 29 '39-Ja 5 '40
Casual impressions of lighting abroad. W. C. Brown. il Illum Eng 35:153-5 F '40

STREET lighting—*Continued*

Development of multiple street lighting system in Minneapolis, Minnesota. D. M. Bunn and H. G. Conant. il diags map Edison Elec Inst Bul 8:61-8 F '40

Economical wiring for street lighting. il Elec W 112:1760-1 D 16 '39

Effective street lighting must be planned. S. R. Williams. bibliog diags plan Illum Eng 35:82-97 Ja '40

Forgotten load; street and highway lighting. il Elec W 114:207-9 Jl 27 '40

Grounded cutouts improve street-lighting service. W. H. McKinley. il diags Elec W 114:534 Ag 24 '40

New street lighting. Electrician 123:555 D 29 '39

Outdoor lighting by permission only! Light & Lighting 32:255 D '39

Planning of street lighting. J. Bertram. diag Inst E E J 85:649-50 N '39; Discussion. 87:107 Jl '40

Public lighting in war-time; abstract and discussion. C. W. Johnson. Light & Lighting 32:252 D '39

Sodium lighting goes to town. F. D. Crowther. il Roads & Sts 83:50-1 F '40

Starlight; a convincing demonstration of wartime street lighting. Gas J (Lond) 229:349-50 F 14 '40

Street lighting in wartime; case for modified system. E. E. Hoadley. Elec R (Lond) 127: 200-1 S 6 '40

Street lighting much increased; negligible increase in bill; Niagara Falls replaces magnetite arcs with incandescents; photoelectric control. C. H. Anderson. il diags Elec W 113:1363-5 My 4 '40

Street lighting restrictions modified. Elec R (Lond) 125:793 D 22 '39

Tailor-made plans sell municipal lighting; Idaho power company. J. D. Orr. il Elec W 113:1210-11+ Ap 20 '40

Wartime street lighting. D. G. Sandeman. il diags Elec R (Lond) 125:674 N 24 '39

We believed it then, we know it now; development of the street lighting load. L. A. S. Wood. il Edison Elec Inst Bul 8:399-401 Ag '40

See also

Roads—Lighting

Control

Centralised control system for special signals for A.R.P. and other purposes; Ripplay system. il Engineer 168:598 D 15 '39

Development of multiple street lighting system in Minneapolis, Minnesota. D. M. Bunn and H. G. Conant. il diags map Edison Elec Inst Bul 8:62-5 F '40

Gas street lighting control. diags Gas J (Lond) 228:296-7+ N 8 '39

Outside lighting in Paris. diags Elec R (Lond) 126:338 Mr 22 '40

Street lighting in France; control of the Paris system. diags Electrician 124:19 Ja 12 '40

Street lighting in war time; is central control the solution? E. E. Hoadley. Electrician 123: 403 N 3 '39

Safety aspects

Base safety lighting on accurate accident data; Southern California Edison procedure A. L. Pryor. il Elec W 114:999+ O 5 '40

Blackouts on highways. C. E. Mealey. il Safety Eng 78:27-8 D '39

Lifesaving with light in Los Angeles. R. T. Dorsey. il Elec West 85:34-5 S '40

Light for accident reduction. M. J. Bankhead. diags Illum Eng 35:514-22 Je '40

Los Angeles streets made safer by sodium vapor lighting. il Eng N 125:426 S 26 '40

Press lauded for fatality survey; Washington Star. J. H. White. Safety Eng 79:32 My '40

Saving lives with light. R. T. Dorsey. Illum Eng 35:218-22 Mr '40

Traffic safety lighting; report of the subcommittee, Illuminating engineering society. il diags Illum Eng Soc Trans 34:1025-70; Discussion. 1071-2 N '39

Standards

Draft British standard specification (A.R.P. series) for street lighting under wartime conditions. Gas J (Lond) 228:625-6 D 20 '39

Street lighting standardization plan. F. W. Nimmer. Edison Elec Inst Bul 7:577-80 D '39

Street lighting under war conditions (BS/ARP 37). Light & Lighting 33:4-5 Ja '40; Excerpts. Electrician 123:537 D 22 '39

Wartime street lighting by gas. il diag Gas J (Lond) 229:354, 359-61 F 14 '40

Testing

Evaluation of street lighting. K. M. Reid and H. J. Chanon. fold chart il Illum Eng Soc Trans 34:1209-31 bibliog(p1230-1); Discussion. 1231-2 D '39

Street lighting evaluator. K. M. Reid and H. J. Chanon. bibliog il Illum Eng 35:72-81 Ja '40; Excerpts. Elec W 114:278+, 422 Jl 27-Ag 10 '40

Street lighting rated; evaluator, device for measuring effectiveness. il Safety Eng 79: 17 F '40; Same. Sci Am 162:100 F '40

Test identifies arc circuit faults. diags Elec W 113:304-5 Ja 27 '40

STREET lighting fixtures

Boiler tubes become parkway fixture. diags Elec W 113:452 F 10 '40

Design metal head for street lights. O. K. Cornell. il diag Elec W 114:1340+ N 2 '40

Lower globe costs revealed by survey. S. B. Gaylord. Elec W 113:2067 Je 29 '40

Reflector steps reduce lamp-stem temperature. S. B. Gaylord. il Gen Elec R 42:473 N '39

Street lighting; low intensity fittings now available. il Elec R (Lond) 125:819 D 29 '39

War time street lighting; new lamps now available. il Light & Lighting 33:14-15 Ja '40

STREET marking. See Street signs

STREET openings

Pavement cuts; methods and costs of making and repairing. Roads & Sts 83:76 Mr '40

STREET railroads

Baltimore transit still banks on the trolley. E. G. Maxwell. Pub Util 26:425-8 S 26 '40

Electric transportation. F. R. Thompson. 427p $4 International textbook co, Scranton, Pa. '40

How mass transportation is conducted in Buffalo. il Mass Transportation 36:100-5 My '40

How mass transportation is conducted in the city by the Golden Gate. il Mass Transportation 36:79-83 Ap '40

Local transit lines (including bus operations), 1936-1939. Survey of Cur Business 1940 Sup p82 [supplemented in monthly numbers]

Mass transportation in Pittsburgh. il Mass Transportation 35:327-32 N '39

Modern street cars produce profits. W. J. Clardy. il Mass Transportation 35:353-6 D '39

P.C.C. cars proven by 75 million car miles. il Mass Transportation 36:33-5 F '40

Transport in Milwaukee coordinated. il Mass Transportation 36:3-8 Ja '40

See also

Electric railroads
Rapid transit
Street cars
Subways
also subdivision Rapid transit under names of cities, e.g. Philadelphia—Rapid transit
also Boston elevated railway

Accidents

Chicago surface lines cuts accidents. Transit J 84:201 Je '40

Down with accidents, up with safety; four years of intensive safety work by Capital transit company. il Transit J 84:272-3 Ag '40

Accounting

Allocation of revenues and cost; practices of various companies. Transit J 84:397-9 O '40

STREET railroads—*Continued*

Advertising

Ads to sell transit anywhere. il Transit J 84:188-91 Je '40

Cooperative activity to sell transit. F. Barnes. Transit J 84:386-7 O '40; Abstract. Mass Transportation 36:248-9 O '40

I saw your picture in the paper; Twin City rapid transit company's testimonial advertising campaign. il Transit J 84:264-5 Ag '40

Making people transit conscious; merchandising activities of the Reading street railway. il Transit J 84:84-5 Mr '40

Philadelphia says it with posters; Philadelphia rapid transit company. il Transit J 84:50-1 F '40

Toronto transportation advertises its information service. H. S. Cameron. il Transit J 84:276 Ag '40

Announcements

Loud speakers on vehicles; experiences of various transit companies. Transit J 83: 489 D '39

Automobile competition

Moving more people by improving transit facilities; automobile competition; Chicago transit. P. Harrington. il Transit J 84:300-2 S '40

Transit vs. the automobile. il Transit J 84: 4-5 Ja '40

Costs

Modernization of a transit system; factors that determine the choice of vehicle. G. L. Hoard. bibliog Elec Eng 59:Trans 292-303; Discussion. Trans 303-5 My '40

Where the transit dollar goes. Transit J 84: 6-7 Ja '40

Curves and turnouts

Clearance indications for car overhang; practices of various companies. Transit J 84: 136-7 Ap '40

Development work

Haul no empties; fill more seats by inducing manufacturers to locate in empty buildings along your lines. T. Aubuchon. il Transit J 83:448-9 N '39

Employees

Another credit union success; Youngstown municipal railway. Mass Transportation 35: 365 D '39

Employment on electric street railways and busses, monthly, Jan. 1932-March 1940; revision. Survey of Cur Business 20:17 My '40

Wages, hours, and working conditions of union street-railway employees, June 1, 1939. F. S. McElroy. Monthly Labor R 50: 432-52 F '40

Training

Instructing operators on mechanical equipment of vehicles; tabulated data. Transit J 83: 459-60 N '39

Equipment and supplies

Emergency truck bodies; companies' experiences with open and closed types; with tabulated data. Transit J 83:459-61 N '39

Exhibit of modern equipment; track, signal and overhead devices, shop equipment, etc; pictorial review. Transit J 84:345-56 S '40

Hesperus II; wrecker-snow-plow-tow-car built by United electric railways, Providence. il Bus Transportation 19:380-1 Ag '40

New equipment, accessories and shop devices. Published in monthly numbers of Mass transportation

New equipment parade. Published in monthly numbers of Transit journal

See also Central transit equipment association

Fare collection

Exhibit of modern equipment; pictorial review. Transit J 84:335 S '40

Fares

Building back prosperity; Eastern Massachusetts street railway's 1939 revenues almost as high as in 1929. W. Jackson. Transit J 84:126-8 Ap '40

Finance

Building back prosperity; Eastern Massachusetts street railway's 1939 revenues almost as high as in 1929. W. Jackson. Transit J 84:126-8 Ap '40

Five out of six showed gains; reports of 115 transit companies for 1939. M. Buck. Transit J 84:163-5 My '40

More 1939 reports show gains. Transit J 84: 274-5 Ag '40

Old city, new tempo; Baltimore transit company. il Transit J 84:194-7 Je '40

Operating results, small buses vs. cars and trolley coaches; comparison of four years operation in Buffalo and Indianapolis. il Mass Transportation 36:168-70 Ag '40

Traction industry; current position and immediate outlook. Pub Util 26:418-20 S 26 '40

See also Boston elevated railway; Pittsburgh railways company

History

Spectacular rise and decline of the trolley car. J. B. Walker. Pub Util 26:406-13 S 26 '40

Maintenance and repair

Maintenance notebook. Published in monthly numbers of Transit journal

Winners in 1939 Transit Journal maintenance contest; Portland traction company, Montreal tramways, and Baltimore transit company. il Transit J 83:472-83, 504 D '39

See also

Street railroads—
Shops

Management

How mass transportation is handled in Washington, D.C. il Mass Transportation 36:55-60 Mr '40

Modern equipment helps meet emergency conditions; Indianapolis railways. C. W. Chase. il Transit J 84:314-16 S '40

Reduction of waste; practices of various transit companies. Transit J 84:57, 59 F '40

Street supervision; Cincinnati street railway. H. L. Swift. il Bus Transportation 19:430-3 S '40

Mileage

Track changes in 1939; tabulation. Transit J 84:18 Ja '40

Motor bus substitution

40 year public prayer granted; Seattle to get revision of transit service. J. W. Abbott. il Bus Transportation 18:599-600 D '39

How Harrisburg did it; result of a seven-year modernization program. il Transit J 84:116-19 Ap '40

Manchester, N.H. goes all-bus. il Bus Transportation 19:304 Je '40

More riders at less cost through modernization. il Transit J 84:221-6, 228-9 Jl '40

Spectacular rise and decline of the trolley car. J. B. Walker. Pub Util 26:409-13 S 26 '40

Third Avenue system, New York, to go all-bus. il Transit J 84:266-8 Ag '40

Training street car operators to be safe bus drivers; York bus company. S. P. Andrews. il Mass Transportation 36:170-1 Ag '40

What Harrisburg railways co. is doing for those unable to qualify for employment under the new all-bus system. Bus Transportation 18:557 N '39

Windsor, Canada's biggest all-bus city. il Bus Transportation 19:74 F '40

Officials

Portrait and biography section of men who operate streamliners. Mass Transportation 36:226-39 S '40

STREET railroads—*Continued*

Public relations

Can transit rides be merchandised? G. Gifford. il Transit J 84:158-9 My '40

Purchasing

Transit supplies may require definite planning. R. S. McBride. il Transit J 84:312-13 S '40

Radio telephone

Station WALJ calling car 5921; radio station of Detroit's department of street railways. il Transit J 84:122-3 Ap '40

Street supervision; Cincinnati street railway. H. L. Swift. il(p431) Bus Transportation 19:433 S '40

Records

Daily delay reports; methods of various companies. Transit J 84:210-12, 278-9 Je, Ag '40

Record assures clean cars. Transit J 83: 451-2 N '39

Safety devices and measures

Brady medals awarded for transit safety. il Nat Safety N 40:51 D '39

Indianapolis, Dubuque win Brady safety medals. il Transit J 83:439-41 N '39

Shops

Flexible heat, lowered fuel costs result from stoker installation; Avondale garage and car house of the Cincinnati street railway. T. A. Marsh. il diag Heat & Ven 37.44-5 N '40

Rebuilding for tomorrow; Lehigh Valley transit company's central shop. il plan Transit J 84:54-5 F '40

Systematizing degreasing at Toronto repair shop. il Mass Transportation 36:109-10 My '40

Snow protection and removal

Snow and P.C.C. cars mix in Pittsburgh. il Mass Transportation 36:62-3 Mr '40

They can take it; performance of P.C.C cars in the winter's worst storm in Pittsburgh. il Transit J 84:120-1 Ap '40

Statistics

Transit industry statistics; revenues, expenditures, rolling stock, traffic, mileage, etc. il map Transit J 84:1-21 Ja '40

Switches, frogs, etc.

Saving switch tongues by welding. H. H. Griffin. il Transit J 83:450-1 N '39

Tickets

Settlement for tickets and passes issued operators for sale on the vehicles; methods of various companies. Transit J 84:210-12, 279 Je, Ag '40

Track

Three out of four; short ties in a new type of track adopted by Philadelphia transportation company for use in concrete paving. J. L. Martin. il diags Transit J 84:200 Je '40

Track pavement

Street railway track advances; abstract. Eng N 124:317 F 29 '40

Three out of four; short ties in a new type of track adopted by Philadelphia transportation company for use in concrete paving. J. L. Martin. il diags Transit J 84:200 Je '40

Traffic

Reducing peaks through staggered hours of business and industry. J. A. Beeler. il Transit J 84:309-11 S '40

Winter operation

Philadelphia's valentine; handling transit after blizzard. il Transit J 84:92-3 Mr '40

Great Britain

British transit carries on. il Transit J 83: 436-8 N '39

For the duration; transit in Great Britain. W. V. Moreland. il Transit J 84:155-7 My '40

Massachusetts

See also Boston elevated railway

San Francisco

Cable car days in San Francisco. E. M. Kahn. 124p bibliog(p123-4) $3 Stanford univ. press '40

STREET railway accountants' association

Work of the accountants association is of increasing importance. A. A. MacDonald. Mass Transportation 36:201-2 S '40

STREET signs

Precast concrete units serve many uses; Dallas, Texas, makes concrete posts for street signs. il Pub Works 70:25 D '39

STREET traffic

Capacity-providing divisional fins; Lincoln park, Chicago, traffic. O. K. Jelinek. il diags Can Eng R & B 78:57-8+ Ap '40

Estimating street traffic by extremely short counts. Vickery. Can Eng 77:12 N 21 '39

Getting around in the city of the future. C. Gordon. Elec Eng 59:149-51 Ap '40

Highway economics and design principles; with cost data. M. Halsey. Can Eng R & B 78:24, 64+ My '40

Metropolitan highway problems. L. I. Hewes. il Civil Eng 9:715-18 D '39

Problem of traffic control. R. E. Daggett. In Ill U Eng Exp Sta Circ 41:24-32 '40

Remodeled street triples traffic room; Pittsburgh's Water street. il diags plan map Eng N 121:434-8 Mr 28 '40

Traffic jams business out; J. B. Steep charts decentralization in Detroit, prescribes elevated highways il maps Arch Forum 72: 64-5 Ja '40

Urban transportation; abstract. C. Gordon. il Mech Eng 62:552-3 Jl '40

See also

Automobile laws and regulations
Automobile parking
Road traffic
Traffic regulations

STREETS

Black base construction in Topeka, Kan. W. A. Lawson. il diags Roads & Sts 83:64-5 Mr '40

Getting around in the city of the future. C. Gordon. Elec Eng 59:149-51 Ap '40

Highway economics and design principles; with cost data M. Halsey. Can Eng R & B 78:24, 64+ My '40

Interregional highways from municipal viewpoint; metropolitan Chicago. R. Kingery. il map Roads & Sts 83:45-8 Ja '40

Leistungsfahigkeit von strassen. B. Wehner. V D I 83:1322-3 D 30 '39

Marginal land acquisition for highways. H. R. Briggs. plans Pub Roads 21:105-18 (bibliog p118) Ag '40

Railroad right-of-way transformed into concrete street. M. H. Kinch. il Pub Works 71:38 Je '40

Remodeled street triples traffic room; Pittsburgh's Water street. il diags plan map Eng N 124:434-8 Mr 28 '40

Solving difficult location problems in New York city's East River drive; in succession a surface road, an elevated structure, a tunnel and divided into two decks. L. C. Hammond. il diags Pub Works 71:10-11 Jl '40

Solving some street problems in the city of Peoria. T. E. Wetzler. il In Ill U Eng Exp Sta Circ 41:88-96 '40

See also

Bridge approaches
Business streets
City planning
Parkways
Pavements
Pipe lines
Roads
Snow removal
Street lighting
Street traffic
Subways (streets)
Traffic regulations

Cost

East River drive, New York; unit prices. Eng N 123:852 D 21 '39

Paving street, Chattanooga, Tennessee; unit prices. Eng N 124:559 Ap 18 '40

STREETS—*Continued*

Double decking

Trafficway reclaims a waterfront; East River drive, New York. il diags plan Eng N 124: 640-4 My 9 '40

See also Trolley buses—Elevated roadways

Drainage

Designing flood-proof streets to carry storm water flows. H. H. Edwards. il Pub Works 71:16-18 Ap '40

Finance

How an Illinois city (Pittsfield) finances a complete concrete paving program. H. L. Caldwell. il Concrete 48:5 F '40

Local imposts on motor vehicles in Missouri. J. H. Long and B. H. Mayes. il Pub Roads 21:49-56+ My '40

Ice control

Snow and ice removal with rock salt in Newark, N.J. J. S. Flockhart. il Pub Works 71:11-12 S '40

Maintenance and repair

Blacktopping streets at 8 cents a yard solves maintenance. E. Straatsma. Pub Works 71: 14 Ag '40

Cement bound macadam and pavement resurfacing. D. H. Murphy. In Ill U Eng Exp Sta Circ 41:113-15 '40

Round-table conference; should municipalities own or rent snow-removal equipment? Can Eng R & B 78:27-8+ F '40

Vancouver, Washington, provides improved streets; methods of calculating assessments. V. J. Brown. il diag Roads & Sts 83:62, 64-5 S '40

Protection

Crib-type retaining wall protects street from flood damage; San Anselmo, Calif. A. H. Siemer. il Pub Works 71:24+ Jl '40

River covering

See Rivers—Covering

STRENGTH of materials

Atmospheric corrosion of non-ferrous metals and alloys. C. W. Borgmann. bibliog Am Soc T M Proc 39:674-84; Discussion. diag 685-90 '39

Bond strength of rusted deformed bars. B. Johnston and K. C. Cox. il Am Concrete Inst J 12:57-72 S '40

Column strength of two extruded aluminum-alloy H-sections. W. R. Osgood and M. Holt. bibliog il diags U S Nat Advisory Com for Aeronautics 1939:289-312 '40

Combining bending and hoop stresses to determine collapsing pressure of oil-country tubular goods. W. C. Main. bibliog Oil & Gas J 38:102-3+ N 17 '39

Controlled-stress test of plank. W. E. Rossnagel. diags Eng N 124:647 My 9 '40

Design of large high-pressure steel valves. F. D. Cotterman and R. E. Falls. il Engineer 170:229-30 O 11 '40

Developing maximum physicals in aircraft parts. A. G. Cordy. il plan Steel 106:44-6, 72-3 Je 24 '40

Direct method of designing gears for strength; spur, helical, bevel, spiral bevel, and worm gears. A. J. Nault. Mach 47:135-41 S '40

Effect of connections and rivet holes on ductility and strength of steel angles. J. A. Van den Broek. Civil Eng 10:83-6 F '40

Effect of hardness and of temperature on the strength, ductility, and toughness of a heat treated carbon steel. S. W. Lyon. il diags Am Soc for Metals Trans 28:128-40; Discussion. 141-2 Mr '40

Effect of phosphorus in 5 per cent Cr, 0.50 Mo steel. H. D. Newell and Z. E. Olzak. il Metals & Alloys 11:106-11 Ap '40

Effects of internal hydrostatic pressure on the shearing strength of soils. L. W. Hamilton. diags Am Soc T M Proc 39:1100-21 '39

Elements of strength of materials. S. Timoshenko and G. H. MacCullough. 2d ed 365p $3.25 Van Nostrand '40

Endurance of valve springs. A. Oreffice. Metal Prog 36:759 D '39

Factor of safety; its significance, purpose, and shortcomings. C. O. von Dannenberg. Power Pl Eng 44:65-6 Jl '40

Fatigue strength of castings improved by new screw thread system. H. Caminez. diags Aero Digest 37:102, 105-6, 109 O '40

Fatigue strength of machined forgings 6 to 7 in. in diameter. O. J. Horger and H. R. Neifert. bibliog il diag Am Soc T M Proc 39:723-37; Discussion. 738-40 '39

Fatigue strength, of members as influenced by surface conditions. O. J. Horger. il Product Eng 11:490-3 N '40 (to be cont)

Festigkeitseigenschaften von leichtmetallschrauben. F. Bollenrath, H. Cornelius and W. Siedenburg. il diags V D I 83:1169-73 N 4 '39

Flame strengthening. J. H. Zimmerman. il Iron Age 145:38-9 F 1 '40; Same. Steel 106:60, 62 F 19 '40

High yield-point steel as tension reinforcement in beams. B. Johnston and K. C. Cox. il diags Am Concrete Inst J 11:65-80 S '39; Discussion. 11:sup80[1]-80[12] Ap '40

How much will any I-beam hold? W. F. Schaphorst. diag Am Gas J 151:35 D '39

How to determine the strength of taps. H. M. Darling. diags Am Mach 83:1005-6 N 29 '39

Impact properties of some low alloy nickel steels at temperatures down to -200 degrees Fahr. T. N. Armstrong and A. P. Gagnebin. bibliog diag Am Soc for Metals Trans 28:1-19; Discussion. 19-24 Mr '40

Maximum allowable working stresses for ferrous materials in lb. per sq. in.; boiler construction code; tabulation. Mech Eng 62:486-7 Je '40

Mechanical properties of a high-strength cast iron. J. O. Draffin and W. L. Collins. il diags Am Soc T M Proc 39:589-602; Discussion. 603 '39

Modern physics may be key to baffling metallurgical problems; abstract. S. Dushman. Steel 106:58 Mr 4 '40

New research on the use of hardening plastics for aircraft construction. W. Kuech. il diags Roy Aeronautical Soc J 44:44-73 bibliog(46 titles, p72-3) Ja '40

Pack method for compressive tests of thin specimens of materials used in thin-wall structures. C. S. Aitchison and L. B. Tuckerman. bibliog il U S Nat Advisory Com for Aeronautics 1939:133-43 '40

Practical mechanics and strength of materials. C. W. Leigh and J. F. Mangold. 3d ed 498p $3 McGraw-Hill '40

Principal physical tests for fireclay refractories; cold crushing strength and modulus of rupture. R. S. Bradley. il Brick & Clay Rec 97:55-6 S '40

Properties and strength of materials. J. A. Cormack and E. R. Andrew. 383p 8s 6d Macmillan '39

Properties of engineering materials. G. Murphy. 387p $3.50 International textbook co, Scranton, Pa. '39

Rational definition of yield strength. W. R. Osgood. Roy Aeronautical Soc J 44:653-6 Ag '40

Screw threads; the effect of method of manufacture on the fatigue strength. A. M. Smith. il Iron Age 146:23-8 Ag 22 '40

Service-temperature flow characteristics of thermoplastics. W. F. Bartoe. il Mech Eng 61:892-4 D '39; Same. Mod Plastics 17:47-9+ Mr '40; Discussion. Mech Eng 62:410-11 My '40

Shearing resistance of soil; its measurement and practical significance. W. S. Housel. il diags Am Soc T M Proc 39:1084-99 '39

Significance of tension test; background of proposed symposium to discuss relation to design. J. M. Lessells. bibliog Mech Eng 62:311-14 Ap '40

Spotwelding machine settings and their effect on weld strength. A. M. Unger. il Iron Age 145:27-31 Je 20 '40

Stabilisation of a thin sheet by a continuous supporting medium. G. S. Gough, C. F. Elam and N. A. de Bruyne. il diags Roy Aeronautical Soc J 44:12-43 Ja '40

STRENGTH of materials—*Continued*
Stahlleichtbau bei werkzeugmaschinen; grundlagen und ausführungsbeispiel. C. Krug. il diags V D I 84:11-16 Ja 6 '40
Stainless steel and aircraft trends. M. Watter. il Aero Digest 36:67-8, 71-2, 75+ My '40
Static crack strength of metals; its determination and significance. M. Gensamer. il diag Metal Prog 38:59-64 Jl '40; Correction. 38:181 Ag '40; Discussion. D. J. McAdam, jr. 180-1 Ag '40
Static tests of riveted joints. J. Jones. il Civil Eng 10:285-7 My '40
Steel aircraft; use of stainless steel. E. J. W. Ragsdale. il Steel 106:70+ My 6 '40
Strength of materials. A. Morley. 9th ed 571p $4.20 Longmans '40
Strength of materials. 2d ed 2pts pt 1, Elementary theory and problems. S. Timoshenko. 359p $3.50 Van Nostrand '40
Strength of steel and cast iron; filament theory. M. G. Corson. Iron Age 145:32-5 Je 20 '40
Strengthening anneal developed for nickel-chromium irons. Steel 107:52 N 11 '40; Engineer 170:273 O 25 '40
Surface decarburization; cause of discrepancies between apparent strength and effective strength of steel automotive parts. L. A. Danse. il Steel 106:60-1 F 5 '40
Tension specimen shape and apparent strength. F. O. Anderegg, R. Weller and B. Fried. il Am Soc T M Proc 39:1261-6; Discussion. 1267-9 '39
Toughness (impact strength) unaffected by alternating stresses (fatigue). A. M. Portevin. diag Metal Prog 37:563-4 My '40
Toughness, particularly of toolsteel. R. S. Rose. Metal Prog 37:407-11 Ap '40; Discussion. N. L. Levinsohn. 38:66-7; Reply. 67 Jl '40
What do we know about concrete slabs? N. M. Newmark. bibliog diags Civil Eng 10: 559-62 S '40
Will plastics displace metals? H. Chase. il Metals & Alloys 11:157-62 Je '40; Excerpts. Mech Eng 62:617 Ag '40

See also
Building materials
Concrete—Strength
Deformations (mechanics)
Elasticity
Fatigue in metals
Glass—Strength
Hardness
Metals—Testing
Steel—Testing
Strains and stresses
Structures, Theory of
Testing
Trusses
Wood—Testing

Study and teaching

Correlation of laboratory work in strength of materials with the class room course G. P. Boomsliter. bibliog J Eng Educ 30:583-8 Mr '40

Experiment in teaching methods for the course in materials laboratory. C. J. Posey. J Eng Educ 30:686-9 Ap '40

Imparting knowledge vs. developing skills in teaching mechanics of materials. W. L. DeBaufre. il J Eng Educ 30:589-94 Mr '40

Photoelastic demonstrations as teaching aids in streng'h of materials. M. M. Frocht. bibliog il diags J Eng Educ 30:567-82 Mr '40

STREPTOBACILLUS moniliformis
Chemotherapy in experimental infections caused by streptobacillus moniliformis. F. R. Heilman. Science 91:366-7 Ap 12 '40

STREPTOCARPUS dunnii Mast.
Dunnione. J. R. Price and R. Robinson. Chem Soc J p1522-9 O '39

STREPTOCOCCI
Mastoiditis increased by cold climate; abstract. M. G. Lynch. Science 92:sup12+ S 27 '40

N^1,N^4-nicotinyl derivatives of sulfanilamide. T. C. Daniels and H. Iwamoto. bibliog Am Chem Soc J 62:741-2 Ap '40

Preparation of some amino sulfonamides. E. Miller and others. bibliog Am Chem Soc J 62:2099-103 Ag '40

Present status and problems of bacterial chemotherapy. E. K. Marshall, jr. Science 91:345-50 Ap 12 '40

Some fluorine and chlorine derivatives of sulfanilamidobenzenesulfonic acids. C. M. Suter and A. W. Weston. bibliog Am Chem Soc J 62:604-6 Mr '40

Streptococci; their descriptions, classification, and distribution, with special reference to those in milk. W. D. Frost and M. A. Engelbrecht. 172p bibliog(p151-66) $4.25 Willdof book co, box 2049, Madison, Wis. '40

Studies in chemotherapy; antibacterial action of phosphorus compounds. H. Bauer and S. M. Rosenthal. bibliog Pub Health Rep 54:2093-5 N 24 '39

Substituted sulfanilamides: N^4-acyl-N^1-hydroxy derivatives. M. L. Moore, C. S. Miller and E. Miller. Am Chem Soc J 62:2097-9 Ag '40

Sulfanilamide derivatives; N^1-alkanesulfonylsulfanilamides and related compounds. M. L. Crossley, E. H. Northey and M. E. Hultquist. Am Chem Soc J 62:1415-16 Je '40

STRESS-strain curves for rubber. See Rubber—Testing

STRESSES. See Strains and stresses

STRIKES
Busch jewelry stores labor injunction. J. H. Mariano. 238p $2.50 Christopher pub. house, Boston '40
Chain store strike; butchers walkout closing 1,500 food shops in three states. il Business Week p53 O 26 '40
Foremen and strikes. A. H. Unsworth. Manuf Rec 108:18 D '39
My experience with men who wanted to strike. I. Stalmaster. Am Business 10:18-19+ O '40
New York trucking strike ended by two-year pact. Comm & Fin Chr 151:2128-9 O 12 '40
One thousand strikes of government employees. D. Ziskind. 279p bibliog(p261-8) $3 Columbia univ. press '40
Running a strike on a business basis; Hearst strike committee of the Chicago newspaper guild. il Business Week p32 Mr 23 '40
Stores reopened; chain employees go back to work after tieup. Business Week p41 N 16 '40
Stores still shut; butchers agree to terms; balked by demands of clerks. Business Week p40+ N 2 '40
Strike at Fort Dix, New Jersey. Comm & Fin Chr 151:2743 N 9 '40
Walkout of New York painters ends, as Mayor arbitrates. Comm & Fin Chr 151: 1826-7 S 28 '40

See also
Arbitration, Industrial
Automobile strikes
Coal strikes
Labor disputes
Picketing
Trade unions

Sit-down strikes

Arnold the winner; Apex loses, but Supreme court makes clear that unions do come under antitrust laws. Business Week p16 Je 1 '40
NLRB upholds discharge of Bethlehem company seamen. Iron Age 144:66 D 7 '39
United States Circuit court of appeals at Philadelphia voids verdict of $711,932.55 in damages against A. F. of L. union in sit-down strike. Comm & Fin Chr 149: 3482 D 2 '39
United States Supreme court holds anti-trust laws cover unions, but says C.I.O. strike at Apex hosiery co. was not in restraint of trade. Comm & Fin Chr 150:3443 Je 1 '40

Statistics

Labor conditions, 1936-1939. Survey of Cur Business 1940 Sup p39 [supplemented in monthly numbers]
More strikes, but shorter ones under Wagner act; with chart, 1930-39. Business Week p40 N 18 '39
Strike record of 1939. Management R 29:177-8 My '40
Strikes in 1939. D. Q. Crowther. Monthly Labor R 50:1080-1106 My '40
Strikes in November 1939; statistics by industries and states; issues, duration, results, etc. Monthly Labor R 50:685-92 Mr '40 [cont monthly]

STRIKES—Statistics—*Continued*
Trend of strikes, 1933 to January 1940. Monthly Labor R 50:684-5 Mr '40 [cont monthly]

Australia

Australian coal-mine strike settlement. E. G. Mathews. Monthly Labor R 51:320-1 Ag '40

Belgium

Strikes in Belgium during 1939. W. H. Beach. Monthly Labor R 50:1453-4 Je '40

Canada

Strikes and lock-outs in Canada, 1939. Monthly Labor R 50:1192-3 My '40

Ireland

Industrial disputes in Ireland, 1939. Monthly Labor R 50:1454-5 Je '40

Netherlands

Industrial disputes in the Netherlands, 1926-39. Monthly Labor R 50:1455-6 Je '40

New Zealand

Government control of port activity in Auckland. J. G. Groeninger. Monthly Labor R 50:1377-8 Je '40

STRINGBEANS
Color changes in green vegetables; frozen-pack peas and string beans. G. Mackinney and C. A. Weast. Ind & Eng Chem 32: 392-5 Mr '40

STRINGED instruments
See also
Violins

STRINGS (music)
Armour synthetic strings and casing. Business Week p46+ N 16 '40

STRIP steel. See Steel, Strip

STRIPPING. See Coal mines and mining—Stripping operations

STRIPPING of dyes. See Dyes and dyeing—Stripping

STRIPPING of paint. See Paint—Removal

STROBOSCOPIC instruments
Adapts meter tables for strobo testing. il diag Elec W 114:1192+ O 19 '40
Application of a stroboscope to a telescope. diags Sci Am 162:316-17 My '40
Flash! seeing the unseen by ultra high-speed photography. H. E. Edgerton and J. R. Killian, jr. 203p bibliog(p199-203) $3 Hale, Cushman & Flint, Boston '39
High-speed photography and the study of rapid machine motions. V. Sepavich and A. Palmer. il Mech Eng 62:519-24 Jl '40
Induction-motor brushes; testing under load conditions. G. H. Rawcliffe. il diag Elec R (Lond) 125:613-14 N 10 '39
Kern and co. super-stroboscope. il Engineer 169:402-3 Ap 26 '40
Practical stroboscope circuit. C. C. Street. il Electronics 13:36-7 Ap '40
Quicker than the eye; stroboscopic photography. R. L. Biehusen. Adv & Sell 33: 32, pl 1-4 S '40
Self-powered hand stroboscope. il Sci Am 162: 289 My '40
Small high intensity stroboscopic source. D. Sinclair. bibliog diag R Sci Instr 11:109 Mr '40
Stopping time. R. Littell. il Sci Am 162:82-4 F '40
Stroboscopic meter testing saves time and effort. Elec W 113:2039-40+ Je 29 '40
Timing discharge of open arc stroboscope. A. C. Herweh. il diag Elec W 114:1032+ O 5 '40
Ultrasonic stroboscope for measuring sound wave-length in liquids. F. E. Fox and G. D. Rock. il diags R Sci Instr 10:345-8 N '39
Uninterrupted measurements with a rotating sector. L. Harris and J. A. Kyger. diags Opt Soc Am J 30:505 O '40

STRONTIUM
Radioactive barium and strontium from photofission of uranium. A. Langer and W. E. Stephens. Phys R 58:759 O 15 '40
Radioactive isotopes of Sr, Y and Zr. L. A. DuBridge and J. Marshall. bibliog il Phys R 58:7-11 Jl 1 '40

STRONTIUM chloride
Making strontium nitrate and strontium chloride from strontium sulfate using organic solvents. R. N. Shreve and C. H. Watkins. bibliog il diag Purdue Univ Eng Exp Sta, Research Ser 67:1-29 '39 (pa 25c)

STRONTIUM chromate
Reactions of chromates at high temperatures; decomposition of calcium, strontium, and barium chromates; abstract. V. T. Athavale and S. K. K. Jatkar. Am Cer Soc J 23 (Cer A 19):30-2 Ja '40

STRONTIUM nitrate
Making strontium nitrate and strontium chloride from strontium sulfate using organic solvents. R. N. Shreve and C. H. Watkins. bibliog il diag Purdue Univ Eng Exp Sta, Research Ser 67:1-29 '39 (pa 25c)

STRONTIUM sulfate
Making strontium nitrate and strontium chloride from strontium sulfate using organic solvents. R. N. Shreve and C. H. Watkins. bibliog il diag Purdue Univ Eng Exp Sta, Research Ser 67:1-29 '39 (pa 25c)

STRONTIUM sulfide
Self-luminous materials and their utilisation; zinc sulphide and alkaline earth phosphors. L. Levy and D. W. West. Chem Age (Lond) 42:169-72 Mr 23 '40

STROPHANTHIN
Cortin-like effects of steroid glycosides on potassium. R. L. Zwemer and B. E. Lowenstein. bibliog Science 91:75-6 Ja 19 '40

STRUCTURAL aluminum. See Aluminum, Structural

STRUCTURAL clay products institute
National plan service to distribute new SCPI plan book. Brick & Clay Rec 96:54 Ja '40

STRUCTURAL continuance insurance. See Insurance, Structural continuance

STRUCTURAL engineering
Bridges and buildings, 1939. W. G. Bowman. il Eng N 124:235-7 F 15 '40
California structural engineers hold joint meeting. Eng N 123:820-1 D 21 '39
Stress, strain, and structural damage. H. F. Moore. il diags Am Soc T M Proc 39: 549-70 '39; Same. Ill U Eng. Exp Sta Reprint 15:1-24 '39 (pa 15c)

See also

Bridge design	Retaining walls
Building	Steel construction
Civil engineering	Strains and stresses
Concrete construction	Strength of materials
Foundations	Structures, Theory of
Gas holders	Wind pressure

Design

Calculation of the loads and bending moments in rigid jointed frames with special regard to variation in section of members. J. Morris. Roy Aeronautical Soc J 44:604-21 Jl '40
Elastic equation for beams. I. F. Morrison. Can Eng R & B 78:48+ S '40
Engineering review; structural steel and reinforced concrete, with solutions of structural design problems given in examinations for licensed professional engineers in New York state. C. Kandall. 162p $2.50 Cord publishers, New York '40
Factor of safety; its significance, purpose, and shortcomings. C. O. von Dannenberg. Power Pl Eng 44:65-6 Jl '40
Fatigue problems in structural designs. A. V. Karpov. Metals & Alloys 10:346-52, 381-8 N-D '39
Kansas City's municipal auditorium. S. J. Callahan. il diags plan Civil Eng 10:418-21 Jl '40
Load ranges for simple beams. C. O. Harris. W Soc E J 45:39-43 F '40
Present trends in structural design; developments of the past twenty-five years. O. H. Ammann. il Civil Eng 10:21-4 Ja '40
Principles of foundation design. H. Chatley. Engineering 148:670 D 15 '39

STRUCTURAL engineering—Design—*Continued*
Proving-ring design chart. R. W. Kluge. Eng N 123:776 D 7 '39
Theoretical investigation of plastic torsion in an I-beam. D. G. Christopherson. bibliog diags Roy Aeronautical Soc J 44:425-32 My '40
Vereinfachte trägerrostberechnung. F. Leonhardt. il V D I 83:1241-3 N 25 '39
Wind pressure on structures. G. E. Howe. bibliog Civil Eng 10:149-52 Mr '40

See also
Airplanes—Design
Bridge design
Concrete construction—Design
Steel construction—Design
Strains and stresses
Strength of materials

Models

Gelatin models for photoelastic analysis of stress in earth masses. F. B. Farquharson and R. G. Hennes. il Civil Eng 10:211-14 Ap '40; Discussion. T. A. Middlebrooks. 10:529-30 Ag '40
Model rigid frame. K. W. Dowle. il Civil Eng 10:527-8 Ag '40
Photoelastic analysis of two- and three-dimensional stress systems. B. Fried and R. Weller. il diags Ohio State U, Eng Exp Sta Bul 106:1-28 '40 (pa 40c)

Tables, calculations, etc.

Buckling of a thin circular arch. J. Ratzersdorfer. Engineering 150:284-5 O 11 '40
Determination of cross-sectional areas of structural members. J. A. Miller. pls diags J Research Nat Bur Stand 23:621-36 N '39
Shearing deflection of beams. R. Fleming. Can Eng 77:10-11 N 28 '39

See also
Bridge design
Concrete construction—Design

STRUCTURAL glass. See Glass, Structural

STRUCTURAL steel. See Steel, Structural

STRUCTURES, Theory of
Stress analysis of thin metal construction. H. L. Cox. diags Roy Aeronautical Soc J 44:231-72 bibliog(85 titles, p269-72); Discussion. 272-82 Mr '40
Stresses in freely falling chimneys and columns. F. P. Bundy. il diags J Ap Phys 11:112-23 F '40
Theory of elastic stability applied to structural design. L. S. Moisseiff and F. Lienhard. Am Soc C E Proc 66:31-70 bibliog(52 titles, p67-70) Ja '40
Theory of limit design. J. A. Van den Broek. diags Am Soc C E Proc 65:193-216 F '39; Discussion. diags 65:928-46, 1130-52, 1263-76, 1431-4, 1795-6; 66:121-4, 287-300 My-Je, S-O, D '39-F '40
Theory of limit design. J. A. Van den Broek. diags W Soc E J 44:245-53 O '39

See also
Bending moment
Building
Load (mechanics)
Strains and stresses
Strength of materials

STRUTS
Standard pipes make safe columns or struts. W. F. Schaphorst. Am Gas J 152:23 F '40

STRUTS, Airplane. See Airplane struts

STUART, Herbert Akroyd, 1864-1927
Akroyd engine. O. F. Allen. Mech Eng 62:319-20 Ap '40
Diesel engine users association; papers and discussions on work of H. A. Stuart. diags Engineering 149:67-8, 69, 94-5 Ja 19-26 '40
Herbert Akroyd Stuart and the heavy-oil engine. T. Hornbuckle and A. K. Bruce. Engineering 149:70-1, 101-2 Ja 19-26 '40; Excerpts. Engineer 169:72 Ja 19 '40; Discussion. G. E. Windeler. Engineer 169:306 Mr 29 '40

STUBS, Peter, 1756-1806
Eighteenth-century industrialist; Peter Stubs of Warrington, 1756-1806. T. S. Ashton. 156p 8s 6d Manchester univ. press, Manchester, Eng. '39

STUCCO
Data on heating and sheet metal; typical base wall of frame construction; insulated and not insulated stucco. A. M. Daniels. diags Sheet Metal Worker 31:131-2 Ja; 57-8 Mr; 61 My '40
Data on heating and sheet metal; typical base wall of hollow tile above grade, stucco exterior. A. M. Daniels. diag Sheet Metal Worker 31:62 My '40
Real salesmanship and sound work build a stucco business; W. E. Nelson stucco company, Minneapolis. R. E. Sangster. il Am Bld 62:50-2 Mr '40

STUDEBAKER corporation
Fast moving low price stocks; thumbnail appraisal. Mag of Wall St 65:234 D 2 '39
Low price, active leverage stocks; thumbnail appraisal. Mag of Wall St 65:623 F 24 '40
Statistics of income, capital, stock earnings, etc. 1929-39. Annalist 55:301 F 22 '40
Studebaker's humanized public relations. G. Griswold. Ptr Ink Mo 41:12+ O '40

STUDENT aid
College projects for aiding students. F. J. Kelly. il U S Office of Educ Bul 1938, no 9: 1-69 '38

STUDENT congress movement
Student congress movement, with discussion on American neutrality. L. S. Judson, ed. Ref Shelf v 13, no 7:1-255 '40 ($1.25)

STUDENTS, Interchange of
Promotion of inter-American cultural relations. Science 92:349 O 18 '40

STUDIES (rooms). See Libraries (rooms)

STUDIOS

See also
Moving picture studios
Photography—Studios and darkrooms
Radio broadcasting studios

STUFFING boxes
Stuffing boxes. A. Brothman. diags Product Eng 11:417-19, 520-2 S, N '40

STYRACITOL
Chemistry of naturally occurring monoanhydrohexitols; synthetic tetramethylstyracitol. W. Freudenberg and J. T. Sheehan. bibliog Am Chem Soc J 62:558-60 Mr '40

STYRENE
Density, thermal expansion, vapor pressure, and refractive index of styrene, and the density and thermal expansion of polystyrene. W. Patnode and W. J. Scheiber. bibliog Am Chem Soc J 61:3449-51 D '39
Kinetics of the catalysed polymerisation of styrene; on the mechanism of metal chloride catalysis. G. Williams. Chem Soc J p775-84 Je '40
Polymerization of unsaturated hydrocarbons particularly styrene and α-methyl styrene. H. M. Stanley. bibliog Chem & Ind 58: 1080-3 D 16 '39
Polystyrene. A. J. Weith, V. H. Turkington and I. Allen, jr. bibliog il Ind & Eng Chem 32:1301-4 O '40
Polystyrene; the story of its development and applications. W. C. Goggin. il Chem Ind 45: 674-8 D '39
Stop that sneeze! plastic breathing aids. C. Lichtenberg. il Mod Plastics 18:54+ S '40
Structure of vinyl polymers; polystyrene and some of its derivatives. C. S. Marvel and N. S. Moon. Am Chem Soc J 62:45-9 Ja '40
Thermal polymerisation of styrene and its inhibition. S. G. Foord. diag Chem Soc J p48-56 Ja '40

Analysis

Quantitative absorption spectrophotometry; an internal control method. J. S. Owens. Ind & Eng Chem Anal ed 11:643-6 D 15 '39

STYRYL cyanide
Methoxymercurials from *cis* and *trans* styryl cyanide. W. H. Brown and G. F. Wright. bibliog Am Chem Soc J 62:1991-4 Ag '40

SUBDIVISION of land. See Land—Subdivision

SUBJECT headings
Banking and financial subject headings for bank libraries and financial information files. 98p $4; to members $3 Special lib. assn. '40
List of subject headings for books by and about the Negro. F. L. Yocom. 35p pa $1 Wilson, H.W. '40
Master list of European war subject headings; abstract. S. R. Giovine. Special Lib 31:231 Jl-Ag '40
Problems clinic, Baltimore conference. Special Lib 30:301 N '39
Subject headings for housing libraries. K. Malterud and A. Goldfeld, comps. 30 l pa $1 Citizens' housing council of New York, 470 4th av, New York '40
Subject index of books published up to and including 1880; third series, A-Z. R. A. Peddie. 945p £10 10s Grafton & co, London '39
Tentative list of subject-subdivisions for current European war material. 13p pa 25c Bibliographical planning committee of Philadelphia, room 1703, 123 S. Broad St, Philadelphia '39

SUBLIMATION
Accelerated sublimation. A. J. Bailey. il Ind & Eng Chem Anal ed 12:194-5 Ap 15 '40

SUBMARINE boats
Better days for Electric Boat; facilities of private submarine builder taxed to capacity. G. W. Mathis. il Mag of Wall St 67:94-5+ N 2 '40
First trip aboard a submarine. T. M. Linville. Marine Eng 45:69 O '40
Modern submarine. R. G. Skerrett. il diags Comp Air M 45:6123-8 Ap '40
Nouveaux moteurs à combustion interne pour les sous-marins de la marine américaine. diags Génie Civil 116:329-30 My 18 '40
Ships can carry autogiros to spot submarines. il Sci Am 161:339 D '39
Use of ports or territorial waters of the United States by submarines of foreign belligerent states; proclamation. F. D. Roosevelt. Comm Rep p530 Je 15 '40

Accidents
Loss of H.M.S. Thetis; report of tribunal of inquiry. Engineering 149:392-3, 417-19 Ap 12-19 '40; Engineer 169:347-9 Ap 12 '40
Salvage of H.M.S. Thetis. G. R. Critchley. il diags Engineer 169:559-61, 568-70 Je 21-28 '40; Same cond. Engineering 150:50, 56-60 Jl 19 '40
Salvage of U.S. submarine Squalus. il diags Engineer 168:584-6, 606-8 D 15-22 '39
Les services de sauvetage et de renflouement des sous-marins aux États-Unis; le renflouement du Squalus. P. Couterelle. il diags Génie Civil 116:1-5 Ja 6 '40
Up from forty fathoms; rescuing men from submarine Squalus and raising boat. R. G. Skerrett. il diags map Comp Air M 44:6003-9 N '39

Detection
Inventions win wars; suggested developments to detect, defeat warplanes, submarines. W. H. Wenstrom. il diags Sci Am 162:326-7 Je '40

History
Early history of the submarine. J. G. Peirson. Engineer 169:202-5 Mr 1 '40

SUBMARINE canyons. See Canyons, Submarine

SUBMARINE diving. See Diving, Submarine

SUBMARINE mines. See Mines, Submarine

SUBMARINE valleys. See Canyons, Submarine

SUBMARINE warfare
U-boat warfare. P. Guitard. 80p pa 6d Pallas pub. co, London '39
We dive at dawn. K. Edwards. 388p $4.50 Ryerson press '39
See also
European war, 1939—Submarine operations
Mines, Submarine

SUBMETERING problem. See Electric utilities—Submetering problem

SUBSCRIPTION books
Subscription books. F. E. Compton. 54p bibliog(p51-4) pa 25c New York public library, New York '39

SUBSIDENCES (earth movement)
Origin of Kilbourne Hole, New Mexico. P. Reiche. bibliog diags maps Am J Sci 238: 212-25, pl 1-2 Mr '40
See also
Landslides
Mine subsidences

SUBSIDIES
See also
Export trade—Government aid
Ship subsidies

SUBSISTENCE homesteads
See also
Farms for industrial workers

SUBSTITUTES
Ersatz in America: how test tubes are changing products & markets. P. B. B. Andrews. il Sales Management 47:18-20 S 15 '40; Same abr. Management R 29:350-2 O '40
Ersatz materials. H. E. Howe. Am Dyestuff Rep 28:664-9 N 13 '39
Ersatz plan tested; Paraffine companies. Business Week p35-6 Ja 20 '40
Packing material substitutes in Germany. Engineer 170:192 S 20 '40
Replacement or substitute. E. Rosendahl. Chem Ind 46:458-9 Ap '40
Substitute materials in time of war; research in Charlottenburg, 1915-1917. G. Schlesinger. Engineer 170:135-7 Ag 30 '40
Substitutes in war and peace. E. Rosendahl. Oil Paint & Drug Rep 136:5+ N 20 '39
We can go ersatz, too; substitutes and new sources of strategic and critical materials. Business Week p20+ Jl 6 '40; Abstract. Trusts & Estates 71:185-6 Ag '40
See also
Synthetic products

SUBSTITUTION (chemistry)
Acid catalyzed esterification of aliphatic acids. H. A. Smith. bibliog Am Chem Soc J 62:1136-40 My '40
Electrostatic influence of substituents on reaction rates. F. H. Westheimer and M. W. Shookhoff. bibliog Am Chem Soc J 62:269-75, 1892-5 F, Ag '40
Free radicals and radical stability; fluorotriphenylmethyl and the reactivity of halogen substituents in free radicals. S. T. Bowden and T. F. Watkins. Chem Soc J p1249-57 S '40
γ-Substitution in the resorcinol nucleus; the Gattermann reaction with 4-acylresorcinols. H. A. Shah and R. C. Shah. Chem Soc J p245-7 F '40
Halogenation of hydrocarbons; chlorination of olefins containing an unsaturated tertiary carbon atom. J. Burgin and others. bibliog il diag Ind & Eng Chem 31:1413-19 N '39
Halogenation of hydrocarbons; substitution of chlorine and bromine into straight-chain olefins. H. P. A. Groll and G. Hearne. bibliog diags Ind & Eng Chem 31:1530-7 D '39
Intramolecular substitution as a means of comparing activating and deactivating effects. J. D. C. Mole and E. E. Turner. Chem Soc J p1720-4 N '39
Introduction of substituted vinyl groups; a rearrangement involving the migration of an allyl group in a three-carbon system. A. C. Cope and E. M. Hardy. Am Chem Soc J 62:441-4 F '40
Introduction of substituted vinyl groups; (primary 1-alkenyl) alkyl malonic esters. A. C. Cope and others. bibliog Am Chem Soc J 62:314-16 F '40
Mechanism of aromatic side-chain reactions, with special reference to the polar effects of substituents; depolarization potentials of *p*-substituted benzaldehydes in acid, neutral, and alkaline media at the dropping-mercury cathode. J. W. Baker, W. C. Davies and M. L. Hemming. Chem Soc J p692-702 My '40

SUBSTITUTION (chemistry)—*Continued*
Mechanism of substitution at a saturated carbon atom; pts. 11-25. L. C. Bateman, E. D. Hughes, C. K. Ingold and others. Chem Soc J p913-1029 Jl '40
New chemical reaction with the nitrosyl radical NOH. O. Baudisch. Science 92:336-7 O 11 '40
Reactivity of atoms and groups in organic compounds; the effect of substituents on the relative reactivities of the hydroxyl group in derivatives of benzoic acid. J. F. Norris and A. E. Bearse. bibliog diag Am Chem Soc J 62:953-6 Ap '40
Relations between electrostatic potentials and reaction velocities. H. O. Jenkins. Chem Soc J p1780-4 N '39
Restricted rotation in aryl olefins; preparation and resolution of β-chloro-β-(2,4,6-trimethyl-3-bromophenyl)-α-methylacrylic acid. R. Adams and M. W. Miller. Am Chem Soc J 62:53-6 Ja '40
Some substituted 2,5-dimesitylfurans. R. E. Lutz and C. J. Kibler. bibliog Am Chem Soc J 62:1520-8 Je '40
Some substitution products of thiopheno-2′: 3′-3:2-thiophen. F. Challenger and G. M. Gibson. Chem Soc J p305-9 Mr '40
Substituted vinyl barbituric acids; derivatives containing a primary 1-alkenyl group. A. C. Cope and others. bibliog Am Chem Soc J 62:1199-1201 My '40
Substitution, addition und abspaltung. W. Hückel. Angew Chemie 53:49-54 F 3 '40
Vicinal substituted resorcinols; alkyl resorcinols; the synthesis of γ-ethyl, γ-*n*-propyl and γ-*n*-butyl resorcinols. A. Russell, J. R. Frye and W. L. Mauldin. bibliog Am Chem Soc J 62:1441-3 Je '40

See also
Methyl group

SUBSTITUTION (merchandizing)
Why Nevins drug company quit ramming private brands down consumers' throats. il Sales Management 45:22-3+ D 1 '39

SUBURBAN development
City conveniences sell country living; Calhoun farms near Milwaukee; with TruCost figures. il plans Am Bld 62:52-4, 117 My '40
How to subdivide for good, small homes; Garden Oaks of Houston, Texas. il plans Am Bld 62:44-7+ Ag '40
Modern houses sells a subdivision on Chicago's North shore, feature three-level planning and built-in sales appeal. il plans Arch Forum 72:199-203 Mr '40
Private housing in Greenbelt towns. Monthly Labor R 51:643 S '40

See also
Land—Subdivision

SUBURBS
Power supply for suburban areas. R. A. Hentz and J. A. Thielman. il diag Elec Eng 59:231-8 Je '40

SUBWAY cars. See Cars, Subway

SUBWAYS
Some subway history; Beach pneumatic-tube subway. Comp Air M 45:6223 Ag '40

See also
Cars, Subway
Rapid transit
also subdivision Subways under names of cities, e.g. London—Subways; New York (city)—Subways

Construction
Chicago builds a subway. C. H. Vivian. il diags map Comp Air M 45:6204-12 Ag '40
Distributing and placing concrete on Chicago's subway. il diag Concrete 48:3-4+ Je '40
Hand mining on Chicago subways. il diags map Eng N 125:159-64 Ag 1 '40
Safety under pressure; construction of Chicago's subway. J. M. Roche. il Nat Safety N 42:12-14+ Jl '40
Soil tests check Chicago subway work. R. B. Peck. diag Eng N 123:769-70 D 7 '39

Cost
Contract unit bid prices; list of projects showing how contractors bid in 1939-1940. diags Eng N 124:sup202-4 Je 20 '40
Subway alterations, New York; unit prices. Eng N 124:559 Ap 18 '40

Flood protection
Flood prevention in the tube railways. Engineering 148:420-1 O 13 '39; il Engineer 168: 542 D 1 '39
Shunt limit switches for control of London subway floodgates. il Engineer 169:121-2 F 2 '40
Tube railway protection; electrically operated floodgates safeguarding the London underground railways. il Elec R (Lond) 126:333-5 Mr 22 '40

Noise
Senate subway quieted; cars equipped with rubber-insert wheels. il Transit J 84:46 F '40

Power
Synchronous converters for the New York Board of transportation. G. R. McDonald. il Mass Transportation 36:107-9 My '40

SUBWAYS (streets)
Ground water presented problem at this street subway. il diags Ry Age 109:366-8+ S 14 '40
Pre-cast 135-ton concrete slabs on C.N.R. subway. C. P. Disney. il diags Can Eng R & B 78:13-15, 56 S '40
Special features reduced cost of this highway subway; three-span structure on Canadian National; Coaticook, Que. il diags Ry Age 108:814-16 My 11 '40

See also
Grade crossing elimination

SUCCESS
After hours; brain worth $50,000 a year but brings no wealth. B. Jefferson. Ptr Ink 191: 6 Je 7 '40
Common denominator of success; do what failures won't. A. E. N. Gray. Nat Underw (Life ed) Daily ed 44:10+ S 27 '40; Same. Spectator (Life ed) 145:6-8+ D 5 '40; Excerpts. East Underw 41:35 S 27 '40
Fortune survey; success before security. Fortune 21:28+ F '40
Graduate looks to the future. C. E. Erickson and L. McColloch. 112p pa 48c McKnight & McKnight, Bloomington, Ill. '40
Salerno, the baker who laughed at depression. J. K. Westerfield. il Am Business 10:12-14+ O; 17-19+ N; 26-8+ D '40
Starting on a shoestring; abstract. J. A. Murphy. Management R 29:236-7 Jl '40
Third commodity. A. B. Carder. 178p $1.50 Bobbs '40
30,000 managers earning $15,000 to $200,000 plus. Fortune 21:58-62+ F '40
Why businesses succeed. J. A. Murphy. Sales Management 46:25, 28, 31 Ap 1 '40
Your career in business. W. Hoving. 211p $2 Duell, Sloan and Pearce, 270 Madison av, New York '40

See also
Business management
Efficiency, Industrial
Personality

SUCCINIC acid
Determination of the thermodynamic dissociation constants of dibasic acids. J. C. Speakman. Chem Soc J p855-9 Jl '40
Optically active mono-substituted succinic acids and derivatives. M. Naps and I. B. Johns. bibliog Am Chem Soc J 62:2450-7 S '40
Radioactive carbon as a tracer in the synthesis of propionic acid from CO_2 by the propionic acid bacteria. S. F. Carson and others. bibliog Science 92:433-4 N 8 '40

SUCCINIC anhydride
Separation of hydroxy from non-hydroxy fat acids by means of a dibasic acid anhydride. F. E. Kurtz and P. S. Schaffer. Am Chem Soc J 62:1304-5 My '40

SUCCINOXIDASES
Inhibition of the succinoxidase system by extracts of tumour and normal tissues. K. A. C. Elliott. Franklin Inst J 230:518-19 O '40

SUCCINYL methylbromomesidine
Restricted rotation in arylamines; preparation and resolution of N-succinyl-N-methylbromomesidine. R. Adams and L. J. Dankert. Am Chem Soc J 62:2191-3 Ag '40

SUCKER rods
Distortion of sucker rods should be avoided when pulling stuck pumps. T. P. Sanders. Oil & Gas J 39:66 S 12 '40
Laboratory and field endurance values of sucker-rod materials. D. R. Dale and D. O. Johnson. Metal Prog 37:680+ Je '40
Metals in production. W. L. Nelson. bibliog il Oil & Gas J 38:52+ My 2 '40
Report of A.P.I. committee on the standardization of pumping equipment and engines. diag Am Pet Inst Proc 21M(4):228-31 My '40
Unfavorable pumping speeds may cause excessive sucker-rod breakage. T. P. Sanders. Oil & Gas J 39:37 S 5 '40

SUCKLEYA suckleyana
Chemical composition of suckleya suckleyana. C. G. Barr, H. W. Reuszer and F. Thorp, jr. Science 90:497-8 N 24 '39

SUCROSE. See Sugar

SUDAN, Egyptian

Bibliography
Bibliography of the Anglo-Egyptian Sudan, from the earliest times to 1937. R. L. Hill, comp. 213p $6 Oxford (Toronto) '39

Commerce
Foreign trade of Anglo-Egyptian Sudan during 1939. Comm Rep p367 Ap 20 '40

Economic conditions
Economic position of the Anglo-Egyptian Sudan. S. Goldberg. Comm Rep p729 Ag 24 '40

SUEZ canal
On to Suez! the story of De Lesseps and the canal. F. E. Benz. 238p $2 Dodd '39
Shipping returns for 1939. Economist 139:198 Ag 10 '40
Suez and Panama. A. Siegfried. 400p $3 Harcourt '40
Suez canal; its past, present, and future. A. T. Wilson. 2d ed 224p $5 Oxford '39

SUEZ canal company
Extracts from directors' report. Economist 138:1022 Je 8 '40

SUGAR
Clearing up the confusion about sugar sirups. L. Wickenden. il Food Ind 12:42-3 Ap '40
Corn vs. cane sugar; dextrose interests seek to annul Food & Drug regulation. Business Week p33-4+ Jl 13 '40
Inversion of sucrose. L. J. Heidt and C. B. Purves. bibliog Am Chem Soc J 62:1006-9 My '40
Stable form of sucrose octaacetate. R. P. Linstead and others. Am Chem Soc J 62:3260-3 N '40
Triboluminescence of sugar. F. G. Wick. bibliog Opt Soc Am J 30:302-6 Jl '40

See also
Beets and beet sugar
Molasses
Sugar industry and trade
Sugar workers
Sugars

Analysis
See Sugar analysis

Manufacture and refining
Beet sugar production; Bardney beet sugar factory of the British sugar corporation. il Elec R (Lond) 125:725-7 D 8 '39
Bone char reactivation; heat transfer and temperature changes. J. M. Brown and W. A. Bemis. diags Ind & Eng Chem 32:1112-14 Ag '40
High temperature centrifuging cuts sugar refining costs; patent. Food Ind 12:92 Ja '40
Industrial chemicals in cane sugar manufacture; sulphitation and carbonatation. J. G. Davies. Chem Age (Lond) 43:21-2 Jl 13 '40
Modern sugar refining; Sucrest corp. flow sheets il Chem & Met Eng 47:119-22 F '40
Plant economies engineered with modern conveyors; Sucrest corporation. G. L. Montgomery. il diag Food Ind 12:38-40 S '40
Process economy emphasized in recent beet sugar developments. R. W. Shafor. il Chem & Met Eng 47:464-7 Jl '40
Revivifying bone char; a new method and apparatus. E. W. Rice. diag Ind & Eng Chem 31:1516-18 D '39
Sugar boiling by instrument control. W. E. Smith. diag Instruments 13:220-1 Ag '40
Then and now in plant operation; developments during the past 25 years. D. Gutleben. Chem & Met Eng 46:692 N '39

See also
Sugar factories

Prices
New York sugar futures, 1939. Annalist 55:151 Ja 25 '40
Sugar hits new low. Business Week p49-51 Ag 10 '40

SUGAR analysis
Microscopic identification of certain sugars and polyhydric alcohols. J. A. Quense and W. M. Dehn. bibliog il Ind & Eng Chem Anal ed 12:556-60 S 15 '40
Redetermination of the Munson-Walker reducing-sugar values. L. D. Hammond. J Research Nat Bur Stand 24:579-96 My '40
Reducing powers of various sugars with alkaline copper-citrate reagent. H. S. Isbell, W. W. Pigman and H. L. Frush. bibliog J Research Nat Bur Stand 24:241-6 Mr '40
Reduction of aldoses at the dropping mercury cathode; estimation of the aldehydo structure in aqueous solutions. S. M. Cantor and Q. P. Peniston. Am Chem Soc J 62:2113-21 Ag '40

SUGAR cane
Sugar-cane harvesters. Mech Eng 62:821-5 N '40

See also
Bagasse
Celotex

Diseases and pests
Chytrid in relation to chlorotic streak disease of sugar-cane. C. W. Carpenter. Science 91:382-3 Ap 19 '40
Insect quarantine; Midway and Canton islands have pest control stations. il Sci Am 163:13 Jl '40

SUGAR factories

See also
Sugar laboratories

Electric equipment
Beet sugar production; Bardney beet sugar factory of the British sugar corporation. il Elec R (Lond) 125:725-7 D 8 '39
Magnetic separation. Electrician 124:14 Ja 5 '40
Sugar boiling by instrument control. W. E. Smith. diag Instruments 13:220-1 Ag '40

Equipment
Modern sugar refining; Sucrest corp. flow sheets il Chem & Met Eng 47:119-22 F '40
Plant economies engineered with modern conveyors; Sucrest corporation. G. L. Montgomery. il diag Food Ind 12:38-40 S '40

Heating and ventilation
Adjustable air nozzles condition sugar plant. N. Smith. il Power 83:769 D '39

SUGAR industry and trade
Coffee and sugar markets during 1939. C. A. Mackey. Comm & Fin Chr 150:38-9 Ja 6 '40
Sugar looks up. Business Week p42 Ja 6 '40
Sugar's problems; blockade cuts off many markets; U.S. 1940 needs estimated below quota. Barron's 20:6 Ag 19 '40

See also
Beets and beet sugar

SUGAR industry and trade—*Continued*

Finance

Sugar demand in this war; records and possibilities of nine sugar producers. J. B. Sabel. Barron's 20:8 F 5 '40

Law

House passes bill extending Sugar act of 1937 another year. Comm & Fin Chr 150: 3901 Je 22 '40

Securities

Position of leading sugar stocks. Mag of Wall St 65:543; 66:521 F 10, Ag 10 '40

Sugar companies, 1937-39. Mag of Wall St Manual p39 Mr 2 '40

Statistics

Cane sugar meltings, revision; monthly, 1923-June, 1940. Fed Res Bul 26:850 Ag '40

Commercial epitome. Published in weekly numbers of Commercial & financial chronicle

Raw and refined sugar, 1936-1939. Survey of Cur Business 1940 Sup p113 [supplemented in monthly numbers]

Statement of sugar statistics for 11 months of 1939; Sugar division of United States Department of agriculture. Comm & Fin Chr 150:189 Ja 13 '40 [cont monthly]

Sugar ends year at lower level with quota system contributing much to uncertainty. Annalist 55:151 Ja 25 '40

Sugar in 1939. Economist 138:sup28-9 F 17 '40

Sugar statistics for 1939 announced by Agriculture department; compared with previous four years. Comm & Fin Chr 150:2004-5 Mr 30 '40

World per capita consumption of sugar in year ended Aug. 31, 1939 and for past 10 years. Comm & Fin Chr 150:3889 Je 22 '40

Canada

Sugar distribution for consumption in Canada during crop year ended Aug. 31, 1940 reached record figure. Comm & Fin Chr 151:2270 O 19 '40

Cuba

News by commodities. For Comm W 1:273 N 9 '40

Great Britain

British sugar corporation; profit for the year to March 31st, 1940. Economist 139:255 Ag 24 '40

Sugar rations for manufacturers. Economist 138:166-7 Ja 27 '40

Wartime control troubles British food manufacturers. H. B. Cronshaw. Food Ind 12:45-6 Ap '40

Hawaiian Islands

Hawaii: sugar-coated fort. il maps Fortune 22:30-7, 78, 81-2 Ag '40

Mexico

Portrero sugar co. earnings, years to Oct. 31, 1936-39. Comm & Fin Chr 150:700 Ja 27 '40

Puerto Rico

Fajardo sugar company of Porto Rico, annual report, 1939. Comm & Fin Chr 149:3408, 3424 N 25 '39

Fajardo sugar company of Puerto Rico 22d annual report, 1940. Comm & Fin Chr 151: 2673 N 2 '40

United States

President Roosevelt restores sugar marketing system; Secretary Wallace takes steps to initiate 1940 program in domestic areas. Comm & Fin Chr 149:4103 D 30 '39

Study of 1940 sugar quota as compared with 1939 entries issued by Dyer & co. Comm & Fin Chr 150:190 Ja 13 '40

Sugar prices rise. Business Week p42-3 Ag 31 '40

Sugar quota cut for 1940. Barron's 20:6 Ja 1 '40

Sugar quotas for 1940. Comm & Fin Chr 150: 188 Ja 13 '40

Year's operation of Sugar act described in sugar division annual report. Comm & Fin Chr 149:4105 D 30 '39

SUGAR laboratories

Laboratory for British Columbia sugar refinery. il Can Chem & Process Ind 24:140 Mr '40

SUGAR workers

Minimum wages for Puerto Rican sugarcane laborers announced. Comm & Fin Chr 150: 2133 Mr 30 '40

Wage scale for Cuban sugar industry, 1940. H. S. Tewell and C. R. Burrows. Monthly Labor R 50:974-5 Ap '40

Welfare of families of sugar-beet laborers; a study of child labor and its relation to family work, income, and living conditions in 1935. E. S. Johnson. pls map U S Children's Bur Pub 247:1-100 '39

SUGARS

Acetone derivatives of the mercaptals of some monosaccharides; the 5,6-monoacetone derivative of *d*-galactosedibenzylmercaptal and the 6-methyl derivative of *d*-galactose. E. Pacsu and S. M. Trister. bibliog Am Chem Soc J 62:2301-4 S '40

Alpha and beta methyl lyxosides, mannosides, gulosides, and heptosides of like configuration. H. S. Isbell and H. L. Frush. pls J Research Nat Bur Stand 24:125-51 bibliog(p 151) F '40

Augustin-Pierre Dubrunfaut, an early sugar chemist. H. G. Fletcher, jr. bibliog J Chem Educ 17:153-6 Ap '40

Derivatives of the aldehydrol form of sugars; carbon one asymmetry. M. L. Wolfrom, M. Konigsberg and F. B. Moody. bibliog Am Chem Soc J 62:2343-9 S '40

Determination of soybean flour in sausage by nonfermentable sugars. W. B. Hendrey. bibliog Ind & Eng Chem Anal ed 11:611-13 N 15 '39

Electrolytic reduction of sugars. H. J. Creighton. Chem & Ind 59:557 Ag 3 '40

d-Glucose S-ethyl O-methyl monothioacetal. M. L. Wolfrom, D. I. Weisblat and A. R. Hanze. bibliog Am Chem Soc J 62:3246-50 N '40

How one sugar compares with another; values of different commercial carbohydrates. S. Jordan. il Food Ind 12:45-7 Mr '40

Photosensitized production of reducing sugars from starch. L. J. Heidt. Am Chem Soc J 61:3588-9 D '39

Real issue in the sweetener controversy. R. S. McBride. Food Ind 12:36-7 S '40

Reducing powers of various sugars with alkaline copper-citrate reagent. H. S. Isbell, W. W. Pigman and H. L. Frush. bibliog J Research Nat Bur Stand 24:241-6 Mr '40

Structure of cellulose and other polymers related to simple sugars. W. N. Haworth. il diags Soc Dyers & Col J 56:49-58 F '40

Studies in the amino-sugars; the action of dilute alkali solution on *N*-acylglucosamines. T. White. Chem Soc J p428-37 Ap '40

Use of the benzyl radical in syntheses of methylated sugars; 4:6-dimethyl galactose. J. S. D. Bacon, D. J Bell and J. Lorber. Chem Soc J p1147-50 Ag '40

Use of the benzyl radical in syntheses of methylated sugars; 4:6-dimethyl glucose. D. J. Bell and J. Lorber. Chem Soc J p453-5 Ap '40

Wood as a chemical raw product; latest developments in sugar and alcohol production. D. Brownlie. Chem & Ind 59:671-5 S 28 '40

See also

Aldonic acids
Aldoses
Altrose
Carbohydrates
Dextrose
Fermentation
Galactose
Glucose
Glucosides
Lactose
Mannose
Optical rotation
Pentoses
Polysaccharides
Sorbose
Sugar
Trisaccharides

Analysis

See Sugar analysis

SUGGESTION systems
Administering a suggestion system. Management R 29:72-3 F '40
Chemical work simplification; program to enlist aid of supervisory, technical and clerical employees in search for new ideas. J. R. Bailey. Chem & Met Eng 47:18-19 Ja '40
Employee suggestions save $100,000 annually for Illinois Central. Am Business 10:51 O '40
Illinois Central workers make 16,092 suggestions. il Ry Age 108:784-5 My 4 '40
Let employees find the answers; Michigan carton company. F. H. Stowitts. il Factory Management 98:61-3 S '40
$1,000,000 for suggestions paid by General electric co. since 1919. Management R 28: 389-90 N '39
Suggestion systems. Management R 29:30-1 Ja '40
To start methods study, sell it. L. S. Whitson. il Factory Management 98:55-6+ Jl '40
What belongs in the methods study program. L. S. Whitson. il diags Factory Management 98:50-2 S '40

SUGGESTIONS, Customers'
American food counter; Johnson's supermarkets, Syracuse, New York. N. Hansell. il plan maps Ptr Ink Mo 40:5-8+ F '40

SUITING fabrics, Men's. See Men's suiting fabrics

SULFAMETHYLTHIAZOLE
New chemical remedy for staphylococcus throat infections. Science 91:sup 14 Ap 19 '40

SULFAMIC acid
Electrodeposition of metals from solutions of sulphamic acid or its salts; abstract. R. Piontelli and A. Giulotto. Metals & Alloys 11:MA90 F '40
Industrial uses of chemicals and related materials. Oil Paint & Drug Rep 138:33 N 11 '40
Preparation of sulfamic acid by the hydroxylamine-sulfur dioxide reaction. H. H. Sisler and L. F. Audrieth. Am Chem Soc J 61: 3389-91 D '39
Sulfamic acid, sulfamide, and related aquoammonosulfuric acids. L. F. Audrieth and others. Chem R 26:49-94 bibliog(145 references, p91-4) F '40
Textile chemical uses of sulfamic acid. J. Wakelin. Am Dyestuff Rep 28:729-31 D 11 '39

SULFAMIDE
Sulfamic acid, sulfamide, and related aquoammonosulfuric acids. L. F. Audrieth and others. Chem R 26:49-94 bibliog(145 references, p91-4) F '40

SULFANILAMIDE
Bacteriostatic action of sulfanilamide under anaerobic conditions. R. H. Broh-Kahn. bibliog Science 90:543-4 D 8 '39; Reply. C. L. Fox, jr. Science 91:477-8 My 17 '40
Breakdown of sulfanilamide molecule by ultra-violet irradiation or chemical oxidation. S. M. Rosenthal and H. Bauer. Science 91:509 My 24 '40
Chemical cures of disease. Science 91:sup10+ Ja 5 '40
Condensation of sulfanilamide with an enol; N^4-α-bromotetronyl sulfanilamide. W. D. Kumler. Am Chem Soc J 62:2560-1 S '40
Diminishing response of the skin to frequently repeated reinfection with invasive bacteria. F. Duran-Reynals and E. Estrada. Science 92:41-2 Jl 12 '40
Effect of sulfapyridine and sulfanilamide with and without serum in experimental meningococcus infection. S. E. Branham. Pub Health Rep 55:12-22 Ja 5 '40
Germ-killing effectiveness of sulfanilamide. R. D. Potter. Science 91:sup12+ Ap 12 '40
New sulpha drugs; abstract. P. H. Long. Oil Paint & Drug Rep 137:40 My 13 '40
N^1,N^4-nicotinyl derivatives of sulfanilamide. T. C. Daniels and H. Iwamoto. bibliog Am Chem Soc J 62:741-2 Ap '40
Observations on the anticatalase activity of sulfanilamide and related compounds before and after ultraviolet irradiation. M. P. Benoy. Franklin Inst J 230:402-5 S '40
Oxidation of sulfanilic and arsanilic compounds by nascent hydrogen peroxide. G. Barkan. Science 92:107 Ag 2 '40
Oxidation products of sulfanilamide. M. K. Seikel. bibliog Am Chem Soc J 62:1214-16 My '40
Present status and problems of bacterial chemotherapy. E. K. Marshall, jr. Science 91:345-50 Ap 12 '40
Pyridine and piperazine derivatives of sulphanilamide. W. O. Kermack and W. Tebrich. Chem Soc J p202-5 F '40
Resistance to sulfanilyl derivatives in vitro and in vivo. J. S. Harris and H. I. Kohn. Science 92:11 Jl 5 '40
Some N^4-diethylaminoalkyl-N^1-dialkylsulphanilamides and related compounds. J. Walker. Chem Soc J p686-92 My '40
Structure and chemotherapeutic activities of sulfanilamide derivatives. E. H. Northey. Chem R 27:85-197 bibliog(198 references, p190-7) Ag '40
Substituted sulfanilamides; N^4-acyl-N^1-hydroxy derivatives. M. L. Moore, C. S. Miller and E. Miller. Am Chem Soc J 62:2097-9 Ag '40
Substituted sulfanilamides; N^1- and N^4-sulfonyl derivatives. J. M. Sprague, L. F. McBurney and L. W. Kissinger. Am Chem Soc J 62:1714-16 Jl '40
Sulfanilamide and malaria. Science 90:sup12 D 1 '39
Sulfanilamide compounds; arylidine derivatives of N^1-substituted sulfanilamides. H. G. Kolloff and J. H. Hunter. Am Chem Soc J 62:158-60 Ja '40
Sulfanilamide compounds; N^4-aryl- and N^4-arylidine-N^1-substituted sulfanilamides. H. G. Kolloff and J. H. Hunter. Am Chem Soc J 62:1647-9 Jl '40
Sulfanilamide compounds; N^4-heteroöyl derivatives of N^1-substituted sulfanilamides. H. G. Kolloff and J. H. Hunter. bibliog Am Chem Soc J 62:1646-7 Jl '40
Sulfanilamide derivatives; N^1-alkanesulfonylsulfanilamides and related compounds. M. L. Crossley, E. H. Northey and M. E. Hultquist. Am Chem Soc J 62:1415-16 Je '40
Sulfanilamide derivatives; substituted N^1-aliphatic sulfanilamides. M. L. Crossley, E. H. Northey and M. E. Hultquist. bibliog Am Chem Soc J 62:532-4 Mr '40
Sulfanilamides as chemotherapeutic agents. M. L. Crossley. Ind & Eng Chem News ed 18:385-8 My 10 '40
Sulfanilyl derivatives of pyridine and quinoline amines. R. Winterbottom. bibliog Am Chem Soc J 62:160-1 Ja '40
Sulfonamide derivatives of arylureas. E. H. Cox. bibliog Am Chem Soc J 62:743-4 Ap '40
Synthesis of $\omega\omega'$-*bis*-2'-amino-4'-thiazolylalkanes and N^4-2'-thiazolylsulphanilamides. J. Walker. Chem Soc J p1304-7 S '40
Trachoma eradication; sulfanilamide treatment; abstract. J. Collier. Science 90:sup10 D 15 '39

Analysis

Ash in organic compounds; determination by microtechnique with automatic combustion. A. R. Norton, G. L. Royer and R. Koegel. il Ind & Eng Chem Anal ed 12: 121-3 F 15 '40

SULFANILAMIDO compounds
Chemotherapy; some sulfanilamido heterocycles. R. O. Roblin, jr. and others. bibliog Am Chem Soc J 62:2002-5 Ag '40
Chemotherapy; substituted sulfanilamidopyridines. R. O. Roblin, jr. and P. S. Winnek. Am Chem Soc J 62:1999-2002 Ag '40

SULFANILAMIDOBENZENE sulfonic acid
Some fluorine and chlorine derivatives of sulfanilamidobenzenesulfonic acids. C. M. Suter and A. W. Weston. bibliog Am Chem Soc J 62:604-6 Mr '40

SULFANILAMIDOPYRIDINE. See Sulfapyridine

SULFANILIC acid
Progress in intermediates; coal tar products used in many industries. J. M. Weiss. il Chem Ind 46:686-92 Je '40

SULFANILYL pyrrolidine
Sulfanilyl pyrrolidine and pyrroline. W. E. Cass. Am Chem Soc J 62:3255-6 N '40

SULFAPYRIDINE
Chemotherapy; substituted sulfanilamidopyridines. R. O. Roblin, jr. and P. S. Winnek. Am Chem Soc J 62:1999-2002 Ag '40
Coke-oven gas found to be source of sulfapyridine. Gas Age 85:42 My 23 '40
Effect of sulfapyridine and sulfanilamide with and without serum in experimental meningococcus infection. S. E. Branham. Pub Health Rep 55:12-22 Ja 5 '40
New sulpha drugs; abstract. P. H. Long. Oil Paint & Drug Rep 137:40 My 13 '40
Pneumonia control. Science 90:sup12-13 N 24 '39
Sulfanilamide derivatives; constitution and properties of 2-sulfanilamidopyridine. M. L. Crossley, E. H. Northey and M. E. Hultquist. bibliog Am Chem Soc J 62:372-4 F '40
Sulfanilamides as chemotherapeutic agents. M. L. Crossley. Ind & Eng Chem News ed 18:385-8 My 10 '40
Treatment of extreme cases of sniffles in the rat with sulfapyridine. F. Y. Billingslea. Science 91:19 Ja 5 '40
Urinary excretion of free sulfapyridine. J. V. Scudi. Science 91:486 My 17 '40

Bibliography
Sulfapyridine; annotated bibliography. Merck & co, Rahway, N.J. '40

SULFATES
Removal of chlorides and sulfates by synthetic resins. M. C. Schwartz, W. R. Edwards, jr. and G. Boudreaux. bibliog(48 references) Ind & Eng Chem 32:1462-6 N '40
Rôle of sulphates in the decay of building stones, mortars, and bricks. T. McLachlan. il Soc Chem Ind J 59:133-8 Jl '40
Sulphates of pyridine. F. H. Peakin. Soc Chem Ind J 59:56-7 Mr '40
Ternary systems; solid solutions of some picromerites at 25°. A. E. Hill, G. S. Durham and J. E. Ricci. bibliog Am Chem Soc J 62:1031-6 My '40

See also
Alums
Ammonium sulfate
Copper sulfate
Gypsum
Paper making—Sulfate process
Sodium sulfates

Analysis
Determination of sulfate by tetrahydroxyquinone method; effect of sodium sulfite and procedure for its elimination. H. L. Kahler. Ind & Eng Chem Anal ed 12:266-7 My 15 '40
Volumetric determination of small quantities of barium and sulphate with barium rhodizonate as an indicator; the determination of sulphur in iron pyrites. C. C. Miller. Chem Soc J p401-6 Ap '40

SULFATHIAZOLE
2-(*p*-Aminobenzenesulfonamido) - 4 - ethylthiazole. F. H. Bergeim, N. H. Coy and W. A. Lott. Am Chem Soc J 62:1873 Jl '40
2-(*p* - Aminobenzenesulfonamido) - thiazole; a new chemotherapeutic agent. W. A. Lott and F. H. Bergeim. Am Chem Soc J 61: 3593-4 D '39
Massive acute precipitation of free sulfathiazole in the urinary tract. D. Lehr, W. Antopol and J. Churg. bibliog Science 92:434-5 N 8 '40
New sulpha drugs; abstract. P. H. Long. Oil Paint & Drug Rep 137:40 My 13 '40
New treatment for pneumonia; new drug, sulfathiazole. Science 90:sup9-10 D 15 '39; Same cond. Sci Am 162:167-8 Mr '40

SULFIDES
Magnetite in sulphide ores. G. M. Schwartz and A. C. Ronbeck. il diags Econ Geol 35: 585-610 bibliog(113 titles, p606-10) Ag '40
More sulphide contaminations. L. R. van Wert. il Metal Prog 37:66 Ja '40
Solution and precipitation of lead and zinc sulphides in sodium sulphide solutions. F. G. Smith. bibliog il Econ Geol 35:646-58 Ag '40
Studies of ionisation in non-aqueous solvents; the formation of certain sulphides in methyl and in ethyl alcohol. W. L. German and T. W. Brandon. Chem Soc J p1329-33 S '40
Sulphide inclusions from clay packing. G. K. Manning. il Metal Prog 36:747-8 D '39
Sulfides and sulfones of pyridine and quinoline. A. R. Surrey and H. G. Lindwall. bibliog Am Chem Soc J 62:173-4 Ja '40

See also
Alkaline earth sulfides
Barium sulfide
Hydrogen sulfide
Klaprotholite
Molybdenite
Ore deposits
Pyrite
Zinc sulfide

Analysis
Determination of sulfide sulfur in alkaline solutions containing other sulfur compounds. J. B. Lewis. Ind & Eng Chem Anal ed 12:535 S '40

Bibliography
Fortschritte der anorganischen grossindustrie; schwefel und sulfide. B. Waeser. Chemische Fabrik 13:68-74 F 24 '40

SULFITE liquor
Economic disposal of waste sulphite liquor; chemical and waste heat recovery; use of magnesia. G. H. Tomlinson and L. S. Wilcoxson. flow diags plan Paper Tr J 110: 31-8 Ap 11 '40; Same. Pulp & Pa of Can 41:391-8 My '40
Lignin and wood acquire new importance. J. L. McCarthy. il Pulp & Pa of Can 41:602-4 Ag '40
Marathon Mills develops new by-products. Paper Tr J 110:14 Ja 25 '40
Pollution by waste sulphite liquor in Green Bay, Wis. Pub Works 71:18 F '40
Preparation of desulphonated lignin from calcium lignosulphonate. I. A. Pearl and H. K. Benson. bibliog Paper Tr J 111:29-31 N 7 '40
Recent advances in the utilization of lignin in waste sulphite liquor. A. C. Hill. bibliog Pulp & Pa of Can (Convention no) 41:148-50, 196-7 [F] '40
Über die verhefung der pentosen. R. Lechner. bibliog Angew Chemie 53:163-7 Ap 13 '40
Utilization of industrial wastes. H. E. Howe and F. J. Van Antwerpen. il Ind & Eng Chem 31:1323-4 N '39
Waste problems in the pulp and paper industry. H. J. Skinner. il Ind & Eng Chem 31:1331-5 N '39
Waste sulfite liquor-sewage mixtures; activated sludge treatment. C. N. Sawyer. bibliog Ind & Eng Chem 32:1469-73 N '40

Analysis
Conductometric analysis of bisulphite pulping liquors. E. R. Whittemore and S. I. Aronovsky. bibliog Paper Tr J 110:19-22 Je 20 '40
Investigation of the coloring matter of sulphite liquor. L. E. Simerl. Paper Ind 22: 282+ Je '40
Nitrosolignin colorimetric test for sulphite waste liquor in sea water. I. A. Pearl and H. K. Benson. bibliog Paper Tr J 111:35-6 O 31 '40

SULFITES
Recovery of sulfur dioxide from waste gases; regeneration of the absorbent by treatment with zinc oxide. H. F. Johnstone and A. D. Singh. bibliog flow sheet il Ind & Eng Chem 32:1037-49 Ag '40

Analysis
Analysis of sulfite solutions containing selenium; a volumetric method. R. C. Shaver and C. R. McCrosky. bibliog Ind & Eng Chem Anal ed 12:74-6 F 15 '40

SULFOBENZENE arsonic acid
Sulfophenylarsonic acids and certain of their derivatives; *p*-sulfo- and *p*-sulfonamidodiphenylarsonic acids. J. F. Oneto and E. L. Way. Am Chem Soc J 62:2157-8 Ag '40

SULFONAMIDES
Addition of N-haloamides to olefins. M. S. Kharasch and H. M. Priestley. Am Chem Soc J 61:3425-32 D '39
p-(*p*-Aminophenyl)-benzenesulfonamide and derivatives. C. T. Van Meter, J. A. Biancullí and A. Lowy. Am Chem Soc J 62:3146-8 N '40
Identification of organic compounds; chlorosulfonic acid as a reagent for the characterization of aromatic ethers. E. H. Huntress and F. H. Carten. Am Chem Soc J 62:603-4 Mr '40
Observations on the anticatalase activity of sulfanilamide and related compounds before and after ultraviolet irradiation. M. P. Benoy. Franklin Inst J 230:402-5 S '40
Preparation of phenylarsenoxides; derivatives of carboxy- and sulfo-phenylarsenoxides. G. O. Doak, H. G. Steinman and H. Eagle. Am Chem Soc J 62:3012-13 N '40
Preparation of some amino sulfonamides. E. Miller and others. bibliog Am Chem Soc J 62:2099-103 Ag '40
Present status and problems of bacterial chemotherapy. E. K. Marshall, jr. Science 91:345-50 Ap 12 '40
Sulfonamide derivatives of arylureas. E. H. Cox. bibliog Am Chem Soc J 62:743-4 Ap '40
See also
Sulfanilamide
Sulfathiazole

SULFONAMIDOBENZENE arsonic acid
Sulfophenylarsonic acids and certain of their derivatives; *p*-sulfo- and *p*-sulfonamidodiphenylarsonic acids. J. F. Oneto and E. L. Way. Am Chem Soc J 62:2157-8 Ag '40

SULFONATED oils
Outlook in strategic chemicals. C. P. Gulick. Chem Ind 47:31-2 Jl '40
Sulfated ester of fatty acid; Onyx oil & chemical co. presents Phi-Φ-Sol. Textile Col 62:458-61, 531-4+ Jl-Ag '40
Sulphonated oils and fatty alcohols; castor and olive oils in shampoos, disinfectants, etc. G. S. Collingridge. Chem Age (Lond) 42:17-19 Ja 13 '40

SULFONATED products
Scouring action of soap and the modern sulfonated textile auxiliaries. J. Davidsohn and A. Davidsohn. bibliog Am Dyestuff Rep 29:43-6 Ja 22 '40

SULFONATES
Activity coefficient of thallous iodate in solutions of alkane-α,ω-disulfonates. G. C. H. Stone. bibliog Am Chem Soc J 62:572-5 Mr '40
Studies of sulfonates; effect of sodium chloride on the solubility of sodium dodecylsulfonate and sodium tetradecylsulfonate. H. V. Tartar and R. D. Cadle. bibliog J Phys Chem 43:1173-9 D '39
Sulphonates of higher alkyl phenolic ethers. G. S. Hartley. Chem Soc J p1828-34 D '39
Synthesis of the sodium salt of tetradecamethylene disulfonic acid. G. C. H. Stone. bibliog Am Chem Soc J 62:571-2 Mr '40
See also
Sodium sulfonates

SULFONATION
Chlorinations with sulfuryl chloride; (a) the peroxide-catalyzed chlorination of aliphatic acids and acid chlorides; (b) the photochemical sulfonation of aliphatic acids. M. S. Kharasch and H. C. Brown. Am Chem Soc J 62:925-9 Ap '40
Sulfonated arylstearic acids; wetting properties of the sodium salts. A. J. Stirton, R. F. Peterson and P. H. Groggins. bibliog Ind & Eng Chem 32:1136-7 Ag '40
Sulphonates of higher alkyl phenolic ethers. G. S. Hartley. Chem Soc J p1828-34 D '39
Sulfonation and nitration reaction promoted by carbon fluoride. R. J. Thomas, W. F. Anzilotti and G. F. Hennion. bibliog Ind & Eng Chem 32:408-10 Mr '40
Sulfonation reactions with sulfuryl chloride; the photochemical sulfonation of aliphatic acids with sulfuryl chloride. M. S. Kharasch, T. H. Chao and H. C. Brown. bibliog Am Chem Soc J 62:2393-7 S '40
Synthesis of phenol using a partial pressure evaporation method; abstract. D. F. Othmer and C. E. Leyes. Chem Age (Lond) 43:146 S 28 '40
See also
Sulfonated oils

SULFONES
α-Bromosulfones. W. M. Ziegler and R. Connor. bibliog Am Chem Soc J 62:2596-9 O '40
Factors influencing polysulfone formation. M. S. Kharasch and E. Sternfeld. Am Chem Soc J 62:2559-60 S '40
Reversibility of the rearrangement of *o*-hydroxy-sulphones. R. R. Coats and D. T. Gibson. Chem Soc J p442-6 Ap '40
Sulfides and sulfones of pyridine and quinoline. A. R. Surrey and H. G. Lindwall. bibliog Am Chem Soc J 62:173-4 Ja '40

SULFONIC acids
Action of nitrous acid on dimethylaniline-*p*-sulphonic acid in sulphuric acid. A. M. M. Davidson and T. H. Reade. Chem Soc J p1701-3 N '39
Hydrolysis or alcoholysis of resorcinol ether sulphonic acids. G. S. Hartley. Chem Soc J p1834-6 D '39
Influence of organic compounds in nickel plating solutions. E. Raub and M. Wittum. il Metal Finishing 38:429-32 Ag '40
Practical removal of sulfuric-acid fog by bubble-phase absorption. D. W. Bransky and F. F. Diwoky. diags Am Pet Inst Proc 21M(3):39-45 My '40; Excerpts. Nat Pet N 32:R200-1 My 29 '40
Preparation of some branched chain aliphatic sulfonic acids. S. Zuffanti. Am Chem Soc J 62:1044 My '40

SULFONIUM compounds
Formation of sulfonium compounds from benzyl iodide and organic disulfides. O. Haas and G. Dougherty. Am Chem Soc J 62:1001-5 My '40
Sulfur studies; the synthesis of certain higher alkyl sulfonium salts and related compounds. R. W. Bost and J. E. Everett. bibliog Am Chem Soc J 62:1752-4 Jl '40

SULFONPHTHALEINS
Acid-base equilibria in ethyl alcohol. M. Kilpatrick and W. H. Mears. bibliog Am Chem Soc J 62:3051-4 N '40
Acid-base equilibria in methyl alcohol. M. Kilpatrick and W. H. Mears. bibliog Am Chem Soc J 62:3047-51 N '40

SULFONYLAMIDES
α-Alkylsulfonylamides. A. Pomerantz and R. Connor. bibliog Am Chem Soc J 61:3386-8 D '39
α-Bromo-α-sulfonylamides. W. M. Ziegler and R. Connor. bibliog Am Chem Soc J 62:1049-53 My '40

SULFONYL chlorides
Identification of organic compounds; chlorosulfonic acid as a reagent for the characterization of aromatic ethers. E. H. Huntress and F. H. Carten. Am Chem Soc J 62:603-4 Mr '40

SULFOPHENYLMETHYLPYRAZOLONE
Diketene, a new industrial chemical. A. B. Boese, jr. Ind & Eng Chem 32:19-20 Ja '40

SULFUR
Catalytic toxicity and chemical structure; simple anions containing toxic elements. E. B. Maxted and R. W. D. Morrish. Chem Soc J p252-6 Mr '40
Chemistry of sulfur dioxide reduction; kinetics. R. Lepsoe. bibliog il Ind & Eng Chem 32:910-18 Jl '40
Conditions in, and some war problems of, the heavy chemical industry in 1939. P. Parish. il Chem Age (Lond) 41:431-2+ D 30 '39
Diffusion of sulfur in rubber; relation to vulcanization. A. R. Kemp and others. bibliog il diags Ind & Eng Chem 32:1075-84 Ag '40
Effect of sulfur and sulfur compounds in naphtha upon certain corrosion tests; sensitivity of the doctor test. L. M. Henderson, M. S. Agruss and G. W. Ayres, jr. bibliog Ind & Eng Chem Anal ed 12:1-3 Ja 15 '40

SULFUR—*Continued*

Plastic and allotropic forms of sulfur. H. F. Schaefer and G. D. Palmer. bibliog J Chem Educ 17:473-5 O '40

Production of heavy sulfur; abstract. D. W. Stewart and K. Cohen. Science 92:sup10 S 13 '40

Rate of exchange of elementary radiosulfur with sulfur monochloride. R. A. Cooley and D. M. Yost. bibliog diag Am Chem Soc J 62:2474-7 S '40

Reaction of sulfur with mercuric acetate in glacial acetic acid. R. E. Vollrath. Am Chem Soc J 62:1310 My '40

Reactions of nitriles and related compounds with sulfur in the presence of amines; synthesis of quaternary ammonium thiocyanates. C. R. McCrosky, F. W. Bergstrom and G. Watkins. bibliog Am Chem Soc J 62:2031-4 Ag '40

Reactions of sulfur and vapors of organic compounds at different temperatures. G. D. Palmer and others. Am Chem Soc J 62: 1005-6 My '40

Side-chain bromination; negative catalytic effects. J. R. Sampey and E. M. Hicks. Am Chem Soc J 62:3252-3 N '40

Simultaneous emission of three particles from an excited nucleus. J. M. Cork and W. Middleton. Phys R 58:474 S 1 '40

Studies in polymorphism; the linear rate of transformation of monoclinic into rhombic sulphur. P. G. Elias, N. H. Hartshorne and J. E. D. James. diags Chem Soc J p588-95 My '40

Sulphur as a fuel; producing sulphuric acid by the contact process. W. H. Harvey. diag Power Pl Eng 44:76-7 O '40

Sulphur; safe practice in storage and handling Nat Safety N 42:40 S '40

Sulfur studies, the synthesis of certain higher alkyl sulfonium salts and related compounds. R. W. Bost and J. E. Everett. bibliog Am Chem Soc J 62:1752-4 Jl '40

Tellurium, selenium and sulphur in copper alloys. H. L. Burghoff. il Iron Age 144:35-9 D 7 '39

Texas Gulf sulphur co. launches long-range research program; sulfate pulp, and possible use of sulfur in combination with paper products. Ind & Eng Chem News ed 18:498 Je 10 '40

Wastes problems in the nonferrous smelting industry. R. E. Swain. Ind & Eng Chem 31: 1358-60 N '39

X-ray emission spectra and electronic energy bands of compounds J. Valasek. bibliog Phys R 58:213-18 Ag 1 '40

See also

Gas—Sulfur content
Gasoline—Sulfur content
Steel—Sulfur content
Sulfur burners
Vulcanization
Wool—Sulfur content

Analysis

Apparatus for determination of sulfur by the evolution method. R. S. Gibbs and F. B. Clardy. il Ind & Eng Chem Anal ed 12: 535 S 15 '40

Color test for elementary sulfur in pyridine and other solvents. H. Sommer. bibliog Ind & Eng Chem Anal ed 12:368-9 Je 15 '40

Determination of organic sulfur in gases by the catalytic hydrolysis method. L. T. Jilk. il diags Am Soc T M Proc 39:1159-68; Discussion. 1169-70 '39

Determination of sulfur in organic compounds; a new microchemical method for compounds containing no other elements than carbon, hydrogen, nitrogen, sulfur, and oxygen. E. W. D. Huffman. bibliog diags Ind & Eng Chem Anal ed 12:53-8 Ja 15 '40

Micro-Carius halogen and sulfur determination. J. B. Niederl and others. bibliog diags Ind & Eng Chem Anal ed 12:428-31 Jl 15 '40

Microdetermination of sulfate obtained from combustion of organic compounds; tetrahydroxyquinone as an indicator in a volumetric method. L. T. Hallett and J. W. Kulpers. bibliog Ind & Eng Chem Anal ed 12:360-3 Je 15 '40

Microdetermination of sulfur in organic compounds; an absorption apparatus for use with the combustion method. L. T. Hallett and J. W. Kuipers. diags Ind & Eng Chem Anal ed 12:357-9 Je 15 '40

Modern analysis in the foundry; combustion-type carbon and sulphur determinators, and spectroscope equipment, Fairbanks, Morse & co. G. W. Zabel and J. Schuch. il Iron Age 145:31-7 My 2 '40

Volumetric determination of small quantities of barium and sulphate with barium rhodizonate as an indicator; the determination of sulphur in iron pyrites. C. C. Miller. Chem Soc J p401-6 Ap '40

Bibliography

Fortschritte der anorganischen grossindustrie; schwefel und sulfide. B. Waeser. Chemische Fabrik 13:68-74 F 24 '40

Manufacture

La récupération du soufre dans les usines de carbonisation de la houille et dans les raffineries de pétrole. C. Berthelot. Génie Civil 116:6-7 Ja 6 '40

Statistics

Sulphur production (quarterly), 1936-1939. Survey of Cur Business 1940 Sup p88 [supplemented in monthly numbers]

SULFUR burners

Pyrites roasting and sulphur burning; recent developments meriting war-time attention. C. H. Butcher. Chem Age (Lond) 41:411-13 D 23 '39

Sulphur burner applied to feed water treatment. S. T. Powell, G. A. Cain and J. B. Chatelain. bibliog il diags Power Pl Eng 44:54-7 My '40

SULFUR cement

Chemical resistance of sulphur cements. C. R. Payne and W. W. Duecker. bibliog il Am Inst Chem Eng Trans 36:91-110 F '40; Same. Chem & Met Eng 46:766-70; 47:20-1 D '39-Ja '40; Discussion. Am Inst Chem Eng Trans 36:111 F '40

SULFUR chlorides

Dipole moments and structures of certain compounds of sulfur, selenium and phosphorus. C. P. Smyth and others. bibliog Am Chem Soc J 62:1219-23 My '40

Rate of exchange of elementary radiosulfur with sulfur monochloride. R. A. Cooley and D. M. Yost. bibliog diag Am Chem Soc J 62:2174-7 S '40

SULFUR compounds

Application of catalytic desulfurization process. M. W. Conn. flow diags Oil & Gas J 39:40, 42, 45+ O 24 '40

Charakteristische reaktionsmöglichkeiten an schwefelhaltigen naturstoffen. A. Schöberl. bibliog Angew Chemie 53:227-32 My 25 '40

Effect of sulfur and sulfur compounds in naphtha upon certain corrosion tests; sensitivity of the doctor test. L. M. Henderson, M. S. Agruss and G. W. Ayers, jr. bibliog Ind & Eng Chem Anal ed 12:1-3 Ja 15 '40

See also

Cystine
Mercaptans
Sulfates
Sulfides
Sulfones
Sulfur dyes
Sulfuric acid
Thiocyanates

SULFUR dichloride. See Sulfur chlorides

SULFUR dioxide

Absorption of sulphur dioxide in water; tower packed with one-inch Raschig rings. L. C. Jenness and J. G. L. Caulfield. bibliog diag Paper Tr J 109:37-41 D 28 '39

Atmospheric pollution; types of contaminants with methods for estimating and controlling them. P. Drinker. Ind & Eng Chem 31:1317 N '39

Chemistry of sulfur dioxide reduction; kinetics. R. Lepsoe. bibliog il Ind & Eng Chem 32:910-18 Jl '40

Effect of acid concentration and temperature schedule in pulping resinous woods. G. H. Chidester and J. N. McGovern. Paper Tr J 110:39-42 Mr 7 '40

SULFUR dioxide—*Continued*
Effects of sulfur dioxide on plants and animals. C. Setterstrom. bibliog il diag Ind & Eng Chem 32:473-9 Ap '40
Effects of sulphur dioxide on vegetation; investigation of smelter at Trail, B.C. G. S. Whitby. Chem & Ind 58:991-7; Discussion. 997-9 N 11 '39
Flash-roasting of sulphides; progress in Canada. D. D. Howat. il diags Chem Age (Lond) 43:155-7 O 5 '40
Mechanism of substitution at a saturated carbon atom; qualitative survey of nucleophilic substitutions of benzhydryl halides in sulphur dioxide solution. L. C. Bateman, E. D. Hughes and C. K. Ingold. Chem Soc J p1011-17 Jl '40
Mechanism of substitution at a saturated carbon atom; unimolecular halogen exchange between an alkyl halide and halide ions in sulphur dioxide solution. L. C. Bateman, E. D. Hughes and C. K. Ingold. Chem Soc J p1017-29 Jl '40
Molecular structure of sulfur dioxide. V. Schomaker and D. P. Stevenson. Am Chem Soc J 62:1270-2 My '40
New mechanism for the action of the vanadium pentoxide-silica-alkali pyrosulfate catalyst for the oxidation of sulfur dioxide. J. H. Frazer and W. J. Kirkpatrick. bibliog Am Chem Soc J 62:1659-60 Jl '40
Preparation of sulfamic acid by the hydroxylamine-sulfur dioxide reaction. H. H. Sisler and L. F. Audrieth. Am Chem Soc J 61: 3389-91 D '39
Pyrites roasting and sulphur burning; recent developments meriting war-time attention. C. H. Butcher. Chem Age (Lond) 41:411-13 D 23 '39
Recovery of sulfur dioxide from waste gases; regeneration of the absorbent by treatment with zinc oxide. H. F. Johnstone and A. D. Singh. bibliog flow sheet il Ind & Eng Chem 32:1037-49 Ag '40
Solubility of sulfur dioxide in water. W. L. Beuschlein and L. O. Simenson. diag Am Chem Soc J 62:610-12 Mr '40
Sulphur burner applied to feed water treatment. S. T. Powell, G. A. Cain and J. B. Chatelain. bibliog il diags Power Pl Eng 44:54-7 My '40
Viscosity of solutions of sulfur dioxide in organic liquids. S. B. Cupp and H. E. Rogers. Am Chem Soc J 61:3353-4 D '39
Wastes problems in the nonferrous smelting industry. R. E. Swain. Ind & Eng Chem 31: 1358-9 N '39

See also
Plants, Effect of sulfur dioxide on
Sulfurous acid

Analysis

Conductometric analysis of bisulphite pulping liquors. E. R. Whittemore and S. I. Aronovsky. bibliog Paper Tr J 110:19-22 Je 20 '40
Replacing iodine in determining SO_2 and sulphites; abstract. Paper Ind 22:628 S '40

SULFUR dioxide, Liquid
Pressure drop in refrigerant liquid lines. E. Gygax and K. S. Willson. Refrig Eng 39: 103-6 F '40

SULFUR dyes
Reactions of sulfur and vapors of organic compounds at different temperatures. G. D. Palmer and others. Am Chem Soc J 62:1005-6 My '40

SULFUR hydride. See Hydrogen sulfide

SULFUR industry and trade
Brimstone game; monopoly in action. R. H. Montgomery. 94p $1.25 Vanguard press, 424 Madison av, New York '40
Freeport Sulphur profits from new venture; Cuban manganese subsidiary. F. H. McConnell. Barron's 20:8 My 6 '40
Mineral acids and sulphur. Chem & Met Eng 47:68-70 F '40
Sulfur in 1939. R. H. Ridgway. il Min Cong J 26:42-3 F '40
Sulphur industry in 1939. W. W. Duecker; L. M. Williams, jr. Comm & Fin Chr 150:504, 534 Ja 27 '40

Statistics

Changing currents in the sulphur industry; immediate outlook good. R. Lane. Annalist 56:537 O 24 '40

United States

Texas Gulf Sulphur; an inflation hedge. H. Lawrence. Barron's 20:13 N 4 '40
Texas Gulf Sulphur, Freeport Sulphur; earnings of leading American producers. S. Devlin. il Mag of Wall St 66:472-4+ Jl 27 '40

SULFUR oxides
Reduction of nitrosylsulphuric acid by sulphur monoxide. C. J. Wilkins. Chem Soc J p1157-9 Ag '40

See also
Glass, Effect of sulfur oxides on
Sulfur dioxide
Sulfur trioxide

SULFUR trioxide
Action of liquid ammonia upon sulfur trioxide addition compounds. H. H. Sisler and L. F. Audrieth. Am Chem Soc J 61:3392-3 D '39

SULFURETTED hydrogen. See Hydrogen sulfide

SULFURIC acid
Acidity scale in glacial acetic acid; sulfuric acid solutions $-6<H_0<0^{1,2}$. N. F. Hall and W. F. Spengeman. bibliog Am Chem Soc J 62:2487-92 S '40
Action of nitrous acid on dimethylaniline-*p*-sulphonic acid in sulphuric acid. A. M. M. Davidson and T. H. Reade. Chem Soc J p1701-3 N '39
Biochemical oxidation in acid water containing sewage. C. C. Ruchhoft, M. B. Ettinger and W. W. Walker. Ind & Eng Chem 32: 1394-8 O '40
Chemical giant. W. H. Waggaman. il Sci Am 163:10-11 Jl '40
Hydrolysis of peanut hulls. F. C. Vilbrandt, C. B. Mather and R. S. Dicks. bibliog Ind & Eng Chem 32:169-72 F '40
Irreversible electrode phenomena of thallium; hydrogen overvoltage in sulfuric acid. I. M. LeBaron and A. R. Choppin. diag Electrochem Soc Trans 77 (preprint 11):137-45 Ap '40
New Belgian pickling process saves acid for continual reuse; de Lattre process. A. McLeod. diags Steel 107:40-2, 44+ S 2 '40
Rates of formation of sulfoaliphatic acids. T. F. Murray, jr. and W. O. Kenyon. bibliog Am Chem Soc J 62:1230-3 My '40
Rates of the thermal reduction of dichromic acid by quinine, hydroquinine, and cinchonine in dilute sulfuric acid at 0 to 60°. L. J. Heidt. diags Am Chem Soc J 61:3455-8 D '39
Reaction of benzene with methylcyclobutene and methylenecyclobutane in the presence of sulfuric acid. V. N. Ipatieff and H. Pines. Am Chem Soc J 61:3374-6 D '39
Removal of chlorides and sulfates by synthetic resins. M. C. Schwartz, W. R. Edwards, jr. and G. Boudreaux. bibliog(48 references) Ind & Eng Chem 32:1462-6 N '40
Specifications for battery acid and sodium hydroxide. Can Chem & Process Ind 24:272 My '40
Sulphuric acid; selections from Watson (1771). J. P. de Castro. Chem & Ind 59:27 Ja 13 '40
Thermodynamic properties of sulfuric-acid solutions and their relation to the electromotive force and heat of reaction of the lead storage battery. D. N. Craig and G. W. Vinal. bibliog J Research Nat Bur Stand 24:475-90 Ap '40
Wastes problems of the iron and steel industries; treatment of waste pickle liquor. W. W. Hodge. flow diag il Ind & Eng Chem 31:1369-73 N '39

SULFURIC acid—*Continued*

Analysis

Sodium sulfate error in measuring acid content of carbonizing baths. H. C. Olsen, W. B. Prescott and H. C. Chapin. Am Dyestuff Rep 28:669-71 N 13 '39

Fuming acid

Action of ethyl azide and phenyl azide on fuming sulfuric acid. K. W. Sherk, A. G. Houpt and A. W. Browne. bibliog Am Chem Soc J 62:329-31 F '40

Manufacture

Conditions in, and some war problems of, the heavy chemical industry in 1939. P. Parrish. il Chem Age (Lond) 41:431-2+ D 30 '39

Ersatz raw materials for German H_2SO_4. K. Falk. il Chem & Met Eng 47:333 My '40

Fertilizer practice at Curtis bay; Davison chemical corp. R. S. McBride. il Chem & Met Eng 47:4-7 Ja '40

Practical removal of sulfuric-acid fog by bubble-phase absorption. D. W. Bransky and F. F. Diwoky. diags Am Pet Inst Proc 21M(3):39-45 My '40; Excerpts. Nat Pet N 32:R200-1 My 29 '40; Abstracts. Oil & Gas J 39:56 My 30 '40; Chem & Met Eng 47: 541-2 Ag '40

Sulphur as a fuel; producing sulphuric acid by the contact process. W. H. Harvey. diag Power Pl Eng 44:76-7 O '40

Then and now in plant operation; manufacture and concentration of nitric and sulphuric acids. E. F. Thoenges. Chem & Met Eng 46:713 N '39

Die verarbeitung von SO_2-haltigen konvertergasen auf schwefelsäure nach dem kontaktverfahren. Krebs. il diags Chemische Fabrik 13:186-9 Je 1 '40

Versuche zur verringerung des bleiverschleisses beim schwefelsäure-turm- und kammerverfahren. H. Lohfert. il Chemische Fabrik 12:499-502 D 6 '39

By-products

Utilization of industrial waste products; abstract. V. A. Rozenovich. Chem Ind 47:411 O '40

Statistics

Mineral acids and sulphur. Chem & Met Eng 47:68-70 F '40

Sulphuric acid (fertilizer manufacturers), 1936-1939. Survey of Cur Business 1940 Sup p89 [supplemented in monthly numbers]

SULFURIC anhydride. See Sulfur trioxide

SULFURIZED oils

Cutting oils and their application; sulfurized oils. T. B. Langdon. Mach 46:93-4 Mr '40

SULFUROUS acid

Studies on the esters of sulphurous, chlorosulphinic, and chlorosulphonic acids. W. Gerrard. Chem Soc J p218-30 F '40

Analysis

Replacing iodine in determining SO_2 and sulphites; abstract. Paper Ind 22:628 S '40

SULFURYL chloride

Chlorinations with sulfuryl chloride; (a) the peroxide-catalyzed chlorination of aliphatic acids and acid chlorides; (b) the photochemical sulfonation of aliphatic acids. M. S. Kharasch and H. C. Brown. Am Chem Soc J 62:925-9 Ap '40

Chlorinations with sulfuryl chloride; the peroxide-catalyzed reaction of sulfuryl chloride with ethylenic compounds. M. S. Kharasch and H. C. Brown. Am Chem Soc J 61:3432-4 D '39

New non-chlorine treatment for making wool unshrinkable (non-felting); comparison of sulfuryl chloride and active chlorine methods. A. J. Hall. bibliog il Soc Dyers & Col J 55:389-401 Ag '39; Abstract. Am Dyestuff Rep 29:157 Ap 1 '40

Organic syntheses with sulfuryl chloride. W. W. Binkley and E. F. Degering. il Am Chem Soc J 61:3250-1 D '39

Reaction between dibenzyl disulphide and sulphuryl chloride. G. H. Elliott and J. B. Speakman. Chem Soc J p641-9 My '40

Sulfonation reactions with sulfuryl chloride; the photochemical sulfonation of aliphatic acids with sulfuryl chloride. M. S. Kharasch, T. H. Chao and H. C. Brown. bibliog Am Chem Soc J 62:2393-7 S '40

SULFURYL fluoride

Molecular structures of sulfuryl fluoride and thiophosphoryl fluoride. D. P. Stevenson and H. Russell, jr. bibliog Am Chem Soc J 61:3264-8 D '39

SULLIVAN, Eugene Cornelius, 1872-

American contemporaries. J. T. Littleton. por Ind & Eng Chem News ed 18:821-2 S 25 '40

Ceramic history. por(cover) Am Cer Soc Bul 19:378-9 O '40

Sketch. por Glass Ind 21:104 Mr '40

SULLIVAN, John D. 1900-

Refractories division trustee. bibliog por Am Cer Soc Bul 19:234-5 Je '40

SULPHITE paper manufacturers association

Annual meeting. Paper Tr J 110:80, 82+ F 22 '40

SULPHUR. See Sulfur

SULZER boiler. See Boilers—Sulzer boiler

SUMAN, John Robert, 1890-

Portrait. Nat Pet N 32:12 O 30 '40

SUMATROL

Sumatrol; the synthesis of dehydrotetrahydrosumatrol. T. S. Kenny, A. Robertson and S. W. George. Chem Soc J p1601-4 O '39

SUMMER

Seasonal variation in reactions to hot atmospheres F. C. Houghten, A. A. Rosenberg and M. B. Ferderber. il Heating-Piping 12:139-42 F '40

Summer high temperature. Science 92:sup8+ Ag 2 '40

Summer of 1940 milder than '39, degree-hour data show. Heat & Ven 37:54 N '40

Summer weather data; with design data, statistics, charts, maps and technical analysis. J. C. Albright, comp. 165p $3 Marley co, 3001 Fairfax road, Kansas City, Kan. '39

What is summer? W. W. Sleator. Science 92: 238-9 S 13 '40; Discussion. W. J. Humphreys. 92:429 N 8 '40

See also
Hot weather

SUMMER advertising. See Advertising campaigns—Summer campaigns

SUMMER business

Check list for summer advertising. G. Bijur. Adv & Sell 33:38-9 My '40

Convention by mail; Hardware mutual casualty company inexpensively drags in some profitable between-seasons business. il Ptr Ink 190:21-3 Mr 8 '40

Three ways to conquer summer sales slump. C. Norton. Ptr Ink 191:11-12 My 24 '40

SUMMER cottages. See Cottages

SUMMER hotels. See Hotels

SUMMER resorts

Dual units solve resort sewage problem; activated sludge disposal plant in the Iowa Great Lakes region. A. D. Swisher. il Eng N 125:405-6 S 26 '40

Resort hotel makes short season pay; the Lauderdale Beach hotel, in Fort Lauderdale, Fla. il plans Arch Rec 88:95-7 Jl '40

SUMMER schools

Job histories of women workers at the summer schools 1931-34 and 1938. E. M. Snyder. U S Women's Bur Bul 174:1-25 '39

SUN

Accurate azimuths from direct solar observations by special solar shield. C. H. Wall. il Civil Eng 10:363-4 Je '40

Birth and death of the sun; stellar evolution and subatomic energy. G. Gamow. 238p $3 Viking press '40

SUN—*Continued*
Hydrogen prominences on the sun; viewed with telescope attachment, quartz monochromator. J. Stokley. Science 92:sup10 O 25 '40
Study of the sun. J. Stokley. Science 92:sup8 Jl 5 '40
What causes magnetic storms? not sun-spots but gases erupted from the sun. H. N. Russell. il Sci Am 162:332-3 Je '40
See also
Eclipses, Solar
Solar radiation
Corona
Colorado Rocky Mountain observatory of Harvard university; coronagraph studies. Science 91:425 My 3 '40
Coronaviser, an instrument for observing the solar corona in full sunlight; based on television technique. A. M. Skellett. il diags Bell System Tech J 19:249-61 Ap '40
Device for viewing the solar corona; television system that scans a ring around the sun. il diag Elec Eng 58:516 D '39
Television technique adopted in photographing sun's corona. il diags Electronics 13: 34+ F '40

SUN clocks
Telescoptics. A. G. Ingalls. il Sci Am 163:106-9 Ag '40

SUN glass institute
Bi-monthly meeting, Uniontown, Pa., Sept. 13-14. il Glass Ind 21:444-5 O '40

SUN glasses. See Spectacles

SUN insurance office, ltd. of London
230 years old; history of company. East Underw 41:21 F 9 '40

SUN life assurance company of Canada
Annual report, 1939. Comm & Fin Chr 150: 1147 F 17 '40; Excerpts. Spectator (Life ed) 144:38 F 15 '40
Unites foreign units. East Underw 41:16 S 13 '40; Weekly Underw 143:586 S 14 '40

SUN oil company
Income account for calendar years 1936-39. Comm & Fin Chr 150:1297 F 24 '40
Making strong headway against the field. J. J. Hipple. il Mag of Wall St 65:742-3+ Mr 23 '40

SUN spots. See Sunspots

SUNDAY labor
Legislation on weekly rest. Monthly Labor R 50:884-8 Ap '40

SUNDSTRAND machine tool company
Leaders in the machine tool industry; thumbnail appraisal. Mag of Wall St 66:31 Ap 20 '40

SUNLIGHT
Calculation of illumination from sun and sky. E. Elvegård and G. Sjöstedt. bibliog Illum Eng 35:333-42 Ap '40
Cancer and sunlight; abstract. F. L. Apperly. Science 91:sup13 Mr 29 '40
Proposed standard solar-radiation curves for engineering use. P. Moon. bibliog Franklin Inst J 230:583-617 N '40
See also
Daylight
Photosynthesis

SUNSPOTS
Active region on the sun's surface. F. Sanford. Science 92:309-10 O 4 '40
11-year and 27-day solar periods in meteorology. H. H. Clayton. diags Smithsonian Misc Coll v 99, no 5:1-20 '40 (pa 15c)
Present state of solar activity and associated phenomena. H. T. Stetson. Science 90:482-4 N 24 '39
Recent magnetic storm. W. Davis. Science 91: sup10 Ap 5 '40
Significance of variations in cosmic-ray intensity and their relation to solar, earth-magnetic and atmospheric phenomena. V. F. Hess. bibliog Rs Mod Phys 11:153-7 Jl-O '39
What causes magnetic storms? not sun-spots but gases erupted from the sun. H. N. Russell. il Sci Am 162:332-3 Je '40

SUPERCHARGERS
Altitude conditioning; fifth air conditioning function. il Heat & Ven 37:16-18 Ag '40
Boeing stratoliners for TWA. il Aero Digest 36:47+ Je '40
Cabin superchargers; sub-stratosphere flying. D. Gregg. il Aviation 39:46-7, 126 Ap '40
Engineering for the higher altitudes. W. E. Beall. il diags Aero Digest 37:52-6 O '40
Get altitude conditions in strato-chamber; laboratory, Boeing aircraft company. il Refrig Eng 40:161-2 S '40
Into the sub-stratosphere; description of the Boeing model 307. R. J. Minshall. il diags Aviation 39:46-9, 116, 119-20 My '40
Pan American airways' Boeing Stratoliner; with supercharger for cabin. il Aero Digest 36:29-30 Ap '40
See also
Airplane engines—Superchargers
Automobile engines—Superchargers

SUPERFINISH. See Metal finishing

SUPERHEATED steam
Application of superheated steam to combination-unit prime movers. A. E. Harnsberger. il diags Am Pet Inst Proc 21M(3):24-8 My '40; Same. Oil & Gas J 39:35, 38 My 30 '40; Discussion. Am Pet Inst Proc 21M(3): 28-9 My '40
Critical flow through nozzles and the gas constant of superheated steam. J. R. Finniecome. Engineering 149:454-5 My 3 '40
Cylinder lubrication with superheated steam. W. G. Forbes. il Power 84:681-2 O '40
See also
Superheaters

SUPERHEATERS
Boiler developments; abstract. A. Pollitt. Elec R (Lond) 126:216 Mr 1 '40
Development in design of boiler house auxiliaries. A. Pollitt. diags Engineer 169:381-2 Ap 19 '40
Experience on superheater operation; discussion. il diags Power 84:312-13 My '40
Marine superheaters. H. Hunter. Engineer 168:624-5 D 22 '39

SUPERHIGHWAYS. See Roads—Superhighways

SUPERIOR, Lake
See also
Isle Royale national park

SUPERIOR oil company of California
Debentures offered. Comm & Fin Chr 150: 2595 Ap 20 '40

SUPERMARKETS. See Market stores

SUPERNOVAE. See Stars—New

SUPERPHOSPHATES. See Phosphates

SUPERSONIC waves. See Ultrasonic waves

SUPERVISORY control. See Electric substations—Supervisory control

SUPERVISORY workers
Establishing standard allowances under a supervisory incentive plan. Management R 29:343-4 S '40
Modern foremanship and supervision under new deal legislation. H. B. Rector and W. A. Rinckhoff. 156p $4.50 Law research service, 712 Keith bldg, Cincinnati '40
Rating of supervisors by subordinates. I. J. Melsher and I. Weinstock. Personnel J 19:37-40 My '40

SUPPLY and demand
Assumptions implied in least squares demand techniques. L. A. Metzler. R Econ Statis 22:138-49 Ag '40
Can production of automobiles be stabilized by making their prices flexible? W. I. King. Am Statis Assn J 34:641-51 D '39
Concept of demand and price elasticity; the dynamics of automobile demand. C. F. Roos and V. von Szeliski. Am Statis Assn J 34:652-66 D '39
To amend the law of supply and demand; price agreements should be permitted to each industry, subject to approval by a special federal court. C. R. Stevenson. Advanced Management 4 no5:115-21 '39

SUPPLY and demand—*Continued*
Trading the Americas' surplus. A. A. Berle, jr. Trusts & Estates 71:175-7 Ag '40

See also
Competition
Consumption (economics)
Prices
Production, Limitation of
Stabilization in industry

SUPRARENAL bodies
Effect of synthetic pantothenic acid on adrenal hemorrhage, atrophy, and necrosis in rats. F. S. Daft and others. bibliog Pub Health Rep 55:1333-7 Jl 26 '40
Effects of steroid glycosides and cortin on insulin convulsions and blood sugar. R. L. Zwemer, K. L. Pines and B. E. Lowenstein bibliog Science 91:600-2 Je 21 '40
Excretion of cortin after surgical operation P. Weil and J. S. L. Browne. Science 90: 445-6 N 10 '39
Hemorrhagic adrenal necrosis in rats on deficient diets. F. S. Daft and W. H. Sebrell. Pub Health Rep 54:2247-50 D 22 '39
Hemorrhagic cortical necrosis of adrenals in rats on deficient diets. A. A. Nelson. bibliog Pub Health Rep 54:2250-6, pl 1-2 D 22 '39

SUPREME court. See United States—Supreme court

SURABAYA, Java
Port of Surabaya. il(cover) Comm Rep p344 Ap 13 '40

SURETY and fidelity insurance. See Insurance, Surety and fidelity

SURETYSHIP and guaranty
Printer's invoice guaranteed? C. R. Rosenberg, jr. Inland Ptr 104:38 F '40
Progress and legislation concerning personal suretyship for guardians H. W. Nichols. Weekly Underw 143:710-13 S 28 '40

See also
Insurance, Surety and fidelity

SURFACE active substances
Laboratory uses for surface-active agents. C. M. Alter and D. S. Thomas, jr. Ind & Eng Chem Anal ed 12:525 S 15 '40
Relation between sheet strength and fiber surface conditions. H. P Dixson, jr. bibliog Paper Tr J 111:29-36 Jl 18 '40
Surface active agents and detergents. Chem & Ind 59:255 Ap 13 '40
Surface-active agents in pigment grinding. Oil Paint & Drug Rep 138:48-9 N 4 '40
Surface active chemicals; their behavior and practical application. J. H. Shipp. il Paper Ind 22:390+ Jl '40
Surface cation active compounds in the textile industry. J. Katz. Am Dyestuff Rep 28: 671-4 N 13 '39
Wetting agents, their structure, characteristics, and uses. C. A. Sluhan. bibliog Paper Tr J 111:26-31 Ag 22 '40

See also
Dispersing agents

Analysis

Analysis of cationic surface-active agents of trivalent nitrogen type. R. Hart. Ind & Eng Chem Anal ed 12:400-2 Jl 15 '40; Same. Am Dyestuff Rep 29:411-14 Ag 19 '40; Same. Textile Col 62:698-701 O '40; Same. Rayon 21:613-14+, 697-8 O-N '40

SURFACE phenomena
Earliest history of capillary chemistry. I. Traube. J Chem Educ 17:324-9 bibliog(50 titles, p328-9) Jl '40
Hydrogenation of ethylene at surfaces of certain oxides; zinc oxide and zinc chromite. J. F. Woodman and H. S. Taylor. bibliog Am Chem Soc J 62:1393-6 Je '40
Image and Van der Waals forces at a metallic surface. J. Bardeen. bibliog Phys R 58: 727-36 O 15 '40
Interactions between polycyclic hydrocarbons and sterols in mixed surface films at the air-water surface. W. W. Davis, M. E. Krahl and G. H. A. Clowes. Am Chem Soc J 62:3080-98 N '40
Monolayers on solids. I. Langmuir. Chem Soc J p511-43 Ap '40
Pressure-soluble and pressure-displaceable components of monolayers of native and denatured proteins. I. Langmuir and D. F. Waugh. diags Am Chem Soc J 62:2771-93 O '40
Properties of kaolinite as a function of its particle size. C. G. Harman and F. Fraulini. bibliog il Am Cer Soc J 23:252-9 S '40
Some experiments showing the directional reactivities of single crystals of copper. A. T. Gwathmey and A. F. Benton. il Electrochem Soc Trans 77 (preprint 9): 113-20 Ap '40
Surface conditions of silver halides and rate of reaction; rate of reduction of precipitated silver chloride. T. H. James. bibliog Am Chem Soc J 62:536-40 Mr '40
Surface conditions of silver halides and the rate of reaction; reduction of nucleated silver chloride. T. H. James. bibliog Am Chem Soc J 62:1649-54 Jl '40
Surface conditions of silver halides and the rate of reaction; reduction of silver chloride by hydrazine. T. H. James. bibliog Am Chem Soc J 62:1654-8 Jl '40
Surface migration of ions and contact exchange. H. Jenny and R. Overstreet. bibliog diags J Phys Chem 43:1185-96 D '39

See also
Adsorption
Catalysis
Contact angle
Films
Spreading
Surface tension
Wetting

SURFACE pressure
Variation of the solubility of unimolecular films with surface pressure, and its effect on the measurement of true surface pressure. F. Sebba and H. V. A. Briscoe. Chem Soc J p114-18 F '40

SURFACE tension
Change with time of the surface tension of solutions of sodium cetyl sulfate and sodium lauryl sulfate. G. C. Nutting, F. A. Long and W. D. Harkins. Am Chem Soc J 62: 1496-1504 Je '40
Macleod constant and its dependence on physicochemical factors. D. T. Lewis. bibliog J Phys Chem 44:1007-11 N '40
Microtome measurements of the adsorption of hydrocinnamic acid in the surface of its aqueous solutions. J. W. McBain, T. F. Ford and G. F. Mills. bibliog il Am Chem Soc J 62:1319-24 Je '40
New method for studying the properties of lubricating oils based on the use of a new instrument; automatic recording tensiometer. P. Lecomte du Noüy. Science 91: 311-2 Ap 5 '40
Un nouvel instrument de recherche et de contrôle: le tensiomètre enregistreur. P. Lecomte du Noüy. Chimie & Ind 43:181-7 F 5 '40
Observations of surface tension in the Pockels-Langmuir-Adam-Wilson-McBain trough. J. W. McBain, J. R. Vinograd and D. A. Wilson. bibliog Am Chem Soc J 62:244-8 F '40
Physical chemistry of the newer detergent processes. M. Dole. Am Dyestuff Rep 29: 314-21; Discussion. 321-2 Je 24 '40
Physical properties and chemical constitution; alkyl ketones. D. M. Cowan, G. H. Jeffery and A. I. Vogel. diag Chem Soc J p171-6 F '40
Physical properties of the aliphatic acid anhydrides. D. T. Lewis. Chem Soc J p32-6 Ja '40
Properties of liquids in fine capillaries; surface tension and density. L. H. Cohan and G. E. Meyer. diag Am Chem Soc J 62: 2715-16 O '40
Shearing resistance of soil; its measurement and practical significance. W. S. Housel. il diags Am Soc T M Proc 39:1084-99 '39
Studies on reactions relating to carbohydrates and polysaccharides; the surface tensions of aqueous solutions of polyoxyethylene glycols. E. L. Lovell and H. Hibbert. bibliog Am Chem Soc J 62:2144-8 Ag '40

SURFACE tension—*Continued*
Surface tension in the system hydrazine—water at 25°. N. B. Baker and E. C. Gilbert. bibliog Am Chem Soc J 62:2479-80 S '40
Surface tension measurements on molten glass by a modified dipping cylinder method; calcite and dolomite lime glasses. C. L. Babcock. bibliog diag Am Cer Soc J 23:12-17 Ja '40
Surface tension of a solvent-diluent mixture. J. K. Stewart and G. C. Hook. bibliog il Ind & Eng Chem 32:871-6 Je '40
Surface tension of aqueous solutions of some paraffin chain colloidal electrolytes, including a comparison of the capillary rise and sessile bubble methods of measurement. H. V. Tartar, V. Sivertz and R. E. Reitmeier. bibliog diag Am Chem Soc J 62:2375-80 S '40
Surface tension of ethyl alcohol-water mixtures. W. S. Bonnell, L. Byman and D. D. Keyes. bibliog diag Ind & Eng Chem 32: 532-4 Ap '40
Surface tension of plating solutions. D. S. Hartshorn, jr. il Metal Finishing 38:476-8 S '40
Thermodynamic properties of the hexyl alcohols; 2-methylpentanol-3 and 3-methylpentanol-3. F. Hovorka, H. P. Lankelma and A. E. Axelrod. bibliog Am Chem Soc J 62:187-9 Ja '40
Thermodynamic properties of the hexyl alcohols; 3-methylpentanol-1 and 2-methylpentanol-5. F. Hovorka, H. P. Lankelma and I. Schneider. bibliog Am Chem Soc J 62:1096-8 My '40
Twin-ring surface tensiometer; the apparent surface tension of potassium chloride solutions. M. Dole and J. A. Swartout. bibliog il diag Am Chem Soc J 62:3039-45 N '40
Type III surface tension curves with minimum in dilute solution in pure hydrocarbons. M. E. L. McBain and L. H. Perry. Am Chem Soc J 62:989-91 Ap '40
Variability of plantation latex; surface tension. D. S. Villars. il Ind & Eng Chem 32:368-72 Mr '40
Wetting characteristics of solid surfaces covered with adsorbed films. F. E. Bartell and K. E. Bristol. bibliog diags J Phys Chem 44:86-101 Ja '40

SURFACES
Determination of the surface of powders. F. B. Kenrick. Am Chem Soc J 62:2838 O '40
Fatigue strength, of members as influenced by surface conditions. O. J. Horger. il Product Eng 11:490-3 N '40 (to be cont)
How should engineers describe a surface? various machine parts and their surface requirements. O. R. Schurig. il Mech Eng 62: 703-11 O '40
Method for the measurement of flatness of polished surfaces. C. Tuttle and R. Cartwright. il diag Opt Soc Am J 30:348-50 Ag '40
Minimal surfaces of unstable ring type; abstract. M. Morse and C. B. Tompkins, 2d. Science 91:457 My 10 '40
Nature of the surface of catalytic nickel; poisoning by ethylene and by methane decomposition. W. W. Russell and W. V. Loebenstein. Am Chem Soc J 62:2573-80 O '40
Plastic yielding and fatigue of ductile metals; a criterion and its application. R. W. Bailey. bibliog Inst Mech Eng J & Proc 143:Proc 101-7 My '40
Superfinish. D. A. Wallace. il diags S A E J 46:69-92 F '40

See also
Electric double layer
Films
Specific surface
Spherical surfaces

Smoothness testing
Brush surface analyzer for determining smoothness of finished surfaces. il Mach 46:180 Ap '40; Am Mach 84:222 Ap 3 '40
Evaluating the surface finish of metals. J. Guild. diags Engineering 150:44-5 Jl 19 '40
Irregularities in metal surfaces given in millionths of an inch; surface analyzer, developed by Brush development co. il Steel 106:58 F 5 '40
New surface analyzer at the Chrysler Jefferson Avenue plant. Iron Age 145:42+ Ja 11 '40
One millionth of an inch; profilograph studies of surface finishing. il Sci Am 162:101 F '40
Research on surface finish. G. Schlesinger. il diags Engineering 149:344-5 Mr 29 '40
Surface profiles in microinches; Brush surface analyzer. il Iron Age 145:32-3 F 15 '40
What is surface quality? H. J. Wills. il Am Mach 84:199-200 Ap 3 '40

SURGEONS
Surgeon's life; the autobiography of J. M. T. Finney. 396p $3.50 Putnam '40

SURGERY
Essentials of modern surgery. R. M. Handfield-Jones and A. E. Porritt, eds. 1126p $9 Wood '38
Harvey (Williams) Cushing. E. C. Cutler. Science 90:475-82 N 24 '39
Spare parts; human body contains large number. G. H. Estabrooks. Sci Am 162:92-4 F '40
Surgeon explains to the layman. M. Benmosché. 317p bibliog(p300) $3 Simon and Schuster, New York '40
Surgeon's destiny; the sequel to The healing knife. G. Sava. 280p 8s 6d Faber and Faber, London '39
Treatment of shock in surgical operations. D. Perla. Science 91:sup12 Mr 15 '40

See also
Fractures (surgery)
Hospitals—Operating rooms

SURGERY, Plastic
Surgery of injury and plastic repair. S. Fomon. 1409p $15 Wood '39

SURGES. See Electric transient phenomena

SURGICAL clips. See Clips, Surgical

SURGICAL electric lamps. See Electric lamps, Surgical

SURGICAL instruments and apparatus
Surgical instrument fishes bullets from abdomen; peritoneoscope. Sci Am 162:35-6 Ja '40

SURPLUS
Delusions about balance sheet surplus. E. Caldwell. Am Business 10:15-17 O '40
Dividends and the penalty tax; imposition depends on accumulation of surplus beyond reasonable needs of business. J. B. Lowe and J. D. Wright. Barron's 19:7 N 20 '39
Integration of income and surplus statements. A. C. Littleton. J Account 69:30-40 Ja '40
Nature of acquired surplus. T. York. J Account 69:363-8 My '40
Securities and exchange commission opinion on earned surplus; capital surplus. J Account 69:417-18 My '40
Surplus on balance-sheet of insurance company. J Account 70:460 N '40

SURPLUS commodities corporation, Federal. See Federal surplus commodities corporation

SURVEY markers
Monuments for municipal surveys; Miami, Fla. E. M. Rader. il diags Eng N 124:27-8 Ja 4 '40

SURVEYING
Accurate azimuths from direct solar observations by special solar shield. C. H. Wall. il Civil Eng 10:363-4 Je '40
Carter coordinate survey system used in Kentucky. Oil & Gas J 38:66 N 30 '39
Combining geodetic survey methods with cadastral surveys; reservoir boundary; Grand Coulee dam; with cost data. C. M. Berry. maps Am Soc C E Proc 65:1158-89 S '39; Discussion. 65:1805-6; 66:153-4, 332-40, 1075-8 D '39-F, Je '40
Elementary surveying. W. C. Taylor. 236p $2 International textbook co, Scranton, Pa. '39

SURVEYING—*Continued*

Elements of mapping. R. C. Matson. 96p bibliog(p93) $1.30 Michigan college of mining and technology, Houghton '40

Engineering surveys. H. Rubey, G. E. Lommel and M. W. Todd. rev ed 320p, 141p bibliog (p321) $3.50 Macmillan '40

Free lot surveys made in Fort Dodge, Iowa. J. L. Parsons. Eng N 124:601 Ap 25 '40

Graphical method for land subdivision problems. R. Kinslow. Civil Eng 10:526-7 Ag '40

Improved method for adjusting level and traverse surveys. C. Norris and J. L. Speert. diag Am Soc C E Proc 65:1367-85 O '39; Discussion. 66:159-64, 341-8, 517-18, 1085-8 Ja-Mr, Je '40

In search of the north boundary of Wyoming; field notes of original survey and account of recent retracements. W. R. Bandy. il Civil Eng 10:215-18 Ap '40

Manual of elementary surveying problems. W. L. Willig. 2d ed 188p pa $1.35 City college store, Convent av. & 139th st, New York '40

Miniature system of first-order alinement and triangulation control; measuring horizontal movements of Tygart dam. F. W. Hough. il diags Am Soc C E Proc 65:1707-17 D '39; Discussion. 66:1133-8 Je '40

Monuments for municipal surveys; Miami, Fla. E. M. Rader. il diags Eng N 124: 27-8 Ja 4 '40

Proposed improvements for land surveys and title transfers. P. Kissam. Am Soc C E Proc 65:573-82 Ap '39; Discussion. 65:1267-8; 66:285-6 S '39, F '40

Reconnaissance surveys; variety of methods. L. B. Roberts. il Civil Eng 10:571-4 S '40

Registration of surveys needed in most states. P. Kissam. Eng N 124:334 F 29 '40

Simple formula aids in running spirals. C. W. Charleson. Civil Eng 9:740-1 D '39

Spirit leveling in Utah, 1897-1938. J. G. Staack. pl fold map U S Geol S Bul 912:1-222 '40

Surveying and field work. J. Williamson. 2d rev & enl ed 511p 20s Constable and co, London '38

Surveying; theory and practice. R. E. Davis and F. S. Foote. 3d ed 1032p $5 McGraw-Hill '40

Transit traverse in Missouri; central Missouri, 1902-37. J. G. Staack. maps U S Geol S Bul 916-G:869-1024, pl 1 '40

Transit traverse in Missouri; east-central Missouri, 1903-37. J. G. Staack. pl maps U S Geol S Bul 916-C:297-439 '39

Transit traverse in Missouri; northeastern Missouri, 1900-37. J. G. Staack. maps U S Geol S Bul 916-F:733-868, pl 1 '40

Transit traverse in Missouri; northwestern Missouri, 1911-37. J. G. Staack. pl U S Geol S Bul 916-D:1-563 '40

Transit traverse in Missouri; south-central Missouri, 1908-37. J. G. Staack. maps U S Geol S Bul 916-B:1-10, 125-295, pl 1 '39

Transit traverse in Missouri; southeastern Missouri, 1903-37. J. G. Staack. maps U S Geol S Bul 916-A:1-124, pl 1 '39

Transit traverse in Missouri; southwestern Missouri, 1900-37. J. G. Staack. maps U S Geol S Bul 916-E:565-732, pl 1 '40

Treatise on the law of surveying and boundaries. F. E. Clark. 2d ed 896p $6 Bobbs '39

See also

Hydrographic surveying
Leveling
Mine surveying
Topographical maps
Topographical surveying

Bibliography

Early books on surveying; English books circulated in the colonies. E. D. Kingman. Civil Eng 10:514 Ag '40

History

Roger Sherman, colonial surveyor. E. D. Kingman. il Civil Eng 10:514-15 Ag '40

Tables, calculations, etc.

Reconnaissance and mapping speeded by tables; useful in work with Brunton transit. W. B. Phillips. Eng & Min J 141:55-6 My '40

SURVEYING, Aerial

Measuring reservoir capacity from twenty thousand feet; aerial survey work. il Power Pl Eng 44:89+ N '40

See also

Mapping, Aerial

SURVEYING, Topographical. See Topographical surveying

SURVEYING instruments

Instrument for obtaining levels uses gage glasses and tubing. diag Coal Age 45:66+ N '40

Progress in design of surveying instruments; abstract. R. McAdam. diags Coal Age 45:56-7 Ag '40

Training ABC's you can give dealer salesmen without investing a fortune; Berger correspondence course on surveying instruments. H. W. Drew. il Sales Management 46:27-8 Je 15 '40

See also

Transit, Surveyor's

SURVEYS, Social. See Social surveys

SURVIVORSHIP, Presumption of

Laws establishing simultaneous death; no legal presumption of survivorship; abstracts. B. P. Sears. East Underw 40:20 D 15 '39; Nat Underw (Life ed) 43:7 D 15 '39

Rights to proceeds in case of common death. East Underw 41:12 Mr 15 '40

SUSPENSION bridges. See Bridges, Suspension

SUSPENSIONS

Chemical preparation of colloidal suspensions in non-aqueous solvents. A. A. Vernon and H. A. Nelson. bibliog J Phys Chem 44: 12-25 Ja '40

Coefficient of thixotropy of suspensions of carbon black in mineral oil. J. E. Arnold and C. F. Goodeve. bibliog diags J Phys Chem 44:652-70 My '40

Fine particle suspensions in organic liquids. C. R. Bloomquist and R. S. Shutt. bibliog il diags Ind & Eng Chem 32:827-31 Je '40

Flow of suspensions through narrow tubes. F. J. Dix and G. W. Scott Blair. bibliog diags J Ap Phys 11:574-81 S '40

Optical properties of colloidal suspensions in relation to the measurement of particle-size frequency. E. G. Richardson. il diag J Ap Phys 11:653-7 O '40

Sedimentation of suspensions. L. T. Work and A. S. Kohler. bibliog diag Ind & Eng Chem 32:1329-34 O '40; Same. Am Inst Chem Eng Trans 36:701-19 O '40

See also

Sedimentation

SUTTON HOO. See England—Antiquities

SUYE MURA, Japan

Suye Mura, a Japanese village. J. F. Embree. 354p bibliog(p327-9) $3 Univ. of Chicago press '39

SWAGING

Buick swages wishbone bearing; substitution of fabric bushings. il diags Am Mach 84: 55-7 F 7 '40

New machine bands shells by swaging. il Steel 107:78 N 11 '40

SWAGING machines

Stevens and Bullivant rotary swaging machine. il Engineering 149:519 My 24 '40

SWAMPS. See Marshes

SWEDEN

Outlines of Sweden. E. Söderlund and N. Hedin. 78p bibliog(p77-8) pa 15c American-Swedish news exchange, 630 5th av, New York '39

Sweden, a northern neutral. Comm & Fin Chr 150:741-4 F 3 '40

See also

Budget—Sweden
Electric apparatus industry—Sweden
Hydroelectric plants —Sweden

SWEDEN—See also—*Continued*
Insurance, Social—Sweden
Iron mines and mining—Sweden
Labor and laboring classes—Sweden
Wages—Sweden

Commerce

Trans-Siberian rail route for Swedish trade with United States probably impracticable. For Comm W 1:210-11 N 2 '40

Commercial policy

Exchange control tightened. Comm Rep p280 Mr 23 '40
Formal exchange control established. Comm Rep p208 Mr 2 '40
Sweden assumes control of foreign exchange to stop flight of capital. Comm & Fin Chr 150:1350, 1684 Mr 2, 16 '40
Sweden's exchange control and Anglo-Swedish payments. Economist 138:384 Mr 2 '40

Economic conditions

Business situation (cont). Comm Rep p1052-4, 1215 N 18, D 30 '39; p75, 387-8, 450, 474, 507, 559-60, 639-40, 682 Ja 27, Ap 27, My 18-25, Je 8, 29, Jl 27, Ag 10 '40
Conditions in Sweden. For Comm W 1:160 O 26 '40
Sweden in isolation. Economist 139:47 Jl 13 '40
War trade in neutral Sweden. Economist 138:200 F 3 '40

Industries and resources

Industrial history of Sweden. E. C. Smith. Engineering 149:548-9 My 31 '40
Rise of modern industry in Sweden. A. Montgomery. 287p 10s 6d P. S. King & son, London '39

SWEET potatoes
Agriculture has engineering problems in heating and ventilating; curing and storing sweet potatoes. F. B. Lanham. diags plans Heating-Piping 11:770-3 D '39
Pectin from sweetpotato pulp. E. Yanovsky. Food Ind 11:710 D '39
Sirup from sweet potato starch. L. E. Stout. il Manuf Rec 103:33+ F '40
Sirup from sweet potato starch; a pilot-plant investigation. L. E. Stout and C. G. Ryberg, jr. bibliog diag Ind & Eng Chem 31:1451-4 D '39
Sweet potato starch output expanded. H. G. Knight. Oil Paint & Drug Rep 137:27 Ja 29 '40

Analysis

Effect of certain carbohydrates on the determination of carotene. E. J. Lease and J. H. Mitchell. bibliog Ind & Eng Chem Anal ed 12:337-8 Je 15 '40

SWEETENING agents
Improved sweetening agent developed from corn starch. il Food Ind 12:62 Ja '40
Real issue in the sweetener controversy. R. S. McBride. Food Ind 12:36-7 S '40
Sweetener controversy gets official airing in hearing on canned fruits. Food Ind 12:70 O '40
200 tell what they prefer in pickle sweeteners. R. G. Switzer and F. W. Fabian. il Food Ind 12:38-40 N '40

See also
Sirups

SWELLING
Cellulose sheet swelling; effect of temperature and concentration of sodium hydroxide solutions. G. A. Richter and K. E. Glidden. bibliog il Ind & Eng Chem 32: 480-6 Ap '40
Cellulose sheet swelling; effect of temperature, secondary reagents, and sheet physical properties on swelling in sodium hydroxide solutions. G. A. Richter and K. E. Glidden. il Ind & Eng Chem 32:1122-8 Ag '40
Organic substances that cause swelling. J. R. Katz and J. Seiberlich. Rayon 21:42-3 Ja '40
Swelling of synthetic rubbers in mineral oils; effect of variation in aniline point of oils. F. H. Carman, P. O. Powers and H. A. Robinson. bibliog Ind & Eng Chem 32: 1069-72 Ag '40
Swelling of wool fibers; abstract. Ohara. Textile Col 62:619 S '40
Water- and washing-resistant finishes on textiles. C. H. S. Tupholme. Am Dyestuff Rep 29:466+ S 16 '40

See also
Wood—Shrinking and swelling

SWIFT and company
Annual report. Comm & Fin Chr 149:4042 D 23 '39
Libby, McNeill severance from Swift co. approved. Oil Paint & Drug Rep 136:5 N 27 '39

SWIMMING

Bibliography

Bibliography of swimming. F. A. Greenwood, comp. 308p $4 25 Wilson, H.W. '40

SWIMMING pools
Bacteriological survey of indoor swimming pools in the province of Quebec. R. Cyr. il Can Eng W & S 78:13+ S '40
Derby baths of the Blackpool corporation. il Engineering 149:544, 553-4 My 31 '40
Filtration and softening plant and swimming pool built for Opelousas, La. by WPA. il Pub Works 71:17-18 Mr '40
Public health aspects of bathing pool sanitation. H. B. Gotaas. il Pub Works 71:23-4 O '40
Swimming pool water treatment. H. L. White. il diags Am Water Works Assn J 32:105-14 Ja '40
Water brought from a hot spring for a swimming pool. Pub Works 71:26 Jl '40

Heating

MIT builds panel heated pool. Heat & Ven 36:50 D '39

Standards

Standards and regulations for quality of water in bathing places. A. E. Berry and A. V. Delaporte. il diag Can Eng W & S 78:5-8+ Ag '40

SWIMMING pools, Asphalt
Municipal recreational field in Montpelier, Vt. includes asphalt swimming pool. A. D. Bishop. il diag Pub Works 71:12-14 My '40

SWIMMING pools, Concrete
Design and construction of outdoor swimming pools. E. H. Darling. il diags plan Can Eng W & S 78:7-9+ Jl '40
$1,500 swimming pool; Coast architect's bowl design cuts costs drastically. il Business Week p46 O 5 '40
Packaged pools at $1500 make debut on West coast. il Sales Management 47:26+ S 15 '40

SWINDLERS and swindling
Big con; the story of the confidence man and the confidence game. D. W. Maurer. 300p $2.50 Bobbs '40

See also
Forgery
Fraud

SWINE
Effect on animal health of feeding sewage; swine and cattle in severe six-month test remain in good condition. A. B. Crawford and A. H. Frank. il Civil Eng 10:495-6 Ag '40
Hog feeding with garbage under study in Los Angeles. Eng N 124:732 My 23 '40

See also
Pork

SWITCHBOARDS
Arc welding saves in switchboard assembly. L. Haines. il Elec W 112:1626 D 2 '39
Pipe switchboard serves varied load. H. D. Blakeney. il Elec W 114:276-7 Jl 27 '40
Plug-in devices promise easier maintenance, lower cost. G. S. Van Antwerp. il Elec W 113:580-1+ F 24 '40
Switchboard designed to illustrate relay performance. A. J. Cowan. diag Gen Elec R 43: 402-5 O '40

SWITCHBOARDS—*Continued*

Manufacture

Steel switchgear. L. F. Dytrt. il Steel 106: 52-3+ My 27 '40

SWITCHBOARDS, Telephone. See Telephone switchboards

SWITZERLAND

See also
Chemical industries—Switzerland
Corporation law—Switzerland
Electric industries—Switzerland
Wages—Switzerland

Army

Compensation scheme for Swiss soldiers. L. Harrison. Monthly Labor R 50:847-8 Ap '40

Commerce

Swiss-American economic relations. D. G. Jacquelin. 295p bibliog(p275-95) pa 80c Columbia univ. press '39

War repercussions on Swiss trade, 1939. Economist 138:421 Mr 9 '40

Economic conditions

Business situation (cont). Comm Rep p1054, 1107-8, 1190 N 18, D 2, 23 '39

Economic conditions in Switzerland. For Comm W 1:161 O 26 '40

Strain on the Swiss economy. Economist 138: 57-8 Ja 13 '40

Swiss federal problems. Economist 138:464 Mr 16 '40

Swiss supply difficulties. Economist 138:568 Mr 30 '40

Politics and government

Swiss elections; end of the pro-German front. map Economist 137:250-1 N 18 '39

SWOPE, Gerard, 1872-

G.E.'s third generation; Wilson and Reed; replace Owen D. Young and Gerard Swope Fortune 21:68-9+ Ja '40

SYDNEY, New South Wales

Port of Sydney, Australia. il(cover) Comm Rep p216 Mr 2 '40

See also
Electricity supply—Sydney, New South Wales

SYENITE

See also
Nephelite syenite

SYMBOLS

See also
Dental symbols
Electric symbols
Mathematical symbols

SYMBOLS, Dental. See Dental symbols

SYNCHRONIZING

Cathode-ray type synchronism indicator. F. S. Beale. il diag Instruments 13:77-8 Mr '40; Abstract, Electronics 13:105 Ap '40

Relay scheme stops synchronizing errors. E. F. Miller. diag Elec W 113:314+ Ja 27 '40

Synchronized drives; features and applications of synchrotie systems. C. W. Drake. il diags Product Eng 11:303-6 Jl '40

Synchronizing transients and synchronizers for large machines. R. D. Evans, F. H. Gulliksen and C. B. Myhre. diags Electronics 13:71-5 Mr '40

SYNCLINES

Quaternary history of Louisiana. R. J. Russell maps Geol Soc Bul 51:1199-1233 bibliog(p1230-3) Ag '40

See also
Folds (geology)

SYNERESIS

Étude de la synérèse du gluten de froment. E. Baron. Chimie & Ind 43:277-82 F 20 '40

SYNTHEPHONE

Synthephone. C. A. Culver and D. T. Williams. il diags R Sci Instr 10:319-21 N '39

SYNTHESIS

Addition reactions of vinyl phenyl ketone; the diene synthesis. C. F. H. Allen and others. Am Chem Soc J 62:656-64 Mr '40

Antiplasmodial action and chemical constitution; the synthesis of some complex carbinolamines and polyamines. T. S. Work. Chem Soc J p1315-20 S '40

Application of the diene synthesis to terpenoid compounds; eucarvone and maleic anhydride. T. F. West. Chem Soc J p1162-4 Ag '40

Aromatic cyclodehydration; 6-methyl- and 5-methyl-6-ethylchrysene. C. K. Bradsher and A. S. Burhans. Am Chem Soc J 62:3140-1 N '40

Attempt to synthesize a substituted cyclo-öctatetraene. S. Wawzonek. bibliog Am Chem Soc J 62:745-9 Ap '40

Attempts to find new antimalarials; synthesis of some derivatives of 4-carboline and 5:6-benz-4-carboline. W. O. Kermack and W. Tebrich. Chem Soc J p314-18 Mr '40

Attempts to prepare optically active tervalent nitrogen compounds; syntheses of 1 : 9-phenylenecarbazole and derivatives. H. G. Dunlop and S. H. Tucker. Chem Soc J p1945-56 D '39

Chemistry of vitamin E; a new synthesis of 2,4,6,7-tetramethyl-5-hydroxycoumaran and of 2-methyl-5-hydroxycoumaran; oxidation products of the tetramethylcoumaran. L. I. Smith, H. H. Hoehn and A. G. Whitney. bibliog Am Chem Soc J 62:1863-9 Jl '40

Colchicine and related compounds; synthesis of a simple analogue of N-acetylcolchinol methyl ether. J. W. Cook and L. L. Engel. Chem Soc J p198-200 F '40

Constituents of natural phenolic resins; a synthesis of *l*-matairesinol. R. D. Haworth and F. H. Slinger. Chem Soc J p1098-1101 Ag '40

Diene addition products to diaroylethylenes and their transformation products. R. Adams and R. B. Wearn. Am Chem Soc J 62:1233-7 My '40

Diene synthesis of 2,3-dialkyl-1,4-naphthoquinones related to vitamin K. L. F. Fieser and C. W. Wieghard. Am Chem Soc J 62:153-5 Ja '40

Direct introduction of the angular-methyl group. R. B. Woodward. bibliog Am Chem Soc J 62:1208-11 My '40

Direct synthesis of resolvable biaryls. E. R. Atkinson and H. J. Lawler. bibliog Am Chem Soc J 62:1704-8 Jl '40

Disproportionation of aryloxymalonic acid syntheses. J. B. Niederl and R. T. Roth. bibliog Am Chem Soc J 62:1154-6 My '40

Dissociation catalytique et synthèse du méthanol. O. Kostelitz and G. Hensinger. Chimie & Ind 42:757-73 N '39

Electro-organic chemical preparations. S. Swann, jr. bibliog Electrochem Soc Trans 77 (preprint 26):315-54 Ap '40

Experiments on the synthesis of 1:2-dimethyl-*cyclo*hexylacetic acid. F. C. Copp and J. L. Simonsen. Chem Soc J p415-18 Ap '40

Experiments on the synthesis of oestrone; the 2-(β-phenylethyl)-furans as components in the diene synthesis. R. B. Woodward. bibliog Am Chem Soc J 62:1478-82 Je '40

Experiments on the synthesis of substances related to the sterols; tetracyclic ketones. R. Robinson and J. M. C. Thompson. Chem Soc J p1739-42 N '39

Fused carbon rings; experiments on the synthesis of tetracyclic compounds of the sexual hormone type. V. C. E. Burnop, G. H. Elliott and R. P. Linstead. Chem Soc J p727-35 Je '40

Fused carbon rings; further investigations of model substances of the sexual hormone type. V. C. E. Burnop and R. P. Linstead. Chem Soc J p720-7 Je '40

o-Halide synthesis of 10-methyl-1',9-methylene-1,2-benzanthracene. L. F. Fieser and J. Cason. bibliog Am Chem Soc J 62:432-6 F '40

Kolbe synthesis with alkyl-o-xenols. S. Harris and J. S. Pierce. Am Chem Soc J 62:2223-5 Ag '40

Mechanism of the synthesis of hydrocarbons from water gas. S. R. Craxford and E. K. Rideal. Chem Soc J p1604-14 O '39

SYNTHESIS—*Continued*
New method for the synthesis of β-phenylnaphthalene derivatives. M. Weizmann, E. Bergmann and E. Bograchov. bibliog Chem & Ind 59:402-3 Je 8 '40
New syntheses of basic amino-acids and glycine. D. W. Adamson. Chem Soc J p1564-8 O '39
New synthesis of coronene. M. S. Newman. bibliog Am Chem Soc J 62:1683-7 Jl '40
New synthesis of isocytosine. W. T. Caldwell and H. B. Kime. Am Chem Soc J 62:2365 S '40
New synthesis of phenanthrene derivatives; phenanthrene-9,10-dicarboxylic anhydride and phenanthrene-9-carboxylic acid. T. A. Geissman and R. W. Tess. bibliog Am Chem Soc J 62:514-16 Mr '40
New synthesis of thyronine. C. R. Harington and R. V. Pitt Rivers. Chem Soc J p1101-3 Ag '40
Nouvelles synthèses catalytiques des hydrocarbures. V. N. Ipatieff. Chimie & Ind 42: 215-22 Ag '39; Same (New catalytic synthesis of hydrocarbons). Chem Age (Lond) 41:343-4, 371-3 N 18, D 2 '39
Organic synthesis. C. F. H. Allen, ed. v 20 113p $1.75 Wiley '40
Organic syntheses with sulfuryl chloride. W. W. Binkley and E. F. Degering. il Am Chem Soc J 61:3250-1 D '39
Pantothenic acid; partial and total synthesis studies. R. J. Williams and others. bibliog Am Chem Soc J 62:1784-5 Jl '40
Pantothenic acid; the total synthesis of pure pantothenic acid. E. T. Stiller and others. bibliog Am Chem Soc J 62:1785-90 Jl '40
Polymethyl aromatic hydrocarbons; synthesis of 1,2,4-trimethylnaphthalene and 1,2-, 1,3- and 1,4-dimethylnaphthalene. M. C. Kloetzel. bibliog Am Chem Soc J 62:1708-13 Jl '40
Polymethylbenzenes; the reaction between dimethylacrylic acid and the trimethylbenzenes. L. I. Smith and W. W. Prichard. bibliog Am Chem Soc J 62:771-7 Ap '40
Radioactive carbon as a tracer in the synthesis of propionic acid from CO_2 by the propionic acid bacteria. S. F. Carson and others. bibliog Science 92:433-4 N 8 '40
Researches of Mellon institute 1939-40; advances in organic synthesis. il Ind & Eng Chem News ed 18:293 Ap 10 '40
Some reactions of Δ^2-cyclohexenone, including the synthesis of bicyclo(2,2,2)-octanedione-2,6. P. D. Bartlett and G. F. Woods. bibliog Am Chem Soc J 62:2933-8 N '40
Structure of cannabidiol; a method of synthesis of a tetrahydrocannabinol which possesses marihuana activity. R. Adams and B. R. Baker. Am Chem Soc J 62:2405-8 S '40
Structure of cannabinol; a second method of synthesis of cannabinol. R. Adams and B. R. Baker. Am Chem Soc J 62:2401 S '40
Structure of monocrotaline; monocratalic acid. R. Adams and R. S. Long. Am Chem Soc J 62:2289-94 S '40
Studies in the naphtol AS series; synthetical experiments. R. V. Bhat, R. B. Forster and K. Venkataraman. bibliog Soc Dyers & Col J 56:166-78 Ap '40
Studies in the omega-camphor series; on the synthesis of 2-keto-apocamphane-1-acetic acid. T. Hasselstrom and B. L. Hampton. Am Chem Soc J 61:3445-8 D '39
Studies on lignin and related compounds; the synthesis of xylosides related to lignin plant constituents. J. H. Fisher, W. L. Hawkins and H. Hibbert. bibliog Am Chem Soc J 62:1412-15 Je '40
Studies on pyrimidines related to vitamin B_1; a new synthesis of 2-methyl-6-aminopyrimidine-5-aldehyde. D. Price, E. L. May and F. D. Pickel. bibliog Am Chem Soc J 62: 2818-20 O '40
Studies on the partial synthesis of corticosterone. P. N. Chakravorty and E. S. Wallis. bibliog Am Chem Soc J 62:318-20 F '40
Sulfur studies; the synthesis of certain higher alkyl sulfonium salts and related compounds. R. W. Bost and J. E. Everett. bibliog Am Chem Soc J 62:1752-4 Jl '40
Sumatrol; the synthesis of dehydrotetrahydrosumatrol. T. S. Kenny, A. Robertson and S. W. George. Chem Soc J p1601-4 O '39
La synthèse des acides gras par oxydation catalytique des hydrocarbures lourds; leur emploi à la fabrication du savon et de graisses alimentaires. E. Lemaire. il diag Génie Civil 115:413-17 D 9 '39
Synthesen in der reihe der steroide. E. Dane. Angew Chemie 52:655-9 N 4 '39
Syntheses in the indole series; synthesis of indolyl-3-glyoxylic acid and of r-3-indolylglycine. J. W. Baker. Chem Soc J p458-60 Ap '40
Syntheses in the pyrazine series; preparation and properties of aminopyrazine. S. A. Hall and P. E. Spoerri. Am Chem Soc J 62:664-5 Mr '40
Syntheses of 2-phenylnaphthalenes. D. H. Hey and S. E. Lawton. Chem Soc J p374-83 Mr '40
Synthesis of a new dimethyl-β-methylglucoside. R. E. Reeves, M. H. Adams and W. F. Goebel. Am Chem Soc J 62:2881-2 O '40
Synthesis of a new perhydro-9-phenanthrone. C. S. Marvel and R. V. White. bibliog Am Chem Soc J 62:2739-40 O '40
Synthesis of ωω'-*bis*-2'-amino-4'-thiazolylalkanes and N⁴-2'-thiazolylsulphanilamides. J. Walker. Chem Soc J p1304-7 S '40
Synthesis of 3,4-benzphenanthrene and 1-methylpyrene. W. E. Bachmann and R. O. Edgerton. bibliog Am Chem Soc J 62:2970-3 N '40
Synthesis of certain carbalkoxystilbenes. R. C. Fuson and H. G. Cooke, jr. Am Chem Soc J 62:1180-3 My '40
Synthesis of certain oligosaccharide acetates in the mannose series. D. D. Reynolds and W. L. Evans. bibliog Am Chem Soc J 62: 66-9 Ja '40
Synthesis of certain trisaccharides and a study of their behavior in alkaline solution. S. H. Nichols, jr, W. L. Evans and H. D. McDowell. bibliog Am Chem Soc J 62:1754-8 Jl '40
Synthesis of *cis* and *trans* 17-equilenone. W. E. Bachmann and A. L. Wilds. Am Chem Soc J 62:2084-8 Ag '40
Synthesis of compounds related to the antirachitic vitamins. J. B. Aldersley and others. Chem Soc J p10-16 Ja '40
Synthesis of 3,5-difluoro- and 3-fluoro-5-iodo-*dl*-tyrosine. J. English, jr, J. F. Mead and C. Niemann. bibliog Am Chem Soc J 62: 350-4 F '40
Synthesis of dihydrodiethylstilbestrol. A. M. Docken and M. A. Spielman. Am Chem Soc J 62:2163-4 Ag '40
Synthesis of 4',8'-dihydroxy-1,2,5,6-dibenzanthracene and its relation to products of metabolism of the hydrocarbon. J. Cason and L. F. Fieser. bibliog Am Chem Soc J 62:2681-7 O '40
Synthesis of 9,10-dimethyl-1,2-benzanthracene and of a thiophene isolog. R. B. Sandin and L. F. Fieser. bibliog Am Chem Soc J 62: 3098-105 N '40
Synthesis of 4,5-dimethylchrysene. M. S. Newman. bibliog Am Chem Soc J 62:2295-300 S '40
Synthesis of 5,6-dimethylglucose. M. R. Salmon and G. Powell. bibliog Am Chem Soc J 61:3507-10 D '39
Synthesis of 1,3-diphenyldihydroisobenzofurans, 1,3-diphenylisobenzofurans and *o*-dibenzoylbenzenes from the diene addition products to dibenzoylethylene. R. Adams and M. H. Gold. bibliog Am Chem Soc J 62:56-61 Ja '40
Synthesis of 5,5-disubstituted hydantoins from *sym*-dialkoxypropanones and related compounds. B. G. Rogers and H. R. Henze. Am Chem Soc J 62:1758-60 Jl '40
Synthesis of 2-,4- and 9-fluoreneacetic acid. W. E. Bachmann and J. C. Sheehan. bibliog Am Chem Soc J 62:2687-90 O '40
Synthesis of glycol glucosides. S. Karjala and K. P. Link. bibliog Am Chem Soc J 62:917-20 Ap '40

SYNTHESIS—*Continued*
Synthesis of growth-inhibitory polycyclic compounds. G. M. Badger and J. W. Cook. Chem Soc J p802-6 My '39; p409-12 Ap '40
Synthesis of 6-hydroxy-3,4-benzpyrene and 8-isopropyl-1,2-benzanthracene from 9,10-dihydrophenanthrene. L. F. Fieser and W. S. Johnson. Am Chem Soc J 62:575-7 Mr '40
Synthesis of 3-(4-hydroxycyclohexyl)-propanol-1, a product of the hydrogenation of lignin. E. Bowden and H. Adkins. bibliog Am Chem Soc J 62:2422-3 S '40
Synthesis of 6-hydroxy-17-equilenone (an isomer of equilenin) and two of its homologs. W. E. Bachmann and D. W. Holmes. bibliog Am Chem Soc J 62:2750-7 O '40
Synthesis of 5-hydroxy-8-methoxyflavone (primetin monomethyl ether). W. Baker, N. C. Brown and J. A. Scott. Chem Soc J p1922-7 D '39
Synthesis of lipophilic chemotherapeuticals; 4-alkylaminoazobenzene-4'-arsonic acids. S. Adler, L. Haskelberg and F. Bergmann. Chem Soc J p576-8 My '40
Synthesis of lubricating oils by condensation reactions; the engine testing of synthetic lubricating oils. W. R. Wiggins, T. G. Hunter and A. W. Nash. Inst Pet J 26: 225-34 My '40
Synthesis of 1'-methyl-1,2-benzanthracene and 5-methylchrysene. W. E. Bachmann and R. O. Edgerton. bibliog Am Chem Soc J 62:2550-3 S '40
Synthesis of 2-methyl-3,4-benzphenanthrene. M. S. Newman and L. M. Joshel. bibliog Am Chem Soc J 62:972-4 Ap '40
Synthesis of 5-methylchrysene and related compounds. M. S. Newman. bibliog Am Chem Soc J 62:870-4 Ap '40
Synthesis of 4,5-methylenechrysene and 1', 9-methylene-1,2-benzanthracene from 4,5-methylenephenanthrene. L. F. Fieser and J. Cason. bibliog Am Chem Soc J 62:1293-8 My '40
Synthesis of monoketopiperazines. S. R. Aspinall. Am Chem Soc J 62:1202-4 My '40
Synthesis of organobismuth compounds. H. Gilman and A. C. Svigoon. Am Chem Soc J 61:3586 D '39
Synthesis of phenanthrene derivatives. A. Schönberg and F. L. Warren. Chem Soc J p1838-41 D '39
Synthesis of polyenes; reactions of β-methylallyl chloride with sodamide in liquid ammonia. M. S. Kharasch, W. Nudenberg and E. Sternfeld. Am Chem Soc J 62:2034-6 Ag '40
Synthesis of some new pyrimidines and uric acids from cystamine. E. J. Mills, jr. and M. T. Bogert. bibliog Am Chem Soc J 62:1173-80 My '40
Synthesis of substituted α-naphthoquinones. C. F. Koelsch and D. J. Byers. bibliog Am Chem Soc J 62:560-2 Mr '40
Synthesis of tetrahydropyrimidines. S. R. Aspinall. bibliog Am Chem Soc J 62:2160-2 Ag '40
Synthesis of the sodium salt of tetradecamethylene disulfonic acid. G. C. H. Stone. bibliog Am Chem Soc J 62:571-2 Mr '40
Synthesis of uronic acids. M. Stacey. Chem Soc J p1529-31 O '39
Synthesis of vitamin B_6. S. A. Harris and K. Folkers. Am Chem Soc J 61:3307-10 D '39
Synthesis of vitamin K_1. L. F. Fieser. bibliog Am Chem Soc J 61:3467-75 D '39
Synthesis of vitamin K_1. L. F. Fieser. Science 91:31-6 Ja 12 '40
Synthetic experiments utilizing perinaphthanone-7. L. F. Fieser and M. D. Gates, jr. bibliog Am Chem Soc J 62:2335-41 S '40
Tertiary naphthenic acids; synthesis of 1, 2,3,3-tetramethylcyclopentanecarboxylic acid from camphor. B. Shive, J. T. Horeczy and H. L. Lochte. bibliog Am Chem Soc J 62: 2744-6 O '40
Tetrahydrocitrylidene- and citronellylidene-acetic acids; syntheses of *sec.-iso* octyl-*cyclo*pentane derivatives. H. N. Rydon. Chem Soc J p1544-9 O '39
Thiodiglycol; unit process and operations involved in its synthesis from ethylene oxide and hydrogen sulfide. D. F. Othmer and D. Q. Kern. diags Ind & Eng Chem 32:160-9 F '40
Total synthesis of a non-benzenoid steroid. L. W. Butz and others. Am Chem Soc J 62:995-6 Ap '40
Total synthesis of the sex hormone equilenin and its stereoisomers. W. E. Bachmann, W. Cole and A. L. Wilds. bibliog Am Chem Soc J 62:824-39 Ap '40
Use of the benzyl radical in syntheses of methylated sugars; 4:6-dimethyl galactose. J. S. D. Bacon, D. J. Bell and J. Lorber. Chem Soc J p1147-50 Ag '40
Use of the benzyl radical in syntheses of methylated sugars; 4:6-dimethyl glucose. D. J. Bell and J. Lorber. Chem Soc J p453-5 Ap '40
Vicinal substituted resorcinols; alkyl resorcinols; the synthesis of γ-ethyl, γ-*n*-propyl and γ-*n*-butyl resorcinols. A. Russell, J. R. Frye and W. L. Mauldin. bibliog Am Chem Soc J 62:1441-3 Je '40

See also
Asymmetric induction
Fischer-Tropsch process
Friedel-Crafts reaction
Photosynthesis

SYNTHESIZERS, Harmonic. See Harmonic synthesizer-analyzer

SYNTHETIC organic chemical manufacturers association
Annual meeting, 18th, New York. Oil Paint & Drug Rep 136:3+ D 11 '39

SYNTHETIC products
Alchemists offer. il Barron's 20:23-4 S 16 '40
Aliphatic organic chemical industry; recent synthetic chemicals and their industrial uses. H. F. Robertson. Can Chem & Process Ind 24:290-1 Je '40
Armour synthetic strings and casing. Business Week p46+ N 16 '40
Chemistry adds new tricks in 1939. H. E. Howe. il Nation's Business 28:20-2+ F '40
Chemistry's new building blocks; breakdown of coal, oil, wood gives raw materials for new synthetic products; leading companies. S. B. Self. Barron's 19:13-16 D 4 '39
Competition among industry's materials; synthetic types gaining. J. V. Sherman. Barron's 20:13 My 13 '40
Defense spurs chemical industry's growth. S. B. Self. il Barron's 20:16-18+ S 16 '40
Ersatz in America: how test tubes are changing products & markets. P. B. B. Andrews. il Sales Management 47:18-20 S 15 '40; Same abr. Management R 29:350-2 O '40
Ersatz materials. H. E. Howe. Am Dyestuff Rep 28:664-9 N 13 '39
Investigation of synthetic linear polymers by X-rays. C. S. Fuller. il diags Chem R 26: 143-67 bibliog(76 references, p165-7) Ap '40
Materials represented as synthetic rubber; procedure for testing. A. T. McPherson. India Rubber W 101:43-4 Ja '40
Nitroparaffins; new synthetics for synthesis. C. L. Gabriel. bibliog il Ind & Eng Chem 32:887-92 Jl '40
Petroleum synthetics help 100-octane fuel production. L. Rosenstein. bibliog il Nat Pet N 32:R409-10, R412, R414 N 13 '40; Same. Oil & Gas J 39:118, 120+ N 14 '40
Rise of the organic chemical industry in the United States. C. M. A. Stine. bibliog il Ind & Eng Chem 32:137-44 F '40; Same. Chem & Ind 59:55-61 Ja 27 '40
Synthetic organic chemicals. W. Davis. Science 91:sup10 Ap 26 '40

See also
Neoprene
Resinous products
Rubber, Artificial
Textile fibers, Synthetic

SYPHILIS
Anti-syphilis leaflet; abstract. T. Parran. Science 92:sup10 O 11 '40
Cases of syphilis under treatment in Cuyahoga county during March, 1939. H. W. Green. 49p Cleveland health council, 1001 Huron road, Cleveland '40

SYPHILIS—*Continued*
Dermatology and syphilology for nurses. J. H. Stokes. 3d ed rev 365p bibliog(p315-16) $2.75 Saunders '40
Modern dermatology and syphilology. S. W. Becker and M. E. Obermayer. 871p $12 Lippincott '40
Preparation of phenylarsenoxides in relation to a projected study of their chemotherapeutic activity; monosubstituted derivatives. G. O. Doak, H. Eagle and H. G. Steinman. bibliog Am Chem Soc J 62:168-70 Ja '40
Relation between the trypanocidal and spirocheticidal activities of neoarsphenamine; the spirocheticidal activity of the several American brands of neoarsphenamine. T. F. Probey. bibliog Pub Health Rep 54:2242-7 D 22 '39
Syphilis control with special reference to railway employees; abstract. A. E. Russell. J Ind Hygiene 22:sup141-2 S '40
Syphilis in industry. T. Rosenthal. Safety Eng 79:38 My; 80:37-8+ Jl '40
Treatment of syphilis; sobisminol. Science 90: sup9 D 15 '39
Unto the fourth generation; gonorrhea and syphilis, what the layman should know. I. Simons. 243p $2.50 Dutton '40

SYRACUSE, New York
Water supply
Protection of watershed for Syracuse supply. A. F. Gregory. il diags maps Am Water Works Assn J 32:555-69 Ap '40

SYRIA
See also
Libraries—Syria

SYRINGES
Simple inexpensive device for accurate delivery of small amounts of fluid. J. Vondrak. il Science 92:410 N 1 '40

SYRINGYL group
Studies on lignin and related compounds; occurrence of the guaiacyl and syringyl groupings in the ethanolysis products from various plants. A. S. MacInnes and others. bibliog Am Chem Soc J 62:2803-6 O '40

T

TABLE
Table service. L. G. Allen. new ed rev 203p $1.75 Little '40

TABLE cloths
Staple cotton fabrics; table-cover and napkin fabrics. J. Hoye. il Textile World 90:101 Ja; 145 F '40

TABLES, Computing
See also
Surveying—Tables, calculations, etc.

TABLEWARE
Decalcomania; proposed development. A. S. Watts. Am Cer Soc J 23:341-2 N '40
Export packing of pottery tableware. il Comm Rep p60+ Ja 20 '40
See also
Plates (tableware)
Pottery
Manufacture
All-American hotel china body. G. A. Loomis and W. H. Earhart. Am Cer Soc Bul 19: 287-9 Ag '40

TABULATING machines
Improving the operation of tabulating machine installations. G. A. Gardner. il N A C A Bul 21:481-90 D 15 '39
Machines in civil service recruitment. R. Horchow. fold diags 43p pa 50c Civil service assembly of the U.S. and Canada, Chicago '39
Tabulating machine records for stores control. K. C. Campbell. il Elec W 114:1305-6+ N 2 '40
See also
Punched card system

TACHOMETERS
Draft gage makes effective tachometer. H. A. Kleinman. il Elec W 113:1084 Ap 6 '40
Frahm hand tachometer. il Sci Am 163:200 O '40
Integrating tachometers show reciprocating pump flow. il Oil & Gas J 39:109+ S 19 '40

TACOMA, Washington
Bridges
Deep piers built in stiff tides; Tacoma Narrows suspension bridge. C. F. A. Mann. il diags Sci Am 161:340-1 D '39
Pacific Northwest bridges completed. il map Eng N 125:58 Jl 11 '40
Plywood form panels re-used 14 times in deep bridge piers. il Eng N 124:379 Mr 14 '40
Tacoma Narrows bridge. C. H. Eldridge. il diags map Civil Eng 10:299-302 My '40
Tacoma Narrows bridge wrecked by wind. N. A. Bowers. il Eng N 125:647, 656-8 N 14 '40
Unusual problems attend Narrows bridge construction. J. Bashford. il map Comp Air M 44:6033-5 D '39
Welded cable saddles for Tacoma Narrows bridge. J. Jones. il diags Eng N 123:773-4 D 7 '39

TAFT, Robert Alphonso, 1889-
Taft said he didn't know; some of his answers to questions of great interest to utility and other business men. H. Corey. Pub Util 25:579-85 My 9 '40
What I would do as president. por Barron's 20:8 Je 24 '40

TAGS
Pacific mills inaugurates informative Factag plan. Rayon 21:270-1 My '40
Speaking of informative labels, here is one that actually tells something; Pacific Mills Factag. F. S. Blanchard. il Ptr Ink 191: 15-18 Je 7 '40
Tags answer consumers' cry for more information, please! Sales Management 46: 60-2 My 1 '40

TAILINGS
Differential density separation at Mascot, Tennessee; American Zinc's sink-and-float process. flow sheets il Eng & Min J 141:35-9 Jl '40; Same. Min Cong J 26:21-6 Jl '40
Re-treating complex tailings at Ophir, Utah. J. B. Hutti. flow sheet il Eng & Min J 141: 52-3 My '40

TAILORING
Planning units for retail stores; barber shop and tailor. plans Arch Rec 87:107 Je '40

TAINTER gates. See Gates, Hydraulic

TALC
Marketing talc, pyrophyllite, and ground soapstone. B. L. Johnson. U S Bur Mines Information Circ 7080:1-13 '39; Same abr. Eng & Min J 141:169-70 F '40
Talc, steatite, and soapstone; pyrophyllite. H. S. Spence. 146p bibliog(p140) pa 50c Canada. Dept. of mines and resources, Ottawa '40

TALL buildings. See High buildings

TALL oil
Identity of resin acids; pinabietic acid of Finnish tallol. T. Hasselstrom, J. D. McPherson and S. Hopkins, jr. bibliog Paper Tr J 110:41-3 Ja 25 '40
Tall oil. H. L. Blengsli. Paper Tr J 111: 37-8 S 5 '40
Tall oil. A. Pollak. Can Chem & Process Ind 24:398 Ag '40

TAMPA, Florida
Port of Tampa. Comm Rep p414 My 4 '40

TAMPING
Compaction of earthwork; specifications, testing and construction methods on two road sections in Kansas. E. L. Seidel. il Roads & Sts 83:54, 56 Ag '40

TANK agriculture. See Plants—Soilless culture

TANK barges

Barges move oil 200 miles up Columbia river for the California oil companies. il map Nat Pet N 31:85-7 D 13 '39

More than 80 vessels hauling oil on Great Lakes this summer. Nat Pet N 32:34 Jl 17 '40

Novel barge unit designed by Socony-Vacuum engineers. J. P. O'Donnell. il Oil & Gas J 39:12 Jl 4 '40

Oil barges push farther up Mississippi waterway. il Nat Pet N 31:34-6, 40 D 13 '39

Sioux City greets oil barges opening new river channel. il Nat Pet N 32:24 Jl 17 '40

Sohio installs unusual barge loading rack on Ohio. il Oil & Gas J 38:60+ N 30 '39

TANK cars

Automatic carbon arc welds plate for aluminum tank cars. il Steel 106:69 My 20 '40

Fusion-weld tankcars authorized by I.C.C. for transportation of explosives and dangerous articles. Oil Paint & Drug Rep 137:3+ Ja 22 '40

Lease rates come under I.C.C. Oil Paint & Drug Rep 137:4+ Ja 8 '40

Report of A.A.R. committee on tank cars. Ry Mech Eng 114:259-61 Jl '40; Same cond. Ry Age 109:17-18 Jl 6 '40

See also
Tank trucks
Water cars

Cleaning

Unit mechanically cleans tank-car interiors. L. B. Johnson. il Ry Mech Eng 114:364-5 S '40

TANK ships

Bethlehem launches Union oil tanker, Victor H. Kelly. il Marine Eng 45:83-4 Mr '40

British to control Norse-flag tankers. Nat Pet N 32:17+ My 1 '40

Distinctive ships, 1940. il diag Marine Eng 45: 82-3, 91, 102, 118 N '40

Loss of tanker tonnage in European war mounts. Nat Pet N 32:17 Ap 10 '40

Modern tanker design. N. J. Pluymert. Marine Eng 44:577-80 D '39; Same. Engineering 149:266-7 Mr 8 '40; Discussion. Marine Eng 44:590-2 D '39

More than 80 vessels hauling oil on Great Lakes this summer. Nat Pet N 32:34 Jl 17 '40

Ohio, Texas tanker. il plans Marine Eng 45: 48-52 O '40

75 tankers destroyed in war; U.S. is now building 59 more. il Nat Pet N 32:13 N 6 '40

Standard oil co. (N.J.); the fleet. Fortune 21:156+ My '40

Tank steamer paper wins medal for Atlantic's chief engineer, Lester M. Goldsmith. Nat Pet N 31:R509 N 29 '39

Tanker construction exceeds sinkings. J. P. O'Donnell. il Oil & Gas J 39:11 S 5 '40

Tanker sea power essential. J. H. Pew. Nat Pet N 32:22 Ag 7 '40

Tankers for defense; Maritime commission lets final contracts. Business Week p20 Je 29 '40

U.S. tanker fleet in ascendancy. J. P. O'Donnell. il Oil & Gas J 39:20-1 O 17 '40

See also
Tank barges

Reconstruction

Tanker's capacity increased 60 per cent. il Steel 106:31 Mr 11 '40

TANK truck drivers

Drivers paid on piece basis, helps safety and efficiency. Nat Pet N 32:34-6 S 18 '40

Truckers are grouped under wage-hour law. Nat Pet N 32:11+ N 6 '40

TANK trucks

Converting fuel oil truck simplified by cleaner fuels. Nat Pet N 32:44-5 My 22 '40

Electric-driven pumping unit speeds truck deliveries. il Nat Pet N 32:37 Mr 27 '40

Keeping trucks running 24 hours a day; Standard oil co. il Nat Pet N 32:32, 34, 36 Mr 20 '40

More regulation in offing for oil's tank trucks. Nat Pet N 31:88-90 D 13 '39

New lighter steels are used in trucks and their equipment. il Nat Pet N 31:59-60, 64, 66 D 13 '39

New oil shipping points make more truck hauling. il Nat Pet N 31:53-4+ D 13 '39

Progress report on experimental investigation of faster unloading of oil truck tanks at University of Wisconsin hydraulic laboratory. L. H. Kessler. il Am Pet Inst Proc 20(1):75-9 '39

Rack handles 16 trucks at once; Home fuel oil co. il Nat Pet N 32:25, 28+ S 18 '40

Saving dollars in portland cement concrete highway construction; water transported in tank trucks. W. C. Anderson. il Pub Works 71:9-10 O '40

Savings to marketer in trucking. C. J. Yokom. il Nat Pet N 32:33-5 F 28 '40

Symposium on meters; pros and cons on use of meters on automotive equipment in the delivery of petroleum products. il Am Pet Inst Proc 20(1):65-79 '39; Abstract. Nat Pet N 31:34-7 N 22 '39

Tank flow studied; research for oil industry begun at University of Wisconsin. Business Week p43 D 16 '39

Three-step program cut bulk hauling and delivery costs. il Nat Pet N 31:71-2+ D 13 '39

To speed discharge rates of tank trucks; flow tests at Univ. of Wisconsin. J. N. Westsmith. il Nat Pet N 32:25-6, 28 My 1 '40

Truck carries equipment to test meters at terminals. il Nat Pet N 32:34 O 30 '40

Trucking trends in Middle South. il diags Nat Pet N 32:32-7 S 18 '40

Varied types of trucks used by Kentucky oil marketers. Nat Pet N 32:36 S 18 '40

See also
Loading and unloading—Tank trucks

TANKS

Improved quench tank. W. A. Lillienberg. Metals & Alloys 12:227 Ag '40

Tanks for cleaning and plating. C. C. Helmle. il diags Metal Ind 38:263-8 My '40

See also

Acid tanks	Pressure vessels
Air receivers	Sewage tanks
Boilers	Tank cars
Gas holders	Tank ships
Gasoline tanks	Tank trucks
Hot water tanks	Water tanks
Oil tanks	

Lining

Application and welding of stainless steel for lining tanks. E. W. P. Smith. bibliog diags Paper Tr J 110:34-7 Je 6 '40

Corrosion resisting alloy lined vessels in the paper industry. M. A. Scheil. il Paper Tr J 110:36-12 Ap 18 '40

Laying lead linings. E. Mantius. il Steel 106:69-70+ Mr 4 '40

Lining steel tanks with monel. F. Flocke. diags Metals & Alloys 12:227 Ag '40

Metal lining a large concrete sunken tank. il diags Sheet Metal Worker 31:27-30 Jl '40

Rubber in the paper industry. R. B. Marr. il Pulp & Pa of Can 41:442-4 Je '40

Tanks for cleaning and plating. C. C. Helmle. il Metal Ind 38:266-8 My '40

Measurement

Contents of cylindrical tanks with flat heads, axis horizontal; chart. Power Pl Eng 43: 740 N '39; Discussion. 44:76-7 Mr '40

Figuring tank capacities. P. Swain. diags Power 84:751 N '40

Handy horizontal tank chart. W. F. Schaphorst. Metal Ind 38:148 Mr '40

How many gallons in any vertical cylindrical tank? W. F. Schaphorst. Ind & Eng Chem News ed 18:14 Ja 10 '40

Measuring the volume of liquids in horizontal tanks. diags Power Pl Eng 44:78-9 Je '40

Tank content nomograph. D. S. Davis. Ind & Eng Chem 32:1412 O '40

Wide range cylinder volume or cylindrical tank chart. W. F. Schaphorst. Am Gas J 152:24 Ja '40

TANKS, Aluminum
Aluminum aircraft fuel tanks. E. H. Dix, jr. and R. B. Mears. bibliog S A E J 46: 215-20 My '40
Aluminum chemical equipment. F. C. Frary. il Am Inst Chem Eng Trans 36:403-15 Je '40; Same. Chem Ind 46:714-17 Je '40
Automatic carbon arc welds plate for aluminum tank cars. il Steel 106:69 My 20 '40; Refrig Eng 39:402 Je '40

TANKS, Concrete
See also
Gasoline tanks, Concrete
Water tanks, Concrete

TANKS, Military
Army vehicle supplies. J. S. Crawford. Engineer 168:589-90 D 15 '39; Same cond. Engineering 148:672 D 15 '39
Les chars de combat de l'armée soviétique. Génie Civil 116:154 Mr 2 '40
Diesel tank engines and motorized earth drills; Buda company. il Mach 47:122-9 N '40
Dynamics of defense. R. Ginsburgh. il Am Mach 84:756-9 O 2 '40
Effectiveness of tanks; abstract. J. Winchcombe-Taylor. S A E J 47:sup68 Jl '40
Emphasis on tanks, planes revises M-day plans for Detroit industry. il Iron Age 145: 80-2 Je 6 '40
Engineering for defense; army and navy engineers with help of industries, technical societies and educational institutions have standardized designs and specifications. G. F. Nordenholt. Product Eng 11:509-10 N '40
Guiberson aircraft-type Diesel engine for army tanks and other equipment. diags Automotive Ind 83:411-12 O 1 '40
Loads and roads for war and peace. L. S. Tuttle. il Eng N 124:94-7 Ja 18 '40
Lubrication of tanks. R. Marsh. Nat Pet N 32:19-20 S 25 '40
Machines for war; organization and operation of mechanized forces of our army. J. E. McInerney. il Sci Am 163:55-9 Ag '40
Manufacture of armoured track-vehicles for war service. il Engineering 149:33-4 Ja 12 '40
Mechanical shock-troops of the blitzkrieg; illustrations. Sci Am 163:182 O '40
Mechanization in the U.S. army. H. H. D. Heiberg. il Mech Eng 62:599-604 Ag '40
Motorization policy of the army. R. P. Patterson. S A E J 47:sup18-19 N '40
Production of cruiser tanks. il(p584) Engineering 149:581-2 Je 14 '40
Rock Island arsenal tank designs letter-perfect. Product Eng 11:455 O '40
Tank job for Canada; industrial expansion is taxing labor supply. Business Week p62-3 O 19 '40
Tanks by Baldwin locomotive works. Business Week p18 Ag 17 '40
Tanks by the ton; Rock Island arsenal; diagrams, operation sheets, illustrations, etc. Am Mach 84:710-24 S 18 '40
Tanks; no adequate defense exists against them. il diags Fortune 22:61-5, 108, 110 S '40
United States army tanks from a car-building plant; American car and foundry company. C. O. Herb. il Mach 47:110-21 N '40
U. S. tanks. Sci Am 163:132 S '40
War on wheels. C. R. Kutz. 245p bibliog(p233-45) $2 Military service pub. co, Harrisburg, Pa. '40

TANKS, Steel
Modern methods of handling hydrogen peroxide; stainless steel tanks. R. L. Ericsson. il Am Dyestuff Rep 29:343-5 Jl 8 '40
Pinhole corrosion in galvanized watering tanks; relation to tin contents. W. M. Peirce and G. C. Bartells. il Metals & Alloys 11:42-4 F '40
Proper quench tanks save time and energy. diag Iron Age 145:38 My 2 '40
Report of A.P.I. committee on the standardization of steel tanks for oil storage. diags Am Pet Inst Proc 21M(4):240-77 My '40
Simple revolving scaffold speeds steel tank erection. diags Eng N 124:466 Mr 28 '40
Stainless steel tanks to haul bulk milk on rail-truck system. il Steel 106:27 F 19 '40
See also
Sewage tanks, Steel

Manufacture
Welding for enameling; tanks and tubs for household washing machines. J. C. Lewis. il Steel 106:68, 71+ Je 17 '40

TANKS, Wood
Flexible ladder mounting saves wooden tanks. M. Pate. il Factory Management 98:96 My '40
Wood in the chemical industry; its use for storage purposes; methods of impregnation; abstract. R. Quarendon. il Chem Age (Lond) 42:327 Je 15 '40
Wooden tanks in industry. M. J. Brophy. 20p Canada. Dept. of mines and resources, Ottawa '39
Wooden tanks in industry; statistical survey and study of trends. Can Chem & Process Ind 24:229-30 My '40

TANNERIES

Employees
Occupational leukoderma. L. Schwartz, E. A. Oliver and L. H. Warren. Pub Health Rep 55:1111-30, pl 1-8 Je 21 '40

Waste
Growing importance of industrial waste disposal; a review of developments in 1939. F. W. Mohlman. il Water Works & Sewerage 87:97-8 Mr '40

TANNING
Leather tanning, revision; monthly, 1923-June, 1940. Fed Res Bul 26:847 Ag '40
Tanning sheepskins for meter diaphragms. S. McIntire. Gas Age 85:27-8 F 1 '40
See also
Hides and skins
Leather

TANNING materials
Dyes and tans from Buchanania latifolia. C. D. Mell. Textile Col 62:201 Mr '40
Dyes and tans in the species of statice. C. D. Mell. Textile Col 62:59-60 Ja '40
Manufacture of industrial extracts for textiles and leathers. K. Campbell. Chem & Ind 59:145-6 Mr 2 '40

TANNINS
Chemicals for treatment of drilling fluids. C. F. Bonnet and B. N. Howell. il Oil & Gas J 39:58, 61 O 17 '40
First aid for burns; application of tannic acid. C. A. McAvoy. Sci Am 163:126-7 S '40

TANTALITE
White tantalite; abstract. A. E. Williams. Chem Age (Lond) 43:114 S 7 '40

TANTALUM
Absorption chambers for HCl; use of tantalum in France. diag Chem Age (Lond) 41: 318 N 4 '39
Is chemical industry ready? tantalum; Fansteel metallurgical corporation, North Chicago, Ill. Ind & Eng Chem 32:1175 S '40
Tantalum, new old metal; unsurpassed in many uses. P. H. Smith. il Sci Am 162: 334-5 Je '40

Analysis
Qualitative semimicro-analysis with reference to Noyes and Bray's system: the tantalum and the tungsten group. C. C. Miller and A. J. Lowe. Chem Soc J p1258-63 S '40

TANTALUM carbide
Specific heats at low temperatures of tantalum oxide and tantalum carbide. K. K. Kelley. bibliog Am Chem Soc J 62:818-19 Ap '40
Tantalum, new old metal; unsurpassed in many uses. P. H. Smith. il Sci Am 162:335 Je '40

TANTALUM chlorides
Organic compounds of tantalum; reaction of tantalum pentachloride with organic magnesium compounds. B. N. Afanasyev. bibliog Chem & Ind 59:631-3 S 7 '40

TANTALUM compounds
Organic compounds of tantalum; reaction of tantalum pentachloride with organic magnesium compounds. B. N. Afanasyev. bibliog Chem & Ind 59:631-3 S 7 '40

TANTALUM oxide
Specific heats at low temperatures of tantalum oxide and tantalum carbide. K. K. Kelley. bibliog Am Chem Soc J 62:818-19 Ap '40

TAPERS
Boring bar for taper holes. M. H. Ball. diag Am Mach 84:216 Ap 3 '40
Tapered tubing; design possibilities for more efficient construction. diags Product Eng 11:400-3 S '40

TAPIOCA starch
Pasting and identification of starches. W. L. Morgan. il diag Ind & Eng Chem Anal ed 12:313-17 Je 15 '40

TAPPING machines
Bakewell precision tapper for aircraft work. il diag Product Eng 11:344-5 Ag '40
Bakewell precision tapping machines. il Mach 46:284 D '39; Aero Digest 37:185 O '40
Building an improvised high-speed tapper. W. P. Cummins. il diag Mach 46:126-7 My '40
Cleveland vertical tapping machine with automatic reversing mechanism. il Mach 47: 164 O '40
Landis shell tapper. il Am Mach 84:939 N 13 '40; Mach 47:179 N '40
National Acme 4½-in. vertical boring and tapping machine. il Engineering 149:61-2 Ja 19 '40

TAPS
Fixture for fluting small taps and reamers. H. M. Darling. diags Am Mach 83:1086 D 27 '39
Making small taps stronger. C. Homewood. Am Mach 84:60 F 7 '40
Making small taps stronger. A. Silvester. Am Mach 84:384-5 My 29 '40
Tap drill sizes for varying percentages of full thread; data sheet. Mach 47:115 O; 149 N '40
Tap sharpening fixtures. M. H. Ball. diags Am Mach 84:384 My 29 '40

Standards
New tap standard is product of thirty years of work. C. M. Pond. il Ind Stand 11:137-9 Je '40
Tap standards; reference book sheets. diags Am Mach 84:679, 681, 725, 727 S 4-18 '40

Testing
How to determine the strength of taps. H. M. Darling. diags Am Mach 83:1005-6 N 29 '39

TAR
Dealing with tar and ammoniacal liquor. C. H. E. Collins. Gas J (Lond) 229:632 Mr 20 '40
Electrically heated strand-dipping tank for manufacturing wire rope; tar lubricant. F. J. Mahr. il Gen Elec R 43:320-1 Ag '40
Report of United engineers & constructors inc.; U.G.I. tar dehydration apparatus. C. A. Schlegel. diag Am Gas Assn Proc 1939: 596-7

See also
Coal tar
Road tar
Roads, Tarred

Analysis

See also
Coal tar—Analysis

TAR acids
Cracking tars and distillates from coal. G. Egloff and others. bibliog il diags Ind & Eng Chem 32:39-47 Ja '40

TAR distillation
Hydrogenation-cracking of tars; the operation of a semi-technical scale plant. Chem & Ind 58:1055-6 D 2 '39
Hydrogenation process. Gas J (Lond) 228:503 D 6 '39
War and the carbonisation industries. G. E. Foxwell. il Chem Age (Lond) 41:433-5 D 30 '39

TAR distillation plants
Cracking tars and distillates from coal. G. Egloff and others. bibliog il diags Ind & Eng Chem 32:39-47 Ja '40

TAR oils

Analysis
Determination of naphthalene in coal tar and its products. W. Kirby. Soc Chem Ind J 59:168-71 Ag '40

TAR paper. See Paper, Building

TARAKTOGENOS kurzii
Analysis of chaulmoogra oils; hydnocarpus anthelmintica oil; Taraktogenos kurzii (chaulmoogra) oil. H. I. Cole and H. T. Cardoso. bibliog Am Chem Soc J 61:3442-5 D '39

TARIFF
Foreign import duties and regulations on fresh fruits and vegetables. R. P. Wakefield. U S Bur For & Dom Com Trade Promotion Ser 206:1-130 '40
Foreign tariffs and commercial policies during 1939. H. Chalmers. Comm Rep p112-18 F 3 '40
Foreign tariffs and trade regulations. H. Chalmers. Published in weekly numbers of Commerce reports [cont in Foreign commerce weekly under names of countries, beginning O 5]

See also
Balance of payments
Commerce
Commercial policy
Commercial treaties and agreements

Canada
Additional 10 percent wartime tax on all non-Empire imports, new or increased taxes or duties on a few luxury items. Comm Rep p585-6 Jl 6 '40
Canada's customs regulations on printed advertising matter. N. Sharkey. Ptr Ink 193: 84-5 O 4 '40
Seasonal customs valuation. Comm Rep p725 Ag 24 '40

Great Britain
British-American trade agreement; American viewpoint. L. de Rycke. Special Lib 30:337-41 D '39
British tariff system. E. B. McGuire. 312p $3.50 S. J. Reginald Saunders, 84 Wellington st, W, Toronto '39

Indochina, French
Customs autonomy to be granted. For Comm W 1:250-1 N 9 '40

United States
British-American trade agreement; American viewpoint. L. de Rycke. Special Lib 30:337-41 D '39
Economic nationalism, trade barriers and the war. J. A. Krout, ed. Academy of Political Science Proceedings 19:1-110 My '40 (pa $2.50)
Experience under the reciprocal trade agreements. E. B. Brossard. il Min Cong J 25:36-9; Discussion. H. Huston. 39-41 N '39
Invisible tariff; a study of the control of imports into the United States. P. W. Bidwell. 286p bibliog(p265-75) $2.50 Council on foreign relations, New York '39
Lowering our tariff wall by trade agreements. R. B. Stevens. Ann Am Acad 211:76-84 S '40
Protection of American export trade. F. B. Sayre. 93p $1.50 Univ. of Chicago press '40

See also
Commercial treaties and agreements

Bibliography
Reciprocal trade: a current bibliography; a supplement to the third edition. C. Notz and others, comps. 232p U.S. Tariff commission, Washington '40

TARIFF—United States—*Continued*

Chemicals

Reciprocal trade pacts; review of their history and effects. R. Kent. il Chem Ind 46:695-8 Je '40

Synthetic organic chemical manufacturers association files protest against tariff bargaining. Oil Paint & Drug Rep 137:3+ Ja 22 '40

Copper

Chilean-United States trade agreement hearings. Comm & Fin Chr 149:3484-5 D 2 '39

Copper import tax cut opposed in hearing on Chile reciprocal trade agreements. Oil Paint & Drug Rep 136:5+ D 4 '39

Will copper import tax be cut? Barron's 19:6 D 4 '39

Glass

Hand made glassware and reciprocal treaties. il Glass Ind 21:51-6 F '40

Minerals

Extension of Reciprocal trade agreements act; statements made before the Ways and means committee, January 24, 1940. J. D. Conover; E. V. Gent; E. Just. Min Cong J 26:26-32+ Mr '40

Petroleum and petroleum products

Venezuelan treaty arouses outburst of criticism. Oil & Gas J 38:96 N 17 '39

Rubber

Crepe sole rubber imports dutiable. India Rubber W 102:46 My '40

Tungsten ores

Duty on tungsten ore aids consumers. L. G. Firth. Steel 106:95 Ja 15 '40

Zinc

Extension of Reciprocal trade agreements act; statements made before the Ways and means committee, January 24, 1940. J. D. Conover; E. V. Gent; E. Just. Min Cong J 26:26-32+ Mr '40

Uruguay

Tariffs and trade controls. For Comm W 1:24 O 5 '40

TARIFF (export duties)

Philippines to apply tax to many exports to United States. Oil Paint & Drug Rep 136:5 D 25 '39

TARNISHING of metals

Cathodic treatment of copper in a solution of beryllium sulphate to prevent tarnishing; abstract. D. T. Ewing and G. W. Jernstedt. il Iron Age 146:43 Jl 4 '40

Investigation of antitarnish paper. H. W. Rowe and O. Kress. bibliog Paper Tr J 110: 33-6 Ja 11 '40

Recent advances in the applied chemistry of the rare metals; quest for stainless silver; a new method of protecting silver against tarnish. R. H. Atkinson. Chem & Ind 59:202 Mr 23 '40

Reflectivity measurements of silver alloys; possibility of producing tarnish resistant oxide coatings; abstracts. E. Raub and M. Engel. Metal Ind 38:33 Ja '40; Metals & Alloys 11:MA99 F '40

Tarnishing of stainless steels. Franklin Inst J 229:646-7 My '40

Textiles of tomorrow; Pamilla silver cloth. K. H. Barnard. Textile Col 61:845 D '39; Same. Am Dyestuff Rep 28:739 D 25 '39

TARR, William Arthur, 1881-1939

Memorial. E. B. Branson. por(pl 13) Geol Soc Proc 1939:241-7 bibliog(p243-7) Je '40

TARTARIC acid

Synthetic tartaric acid; conversion of maleic acid and malic acid. Chem Age (Lond) 42: 161 Mr 16 '40

TARTRATES

Analysis

Determination of tartrates in cyanide copper solutions. W. B. Stoddard, jr. Metal Ind 37: 580-1 D '39

TASMANIA

In the wake of a traveling engineer. J. C. Cosgrove. il map Explosives Eng 18:246-51 Ag '40

Ports of Tasmania. il(cover) Comm Rep p822 S 28 '40

TASTE

Alcohol taste thresholds and concentrations of solution preferred by rats. C. P. Richter and K. H. Campbell. Science 91:507-8 My 24 '40

See also

Flavor

Water purification—

Taste removal

TASTE (esthetics). See Esthetics

TATA iron and steel company. See Steel works—India

TAUTOMERISM

Chemistry of vitamin B_6; tautomerism. S. A. Harris, T. J. Webb and K. Folkers. bibliog Am Chem Soc J 62:3198-203 N '40

Isotopic exchange reaction between deuterium oxide and *cis-* and *trans-*glutaconic acids. E. M. Evans, H. N. Rydon and H. V. A. Briscoe. diag Chem Soc J p1673-9 N '39

Keto-cyclol tautomerism of 1,6-diketones; 1,4-dibromo-1,4-dibenzoylbutane. T. Kao. Am Chem Soc J 62:356-8 F '40

Ultra-violet absorption spectra of nitrogenous heterocyclic compounds; effect of pH and irradiation on the spectrum of barbituric acid. J. R. Loofbourow and M. M. Stimson. Chem Soc J p1275-7 S '40

See also

Isomerism

TAX appeals, Board of. See United States—Board of tax appeals

TAX collecting

See also

Tax delinquency

TAX delinquency

Diagnosis and suggested treatment of an urban community's land problem; Flint, Mich. and vacant lot problem. E. N. Bacon. maps J Land & Pub Util Econ 16:72-88 F '40

Recent trends in tax delinquency; for many cities a descent to normalcy. F. L. Bird. il Dun's R 48:14-17+ Ap '40

Tax delinquencies in cities fall. Nation's Business 28:81 My '40

TAX evasion and avoidance

Cut gas-tax evasion. Business Week p30+ F 24 '40

Don't be a tax spendthrift! L. J. Freeman. Barron's 20:3-4 Ja 8; 7 Ja 15; 13 Ja 22; 8 Ja 29; 18 F 5; 7+ F 19; 18 F 26; 18 Mr 4; 20 Mr 11; 20 Mr 25 '40

How employee profit-sharing can cut tax bills; pension trusts. J. K. Lasser. Am Business 10:28, 30-2 My '40

Minimizing the excess profits tax; methods by which corporations can ease the load. J. B. Lowe and J. D. Wright. Barron's 20:7 N 11 '40

Shape of taxes to come; tax measures of 1916-21 and present steps to minimize effects of coming levies. L. J. Freeman. Barron's 20:3+ Jl 8 '40

Three methods of tax avoidance. P. H. Topping. East Underw 41:17 S 13 '40

United States Supreme court reverses Circuit court decision which upheld avoidance of federal surtaxes on income from trust. Comm & Fin Chr 150:1359 Mr 2 '40

TAX exemption. See Taxation, Exemption from

TAX receivership. See Tax delinquency

TAX reduction movement. See Taxpayers' associations

TAXATION

Business man's interest in national fiscal policy; compensatory fiscal policy versus balanced budget. B. Ruml. Advanced Management 4 no5:122-5 '39

Tax burdens in principal countries, per capita, 1913-1914 and 1938. Dun's R 48:44 F '40

TAXATION—*Continued*

Tax systems; a year book of legislative and statistical information including all the states of the United States and certain Canadian and foreign data. Tax research foundation. 8th ed 395p $8.75 Commerce clearing house '40

Taxation and the national income; analysis of comparative taxation in some of the principal countries of the world before the last and the present war. Economist 137:413 D 16 '39

War financing; the functions of taxation and borrowing. E. M. Patterson. Trusts & Estates 71:151-5 Ag '40

See also

Assessment
Chain stores—Taxation
Corporations—Taxation
Excess profits tax
Excise tax
Gasoline—Taxation
Gift tax
Government expenditures
Income tax
Inheritance tax
Insurance, Life—Taxation
Insurance companies—Taxation
Mine taxation
Motor vehicles—Taxation
Municipal finance
Municipal taxation
Public utilities—Taxation
Purchase tax
Real property—Taxation
Sales tax
Stock transfer tax
Tariff
Tariff (export duties)
Taxpayers' associations

also Tennessee Valley authority—Taxation problem

Accounting

How to operate a clay plant cost system from the standpoint of taxes. E. L. Kinney and J. R. Paisley. Brick & Clay Rec 97:40, 42+ N '40

Methods of accounting for taxes. E. I. Bjork. Am Gas Assn Proc 1939:217-20; Same. Am Gas Assn Mo 21:227-9 Je '39

See also

Income tax—Accounting
Inheritance tax—Accounting

Regulatory taxation

Federal taxation of chain stores, with text of proposed bill. G. H. Brown. J Business 13:71-86 Ja '40

Graduated farm land transfer stamp tax for checking speculative booms in land values. J. A. Baker. J Land & Pub Util Econ 16: 21-9 F '40

Incentive taxation, rather than punitive, is demand of labor; calls for conference of labor and capital to formulate program to present to government. M. Woll. Ptr Ink 193:17-19, 73-6 N 15 '40; Abstract. East Underw 41:1+ N 29 '40

White rabbit or robot, 1940 model; O'Mahoney bill for increasing employment by means of labor-differential tax. Iron Age 145:38A-38D+ Mr 21 '40

Australia

Australia's taxation proposals. Economist 139: 186-7 Ag 10 '40

Brazil

Brazilian taxes on corporate real property and its transfer. H. P. Crawford. Comm Rep p564 Je 29 '40

California

Revenue and taxation code, state of California, 1939, in effect February 1, 1941. 215p California code commission, Sacramento '40

Canada

Canada's billion dollar tax bill. Business Week p49 Je 29 '40

Canadian business feels the taxes. Business Week p53 Jl 6 '40

Canadian industry's tax burden. A. T. Christie. Barron's 19:18 D 18 '39

Dominion budget. Can Min J 61:451-2 Jl '40

Increased taxes for Canadian companies; results for 22 companies on basis of 1939 earnings A. T. Christie. Barron's 20:18 Jl 22 '40

Tax increases of the second Canadian war budget. Annalist 56:12 Jl 4 '40

Colorado

Colorado reckoning; group-pressure allocation of state funds brings tax crisis. Business Week p29 O 26 '40

Relief vs. pensions; Colorado business fighting proposed tax on intangibles, sponsored by Annuity league. Business Week p40-1 Je 29 '40

Tax raids checked. Business Week p24-5 N 16 '40

Cuba

General taxation in Cuba. Compar Law Ser 3:311-17 Je '40

Taxes in Cuba modified. Compar Law Ser 3:227-31 Ap '40

Great Britain

Mechanical handling and de-rating relief; operation of war concessions under the rating of valuation (apportionment) act. F. E. Sugden. Mech Handling 27:63-5 Mr '40

More taxation? Economist 138:2-3 Ja 6; 46-7 Ja 12 '40

Purchase tax, revised version. Economist 139: 118 Jl 27 '40

Purchase tax to be collected from unregistered retailers by registered wholesalers. Economist 138:767-8; 139:9 Ap 27, Jl 6 '40

Rates and rating, embodying the rating and valuation acts, 1925 to 1938. A. Crew and F. Jones. 10th ed 536p $5 Pitman '39

Summary of British taxation. J. H. Barkmeier. Compar Law Ser 3:1-15 Ja '40

Taxation of war profits. Economist 138:675-6 Ap 13 '40

See also

Excess profits tax
Income tax—Great Britain
Tariff—Great Britain

Illinois

Revenue act of 1939. 238p Illinois tax commission, Chicago '39

Tax that hurts; Illinois business to fight retailers' occupational tax. Business Week p16-7 Je 8 '40

India

British Indian excess profits tax. J. H. Barkmeier. Comm Rep p529 Je 15 '40

Indiana

Report of the Indiana tax study commission. 200p State board of accounts, Indiana year book bur, 305 State house, Indianapolis '39

Massachusetts

Problem of taxation in Massachusetts; papers presented at the fourth annual Conference on current governmental problems, November 3 and 4, 1939. C. J. Rohr, ed. 74p pa gratis Massachusetts state college, Amherst '39

Mexico

Mexican capital export tax revoked. H. P. Crawford. Comm Rep p1168 D 16 '39

Mexico's new excess profits tax. Comm Rep p28 Ja 13 '40

Michigan

Michigan tax law upheld; replaces personal property levy. East Underw 41:15 N 1 '40

Tax laws. F. F. Royce, comp. 356p Michigan. Auditor-general's office, Lansing '39

Missouri

Local imposts on motor vehicles in Missouri. J. H. Long and B. H. Mayes. il Pub Roads 21:49-56+ My '40

Nebraska

Tax systems of Nebraska. E. B. Schmidt. maps Univ of Nebraska Studies in Business 46:1-42 bibliog(p40-2) '40 (pa 50c)

New Jersey

Law of taxation; with special reference to its application in the state of New Jersey. C. C. Black. 5th ed 581p bibliog(p530-2) $10 Soney & Sage co, Newark, N.J. '40

TAXATION—New Jersey—*Continued*
Study shows downward trend in local taxes. Comm & Fin Chr 150:1636 Mr 9 '40

New York (city)

Merchants' association of New York opposes move to divert special New York city's relief taxes; proposes changes in law affecting business receipts tax. Comm & Fin Chr 150:2021 Mr 30 '40

New York (state)

Tax law of the state of New York, with article IV, secs. 130-139 of State departments law, as of August, 1939. 317p pa $1 Commerce clearing house '39

See also
Income tax—New York (state)
Inheritance tax—New York (state)

Oregon

Laws relating to assessment and taxation, 1939. 135p Oregon. State tax commission, Salem '39

South Africa

Union of South Africa tax modification. J. H. Barkmeier. Comm Rep p721 Ag 24 '40

Southern states

Taxation in the South. W. Welfling. Manuf Rec Extra no 109:59-61 S '40

Texas

Assessment of property for ad valorem tax purposes in Texas cities. M. G. Toepel. 261p bibliog(p245-53) pa gratis Univ. of Texas, Austin '39
Natural resource tax [debate on taxing oil, gas and sulfur]. P. C. Ragsdale, comp. Texas U Pub 4038:1-208 bibliog(p36-8) '40 (pa 35c)
Tax control in east Texas. J. Capers, jr. Manuf Rec 109:33+ S '40

United States

Alcohol tax exemption denied by House in revenue bill; with list of some new excise tax rates. Oil Paint & Drug Rep 137:5 Je 17 '40
American taxes shared and allocated, 1938; a joint report of the American municipal association and Federation of tax administrators. S. Merlin. 67p pa $1 American municipal assn, 1313 E. 60th st, Chicago '39
America's tax dollar; a key problem in governmental reconstruction; federal and local revenue planning. A. Lepawsky. Ann Am Acad 207:185-93 Ja '40
Commerce clause tax problems; a treatise upon taxation as controlled by the commerce clause. M. M. Mahany. 269p $2.75 Commerce clearing house '40
Congressional leaders formulate plans to finance national defense. Comm & Fin Chr 150:3442 Je 1 '40
Consumers must meet heavy tax bill; levies contained in retail prices estimated by insurance research men. Weekly Underw 143: 1081 N 9 '40
Coordination of tax systems. R. W. Smith. Trusts & Estates 70:68-9 Ja '40
Defense expenditures and taxation. Nat City Bank p90-5 Ag '40; Excerpts. Comm & Fin Chr 151:776 Ag 10 '40
Economic effect of present taxes on the mining industry. W. H. Hoover. Min Cong J 25:31-4; Discussion. L. G. Kelly. 34-5 N '39
Federal tax laws; recent interpretation and administration. A. L. Hopkins. J Account 70:403-10 N '40
Fortune survey; paying the bill. Fortune 21: 122 Ap '40
Four dollars out of every ten for taxes. M. E. Powers. Inland Ptr 105:29-30 Jl '40
FDR signs tax bill, raises start July 1. Nat Pet N 32:9+ Je 26 '40
House passes $1,004,000,000 tax bill to aid in financing national defense. Comm & Fin Chr 150:3754-5 Je 15 '40
Intergovernmental taxation today. D. Fellman. bibliog Ann Am Acad 207:27-37 Ja '40
Introduction to federal taxation (1939 act). G. T. Altman. 3d ed rev & enl 252p $2 Commerce clearing house '40
New tax bill supported by Secretary Morgenthau; urges cut in non-defense federal expenditures; proposed defense bonds to be subject to tax. Comm & Fin Chr 150:3759-60 Je 15 '40
1939 taxes more than double steel dividends. Steel 106:13-14 Ap 1 '40
Plea for tax reform. L. Dreyfuss. Ptr Ink 193:59 N 15 '40
Poor and the rich too heavily taxed; middle class should pay more. R. B. Pettengill. Annalist 56:271 Ag 29 '40
Prentice-Hall tax diary and manual for 1940. 430p, 507p $6 Prentice-Hall '39
President Roosevelt says special tax to finance defense expenses is being considered. Comm & Fin Chr 149:3343 N 25 '39
Property taxes; symposium. 288p bibliog (p275-83) $2.50 Tax policy league, New York '40
Recast of taxation system imperative. A. P. Sloan, jr. Bankers M 141:445-6 N '40
Revenue system corrections needed. J. W. Hanes. Bankers M 141:84-5 Jl '40
Secretary of Treasury Morgenthau believes consumer taxes are high enough; opposed to plan of Secretary Wallace for a processing levy to pay farm parity benefits. Comm & Fin Chr 149:3951 D 23 '39
Selected cases on the law of taxation. H. Rottschaefer. 3d ed rev 757p bibliog(pxixix) $6 Callaghan '40
Senate passes $1,000,000,000 tax bill to aid in financing national defense. Comm & Fin Chr 150:3900-1 Je 22 '40
Shape of taxes to come; tax measures of 1916-21 and present steps to minimize effects of coming levies. L. J. Freeman. Barron's 20:3+ Jl 8 '40
Tax load one of principal deterrents to business recovery and reemployment, says Guaranty trust co. of New York. Comm & Fin Chr 150:3436 Je 1 '40
Tax news of the month. J. K. Lasser. Am Business 10:37-40 Ja; 43-6 F; 41-4 Mr '40
Tax revision proposals of Federal finance committee, Chamber of commerce of the United States. Bankers M 139:538-9 D '39
Taxation and fiscal policy. M. Newcomer. 89p $1.25 Columbia univ. press '40
Taxation and the citizen. F. A. Eldean. Am Pet Inst Proc 20(AT):92-4 '39
Taxation held within reasonable and necessary limits will give business the biggest boost imaginable. W. D. Fuller. Comm & Fin Chr 149:3805 D 16 '39
Taxes add an ever-increasing handicap; interview with M. E. Powers, by E. T. Miller. Inland Ptr 104:19-21 D '39
Text of excess-profits tax-plant amortization bill; Second revenue act of 1940. Comm & Fin Chr 151:2251-61 O 19 '40
Text of Revenue act of 1940. Comm & Fin Chr 150:4032-5 Je 29 '40
Trends in federal tax procedure; proposal of R. J. Traynor examined. F. L. Pearce. J Account 69:369-75 My '40
Trends in public finance. R. Magill. Am Pet Inst Proc 20(AT):10-15 '39
United States Chamber of commerce presents 40-point program of tax reform. Comm & Fin Chr 149:3198-9 N 18 '39
U.S. defense: the dollars; budgetary prognosis. Fortune 22:79+ N '40
United States master tax guide, 1940; based on the Internal revenue code and the regulations, rulings and decisions to 1940. 251p pa $1 Commerce clearing house '40
Wealth, debt and taxes in the United States. Edison Elec Inst Bul 8:248 My '40
What war taxes mean to investors. H. D. Steinmetz. Mag of Wall St 66:400-2+ Jl 13 '40
You are a taxpayer. M. Newcomer. 37p 60c; pa 35c Vassar cooperative bookshop, Vassar college, Poughkeepsie, N.Y. '39
Your taxes. D. Horne. Banking 32:36 My; 54 Je '40

TAXATION—United States—*Continued*
Your taxes; Revenue act of 1940. D. Horne. Banking 33:54-5 Ag '40

See also
Corporations—Taxation
Income tax—United States
Inheritance tax
Mine taxation
Payrolls—Taxation
Sales tax
Tariff—United States

Uruguay

Business taxes in Uruguay. S. Morris, jr. Compar Law Ser 3:147-59 Mr '40

Washington (state)

Annotated code of property tax laws and certain excise tax laws of the state of Washington. 199p Tax commission of state of Washington, Olympia '39
Probate research; study of probated estates in Washington with reference to the state tax system. J. K. Hall. Trusts & Estates 70:395-8 Ap '40

TAXATION, Double
Death and taxes are certain, but what of domicile. H. Tweed and C. S. Sargent. Trusts & Estates 69:568-71 N '39
Estate taxation of trusts of non-residents; extension of reciprocal exemption statutes urged. J. Y. Scott. bibliog Trusts & Estates 69:636-8 D '39
Extra domiciliary death taxes on intangibles. J. F. McCloy. Trusts & Estates 71:284-8 S '40
Making foreign travel safe for intangibles; statute recommended to outlaw multiple death taxation. L. S. Headley. Trusts & Estates 70:171-4 F '40; Excerpts. Bankers M 140:266-7 Mr '40
Prevention of international double taxation and fiscal evasion; two decades of progress under the League of nations. M. B. Carroll. 53p 40c International document service, Columbia univ. press '39

TAXATION, Exemption from
Attorney General Bennett of New York opposes Treasury proposals to tax state and municipal bonds. Comm & Fin Chr 149: 4108-9 D 30 '39
Constitutional immunity of state and municipal securities; a legal defense of the continued integrity of the fiscal powers of the states. 420p Conference on state defense, 111 8th av, New York
Danger of federal taxation of municipals. J. S. Linen. Comm & Fin Chr 150:149-50 Ja 6 '40
Fiscal and economic aspects of the taxation of public securities; a report. H. L. Lutz. 241p Morris S. Tremaine, Comptroller, Albany, N.Y. '39
Intergovernmental taxation today. D. Fellman. bibliog Ann Am Acad 207:27-37 Ja '40
Minimizing taxes on incomes and estates. J. B. Lowe and J. D. Wright. rev ed 138p $2 Barron's, New York '40
No more tax-exempt bonds? Business Week p45 S 21 '40
Tax exempt bond bill defeated. D. C. Smith. inv Banking 10:23-5 O '40
Taxes and philanthropy; government subsidy of charity thru gift exemptions and proportion contributed by class of wealth. C. L. Harriss. Trusts & Estates 70:117-19+ F '40
TVA's position on tax replacements. H. A. Morgan. Pub Util 25:530-1 Ap 25 '40
Tennessee's TVA tax plea; three possible solutions. G. B. Bryant, jr. Barron's 20:8 F 12 '40

TAXATION, Limitation of
Ohio's tax limitation experience. J. S. Clark. Inv Banking 10:16-19 My '40

TAXATION, Municipal. See Municipal taxation

TAXATION, State
America's tax dollar; a key problem in governmental reconstruction; federal and local revenue planning. A. Lepawsky. Ann Am Acad 207:185-93 Ja '40
Annual meeting of the National tax association in New York city. Comm & Fin Chr 151:1511-12 S 14 '40
Banker and local tax problems. G. W. Brooks. map Bankers M 141:198-201 S '40
Estate taxation of trusts of non-residents; extension of reciprocal exemption statutes urged. J. Y. Scott. bibliog Trusts & Estates 69:636-8 D '39
Few new taxes added by states in 1939. Comm & Fin Chr 150:301-2 Ja 13 '40
Highway bonds and their effect upon taxes. N. S. Taber. Am Pet Inst Proc 20(AT):23-6 '39
Intergovernmental taxation today. D. Fellman. bibliog Ann Am Acad 207:27-37 Ja '40
Local taxes and consumer markets. C. D. Dam. il Ptr Ink Mo 41:12+ S '40
National bank's protection intact; immunity from state taxation. D. Horne. Banking 32:54 Je '40
Oklahoma business men fight waste in government. J. G. Hill. il Am Business 10:26-8+ Mr '40
Prentice-Hall tax diary and manual for 1940. 430p, 507p $6 Prentice-Hall '39
Tax competition between states. J. W. Martin. bibliog Ann Am Acad 207:62-9 Ja '40
Taxation of cooperatives. Monthly Labor R 50:97-100 Ja '40
Trade barriers within the United States R. Cassady, jr. bibliog Harvard Business R 18 no2:231-47 [Ja] '40
Where will the tax collector turn for more revenue? To privately owned utilities. T. N. Sandifer. Pub Util 24:659-66 N 23 '39

See also
Income tax, State
Sales tax

TAXATION of securities
Intangible tax of Georgia. L. B. Ralsty. Univ of Georgia Bul v 40, no 5:1-30 '40
Your taxes; tax-free covenants. D. Horne. Banking 33:54-5 Jl '40

See also
Stock transfer tax

TAXICABS
Fresh air taxi; Formica paneling. il Mod Plastics 17:42 Ap '40
New cabs for old taxi troubles. il Business Week p30+ F 10 '40

See also
Railroads—Taxicab service

TAXONOMY. See Zoology—Classification

TAXPAYERS' associations
Banker and local tax problems. G. W. Brooks. map Bankers M 141:198-201 S '40
Industry's stake in local tax reduction. E. M. Allen. map Chem Ind 47:143-4 Ag '40
Local taxes and consumer markets. C. D. Dam. il Ptr Ink Mo 41:12+ S '40
Tax economy; taxpayer association movement. A. Claflin. Banking 33:31 Ag '40
Taxation and the citizen. F. A. Eldean. Am Pet Inst Proc 20(AT):92-4 '39

TAYLOR, Telford
Portrait. Business Week p22 My 25 '40

TAYLOR, Thomas Ulvan, 1858-
Sketch. por Civil Eng 10:61-2 Ja '40

TAYLOR, Wayne Chatfield, 1893-
Portrait. Business Week p7 O 26 '40

TAYLOR, William, d. 1937
Mechanism of substitution at a saturated carbon atom; criticism and revision of a group of Taylor experiments on hydrolysis of alkyl halides. L. C. Bateman, E. D. Hughes and others. Chem Soc J p913-44 Jl '40

TAYLOR, William Chittenden, 1886-
Sketch. por Glass Ind 21:105 Mr '40

TAYLOR-WHARTON iron and steel company
Country's oldest industrial concern. C. H. Vivian. il Comp Air M 45:6049-56, 6070 Ja '40

TAYLORCRAFT aviation corporation
30,000 shares of preferred stock offered. Comm & Fin Chr 151:431-2 Jl 20 '40

TEA
Recent studies of vitamin C in tea leaves; abstract. W. B. Deigs. Food Ind 12:95 S '40

TEA—*Continued*

Analysis

Determination of small amounts of cobalt in foods with particular reference to tea; abstract. N. D. Sylvester and L. H. Lampitt. Chem & Ind 58:1121 D 30 '39

TEA industry and trade

See also
Lunuva (Ceylon) tea and rubber estates
National tea company

Directories

Ukers' international tea and coffee buyers' guide. W. H. Ukers, comp. 10th ed 1940-1941 224p pa $2 Tea and coffee trade journal co, 79 Wall st, New York '40

Finance

International tea company's profits. Economist 139:163 Ag 3 '40
Tea company results. Economist 139:19, 348-9 Jl 6, S 14 '40

Statistics

Tea in 1939. Economist 138:sup29-30 F 17 '40
Tea, 1936-1939. Survey of Cur Business 1940 Sup p113 [supplemented in monthly numbers]

Great Britain

Tea earnings and government purchases. Economist 138:112 Ja 20 '40

TEACHERS

Teacher's dependency load. T. P. Pyle. 111p bibliog(p96-7) $1.60 Teachers college '39
Teachers not anti-advertising; nor red, or even pink, business-baiters. C. B. Larrabee. Ptr Ink 191:15-16+ My 10 '40

See also
Chemistry teachers
College professors and instructors
Engineering colleges—Professors and instructors

TEACHERS' institutes

Attendance at a teachers' institute held to be within the course of employment by Ohio Court of appeals. Monthly Labor R 49: 1425 D '39

TEACHING

Students appraise the instructor. A. Kowalczyk. J Chem Educ 17:66-9 F '40

See also
Engineering colleges
Engineering education
Industrial education
Learning, Psychology of
also subdivision Study and teaching under special subjects, e.g. Chemistry—Study and teaching; Science—Study and teaching

TECHNICAL association of the pulp and paper industry

Annual meeting, 25th, New York, Feb. 19-22. Paper Tr J 110:96-101 F 22 '40; Can Chem & Process Ind 24:116-17 Mr '40
Annual report of delegates to Inter-society color council. Paper Tr J 110:37-8 Ja 25 '40
Division and committee appointments. Paper Tr J 110:42 My 16 '40
Fall convention, Seattle, Aug. 20-23. Paper Tr J 111:39-46 Ag 29 '40
Processes and utilization of by-products discussed at annual meeting, New York. Oil Paint & Drug Rep 137:3+ F 26 '40

TECHNICAL chemistry. See Chemistry, Technical

TECHNICAL education

E.C.P.D. petitioned to study accrediting of nondegree certificates. Mech Eng 62:508 Je '40
Ending the instruments dilemma; Rochester athenaeum and mechanics institute trains men to design, install, adjust and maintain automatic controls. C. A. Little. il Power 84:395-6 Je '40
Little education; don't spurn the correspondence course and evening classes; university extension service. R. H. Morris. Power Pl Eng 44:70-2 Je '40; Discussion. 44:95-6 O '40
Practical techniques of industrial training. L. D. McDonald; F. E. Searle; R. D. Hayes. 28p Am. management assn, New York '40
Problèmes actuels de l'enseignement technique supérieur. A. Rohn. Soc Ing Civils Mémoires 91:892-905 N '38
Schools for artisans. O. J. Ferguson. J Eng Educ 30:831 Je '40
Whither technical institutes? P. R. Kolbe. J Eng Educ 30:643-4 Ap '40

See also
Aeronautic schools
Apprentices
Chemical education
Chemistry—Study and teaching
Employees, Training of
Engineering colleges
Engineering education
Illinois institute of technology
Industrial education
Massachusetts institute of technology
Mining schools and education
Printing schools
Professional education
Textile schools
Trade schools
Vocational education

Germany

Beginnings of engineering education; connection with the mineral industry in Germany. T. T. Read. bibliog J Eng Educ 30:348-53 D '39

Great Britain

Students' progress in wartime. R. O. Kapp. Elec R (Lond) 126:64-5 Ja 19 '40
Technical college; its organization and administration. W. A. Richardson. 495p $5 Oxford '39

TECHNICAL institutes. See Technical education

TECHNICAL libraries

Functions and advantages of a company technical library. G. F. Olsen. Min & Met 21:333-4 Jl '40
Imperial institute as an information centre. H. Lindsay. Assn of Sp Lib & Inf Bur Proc 1939:10-20; Same abr. Engineering 149:31-3 Ja 12 '40

See also
Engineering societies library, New York
Libraries—Technical departments
United States rubber company—Libraries

TECHNICAL literature

Abstracting and indexing of scientific and technical literature. E. J. Crane. Special Lib 31:260-4 Jl-Ag '40
How libraries pick technical books. D. G. Legerman. Publishers' Weekly 138:238-40 Jl 27 '40

See also
Scientific literature
Technical writing

TECHNICAL products

See also
Equipment industries
Industrial market
Machinery industry
also names of technical products, e.g. Bearings; Belting; Gearing

Advertising

Activated Al; does great work for aluminum. R. T. Griebling. il Ptr Ink 191:17-19 My 10 '40
Builds quick acceptance for better product in industrial markets; American screw company. H. Mayoh. il Ptr Ink 193:75-8+ N 1 '40
Direct mail that draws bead, calls its shots, and records them; air conditioning equipment sold to bakeries by mail. A. H. Little. il Ptr Ink 189:23-6 D 15 '39
Engineer talks to industrial advertisers. H. Madeheim. diags Ptr Ink Mo 41:12+ Jl '40
Half a letter that sells by indirection wins award; American screw co. Sales Management 46:66 My 15 '40
How industrial companies work out problem of obtaining installation pictures. Ptr Ink 192:129-30, 132 S 27 '40

TECHNICAL products—Advertising—*Continued*
Leadership challenged, this advertiser improved item, changed its name, and advertised; Copes flowmatic regulator D. Allshouse. il Ptr Ink 192:15-17 Jl 26 '40
More you tell, the more you sell; industrial-advertising trend that consumer advertisers could follow. A. H. Little. Ptr Ink 190: 69-70, 72-3 F 2 '40
Woman builds big industrial business from small start; Kellems products, inc. E. H. Pearson. Ptr Ink 193:9-12 O 4 '40

See also
Advertising—Industries, Appeal to
Valves—Advertising

TECHNICAL publicity association
Seminars show advertising can cut industrial sales cost. Sales Management 46:73 Je 1 '40

TECHNICAL schools. See Technical education

TECHNICAL societies
Technical institutions in war time. Engineer 168:548-9 D 1 '39

See also
Engineering societies
Trade associations

TECHNICAL workers
Applicability of wage-hour law to engineering employees studied. Eng N 124:549 Ap 18 '40
National roster of scientific and specialized personnel L. Carmichael. Science 92:135-7 Ag 16 '40
Scientific and specialized personnel index; card file. Chem & Met Eng 47:641 S '40
Skilled workers for defense industries. C. S. Slocombe. Personnel J 19:120-58, 160-93 O-N '40

See also
Aeronautic workers
Chemists
Electric workers
Engineers
Radio workers

TECHNICAL writing
Are you going to present a paper? S. M. Tucker. Min & Met 21:423-4 S '40
Give the answer first. L. E. Newman. Power Pl Eng 44:73 Je '40
Handbook of English in engineering usage. A. C. Howell. 2d ed 433p bibliog(p404-5) $2.50 Wiley '40
Writing the technical report. J. R. Nelson. 373p $2.50 McGraw-Hill '40

See also
Chemical writing

TECHNICOLOR, incorporated
Earnings, 1937-39. Comm & Fin Chr 150:4143 Je 29 '40

TECHNOLOGY
Marvels of the modern world. H. Wheeler, ed. 448p $1.98 Blue ribbon books '40
Promise and problem of technological progress. J. Lloyd. il Mag of Wall St 66:78-80+ My 4 '40
Science in 1939. Science 90:sup18 D 22 '39
Science points the investor's way; he can have stake in new industries on technological frontier. J. V. Sherman. Barron's 20:3 My 6; 13 My 13; 8-9 My 20; 20 My 27; 13 Je 10 '40
Technological unemployment, a fact or a fallacy? views of Senator O'Mahoney and Karl T. Compton. Pub Util 25:554-5 Ap 25 '40
Technology and employment; TNEC hearings. Oil Paint & Drug Rep 137:5+ Ap 15; 3+ Ap 22; 5+ Ap 29 '40
Technology on trial? B. Stern. Rayon 21: 454 Ag '40
Temporary national economic committee; hearings on effect of machines on men. Comm & Fin Chr 150:2353, 2512-13, 2652-3, 2811 Ap 13-My 4 '40

See also
Brickmaking
Building
Ceramics
Chemistry, Technical
Clay industries
Concrete
Dyes and dyeing
Electric engineering
Engineering
Glass manufacture
Industrial education
Inventions
Machinery
Machinery in industry
Manufactures
Metallurgy
Mineral industries
Oil industries
Paper making
Pottery
Printing
Railroad engineering
Rubber
Soap
Steel
Technical education
Testing
Textile industry

Bibliography

Annotated bibliography of books & pamphlets on certain mechanical and allied trades. rev & enl ed 137p Federal security agency, National youth administration, Quoddy regional project, Quoddy Village, Me. '40
Industrial training for national defense. C. M. Mohrhardt. Booklist 36:445-56 pt 2 Ag '40
New technical books; published quarterly by New York public library
Technical book review index. Published monthly except July and August by Special lib. assn, 4400 Forbes st, Pittsburgh, Pa.

Dictionaries

Chambers's technical dictionary. C. F. Tweney and L. E. C. Hughes, eds. 957p bibliog(p952-7) 15s W. & R. Chambers, London; $5 Macmillan '40
Dictionary of technical terms; containing definitions of commonly used expressions in aeronautics, architecture, woodworking and building trades, electrical and metal-working trades, printing, chemistry, etc. F. S. Crispin. 3d ed 324p $2.25 Bruce pub. '40

Language

Supplementary exercises for use in English courses for engineers, prepared to accompany Howell's Handbook of English in engineering usage, second edition. J. O. Bailey, T. B. Stroup and A. C. Howell. 2d ed 148p pa $1 Wiley '40
Writing the technical report. J. R. Nelson. 373p $2.50 McGraw-Hill '40

TEETER, Albert A. 1888-
Teeter marks 25 years with Pfizer & co. por Oil Paint & Drug Rep 137:3+ My 13 '40

TEETH
Light scattering in normal human dentine; the calculation of absorption and scattering constants. R. S. Manly, J. F. Bonner and H. C. Hodge. bibliog J Phys Chem 44:745-51 Je '40
Revision of dental symbols. B. Oetteking. Science 90:464-5 N 17 '39
Tooth form; drawing and carving; a manual. R. C. Wheeler. 71p pa $2.50 Saunders '39

See also
Dentifrices

Diseases and defects

Atlas of dental and oral pathology. J. B. Mann and J. E. Ash. 152p loose-leaf $15 Am dental assn, 212 E Superior st, Chicago '40
Chemistry in dental science. D. A. Wallace and H. L. Hansen. bibliog J Chem Educ 17:425-6 S '40
Clinical pathology and treatment of the dental pulp and periodontal tissues. E. D. Coolidge. 461p $6.50 Lea & Febiger, Philadelphia '39
Community economic status and the dental problem of school children. H. Klein and C. E. Palmer. bibliog Pub Health Rep 55: 187-205 F 2 '40
Dental caries. 189p $1 Am. dental assn, D. F. Lynch, 2651 16th st, N.W, Washington, D.C. '39
Fluorides in food and drinking water. F. J. McClure. (Nat. inst. of health bul. no. 172) 15c Supt. of doc. '40
New knowledge of fluorine in relation to dental caries. G. J. Cox. bibliog Am Water Works Assn J 31:1926-30 N '39

TEETH—Diseases and defects—*Continued*
Principles of dental medicine; the medical aspects of dental disease. F. W. Broderick. 3d ed 575p $7.50 C. V. Mosby co, St Louis '39
Studies on dental caries; prevalence and incidence of dental caries experience, dental care, and carious defects requiring treatment in high school children. H. Klein and C. E. Palmer. Pub Health Rep 55:1258-68 Jl 12 '40
Text-book of oral pathology, for students and practitioners of dentistry. R. W. Bunting and T. J. Hill. 2d ed rev 460p $6.50 Lea & Febiger, Philadelphia '40

Extraction

Textbook of exodontia. L. Winter. 4th rev ed 520p bibliog(p509-10) $10 C. V. Mosby co, St Louis '40

TEETH, Artificial
Engineering in dentistry. A. W. Jessup. il Sci Am 162:90-1 F '40

TELEGRAPH
Control of inductive interference to telegraph systems. J. W. Milnor. il diags Elec Eng 59:Trans 469-74 Ag '40
Magnetism; telegraph relays. Electrician 124: 394 My 31 '40
Recent developments in telegraph switching. F. E. d'Humy and H. L. Browne. il Elec Eng 59:Trans 71-8 F '40

See also
Radio telegraph
Railroads—
Telegraph

History

Short account of the life and work of John Joseph Fahie. E. S. Whitehead. 112p bibliog(p109-10) 7s 6d Hodder & Stoughton, London '39

Statistics

Telegraph, cable, and radiotelegraph carriers, 1936-1939. Survey of Cur Business 1940 Sup p87 [supplemented in monthly numbers]

Great Britain

Telegram-form conveying systems; General post office. il diags Engineering 149:375-8, 429-31, 535-8, 615-17, pl 21, 23, 29, 36 Ap 12, 26, My 31, Je 28 '40

TELEGRAPH, Carrier current
Advances in carrier telegraph transmission. A. L. Matte. bibliog il diags Bell System Tech J 19:161-208 Ap '40
Efficient communication system for pipe-line operation. H. Clark. il Oil & Gas J 39:84-5 S 19 '40

TELEGRAPH, Radio. See Radio telegraph

TELEGRAPH companies
FCC recommendation for merger of international telegraph service embracing cable and radio facilities. Pub Util 25:348-50 Mr 14 '40
FCC report on merging the telegraph companies. Pub Util 25:98-9 Ja 18 '40
International telegraph merger recommended by FCC; possibility of alien influence on carriers cited as factor for consolidation of American cable and radio facilities. Comm & Fin Chr 150:1361-2 Mr 2 '40

See also
American telephone and telegraph company
International telephone and telegraph corporation
Western union telegraph company

Finance

Changed appraisal of Western Union bonds. A. Jansen. Barron's 20:19 Ja 22 '40
Telephone earnings approach 1929-31 peak; cable revenues boosted by war. W. W. Case. Annalist 56:139-40 Ag 1 '40
Western Union improves. S. Devlin. il Mag of Wall St 65:300-1+ D 16 '39

TELEGRAPH lines
Wavelength of oscillations along transmission lines and antennas. E. M. Siegel. Texas U, Engineering Research Ser no32:1-50 '40

TELEGRAPH offices
Telegram-form conveying systems; General post office. il diags Engineering 149:375-8, 429-31, 535-8, 615-17, pl 21, 23, 29, 36 Ap 12, 26, My 31, Je 28 '40

TELEGRAPH poles
Wood preservation in the service of the British Post office; abstract. R. G. Bennett. Chem & Ind 59:221-2 Mr 30 '40

TELEGRAPH stations
Recent developments in telegraph switching. F. E. d'Humy and H. L. Browne. il Elec Eng 59:Trans 71-8 F '40

TELEMETERING
Automatic supervisory control for a pumping scheme. il Engineer 169:385 Ap 19 '40
Carrier telemetering simplifies dispatching; Central Vermont public service corp. H. L. Durgin. il diag Elec W 112:1732-3+ D 16 '39
Carrier telemetering with the metameter. G. S. Lunge. il Gen Elec R 43:336-43 Ag '40
Everett Edgcumbe auto-repeater system of distant indication. il diags Engineer 169: 322 Ap 5 '40
Metameter system of telemetering. F. B. Bristol and G. S. Lunge. il diags Gen Elec R 42:466-72 N '39
Remote control of Youngstown's pumping plants; use of piezoelectric crystal. R. I. Williams. il Pub Works 71:21 Ag '40
Remote supervisory control. il diags Engineer 168:512-15 N 24 '39
Remote supervisory control on the Wirral railway; Strowger remote photo-telemetering equipment. diags Engineer 169:126-7 F 9 '40
Taylor remote pneumatic transmission systems. il Am Gas J 153:59-60 O '40
Telemetering scheme for generating stations. L. F. Lischer. diag Elec W 113:770 Mr 9 '40
Telemetric pressure recording system simplifies pipe-line operation. il Gas Age 85:32 Je 20 '40
Unusual application of a General Electric torque balance watt telemeter; obtaining hourly integration of power interchange. C. Wasserman. diags Instruments 13:219-20 Ag '40

TELEPHONE
Alarm systems and fire menace; combating incendiary bombs; audible and visual signalling with telephone communication. plan Electrician 125:163 S 27 '40; Elec R (Lond) 127:307-8 O 11 '40
Compact telephone and volume indicator set. G. Chinski. il diag Electronics 13:46+ Ja '40
Contact phenomena in telephone switching circuits. A. M. Curtis. pls diag Bell System Tech J 19:40-62 Ja '40; Same. Elec Eng 59:Trans 360-8; Discussion. 368 Je '40
Laryngophone; method by which telephonic communications may be maintained in very noisy surroundings; abstract. J. de Boer and K. de Boer. Electronics 13:90 Je '40
Room noise at telephone locations. D. F. Seacord. Elec Eng 58:255-7; 59:232-4 Je '39, Je '40
Telephones and listening habits; a study in statistical mis-application. S. E. Gill. Ptr Ink Mo 39:32 D '39
La téléphonie à haute fréquence et la visiotéléphonie. M. Adam. il diags Génie Civil 117:82-5 F 3 '40
Verification of subscribers' numbers on demand working: a supersonic signal method. W. K. Brasher and B. F. Moss. diags Inst E E J 87:63-8 Jl '40

See also
Electric lines—Inductive interference
Electric substations—Telephone
Microphones
Radio telephone
Railroads—Telephone
Telephone, Carrier current
Telephone cables
Telephone companies
Telephone in business
Telephone lines
also American telephone and telegraph company; International telephone and telegraph corporation

TELEPHONE—*Continued*

Amplifying apparatus

Cross-modulation requirements on multi-channel amplifiers below overload. W. R. Bennett. bibliog Bell System Tech J 19:587-610 O '40

Load-rating theory for multi-channel amplifiers. B. D. Holbrook and J. T. Dixon. Bell System Tech J 18:624-44 O '39; Same. Elec Eng 59:Trans 265-72 My '40

Relations between attenuation and phase in feedback amplifier design. H. W. Bode. diags Bell System Tech J 19:421-54 Jl '40

Apparatus and supplies

Compressed powdered molybdenum permalloy for high quality inductance coils. V. E. Legg and F. J. Given. bibliog il Bell System Tech J 19:385-406 Jl '40; Same cond. Metal Prog 38:284+ S '40

Electrical wave filters employing crystals with normal and divided electrodes. W. P. Mason and R. A. Sykes. diags Bell System Tech J 19:221-48 Ap '40

High-speed motion pictures aid design of electromechanical apparatus. J. R. Townsend. il diag Elec Eng 59:448-50 N '40

Insulating paper in the telephone industry. J. M Finch. bibliog il Ind & Eng Chem 32:1021-8 Ag '40

Magnetism; the telephone relay. Electrician 124:378-9 My 24 '40

Metallic materials in the telephone system. E. E. Schumacher and W. C. Ellis. il Metal Prog 36:617-22 N '39; Same. Bell System Tech J 19:138-51 Ja '40

News by commodities. Published in Foreign commerce weekly

Crosstalk

Cross-modulation requirements on multi-channel amplifiers below overload. W. R. Bennett. bibliog Bell System Tech J 19:587-610 O '40

Crosstalk between coaxial conductors in cable. R P Booth and T. M. Odarenko. diags Bell System Tech J 19:358-84 Jl '40

Crosstalk in coaxial cables, analysis based on short-circuited and open tertiaries. K. E. Gould. Bell System Tech J 19:341-57 Jl '40

Dial telephone

See Telephone, Automatic

History

Who invented the telephone? W. Aitken. 196p 5s Blackie and son, London '39

Intercommunicating systems

$5,000 dial system worth every cent it cost us; Chicago hardware foundry co. S. A. Simonson. il Factory Management 98:100-1 F '40

Interior service telephones; improved two-way loud speaker system. il diag Electrician 124:239 Mr 29 '40

Low-voltage systems for schools; time-saver standards. diags plan Arch Rec 88:103 O '40

Long distance

Experience in applying carrier telephone systems to toll cables. W. B. Bedell, G. B. Ransom and W. A. Stevens. bibliog il diags maps plans Bell System Tech J 18:547-87 O '39

Technical significance of the first transcontinental telephone line. F. B. Jewett. maps Gen Elec R 42:510-19 D '39; Same abr. Elec Eng 59:3-11 Ja '40

Toronto-Barrie toll cable. M. J. Aykroyd and D. G. Geiger. il maps Bell System Tech J 18:588-604 O '39

Noise

Experience in applying carrier telephone systems to toll cables. W. B. Bedell, G. B Ransom and W. A. Stevens. il Bell System Tech J 18:562-6 O '39

Picture transmission

See Phototelegraphy

Private wire systems

Inter-office communication systems facilitate industry's operations; automobile industry's intercity telegraph, telephone and teletype systems. E. L. Warner, jr. il maps Automotive Ind 83:50-4+ Jl 15 '40

Radio telephone connection

Radio extension links to the telephone system. R. A. Heising. bibliog il diags maps Bell System Tech J 19:611-46 O '40

Two-way radio-telephony. M. G. Marinesco. bibliog diags Wireless Eng 17:97-104, 164-5 Mr-Ap '40

Rates

Changes in telephone hand-set charges during calendar year 1939; tabulation by states. Pub Util 25:285-6 F 29 '40

Long-distance saving on new phone rates. Business Week p26 Mr 23 '40

Wisconsin telephone case; Wisconsin Supreme court finds Commission's orders unlawful. M. G. Glaeser. J Land & Pub Util Econ 16:37-46 F '40

Repeaters

Experience in applying carrier telephone systems to toll cables. W. B. Bedell, G. B. Ransom and W. A. Stevens. bibliog il diags maps plans Bell System Tech J 18:547-87 O '39

New type of vacuum tube for amplifying and repeating weak long-distance telephone messages. Science 91:sup14 Ap 5 '40

Technical significance of the first transcontinental telephone line. F. B. Jewett. maps Gen Elec R 42:510-19 D '39; Same abr. Elec Eng 59:3-11 Ja '40

Standards

New standard volume indicator and reference level. H. A. Chinn, D. K. Gannett and R. M. Morris. il diags Inst Radio Eng Proc 28:1-17 Ja '40; Same. Bell System Tech J 19:94-137 Ja '40

Statistics

Telephone carriers, 1936-1939. Survey of Cur Business 1940 Sup p87 [supplemented in monthly numbers]

Tables, calculations, etc.

Alternative treatment of the attenuation of waves in a coil-loaded telephone line. G. H. Metson. Inst E E J 87:69-75 Jl '40

Vector-response indicator. B. D. Loughlin. il diags Elec Eng 59:Trans 355-7 Je '40

Time service

Checking the accuracy of New York city telephone time service; abstract. F. Ireland. Electronics 13:102 Ap '40

Canada

Telephone statistics for 1938. 23p pa 25c Canada. Dominion bur. of statistics, Ottawa '40

Toronto-Barrie toll cable. M. J. Aykroyd and D. G Geiger. il maps Bell System Tech J 18:588-604 O '39

Great Britain

Automatic telephone and electric company, 40th ordinary general meeting, London. Economist 138:654 Ap 6 '40

India

Oriental telephone and electric company 46th ordinary general meeting, London. Economist 138:954 My 25 '40

Portugal

Anglo-Portuguese telephone company 53d ordinary general meeting, London. Economist 138:750 Ap 20 '40

Spain

Call for Franco; investments of International telephone & telegraph co. in Spain. Business Week p46-7 Mr 30 '40

United States

Technical significance of the first transcontinental telephone line. F. B. Jewett. maps Gen Elec R 42:510-19 D '39; Same abr. Elec Eng 59:3-11 Ja '40

TELEPHONE, Automatic
Dial clutch of the spring type; machine switching telephone systems. C. F. Wiebusch. il diags Bell System Tech J 18:724-41 O '39
Promise and problem of technological progress. J. Lloyd. Mag of Wall St 66:78-9 My 4 '40
Verification of subscribers' numbers on demand working: a supersonic signal method. W. K. Brasher and B. F. Moss. diags Inst E E J 87:63-8 Jl '40

TELEPHONE, Carrier current
Carrier telemetering simplifies dispatching; Central Vermont public service corp. H. L. Durgin. il diag Elec W 112:1732-3+ D 16 '39
Carrier telemetering with the metameter. G. S. Lunge. il Gen Elec R 43:336-43 Ag '40
Cross-modulation requirements on multichannel amplifiers below overload. W. R. Bennett. bibliog Bell System Tech J 19: 587-610 O '40
Efficient communication system for pipe-line operation. H. Clark. il Oil & Gas J 39:84-5 S 19 '40
Electrical developments of 1939. G. Bartlett. il Gen Elec R 43:15-16 Ja '40
Electrical wave filters employing crystals with normal and divided electrodes. W. P. Mason and R. A. Sykes. diags Bell System Tech J 19:221-48 Ap '40
Experience in applying carrier telephone systems to toll cables. W. B. Bedell, G. B. Ransom and W. A. Stevens. bibliog il diags maps plans Bell System Tech J 18:547-87 O '39
High accuracy heterodyne oscillators. T. Slonczewski. bibliog il Bell System Tech J 19:407-20 Jl '40
Load-rating theory for multi-channel amplifiers. B. D. Holbrook and J. T. Dixon. Bell System Tech J 18:624-44 O '39; Same. Elec Eng 59:Trans 265-72 My '40
Manufacture of quartz crystal filters. G. K. Burns. il diags Bell System Tech J 19:516-32 O '40
Narrow-band carrier telephony. J. A. Csepely; with criticism by W. Horton. diags Electronics 13:14-17+ Mr '40
Technical significance of the first transcontinental telephone line. F. B. Jewett. maps Gen Elec R 42:510-19 D '39; Same abr. Elec Eng 59:3-11 Ja '40
Telephone service for REA customers. Elec W News ed 114:924-5 S 28 '40
Toronto-Barrie toll cable. M. J. Aykroyd and D. G. Geiger. il maps Bell System Tech J 18:588-604 O '39
La transmission téléphonique, à haute fréquence, des émissions radiodiffusées en Allemagne. diag Génie Civil 116:237 Ap 6 '40
Wire broadcasting investigations at audio and carrier frequencies. T. Walmsley. il diags plans Inst E E J 87:76-100; Discussion. 101-6 Jl '40

TELEPHONE, Radio. See Radio broadcasting; Radio telephone

TELEPHONE broadcasting
Music piped over telephone wires to apartment houses and cafés by Muzak corp. Business Week p44+ S 14 '40

TELEPHONE cables
Corrosion of underground cables. W. G. Radley and C. E. Richards. diags Inst E E J 85:685-704, pl 1-2 bibliog(p703) D '39; Discussion. 85:704-12; 86:496-500 D '39, My '40
Experience in applying carrier telephone systems to toll cables. W. B. Bedell, G. B. Ransom and W. A. Stevens. bibliog il diags maps plans Bell System Tech J 18:547-87 O '39
Insulating paper in the telephone industry. J. M. Finch. bibliog il Ind & Eng Chem 32:1021-8 Ag '40
Metallic materials in the telephone system. E. E. Schumacher and W. C. Ellis. il Metal Prog 36:617-19 N '39; Same. Bell System Tech J 19:138-45 Ja '40
New telephone cable has 606 more wires. il Elec Eng 59:83 F '40
Toronto-Barrie toll cable. M. J. Aykroyd and D. G. Geiger. il maps Bell System Tech J 18:588-604 O '39

Coaxial cables
Crosstalk between coaxial conductors in cable. R. P. Booth and T. M. Odarenko. diags Bell System Tech J 19:358-84 Jl '40
Crosstalk in coaxial cables; analysis based on short-circuited and open tertiaries. K. E. Gould Bell System Tech J 19:341-57 Jl '40
Important developments in electrical cable. C. Cleveland. il Metal Prog 37:59-60 Ja '40
Natural oscillations of electrical cavity resonators. W. L. Barrow and W. W. Mieher. bibliog diags Inst Radio Eng Proc 28:184-91 Ap '40

Drying
Electrical drying of telephone cable. L. G. Wade. il Bell System Tech J 19:209-20 Ap '40

Joints
Lead-tin-arsenic wiping solder. E. E. Schumacher and G. S. Phipps. il Metals & Alloys 11:75-6 Mr '40; Same. Bell System Tech J 19:262-6 Ap '40

Testing
Field tool gauges movement of cables. il diag Elec W 114:562 Ag 24 '40

TELEPHONE companies
Streamlining rural telephone service; modernization of equipment and construction. H. W. Blalock. Pub Util 26:466-73 O 10 '40
Telephone earnings approach 1929-31 peak; cable revenues boosted by war. W. W. Case. Annalist 56:139-40 Ag 1 '40

See also
American telephone and telegraph company
International telephone and telegraph corporation

Employees
Contract with A.T. & T.; Telephone independent obtains voice in layoffs; Labor department undertakes wage survey. Business Week p54 O 26 '40
Exemption of small rural telephone companies from the wage and hour act; switchboard operators. R. Blum J Land & Pub Util Econ 16:117-20 F '40
Hiring telephone men by tests. N. E. Rossett and P. Arakelian. Personnel J 18:184-92 N '39
Hold that rail! safety on stairways campaign; Illinois Bell telephone company. il Nat Safety N 42:72 O '40
Long lines of safety; first aid and safety activities, Bell system employees. E. S. Miner. il Nat Safety N 41:10-11, 54+ Je '40
Wire and wireless communication; A.T. & T. testimony before TNEC regarding number of employees. Pub Util 25:603-4 My 9 '40

Finance
Investing in industrial leadership; tax and dividend status of American telephone & telegraph co. O. J. Gingold. Barron's 20:9 N 4 '40

See also
Bell telephone company of Pennsylvania
New York telephone company

Law
Responsibility of utilities for criminal use of service; telephone companies and gambling laws. R. J. Beamish. Pub Util 25:586-91; Discussion. W. H. Lamb. 591-3 My 9 '40

Public relations
Public relations; part played by the employee. A. G. Schermerhorn. Elec West 84:155 Je '40

Rates
See Telephone—Rates

Regulation
Wisconsin telephone case; Wisconsin Supreme court finds Commission's orders unlawful. M. G. Glaeser. J Land & Pub Util Econ 16:37-46 F '40

TELEPHONE companies—*Continued*

Safety measures

Long lines of safety; first aid and safety activities, Bell system employees. E. S. Miner. il Nat Safety N 41:10-11, 54+ Je '40

TELEPHONE company buildings

Planned to increase good-will. il Am Business 10:51 Je '40

TELEPHONE conduits

Telephone conduits carried by suspension bridge; cable structure used as temporary support. il diag Eng N 123:821 D 21 '39

TELEPHONE conversation

See also
Wire tapping

TELEPHONE exchanges

Experience in applying carrier telephone systems to toll cables. W. B. Bedell, G. B. Ransom and W. A. Stevens. bibliog il diags maps plans Bell System Tech J 18:547-87 O '39

Verification of subscribers' numbers on demand working: a supersonic signal method. W. K. Brasher and B. F. Moss. diags Inst E E J 87:63-8 Jl '40

TELEPHONE in business

Have you turned your telephone into a selling tool? R. Isaacson. Sales Management 47:62-3 O 1 '40

Measuring performance in telephone contact work. H. R. Flanegan. Am Gas Assn Proc 1939:207-10

New product via telephone; Thornado electric hammer. Ptr Ink 190:85 F 23 '40

So you find it hard to visualize the sales points of a service? Southwestern Bell gives a specialty-selling slant to an intangible. il Sales Management 47:48-9 O 10 '40

Telephone selling. N. A. Brisco, ed. 351p $3.75 Prentice-Hall '40

TELEPHONE lines

Alternative treatment of the attenuation of waves in a coil-loaded telephone line. G. H. Metson. Inst E E J 87:69-75 Jl '40

Magnetic storm of March 24, 1940; effects in the communication system. L. W. Germaine. map Edison Elec Inst Bul 8:367-8 Jl '40

1,050-ft. joint telephone-power span serves radio station. E. R. Peterson. il Elec W 113:1082 Ap 6 '40

Photo-electric potentiometer is versatile performer; pole resistance compared. il diags Elec W 113:1052-3 Ap 6 '40

Technical significance of the first transcontinental telephone line. F. B. Jewett. maps Gen Elec R 42:510-19 D '39; Same abr. Elec Eng 59:3-11 Ja '40

See also
Telephone, Carrier current
Telephone cables

Protection

See also
Electric lines—Inductive interference

TELEPHONE rates. See Telephone—Rates

TELEPHONE receivers

Plastics competition; award to Telephone devices co; Silentfone. il Mod Plastics 18:48, 91 O '40

Testing

Receiver testing with an artificial ear. S. Ballantine. bibliog il diags Electronics 13: 34-5+ Je '40

TELEPHONE relays

Contact phenomena in telephone switching circuits. A. M. Curtis. pls diag Bell System Tech J 19:40-62 Ja '40; Same. Elec Eng 59: Trans 360-8; Discussion. 368 Je '40

TELEPHONE service, Rural

Streamlining rural telephone service; modernization of equipment and construction. H. W. Blalock. Pub Util 26:466-73 O 10 '40

TELEPHONE switchboards

Number please; Stromberg-Carlson switchboards. il Mod Plastics 17:44 Je '40

TELEPHONE workers, National federation of. See National federation of telephone workers

TELESCOPE

Application of a stroboscope to a telescope. diags Sci Am 162:316-17 My '40

Electronic telescope control; device for tracking aircraft in flight. A. L. Rubenstein. il diags Electronics 13:54+ Ag '40

Goethe Link observatory; built, with its 36-inch telescope, by amateur astronomers of Indianapolis. V. E. Maier. il Sci Am 162: 347, 376-8 Je '40

Magnetic brain; alnico magnet plays part in function of time standard to be used by Palomar Mountain observatory. Gen Elec R 43:263 Je '40

Mounting of the 200-inch telescope. F. Fredericks and N. L. Mochel. il diags Metals & Alloys 10:334-41, 362-8 N-D '39

New telescope of the Oak Ridge station of the Harvard astronomical observatory. Science 92:252 S 20 '40

Telescoptics. A. G. Ingalls. il Published in monthly numbers of Scientific American

Zum bau des 5 m-spiegelteleskops. H. Oehler. diags V D I 84:306-9 My 4 '40

Bearings

Patent granted to R. P. Kroon. J. Stokley. Science 92:sup8 Ag 30 '40

Mirrors

Errors of testing and a new method for surveying optical surfaces and systems. R. Platzeck and E. Gaviola. il diags Opt Soc Am J 29:484-500 N '39

Hartmann method of testing optical surfaces. J. Cuffy. Sci Am 163:171-3 S '40

Modification of the Hindle test for Cassegrain secondaries. W. Silvertooth. diags Opt Soc Am J 30:140 Mr '40

New method for testing Cassegrain mirrors. E. Gaviola. diag Opt Soc Am J 29:480-3 N '39

Testing telescope mirrors. R. D. Potter. Science 90:sup10+ D 1 '39

TELESCOPE, Tube wall

Gaertner telescope detects defects in gun barrels. il Steel 107:77 N 11 '40

TELESIS (group)

Telesis, environmental research group of young San Franciscans, make first exhibit. il Arch Rec 88:69-72 O '40

TELETYPE

Inter-office communication systems facilitate industry's operations; automobile industry's intercity telegraph, telephone and teletype systems. E. L. Warner, jr. il maps Automotive Ind 83:50-4+ Jl 15 '40

TELETYPESETTERS

Telegraphic typesetting; abstracts. H. H. Harrison. Elec R (Lond) 126:158 F 9 '40; Electrician 124:122 F 16 '40; Engineering 149:213 F 23 '40; Discussion. Elec R (Lond) 126:187-8 F 16 '40; Electrician 124:122 F 16 '40

TELEVISION

Advance in television. R. D. Potter. Science 91:sup8-9 F 23 '40

Beaver hats of tomorrow; radio and television. W. MacDonald. Ptr Ink 191:65 Je 7 '40

Better television. Business Week p46-7 F 24 '40

Cathodoluminescence as applied in television. H. W. Leverenz. bibliog il diags RCA R 5: 131-75 O '40

Color for television. Barron's 20:5 S 9 '40

Color in television. Ptr Ink Mo 41:34 O '40

Color television demonstrated by CBS engineers. il diag Electronics 13:32-4+ O '40

Electron microscope and television. J. Stokley. Science 92:sup8 N 1 '40

Electron optics of cylindrical electric and magnetic fields. A. Rose. bibliog il diags Inst Radio Eng Proc 28:30-40 Ja '40

FCC step toward putting television on a commercial basis. Pub Util 25:99-100 Ja 18 '40

Federal communications commission's hearing on television. Pub Util 25:545-7 Ap 25 '40

TELEVISION—*Continued*
FM and television. Ptr Ink 191:18 Ap 5 '40
Future of communications; television, radio facsimile and FM broadcasting will compete with established media. J. V. Sherman. il Barron's 20:20 Jl 22 '40
Mr Craven dissents. Ptr Ink 191:68 Ap 12 '40
Personalities in science; Philo T. Farnsworth. Sci Am 162:69 F '40
Principles of television engineering. D. G. Fink. 541p $5 McGraw-Hill '40
Pro bono publico; official statement of why government bureau would curb merchandising of television. J. L. Fly. Ptr Ink 191:64, 66-8 Ap 12 '40
RCA television activities. Barron's 20:5 F 5 '40
Radio corporation of America; television hearing reopened. Comm & Fin Chr 150: 2114 Mr 30 '40
Radio in 1939 has had its greatest year. D. Sarnoff. Comm & Fin Chr 150:528 Ja 27 '40
Radio looks to new frontiers. F. X. Welch. il Nation's Business 28:25-7+ Jl '40
Radio progress during 1939; television. bibliog(81 titles) Inst Radio Eng Proc 28:120-4 Mr '40
Square wave harmonics; tabular compilation of relative amplitudes of particular interest in television. D. L. Herr. diag Electronics 13:34 My '40
Subjective sharpness of simulated television images. M. W. Baldwin, jr. bibliog il diags Bell System Tech J 19:563-86 O '40; Same. Inst Radio Eng Proc 28:458-68 O '40
La téléphonie à haute fréquence et la visio-téléphonie. M. Adam. il diags Génie Civil 117:82-5 F 3 '40
Television. W. E. Tremain. bibliog il diags Inst E E J 86:460-70 My '40
Television, a business; limited commercial operation starting Sept. 1 is authorized by FCC. Business Week p29-30 Mr 9 '40
Television argument. E. Peterson. Ptr Ink 191:23-4, 72-4 Ap 19 '40
Television cyclopedia. M. N. Beitman, comp. 58p pa 49c Supreme publications, Chicago '39
Television developments; Institute of radio engineers papers. Electronics 13:77-8 Jl '40
Television doldrums; FCC report makes commercialization remote, leaves RCA holding bag. Business Week p46 Je 8 '40
Television escaping lab again. Business Week p22+ Ap 20 '40
Television for beginners; theater television. J. R. Cameron. 94p $2 Cameron pub. co, Woodmont, Conn. '40
Television; history, principles of operation, and present status reviewed. G. R. Town. il diags Elec Eng 59:313-22 Ag '40
Television in color. Ptr Ink 192:21-2 S 6 '40
Television perks up; changeover of NBC channel; Columbia experiments with color. il Business Week p20 S 7 '40
Television progress. Ptr Ink 192:34 Ag 9 '40
Television strides; new multi-tube receiver. Business Week p18 N 9 '40
Television takes three strides. Business Week p19-21 N 25 '39
Television; the electronics of image transmission. V. K. Zworykin and G. A. Morton. 646p $6 Wiley '40
Television to-day and to-morrow. S. A. Moseley and H. J. Barton-Chapple. 5th ed 179p $3 Pitman '40
Understanding theatre television. A. Nadell. 64p pa $1 Technological publications, 51 Chambers st, New York '39
We present television. J. Porterfield and K. Reynolds, eds. 298p $3 Norton '40
Wire and wireless communication; F.C.C. decided to hold the reins on television. Pub Util 25:797-8 Je 20 '40
Wire and wireless communication; FCC television committee's second survey report. Pub Util 24:751-2 D 7 '39

See also
Photoelectric cells
Radio communication

Laws and regulations
Commercial television approved. Ptr Ink 190: 24 Mr 8 '40
FCC cautious on television. Ptr Ink 189:20 N 24 '39

Standards
DuMont proposals; television transmission standards. il diag Electronics 13:22-3+ F '40
Quality in television pictures. P. C. Goldmark and J. N. Dyer. il diags Inst Radio Eng Proc 28:343-50 Ag '40
Television and the F.C.C. Electronics 13: 11-13+ My '40
Television committee organizes to formulate standards. Electronics 13:34 Ag '40

TELEVISION, Military
Blitzkrieg television; use in army maneuvers. A. C. Lescarboura. il Radio N 24:6-7+ D '40

TELEVISION advertising
Television news series. Ptr Ink 190:24 Mr 22 '40

TELEVISION antennas
Biconical electromagnetic horns. W. L. Barrow, L. J. Chu and J. J. Jansen. il diags Inst Radio Eng Proc 27:769-79 D '39
Multi-wire dipole antennas. J. D. Kraus. diags Electronics 13:26-7 Ja '40
Television antenna; indoor device. J. F. Rider. Radio N 23:10 F '40
Vertical vs horizontal polarization. G. H. Brown. diags Electronics 13:20-3 O '40

TELEVISION apparatus
Coronaviser, an instrument for observing the solar corona in full sunlight; based on television technique. A. M. Skellett. il diags Bell System Tech J 19:249-61 Ap '40
Device for viewing the solar corona; television system that scans a ring around the sun. il diag Elec Eng 58:516 D '39
Electrical developments of 1939. G. Bartlett. il Gen Elec R 43:44-6 Ja '40
Institute of radio engineers and Radio manufacturers association, fall meeting, Rochester; abstracts of papers. Electronics 12:20-5 D '39
Portable equipment for observing transient response of television apparatus. H. E. Kallmann. diags Inst Radio Eng Proc 28: 351-60 Ag '40
Precision television synchronizing-signal generator. A. V. Bedford and J. P. Smith. il diag RCA R 5:51-68 Jl '40
Radio progress during 1939; cathode-ray and television tubes. bibliog Inst Radio Eng Proc 28:103-4 Mr '40
Shunt-peaking compensation; graphical method of determining shunt inductance in plate circuit of wide-band video amplifier; reference sheet. W. H. Freeman. diag Electronics 13:35-6 Ja '40
Simple pulse generating circuits. S. P. Sashoff and W. K. Roberts. diags Electronics 13:40-1+ S '40
Television technique adopted in photographing sun's corona. il diags Electronics 13: 34+ F '40
Transversal filters. H. E. Kallmann. diags Inst Radio Eng Proc 28:302-10 Jl '40

See also
Television antennas
Television receiving apparatus
Television transmitters

TELEVISION apparatus industry
Radio set manufacturing gains; financial statistics of leading companies. L. Applegate. Annalist 55:619-20 My 2 '40
Slow expansion of television sales shows need of better merchandising policies. E. Peterson. il Ptr Ink 189:17-18+ D 15 '39
Television drive; lowered prices, consistent advertising, price maintenance and refund to pioneer purchasers part of RCA plan. E. Peterson. il Ptr Ink 190:19-21 Mr 22 '40
What television needs. Ptr Ink 190:19-20 F 2 '40

TELEVISION apparatus on aircraft
Television equipment in transport plane relays pictures to NBC audience. Electronics 13:70+ Ap '40

TELEVISION broadcasting
Broadway play is telecast. Ptr Ink 190:39 Mr 8 '40
Business side of television; data based on NBC's first nine months of service. N. E. Kersta. Electronics 13:10-13+ Mr '40
500-megacycle radio-relay distribution system for television. F. H. Kroger, B. Trevor and J. E. Smith. bibliog il diags RCA R 5:31-50 Jl '40
F-M gets go sign; new allocations for frequency modulation radio and for television. Business Week p21-2 My 25 '40
Refrigeration featured in television broadcast; non-commercial program on West coast Refrig Eng 40:103 Ag '40
Schenectady television station joined to New York outlet for rebroadcasting. il diag Electronics 13:46+ Mr '40
Television and the F.C.C. Electronics 13: 11-13+ My '40
Television broadcasting; production, economics, technique. L. R. Lohr. 274p $3 McGraw-Hill '40
Television given go-ahead signal; limited commercial operation of some television stations. Barron's 20:5 Mr 18 '40
23 television channels. Ptr Ink 191:73 Je 28 '40

Sporting news
To televise football. Ptr Ink 192:105 S 27 '40

TELEVISION projection
System of large-screen television reception based on certain electron phenomena in crystals; possibility of color television by use of alkali halide crystals. A. H. Rosenthal. bibliog il diags Inst Radio Eng Proc 28:203-12 My '40; Abstract. Electronics 13:75-6 N '40

TELEVISION receiving apparatus
British vision receivers. W. J. Brown. diags Electronics 12:26-9 D '39; 13:26-9 Mr '40
Frequency modulation in television. C. W. Carnahan; A. V. Loughren. diags Electronics 13:26-32 F '40
Gradation of television pictures. H. E. Kallmann. Inst Radio Eng Proc 28:170-4 Ap '40
Optimum efficiency conditions for white luminescent screens in kinescopes; zinc-cadmium sulphide phosphor systems. H. W. Leverenz. bibliog diag Opt Soc Am J 30: 309-15 Jl '40
Picture signal generator. M. P. Wilder and J. A. Brustman. il diags Electronics 13:25-9 Ap; 26-9 My; 30-3 Je; 28-31 Jl; 30-3 Ag '40
Pre-selector circuit for television receivers. B. F. Tyson. il diags Electronics 13:23-5 N '40
Production color analysis of kinescope screens T. B. Perkins. diag Opt Soc Am J 30:295-6 Jl '40
Radio progress during 1939; television. bibliog Inst Radio Eng Proc 28:122-4 Mr '40
Space-charge limitations on the focus of electron beams B. J. Thompson and L. B. Headrick. Inst Radio Eng Proc 28:318-24 Jl '40
Supersonic light control and its application to television. Elec Eng 59:151 Ap '40
System of large-screen television reception based on certain electron phenomena in crystals; possibility of color television by use of alkali halide crystals. A. H. Rosenthal. bibliog il diags Inst Radio Eng Proc 28:203-12 My '40; Abstract. Electronics 13:75-6 '40
Television. W. E. Tremain. bibliog il diags Inst E E J 86:460-70 My '40
Television receivers using electrostatic deflection. T. J. Goldsmith, jr. il diag Electronics 13:16-19+ Je '40
Television signal frequency circuit considerations. G. Mountjoy. diags Electronics 12: 58-60 D '39
Type of light valve for television reproduction; abstract. J. S. Donal, jr. and D. B. Langmuir. Inst Radio Eng Proc 28:246 My '40

Power supply
Generation for television of horizontal synchronizing pulses from vertical pulses by means of impulse excitation. J. B. Sherman. il diags Inst Radio Eng Proc 28:406-9 S '40

TELEVISION stations
500-megacycle radio-relay distribution system for television. F. H. Kroger, B. Trevor and J. E. Smith. bibliog il diags RCA R 5:31-50 Jl '40
Schenectady television station joined to New York outlet for rebroadcasting. il diag Electronics 13:46+ Mr '40
Seeing beyond our horizons, with television relay. W. R. G. Baker. il Gen Elec R 43: 148-50 Ap '40
Television relayed. A. P. Peck. diags Sci Am 162:282 My '40

TELEVISION transmission
Bets for television; transmission from plane. il Business Week p24 Mr 16 '40
Determination of optimum number of lines in a television system. R. D. Kell, A. V. Bedford and G. L. Fredendall. bibliog diag RCA R 5:8-30 Jl '40
DuMont proposals; television transmission standards. il diag Electronics 13:22-3+ F '40
Effect of the quadrature component in single sideband transmission. H. Nyquist and K. W. Pfleger. il Bell System Tech J 19:63-73 Ja '40
Field-strength survey, 52.75 megacycles from Empire State building. G. S. Wickizer. il maps Inst Radio Eng Proc 28:291-6 Jl '40
Frequency modulation in television. C. W. Carnahan; A. V. Loughren. diags Electronics 13:26-32 F '40
Gradation of television pictures. H. E. Kallmann. Inst Radio Eng Proc 28:170-4 Ap '40
Quality in television pictures. P. C. Goldmark and J. N. Dyer. il diags Inst Radio Eng Proc 28:343-50 Ag '40
Seeing beyond our horizons, with television relay. W. R. G. Baker. il Gen Elec R 43:148-50 Ap '40
Stride in television; operation between New York and Albany. Business Week p21 F 17 '40
Television equipment in transport plane relays pictures to NBC audience. Electronics 13:70+ Ap '40
Television relayed. A. P. Peck. diags Sci Am 162:282 My '40

TELEVISION transmitters
500-megacycle radio-relay distribution system for television. F. H. Kroger, B. Trevor and J. E. Smith. bibliog il diags RCA R 5:31-50 Jl '40
Ham television; new transmitting tube available to amateurs. il Sci Am 163:146-7 S '40
Picture signal generator. M. P. Wilder and J. A. Brustman. il diags Electronics 13:25-9 Ap; 26-9 My; 30-3 Je; 28-31 Jl; 30-3 Ag '40
Radio progress during 1939; television. bibliog Inst Radio Eng Proc 28:121-2 Mr '40
Some factors affecting the choice of lenses for television cameras. H. B. DeVore and H. Iams. Inst Radio Eng Proc 28:369-74 Ag '40
Television. W. E. Tremain. bibliog il diags Inst E E J 86:460-70 My '40
Television changeover; retuning the transmitter of W2XBS. il Electronics 13:24-5 O '40
20-kw tetrode for ultrahigh-frequency transmitters. A. V. Haeff and others. il diags Elec Eng 59:107 Mr '40

TELLURIUM
Beta-spectra of iodine. G. F. Tape. bibliog Phys R 56:965-71 N 15 '39
Catalytic toxicity and chemical structure; simple anions containing toxic elements. E. B. Maxted and R. W. D. Morrish. Chem Soc J p252-6 Mr '40
Internuclear distances in Se_2 and Te_2, and HgCl by electron diffraction. L. R. Maxwell and V. M. Mosley. bibliog diag Phys R 57:21-3 Ja 1 '40
Radioactive isotopes of tellurium. G. T. Seaborg, J. J. Livingood and J. W. Kennedy. bibliog Phys R 57:363-70 Mr 1 '40

TELLURIUM—*Continued*
Tellurium, selenium and sulphur in copper alloys. H. L. Burghoff. il Iron Age 144:35-9 D 7 '39
Tellurium-vapor lamp produces continuous spectrum. Electronics 13:58+ Je '40

Analysis

Determination of tellurium in tin-rich alloys. W. T. Pell-Walpole. Engineering 149:427 Ap 19 '40

TELLURIUM alloys
Tellurium coppers having unusual combination of properties. Mach 46:132 F '40
Tellurium lead; advantages in acid plant construction; abstract. J. P. Powell. Chem Age (Lond) 43:164 O 5 '40

TELLURIUM hydride. See Hydrogen telluride

TELLURIUM tetrachloride
Dipole moments and structures of chlorine compounds of germanium, chromium, selenium and tellurium. C. P. Smyth, A. J. Grossman and S. R. Ginsburg. Am Chem Soc J 62:192-5 Ja '40
Electron diffraction investigation of the molecular structure of tellurium tetrachloride. D. P. Stevenson and V. Schomaker. Am Chem Soc J 62:1267-70 My '40

TELPHERAGE. See Cableways; Monorail conveyors

TEMPERATURE
Cellulose sheet swelling; effect of temperature and concentration of sodium hydroxide solutions. G. A. Richter and K. E. Glidden. bibliog il Ind & Eng Chem 32:480-6 Ap '40
Cellulose sheet swelling; effect of temperature, secondary reagents, and sheet physical properties on swelling in sodium hydroxide solutions. G. A. Richter and K. E. Glidden. il Ind & Eng Chem 32:1122-8 Ag '40
Differential temperature error in weighing. E. Blade. il Ind & Eng Chem Anal ed 12: 330-1 Je 15 '40
Distribution and sources of journal-box temperature. E. S. Pearce. diags Ry Mech Eng 114:68-9+ F '40
Effects of pressure, temperature and chemical composition on the absorption of light by mixtures of aromatic amines and nitro compounds. R. E. Gibson and O. H. Loeffler. bibliog Am Chem Soc J 62:1324-34 Je '40
Liquid-vapor equilibrium relations in binary systems; the ethane-*n*-butane system. W. B. Kay. diag Ind & Eng Chem 32:353-7 Mr '40
Nomographic chart for temperature correction of aqua ammonia densities, with additional scales for interconversion of physical data. E. Berl. Chem & Met Eng 46:788 D '39
Nomographic chart for the temperature correction of potassium carbonate solution densities, with additional scales for interconversion of physical data. E. Berl. Chem & Met Eng 46:731 N '39
Papers read at the symposium on temperature of the Institute of physics; abstracts. Science 90:sup8, 10-11 N 10 '39
Pressure-volume-temperature relations for *n*-butane. W. B. Kay. Ind & Eng Chem 32: 358-60 Mr '40
P-V-T relations of propylene. W. E. Vaughan and N. R. Graves. bibliog il diag Ind & Eng Chem 32:1252-6 S '40
Service-temperature flow characteristics of thermoplastics. W. F. Bartoe. il Mech Eng 61:892-4 D '39
Significance of temperature in wool dyeing. F. L. Goodall and C. Hobday. Soc Dyers & Col J 55:529-49 N '39
Studies on aging and coprecipitation; the thermal aging of imperfect barium sulfate. I. M. Kolthoff and W. M. MacNevin. il J Phys Chem 44:921-35 O '40
Temperature and temperature scales. H. T. Wensel. bibliog J Ap Phys 11:373-87 Je '40
Temperature assignments of experimental thermal diffusion coefficients. H. Brown. bibliog Phys R 58:661-2 O 1 '40
Temperature dependence of the work function of tungsten from measurement of contact potentials by the Kelvin method. J. G. Potter. bibliog diag Phys R 58:623-32 O 1 '40; Discussion. 58:927-8 N 15 '40
Temperature dependence of Young's modulus of beta-brass single crystals. J. S. Rinehart. bibliog Phys R 58:365-71 Ag 15 '40
Temperature radiation emissivities and emittances. A. G. Worthing. bibliog diags J Ap Phys 11:421-37 Je '40
Thermal conductivity of rocks and its dependence upon temperature and composition. F. Birch and H. Clark. bibliog diags Am J Sci 238:529-58, 613-35 Ag-S '40
Thermodynamic properties of substances; vapor volumes as functions of reduced temperature alone. H. A. Fales and C. S. Shapiro. Am Chem Soc J 62:393-406 bibliog (p404) F '40
Upper limit of temperature. C. Rosenblum. J Chem Educ 17:438 S '40; Discussion. 17: 543-4 N '40
Variation of the adiabatic and isothermal elastic moduli and coefficient of thermal expansion with temperature through the λ-point transition in ammonium chloride. A. W. Lawson. bibliog diags Phys R 57:417-26 Mr 1 '40

See also
Air conditioning
Atmospheric temperature
Boiling points
Cooling
Critical solution temperature
Freezing
Gas and oil engines —Temperature
Heat
Melting points
Reptiles, Effect of temperature on
Stars—Temperature
Thermochemistry
Thermodynamics
Ventilation

Measurement

Accuracy and other measuring properties of temperature instruments. M. F. Behar. diag Instruments 13:240-2 S '40
Apparatus for the study of the photochemistry of sheet materials. H. F. Launer. bibliog pls diags J Research Nat Bur Stand 24:567-77 My '40
Chart temperature around infra-red lamp. E. D'Olive Elec W 113:1394 My 4 '40
Classifications of temperature instruments can serve as practical tools. M. F. Behar. Instruments 13:237-9 S '40
Continuous measurement of piston temperatures; abstract. A. F. Underwood and A. A. Catlin. diags Automotive Ind 82:572-4 Je 15 '40; Nat Pet N 32:R250, R252 Jl 10 '40
Direct method of calibration of a copper-constantan thermel for measurement of temperature differences at a series of temperatures. J. S. Burlew and R. P. Smith. bibliog Am Chem Soc J 62:701-4 Ap '40
Discontinuities in the resistance-temperature curves of commercially pure iron and steel. C. Sykes and F. W. Jones. diag Iron & Steel Inst J 139:435-42 no 1 '39; Same. Engineering 147:574-5 My 12 '39
Electric range oven temperature measurement. T. H. Swisher. il Edison Elec Inst Bul 8:113-14+ Mr '40
Flame temperature; in use of fuels for heating and generation of power. B. Lewis and G. von Elbe. bibliog J Ap Phys 11:698-706 N '40
Graphic method of obtaining logarithmic mean temperature differences. R. H. Parsons. Engineer 169:458 My 17 '40
International temperature scale. H. T. Wensel. Instruments 13:269-70 S '40
Magnetic cooling; the production and measurement of temperatures below 1° K. C. F. Squire. bibliog il diags J Ap Phys 11: 232-40 Ap '40
Manual of heat and temperature measurement. R. L. Weber, comp. 138p $2.85 Edwards bros, Ann Arbor, Mich. '39
Measurement of metal temperatures of cracking still tubes. O. G. Kaasa. Nat Pet N 31:R478+ N 15 '39
Measuring open-hearth bath temperatures. L. O. Sordahl and R. B. Sosman. il diags Steel 106:44-7 My 20 '40

TEMPERATURE—Measurement—*Continued*
Meter records boiler efficiency. Power 84:28 Ja '40
Method and instrument for the measurement of very small amounts of heat and very small changes of temperature. S. Zamenhof. diags R Sci Instr 11:123-5 Ap '40
Methods of establishing *k* values; how heat conductivities have been determined. K. Steiner and S. D. Black. diags Heating-Piping 12:49-50 Ja '40
New DVL thermo element. diags Automobile Eng 29:466 D '39
Piston and jacket temperature measurement; symposium by S.A.E. diags Power Pl Eng 44:90-2 My '40
Sichtbarmachen von temperaturfeldern durch temperaturabhängige farbanstriche. F. Penzig. il diags V D I 83:69-74, pl 1-2 Ja 21 '39; Same (Sensitive paints). Automobile Eng 30:47-9 F '40
Some new investigations on old combustion-engine problems. G. Eichelberg. il diags Engineering 148:463-6, 547-50, 603-6 O 27, N 17, D 1 '39
Spectral emissivity (at 0.65μ) of some alloys for electrical heating elements. W. F. Roeser. Am Soc T M Proc 39:780-7 '39
Symposium on temperature; its measurement and control in science, industry. diags Glass Ind 20:439-42+ D '39
Temperature and temperature scales. H. T. Wensel. bibliog J Ap Phys 11:373-87 Je '40
Temperature-indicating colours; the new Thermindex series. Chem Age (Lond) 42: 257 My 4 '40
Temperature measurement and control in the food industry. F. C. Baselt and C. O. Ball. il Ind & Eng Chem News ed 18:391-3 My 10 '40
Temperature measurement and control; report of symposium. J. S. Marsh. il Metal Prog 36:731-4 D '39
Temperature measurement with blocking-layer photo-cells. B. M. Larsen and W. E. Shenk. diags J Ap Phys 11:555-60 Ag '40
Temperature of flame gases; discussion of sodium line reversal method of measurement. W. T. David. Engineering 149:241-2 Mr 8 '40
Temperature production, measurement, and control. R. H. Müller. il diag Ind & Eng Chem Anal ed 12:579-81 O 15 '40
Temperature surveys in oil wells; abstract. C. V. Millikan. Oil & Gas J 39:62-3 O 31 '40
Theory and application of extended surface thermocouples. H. Emmons. diags Franklin Inst J 229:29-52 Ja '40
Thermal measurements and control in molding plastics. J. Delmonte. diags Mod Plastics 17:50-4+ Mr '40
Thermometric measurement in the refining of Pennsylvania oils. P. M. Robinson. il Ind & Eng Chem News ed 18:441-3 My 25 '40
Thermosheet supplies oven heating data. T. H. Swisher. il Elec W 114:880+ S 21 '40
Unshakable foundations of temperature measurement; historical outline. M. F. Behar. diags Instruments 13:230-6+ S '40
Verfahren zur läufertemperaturmessung von gasturbinen. H. H. Berg. diags V D I 84: 329-30 My 11 '40

See also
Boiling points
Bolometers
Calorimeters and calorimetry
Pyrometers and pyrometry
Pyrometric cones
Pyrometric rings
Thermocouples
Thermometers and thermometry

Physiological effect
Air-cooled human body. C. E. A. Winslow. Heating-Piping 12:271-3 Ap '40
Air temperature and humidity affect human bodies sharply; abstract. A. G. Young. Heat & Ven 37:58 My '40
Comparative temperature reactions of men and women. Refrig Eng 40:214-15 O '40
Difference between men and women in their response to heat and cold; abstract. E. F. DuBois and J. D. Hardy. Science 91:421-2 My 3 '40
How animals react to air conditions. S. Brody. Heating-Piping 12:584+ O '40
Peripheral type of circulatory failure in experimental heat exhaustion; role of posture. R. W. Keeton and others. bibliog Heating-Piping 12:122-6 F '40
Reactions of 745 clerks to summer air conditioning. W. J. McConnell and M. Spiegelman. Heating-Piping 12:317-22 My '40
Seasonal changes in the body's response to ventilative conditions. D. L. MacLean and R. C. Partridge. bibliog J Ind Hygiene 22: 244-50 Je '40
Seasonal variation in reactions to hot atmospheres. F. C. Houghten, A. A. Rosenberg and M. B. Ferderber. il Heating-Piping 12: 139-42 F '40
Stab at utopia; Harvard school of public health experiment to discover an indoor temperature satisfactory to both men and women; abstracts. C. P. Yaglou. Business Week p4 Je 22 '40; Sci Am 163:127 S '40

Regulation
Anemostat in commercial refrigeration. F. J. Kurth. Refrig Eng 38:355 D '39
Control for gas radiants; incandescent surface acts as constant pilot. J. Kniveton. diags Steel 107:70-1+ Ag 12 '40
Electric control improves mixer valve operation; variations in hot blast temperature are minimized by new device. il Steel 107: 64-5 S 2 '40
Electronic relay for heat control. A. C. Hall and L. J. Heidt. plan Science 92:133-4, 612 Ag 9, D 27 '40
Heat control units. J. A. Riddick. il diags Ind & Eng Chem Anal ed 12:222-4 Ap 15 '40
Industrial data sheet; temperature control for piston grinding. G. E. Hersam. il Elec West 84:41 Mr '40
Practical annealing. E. G. de Coriolis. il diags Iron Age 145:30-3 Ja 25 '40; Same. Blast F & Steel Pl 28:351-3+ Ap '40
Shop equipment review; heat-treating and welding. il Am Mach 84:230-2 Ja 24 '40
Some practical considerations on temperature control. L. De Florez. il Ind & Eng Chem News ed 18:102-3 F 10 '40
Steiner constant temperature equipment. Chem & Ind 59:401 Je 8 '40
Symposium on temperature; its measurement and control in science, industry. diags Glass Ind 20:439-42+ D '39
Temperature control in precision grinding. G. E. Hersam. il Elec W 114:424 Ag 10 '40
Temperature control in the meat industry. H. D. Tefft. il Ind & Eng Chem News ed 18:195-6 Mr 10 '40
Temperature measurement and control in the food industry. F. C. Baselt and C. O. Ball. il Ind & Eng Chem News ed 18:391-3 My 10 '40
Temperature pills for production control in wide heat range. Sci Am 163:253 N '40
Thermal measurements and control in molding plastics. J. Delmonte. diags Mod Plastics 17:50-4+ Mr '40

See also
Temperature regulators
Thermostats

TEMPERATURE, Animal and human
Papers read at the symposium on temperature of the Institute of physics; abstracts. Science 90:sup8, 10-11 N 10 '39
Study of changes in the temperature and water vapor content of respired air in the nasal cavity. L. E. Seeley. il diags Heating-Piping 12:377-88 Je '40

TEMPERATURE, Atmospheric. See Atmospheric temperature

TEMPERATURE, Low
Density and viscosity of glycerol solutions at low temperatures. E. Green and J. P. Parke. Soc Chem Ind J 58:319-20 O '39
Factors affecting notched-bar impact tests on steel at low temperatures. W. Crafts and J. J. Egan. bibliog diag Am Soc T M Proc 39:659-71; Discussion. 672-3 '39

TEMPERATURE, Low—*Continued*
Heats of adsorption of gases on iron synthetic ammonia catalysts at low temperatures. R. A. Beebe and N. P. Stevens. Am Chem Soc J 62:2134-40 Ag '40
Helium the superfluid. K. K. Darrow. bibliog diags Rs Mod Phys 12:257-66 Jl '40
Impact properties of some low alloy nickel steels at temperatures down to -200 degrees Fahr. T. N. Armstrong and A. P. Gagnebin. bibliog diag Am Soc for Metals Trans 28:1-19; Discussion. 19-24 Mr '40
Magnetic cooling; the production and measurement of temperatures below 1° K. C. F. Squire. bibliog il diags J Ap Phys 11:232-40 Ap '40
Mechanical properties of copper and its alloys at low temperatures; a review. C. S. Smith. bibliog Am Soc T M Proc 39:642-8 '39
Phenomena at the temperature of liquid helium. E. F. Burton, H. G. Smith and J. O. Wilhelm. 362p $6 Reinhold pub. corp. '40
Production of low temperatures; a simplified and inexpensive laboratory procedure. H. L. Wikoff, B. R. Cohen and M. I. Grossman. Ind & Eng Chem Anal ed 12:92-4 F 15 '40
Properties of metals at low temperatures. Engineer 170:sup[Metallurgist] 122-4 Ag 30 '40
Reaction velocities at low temperatures; a convenient low-temperature thermostat; bromination of acetone between -40° and +10°. R. P. Bell and J. K. Thomas. diag Chem Soc J p1573-8 O '39
Résumé of round-table discussion on effect of sub-atmospheric temperatures on the properties of metals. F. B. Foley. Am Soc T M Proc 39:637-41 '39
Sub-size Charpy relationships at sub-zero temperatures. H. Habart and W. J. Herge. il diags Am Soc T M Proc 39:649-58 '39
Supplementary report of activities of the A.S.R.E. physics committee; measuring humidities at low temperatures. Refrig Eng 39:241 Ap '40
Thermodynamics and the lowest temperatures; abstracts. C. G. Darwin. Engineering 149:465-6 My 3 '40; Elec R (Lond) 126:501-2 My 3 '40; Electrician 124:336 My 3 '40
Thermometer for low temperatures. A. Farkas and L. Farkas. diag Ind & Eng Chem Anal ed 12:296 My 15 '40
Thermometry in hygrometric measurements. A. W. Ewell. Refrig Eng 40:28-9 Jl '40

See also
Cold—Therapeutic use
Freezing points
Refrigeration and refrigerating machinery

TEMPERATURE regulators
Air conditioning controls. H. E. Shugars. diags Refrig Eng 40:221-5 O '40
George Kent indicating temperature controller. il diags Engineer 169:403-4 Ap 26 '40
Heating system with grateless boiler and automatic temperature control. il diag Engineer 170:269-70 O 25 '40
Selecting automatic-control equipment for continuous processes. H. H. Gorrie. diags Instruments 13:101-2 Ap '40
Sunvic heat regulation device for industrial processes. diag Electrician 124:82 Ja 26 '40
System of interlocking air-operated controllers applied to oil cracking. S. H. Isaacs. diags Instruments 13:216-17 Ag '40
Temperature production, measurement, and control. R. H. Müller. il diag Ind & Eng Chem Anal ed 12:579-81 O 15 '40
Time-temperature control for sulphite digesters; recording and controlling potentiometer instrument. J. F. Inderdohnen. il diags Paper Tr J 111:31-4 Ag 8 '40
Unusual temperature-controller job. V. H. Hiermeier. plan Instruments 13:217 Ag '40

See also
Temperature—Regulation
Thermostats

TEMPERING
Dimension changes of tool steels during quenching and tempering. E. Ameen. bibliog diags Am Soc for Metals Trans 28:472-512 Je '40
Grinding cracks in quenched steels. K. Monma. il Iron Age 145:44-5 F 29 '40
Temper cracks in high speed steels. K. Monma. Iron Age 145:54-5+ Ap 4 '40
Tempering of high speed steel. M. Cohen and P. K. Koh. flow sheet il diag Am Soc for Metals Trans 27:1015-47 bibliog(p1046-7) D '39; Conclusions. Steel 105:56+ N 6 '39; Discussion. Am Soc for Metals Trans 27: 1047-51 D '39

See also
Steel, Hardening of
Steel, Heat treatment of

TEMPLE, Thomas C. 1857-1940
Sketch. East Underw 41:33 O 11 '40

TEMPLES
Pillared hall from a temple at Madura, India, in the Philadelphia museum of art. W. N. Brown. 88p bibliog(pxi-xii) $2 Univ. of Pennsylvania press, Philadelphia '40

TEMPORARY national economic committee. See Government investigations—Monopoly investigation

TENDERS, Lighthouse. See Lighthouse tenders

TENEMENT houses

See also
Slums

TENNESSEE

See also
Population—Tennessee

Industries and resources
Industrial development of Tennessee. il map Manuf Rec Extra no 109:195-206 S '40

TENNESSEE academy of science
Meetings, May and December. J. T. McGill. Science 91:144-5 F 9 '40

TENNESSEE river
Dredging the Tennessee river. C. H. Vivian. il map Comp Air M 45:6138-42 My '40
Drought has not changed TVA water power estimates. T. B. Parker. Eng N 123:839-40 D 21 '39
River comeback? new private navigation lines begin operation on Tennessee as result of TVA canalization. il Business Week p32-4 My 25 '40

TENNESSEE university
Graduate work in engineering; development of part-time program at the University of Tennessee; for TVA engineers and others. C. E. Ferris and R. O. Niehoff. Mech Eng 61:900-2 D '39

TENNESSEE valley
Cooperative investigations of the relation between mosquito control and wildlife conservation. Science 92:201-2 Ag 30 '40
Industrial opportunity in the Tennessee valley of northwestern Alabama. H. F. Otte. 177p bibliog(p163-9) $2.25 Columbia univ. press '40
Mosquitoes in the Tennessee valley. F. Thone. Science 92:sup10 S 6 '40

TENNESSEE Valley authority
Administrative decentralization of federal functions. D. E. Lilienthal. Advanced Management 5:3-8 Ja-Mr '40
Annual report and its kickback. Pub Util 25: 170-4 F 1 '40
Annual report for 1939. Comm & Fin Chr 150: 622-3 Ja 27 '40
Explosives by TVA; ammonium nitrate deal closed. Business Week p30-1 O 26 '40
Four typists do the work of 35; office efficiency system developed by TVA. il Business Week p26-7 D 30 '39
Future is ours. J. Franklin. 208p pa 50c Modern age books, New York '39
Graduate work in engineering; development of part-time program at the University of Tennessee; for TVA engineers and others. C. E. Ferris and R. O. Niehoff. Mech Eng 61:900-2 D '39

TENNESSEE Valley authority—*Continued*
Has TVA been fair to labor? J. King. Pub Util 25:492-4 Ap 11 '40
New TVA plan to test rate yardstick length. Elec W News ed 113:357 F 8 '40
News: TVA aids private business; vast experimental empire, dedicated to economic reconstruction of the South. il Business Week p26+ My 25 '40
Office economies. W. Ogden. Management R 29:358-9 O '40
Political regionalism and administrative regionalism. D. Davidson. Ann Am Acad 207: 138-43 Ja '40
Reading clubs for engineers; reading plan adopted by TVA at Chattanooga. W. H. Kaiser. Mech Eng 62:473-4 Je '40
Relation of federal regional authorities to state and local units; T.V.A. bibliog Ann Am Acad 207:130-7 Ja '40
TVA labor relations policy at work; successful cooperation between public power and organized labor in the public interest. J. King. 59p pa 25c National popular government league, Takoma park sta, Washington, D.C. '40
TVA power program puts agency on paying basis; report of 1939 fiscal year. il Elec W News ed 113:5 Ja 6 '40
TVA to make explosives for army's defense plan; ammonium nitrate works at Muscle Shoals. Elec W News ed 114:1239 O 26 '40
TVA to spend $6,500,000 on fertilizer program. Oil Paint & Drug Rep 137:3+ Ja 29 '40

Bibliography

Indexed bibliography of the Tennessee Valley authority, Supplement July 1939-December 1939 H. C. Bauer, comp. 8p, 5p Tennessee Valley authority, Knoxville, Tenn. '40
Indexed bibliography of the Tennessee Valley authority, Supplement, January-June, 1940. H. C. Bauer, comp. 9p, 5p pa gratis Tennessee Valley authority, Knoxville, Tenn. '40
Selected list of books, theses, and pamphlets on TVA. E. I. Miller, comp. 7 l Tennessee Valley authority, Office of the Director of information, Technical lib, Knoxville '40

Employees

TVA adopts labor-management agreement. Eng N 125:203 Ag 15 '40
TVA signs with A.F.L. Business Week p37+ Ag 17 '40

Power contracts

Chattanooga finds T.V.A. contract blocking funds. Elec W 113:1373 My 4 '40

Taxation problem

Does public ownership swamp private enterprise? T. Nettleton. Pub Util 25:728-35 Je 6 '40
TVA tax hangover; counties and taxing districts miss public utility revenues. A. Barnes. Pub Util 25:527-9, 532-4 Ap 25 '40
TVA tax solution? Authority's proposed relief for hardest-hit counties. Business Week p16+ Ap 20 '40
TVA's position on tax replacements. H. A. Morgan. Pub Util 25:530-1 Ap 25 '40
Tennessee's TVA tax plea; three possible solutions. G. B. Bryant, jr. Barron's 20:8 F 12 '40

Technical library

Evaluation of service in a technical library; library statistics. H. C. Bauer. Special Lib 30:296-7 N '39

TENNESSEE Valley paper mills, Inc.
File with SEC. Paper Tr J 110:13 Ja 18 '40

TENNESSEE Valley project
Alabama Power to sell system in north area; TVA, municipalities and co-operatives in eleven counties to purchase facilities for $4,600,000. map Elec W News ed 113:1818 Je 8 '40
Case for light and power; review of the accomplishments of the industry, with an interpretation of developments in public policy. il Nation's Business 28:49-54 Mr '40
Dedication by President Roosevelt of Chickamauga dam and Great Smoky Mountains national park in Tennessee. Comm & Fin Chr 151:1375-6 S 7 '40
Drought has not changed TVA water power estimates. T. B. Parker. Eng N 123:839-40 D 21 '39
Engineer looks at the TVA. J. W. Bradner, jr. il Civil Eng 10:273-6 My '40
Foundation experiences, Tennessee Valley authority; symposium. il diags plan maps Am Soc C E Proc 66:384-499 Mr '40; Discussion. 66:980-3, 1199-1209, 1341-6; 67:148-50 My-Je, S '40, Ja '41
Grass roots and the TVA. D. E. Lilienthal; G. C. Stoney. Pub Util 26:237-40 Ag 15 '40
Norris project, a comprehensive report on the planning, design, construction, and initial operations of the Tennessee Valley authority's first water control project. 840p $1.50 Supt. of doc. '40
Power without glory. E. R. Abrams. Comm & Fin Chr 151:749-53+ Ag 10 '40
President Roosevelt sends Congress TVA plan for recreation area; power development not the only aim of program. Comm & Fin Chr 150:361 Ja 20 '40
Savings from insulation in low-cost housing. W. H. Purnell. il Heat & Ven 37:31-3 O '40
South now has own Great Lakes; TVA dams create 650-mile chain of reservoirs. il map Business Week p18+ S 7 '40
Spare the woodman; clearing forests for reservoirs of the Tennessee Valley authority; safety work. H. E. Davis. il Nat Safety N 41:18-19, 56+ Je '40
TVA adds four units at two hydro plants. il Elec W News ed 113:1449 My 11 '40
TVA has lost its battle; must pay its way, says Congressman C. I. Faddis. H. Corey. Pub Util 25:451-8 Ap 11 '40
T.V.A. hydro power flunks defense test. D. J. Guy. il Nation's Business 28:17-19+ S '40
TVA short on defense power? how industry is expanding in the Tennessee valley. il Business Week p22-4 Jl 27 '40
Tennessee Valley scheme. A. W. Martinez. il Elec R (Lond) 125:781-3 D 22 '39
That billion dollar overcharge; private utilities and TVA rates. E. R. Abrams. Barron's 20:8 S 23 '40
Treadmill of debt. W. M. Carpenter. Edison Elec Inst Bul 8:9-11 Ja '40
Yardstick once more; analysis and criticism. M. G. Glaeser. Pub Util 24:733-9 D 7 '39

TENSIOMETERS
New method for studying the properties of lubricating oils based on the use of a new instrument; automatic recording tensiometer. P. Lecomte du Noüy. Science 91:341-2 Ap 5 '40
Un nouvel instrument de recherche et de contrôle: le tensiomètre enregistreur. P. Lecomte du Noüy. il Chimie & Ind 43:181-7 F 5 '40
Tension control for skin pass mills. C. P. Croco. il Steel 107:68, 72+ S 16 '40
Twin-ring surface tensiometer; the apparent surface tension of potassium chloride solutions. M. Dole and J. A. Swartout. bibliog il diag Am Chem Soc J 62:3039-45 N '40

TENSION control. See Rolling (metal work)—Tension control

TENSOLITE
Tensolite; rubber hydrochloride stretched under heat. H. D. Minich. il India Rubber W 102:51-3 Ap '40
Tensolite; tensilized rubber hydrochloride; new material, produced from pliofilm. il Rubber Age 46:165-7 D '39
Truly versatile; products of rubber hydrochloride. Sci Am 161:349 D '39

TENULIN
Constituents of certain species of helenium; concerning the compound melting at 233-234° obtained from helenium tenuifolium. E. P. Clark. Am Chem Soc J 62:2154-6 Ag '40
Constituents of certain species of helenium; the ester nature of tenulin. E. P. Clark. Am Chem Soc J 62:597-600 Mr '40

TEPHROSIA toxicaria
Active principles of leguminous fish-poison plants; derris malaccensis and tephrosia toxicaria. S. H. Harper. Chem Soc J p1178-84 Ag '40

TEPHROSIA virginiana
Non-crystalline constituents of tephrosia virginiana roots. L. D. Goodhue and H. L. Haller. Am Chem Soc J 62:2520-2 S '40

TEREDOS
New steel shanks for old timber piles; coal tipple pier at Pensacola, Fla. C. G. Cappel. il Civil Eng 10:632-3 O '40

Teredos cause collapse of temporary trestle. il Eng N 124:163 F 1 '40

TEREPHTHALALDEHYDE
Some reactions of unsaturated nitro compounds derived from terephthalaldehyde. D. E. Worrall. Am Chem Soc J 62:3253-4 N '40

TEREPHTHALIC acid
Terephthalic acid method for determination of the acidity of paper. B. L. Browning and G. C. Kimble. bibliog Paper Tr J 110: 24-7 Je 20 '40

TERMINAL companies
See also
Bush terminal company

TERMINAL shares, Inc.
Present status. Comm & Fin Chr 150:3375 My 25 '40

TERMINALS
Port of New York; Bayonne terminal. M. Garsaud. il diags map Civil Eng 10:425-8 Jl '40

Richmond's deepwater terminal. il Manuf Rec 109:32 F '40

Richmond's deepwater terminal. E. Brill. il Manuf Rec 109:26-7+ Ag '40

See also
Air lines—Terminals
Freight handling
Harbors
Motor bus lines—Terminals
Ports
Produce terminals
Railroads—Terminals

TERMITES
Detection and elimination of termites in railway structures; American railway bridge and building association committee report. Ry Age 109:640 N 2 '40

Outwitting termites in Illinois. W. E. McCauley and W. P. Flint. il diags Ill Natural History Survey Circ v 2, no 30:1-19 '38

TERPENES
Addition of magnesium iodide to camphor and terpene derivatives. S. T. Bowden and T. F. Watkins. Chem Soc J p1961 D '39

Dehydrogenation; catalytic disproportionation and dehydrogenation of some terpenes and terpene ketones. R. P. Linstead, K. O. A. Michaelis and S. L. S. Thomas. Chem Soc J p1139-47 Ag '40

TERPINENE
Observations on the condensation products from α-terpinene and the carenes with maleic anhydride. N. F. Goodway and T. F. West. Chem Soc J p702-3 My '40

TERRA cotta
Plant that grew out of cheese; Kraftile co. il plan Brick & Clay Rec 95:20-3 D '39

Manufacture

Control of soluble metallic salts results in uniform colors. J. H. Grady. il Brick & Clay Rec 96:31 F '40

TERRACES (geology)
Geomorphology of the Ruby-East Humboldt range, Nevada. R. P. Sharp. il maps Geol Soc Bul 51:337-71, pl 1-4 bibliog(p370-1) Mr '40

TERRACING
Terracing of deep cuts; rerouting of highway no. 127, Iowa. il Can Eng R & B 78:22+ S '40

TERRESTRIAL magnetism. See Magnetism, Terrestrial

TERRITORIAL waters
Anchorage regulations; regulations for the control of vessels in the territorial waters of the United States. Comm Rep p582-3 Jl 6 '40

Control of vessels in territorial waters of the United States; President's proclamation. Comm Rep p582 Jl 6 '40

Treasury department issues rules for control of foreign and domestic vessels in United States harbors and waters. Comm & Fin Chr 151:42 Jl 6 '40

Use of ports or territorial waters of the United States by submarines of foreign belligerent states; proclamation. F. D. Roosevelt. Comm Rep p530 Je 15 '40

See also
Coast patrol

TESTED papers of America, inc.
Three new trade-marks; Tested papers of America, inc. forms merchandising institute. Ptr Ink 190:95-6 Mr 29 '40

TESTIMONIALS. See Advertising copy—Testimonials

TESTING
Impact strength of transparent and translucent fused silica and of recrystallised alumina. B. Moore. Soc Chem Ind J 59:119-20 Je '40

Modern aircraft materials and their testing. K. R. Jackman. il S A E J 47:461-73+ N '40

New standards approved by A.S.T.M. committees. Steel 106:53, 56, 61 Mr 25 '40

Tension specimen shape and apparent strength. F. O. Anderegg, R. Weller and B. Fried. il Am Soc T M Proc 39:1261-6; Discussion. 1267-9 '39

See also
Electric testing
Engineering laboratories
Laboratories
Magnetic testing
also subdivision Testing under various subjects, e.g.
Automobile engines
Cast iron
Cement
Coal
Corrosion and anti-corrosives
Oil testing
Strains and stresses
Strength of materials
Testing machines
Textile testing
Hardness
Insulation (electric)
Metals
Paper
Steel
Tool steel
also American society for testing materials

Terminology

Laboratory testing terms and methods of test. D. G. Runner. diags Roads & Sts 83:70, 72 O; 78+ N '40

TESTING machines
American apparatus, instruments, and instrumentation; $y=f(x)$—coordinatographs. R. H. Müller. il Ind & Eng Chem Anal ed 12:614-20 O 15 '40

Calibration of large testing machine. Franklin Inst J 228:653-4 N '39

Combined stress experiments on a nickel-chrome-molybdenum steel. J. M. Lessells and C. W. MacGregor. bibliog il diags Franklin Inst J 230:163-81 Ag '40

Crosshead speed versus rate of strain; experiments on screw-driven testing machines. L. H. Fry. Metal Prog 37:46-8 Ja '40

Damping capacity of steel and its measurement; Föppl-Pertz apparatus. G. P. Contractor and F. C. Thompson. diags Iron & Steel Inst J 141:160-4 no 1 '40

Diamond pyramid hardness measurements with Rockwell hardness tester. J. H. Hruska. il Iron Age 145:29-33 F 1 '40

Dynamic fatigue life of rubber. S. M. Cadwell and others. bibliog il diags Ind & Eng Chem Anal ed 12:19-23 Ja 15 '40

Effect of speed of pulling jaws on the tensile strength and stretch of leather. R. B. Hobbs. diag J Research Nat Bur Stand 25: 207-14 Ag '40

800-ton hydraulic testing machine. il diags Engineering 150:201-3, 210, pl 14 S 13 '40

Emmericher spring-testing machine. il Automobile Eng 30:152 My '40

Energy losses in impact testing. N. Davidenkoff. il Metal Prog 38:297 S '40

TESTING machines—*Continued*
Extreme pressure lubricant tests with pretreated test-pieces. J. P. Baxter, C. I. Snow and I. T. Pierce. bibliog Inst Pet J 25: 761-70, pl 1-4 D '39
Fabric abrasion testing; evaluation of electric insulation. K. N. Mathes. il Gen Elec R 43: 467-70 N '40
Fatigue machines for testing structural units. R. L. Templin. bibliog il diags Am Soc T M Proc 39:711-21; Discussion. 722 '39
Fifteen thousand inspections per hour on Ford crankshafts. il diag Mach 46:128-32 Ap '40
High speed fatigue testing. R. R. Moore. il Steel 105:40-1 N 27 '39
Lager-prüfmaschine für verschiedene belastungsarten. E. A. Cornelius and E. H. Barten. il diags V D I 83:1219-21 N 18 '39
Machine for testing bearings. E. A. Ryder. il Metals & Alloys 11:69-74 Mr '40
Machine pour l'essai des sabots de frein, installée au banc d'essais de locomotives de Vitry-sur-Seine. Génie Civil 116:92 F 3 '40; Abstract (Railway brake shoe testing machine). Engineer 169:374 Ap 19 '40
Machinery for mechanical testing. F. G. Tatnall. Metal Prog 38:550-1 O '40
Measurement of the extent of stretch of metals; abstract. A. Nadai. Science 92.sup10 O 25 '40
Metals in thin layers; their microhardness; Knoop indenter. C. G. Peters and F. Knoop. bibliog il diags Metals & Alloys 12: 292-7 S '40
Most powerful testing machine goes into research service; Aluminum corp. of America. il Eng N 124:360 Mr 14 '40
Non-uniform yielding in metals during a tensile test. C. F. Elam. diags Engineering 149:325-7, pl 17 Mr 29 '40
Pendulum hardness testing machine. H. Cornelius and W. Trossen. diags Iron Age 146:381; S 26 '40; Same. Engineer 170:319-20 N 15 '40
Pneumatic fuse-testing machine. il Engineering 149:165 F 16 '40; Engineer 169:166-7 F 16 '40
Power for testing; Templin machine. il Steel 106:62-3 Mr 4 '40; Iron Age 145:63 Mr 7 '40; Marine Eng 45:110 Ap '40; Ry Mech Eng 114:124 Mr '40; Mach 46:162-3 Ap '40; Min & Met 21:198 Ap '40; Automotive Ind 82:363 Ap 15 '40
Small inertia-type machine for testing brake lining. R. H. Taylor and W. L. Holt. pls diags J Research Nat Bur Stand 24:531-46 My '40
Testing elastic thread by the incline-plane machine. D. Rhee. il India Rubber W 102: 46-7+ Ap '40
Testing machines, old and modern. il Metals & Alloys 11:103-5 Ap '40
Torsional damping recorder. il diag Automobile Eng 30:119-20 Ap '40
Toughness testing machine developed; determining quality of spruce used in aircraft. Civil Aero J 1:428 S 15 '40
Turbine-blade fatigue testing. R. P. Kroon. il Mech Eng 62:531-5 Jl '40
Welds and the testing of their endurance. J. H. Hruska. il diags Iron Age 145:33-7 My 16 '40
Woodhead power presses. il diag Automobile Eng 30:102-3 Ap '40
See also
Dynamometers
Textile testing machines

TESTOSTERONE
Sterols, desoxotestosterone and its conversion to testosterone. R. E. Marker, E. L. Wittle and R. F. Tullar. Am Chem Soc J 62:223-6 Ja '40
Sterols; the preparation of testosterone and related compounds from sarsasapogenin and diosgenin. R. E. Marker. Am Chem Soc J 62:2543-7 S '40

TESTS, Ability. See Ability tests

TETRABENZOAZAPORPHIN
Phthalocyanines and related compounds; tetrabenzporphin, tetrabenzmonazaporphin and their metallic derivatives. P. A. Barrett and others. Chem Soc J p1079-92 Ag '40
X-ray studies of the porphins. I. Woodward. Chem Soc J p601-3 My '40

TETRABENZOPORPHIN
Phthalocyanines and related compounds; intermediates for the preparation of tetrabenzporphins. R. P. Linstead, G. A. Rowe and others. Chem Soc J p1070-9 Ag '40
Phthalocyanines and related compounds; tetrabenzporphin, tetrabenzmonazaporphin and their metallic derivatives. P. A. Barrett and others. Chem Soc J p1079-92 Ag '40
X-ray studies of the porphins. I. Woodward. Chem Soc J p601-3 My '40

TETRABENZOTRIAZAPORPHIN
Phthalocyanines and related compounds; tetrabenztriazaporphin; its preparation from phthalonitrile and a proof of its structure. P. A. Barrett, R. P. Linstead and G. A. P. Tuey. Chem Soc J p1809-20 D '39

TETRABUTYLAMMONIUM bromide
Conductance of some salts in chlorobenzene at 25°. R. L. McIntosh, D. J. Mead and R. M. Fuoss. bibliog Am Chem Soc J 62: 506-8 Mr '40
Dependence of conductance on field strength; tetrabutylammonium bromide in diphenyl ether at 50°. D. J. Mead and R. M. Fuoss. Am Chem Soc J 62:1720-3 Jl '40

TETRABUTYLAMMONIUM hydroxide
Some unusual hydrates of quaternary ammonium salts. D. L. Fowler and others. Am Chem Soc J 62:1140-2 My '40

TETRABUTYLAMMONIUM picrate
Conductance of some salts in chlorobenzene at 25°. R. L. McIntosh, D. J. Mead and R. M. Fuoss. bibliog Am Chem Soc J 62: 506-8 Mr '40

TETRACHLOROETHANE
Study of the fate in the organism of some chlorinated hydrocarbons. H. M. Barrett, J. G. Cunningham and J. H. Johnston. bibliog J Ind Hygiene 21:479-90 D '39

TETRACHLOROETHYLENE
Action of fluorine upon some simple aliphatic chlorinated hydrocarbons. W. T. Miller. bibliog diag Am Chem Soc J 62:341-4 F '40
Condensation of vapors on a horizontal tube; heat transfer coefficient for condensation of vapors of water and nonmiscible organic liquids E. M. Baker and U. Tsao. bibliog diags Ind & Eng Chem 32:1115-21 Ag '40; Same. Am Inst Chem Eng Trans 36: 517-39 Ag '40
Recent developments in textile cleaning and finishing; use of chlorinated hydrocarbons. N. C. Cooper. Textile Col 61:811-13 D '39
Study of the fate in the organism of some chlorinated hydrocarbons. H. M. Barrett, J. G. Cunningham and J. H. Johnston. bibliog J Ind Hygiene 21:479-90 D '39

TETRACHLOROMETHANE. See Carbon tetrachloride

TETRADECAMETHYLENE disulfonic acid
Synthesis of the sodium salt of tetradecamethylene disulfonic acid. G. C. H. Stone. bibliog Am Chem Soc J 62:571-2 Mr '40

TETRAETHYLBENZENE
Polyalkylbenzenes; nitration of tetra-, penta- and hexa-ethylbenzenes; bromination of the tetraethylbenzenes. L. I. Smith and C. O. Guss. bibliog Am Chem Soc J 62:2635-8 O '40
Polyalkylbenzenes; physical properties of the tetraethylbenzenes. L. I. Smith and C. O. Guss. Am Chem Soc J 62:2630-1 O '40

TETRAETHYL lead
Lead tetraethyl manufacture. Chem Age (Lond) 42:213 Ap 13 '40
More miles per gallon; correlated development of fuels and engines. G. Edgar. flow chart il Sci Am 162:204-6 Ap '40

TETRAETHYL lead—*Continued*
New reaction in organic chemistry; the redistribution reaction. G. Calingaert. Science 90:430-4 N 10 '39

Redistribution reaction; interchange between triethyllead chloride and radio-active tetraethyllead. G. Calingaert, H. A. Beatty and L. Hess. Am Chem Soc J 61:3300-1 D '39

Redistribution reaction; R_4Pb compounds. G. Calingaert, H. A. Beatty and H. Soroos. bibliog Am Chem Soc J 62:1099-1104 My '40

Redistribution reaction; the relative affinity of mercury and lead for methyl and ethyl radicals. G. Calingaert, H. Soroos and G. W. Thomson. Am Chem Soc J 62:1542-5 Je '40

Tetraethyllead; manufacture and use. G. Edgar, flow sheet il Ind & Eng Chem 31: 1439-46 D '39; Excerpts. Inst Pet J 26:146-9 Mr '40

Analysis

Polarographic determination of lead in gasoline. H. A. Frediani and L. A. Bass. bibliog il Oil & Gas J 39:51-2 S 26 '40

TETRAETHYL orthosilicate. See Ethyl silicate

TETRAHYDROALLOROTTLERIN
Rottlerin; tetrahydro*all*orottlerin. A. McGookin, A. Robertson and E. Tittensor. Chem Soc J p1587-93 O '39

TETRAHYDROCANNABINOL
Structure of cannabidiol; a method of synthesis of a tetrahydrocannabinol which possesses marihuana activity. R. Adams and B. R. Baker. Am Chem Soc J 62: 2405-8 S '40

Structure of cannabidiol; isomerization of cannabidiol to tetrahydrocannabinol, a physiologically active product; conversion of cannabidiol to cannabinol. R. Adams and others. Am Chem Soc J 62:2402-5 S '40

TETRAHYDROCITRYLIDENEACETIC acid
Tetrahydrocitrylidene- and citronellylideneacetic acids; syntheses of *sec.-iso* octyl*cyclo*pentane derivatives. H. N. Rydon. Chem Soc J p1544-9 O '39

TETRAHYDRODIBENZOPYRAN
Cannabis indica; the synthesis of some tetrahydrodibenzopyran derivatives. R. Ghosh, A. R. Todd and S. Wilkinson. Chem Soc J p1121-5 Ag '40

TETRAHYDRONAPHTHALENE
Local anesthetics derived from tetrahydronaphthalene; esters of 1-dialkylamino-2-hydroxy-1,2,3,4-tetrahydronaphthalenes. E. S. Cook and A. J. Hill. Am Chem Soc J 62:1998-9 Ag '40

Local anesthetics derived from tetrahydronaphthalene; esters of 2-dialkylamino-3-hydroxy-1,2,3,4-tetrahydronaphthalenes. E. S. Cook and A. J. Hill. bibliog Am Chem Soc J 62:1995-8 Ag '40

TETRAHYDRONAPHTHALENE dicarboxylic acid
Constituents of natural phenolic resins; 1 : 2 : 3 : 4-tetrahydronaphthalene-2 : 3-dicarboxylic acid and the 1-phenyl derivative. R. D. Haworth and F. H. Slinger. Chem Soc J p1321-7 S '40

TETRAHYDROPYRIMIDINE
Synthesis of tetrahydropyrimidines. S. R. Aspinall. bibliog Am Chem Soc J 62:2160-2 Ag '40

TETRAHYDROQUINOLINES
Electron sharing ability of organic radicals; alpha-substituted tetrahydroquinolines. W. Oldham and I. B. Johns. bibliog Am Chem Soc J 61:3289-91 D '39

TETRAHYDROXYADIPIC acid
Studies in optical superposition; *l*-menthyl esters of mucic and tetrahydroxyadipic acids. R. W. Lapsley, J. Robertson and T. S. Patterson. Chem Soc J p862-6 Jl '40

TETRAHYDROXYBENZENE
Derivatives of 1 : 2 : 3 : 4-tetrahydroxybenzene; the oxidation of quinol with sodium chlorate. W. Baker and I. Munk. Chem Soc J p1092-3 Ag '40

TETRAHYDROXYQUINONE
Determination of sulfate by tetrahydroxyquinone method; effect of sodium sulfite and procedure for its elimination. H. L. Kahler. Ind & Eng Chem Anal ed 12:266-7 My 15 '40

Microdetermination of sulfate obtained from combustion of organic compounds; tetrahydroxyquinone as an indicator in a volumetric method. L. T. Hallett and J. W. Kuipers. bibliog Ind & Eng Chem Anal ed 12:360-3 Je 15 '40

Preparation and properties of derivatives of inositol. F. A. Hoglan and E. Bartow. bibliog Am Chem Soc J 62:2397-400 S '40

TETRAIODOETHYLENE
Photochemistry of diiodoacetylene and tetraiodoethylene. J. W. Tamblyn and G. S. Forbes. bibliog Am Chem Soc J 62:99-104 Ja '40

TETRALONE
Preparation of 3-methyl-1-tetralone and β-[1-(3-methyl-1,2,3,4-tetrahydronaphthyl)]-ethyl alcohol. W. E. Bachmann and W. S. Struve. Am Chem Soc J 62:1618-19 Je '40

TETRAMETHYLAMMONIUM iodide
Entropies of large ions; the heat capacity, entropy and heat of solution of potassium chloroplatinate, tetramethylammonium iodide and uranyl nitrate hexahydrate. L. V. Coulter, K. S. Pitzer and W. M. Latimer. bibliog Am Chem Soc J 62:2845-51 O '40

TETRAMETHYLANTHRACENE
meso-Alkyl anthracenes. L. F. Fieser and T. G. Webber. bibliog Am Chem Soc J 62: 1360-2 Je '40

TETRAMETHYLBENZANTHRACENE
Polycyclic aromatic hydrocarbons G. M. Badger, J. W. Cook and F. Goulden. Chem Soc J p16-18 Ja '40

TETRAMETHYLCOUMARAN
Chemistry of vitamin E; a new synthesis of 2,4,6,7-tetramethyl-5-hydroxycoumaran and of 2-methyl-5-hydroxycoumaran; oxidation products of the tetramethylcoumaran. L. I. Smith, H. H. Hoehn and A. G. Whitney. bibliog Am Chem Soc J 62:1863-9 Jl '40

TETRAMETHYLETHYLENE
Aromatic stabilized double bonds; Mills-Nixon problem. R. T. Arnold and R. L. Evans. bibliog Am Chem Soc J 62:556-8 Mr '40

TETRAMETHYL lead
New reaction in organic chemistry; the redistribution reaction. G. Calingaert. Science 90:430-4 N 10 '39

Redistribution reaction; the relative affinity of mercury and lead for methyl and ethyl radicals. G. Calingaert, H. Soroos and G. W. Thomson. Am Chem Soc J 62:1542-5 Je '40

TETRAMETHYLPENTANE
Preparation and some physical properties of 2,2,4,4-tetramethylpentane. F. L. Howard. diags J Research Nat Bur Stand 24:677-84 Je '40

TETRAMETHYL styracitol
Chemistry of naturally occurring monoanhydrohexitols; synthetic tetramethylstyracitol. W. Freudenberg and J. T. Sheehan. bibliog Am Chem Soc J 62:558-60 Mr '40

TETRAMETHYLENE bromide
Preparation of tetramethylene bromide. S. Fried and R. D. Kleene. Am Chem Soc J 62:3258 N '40

TETRAPHENYLARSONIUM iodide
X-ray determination of the crystal structure of tetraphenylarsonium iodide, $(C_6H_5)_4AsI$. R. C. L. Mooney. Am Chem Soc J 62:2955-9 N '40

TETRAPHENYLHYDRAZINE
Divalent nitrogen; the rate of dissociation of tetraphenylhydrazine. C. K. Cain and F. Y. Wiselogle. bibliog diag Am Chem Soc J 62:1163-9 My '40

TETRAPHENYLLEAD
Relative reactivities of organometallic radicals; metal-metal interconversion of triphenyllead and of tetraphenyllead with *n*-butyllithium. H. Gilman and F. W. Moore. bibliog Am Chem Soc J 62:3206-8 N '40

TEXAS

Texas; a guide to the Lone Star state. 718p bibliog(p677-82) $3 Hastings house, New York '40

See also

Air conditioning industries—Texas
Chemical education—Texas
Gas, Natural—Texas
Geology—Texas
Mines and mineral resources—Texas
Petroleum—Texas
Public lands—Texas
Railroads—Texas

Antiquities

Pleistocene artifacts and associated fossils from Bee county, Texas. E. H. Sellards. bibliog diags maps Geol Soc Bul 51:1627-57, pl 1-2 N '40

Economic conditions

Wonders of Texas; or, Texas at work. H. C. Upshaw. 266p bibliog(p261-6) $2 Naylor co, San Antonio, Tex. '39

Industries and resources

Texas; boom state. il map Fortune 20:80-91+ D '39

Texas in perspective. il maps Manuf Rec Extra no 109:207-21 S '40

Insurance department

Texas fire insurance department. A. R. Davis. Am Water Works Assn J 32:1001-8 Je '40

TEXAS and Pacific railway

Bonds down sharply. A. Jansen. Barron's 19:19 D 11 '39

Statistics of operations and income account for calendar years 1936-39. Comm & Fin Chr 150:2118 Mr 30 '40

TEXAS corporation

Annual report for 1939. Comm & Fin Chr 150: 1952 Mr 23 '40

Diplomatic exit; executive's resignation accepted following publicity over friendship with German agent. Business Week p44 Ag 17 '40

$60,000,000, debentures offered. Comm & Fin Chr 151:259-60 Jl 13 '40

TEXAS Gulf sulphur company

Another look at Texas Gulf Sulphur. Mag of Wall St 66:175 My 18 '40

Inflation hedge. H. Lawrence. Barron's 20:13 N 4 '40

Large foreign demand lifts normally stable earnings. S. Devlin il Mag of Wall St 66:472-4+ Jl 27 '40

TEXTBOOKS

See also

Chemistry—Textbooks
Physics—Textbooks
Social sciences—Textbooks

TEXTILE analysis

Analysis of textile materials; abstract. Schaeffer. Textile Col 62:473 Jl '40

Detection of new finishing agents; abstract. H. Rath. Textile Col 62:762+ N '40

Determination of traces of copper in fabrics; abstract. G. Lugaz-Mornet. Am Dyestuff Rep 29:158 Ap 1 '40

Differentiation between lanital, wool and casein; abstract. Justin-Mueller. Am Dyestuff Rep 29:501 S 30 '40

Eine einfache und rasch auszuführende methode zur quantitativen trennung von kunstfasern aus hydratcellulose und fasern aus nativer cellulose. Schwertassek. Angew Chemie 52:700-1 D 9 '39

Electrodialytic estimation of ash and of acidic and basic groups in textile fibers. A. M. Sookne, C. H. Fugitt and J. Steinhardt. bibliog diag Am Dyestuff Rep 29:333-6, 355-6 Jl 8 '40; Same. J Research Nat Bur Stand 25:61-9 Jl '40

Identification of the newer textile fibers; glass fiber, casein wool, nylon, etc. J. H. Skinkle. Rayon 21:461-3 Ag '40; Same abr. Am Dyestuff Rep 28:694-5 N 27 '39

Qualitative identification and quantitative estimation of nylon in the presence of silk, wool and cotton. R. Gerber and K. Lathrop. bibliog Am Dyestuff Rep 29:437-40+ S 2 '40

Quantitative determination of viscose rayon; in mixtures with cotton, wool or silk. R. W. McKay. Am Dyestuff Rep 29:25-8 Ja 22 '40

Spot testing in textile analysis. E. J. Saxl. Am Dyestuff Rep 28:757-8 D 25 '39

Standard method of test for colorimetric determination of small amounts of copper and manganese in textiles. Textile Col 62: 554-5 Ag '40

Ultra-violet light; abstract. F. Dervaux. Am Dyestuff Rep 29:282 My 27 '40

See also

Cotton—Analysis
Rayon—Analysis
Wool—Analysis

TEXTILE associations

Coordination of associations. Textile World 90:51 Mr '40

See also

National association of wool manufacturers
National federation of textiles

TEXTILE chemicals

Alphabetical list of new products developed since Sept. 1939. Am Dyestuff Rep 29:519-25 O 14 '40

Analysis of cationic surface-active agents of trivalent nitrogen type. R. Hart. Ind & Eng Chem Anal ed 12:400-2 Jl 15 '40; Same. Am Dyestuff Rep 29:411-14 Ag 19 '40; Same. Textile Col 62:698-701 O '40; Same. Rayon 21:613-14+, 697-8 O-N '40

Annual consumption of chemicals in rayon and allied industries. Rayon 21:526 S '40

Chemical modification of cellulose, with some observations on the more recent developments in textile finishing processes. J. Craik and W. R. Davis. il Soc Dyers & Col J 55:597-606 D '39

Dyestuffs, textile and leather chemicals. Published in weekly numbers of Oil, paint and drug reporter

Evolution of textile finishes. H. H. Mosher. Am Dyestuff Rep 29:531-3+ O 14 '40

General trend of modern finishes. L. G. Lawrie. Soc Dyers & Col J 55:350-4 Jl '39; Abstract. Am Dyestuff Rep 29:71-2 F 5 '40

Hydrosulphites and their derivatives; structure, development and use in the textile industry. G. S. Ranshaw. Chem Age (Lond) 41:359-60 N 25 '39

Increasing use of urea in textile manufacturing. K. Wardle. Textile Col 62:629-30 S '40

Latest developments in textile processing and finishing. N. L. Deutsch. Rayon 21:239-40, 310-11 Ap-My '40

Lecithin from soy bean; its uses in industry, especially in the textile industry. E. W. K. Schwarz. bibliog Am Dyestuff Rep 29:220, 234-6 Ap 29 '40; Same. Rayon 21:295-6 My '40

New dyes and chemicals. Published in monthly numbers of Textile world

New emulsifying agents for use with textiles. Textile Col 62:618-19 S '40

New resins for textile-chemical use. J. Warwicke. Textile Col 62:731-5 N '40

Opportunities for the sale of dyes and textile chemicals in South America. C. C. Concannon. Textile Col 62:96-7 F '40

Quaternary compounds: textile auxiliaries with far-reaching possibilities. J. Wakelin. Textile Col 62:83-6, 159-60 F-Mr '40

Recent advances in textile finishing agents; synthetic resins and cellulose derivatives. L. Light. bibliog Chem Age (Lond) 42:49-50 Ja 27 '40

Recent applications of glycerine in textiles. G. Leffingwell and M. A. Lesser. bibliog Rayon 21:553-4, 635-6 S-O '40

Softening textile auxiliaries. Textile Col 62: 402+ Je '40

Sulfated ester of fatty acid; Onyx oil & chemical co. presents Phi-Φ-Sol. Textile Col 62:458-61, 531-4+ Jl-Ag '40

Surface cation active compounds in the textile industry. J. Katz. Am Dyestuff Rep 28:671-4 N 13 '39

TEXTILE chemicals—*Continued*

Textile agents; recent progress on some of the main items of auxiliary textile plants for finishing. C. J. T. Cronshaw. Textile Col 62:197-200 Mr '40; Excerpt. Chem Age (Lond) 41:416 D 23 '39

Textile auxiliaries and their value in cloth production; auxiliaries able to modify textile fibres. A. J. Hall. Textile Inst J 31: P1-3 Ja '40

Textile chemical progress. S. Lenher. Oil Paint & Drug Rep 138:3+ Jl 1 '40; Same. Rayon 21:482-3 Ag '40

Textile chemical specialty guide for spinners, weavers, knitters, throwsters, dyers, printers and finishers of all textile yarns and materials. 2d ed 350p pa $2.50 Rayon pub. corp, 303 5th av, New York '39

Textile chemical uses of sulfamic acid. J. Wakelin. Am Dyestuff Rep 28:729-31 D 11 '39

Textile uses of titanium compounds; satisfactory properties of dioxide and salts. G. S. Ranshaw. Chem Age (Lond) 43:79-80 Ag 17 '40

See also

Bleaching materials
Dyes and dyeing
Mothproofing preparations
Textile oils
Textone
Wetting agents

TEXTILE chemistry

Constitution of animal textile fibers; abstract. M. A. Wahl. Am Dyestuff Rep 29: 481 S 16 '40

Important chemical developments in the textile industry. E. W. K. Schwarz. Am Dyestuff Rep 29:6-8, 19-21 Ja 8 '40; Same. Textile Col 62:25-9 Ja '40

Modified starches; degradation of starches by acidic and alkaline oxidising agents, acids, etc. G. B. Jambuserwala and K. R. Kanitkar. Textile Inst J 31:T1-16 Ja '40

Organic substances that cause swelling. J. R. Katz and J. Seiberlich. Rayon 21:42-3 Ja '40

See also

Bleaching
Bleaching materials
Dyes and dyeing—Chemistry
Mercerizing
Nylon
Resinous products—Textile uses
Sizing (textiles)
Textile analysis
Textile finishing
Textile oils
Wetting agents
Wool—Chemistry

TEXTILE cutting machines

Machine for the fine cutting of linen and cotton materials preparatory to the determination of solubility number or of the fluidity of their cuprammonium solutions. D. A. Derrett-Smith and R. J. B. Keig. diags Textile Inst J 31:T197-200 Ag '40

TEXTILE design

British textile designers today. H. G. Hayes Marshall. 326p $10 Marmor book & art shop, New York '39

Broadloom brings changes. il Ptr Ink Mo 40: 5-8+ Je '40

Creation of new tricot fabric styles. il diags Rayon 21:473-4 Ag '40

Designing dobby fabrics; producing the chain draft and slasher layout; calculating yarn requirements; rayon stripe shirting. M. P. Fox. il Textile World 90:58-9 Jl '40

Fabric forecast; rayons for spring 1941. il Textile World 90:92-3 S '40

Knit outerwear design. L. Miner. il Textile World 89:85 D '39

Latest fabric survey on rayon knit goods. A. Perkins. il Rayon 21:213 Ap '40

New outerwear fabrics; use of long-latch cylinder needles. P. W. Niles. il Textile World 90:93-4 Ja '40

Present importance of fast browns in dyeing and printing. R. Sansone. il Textile Col 62:448-51+, 522-4 Jl-Ag '40

Study in rayon weaves. diags Rayon 20:510-11, 584-5, 645-6, 702-3; 21:35-6, 97-8, 164-5, 301-2, 363-4, 425-7, 547-8, 623-4, 695-6, 750-1 S '39-Mr, My-Jl, S-D '40 (to be cont)

Styles by national advertisers; yard goods printed with 14 nationally-known trademarks. il Business Week p52-3 F 24 '40

See also

Calico printing
Rayon printing
Textile printing
Weaving
Woolen and worsted printing

TEXTILE drying

Drying of textiles. H. Miedendorp, jr. Rayon 21:706 N '40

Electrical conductance measurements of water extracts of textiles. A. C. Walker. diag Am Soc T M Proc 39:1233-9; Discussion. il 1240-1 '39

Progress in three years of textile drying research. A. C. Walker. Rayon 21:561-3 S '40

Scientific approach to textile problems. A. C. Walker. Am Dyestuff Rep 29:218-20 Ap 29 '40; Same. Rayon 21:407-8 Jl '40

See also

Drying apparatus—Textiles

TEXTILE education

Joins school and mill training; cooperative course at Georgia Tech. J. E. McDaniel. il Textile World 90:50 Mr '40

Next decade in textiles; how to make money make more money through education. F. M. Feiker. Textile World 90:108-9 F '40

Outlines for textiles study. E. L. Phelps. rev ed 73 l pa $1.35 Burgess pub. co, 426 S. 6th st, Minneapolis '39

Parker school district, of Greenville, S.C. expands facilities. il Textile World 90:56 My '40

See also

Textile schools

TEXTILE engineering

Engineering aspects of textile technology. E. R. Schwarz. il Mech Eng 62:361-4 My '40

TEXTILE fabrics

Beating the bombs; fabrics for masking and shatterproofing windows, for sandbags, etc. il Textile World 90:62 Ja '40

Bright, despite war; French summer fabrics. B. E. Hirschberg. il Textile World 90:53 Mr '40

Fashionating state of flux; how the fabric maker can fit his plans into America's new fashion role. M. E. Clark. il Textile World 90:58-9 O '40

Non-woven cloth; Goldman process. Business Week p24 D 30 '39

Textile fabric production, revision; monthly, 1923-June, 1940. Fed Res Bul 26:841 Ag '40

Textiles of tomorrow. K. H. Barnard. Textile Col 61:844-6+ D '39; Same. Am Dyestuff Rep 28:737-41 D 25 '39

Washing dirty linen. K. H. Barnard. Am Dyestuff Rep 29:263-4+ My 27 '40

See also

Airplane fabrics
Army fabrics
Astrachan fabric
Bleaching
Carpets
Cleaning
Cotton fabrics
Crepe
Felt
Fireproofing of textiles
Fulling
Jersey cloth
Knit goods
Linen
Linen fabrics
Matelassé
Mildew
Pile fabrics
Rayon fabrics
Rubberized fabrics
Rugs
Sanforizing
Silk
Sizing (textiles)
Textile fibers
Textile finishing
Textile industry
Textile research
Tire fabrics
Tricot
Umbrella fabrics
Upholstery
Waterproofing of textiles
Woolen and worsted fabrics
Woolen and worsted manufacture

Analysis

Separation of viscose and cotton by solvent action. J. H. Levin and R. A. Martinell. Textile Col 62:462-3 Jl '40

Bibliography

Abstracts. Published in monthly numbers of Journal of the Textile Institute

TEXTILE fabrics—Bibliography—*Continued*
International review of periodicals. Published in monthly numbers of Rayon textile monthly

Coating

Electro-coated; high pile put on textiles electrically. il Sci Am 163:199 O '40
Electro-fiber-coated textile fabrics. il Rayon 21:622 O '40
Fiberdown; electrically embossing fabrics with short-cut fibers. Textile Col 62:754+ N '40
Sandpaper to textiles; electrostatic process used in fabric manufacture. il diag Textile World 90:56 Ap '40
Velvet from static; electrical process. Business Week p40 Mr 16 '40

Creasing

See Creasing of textiles; Rayon fabrics—Creasing

Dictionaries

Language of fashion; a dictionary and digest of fabric, sewing, and dress. M. B. Picken. 175p $5 Funk and Wagnalls co, New York '40

Double cloth

Center-stitched double cloths. R. A. C. Scott. diags Textile World 90:61 Ap; 95-6 Je '40
Drafts for double cloths. R. A. C. Scott. diags Textile World 90:87 Ag '40

Durability

Effect of finishing treatments on durability. O. Mecheels. Textile Col 61:831-2 D '39
Relationship of wear tests to porosity of fabrics. E. J. Saxl. il Rayon 21:565-7 S '40

Heat transmission

Simplified method for the measurement of heat transmission of fabrics. E. R. Schwarz. il Rayon 21:563-5, 637-9 S-O '40

Permeability

Hygienic and technical aspects of water repellent clothing. L. Stein. Am Dyestuff Rep 29:352-5 Jl 8 '40
Making fabrics transparent and impermeable to fluids. C. H. S. Tupholme. Ind & Eng Chem News ed 18:766 S 10 '40
Testing porosity of fabrics. C. H. S. Tupholme. Textile Col 62:121 F '40

Protection

Developments in mold and mildew prevention. W. A. Stringfellow. diags Am Dyestuff Rep 29:266-9 My 27 '40
La protection des sacs de jute. G. Batta and L. Fabry. Chimie & Ind 43:535-8 Ap 5 '40
Rotproofing sandbags; creosote distillate emulsions. Chem Age (Lond) 41:332 N 11 '39; Engineering 148:579-80 N 24 '39

Shrinkage

Milling truths. G. L. Atkinson. Textile Col 62:674-5+ O '40
Spreading knitted fabrics; tables aid in obtaining correct cloth width for minimum shrinkage. F. J. Quillitzsch. Textile World 89:70-1 N '39

See also
Cotton fabrics—Shrinkage
Wool, Unshrinkable
Woolen and worsted fabrics—Shrinkage

Terminology

Terms relating to the hand of fabrics. Am Dyestuff Rep 29:560 O 14 '40; Excerpts. Rayon 21:738 D '40

Testing

Attachments for Mullen tester. il Textile World 89:70-1 D '39
Fabric abrasion testing; evaluation of electric insulation. K. N. Mathes. il Gen Elec R 43:467-70 N '40
Instrument for measuring the draping properties of fabrics; Drapeometer. il diags Rayon 21:671 N '40
Relationship of wear tests to porosity of fabrics. E. J. Saxl. il Rayon 21:565-7 S '40; Abstract. Oil Paint & Drug Rep 138: 56 O 28 '40
Standard general methods of testing woven textile fabrics. Textile Col 62:445-7+ Jl '40
Technical evaluation of textile finishing treatments; a comparison of certain methods of measuring stiffness in fabrics. L. J. Winn and E. R. Schwarz. bibliog il Am Dyestuff Rep 29:469-76 S 16 '40
Technical evaluation of textile finishing treatments; flexibility and drape as measurable properties of fabric. L. J. Winn and E. R. Schwarz. il diag Am Dyestuff Rep 28:688-94 N 27 '39; Same. Rayon 20:571-2, 652-3, 710-12 O-D '39
Technical evaluation of textile finishing treatments; use of rank correlation for comparison of data. L. J. Winn and E. R. Schwarz. Am Dyestuff Rep 29:400-4 Ag 5 '40
Testing porosity of fabrics. C. H. S. Tupholme. Textile Col 62:121 F '40
Ultra-violet tests on fabrics and dyestuffs. C. H. S. Tupholme. Textile Col 62:515-18, 598-600+ Ag-S '40
Woven dress fabrics; testing and reporting; strength, color fastness, etc. Textile Col 62: 263-5, 316-19, 379-81 Ap-Je '40

See also
Textile fabrics—Wear

Water resistance

Hygienic and technical aspects of water repellent clothing. L. Stein. Am Dyestuff Rep 29:352-5 Jl 8 '40

Wear

Efficiency in consumption; wear tests of rayon slips. A. Sommaripa. Textile Col 62: 122-4 F '40
General serviceability of textiles. J. G. Williams. Textile Inst J 31:P81-3 Ag '40

Width

Cutters want wider fabrics; abstracts. A. C. Abrahams. Textile World 90:74 Ja '40; Rayon 21:84+ F '40
Should spun rayons be woven on wide looms? the effect of cloth width upon clothing manufacturer, mill man and loom builder. A. Palmer. Rayon 21:361-2+ Je '40; Excerpt. Textile World 90:68 Je '40

TEXTILE fabrics, Transparent
Making fabrics transparent and impermeable to fluids. C. H. S. Tupholme. Ind & Eng Chem News ed 18:766 S 10 '40

TEXTILE fibers
Constitution of animal textile fibers; abstract. M. A. Wahl. Am Dyestuff Rep 29: 481 S 16 '40
Engineering aspects of textile technology. E. R. Schwarz. il Mech Eng 62:361-4 My '40
Important chemical developments in the textile industry. E. W. K. Schwarz. Am Dyestuff Rep 29:6-8, 19-21 Ja 8 '40; Same. Textile Col 62:25-9 Ja '40
Porosity of textile fibers. Textile Col 62:261-2 Ap '40
Textile fiber atlas. W. von Bergen and W. Krauss. il Rayon 21:17-20, 85-8, 149-53, 285-9, 349-53, 409-12, 469-72, 615-19, 691-4, 739-42 Ja-Mr, My-Ag, O-D '40
Textile fibers, old and new. W. H. Cady. Am Dyestuff Rep 29:189-97 Ap 15 '40

See also
Bast fibers
Coconut fibers
Cotton fibers
Flax
Hemp
Jute
Ramie
Rayon fibers
Silk
Wool

Ash content

Electrodialytic estimation of ash and of acidic and basic groups in textile fibers. A. M. Sookne, C. H. Fugitt and J. Steinhardt. bibliog diag Am Dyestuff Rep 29:333-6, 355-6 Jl 8 '40

Identification

Color test for sisal and manila; the Amoa test for the detection of sisal fiber when admixed with manila fiber. A. V. Billinghame. Textile Col 62:466 Jl '40
Identification of the newer textile fibers; glass fiber, casein wool, nylon, etc. J. H. Skinkle. Rayon 21:461-3 Ag '40; Same abr. Am Dyestuff Rep 28:694-5 N 27 '39

TEXTILE fibers—Identification—*Continued*
Method for quantitative determination of nylon in mixtures of nylon and other fibers. E. Freedman and H. Nechamkin. Am Dyestuff Rep 29:540 O 14 '40
Qualitative identification and quantitative estimation of nylon in the presence of silk, wool and cotton. R. Gerber and K. Lathrop. bibliog Am Dyestuff Rep 29:437-40+ S 2 '40

Moisture absorption

New method of determining the wettability of textile fibres. C. M. Blow and B. F. J. Moxon. diags Soc Chem Ind J 59:171-4 Ag '40

Moisture content

Atmospheric humidity and the moisture content and regain of textile materials; tentative textile standard. Textile Inst J 31: S3-4 Ja '40
Moisture content and regain calculation charts. J. Tankard. Textile Inst J 31:T201-5 Ag '40
Moisture relations of textile fibers at elevated temperatures. J. G. Wiegerink. J Research Nat Bur Stand 24:645-64 Je '40
Regain of textiles and humid atmosphere changes. A. B. D. Cassie. Textile Inst J 31:T17-30 F '40; Abstract. Textile Col 62: 547-8 Ag '40
Some thoughts on the scientific approach to textile problems. A. C. Walker. Rayon 21: 407-8 Jl '40

Testing

Moisture relations of textile fibers at elevated temperatures. J. G. Wiegerink. J Research Nat Bur Stand 24:645-64 Je '40

TEXTILE fibers, Effect of temperature on
Moisture relations of textile fibers at elevated temperatures. J. G. Wiegerink. J Research Nat Bur Stand 24:645-64 Je '40

TEXTILE fibers, Synthetic
Advances on many fronts; fabrics from vinyl polymers. Chem & Met Eng 46:682-3 N '39
Air, water, coal=hosiery; nylon. H. T. Rutledge. il Sci Am 162:78-81 F '40
Classification of man-made textile fibers. Pulp & Pa of Can 41:284-5 Mr '40
Developments in organic non-cellulosic fibrous materials. E. C. Worden, 2d. bibliog Rayon 21:527-8, 609-11, 680-2 S-N '40 (to be cont)
Dyeing of artificial fibers; viscose, Bemberg and acetate rayon. J. E. Meili. Am Dyestuff Rep 29:241-4 My 13 '40; Same. Textile Col 62:338-40 My '40; Same. Rayon 21:368-9, 427-8 Je-Jl '40
Expanding horizon for cellulose. Pulp & Pa of Can 41:650+ S '40
Germany develops new synthetic fiber to point of mass production; P.C. fiber. Chem & Met Eng 47:189 Mr '40
Identification of the textile fibers. J. H. Skinkle. Rayon 21:461-3 Ag '40; Same abr. Am Dyestuff Rep 28:694-5 N 27 '39
Important chemical developments in the textile industry. E. W. K. Schwarz. Am Dyestuff Rep 29:6-8, 19-21 Ja 8 '40; Same. Textile Col 62:25-9 Ja '40
Industrial felts from synthetic fibers. H. Boeddinghaus. Ind & Eng Chem News ed 18:248 Mr 25 '40; Same. Rayon 21:294 My '40
Industrial research in 1939; textiles, mostly synthetic fibers. W. A. Hamor. il Ind & Eng Chem News ed 18:8-9 Ja 10 '40
Making casein fiber. E. O. Whittier and S. P. Gould. bibliog Ind & Eng Chem 32:906-7 Jl '40
New-fiber symposium, American chemical society. Textile World 90:78 O '40
New synthetic textile fibers. H. R. Mauersberger. Rayon 21:677-9 N '40 (to be cont)
Newer textile fibers. F. G. Brown. Textile Col 62:155-8, 234-6+ Mr-Ap '40
News by commodities. Published in Foreign commerce weekly
Next decade in textiles; how to make money make more money through synthetic fibers. il Textile World 90:102-3 F '40
Papers presented at the annual conference of the Textile institute (England) May 30-June 3, 1939; abstracted by J. H. Skinkle. Am Dyestuff Rep 28:686, 703-4 N 27 '39
Polymerization and the production of new synthetics. B. A. Harold. bibliog il Am Dyestuff Rep 29:53-7 F 5 '40
Progress in synthetic fibers. il Chem Ind 46:150-5 F '40
R-53 new casein fiber for hat making. H. R. Mauersberger. il Rayon 21:670 N '40
Recent developments in rayon and some of the newer manufactured textile fibers. F. Bonnet. Rayon 21:145-6 Mr '40
Resin fiber vinyon. F. Bonnet. Am Dyestuff Rep 29:547-8 O 14 '40
Revision of decimal classification necessary. Rayon 21:20 Ja '40
Some new textile fibers. F. Bonnet. il Rayon 21:353-4 Je '40
Strongest yarn; Celanese introduces tough fiber used in England. Business Week p40 S 21 '40
Synthetic fiber from soya beans. R. D. Potter. Science 91:sup13 Mr 15 '40
Synthetic fibers enlisted; will assure adequate supply of textiles for both military and civilian purposes. il Textile World 90:86-9 S '40
Synthetic plastics and fibers. R. V. V. Nichols and P. Larose. Chem & Ind 59:435 Je 22 '40; Same. Can Chem & Process Ind 24:340-1 Jl '40
Synthetic textiles and synthetic rubbers hold spotlight at A.C.S. meeting; abstracts of papers. Chem & Met Eng 47:650-1 S '40
Textile fiber atlas; protein and synthetic fibers. W. von Bergen and W. Krauss. il Rayon 21:691-4 N '40
Three new synthetic fibers are announced in Japan. H. Leopold. Ind & Eng Chem News ed 18:500 Je 10 '40
Vinyon a new textile fiber. F. Bonnet. Am Dyestuff Rep 29:116-18 Mr 4 '40; Excerpts. Mech Eng 62:406-7 My '40; Discussion. Am Dyestuff Rep 29:118-20 Mr 4 '40
Vinyon; its story to date. il Textile World 90:113 F '40
Vinyon plans completed; Carbide & Carbon to make the resin; American Viscose to spin the yarn. il Textile World 89:68 N '39
Vinyon, the new textile fiber and yarn. il Rayon 21:74-5 F '40
X-ray studies of crystallite orientation in cellulose fibers; fiber structures from coagulated cellulose. W. A. Sisson. bibliog il diags J Phys Chem 44:513-29 Ap '40

See also
Nylon
Rayon
Wool, Artificial

TEXTILE finishing
Achievements in textiles; commonplace fabrics with superior characteristics given by special treatments. P. H. Smith. il Sci Am 163:60-2 Ag '40
Application of a new wrinkle finish. il Rayon 21:642 O '40
Automatic control of acid or alkaline baths. S. R. Waters. il diag Rayon 21:632-3 O '40
Chemical modification of cellulose, with some observations on the more recent developments in textile finishing processes. J. Craik and W. R. Davis. il Soc Dyers & Col J 55:597-606 D '39
Crease resisting processes for textiles. A. D. J. Piesse. il Rayon 21:478-9 Ag '40
Detection of new finishing agents; abstract. H. Rath. Textile Col 62:762+ N '40
Development of crease-resistance; Tootal and other patents. Textile Col 62:87-90+ F '40
Dyeing and finishing of nylon hose. N. D. White. Rayon 21:683-5 N '40
Effect of finishing treatments on durability. O. Mecheels. Textile Col 61:831-2 D '39
Enzymes in textile treatment. Textile Col 62:691+ O '40
Evaluation of special finishes for textiles. E. Freedman. Textile Col 62:452-4 Jl '40; Same. Am Dyestuff Rep 29:381-3 Jl 22 '40

TEXTILE finishing—*Continued*

Evolution of textile finishes. H. H. Mosher. Am Dyestuff Rep 29:531-3+ O 14 '40

Finishing; developments in 1939. Textile World 90:89-91 F '40

Finishing warp-knit fabrics. E. S. Dunlap. il Textile World 90:77 Ap '40

General trend of modern finishes. L. G. Lawrie. Soc Dyers & Col J 55:350-4 Jl '39; Abstract. Am Dyestuff Rep 29:71-2 F 5 '40

Latest developments in textile processing and finishing. N. L. Deutsch. Rayon 21:239-40, 310-11 Ap-My '40

Modern textile finishing machinery; dryers and stenters. K. S. Laurie. il diags Soc Dyers & Col J 56:289-95 Jl '40

Practical finishing of dress and coating fabrics (cont). G. L. Atkinson. Textile Col 60:821-3; 61:47-50, 244-7, 410-11, 478-81+, 820-3; 62: 385-6+ D '38-Ja, Ap, Je-Jl, D '39, Je '40

Present trend of textile finishing. T. H. Roberts. Am Dyestuff Rep 29:396-9 Ag 5 '40

Processing of astrakhan fabric. S. Wouble. Textile Col 62:441-4, 525-7+ Jl-Ag '40

Proper evaluation of special finishes for textiles. E. Freedman. il Rayon 21:475-7 Ag '40

Quaternary compounds; textile auxiliaries with far-reaching possibilities. J. Wakelin. Textile Col 62:159-60 Mr '40

Recent advances in textile finishing agents; synthetic resins and cellulose derivatives. L. Light. bibliog Chem Age (Lond) 42:49-50 Ja 27 '40

Recent developments in textile cleaning and finishing; use of chlorinated hydrocarbons. N. C. Cooper. Textile Col 61:811-13 D '39

Textile agents; recent progress on some of the main items of auxiliary textile plants for finishing. C. J. T. Cronshaw. Textile Col 62:197-200 Mr '40

Textile chemists association discusses new finishing ingredients. Oil Paint & Drug Rep 137:5 F 19 '40

Trend of progress in the cellulosic textile industry. H. A. Thomas. Chem & Ind 58:623-4 Jl 1 '39; Same. Rayon 21:23-4 Ja '40

Turbine-electric textile-range drives. E. L. Richardson. il diags Elec Eng 59:Trans 57-60 Ja '40

Variable speed drives for textile finishing operations. C. H. S. Tupholme. Textile Col 62:334-7 My '40

See also

Bleaching
Cotton finishing
Creasing of textiles
Dyes and dyeing
Mercerizing
Mothproofing preparations
Rayon finishing
Sanforizing
Silk finishing
Sizing (textiles)
Textile oils
Waterproofing of textiles
Woolen and worsted finishing

Testing

Technical evaluation of textile finishing treatments; a comparison of certain methods of measuring stiffness in fabrics. L. J. Winn and E. R. Schwarz. bibliog il Am Dyestuff Rep 29:469-76 S 16 '40

Technical evaluation of textile finishing treatments; flexibility and drape as measurable properties of fabric. L. J. Winn and E. R. Schwarz. il diag Am Dyestuff Rep 28:688-94 N 27 '39; Same. Rayon 20:571-2, 652-3, 710-12 O-D '39

Technical evaluation of textile finishing treatments; use of rank correlation for comparison of data. L. J. Winn and E. R. Schwarz. Am Dyestuff Rep 29:400-4 Ag 5 '40

TEXTILE industry

Consumer movement and the textile industry. F. S. Blanchard. Am Dyestuff Rep 29:322-6 Je 24 '40

News by commodities. Published in Foreign commerce weekly

Next decade in textiles; how to make money make more money. Textile World 90:96-110 F '40

Pacific mills inaugurates informative Factag plan. Rayon 21:270-1 My '40

Progress in textile research from the consumer point of view; accuracy of sales information, fabric performance, fabric construction and dyes. P. B. Mack. bibliog Am Dyestuff Rep 28:696-9 N 27 '39

Speaking of informative labels, here is one that actually tells something; Pacific Mills Factag. F. S. Blanchard. il Ptr Ink 191:15-18 Je 7 '40

Takes prosperity in its stride. D. G. Woolf. Textile World 89:60-1 N '39

Technologist and textile merchandising. S. H. Scheuer. Rayon 21:137+, 204-5 Mr-Ap '40

Textile markets, their structure in relation to price research. 266p $3 Nat. bur. econ. research '39

War and defense, and textiles. Textile World 90:50-1 Je '40

Year end textile review. Rayon 21:48 Ja '40

See also

Bleaching
Carpets
Clothing trade
Cotton
Cotton manufacture
Cotton trade
Drying apparatus—Textiles
Dye industry
Dyes and dyeing
Flax
Hosiery
Knit goods
Knitting
Linen
Mercerizing
Rayon
Rayon industry
Rugs
Sanforizing
Silk trade
Sizing (textiles)
Textile design
Textile fabrics
Textile fibers
Textile finishing
Textile machinery
Textile mills
Textile printing
Textile testing
Weaving
Wool trade
Woolen and worsted fabrics
Woolen and worsted manufacture
Yarn

Advertising

Handicraft's anomaly; McCrossen hand-woven textiles. G. McCrossen. il Ptr Ink Mo 39:48 D '39

Textiles: meet Orphan Annie. J. Card. Textile World 90:52 Je '40

See also

Cotton trade—Advertising
Rayon industry—Advertising

Bibliography

Abstracts. Published in monthly numbers of Journal of the Textile institute

Abstracts from British and foreign journals and patents. Published in monthly numbers of Society of dyers and colourists journal

Foreign publications. Published in monthly numbers of Textile colorist

International review of periodicals. Published in monthly numbers of Rayon textile monthly

Textiles and their products. (Business literature v 12, no 3) 2p Business branch, Newark public library N '39

Securities

Textile and apparel companies, 1937-39. Mag of Wall St Manual p35 Mr 2 '40

Statistics

Economic survey. Textile World 90:93-4 F '40

New peak established in 1939; five main textile fibers compared, 1937-39. Comm & Fin Chr 150:907 F 10 '40

Penetration of rayon in the textile industry still continues; chart. Rayon 21:518a S '40

Production of textiles and products, revision; monthly, 1923-June, 1940. Fed Res Bul 26: 841-6 Ag '40

Textile fibers and manufactures; increased exports from United States in 1939. Comm Rep p134+ F 10 '40

U.S. foreign trade in textile fibers and manufactures, Jan.-March, 1940. E. A. Mann. Comm Rep p447 My 18 '40

United States imports of textile fibers and manufactures increased in first 6 months of 1940. E. A. Mann. Comm Rep p730 Ag 21 '40

TEXTILE industry—*Continued*

Tables, calculations, etc.

Nomograms for various plant and laboratory computations. L. Shapiro. Am Dyestuff Rep 29:14-18, 97-9 Ja 8, F 19 '40

Africa, North

Weaving and dyeing in North Africa. J. Gallotti. Textile Col 62:161-4, 237-9+ Mr-Ap '40

Argentina

Textiles in Argentina. W. G. Ashmore. il Textile World 90:60-1 Ja '40

Brazil

See also
Cotton trade—Brazil

Chile

Textiles; cotton manufacture, knit goods industry, silk, rayon, and wool. Comm Rep p30+ Ja 13 '40

China

China's textile industry. Textile Col 62:558 Ag '40

Great Britain

British textile industry reported improvement in latter part of 1939. Comm Rep p296-7 Mr 30 '40
Encouraging textile profits. Economist 138:390 Mr 2 '40
Higher textile profits. Economist 138:213 F 3 '40
Limitation of textile sales; a war measure. Economist 138:724 Ap 20 '40
Textile boom continues. Economist 138:165 Ja 27 '40
Two textile reports; Whitworth and Mitchell and Wardle and Davenport for the year to June 30, 1940. Economist 139:348 S 14 '40
Wholesale trade in textiles, monthly, 1938 and 1939. Economist 138:217-18 F 3 '40

See also
Cotton trade—Great Britain
Wool trade—Great Britain

Greece

Greek textiles. Textile Col 62:24 Ja '40
Textiles; production and foreign trade of Greece, 1938. Comm Rep p1086+ N 25 '39

Mexico

Textile manufacture; size of various branches of industry in Mexico. Comm Rep p1063 N 18 '39

New England

Labor and the shut-down of the Amoskeag textile mills. D. Creamer and C. W. Coulter. 342p Work projects administration, Washington, D.C. '39; Review. Monthly Labor R 50:1380-4 Je '40

Philippine Islands

Principal sources of Philippine textile imports in 1939. Comm Rep p557-8 Je 22 '40

South Africa

Textiles; possible diversion of South African demand to United States products. Comm Rep p52-3 Ja 20 '40

South America

Opportunities for the sale of dyes and textile chemicals in South America. C. C. Concannon. Textile Col 62:96-7 F '40
Want to sell South America? also notes for job seekers. W. G. Ashmore. il Textile World 90:116-17 F '40

United States

American association of textile technologists holds textile preparedness for national defense symposium. H. R. Mauersberger. Rayon 21:600 O '40
Army has a big job for textiles. Busines Week p30+ O 19 '40
Army textile orders half placed. B. Stubblefield. il Textile World 90:60-1 O '40
Defense and textile demand. B. Stubblefield. il Textile World 90:40-3 Jl '40
Defense purchases accelerated; army textiles and clothing. B. Stubblefield. il Textile World 90:66-7 S '40
Destination of United States textile exports in 1939. E. A. Mann. Comm Rep p574 Je 29 '40
Economic survey. Textile World 90:93-4 F '40
Half-year textile activity high. Textile World 90:49 Ag '40
Major divisions of the textile industry making money; outlook for 1940. P. M. Carlisle. Annalist 55:126-7+ Ja 25 '40
Outlook for textile fibres. Barron's 20:6 N 11 '40
Textile outlook. Textile World 90:49 Ja '40
Textile outlook generally more favorable. P. M. Carlisle. Annalist 56:35-6 Jl 11 '40
Textile preparedness; discussed by army, navy, and air corps experts. il Textile World 90:62-3+ O '40
Textiles boom, but with restraint. Textile World 90:65 O '40
Textiles bust out in big boom. D. G. Woolf. Textile World 90:79-80 F '40
U.S. foreign trade in textile fibers and manufactures, Jan.-March, 1940. E. A. Mann. Comm Rep p447 My 18 '40
United States imports of textile fibers and manufactures increased in first 6 months of 1940. E. A. Mann. Comm Rep p730 Ag 24 '40
U.S. imports of textile fibers and manufactures, 1939. E. A. Mann. Comm Rep p612 Jl 13 '40
United States-Puerto Rico trade reaches important proportions in 1939. Comm Rep p232 Mr 9 '40
War steps up textile tempo. Business Week p24+ N 18 '39
What war would do to textile men? P. Wooton. Textile World 89:40-1 D '39

TEXTILE institute

Officers of the Institute and personnel of committees for 1940-1941. Textile Inst J 31:P75-7 Je '40
Presidential address. H. Jaques. Textile Inst J 31:P55-8 My '40

Library

Institute library. Textile Inst J 31:P52-3 Ap '40

TEXTILE laws and regulations

Wool labeling bill passed. Textile World 90:66 O '40

TEXTILE machinery

Adjusting pulley sizes to give speed suited to material in process. diags Textile World 90:108 O '40
Improvement in stenters; patent. Textile Col 62:691 O '40
Mechanical transmissions; V-belt and variable-speed. il Rayon 21:707-9 N '40
Modern textile finishing machinery; dryers and stenters. K. S. Laurie. il diags Soc Dyers & Col J 56:289-95 Jl '40
Mount Hope finishing co.'s cloth guider and opener. il Textile World 90:88 O '40
Next decade in textiles; how to make money make more money through technological advance. W. W. Chase. il Textile World 90:100-1 F '40
Progress in mechanical lines; materials, machinery and methods. il diags Rayon 21:571-4+ S '40
Recent developments in the use of hydraulic power. H. C. Town. diags Inst Mech Eng J & Proc 143:Proc 139-42 My '40
Textile equipment news. Published in monthly numbers of Textile world
Turbine mechanical-electric drive. il Textile World 90:71 Mr '40
Whitin-Schweiter automatic filling bobbin winder. il Rayon 21:711 N '40

See also
Carding machines
Cloth cutting machines
Cotton machinery
Drying apparatus—Textiles

TEXTILE machinery—See also—*Continued*
Dyeing machines
Electric driving—Textile mills
Hosiery machines
Knitting machines
Looms
Rayon machinery
Sanforizing
Scouring machines
Spinning machinery
Textile printing machines
Textile testing machines
Woolen and worsted machinery

Bearings

Anti-friction bearing protection. il Rayon 21: 245-8 Ap '40
Benefits of anti-friction bearings. il diags Rayon 20:721-4 D '39

Control

Photo-electric and electronic controls in the machinery field; thread break detection and other textile uses. B. W. Steverman. diags Mach 47:142-3 O '40
Photo-electric side register control; web-fed processing machines. H. E. Overacker. il diags Rayon 21:704-6 N '40

Design

Textile processing machinery; some recent improvements under difficulties. G. S. Ranshaw. il diags Chem Age (Lond) 43:139-40, 141 S 28 '40

Lubrication

Lubricants and their relation to textile factories. R. Harris. Textile Col 62:307-10 My '40

Manufacture

Capacitors aid feeders in textile machinery plant; Whitin machine works improves power factor of own generating plant. F. D. Snyder. il Elec W 114:213-14+ Jl 27 '40

TEXTILE machinery industry

Great Britain

Engineering outlook; textile machinery. Engineering 149:243-5 Mr 8 '40

United States

Textile machinery sales at peak. Textile World 90:81-2 F '40

TEXTILE mills

Comble en shed, en béton armé, des ateliers de la Corderie Suisse, à Schaffhouse. il diag Génie Civil 116:299-300 My 4 '40
Du Pont begins nylon yarn manufacture. il Rayon 21.6-8 Ja '40; Same. Chem Ind 46: 30-2 Ja '40; Same cond. Am Dyestuff Rep 28.759 D 25 '39, Same cond. Chem & Met Eng 46:760-1 D '39; Same cond. Mod Plastics 17 32-3+ Ja '40; Same cond Textile Col 62:51-2 Ja '40; Same cond. Textile World 90:52 Ja '40
Next decade in textiles; how to make money make more money through plant location. A. L. Scott. il Textile World 90.104-5 F '40

See also
Cotton mills
Dyehouses
Electric driving—Textile mills
Hosiery mills
Rayon mills
Silk mills
Textile industry
Textile machinery
Textile workers
Water supply for textile mills
Woolen and worsted mills

Accounting

Case study of a standard cost system; designed primarily for full process textile plant. W. E. Perry. N A C A Bul 22:1-25 S 1 '40

Air conditioning

Air-conditioning advantageous in woolen and worsted mills. A. C. McKittrick. il Textile World 89:46-8 D '39
Air conditioning in rayon plants and textile mills. il Rayon 21:242-4, 639-40 Ap, O '40
Flooded-type roofs; reduce cooling load and lower construction and maintenance costs. S. H. Coleman. Textile World 90:106 O '40
Improved unit heater sections; control of heated and cooled air. il diags Rayon 21:53 Ja '40

Electric equipment

Care and upkeep of motors in textile mills; abstract. C. K. Bryant. Textile World 90:64 Ap '40
Electrical developments of 1939. G. Bartlett. il Gen Elec R 43:20, 30-1 Ja '40
Motor failures minimized by proper maintenance; abstract. H. J. Seibert. Textile World 90:64 Ap '40
Motor maintenance. B. L. Cathey. il Textile World 90:64+ Ja '40
Use of hand-motor tools in the textile industry. H. E. Wenrich. il diags Rayon 21:489-91, 576-8, 651-2 Ag-O '40

Employees

See Textile workers

Equipment

Alphabetical list of new products developed since Sept. 1939. il Am Dyestuff Rep 29: 526-9 O 14 '40
Annual equipment check-up number; modernization for profit. Textile World 89:85-116 N '39
Fabricated stainless steel in the rayon and textile industries; with special reference to the Shotweld process. H. B. Vollrath. il Rayon 20:713-15 D '39
Instrumentation of power plant and mill. il diags Rayon 21:49-52 Ja '40
Lining-up shafting; simple devices made in mill shop aid accurate alignment of bearings. C. L. Hubbard. diags Textile World 90:66-7 Mr '40
Modern belt transmissions; flat and V-section. il diag Rayon 21:173-6 Mr '40
Modern methods of handling hydrogen peroxide; stainless steel tanks. R. L. Ericsson. il Am Dyestuff Rep 29:343-5 Jl 8 '40
Non-corrosive metals. R. Trautschold. il Rayon 21:185-7 Ag '40
Non-corrosive, non-metallic materials; brick and cements. il Rayon 21:373-4 Je '40
Non-corrosive, non-metallic materials; ceramics, rubbers, synthetics. il Rayon 21: 317-20 My '40
Progress in mechanical lines; materials, machinery and methods. il diags Rayon 21: 571-4+, 643-7 S-O '40
Pump governors. J. O. G. Gibbons. diags Textile World 90:96 Je '40
Textile equipment news. Published in monthly numbers of Textile world
Uses of natural and synthetic rubbers in the wet processing of textiles; vat and pipe linings, ebonite fittings, valves, rollers, transmission belting, etc. R. A. Hodgson. Soc Dyers & Col J 56:377-83; Discussion. 383-4 S '40

See also
Drying apparatus—Textiles
Textile machinery

Fires and fire protection

See also Cotton mills—Fires and fire protection

Heating and ventilation

Control essential to efficient textile mill heating. H. F. Perkins. Heating-Piping 12:89 F '40

See also
Silk mills—Heating and ventilation

Lighting

Combining natural and electric lighting. J. F. Springer. il Rayon 21:113-14, 178-9, 314-15 F-Mr, My '40
Lamp performance improved; proper protection from vibration. J. D. Hall. il diags Textile World 90:79 O '40
Lighting units serve ceiling-to-floor space; Earnshaw knitting company. il Elec W 112: 1888 D 30 '39
Printing machine illumination; Pacific mills print works. Textile World 89:97 N '39

Management

Instructions, not rules. R. Burrell. Textile World 90:85-6 Ag '40

TEXTILE mills—Management—*Continued*
Management engineering in the textile industry. H. Miedendorp, jr. Rayon 21:521-2 S '40
Next decade in textiles; how to make money make more money through industrial relations. Textile World 90:110 F '40
Not so dumb; story of mill management. J. E. Bullard. il Textile World 90:93-4 Ap '40
Overseers' corner. Published in monthly numbers of Textile world

See also
Cotton mills—Management

Power

Electrification of New Pralhad mills, Bombay. il Engineer 170:23-4 Jl 12 '40; Engineering 150:67-8 Jl 26 '40
Engineering; developments in 1939. Textile World 90:91-2 F '40
Good engineering cures over-load; Cranston print works co. Textile World 89:104-5 N '39
Power supply at the Manning-Ham mills of Messrs Lister and company, limited. il plan Engineering 149:329-30, 334, pl 18 Mr 29 '40
Turbine-electric textile-range drives. E. L. Richardson. il diags Elec Eng 59:Trans 57-60 Ja '40

See also
Cotton mills—Power
Electric driving—Textile mills
Rayon mills—Power

Records

Loom inspection system. E. B. Hofford. Textile World 90:103 My '40
Quarterly clearance records; help mills find losses, verify accuracy of fabric formulas, check inventories. B. Heller. il Textile World 90:63 Mr '40

Safety devices and measures

Red Snell's personalized posters have reduced accident frequency and cloth seconds 50% in Georgia mill. il Textile World 90: 121-2 S '40

Waste

Laboratory studies of textile mill wastes treatment. Pub Works 71:14 S '40
Observations on textile waste treatment; Greensboro, N.C. plant. C. W. Mengel. il plan Civil Eng 10:267-9 My '40
Treatment of liquid wastes from the textile industry. C. R. Hoover. bibliog il diags Ind & Eng Chem 31:1352-8 N '39
Treatment of textile wastes. H. B. Gotaas. bibliog Mech Eng 62:805-8 N '40

TEXTILE oils
Evaluating wool oils. G. A. Thomas. diags Textile World 90:70-1 Je '40
Lecithin from soy bean; its uses in industry, especially in the textile industry. E. W. K. Schwarz. bibliog Am Dyestuff Rep 29: 220, 234-6 Ap 29 '40; Same. Rayon 21:295-6 My '40
Specification for a textile oil. W. Garner. bibliog diag Soc Dyers & Col J 56:333-43 Ag '40
Sulfated ester of fatty acid; Onyx oil & chemical co. presents Phi-Φ-Sol. Textile Col 62:458-61, 531-4+ Jl-Ag '40
White mineral oils as fiber lubricants. Rayon 21:415+ Jl '40

See also
Sulfonated oils
Wool oiling

Testing

Alkaline ageing test for textile oils. Am Dyestuff Rep 29:416 Ag 19 '40

TEXTILE patents
Abstracts from British and foreign journals and patents. Published in monthly numbers of Society of dyers and colourists journal
American and foreign new inventions; patent reports. Published in monthly numbers of Rayon textile monthly
Crimped wool-like fiber patented; made of nylon. Textile Col 62:299 My '40
Development of crease-resistance; Tootal and other patents. Textile Col 62:87-90+ F '40
Patents for yarns and films issued to Celanese corp. of America. Ind & Eng Chem News ed 18:672 Ag 10 '40
Textile patents and trade marks. H. Price. Am Dyestuff Rep 28:731-4 D 11 '39
United States patents. Published in monthly numbers of Textile colorist

See also
Dye patents
Rayon—Patents

TEXTILE printing
Chrome fast yellow GD and chrome fast yellow 5GD for printing. Textile Col 62:125-7 F '40
Chrome mordant for printing pastes. A. J. Hall. Textile Col 62:184 Mr '40
Dyeing and printing coir; stencil printing of coir mats. A. E. Cabell. il diag Textile Col 62:591-5+ S '40
Glycerine in dye preparations and processes. G. Leffingwell and M. A. Lesser. bibliog Textile Col 62:743-4+ N '40
Metallic mordants; a review of their use in textile printing. Textile Col 60:807-9; 61:86-8+, 236-8, 389-91, 529-30+, 601-4; 62:128-31, 403-6 D '38, F, Ap, Je, Ag-S '39, F, Je '40
Methods used in skein printing. diags Rayon 21:171-2 Mr '40
New idea in printing; Stentite process for vat dyes. il Textile World 89:67 D '39
Observations on screen printing. Textile Col 61:739-42+, 835-7; 62:46-8, 120-1, 267-70, 322+ N '39-F, Ap-My '40
Present importance of fast browns in dyeing and printing. R. Sansone. il Textile Col 62:448-51+, 522-4 Jl-Ag '40
Printing imitation fur effects on plush. L. Ferre. Textile Col 62:771-4 N '40
Printing pigment colors with resin bases; abstract. E. A. Sack. Am Dyestuff Rep 29: 505 S 30 '40
Recent applications of glycerine in textiles. G. Leffingwell and M. A. Lesser. bibliog Rayon 21:553-4 S '40
Rigidity of starch pastes used in sizing and printing. diag Textile Col 62:332-3 My '40
Salmon shades and their importance in dyeing and printing. R. Sansone. il Textile Col 62:300-3+ My '40
Textile starches. W. L. Morgan. diag Am Dyestuff Rep 29:494-6 S 30 '40

See also
Calico printing
Chintz
Dyes and dyeing
Rayon printing
Textile fabrics
Woolen and worsted printing

TEXTILE printing machines
High-speed printing; new machine at Cranston print works. il diag Textile World 90:58-9 Ag '40
High-speed printing; new process developed at Clearwater. il diag Textile World 90: 122-3 F '40
Printing machine illumination; Pacific mills print works. Textile World 89:97 N '39
Scratched printing rollers. M. Mackay. Textile World 89:139-40 N '39

TEXTILE research
Achievements in textiles; commonplace fabrics with superior characteristics given by special treatments. P. H. Smith. il Sci Am 163:60-2 Ag '40
Engineering aspects of textile technology. E. R. Schwarz. il Mech Eng 62:361-4 My '40
Next decade in textiles; how to make money make more money through research. F. E. Callaway, jr. il Textile World 90:98-9 F '40
Progress in three years of textile drying research. A. C. Walker. Rayon 21:561-3 S '40
Research activities for 1939-1940. B. A. Ryberg. Am Dyestuff Rep 29:552-3 O 14 '40
Recent developments in textile cleaning and finishing; use of chlorinated hydrocarbons. N. C. Cooper. Textile Col 61:811-13 D '39
Scientific approach to textile problems. A. C. Walker. Am Dyestuff Rep 29:217-20 Ap 29 '40; Same. Rayon 21:345-6, 407-8 Je-Jl '40

See also
Cotton research
Dye research
Nylon
Rayon research
Wool research

TEXTILE schools
Textile schools graduate nearly 300 potential executives this year. Textile World 90:66 Jl '40
West Point mfg. co. night school. H. L. Pratt. il Textile World 89:68 D '39

TEXTILE shearing machines
Setting the shear. D. Welsh. Textile World 90:108 O '40

TEXTILE sizing. See Sizing (textiles)

TEXTILE standards
American society for testing materials committee D-13 meets in Charlotte. Textile World 90:59 Ap '40
A.S.T.M. standards on textile materials. 368p pa $2 Am. soc. for testing materials, 260 S. Broad st, Philadelphia '40 [issued annually]
Gets Goodrich award; Alfred E. Colby honored for lead in standards, through Pacific Factag. Textile World 90:68 O '40
Standardisation in textiles. Textile Inst J 31: S1-12 Ja '40
Standards for the textile industry. W. H. Whitcombe. Can Chem & Process Ind 24: 376+ Jl '40
Tentative textile standard no. 1, 1939; standard method for measurement of resistance to shrinkage of wool fabrics. il diags Textile Inst J 30:S22-8 O '39; Same. Soc Dyers & Col J 56:225-7 My '40

TEXTILE technology

Examinations

Examination in general textile technology. Textile Inst J 31:P94-7 S '40

TEXTILE terms

See also
Rayon fabrics—Terminology

TEXTILE testing
Electrical conductance measurements of water extracts of textiles. A. C. Walker. diag Am Soc T M Proc 39:1233-9; Discussion. il 1240-1 '39
Progress in textile testing. C. J. Huber. bibliog il diag Rayon 21:568-70 S '40
Scientific approach to textile problems. A. C. Walker. Am Dyestuff Rep 29:217-18 Ap 29 '40; Same. Rayon 21:345-6 Je '40
Textile testing; physical, chemical and microscopical. J. H. Skinkle. 267p $3 Chemical pub. co. '40

See also
Textile fabrics—Testing
Textile fibers—Testing
Textile testing machines
Yarn—Testing

TEXTILE testing machines
Abrasion apparatus for textile wear testing. diag Textile Col 62:111-12 F '40
Fabric-porosity testing apparatus. il Engineering 148:634 D 8 '39
Surface friction of yarns; instrument for determination of coefficient of kinetic friction. L. W. Davis. diags Rayon 21:93-4, 155-8, 229-30 F-Ap '40
Taber cloth tester. il Sci Am 163:200 O '40

TEXTILE workers
Credit union a constructive force; textile cases. Textile World 90:53 Ag '40
Florida vacation for $4; Avondale mills offers its people eight-day trips to Camp Helen. J. C. Norman. il Textile World 90:123 S '40
Hourly earnings in dyeing and finishing of cotton, rayon, and silk. Monthly Labor R 50:183-94 Ja '40
Labor and the shut-down of the Amoskeag textile mills. D. Creamer and C. W. Coulter. 342p Work projects administration, Washington, D.C. '39
Labor developments in the Peruvian textile industry, 1940. J. Greenup. Monthly Labor R 51:312-13 Ag '40
Minimum wage for Chilean textile industry, 1940. Monthly Labor R 51:162 Jl '40
Teach textile facts; Dyers' union heads off demand for wage rise, concentrates on analyzing industry's ills. Business Week p29 My 4 '40
Textile wages rise. Business Week p40-1 N 18 '39
Vacation policies in the textile industry. Management R 28:447-8 D '39
What's ahead for the mill village? D. G. Woolf. Textile World 90:114-15 F '40

See also
Cotton mills—Employees
Cotton workers
Hosiery mills—Employees
Knitting mills—Employees
Silk mills—Employees
United textile workers of America
Woolen and worsted mills—Employees

TEXTOLITE
Holding all phonograph records. A. Hayward. il Mod Plastics 17:34, 68+ D '39
New material for speed cams; combination of molding and laminating phenolic. G. O. Small. il Mod Plastics 17:30-1, 76+ D '39

TEXTONE
Bleaching cotton and rayon with chlorite. G. P. Vincent. Textile Col 62:736+ N '40
Textone. G. P. Vincent. Am Dyestuff Rep 29: 269-71 My 27 '40
Textone production to be expanded. Ind & Eng Chem News ed 18:96 F 10 '40
Treatment of spun rayons with textone. G. P. Vincent, A. L. Dubeau and J. W. Ivey. Am Dyestuff Rep 29:296-9 Je 10 '40

THAILAND. See Siam (Thailand)

THALLIUM
Irreversible electrode phenomena of thallium; hydrogen overvoltage in sulfuric acid. I. M. LeBaron and A. R. Choppin. diag Electrochem Soc Trans 77 (preprint 11):137-45 Ap '40
Radioactivity produced by bombarding thallium. K. Fajans and A. F. Voigt. Phys R 58:177 Jl 15 '40

Analysis

Estimation of traces of lead and thallium in pharmaceutical chemicals: a simple dithizone limit test. K. Bambach. bibliog Ind & Eng Chem Anal ed 12:63-6 F 15 '40

THALLIUM aluminum sulfate
Crystal-chemical studies of the alums; further solid solution studies. H. P. Klug and L. Alexander. bibliog Am Chem Soc J 62:2993-5 N '40

THALLIUM compounds
Method for estimating the internal surface of cellulose by means of thallous ethylate. C. A. Harris and C. B. Purves. bibliog il diags Paper Tr J 110:29-33 F 8 '40
Phenylthallium. H. Gilman and R. G. Jones. Am Chem Soc J 62:2357-61 S '40

THALLIUM iodate
Activity coefficient of thallous iodate in solutions of alkane-α,ω-disulfonates. G. C. H. Stone. bibliog Am Chem Soc J 62: 572-5 Mr '40

THALLIUM sulfides
Thallous sulphide photo-e.m.f. cell. F. C. Nix and A. W. Treptow. bibliog diag Opt Soc Am J 29:457-62 N '39

THANKSGIVING day
Did Nov. 23 pay? Business Week p30+ Ja 13 '40
Thanksgiving score; 31 states for Nov. 21. Business Week p47-8 O 26 '40
Two Thanksgivings breed grief. Business Week p18+ N 18 '39

THAWING
Resistance of concrete to freezing and thawing. W. H. Wood. Concrete 48:8 My '40

THAWING, Electric
Electrical pipe thawing. diag Dom Eng 155: 58 Mr '40
Induction heating applied to Coulee drum gates; de-iceing system. R. D. Goodrich, jr. il diags Elec West 85:46-8 O '40
Requirements for pipe-thawing by the electrical method. P. C. Ziemke. Coal Age 45:72 S '40
Tomorrow it may freeze; welding generator for frozen pipe. il diags Dom Eng 154:38-9 D '39

THAWING, Electric—*Continued*
Winter operating problems. A. K. Grimmer. diags Can Eng 77:2-3, 8 S 26 '39; Same. N E Water Works Assn J 54:60-4 Mr '40

THEATER

Great Britain

Stoll theatres corporation, 11th ordinary general meeting, London. Economist 137:528 D 30 '39

See also Moving picture industry—Great Britain

THEATER libraries and collections
Theatre collection, Harvard college. L. A. Hall. Special Lib 31:81-3 Mr '40

THEATER seats
New push-back seats used in Lex theatre (Chicago) remodeling. il Am Bld 62:55 S '40

THEATERS
Sound in the theater; abstract. H. Burris-Meyer. Electronics 13:99 Ap '40

See also
Auditoriums
Moving picture theaters
Radio broadcasting studios

Air conditioning

Air conditioning in theatres. C. B. Albright. diags Refrig Eng 40:1-6 sec 2 Ag '40
Air-cooled condenser among novelties in theatre job. D. H. Wyatt. il diags plans Refrig Eng 39:294-5 My '40

Designs and plans

Theater and art center, University of Wisconsin; views, plans, construction outline. Arch Forum 73:49-54 Jl '40
Wilmington drama league theater; with construction outline. il diag plan Arch Forum 73:164-5 S '40

Heating and ventilation

Theater steam system operation improved by utilization engineering. D. W. Blair. diag Heat & Ven 37:59-60 F '40

Lighting

Brighton's new theatre. il Elec R (Lond) 126:587 My 31 '40
Lakewood theater, Dallas, Texas. il Illum Eng 35:16-17 Ja '40

Stage setting and scenery

Staging of Elizabethan plays at the Red Bull theater, 1605-1625. G. F. Reynolds. 203p $2 Modern language assn. of America, New York '40
World we make; play depends upon translucent and transparent plastics for some of its scenic effects. W. S. Ross. il Mod Plastics 17:40 Ja '40

See also
Moving pictures—Setting and scenery

THEFT

See also
Insurance, Burglary
Ores—Theft

THERAPEUTICS
Modern medical therapy in general practice. D. P. Barr, ed. 3v $35 Williams & Wilkins '40

See also
Chemotherapy
Electrotherapeutics
Fever, Therapeutic use
Medicine
Salt—Therapeutic use
X rays—Therapeutic use

THERAPEUTICS, Physiological
Elements of physical therapy. W. W. Worster. 4th ed rev & enl 295p $3.50 College pub. co, San Gabriel, Calif. '40
Natural way to health. V. H. Lindlahr. 255p $2 National nutrition soc, 1819 Broadway, New York '39
Physical therapy for nurses. R. Kovács. 2d ed rev 335p $3.25 Lea & Febiger, Philadelphia '40

THERMAL springs. See Hot springs

THERMAL waters. See Hot springs

THERMIONIC emission. See Electrons—Thermionic emission

THERMIONIC valves. See Vacuum tubes

THERMIT welding. See Welding—Thermit process

THERMOCHEMISTRY
Heat of photobromination of the phenyl methanes and cinnamic acid, and the influence of oxygen. J. L. Magee and F. Daniels. bibliog Am Chem Soc J 62:2825-33 O '40
Heats of formation of gaseous hydrocarbons. F. D. Rossini. Chem R 27:1-16 bibliog(p15-16) Ag '40
Heats of organic reactions; new calorimeter and the denaturation of methemoglobin by alkali. J. B. Conn, G. B. Kistiakowsky and R. M. Roberts. diag Am Chem Soc J 62:1895-1905 Ag '40
Heats of solution, heats of formation, specific heats and equilibrium diagrams of certain molecular compounds. A. N. Campbell and A. J. R. Campbell. Am Chem Soc J 62:291-7 F '40
Méthode d'étude thermique des réactions à température élevée et sous haute pression. A. Léopold. Chimie & Ind 43:795-807 My 20 '40
Relation between the coefficient of thermal expansion and structure of solutions. R. Wright. Chem Soc J p870-3 Jl '40
Sichtbarmachen von temperaturfeldern durch temperaturabhängige farbanstriche. F. Penzig. il diags V D I 83:69-74, pl 1-2 Ja 21 '39; Same (Sensitive paints). Automobile Eng 30:47-9 F '40
Thermodynamic properties of sulfuric-acid solutions and their relation to the electromotive force and heat of reaction of the lead storage battery. D. N. Craig and G. W. Vinal. bibliog J Research Nat Bur Stand 24:475-90 Ap '40
Zur thermochemie der legierungen. F. Weibke. bibliog diags Angew Chemie 53: 74-80 F 17 '40

See also
Adsorption, Heat of
Boiling points
Combustion
Combustion, Heat of
Critical solution temperature
Dilution, Heat of
Dissociation
Distillation
Entropy
Evaporation
Freezing points
Fusion, Heat of
Ionization, Heat of
Melting points
Neutralization, Heat of
Solution, Heat of
Specific heat
Thermodynamics
Vapor pressure
Vaporization, Heat of

THERMOCOUPLES
Construction of very sensitive vacuum thermoelectric cells. F. T. Rogers, jr. diag R Sci Instr 11:281-2 S '40
Continuous measurement of piston temperatures; abstracts. A. F. Underwood and A. A. Catlin. diags Automotive Ind 82:572-4 Je 15 '40; Nat Pet N 32:R250, R252 Jl 10 '40
Converter for low frequency sinusoidal voltages and a source of sinusoidal radiation intensity. L. Harris and A. C. Scholp. diags R Sci Instr 11:23-5 Ja '40
Direct method of calibration of a copper-constantan thermel for measurement of temperature differences at a series of temperatures. J. S. Burlew and R. P. Smith. bibliog Am Chem Soc J 62:701-4 Ap '40
Gas temperature measurement and the high velocity thermocouple; abstract. H. F. Mullikin. diag Glass Ind 20:441 D '39
Illium thermocouple protection tubes. il Metals & Alloys 11:MA244 My '40
Method for assembling thermocouples. H. M. Trimble. Ind & Eng Chem Anal ed 12:52 Ja 15 '40
Overcoming thermocouple errors in high-temperature induction furnaces. F. Day, jr. and H. W. Safford. Ind & Eng Chem 32:445-6 Mr '40
Piston and jacket temperature measurement; symposium by S.A.E. diags Power Pl Eng 44:90-2 My '40
Pyrometry of liquid steels and pig irons. G. R. Fitterer. il Instruments 13:157-60 Je '40

THERMOCOUPLES—*Continued*
Radiation-type thermocouple for accurate furnace control. Blast F & Steel Pl 28:274 Mr '40
Self-energized controls. W. E. Stark. diags Am Gas Assn Proc 1939:343-5
Stability of base-metal thermocouples in air from 800° to 2,200° F; chromel-alumel and iron-constantan. A. I. Dahl. J Research Nat Bur Stand 24:205-24 F '40
Temperature measurements of liquid steel. S. Fornander and T. Omberg. Iron Age 145: 39 Je 27 '40
Temperature of liquid steel. Engineering 148: 433-4 O 20 '39; Abstract. Mech Eng 62:28 Ja '40
Theory and application of extended surface thermocouples. H. Emmons. diags Franklin Inst J 229:29-52 Ja '40
Thermocouples take turbine temperatures; measurement of steam flow by the temperature-drop method. B. O. Buckland and S. S. Stack. diag Elec W 113:567 F 24 '40
Thermo-electric couples. L. P. Dudley. diag Elec R (Lond) 127:243-4 S 20 '40
Thermoelectric pyrometry. M. F. Behar. il diags Instruments 13:316-20 O '40
Thermoelemente zur messung von gastemperaturen in verbrennungsmotoren. H. H. Berg. diags V D I 83:1259-60 D 2 '39
Use of thermocouple and fluxmeter for measurement of average power of irregular waves. H. K. Dunn. diags R Sci Instr 10: 362-7 D '39
Vacuum thermocouple. G. E. Moore and H. W. Webb. diags R Sci Instr 11:101-2 Mr '40

Testing

Accuracy tests of the high velocity thermocouple; abstract. H. F. Mullikin and W. J. Osborn. Glass Ind 20:441-2 D '39

THERMODYNAMICS
Analytical calculations of thermodynamic properties. H. M. Robinson and H. Bliss. bibliog Ind & Eng Chem 32:396-8 Mr '40
Assemble thermodynamic data to stimulate new activity; A.C.S. Petroleum division symposium. Nat Pet N 32:R130+ Ap 17 '40
Brønsted's criticism of classical thermodynamics F. H. MacDougall. J Phys Chem 44:713-15 Je '40
Calculation of chemical equilibrium at high pressures. R. H. Ewell. bibliog Ind & Eng Chem 32:147-53 F '40
Calculation of equilibria in dilute water solutions. D. S. McKinney. bibliog Am Soc T M Proc 39:1191-1203, Discussion, 1218-20 '39
Chemical equilibria, free energies, and heat contents for gaseous hydrocarbons. K. S. Pitzer. Chem R 27:39-57 bibliog(41 references, p56-7) Ag '40
Derivation of the equilibrium conditions in physical chemistry on the basis of the work principle. J. N. Brønsted. bibliog J Phys Chem 44:699-712 Je '40
Effect of pressure on the enthalpy of benzene. E. R. Gilliland and R. V. Lukes. bibliog flow sheet il diags Ind & Eng Chem 32: 957-62 Jl '40
Fluctuations, thermodynamic equilibrium and entropy. E. C. Kemble. bibliog Phys R 56:1013-23 N 15 '39
General equation of state; equations for ammonia and steam. J. L. Finck. Franklin Inst J 229:201-21 F '40
Heat and free energy of formation of deuterium oxide. F. D. Rossini, J. W. Knowlton and H. L. Johnston. bibliog diags J Research Nat Bur Stand 24:369-88 Ap '40
Heat capacity and entropy, heats of fusion and vaporization and the vapor pressure of *n*-pentane. G. H. Messerly and R. M. Kennedy. bibliog Am Chem Soc J 62:2988-91 N '40
Heat capacity of nickel oxide from 68-298°K. and the thermodynamic properties of the oxide. H. Seltz, B. J. DeWitt and H. J. McDonald. bibliog Am Chem Soc J 62:88-9 Ja '40
Heats of dilution of aqueous solutions of glycine and glycolamide, and other thermodynamic properties of glycine at 25°. F. T. Gucker, jr, H. B. Pickard and W. L. Ford. bibliog Am Chem Soc J 62:2698-704 O '40
I-log P diagram for ammonia solutions. M. Blackstrom. chart Refrig Eng 39:306 My '40
Isomerization equilibrium of *n*-butane and *i*-butane and the third law of thermodynamics. G. H. Messerly, J. G. Aston and R. M. Kennedy. Am Chem Soc J 62:1630-1 Je '40
Isothermal changes in enthalpy for some gases. R. York, jr. and H. C. Weber. bibliog Ind & Eng Chem 32:388-92 Mr '40
Law of corresponding states as applied in refrigeration. J. S. Doolittle. bibliog Refrig Eng 40:165-7 S '40
Phase equilibria in hydrocarbon systems; Joule-Thomson coefficients for gaseous mixtures of methane and *n*-butane. R. A. Budenholzer, B. H. Sage and W. N. Lacey. bibliog Ind & Eng Chem 32:384-7 Mr '40
Phase equilibria in hydrocarbon systems; methane-*n*-butane system in the gaseous and liquid regions. B. H. Sage, R. A. Budenholzer and W. N. Lacey. bibliog Ind & Eng Chem 32:1262-77 S '40
Phase equilibria in hydrocarbon systems; the methane-ethane system in the gaseous region. B. H. Sage and W. N. Lacey. bibliog Ind & Eng Chem 31:1497-1509 D '39
Present status of the statistical method of calculating thermodynamic functions. E. B. Wilson, jr. Chem R 27:17-38 bibliog(182 references, p34-8) Ag '40
Quantum-mechanical basis of statistical mechanics. E. C. Kemble. Phys R 56:1146-64 D 1 '39
Quasi-reversible conduction and galvanic cells with liquid-liquid junctions. F. O. Koenig. bibliog J Phys Chem 44:101-35 Ja '40
Second ionization constant and related thermodynamic quantities for malonic acid from 0° to 60° C. W. J. Hamer, J. O. Burton and S. F. Acree. bibliog J Research Nat Bur Stand 24:269-92 Mr '40
Second law of thermodynamics and irreversible processes. P. W. Bridgman. Phys R 58:845 N 1 '40
Simple proof of the thermodynamic stability of materials taken up by solutions containing solubilizers such as soap. J. W. McBain and J. J. O'Connor. diags Am Chem Soc J 62:2855-9 O '40
Some free-energy data for typical hydrocarbons containing six or more carbon atoms. G. S. Parks. bibliog Chem R 27: 75-83 Ag '40
Some observations on the thermodynamics of hydrocarbons and related compounds. J. G. Aston. il Chem R 27:59-73 bibliog(p72-3) Ag '40
Statistical thermodynamics. R. H. Fowler and E. A. Guggenheim. 693p $9.50 Macmillan '39
Theory of galvanic cells subject to fields of force; the gravitational field. F. O. Koenig and S. G. Grinnell. bibliog J Phys Chem 44:463-82 Ap '40
Thermodynamic properties from *P-V-T* data. R. York, jr. Ind & Eng Chem 32:54-6 Ja '40
Thermodynamic properties of fluorochloromethanes and -ethanes; orthobaric densities and critical constants of three fluorochloromethanes and trifluorotrichloroethane. A. F. Benning and R. C. McHarness. bibliog il Ind & Eng Chem 32:814-16 Je '40
Thermodynamic properties of fluorochloromethanes and -ethanes; *P-V-T* relations of three fluorochloromethanes and trifluorotrichloroethane. A. F. Benning and R. C. McHarness. bibliog diag Ind & Eng Chem 32:698-701 My '40
Thermodynamic properties of fluorochloromethanes and -ethanes; vapor pressure of three fluorochloromethanes and trifluorotrichloroethane. A. F. Benning and R. C. McHarness. bibliog Ind & Eng Chem 32:497-9 Ap '40
Thermodynamic properties of paraffins and olefins. R. H. Ewell. bibliog Ind & Eng Chem 32:778-83 Je '40

THERMODYNAMICS—*Continued*

Thermodynamic properties of substances; vapor volumes as functions of reduced temperature alone. H. A. Fales and C. S. Shapiro. Am Chem Soc J 62:393-406 bibliog (p404) F '40

Thermodynamic properties of sulfuric-acid solutions and their relation to the electromotive force and heat of reaction of the lead storage battery. D. N. Craig and G. W. Vinal. bibliog J Research Nat Bur Stand 24:475-90 Ap '40

Thermodynamic properties of the hexyl alcohols; 2,2-dimethylbutanol-1 and 2-ethylbutanol-1. F. Hovorka, H. P. Lankelma and W. R. Smith. Am Chem Soc J 62:2372-4 S '40

Thermodynamic properties of the hexyl alcohols; 3-methylpentanol-1 and 2-methylpentanol-5. F. Hovorka, H. P. Lankelma and I. Schneider. bibliog Am Chem Soc J 62:1096-8 My '40

Thermodynamic properties of the hexyl alcohols; 2-methylpentanol-3 and 3-methylpentanol-3. F. Hovorka, H. P. Lankelma and A. E. Axelrod. bibliog Am Chem Soc J 62: 187-9 Ja '40

Thermodynamics and the lowest temperatures; abstracts. C. G. Darwin. Engineering 149:465-6 My 3 '40; Elec R (Lond) 126:501-2 My 3 '40; Electrician 124:336 My 3 '40

Thermodynamics of concentrated aqueous solutions of sodium hydroxide. G. Åkerlöf and G. Kegeles. diag Am Chem Soc J 62: 620-40 Mr '40

Thermodynamics of *n*-heptane and 2,2,4-trimethylpentane, including heat capacities, heats of fusion and vaporization and entropies. K. S. Pitzer. bibliog Am Chem Soc J 62:1224-7 My '40

Thermodynamics of irreversible processes; fluid mixtures. C. Eckart. Phys R 58:269-75 Ag 1 '40; Correction. 58:924 N 15 '40

Thermodynamics of irreversible processes; the simple fluid. C. Eckart. Phys R 58:267-9 Ag 1 '40

Thermodynamics of the silver bromide, mercurous bromide cell. T. W. Dakin and D. T. Ewing. bibliog Am Chem Soc J 62: 2280-4 S '40

Vulcanization from a thermodynamic viewpoint. I. Williams. bibliog Ind & Eng Chem 31:1464-8 D '39

See also

Entropy
Equation of state
Evaporation
Free energy
Gas and oil engines —Combustion research
Gas flow
Heat
Joule-Thomson effect
Refrigeration and refrigerating machinery
Specific heat
Steam
Vapor pressure

Terminology

Proposed terms exergonic and endergonic for thermodynamics. C. D. Coryell. Science 92: 380 O 25 '40

THERMOELECTRICITY

Proposed thermoelectric origin of the earth's magnetism. D. R. Inglis and E. Teller. Phys R 57:1154-5 Je 15 '40

Thermoelectric pyrometry. M. F. Behar. il diags Instruments 13:296, 298, 300-20 O '40

Thermoelectric thermometry. W. F. Roeser. bibliog diags J Ap Phys 11:388-407 Je '40

See also

Thermocouples

THERMOLUMINESCENCE. See Luminescence

THERMOMAGNETISM

Galvano- and thermomagnetic phenomena in iron and nickel. E. H. Butler, jr. and E. M. Pugh. diags Phys R 57:916-21 My 15 '40

THERMOMETERS and thermometry

Classifications of temperature instruments can serve as practical tools. M. F. Behar. Instruments 13:237-9 S '40

Do you run your refrigerating plant by ear? installing thermometers will make improvement. A. G. Solomon. il diag Power 84: 465-6 Jl '40

Industrial thermometry. M. F. Behar. il diags Instruments 13:243-50, 252, 254-67 S '40

Messfehler bei thermometereinbauten. A. Closterhalfen. diag V D I 83:1316 D 30 '39

Method and instrument for the measurement of very small amounts of heat and very small changes of temperature. S. Zamenhof. diags R Sci Instr 11:123-5 Ap '40

New definition for temperature scales. W. Davis. Science 92:sup5 Jl 12 '40

Radiation and psychrometry; abstract. D. Dropkin. Mech Eng 62:145-6 F '40

Sugar boiling by instrument control. W. E. Smith. diag Instruments 13:220-1 Ag '40

Supplementary report of activities of the A.S.R.E. physics committee; measuring humidities at low temperatures. Refrig Eng 39:241 Ap '40

Temperature scale, a proposed change in definition. F. G. Brickwedde. J Ap Phys 11:371-2 Je '40

Thermoelectric thermometry. W. F. Roeser. bibliog diags J Ap Phys 11:388-407 Je '40

Thermometer for low temperatures. A. Farkas and L. Farkas. diag Ind & Eng Chem Anal ed 12:296 My 15 '40

Thermometry in hygrometric measurements. A. W. Ewell. bibliog Refrig Eng 40:27-9 Jl '40

See also

Calorimeters and calorimetry
Pyrometers and pyrometry
Temperature—Measurement

History

Unshakable foundations of temperature measurement; historical outline. M. F. Behar. diags Instruments 13:230-6+ S '40

THERMOPILES

Easily constructed, rugged, sensitive thermopile. H. F. Launer. il diag R Sci Instr 11:98-101 Mr '40

Thermoelectric absorptiometer for analytical work. H. H. Willard and G. H. Ayres. bibliog il diag Ind & Eng Chem Anal ed 12: 287-91 My 15 '40

See also

Thermocouples

THERMOREGULATOR. See Temperature regulators; Thermostats

THERMOSTATS

Automatic heating controls. C. O. Radden. Heat & Ven 37:50-1 Ap '40

Bimetal mount aids contact maintenance. C. C. Whitaker. il Elec W 113:1918 Je 15 '40

Commercial refrigeration control systems; Polartron system. A. L. Hesselschwerdt and A. B. Newton. diags Refrig Eng 38: 357-61+ D '39

Klixon motor protection thermostat. il Refrig Eng 38:367-8 D '39

New starting device for fluorescents. Elec W 112:1630+ D 2 '39

No hot spots, no cold spots, no drafts. J. J. Cracraft. il Bus Transportation 19:6 Ja '40

Novel power element design for thermostat. C. F. Robbins. diags Elec W 113:922 Mr 23 '40

Oven thermostats. diag Gas J (Lond) 231: 249-50 Ag 7 '40

Penn introduces another domestic thermostat. il Gas Age 86:46 Ag 1 '40

Phot-bath temperature control; utilization data sheet. H. Van Wyk. il Elec West 85:37 Jl '40

Reaction velocities at low temperatures; a convenient low-temperature thermostat: bromination of acetone between −40° and +10°. R. P. Bell and J. K. Thomas. diag Chem Soc J p1573-8 O '39

Self-energized controls. W. E. Stark. diags Am Gas Assn Proc 1939:343-5

Study of certain factors that affect the droop characteristics of thermostats. B. E. Shaw and L. Lyon. il diags Heating-Piping 11:761-5 D '39

Thermal device shows transformer overload. il Elec W 114:1032 O 5 '40

Thermostat design. E. K. Clark. diags Product Eng 11:16-17 Ja '40

THERMOSTATS—*Continued*
Thermostat for room temperature control. J. B. Green and R. A. Loring. diags R Sci Instr 11:41-3 Ja '40
Thermostatic bimetals. S. G. Eskin and J. R. Fritze. Engineering 149:212-13, 223-4 F 23-Mr 1 '40
Thermostatic control. C. Butt. diag Science 92:339-40 O 11 '40

Manufacture
Thermostats are welded. il Iron Age 146:43 Jl 18 '40

THESES. See Dissertations, Academic

THEVENIN theorem
Thevenin's theorem. Electrician 123:347, 363, 391 O 13-27 '39

THIAMIN. See Vitamins—Vitamin B_1

THIAMORPHOLINE
Studies in the thiamorpholine series; derivatives of thiamorpholine-3,5-dicarboxylic acid. E. O. Hook, H. I. Miner and R. D. Coghill. Am Chem Soc J 62:1615-16 Je '40
Studies in the thiamorpholine series; N-alkyl substituted derivatives. H. I. Miner, E. O. Hook and R. D. Coghill. Am Chem Soc J 62:1613-14 Je '40

THIAZINES
Semiquinone radicals of the thiazines. L. Michaelis, M. P. Schubert and S. Granick. diags Am Chem Soc J 62:204-11 Ja '40
Semiquinones of oxazines, thiazines and selenazines. S. Granick, L. Michaelis and M. P. Schubert. bibliog Am Chem Soc J 62: 1802-10 Jl '40

THIAZOLES
Aims of present day accelerator research. A. M. Neal. Rubber Age 46:291-4 F '40

See also
Sulfathiazole

THIAZOLYLSULFANILAMIDES
Synthesis of *ωω'-bis*-2'-amino-4'-thiazolylalkanes and N^4-2'-thiazolylsulphanilamides. J. Walker. Chem Soc J p1304-7 S '40

THICKENERS
Sixty years of development in ore dressing; with special attention to the last ten years. C. S. Parsons. Can Min J 60:707-8 N '39
Thickening calcium carbonate slurries. E. W. Comings. flow diag il Ind & Eng Chem 32:663-7 My '40
Unifloc reagents ltd Chem & Ind 59:234 Ap 6 '40

THIENYLPYRROLINE
Electron sharing ability of organic radicals; *alpha*-thienyl- and *alpha*-mesitylpyrrolidines. J. G. Kirchner and I. B. Johns. bibliog Am Chem Soc J 62:2183-4 Ag '40

THIESSEN, Peter Adolf
Constitution of the alleged Thiessen hydrates. H. B. Weiser, W. O. Milligan and W. J. Coppoc. bibliog diag J Phys Chem 43:1109-20 D '39

THIOACETALS. See Mercaptals

THIOAMIDES
Action of bromine on certain thioamides. D. E. Worrall and A. W. Phillips. Am Chem Soc J 62:424-5 F '40

THIOBENZOIC acid
Organic derivatives of sulphur, selenium, and tellurium. D. T. Lewis. Chem Soc J p831-2 Jl '40
Synthesis of some alkamine esters of alkylthiobenzoic acids. J. J. Donleavy and J. English, jr. bibliog Am Chem Soc J 62: 220-1 Ja '40

THIOCHROME
Thiochrome method for the estimation of aneurin, with a survey of the aneurin content of wheats. R. G. Booth. bibliog Soc Chem Ind J 59:181-4 Ag '40

THIOCYANATES
See also
Alkali thiocyanates

Analysis
Systematic detection of thiocyanate, iodide, bromide, and chloride. D. Hart and R. Meyrowitz. bibliog Ind & Eng Chem Anal ed 12:318-20 Je 15 '40

THIODIGLYCOL
Thiodiglycol; unit process and operations involved in its synthesis from ethylene oxide and hydrogen sulfide. D. F. Othmer and D. Q. Kern. diags Ind & Eng Chem 32: 160-9 F '40

THIO-ETHERS. See Sulfides

THIOGLYCOFURANOSIDES
Glycofuranosides and thioglycofuranosides; crystalline alkyl furanosides and dimethylacetal of *d*-mannose. A. Scattergood and E. Pacsu. bibliog diags Am Chem Soc J 62: 903-10 Ap '40

THIOGLYCOLIC acid. See Mercaptoacetic acid

THIOKOL
Thiokol type F Rubber Age 47:246 Jl '40

THIOLS
See also
Mercaptans

THIONALIDE
Determination of ruthenium by thionalide; absorption of ruthenium tetroxide with hydrogen peroxide W. J. Rogers, F. E. Beamish and D. S. Russell. bibliog Ind & Eng Chem Anal ed 12:561-3 S 15 '40

THIONAPHTHENE
Reaction of some acylbenz*iso*thiazolones with acetic anhydride and potassium acetate. E. W. McClelland, M. J. Rose and R. G. Bartlett. Chem Soc J p323-7 Mr '40

THIONINE
Semiquinone radicals of the thiazines. L. Michaelis, M. P. Schubert and S. Granick. diags Am Chem Soc J 62:204-11 Ja '40

THIONYL bromide
Structure of thionyl bromide. D. P. Stevenson and R. A. Cooley. Am Chem Soc J 62:2477-9 S '40

THIONYL chloride
Fluorination of thionyl chloride. H. S. Booth and F. C. Mericola. bibliog Am Chem Soc J 62:640-2 Mr '40

THIOPHENE
Oxidation of thiophen-sulphur by calcium hypochlorite solutions. E. G. R. Ardagh, W. H. Bowman and A. S. Weatherburn. Soc Chem Ind J 59:27-8 F '40
β-phenylfurylethylamine and analogous derivatives of thiophen and pyrrole. R. Robinson and W. M. Todd. Chem Soc J p1743-7 N '39
Synthesis of 9,10-dimethyl-1,2-benzanthracene and of a thiophene isolog. R. B Sandin and L. F. Fieser. bibliog Am Chem Soc J 62:3098-105 N '40
Thermal data on organic compounds; modern combustion data for two methylnonanes, methyl ethyl ketone, thiophene and six cycloparaffins. G. E. Moore, M. L. Renquist and G. S. Parks. bibliog Am Chem Soc J 62:1505-7 Je '40

THIOPHENOL
Spectroscopic evidence for hydrogen bonds: SH, NH and NH_2 compounds. W. Gordy and S. C. Stanford. bibliog Am Chem Soc J 62:497-505 Mr '40

THIOPHOSPHORYL chloride
Dipole moments and structures of certain compounds of sulfur, selenium and phosphorus. C. P. Smyth and others. bibliog Am Chem Soc J 62:1219-23 My '40
Fluorination of thiophosphoryl trichloride; the thiophosphoryl chlorofluorides. H. S. Booth and M. C. Cassidy. bibliog Am Chem Soc J 62:2369-72 S '40

THIOPHOSPHORYL chlorofluorides
Fluorination of thiophosphoryl trichloride; the thiophosphoryl chlorofluorides. H. S. Booth and M. C. Cassidy. bibliog Am Chem Soc J 62:2369-72 S '40

THIOPHOSPHORYL fluoride
Molecular structures of sulfuryl fluoride and thiophosphoryl fluoride. D. P. Stevenson and H. Russell, jr. bibliog Am Chem Soc J 61:3264-8 D '39

THIOPHTHENE
Some substitution products of thiopheno-2':3'-3:2-thiophen. F. Challenger and G. M. Gibson. Chem Soc J p305-9 Mr '40

THIOUREA
Additive compounds formed in the desulfurization of thioureas by copper hydroxide. W. M. Dehn. Am Chem Soc J 62:3189-90 N '40
Domestic output of thiourea. Ind & Eng Chem News ed 18:813 S 25 '40
Emploi de la thiourée pour le dosage du bismuth dans les plombs et les étains affinés. R. Petit and R. Meraux. Chimie & Ind 43: 629-31 Ap 20 '40
Reaction of 2-chloro-5-nitropyridine and thiourea. A. R. Surrey and H. G. Lindwall. Am Chem Soc J 62:1697-8 Jl '40
Reaction of thiourea with 5,5-dibromoxyhydrouracil and 5,5-dibromobarbituric acid. T. B. Johnson. Am Chem Soc J 62: 2269-71 S '40
Thiourea now made by American Cyanamid. Oil Paint & Drug Rep 138:35 S 16 '40

THIRD avenue railway
Annual report; years ended June 30 (system) 1937-1940. Comm & Fin Chr 151:2515 O 26 '40
Motorization plan approved. Comm & Fin Chr 151:2665 N 2 '40

THIURAM sulfides
Aims of present day accelerator research. A. M. Neal. Rubber Age 46:291-4 F '40

THIXOTROPY
Coefficient of thixotropy of suspensions of carbon black in mineral oil. J. E. Arnold and C. F. Goodeve. bibliog diags J Phys Chem 44:652-70 My '40
Les phénomènes thixotropiques et leurs applications. A. Boutaric. Génie Civil 116:262-4 Ap 20 '40

THOMAS, Edwin Joel
How modern business trains leaders. C. McPherson. Am Business 10:11-12 S '40
Sketch. por Barron's 20:5 N 4 '40
Thomas assumes new duties as president of Goodyear. por Rubber Age 47:397 S '40

THOMAS, James A. 1861-1940
He went after the small coins; James A. Thomas believed that in them lay the wealth of a nation. Ptr Ink Mo 41:18 N '40

THOMAS, Richard, and company
Case of Ebbw Vale; British steel industry resists one company's modernization Economist 138:776-7 Ap 27 '40

THOMAS, Rosswell Wilder, 1899-
President of new Hydrocarbon chemical & rubber co. por Nat Pet N 32:12 Ag 14 '40

THOMAS-Fermi-Dirac equation
Accurate solution. K. Umeda. Phys R 58: 92-3 Jl 1 '40

THOMASTON, Georgia
Water supply
New filter plant replaces old. il Pub Works 71:12 Jl '40

THOMPSON products, inc.
Small companies with large earnings; thumbnail appraisal. Mag of Wall St 65:494 Ja 27 '40
Uncovering special situations. E. A. Barnes. Mag of Wall St 66:47 Ap 20 '40

THOMPSON-STARRETT company
Stockholders to consider recapitalization plan. Comm & Fin Chr 151:2210 O 12 '40

THOMSON, Elihu, 1853-1937
Unveiling of tablet honors Elihu Thomson. Franklin Inst J 229:244-9 F '40

THOMSON, George Paget, 1892-
Hughes medal award. W. Bragg. Science 90: 582 D 22 '39

THOMSON, Sir Joseph John, 1856-1940
Sketch. Engineer 170:156 S 6 '40; por Engineering 150:193-4 S 6 '40; Chem & Ind 59: 637-8 S 7 '40

THORIUM
Determination of the thoron content of air and its bearing on lung cancer hazards in industry. R. D. Evans and C. Goodman. il diag J Ind Hygiene 22:89-99 bibliog(p98-9) Mr '40
Photo-fission of uranium and thorium. R. O. Haxby and others. Phys R 58:92 Jl 1 '40
Preparation of thin films of uranium and thorium by cathode sputtering. C. C. Van Voorhis. R Sci Instr 11:77 F '40
Thorium and chemical research. C. G. Fink. Ind & Eng Chem News ed 17:775 D 20 '39

THORIUM nitrate
Amperometric titration of fluorine with thorium nitrate. A. Langer. bibliog Ind & Eng Chem Anal ed 12:511-14 S 15 '40

THORNYCROFT, Sir John Edward, 1872-
Portrait. Engineer 169:supp Ap 19 '40

THORON
Determination of the thoron content of air and its bearing on lung cancer hazards in industry. R. D. Evans and C. Goodman. il diag J Ind Hygiene 22:89-99 bibliog(p98-9) Mr '40

THORPE, Sir Jocelyn Field, 1872-1940
Sketch. por Chem & Ind 59:424 Je 15 '40

THOUGHT and thinking
Making of the modern mind; a survey of the intellectual background of the present age. J. H. Randall, jr. rev ed 696p $3.60 Houghton '40
Nature of thought. B. Blanshard. 2v 654p; 532p $8 Macmillan '40

THREAD
See also
Cotton thread
Rubber thread
Silk thread

THREAD cutting
Improvised boring and threading tools. E. Wittmann. diags Am Mach 84:871 O 30 '40
Screw threads; the effect of method of manufacture on the fatigue strength. A. M. Smith. il Iron Age 146:23-8 Ag 22 '40
Tap drill sizes for varying percentages of full thread; data sheet. Mach 47:115 O; 149 N '40
Turret lathe tooling; varied set-ups with standard tools. J. R. Longstreet and W. K. Bailey. diags Am Mach 84:204-5 Ap 3 '40
See also
Screw threads
Taps

THREAD rolling
Screw threads; the effect of method of manufacture on the fatigue strength. A. M. Smith. il Iron Age 146:23-8 Ag 22 '40

THREADING machines
Coulter semi-automatic hob thread-milling machine. il Mach 46:177 Ap '40
European thread-grinding practice. il diags Mach 46:255-6 D '39
Geometric precision threading machines. il Am Mach 83:1052 D 13 '39; Mach 46:283 D '39
Geometric tool co. double-spindle threading machine. il Mach 46:159 Je '40
Kaufman semi-automatic machine for threading and reaming. il Automobile Eng 30:142 My '40
Landmaco equipped for threading rock bit steel. il Mach 46:157 Je '40
Landmaco threading machine. il Automotive Ind 83:170 Ag 15 '40; Am Mach 84:688 S 4 '40; Mach 47:159 S '40
Landmaco threading machine equipped for tapping shells. il Mach 46:181 Ap '40
Lees-Bradner co. chucking type thread milling machine. Automotive Ind 83:404-5 O 1 '40
Lees-Bradner heavy thread milling machine. il Am Mach 84:685 S 4 '40; Mach 47:155 S '40
Reishauer internal thread grinding machine. il Automobile Eng 30:244-5 Ag '40

THREONIC acid
Improvements in the preparation of DL-threonic and DL-erythronic acids. J. W. E. Glattfeld and E. Rietz. bibliog Am Chem Soc J 62:974-7 Ap '40
dl-Threonic acid from 3-hydroxy-crotonic acid. J. W. E. Glattfeld and E. C. Lee. bibliog Am Chem Soc J 62:354-6 F '40

THRESHING machines
Low-price combine for small farms. il Product Eng 11:200-1 My '40

THRIFT. See Saving

THROAT
Diseases
Diseases of the ear, nose and throat. F. L. Lederer. 2d rev ed 840p $10 Davis '39

THROMBASE. See Thrombin

THROMBIN
Anti-bleeding substances; abstract. H. P. Smith. Science 91:sup8-9 Mr 22 '40
Bleeders; new substance clots blood instantly. Sci Am 163:82-3 Ag '40

THROMBOGEN
Stable thromboplastin for use in Quick's prothrombin test. A. W. Souter, R. Kark and F. H. L. Taylor. Science 91:532 My 31 '40
Thromboplastin reagent for the determination of prothrombin. A. J. Quick. Science 92:113-14 Ag 2 '40

THROMBOPLASTIN
Stable thromboplastin for use in Quick's prothrombin test. A. W. Souter, R. Kark and F. H. L. Taylor. Science 91:532 My 31 '40
Thromboplastin reagent for the determination of prothrombin. A. J. Quick. Science 92:113-14 Ag 2 '40

THRUST bearings
Kingsbury Diesel-engine propeller thrust bearing. il Marine Eng 45:68 O '40
Studies in lubrication; the effect of the pressure variation of viscosity on the lubrication of plane sliders. M. Muskat and H. H. Evinger. bibliog diags J Ap Phys 11:739-48 N '40

THRUST faults. See Faults (geology)

THRUSTORS
British Thomson-Houston thrustor. diag Electrician 123:394 O 27 '39; Elec R (Lond) 126: 46 Ja 12 '40

THURSTON, Robert Henry, 1839-1903
Eighteen years at Cornell. W. F. Durand. Science 90:547-52 D 15 '39
Pioneering in engineering education at Stevens. H. N. Davis. Engineering 148:633-4 D 8 '39
Thurston centennial. R. G. Irish. Cornell Eng 5:11 N '39

THYMOLBENZEIN
Polar structure of some benzein indicators. M. A. Elliott and S. F. Acree. bibliog J Research Nat Bur Stand 23:675-81 D '39

THYMUS gland
Physical chemical investigation of certain nucleoproteins; preparation and general properties; nucleohistone of calf thymus. R. O. Carter and J. L. Hall. bibliog Am Chem Soc J 62:1194-6 My '40

THYRATRON
Adjustable d.c. for meter testing. il diag Elec W 113:1538 My 18 '40
Chronoscope; electronic interval timer originally developed to test the velocity of rifle bullets. C. I. Bradford. il diags Electronics 13:28-30+ N '40
Cloud chamber control circuit. I. A. Getting. diags R Sci Instr 10:323-4 N '39
Differential pulse amplitude selector using two thyratrons. A. Roberts. diags R Sci Instr 11:44-5 Ja '40
Light regulator. B. Chance. il diags Electronics 13:24-5 F '40
Multi-channel delay unit. W. H. Marshall and S. A. Talbot. il diag R Sci Instr 11: 287-9 S '40
Relation of residual ionization to arc-back in thyratrons. K. H. Kingdon and E. J. Lawton. diags Gen Elec R 42:474-8 N '39
Synchronizing transients and synchronizers for large machines. R. D. Evans, F. H. Gulliksen and C. B. Myhre. diags Electronics 13:71-5 Mr '40
Water level indicator; bridge-controlled thyratron system. L. A. Ware. il diags Electronics 13:23-5 Mr '40

THYRITE
Miniature plant voltage regulation by means of Thyrite resistors. R. J. Mather. diag Elec W 113:2070 Je 29 '40

THYROID gland
Determination of iodine in thyroid and its preparations by cerate oxidimetry. W. W. Hilty and D. T. Wilson. bibliog Ind & Eng Chem Anal ed 11:637-9 D 15 '39
Physical chemical investigation of certain nucleoproteins; preparation and general properties; nucleohistone of calf thymus, and nucleoprotein of hog thyroid. R. O. Carter and J. L. Hall. bibliog Am Chem Soc J 62:1194-6 My '40

THYROID preparations
Determination of iodine in thyroid and its preparations by cerate oxidimetry. W. W. Hilty and D. T. Wilson. bibliog Ind & Eng Chem Anal ed 11:637-9 D 15 '39

THYRONINE
New synthesis of thyronine. C. R. Harington and R. V. Pitt Rivers. Chem Soc J p1101-3 Ag '40

THYSSEN, Fritz, 1873-
My duty to my country to oppose Hitler. Thyssen cables Steel. por Steel 105:17 N 27 '39

TICKETS, Motor bus. See Motor bus lines—Tickets

TICKS
Anaplasmosis among deer in the natural state. W. H. Boynton and G. M. Woods. Science 91:168 F 16 '40
Bacterium tularense; its persistence in the tissues of the argasid ticks, ornithodoros turicata and O. parkeri. G. E. Davis. Pub Health Rep 55:676-80 Ap 19 '40
Burrowing owl as a host to the argasid tick, ornithodorus parkeri. W. L. Jellison. Pub Health Rep 55:206-8 F 2 '40
Ornithodorus hermsi; feeding and molting habits in relation to the acquisition and transmission of relapsing fever spirochetes. G. E. Davis and M. E. Walker. Pub Health Rep 55:492-504 Mr 22 '40
Relapsing fever; data implicating ornithodorus hermsi as a vector in northern Idaho. C. B. Philip and G. E. Davis. Pub Health Rep 55:504-7 Mr 22 '40
Relapsing fever: ornithodoros hermsi a vector in Colorado. G. E. Davis. Pub Health Rep 54:2178-80 D 8 '39
Rickettsia diaporica; its persistence in the tissues of ornithodoros turicata. G. E. Davis. Pub Health Rep 55:1862-4 O 11 '40
Rickettsia diaporica; recovery of three strains from dermacentor andersoni collected in southeastern Wyoming; their identity with Montana strain 1. G. E. Davis. Pub Health Rep 54:2219-27 D 15 '39
Tick-borne human encephalitis in the European part of USSR and Siberia. M. P. Chumakov and N. A. Seitlenok. bibliog Science 92:263-4 S 20 '40
Ticks (ornithodoros spp.) in Arizona bat caves. C. B. Philip. Pub Health Rep 55: 680-2 Ap 19 '40
Two new species of argasidae (acarina: ixodoidea). R. A. Cooley and G. M. Kohls. bibliog diags Pub Health Rep 55:925-33, pl 1 My 24 '40
Vaccine for protection against disease caused by ticks. Science 90:sup6-7 D 29 '39

TICONDEROGA, Fort
In the name of the Great Jehovah and the Continental congress; concrete restores Fort Ticonderoga. il Concrete 48:14 Ag '40

TIDE water associated oil company
Earnings, 1938 and 1939. Comm & Fin Chr 150:1953 Mr 23 '40
Ends fight with Getty interests; new directors. Comm & Fin Chr 150:3067 My 11 '40

TIDE water associated oil company—*Cont.*
Moving against trend of its industry. W. Kraemer. il Mag of Wall St 66:162-3+ My 18 '40
Promotes 5 executives. Nat Pet N 32:19 F 21 '40

TIDES
Relation of the tide to property boundaries. Franklin Inst J 230:482 O '40

TIERING trucks. See Electric trucks, Industrial—Tiering trucks; Motor trucks, Industrial—Tiering trucks

TIERRA DEL FUEGO
This way southward; a journey through Patagonia and Tierra del Fuego. A. F. Tschiffely. 354p $3.50 Norton '40

TIGOGENIN
Sterols; *allo*-pregnanediols from tigogenin. R. E. Marker and E. Rohrmann. Am Chem Soc J 62:898-900 Ap '40
Sterols; conversion of isosarsasapogenin (smilagenin) to tigogenin. R. E. Marker, E. Rohrmann and E. M. Jones. Am Chem Soc J 62:1162-3 My '40
Sterols; sapogenins; the conversion of chlorogenin to tigogenin. R. E. Marker, D. L. Turner and P. R. Ulshafer. Am Chem Soc J 62:3009-10 N '40
Sterols; the preparation of dihydroandrosterone and related compounds from diosgenin and tigogenin. R. E. Marker. Am Chem Soc J 62:2621-5 O '40

TIGRETT, Isaac Burton, 1879-
Heads G.M. & O.; merger of the Gulf, Mobile & Northern and the Mobile & Ohio. por Ry Age 109:397-8+ S 21 '40

TILES
Clay products resist 40-hour fire; cereal mill of General mills. il Brick & Clay Rec 96: 16-17 My '40
Clay tile solves wall cracking problem; adopted for buildings at U.S. army posts in Texas. il Brick & Clay Rec 95:23 N '39
How to build waterproof foundations with clay products. il diags Brick & Clay Rec 96:31 Ap '40
Large unit combining the qualities of brick and tile; Speedbrik. il Brick & Clay Rec 96:47 Ap '40
New light weight shingle offered by Gladding, McBean & co. il Brick & Clay Rec 95:44 D '39
Tile silos outlast concrete by ratio of two to one. C. H. Reed. Brick & Clay Rec 95: 16 N '39
What about large units? il Brick & Clay Rec 96:18-21 My '40

See also
Concrete tile
Rubber tile

Manufacture

Circle system for manufacture of brick and tile; Washington brick company, Muirkirk, Md. J. R. Clark and T. W. Garve. il diags plan Am Cer Soc Bul 19:12-16 Ja '40
How to whip die problems; tile and terra cotta. H. H. Mansur. il Brick & Clay Rec 95:24-6; Discussion. 27-8 D '39
Manufacturing clay tiles. P. J. Swalm. Can Chem & Process Ind 24:443-4 S '40
Methods of body preparation and their effect on dust pressing of wall tile. R. F. Evans. Am Cer Soc Bul 19:255-7 Jl '40
Monorail conveyor; Thynne's Victoria tile works. il Mech Handling 27:176 Ag '40
No extra reels for cutting large units claim for new pneumatic cutter. il Brick & Clay Rec 97:40+ Ag '40
Plant that grew out of cheese; Kraftile co. il plan Brick & Clay Rec 95:20-3 D '39
Speed of your auger affects the quality of your ware. J. G. Seanor. Brick & Clay Rec 97:20-1+ Jl '40
Structural clay products. J. J. W. Palmer. il U S Bur For & Dom Com Trade Information Bul 842:1-19 '39
Use of nepheline syenite in floor-tile and wall-tile bodies. C. J. Koenig. il Am Cer Soc J 23:86-91 Mr '40

TILLAGE
La détermination de la profondeur de labourage la plus avantageuse. Génie Civil 116: 251-2 Ap 13 '40

TILLYER, Edgar Derry, 1881-
Personalities in science. por Sci Am 162:3 Ja '40; Am Cer Soc Bul 19:180-1 My '40

TIMBER

See also
Lumbering
Mine timber
Pine
Wood

TIME (periodical)
Gallery. Roy E. Larsen. Adv & Sell 33:36, 38+ Ja '40

TIME, Inc.

Library

Time library in war time. A. Jacobus. Special Lib 31:234-5 Jl-Ag '40

TIME capsule, Westinghouse. See Civilization—Preservation of records

TIME deposits. See Bank deposits; Savings deposits

TIME distribution
Time distribution of so-called random events. A. Ruark. Phys R 56:1165-7 D 1 '39; Discussion. W. Feller. 57:906-8 My 15 '40

TIME keeping
New timekeeping procedure saves $3,000 a year. A. Robbins. Factory Management 98: 65-6 N '40
Timekeeping methods for office workers. Management R 29:90-1 Mr '40

TIME measurement
American apparatus, instruments, and instrumentation; time measurements. R. H. Müller. il Ind & Eng Chem Anal ed 12:577-8 O 15 '40
Earth as a clock. H. S. Jones. 32p pa 75c Oxford '39
Even the earth errs. H. N. Russell. Sci Am 162:272-3 My '40
Magnetic brain; alnico magnet plays part in function of time standard to be used by Palomar Mountain observatory. Gen Elec R 43:263 Je '40
New time standard. H. E. Warren. il diag Elec Eng 59:Trans 137-41; Discussion. Trans 141-2 Mr '40
Problems of time in navigation. T. P. Conlon. diags Aero Digest 36:48-9 Je '40

See also
Clocks, Electric
Timing devices

TIME series (statistics)
Analysis of economic time series. G. Tintner. bibliog Am Statis Assn J 35:93-100 Mr '40
Bartels technique for time-series analysis, and its relation to the analysis of variance. L. R. Hafstad. bibliog Am Statis Assn J 35:347-61 Je '40
Eliminating changing seasonals by multiple regression analysis. H. Mendershausen. R Econ Statis 21:171-7 N '39
Interdependence in a series. L. F. Knudsen. bibliog Am Statis Assn J 35:507-14 S '40

TIME signals, Telephone

See also
Telephone—Time service

TIME study
Another slide rule technique for time studies. L. Reasor. Factory Management 98:68 S '40
Effort rating. R. Presgrave. Advanced Management 4 no5:126-33 '39
Instrumentation in arc welding; studies in operator behavior prove valuable. R. E. Kinkead. il Steel 107:60-1+ Jl 22 '40
Internal bank management controls. H. N. Stronck. il Bankers Mo 57:506-8 S '40
Job evaluation and time study; roundtable conference; American foundrymen's association. Steel 106:60 My 20 '40
Maintenance 80% on incentive; time study and methods, Westinghouse East Pittsburgh plant. B. J. Stegemerten. il Factory Management 98:86-7 Mr '40
Motion and time study. R. M. Barnes. 2d ed 390p bibliog(p379-82) $3.75 Wiley '40

TIME study—*Continued*
Motion study research; time used to position small parts; one-handed operation faster. R. M. Barnes and J. M. MacKenzie. il diags Factory Management 98:63-6 Mr '40
Primer of time study. F. W. Shumard. 519p $5 McGraw-Hill '40
Prophecy for time and motion study. N. M. Cartmell. Advanced Management 4 no5:134-6+ '39
Roving frame time studies. E. H. Helliwell. il Textile World 90:70-1 Ja '40
Setting time standards when machine times vary; automatically recorded data on manually controlled machine jobs; Revere copper & brass. C. B. Carr. il Factory Management 97:48-50 D '39
Short cut slide rule method for time studies. J. Lundvall. Factory Management 98:164 Je '40
System of numbers for the study engineers. F. Mascarich. Advanced Management 5:43 Ja-Mr '40
Time and motion study under collective bargaining. M. H. Hedges. Advanced Management 5:89-92 Ap-Je '40
Time study analyses; progress report no. 3; quarry drilling. J. R. Thoenen and E. J. Lintner. U S Bur Mines Rep of Invest 3502:1-19 '40; Excerpts. Concrete (mill sec) 48:189+ Je '40; Rock Prod 43:24-5 Jl '40
You can use time studies and standards. G. Greenberger. Inland Ptr 105:27-8 Ag '40

See also
Job analysis
Motion study

TIME study (of machinery)
Chart for determining machine production. L. De L. Berg. Mach 47:142-3 S '40
Recorders find lost machine time. H. M. Scherr. il Factory Management 98:58-9 Je '40
Setting time standards when machine times vary; automatically recorded data on manually controlled machine jobs; Revere copper & brass. C. B. Carr. il Factory Management 97:48-50 D '39
Time study summary for mobile loading machines. W. R. Cuthbert. Min Cong J 26: 26-7 Je '40

TIMEPIECES

See also
Clocks
Clocks, Electric
Watches

TIMING devices
Accurate timing equipment for viscosity determinations. E. M. Fry, jr. and E. L. Baldeschwieler. il diag Ind & Eng Chem Anal ed 12:472-3 Ag 15 '40
Capacitor relay timing in industrial control. C. Stansbury and T. B. Jochem. il diags Elec Eng 59:Trans 65-9; Discussion. Trans 69-70 F '40
Chronoscope; electronic interval timer originally developed to test the velocity of rifle bullets. C. I. Bradford. il diags Electronics 13:28-30+ N '40
Electronic time control for color photography, enlarging, and other light exposures. E. A. Milligan. diag Electronics 13:50+ Ja '40
Feedback welding timer; for radio tube manufacture. J. Kurtz. il diag Electronics 13: 47 Ap '40
High-frequency generator calibration; to obtain the time axis of a high-voltage cathode-ray oscillograph. C. J. Tirk and P. H. McAuley. il diag Elec W 113:606 F 24 '40
Ignitron contactor control of resistance welding. W. C. Hutchins. il diags Gen Elec R 42:544-7 D '39
Motor testing simplified; use of watthour meters in conjunction with an electrically operated timer. C. O. von Dannenberg. diag Power Pl Eng 44:83-4 S '40
Multi-channel delay unit. W. H. Marshall and S. A. Talbot. il diag R Sci Instr 11:287-9 S '40
New techniques in traffic behavior studies. E. H. Holmes and S. E. Reymer. il diags Pub Roads 21:29-45 Ap '40
Photoelectric time-interval meter; designed primarily for measurement of speed of camera shutters and photo-flash synchronizing mechanisms. T. M. Berry. il diag Gen Elec R 43:137-8 Mr '40; Abstract. Electronics 13:66 My '40
Simple method of timing the recoil action of springs. M. Jacker. diags Mach 47:139 O '40
6000 welds per hour; new timing method; machine built by Progressive welder co. il Steel 107:72+ Ag 19 '40
Some new uses of capacitors in control circuits. F. H. Winter. il diags Gen Elec R 42:462-5 N '39
Spotwelding machine settings and their effect on weld strength. A. M. Unger. il Iron Age 145:27-31 Je 20 '40
Taylor time cycle controller. il India Rubber W 102:55 Ag '40; Paper Tr J 111:18 Ag 15 '40; Rubber Age 47:408-9 S '40; Pulp & Pa of Can 41:756+ O '40
Time-temperature control for sulphite digesters; recording and controlling potentiometer instrument. J. F. Inderdohnen. il diags Paper Tr J 111:31-4 Ag 8 '40
What's new in welding apparatus; welding timers. F. J. Oliver. il Iron Age 145:46-7 F 29 '40

TIMKEN, Henry H. d. 1940
Sketch. por Blast F & Steel Pl 28:1082 N '40; Mach 47:200 N '40

TIMKEN-DETROIT axle company
Brass tacks for the investor; brief analysis. Barron's 20:9 Mr 25 '40
Dynamic growth prospect. S. Devlin. il Mag of Wall St 66:734-5+ O 5 '40
Uncovering special situations. E. A. Barnes. Mag of Wall St 65:806-7 Ap 6 '40

TIMKEN roller bearing company
Statistics of income, capital, stock earnings, etc. 1929-1938. Annalist 54:668 N 23 '39

TIMKEN vocational high school
New Timken vocational school has print shop. C. A. Lyle. il plan Inland Ptr 104:33-6 D '39

TIMM aircraft corporation
Stock offered. Comm & Fin Chr 151:863-4 Ag 10 '40

TIN
Bearing metals from the point of view of strategic materials. H. W. Gillett, H. W. Russell and R. W. Dayton. bibliog diags Metals & Alloys 12:274-83, 455-63, 629-39 S-N '40 (to be cont)
First spectrum of tin. W. F. Meggers. bibliog pls J Research Nat Bur Stand 24: 153-73 F '40
Internal friction of single metal crystals. T. A. Read. bibliog diags Phys R 58:371-80 Ag 15 '40
Is chemical industry ready? tin. C. L. Mantell. Ind & Eng Chem 32:1162-3 S '40
Main sources of supply and the principal uses of the strategic metals. H. A. Knight. Annalist 54:724 D 7 '39
Outlook in strategic raw materials; tin. Chem Ind 47:259 S '40
Pinhole corrosion in galvanized watering tanks; relation to tin content. W. M. Peirce and G. C. Bartells. il Metals & Alloys 11: 42-4 F '40
Reaction of zinc and iron in hot-dip galvanizing; additions of aluminum and tin. H. Bablik. il Metal Finishing 38:585-6 N '40
Recovering tin from waste phosphate liquors. C. C. Downie. Textile Col 62:394+ Je '40
Residual tin in steel. P. J. McKimm. Steel 106:64, 67-8 My 6; 60, 64, 69 My 13 '40
Review of the strategic metals. C. L. Mantell. Metals & Alloys 12:421-3 O '40
Secondary peak in the Rossi curve for tin. W. F. G. Swann and W. E. Ramsey. Phys R 58:477 S 1 '40
Shortage of tin in Germany; economy and substitution in the use of packaging materials. Science 92:sup6 Ag 23 '40
Tin and its uses. Published quarterly by the International tin research and development council, Battelle memorial inst, 505 King av, Columbus, Ohio

TIN—*Continued*
Tin; properties and uses. A. Bregman. il Iron Age 146:29-31 Jl 4 '40
Tin situation; how it involves the food manufacturer. L. V. Burton. il map Food Ind 12:33-5 S '40
World production of tin. Science 91:sup10+ Je 7 '40

Analysis

Emploi de la thiourée pour le dosage du bismuth dans les plombs et les étains affinés. R. Petit and R. Meraux. Chimie & Ind 43: 629-31 Ap 20 '40
Spectrographic analysis of tin. J. W. Stewart. bibliog diag Am Soc T M Proc 39:788-93; Discussion. 794 '39

History

Historical and industrial discovery of the elements. J. N. Friend. Chem & Ind 59: 25-6 Ja 13 '40

Prices

Straits tin at New York, cents a pound, monthly, 1922-1939; tabulation. Iron Age 145:175 Ja 4 '40

TIN, Substitutes for
Lacquered black plate for containers, to save tin. Steel 107:33 Jl 8 '40

TIN alloys
Bearing metals; suitability in relation to modern requirements. M. Melhuish. Automobile Eng 30:303 O '40
Determination of tellurium in tin-rich alloys. W. T. Pell-Walpole. Engineering 149: 427 Ap 19 '40
Lead-tin-arsenic wiping solder. E. E. Schumacher and G. S. Phipps. il Metals & Alloys 11:75-6 Mr '40; Same. Bell System Tech J 19:262-6 Ap '40; Discussion. C. L. Barber. il Metals & Alloys 12:301-2 S '40
Progress in tin research. Engineering 149: 302-3 Mr 22 '40
Research work on tin. Engineer 169:265 Mr 15 '40

See also
Bearing metals
Bronze
Solder and soldering

TIN cans
Control of external corrosion of cans; abstract. C. L. Smith. Food Ind 12:84 N '40
Crown cork & seal co. shows progress; elimination of losses in Crown Can division. H. Lawrence. Barron's 20:20 Ap 22 '40
Disposal of tin cans at Los Angeles. Pub Works 71:30-1 S '40
Influence of the steel-base composition on the rate of formation of hydrogen-swells in canned-fruit tinplate containers. T. P. Hoar, T. N. Morris and W. B. Adam. bibliog diags Iron & Steel Inst J 140:55-92, pl 9; Discussion. 93-4 no 2 '39
What's ahead in 1940? containers. il Steel 106:173-4 Ja 1 '40
Will a tin shortage blackout can companies? H. D. Steinmetz. il Mag of Wall St 66: 356-8+ Je 29 '40

See also
American can company
Continental can company

Manufacture

Crown can co. plant, Philadelphia. il plans Arch Rec 87:96-7 F '40
Standardization of packages. F. F. Fitzgerald. U S Nat Bur Stand Misc Pub M165:112-15; Discussion. 116-17 '40
Tin plate in the canning industry. B. W. Gonser. il diags Metal Prog 37:135-41+ F '40

Size

Standardization of packages. C. Campbell. U S Nat Bur Stand Misc Pub M165:95-9; Discussion. 100-4 '40
Standardization of packages. F. F. Fitzgerald. U S Nat Bur Stand Misc Pub M165:112-15; Discussion. 116-17 '40

Standards

British conserve tin with standard cans. Ind Stand 11:273 O '40

TIN chlorides
Activated carbon as a catalyst in certain oxidation-reduction reactions; decomposition of hydrogen peroxide; autoxidation of stannous chloride and potassium urate. E. C. Larsen and J. H. Walton. bibliog J Phys Chem 44: 70-85 Ja '40
Curing phenol resins with metal chlorides; stannous and chromic chlorides. L. E. Stout and C. R. McAlister, jr. diags Mod Plastics 18:59-61+ N '40
Kinetics of the catalysed polymerisation of styrene; on the mechanism of metal chloride catalysis. G. Williams. Chem Soc J p775-84 Je '40
Pickling inhibitor; cresolsulphonic acid added to stannous chloride. Steel 107:70-1 O 28 '40

TIN compounds
Redistribution reaction; alkyl compounds of mercury, tin, silicon and zinc. G. Calingaert, H. Soroos and H. Hnizda. bibliog Am Chem Soc J 62:1107-10 My '40
Tin derivative of dithiocatechol. H. P. Brown and J. A. Austin. Am Chem Soc J 62:673 Mr '40

TIN hydride
Spectra of lead hydride and tin hydride in the near infra-red. W. W. Watson and R. Simon. Phys R 57:708-9 Ap 15 '40

TIN industry and trade
Bangrin tin dredging company and Siamese tin syndicate ordinary general meetings, London. Economist 138:1130 Je 29 '40
Bolivia's big tin producer; Patino Mines. B. W. Corrado. map Barron's 20:8 Ag 26 '40
British tin investment corporation ordinary annual general meeting, London. Economist 138:181 Ja 27 '40
Killinghall tin, limited, 10th annual general meeting, London. Economist 138:230 F 3 '40
London tin corporation's report for the year to April 30, 1940. Economist 139:97 Jl 20 '40
More tin and rubber; boosts in quotas. Business Week p43 Jl 13 '40
Review of the strategic metals. C. L. Mantell. Metals & Alloys 12:421-3 O '40
Revision of tin quota? Economist 138:308 F 17 '40
Tin and preparedness. Min & Met 21:412-13 S '40
Tin cartel in reverse; having proved it can supply world needs, it now cuts quotas to restore price. Business Week p48 Mr 2 '40
Tin shares and the quota; tin companies' profits, assessments and profits factors. Economist 138:338-9 F 24 '40
Tin shares and war demand. Economist 139: 402+ S 28 '40
Tin supply and demand Barron's 20:6 Jl 15 '40
What has happened to zinc and tin; effect of war. A. W. G. Wilson. Can Min J 61: 516-17 Ag '40
Will a tin shortage blackout can companies? H. D Steinmetz. il Mag of Wall St 66: 356-8+ Je 29 '40

See also Pacific tin consolidated corporation; Patino mines and enterprises consolidated

Statistics

Tin deliveries, revision; monthly, 1923-June, 1940. Fed Res Bul 26:835 Ag '40
Tin in 1939. Economist 138:sup37-8 F 17 '40
Tin industry during first half year of European war. Comm & Fin Chr 150:2180 Ap 6 '40
Tin, 1939. E. B. Scott. Eng & Min J 141:47-8 F '40
Tin, 1936-1939. Survey of Cur Business 1940 Sup p136 [supplemented in monthly numbers]
World tin production and consumption in third quarter, 1939. Comm & Fin Chr 149: 3469 D 2 '39
World tin production in 1939. Comm & Fin Chr 150:910-11 F 10 '40
World tin production, September and October, and monthly average, Jan.-Aug. 1939. Comm & Fin Chr 150:39 Ja 6 '40

TIN industry and trade—Statistics—*Continued*
World tin stocks, monthly, May-Nov. 1939. Comm & Fin Chr 149:4095 D 30 '39

United States

Building up American tin smelting industry, in national defense plan. Steel 107: 21-3 Ag 12 '40
Concentrates being smelted near New York. M. W. Tuthill. Eng & Min J 140:66 D '39
Protecting our tin supplies; Bolivian resources and American smelters. B. W. Corrado. Annalist 56:175+ Ag 8 '40
RFC forms two government corporations, Rubber reserve co. and Metals reserve co., to acquire stocks of rubber and tin. Comm & Fin Chr 151:42-3 Jl 6 '40
Tin ore contract made with Bolivians. Oil Paint & Drug Rep 138:3+ O 28 '40
Tin refining for U.S. Business Week p34 D 2 '39
Tin subsidy urged. Business Week p34 Je 15 '40

TIN metallurgy
Detinning. Metal Finishing 38:591 N '40

TIN mines and mining
World map showing where principal supplies of tin ore are produced. Food Ind 12:35 S '40

Bolivia

Bolivia for strategic minerals. P. H. Reagan. il Eng & Min J 141 54-8 O '40
Bolivian tin mining registers improvement. P. H. Reagan Min & Met 21 386 Ag '40
Bolivia's big tin producer; Patino Mines; construction of smelter in United States to handle Bolivian tin is planned. B. W. Corrado. map Barron's 20:8 Ag 26 '40
Protecting our tin supplies; Bolivian resources and American smelters. B. W. Corrado Annalist 56:175+ Ag 8 '40
South America as a source of strategic materials. C. W. Wright. il Min & Met 21: 283-4 Je '40

Malaya, British

Malayan tin dredging and Southern Malayan tin dredging, current outlook and annual general meetings, London. Economist 137: 426-7, 487 D 16-23 '39

TIN ores
Tin in Ontario. R. T. Hancock. Can Min J 61:224-5 Ap '40
Tin ore contract made with Bolivians. Oil Paint & Drug Rep 138.3+ O 28 '40

TIN oxides
Constitution of the alleged Thiessen hydrates. H. B. Weiser, W. O. Milligan and W. J. Coppoc. bibliog diag J Phys Chem 43:1109-20 D '39
Tin oxide in ceramic glazes; abstract. L. Stuckert. Am Cer Soc J 23 (Cer A 19): 166-7 Jl '40

TIN perchlorate
Hydrolysis of stannous ion in stannous perchlorate solutions. M. Gorman. Am Chem Soc J 61:3342-4 D '39

TIN plate
Die entstehungsursachen von eisen auf der walze bei weissblech. E. Schauff. bibliog il **Stahl & Eisen 60:179-81 F 29 '40**
Influence of the steel-base composition on the rate of formation of hydrogen-swells in canned-fruit tinplate containers. T. P. Hoar, T. N. Morris and W. B. Adam. bibliog diags Iron & Steel Inst J 140:55-92, pl 9; Discussion. 93-4 no 2 '39
Novel use for tinplate; abstract Metals & Alloys 11:MA92+ F '40
Phenolic varnishes on tinplate; abstract J. E. Hanle and W. H. Gardner. Oil Paint & Drug Rep 138:52 S 9 '40
Protective films on tin-plate Engineering 149: 630 Je 28 '40
War has greatly increased exports of tin plate by U.S. Iron Age 145:63 Ap 25 '40
What's ahead in 1940? containers. il **Steel 106:173-4 Ja 1 '40**

See also
Tin cans

Manufacture

Causes of roll-marks on tinplate. R. Griffiths. diag Iron & Steel Inst J 140:39-53, pl 6-8 no 2 '39; Same. Blast F & Steel Pl 27:956-9, 1046-9 S-O '39; Same. Engineering 148:425-8 O 13 '39
Controlling the temper of tinplate. T. B. Montgomery. diags Steel 107:56, 58, 61+ O 21 '40; Same, with il. Blast F & Steel Pl 28:990-5 O '40
Electrolytic manufacture of tinplate strip. C. C. Downie. Blast F & Steel Pl 28:183-4+ F '40
Tin plate in the canning industry. B. W. Gonser. il diags **Metal Prog 37:135-41+ F '40**
Tinplate manufacture in war. Economist 138: 307-8 F 17 '40

See also
Tinning

Prices

Tin plate, Pittsburgh, prices, 1929-1939; tabulation. Steel 106:289 Ja 1 '40

TIN research
International tin research and development council, Greenford, England, fourth general report, 1939. 23p Battelle memorial inst, 505 King av, Columbus, Ohio '40
Progress in tin research; report of the International council. Chem Age (Lond) 42: 158 Mr 16 '40

TINKER, Earl W.
Becomes A.P. & P.A. secretary. Paper Tr J 109:11 D 21 '39

TINNEY, Fred William, 1907-1939
Sketch. Science 90:608-9 D 29 '39

TINNING
Adhesion of white-metal linings in bearings. Engineering 150:250 S 27 '40
Adhesion of white metal to bronze. K. Ray. il diags Engineer 170:sup[Metallurgist] 131-3 O 25 '40
Bearing metals; tinning methods. Automobile Eng 30:250 Ag '40
Cleaning tinned equipment. Metal Ind 38:33+ Ja '40
Cold-dip tin plating. B. J. Higgins. il Steel 107 50, 52 Jl 29 '40
Developments in electro-tinplating of strip steel; abstract. D. C. Bakewell. Metals & Alloys 11:MA82-3 F '40
Electrically heated hot-dip tinning furnaces. W. G. Imhoff. il Metal Ind 38:201-2 Ap '40
Hot-dip tinning of milk cans and ice cream cans. W. G. Imhoff. Metal Ind 37:573-6 D '39
Method of bearing production that ensures a good bond between backing and lining. Automotive Ind 82:555+ Je 15 '40
New method developed for tinning brass gauze. Steel 107:130 S 16 '40
Tinned pistons. il Automobile Eng 30:188 Je '40
Tinning copper and brass by immersion. J. D. Sullivan and A. E. Pavlish. il Metals & Alloys 11:131-4 My '40

See also
Tin plate—Manufacture

TIRE chains
E-Z-ON tire chain. J. J. Curley. il Bus Transportation 19:82 F '40
When winter comes; **no missing links; need** for tire chains. H. Armand. il **Safety Eng** 78:6-7 D '39

TIRE fabrics
Cordura; a new rayon yarn for tire cords; comparison with cotton. W. H. Bradshaw. il diag Ind & Eng Chem News ed 18:814-17 S 25 '40
Cordura rayon tires; abstract. W. H. Bradshaw. Rayon 21:283 My '40
Improved cotton tire cord. India Rubber W 103:38 O '40
Rayon for tires; Cordura. L. A. Yerkes, jr. il India Rubber W 101:41-5+ D '39

TIRE factories
See also
Rubber factories
Tires, Automobile—Manufacture

Electric equipment
Producing 11,000 treads a day at the Ford tire plant. R. L. Findley. il diag Rubber Age 47:305-7 Ag '40

Management
Time in process, its effect on the economy of manufacturing; study of five tire factories. F. G. Moore. Advanced Management 5:11-15 Ja-Mr '40

TIRE industry and trade
Farm tire sales rise. Business Week p28-9 Je 1 '40
Federal government loses suit for triple damages against 18 rubber companies. Comm & Fin Chr 150:1527 Mr 9 '40
Government is not person entitled to sue for damages under Sherman act; suit for triple damages against eighteen tire manufacturers dismissed. Oil Paint & Drug Rep 137:3+ Mr 11 '40
Manufacturers adopt new tire warranty. Rubber Age 46:246 Ja '40
Standards adopted for tire advertising and selling. India Rubber W 102:57 S '40
U.S. loses tire suit for triple damages brought against 18 manufacturers on charges of price conspiracy. Business Week p36 Mr 9 '40; Rubber Age 46:381 Mr '40
See also Gasoline service stations—Automobile accessories

Advertising
Balloon poster copy. il Ptr Ink 191:21-2 My 17 '40

Finance
Position of accessory and tire stocks. Mag of Wall St 65:546; 66:527 F 10, Ag 10 '40
Prices still plague tire industry. Business Week p22-4 N 25 '39
SEC issues 1939 supplement for 14 manufacturers of tires and other rubber products. Comm & Fin Chr 151:2589 N 2 '40
Squeeze in tire company profits? W. E. Kraemer. il Mag of Wall St 65:282-4+ D 16 '39
Tire companies, 1937-39. Mag of Wall St Manual p24 Mr 2 '40
Will tire prices stay down? J. A. McWethy. Barron's 19:5 D 25 '39

Statistics
Census reveals big gain in tire and tube output. Automotive Ind 83:502 N 1 '40
Distributers' tire stocks in the United States, October 1, 1939. India Rubber W 101:46+ D '39
Distributers' tire stocks in the United States, January 1, 1940. India Rubber W 101:45-6 Mr '40
Distributers' tire stocks in the United States, April 1, 1940. India Rubber W 102:46+ Je '40
Distributers' tire stocks in the United States, July 1, 1940. India Rubber W 102:45+ S '40
Preliminary census figures for 1939 on the tire and tube industry. Rubber Age 47:386 S '40; Automotive Ind 83:271 S 15 '40
Tire and tube production, revision; monthly, 1923-June, 1940. Fed Res Bul 26:875-6 Ag '40
Tire production statistics. Published in monthly numbers of India rubber world
Tire sales highest since 1929. Business Week p56 F 10 '40
Tires and tubes, 1936-1939. Survey of Cur Business 1940 Sup p149 [supplemented in monthly numbers]
U.S. tire and tube statistics. Published in monthly numbers of Rubber age

Venezuela
General tire and rubber company, Akron, Ohio and Venezuelans to build first tire factory in Venezuela. Comm & Fin Chr 150:1435 Mr 2 '40
Venezuelan tires; Latin American industrialists and Akron company conclude deal for plant. Business Week p58-9 F 10 '40

TIRES, Automobile
Ameripol, a new butadiene synthetic rubber. il India Rubber W 102:47-8 Jl '40
Cordura; a new rayon yarn for tire cords; comparison with cotton. W. H. Bradshaw. il diag Ind & Eng Chem News ed 18:814-17 S 25 '40
First tire of American materials announced by B. F. Goodrich co.; use of Ameripol. il Automotive Ind 82:581+ Je 15 '40
New synthetic rubber developed by Goodrich; Ameripol. il Aero Digest 37:55 Jl '40; Ind & Eng Chem News ed 18:540 Je 25 '40
Next 35 years. D. Beecroft. S A E J 47: sup32-3 Jl '40
Rear axle, tires, wheels, 1941 cars; specifications tabulated. Automotive Ind 83:448 O 15 '40
Rubber developments. Automobile Eng 30: 277-9 S '40
Tire inspection urged by rubber companies. Nat Pet N 32:45 Jl 24 '40
Wide-base tires? Business Week p43-4 My 18 '40
You can sell more new tires in the changeover period. Nat Pet N 32:56-7 Ap 3 '40
See also Gasoline service stations—Automobile accessories

Manufacture
Effect of particle size on processing properties and abrasion resistance of carbon black in tread stocks. G. L. Roberts. il India Rubber W 101:39-42+ F '40
Electrical operation of tread-cutting conveyer system. C. W. Drake. il India Rubber W 101:57 D '39
Producing 11,000 treads a day at the Ford tire plant. R. L. Findley. il diag Rubber Age 47:305-7 Ag '40
Productivity of labor in the rubber tire manufacturing industry. J. D. Gaffey. 204p bibliog(p195-9) $2.50 Columbia univ. press '40
See also
Tire fabrics
Tire factories

Merchandizing
See Tire industry and trade

Prices
New-car tires go up. Business Week p18 S 21 '40
Plugging hole in tire price dike; manufacturers cut spread between dealer and consumer. Business Week p24 Ap 6 '40
Tire prices uncertain. Business Week p36-7 F 10 '40
Tire profits cut. Business Week p29-30 Je 1 '40
Will tire prices stay down? J. A. McWethy. Barron's 19:5 D 25 '39

Repair
Why 165,000 repair men fix flats the Shaler way. W. S. Coles. il Sales Management 46: 22-3+ Ja 1 '40

Retreading
Making old tires like new. H. W. Young. il Comp Air M 45:6061-4 Ja '40
Retreaders hard hit. Business Week p20+ O 12 '40
U.S. retreading increases. India Rubber W 101:48 Mr '40

Testing
General Electric's Tire-o-scope; permits station attendants to X-ray tires from wheel. il Rubber Age 46:373 Mr '40; Electronics 13:60 Ap '40; Mass Transportation 36:124 Je '40

Used tires
Job for old tires; Sears catalog points way to rubber-mounted farm implements. Business Week p34 F 3 '40
Old-tire use widened; I.H.C. equipping farm implements with standard wheels. il Business Week p42-3 My 4 '40

TIRES, Automobile—Used tires—*Continued*
Reclaimed rubber, a little publicized domestic source of supply. F. E. Traflet. il Chem Ind 47:27-9 Jl '40
Sears gives old tires a new push; program of mounting farm equipment on used rubber. Business Week p40+ Mr 23 '40

TIRES, Motor bus
Tire purchase methods of various companies. Transit J 84:40 Ja '40

TIRES, Motor truck
Pneumatic tires; their use and care in quarry service. G. M. Wright. Rock Prod 43:50-1 F '40
To add mileage to truck tires. Nat Pet N 32:30, 32 Ap 24 '40

Retreading
Making old tires like new. H. W. Young. il Comp Air M 45:6061-4 Ja '40
New life in fleet tires; abstract and discussion. L. W. Fox and A. L. MacCracken. S A E J 45:sup 11-12; 46:48 D '39-Ja '40

TIRES, Rubber
Firestone builds largest tire. il Ind & Eng Chem News ed 18:944 N 10 '40
Guide to farm equipment tire sizes. Rubber Age 47:177-8 Je '40; Same. India Rubber W 102:46-7 S '40
New tire warranty; standard warranty covering tires used in off-the-road service, also airplane, industrial, and all-solid tires. India Rubber W 101:52 D '39
Pneumatic tires for rail cars. diag Mech Eng 62:149 F '40
Puncture-proof inner tube for combat vehicle tires. Sci Am 163:255-6 N '40
Rubber promotes efficiency on California farms. il India Rubber W 101:54-5 F '40
Rubber-tired haulage, 1939. il Coal Age 45: 60-2 F '40
Shuttle haulage for mechanical loading; review of developments. H. B. Husband. il Min Cong J 26:34-5 Jl '40
Value and cost of pneumatic tires. J. B. Davidson and E. G. McKibben. il India Rubber W 103:49-51 O '40
See also
Tires, Automobile

Manufacture
Casts aluminum lining for giant tire mold. P. Dwyer. il Foundry 68:50-1+ O '40
Use of reclaimed rubber in mechanical and hard rubber goods. H. F. Palmer. Rubber Age 47:249-51 Jl '40
Vulcanizing press for 10-foot diameter tires. il Steel 106:49 Ja 15 '40

Statistics
Census of manufactures, 1939. India Rubber W 103:37-8 O '40

TIRES, Steel
Investigation into the occurrence and causes of locomotive tyre failures. C. W. Newberry. diags Inst Mech Eng J & Proc 142: Proc 289-303, pl 1-4 Ja '40; Discussion. 143:Proc 349-62, pl 5-8 O '40
Reclaiming locomotive tires by flame cutting. il diags Coal Age 45:58 Mr '40

TIRES, Tractor
Farm tire sales rise. Business Week p28-9 Je 1 '40
Guide to farm equipment tire sizes. Rubber Age 47:177-8 Je '40; Same. India Rubber W 102:46-7 S '40
Value and cost of pneumatic tires. J. B. Davidson and E. G. McKibben. il India Rubber W 103:49-51 O '40
Wide base tractor tires. R. P. Gaylord. diag India Rubber W 102:46 My '40

TISSUE paper
Instrumentation studies; the Clark paper softness tester, with an important note on the Gurley stiffness tester. il diag Paper Tr J 110:29-37 F 15 '40
New high-speed cleansing tissue machine. il Paper Ind 22:682-3 O '40

TISSUES
Association of the heterogenetic antigen with a material in normal and tumor tissues sedimentable at high speed. J. Furth and E. A. Kabat. Science 91:483-5 My 17 '40
Changes in the connective tissue of the uterus and vagina of the rat associated with advancing age. J. M. Wolfe and others. Science 91:577-8 Je 14 '40
Coenzyme concentration of tissues. F. Bernheim and A. V. Felsovanyi. Science 91: 76 Ja 19 '40
Factors influencing carcinogenesis with methylcholanthrene; the effect of solvents. M. B. Shimkin and H. B. Andervont. bibliog Pub Health Rep 55:537-45 Mr 29 '40
Further study of the mode of action of methylcholanthrene on normal tissue cultures. W. R. Earle and C. Voegtlin. bibliog Pub Health Rep 55:303-22, pl 1-9 F 23 '40
Halowax-paraffine for infiltrating histologic tissues. E. D. Crabb. Science 91:174 F 16 '40
Methods for the microscopic study of cells and tissues in the living mammal; abstract. E. R. Clark. Can Chem & Process Ind 24: 98 F '40
Speedier and less costly method of concentration in nitro-cellulose imbedding. H. W. Jensen. diag Science 91:509-10 My 24 '40
Tissue reaction to some carbon arc dusts. E. L. MacQuiddy and others. il J Ind Hygiene 21:498-513 bibliog(p511-13) D '39
Tissues of the body. W. E. L. Clark. 372p $5.50 Oxford '39
See also
Plant cells and tissues

Analysis
Bacterial assay of riboflavin in the urine and tissues of normal and depleted dogs and rats. H. F. Fraser, N. H. Topping and H. Isbell. bibliog Pub Health Rep 55:280-9 F 16 '40
Colorimetric determination of lead chromate by diphenylcarbazide; application of a new method to analysis of lead in blood, tissues, and excreta. T. V. Letonoff and J. G. Reinhold. bibliog Ind & Eng Chem Anal ed 12: 280-4 My 15 '40
Determination of the total *d*-amino acid content of human tumors and normal tissues by means of *d*-amino acid oxidase. F. Lipmann and others. bibliog Science 91:21-3 Ja 5 '40

Culture
Making tissues ageless. B. M. Newman. il Sci Am 162:284-5 My '40
Roller bottle tissue culture system. D. T. Shaw, L. C. Kingsland and A. M. Brues. bibliog diags Science 91:148-9 F 9 '40
Simple method of obtaining pure cultures of embryonic heart muscle. E. F. Stilwell. Science 92:267-8 S 20 '40

TITANIA. See Titanium oxides

TITANIC acid
Der einfluss von kieselsäure, titansäure, und tonerde auf die zähigkeit einer sauren synthetischen schlacke und berechnung der zähigkeit saurer und basischer hochofenschlacken aus der chemischen zusammensetzung. K. Endell and G. Brinkmann. Stahl & Eisen 59:1319-21 D 7 '39
Die reduktion von titansäure mit festem kohlenstoff und kohlenstoffhaltigem eisen. W. Baukloh and R. Durrer. Stahl & Eisen 60:12-13 Ja 4 '40

TITANIUM
Concentration of feldspathic waste from a titanium mine near Roseland, Va. D. I. Smith, R. G. O'Meara and T. N. McVay. Am Cer Soc J 23:339-41 N '40
Ductile zirconium and titanium; corrosion resistance; removal of gases from vacuum tubes, other properties and uses. il Steel 107:54-6, 58+ S 16 '40
Effect of titanium on the macrostructure and grain coarsening temperature of forging steel. G. F. Comstock. il Am Soc for Metals Trans 28:608-18 S '40

TITANIUM—*Continued*
K-electron capture and internal conversion in Cr^{51}. H. Walke, F. C. Thompson and J. Holt. il Phys R 57:171-6 F 1 '40
Paramagnetic relaxation times for titanium and chrome alum. J. H. Van Vleck. bibliog Phys R 57:426-47 Mr 1 '40
Production of ductile titanium. W. Kroll. bibliog il diags Electrochem Soc Trans 78 (preprint 11):161-72 O '40
Progress in metallurgical application of titanium in 1939. G. F. Comstock. il Blast F & Steel Pl 28:45-6 Ja '40
Die reduktion von titansäure mit festem kohlenstoff und kohlenstoffhaltigem eisen. W. Baukloh and R. Durrer. Stahl & Eisen 60:12-13 Ja 4 '40
Titanium and some properties of Cr-Mo steel for airplane tubing. G. F. Comstock. il Metals & Alloys 12:21-6 Jl '40
Titanium as an alloy for cast iron; abstract. P. Bastien. Automotive Ind 82:554-5 Je 15 '40
Titanium concentrate in the electrometallurgy of steel. Blast F & Steel Pl 28:390 Ap '40
Titanium in steel and iron. G. F. Comstock. Metal Prog 38:387+ O '40
Tubes for oil heaters; titanium or columbium in 5% Cr-Mo-Si steel. H. Habart. il Metal Prog 37:401-5 Ap '40
Zirconium and titanium; a composite of abstracts. Metals & Alloys 12:348+ S '40

Analysis

Qualitative semimicro-analysis with reference to Noyes and Bray's system: the tantalum and the tungsten group. C. C. Miller and A. J. Lowe. Chem Soc J p1258-63 S '40
Stability of peroxidized titanium solutions. G. H. Ayres and E. M. Vienneau. bibliog Ind & Eng Chem Anal ed 12:96 F 15 '40

TITANIUM compounds
Textile uses of titanium compounds; satisfactory properties of dioxide and salts. G. S Ranshaw. Chem Age (Lond) 43:79-80 Ag 17 '40
Titanium compounds; abstract. S. Suzuki. Am Cer Soc J 23 (Cer A 19):118-19 My '40
Titanium pigments. I. D. Hagar. il Chem Ind 46:438-43 Ap '40

TITANIUM oxides
Chalking of titanium dioxide pigmented exterior finishes; outside house paints. R. E. Troutman and W. G. Vannoy. il Ind & Eng Chem 32:232-7 F '40
Chalking of titanium dioxide pigmented exterior finishes; synthetic enamels. D. H. Dawson and R. D. Nutting. il Ind & Eng Chem 32:112-16 Ja '40
Dielectric properties of the rutile form of TiO_2. L. J. Berberich and M. E. Bell. bibliog J Ap Phys 11:681-92 O '40
Effect of filler brightness on lined board brightness. W. R. Willets, R. T. Bingham and L. H. Eriksen. Paper Tr J 109:42-4 D 7 '39
Glass melts in the systems zirconia-alumina-silica and titania-alumina-silica. A. E. Badger and L. M. Doney. bibliog diag Glass Ind 21:309-11+ Jl '40
Lead in cosmetic pigments not officially proscribed. Oil Paint & Drug Rep 137:3+ Ja 22 '40
New Rayox. il Paper Tr J 111:16 N 7 '40
Pigment research improves paints. Sci Am 162:103-4 F '40
Retention of fillers. S. W. Martin and W. R. Willets. Paper Tr J 110:111-17 bibliog(41 titles, p 117) F 22 '40
Titanium chalking, behavior of the new nonchalking titanium white pigments; abstract. R. L. Wharton. Oil Paint & Drug Rep 136:36 N 20 '39
Über die zwischenzustände bei modifikationsumwandlungen und die katalytische beeinflussung dieser vorgänge durch fremdgase. G. F. Hüttig. Angew Chemie 53:35-9 Ja 20 '40

TITANIUM sulfate
Titanium sulfate solutions; refractive index and viscosity measurements. A. W. Hixson and J. D. Stetkewicz. bibliog Ind & Eng Chem 32:1009-15 Jl '40

TITANIUM tetrachloride
Industrial uses of chemicals and related materials. Oil Paint & Drug Rep 138:31 Jl 22; 30 Jl 29 '40

TITLE pages
Garfield school's printing students show real ability; Graphic arts department of the Garfield high school, Akron, Ohio. il Inland Ptr 104:53 Ja '40

TITRATION. See Volumetric analysis

TITRIMETRY (term)
Ideological uncertainties in titrimetry. M. G. Mellon. bibliog J Chem Educ 17:422-5 S '40

TOBACCO
Drying and curing bright leaf tobacco with conditioned air. A. H. Cooper, C. D. Delamar and H. B. Smith. bibliog il Ind & Eng Chem 32:194-8 F '40
Greek involvement in war may cancel $4,500,000 premium on Turkish tobacco crop. Nat Underw 44:3 O 31 '40
Nornicotine as the predominating alkaloid in certain tobaccos. L. N. Markwood. Science 92:204-5 Ag 30 '40
Tobacco; a study of its consumption in the United States. J. J. Gottsegen. 279p bibliog(p263-74) $3.75 Pitman '40

See also
Cigarets
Cigars
Nicotine
Smoking

Diseases and pests

p-Dichlorobenzene as a vapor fumigant; effect of crystal size on rate of evaporation, estimation of *p*-dichlorobenzene in atmosphere. F. R. Darkis, H. E. Vermillion and P. M. Gross. bibliog il Ind & Eng Chem 32:946-9 Jl '40

See also
Tobacco mosaic virus

Physiological effect

Effect of cigarettes; study of tobacco and health by Northwestern National Life. Weekly Underw 142:1254-5 My 25 '40

TOBACCO factories

See also
Cigar factories

TOBACCO industry and trade
News by commodities. Published in Foreign commerce weekly
Tobacco growers wilt. Business Week p16 Ag 3 '40
Tobacco retailers' almanac. 5th ed 64p Retail tobacco dealers of America, 233 Broadway, New York '40

See also
Cigarets
Cigars
also names of companies, e g.
American tobacco company
British-American tobacco company
Imperial tobacco company (of Great Britain and Ireland)
Reynolds, R. J., tobacco company

Accounting

How tobacco firms treat inventories. A. Cotter. Barron's 19:8+ N 20 '39
Metropolitan Tobacco takes a whack at accounting costs; accounts receivable records written simultaneously by machine. il Am Business 10:20-2 Mr '40

Advertising

Advertising's place in business scheme; as Hill looks at it; letter to stockholders, American Tobacco. G. W. Hill. Ptr Ink 190: 13-15 F 9 '40

See also
Cigarets—Advertising

TOBACCO industry and trade—*Continued*

Finance

Can Philip Morris maintain growth? F. H. McConnell. Barron's 20:13 Ap 15 '40
New impetus for tobacco stocks? R. Lane. il Mag of Wall St 65:288-9+ D 16 '39
Tobacco companies' outlook. H. M. Wootten. Barron's 20:13 Jl 1 '40
What's ahead for Reynolds Tobacco? P. Dobbs. il Mag of Wall St 66:478-9+ Jl 27 '40

Securities

American Tobacco for dividends; earnings again edging up. J. C. Clifford. il Mag of Wall St 65:562-3+ F 10 '40
Dividends in danger on tobacco stocks? J. J. Hipple. il Mag of Wall St 67:148-9+ N 16 '40
Position of leading tobacco stocks. Mag of Wall St 65.513; 66.521 F 10, Ag 10 '40
Tobacco companies, 1937-39. Mag of Wall St Manual p32-3 Mr 2 '40

Statistics

Dealers' and manufacturers' stocks of leaf tobacco, quarterly, 1912-39. Survey of Cur Business 20:15 Mr '40
Leaf and manufactured products, 1936-1939. Survey of Cur Business 1940 Sup p114-15 [supplemented in monthly numbers]
Production of tobacco products, cigars, cigarets, snuff, revision; monthly, 1923-June, 1940. Fed Res Bul 26:859 Ag '40

Taxation

Tobacco tax revenues mount for states in 1939. Comm & Fin Chr 149:3588 D 2 '39

Great Britain

British tobacco imports. Economist 138:32 Ja 6 '40
Tobacco company results. Economist 138:478 Mr 16 '40
Tobacco shares, with statistics of output, consumption, profits, etc., selected years, 1907-1939. Economist 138:296-8 F 17 '40
Turkish leaf and tobacco shares and proposed purchases of Balkan tobacco. Economist 138:69, 77 Ja 13 '40

Trinidad

Tobacco and related products. For Comm W 1:229-30 N 2 '40

United States

Advertising, is it a monopoly? tobacco case. Ptr Ink Mo 41:28+ S '40
Case to watch; tobacco anti-trust prosecutions. C. M. Wright. Ptr Ink 192:21-4 Ag 2 '40
Department of agriculture announces purchase plan for fire-cured and dark air-cured tobacco; burley growers favor marketing quotas for 1940 crop. Comm & Fin Chr 149:3801-2 D 16 '39
Loan and purchase program for 1940 flue-cured tobacco crop announced by Department of agriculture. Comm & Fin Chr 151: 914 Ag 17 '40
Tobacco companies accused in anti-trust action. Comm & Fin Chr 151:487-8 Jl 27 '40
Tobacco monopoly charged by U.S. Oil Paint & Drug Rep 138 3+ Jl 29 '40

TOBACCO mosaic virus

Reversible inhibition of tobacco mosaic virus in living cells with 0.0002 molar sodium cyanide. M. W. Woods. bibliog Science 91: 295-6 Mr 22 '40

TOBACCO pipes

Pipe dream; when doctors told aeronautical engineer to quit smoking, result was nationally advertised product. E. Peterson. il Ptr Ink 192:13-15 S 13 '40

TOCOPHEROL

Chemistry of vitamin E. L. I. Smith. Chem R 27:287-329 bibliog(144 references, p325-9) O '40
Chemistry of vitamin E; the structure of γ-tocopherol. O. H. Emerson and L. I. Smith. bibliog Am Chem Soc J 62:1869-72 Jl '40
Studies on vitamin E; further investigations on homologues of α-tocopherol. A. Jacob, F. K. Sutcliffe and A. R. Todd. Chem Soc J p327-32 Mr '40

TOCQUEVILLE, Alexis de, 1805-1859

Prophet of the mass age. J. P. Mayer. 198p bibliog(p179-89) 8s 6d J. M. Dent and sons, London '39

TOEPLER'S schlieren method

Hormone studies with the ultracentrifuge; an application of Toepler's schlieren method to the analytical ultracentrifuge. J. A. Chiles, jr. and A. E. Severinghaus. bibliog il diags R Sci Instr 11:71-6 F '40

TOILET goods

Designed for men, by a man; Seaforth toiletries. il Mod Packaging 14:46 S '40
Early American old spice; record of a merchant of toiletries. il Fortune 21:78-81+ Ap '40
Food and drug administration truce called; toilet goods makers repackaging products seized in drive on deceptive containers. Business Week p37-8 D 2 '39
Sales increase 40-fold in 2 years; advertising cost drops to 6.9% from 15.6%; Early American old spice toiletries. C. J. Swan. il Ptr Ink 191:11-14 Ap 19 '40
Sulphonated oils and fatty alcohols; some industrial applications. G. S. Collingridge. Chem Age (Lond) 42:17-19 Ja 13 '40

See also
Cosmetics
Perfumery

Advertising

Package decorations provide contest theme; Shulton's Early American old spice products. il Ptr Ink Mo 40:25-6 Ap '40

Statistics

Make-up of the toilet goods dollar; pictograph. Sales Management 47:42 Ag 15 '40

TOILET goods association

Annual meeting, 5th, New York. Oil Paint & Drug Rep 137:3+ My 20 '40
Mineral oil standards set up by Toilet goods association. Oil Paint & Drug Rep 138:3+ N 4 '40
Raw material standards planned. Oil Paint & Drug Rep 138:3+ Ag 12 '40

TOILET rooms

See also
Bathrooms

TOKENS

Taxpayers' load made visible; new token currency to aid collection of sales taxes. J. Farnham. il Nation's Business 28:110 Mr '40

TOKIO marine and fire insurance company

Tokio and Meiji end U.S. fire underwriting; reinsure with Standard of N.Y. East Underw 41:25 O 4 '40; Nat Underw 44:4 O 3 '40

TOLEDO, Ohio

How one city's industry is helping America. il Factory Management 98:F1-F8 Ag '40

Harbor

Port of Toledo, Ohio. rev ed 108p U.S. Engineer dept, Board of engineers for rivers and harbors, Washington; 75c Supt. of doc. '39

Water supply

Design features of the Toledo water supply project; abstract. P. Hansen. Am Water Works Assn J 32:1408-9 Ag '40
Lake Erie water. P. Hansen. il diag map Eng N 124:35-6 Ja 4 '40
Obtaining Lake Erie water for Toledo. il Eng N 125:124-5 Jl 25 '40
Putting a damper on surge. P. Hansen and P. E. Langdon. diags Eng N 124:523-4 Ap 11 '40

TOLEDO Edison company

Securities offered. Comm & Fin Chr 150: 2596, 2747-8 Ap 20-27 '40

TOLEDO industrial peace board

Municipal labor boards of Toledo and Newark. W. L. Nunn. Monthly Labor R 49:1045-9 N '39

TOLEDO scale company
Efficient new plant. il plans Arch Rec 87:86-90 F '40
How Toledo Scale's new plant and office cuts costs. il Am Business 10:33-40 Mr '40
New plant. il Ind & Eng Chem News ed 17: 706 N 20 '39

TOLERANCE
Control in modern gear manufacture. R. S. Marthens. il Iron Age 144:33-6 D 21 '39
Standard tolerances for forgings up to 100 lb; data sheet. Metal Prog 38:514 O '40
Tolerances at the vanishing point; on the production line of American Bosch injection pumps. H. E. Blank, jr. il diag Automotive Ind 81:564-72 D 1 '39

TOLERATION
Folly of bigotry; an analysis of intolerance. W. F. Clarke. 137p $1 Non-sectarian league for Americanism, 612 N. Michigan av, Chicago '40

TOLL bridges. See Bridges—Tolls

TOLL roads. See Roads—Tolls

TOLL system. See Telephone—Long distance

TOLLS
See also
Canals—Rates and tolls

TOLMAN, Lucius Moody, 1875-
American contemporaries. W. L. Lewis. por Ind & Eng Chem News ed 18:850-1 O 10 '40

TOLUENE
Analysis of mixtures of aliphatic acids; simultaneous qualitative and approximate quantitative determination; azeotropic distillation with benzene and toluene. S. T. Schicktanz, W. I. Steele and A. C. Blaisdell. bibliog Ind & Eng Chem Anal ed 12: 320-4 Je 15 '40

Benzene and toluene isopiestic liquid-vapor equilibrium data. F. Todd. bibliog Ind & Eng Chem 32:287-8 F '40

By-products of coal carbonization. J. M. Weiss. Ind & Eng Chem 32:1161-2 S '40

Condensation of vapors on a horizontal tube; heat transfer coefficient for condensation of vapors of water and nonmiscible organic liquids. E. M. Baker and U. Tsao. bibliog diags Ind & Eng Chem 32:1115-21 Ag '40; Same. Am Inst Chem Eng Trans 36:517-39 Ag '40

Correlating vapor pressure and latent heat data; vapor compositions of solutions of volatile liquids; benzene, toluene, ethanol. D. F. Othmer. bibliog Ind & Eng Chem 32: 853-4 Je '40

Defense heads seek supply of toluene for war needs. H. D. Ralph. Oil & Gas J 39: 33 S 12 '40

Electric moments of morpholine and some halogenated toluenes. A. A. Maryott, M. E. Hobbs and P. M. Gross. bibliog Am Chem Soc J 62:2320-4 S '40

Electron emission into dielectric liquids. W. R. LePage and L. A. DuBridge. diag Phys R 58:61-6 Jl 1 '40

Evaluation of nitrocellulose lacquer solvents; study of hydrocarbon diluents by the constant-viscosity procedure. V. W. Ware and W. M. Bruner. bibliog Ind & Eng Chem 32:78-82 Ja '40

Heat of photobromination of the phenyl methanes and cinnamic acid, and the influence of oxygen. J. L. Magee and F. Daniels. bibliog Am Chem Soc J 62:2825-33 O '40

Increased production of toluene sought. Ind & Eng Chem News ed 18:661 Ag 10 '40

Iodides of some polyvalent metals. H. W. Foote and M. Fleischer. bibliog J Phys Chem 44:647-52 My '40

Light oil recovery from coke oven gas. W. Tiddy and M. J. Miller. plans Am Gas J 153:7-10+ S '40

Measurement of the heat capacity of a small volume of liquid by the piezo-thermometric method. J. S. Burlew. bibliog diags Am Chem Soc J 62:681-700 Ap '40

Partial pressure of hydrogen bromide from its solutions in some aprotic solvents at 25°; comparison with hydrogen chloride. S. J. O'Brien and E. G. Bobalek. bibliog Am Chem Soc J 62:3227-30 N '40

Petroleum toluol for national defense; comparing certain petroleum processes. bibliog il Chem & Met Eng 47:535-7 Ag '40; Abstract. Chem Age (Lond) 43:121+ S 14 '40

Physical properties of the ternary system butyl alcohol—ethyl acetate—toluene. E. E. Litkenhous, J. D. Van Arsdale and I. W. Hutchison, jr. bibliog J Phys Chem 44:377-88 Mr '40

Side-chain bromination. J. R. Sampey, F. S. Fawcett and B. A. Morehead. Am Chem Soc J 62:1839-40 Jl '40

Side-chain bromination; negative catalytic effects. J. R. Sampey and E. M. Hicks. Am Chem Soc J 62:3252-3 N '40

Solid polyiodides of rubidium. H. W. Foote and M. Fleischer. bibliog J Phys Chem 44: 633-40 My '40

Spreading of binary mixtures of volatile organic liquids on water. C. P. Keim and E. R. Washburn. bibliog Am Chem Soc J 62:2318-20 S '40

Supplies of toluene ample; plan to build stockpiles. E. R. Stettinius, jr. Nat Pet N 32:13-14 S 11 '40

Surface tension of a solvent-diluent mixture. J. K. Stewart and G. C. Hook. bibliog il Ind & Eng Chem 32:871-6 Je '40

Technical problems of the gas industry in connection with national defense, with special reference to toluol recovery by gas works; with cost data. P. T. Dashiell. Am Gas J 153:45-50+ N '40

Ternary system: isopropyl alcohol, toluene and water at 25°. E. R. Washburn and A. E. Beguin. Am Chem Soc J 62:579-81 Mr '40

Toluene and xylene; hazards and precautions. Nat Safety N 42:36+ Ag '40

Toluene method of determining soil moisture content. J. C. Horvath. diag Pub Works 70: 18 D '39

Toluol from petroleum is defense board aim; plans for other commodities. Oil Paint & Drug Rep 138:3+ Jl 22 '40

Toluol from petroleum proved practicable. Oil Paint & Drug Rep 138:5+ S 16 '40

Toluol plant to be built for $11,857,000 in Texas. Oil Paint & Drug Rep 138:3+ O 28 '40

U.S. toluene supplies adequate. Ind & Eng Chem News ed 18:817 S 25 '40

Analysis

Eine neue physikalisch-chemische methode zur bestimmung von einzelbestandteilen in gemischen; unter besonderer berücksichtigung ihrer anwendung auf die untersuchung von mineralölen, synthetischen ölen und teerfraktionen. G. Ibing. diag Angew Chemie 53:60-5 F 3 '40

Statistics

Wartime demand for toluol may raise prices to point where petroleum processes can compete. Chem & Met Eng 47:573-4 Ag '40

TOLUENESULFINIC acid
Chelation in the potassium compounds of carboxylic and sulphinic acids. W. G. Wright. Chem Soc J p859-62 Jl '40

TOLUENE sulfonamides
Some relations between molecular structure and plasticizing effect. A. Kirkpatrick. J Ap Phys 11:255-61 Ap '40

TOLUENESULFONYL ethylenediamine
Certain arylsulfonyl derivatives of ethylenediamine. L. H. Amundsen and R. I. Longley, jr. bibliog Am Chem Soc J 62:2811-12 O '40

TOLUIDINE
Studies in peroxidase action; the oxidation of *p*-toluidine. B. C. Saunders and P. J. G. Mann. Chem Soc J p769-72 Je '40

TOLUNITRILE
Some Michael condensations involving benzyl cyanide. R. W. Helmkamp, L. J. Tanghe and J. T. Plati. bibliog Am Chem Soc J 62: 3215-19 N '40

TOLUOL. See Toluene

TOMATO catsup
Catchup packers disagree on benzoate of soda. Food Ind 12:70 O '40

TOMATO juice
Effects of tomato juice on production of flavor contributants in butter cultures; abstract. C. W. Abbott. Food Ind 12:95 Je '40
Heat penetration in tomato juice; abstract. H. P. Stevens. Food Ind 12:92 Je '40
Kemp, Crosse & Blackwell, lead tomato juice market in New York city. Sales Management 47:53-4 Ag 1 '40
Rate of heat penetration in canned tomato juice; abstract. L. J. Frost. Food Ind 12:90 Ag '40

Analysis
Determination of total solids in canned tomato products. G. Horner. Soc Chem Ind J 59:74-8 Ap '40

TOMATO pomace
Tomato pomace in the diet. C. M. McCay and S. E. Smith. Science 91:388-9 Ap 19 '40

TOMATO soup
Analysis
Determination of total solids in canned tomato products. G. Horner. Soc Chem Ind J 59:74-8 Ap '40

TOMATOES
Application of calcium in the commercial canning of whole tomatoes; abstract. Z. I. Kertesz and others. Food Ind 12:95-6 Je '40
Early British war demand for canned vegetables spotlights tomato items. C. E. Birgfeld. Comm Rep p65 Ja 20 '40
Effect of added calcium on tomatoes; abstract. D. Godfrey. Food Ind 12:96 Jl '40
Metallic contamination of foods. J. T. Janson and C. E. Allen. bibliog Can Chem & Process Ind 24:389-91+ Ag '40
Potassium deficiency in ammonium- and nitrate-fed tomato plants. M. E. Wall and V. A. Tiedjens. Science 91:221-2 Mr 1 '40

Analysis
Determination of magnesium in biological materials; an oxidation method. J. P. Nielsen. Ind & Eng Chem Anal ed 11:649-51 D 15 '39

TOMBS
New design concrete burial vault. il Rock Prod 43:63-4 N '40

TONAL memory
Testing
Multi-frequency oscillator for audio testing; for making records used in tonal memory tests at Human engineering laboratory of Stevens institute of technology. J. Quinn. il diags Electronics 13:23-5 My '40

TONGS
New design of combustion boat tongs. H. F. Priest. diags Ind & Eng Chem Anal ed 12: 473 Ag 15 '40

TOOL boxes
Portable work bench and tool box for making installations or repairs on airplanes. il Am Mach 84:864 O 30 '40

TOOL engineers, American society of. See American society of tool engineers

TOOL rooms
General Electric display board with models of cutting tools; object of facilitating selection of tools by operators. il Mach 46:124 Ag '40
Tool crib control of carbide tools. G. G. Thompson. il diags Iron Age 146:29-34 S 12 '40
Trade school stock and tool room. G. H. Klay. plan Sheet Metal Worker 31:32 Je '40

TOOL steel
As it was in 1915 and as it is in 1940. J. P. Gill. Metal Prog 37:303 Mr '40
Bethlehem develops new tool steel; Red Tiger. il Iron Age 145:39 Je 27 '40; Ry Mech Eng 114:236-7 Je '40; Steel 106:62 Je 17 '40
Bethlehem offers a new tool steel. Automotive Ind 83:435 O 15 '40
Bright hardening of tool steels without decarburization or distortion. J. R. Gier and H. Scott. il Am Soc for Metals Trans 28: 671-84; Discussion. 685-6 S '40
Choice of toolsteels according to their wear-toughness. H. B. Chambers. Metal Prog 37:665-70+ Je '40
Classification of high-speed steels by manufacturer and trade name. Am Mach 84:96 F 21 '40
Composition and heat-treatment of tools for cold working carbon steel; table. Am Mach 84:835 O 16 '40
Die steel with high wear resistance and minimum distortion; Sparta steel. il Mach 46:137-8 Je '40
Dimension changes of tool steels during quenching and tempering. E. Ameen. bibliog diags Am Soc for Metals Trans 28: 472-512 Je '40
Furnaces for tool hardening. A. H. d'Arcambal. Metal Prog 38:592 O '40
Hardenability studies on tool steel. A. J. Scheid, jr. il Am Soc for Metals Trans 28:445-66; Discussion. il 466-71 Je '40
Heat-treatment of tool steels. R. C. Deals. Mach 46:33-5, 257-61 S, D '39
How to forge tool steel. A. M. Steever. il diags Iron Age 146:21-7 Jl 25 '40
Improved die steels. H. E. Replogle. Metal Prog 38:513 O '40
Introductory study of the nitriding of hardened high speed steel by the use of molten cyanides. J. G. Morrison and J. P. Gill. il diags Am Soc for Metals Trans 27:935-1011 D '39; Excerpt. Steel 105:52-3 O 30 '39; Discussion. Am Soc for Metals Trans 27:1011-14 D '39
Memo. on desirable properties of steel for cutting tools and on Rockwell hardness test of axes. G. St. G. Sproule. diags Pulp & Pa of Can 41:456, 458+ Je '40
New air-hardening die steel is developed. il Steel 106:66-7 F 26 '40; Same cond. Iron Age 145:53 Mr 7 '40; Same cond. Mach 46:136-7 Mr '40; Same cond. Automotive Ind 82:274-6 Mr 15 '40; Excerpts. Am Mach 84:188 Mr 20 '40
New die steel developed for short-run work. il Steel 106:48+ F 12 '40
New tungsten-chromium-cobalt alloy cutters resist chipping. W. R. Frazer. Steel 107: 166+ O 14 '40
Some practical notes on high speed steel forgings. W. H. Wills. il diags Am Soc for Metals Trans 28:424-39; Discussion. il 440-4 Je '40
Temper cracks in high speed steels. K. Monma. Iron Age 145:54-5+ Ap 4 '40
Tempering of high speed steel. M. Cohen and P. K. Koh. flow sheet il diag Am Soc for Metals Trans 27:1015-47 bibliog(p1046-7) D '39; Conclusions. Steel 105:56+ N 6 '39; Discussion. Am Soc for Metals Trans 27: 1047-51 D '39
Tool hardening atmospheres. W. A. Schlegel. Metals & Alloys 12:226 Ag '40
Toolsteels classified by wear-toughness ratio; tabulation. H. B. Chambers. Metal Prog 37:663 Je '40
Toolsteels for hot working iron and steel; data sheet. H. E. Replogle. Metal Prog 38:512 O '40
Toughness, particularly of toolsteel. R. S. Rose. Metal Prog 37:407-11 Ap '40; Discussion. N. Levinsohn. 38:66-7; Reply. 67 Jl '40
Vanadium-alloys steel company; a pioneer maker of alloyed steels. C. Longenecker. il Blast F & Steel Pl 28:599-602 Je '40
Vanadium in steel. J. Strauss. Metal Prog 38: 389+ O '40
Welded dies, their design and fabrication; with tool steel analyses and recommended heat treatment. A. R. Butler. il Steel 107: 106, 108+ O 14; 62-3, 66 O 21; 66, 68-9 O 28 '40

TOOL steel—*Continued*
Welding tool steels. H. A. Gonser. il Steel 106:66+ F 5 '40
Wolframarme chromreiche schnellarbeitsstähle. G. Hieber. Stahl & Eisen 59:1254 N 16 '39
Working of high-speed steels. diags Am Mach 84:93-100 F 21 '40

See also
Cutting tools
Machine tools
Molybdenum steel
Steel alloys

Standards
Society of tool engineers requests American standards for tool steels. Ind Stand 11:203 Ag '40

Testing
Hardenability testing tool steels by oil quenching small cones. E. K. Spring and J. K. Desmond. il Steel 107:58, 60-2 O 28 '40
Magnetism measures hardness. R. C. Gibbons. il Am Mach 84:426-7 Je 12 '40
Stress-strain characteristics of the torsion impact test. O. V. Greene and R. D. Stout. bibliog il diag Am Soc for Metals Trans 28:277-98; Discussion. 298-305 Je '40
Study of the influence of speed on the torsion impact test. O. V. Greene and R. D. Stout. il diags Am Soc T M Proc 39:1292-8 '39

TOOLMAKERS
Skilled workers for defense industries; improved toolroom practices. C. S. Slocombe. Personnel J 19:163-4 N '40

TOOLS
Altes werkzeug. W. Bernt. il V D I 84:318-20 My 11 '40
Controlling tool costs. S. R. Catsiff. diags N A C A Bul 21:1149-76 My 15 '40
Don't treat them rough; hand tools. il Nat Safety N 42:112-13 O '40
Dressing and truing grinding wheels. H. J. Wills. il diags Am Mach 84:859-61, 914-16 O 30-N 13 '40
Good tools made better; handles on Millers Falls co. tools from red transparent cellulose nitrate. il Mod Plastics 17:56+ Ap '40
Hand tools; safety measures. il Nat Safety N 41:107-8 Mr '40
Helping dealers with adjustments; how to tell whether or not a returned hammer is defective. il Ptr Ink Mo 40:27 F '40
Need list gives Snap-on men concrete objective for each call; helps the salesman to build small accounts into bigger accounts. A. G. Howes. il Sales Management 45:42, 44 D 1 '39
Need of tool records; abstract. J. M. Crawford. Iron Age 145:47 Mr 14 '40
New equipment; gages, small tools and accessories. il Iron Age 146:63-6 N 14 '40
Review of power and mechanical equipment; wrenches and tools. il Power 83:850c+ Mid-D '39
Safe-ending drills and chisels. il diag Can Min J 61:372-3 Je '40; Same abr. Safety Eng 80:29 Jl '40
Saving material; chromium plating as method of conservation. Automobile Eng 30:258 S '40
Shop equipment review; tools and accessories. il diags Am Mach 84:151-74 Ja 24 '40
Tools for pressing and drawing; composite of abstracts. Metals & Alloys 11:MA134+ Mr '40
What's new in small tools and cutters. F. J. Oliver. il Iron Age 146:50-4 Jl 11 '40
What's new in small tools and gages. F. J. Oliver. il diags Iron Age 146:55-8 Ag 15 '40
What's new in small tools, cutters, gages and drafting equipment. F. J. Oliver. il diags Iron Age 144:41-6 N 30 '39

See also
Cutting tools
Electric tools, Portable
Garden tools
Machine tools
Machinery
Parallels
Pneumatic tools
Saws
Tool rooms
Tool steel
Wrenches

Manufacture
Century of fine tool manufacture is celebrated this year by Henry Disston & sons, inc. il Iron Age 146:42-3 Ag 8 '40
Die making in the modern manner; tool and die shop; J. C. Ulmer co. F. B. Jacobs. il Steel 106:50-1 My 27 '40
Ford operates the world's largest tool and die shop at River Rouge. il Mach 46:108-11 Ag '40
Hammers, hatches, sledges, et cetera; Fayette R. Plumb, inc. C. C. Hermann. il Iron Age 146:38-41 Jl 11 '40
Heat treatment in the Ford new tool and die shop. E. F. Cone. il Metals & Alloys 10:326-31 N '39
Home-made toolmakers' microscope. E. W. Pennington. il Am Mach 84:460-1 Je 26 '40

TOOLS, Machine. See Machine tools

TOOTHBRUSHES
Nylon bristles to be generally available. Oil Paint & Drug Rep 137:41 Mr 25 '40
Nylon toothbrush, 25c. Business Week p30 S 21 '40
Nylon toothbrushes. Chem & Ind 59:308-9 My 4 '40
Toothbrush troubles. Business Week p30+ Je 29 '40
Weco products knows its windows pull; tests prove it. il Sales Management 47:46-7 S 1 '40

TOPAZ
Physical properties of massive topaz; abstract J. L. Stuckey and J. J. Amero. Brick & Clay Rec 96:35 My '40
Study of the refractory properties of topaz. R. S. Bradley, F. W. Schroeder and W. D. Keller. il Am Cer Soc J 23:265-70 S '40

TOPEKA, Kansas

Streets
Black base construction in Topeka W A. Lawson. il diags Roads & Sts 83:64-5 Mr '40

TOPOGRAPHICAL maps
Aerial photographic surveys valuable on Gulf coast. W. V. Howard. il Oil & Gas J 38:194-5 Ap 25 '40
Relief maps from aerial photographs; U.S. army engineers method of producing topographic maps from stereo photographs il Sci Am 163:218 N '40

TOPOGRAPHICAL surveying
Plane table location. E. N. W. Lane. Eng N 124:604-5 Ap 25 '40
Three-point problem simplified. L. W. Jones and B. W. Basten Eng N 123:488-9 O 12 '39; Discussion. 123:743; 124:150-1 D 7 '39, F 1 '40
Triangulation in Utah, 1871-1934 J. G. Staack. maps U S Geol S Bul 913:1-170, pl 1 '40

TOPOLOGY
Topological groups. L. Pontrjagin. 299p bibliog(p295-6) $4 Princeton univ. press '39

TORBANITE
Paraffin and petroleum industries; pioneer work of Mr James Young. T. B. Fowler. Chem & Ind 59:70-1 F 3 '40

TORCHES

See also
Gas torch
Oxyacetylene apparatus

TORCHIO, Philip, 1868-
A.I.E.E. awards Edison medal to Philip Torchio. por Elec W News ed 112:1824 D 23 '39
1939 Edison medalist. R. H. Tapscott. por (p95) Elec Eng 59:99-101 Mr '40

TORNADO insurance. See Insurance, Tornado

TORNADOES
Grading for the windstorm hazard. T. Z. Franklin. Weekly Underw 143:488, 490-2+ S 7 '40
How fireproof hotel withstood Georgia tornado. Nat Underw 44:5+ Ap 11 '40
Tornado cloud seen in Alaska. W. A. Rockie. Science 91:71 Ja 19 '40

TORONTO, Ontario
Commercial aspects. R. P. Webber. Credit & Fin Management 42:24-6 Mr '40
Concept of a city planning commission for Toronto. N. D. Wilson. Can Eng R & B 78:81-2+ Mr '40
Toronto, industrial and financial aspects. W. Sclater. il Credit & Fin Management 42: 16-18 Ap '40

Bridges
Toronto's western approach. V. S. Murray. il map Can Eng R & B 78:14-17+ My '40

Rapid transit
64 new cars do work of 68 old ones; P.C.C. cars. il Transit J 84:237 Jl '40

Sewerage
Cost details submitted on Toronto sewage-disposal plant; abstract. A. E. Berry, W. Storrie and W. B. Redfern. Can Eng 77: 14 D 5 '39
New disposal plant for Toronto's sewage; with cost data. map Can Eng W & S 78:22, 54-6 Ja '40

TORONTO stock exchange
Weekly record. Published in weekly numbers of Commercial & financial chronicle
Weekly transactions. Published in weekly numbers of Annalist

TORPEDO boats
High-speed motor torpedo boat. plans Engineer 168.621 D 22 '39
Motor torpedo boats for the U.S. navy. Sci Am 162.227-8 Ap '40
Torpedoed boats; navy's contract for British-type mosquito craft. Business Week p16 Ja 13 '40
Les vedettes-torpilleurs légères et les bateaux chasseurs de sous-marins. il diags Génie Civil 115:449-52, 465-7 D 23-30 '39

TORPEDOES
Mechanically marvelous steel fish R. G. Skerrett. il diags Comp Air M 45:6183-9 Jl '40

TORQUE
Dead points in squirrel-cage motors. Q. Graham. diags Elec Eng 59:Trans 637-42 N '40
Measures torque of instrument springs. diag Elec W 114:422 Ag 10 '40
Methods of measuring the torque of induction motors. A. C. W. V. Clarke. Inst E E J 86:597-600, pl 1-4 Je '40
Suiting the motor to the process; torque and speed control; Schräge motor. Electrician 123:406 N 3 '39
Transient starting torques in induction motors. A. M. Wahl and L. A. Kilgore. il Elec Eng 59:Trans 603-7 N '40
Viscous force between almost-coaxial cylinders. D. R. Inglis. bibliog Phys R 56: 1041-4 N 15 '39

TORQUE converters
Hydraulic torque converters. il diags Iron Age 145:44-6 My 16 '40
New portable rig uses torque converter and 90-ft. folding mast. T. P. Sanders. il Oil & Gas J 39:53 Jl 11 '40
Railcar driven through hydraulic torque converter; built for commuter service on the New York, Susquehanna & Western. il diags Product Eng 11:495-7 N '40
Twin Disc develops a hydraulic torque converter. diag Automotive Ind 82:161 F 15 '40

TORSION
Combined tension-torsion loadings; abstract. E. A. Davis. Steel 107:42+ Jl 29 '40
Creep under combined tension and torsion. H. J. Tapsell and A. E. Johnson. il diags Engineering 150:24-5, 61-3, 104-5, 134, 164-6 Jl 12, 26, Ag 9-16, 30 '40
Effect of exchangeable bases on torsion properties of clays. J. D. Sullivan and R. P. Graham. bibliog Am Cer Soc J 23:39-51 F '40
Equations of finite differences applied to torsional oscillations of crankshafts. M. A. Biot. diags J Ap Phys 11:530-7 Ag '40
Moment distribution procedure for frames subjected to torsion. S. T. Carpenter. diags Civil Eng 10:364-5 Je '40
Report on torsion creep tests for comparison with tension creep tests on a carbon-molybdenum steel. F. L. Everett and C. L. Clark. il diags Am Soc T M Proc 39:215-24 '39
Solution of torsion problems by numerical integration of Poisson's equation. R. Weller, G. H. Shortley and B. Fried. diags J Ap Phys 11:283-90 Ap '40
Static and fatigue torsion strengths of various steels with circular, square, and rectangular sections. E. G. Holley. diags Inst Mech Eng J & Proc 143:Proc 237-46, pl 1-2 S '40
Stress-strain characteristics of the torsion impact test. O. V. Greene and R. D. Stout. bibliog il diag Am Soc for Metals Trans 28: 277-98; Discussion. 298-305 Je '40
Study of the influence of speed on the torsion impact test. O. V. Greene and R. D. Stout. il diags Am Soc T M Proc 39:1292-8 '39
Tensional effects of torsional overstrain in mild steel. H. W. Swift. diags Iron & Steel Inst J 140:181-211, pl 39-40 no 2 '39; Same cond. Engineering 148:453-6 O 20 '39
Theoretical investigation of plastic torsion in an I-beam. D. G. Christopherson. bibliog diags Roy Aeronautical Soc J 44:425-32 My '40
Torsion shear tests and their place in the determination of the shearing resistance of soils. M. J. Hvorslev. bibliog diags Am Soc T M Proc 39:999-1022 '39
Torsional damping recorder. il diag Automobile Eng 30:119-20 Ap '40

TORTS
Administration of public tort liability in Los Angeles, 1934-1938. L. T. David and J. F. Feldmeier. 66p pa $1 Committee on public administration, Social science research council, New York '39
Judicial process in tort cases. L. Green. 2d ed 1356p bibliog(p x) $6 West pub. co, St Paul '39
Law of torts. D. F. Sealy. 402p $4 Brooklyn law book store, Brooklyn, N.Y. '39
Pollock's Law of torts. F. Pollock. 14th ed 504p 25s Stevens and sons, London '39
Tort liability of public officers. L. T. David. 93p pa $1 Public administration service, 1313 E. 60th st, Chicago '40

See also
Competition, Unfair
Damages
Fraud
Libel and slander
Negligence
Personal injuries

TOURIST cabins. See Cabins

TOURIST camps, hostels, etc.
America takes to the motor court. il Business Week p19+ Je 15 '40
Attractive setting helps tourist court set income record; Rancheria Motel near Santa Barbara, Calif. il plans Arch Rec 88:100-2 Jl '40
Auto court is planned for privacy; Jack Tar court, Galveston, Tex. il plans Arch Rec 88:98-9 Jl '40
Comfort replaces novelty in tourist lodges. il plans Am Bld 62:70-1 Je '40
Highway hotel created by H. H. Harris for the Design decade number. diag plan Arch Forum 73:248+ O '40
Profits in tourist camps. W. B. Wilkinson. 43p Travel research, Lansing, Mich. '40
Rustic cabins and filling station. il plan Am Bld 62:68-9 Jl '40
Texas motor court has modern appeal. il diag plans Am Bld 62:58-9 Ag '40
Tourist courts are $300,000,000 business; new market for clay products. il Brick & Clay Rec 97:33 O '40
Tourist courts turn to central heating and air conditioning. il Heat & Ven 37:27 Je '40
Trim design attracts auto court trade near Oklahoma City. il plan Am Bld 62:76-7 Mr '40

TOURIST trade
Air conditioning attracts tourists; helps New Orleans to be summer resort. P. J. Rinderle. il Heating-Piping 12:412 Jl '40
American tourism heads for top; promise of biggest U.S. vacation spending on record. Business Week p20, 22-4 My 18 '40

TOURIST trade—*Continued*
Americas ready for travel boom; pickup in tourist industry attributed to new prosperity. il Business Week p16+ D 2 '39
Banks active in stimulating tourist trade in Canada. J. Montagnes. il Burroughs Clearing House 24:24+ Jl '40
Billions of miles, millions of dollars. il Nat Pet N 32:19-22 Je 19 '40
Canada's $300,000,000 industry needs more and better roads. D. L. Dolan. il Can Eng R & B 78:16-18+ Ap '40
Canada's tourist trade, 1939. 32p pa 25c Canada. Dominion bur. of statistics, Ottawa '40
Canadian tourist income falls off sharply in 1940. Nat Pet N 32:28 O 16 '40
Fairs make more tourists who spend less en route. J. N. Thompson. map Nat Pet N 32:30, 32-4 Ja 24 '40
Florida's sun brighter this year. il Business Week p24-6 Ja 13 '40
Fun buys munitions; Canada drives for more U.S. tourist dollars. Business Week p61 Mr 16 '40
It's travel America year. C. M. Macko. map Barron's 20:7-8 Ap 22 '40
Latin American tourist dollars. R. S. Hecht. Bankers M 141:360-1 O '40
Lures tourists with bags of magic sand; Orange state oil co, Miami, "Sand in your shoes" campaign. Nat Pet N 32:25 Mr 20 '40
New gold for Oregon. H. B. Say. il Ptr Ink 190:17-20 Ja 19 '40
$6 billion tourist business; banking possibilities in travel promotion. M. F. Blouin. Banking 32:21 Mr; 58 Ap '40
Six billion dollar travel budget creates unique marketing problem; with pictographs. Sales Management 46:42-54 Je 15 '40
Summer carnivals, festivals which will draw tourists. Nat Pet N 32:29+ Je 19 '40

See also
Travel—Advertising

Statistics
Marketing pictographs. Sales Management 46: 43-5+ Je 15 '40

TOURMALINE
Tin in Ontario. R. T. Hancock. Can Min J 61:224-5 Ap '40

TOWBOATS
Colonel Bertram T. Clayton, army's new Diesel tug now serving in Honolulu. il Marine Eng 45:94 Mr '40
Diesel tug Crusader. il Marine Eng 45:72+ Je '40
Distinctive ships, 1940. il plans Marine Eng 45:94-5, 98-9, 103-7, 118 N '40
Edmond J. Moran, ocean tug. il diags plans Marine Eng 45:70-5 O '40
General, Diesel-electric tug built for General Motors. il Marine Eng 44:569 D '39
Jane and Marion, Diesel tugs. il Marine Eng 45:53-5 Ja '40
Kort nozzle equipped tugboats. H. S. Falk and J. P. Pulliam. il Marine Eng 45:65-7 S '40
Modern developments in towboats and barges for inland waterways. A. W. Dann. il Civil Eng 10:638-40 O '40
Navajo, Seminole and Cherokee, navy fleet tugs. il diag Marine Eng 45:70-5 My '40
New tug for Sheridan company. il Marine Eng 44:571 D '39
Nicholas Duncan, new river towboat. il diag plan Marine Eng 45:56-9 F '40
Pan American petroleum tugboats. il diag plan Marine Eng 45:53-5 O '40
Rowan Card, tugboat. il Marine Eng 45:59 Ja '40
Tugs Columbia and Lorraine converted to Diesel drive. il Marine Eng 45:57 Ap '40
Wm. Penn, Diesel river towboat. il Marine Eng 45:68-70 S '40

TOWEL dispensers
Towel dispensers of molded plastic. il Mod Plastics 18:46 N '40

TOWELS
New Callaway towel mill. il Textile World 90:54-5 Ag '40

TOWER, Walter Sheldon, 1881-
Portrait. Business Week p45 Je 1 '40

TOWER clocks
Copper covering of hands on clock on Metropolitan life insurance building. il (cover) Sheet Metal Worker 31:32 F '40

TOWER magazines, Inc.
A.B.C. and Tower case; Bureau functioned to limit of authority. P. L. Thomson. Ptr Ink 190:75-8 Ja 19 '40; Discussion. 190:18 Ja 26 '40
End of Tower; sentencing of Catherine McNeils, former publisher. Business Week p20 Ja 20 '40

TOWERS, John Henry, 1885-
Portrait. Aviation 38:28 D '39

TOWERS
Canopy type towers, feature of Housatonic River bridge, Conn.; with cost data. W. G. Grove. il diags Roads & Sts 82:49-52 N '39

See also
Electric lines—Poles and towers

TOWERS, Steel
Bronx-Whitestone suspension bridge. il diags Engineer 168:462-3, 472 N 10 '39
Erecting steel towers. F. L. Spangler. il Steel 107:64-5 S 9 '40
Theory of limit design. J. A. Van den Broek. il diags Am Soc C E Proc 66:292-8 F '40

TOWING

See also
Towboats

TOWING of automobiles. See Automobiles—Towing

TOWN planning. See City planning

TOWNSEND, Arthur Farragut, 1865-1940
Sketch. por Rubber Age 46:314 F '40

TOWNSEND coefficients
Time-lag analysis of the Townsend discharge in argon with activated caesium electrodes. R. W. Engstrom and W. S. Huxford. bibliog diags Phys R 58:67-77 Jl 1 '40
Townsend ionization coefficients for Ni and Al cathodes in an atmosphere of hydrogen. D. H. Hale. bibliog diag Phys R 56:1199-1202 D 15 '39

TOXICAROL
Active principles of leguminous fish-poison plants; derris malaccensis and tephrosia toxicaria. S. H. Harper. Chem Soc J p1178-84 Ag '40

TOXICOLOGY, Industrial. See Poisons, Industrial

TOXINS and antitoxins
Chemistry of natural immunity. W. F. Koch. rev ed 201p bibliog(p199-201) $2 Christopher pub. house, Boston '39
Conquest of leprosy; use of toxoid and antitoxin. T. D. A. Cockerell. Science 92:173 Ag 23 '40
Experimental pathological changes produced by the toxin of clostridium histolyticum in animals. J. G. Pasternack and I. A. Bengtson. bibliog Pub Health Rep 55:775-84 My 3 '40
Human serum as a stabilizer of scarlet fever streptococcus toxin diluted for the Dick test. M. V. Veldee. Pub Health Rep 54:2131-7 D 1 '39
Studies on the toxins and antitoxins of clostridium perfringens. S. E. Stewart. Pub Health Rep 55:753-75 bibliog(53 titles, p 773-5) My 3 '40
Susceptibility of chicks to diphtheria bacilli and toxin. M. Frobisher, jr. bibliog Science 92:88-9 Jl 26 '40
Tularemia endotoxin. T. V. Öz. Science 92: 113 Ag 2 '40

See also
Immunity

TOY industry and trade

Advertising
Billy and Ruth; co-operative merchandising; Supplee-Biddle and other wholesalers to help independent dealers re-sell toys. E. Peterson. il Ptr Ink 189:21-4 D 1 '39

TOY industry and trade—*Continued*

Statistics

Increased exports of American toys; imports decreasing. E. D. Schutrumpf. Comm Rep p1157 D 9 '39

TOY trains

Lionel: an industry in miniature. F. Smith. il Adv & Sell 32:26-8, 62+ D '39

TOYS

Knickknack trade goes ersatz. Business Week p22 Ag 3 '40

Making the toy package talk; redesign experience of Kits, inc. il Mod Packaging 14:54+ S '40

Many new rubber novelties are exhibited at American toy fair, New York. Rubber Age 47:43 Ap '40; India Rubber W 102:56 My '40

Toy models of machines sell next generation of buyers. il Sales Management 47:28+ N 1 '40

See also

Toy trains

TRACE analysis

Analysis of organic materials for traces of metallic impurities. T. M. Hess, J. S. Owens and L. G. Reinhardt. bibliog Ind & Eng Chem Anal ed 11:646-9 D 15 '39

Detection of small quantities of war gases (Dijkstra's method). A. P. J. Hoogeveen. diags Chem & Ind 59:550-6 Ag 3 '40

Estimation of traces of lead and thallium in pharmaceutical chemicals; a simple dithizone limit test. K. Bambach. bibliog Ind & Eng Chem Anal ed 12:63-6 F 15 '40

Mikroanalytische forschungen in der metallkunde. M. Niessner. il Angew Chemie 52: 721-6 D 30 '39

Qualitative spectrographic analysis in the arc, with graphite electrodes. W. C. Pierce, O. R. Torres and W. W. Marshall. il diag Ind & Eng Chem Anal ed 12:41-5 Ja 15 '40

Spectrographic determination of trace elements in soils; the variable internal standard method, applied to the determination of chromium in the cathode layer arc. A. M. M. Davidson and R. L. Mitchell. Soc Chem Ind J 59:213-16 S '40

Spectrographic determination of trace elements in soils; the cathode layer arc. R. L. Mitchell. Soc Chem Ind J 59:210-13 S '40

TRACHOMA

Trachoma eradication; sulfanilamide treatment; abstract. J. Collier. Science 90:sup10 D 15 '39

TRACK brakes, Magnetic. See Brakes, Magnetic

TRACK circuits. See Rail bonds

TRACK pavement. See Railroads, Industrial—Track pavement; Street railroads—Track pavement

TRACK scales

Weighing stock automatically while in motion; can be done on floor tracks, overhead monorails or roller conveyors. B. T. Connolly. il Steel 107:118, 121, 141-2 O 14 '40

TRACKLESS trolley. See Trolley buses

TRACKS, Running. See Running tracks

TRACTOR industry and trade

Baby tractors sell. Business Week p47-8 Jl 20 '40

Chance for farm boys; Henry Ford offers them competitive openings as salaried salesmen for his new tractor. A. M. Howe. il Ptr Ink 191:25-6, 30 My 17 '40

Little company cracks big time market; sells 36,000 Ford tractors in year; achievement of Ferguson-Sherman. A. M. Howe. il Ptr Ink 193:21-2+ O 18 '40

New Cletrac alliances; sales plans. Business Week p36 Ja 27 '40

See also

Caterpillar tractor company

Advertising

Product photographs en masse; group of Caterpillar tractor co. photographs of its tractors at work. Ptr Ink Mo 40:13 Ap '40

Statistics

Manufacture and sale of tractors, combines and grain threshers, 1939 and 1938; tabulation. Automotive Ind 82:203 Mr 1 '40

France

La motoculture. H. Lecœur. Soc Ing Civils Mémoires 92:358-63 My '39

TRACTOR tires. See Tires, Tractor

TRACTOR trailers. See Trailers

TRACTORS

All-wheel drive. il Can Eng R & B 78:9+ Jl '40

Allis-Chalmers new high-speed, Diesel powered, crawler tractor. il Steel 105:17 D 25 '39; Can Eng R & B 78:51 Ja '40

American road builders' association annual show, Chicago. P. M. Heldt. il diags Automotive Ind 82:140-4, 164-6 F 15 '40

Brown power take-off and pulley unit. il Engineer 169:483 My 24 '40; Engineering 149:590 Je 14 '40

Brown 28-h.p. track-laying tractor. il Engineering 149:260 Mr 8 '40; Engineer 169:240 Mr 8 '40

Contributions of power farming to national security; abstract. D. Cox. Automotive Ind 83:455 O 15 '40

Earth-moving equipment and the engineer; abstract. F. A. Nikirk. Automotive Ind 83: 454 O 15 '40

Even the farm tractor is going high compression. H. L. Nixon. Nat Pet N 32:29-30 F 21 '40

Harvester offers 3 new tractor models. Iron Age 145:67 F 1 '40

International Harvester announces new tractors. Automotive Ind 82:234 Mr 1 '40

International Harvester oil-engined crawler tractors. il Engineer 169:482-3 My 24 '40

Linn tractor-truck; a multi-purpose vehicle operating on wheels or caterpillar track. il diags Automobile Eng 30:239-41 Ag '40

Machines and jobs; Caterpillar Tractor problem explodes the theory that technology makes for unemployment. L. J. Fletcher. Ptr Ink 193:77, 80-3 N 15 '40

New automotive type tractors expand farm motor fuel market. il Nat Pet N 32:35-7 Ja 24 '40

Skidding with tractor and sulky. J. A. McNally. Pulp & Pa of Can (Convention no) 41:160+ [F] '40

SAE National tractor meeting, Milwaukee, Sept. 24-25. S A E J 47:sup21, 25 N '40

SAE papers in digest. S A E J 46:sup28+ Mr '40

Tractor logging successful. D. McCallum. il Pulp & Pa of Can 41:35 Ja '40

Trends in farm crops cause tractor changes; abstract. G. T. M. Bevan. S A E J 46: sup16+ Ap '40

Watering pulpwood with tractor power. N. C. Donnelly. il Pulp & Pa of Can 41:352-3 Ap '40

See also

Motor vehicles—Track-layer type

Clutches

Atwood constant-pressure clutch. diags Automotive Ind 82:28 Ja 1 '40

Design

Farmall model A tractor with adjustable wheel track. diags Automotive Ind 82:119-20 F 1 '40; Abstract. Automobile Eng 30: 104 Ap '40

Unit construction; some points in the design of the David Brown tractor. il diags Automobile Eng 30:197-201 Jl '40

Fuel

Lightweight tractors using gasoline grow in favor with farmers. il Nat Pet N 32:25-6, 28, 30+ Jl 31 '40

Observations on tractor fuels; characteristics and requirements. E. L. Barger. Nat Pet N 31:R482, R484+ N 15 '39

Regular is Ohio farmer's choice for tractor fuel. il Nat Pet N 32:34+ My 15 '40

TRACTORS—Fuel—*Continued*
Tractor fuels. C. L. Zink and C. W. Smith. Nat Pet N 32:R110+ Ap 3 '40

Gearing

Noisy gears are out; manufacturing methods of International Harvester. R. R. Wiese. il Am Mach 83:1067-70 D 27 '39
Quiet gears for tractors. il Iron Age 146:34 O 3 '40
Unit construction; some points in the design of the David Brown tractor. il diags Automobile Eng 30:197-201 Jl '40

Lubrication

Lightweight tractors using gasoline grow in favor with farmers; lubrication recommendations. il Nat Pet N 32:28+ Jl 31 '40

Manufacture

Balance becomes electric; balancing machine for tractor crankshafts; International harvester co. il Am Mach 84:87 F 21 '40
Cast steel parts for the Ford tractor. R. H. McCarroll and E. C. Jeter. il diag Metal Prog 37:521-6 My '40
Casting steel for Ford tractors. R. H. McCarroll and E. C. Jeter. il Iron Age 145: 34-9 F 15 '40; Same. Foundry 68:30-3+ F '40
Following Ford tractors down the line. J. Geschelin. il diag Automotive Ind 83:4-11+ Jl 1 '40
Instruments pay us a good profit; Caterpillar tractor company. C. E. Armstrong. il Factory Management 98:78-9 O '40
Knocking out sprockets; Cleveland tractor company. il diags Am Mach 84:414-15 Je 12 '40
Nickel alloy steels; characteristics and properties required for tractor parts. H. L. Geiger. Product Eng 11:67-70 F '40
Tractor production; works of David Brown tractors. il diag plan Automobile Eng 30: 73-80 Mr '40

Specifications

American stock, marine and commercial vehicle engines; tabulation. Automotive Ind 82:206-15 Mr 1 '40
American tractors, wheel and track laying types; specifications tabulated. Automotive Ind 82:290-1 Mr 15 '40

Testing

Twenty years of tractor tests at Nebraska state university. P. M. Heldt. il Automotive Ind 82:414-15+ My 1 '40

Trailers

See Trailers

TRACTORS, Industrial
Allis-Chalmers industrial tractor. il Can Eng 77:17-18 N 14 '39
Clarkat industrial tractor. il Marine Eng 45: 82 My '40
Coal handling, storage; Dow chemical co. il Steel 106:50+ Ap 1 '40; Same. Gas Age 85:30+ Ap 11 '40; Same cond. Power 84:289 My '40

See also
Motor trucks, Industrial

TRACTORS, Military
Army vehicle supplies. J. S. Crawford. Engineer 168:589-90 D 15 '39; Same cond. Engineering 148:672 D 15 '39

See also
Tanks, Military

TRACTORS and roads
Loads and roads for war and peace. L. S. Tuttle. il Eng N 124:94-7 Ja 18 '40

TRADE agreements
Annual wage and guaranteed-employment plans in union agreements. Monthly Labor R 51:283-9 Ag '40
Bituminous coal stoppage, 1939; with text of Appalachian agreement. map Monthly Labor R 49:691-703 S '39
Collective agreements in Sweden, 1938. H. Johnson. Monthly Labor R 49:617 S '39
Collective bargaining by the American newspaper guild. A. Weiss. Monthly Labor R 50: 825-42 Ap '40
Collective bargaining in the United States of America. F. Peterson. Int Labour R 41:479-505 My '40
Employer-employee dealings. Management R 29:135-6 Ap '40
Enforcement clauses in union agreements. Monthly Labor R 50:849-54 Ap '40
G.M. pact shaping up; give-and-take evident in C.I.O. negotiations. Business Week p42 My 25 '40
Milker war ended; Coast contract between farmers and teamster unit. Business Week p25-6 My 4 '40
National agreement in cotton-textile industry in Mexico, 1939. Monthly Labor R 50:1140-6 My '40
Profit in a union contract. J. Baker. Advanced Management 5:63-7+ Ap-Je '40
Settlement of grievances under union agreements. Monthly Labor R 50:286-311 F '40
Share-the-work provisions in union agreements. Monthly Labor R 50:1340-8 Je '40; Abstract. Management R 29:244-5 Jl '40
TVA adopts labor-management agreement. Eng N 125:203 Ag 15 '40
TVA signs with A.F.L. Business Week p37+ Ag 17 '40
Trade-union policy and technological change. H. Ober. bibliog 129p Work projects administration, Washington, D.C. '40
Union agreements in aircraft manufacture. Monthly Labor R 51:290-302 Ag '40
Union agreements in shipbuilding. Monthly Labor R 51:597-613 S '40
Union wages, hours, and working conditions in the building trades, June 1, 1939: provisions in union agreements. F. S. McElroy. U S Bur Labor Statistics Bul 674: 31-52 '40
Union wages, hours, and working conditions in the printing trades: union agreement provisions. A. Irwin. U S Bur Labor Statistics Bul 675:27-40 '40
Wage-adjustment provisions in union agreements. Monthly Labor R 50:6-15 Ja '40
Wage adjustments based on cost of living, in Scandinavia. Monthly Labor R 50:475-7 F '40
Wages, hours, and working conditions in union bakeries, June 1, 1939. F. S. McElroy. Monthly Labor R 50:195-209 Ja '40; Same, with analytical tables. U S Bur Labor Statistics Bul 673:1-39 '40
Written trade agreements in collective bargaining. (Bul. no. 4) 359p bibliog(p338-46) National labor relations bd., Washington, D.C.; 35c Supt. of doc. '39

See also
Arbitration, Industrial
Collective bargaining

TRADE agreements act. See Commercial treaties and agreements

TRADE and exchange advertising associates, incorporated
Money to lend without interest; due bill banking service. T. Pratt. Nation's Business 28:25-6+ Mr '40

TRADE associations
Employer-employee relation activities of trade associations; an outline. 40 l Trade assn. dept, Chamber of commerce of the U.S, Washington, D.C. '39
How to be a clever host at a business lunch or dinner. il Sales Management 47:22-4+ Ag 1 '40
Price-fixing ban laid on Southern vitrified pipe association, Cincinnati. Oil Paint & Drug Rep 137:3+ Je 10 '40
Proceedings of the third annual Conference of executives of state and local trade associations held at the Ohio state university, June 26 and 27, 1939. 122p College of commerce and administration, Ohio state univ, Columbus '39

TRADE associations—*Continued*

Proceedings of the fourth annual Conference of executives of state and local trade associations held at the Ohio state university, March 18 and 19, 1940. 113p College of commerce and administration, Ohio state univ, Columbus '40

Trade associations must know antitrust law processes. J. M. F. Donovan, jr. Oil Paint & Drug Rep 138:5, 34+ Jl 15; 5, 58-9 Jl 22; 3+ Jl 29; 36 Ag 5; 5+ Ag 12; 5+ Ag 19; 3+ Ag 26 '40

See also

Advertising, Association
Electric associations
Insurance associations
Paper associations
Textile associations
Trade unions

also names of associations, e.g.

American paper and pulp association
American petroleum institute
American society for metals
American trucking associations
Arizona small mine operators association
Edison electric institute
National association of wool manufacturers
National paint, varnish and lacquer association

Bibliography

Bibliography on trade associations; selected list of references. 8 l Trade assn. dept, Chamber of commerce of the U.S, Washington, D.C. '39

Market research sources, 1940; a guide to information on domestic marketing R. Bretherton. U S Bur For & Dom Com, Domestic Commerce Ser 110:218-36 '40

Directories

Alphabetical list of scientific and trade organizations in the chemical and allied fields. Chem Ind 47:6-8 pt 2 (Buyer's guidebook) O '40

Educational work

Lumbermen find sales training best public relations policy; course sponsored by the Merchandising institute of the National retail lumber dealers assn. Sales Management 47:50-1 O 1 '40

Paint store clerks offered course in sales training. Oil Paint & Drug Rep 138:5 O 21 '40

Law

Antitrust laws and trade association. W. Berge. Paper Tr J 110:74+ F 22 '40

How to avoid illegal restraints. W. W. Woodbridge Am Bld 62:84+ Jl '40

Legality of association activities; definitions made by Department of justice in antitrust law action against the National containers association. Oil Paint & Drug Rep 137:3+ Ap 29 '40

National Container consent decree defines lawful association functions. G. H. Montague. Ptr Ink 191:55-6+ My 17 '40

New anti-trust activities strike at trade associations G H. Montague. Sales Management 46:32, 35 Je 15 '40

Southern Pine case. W. Compton. J Land & Pub Util Econ 16:214-16 My '40

Libraries

National association of real estate boards library. C M. Jones. Special Lib 31:254-6 Jl-Ag '40

Standardization work

Southern Pine federal case of interest to all associations. Brick & Clay Rec 96:42 Mr '40

TRADE balance. See Balance of payments

TRADE barriers. See Commercial policy; Interstate commerce; Tariff

TRADE catalogs. See Catalogs

TRADE conventions. See Conventions

TRADE directories

Chemicals buying section; an alphabetical list of chemicals with their formulas, physical and chemical properties, uses, containers, tariff, shipping regulations, with a buyer's guide of manufacturers and distributors. Chem Ind 47:155-449 pt 2 (Buyer's guidebook) O '40

Classified index of products used in the water works and sewerage fields. Water Works & Sewerage 87:sup4-12 Ap '40

Directory of instruments and related apparatus. Ind & Eng Chem Anal ed 12:sup19-50 O 15 '40

Directory of materials; supplement to Machine design's October, 1939 issue. 7th ed 62p pa 25c Machine design, 1213 W. 3d st, Penton bldg, Cleveland '39

Directory section; containing names and addresses of manufacturers of equipment and products used in warm air heating, air conditioning, ventilation and sheet metal work. Sheet Metal Worker 31:157-75 Ja '40

Heating, piping and air conditioning equipment for industry and large buildings; classified by products, trade names and manufacturers addresses. Heating-Piping 12:209-78 Ja '40

Manufacturers and distributors, Canada; equipment for waterworks and sewage plants; by companies, and by products. Can Eng W & S 78:14-16, 18-20 Ag '40

Manufacturers of accessories for aircraft. Aero Digest 36:228-46 Mr '40

Manufacturers of production tools. il Aviation 38:48-50+ D '39

1940 directory of manufacturers; buyers' guide of over 400 power products. Power 83:sup 156-212 Mid-D '39

Raw materials buying section; an alphabetical list of natural raw materials, such as gums, metals, minerals, ores, naval stores, oils, natural pigments, etc. with their physical and chemical properties, uses, containers, tariff, shipping regulations, with a buyer's guide of suppliers. Chem Ind 47:49-154 pt 2 (Buyer's guidebook) O '40

Trade lists available. Published in weekly numbers of Commerce reports [cont as Foreign commerce weekly beginning O 5]

See also

Bank supplies—Directories
Chemical industries—Directories

Bibliography

Market research sources, 1940; a guide to information on domestic marketing. R. Bretherton. U S Bur For & Dom Com, Domestic Commerce Ser 110:137-66 '40

TRADE-in policies

Refrigerator hospital; W. Vogel doctors old refrigerators, helps to solve the trade-in bugaboo. il Elec West 85:58-9 S '40

Schick inventory seemed big as a mountain, but smart merchandising moved it; helping retailer sell it. R. J. Cordiner. il Ptr Ink 189:9-12+ D 8 '39

Trade in for books. Ptr Ink 190:92 F 9 '40

Trade-in plan offers better security; William T. Richardson takes old houses in exchange for new. S. A. Lewis. il plans Am Bld 62:53-5+ O '40

See also

Automobile industry and trade—Used cars

TRADE journals

Careers on business papers. B. Hall. 276p bibliog(p265-8) $2.50 Duell, Sloan & Pearce, 270 *Madison av, New York* '40

See also

Advertising mediums—Trade journals
House organs

TRADE marks

How some famous trade-marks started; condensed from book, The public accepts, by I. E. Lambert. il Ptr Ink Mo 40:10-11 F '40

New trade marks of the month. il Published in monthly numbers of Chemical industries

New trade-marks of the textile industry. il Published in monthly numbers of Rayon textile monthly

TRADE marks—*Continued*
New U.S. Customs regulations provide for the recording of trade-marks. Comm Rep p1082-3 N 25 '39
Patents and trade marks. Published in monthly numbers of India rubber world
Potatoes with trade-marked names make consumers brand conscious. P. C. Miller. il Ptr Ink 191:19-22 Je 7 '40
Textile patents and trade marks. H. Price. Am Dyestuff Rep 28:731-4 D 11 '39
Trade-mark applications, by country. Published in weekly numbers of Commerce reports [cont as Foreign commerce weekly, O 5]
Trade-mark marks the package. C. P. Hornung. il Mod Packaging 14:47-52+ S '40

See also
Advertising characters
Competition, Unfair
Patent laws and legislation
Patents
Private brands
Trade names

Law
Egypt; commercial law digests. For Comm W 1:57, 104-5 O 12-19 '40
India has adopted trade-mark law. J. L. Brown. Comm Rep p511 Je 8 '40
Indian trade marks act of 1940. For Comm W 1:203-4 N 2 '40
New trade-mark law of Greece. Compar Law Ser 3:99-111 F '40
Regulations for application of the trade-mark law of Egypt. A. Tetrault. Compar Law Ser 3:329-38 Je '40
Repackaging; right of the merchant to use the manufacturer's trade mark to designate the repackaged product. Sci Am 162:63 Ja '40
Servicemen's legal advice. T. J. Healy. Radio N 24:30+ D '40
Trade-mark law of India. Compar Law Ser 3:491-517 S '40
Trade marks and their protection under the Trade marks act, 1938, with notes on protection abroad. R. Haddan. 128p $2 Pitman '38

See also
Patent laws and legislation

Chile
Trade-mark applications. Comm Rep p1221 D 30 '39

Great Britain
Handbook on trade marks and trade names, together with full text of the Trade marks act, 1938, and the statutory rules and orders. J. Ricardo and J. E. S. Ricardo. 2d ed 129p, 57p, 106p 15s Jordan & sons, London '38

Japan
Trade-mark applications. Comm Rep p1197-8 D 23 '39

TRADE names
Condensed review of some recently developed materials, arranged alphabetically by trade names. Mach 47:148-55 O '40
Directory of materials; supplement to Machine design's October, 1939 issue. 7th ed 62p pa 25c Machine design, 1213 W. 3d st, Penton bldg, Cleveland '39
Index and trade name dictionary. Chem Ind 47:601-711 pt 2 (Buyer's guidebook) O '40
Leadership challenged, this advertiser improved item, changed its name, and advertised; Copes flowmatic regulator. D. Allshouse. il Ptr Ink 192:15-17 Jl 26 '40
'Smeat; opened by Spam, market for strangely named pork products widens. A. M. Howe. il Ptr Ink 190:17-19 F 9 '40

See also
Trade marks

TRADE pacts. See Commercial treaties and agreements

TRADE practices
Auto dealers dislike own medicine; FTC fair trade rules. Business Week p30 Mr 16 '40
Auto dealers vote on U.S. control. Business Week p15-16 Ja 20 '40
Dealers spurn federal aid; proposed Patman bill and F.T.C. code get cold shoulder by N.A.D.A. H. Hosking. Automotive Ind 82: 357-8 Ap 15 '40
FTC injunction; power to restrain unfair or deceptive acts or practices in commerce. Sci Am 163:47 Jl '40
F.T.C. reports on 1939 work affecting advertising, trade practice, consumers. Ptr Ink 189:63-7 D 29 '39
FTC trade rules hearing. Automotive Ind 82:337+ Ap 1 '40
National automobile dealers association wants action deferred on proposed fair trade rules. Automotive Ind 82:529 Je 1 '40
Pittsburgh contractors and union consent to judgment in government action against building industry. Heat & Ven 37:142 Ja '40
Proposed trade practice rules for the automotive industry; text. Automotive Ind 82: 256-63 Mr 1 '40
Standards adopted for tire advertising and selling. India Rubber W 102:57 S '40
Stoker manufacturers publish business standards code. Coal Age 45:76+ S '40
What do business men fight about? pictograph. Sales Management 46:38 Mr 15 '40

See also
Business ethics
Competition, Unfair
Dealer relations
Premiums (merchandizing)
Price cutting
Price discrimination
Price fixing
Price fixing, Resale
Price policies
Restraint of trade
Sales policies

TRADE relations

See also
Complaints
Dealer helps
Dealer relations
Federal trade commission
Jobber relations
Marketing
Sales policies
Trade practices

TRADE schools
Faust aircraft sheet metal training school. il Sheet Metal Worker 31:33+ Ag '40
Government training centres. il plan Engineer 169:393-4, 398, 470-1, 476; 170:2-4 Ap 26, My 24, Jl 5 '40
Labor's approach to job training; International printing pressmen and assistants' union. P. L. Garman. Personnel J 18:358-64 Ap '40
Poll of opinion on air conditioning schools. Refrig Eng 40:82-6+ Ag '40
Training schoolboy recruits; cooperative system, Cole trade school. R. Parkinson. il Factory Management 98:67-8 My '40
Vocational schools; building types, with time-saver standards and case studies. il plans Arch Rec 87:87-114 Ap '40
Why we lack skilled labor; public trade school was not permitted to function as planned. A. M. Cooper. Nation's Business 28:25-6+ Je '40

See also
Printing schools

TRADE tests. See Ability tests

TRADE union advertising. See Advertising, Trade union

TRADE unions
Collaboration between public authorities and organizations of workers and employers. Monthly Labor R 51:613-21 S '40
Collective bargaining by United rubber workers. H. Cannon. Monthly Labor R 49:604-17 S '39
Do's and don'ts of bargaining with a union. M. A. Pipin. il Food Ind 12:42-4 Je '40
Effects of unionism; surveys made by 1940 class in personnel management of University of Toledo. D. S. Parks. Personnel J 19:82-92 S '40
Engineer and labor. E. A. Holbrook. Civil Eng 10:613-14 O '40
Foreman's union card. E. S. Cowdrick. Nation's Business 28:15-16+ F '40; Abstract. Management R 29:84-5 Mr '40
Industrial-relations machinery in democratic foreign countries. M. H. Schoenfeld. Monthly Labor R 49:1050-74 N '39

TRADE unions—*Continued*

Labor's right to organize. W. M. Leiserson. 23p pa 25c Univ. of Minnesota press, Minneapolis '39

Management and organized labor; dialog. M. L. Cooke and P. Murray. Advanced Management 5:31-7 Ja-Mr '40

Organized labor and production; next steps in industrial democracy. M. L. Cooke and P. Murray. 277p bibliog(p266-70) $2.50 Harper '40

Should engineers join a union? R. W. Sorensen. Elec Eng 59:227-8 Je '40

Still bewildered; trade union problems in machine shop. Am Mach 84:577-8 Ag 7 '40

Students' views on unionization. J. K. Bryan. Power Pl Eng 44:142+ O '40

Study in management prerogatives; Hart Schaffner & Marx and the C.I.O. M. Kestnbaum. Harvard Business R 19 no 1:88-98 [S] '40

Trade-union policy and technological change. H. Ober. bibliog 129p Work projects administration, Washington, D.C. '40

Unionization of engineers. J. H. Herron. Mech Eng 61:788-9+ N '39; Discussion. 62:67-72, 155-60, 243-6, 328-31, 411-13, 478-81, 562-5, 827-8 Ja-Jl, N '40

When labor tries to manage; worker-owned company has labor trouble; trips over union wage scale; Hancock knitting mills and other cooperatives. C. B. Coates. il Factory Management 98:48-51+ My '40

Young engineer wonders if he needs a union. R. B. Bailey. Min & Met 21:291-2 Je '40; Discussion. 21:346, 387-8, 432-3 Jl-S '40; Reply. 21:471-2 O '40

See also

Arbitration, Industrial
Company unions
Cooperation
Guilds
Industrial relations
Insurance agents—Unions
Labor and laboring classes
Open and closed shop
Picketing
Strikes
Trade agreements

also names of unions, e.g.

American federation of labor
American newspaper guild
Congress of industrial organizations
Construction workers organizing committee
United automobile workers of America

Advertising

See Advertising, Trade union

Benefit funds

Benefits paid by A. F. of L. and railroad unions, 1938. Monthly Labor R 50:91-3 Ja '40

Canadian trade-union benefits, 1938. Monthly Labor R 50:1409 Je '40

Dues and fees

Defense bonanza; carpenters' union big initiation fees on cantonment jobs. Business Week p46-7 N 9 '40

How much to be a union man? differences between A.F.L. and C.I.O. initiation fees and dues. il Business Week p34-6 Ag 17 '40

Educational work

Labor's approach to job training; International printing pressmen and assistants' union. P. L. Garman. Personnel J 18:358-64 Ap '40

Jurisdictional disputes

Bridges invades East; C.I.O's first intramural fight looms in wholesale employees' union. Business Week p37-8 Je 29 '40

Law

Applicability of antitrust law to labor unions. Monthly Labor R 50:1434-5 Je '40

Arnold the winner; Apex loses, but Supreme court makes clear that unions do come under antitrust laws. Business Week p16 Je 1 '40

Assistant Attorney General Arnold tells labor unions they are subject to prosecution under anti-trust laws. Comm & Fin Chr 149:3351-2 N 25 '39; Excerpts. Heat & Ven 36:48 D '39

High court to decide whether anti-trust laws apply to unions. Iron Age 145:68+ Ap 11 '40

Incorporation of labor unions; decision of New York Supreme court for Albany county. Monthly Labor R 49:1137-8 N '39

Law over labor. C. B. Coates. il Factory Management 98:48-53+ Mr '40

President Green of A.F. of L. advised by Attorney General Murphy that labor unions are subject to anti-trust laws. Comm & Fin Chr 149:3644 D 9 '39

Suits against unincorporated labor unions; Maryland decision. Monthly Labor R 49: 1138 N '39

Trade unions and the anti-trust laws. J. E. Johnsen, comp. Ref Shelf v 13, no 10:1-308 bibliog(p287-308) '40 ($1.25)

Union bows to Arnold; bricklayers' international signs decree binding it to help prevent illegal trade restraints. Business Week p40-1 Je 15 '40

United States district court at Washington rules labor unions are not given blanket exemption from Sherman anti-trust laws. Comm & Fin Chr 150:2348 Ap 13 '40

United States Supreme court holds anti-trust laws cover unions, but says C.I.O. strike at Apex hosiery co. was not in restraint of trade. Comm & Fin Chr 150:3443 Je 1 '40

Warning to unions; Arnold lists five ways in which organized labor can run afoul of antitrust laws. Business Week p24 N 25 '39

Periodicals

List of American trade union journals and labor papers currently received. 29 numb l U.S. Dept. of labor, Library, Washington '39

Political activities

Fortune survey; unions in politics. Fortune 21:161-2 Je '40

Public relations

Call for Dr Millis; public relations work for labor unions. Business Week p36-8 S 28 '40

Recreational work

Workers at play; part that industry can take. Personnel J 18:227-32 D '39

California

Unions grapple for aircraft prize; A.F.L.-C.I.O. battle now rages in Los Angeles area. Business Week p52 O 12 '40

Canada

Canadian trade-union benefits, 1938. Monthly Labor R 50:1409 Je '40

Canadians are irked; union members grow restless under war restraint. Business Week p29-30+ My 11 '40

C.I.O. is C.C.L. in Canada. Business Week p39 S 21 '40

Labor organizations in Canada, 1938. Monthly Labor R 50:1180-1 My '40

See also Trades and labor congress of Canada

Costa Rica

Government regulation of workers' organizations in Costa Rica. Monthly Labor R 50: 375-6 F '40

Great Britain

National collective bargaining in Great Britain and Sweden; what is ahead of the United States judging from their experience? E. D. Smith. Mech Eng 62:593-8 Ag '40

Towards democracy; the class struggle and its place in national unity. K. Walter. 120p 6s P. S. King & son, London '39

Trade-union membership in Great Britain and northern Ireland in 1937 and 1938. Monthly Labor R 49:1123-4 N '39

Los Angeles

Open shop under fire; La Follette inquiry. Business Week p26-7 Ja 27 '40

New York (city)

See also New York (city)—World's fair, 1940—Labor conditions

TRADE unions—*Continued*

Pacific coast

Coast farmers map war on unions; Senate hearings start. Business Week p29-30 D 2 '39

Dave Beck's power is challenged in Seattle; court grants temporary injunction against teamster union. Business Week p26-8 Je 22 '40

Peace comes to Coast; with settlement of marine cooks' dispute, longshoremen's contract can be negotiated in tranquility. Business Week p27-8 Jl 13 '40

Salmon canners' union: Alaska salmon industry, inc. Business Week p33-5 Mr 16 '40

Salmon packers defy the union. Business Week p26+ My 4 '40

Russia

Reforms in trade-union organization. For Comm W 1:162 O 26 '40

San Francisco

Milker war ended; Coast contract between farmers and teamster unit. Business Week p25-6 My 4 '40

Spain

Organization of trade-unions in Spain. Monthly Labor R 50:1409-10 Je '40

Sweden

National collective bargaining in Great Britain and Sweden; what is ahead of the United States judging from their experience? E. D. Smith. Mech Eng 62:593-8 Ag '40

United States

Achilles heel of national defense; government has permitted unions to stop production of defense materials in perilous times. H. Corey. il Nation's Business 28:15-17+ Ja '40

Again, trouble in lumber camps; A.F.L.-C.I.O. fight. Business Week p26+ O 19 '40

Arnold-Murphy drive against union racketeers to be pressed in 1940. E. Blair. Barron's 19:4 D 25 '39

Bridges looks East; has eye on Atlantic warehouses. Business Week p37-8 Ap 13; 39-41 Ap 20 '40

CIO builds; United construction workers organizing committee is approaching New York city contractors. Arch Forum 72:sup4 Mr '40

Defense needs push labor unity; C.I.O. and A.F.L. weigh peace possibilities. Business Week p30-1 Je 8 '40

Democracy in a trade union; differences between AFL and CIO unions. H. Martin. Iron Age 144:27-9+ D 21 '39

Fortune survey; opinion of labor on bosses, the unions, picketing, politics, Communists, and eleven people. Fortune 21:59-60+ Je '40

Has unionism anything to sell us? J. Chase. il Automotive Ind 82:47-8+ Ja 15 '40

Hours and wages in American organized labor. J. M. Viau. 301p bibliog(p273-95) $2.50 Putnam '39

Inkpots of unionism; labor press flourishes. Business Week p57-8 O 5 '40

Labor problems in America. E. Stein and J. Davis, eds. 909p $3.50 Farrar '40

Labor unity gains on local fronts; increasing instances of A.F.L.-C.I.O. cooperation (as in Kenosha, Wis.). Business Week p30+ Ap 13 '40

Labor weighs its patriotism. C. M. Wright. il Nation's Business 28:15-16+ N '40

Labor's civil war. H. Harris. 298p $2.50 Knopf '40

Labor's major error in minority leadership. J. Chase. il Automotive Ind 82:1-2, 46 Ja 1 '40

Politics divides armies of labor. Business Week p44-6 F 17 '40

Presidential campaign the dominating influence in organized labor outlook. L. Wolman. Annalist 55:128+ Ja 25 '40

Profit in a union contract. J. Baker. Advanced Management 5:63-7+ Ap-Je '40

Rival unionism in the United States. W. Galenson. 317p bibliog(p305-7) $3.25; pa $2.50 Am. council on public affairs, 1721 Eye st, Washington, D.C. '40

31,000,000 workers; unions a problem for U.S. worker. il Fortune 21:64-7+ F '40

When foremen joined the C.I.O. L. B. Cross, jr. Personnel J 18:274-83, 346 F-Mr '40

Who gets foremen? industrial unions reluctant to organize them. Business Week p36-7 D 16 '39

See also

Amalgamated clothing workers of America
American federation of labor
American newspaper guild
Bank and brokerage employees union
Congress of industrial organizations
Diamond workers protective union of America
International association of machinists
International ladies' garment workers' union
Steel workers organizing committee
United automobile workers of America
United mine workers of America
United retail and wholesale employees union
United rubber workers of America
United textile workers of America

TRADE waste

Biological processes for treating waste; bioprecipitation and anaerobic fermentation. A. M. Buswell. bibliog Ind & Eng Chem 31: 1349-51 N '39

Combating pollution in stream and ocean waters; abstract. P. R. Shaw. Water Works & Sewerage 87:323-4 Jl '40

Growing importance of industrial waste disposal; a review of developments in 1939. F. W. Mohlman il Water Works & Sewerage 87:93-101 Mr '40

Industrial wastes; abstracts of papers published in Ind & Eng Chem, Nov. '39. Am Water Works Assn J 32:1201-9 Jl '40

Industrial wastes; American chemical society symposium. Can Chem & Process Ind 23: 547+ N '39

Industrial wastes from the equipment manufacturers' viewpoint; use of chemical, metallurgical, and sanitary engineering equipment. C. L. Knowles. il diag Ind & Eng Chem 31:1338-45 N '39

Investigations looking to the treatment and disposal of acid industrial wastes; abstract. W. W. Hodge. Water Works & Sewerage 87:372-3 Ag '40

Landwirtschaftliche verwertung gewerblicher abwässer in Schlesien. F. Reinhold. V D I 83:1275 D 9 '39

Legal aspects of the industrial wastes problem. J. A. Tobey. Ind & Eng Chem 31: 1320-2 N '39

Observations on textile waste treatment; Greensboro, N.C. plant C. W. Mengel. il plan Civil Eng 10:267-9 My '40

Oil field waste water disposal as practiced in three plants serving southern California fields. W. Humphreys and A. M. Rawn. il diag map Water Works & Sewerage 87: 341-6 Ag '40

Pre-treatment of industrial wastes, by industry; abstract. W. J. Kee. Water Works & Sewerage 87:163 Ap '40

Public health (drainage of trade premises) act, 1937. J. H. Garner. Chem & Ind 59: 339-43 My 18 '40

Research on the problems of water supply. Chem & Ind 59:216-17 Mr 30 '40

Sewers needn't become clogged; use of stilling basins and suitable manholes. J. H. Stoutenberg. diags Factory Management 98:79 N '40

Treatment and control of industrial wastes; problems along U.S.-Canada boundary. M. P. Adams. il diag Can Eng W & S 78:50, 53-4+ O '40

Trickling filters. M. Levine. Can Eng W & S 78:10-11, 42-7 Jl '40

Utilization of industrial wastes. H. E. Howe and F. J. Van Antwerpen. bibliog il Ind & Eng Chem 31:1323-30 N '39

Waste chlorinated water used to treat sewage; East Baton Rouge, La. Pub Works 71: 41 Ja '40

TRADE waste—*Continued*
Water pollution. R. S. Weston. bibliog il Ind & Eng Chem 31:1311-15 N '39
Wet milling of corn; recovery and utilization of process losses; Corn products refining company, Argo, Ill. A. L. Pulfrey, R. W. Kerr and H. R. Reintjes. bibliog diag Ind & Eng Chem 32:1483-7 N '40

See also
Breweries—Waste
Canneries—Waste
Chemical plants—Waste
Chromium plating—Waste
Coal mines and mining—Waste disposal
Dairy waste
Electroplating—Waste
Mine waste
Packing houses—Waste
Paper mills—Waste
Petroleum—Water problem
Petroleum refineries—Waste
Refuse disposal
Sewerage
Sulfite liquor
Textile mills—Waste
Waste, Utilization of
Waste products
Water pollution

TRADEMARKS. See Trade marks

TRADES and labor congress of Canada
Report of the proceedings of the fifty-fifth annual convention, held at the city of London, Ont., Sept. 25-30, 1939. 228p pa gratis The congress, 172 McLaren st, Ottawa, Can. '39

TRADING areas. See Market areas; Shopping areas

TRADING with the enemy
Canada: trading with the enemy; controllers appointed for certain German agencies and companies. Comm Rep p1113-14 D 2 '39
Great Britain—war measures, form of application for permit to import goods of British enemy origin. Comm Rep p277 Mr 23 '40

TRAFFIC audit bureau
100% poster audit; outdoor advertisers will now be able to get check on all 270,000 boards. Business Week p25-6 Mr 2 '40
Outdoor audits expand. Ptr Ink 190:12 Mr 1 '40

TRAFFIC circles
Design of Stoney Creek traffic circle. F. S. Hutton. il Can Eng R & B 78:18-19+ Jl '40

TRAFFIC departments, Industrial
Traffic problems in credit; claims and C.O.D. collections. E. Rusch. Credit & Fin Management 42:11-13+ Jl '40. Discussion. D. W. C Becker. 32 S '40

TRAFFIC engineering
Traffic engineering makes rapid strides; abstracts. H. F. Hammond. East Underw 41:42 O 18 '40; Nat Underw 44:23 O 17 '40; Weekly Underw 143:907 O 19 '40

TRAFFIC lines
Armor-Flex, new type of traffic marker. il Roads & Sts 83:89 S '40
Barford road line marker. il Engineer 169:167 F 16 '40; Engineering 149:209 F 23 '40
Capacity-providing divisional fins; Lincoln park, Chicago, traffic. O. K. Jelinek. il diags Can Eng R & B 78:57-8+ Ap '40
Chicago builds a convertible roadway; elevating curbs on Lincoln Park express road. O. K. Jelinek. il diags Eng N 124:788-91 Je 6 '40
Divided highway design; medium strips. il Eng N 124:318-21 F 29 '40
High speed highway lane marking with automatic device for dash lines. C. R. Waters. il Pub Works 71:34-6 My '40
Illuminated traffic marker set into highway. il Sci Am 161:352 D '39
Kelly-Creswell traffic striping machine of two color and three line operation. il Roads & Sts 83:91-2 S '40
Lane marking by broken lines placed automatically by regular paint striping machine. C. R. Waters. il Roads & Sts 82:37-8 D '39
Marking and signing no-passing zones on two- and three-lane roads. J. Barnett. il diag Pub Roads 20:189-94+ D '39
Mobile curbs for Chicago's superhighway. il Business Week p26 Ja 6 '40
New multiple-stripe road marker used by Nevada state highway department. il Comp Air M 45:6243 S '40
New type of road paint being tried in Quebec; contains ground glass. Comm Rep p1132 D 2 '39
Pavement design. C. N. Conner. Can Eng R & B 78:70+ Ap '40
Permanent traffic lines for concrete pavement; use of black magnetic iron oxide for coloring. B. G. Kesting. il Pub Works 71:42 S '40
Red concrete for slow traffic. W. N. Rees. il Eng N 125:212-13 Ag 15 '40
Rytecraft road marker. il Engineer 170:239 O 11 '40
Traffic channelization methods. G. Kelcey. il diags Civil Eng 10:645-8 O '40
Yellow stripes for Ohio traffic control. il Pub Works 71:22 Jl '40
Zone marking standards as adopted for Ontario highways. diags Can Eng R & B 78:14+ Ag '40

TRAFFIC management, Industrial

Bibliography
Industrial traffic management. Cleveland Pub Lib Business Information Bur v 10, no 3: pt 1 6p; pt2, 2p N '39

TRAFFIC regulations
Channelization of motor traffic. G. Kelcey. diags Am Soc C E Proc 65:1649-73 D '39; Discussion. diag 66:557-62, 773-6, 1003-14, 1109-16, 1519-20 Mr-Je, O '40
Cleveland police safety activities. E. Ness. East Underw 41:36 O 4 '40
Critical times demand efficient traffic regulation. J. W. A. Bollong. il Transit J 84:303-5 S '40
Effective methods for enforcing traffic laws; Quebec campaign to educate motorists. E. C. Girouard. Can Eng 77:7-8+ N 28 '39
Highway commission goes to town. H. Myers. il In Purdue Univ Eng Extension Dept, Extension Ser 47:115-28 '40
Marking and signing no-passing zones on two- and three-lane roads. J. Barnett. il diag Pub Roads 20:189-94+ D '39
New York city traffic code and sanitary code, effective July 1, 1940. 72p, 16p pa 50c Eagle library, Eagle bldg, Brooklyn, N.Y. '40
Passing of buses on the road; regulations in various cities; tabulation. Transit J 84:100-1 Mr '40
Pedestrian protection. 90p bibliog(p81-4) pa 50c Safety and traffic engineering dept, American automobile assn, Washington, D.C. '39
Problem of traffic control. R. E. Daggett. In Ill U Eng Exp Sta Circ 41:24-32 '40
Story of highway traffic control, 1899-1939. W. P. Eno. 293p $4 Eno foundation for highway traffic control, Saugatuck, Conn. '39
Traffic channelization methods. G. Kelcey. il diags Civil Eng 10:645-8 O '40

See also
Automobile laws and regulations
Automobile parking
Motor bus lines—Laws and regulations
Motor trucks—Laws and regulations
Motor vehicles—Law
Road traffic
Street traffic
Traffic surveys

TRAFFIC signals, Radio
Tune 550, highway radio ahead; transmitter on George Washington bridge, New York, transmits instructions to motorists. il Electronics 13:32 S '40

TRAFFIC signs
Adequate street traffic signs. J. S. Burch. il Pub Works 71:20-2 Mr '40
Testing visibility of highway signs; optical meter permits quantitative measurements. M. S. Kersten. il Civil Eng 10:225-6 Ap '40

TRAFFIC surveys
Estimating street traffic by extremely short counts. Vickery. Can Eng 77:12 N 21 '39
For better roads; studies of present highways. T. H. MacDonald. il Sci Am 162:344-6 Je '40

TRAFFIC surveys—*Continued*
Highway development in Illinois based on statewide planning survey. H. M. Ross. W Soc E J 44:257-8 O '39
Machine traffic counts in North Carolina; with cost data. J. S. Burch. il Roads & Sts 82:74 N '39
New techniques in traffic behavior studies. E. H. Holmes and S. E. Reymer. il diags Pub Roads 21:29-45 Ap '40
Planning the secondary road system. F. N. Barker. il In Ill U Eng Exp Sta Circ 41:38-58 '40
Progress in study of motor-vehicle passing practices. O. K. Normann. diags Pub Roads 20:221-7+ F '40
Sample of data obtained in study of motor-vehicle passing practices in Illinois. F. N. Barker. il Pub Roads 20:228-30 F '40
Simple accumulating-type traffic counter. O. K. Normann. il diags Pub Roads 20:195-6+ D '39
State of improvement of rural roads in relation to traffic and dwellings served. J. T. Lynch and T. B. Dimmick. Pub Roads 21: 141-6, 158-9 O '40
Study of motor-vehicle drivers and speed in Connecticut. H. R. DeSilva. Pub Roads 21: 89-101 Jl '40
Two way photo-electric traffic counter. H. J. Dana. il diags State College of Washington Eng Exp Sta, Eng Bul 57:1-17 '39
See also
Pedestrians

TRAFFISCOPE
Glass makes highways safer. il diag Glass Ind 21:323 Jl '40

TRAILERS
Bulk cement carriers. il Rock Prod 43:30 Je '40
Cranes (Dereham) 80-ton trailer. il diags Engineer 170:152, 153 S 6 '40
Dyson 30-ton transformer trailer. il Engineering 150:87-8, pl 7 Ag 2 '40
Dyson trailer for 40-ton loads. il diags Engineer 169:133-4 F 9 '40
Frankenstein trailer for heavy hauling. L. P. Stockman. il Oil & Gas J 38:34 Mr 7 '40
Fruehauf builds stainless steel trailers using Budd shotweld process. W. F. Sherman. Iron Age 145:60 My 2 '40
Fruehauf Trailer; flexible means of highway transportation. il Fortune 22:88-92+ S '40
Heavy automotive haulage; abstract. H. K. Church. il Automotive Ind 83:432-3, 453-4 O 15 '40
Quarry haulage problems. S. Tomkins. Rock Prod 43:50 F '40
Recover 3-ft. seam with 23-yd. shovel at Clemens 22; semi-trailers used for haulage. il Coal Age 45:49-50 Ja '40
Special handling of bulk cement on Michigan job. il Roads & Sts 82:76 N '39
Steerable trailer cuts hauling costs; transporting poles through mountains. R. L. Taylor. il Elec W 113:450 F 10 '40
See also
Automobile trailers
Exhibits, Traveling

TRAIN dispatching. See Railroads—Train dispatching

TRAIN ferries
Père Marquette carferry launched at Manitowoc. il Marine Eng 45:116 O '40
Pere Marquette launches world's largest lake car ferry. il map Ry Age 109:479-81 O 5 '40
Seatrain Texas, car carrier. il Marine Eng 45:110+ N '40
Welded steel carfloats for New York harbor. il Marine Eng 45:62-3 Je '40
World's largest car ferry, City of Midland. A. S. Park. il map Comp Air M 45:6271-4 N '40

TRAIN resistance
Projet de trains automoteurs très légers et à très grandes vitesses. diags Génie Civil 115:404-6 D 2 '39
Reducing curve resistance with rail lubrication. Ry Age 109:255-6 Ag 17 '40

TRAIN speed. See Railroads—Train speed

TRAINING walls. See Dikes (engineering)

TRAINS. See Railroads—Trains

TRAMMELL, Niles
Heads NBC. por Ptr Ink 192:16 Jl 19 '40

TRAMWAYS, light railways and transport association. See Public service transport association

TRANS-CANADA highway. See Roads—Canada

TRANSCONTINENTAL and western air, inc.
Arranges four-year revolving credit for purchase of airlines. Comm & Fin Chr 151: 2812 N 9 '40
Listing of additional common stock; income account for years 1936-39. Comm & Fin Chr 150:2273 Ap 6 '40

TRANSCONTINENTAL broadcasting system
Elliott Roosevelt's network. Business Week p45 D 16 '39
Son Elliott has radio world agog; formation of new network provides latest climax in much-publicized career. Business Week p30+ N 18 '39
TBS in (not on) air. Business Week p33 Ja 13 '40
Transcontinental station list. Ptr Ink 189:44+ D 15 '39

TRANSFORMERS, Electric. See Electric transformers

TRANSIT, Surveyor's
New universal reconnaissance survey instrument; Suverkrop transit. il Eng & Min J 141:89 Ap '40

TRANSIT equipment association, Central. See Central transit equipment association

TRANSIT operations. See Banks and banking—Transit operations

TRANSITION points
See also
Melting points

TRANSMUTATION (chemistry)
Alchemy ancient and modern. R. T. Hancock. Can Min J 60:810 D '39
Nuclear fission. K. K. Darrow. bibliog il Bell System Tech J 19:267-89 Ap '40
Transmutation of platinum into gold. Science 90:sup8 N 17 '39
Transmutation of the separated isotopes of neon by deuterons. E. Pollard and W. W. Watson. bibliog diag Phys R 58:12-18 Jl 1 '40
See also
Atoms—Disintegration
Radioactivity

TRANSPARENCY
Fundamentals of glassine transparency. D. B. Wicker. bibliog il diags Paper Tr J 105: 31-40 O 21 '37; 107:44-52 O 27 '38; 110:36-42 Ja 4 '40
See also
Paper, Transparent
Plastic materials, Transparent

TRANSPARENT paper. See Paper, Transparent

TRANSPORT company
Big merger of eastern trucks. Ry Age 108: 952 My 25 '40

TRANSPORTATION
Design decade. il Arch Forum 73:308-11 O '40
Evolution in transportation economics. C. B. Aitchison. Franklin Inst J 229:149-64 F '40
Family expenditures in selected cities, 1935-36; travel and transportation. L. A. Epstein; J. R. Wood, jr. map U S Bur Labor Statistics Bul 648:1-165 '40
Four fastest; speed progress in automobiles, ships, airplanes, and trains. il Sci Am 162: 15 Ja '40
Transport in many lands. W. R. Foran. 260p $2.50 F. Warne & co, New York '39
Transportation; economic principles and practices. E. R. Johnson, G. G. Huebner and G. L. Wilson. 678p $4 Appleton-Century '40

TRANSPORTATION—*Continued*

Trends in transportation; waterway, truck and pipe line gains at expense of railroads may be near end. J. V. Sherman. il Barron's 20:8 Ag 5 '40

See also

Aeronautics, Commercial
Air lines
Air travel
Aircraft
Airplanes
Airships
Automobile trailers
Automobiles
Barges
Bridges
Cableways
Canals
Coal handling
Commerce
Delivery of goods
Electric railroads
Ferryboats
Freight car service
Freight cars
Freight handling
Freight ships
Gasoline pipe lines
Harbors
Highway transportation
Mechanical handling
Merchant marine
Mine haulage
Motor bus lines
Motor ships
Motor trucks
Motor trucks in freight service
Motor vehicles
Packing for shipment
Petroleum pipe lines
Pipe lines
Pneumatic conveying
Ports
Postal service
Railroads
Rapid transit
River traffic
Road traffic
Roads
Shipping
Ships
Steamboat lines
Steamboats
Street railroads
Street traffic
Streets
Terminals
Towboats
Traffic regulations
Traffic surveys
Trailers
Travel
Trolley buses
Trucks
Waterways

Federal aid

Eastman issues subsidy report; study of public aids to transportation. Ry Age 108:703-7 Ap 20 '40

Laws and regulations

Aftermath of S. 2009 recommittal. Ry Age 108:867-9 My 18 '40

Agreement on Wheeler-Lea transportation bill reached by Senate and House conferees. Comm & Fin Chr 151:780 Ag 10 '40

Clearer national policy for transportation. Ry Age 109:503 O 12 '40

Conferees agree on a new Wheeler-Lea bill. Ry Age 109:220-1 Ag 10 '40

House and Senate conferees agree on omnibus transportation bill; rail consolidation provision deleted. Comm & Fin Chr 150: 2650-1 Ap 27 '40

House passes S.2009. Ry Age 109:257-8 Ag 17 '40

How they voted on S. 2009; record by districts. map Ry Age 108:864-6 My 18 '40

Labor wants S.2009 recommitted; seeks to restore consolidation sections including labor-protection provision. Ry Age 108:777-81 My 4 '40

New Transportation act. E. H. Leslie. Inv Banking 10:31-2 O '40

1940 act will help rails. J. A. Stevenson. East Underw 41:14 N 1 '40

Preliminary Senate skirmishes on S.2009. Ry Age 109:313-14 Ag 31 '40

Present status of Wheeler-Truman-Lea bill. Comm & Fin Chr 150:1697 Mr 16 '40

President Roosevelt signs transportation bill; Association of American railroads summarizes provisions. Comm & Fin Chr 151: 1653 S 21 '40

Railroad investors urged to lend support to Wheeler-Truman bill. Comm & Fin Chr 149: 3350 N 25 '39

Recent state laws on transportation and public utilities; a digest of important statutory changes and new laws enacted in 1935-1938. J. Welland and L. M. Manross, comps. 83p pa 15c Supt. of doc. '40

S. 2009 again before the Senate. Ry Age 109: 335-6 S 7 '40

S. 2009 conferees at work. Ry Age 108:289-91, 324+, 370-1+, 453-5, 487-8, 541, 583, 629+, 672-3, 714-15, 743-4 S 10-24, Mr 9-Ap 27 '40

S. 2009 passed by Senate. Ry Age 109:371-3 S 14 '40

S. 2009 signed by President. Ry Age 109:399-403 S 21 '40

Significance of railroad transportation bill. A. Jansen. Barron's 20:9 S 16 '40

Sound transportation policies; are railways getting a fair deal? R. V. Fletcher. Credit & Fin Management 42:6-7 Je '40

Transport deal; conference bill. Business Week p22 My 4 '40

Transportation act of 1940 contains provisions affecting motor carriers. Bus Transportation 19:524-5 O '40

Wallace, Woodring and Land make joint attack on S. 2009. Ry Age 108:413-16 Mr 2 '40

What's in the Wagner-Lea omnibus transportation bill. K. V. Sloan. Barron's 20:9 My 6 '40

Wheeler-Lea bill recommitted. Ry Age 108: 818-20 My 11 '40

See also

Automobile laws and regulations
Interstate commerce
Maritime law
Motor trucks—Laws and regulations
Motor vehicles—Law
Railroad law
Waterways

Rates

See also

Motor trucks in freight service—Rates
Railroads—Rates
Shipping—Rates

Alabama

Alabama's balance of rail and water traffic, 1932-1937. L. T. Hawley. 130p School of commerce and business administration, Univ. of Alabama, University, Ala. '39

China

Lifelines of free China. map Economist 137: 462 D 23 '39

Great Britain

Motor transport, Great Britain. E. C. Ottaway. bibliog diags Inst Mech Eng J & Proc 142:Proc 33-68, pl 1-8 N '39; Same cond. Engineer 169:236-8, 253-4, 286-8 Mr 8-22 '40

See also

Railroads and state—Great Britain

Near East

Strategic transportation routes in the Near East. map Comm Rep p613-14 Jl 13 '40

New Jersey

New Jersey, the bridge state. F. H. McConnell. map Barron's 20:11-12 Ap 29 '40

Rumania

Economic position of Rumanian transportation. map Comm Rep p590-2 Jl 6 '40

Russia

Soviet transport. Economist 138:412-13 Mr 9 '40

Urgent needs of automobile transport. For Comm W 1:212 N 2 '40

Southern states

Transportation facilities of the South. il Manuf Rec Extra no 109:52-4, 56 S '40

United States

Coming boom in transportation. H. D. Steinmetz. il Mag of Wall St 67:85-9+ N 2 '40

Eastman issues subsidy report; study of public aids to transportation. Ry Age 108: 703-7 Ap 20 '40

Eastman report shows motor taxes diverted; public aids to railroads. R. Elgen. il Automotive Ind 82:401-2, 426-8 My 1 '40

Economics of transportation in America; the dynamic forces in development, organization, functioning and regulation. K. T. Healy. 575p bibliog(p557-8) $4 Ronald press '40; Review. Ry Age 109:250-4 Ag 17 '40

Highway users pay their own way says Eastman in subsidy report. Bus Transportation 19:241-3 My '40

TRANSPORTATION—United States—*Continued*
Mobilizing transportation for defense. T. N. Sandifer. Pub Util 26:657-62 N 7 '40
National defense and our transportation policy. H. D. Koontz. Pub Util 26:67-79 Jl 18 '40
Problems of the highway user. F. C. Horner. Inst Mech Eng J & Proc 142:Proc 113-25 D '39
Record year for transport. C. S. Hill. il Eng N 124:238-40 F 15 '40
Transportation as a social problem; forum held jointly by the AIEE and the American engineering council. Elec Eng 59:357-68 S '40
Transportation surveyed, again. Business Week p18+ Ap 20 '40
See also
Railroads—Competitive transportation

Yugoslavia
Land transportation in Yugoslavia. map Comm Rep p630-1 Jl 20 '40

TRANSPORTATION, Military
Mechanical handling in the Maginot line. il Mech Handling 27:99-101 My '40
Le retour à la traction animale en temps de guerre. M. Piettre. Génie Civil 116:203-4 Mr 23 '40
Troop transport; business details of hypothetical moving of 14,200 men and 35,000 tons of supplies by rail and water to a point 3,197 nautical miles from New York bay. il maps Fortune 22:72-6+ Ag '40
See also
Hospital trains

TRANS-SIBERIAN railway
Trans-Siberian rail route for Swedish trade with United States probably impracticable. For Comm W 1:210-11 N 2 '40

TRANSURANIUM elements. See Chemical elements—Transuranium elements

TRANSVAAL
See also
Gold mines and mining—Transvaal

TRANSYLVANIA
Importance of Transylvania. Economist 139: 12 Jl 6 '40

TRASH racks. See Hydroelectric plants—Protection

TRAUMATIC acid (term)
Wound hormones of plants; structure and synthesis of a traumatin. J. English, jr. J. Bonner and A. J. Haagen-Smit. Am Chem Soc J 61:3434-6 D '39

TRAVEL
Family expenditures in selected cities, 1935-36; travel and transportation. L. A. Epstein; J. R. Wood, jr. map U S Bur Labor Statistics Bul 648:1-165 '40
Hemisphere bids for U.S. tourist. Business Week p18 Je 1 '40
How to travel without being rich. W. M. Strong. rev ed 136p bibliog(p134-6) $1.98 Doubleday '39
If credit's good, you travel on it; new service enlisting 66 railroads and 950 banks covers rail, steamship, Pullman, baggage, or express costs on monthly-payment basis. Business Week p22+ My 11 '40
Land cruises by train. Ptr Ink 190:19-20 Ja 12 '40
Land cruises in the U.S. Barron's 20:5 F 26 '40
101 American vacations from $25 to $250; a budgeted guide for holiday spending. H. Coon. 265p $1.98 Doubleday '40
Picture of a nation itching to go; Some of the reasons why we go places; pictographs. Sales Management 46:40 Mr 15 '40
Rail travel to be sold on installment plan. Ry Age 108:830 My 11 '40
Six billion dollar travel budget creates unique marketing problem; with pictographs. Sales Management 46:42-54 Je 15 '40
Timetable for tramps; a European testament. T. Koeves. 244p $3 Houghton '39
Travel, 1936-1939. Survey of Cur Business 1940 Sup p86 [supplemented in monthly numbers]
See also
Air travel
Automobile touring
Tourist trade

Advertising
American tourism heads for top. Business Week p20, 22-4 My 18 '40
Cape Cod advertises as area, and vacationist business jumps to new high. J. Searle. Ptr Ink 189:19-20 D 8 '39
Plans of states to attract travel dollars shown by two surveys. Ptr Ink 191:75-6, 78-82 Ap 5 '40
These copy ideas can draw travel dollars; successful appeals used by states, provinces and communities. C. B. Larrabee and J. Lewis. il Ptr Ink 189:11-14+ D 15; 23-6+ D 22 '39
Year's review of travel copy appeals. il Ptr Ink Mo 40:10-11 Ja '40
See also
Air lines—Advertising
Railroads—Advertising
Steamboat lines—Advertising

Statistics
Marketing pictographs. Sales Management 46: 43-5+ Je 15 '40

TRAVEL bureaus, Automobile. See Automobile travel bureaus

TRAVELERS credit corporation
Airlines plan auto rental service and travel credit plan. Business Week p22-3 Ag 17 '40
Easy-payment travel. Ptr Ink 191:78-9 My 24 '40
If credit's good, you travel on it; new service enlisting 66 railroads and 950 banks covers rail, steamship, Pullman, baggage, or express costs on monthly-payment basis. Business Week p22+ My 11 '40
Rail travel to be sold on installment plan. Ry Age 108:830 My 11 '40
Railroad tickets to be sold on installment plan. Comm & Fin Chr 150:2976 My 11 '40
Travel on time payments. Am Business 10: 32 Je '40

TRAVELERS indemnity company
Travelers indemnity company files statement with Treasury dept.; will write fidelity and surety business. Ins Field (Fire ed) 69:4 My 16 '40

TRAVELERS insurance company of Hartford
Travelers completes permanent casualty organization in N.Y.; new appointments announced. East Underw 41:31+ O 4 '40
Vocational education in the insurance business. D. J. Bloxham. Trusts & Estates 70: 533 My '40

TRAVELING exhibits. See Exhibits, Traveling

TRAVELING stores. See Motor trucks in selling

TRAVELING waves. See Electric transient phenomena

TRAVERTINE
Onyx marble and travertine. O. Bowles. rev ed U S Bur Mines Information Circ 6751R:1-11 '40

TRAWLERS. See Fishing boats

TREASURY department. See United States—Treasury department

TREASURY notes. See Bonds, Government—United States

TREASURY stock. See Stocks—Treasury stock

TREATIES
See also
Commercial treaties and agreements

TREE frogs and tree toads
Mating and oviposition in the Pacific Coast tree toad. R. E. Smith. Science 92:379-80 O 25 '40

TREE moving. See Tree planting

TREE planting
New type big tree mover. C. F. Greeves-Carpenter. il Sci Am 161:356-7 D '39
See also
Forest planting

TREE rings
Forecasting by means of climatic cycles. H. P. Gillette. il Water Works & Sewerage 87:496-501 O '40
Multiple growth layers in the annual increments of certain trees at Lubbock, Texas. W. S. Glock and E. L. Reed. Science 91: 98-9 Ja 26 '40

TREE toads. See Tree frogs and tree toads

TREES
Book of the broadleaf trees. F. H. Lamb. 367p bibliog(p354-6) $3.75 Norton '39
Forest trees of Colorado. J. N. Meyers. 62p maps pa $1 Educ. pub. co, 1725 Blake st, Denver '39
How to know the trees. H. E. Jaques. 152p $1.80; spiral binding pa $1 Harry Edwin Jaques, Mt Pleasant, Iowa '40
Keys to the woody plants of Iowa in vegetative condition. H. D. Harrington. il Univ of Iowa Studies in Natural History v 17, no 9:375-489 '40
Kingdom of the trees. E. Kauffman. 122p $2 Reilly and Lee, Chicago '40
Principal trees of the forest regions; tabulation. map Am Bld 62:46-7 Ja '40
Rocky Mountain trees. R. J. Preston, jr. 285p bibliog(plxxi-lxxii) $2 Iowa state college press, Ames '40
Some soil factors effecting tree growth. R. M. Salter. bibliog Science 91:391-8 Ap 26 '40
Tree neighbors. R. Doubleday. 103p $1.75 Doubleday '40
Wooden wonderland; animals from twisted trees; hobby of C. Shaffer. J. Kirby. il Comp Air M 45:6238-9 S '40
See also

Forest fires	Roadside planting
Forests and forestry	Wood
also names of trees, e.g.	
Beefwood	Maple
Birch	Oak
Douglas fir	Pine
Hemlock	Spruce

Diseases and pests

Forest and fungus succession in the lower Yukon valley. D. V. Baxter and F. H. Wadsworth il pls map Univ of Mich School of Forestry and Conservation Bul 9:1-52 bibliog(p50-2) '39 (pa 25c)
Gas injury to trees; other destructive agencies. H. L. Jacobs. il Am Gas J 152:7-9+ Mr '40
Heart bluestain of white spruce and balsam fir. I. H. Crowell. il Pulp & Pa of Can 41: 451-2 Je '40
Pulp and paper industry's approach to forest protection in Canada. E. E. Shaw. bibliog Pulp & Pa of Can 41:675-8 S '40
See also
Chestnut blight

Uganda

Fifteen Uganda timbers. W. J. Eggeling and C. M. Harris. 120p bibliog(p111-14) $2.25 Oxford (Toronto) '39

TREES, Effect of sulfur dioxide on
Effects of sulphur dioxide on vegetation; investigation of smelter at Trail, B.C. G. S. Whitby. Chem & Ind 58:991-7; Discussion. 997-9 N 11 '39
Injury to trees from sulfur dioxide fumes of electric refrigerators. M. A. McKenzie and L. H. Jones. Science 91:239-40 Mr 8 '40

TREES, Fossil
Fossil wood in the glacial drift of Connecticut. C. O. Dunbar and R. F. Flint. bibliog map Am J Sci 237:885-9, pl 1 D '39
Leaves and stems from fossil forests: a handbook of the paleobotanical collections in the Illinois state museum. R. E. Janssen. 190p bibliog(p181-3) pa $1.25 State museum, Springfield, Ill. '39

TRENCHING machinery
Bosworth trencher used in fighting forest fires. diag Pulp & Pa of Can 41:354 Ap '40
Caving sewer trenches whipped by trailer box pulled by trench excavator. diag Eng N 123:705 N 23 '39
Cleveland trenching equipment. il Am Gas J 153:55 O '40
Fire-trench digger does work of many men. il Sci Am 162:32 Ja '40
Sand hog box speeds sewer in wet sand. il diag Pub Works 70:16+ N '39

TREPONEMA pallidum
Preparation of phenylarsenoxides; derivatives of amino- and hydroxy-phenylarsenoxides. G. O. Doak, H. Eagle and H. G. Steinman. bibliog Am Chem Soc J 62:3010-11 N '40
Preparation of phenylarsenoxides; derivatives of carboxy- and sulfo-phenylarsenoxides. G. O. Doak, H. G. Steinman and H. Eagle. Am Chem Soc J 62:3012-13 N '40
Preparation of phenylarsenoxides in relation to a projected study of their chemotherapeutic activity; monosubstituted derivatives. G. O. Doak, H. Eagle and H. G. Steinman. bibliog Am Chem Soc J 62:168-70 Ja '40

TRESTLES
Teredos cause collapse of temporary trestle. il Eng N 124:163 F 1 '40
Thought in trestle design cuts cost over the years. E. A. Smith. diags Coal Age 45:60+ Jl '40
Welded railway trestle. T. H. Gardner. il Steel 105:55, 58+ D 11 '39
See also
Bridges

TREUHAFT, William C. 1892-
Sketch. por Factory Management 98:57 N '40

TRIANGLE
See also
Pythagorean proposition

TRIANGULATION
Combing geodetic survey methods with cadastral surveys; reservoir boundary; Grand Coulee dam; with cost data. C. M. Berry. maps Am Soc C E Proc 65:1164-9 S '39; Discussion. 65:1805-6; 66:153-4, 332-40, 1075-8 D '39-F, Je '40
Miniature system of first-order alinement and triangulation control; measuring horizontal movements of Tygart dam. F. W. Hough. il diags Am Soc C E Proc 65:1707-17 D '39; Discussion. 66:1133-8 Je '40
Reconnaissance surveys; variety of methods. L. B. Roberts. il Civil Eng 10:571-4 S '40
Triangulation in Utah, 1871-1934. J. G. Staack. maps U S Geol S Bul 913:1-170, pl 1 '40

TRIATOMA heidemanni
Natural infection of triatoma heidemanni with trypanosoma cruzi in Texas. A. Packchanian. bibliog Pub Health Rep 55:1300-6, pl 1-2 Jl 19 '40

TRIATOMA sanguisuga ambigua
Experimental transmission of trypanosoma cruzi infection in animals by triatoma sanguisuga ambigua. A. Packchanian. bibliog Pub Health Rep 55:1526-32, pl 1-2 Ag 23 '40

TRIAZINES
See also
Melamine

TRIAZO benzene. See Phenyl azide

TRIBOLIUM confusum. See Flour beetles

TRIBUTYLAMMONIUM picrate
Conductance of some salts in chlorobenzene at 25°. R. L. McIntosh, D. J. Mead and R. M. Fuoss. bibliog Am Chem Soc J 62: 506-8 Mr '40
Properties of electrolytic solutions; the conductance of tributylammonium picrate in ethylene chloride at 25°. D. J. Mead, R. M. Fuoss and C. A. Kraus. bibliog Am Chem Soc J 61:3257-9 D '39

TRICAPRYLIN
Factors influencing carcinogenesis with methylcholanthrene; the effect of solvents. M. B. Shimkin and H. B. Andervont. bibliog Pub Health Rep 55:537-45 Mr 29 '40
Preparation of tricaprylin. E. B. Hershberg. bibliog Am Chem Soc J 61:3587-8 D '39

TRICHINA and trichinosis
Sources of infection in cases of trichinosis in San Francisco. Pub Health Rep 55:942-3 My 24 '40
Studies on trichinosis; survey of municipal garbage disposal methods as related to the spread of trichinosis. W. H. Wright. bibliog Pub Health Rep 55:1069-77 Je 14 '40
Studies on trichinosis; the antigenic phase of trichinosis. J. Bozicevich and L. Detre. bibliog Pub Health Rep 55:683-92 Ap 19 '40

TRICHLOROETHANE
Action of fluorine upon some simple aliphatic chlorinated hydrocarbons. W. T. Miller. bibliog diag Am Chem Soc J 62:341-4 F '40
Molecular rotation and polymorphism in the methyl chloromethanes. A. Turkevich and C. P. Smyth. bibliog Am Chem Soc J 62: 2468-74 S '40

TRICHLOROETHYLENE
Condensation of vapors on a horizontal tube; heat transfer coefficient for condensation of vapors of water and nonmiscible organic liquids. E. M. Baker and U. Tsao. bibliog diags Ind & Eng Chem 32:1115-21 Ag '40; Same. Am Inst Chem Eng Trans 36: 517-39 Ag '40
Hydrogen bonds involving the C-H link; effect of structure on bonding of donor and acceptor molecules. C. S. Marvel, M. J. Copley and E. Ginsberg. bibliog Am Chem Soc J 62:3109-12 N '40
Recent developments in textile cleaning and finishing; use of chlorinated hydrocarbons. N. C. Cooper. Textile Col 61:811-13 D '39
Safe operation of degreasers. Metal Finishing 38:625 N '40
Solvent recovery; apparatus for the reclamation of trichlorethylene. il Automobile Eng 30:270 S '40
Study of the fate in the organism of some chlorinated hydrocarbons. H. M. Barrett, J. G. Cunningham and J. H. Johnston. bibliog J Ind Hygiene 21:479-90 D '39
Trichloroethylene as a bituminous solvent. Can Eng 77:6 N 28 '39
Ventilation of a trichlorethylene degreaser. W. N. Witheridge and H. T. Walworth. il diags J Ind Hygiene 22:175-87 My '40

TRICHLOROFLUOROMETHANE
Hydrogen bonds involving the C-H link; the solubilities of completely halogenated methanes in organic solvents. M. J. Copley, G. F. Zellhoefer and C. S. Marvel. Am Chem Soc J 61:3550-2 D '39

TRICHLOROSILICANE
Thermal and photochemical oxidation of the chlorinated silanes. H. J. Emeléus and A. J. E. Welch. diag Chem Soc J p1928-37 D '39

TRICKLING filters. See Sewage disposal—Filtration

TRICOT
Creation of new tricot fabric styles. il diags Rayon 21:473-4 Ag '40

TRICOT machines. See Knitting machines

TRICRESYL phosphate
Some relations between molecular structure and plasticizing effect. A. Kirkpatrick. J Ap Phys 11:255-61 Ap '40

TRIETHANOLAMINE
Acute and chronic toxicity of triethanolamine. V. H. Kindsvatter. bibliog J Ind Hygiene 22:206-12 Je '40
Colorimetric determination of copper with triethanolamine. J. H. Yoe and C. J. Barton. Ind & Eng Chem Anal ed 12:456-9 Ag 15 '40
Some complex sodium bismuth salts of triethanolamine and triisopropanolamine. W. T. Miller. Am Chem Soc J 62:2707-9 O '40

TRIETHYL lead chloride
Redistribution reaction; interchange between triethyllead chloride and radio-active tetraethyllead. G. Calingaert, H. A. Beatty and L. Hess. Am Chem Soc J 61:3300-1 D '39

TRIETHYLAMINE
Conductance, dissociation constant and heat of dissociation of triethylamine in water. J. E. Ablard, D. S. McKinney and J. C. Warner. bibliog Am Chem Soc J 62:2181-3 Ag '40
Kinetics of the reaction of *p*-methoxybenzhydryl chloride with methanol in dilute nitrobenzene solution. P. D. Bartlett and R. W. Nebel. bibliog Am Chem Soc J 62: 1345-9 Je '40

TRIETHYLENEDIAMINE cobalt hydroxide
Optical rotation of aliphatic acid salts of triethylenediamine-cobaltic hydroxide; furthur evidence for ring structure in aliphatic series. J. P. McReynolds and J. R. Witmeyer. bibliog Am Chem Soc J 62:3148-50 N '40

TRIFLUOROTRICHLOROETHANE
Thermodynamic properties of fluorochloromethanes and -ethanes; heat capacity of the liquid and vapor of three fluorochloromethanes and trifluorotrichloroethane. A. F. Benning and others. bibliog diags Ind & Eng Chem 32:976-80 Jl '40
Thermodynamic properties of fluorochloromethanes and -ethanes; orthobaric densities and critical constants of three fluorochloromethanes and trifluorotrichloroethane. A. F. Benning and R. C. McHarness. bibliog il Ind & Eng Chem 32:814-16 Je '40
Thermodynamic properties of fluorochloromethanes and -ethanes; *P-V-T* relations of three fluorochloromethanes and trifluorotrichloroethane. A. F. Benning and R. C. McHarness. bibliog diag Ind & Eng Chem 32:698-701 My '40
Thermodynamic properties of fluorochloromethanes and -ethanes; vapor pressure of three fluorochloromethanes and trifluorotrichloroethane. A. F. Benning and R. C. McHarness. bibliog Ind & Eng Chem 32:497-9 Ap '40

TRIGG, Ernest T. 1877-
Portrait. Oil Paint & Drug Rep 138:47 N 11 '40

TRIGLYCERIDES. See Glycerides

TRIGONOMETRY
Brief course in trigonometry. D. R. Curtiss and E. J. Moulton. 118p, 17p $1.50 Heath '40
Plane and spherical trigonometry. L. M. Kells, W. F. Kern and J. R. Bland. 2d ed 401p $2.75 McGraw-Hill '40

Tables, etc.

Slide-rule interpolation for six-place trigonometric functions. B. J. Greulich. Civil Eng 10:238-9 Ap '40
Wiley trigonometric tables. H. A. Simmons and G. D. Gore, comps. 81p 75c Wiley '40

TRIGONOMETRY, Plane
Brief course in trigonometry. D. R. Curtiss and E. J. Moulton. 118p, 17p Heath '40
Plane trigonometry. R. W. Brink. rev ed 110p $2 Appleton-Century '40

TRIHYDROXYANTHRAQUINONE
1:3:8-Trihydroxyanthraquinone. W. K. Anslow, J. Breen and H. Raistrick. Chem Soc J p427-8 Ap '40

TRIISOBUTYLENE
Hydrogen fluoride as a condensing agent; reactions of di- and triisobutylene with phenol. J. H. Simons and S. Archer. Am Chem Soc J 62:451 F '40

TRIISOPROPANOLAMINE
Some complex sodium bismuth salts of triethanolamine and triisopropanolamine. W. T. Miller. Am Chem Soc J 62:2707-9 O '40

TRILLIN
Sterols; sapogenins; the supposed trillarigenin identified as a mixture of diosgenin and trillin. R. E. Marker and J. Krueger. Am Chem Soc J 62:2548-9 S '40

TRILLIUM erectum
Sterols; diosgenin from certain American plants. R. E. Marker, D. L. Turner and P. R. Ulshafer. Am Chem Soc J 62:2542-3 S '40

Sterols; sapogenins; the supposed trillarigenin identified as a mixture of diosgenin and trillin. R. E. Marker and J. Krueger. Am Chem Soc J 62:2548-9 S '40

TRILOBITES
Some trinucleidae described by Joachim Barrande. H. B. Whittington. bibliog Am J Sci 238:241-59, pl 1-4 Ap '40

TRIMESITYLBUTANEDIONE
1,2,4-Trimesityl 1,4-diketones and related compounds, including the stereoisomeric mono and dienols. R. E. Lutz and C. J. Kibler. bibliog Am Chem Soc J 62:360-72 F '40

TRIMETHYLANTHRACENE
meso-Alkyl anthracenes. L. F. Fieser and T. G. Webber. bibliog Am Chem Soc J 62: 1360-2 Je '40

TRIMETHYLARSINE
Vapor pressures of trimethylphosphine, trimethylarsine and trimethylstibine. E. J. Rosenbaum and C. R. Sandberg. Am Chem Soc J 62:1622-3 Je '40

TRIMETHYLBENZANTHRACENE
Polycyclic aromatic hydrocarbons. G. M. Badger, J. W. Cook and F. Goulden. Chem Soc J p16-18 Ja '40

TRIMETHYLBENZENE. See Hemimellitene

TRIMETHYLBUTANE
Physical properties of some purified aliphatic hydrocarbons. D. B. Brooks, F. L. Howard and H. C. Crafton, jr. bibliog J Research Nat Bur Stand 24:33-45 Ja '40

TRIMETHYLBUTENE
Physical properties of some purified aliphatic hydrocarbons. D. B. Brooks, F. L. Howard and H. C. Crafton, jr. bibliog J Research Nat Bur Stand 24:33-45 Ja '40

TRIMETHYLCARBINOL. See Butyl alcohol

TRIMETHYLETHYLENE
Factors influencing polysulfone formation. M. S. Kharasch and E. Sternfeld. Am Chem Soc J 65:2559-60 S '40

Mixed copper-chromium oxide hydrogenation catalysts. V. N. Ipatieff, B. B. Corson and J. D. Kurbatov. bibliog J Phys Chem 44: 670-9 My '40

TRIMETHYLGLUCURONE
Structure of trimethyl glucurone. R. E. Reeves. bibliog Am Chem Soc J 62:1616-17 Je '40

TRIMETHYLMANNOSE
2 : 3 : 4-Trimethyl mannose. W. N. Haworth and others. Chem Soc J p1878-80 D '39

TRIMETHYLNAPHTHALENE
Polymethyl aromatic hydrocarbons; synthesis of 1,2,4-trimethylnaphthalene and 1,2-, 1,3- and 1,4-dimethylnaphthalene. M. C. Kloetzel. bibliog Am Chem Soc J 62:1708-13 Jl '40

TRIMETHYLPENTANE
Physical properties of purified 2,2,3-trimethylpentane. D. B. Brooks, F. L. Howard and H. C. Crafton, jr. J Research Nat Bur Stand 23:637-41 D '39

2,2,4-TRIMETHYLPENTANE. See Isooctane

TRIMETHYL phenanthrene
Acid-polymerized dipinene; identification of the dehydrogenate. J. J. Ritter and V. Bogert. Am Chem Soc J 62:1509-11 Je '40

TRIMETHYLPHENYLISOVALERIC acid
Nitration of β-[3,4,5-trimethylphenyl]-isovaleric acid and its methyl ester; formation of 4,4,6,7,8-pentamethyl-5-nitrohydrocoumarin. L. I. Smith and W. W. Prichard. bibliog Am Chem Soc J 62:780-4 Ap '40

TRIMETHYL phosphate
Transition temperatures of the liquid-solid phases of trimethyl phosphate. H. A. Pagel and W. A. Schroeder. Am Chem Soc J 62: 1837-8 Jl '40

TRIMETHYLPHOSPHINE
Vapor pressures of trimethylphosphine, trimethylarsine and trimethylstibine. E. J. Rosenbaum and C. R. Sandberg. Am Chem Soc J 62:1622-3 Je '40

TRIMETHYLQUINOLINE
Petroleum bases; reactions of 2,3,8-trimethylquinoline. A. Burger and L. R. Modlin, jr. bibliog Am Chem Soc J 62:1079-83 My '40

TRIMETHYLQUINONE
Reaction between quinones and metallic enolates; trimethylquinone and the enolates of β-diketones. L. I. Smith and E. W. Kaiser. Am Chem Soc J 62:133-8 Ja '40

TRIMETHYLSTIBINE
Vapor pressures of trimethylphosphine, trimethylarsine and trimethylstibine. E. J. Rosenbaum and C. R. Sandberg. Am Chem Soc J 62:1622-3 Je '40

TRINIDAD
Foreign trade. J. A. Croghan. Comm Rep p654-5 Jl 27 '40

See also
Electricity supply—Trinidad
Petroleum—Trinidad

Economic conditions
Economic conditions. For Comm W 1:211 N 2 '40

TRINITROTOLUENE
Petroleum toluol for national defense; comparing certain petroleum processes. bibliog il Chem & Met Eng 47:535-7 Ag '40

T.N.T. from gasoline. Business Week p30-1 Je 22 '40

T.N.T. from gasoline; Shell oil co. preparing to build toluene plant. Business Week p39-40 Ag 10 '40

TRINITROTRIPHENYLMETHIDE
Kinetics of neutralizaton. M. Kilpatrick. bibliog Am Chem Soc J 62:1094-6 My '40

TRINITY mining company
Promoters indicted. Comm & Fin Chr 151:1158 Ag 24 '40

TRIODES. See Vacuum tubes

TRIPHENYL
Organic compounds for industrial heating; characteristics of diphenyl and triphenyl systems. H. Seymour. Chem Age (Lond) 43:43-4 Jl 27 '40

TRIPHENYLAMINE
Anomalous metalation of triphenylamine. H. Gilman and G. E. Brown. bibliog Am Chem Soc J 62:3208-10 N '40

TRIPHENYLBORON. See Boron triphenyl

TRIPHENYLCHLOROETHYLENE
Synthetic oestrogens related to triphenylethylene. A. Schönberg and others. Chem Soc J p1327-9 S '40

TRIPHENYLETHYLENE
Oxygen inhibition in the photobromination of cinnamic acid. R. F. Brown and F. Daniels. bibliog Am Chem Soc J 62:2820-5 O '40

TRIPHENYLGALLIUM. See Gallium compounds

TRIPHENYLINDIUM. See Indium triphenyl

TRIPHENYL lead
Dipole moments of alkyl and phenyl lead halides. G. L. Lewis, P. F. Oesper and C. P. Smith. bibliog Am Chem Soc J 62: 3243-6 N '40

Dissociation of hexaphenyldiplumbane. R. Preckel and P. W. Selwood. bibliog Am Chem Soc J 62:2765-6 O '40

Relative reactivities of organometallic radicals; metal-metal interconversion of triphenyllead and of tetraphenyllead with *n*-butyllithium. H. Gilman and F. W. Moore. bibliog Am Chem Soc J 62:3206-8 N '40

TRIPHENYLMETHANE
Condensations brought about by bases; the conversion of ethyl benzoyldimethylacetate to ethyl benzoate and ethyl isobutyryl-isobutyrate in the presence of sodium ethoxide

TRIPHENYLMETHANE—*Continued*
Condensations brought about by bases—*Cont.* and triphenylmethane; the reversibility of the Claisen type of condensation. C. R. Hauser and B. E. Hudson, jr. bibliog Am Chem Soc J 62:62-6 Ja '40
Heat of photobromination of the phenyl methanes and cinnamic acid, and the influence of oxygen. J. L. Magee and F. Daniels bibliog Am Chem Soc J 62:2825-33 O '40
Organic mercury derivatives of basic triphenylmethane dyes. L. Chalkley. Science 91:300 Mr 22 '40
Oxygen inhibition in the photobromination of cinnamic acid. R. F. Brown and F. Daniels. bibliog Am Chem Soc J 62:2820-5 O '40
Studies on the reactions of the leucocyanides of the triphenylmethane dyes; the mechanism of the dark reaction following the photolysis of malachite green leucocyanide. F. E. E. Germann and C. L. Gibson. Am Chem Soc J 62:110-12 Ja '40

TRIPHENYLMETHYL
Free radicals and radical stability; methyltriphenylmethyls. S. T. Bowden and T. L. Thomas. Chem Soc J p1242-9 S '40
Free radicals and radical stability; the influence of the methyl group on the stability of triphenylmethyl. S. T. Bowden and D. L. Clarke. diags Chem Soc J p883-7 Jl '40

TRIPHENYLMETHYL compounds
Rearrangement of the triphenylmethyl ether of ortho cresol: direct synthesis of 3-methyl-4-methoxyphenyltriphenylmethane. H. A. Iddles and H. L. Minckler. bibliog Am Chem Soc J 62:2757-9 O '40

TRIPHENYLMETHYL ethers
Rearrangement of the triphenylmethyl ethers of ortho cresol and brominated ortho cresols. H. A. Iddles, W. H. Miller and W. H. Powers. Am Chem Soc J 62:71-3 Ja '40

TRIPHENYLMETHYL fluoride
Free radicals and radical stability; fluorotriphenylmethyl and the reactivity of halogen substituents in free radicals. S. T. Bowden and T. F. Watkins. Chem Soc J p1249-57 S '40

TRIPHENYL phosphate
Dipole moments and structures of the esters of some fatty and some inorganic acids. G. L. Lewis and C. P. Smyth. bibliog Am Chem Soc J 62:1529-33 Je '40
Some relations between molecular structure and plasticizing effect. A. Kirkpatrick. J Ap Phys 11:255-61 Ap '40

TRIPHENYL phosphite
Dipole moments and structures of the esters of some fatty and some inorganic acids. G. L. Lewis and C. P. Smyth. bibliog Am Chem Soc J 62:1529-33 Je '40

TRIPHENYLENE
Condensations by sodium; comments on the formation of triphenylene. A. A. Morton, J. T. Massengale and G. M. Richardson. bibliog Am Chem Soc J 62:126-9 Ja '40

TRIPP, Frank Elihu, 1882-
Toastmaster Tripp introduces a couple of 2-fisted birds at newspaper dinner. Ptr Ink 191:15-17, 71-3 My 3 '40

TRISACCHARIDES
Synthesis of certain trisaccharides and a study of their behavior in alkaline solution. S. H. Nichols, jr, W. L. Evans and H. D. McDowell. bibliog Am Chem Soc J 62:1754-8 Jl '40

TRISODIUM phosphate. See Sodium phosphates

TRITERPENES
Constituents of the higher fungi; the triterpene acids of polyporus betulinus Fr. L. C. Cross and others. Chem Soc J p632-6 My '40
Triterpene group; the minor triterpenoid constituents of Manila elemi resin. I. M. Morice and J. C. E. Simpson. Chem Soc J p795-9 Je '40
Triterpene group; the oxidation of β-amyrin benzoate; a new route to the thio-compound, $C_{30}H_{44}OS$. J. C. E. Simpson. Chem Soc J p230-7 F '40
Triterpene resinols and related acids; β-amyradienol. C. W. Picard and F. S. Spring. Chem Soc J p1198-1202 Ag '40
Triterpene resinols and related acids; the oxidation of α-amyradienyl acetate. E. S. Ewen and F. S. Spring. Chem Soc J p1196-8 Ag '40

TRITOLYLAMINE
Radical of tri-*p*-tolylamine. S. Granick and L. Michaelis. Am Chem Soc J 62:2241-2 Ag '40

TRITOLYLBENZENE
sym-Tritolylbenzene. J. R. Sampey. Am Chem Soc J 62:1953 Ag '40

TRITON F. See Dimethyl dibenzyl ammonium hydroxide

TROJAN horse. See Fifth column

TROLLEY buses
Commercial coachwork. il diag Automobile Eng 29:469-72 D '39
Electric transportation. F. R. Thompson. 427p $4 International textbook co, Scranton, Pa. '40
Exhibit of modern equipment; pictorial review. Transit J 84:326-7 S '40
Fewer miles run to carry more riders; Portland traction company. il Transit J 84:233 Jl '40
First trolley coach? forerunner of modern trolley coach appeared fifty years ago. il Mass Transportation 35:359 D '39
For the duration; transit in Great Britain. W. V. Moreland. il Transit J 84:155-7 My '40
Ft. Wayne modernizes with trolley coaches. il Mass Transportation 36:172-3 Ag '40
40 year public prayer granted; Seattle to get revision of transit service. J. W. Abbott. il Bus Transportation 18:599-600 D '39
Latest design developments in trolley coaches. il Mass Transportation 36:41-2 F '40
Milwaukee modernization of North Avenue line. il Transit J 84:235 Jl '40
Modernization of a transit system; factors that determine the choice of vehicle. G. L. Hoard. bibliog Elec Eng 59:Trans 292-303 My '40; Excerpts. il Mass Transportation 35:333-8 N '39; Discussion. Elec Eng 59: Trans 303-5 My '40
Operating results, small buses vs. cars and trolley coaches; comparison of four years operation in Buffalo and Indianapolis. il Mass Transportation 36:168-70 Ag '40
Progress and trends in 1939 in mass transportation. il Mass Transportation 36:15-16, 25+ Ja '40
Recent trolley coach installations. il Mass Transportation 36:132-3 Je '40
Riding gains 21%, vehicle-mile cost down since street cars in Wilmington were replaced by trolley coaches. il Transit J 84:231 Jl '40
Speed up 18½%, revenue 11½%; Kansas City. il Transit J 84:234 Jl '40
Third trolley coach route in Covington. il Mass Transportation 35:367 D '39
La traction électrique sur la voie publique; les véhicules à accumulateurs et les trolleybus. J. Thomas. il Génie Civil 116:225-8, 247-50 Ap 6-13 '40
Transport in Milwaukee coordinated. il Mass Transportation 36:3-8 Ja '40
Trolleybus. G. F. Sinclair. pl diags Inst E E J 86:225-39 Mr '40; Excerpts. Automobile Eng 29:455-6 D '39; Abstracts. Engineering 148: 623-5 D 1 '39; Elec R (Lond) 125:645-6 N 17 '39; Discussion. Inst E E J 86:240-7 Mr '40
Trolley-bus contract; eleven 6-wheel double-deck vehicles for Durban. il Electrician 123: 493 D 1 '39
Trolley bus has record year. Transit J 84:10-11 Ja '40
Trolley-bus in wartime. J. H. Cansdale. Electrician 123:329 O 6 '39
Trolley bus operation in Chicago. J. B. O'Connell. il Mass Transportation 36:125-8 Je '40
20% more miles with 5% more hours; conversion of Ludlow line of Cincinnati, Newport & Covington railway. il Transit J 84: 232 Jl '40

TROLLEY buses—*Continued*
2,369,881 more riders at no extra cost; Payne Avenue line, Cleveland. il Transit J 84:236 Jl '40
Uncle Sam delivers a trolley bus; Kansas City public service company aided by Reconstruction finance corporation. il Transit J 84:124-5 Ap '40
Unit-construction trolleybus. il diag Engineer 169:440 My 10 '40
Why Chicago likes them. H. E. Fleming. il Transit J 84:47-9 F '40
Wilkes-Barre turns to trolley buses. il map Transit J 84:89 Mr '40

Axles
Replacing rear axle tubes. C. O. Nelson. il Transit J 83:494 D '39

Cleaning
Street car washer used to clean trolley buses. il Mass Transportation 35:365 D '39

Current collecting devices
Trolleybus. G. F. Sinclair. diags Inst E E J 86:235-7 Mr '40

Electric equipment
Ammeter shunt connection. E. A. Prather. il Transit J 84:61-2 F '40
Application of traction motors. F. E. Wynne and G. M. Woods. Elec Eng 59:Trans 369-74 Jl '40
Development of the modern transportation resistor. R. O. Eaton. il Mass Transportation 36:38-40 F '40
Exhibit of modern equipment; pictorial review. Transit J 84:343 S '40
Finding current leakage; trolley coaches of the Delaware electric power company. R. S. Beers il Transit J 84:202-3 Je '40
Trolleybus. G. F. Sinclair. diags Inst E E J 86:225-31 Mr '40
Trolley bus control test set. R. A. Benedict. il Transit J 84:63 F '40
Trolleybus electrical equipment. il Engineer 170.112 Ag 16 '40

Elevated roadways
Trolley bus on stilts; new type of elevated structure suggested for Detroit. il Transit J 84:129 Ap '40

Lighting
Life of headlight bulbs; experiences of various companies. Transit J 84:176 My '40

Maintenance and repair
Training for trolley bus maintenance; Milwaukee electric railway & transport company. il Transit J 83:444-6 N '39
Winners in 1939 Transit Journal maintenance contest; Portland traction company, Montreal tramways, and Baltimore transit company. il Transit J 83:472-83, 504 D '39

Overhead construction
Better segment overhead curves. A. G. Denbin. il diags Transit J 84.241-6 Jl '40
Exhibit of modern equipment; overhead line devices; pictorial review. Transit J 84:346-7 S '40
Lightning protection for trolley coaches. R. S. Beers. il diags Mass Transportation 36: 85-7 Ap '40
Overhead devices redesigned il Transit J 84: 286-7 Ag '40
Trolleybus. G. F. Sinclair. diags Inst E E J 86:237-9 Mr '40
Where should the wires be? il Transit J 84: 160-2 My '40

Power
Saving power; Chicago surface lines. Transit J 84:271-5 Ag '40
Trolley-bus supply; case for the three-wire system. T. Kearns. il Elec R (Lond) 125: 702-3 D 1 '39

Protection
Lightning protection for trolley coaches. R. S. Beers. il diags Mass Transportation 36: 85-7 Ap '40

Specifications
Specifications of 1939 trolley buses; tabulation. Transit J 84:12 Ja '40

Statistics
Transit industry statistics; revenues, expenditures, rolling stock, traffic, mileage, etc. il map Transit J 84:1-21 Ja '40

Steering gear
Heavy-duty steering gear. il Transit J 83: 458 N '39

Winter operation
Through the storm in trolley coaches; Wilmington, Del. Transit J 84:130 Ap '40

TROLLEY cars. See Cars, Electric railroad; Street cars

TROLLEY shoes. See Electric railroads—Trolley shoes

TROLLEY wire
Standardization of trolley wire shapes. A. L. Johnston. diags Min Cong J 26:50-1 My '40

Testing
Gage facilitates wire inspection. J. I. Moore. diag Transit J 84:30 Ja '40

TROLUOIL
Surface tension of a solvent-diluent mixture. J. K. Stewart and G. C. Hook. bibliog il Ind & Eng Chem 32:871-6 Je '40

TROMBIDIIDAE
See also
Chiggers

TRONA. See Sodium carbonates

TROPENAS process. See Converters

TROPICS
Air conditioning in the tropics. C. P. Mom. il Heating-Piping 12:633-6 O '40
Compressors shipped to tropics in airtight cases. il diag Comp Air M 45:6222 Ag '40
Problems in the tropics; Malaya. H. R. Sparrow. il Elec R (Lond) 125:673-4 N 24 '39

See also Puerto Rico university—School of tropical medicine

Diseases and hygiene
History of tropical medicine; based on the Fitzpatrick lectures delivered before the Royal college of physicians of London, 1937-38. H. H. Scott. 2v bibliog(v 2, p1091-9) $12 50 Williams & Wilkins '39
Tropical medicine. L. Rogers and J. W. D. Megaw. 3d ed 544p 16s J. & A. Churchill, London '39

TROTSKY, Leon, originally **Lev Davidovich Bronshtein,** 1879-1940
Last Marxist. Economist 139:270-1 Ag 31 '40

TROUT
Uncle Sam to nurse forty million little fish; Columbia Basin project for culture and protection of salmon and trout. il Comp Air M 45:6174-8 Je '40

TRUBEY, Ralph A.
Most insurance-minded small town, Lidgerwood, N.D., success of R. A. Trubey. por C. Axman. East Underw 41:33-4 pt 2 O 4 '40

TRUCKING associations, American. See American trucking associations

TRUCKS
All-welded hand truck from pipe and plate. A. Havens. il Am Mach 84:585 Ag 7 '40
Machine transfer method; special hanger with locking pin permits low-level lift truck to move heavy machines. A. L. Wilkinson. il diags Steel 107:60+, 62-3 S 30 '40; Abstract, Mech Eng 62:741 O '40
New transmission wagon and battery truck at Kenmore shops in Akron. il Mass Transportation 36:87 Ap '40
Service caster truck designed to take heavy rolls of paper from vertical shipping position. il Paper Tr J 110:13 My 16 '40
Sewing machine parts; special trucks and moveable floor racks facilitate handling; White sewing machine co. il Steel 107:66, 68+ S 2 '40

TRUCKS—*Continued*
Truck-storage units for handling and assembling lathe parts; Monarch machine tool co. il Steel 105:41+ D 25 '39
Trucks serve as storage cabinets too. il Factory Management 98:58 Ja '40
Tubular steel trucks. il Enginer 169:312 Mr 29 '40

See also
Electric trucks
Electric trucks, Industrial
Motor trucks
Motor trucks, Industrial

Manufacture

Fabrication by arc welding often requires redesign of parts; truck bearing and wheels and saw carriage as examples. il Mach 46: 102-3 F '40

TRUMPETS
Finishing band instruments. F. K. Savage. il Metal Ind 38:132-6 Mr '40

TRUSSES
Adjustment of continuous bridge affected by warping; Illinois River bridge at Hennepin and at Lacon. L. T. Wyly, T. I. Fullenwider and R. B. Murphy. il diags Eng N 125:280-2 Ag 29 '40
Fast erection of building trusses; Tiffany building, New York. il diags Eng N 124: 22-3 Ja 4 '40
Tests of 28ft. span aluminium alloy trusses. R. L. Templin, E. C. Hartmann and H. N. Hill. Engineer 170:61-2 Jl 26 '40
Timber trusses support roofs over 2½ acres of shops; Seattle-Tacoma shipbuilding corp. il diags Eng N 125:85 Jl 18 '40
Trusses put under heavy dome to permit removal of walls; increasing seating capacity of Second Baptist church, Houston, Tex. F. J. Niven. il plan Eng N 123:755 D 7 '39

See also
Beams
Bridges
Building
Girders
Roofs
Strains and stresses

TRUST associations
By-products of better public service. C. A. Beardsley. Trusts & Estates 70:5 Ja '40
Value of fiduciary associations. R. E. Clark. Trusts & Estates 70:127-8 F '40

TRUST companies
Address of president, A.B.A. Trust division. R. E. Clark. Comm & Fin Chr 151:46-8 sec 3 O 12 '40
American bankers association Mid-continent trust conference, Chicago. Trusts & Estates 69:477-95, 497-513 N '39
Economies in dividend disbursement routine. J. T. Keckeisen. il Bankers Mo 57:392-4 Jl '40
Fiduciary problems and questions. R. E. Clark. Bankers M 140:268-9 Mr '40
Fifty years of trust service; Equitable trust company of Wilmington, Delaware. Trusts & Estates 70:61-2 Ja '40
Job ahead for trust service. G. T. Stephenson and others. Trusts & Estates 71:423-6 O '40
Legislation to meet trust growth; papers at 18th annual meeting, Trust section, Texas bankers association, Houston, Nov. 17-18. Trusts & Estates 69:645-7 D '39
Merging trust company with bank; considerations influencing union. R. P. Boardman. Trusts & Estates 70:257-9 Mr '40
New England trust conference, 6th, Boston, Dec. 8. Trusts & Estates 69:657-8 D '39
Practical trust research program; trust research weeks held in 17 states. map Banking 32:41-2 My '40
Threats to profits and state controls; proposals for extending trust service under state regulation on insurance company model. M. E. Bristow. Trusts & Estates 70: 21-4+ Ja '40
Trust business conference, American institute of banking meeting, Boston. Trusts & Estates 70:617-34 Je '40
Trust business outlook; abstract. S. C. Waugh. Bankers M 139:549-50 D '39
Trust research week, Bangor and Portland, Maine, May 6-10. A. Journeay. Burroughs Clearing House 24:15-17+ Jl '40
Union trust company of Pittsburgh completes 50 years of service. Trusts & Estates 69: 542 N '39

See also
Banks and banking
Banks and banking —Trust departments
Insurance trusts
also American Trust division
Investment trusts
Safe deposits
Trust fees
Trust officers
Trusts and trustees
bankers association—

Accounting

Audit and control of trust income and trust assets. G. C. Riechmann. Trusts & Estates 70:65-7 Ja '40
Audit procedure in trust department; adequate controls and reviews made for safety and efficiency. H. J. Ludescher. Trusts & Estates 70:373-6 Ap '40
Experiences in making a statewide cost survey in Pennsylvania. W. E. Brown. Trusts & Estates 70:177-9 F '40
Functional design for trust operations; economy in real estate, tax, and other units. R. A. Wilson. Trusts & Estates 71:405-10 O '40
Functional design for trust operations; machines in trust recording and controls. R. A. Wilson. Trusts & Estates 71:27-32 Jl '40
Trust customers receive report file folder for reports of income and expense. J. K. Novins. il Bankers Mo 57:395+ Jl '40
Uniform cost accounting of trust departments held accurate; abstract. W. J. Weig. Trusts & Estates 70:408 Ap '40
Unit plan of trust accounting. N. S. Gray. il Bankers Mo 57:272-4+ My '40

See also
Trusts and trustees —Accounting

Advertising

Ads of the month; two best examples. il Trusts & Estates 70:76-7, 78 Ja '40
Co-operative advertising. Trusts & Estates 69:668-9 D '39
Different world; illustrations in a newspaper campaign of Old colony trust company, Boston. il Adv & Sell 33:32a-32d Ap '40
First official trust pamphlet in United States issued by Phoenix state bank and trust company, Hartford, Conn. Trusts & Estates 69:533-4 N '39
Issuing statements of trust policies; abstract. G. T. Stephenson. Trusts & Estates 69:657-8 D '39
Long range plan of trust expansion. A. L. Lathrop. il Burroughs Clearing House 24: 20-2+ Ag '40
New business; discussion of the eleven basic principles of trust advertising presented by Albert Journeay. Trusts & Estates 70:313-15 Mr '40

See also
Bank advertising

Bibliography

New books. Published in monthly numbers of Trusts and estates

Branch offices

Branch trust system in an agricultural section. J. H. Moye. Trusts & Estates 71:82-4 Jl '40

Customer relations

Personal relations in trust business. H. R. Harris. Trusts & Estates 70:167-70 F '40
Why customer relations? W. A. Irwin. Trusts & Estates 70:175-6 F '40

See also
Trust companies— Public relations

Employees

Internal staff training; how should the trust department itself develop its personnel? Trusts & Estates 70:517-22 My '40
Internal trust training; a suggested employee educational program. R. E. MacDougall. Trusts & Estates 70:622-6 Je '40

TRUST companies—Employees—*Continued*
Is civil service applicable to trust companies? F. B. Kirkbride. Trusts & Estates 70:512-13 My '40
Man-power development for trust work. E. N. Hay. Trusts & Estates 70:593-8 Je '40
Pension fund for trust companies of Canada. Trusts & Estates 69:554 N '39
Trustees under the wage and hour law; status, and steps to avoid overtime. Trusts & Estates 71:417-21 O '40
See also
Trust officers
Trust service, Education for

Ethics

Fee cutting and extraterritorial solicitation condemned; report of committee on trust policies, Trust division, A.B.A. Trusts & Estates 70:604 Je '40

Fees

See Trust fees

Finance

Comparative statement of the volume of trust business and earning operations of trust departments of member banking institutions located in the tenth Federal reserve district, 1938; tabulation. Trusts & Estates 69:522-3 N '39
Equitable fund C yields 3.6% audit report on fund of Equitable trust company. Trusts & Estates 71:434 O '40
Experiences in making a statewide cost survey in Pennsylvania. W. E. Brown. Trusts & Estates 70:177-9 F '40
Pioneer common trust shows favorable yields; audit report on fund of Equitable trust co., Wilmington, Del. Trusts & Estates 69: 529-30 N '39

Investments

See Trusts and trustees—Investments

Law

Effect of corporate transformation upon ademption, lapse, and fiduciary appointments. A. E. Evans. Trusts & Estates 70: 435-8 Ap '40
Recent and pending trust legislation. R. H. Spotts. Trusts & Estates 71:289-93 S '40
See also
Trusts and trustees

Lawyers' cooperation

Job ahead for trust service; relations with life underwriters and members of the bar. R. Griswold. Comm & Fin Chr 151:43-4 sec 3 O 12 '40
Law student and the trust department; familiarity with corporate fiduciary functions as basis for mutual confidence and understanding. P. J. Munch. Trusts & Estates 70:405-6 Ap '40
Policies that make for trust profits. G. H. Arnold. Burroughs Clearing House 24:18-20+ Mr '40; Same cond. Trusts & Estates 70:325-8 Mr '40

Legal service

Trust department legal service; from a recent U.S. Court of appeals decree. Bankers M 139:536-7 D '39

Libraries

See Bank libraries

Life underwriters' cooperation

Along two fronts; what life insurance and trustee cooperation means today. C. J. Zimmerman. Trusts & Estates 70:7-8 Ja '40
Cooperation—not competition; fields for life insurance and trust service. C. J. Zimmerman. Trusts & Estates 69:493-5 N '39
Insurance trust councils effective; organization meeting of the Washington, D.C. life insurance and trust council. Trusts & Estates 70:377-8 Ap '40
Job ahead for trust service; relations with life underwriters and members of the bar. R. Griswold. Comm & Fin Chr 151:43-4 sec 3 O 12 '40
Life insurance and trust councils; abstract. R. H. Booth. Trusts & Estates 71:216 Ag '40
Life underwriter-trust officer co-operation. P. H. Conway. Weekly Underw 142:37+ sec 2 My 11 '40
New England conference of life underwriters and trust council, Boston. East Underw 41: 12 Mr 22 '40; Nat Underw (Life ed) 44:6+ Mr 22 '40; Trusts & Estates 70:383-9 Ap '40
See also Insurance, Life—Trust company cooperation

Management

Functional design for trust operations; economy in real estate, tax, and other units. R. A. Wilson. Trusts & Estates 71:405-10 O '40
Functional design for trust operations; machines in trust recording and controls. R. A. Wilson. Trusts & Estates 71:27-32 Jl '40
How profitable are your trusts? increased fees or lowered costs? E. R. Shumway. Trusts & Estates 70:619-21 Je '40
Job ahead for trust service; handling small trusts profitably. G. T. Stephenson. Comm & Fin Chr 151:45-6 sec 3 O 12 '40; Same cond. Bankers M 141:400-1 N '40
Let's take inventory. Trusts & Estates 70: 74-6 Ja '40
Policies that make for trust profits. G. H. Arnold. Burroughs Clearing House 24:18-20+ Mr '40; Same cond. Trusts & Estates 70:325-8 Mr '40
Trust advertising, solicitation, public relations and personnel. R. M. Eastman. Trusts & Estates 70:299-300 Mr '40
See also
Trust officers

New business

New business; owners of government baby bonds are trust prospects. Trusts & Estates 70:422-3 Ap '40
New business; recommended procedure for acceptance. L. H. Roseberry. Trusts & Estates 71:222-4 Ag '40

Public relations

Choice before the fiduciary; give public account of stewardship or submit to political control. G. Myers. Trusts & Estates 70:245-50 Mr '40
Job ahead for trust service. S. C. Waugh. Comm & Fin Chr 151:46 sec 3 O 12 '40
Letters as trust department ambassadors. C. W. Dannenfelser. Trusts & Estates 69: 559-60 N '39
Public opinion of trust institutions; preliminary results of national survey of trust customers and prospects. E. Roper. Trusts & Estates 70:133-6 F '40
Public opinion on trust service to be surveyed by Trust division. Banking 32:55 D '39
Public relations for the trust department. J. E. Drew. Bankers M 141:345-8 O '40
Public relations through the schools; abstract. C. W. Fenninger. Trusts & Estates 69:546 N '39
Trust education for the public; proposed survey to learn what public knows about trust business. G. A. Price. Trusts & Estates 69:489-91 N '39
Trust institutions and the people. Trusts & Estates 71:338-40 S '40

Records

Unit plan of trust accounting. N. S. Gray. il Bankers Mo 57:272-4+ My '40

Service

Trust customers receive report file folder for reports of income and expense. J. K. Novins. il Bankers Mo 57:395+ Jl '40

Tax departments

Functional design for trust operations; economy in real estate, tax, and other units. R. A. Wilson. Trusts & Estates 71:405-10 O '40

TRUST companies—*Continued*

Great Britain

Corporate trustee in Britain; trustee departments of banks and insurance companies and the Public trustee. Economist 137:216-17 N 11 '39

Italy

Regulation of trustee and auditing companies in Italy. J. O. Janousek. Comm Rep p277 Mr 23 '40

Los Angeles county

Probate records reveal how much potential business and where it is going; survey of Los Angeles county. H. H. Rolapp. Trusts & Estates 70:649-55 Je '40

New Jersey

Recent fiduciary law. W. M. Ward. bibliog Trusts & Estates 69:659-60 D '39

TRUST education. See Trust service, Education for

TRUST fees

Annual trust fee schedule proposed. W. A. Read. Bankers M 139:544-5 D '39

Applying cost figures to existing trusts. N. V. Rippner. Bankers M 140:536-7 Je '40

Audits, earnings and protection; elaborate checks and balances and possibilities of codification. F. A. Zara. Trusts & Estates 71:429-33 O '40

Bills introduced to permit increased personal trust fees in New York. Trusts & Estates 70:164 F '40

Corporate trust fees raised in New York to meet increased costs under new law. Trust & Estates 70:131 F '40

Cost studies; abstract. H. A. Theis. Trusts & Estates 71:212 Ag '40

Cure your own trust losses; methods of fee readjustments in existing trust accounts. R. E. MacDougall. Trusts & Estates 70:349-52+ Ap '40; Excerpts. Bankers M 140:541-3 Je '40

How profitable are your trusts? increased fees or lowered costs? E. R. Shumway. Trusts & Estates 70:619-21 Je '40

New York corporate fiduciaries association adopts new schedule of fees. Comm & Fin Chr 150:923-4 F 10 '40

Ohio trust conference; report on new Cincinnati fee schedule. W. E. Anderson. Trusts & Estates 70:647-8 Je '40

Trustee fees go up in New York because of Trust indenture act. Business Week p50 F 17 '40

TRUST indenture act of 1939

New standards for corporate trusteeship. G. Roberts. Trusts & Estates 70:155-8 F '40

New York corporate fiduciaries association adopts new schedule of fees. Comm & Fin Chr 150:923-4 F 10 '40

Practical aspects of trustee responsibility under indenture act. W. G. Katz. Trusts & Estates 70:367-70 Ap '40

Protection for corporate trustees; reliance clauses and certificates of value. P. Golsan. Trusts & Estates 69:615-20 D '39

Rules and forms for trust indentures adopted by SEC. Comm & Fin Chr 150:615 Ja 27 '40

Trust indenture act. H. A. Theis. Banking 32:25 Ap '40

Trust indenture act of 1939. S. E. Howard. J Land & Pub Util Econ 16:168-80 My '40

Vital features of act. G. Roberts. Trusts & Estates 69:555-6 N '39

TRUST libraries. See Bank libraries

TRUST officers

Call for leadership; key roles in present stress await bankers and trust men. L. S. Trimble. Trusts & Estates 71:51-4 Jl '40

Professional standards for trust officers; fiduciary keystone in our capitalist democracy. D. McCahan. Trusts & Estates 70:489-95 My '40

Proper titles for trust officials. Trusts & Estates 69:640-2 D '39

Remuneration for trust men. G. T. Stephenson. Trusts & Estates 71:340 S '40

Training trust officers for British banks. W. J. Hinton. Trusts & Estates 70:505-8 My '40

Trust officers and federal legislation; abstracts. A. L. M. Wiggins. Trusts & Estates 70:186-7 F '40; Banking 32:87 Mr '40

Trust officers' opportunities and duties; abstract. A. C. Mackay. Bankers M 141:361-2 O '40

Trust service, a profession. F. P. Storm. bibliog Trusts & Estates 70:481-7 My '40

Where is the loyalty line? bank and trust company officers acting individually in fiduciary relationships. F. B. Kirkbride. Trusts & Estates 70:55-6 Ja '40

See also

Trust service, Education for

TRUST service

Correspondent trust service. A. K. Foster. Banking 33:30-1 O '40

Legal letter and trust spirit; importance of personal qualifications in a service business. W. H. A. Johnson. Trusts & Estates 70:509-11 My '40

Romance of trust service. G. T. Stephenson. Trusts & Estates 70:469-73 My '40

TRUST service, Education for

Accomplishments of cooperative activity; California trust groups. H. M. Wilson. Trusts & Estates 71:45-8 Jl '40

Fundamentals first; necessity of general education. R. M. Hutchins. Trusts & Estates 70:475-9 My '40

Internal staff training; how should the trust department itself develop its personnel? Trusts & Estates 70:517-22 My '40

Legal education and the trust officer. P. J. Wickser. Trusts & Estates 70:502-4 My '40

Origins and pioneers of trust education. W. A. Irwin Trusts & Estates 70:497-500 My '40

Professional standards for trust officers; fiduciary keystone in our capitalist democracy. D. McCahan. Trusts & Estates 70:489-95 My '40

Training trust officers for British banks. W. J. Hinton. Trusts & Estates 70:505-8 My '40

Trust education growing in common law countries. Trusts & Estates 70:501 My '40

Trust education in the universities; survey reveals inadequacy of present opportunities. Trusts & Estates 70:545-7 My '40

TRUSTS, Industrial

Bottlenecks of business. T. W. Arnold. 335p $2 50 Reynal & Hitchcock, New York '40

Building trust-busters eye 1940. Business Week p15-16 Ja 6 '40

Court decree ends container prosecution; case of U.S. against the National container association. Paper Tr J 110:14-15 Ap 25 '40

Federal grand jury in Detroit charges alleged violation of anti-trust laws by distributors of electrical supplies. Comm & Fin Chr 149:4103 D 30 '39

Indict air conditioning firms in Los Angeles. Refrig Eng 39:332 My '40

Patent pool trust charge indicts bentonite group. Oil Paint & Drug Rep 138:3 S 2 '40

Potash antitrust suit consent decree submitted. Oil Paint & Drug Rep 137:3+ My 20 '40

Probe drug prices; Arnold studies returns on 150 subpoenas to check anti-trust violations born of fair trade laws. Business Week p14 Jl 20 '40

Trust drive enters crucial phase. Business Week p15-16 Ap 27 '40

See also

Competition
Corporations
Gasoline industry—United States—Anti-trust trial
Government ownership
Interstate commerce commission
Monopolies
Packing industry—Regulation
Petroleum industry and trade—United States—Antitrust suit
Production, Limitation of
Restraint of trade
Tariff
Trade associations

TRUSTS, Industrial—*Continued*

International trusts

Tin cartel in reverse; having proved it can supply world needs, it now cuts quotas to restore price. Business Week p48 Mr 2 '40

Law

Advertising, is it a monopoly? tobacco case. Ptr Ink Mo 41:28+ S '40

Allegations by federal government against Southern pine association and others. Comm & Fin Chr 150:1359-60 Mr 2 '40

Amendment to federal anti-trust laws proposed. J. K. Javits. Comm & Fin Chr 150: 1219-20 F 24 '40

American medical association ordered to trial by United States Court of appeals; medicine is a trade and subject to anti-trust laws. Comm & Fin Chr 150:1527-8 Mr 9 '40; Oil Paint & Drug Rep 137:3+ Mr 11 '40

Anti-trust action and American housing. C. D. Edwards. J Land & Pub Util Econ 15: 456-63 N '39

Anti-trust indictments in plumbing industry returned by federal grand jury. Comm & Fin Chr 150:2190-1 Ap 6 '40

Antitrust law campaigns commended by House appropriations committee. Oil Paint & Drug Rep 137:3+ F 12 '40

Anti-trust legislation dangers. Bankers M 140: 169-70 F '40

Arnold-Murphy drive against union racketeers to be pressed in 1940. E. Blair. Barron's 19: 4 D 25 '39

Assistant Attorney General Arnold tells labor unions they are subject to prosecution under anti-trust laws. Comm & Fin Chr 149: 3351-2 N 25 '39

Case to watch: tobacco anti-trust prosecutions. C. M Wright. Ptr Ink 192 21-4 Ag 2 '40

Defense commission reports on divorce suit; complete text. Nat Pet N 32:25-6 S 25 '40

Defense on the antitrust line; feud between Arnold and Henderson; trans-atlantic patent agreements. Business Week p15-16 S 14 '40

F.T.C. cites Celotex corporation for buying competitor. Oil Paint & Drug Rep 136:5+ D 4 '39

General electric co indicted as trust Comm & Fin Chr 151:1431-2 S 7 '40

Government is not person entitled to sue for damages under Sherman act; suit for triple damages against eighteen tire manufacturers dismissed Oil Paint & Drug Rep 137:3+ Mr 11 '40

Gypsum board makers indicted as trust. Oil Paint & Drug Rep 138:5 Jl 8 '40

Gypsum patent trust assailed in civil suit Oil Paint & Drug Rep 138 5+ Ag 19 '40

High court to decide whether anti-trust laws apply to unions. Iron Age 145:68+ Ap 11 '40

Legality of association activities; definitions made by Department of justice in anti-trust law action against the National containers association. Oil Paint & Drug Rep 137:3+ Ap 29 '40

New acts don't void trust law; Chicago milk case. Business Week p15-16 D 9 '39

New anti-trust activities strike at trade associations. G H. Montague. Sales Management 46:32, 35 Je 15 '40

New threat to business recovery in O'Mahoney bill imposing additional penalties for anti-trust law violations. Comm & Fin Chr 149:4107-8 D 30 '39

Patent trust alleged in optical industry. Oil Paint & Drug Rep 138:3 S 23 '40

President Green of A.F. of L. advised by Attorney General Murphy that labor unions are subject to anti-trust laws. Comm & Fin Chr 149:3644 D 9 '39

Southern Pine case. W. Compton. J Land & Pub Util Econ 16:214-16 My '40

Tobacco companies accused in anti-trust action. Comm & Fin Chr 151:487-8 Jl 27 '40

Tobacco monopoly charged by U.S. Oil Paint & Drug Rep 138:3+ Jl 29 '40

Trade associations must know antitrust law processes. J. M. F. Donovan, jr. Oil Paint & Drug Rep 138:5, 34+ Jl 15; 5, 58-9 Jl 22; 3+ Jl 29; 36 Ag 5; 5+ Ag 12; 5+ Ag 19; 3+ Ag 26 '40

Trade unions and the anti-trust laws. J. E. Johnsen, comp. Ref Shelf v 13, no 10:1-308 bibliog(p287-302) '40 ($1.25)

Treble damages under the anti-trust laws. P. E. Hadlick. 504p bibliog(p463-4) $5 Ransdell, 810 Rhode Island av, N.E. Washington, D.C. '40

United States district court at Washington rules labor unions are not given blanket exemption from Sherman anti-trust laws. Comm & Fin Chr 150:2348 Ap 13 '40

United States Supreme court holds anti-trust laws cover unions, but says C.I.O. strike at Apex hosiery co. was not in restraint of trade. Comm & Fin Chr 150: 3413 Je 1 '40

Warning to unions; Arnold lists five ways in which organized labor can run afoul of antitrust laws. Business Week p24 N 25 '39

TRUSTS and trustees

Avoiding problems of estate and trust administration. R. A. Jones. Trusts & Estates 70: 263-70 Mr '40

Cases on the law of trusts. H. F. Carey. 2d ed 816p $6.50 Lawyers co-operative pub. co. Rochester, N.Y. '39

Disposition of real and personal property upon death of minor intestate who was beneficiary of testamentary trust created by father. Trusts & Estates 70:220-2 F '40

Distribution; contravention of terms of trust not permitted. Trusts & Estates 69:575 N '39

Effect and scope of exculpatory clauses; protective value to trustees limited. W. D. Fletcher. Trusts & Estates 70:181-5 F '40

Errors of draftsmanship; some common faults revealed by litigation. W. W. Gager. Trusts & Estates 70:611-3 Je '40

Everything to my wife is mistaken kindness; estates should be left in trust. R. J. Holden Trusts & Estates 70:355-9 Ap '40; Excerpts. Bankers M 140:531 Je '40

Few litigations over form of administration of wills and trusts in Connecticut. East Underw 41:11 Je 7 '40

Fewer national banks with trust powers in 1939. Trusts & Estates 71.32 Jl '40

Fiduciary decisions. Published in monthly numbers of Trusts and estates

Fiduciary law in the making; recent decisions W. W. Land. Trusts & Estates 71: 316-22 S '40

Franklin D Roosevelt's trust. Trusts & Estates 71:62 Jl '40

Law of trusts. A. W. Scott. 4v $35 Little '39

Law relating to trusts & trustees. A. Underhill 9th ed cxlip. 567p, 115p 47s 6d Butterworth & co. London '39

Lawyer's part in trust administration; responsibility for workable instruments. G. T. Stephenson. Trusts & Estates 70:412-15 Ap '40

Legislation and investment problems in Connecticut; annual trust conference, Connecticut bankers association, New Haven. Trusts & Estates 70:639-40 Je '40

1939 amendments affecting wills, trusts and estates in New York and emergency mortgage laws. 120p New York trust co, 100 Broadway, New York '39

Pacific coast & Rocky Mountain states trust conference, Salt Lake City, Aug. 15-17. Trusts & Estates 71:211-17 Ag '40

Population trends and trust business. F. B. Kirkbride. Trusts & Estates 70:381-2 Ap '40

Practical aspects of trustee responsibility under indenture act. W. G. Katz. Trusts & Estates 70:367-70 Ap '40

Practical guide for checking wills; if trusts are created. W. Kennedy. Trusts & Estates 71:75-9 Jl '40

Practical treatise on the law of trusts. T. Lewin 14th ed 1031p 60s Sweet & Maxwell, London, Eng. '39

TRUSTS and trustees—*Continued*

Protection for corporate trustees; reliance clauses and certificates of value. P. Golsan. Trusts & Estates 69:615-20 D '39

Recent and pending trust legislation. R. H. Spotts. Trusts & Estates 71:289-93 S '40

Recent fiduciary law in New Jersey. W. M. Ward. bibliog Trusts & Estates 69:659-60 D '39

Should trustees manage close corporations? some cautions on accepting unnecessary responsibilities; abstracts. A. I. Johnson. Trusts & Estates 70:627-8 Je '40; Bankers M 141:85-6 Jl '40

Some recent trends in the law of trusts. M. A. Shattuck. Trusts & Estates 71:397-403 O '40

Trust indenture act of 1939. S. E. Howard. J Land & Pub Util Econ 16:168-80 My '40

Trust service, a profession. F. P. Storm. bibliog Trusts & Estates 70:481-7 My '40

Trustee as insurer; rationale of rules of liability; public relations aspects. E. N. Cahn. bibliog Trusts & Estates 70:605-9 Je '40

Trusteeship and the law; Real property, probate and trust law section of American bar association, meeting. Trusts & Estates 71:265-8 S '40

Trusteeship in a changing world. F. B. Kirkbride. Trusts & Estates 69:531-2 N '39 [cont monthly]

Trusteeship through the ages. C. A. Beard. Trusts & Estates 71:156-9 Ag '40

Trusts and investment counsel. E. H. Conley. Trusts & Estates 71:441-6 O '40

Trusts for foreign nationals to continue to be administered. Trusts & Estates 71:136 Ag '40

See also

Banks and banking—Trust departments
Executors and administrators
Insurance trusts
Investment trusts
Life tenants and remaindermen
Public trustees
Trust companies

Accounting

Accounting procedure and practice; testamentary trusts in New York, New Jersey and Connecticut. R. A. Jones. Trusts & Estates 71:57-62 Jl '40

Audits, earnings and protection; elaborate checks and balances and possibilities of codification. F. A. Zara. Trusts & Estates 71:429-33 O '40

Discounts in trust investments; accounting aspects of bonds selling below par. J. Forer. Trusts & Estates 70:211-14 F '40

Life tenant and remainderman; apportionment of securities and cash received in reorganization. Trusts & Estates 70:106 Ja '40

Rules of trustee liability harsh; should retain adequate records to defend charges of mismanagement. F. P. Storm. Trusts & Estates 70:417-18 Ap '40

Unproductive trust property in Massachusetts M. A. Shattuck. Trusts & Estates 71:96-7 Jl '40

See also

Life tenants and remaindermen
Trust companies—Accounting

Bibliography

Trust bibliography; compendium of information on English reference works dealing with estate and trust administration; with partial list of American books. Trusts & Estates 70:552-6 My '40

Charitable trusts

Validity where no specific purpose is designated. Trusts & Estates 71:466 O '40

Common trust funds

Amendments to Regulation F relating to trust powers of national banks to permit operation of common trust funds invested principally in mortgages. Fed Res Bul 26: 502-9 Je '40

Common or associated trust. E. A. Boyce. il Burroughs Clearing House 25:18-20 O '40; Same cond. Trusts & Estates 71:515 N '40

Equitable fund C yields 3.6%; audit report on fund of Equitable trust company. Trusts & Estates 71:434 O '40

Girard trust company of Philadelphia establishes common funds. Trusts & Estates 69:596 D '39

Investment powers and the Massachusetts rule. F. G. Sayre. Trusts & Estates 69:633-5 D '39

Missouri adopts Massachusetts rule; trustee authorized to invest in stocks and in common trust fund. Trusts & Estates 71:104-5 Jl '40

Mortgages valuable to small accounts; comparisons of mortgage investment funds with common trust funds. C. F. W. Hespenheide. Trusts & Estates 70:361-5 Ap '40

Operation of common trust funds as investment trusts for other than strictly fiduciary purposes; recent ruling. Fed Res Bul 26:393-4 My '40

Pioneer common trust shows favorable yields; audit report on fund of Equitable trust co., Wilmington, Del. Trusts & Estates 69:529-30 N '39

Fees

See Trust fees

Insurance requirements

Ohio banker sees need for new defense liability cover; legal expenses in cases of alleged carelessness in investments; abstracts. W. A. Stark. East Underw 41:39 F 16 '40; Nat Underw 44:21+ Ja 25 '40

Investments

Approved list; advantages of a current catalogue of desirable trust investments. K. E. Penzler. Trusts & Estates 70:587-90 Je '40

Case of the endowment fund. A. H. Gilbert. Bankers M 141:415-16 N '40

Discounts in trust investments; accounting aspects of bonds selling below par. J. Forer. Trusts & Estates 70:211-14 F '40

Easing trust investment restrictions. D. P. Mac Dougall. Trusts & Estates 69:527-8 N '39

Fallacies of rigid legal lists; new responsibilities for trustees under discretionary investment. F. W. Bryan. Trusts & Estates 69:601-4 D '39

Fetters to trustee investment; suggestions for increasing income to beneficiaries. S. D. Kline. Trusts & Estates 69:551-3 N '39

Going businesses as trust investments; legal aspects of fiduciary management of original assets. C. D. Cowdery. bibliog Trusts & Estates 71:269-73 S '40

Handling investments for an institutional trustee; qualifications for and scope of investment committee work and statistical staff. R. H. Williams. Trusts & Estates 70:190-2 F '40

Investing trust funds today; a defensive program contemplating common stocks. D. C. Miller. Trusts & Estates 71:220-1 Ag '40

Investing under prudent investor statute in Connecticut; abstract. W. G. Cleaver. Trusts & Estates 70:590 Je '40

Investment of endowment funds; abstract. E. C. Barrett. Trusts & Estates 71:215-16 Ag '40

Investment powers and the Massachusetts rule. F. G. Sayre. Trusts & Estates 69: 633-5 D '39

Investment powers; clause in will exonerating from liability. Trusts & Estates 69:576-7 N '39

Investment powers for today's needs; reasons for adoption of the Massachusetts rule in Connecticut. L. A. Howard. Trusts & Estates 70:237-42 Mr '40

Job ahead for trust service; investments. L. M. Little. Comm & Fin Chr 151:44-5 sec 3 O 12 '40; Same cond. Trusts & Estates 71:375-6 O '40

Jurisdictional amount of investments; how computed. Trusts & Estates 70:222-3 F '40

TRUSTS and trustees—Investments—*Continued*
Legal aspects of bond investments. R. M. Remick. Trusts & Estates 71:306-11 S '40
Legal aspects of mortgages as trust investments. F. A. Nagel. Trusts & Estates 71: 328-33 S '40
Legal lists in trust investment. Trusts & Estates 70:323-5 Mr '40
Massachusetts rule as to trustees' investments. G. Newhall. Trusts & Estates 71:56 Jl '40
Missouri adopts Massachusetts rule; trustee authorized to invest in stocks and in common trust fund. Trusts & Estates 71:104-5 Jl '40
Mortgage salvage operations; New York statute establishes new principles. J. A. Foley. Trusts & Estates 71:350-1 S '40
Mortgages valuable to small accounts; comparisons of mortgage investment funds with common trust funds. C. F. W. Hespenheide. Trusts & Estates 70:361-5 Ap '40
Original investments; rights, duties and liabilities of trustees. H. Tweed. Trusts & Estates 71:274-80 S '40
Other people's money; an outside view of trusts and investments. S. Leacock. Trusts & Estates 70:11-16 Ja '40
Power of court sitting in probate to construe testamentary trust; requirements of petition for power of sale. Trusts & Estates 70:451-2 Ap '40
Real estate for trust investments. B. W. Utter. Bankers M 140:258 Mr '40
Real property as a trust investment. M. A. Shattuck. bibliog Trusts & Estates 71:323-7 S '40
Record of life insurance trusts in Pittsburgh; mortgage situation. G. A. Price. Trusts & Estates 71:41-2 Jl '40
Right of trustee to retain stock of decedent; acquiescence of beneficiaries; discretion of trustee. Trusts & Estates 70:448-9 Ap '40
Rigidity in investment standards. J. C. Cooper, jr. Trusts & Estates 71:313-15 S '40
Some recent trends in the law of trusts; new frontiers of trust investment law. M. A. Shattuck. Trusts & Estates 71:397-403 O '40
Sound investment policy for discretionary trusts; tabulation of survey. H. M. Wilson. Trusts & Estates 71:46 Jl '40
Suggested program for trust investments. W. B. Cummings. Trusts & Estates 69:557-8 N '39
Symposium on trust investments. J. C. Shelor and others. Trusts & Estates 70:141-53 F '40
Symposium on trust investments, A.B.A. Midcontinent trust conference. Trusts & Estates 69:497-513 N '39
Trust developments in Pennsylvania; Massachusetts rule considered; abstract. F. G. Savre. Trusts & Estates 70:658-9 Je '40
Trust investment program essentials. J. C. Shelor. Bankers M 140:250 Mr '40
Trust investments. B. Cummins. Comm & Fin Chr 149:3351 N 25 '39
Trust investments in northern Ireland. Trusts & Estates 69:514 N '39
What constitutes self-dealing; inter-dealing between trusts. Trusts & Estates 71:106-7 Jl '40
Why common stocks for trust funds. C. A. Scully. Trusts & Estates 71:294-9; Discussion (If common stocks; traditional rules of trust investment would require modifications). L. C. Bradley, jr. 300-5 S '40
Wider investment field for small funds in Pennsylvania; abstract. G. F. Berger. Trusts & Estates 69:553 N '39

See also
Trusts and trustees —Common trust funds

Living trusts

No contest clause held valid; beneficiary deprived of interest as result of attacking validity of instrument. Trusts & Estates 70:107 Ja '40
Revocation under New York personal property law, sec. 23. Trusts & Estates 70:339 Mr '40
Settlement of accounts in living trusts; suggestions for reducing expense and delay. E. B. Landis. Trusts & Estates 71:63-5 Jl '40

Pension trusts

Employees' trusts; income tax. Trusts & Estates 70:416 Ap '40
How employee profit-sharing can cut tax bills. J. K. Lasser. Am Business 10:28, 30-2 My '40
New England Mutual pension trust clinic. Ins Field (Life ed) 69:9-10 Mr 15 '40; Nat Underw (Life ed) 44:6 Mr 15 '40; Weekly Underw 142:680 Mr 16 '40
Pension trusts and personal employees of wealthy persons. A. J. Ostheimer, III. East Underw 40:37 D 15 '39

Small trust funds

See also
Trusts and trustees —Common trust funds

Spendthrift trusts

Right of divorced wife and children to reach spendthrift trust. Trusts & Estates 70:335-6 Mr '40
Spendthrift's progress since 1936; recent state laws. Trusts & Estates 70:94-6 Ja '40

Successor trustees

Trustee's duty to inquire into acts of predecessor; suggestions for avoiding liability for conduct of prior fiduciaries. M. A. Shattuck. bibliog Trusts & Estates 70:159-63 F '40

Taxation

Fiduciary taxation; abstract. A. C. Mackay. Trusts & Estates 71:213-15 Ag '40
How the law controls trust operations; recent developments in the taxation of trusts. L. R. Bloomenthal. bibliog Bankers Mo 57:282-4 My '40
How the law controls trust operations; taxability of funds resulting from involuntary conversion of real estate. L. R. Bloomenthal. bibliog Bankers Mo 56:732-5 D '39
How the law controls trust operations; taxation of short term trusts. L. R. Bloomenthal. bibliog Bankers Mo 57:26-9 Ja '40
Inheritance; tax computed on basis of remainder interests in more distant relatives although spouse exercised right to cut off these interests in her favor. Trusts & Estates 70:680-1 Je '40
Taxability of revertible trust income; new decisions on estates levy suggest possible current savings. L. J. Freeman. Barron's 20:7 O 21 '40
Taxation of trust income; has the Supreme court adopted a new attitude toward trusts? B. McClain. Trusts & Estates 70:251-5 Mr '40
Trends in trust taxation; federal gift and estate taxes; with case citations. W. E. Barton. Trusts & Estates 71:19-24 Jl '40
Trends in trust taxation; the federal income tax, with case citations. W. E. Barton. Trusts & Estates 70:611-16 Je '40

Taxation problems

Estate taxation of insurance proceeds; reversal of decision in Bailey case. G. L. Kappes. Trusts & Estates 69:622-4 D '39
How the law controls trust operations; corporate securities and the estate tax. L. R. Bloomenthal. bibliog Bankers Mo 57:149-51+ Mr '40
How the law controls trust operations; irrevocable life insurance trusts. L. R. Bloomenthal. bibliog Bankers Mo 57:79-81+ F '40
Immediate adjustments in estate plans, trusts, and life insurance necessitated by recent Supreme court and other decisions. 20p pa $1 Prentice-Hall '40
Tax computation in an estate with a charitable remainder. E. L. Eastman. Trusts & Estates 70:669-70 Je '40

TRUTH in advertising. See Advertising ethics

TRYPANOSOMA cruzi
Experimental transmission of trypanosoma cruzi infection in animals by triatoma sanguisuga ambigua. A. Packchanian. bibliog Pub Health Rep 55:1526-32, pl 1-2 Ag 23 '40
Natural infection of triatoma heidemanni with trypanosoma cruzi in Texas. A. Packchanian. bibliog Pub Health Rep 55:1300-6, pl 1-2 Jl 19 '40

TRYPANOSOMES
Method for preserving trypanosoma equiperdum. W. S. Stone and A. T. Thompson. Science 91:344 Ap 5 '40

TRYPSIN
Anti-tryptic properties of heparin. M. K. Horwitt. bibliog Science 92:89-90 Jl 26 '40
Distribution of selenium in plasma and liver proteins and its fractionation in tryptic liver digests. B. B. Westfall and M. I. Smith. bibliog Pub Health Rep 55:1575-83 Ag 30 '40

TSCHERNOFF, Dimitry, 1839-1921
Tschernoff's centenary. N. T. Belaiew. por Metal Prog 36:744-6 D '39

TUBE investments, limited
Report of profits and ordinary general meeting of shareholders, Birmingham. Economist 137:342-3, 391 D 2-9 '39

TUBE mills
Applications and limitations of the rod mill. S. D. Wells. il Paper Tr J 111:89-92 Ag 29 '40
Fabricated-steel cement-grinding tube mill. il diags Engineering 148:681-2, pl 26 D 22 '39
Grinding, for high surface; Nazareth cement co. B. Nordberg. il plan Rock Prod 43: 22-4 Je '40
How to improve grinding. C. D. Rugen, J. A. Kivert and R. E. Boehler. il Rock Prod 43:35-7 My '40
Tube mill for cement grinding. il diags Engineer 169:136, 140-1 F 9 '40

TUBERCLE bacilli
Effect of salicylate on the oxygen uptake of the tubercle bacillus. F. Bernheim. Science 92:204 Ag 30 '40

TUBERCULOSIS
Artificial pneumothorax, its practical application in the treatment of pulmonary tuberculosis. E. N. Packard, J. N. Hayes and S. F. Blanchet, eds. 300p $4 Lea & Febiger, Philadelphia '40
Control of tuberculosis; pulmonary tuberculosis in applicants for employment, Metropolitan life insurance company, 1928-1939. A. C. Reid. bibliog J Ind Hygiene 22:303-14 O '40
Control of tuberculosis; pulmonary tuberculosis in employes; Metropolitan life insurance company, 1930-1939. A. C. Reid. J Ind Hygiene 22:408-15 N '40
Diagnosis and treatment of pulmonary tuberculosis. J. B. Hawes, 2d and M. J. Stone. 2d ed rev 260p $2.75 Lea & Febiger, Philadelphia '40
Dust and disease; organic dusts not factor in tuberculosis. H. J. Spector. Safety Eng 79: 33 Mr '40
Experiments; germ-killing power of ultraviolet light. Science 91:sup10 Mr 22 '40
Health in the cement industry. A. J. R. Curtis. il Rock Prod 42:35-6 N; 37-8 D '39; 43:49-50 Mr '40
Serial chest roentgenograms of 3179 office employes, 1926-1938. H. H. Fellows. J Ind Hygiene 22:157-68 My '40
Some aspects of the chemotherapy of tuberculosis. R. Robinson. Chem Soc J p505-9 Ap '40
Tuberculosis and genius. L. J. Moorman. 272p bibliog(p269-272) $2.50 Univ. of Chicago press '40

Hospitals and sanatoriums
Existence and use of hospital facilities among the several states in relation to wealth as expressed by per capita income. E. H. Pennell, J. W. Mountin and K. Pearson. bibliog Pub Health Rep 55:833-46 My 10 '40
Lake County tuberculosis sanatorium, Waukegan, Ill. il diags plans Arch Forum 73: 146-58 S '40
Small Georgia sewage treatment plant treats 200,000 gallons per day; tuberculosis sanitarium at Alto. il Pub Works 71:13 O '40

TUBES
Cold-dip tin plating. B. J. Higgins. il Steel 107:50, 52 Jl 29 '40
Extruded tubing has unusual properties. Automotive Ind 82:467-8 My 15 '40
How to bend tubes and sections; use of Cerrobend (bismuth, lead, tin, cadmium alloy). il Iron Age 146:52-3 N 7 '40
How to bend tubing without distortion. J. N. Peterson. diags Am Mach 84:386 My 29 '40
Joining thin tubing to cast brass; making an immersion-type urn heater. il Steel 106: 50 F 12 '40; Metal Ind 38:147 Mr '40
Measuring internal diameter of still tubes. W. A. Howard. il diag Oil & Gas J 38:78-80 Mr 28 '40
New forms of tubing connectors; Superseal couplings; VibraSeal gaskets. il Iron Age 144:43 D 21 '39
Photographic study of fluid flow between banks of tubes. R. P. Wallis. bibliog diag Inst Mech Eng J & Proc 142:Proc 379-83, pl 1-6; Discussion. Proc 384-7 F '40
Platinum-clad metals for sheet, screen, tubing and wire. F. E. Carter. il Steel 106:54-5+ Mr 18 '40
Review and summary of developments in heat transfer by conduction and convection. W. H. McAdams. il Am Inst Chem Eng Trans 36:1-20 bibliog(68 references, p 18-20) F '40
Study of the flow of air in tubes in the pressure range 1 to 300 atmospheres. R. W. Moulton and W. L. Beuschlein. bibliog diag plan Am Inst Chem Eng Trans 36:113-33 F '40
Tapered tubing; design possibilities for more efficient construction. diags Product Eng 11: 400-3 S '10
Tapering and trimming mechanism. F. Hartley. diags Mach 47:127-8 O '40

See also
Boiler tubes
Pipes

Manufacture
Farrel-Birmingham press extrudes ferrous, nonferrous tubing. il Steel 107:77 N 11 '40

Testing
Electrical detection of flaws in metal. H. C. Knerr. il diags Metals & Alloys 12:464-9 O '40

TUBES (containers)
Anstrichüberzüge an stelle von metallüberzügen. H. F. Sarx. Angew Chemie 52:715 D 23 '39

TUBES, Aluminum
Bending aluminum aircraft tubing. B. Freakley. Metals & Alloys 12:227 Ag '40

TUBES, Brass
Cathodic protection of condensers and coolers utilizing brackish bay water. W. A. S. Wright and J. H. Brooks. diags Am Pet Inst Proc 21M(3):83-5 My '40; Same. Oil & Gas J 39:60+ My 30 '40
Copper alloys and their application in petroleum refining. J. T. Kemp. Am Pet Inst Proc 21M(3):58-63 My '40
Phosphorized admiralty condenser tubes. C. A. Gleason. Power Pl Eng 44:96 Ap '40; Same. Marine Eng 45:81-2 S '40
Phosphorized metal for condenser tubes. Elec W 113:1092 Ap 6 '40
Results of corrosion tests in oil refineries. N. W. Mitchell. il Am Pet Inst Proc 21M(3): 64-7; Discussion. 85-6, 93-4 My '40
Steam condensers; relative merits of different alloys. V. Walker. Elec R (Lond) 125:812 D 29 '39

Manufacture
Dies for producing tapered tubes from sheet brass. M. J. Goldstein. il diags Mach 46: 265-6 D '39
New type billet heater for brass mill. il Iron Age 144:29 N 30 '39

TUBES, Copper
Cold-dip tin plating. B. J. Higgins. il Steel 107:50, 52 Jl 29 '40
Copper alloys and their application in petroleum refining. J. T. Kemp. Am Pet Inst Proc 21M(3):58-63 My '40
Corrosion of copper and copper-base tubing in oil-refinery heat-transfer equipment. R. A. Wilkins, E. S. Bunn and W. Lynes. il Am Pet Inst Proc 21M(3):46-57 bibliog(104 titles, p54-7) My '40
Some oxygen-free coppers; annealing and drawing characteristics. S. Rolle and H. M. Schleicher. bibliog Metals & Alloys 11:82-7 Mr '40
Testing of non-ferrous alloys for condenser-tube service under conditions simulating actual industrial service. R. W. Moore and S. Kleinheksel. il diags Am Pet Inst Proc 21M(3):73-82 My '40; Same. Nat Pet N 32: R186-8, R190, R192 My 29 '40

TUBES, Rubber
Phenomenon of creep and its relation to hardness measurements. S. R. Williams. il Rubber Age 47:175-6 Je '40

TUBES, Steel
Agalloyed steel tubing meets varied requirements. Mach 46:174-5 Ja '40; Ry Mech Eng 114:205 My '40
Brief summary of special properties of tube steels; tabulation. Oil & Gas J 39:71 S 26 '40
Chromium steels from 2 to 16% chromium. H. D. Newell. Metal Prog 38:384-5 O '40
Failure of low carbon steel still tubes. R. W. Moore. il Metals & Alloys 11:123 Ap '40; Discussion. 11:123; 12:298-300 Ap, S '40
Finned tubing by welding. D. James. il diags Iron Age 144:46-7 D 14 '39
Steel tube fuselages. J. E. Thompson and T. A. Lowe. il diags Product Eng 11:436-42, 513-17 O-N '40 (to be cont)
Strength-weight ratio is improved by steel tubing; abstract. J. W. Greve. Metals & Alloys 11:MA150 Mr '40
Tubes electrically welded; new method produces grain structures in weld indistinguishable from parent metal. J. B. Borgat. il diag Steel 106:52, 54+ Mr 11 '40

See also
Pipes, Steel

Manufacture
Manufacture of seamless ferrous tubes. C. Billingsley. diags Inst Mech Eng J & Proc 143:Proc 61-72, pl 1-2 Ap '40
Welding tubes; new processing line employs fixed precision forming rolls and drives each roll spindle. G. Kentis, jr. il Steel 107:64, 67-8+ O 7 '40

Testing
Nondestructive production test for steel tubing. il Steel 107:38-40+ O 21 '40
Tubes for oil heaters; titanium or columbium in 5% Cr-Mo-Si steel. H. Habart. il Metal Prog 37:401-5 Ap '40

TUBING. See Tubes

TUBS, Steel
Metals and alloys in home washing machines. H. Chase. il diags Metals & Alloys 11:65-6 Mr '40
Welding for enameling; tanks and tubs for household washing machines. J. C. Lewis. il Steel 106:68, 71+ Je 17 '40

TUGBOATS. See Towboats

TULANE university
Point-supported dome of thin shell type; auditorium at Tulane university. A. Tedesko. il diags Eng N 123:767-8 D 7 '39

TULAREMIA
Bacterium tularense; its persistence in the tissues of the argasid ticks, ornithodoros turicata and O. parkeri. G. E. Davis. Pub Health Rep 55:676-80 Ap 19 '40
Natural occurrence of tularemia in beaver and its transmission to man. J. W. Scott. Science 91:263-4 Mr 15 '40
Tularaemia. Pub Health Rep 55:667-70 Ap 19 '40
Tularemia endotoxin. T. V. Öz. Science 92:113 Ag 2 '40

TUMBLING barrels
Barrel tumbling material; patent. Metal Ind 38:274 My '40
Metal cleaning. C. C. Hermann and R. W. Mitchell. il Iron Age 145:55-6 Mr 7 '40
Sprues are cleaned in tumbling mills. A. H. Allen. il Foundry 68:96-7 My '40
Tumbling barrels; hazards and precautions. il Nat Safety N 40:38, 40 D '39

TUMORS
Determination of the total *d*-amino acid content of human tumors and normal tissues by means of *d*-amino acid oxidase. F. Lipmann and others. bibliog Science 91:21-3 Ja 5 '40
Effect of petroleum ether extract of mouse carcasses on skin tumor production in C57 black mice. J. J. Morton and G. B. Mider. bibliog Pub Health Rep 55:670-6 Ap 19 '40
Implants of embryonic tissue inhibit parturition in the rat. A. Taylor. Science 90:472-3 N 17 '39
Inhibition of the succinoxidase system by extracts of tumour and normal tissues. K. A. C. Elliott. Franklin Inst J 230:518-19 O '40
Neoplastic diseases. J. Ewing. 4th ed rev & enl 1160p bibliog(p1073-1126) $14 Saunders '40
Occupational tumors; abstract. J Ind Hygiene 22:sup75-6 Ap '40
Origin of induced pulmonary tumors in strain A mice. H. G. Grady and H. L. Stewart. Pub Health Rep 55:169-70 Ja 26 '40
Particulate components of normal and tumor cells. A. Claude. bibliog Science 91:77-8 Ja 19 '40
Tumors of the hands and feet. G. T. Pack, ed. 138p $3 C. V. Mosby co, St Louis '39
Tumors of the skin, benign and malignant. J. J. Eller. 607p $10 Lea & Febiger, Philadelphia '39

See also
Cancer

TUNA fish
Conclusion and summary of detailed progress report no. 2 on the refrigeration of tuna; abstract. H. C. Godsil. Food Ind 12:99 O '40

TUNG oil
Behavior of certain oil-resin combinations. Oil Paint & Drug Rep 138:50-1 N 4 '40
China and tung oil. S. D. Ren. Oil Paint & Drug Rep 138:52-3 N 11 '40
Drying oils and resins; reactions involving the carbon-to-carbon unsaturation during the thermal treatment of some esters of unsaturated C_{18} fatty acids. T. F. Bradley and W. B. Johnston. bibliog il diag Ind & Eng Chem 32:802-9 Je '40
Drying oils and resins; ultraviolet absorption study of esters of the acids of drying oils. T. F. Bradley and D. Richardson. bibliog il diag Ind & Eng Chem 32:963-9 Jl '40
Employment prospects in the tung-oil industry. Monthly Labor R 51:308-11 Ag '40
Gelation of tung oil; the effect of asphaltic materials. Chem Age (Lond) 43:112 S 7 '40
Industrial study of tung oil production in Mississippi. J. Godbold. 62p bibliog(p60-1) Federal security agency, National youth administration for Mississippi, box 1967, Jackson '40
Influence of resins on the heat bodying of oils. R. C. Shuey. bibliog Ind & Eng Chem 32:921-30 Jl '40
Nov. 1 stocks at Hankow, 4,063 tons. Oil Paint & Drug Rep 136:4+ N 20 '39
Oiticica vs. tung. Business Week p32-3 Je 1 '40
Outlook in strategic chemicals. C. C. Concannon. Chem Ind 47:32 Jl '40
Processing and production of tung oil in the United States. H. G. Knight. Oil Paint & Drug Rep 137:5+ Ap 8; 41 Ap 15; 38 Ap 22 '40
Projects in United States hampered by frosts. Oil Paint & Drug Rep 137:3+ Ja 22 '40
Tung oil from Hankow arrives at New York. Oil Paint & Drug Rep 136:4+ D 25 '39

TUNG oil—*Continued*
Tung oil in the United States. Can Chem & Process Ind 24:400 Ag '40
Tung oil trade of Hankow and Hong Kong. Ind & Eng Chem News ed 18:502 Je 10 '40
Wijs iodine numbers for conjugated double bonds; influence of sample-reagent ratio. W. C. Forbes and H. A. Neville. Ind & Eng Chem Anal ed 12:72-4 F 15 '40

TUNGSTEN
Allies' tungsten supplies. Economist 138:116-18 Ja 20 '40
Export-import bank loans $25,000,000 to China; United States to purchase $30,000,000 worth of tungsten. Comm & Fin Chr 151: 1321 S 28 '40
Induced radioactivity of rhenium and tungsten. K. Fajans and W. H. Sullivan. Phys R 58:276 Ag 1 '40
Monolayers on solids. I. Langmuir. Chem Soc J p511-43 Ap '40
Neutron-induced radioactivity of tungsten. O. Minakawa. Phys R 57:1189 Je 15 '40
Preparation of high melting alloys with the aid of electron bombardment. R. Hultgren and M. H. Pakkala. il diags J Ap Phys 11: 643-6 O '40
Préparation photochimique à froid du tungstène par réduction de l'acide tungstique WO^3. L. Fassina. diags Chimie & Ind 43: 453-6 Mr 20 '40
Principal *M*-series emission lines of tungsten and the *K* absorption of magnesium and aluminum. J. H. Munier, J. A. Bearden and C. H. Shaw. bibliog diag Phys R 58: 537-43 S 15 '40
Recent experiments on the thermionic properties of different crystal directions of the same metal. il J Ap Phys 11:337-8 My '40
Review of the strategic metals. C. G. Fink. Metals & Alloys 12:419-20 O '40
Temperature dependence of the work function of tungsten from measurement of contact potentials by the Kelvin method. J. G. Potter. bibliog diag Phys R 58:623-32 O 1 '40; Discussion. 58:927-8 N 15 '40
Thermionic constants of tungsten as a function of crystallographic direction. M. H. Nichols. bibliog il diags Phys R 57:297-306 F 15 '40

See also
Electric lamps, Tungsten

Analysis
Determination of tungsten; a volumetric method. M. L. Holt and A. G. Gray. bibliog il Ind & Eng Chem Anal ed 12:144-6 Mr 15 '40
Qualitative semimicro-analysis with reference to Noyes and Bray's system: the tantalum and the tungsten group. C. C. Miller and A. J. Lowe. Chem Soc J p1258-63 S '40

TUNGSTEN alloys
Nickel-tungsten system. F. H. Ellinger and W. P. Sykes. bibliog il Am Soc for Metals Trans 28:619-43; Discussion. 643-5 S '40

See also
Stellite
Tungsten steel

TUNGSTEN carbide
Carboloy's extrusion process for producing tubing, spirals and round or shaped bars. il Automotive Ind 82:72 Ja 15 '40; Mach 46: 174 Ja '40
Hardness conversion for hard metals. T. H. Gray and H. Scott. tables Iron Age 145: 39-41 Je 6 '40
Mirror strip with carbide rolls. T. C. Campbell. il Iron Age 145:44-6 F 1 '40

See also
Cutting tools, Carbide

TUNGSTEN lamps. See Electric lamps, Tungsten

TUNGSTEN metallurgy
Metallurgy of tungsten and molybdenum. W. P. Sykes. il diags J Chem Educ 17:190-2 Ap '40

TUNGSTEN ores
Bolivia for strategic minerals. P. H. Reagan. il Eng & Min J 141:54-8 O '40
Duty on tungsten ore aids consumers. L. G. Firth. Steel 106:95 Ja 15 '40
South America as a source of strategic minerals. C. W. Wright. il Min & Met 21:284-5 Je '40
Tungsten-bearing manganese deposit at Golconda, Nevada. P. F. Kerr. diags maps plan Geol Soc Bul 51:1359-89, pl 1-5 bibliog(p1388-9) S '40
Tungsten deposits of Boulder county, Colorado. T. S. Lovering. diags fold maps U S Geol S Bul 922-F:135-56 '40
United States increases tungsten ore production. Steel 106:34 Ja 29 '40

TUNGSTEN steel
Classification of high-speed steels by manufacturer and trade name. Am Mach 84:96 F 21 '40
How alloying elements affect high alloy steels. P. Payson. il Iron Age 145:35-40 Ap 25 '40
Reclaiming bearing balls; spark test for tungsten steel. Automobile Eng 30:14 Ja '40
Welding tungsten steels; a review of literature to July 1, 1937; abstract. W. Spraragen and G. E. Claussen. Metals & Alloys 11:MA81 F '40

TUNGSTIC acid
Préparation photochimique à froid du tungstène par réduction de l'acide tungstique WO^3. L. Fassina. diags Chimie & Ind 43: 453-6 Mr 20 '40

TUNING (radio). See Radio receiving apparatus—Tuning

TUNING forks
Tuning fork stabilization. E. Norrman. il diag Electronics 13:15-17 Ja '40

TUNIS (state)
Economic conditions during 1939. Comm Rep p368+ Ap 20 '40

TUNNEL drainage
Mono Craters tunnel project; pumping and related equipment used. S. M. Dunn. il Am Water Works Assn J 32:1242-58 Ag '40

TUNNEL lighting
Daytime lighting of tunnel entrances. Elec W 113:1238 Ap 20 '40; Same. Eng N 125:43 Jl 4 '40
Daytime lighting requirements for tunnel entrances. K. M. Reid and H. J. Chanon. Illum Eng 35:276-9 Mr '40; Abstract. Elec W 113:1238 Ap 20 '40
Developments in lighting vehicular tunnels. R. M. Swetland. il Gen Elec R 43:158-64 Ap '40
Utility equipment for tunnel operation; Pennsylvania Turnpike. E. C. Marty. il Roads & Sts 83:68-9 Je '40
Vehicle tunnel lighting. J. N. Dodd. Eng N 123:813 D 21 '39; Discussion. R. M. Swetland. 125:393 S 26 '40

Cost
Light transition louvers for high speed vehicular tunnels. R. W. Myers. Illum Eng 35:248-9 Mr '40

TUNNEL lining
Building Baltimore's big tunnel. J. J. Hunt and B. L. Werner. il diags Eng N 125:467-70 O 10 '40
Delaware aqueduct; designing the aqueduct. il Eng N 124:657-8 My 9 '40
Hallinger tunnel shield, and Erdélyi and Vajda tunnel lining. K. Hajnal-Konyi. il diags Engineering 149:575-7 Je 14 '40
Labor cost in lining a small tunnel with a concrete pump. il diags Concrete 48:3-4 My '40
Mobile builds a vehicle tunnel for Gulf Coast highway traffic. il diags Eng N 124:574-6 Ap 25 '40
Pennsylvania Turnpike tunnels holed through. W. F. Gould. il diags Roads & Sts 83: 39-41 Je '40
Tunnel lining methods for concrete compared. L. H. Tuthill. diags Am Concrete Inst J 12:29-47 S '40

TUNNEL lining—*Continued*
Waterproofing a brick tunnel; Otisville tunnel of the Erie railroad. S. A. Potter, jr. diags Civil Eng 10:702-4 N '40

TUNNEL shields
Giant steel shields for Chicago subway. il Iron Age 145:65 F 22 '40
Hallinger tunnel shield, and Erdélyi and Vajda tunnel lining. K. Hajnal-Kónyi. il diags Engineering 149:575-7 Je 14 '40

TUNNEL traffic
Measuring the potential traffic of a proposed vehicular crossing; estimating revenues from tolls. N. Cherniack. maps Am Soc C E Proc 66:207-45 F '40; Discussion. 66:1184-6, 1329-36, 1679-87 Je, S, N '40

TUNNEL ventilation
Queens midtown tunnel, New York. il Engineer 169:493 My 31 '40
Road tunnel under the river Maas at Rotterdam. J. P. Van Bruggen. il diags Engineering 150:163-4, 170, 246-7, pl 12 Ag 30, S 27 '40
Safety factors in construction and ventilation. Wawona vehicular tunnel, Yosemite national park, Calif. S. H. Ash. pls diags plans U S Bur Mines Tech Pa 608:1-34 '40
Utility equipment for tunnel operation; Pennsylvania Turnpike. E. C. Marty. il Roads & Sts 83:66, 68-9 Je '40
Ventilating Pennsylvania's super-highway tunnels and Standard oil company service buildings. il diag Heat & Ven 37:9-11 O '40

TUNNELS and tunneling
Baltimore's new aqueduct; dynamite's part in the construction of the new Gunpowder falls-Montebello filters water tunnel; with photographs by G. W. Schudel. diags plan Explosives Eng 17:356-68 D '39
Baltimore's new water tunnel. L. Small. il diags Eng N 125:346-50 S 12 '40
Building a big sewer in bad ground; compressed air tunneling methods; Memphis, Tenn. W. B. Fowler. il diags map Eng N 124:720-3 My 23 '40
Building Baltimore's big tunnel. J. J. Hunt and B. L. Werner. il diags plan Eng N 125:466-70 O 10 '40
Carlton drainage tunnel. G. T. Kearns, jr; photographs by T. J. Barbre. Explosives Eng 18:171-82 Je '40
Carlton drainage tunnel to give Cripple Creek new life. C. H. Vivian. il diag plan Comp Air M 45:6162-9 Je '40
Carlton tunnel; abstract. A. H. Bebee. Min Cong J 26:36-7 O '40
Carlton tunnel progresses at record speed. il Min Cong J 25:50-1 D '39
Chicago builds a subway. C. H. Vivian. il diags map Comp Air M 45:6204-12 Ag '40
Considerations in selection of mechanical loaders loading broken rock in mines or tunnels. P. M. Sheriger. il Min Cong J 26:37-8 Ja '40
Constructing a sewer in tunnel. H. M. Stanley. diag Pub Works 71:15 S '40
Deeper drainage for Cripple Creek district; Carlton tunnel. M. I. Signer. il Eng & Min J 140:34-6 D '39
Delaware aqueduct; access to the aqueduct. il diags Eng N 124:797-800 Je 6 '40
Delaware aqueduct; designing the aqueduct. il Eng N 124:656-8 My 9 '40
Delaware aqueduct; driving 85 miles of tunnel. il diags map Eng N 125:288-93 Ag 29 '40
Delaware aqueduct, New York. il diags Engineer 170:116-17 Ag 23 '40
Delaware aqueduct; routing the tunnel. il map Eng N 124:584-8 Ap 25 '40
Delaware aqueduct; tunnel haulage and hoisting. il diags Eng N 125:418-21 S 26 '40
Designing and building a new storm sewer in tunnel; Rochester, N.Y. Pub Works 71:14 Ja '40
Driving the Elton tunnel; for mine drainage, haulage and exploration purposes. J. B. Huttl. il diags Eng & Min J 141:33-6 Ap '40
L'emploi des explosifs à oxygène liquide pour le percement des tunnels. Génie Civil 115:442 D 16 '39
Fast tunnel driving at Carlton. il diags Eng N 125:618-22 N 7 '40
Frazier-Davis's Delaware aqueduct job. W. Baer and R. Ellis. il Explosives Eng 18:86-8+ Mr '40
Gelatin models for photoelastic analysis of stress in earth masses. F. B. Farquharson and R. G. Hennes. il Civil Eng 10:211-14 Ap '40
Hand mining on Chicago subways. il diags map Eng N 125:159-64 Ag 1 '40
How the Roosevelt tunnel was driven. il Comp Air M 45:6200 Jl '40
Ladybower reservoir, Derbyshire. il diags Engineer 168:440-2, 448 N 3 '39
Making a water tunnel entrance 165 ft. below lake surface; new fish hatchery at Leavenworth, Wash. diags Eng N 124:371 Mr 14 '40
Making every minute count in tunnel driving; Delaware aqueduct. R. S. Byers. il diag map Comp Air M 45:6116-22 Ap '40
Mono Basin project. il diags plan map Engineer 169:548-9, 566-7, 572 Je 21-28 '40
Mono Craters tunnel construction problems. H. L. Jacques. diags Am Water Works Assn J 32:43-56 Ja '40; Abstract. Eng N 124:325 F 29 '40
Mono Craters tunnel project; pumping and related equipment used. S. M. Dunn. il Am Water Works Assn J 32:1242-58 Ag '40
New driving records on rival tunnels; Carlton drainage tunnel and Delaware aqueduct. il Eng N 124:613 My 2 '40
North-south junction railway, Brussels. diags Engineering 150:21-3, pl 3 Jl 12 '40
Parallel electric blasting circuits in shafts and tunnels. D. P. Ryan. il diags Explosives Eng 18:230-3 Ag '40
Record progress by Walsh construction company; Delaware aqueduct. A. Simpson. il diags Explosives Eng 18:138-42 My '40
Shea and Kaiser on the Delaware aqueduct. J. Lawler and S. H. Wilde. il diags Explosives Eng 18:81-5 Mr '40
Stabilising effect of passive resistance on underground arches. J. D. W. Ball. diags Engineer 170:119-20 Ag 23 '40
30-mile line diversion on the Southern Pacific in upper Sacramento River valley requires 12 tunnels, 8 bridges and extensive grading. il map Ry Age 108:1108-13 Je 22 '40
$21,000,000 contract on the Delaware aqueduct. E. H. Hatch. il diag Comp Air M 45:6285-90 N '40
Waterproofing a brick tunnel; Otisville tunnel of the Erie railroad. S. A. Potter, jr. diags Civil Eng 10:702-4 N '40
World's tunneling record set on Delaware aqueduct. Eng N 124:289 F 22 '40

See also
Aqueducts
Blasting
Drilling and boring (earth and rocks)
Excavation
Mining engineering
Pipe laying
Rock drills
Sewerage
Subways
Tunnel lining

Cost
Continental Divide tunnel, Colorado; unit prices. Eng N 124:693 My 16 '40
Contract unit bid prices; list of projects showing how contractors bid in 1939-1940. Eng N 124:sup201-4 Je 20 '40
Cost of detachable bits at Carlton tunnel. A. H. Bebee. Eng & Min J 141:32 Mr '40
Duchesne tunnel, Utah; unit prices. Eng N 125:638 N 7 '40
Kanopolis Dam tunnel, Kansas; unit prices. Eng N 125:48 Jl 4 '40
Labor cost in lining a small tunnel with a concrete pump. il diags Concrete 48:3-4 My '40
Tunnel approaches, New York; unit prices. Eng N 124:538 Ap 11 '40
Tunnel rehabilitation, Pittsburgh; unit prices Eng N 125:502 O 10 '40

Safety measures
Curtain of water clears tunnel workings after blasting. Comp Air M 45:6224 Ag '40

TUNNELS and tunneling—Safety measures— *Continued*
85 miles of hazard; supervising protection of workers on the Delaware aqueduct. il Nat Safety N 41:20-1 Je '40
Safety and health promotion campaign; tunnel work in the Delaware aqueduct; abstract. F. S. Miller. Safety Eng 79:40 Je '40
Safety factors in construction and ventilation, Wawona vehicular tunnel, Yosemite national park, Calif. S. H. Ash. pls diags plans U S Bur Mines Tech Pa 608:1-34 '40
Safety under pressure; construction of Chicago's subway. J. M. Roche. il Nat Safety N 42:12-14+ Jl '40
Spray curtain stops carbon monoxide. il Eng N 125:243-4 Ag 15 '40
Use of respiratory protective devices under abnormal air pressure. F. E. Griffith and H. H. Schrenk. U S Bur Mines Rep of Invest 3488:1-9 '40; Excerpts. Can Min J 61:303 Mv '40

Tables, calculations, etc.

Stress distribution around a tunnel. R. D. Mindlin. diags Am Soc C E Proc 65:619-42 Ap '39; Discussion. 65:1465-8; 66:323-31, 1063-4 O '39, F, Je '40

Vehicular tunnels

Auto-route de l'ouest. il diag plan Engineer 169:276-7, 280 Mr 22 '40
Bridge and tunnel approaches. J. F. Curtin. il Am Soc C E Proc 65:1527-51 N '39; Discussion. il diags 66:371-7, 525-30, 721-34, 1813-24 F-Ap, D '40
Construction of the Bingham-Copperfield vehicular tunnel. L. S. Breckon. U S Bur Mines Information Circ 7128:1-12, pl 1-11 '40
Construction progress on the Pennsylvania Turnpike. J. K. Knoerle. il Civil Eng 10: 139-41 Mr '40
Daytime lighting of tunnel entrances. Elec W 113:1238 Ap 20 '40; Same. Eng N 125:43 Jl 4 '40
Daytime lighting requirements for tunnel entrances. K. M. Reid and H. J. Chanon. Illum Eng 35:276-9 Mr '40; Abstract. Elec W 113:1238 Ap 20 '40
Developments in lighting vehicular tunnels. R. M. Swetland. il Gen Elec R 43:158-64 Ap '40
Driving the Queens midtown tunnel; with cost data. il diags Eng N 124:29-34 Ja 4 '40
Measuring the potential traffic of a proposed vehicular crossing; estimating revenues from tolls. N. Cherniack. maps Am Soc C E Proc 66:207-45 F '40; Discussion. 66:1184-6, 1329-36, 1679-87 Je, S, N '40
Mobile builds a vehicle tunnel for Gulf Coast highway traffic. il diags map Eng N 124: 572-6 Ap 25 '40
Mobile builds an under-river highway. R. G. Skerrett. il diags maps Comp Air M 45: 6262-6 O '40
Mobile's new vehicle tunnel. Eng N 124:509 Ap 11 '40
New York's Brooklyn-Battery tunnel. il maps Eng N 124:415 Mr 21 '40
New York's first vehicle tunnel under the East river. il diag maps Eng N 123:830-3 D 21 '39
Pennsylvania Turnpike tunnels. C. H. Vivian. il diags Comp Air M 44:6026-32 D '39
Pennsylvania Turnpike tunnels holed through. W. F. Gould. il diags Roads & Sts 83:37-42 Je '40
Pennsylvania's dream highway. J. C. Cosgrove. il map Explosives Eng 18:41-50 F '40
Precision devices for sinking tunnel caissons; vehicular tunnel under the river Maas at Rotterdam. J. P. Van Bruggen. il diags Eng N 125:608-10 N 7 '40
Queens midtown tunnel. Comp Air M 44:6023 N '39
Queens midtown tunnel, New York. il diags plan Engineer 169:491-3, 512, 516, 530-2 My 31-Je 14 '40
Quelques innovations dans le domaine des travaux publics; tunnel à section triple enfoncé à grande profondeur, Rotterdam. R. Christiani. il diags map Soc Ing Civils Mémoires 92:466-74 Jl-D '39
Railroadbed highway; super-highway across Pennsylvania. F. E. Wood. il map Sci Am 162:270-1 My '40
Road tunnel under the river Maas at Rotterdam. J. P. Van Bruggen. il diags maps Engineering 150:101-3, 110, 161-4, 170, 244-7, pl 8, 11-12, 17 Ag 9, 30, S 27 '40
Roads, bridges, and tunnels in 1939. il diags Engineer 169:21, 23-4, 30-1 Ja 5-12 '40
Safety factors in construction and ventilation, Wawona vehicular tunnel, Yosemite national park, Calif. S. H. Ash. pls diags plans U S Bur Mines Tech Pa 608:1-34 '40
Subaqueous tunnel at Mobile, Alabama. il diags Engineer 170:148-50 S 6 '40
Toll structures and toll collection. G. Hartley. il diags Am Soc C E Proc 66:525-30 Mr '40
Le tunnel routier de Queens-midtown, sous l'East river, à New-York. P. Caufourier. il diags plan Génie Civil 116:241-4 Ap 13 '40
Tunneling on the Pennsylvania Turnpike. il diags Eng N 124:778-83 Je 6 '40
Les tunnels pour piétons et pour véhicules sous la Meuse, à Rotterdam. A. Bijls. il diags plans Génie Civil 116:113-17 F 17 '40
Under Mobile river; vehicular tunnel built on land, floated into place. R. G. Skerrett. il Sci Am 163:135-6 S '40
Utility equipment for tunnel operation; Pennsylvania Turnpike. E. C. Marty. il Roads & Sts 83:66, 68-9 Je '40
Viaduct approach to Lincoln tunnel. C. W. Dunham. il diags plan Eng N 124:311-14 F 29 '40

TUNNELS and tunneling, Subaqueous

Arc welded river tunnel for Chicago. il Engineer 169:190 F 23 '40
Driving a tunnel beneath the Hudson river; Delaware aqueduct. R. G. Skerrett. il Comp Air M 45:6226-32 S '40
Driving the Queens midtown tunnel; with cost data. il diags Eng N 124:29-34 Ja 4 '40
Hallinger tunnel shield, and Erdélyi and Vajda tunnel lining. K. Hajnal-Kónyi. il diags Engineering 149:575-7 Je 14 '40
Mobile builds a vehicle tunnel for Gulf Coast highway traffic. il diags map Eng N 124: 572-6 Ap 25 '40
Mobile builds an under-river highway. R. G. Skerrett. il diags maps Comp Air M 45: 6262-6 O '40
New York's first vehicle tunnel under the East river. il diag maps Eng N 123:830-3 D 21 '39
Pleasantville constructors tunnel under the Hudson; Delaware aqueduct. F. Cherry. il Explosives Eng 18:114-18 Ap '40
Precision devices for sinking tunnel caissons; vehicular tunnel under the river Maas at Rotterdam. J. P. Van Bruggen. il diags Eng N 125:608-10 N 7 '40
Queens midtown tunnel, New York. il diags plan Engineer 169:491-3, 512, 516, 530-2 My 31-Je 14 '40
Queens tunnel holed through. il Eng N 123: 663+ N 16 '39
Road tunnel under the river Maas at Rotterdam. J. P. Van Bruggen il diags maps Engineering 150:101-3, 110, 161-4, 170, 244-7, pl 8, 11-12, 17 Ag 9, 30, S 27 '40
Subaqueous tunnel at Mobile, Alabama. il diags Engineer 170:148-50 S 6 '40
Le tunnel routier de Queens-midtown, sous l'East river, à New-York. P. Caufourier. il diags plan Génie Civil 116:241-4 Ap 13 '40
Under Mobile river; vehicular tunnel built on land, floated into place. R. G. Skerrett. il Sci Am 163:135-6 S '40

See also
English Channel tunnel

TUPELO

Oxygen requirements for germination of seeds of nyssa acquatica, tupelo gum. I. V. Shunk. Science 90:565 D 15 '39

TURBELLARIA

Mesostoma ehrenbergii wardii for the study of the turbellarian type. T. K. Ruebush. diag Science 91:531-2 My 31 '40

TURBIDIMETERS
Determining emulsifying efficiencies. L. H. Cohan and N. Hackerman. il Ind & Eng Chem Anal ed 12:210-13 bibliog(80 references, p213) Ap 15 '40
Simple turbidimeter for fairly clear water. A. A. Hirsch. diag Water Works & Sewerage 87:76-7 F '40
Specific surface and particle size distribution of finely divided materials; with data on use of photelometer. M. N. States. il diags Am Soc T M Proc 39:795-807; Discussion. 808-9 '39

TURBIDIMETRIC analysis
Method for analysis of boiler scales and sludges; colorimetric and turbidimetric methods in conjunction with a Phototester as compared with gravimetric methods. F. K. Lindsay and R. G. Bielenberg. bibliog il diag Ind & Eng Chem Anal ed 12:460-3 Ag 15 '40
Thermoelectric absorptiometer for analytical work. H. H. Willard and G. H. Ayres. bibliog il diag Ind & Eng Chem Anal ed 12: 287-91 My 15 '40

TURBIDITY
Means of measuring turbidity and fluorescence using the Lovibond tintometer fitted with Rothamsted device. G. S. Fawcett and J. Hewitt. diag Soc Chem Ind J 58:342-4 N '39

TURBINE pumps. See Pumps, Turbine

TURBINES
Boost plant capacity at cost of $5 per kw; larger diameter impellers add 6,000 kw; Dix Dam plant of the Kentucky utilities company. E. W. Brown. diag Elec W 112:1441 N 18 '39
Census of steam engine manufacture; 1939 census of manufacturers of establishments whose principal products are steam engines, steam turbines, water wheels and water turbines. Power Pl Eng 44:118+ N '40
Low head produces high capacity; Vargön hydro plant, Sweden. G. Willock. il diags Power 83:744-6 D '39
Selbststeuereinrichtung von pumpspeicheranlagen G. Reid. diags V D I 84:343-6 My 18 '40
Specific speed of pumps and turbines. J. Jennings. Engineering 150:77 Jl 26 '40; Discussion. 150:96, 115, 137, 175, 195-6, 256, 376-7, 454 Ag 2-16, 30-S 6, 27, N 8, D 6 '40

See also
Air turbines
Gas turbines
Steam turbines

Blades
Turbines, blades, steam; abstracts of ASME papers. Power 83:835 Mid-D '39

Control
Operating and designing engineers get together on governor performance; abstracts of ASME papers. diag Power 83:832-4 Mid-D '39

Design
Hydraulic turbine practice, economic principles in design. I. A. Winter. diags Am Soc C E Proc 65:1554-74 N '39; Excerpt. Mech Eng 62:27-8 Ja '40; Discussion. diags Am Soc C E Proc 66:531-6, 1659-63 Mr, N '40
Space-saving hydro turbine. il diag Power 84:167 Mr '40
Turbines for moderate heads; the field of the Francis design. F. J. Taylor. diags Elec R (Lond) 126:495-6 My 3 '40
Water turbine developments. F. J. Taylor. il diags Elec R (Lond) 127:257-9 S 27 '40

Efficiency
Hydraulic turbine practice; model and prototype tests. L. M. Davis. Am Soc C E Proc 65:1583-6 N '39; Discussion. diags 66: 735-8, 1015-19, 1663-4 Ap-My, N '40

Repair
Welding water wheels. E. A. Woodhead. Elec West 84:126-7 Je '40
Welding waterwheels; also metal spraying. A. P. Newberry. Elec West 85:46-7 Ag . '40

Testing
Hydraulic turbine practice; model and prototype tests. L. M. Davis. Am Soc C E Proc 65:1575-89 N '39; Discussion. 66:179-84, 735-8, 1015-19, 1373-8, 1659-64 Ja, Ap-My, S, N '40
Steam-engine indicator adapted to record differential pressure. W. B. Hess. il Instruments 13:211 Ag '40
Untersuchung eines wasserturbinen-leitradmodelles im windkanal. A. Kist. il diags V D I 84:75-7 F 3 '40

TURBINES, Steam. See Steam turbines

TURBULENCE
Air flow in the boundary layer of an elliptic cylinder. G. B. Schubauer. bibliog il diag U S Nat Advisory Com for Aeronautics 1939:207-26 '40
Combustion turbulence. W. T. David. il Engineer 169:250-1 Mr 15 '40
Contribution to a study of the Allen salt-velocity method of water measurement. M. A. Mason. Boston Soc C E J 27:207-35; Discussion. 236-41 Jl '40
Experiments on the breakdown of laminar flow. A. Fage. bibliog il diag J Aeronautical Sci 7:513-17 O '40
Relation of the statistical theory of turbulence to hydraulics. A. A. Kalinske. diags Am Soc C E Proc 65:1387-1406 O '39; Discussion bibliog diags 66:165-6, 352-6, 581-3, 709-16, 967-79, 1229-36 Ja-Je '40
Spectrum of turbulence. J. Kampé de Fériet. bibliog diag J Aeronautical Sci 7: 518-19 O '40
Study of the flow of air in tubes in the pressure range 1 to 300 atmospheres. R. W. Moulton and W. L. Beuschlein. bibliog diag plan Am Inst Chem Eng Trans 36: 113-33 F '40
Velocity distribution of fluids in turbulent flow. H. T. Bates. Am Inst Chem Eng Trans 36:269-84 Ap '40; Discussion. 36:657-73 O '40

TURK, Karl, 1883-
Father and son recipients of Modern pioneer award. por Am Cer Soc Bul 19:180 My '40

TURK, Richard H.
Father and son recipients of Modern pioneer award. por Am Cer Soc Bul 19:180 My '40

TURKEY

Commerce
Turkish foreign trade by ports and frontiers. G. Richardson. Comm Rep p673 Ag 3 '40

Commercial policy
Changes announced in compensation premium rates as applied to imports from United States. Comm Rep p82 Ja 27 '40
Establishment of import unions controlling importation of certain products approved. Comm Rep p570-1 Je 29 '40
Future trade to be based on compensation and clearing. Comm Rep p229-30 Mr 9 '40
Turkish trade policy; to increase trade with U.S.A. Economist 138:202 F 3 '40

Economic conditions
Business situation. Published in Commerce reports [cont as Foreign commerce weekly beginning O 5]
Economic conditions during 1939. Comm Rep p221-2 Mr 9 '40
Turkey in 1939. Economist 138:sup26 F 17 '40

Economic policy
War measures. J. O. Janousek. Comm Rep p430 My 11 '40

Foreign relations
Turkey at the Straits; a short history. J. T. Shotwell and F. Deák. 196p bibliog(p173-8) $2 Macmillan '40

TURKEY, Smoked
Food formula. Food Ind 12:99 F '40

TURKEY red oil
Sulphonated oils and fatty alcohols; some industrial applications. G. S. Collingridge. Chem Age (Lond) 42:17-19 Ja 13 '40

TURKEYS
Large U.S. turkey crops reduce imports. M. A. Wulfert. Comm Rep p1208 D 23 '39
Turkeys set record. Business Week p21-2 N 18 '39

TURNER and Newall, limited
Annual general meeting, Manchester. Economist 138:228-9 F 3 '40
Profits, years to September 30th, 1937-39. Economist 137:474 D 23 '39

TURNING
Lathe set-up for turning work to a given radius and diameter. C. J. Toonen. diags Mach 47:135-6 O '40
Turning costs halved; experimental program with tungsten carbide tools at Nuttal works of Westinghouse electric & mfg. co. il Steel 107:41 O 21 '40
What tools for turning? D. W. Mellor. il Am Mach 84:496-7 Jl 10 '40
See also
Lathes

TURNOVER
See also
Labor turnover

TURNTABLES
Seventy-ft. locomotive turntable for the L.M.S. railway. il Engineering 149:621-2, 624, pl 37 Je 28 '40

TURPENTINE
Progress recorded in 1939; American turpentine farmers association cooperative, annual meeting, Valdosta, Ga. Oil Paint & Drug Rep 137:5 Ap 22 '40
Turpentine and rosin; statistics for 1939. Chem & Met Eng 47:91-2 F '40
Turpentine association survey on pure gum spirits of turpentine as paint thinner. Oil Paint & Drug Rep 136:32C D 4 '39
See also
Naval stores

TURQUOISE
Chalchihuitl; early turquoise mining. E. R. Harrington. il Eng & Min J 141:57-8 Je '40

TURTLES, Fossil
Nearly complete turtle skeleton from the upper cretaceous of Montana. E. C. Case. 19p pa 40c Univ. of Michigan press, Ann Arbor '39

TWEEDSMUIR, Lord. See Buchan, John

TWENTIETH CENTURY-FOX film corporation
Earnings, 1936-39. Comm & Fin Chr 150: 2273-4 Ap 6 '40
Low-priced stocks paying dividends; thumbnail appraisal. Mag of Wall St 65:297 D 16 '39
Settles anti-trust suit. Comm & Fin Chr 151: 2665 N 2 '40

TWENTY-five year club
200 veteran oil men organize club to mark service to their industry. Nat Pet N 32:21+ Ja 17 '40

TWINE
See also
Henequen

Testing
Testing the stiffness of yarns and twines. D. C. Scott. diag Am Dyestuff Rep 29:77-80 F 19 '40

TWINS
Twins more likely to older parents. Sci Am 163:26 Jl '40

TWO-family houses. See Architecture, Domestic—Two-family houses

TYGART river
Miniature system of first-order alinement and triangulation control; measuring horizontal movements of Tygart dam. F. W. Hough. il diags Am Soc C E Proc 65:1707-17 D '39; Discussion. 66:1133-8 Je '40

TYGON
Tygon lining materials. Rubber Age 46:167 D '39

TYNDALLMETER
Settling characteristics of various inorganic dusts. L. H. Berkelhamer. bibliog diag J Ind Hygiene 22:276-87 S '40

TYPE and type founding
Bodoni. il Inland Ptr 104:53-7 D '39
Centennial gives old type faces new use in life; County register, of Keosauqua, Iowa. il Inland Ptr 104:26 F '40
98 preferred type faces. R. Cleveland. Ptg Art 68 no 4:L 4, L 6, L 8 '40
Old types come into use again. il Inland Ptr 105:52-3 Jl '40
Type chart that can easily be made and is simple to use. W. Laufer. il Inland Ptr 104: 66-7 N '39
Types speak in their own languages; translation of Argentine printer's description of type faces' missions. il Inland Ptr 104:28 F '40
Typologia; studies in type design & type making with comments on the invention of typography, the first types, legibility and fine printing. F. W. Goudy. 170p $3 Univ. of California press, Berkeley '40
See also
Advertisements—Typography
Printing—Specimens
Typesetting

TYPES (biology)
Types in modern taxonomy. G. G. Simpson. Am J Sci 238:413-31 Je '40

TYPESETTING
Accurate count of characters insures correct fitting of copy. W. Laufer. il Inland Ptr 104:58-60 F '40
Another lesson on how to fit copy in spaces of different sizes and shapes. W. Laufer. il Inland Ptr 104:48-50 Mr '40
Code for simplifying markups. L. J. Spang. Inland Ptr 105:32-3 Ap '40
Creating distinctive border patterns by clever use of standard type rules. W. Laufer. il Inland Ptr 105:58-9 Ag '40
Device for setting type in run-arounds. il Inland Ptr 104:78 Mr '40
Expert typographers' secrets of spacing display and text matter. W. Laufer. il Inland Ptr 105:64-6 Je '40
How to efficiencize the composing room. E. H. Stuart. il Inland Ptr 105:23-6 Ag '40
How to fit copy in irregular shapes. W. Laufer. il Inland Ptr 105:78-9 My '40
In this lesson on fundamentals of typography, we study the em system; copy-fitting problem can be simplified. W. Laufer. diags Inland Ptr 105:26-8 Ap '40
Solving odd-shape fittings; calculating square inch measurements of irregular designs. Inland Ptr 104:74 F '40
Typocrafters stage a super-clinic. il Inland Ptr 104:51-6 Mr '40
Winners in the award of the New England conference of typographical unions; annual exhibit for apprentices. il Inland Ptr 104:55 N '39
See also
Advertisements—Typography
Letterheads
Linotype
Printing
Printing, Practical
Type and type founding
also International trade composition association

Tables, calculations, etc.
Essentials of copy-fitting. E. H. Christensen. Ptg Art 68 no 4:L 1-L 2 '40

TYPESETTING machines
See also
Linotype

Automatic operation
New Universal intertype autoshift. il Inland Ptr 104:84 N '39
Telegraphic typesetting; abstracts. H. H. Harrison. Elec R (Lond) 126:158 F 9 '40; Electrician 124:122 F 16 '40; Engineering 149:213 F 23 '40; Discussion. Elec R (Lond) 126:187-8 F 16 '40; Electrician 124:122 F 16 '40

TYPEWRITER ribbon
There's a ribbon for every job. N. D. Stone. Bankers Mo 57:578-82+ O '40

TYPEWRITERS
Business tries retraining operators for Dvorak keyboards. N. L. Merrick. Am Business 10:23-4 Ja '40

TYPEWRITING
Adult touch typewriting. R. D. Smith. 48 numb l pa 50c Neodesha register, Neodesha, Kan. '39
Business and personal typewriting. L. W. Korona, C. E. Rowe and J. E. Clem. college ed 234p $1.70 Ginn '40
Electronic typewriting speedometer. B. Ephraim. diags Electronics 12:32+ D '39
Progressive typewriting course; all finger (horizontal) method. J. Marshall. 95p 2s E. Arnold & co, London '39
Progressive typewriting course; direct (vertical) method. J. Marshall. 95p 2s E. Arnold & co, London '39
Rhythmic typewriting drills. M. L. Reed. 42p pa 48c Gregg '39
See also
Typists

TYPHOID fever
Outbreaks of water-borne diseases in the New England states, 1920 to 1936. A. E. Gorman. N E Water Works Assn J 53:473-96; Discussion. 497-504 D '39
Simple method for preparing antigenic substances from the typhoid bacillus. J. W. Palmer and T. D. Gerlough. Science 92: 155-6 Ag 16 '40
Typhoid bacteria in surface waters. Eng N 124:186 F 1 '40
Typhoid fever death rates in Lawrence, Boston and Massachusetts, 1879-1938; tabulation. A. L. Shaw and E. S. Chase. N E Water Works Assn J 53:413 D '39
Typhoid in large cities of the United States in 1939. Am Water Works Assn J 32:1394-1407 Ag '40

TYPHUS fever
Cerebral pathology in rodents in endemic typhus and Rocky Mountain spotted fevers. R. D. Lillie, R. E. Dyer and N. H. Topping. Pub Health Rep 54:2137-48 bibliog(69 titles, p2146-8) pl 1-2 D 1 '39
Epidemic and endemic typhus: protective value for guinea pigs of vaccines prepared from infected tissues of the developing chick embryo. H. R. Cox and E. J. Bell. Pub Health Rep 55:110-15 Ja 19 '40
Mass production of vaccine against typhus fever of the European type. H. Zinsser, H. Plotz and J. F. Enders. bibliog Science 91: 51-2 Ja 12 '40
Seminar on rickettsial diseases. Franklin Inst J 229:528-31 Ap '40

TYPISTS
Salaries of office workers in fifty-eight cities. Am Business 10:40-1 N '40

TYPOGRAPHICAL errors. See Errors, Typographical

TYPOGRAPHY. See Printing

TYPOGRAPHY (term)
What is typography? Inland Ptr 105:36-7 Jl '40

TYPOTHERIUM (term)
Names mesotherium and typotherium. G. G. Simpson. Am J Sci 238:518-21 Jl '40

TYROSINASE
Action of tyrosinase on hydroquinone. D. C. Gregg and J. M. Nelson. bibliog Am Chem Soc J 62:2510-12 S '40
Comparison of the activities of tyrosinase toward phenol and *p*-cresol. D. C. Gregg and J. M. Nelson. Am Chem Soc J 62:2506-9 S '40
Further studies on the enzyme, tyrosinase. D. C. Gregg and J. M. Nelson. Am Chem Soc J 62:2500-5 S '40
J. M. Nelson receives Nichols medal. Ind & Eng Chem News ed 18:239-40 Mr 25 '40
Nature of the enzyme tyrosinase. G. G. Parkinson, jr. and J. M. Nelson. Am Chem Soc J 62:1693-7 Jl '40

TYROSINE
Synthesis of 3,5-difluoro- and 3-fluoro-5-iodo-*dl*-tyrosine. J. English, jr, J. F. Mead and C. Niemann. bibliog Am Chem Soc J 62: 350-4 F '40

U

UGANDA
Conditions in Kenya and Uganda adverse during 1939. Comm Rep p694 Ag 10 '40

UKRAINE
What will Russia do in Balkans? economic importance of Ukraine. map Business Week p55-6+ D 16 '39

ULEN and company
Exchange seeks delisting of stock. Comm & Fin Chr 150:2441 Ap 13 '40
Pro forma consolidated balance sheet, Dec. 31, 1938. Comm & Fin Chr 149:4188 D 30 '39
Seeks arrangement to eliminate debentures through exchange for prior preferred stock. Comm & Fin Chr 149:4043-4 D 23 '39

ULTRACENTRIFUGES. See Centrifuges

ULTRASONIC waves
Absorption of supersonic waves in water and in aqueous suspensions. G. K. Hartmann and A. B. Focke. Phys R 57:221-5 F 1 '40
Disintegration of starch paste by irradiation with ultrasonic waves; abstract. S. Ono. Food Ind 12:88 N '40
Dispersion of supersonic waves in cylindrical rods. G. S. Field. bibliog Phys R 57:1188 Je 15 '40
Dispersion of supersonic waves in cylindrical rods of polycrystalline silver, nickel, and magnesium. S. K. Shear and A. B. Focke. bibliog diags Phys R 57:532-7 Mr 15 '40
Les infrasons et les ultrasons. M. Adam. diags Génie Civil 115:433-5 D 16 '39
Jets gazeux à vitesse supersonique et luminosités de détonation. H. Muraour. bibliog il diag Chimie & Ind 42:604-6 O '39
Soundless sound waves; odd realm of supersonics. W. L. Finlay. il diags Sci Am 162: 148-9, 216-17 Mr-Ap '40
Supersonic light control and its application to television. Elec Eng 59:151 Ap '40
Ultrasonic stroboscope for measuring sound wave-length in liquids. F. E. Fox and G. D. Rock. il diags R Sci Instr 10:345-8 N '39
Verification of subscribers' numbers on demand working: a supersonic signal method. W. K. Brasher and B. F. Moss. diags Inst E E J 87:63-8 Jl '40

ULTRAVIOLET rays
Breakdown of sulfanilamide molecule by ultra-violet irradiation or chemical oxidation. S. M. Rosenthal and H. Bauer. Science 91:509 My 24 '40
Computation of transmission factors of ultraviolet radiation through water. F. Benford. il diags Opt Soc Am J 30:133-5 Mr '40
Continuous source for the Spekker photometer. H. H. Darby. il diag Am Chem Soc J 62:1874-5 Jl '40
Excitation and detection of ultraviolet fluorescence. R. G. Franklin and A. J. Allen. diags Franklin Inst J 230:263-8 Ag '40
Formation and deterioration of paint films; changes in films of glycol esters of several unsaturated fatty acids under exposure to ultraviolet light. J. L. Overholt and A. C. Elm. Ind & Eng Chem 32:1348-51 O '40
Formation and deterioration of paint films; changes in films of methyl esters of several unsaturated fatty acids under exposure to ultraviolet light. J. L. Overholt and A. C. Elm. bibliog Ind & Eng Chem 32:378-83 Mr '40
Infrared absorption spectra of drying oils; changes caused by exposure of esters to ultraviolet light and oxygen, and the effect of polymerization on the spectra. D. L. Gamble and C. E. Barnett. bibliog Ind & Eng Chem 32:375-8 Mr '40
Observations on the anticatalase activity of sulfanilamide and related compounds before and after ultraviolet irradiation. M. P. Benoy. Franklin Inst J 230:402-5 S '40
Paints to reflect ultraviolet light. D. F. Wilcock and W. Soller. bibliog diags Ind & Eng Chem 32:1446-51 N '40
Proposed standard solar-radiation curves for engineering use. P. Moon. bibliog Franklin Inst J 230:607-13 N '40

ULTRAVIOLET rays—*Continued*
Quantum yield as a function of wave length for the inactivation of urease. E. W. Landen. Am Chem Soc J 62:2465-8 S '40
Relative efficiency of active wave lengths of ultraviolet in activation of 7-dehydrocholesterol. J. W. M. Bunker, R. S. Harris and L. M. Mosher. Am Chem Soc J 62:508-11 Mr '40
Splitting the CONH linkage by means of ultraviolet light. D. C. Carpenter. bibliog diags Am Chem Soc J 62:289-91 F '40
Ultra-violet absorption spectra of nitrogenous heterocyclic compounds; effect of pH and irradiation on the spectrum of barbituric acid. J. R. Loofbourow and M. M. Stimson. Chem Soc J p1275-7 S '40

See also
Electric lamps, Fluorescent
Fluorescence
Raman effect
Spectrum, Ultraviolet

Biological effect
Bactericidal irradiation of air; physical factors. W. F. Wells. il Franklin Inst J 229: 347-72 Mr '40
Sun ray counts save sulphate; effect of ultraviolet rays on algae growth. R. F. Goudey. il Eng N 124:525-7 Ap 11 '40

Industrial applications
Invisible light shows up defects in foods; British test raw materials and finished products by fluorescence under ultraviolet light. C. H. S. Tupholme. bibliog il Food Ind 12:53+ Ag '40
Kraft- und schmierstoffprüfung durch ultraviolett-absorption. V D I 83:1290-1 D 16 '39
Ultra-violet and infra-red radiations; uses on the electrified farm of the future; abstract. L. C. Porter. Science 90:sup8-9 D 15 '39
Ultraviolet finds new applications; bactericidal irradiation in meat, baking, dairy, fish and fresh fruit and vegetable industries. T. R. Porter. il Food Ind 12:51-3 Jl '40
Ultra-violet light; abstract. F. Dervaux. Am Dyestuff Rep 29:282 My 27 '40
Ultra-violet light as a sterilizing agent for brines or pickles; abstract. O. C. Young, H. L. Tarr and P. A. Sunderland. Food Ind 11:710 D '39
Ultra-violet tests on fabrics and dyestuffs. C. H. S. Tupholme. Textile Col 62:515-18, 598-600+ Ag-S '40

Lamps
Advantages of bactericidal ultraviolet radiation in air conditioning systems. H. C. Rentschler and R. Nagy. il diags plan Heating-Piping 12:127-30 F '40
Air sterilization; abstract. E. C. Robertson and others. Heat & Ven 37:60 N '40
Black light and white magic; uses of ultraviolet rays; fluorescent carpets for moving picture theaters. S. G. Hibben. Illum Eng 35:372-3 Ap '40
Black light; ultra-violet lamps and fluorescent materials for theaters. F. M. Falge. il Elec West 85:31-2 S '40
Discharge tube aids study of ultraviolet killing power. il Electronics 13:50 My '40
Fittings to furnish low illuminations; ultraviolet light and fluorescent materials. W. J. Jones. il Light & Lighting 32:231, 232 N '39
Flip of a switch; use of sterilamp to destroy harmful microorganisms. T. R. Porter. il Safety Eng 80:15-16 S '40
Fluorescent lighting; effects produced by use of ultra-violet lamps and fluorescent powders. il Electrician 123:545 D 22 '39
Fluorescent shop lighting. J. B. Harris. il Elec R (Lond) 125:706 D 1 '39
Germicidal lamps, a new tool for industry and a contribution to health. L. C. Porter and P. W. Neidhardt. il diags Gen Elec R 43:202-5 My '40
New method for measuring germicidal energy announced. Illum Eng Soc Trans 34: 985 N '39
Spectral distribution of radiation from lamps of various types. B. T. Barnes, W. E. Forsythe and W. J. Karash. bibliog Gen Elec R 42:540-3 D '39
Sterilamp, its electrical and radiation characteristics. D. D. Knowles and E. Reuter. bibliog il diag Electrochem Soc Trans 78 (preprint 27):361-72 O '40
Ultraviolet finds new applications; bactericidal irradiation in meat, baking, dairy, fish and fresh fruit and vegetable industries. T. R. Porter. il Food Ind 12:51-3 Jl '40
Ultra-violet sterilizes drinking glasses. H. H. Steinberg. il Elec W 113:2076 Je 29 '40

Measurement
Balanced direct-current amplifier for alternating-current operation. R. Stair and I. F. Hand. diag R Sci Instr 11:257-9 Ag '40
Glass for ultra-violet estimation; limits for cerous and vanadous oxides. Chem Age (Lond) 42:257 My 4 '40
Light-sensitive glass and its application for ultra-violet measurements; cerium-vanadium glasses. L. O. Upton. Glass Ind 21: 109-12 Mr '40
Three phototubes available for ultraviolet meter. il Electronics 13:42 F '40
Ultraviolet meter for germicidal lamps. M. Luckiesh and A. H. Taylor. diag R Sci Instr 11:110 Mr '40

Physiological effect
Killing of bacteria with ultra-violet light. J. F. Downie Smith. Franklin Inst J 229:775-8 Je '40
Sun-bathing the blood; abstract. G. Miley. Science 91:sup6-7 Je 28 '40
Sunny side up; therapeutic use of ultraviolet lamps by Bunker Hill and Sullivan mining and concentrating company. S. A. Easton. Safety Eng 79:41 F '40; Same. il Min Cong J 26:43-4 My '40
Utilizing ultra-violet radiation in bactericidal work; abstract. W. F. Wells. Heat & Ven 37:56 My '40

See also
Ultraviolet rays—
Lamps

ULTRAVIOLET spectrum. See Spectrum, Ultraviolet

UMBRELLA fabrics
Superior fast umbrella fabrics. R. Sansone. Textile Col 62:20-4 Ja '40

UNDERGROUND construction
Méthodes nouvelles de construction rapide et économique de vastes ouvrages souterrains. A. Pettavel. diags Génie Civil 115:386-9 N 25 '39

UNDERGROUND structures

See also
Pipe lines
Subways
Tunnels and tunneling

UNDERTAKERS' buildings
Old cooling and ventilating system converted to up-to-date air conditioning; Busse & Borgmann funeral home. H. W. Moore. plan Heating-Piping 12:306-7 My '40

UNDERWEAR
Annual earnings in knit-goods industries (other than hosiery), 1937. H. E. Riley and others. Monthly Labor R 50:401-5 F '40
Hourly earnings in knit-goods industries (other than hosiery), September 1938. H. E. Riley and J. Perlman. Monthly Labor R 49:1173-88 N '39
Some recent fiber-latex developments. M. C. Teague. Am Dyestuff Rep 29:425 Ag 19 '40
Spreading knitted fabrics; calculating correct cloth widths for Swiss-rib, flat-knit, tuck-stitch, etc. F. J. Quillitzsch. il Textile World 90:59 Mr '40

See also
Brassières
Hosiery

Advertising
Color and youth in ad books help Munsingwear men sell. il Sales Management 47:24 O 10 '40

Manufacture
Carter co's. 75 years. il Textile World 90:54 Ap '40

UNDERWEAR Institute
Annual meeting, Philadelphia, April 18. Textile World 90:61 My '40

UNDERWRITERS' laboratories
Annual meeting. Nat Underw 44:3+ Ap 18 '40

UNDISTRIBUTED profits, Taxation of. See Corporations—Taxation

UNDULANT fever
Milk sellers held liable in action for damages on account of contraction of undulant fever. Pub Health Rep 55:1920-1 O 18 '40
Preparation and purification of brucella antiserum. I. F. Huddleson and R. B. Pennell. Science 90:571-2 D 15 '39

UNEMPLOYED
Age distribution of job applicants in New York city. Monthly Labor R 50:861-2 Ap '40
Conclusions of New York legislative committee on older workers. Monthly Labor R 51:74-9 Jl '40
Dispossessed; for nearly one-fourth of the population there is no economic system, and from the rest no answer. il Fortune 21: 94-6+ F '40
President Roosevelt says unemployed and WPA workers have right to organize. Comm & Fin Chr 151:1071-2 Ag 24 '40
Some correlates of certain attitudes of the unemployed. A. C. Tucker. 72p bibliog(p68) pa $1.25 Columbia univ. New York '40
Workers on relief. G. K. Adams. 344p $3 Yale univ. press '39

See also
Forty plus clubs

UNEMPLOYMENT
Employment and unemployment of young workers. Int Labour R 41:445-78 My '40
Extent of waste from depression unemployment; summaries and excerpts from National resources committee report. Monthly Labor R 49:1075-9 N '39
Industry's social responsibilities; employment one of present-day charges W. D Fuller Credit & Fin Management 42:9-10 Jl '40
Machines and jobs; Caterpillar Tractor problem explodes the theory that technology makes for unemployment. L. J. Fletcher. Ptr Ink 193:77, 80-3 N 15 '40
Making more jobs; initiative, price policies and research. C. Francis. il Dun's R 48: 7-10 Ja '40
Survey of economic theory on technological change and employment. A. Gourvitch. bibliog 252p Work projects administration, Washington, D.C. '40
Technological changes and employment in the steel industry; testimony at hearing before Temporary national economic committee. Monthly Labor R 50:1112-18 My '40
Technological unemployment, a fact or a fallacy? views of Senator O'Mahoney and Karl T. Compton. Pub Util 25:551-5 Ap 25 '40
Technology and employment correlated at TNEC hearing. Oil Paint & Drug Rep 137: 5+ Ap 15; 3+ Ap 22; 5+ Ap 29 '40
Temporary national economic committee hearings on effect of machines on men. Comm & Fin Chr 150:2353, 2512-13, 2652-3, 2811 Ap 13-My 4 '40
Unemployment and technological change. C. Gill. 21p Work projects administration, Washington, D.C. '40
Youth—millions too many? a search for youth's place in America. B. L. Melvin. 220p $2 Association press, 347 Madison av, New York '40

See also
Insurance, Unemployment
Stabilization in industry
Machinery in industry

Bibliography
Industrial change and employment opportunity; a selected bibliography. A. Gourvitch and others, comps. 254p U.S. Work projects administration, 1734 New York av, N.W, Washington, D.C. '39

Relief measures
Activities under NYA work projects, 1938-39. Monthly Labor R 50:1153-4 My '40
Business man's interest in national fiscal policy; compensatory fiscal policy versus balanced budget. B. Ruml. Advanced Management 4 no5:122-5 '39
Connecticut plan; unemployment, and jobs. R. E. Baldwin. Annalist 55:556-9 Ap 18 '40
Country cannot indefinitely support relief activity declares report of U.S. Chamber of commerce; should be gradually taken over by state and local governments. Comm & Fin Chr 149:3961 D 23 '39
Dispossessed; for nearly one-fourth of the population there is no economic system, and from the rest no answer. il Fortune 21:94-6+ F '40
Employment and unemployment of young workers. Int Labour R 41:445-78 My '40
Illinois emergency relief commission; a study of administrative and financial aspects of emergency relief. F. Z. Glick. 247p pa $1 Univ. of Chicago press '40
Iron rule for relief; New Jersey report proposes to pay in scrip. G. B. Glover. Business Week p26-7 Mr 9 '40
Job analysis; a time study of the functions and routines of carrier unit workers on unemployment files under the reorganization program of the State relief administration in Los Angeles county. 48 l State relief administration, 155 W. Washington st, Los Angeles '40
Methods of clearance between unemployment compensation and relief agencies. A. T. Jacobs. 52p pa 50c Social science research council, 726 Jackson place, NW, Washington, D.C. '40
Pennsylvania harvests jobs. Nation's Business 28:83 O '40
Progress report of an amateur economist. R. E Flanders. Mech Eng 62:525-30 Jl '40
Public relief, 1929-1939. J. C. Brown. 524p bibliog(p477-511) $3.50 Holt '40
Recommendations of California commission on reemployment. Monthly Labor R 50:329-34 F '40
Reemployment measures in Belgium. Monthly Labor R 50:68-9 Ja '40
Reemployment; report of the Governor's commission on reemployment. 95p bibliog (p91-5) Governor's commission on reemployment, 180 New Montgomery st, San Francisco '39
Relief and welfare organization in California. V. Jones. 52p bibliog(p49-52) pa 30c Bur. of public administration, Univ. of California, Berkeley '39
Self-help organizations in the United States, 1938. bibliog Monthly Labor R 49:1335-47 D '39
Share-the-work provisions in union agreements. Monthly Labor R 50:1340-8 Je '40
Test for EPIC plan; Los Angeles will have first consumer unit to be tried under production-for-use program. Business Week p30-1 D 9 '39
This question of relief. M. S. Stewart. 3d rev ed 32p Public affairs committee, New York '39
Unemployment relief in labor disputes; a study of the policies and actions of the California State relief administration from 1935 to 1939 regarding aid to persons engaged in labor disputes. L. Athearn. 40 numb l State relief administration, Los Angeles '39
Van der Vries award winners; Indianapolis chamber of commerce wins award for part in cutting local relief costs. Nation's Business 28:80+ O '40
White rabbit or robot, 1940 model; O'Mahoney bill for increasing employment by means of labor-differential tax. Iron Age 145: 38A-38D+ Mr 21 '40
Workers on relief. G. K. Adams. 344p $3 Yale univ. press '39

See also
Business depression
Employment agencies
Hours of labor
Insurance, Unemployment
Public works
Stabilization in industry

UNEMPLOYMENT—Relief measures—*Cont.*

Camps

Young partners with Henry Ford; Camp Legion for underprivileged boys. W. A. Scotten. il Nation's Business 28:30, 32+ F '40

See also
Civilian conservation corps

Federal relief

Approval of new WPA appropriation ends Ohio relief crisis. Comm & Fin Chr 149: 3806 D 16 '39

Chairman Eccles of Federal reserve system on use of cash resources of government to increase work and consumer buying power; letter to president of Workers alliance of America. Comm & Fin Chr 150:1364 Mr 2 '40

Conference of mayors asks $1,500,000,000 WPA relief appropriation for next fiscal year. Comm & Fin Chr 150:2025 Mr 30 '40

Economic status of WPA workers dismissed under 1939 Relief act. Monthly Labor R 50:622-4 Mr '40

Failure of work relief program; proposed Republican plan. K. K. Hoyt. Annalist 54: 789 D 21 '39

Federal programmes to assist unemployed youth in the United States. Int Labour R 40:836-48 D '39

Fortune survey; spending for reducing poverty and unemployment. Fortune 21:118 Ap '40

House approves $1,111,754,916 relief bill. Comm & Fin Chr 150:3283 My 25 '40

President Roosevelt seeks $975,000,000 relief appropriation for 1941 fiscal year, with authority to spend entire amount over period of 8 months. Comm & Fin Chr 150: 2503-4 Ap 20 '40

President Roosevelt urges prompt action on relief appropriation bill. Comm & Fin Chr 150:3282-3 My 25 '40

Public aid in the United States, 1933 to 1939. Monthly Labor R 49:1393-4 D '39

Text of resolution enacted under title of Emergency relief appropriation act, fiscal year 1941. Comm & Fin Chr 151:305-9 Jl 20 '40

$200,000,000 per month—Uncle Sam's relief bill; ranking the states by total and per capita expenditures, April 8, 1935-Dec. 31, 1939. maps Business Week p34-5 Ap 13 '40

Wages, all public assistance and earnings of persons employed under Federal work programs, 1935-1939. Survey of Cur Business 1940 Sup p46 [supplemented in monthly numbers]

See also
Federal surplus commodities corporation
Public works—Federal loans and grants
Public works administration
United States—Employment service
Work projects administration

Land settlement

Land settlement report. Economist 137:480 D 23 '39

See also
Farms for industrial workers

Manufacturing

When labor tries to manage; worker-owned company has labor trouble; trips over union wage scale; Hancock knitting mills and other cooperatives. C. B. Coates. il Factory Management 98:48-51+ My '40

Public works

Combining relief labor and modern machinery to construct high type roads; Chenango county, N.Y. B. J. Scanlon. il Pub Works 71:11-13+ Mr '40

Minneapolis belt line highway development; WPA project. il Pub Works 71:20-1+ O '40

Public works employment in Bermuda. H. L. Williamson. Monthly Labor R 50:43-4 Ja '40

See also
Civilian conservation corps
Public works administration

Statistics

Additional workers and the volume of unemployment in the depression. W. S. Woytinsky. 37p pa 50c Committee on social security, Social science research council, Washington, D.C. '40

Employment and unemployment, 1939. Survey of Cur Business 20:25-7 F '40

Estimates of unemployment in the United States. R. A. Nixon and P. A. Samuelson. R Econ Statis 22:101-11 Ag '40

How many unemployed? editorial. Business Week p56 Mr 23 '40

Statistics of industrial employment, unemployment, and hours of work in various countries, yearly, 1929-39; monthly, Jan. 1939-Jan. 1940. Int Labour R 41:318-28 Mr '40 [cont quarterly]

Unemployment in foreign countries, third quarter of 1939. Monthly Labor R 49:1262-5 N '39

See also
Unemployment surveys

California

Recommendations of California commission on reemployment. Monthly Labor R 50:329-34 F '40

Reemployment; report of the Governor's commission on reemployment. 95p bibliog(p91-5) California. Governor's commission on reemployment, Sacramento '39

Relief and welfare organization in California. V. Jones. 52p bibliog(p49-52) pa 30c Bur. of public administration, Univ. of California, Berkeley '39

Test for EPIC plan; Los Angeles will have first consumer unit to be tried under production-for-use program. Business Week p30-1 D 9 '39

Connecticut

Connecticut plan; unemployment, and jobs. R. E. Baldwin. Annalist 55:556-9 Ap 18 '40

Great Britain

Age and occupation of unemployed men in Great Britain. Monthly Labor R 51:311-12 Ag '40

British Unemployment assistance board; a case study in administrative autonomy. J. D. Millett. 300p $3 McGraw-Hill '40

Changes in unemployment between September 11th and October by industry and by regions; tabulation. Economist 137:265 N 18 '39

Decrease in long-term unemployment in Great Britain. Monthly Labor R 50:865-6 Ap '40

Gun or a job; English unemployment rises. Business Week p50-1 Mr 2 '40

Land settlement report. Economist 137:480 D 23 '39

Unemployment and the unemployed. H. W. Singer. 152p $2.75 Chemical pub. co. '40

Unemployment in August, 1939, and in March, 1940, by principal industries; tabulation. Economist 138:826 My 4 '40

War and unemployment, by industries. Economist 138:192-3 F 3 '40

See also
Insurance, Unemployment—Great Britain

Illinois

Illinois Emergency relief commission; a study of administrative and financial aspects of emergency relief. F. Z. Glick. 247p pa $1 Univ. of Chicago press '40

Unemployment in a depressed coal-mining area in southern Illinois. J. N. Webb. Monthly Labor R 49:1295-1310 D '39

UNEMPLOYMENT—*Continued*

Lincoln, Nebraska

Eight years of unemployment in Lincoln, Nebraska, 1932-1939. C. O. Swayzee. map Univ of Nebraska Studies in Business 45: 1-33 '40 (pa 50c)

Massachusetts

Applicants for work relief; a study of Massachusetts families under the FERA and WPA. E. W. Gilboy. 273p $3 Harvard univ. press '40

Mississippi

Fourth annual report of the Mississippi unemployment compensation commission for the year ending December 31, 1939. 136p Mississippi unemployment compensation commission, box 1699, Jackson '40

Nebraska

Unemployment in Nebraska, 1932-39. Monthly Labor R 50:859-60 Ap '40

New Jersey

Iron rule for relief; New Jersey report proposes to pay in scrip. G. B. Glover. Business Week p26-7 Mr 9 '40

Ohio

Approval of new WPA appropriation ends Ohio relief crisis. Comm & Fin Chr 149: 3806 D 16 '39

Pennsylvania

Pennsylvania harvests jobs. Nation's Business 28:83 O '40

Philadelphia

Employment and unemployment in Philadelphia, July-August 1938. G. L. Palmer and S. M. Cohn. 55p Industrial research dept, Wharton school of finance and commerce, Univ. of Pennsylvania, Philadelphia '39

Long-term unemployment in Philadelphia. Monthly Labor R 49:1079-81 N '39

San Francisco Bay region

Unemployment relief and the unemployed in the San Francisco Bay region, 1929-1934. E. H. Huntington. 106p pa $1.25 Univ. of California press, Berkeley '39

South Carolina

Unemployment in South Carolina, November, 1939. 59p Work projects administration, Columbia, S.C. '39

Unemployment in South Carolina, June, 1940. 56p U.S. Work projects administration, Liberty Life bldg, Columbia, S.C. '40

Sweden

Social effects of rationalisation in Sweden. Int Labour R 41:72-8 Ja '40

United States

Dispossessed; for nearly one-fourth of the population there is no economic system, and from the rest no answer. il Fortune 21: 94-6+ F '40

Estimates of unemployment in the United States. R. A. Nixon and P. A. Samuelson. R Econ Statis 22:101-11 Ag '40

Extent of waste from depression unemployment: summaries and excerpts from National resources committee report. Monthly Labor R 49:1075-9 N '39

Facts about unemployment. J. N. Webb and J. C. Bevis. 34p Work projects administration, Washington, D.C. '40

Government brakes on reemployment. R. L. Greenman. Nation's Business 28:67-8+ Ap '40

How long are clients on relief? B. Glassberg and A. J. Gregory. 34p pa 30c Am. public welfare assn, Chicago '38

Industrial change in America in the past decade; comparison with trend in United Kingdom. Economist 138:472-3 Mr 16 '40

Inflation and full employment imminent? L. M. Hostetler. Barron's 20:7+ S 23 '40

Problem of unemployment. Nat City Bank . p8-11 Ja '40

Youth commission's work program. Monthly Labor R 50:71-5 Ja '40

See also

Insurance, Unemployment—United States

Railroad unemployment insurance act

Unemployment—Relief measures

Bibliography

Catalog of research and statistical publications. 22 numb l U.S. Work projects administration, Washington, D.C. '40

UNEMPLOYMENT, Interfaith conference on. See Interfaith conference on unemployment

UNEMPLOYMENT benefit plans

Nest egg for 50,000; International harvester co. retirement plan sets up accounts in which company matches percentage of savings. Business Week p33-4 Mr 30 '40

See also

Railroad unemployment insurance act

UNEMPLOYMENT insurance. See Insurance, Unemployment

UNEMPLOYMENT surveys

Consistency of information from records and interviews. G. Bancroft. Am Statis Assn J 35:377-81 Je '40

Eight years of unemployment in Lincoln, Nebraska, 1932-1939. C. O. Swayzee. map Univ of Nebraska Studies in Business 45: 1-33 '40 (pa 50c)

Employment and unemployment in a depressed labor market: Brazil, Ind. M. E. West, E. J. Fitzgerald and G. L. Bird. 139p Work projects administration, Washington, D.C. '40

Employment and unemployment in a depresed labor market, Brazil, Ind. M. E. West, E. J. Fitzgerald and G. L. Bird. Monthly Labor R 51:588-91 S '40

UNFAIR competition. See Competition, Unfair

UNFILLED orders. See Orders, Unfilled

UNIFORM state laws. See State laws

UNIFORMS, Military

Army uniform fabrics containing cellulose acetate; abstract. F. Deshayes. Am Dyestuff Rep 29:430-1 Ag 19 '40

Clothing the army. A. Dennis. Am Dyestuff Rep 29:566+ O 14 '40; Same. Textile Col 62:775-6 N '40

Textiles used in the fabrication of naval uniforms. L. Smith. Am Dyestuff Rep 29:567-9 O 14 '40; Same. Textile Col 62:750-1+ N '40; Abstract. Textile World 90:63+ O '40

Manufacture

Clothing Australia's fighting men. Textile Col 62:631 S '40

UNILEVER companies

Dutch Unilever interests sold to South African firm. Oil Paint & Drug Rep 138:4+ Jl 15 '40

Imperial Unilever; a world consumers'-goods corporation operating out of London. Fortune 22:116+ N '40

Lever and Unilever prosperity, profits 1937-39. Economist 139:18 Jl 6 '40

UNION bag and paper corporation

Thumbnail stock appraisal. Mag of Wall St 67:35 O 19 '40

UNION carbide and carbon corporation

Annual report. Comm & Fin Chr 150:1953 Mr 23 '40

Leaders in the chemical industry; thumbnail appraisal. Mag of Wall St 65:415 Ja 13 '40

Spreads its gains. G. W. Mathis. il Mag of Wall St 66:408-10 Jl 13 '40

Three giant defense contributors. J. M. Weiss. Barron's 20:21-2 S 16 '40

UNION corporation, limited

Ordinary general meeting, Johannesburg. Economist 138:1056 Je 15 '40

UNION discount company of London, limited

Ordinary general meeting, 82d, London. Economist 138:180 Ja 27 '40

UNION electric company of Missouri
SEC asked for early disclosure of results of investigation into political charges. Comm & Fin Chr 151:432-3 Jl 20 '40

UNION label
Union labeling gains new impetus. il Business Week p48-9 S 7 '40

UNION oil company of California
Statistics of income, capital, stock earnings, etc. 1929-39. Annalist 55:827 Je 13 '40

UNION Pacific railroad
Annual report, 43d, year ended Dec. 31, 1939. Comm & Fin Chr 150:2899-900, 2903-5 My 4 '40; Same abr. Ry Age 108:841-3 My 11 '40

UNION trusteed funds, incorporated
Stocks in units offered. Comm & Fin Chr 151: 1293 Ag 31 '40

UNIT heaters. See Electric heaters; Gas heaters; Heaters; Steam heaters

UNIT processes
Advances on many fronts; unit operations keep pace. il Chem & Met Eng 46:681-2 N '39
Subject matter of a course in unit processes. W. L. Faith. J Chem Educ 17:479-80 O '40
Unit operations in drug manufacture; Norwich pharmacal co. G. W. Bengert. flow sheet il Ind & Eng Chem 32:461-4 Ap '40
Unit processes; symposium. R. N. Shreve and others. bibliog flow sheets il Ind & Eng Chem 32:145-83 F '40

UNITED air lines transport corporation
Merger with Western air express denied; interchange of sleeper plane equipment approved; with text of opinions. Civil Aero J 1:300-25 Jl 15 '40

UNITED aircraft corporation
Brass tacks for the investor; brief analysis. Barron's 20:13 Je 24 '40
Record year for United Aircraft and more to come. R. Carleson. il Mag of Wall St 66: 348-50+ Je 29 '40
To produce engines for U.S. government. Comm & Fin Chr 151:1293 Ag 31 '40

UNITED automobile workers of America
Auto pot boils. Business Week p50-1 N 9 '40
C.I.O. still labors. J. A. Rowan. il Iron Age 145:62-5 Ja 4 '40
Democracy in a trade union; differences between AFL and CIO unions. H. Martin. Iron Age 144:27-9+ D 21 '39
G.M. pact shaping up; give-and-take evident in C.I.O. negotiations. Business Week p42 My 25 '40
Success spurs U.A.W. ambition. Business Week p35-6 Ag 3 '40

UNITED biscuit company of America
Debentures offered. Comm & Fin Chr 150: 2442 Ap 13 '40
Stock offered. Comm & Fin Chr 151:1587 S 14 '40

UNITED carbon company
Favored by rising profits from natural gas and improvement in carbon black. P. Dobbs. Mag of Wall St 65:360-1, 381-2 D 30 '39

UNITED corporation
Annual report. Comm & Fin Chr 150:447 Ja 20 '40
Brass tacks for the investor; brief analysis. Barron's 20:13 Ja 1 '40
United Corporation case. J Account 69:131-2 F '40

UNITED drug company
Improving position of United Drug 5s; size of issue, due in 1953, mitigated by large working capital. Barron's 20:19 S 2 '40

UNITED engineering and foundry company
Company has large foreign business. Blast F & Steel Pl 28:362 Ap '40

UNITED engineering trustees, Inc.
Annual report for 1938-39. Mech Eng 62:90-1 Ja '40
Officers, annual report, etc. Elec Eng 58:530-4 D '39
Summarizes activities of its thirty-fifth year. Civil Eng 9:753 D '39

UNITED fruit company
Earnings, 1936-39. Comm & Fin Chr 150: 1007-8 F 10 '40
Statistics of income, capital, stock earnings, etc. 1929-39. Annalist 56:86 Jl 18 '40

UNITED gas corporation
Earnings, 1938 and 1939. Comm & Fin Chr 150:2119 Mr 30 '40
Refunding plan. Pub Util 26:164 Ag 1 '40

UNITED gas improvement company
Annual report. Comm & Fin Chr 150:2274-5 Ap 6 '40
Common stock offered. Comm & Fin Chr 150:2596 Ap 20 '40
Death sentence action invoked by SEC. Comm & Fin Chr 150:1619-20 Mr 9 '40
Estimated liquidating value of investments. O. Ely. Pub Util 26:354-6 S 12 '40
Large assets behind UGI stock. H. W. Witt. map Barron's 20:13 Mr 11 '40

UNITED gas pipe line company
Gulf South; United gas pipe line company adopts industrial development program. il Am Gas J 152:39-40 My '40

UNITED glass bottle manufacturers, limited
Ordinary general meeting, 27th, London. Economist 138:748 Ap 20 '40

UNITED illuminating company
Plans simplification of structure. Comm & Fin Chr 151:1293-4 Ag 31 '40

UNITED light and power company
Amended plan of recapitalization and simplification filed. Comm & Fin Chr 151:2516, 2666 O 26-N 2 '40
Annual report. Comm & Fin Chr 150:2597 Ap 20 '40
Integration plan. Comm & Fin Chr 150:2900-1 My 4 '40
Integration plan and a recapitalization plan for the parent company. map Pub Util 26:420-3 S 26 '40
Varying grades of United Light obligations. Barron's 20:19 Mr 18 '40

UNITED light and railways company
Earnings, 1937-39. Comm & Fin Chr 150: 3839 Je 15 '40

UNITED merchants and manufacturers, Inc.
Earnings, consolidated income account, year ending June 30, 1940. Comm & Fin Chr 151:2365 O 19 '40

UNITED mine workers of America
Annual convention, Columbus. Comm & Fin Chr 150:780, 927 F 3-10 '40; Coal Age 45: 104+ F; 78+ Mr '40
Coal and unionism; a history of the American coal miners' unions. D. J. McDonald and E. A. Lynch. 226p bibliog(p227) $2.50 Lynald bks, Georgia & Sligo avs, Silver Spring, Md. '39
Profit in a union contract. J. Baker. Advanced Management 5:63-4 Ap-Je '40

UNITED retail and wholesale employees union
Bridges invades East; C.I.O.'s first intramural fight looms in wholesale employees' union. Busness Week p37-8 Je 29 '40

UNITED rubber workers of America
Collective bargaining by United rubber workers. H. Cannon. Monthly Labor R 49:604-17 S '39
Key unions map drive. Business Week p38-9 S 28 '40
Status of labor revealed in survey; abstract. H. Cannon. Rubber Age 46:180 D '39

UNITED STATES
U.S.A.; introducing the supermen: their nation, seven shadow nations, prairies, achievement, problems; project for humanity, old style and new. il maps Fortune 21:38-104+ F '40

See also
Hydroelectric plants—United States
Mines and mineral resources—United States
Railroads—United States
Roads—United States
Water supply—United States

Aeronautics, Bureau of (navy)
Aircraft procurement. L. B. Richardson. il Aero Digest 36:48, 85-6, 163 F '40
Growth of Bureau of aeronautics appropriations. D. C. Ramsey. Aero Digest 36:74, 77-8 F '40

UNITED STATES—Aeronautics, Bureau of (navy)—*Continued*
Maintenance, overhaul and repair of naval aircraft. F. B. Stump. il Aero Digest 36: 70, 73+ F '40
Naval aviation policy and the Bureau of aeronautics. J. H. Towers. il Aero Digest 36:34-7+ F '40
See also
Naval air stations

Agricultural marketing service

Agricultural marketing service does government's agricultural standards work. Ind Stand 10:302 D '39
Digest of standards for canned fruits. Food Ind 12:61-2 O '40

Agriculture, Department of

Dollars and vitamins; Department of agriculture bureaus ask money for research. Ptr Ink 190:21-2 F 9 '40

Division of Latin-American agriculture

Department of agriculture sets up Division of Latin-American agriculture. Comm & Fin Chr 151:2588 N 2 '40

Employees

Agriculture department trains personnel men. P. W. Melton. Personnel J 19:25-9 My '40

Air service

Defense of America; present war shows need for large air force. C. Caldwell. il Aero Digest 37:38-40+ S '40
United States need not fear invasion; urges coordinated defense program. C. A. Lindbergh. Comm & Fin Chr 150:3294-5 My 25 '40

Air service, Army

Air corps primary training at a civilian school. W. S. Beall. il diags Aero Digest 36:39-41 Ap '40
Army builds an Arctic airbase, Fairbanks, Alaska. il Eng N 125:558-9 O 24 '40
Army speeds up training in the Air corps. J. Fickel. il Aviation 39:40-1+ Ag '40
Boondoggling in defense; problems in air protection. H. A. Toulmin, jr. il Iron Age 146: 29-32 Ag 8 '40
New army air force. H. H. Arnold il Aviation 39:36-7 Ag '40
Opportunities for young men in the U.S. army Air corps. Aero Digest 37:47+ Ag '40
Place and purpose of the Air reserve association. B. H. Merchant. Aero Digest 36: 76+ My '40
Procurement for defense. G. Brett. il Aviation 39:42-3+ Ag '40
Role of the army air corps in national defense. H. H. Arnold il Mach 46:130-3 Jl '40
Training center at Hemet for Army air corps cadets; Ryan school of aeronautics. L. P. Hopwood. il Aero Digest 37:42-4+ N '40
Training military personnel at Curtiss-Wright Tech. il Aero Digest 37:96, 98 Jl '40
U.S. army builds stock pile of fuels for war emergency. Nat Pet N 32:22 Ap 24 '40
Wright field, heart of the Army air corps. il Aviation 39:34-9 Ap '40

Air service, Navy

Blimps and modern warfare. B. Livingston. il Sci Am 162:261-3 My '40
Building Alaska bases for naval aircraft. il Eng N 125:556-7 O 24 '40
Chronological digest of naval aviation history. J. B. Hancock. il Aero Digest 36:89-90, 93, 117 F '40
Helldivers; technique of dive-bombing, conceived for United States naval use. J. L. H. Peck. il Sci Am 163:186-8 O '40
Naval aviation. C. Edison and others. il maps Aero Digest 36:33-93, 117 F '40
Naval aviators for naval aviation. G. D. Murray. il Aero Digest 36:44-5+ F '40
Navy awards fee contract for Corpus Christi airbase. Eng N 124:835+ Je 20 '40
Navy expands its aircraft and base facilities. J. H. Towers. il Aviation 39:38-9+ Ag '40
See also
Naval air stations
United States—Aeronautics, Bureau of (navy)

Insignia

Naval aviation squadron insignia; illustrations. Aero Digest 36:32 F '40

Antiquities

Basic needs of American archeology. C. E. Guthe. Science 90:528-30 D 8 '39
Early man in America; index to localities, and selected bibliography. E. H. Sellards. diags Geol Soc Bul 51:377-404, pl 1 bibliog(p412-30) Mr '40

Appropriations and expenditures

Administration has spent $6,265,000,000 for defense. L. M. Lamm. Steel 106:30+ My 27 '40
Appropriations reaching a new high record, in confusion. K. K. Hoyt. Annalist 56:39 Jl 11 '40
Control of federal expenditures; comparing the management of United States government with that of a large corporation. E. F. Bartelt. N A C A Bul 21:1087-1125 My 1 '40
Federal financial operations, 1939. Survey of Cur Business 20:37-44 F '40
Federal spending aggregated $9,537,000,000 in past fiscal year. Comm & Fin Chr 151:38-9 Jl 6 '40
Fifty billions for defense! W. von Tresckow. Barron's 20:3 Ag 26 '40
House passes $90,069,139 deficiency bill. Comm & Fin Chr 150:1357-8 Mr 2 '40
Uncle shines his armor; defense appropriations and purchases. J. G. Ellis. il Iron Age 145:82-4+ Ja 4 '40
U.S. defense: the dollars; budgetary prognosis. Fortune 22:79+ N '40
U.S. expenditures for the army and the navy, fiscal years, 1911-1941; chart. Business Week p15 My 25 '40
Warehouses and factories in five billion dollar bill. il Eng N 125:187 Ag 8 '40
See also
Budget—United States
Government expenditures
Government loans and grants
Public works—Federal loans and grants
Railroads—Federal loans

Army

Appropriation bill of $1,823,252,624 voted by Senate. Comm & Fin Chr 150:3284 My 25 '40
Army way; a thousand pointers for new soldiers collected from officers and men of the U.S. Army. P. Wylie and W. W. Muir. 96p 75c Farrar '40
Battle shield of the Republic. M. Wheeler-Nicholson. 212p $1.50 Macmillan '40
Deficiencies of defense. H. A. Toulmin, jr. il Iron Age 146:51-4 Ag 15; 29-31 Ag 22 '40
Efficient this time; army and navy working together, using same designs and testing for each other. Business Week p44-5 N 16 '40
Machines for war; organization and operation of mechanized forces of our army. J. E. McInerney. il Sci Am 163:55-9 Ag '40
Mechanization in the U.S. army. H. H. D. Heiberg. il Mech Eng 62:599-604 Ag '40
Quartermasters to contact for army construction work; list. Brick & Clay Rec 97:14-15 S '40
See also
United States—Air service, Army

Engineer corps

Engineering for defense; army and navy engineers with help of industries, technical societies and educational institutions have standardized designs and specifications. G. F. Nordenholt. il Product Eng 11:504-10 N '40

UNITED STATES—Army—Engineer corps—*Continued*
Get it up; safety in dredging operations of U. S. engineer department. L. D. Shuman. il Safety Eng 80:6-8, 12 S '40

Equipment and supplies
Awarding of army contracts for defense plants begins. Eng N 125:247-8 Ag 22 '40
Back-stage in army purchasing. B. Stubblefield. il Textile World 90:42-6 Ag '40
Motorization policy of the army. R. P. Patterson. S A E J 47:sup 18-19 N '40
New mobile repair shops for the army. il Steel 107:46-7 N 11 '40
Uncle Sam goes to market; a summary of the organization of federal purchasing and procurement. E. B. George. il maps Dun's R 48:8-28 Ag '40
Want to sell military goods to U.S.? Here are bureaus and officials to see; army and navy field offices. S. Carter. Ptr Ink 192: 63-5 Ag 23 '40

Pay, allowances, etc.
Family allowances in the United States army and navy in the World war. Monthly Labor R 51:454-5 Ag '40
Pay of enlisted personnel in the United States army and navy. Monthly Labor R 51:1-4 Jl '40

Recruiting and enlistment
Advertising enlisted. Business Week p38 Ag 24 '40
Army to advertise for recruits. il Ptr Ink 192:14 Ag 16 '40
U.S. asks recruiting aid. Ptr Ink 191:16 My 24 '40

Signal corps
Radioman of the U.S.A. C. E. Chapel. il Radio N 23:6-9+ Ja '40
Uncle Sam needs radiomen! code teaching procedure. C. E. Chapel. il Radio N 24: 6-8+ S '40
U.S. army blitzkrieg radio; how Signal corps has furnished the finest in radio communications. A. Toombs. il Radio N 24: 8-10+ O '40

Textile requirements
Clothing the army. A. Dennis. Am Dyestuff Rep 29:566+ O 14 '40; Same. Textile Col 62:775-6 N '40
Defense and textile demand. B. Stubblefield. il Textile World 90:40-3 Jl '40
Fabrics for national defense; data on specifications, construction of cloths, and manufacturing methods. il Textile World 90:47 Ag '40

Biography
Heroes of peace. F. R. Bruns, jr. 73p $1 Jacques Minkus, c.o. Gimbels stamp dept, 33d st. & Broadway, New York '40
Today's young men. F. B. Streyckmans. 128p $1 Reilly and Lee co, Chicago '40

Biological survey, Bureau of
See United States—Fish and wildlife service

Board of tax appeals
Trends in federal tax procedure; proposal of R. J. Traynor examined. F. L. Pearce. J Account 69:369-75 My '40

Budget, Bureau of
Division of statistical standards
Central statistical board transferred to the Bureau of the budget. Am Statis Assn J 35:523-4 S '40

Cabinet
President Roosevelt names Henry L. Stimson as Secretary of war and Frank Knox as Secretary of navy. Comm & Fin Chr 150:3909 Je 22 '40
Senate groups approve nomination of Henry L. Stimson as Secretary of war and Frank Knox as Secretary of navy. Comm & Fin Chr 151:41-2 Jl 6 '40

Capitol
See Washington, D.C.—Capitol

Central statistical board
Central statistical board may be given more funds. Iron Age 145:62+ Ja 18 '40
Discontinued July 1940; functions carried on by Bureau of the budget, Division of statistical standards. Am Statis Assn J 35: 523-4 S '40

Chemical warfare service
What you can do for national defense. M. E. Barker. il Chem & Met Eng 47:462-3 Jl '40

Civilian conservation corps
See Civilian conservation corps

Civilization
America's progress in civilization. G. E. Freeland and J. T. Adams, eds. 669p bibliog(p621-41) $1.60 Scribner '40
Culture of democracy. il Fortune 21:76-87 F '40

Coast and geodetic survey
Survey ship Explorer. il plans Marine Eng 45:46-54 Je '40

Coast guard
Geared-Diesel Coast Guard tenders. il plans Marine Eng 45:50-3 Ap '40
Men, wind and sea; the story of the Coast guard. R. Brown. 266p $2.25 Carlyle house, New York '39
1940 ice patrol season. Science 91:sup8 Mr 8 '40
U.S. Coast guard emergency truck. il Electronics 13:31 O '40

Commerce
American shipping is dependent on two-way trade; economic power of United States should be united with British. J. A. Farrell, jr. Comm & Fin Chr 151:637 Ag 3 '40
America's opportunity in world trade. C. M. Wynne. Management R 29:314-16 S '40
Analysis of imports and exports of the United States in the 12 months of 1939. Comm & Fin Chr 150:753-4 F 3 '40
Analysis of imports and exports, 6 months ended December, 1938 and 1939, by economic groups and commodities. Comm & Fin Chr 150:1343-4 Mr 2 '40
Battle for world trade supremacy. V. L. Horoth. il Mag of Wall St 66:560-2+ Ag 24 '40
British swap of bases for destroyers stirs commodities. Barron's 20:6 S 9 '40
Business outlook; foreign trade. D. W. Ellsworth. Annalist 54:689-90 N 30 '39
Canada-U.S. trade potentialities. Bankers M 141:428-9 N '40
Country's foreign trade; imports and exports, 1939, with monthly comparisons 1934-39. Comm & Fin Chr 150:752-3 F 3 '40
Country's foreign trade in January; merchandise, gold and silver imports and exports, with comparative data. Comm & Fin Chr 150:1342-3 Mr 2 '40 [cont monthly]
Effect of the trade agreements. T. W. Wilson, jr. Barron's 20:9 Ja 29 '40
Financing of foreign trade after war; if dollar is to remain currency of world its value in terms of gold must be fixed. S. Morgan. Comm & Fin Chr 151:2293 O 19 '40
Foreign trade, first 3 quarters of 1939. G. A. Witherow. Comm Rep p1120-2+ D 2 '39
Foreign trade in grip of war. J. Lloyd. il Mag of Wall St 66:214-17 Je 1 '40
Foreign trade of the United States calendar year 1938. pt 2, Trade by regions and countries. G. A. Witherow. U S Bur For & Dom Com Trade Promotion Ser 198:1-155 '40
Foreign trade of United States in the first quarter of 1940. G. A. Witherow. Comm Rep p442-3 My 18 '40
Foreign trade under war conditions; economic aspects affecting the United States. Index 20 no 3:49-59, 62-5 [S] '40
Future of American gold; use the accumulated gold fund to promote foreign trade by offering gold at nominal interest to American banks. P. Haensel. Bankers M 140:383-5 My '40

UNITED STATES—Commerce—*Continued*

How allied policies affect our trade; worldwide trend towards exchange controls. I. de Vegh. Barron's 20:3 Ap 22; 8-9 My 13 '40

How war has affected U.S. foreign trade, January-July 1940. Business Week p17 Ag 31 '40

Indexes of exports and imports, 1936-1939. Survey of Cur Business 1940 Sup p77-81 [supplemented in monthly numbers]

International developments and United States foreign trade. Fed Res Bul 26:377-84 My '40

Job to be done! American business can use commerce to preserve freedom. C. M. Wright. Ptr Ink 192:13-15 Jl 12 '40

Latin America faces unfavorable trade balance of $125,000,000 in 1940. Iron Age 146: 54 S 26 '40

Mare Nostrum joins the blackout; Italy's war entry shuts off 5% of U.S. exports, 7% of imports. Business Week p16 Je 15 '40

Marked changes in trade between this country and United Kingdom. Manuf Rec 109: 26-7 S '40

Merchandise exports and imports, monthly, Jan. 1935-Nov. 1939. Fed Res Bul 26:53 Ja '40 [cont monthly]

Need for defense may weld ties with Canada still more tightly. C. E. Wright. Iron Age 145:75-6+ Je 20 '40

Our foreign commerce in peace and war. R. L. Kramer, ed. maps Ann Am Acad 211: 1-196 S '40

Outlook for foreign trade. J. C. Rovensky. Bankers M 141:306-8 O '40

Planning Pan-American trade. S. G. Inman. Harvard Business R 18 no 2:137-47 [Ja] '40

President Roosevelt and Secretary Hull stress liberal trade policies as hope of future world peace; messages opening Foreign trade week. Comm & Fin Chr 150:3295-6 My 25 '40

Results under the reciprocal trade agreements program during 1939. Comm Rep p61-3, 169-70 Ja 20, F 17 '40

Scandinavian warfare erects new barrier to U.S. trade. Oil Paint & Drug Rep 137: 3+ Ap 15 '40

Statistics of United States foreign trade in the first quarter of 1940. Comm Rep p485-7 My 25 '40

Total value of exports and imports of merchandise by grand divisions and principal countries for nine months ended September, 1939 and 1938. Comm & Fin Chr 149:3330 N 25 '39

Total value of exports and imports of merchandise by grand divisions and principal countries for twelve months ended December, 1939 and 1938. Comm & Fin Chr 150: 1052-3 F 17 '40

Trade of the Americas. Economist 139:401-2 S 28 '40

U.S. and the world; appeasement in America has no place to go, but what of the businessman? Fortune 22:59+ O '40

U.S. caught in economic war; far-reaching implications of totalitarian economy forced on England and France. il Business Week p62+ D 9 '39

United States exports and imports; changes in quantity and unit value (price) of each economic class; charts. Comm Rep p162, 163 F 17 '40

U.S. foreign trade higher despite war dislocations. W. W. Case. Annalist 55:110-11+ Ja 25 '40

United States foreign trade in 1939. G. A. Witherow. Comm Rep p139-40, 142-4 F 10 '40

United States foreign trade in November. Comm Rep p15-16 Ja 6 '40 [cont monthly thru S]

United States foreign trade; value of exports and imports by principal countries; charts. Comm Rep p30, 52, 53, 88, 104 Ja 13-F 3 '40

United States increases its share in trade of trade-agreement countries. Comm Rep p141-2 F 10 '40

U.S. industrialization. Fortune 21:50-7+ F '40

Value of United States foreign trade with geographic divisions and leading countries by economic classes, three months ending March, 1940. Comm & Fin Chr 150:2952 My 11 '40

Value of United States foreign trade with grand divisions and principal countries by economic classes, nine months ended September, 1939. Comm & Fin Chr 149:3329 N 25 '39

Value of United States foreign trade with grand divisions and principal countries by economic classes, twelve months ended December, 1939; tabulation. Comm & Fin Chr 150:1195 F 24 '40

War casualty; U.S.-Scandinavian trade; charts. Business Week p56 Ap 20 '40

War shifts trade ties; change in U.S. exports and imports first six months of 1940. Business Week p26+ S 7 '40

What Russia buys from the United States. Business Week p60 N 2 '40

What we buy from the Dutch East Indies; what we sell. Business Week p52 Ag 10 '40

World beats path to U. S. market. Business Week p55+ N 11 '39

See also

Aeronautics, Commercial—United States
Anglo-French purchasing board
Automobile industry and trade—United States
Chemical industries—United States
Cotton trade—United States
Export trade
Imports
Interstate commerce
Interstate commerce commission
Merchant marine—United States
National foreign trade week
Paper industry and trade—United States
Rubber industry and trade—United States
Tariff—United States
Terminals
Textile industry—United States
United States—Foreign and domestic commerce, Bureau of
United States—Industries and resources

Commerce, Department of

Annual report. H. L. Hopkins. Comm & Fin Chr 150:213 Ja 13 '40

Commerce bureau revises publications. Oil Paint & Drug Rep 138:4 S 9 '40

United States Department of commerce; how it serves you on land and sea. 49p U.S. Dept. of commerce, Washington '39

Commercial policy

America's trade in a changing world. E. P. Thomas. Comm & Fin Chr 151:2741-2 N 9 '40

Catch in "cash and carry" sales to belligerents. H. M. Bratter. Banking 32:28 Ja '40

Changing economic boundaries and our foreign trade policy. J. A. Farrell. Manuf Rec 109:22-3 F '40

Economic nationalism, trade barriers and the war. J. A. Krout, ed. Academy of Political Science Proceedings 19:1-110 My '40

Economic war with Japan; scrapping of treaty. il Business Week p16-18 D 30 '39

Fortune forum of executive opinion; foreign trade and foreign policy. Fortune 22:114 S '40

Fortune survey; does cash-and-carry *mean* cash? Fortune 20:79+ D '39

Fortune survey: postwar trade for the Germans. Fortune 22:78 N '40

Fortune survey; trading with a Nazi Europe. Fortune 22:supp4 Ag '40

Latin American trade responsibilities. R. G. Smith. Bankers M 141:213-15 S '40

Latin program gets the go sign; U.S. opens hemisphere drive with Export-Import loans to Brazil and Costa Rica. Business Week p63-4 O 5 '40

Studies in the adequacy of the Constitution. J. B. Smith. 366p bibliog(p357-9) $3.50 Parker & Baird co, Los Angeles '39

UNITED STATES—Commercial policy—*Cont.*
Trends in trade discussed; objections to Vandenberg bill to place trade agreement powers of State department in board of six. E. P. Thomas. Comm & Fin Chr 150:1219 F 24 '40
United States and foreign trade; Fortune round table. Fortune 21:90-2+ Ap '40; Excerpts. Bankers M 140:446-7 My '40
U.S. studies plans to curb forced barter deals in S.A. if Nazis win. Iron Age 145: 58 Je 13 '40
We can wage a trade war, too! seven defensive weapons. R. S. Byfield. Barron's 20:3 Ag 5 '40; Excerpts. Trusts & Estates 71:198 Ag '40
World trading systems; a study of American and British commercial policies. H. J. Tasca. 172p $1.50 Columbia univ. press '39
See also
Commercial treaties and agreements
Tariff—United States

Comptroller of the currency

Annual report. P. Delano. Comm & Fin Chr 150:1502-3 Mr 9 '40

Congress

Developments of congressional investigative power. M. N. McGeary. 172p bibliog(p161-5) $2.25 Columbia univ. press '40
How they voted on S. 2009; record by districts. map Ry Age 108:864-6 My 18 '40
Jobs for Congress. Business Week p16-17 N 16 '40
1940 Congress; what it can accomplish for business in a presidential year. Mag of Wall St 65:334-6 D 30 '39

Senate

Filibustering in the Senate. F. L. Burdette. 252p $2.50 Princeton univ. press '40

Constitution

Fortune survey; our government and Constitution. Fortune 21:54-5 Mr '40; Excerpt. Bankers M 140:355-6 Ap '40

Cultural relations

Cultural relations with Latin America. S. G. Inman. Ann Am Acad 211:180-5 S '40
Frontiers to the South; Hispanic-American library resources. I. A. Wright. Special Lib 31:195-7 Jl-Ag '40

Defenses

Administration has spent $6,265,000,000 for defense. L. M. Lamm. Steel 106:30+ My 27 '40
Agriculture and the defense program. C. C. Davis. Fed Res Bul 26:1168-70 N '40
Air power and sea power. C. Caldwell. il Aero Digest 36:36-9, 158 Je '40
ARP for America. il Business Week p24+ O 26 '40
All legislation overshadowed by the defense program. K. K. Hoyt. Annalist 55:716 My 23 '40
All out! how democracy will defend America. S. Grafton. 104p pa $1 Simon and Schuster, New York '40
America to arms. H. D. Steinmetz. il map Mag of Wall St 66:202-8+ Je 1 '40
America's problem of national defense. H. H. Sprout. 22p pa 15c Princeton univ, School of public and international affairs, Princeton, N.J. '39
Asks balanced program of air, army and naval defense. L. Johnson. Comm & Fin Chr 150: 3444 Je 1 '40
Atlas for the U.S. citizen; 11 U.S.-centric maps by R. E. Harrison. Fortune 22:43-9, 52-8 S '40
Background for war in the Pacific. C. Caldwell. il Aero Digest 36:32-5 Ja '40
Budd's duties in defense post; President Roosevelt last week defines role of Ralph Budd as member of Advisory commission of the Council of national defense. Ry Age 108:1019-20 Je 8 '40
Building for defense. map Eng N 125:529-33 O 24 '40
Business side of national defense; report to executives. Business Week p51-4 Je 8 '40
Business unity for national defense; abstract. J. S. Kemper. Trusts & Estates 71:382 O '40
Canadian-United States joint board of defense holds meeting in Ottawa. Comm & Fin Chr 151:1214 Ag 31 '40
Caribbean danger zone. J. F. Rippy. 296p bibliog(p265-83) $3 Putnam '40
Census for construction preparedness; listing professional talent for design and supervision of national defense facilities. Civil Eng 10:464-5 Jl '40
City planner's responsibility in the preparedness program. J. R. Hartzog. il Civil Eng 10:142-4 Mr '40
Civilian flying and the national defense. R. H. Hinckley. Civil Aero J 1:450-1+ O 15 '40
Congressional leaders formulate plans to finance national defense. Comm & Fin Chr 150:3442 Je 1 '40
Construction contracts for defense. L. B. Wehle. Eng N 125:155-8 Ag 1 '40
Construction for defense. Comp Air M 45: 6242 S '40
Coordinate to conquer. H. A. Toulmin, jr. Iron Age 146:35-7 Ag 29 '40
Debts, deficits and defense; fiscal policy and the preparedness load. H. F. Byrd. Trusts & Estates 71:131-4 Ag '40
Defending America. H. A. Toulmin, jr. il maps Iron Age 146:29-32 Jl 18; 28-31 Jl 25; 40-5 Ag 1; 29-32 Ag 8 '40; Discussion. 146: 72-3 S 5 '40
Defense advisory board offices are established. Iron Age 145:83-5 Je 6 '40
Defense and textile demand. B. Stubblefield. il Textile World 90:40-3 Jl '40
Defense comes to Main street; Wilmington, Ill. a case study of government-sponsored industry, other defense towns. il Business Week p20, 22-4+ N 2 '40
Defense construction organization takes shape in Washington; chart. Eng N 125:134-5 Ag 1 '40
Defense expenditures and taxation. Nat City Bank p90-5 Ag '40; Excerpts. Comm & Fin Chr 151:776 Ag 10 '40
Defense for America. W. A. White, ed. 205p $1 Macmillan '40
Defense reaches priority stage. Business Week p15-16 Jl 13 '40
Defense set-up for the communications industry. Electronics 13:16-17+ N '40
Defense, the order of the day. Business Week p15-16 My 25 '40
Deficiencies of defense. H. A. Toulmin, jr. il Iron Age 146:51-4 Ag 15; 29-31 Ag 22 '40
Delays in the armament program; five-year amortization planned. Nat City Bank p98-9 S '40; Excerpt. Comm & Fin Chr 151: 1366-7 S 7 '40
Economic effects of the United States-Canada defense pact. Bankers M 141:333-4 O '40
Engineering and research for American defense. L. A. Hawkins. Elec Eng 59:355-7 S '40
Essential defense materials. Barron's 20:6 Je 3 '40
Ex-President Hoover urges creation of non-political munitions board, headed by industrialist; reply of Assistant Secretary Johnson. Comm & Fin Chr 150:3445-6 Je 1 '40
Facts on our armament program; editorial. il Mag of Wall St 66:508-10 Ag 10 '40
Fifty billions for defense! W. von Tresckow. Barron's 20:3 Ag 26 '40
Financing defense. H. D. Ralph. il Burroughs Clearing House 24:9-11+ Jl '40
Financing national defense. Nat City Bank p76-9 Jl '40; Excerpts. Comm & Fin Chr 151:177-8 Jl 13 '40
Financing our preparedness program; should mobilize resources of private investment capital. E. F. Connely. Bankers M 141: 106-8+ Ag '40
Financing the cost of armament; serious problems of taxation and credit inflation. W. von Tresckow. Barron's 20:3 O 7 '40

UNITED STATES—Defenses—*Continued*
Financing the national defense program. W. R. Burgess. Comm & Fin Chr 151:30-3 sec 3 O 12 '40; Same abr. Bankers M 141: 386-90 N '40
Fortune forum of executive opinion; rearmament effort; its present effectiveness, its weak spots, its impact upon national economy, and ways of meeting the bill. Fortune 22:74-5+ O '40
Fortune survey; arms and the men; should we immediately increase our air force? army? navy? Fortune 20:116 D '39
Fortune survey; arms at all cost. Fortune 22:supp4 Ag '40
Fortune survey; spending for navy? air force? army? Fortune 21:118 Ap '40
F. D., a laggard in defense, while provoking bad foreign relations. E. T. Weir. Steel 106: 23-4+ My 27 '40
Great Britain offers to lease naval bases in western hemisphere to United States; Prime Minister Churchill describes plan. Comm & Fin Chr 151:1067-8 Ag 24 '40
Hemisphere defense map; showing location of army and navy bases and indicating extent of border air defenses. Aviation 39: 74-5 Ag '40
House adopts $1,706,000,000 supplemental national defense bill. Comm & Fin Chr 150: 3755 Je 15 '40
How defense program will affect coal-mining industry. L. Johnson. Coal Age 45:39-40 Ag '40
How U.S. business can be mainspring of defense program; full productive capacity is demanded. P. Hollister. Ptr Ink 191:11-14, 98, 100-1 Je 28 '40; Adv & Sell 33:17-18+ Jl '40
Industry can do the job if; industrial resources pledged to revitalization of defense program. Steel 106:21-2 Je 3 '40
Industry gets a voice in defense; Stettinius, Knudsen, Budd, and others named to new commission. Business Week p15-16 Je 1 '40
Industry's leaders active as defense program crystallizes. L. W. Moffett. Automotive Ind 82:577, 580-1 Je 15 '40
Joint Canadian-United States defense pact concluded. Comm & Fin Chr 151:1067 Ag 24 '40
Long road to preparedness; items needed to put army and navy in fighting trim. H. Corey. il Nation's Business 28:15-17, 73-4, 77+ Jl '40
Machine tools seen as vital factor in national defense. C. J. Stilwell. Iron Age 145:78-81 My 2 '40
Massachusetts institute of technology and the national defense program. Science 92:358-9 O 18 '40
Materials needed for defense. Manuf Rec 109: 28-9+ Ag; 30-1 S '40
Metallurgical engineering in preparedness and defense. il diags Metals & Alloys 12:405-70, 641-7, 761-7 O-D '40
Methods of financing defense construction summarized. Nat City Bank p127 N '40
Mobilizing civilian America. H. J. Tobin and P. W. Bidwell. 276p bibliog(p259-68) $2.75 Council on foreign relations, 45 E. 65th st, New York '40; Review, by F. E. Armstrong. Mech Eng 62:818-19 N '40
Mobilizing transportation for defense. T. N. Sandifer. Pub Util 26:657-62 N 7 '40
Monroe doctrine gets new teeth; hemisphere defense plans. Business Week p48-9 Ag 24 '40
National defense. J. A. Hulen. Am Pet Inst Proc 21M(1):6-8 My '40
National defense construction progresses. Civil Eng 10:670-2 O '40
National defense net; amateur station linkage to be administered under the National youth administration. A. Toombs. il Radio N 24:9+ S '40
National defense program becomes a dynamic force in business expansion. Business Week p13-14 Je 22 '40
National defense: the sinews. il maps Fortune 22:52-8+ O '40
Nation's engineering schools drawn into national defense program. Eng N 124:839 Je 20 '40
New government program uses safety codes to conserve manpower in production. map Ind Stand 11:270-2 O '40
New tax bill supported by Secretary Morgenthau; urges cut in non-defense federal expenditures; proposed defense bonds to be subject to tax. Comm & Fin Chr 150: 3759-60 Je 15 '40
Our defense agreement with Canada. F. J. McDiarmid. map Barron's 20:9 S 9 '40
Power engineer looks at the defense program. P. Swain. il Power 84:697-9 N '40
Power for defense. il maps Power 84:552-74 S '40
President Roosevelt advises Congress of agreement for leasing of naval and air bases from Great Britain in exchange for 50 over-age destroyers. Comm & Fin Chr 151:1370-1 S 7 '40
President Roosevelt appoints Advisory defense commission as adjunct to revived Council of national defense. Comm & Fin Chr 150:3439 Je 1 '40
President Roosevelt appoints National defense research committee. Comm & Fin Chr 150:3899 Je 22 '40
President Roosevelt asks Congress for additional $4,848,171,957 for defense; text of special message. Comm & Fin Chr 151: 182-3 Jl 13 '40
President Roosevelt asks Congress for additional $1,000,000,000 for national defense; and authority to call National guard and reserves, if needed. Comm & Fin Chr 150: 3440 Je 1 '40
President Roosevelt asks Congress for $1,182,-000,000 additional defense appropriation. Comm & Fin Chr 150:3134-6 My 18 '40
President Roosevelt asks national unity in furthering defense program; fireside chat broadcast, May 26. Comm & Fin Chr 150: 3437-9 Je 1 '40
President Roosevelt orders survey of critical war materials with view to requisitioning defense supplies. Comm & Fin Chr 151: 2282 O 19 '40
President Roosevelt promises allies all material aid of United States; denounces entry of Italy into war in speech at University of Virginia. Comm & Fin Chr 150: 3751-2 Je 15 '40
President Roosevelt says American republics work in unity to defend ourselves and are determined for peace. Comm & Fin Chr 151:2281-2 O 19 '40
Priority ratings of industries in event of war or defense emergency; ratings used in 1918. L. C. Duncan. Barron's 20:3 Jl 22 '40
Ready to pay defense price. Business Week p15-16 Je 8 '40
Realities of our situation. W. Lippman. Trusts & Estates 71:192-3 Ag '40
Rearmament challenges nation's utilities. T. N. Sandifer. Pub Util 25:779-86 Je 20 '40
Relation of engineering colleges to national defense. B. M. Woods. J Eng Educ 31: 57-62 S '40
Report to the American people. W. C. Bullitt. 29p 50c Houghton '40
Reserves for economic armament; how America's unused capacity can carry the load. J. H. Riddle. Trusts & Estates 71:137-42 Ag '40
Roads for national defense. il maps Eng N 124:87-100 Ja 18 '40
SAE defense aid implemented. S A E J 47: sup11-13 Ag '40
SAE in national defense. E. E. MacMorland. S A E J 47:sup18-19+ Jl '40
Strategic materials; items essential to national defense must be imported. Barron's 20:6 My 20; 6 My 27 '40
Summary of national defense contracts and expenditures, June 13-Aug. 15, 1940. Comm & Fin Chr 151:1076 Ag 24 '40
Takes exception to statement by Wendell Willkie that Treasury delayed defense. H. Morgenthau. Comm & Fin Chr 151:2290-1 O 19 '40
Text of the act entitled An act to expedite the strengthening of the national defense. Compar Law Ser 3:451-3 Ag '40

UNITED STATES—Defenses—*Continued*
Three-phase labor supply program now in operation. S. Hillman. il Automotive Ind 83:272 S 15 '40
Three plans for financing defense projects. H. D. Ralph. Burroughs Clearing House 25:17-18 N '40
Treasury rules only defense plant expansion completed after June 10 is eligible for amortization benefits. Comm & Fin Chr 151:2733 N 9 '40
Truth about defense. il diags maps Factory Management 98:42-52 O '40
Uncle shines his armor; defense appropriations and purchases. J. G. Ellis. il Iron Age 145:82-4+ Ja 4 '40
U.S. and Canada map joint defense. Business Week p45-6 Ag 31 '40
United States defense program; financing defense expenditures. Nat City Bank p62-4 Je '40; Excerpt. Comm & Fin Chr 150: 3749 Je 15 '40
U.S. defense; the armed forces. Fortune 22: 59-60+ S '40
United States need not fear invasion; urges coordinated defense program. C. A. Lindbergh. Comm & Fin Chr 150:3294-5 My 25 '40
United States requisitions 110 airplanes ordered by Swedish government; action incident to national defense taken after negotiations failed. Comm & Fin Chr 151: 2426 O 26 '40
United States rushes $5,000,000,000 defense program. Elec Eng 59:285-6 Jl '40
War's effect on the metals; symposium, Western division, American mining congress. Min Cong J 26:37-9 O '40
War's impact on the United States. H. M. Tremaine. map Mag of Wall St 66:270-3 Je 15 '40
Washington: almost a war capital. Business Week p15 Je 15 '40
Washington: both sides of the curtain; effects of U.S. attempt to match Hitler's efficiency. E. Blair. Barron's 20:4 My 27 '40
Where to spend 10 billion defense dollars; geographical placing of orders. A. W. Atwood. Banking 33:30-1+ N '40
Where will defense money flow? A. Livingston. map Adv & Sell 33:20-1+ N '40

See also
Aeronautics, Military—United States
Armaments
Defense communications board
Industrial mobilization
Munition factories
Munitions
National defense research committee
United States—Air service, Army

Advisory commission

See National defense advisory commission

Bibliography

Administration and organization in wartime in the United States; a bibliography. D. C. Culver, comp. 17p Public administration service, 1313 E. 60th st, Chicago '40
American preparedness and national defense. F. E. Curtiss. Special Lib 31:367-9 O '40

Diplomatic and consular service

Career diplomat; imaginary steps of one foreign service officer out of 833. il Fortune 20:51+ D '39
Department of state. il Fortune 20:44-50+ D '39

Economic conditions

A.D. 1939; in which the U.S. goes from gloom to boom with war. il Fortune 21:25-35+ Ja '40
America at the crossroads; a study of our mechanized industrial system and the changes resulting from its development. S. S. Laucks. 91p pa 50c Samuel S. Laucks, Central national bank bldg, York, Pa. '40
America faces the forties. S. C. Davis. 283p $2.75 Dorrance and co, Philadelphia '40
Anatomy of American wealth; the story of our physical assets (sometimes called wealth) and their allocation as to form and use among the people. R. R. Doane. 345p bibliog(p317-25) $2.50 Harper '40
Business looks ahead. S. H. Slichter. Management R 28:378-9 N '39
Conference board studies in enterprise and social progress. 327p $5 Nat. ind. conf. bd. '39
Dispossessed; for nearly one-fourth of the population there is no economic system, and from the rest no answer. il Fortune 21: 94-6+ F '40
Economic review of 1939. Survey of Cur Business 20:3-52 F '40
Education and economic well-being in American democracy. 227p 50c Educational policies commission, National education assn. of the United States, Washington, D.C. '40
Effect of the war on America's idle men and idle money. J. A. Krout, ed. Academy of Political Science Proc 18:1-133 Ja '40 (pa $2.50)
Fat years and the lean. B. Minton and J. Stuart. 454p bibliog(p430-46) $3.75 Modern age books, 432 4th av, New York '40
Fortune survey; state of the nation. Fortune 21:92 Ja '40
Geographic basis of American economic life. H. H. McCarty. 702p bibliog(pxix-xxiii) $3.75 Harper '40
Hitherto unpublished data minimize significance of our vanishing frontiers; public land settlement and business conditions. D. Myrick. Annalist 56:538 O 24 '40
How population affects markets. W. F. Ogburn. il Nation's Business 28:70+ My '40
If U.S. minds its business 1940 will be prosperous, regardless of Europe. M. Nadler. Ptr Ink 190:78+ Ja 12 '40
Income, family size, and the economic level of the family. Monthly Labor R 50:115-34 Ja '40
Into abundance. S. K. Ostergaard. 154p $1.50 Willett, Clark & co, 35 E. 20th st, New York '40
New economic conditions faced. W. A. Irwin. Comm & Fin Chr 151:12-13 sec 3 O 12 '40
Our unexplored economic frontier. T. J. Kreps. Trusts & Estates 71:164-8 Ag '40
Secretary of Commerce Hopkins reports substantial gains in all areas of national economy in 1939. Comm & Fin Chr 149:4106 D 30 '39
Speaking of change; a selection of speeches and articles. E. A. Filene. 324p 75c; pa 25c National home library foundation, Washington, D.C. '39
U.S. frontier has changed, is still mysterious, is still vast, is becoming international. col il Fortune 21:97-104+ F '40
War prosperity boom seen unless controlled through voluntary saving; comments on proposed increase in debt limit to $65,000,000,000. P. F. Cadman. Comm & Fin Chr 151:2742 N 9 '40
What industry can do for America. il Factory Management 98:3-305 Ag '40 (pa $2)

See also
Banks and banking—United States
Business conditions
Business depression
Cost of living—United States
Finance—United States
Income—United States
Labor and laboring classes—United States
Money—United States
Unemployment—United States
Wages—United States

Bibliography

Industrial change and employment opportunity; a selected bibliography. A. Gourvitch and others, comps. 254p U.S. Work projects administration, 1734 New York av, N.W, Washington, D.C. '39

Economic history

America, incorporated; recent economic history of the United States. L. Huberman. 251p bibliog(p235-44) $2.75 Viking press '40
America's economic growth. F. A. Shannon. rev ed 867p bibliog(p805-31) $3.75 Macmillan '40
Amplitude of the marketing task. H. B. Killough. bibliog Ann Am Acad 209:22-9 My '40
U.S. industrialization. Fortune 21:50-7+ F '40

UNITED STATES—Economic history—*Cont.*
Why Americans speak English; important role of investors and investment dealers in our earliest history. R. Girdler. Barron's 20:7 Ag 26 '40

Economic policy

American choice. H. A. Wallace. 146p bibliog(p145) pa $1 Reynal & Hitchcock, New York '40
American stakes. J. Chamberlain. 320p bibliog(p309) $2.75 Carrick & Evans, 20 E. 57th st, New York '40
Annual report of Secretary of commerce defends new deal spending and reform measures. H. L. Hopkins. Comm & Fin Chr 150:213 Ja 13 '40
Business man looks ahead: how to save democracy in U.S. P. G. Hoffman. Ptr Ink 192:9-11+ Jl 5 '40
Capital expansion, employment, and economic stability. H. G. Moulton and others. 413p $3.50 Brookings institution, Washington, D.C. '40
Case against the new deal. T. E. Dewey. 165p $1.50 Harper '40
Come to work; a plan for securing an economy of abundance under the existing order. V. E. Wilson. 308p $2.50 House of Field, New York '38
Consumer representation in the new deal. P. Campbell. 298p $3.25 Columbia univ. press '40
Doubt has been cast on security under our American system; abstract. H. Coonley. Steel 105:15-16 D 11 '39
Down hill road; twenty-two years of managed money and planned economy in the United States. R. C. Leffingwell. Inv Banking 10:5-9 Mr '40
Economic consequences of a German peace. Business Week p37-44 Je 22 '40
Economic platform for U.S. recovery. M. Nadler. Ptr Ink 191:17-18 My 17 '40
Expansion of private business can prevent post-armament crash. M. Shields. Ptr Ink 193:9-12, 72-7 O 11 '40; Excerpts. Comm & Fin Chr 151:1984-5 O 5 '40; Abstract. Trusts & Estates 71:371-3 O '40
Free enterprise vs feudalism. P. G. Hoffman. Am Pet Inst Proc 20(1):24-8 '39
Future of American industry. M. H. Aylesworth. Min & Met 21:139-42 Mr '40
Headless horsemen of economic hollow; why private capitalism will triumph over fifth columnists. M. M. Jones. Trusts & Estates 71:365-9+ O '40
Idle money idle men. S. Chase. 252p $2 Harcourt '40
Increasing federal power. H. B. Summers and R. E. Summers, comps. Ref Shelf v 14, no3. 1-301 bibliog(p291-301) '40 ($1.25)
Magnificent delusion. F. G. Clark. 152p $1 McGraw-Hill '40
National government; year-end review of new deal strategy and prospects. K. K. Hoyt. Annalist 54:822 D 28 '39
Need for economic preparedness. R. M. Hanes. Bankers M 141:396-9 N '40; Same. Comm & Fin Chr 151:21-2 sec 3 O 12 '40
New deal in action, 1933-1939. A. M. Schlesinger. 77p bibliog(p76-7) pa 50c Macmillan '40
New western front. S. Chase and M. Tyler. new rev ed 197p bibliog(p191-2) $1.50; pa 75c Harcourt '39
Our unexplored economic frontier. T. J. Kreps. Trusts & Estates 71:164-8 Ag '40
Practical way out. C. E. Wilson. Edison Elec Inst Bul 8:263-5+ Je '40
President Roosevelt addresses American youth congress; text. Comm & Fin Chr 150:1067-9 F 17 '40
Private enterprise and democracy. C. E. Carpenter. 217p $2.50 Longmans '40
Progress report of an amateur economist. R. E. Flanders. Mech Eng 62:525-30 Jl '40
Public ownership of government; collected papers. E. P. Costigan. 347p $3.50 Vanguard press, New York '40
Report of Economic policy commission, American bankers' association. Comm & Fin Chr 151:23-4 sec 3 O 12 '40
Today's forgotten man. H. D. Brauff. 222p $2.50 Town hall press, New York '40
Trails to the new America. J. W. Herring. 160p bibliog(p151-2) $2 Harper '40
Tripod of freedom. H. W. Prentis, jr. Oil Paint & Drug Rep 138:54, 56, 58 O 14 '40
Triumph of American capitalism; the development of forces in American history to the end of the nineteenth century. L. M. Hacker. 460p bibliog(p439-45) $3 Simon and Schuster, New York '40
War issues shape third term. Business Week p15-16 N 9 '40
We, the people; foundation for a political platform for recovery. W. L. Willkie. Fortune 21:64-5+ Ap '40

See also
Agriculture—United States—Farm relief
Economic policy
Reconstruction finance corporation
United States—Commercial policy

Employment service

Employment services to aid in controlling defense labor supply. Steel 107:22-3 N 11 '40
Labor conditions, employment security operations, 1936-1939. Survey of Cur Business 1940 Sup p39 [supplemented in monthly numbers]
Placement work of public employment services, December. Monthly Labor R 50:352-7 F '40 [cont monthly]
Placement work of public employment services, February 1940 and year 1939. Monthly Labor R 50:870-7 Ap '40

Executive departments

Above the law? F.T.C. exemption from Walter-Logan bill draws fire of Senate and House committees. Ptr Ink 190:75-6+ F 16 '40
Activities of selected federal agencies, 1933-1939. 1939 ed 124p; 1940 Supplement. 28p Office of government reports, 45 Broadway, New York '39-'40
Civil and commercial aviation; a guide to federal legislation and administrative agencies. D. C. Culver. 78p bibliog(p73-4) pa 75c Bur. of public administration, Univ. of California, Berkeley '40
Cost accounting practices in federal government departments. H. S. Bennion. Edison Elec Inst Bul 7:555-8+ N '39
Drug law administration ordered transferred to FSA. Oil Paint & Drug Rep 137:5+ Ap 15 '40
Federal agency study. Oil Paint & Drug Rep 137:3+ Je 24 '40
Federal government and standardization; chart showing the present organization, with analysis showing sections interested in standardization. J. H. Courtney. Ind Stand 10:279-81 N '39; Correction. 10:302 D '39
Federal regulatory action and control. F. F. Blachly and M. E. Oatman. 356p $3 Brookings institution, Washington, D.C. '40
Fourth and final reorganization plan sent to Congress. Comm & Fin Chr 150:2344-5 Ap 13 '40
Government at your service; a handbook of federal help for the citizen. A. Robertson. 340p bibliog(p325-8) $2.75 Houghton '39
Government financial agencies. H. M. Bratter. Banking 33:35-48 S '40
Growing autocracy of the federal agencies. H. Corey. Pub Util 24:787-95 D 21 '39
House rules committee approves bill to curb power of federal bureaus. Comm & Fin Chr 150:919 F 10 '40
House votes against reorganization plan IV. Comm & Fin Chr 150:2974 My 11 '40
Letter to a senator; why Senate should pass Walter-Logan bill. G. Scholefield, pseud. Ptr Ink 191:33+ Ap 26 '40
Logan-Walter bill providing court review of decisions of government agencies passed by House Comm & Fin Chr 150:2506-6 Ap 20 '40
Logan-Walter bill; standardizes administrative agency procedure. A. G. Davis. Inv Banking 10:14-15 Mr '40

UNITED STATES—Executive departments—*Continued*
Management planning in the federal government. B. L. Gladieux. Advanced Management 5:77-85 Ap-Je '40
President Roosevelt asks Congress to authorize new reorganization plan; changes in setup of Treasury, Interior, Agriculture and Labor departments, and Civil aeronautics authority. Comm & Fin Chr 150:2187-8 Ap 6 '40
Reorganization of the national government; what does it involve? part I, An analysis of the problem, by L. Meriam; part II, A brief history of reorganization efforts, by L. F. Schmeckebier. 272p $2 Brookings institution, Washington, D.C. '39
Transfer of alien control to Justice department asked by President Roosevelt; Immigration and naturalization service shifted in reorganization plan no. 5. Comm & Fin Chr 150:3283-4 My 25 '40
War and peace; suggestion that Congress set up an organization similar to a management engineering concern. Fortune 22:65 N '40

See also
Government corporations
also Federal communications commission and names of other commissions beginning Federal; Interstate commerce commission; United States housing authority

Federal bureau of investigation

Presentation of the Marcellus Hartley public welfare medal to John Edgar Hoover; with response. Science 91:416-17 My 3 '40

Federal trade commission

See Federal trade commission

Fish and wildlife service

Bureau of fisheries and Bureau of biological survey consolidated into Fish and wildlife service. Science 92:190-1 Ag 30 '40

Food and drug administration

Appropriation cut by House appropriations committee. Oil Paint & Drug Rep 137:5 F 5 '40
Drug law administration ordered transferred to FSA. Oil Paint & Drug Rep 137:5+ Ap 15 '40
Food and drug administration may be transferred to McNutt's bureau. Ptr Ink 190:34, 38 Mr 29 '40
F.D.A. transfer to Federal security agency effective June 10. Oil Paint & Drug Rep 137:5+ My 20 '40
New vitamin controls; copywriters must watch out for FDA. Business Week p48-9 O 26 '40

Foreign and domestic commerce, Bureau of

Business information section of the Bureau of foreign and domestic commerce. F. S. Wilson. Special Lib 31:252-4 Jl-Ag '40
Commerce bureau changes emphasize domestic trade. Oil Paint & Drug Rep 136:5 N 27 '39
Divisions and chiefs; district, cooperative, and foreign offices. Comm Rep p96 Ja 27 '40 [reprinted monthly] [cont as For Comm W beginning O 5]

Foreign population

Notable Americans of foreign birth; a list of the foreign born in Who's who in America, 1938-1939. 104p pa 50c Common council for American unity, 222 4th av, New York '40
Proceedings, fourth annual conference, American committee for protection of foreign born, March 2-3, 1940. 94p pa $1 Am. com. for protection of foreign born, 79 5th av, New York '40
Within our gates; selections on tolerance and the foreign-born of today. M. B. McLellan and A. V. De Bonis, eds. 304p bibliog(p303-4) $1.28 Harper '40

Foreign relations

America and a new world order. G. K. Howard. 121p $2 Scribner '40
American choice. H. A. Wallace. 146p bibliog(p145) pa $1 Reynal & Hitchcock, New York '40
American neutrality problem. C. F. Phillips and J. V. Garland. 404p bibliog(p402-4) $2 Wilson, H.W. '39
American white paper; the story of American diplomacy and the second World war. J. Alsop and R. Kintner. 107p pa $1 Simon and Schuster, New York '40
America's contribution to an enduring peace. N. Thomas. Ann Am Acad 210:43-9 Jl '40
America's stake in the present war and the future world order; Fortune round table. il Fortune 21:70-2+ Ja '40
Before America decides; foresight in foreign affairs. F. P. Davidson and G. S. Viereck, jr, eds. 318p bibliog(p295-307) $3 Harvard univ. press '38
Chart for rough water; our role in a new world. W. Frank. 182p $1.75 Doubleday '40
Diplomatic history of the American people. T. A. Bailey. 806p $6 Crofts '40
Foreign policies of Herbert Hoover, 1929-1933. W. S. Myers. 259p $2.50 Scribner '40
Foreign policy for America. C. A. Beard. 154p $1.50 Knopf '40
Fortune forum of executive opinion; foreign trade and foreign policy. Fortune 22:114 S '40
Fortune survey; are we marked for Mars? chances that the U.S. will be drawn into this war? Fortune 21:86 Ja '40
Fortune survey; countries we would defend. Fortune 21:57+ Ja '40
Fortune survey; national policy toward the war. Fortune 20:78-9 D '39
Fortune survey; places we would defend. Fortune 22:supp3 Ag '40
Fortune survey; President's foreign policy with regard to the European situation up to now? Fortune 21:100+ Mr '40
Fortune survey; war policy now. Fortune 21: 98+ Mr '40
Isolated America. R. L. Buell. 457p $3 Knopf '40
New western front. S. Chase and M. Tyler. new & rev ed 197p bibliog(p191-2) $1.50 Harcourt '39
No problem in Far East which could be solved by negotiation, foreign policy throughout the Roosevelt administration. S. Welles. Comm & Fin Chr 151:1979-80 O 5 '40
Our future in Asia. R. A. Smith. 306p $3 Viking press '40
Senate and House groups approve resolution barring any transfer of Western Hemisphere land from one power to another; Secretary of State Hull backs proposal. Comm & Fin Chr 150:3589 Je 8 '40
Speech by James H. R. Cromwell, U.S. minister to Canada, brings warning from Secretary of State Hull regarding discussion of controversial policies of other governments. Comm & Fin Chr 150:1857 Mr 23 '40
U.S. and the world. Fortune 22:42 S '40
U.S. and the world; appeasement in America has no place to go, but what of the businessman? Fortune 22 59+ O '40
United States foreign policy (supplement). J. E. Johnsen, comp. Ref Shelf v 13, no 6: 1-111 bibliog(p97-111) '39 (pa 75c)
United States in world affairs; an account of American foreign relations, 1939. W. H. Shepardson and W. O. Scroggs. 420p bibliog (p299-310) $3 Harper '40
War and peace; U.S. must now choose among retreat, isolation, and international leadership. Fortune 20:42-3 D '39
War's impact on the United States. H. M. Tremaine. map Mag of Wall St 66:270-3 Je 15 '40
Why America should make peace effort. J. D. Mooney. Ptr Ink 191:21-3 Je 14 '40

Australia

United States and Australia establish diplomatic relations. Comm & Fin Chr 150:211 Ja 13 '40

UNITED STATES—Foreign relations—*Cont.*

China

United States refuses to recognize Japanese-sponsored regime in China. Comm & Fin Chr 150:2192 Ap 6 '40

Great Britain

American entente. R. B. Mowat. 286p $2.50 Longmans '39

Fortune survey; alliance with Canada and Great Britain. Fortune 22:77-8 N '40

Our new relations with the British empire; trend toward pooling of resources. J. T. Adams. Barron's 20:3 O 21 '40

Japan

Fortune survey; for Japan—a big stick with a bayonet. Fortune 22:78 N '40

Japanese spokesman indicates no additional steps toward trade treaty with United States; Senate foreign relations committee divided on question of export embargo. Comm & Fin Chr 150:1204 F 24 '40

President Roosevelt and Secretary Hull announce opposition to any change in status quo in Pacific area; mention particularly Netherlands East Indies. Comm & Fin Chr 150:2500 Ap 20 '40

Mexico

See Mexico—Expropriation policy

Forest service

Engineering in the national forests. C. A. Gould. il Cornell Eng 5:7-9 Mr '40

Geological survey

Activities. W. C. Mendenhall. Science 90:508-9 D 1 '39

Field work. Science 90:438 N 10 '39

Field work. Science 91:589-90 Je 21 '40

How the Geological survey serves Alaska. P. S. Smith. map Eng & Min J 141:54-6 Ap '40

In quest of strategic mineral supplies in the field. C. F. Jackson. il Eng & Min J 140: 43-6 D '39

Program last year marked by strategic mineral studies. Eng & Min J 141:53 Mr '40

Work of the U.S Geological survey. A. W. Harrington. il Cornell Eng 5:11-13+ My '40

Government printing office

Move to curb G P O. gains momentum. Inland Ptr 104:23-5 F '40

Uncle's envelope prices are shown up; comparative cost of government and locally printed envelopes. T. C. Ryther. Inland Ptr 101:61-2 F '40

Industries and resources

America at the crossroads; a study of our mechanized industrial system and the changes resulting from its development. S. S. Laucks. 91p pa 50c S S Laucks, Central national bank bldg, York, Pa. '40

Hourly earnings in 105 selected industries, by states, 1937. A. F. Hinrichs and A. F. Beal. Monthly Labor R 50:1468-83 Je '40

Industrial America; iron and steel; Printers' Ink market explorations. Ptr Ink Mo 41: 30-1, 33 Ag '40

Industrial America; machinery, not including transportation equipment; Printers' Ink market explorations. Ptr Ink Mo 41:38-9, 41 O '40

Industrial development and reasons for our recent slowing down; abstract. E. J. Noble. Ptr Ink 192:44+ S 27 '40

Knickknack trade goes ersatz. Business Week p22 Ag 3 '40

Major industrial areas of the United States, with flying time from geographic center; map. J. Collins. Annalist 56:235 Ag 22 '40

Must industry be conscripted? U.S. industrial strength compared with the world. J. C. Cresswill. il Mag of Wall St 66:563-5+ Ag 24 '40

Refugee industries from Europe. Business Week p52-3 Mr 2 '40

Resources and national defense. J. P. Ferris and H. Emerson. Mech Eng 62:809-12 N '40

Strategy for defense is to decentralize. C. P. Wood. il Nation's Business 28:27-8+ N '40

U.S. frontier has changed, is still mysterious, is still vast, is becoming international. col il Fortune 21:97-104+ F '40

U.S. industrialization. Fortune 21:50-7+ F '40

U.S. share in world production and trade; graphs. Fortune 22:50-1 S '40

Why America could live much better. il map Factory Management 98:C1-C7 Ag '40

See also

Agriculture—United States
Airplane industry and trade—United States
Automobile industry and trade—United States
Building trades—United States
Cement industry and trade—United States
Chemical industries—United States
Cotton trade—United States
Industrial mobilization
Mines and mineral resources—United States
Paper industry and trade—United States
Petroleum industry and trade—United States
Rubber industry and trade—United States
Steel industry and trade—United States
Textile industry—United States

Intellectual life

See also

Colleges and universities—United States

Interstate commerce commission

See Interstate commerce commission

Labor, Department of

Annual report for fiscal year ended June 30, 1939. Comm & Fin Chr 150:632-3 Ja 27 '40

Conciliation service

Labor mediation seen as next goal. Business Week p24+ Ja 27 '40

Wage and hour division

First year's operations under Fair labor standards act. Monthly Labor R 50:397-8 F '40

Labor statistics, Bureau of

Bibliography

Selected list of the publications of the Bureau of labor statistics. E. A. Johnson, comp. 1938 ed U S Bur Labor Statistics Bul 661: 1-30 '39

Marine corps

Marine corps aviation. R. J. Mitchell. il Aero Digest 36:81-2+ F '40

Maritime commission

Regulation of water carriers. P. D. Page, jr. Pub Util 26:638-42 O 24 '40

Merchant marine

See Merchant marine—United States

Militia

At odds on guard pay; state of Minnesota and city of New York. Business Week p50 S 7 '40

Bill giving President power to mobilize National guard passed by House. Comm & Fin Chr 151:927 Ag 17 '40

Deficiencies of defense. H. A. Toulmin, jr. Iron Age 146:29-31 Ag 22 '40

Firms pay guardsmen. Business Week p37 Ag 3 '40

President Roosevelt asks Congress for power to call National guard into active training service. Comm & Fin Chr 151:630-1 Ag 3 '40

President Roosevelt orders 60,500 National guardsmen to report for year's military training. Comm & Fin Chr 151:1370 S 7 '40

UNITED STATES—Militia—*Continued*
Senate gives President power to mobilize National guard. Comm & Fin Chr 151:779 Ag 10 '40
Soldiers' pay; companies called on to adjust wage policies to national defense training programs. Business Week p22+ Jl 6 '40
Text of resolution signed by the President authorizing him to order National guard into service for period of one year. Comm & Fin Chr 151:1451-2 S 14 '40
Who pays guardsmen? military training has been costly to many employers. Business Week p27 D 30 '39

Mines, Bureau of

Annual report of the Petroleum and natural-gas division, fiscal year 1939. R. A. Cattell and others. bibliog pl U S Bur Mines Rep of Invest 3501:1-41 '40
E. B. Swanson may succeed Dr Finch as Bureau head. H. D. Ralph. Oil & Gas J 38: 25 Ja 11 '40
Head resigns. Oil Paint & Drug Rep 137:3+ Ja 8 '40
Ickes' removal of Mines bureau director stirs industry, Congress. Iron Age 145:56 Ja 11 '40
In quest of strategic mineral supplies in the field. C. F. Jackson. il Eng & Min J 140: 43-6 D '39
Strategic minerals investigations by the Bureau of mines. J. W. Finch. il Min Cong J 25:28-31+ D '39
Strategic minerals investigations; procedure followed by the Bureau of mines. J. W. Finch. U S Bur Mines Information Circ 7097:1-5 '39

Bibliography

Supplement to List of publications, Bureau of mines, July 1, 1938, to June 30, 1939, with subject and author index. 27p U.S. Bur. of mines '40

Experiment stations

Laboratory's part in strategic mineral projects; Reno experiment station. E. S. Leaver. il Eng & Min J 141:33-4 My '40
New metallurgical experiment station for the Bureau of mines at Salt Lake City, Utah. R. S. Dean and C. Moss. pls U S Bur Mines Information Circ 7116:1-9 '40

Mint

Annual report; excerpts. Comm & Fin Chr 150:207 Ja 13 '40
New production records in 1940 fiscal year. Comm & Fin Chr 151:333 Jl 20 '40

National advisory committee for aeronautics

Research girds for war. S. P. Johnston. il Aviation 39:40-1, 118 O '40

Naval reserve

Eubank heads U.S. navy reserves committee; insurance men co-operating. East Underw 41:5-6 Ag 23 '40; Weekly Underw 143:373+ Ag 24 '40
Navy wants 4,000 radio operators. A. Toombs. il Radio N 24:8-9+ N '40

Navy

Bombers plus battleships; both are needed for co-ordinated effort. A. B. Vosseller. il Sci Am 163:183-5 O '40
Efficient this time; army and navy working together, using same designs and testing for each other. Business Week p44-5 N 16 '40
Fleet today. K. Banning. 346p $2.50 Funk & Wagnalls co, New York '40
Legislation authorizing 70% expansion in naval tonnage sent to President for signature. Comm & Fin Chr 151:183 Jl 13 '40
More ships and personnel recommended in annual report of acting secretary of the navy. C. Edison. Comm & Fin Chr 149: 3645 D 9 '39
Navy department to form new Atlantic force of 125 ships. Comm & Fin Chr 151:2287 O 19 '40
Navy prefabricates; 50 one-family units at Norfolk base. Business Week p36 S 21 '40
Navy second to none. G. T. Davis. 508p bibliog(p485-98) $3.75 Harcourt '40
Port of New York; interests of the U.S. navy. R. Whitman. il Civil Eng 10:333-6 Je '40
Your navy. C. B. Mayo. 372p $3.50 Parker & Baird co, Los Angeles '39

See also
Naval aircraft factory, Philadelphia
United States—Aeronautics, Bureau of (navy)
United States—Air service, Navy
Warships—United States

Equipment and supplies

Senate passes $1,473,756,728 naval supply bill. Comm & Fin Chr 150:3284 My 25 '40
Want to sell military goods to U.S.? Here are bureaus and officials to see; army and navy field offices. S. Carter. Ptr Ink 192: 63-5 Ag 23 '40

Officers

How to be a naval officer. Y. Stirling, jr. 194p $1.75 Robert M. McBride & co, 116 E. 16th st, New York '40

Pay, allowances, etc.

Family allowances in the United States army and navy in the World war. Monthly Labor R 51:454-5 Ag '40
Pay of enlisted personnel in the United States army and navy. Monthly Labor R 51:1-4 Jl '40

Textile requirements

Textiles used in the fabrication of naval uniforms. L. Smith. Am Dyestuff Rep 29:567-9 O 14 '40

Navy department

Engineering for defense; army and navy engineers with help of industries, technical societies and educational institutions have standardized designs and specifications. G. F. Nordenholt. il Product Eng 11:504-10 N '40
Extracts from annual report of the Chief of the Bureau of construction and repair. Marine Eng 45:48 Ja '40
War and navy departments; how gas supplies U.S. fuel requirements. G. W. Bean. Am Gas Assn Mo 22:298-9 S '40

Equipment

Control, procurement, storage, and inventory of supplies in the Navy department. A. H. Mayo. Edison Elec Inst Bul 7:520-2+ N '39

Officials

See Public officials

Ordnance, Bureau of (navy)

Notes on a half century of United States naval ordnance, 1880-1930. W. R. Van Auken. 56p $1 Wilbur R. Van Auken, The Broadmoor, 3601 Connecticut av, N.W, Washington, D.C. '39

Ordnance department

Engineer in ordnance. W. R. Slaughter. il Cornell Eng 5:5-8+ Ja '40

Patent office

Milestones of progress in American patents. E. L. Luaces. il Chem Ind 46:575-6 My '40
Never ending hunt for something new; 40 per cent of all applications are rejected. E. M. Stern. il Nation's Business 27:22-4+ D '39
Sesquicentennial celebration of the United States Patent office. C. P. Coe. Science 91:sup10 Ap 12 '40

Politics and government

Dead hand of bureaucracy. L. Sullivan. 303p bibliog(p295-8) $2.50 Bobbs '40
Fortune survey; our government and Constitution. Fortune 21:54-5 Mr '40; Excerpt. Bankers M 140:355-6 Ap '40

UNITED STATES—Politics and government—*Continued*
Fortune survey; war cabinet for Roosevelt. Fortune 20:116+ D '39; Summary. Bankers M 140:79 Ja '40
Fortune survey; what to do with the new deal. Fortune 21:169 My '40
Increasing the power of the federal government. E. C. Buehler, ed. (Annual debater's help book, v. 7) 382p bibliog(p361-82) $2 Noble and Noble, 100 5th av, New York '40
Intergovernmental relations in the United States. W. B. Graves, ed. Ann Am Acad 207:1-218 bibliog(p210-18) Ja '40
List of governmental agencies; legislative branch, executive office and departments, independent establishments. N A C A Bul 21:1123-5 My 1 '40
New American government and its work. J. T. Young. 4th ed 1118p $4 Macmillan '40
United States government manual. [published three times a year $3.50; pa $2; single nos $1.25; pa 75c Supt. of doc.]
U.S. political system. il Fortune 21:90-3+ F '40

Bibliography

Bibliography of intergovernmental relations in the United States. D. C. Culver, comp. Ann Am Acad 207:210-18 Ja '40
Sources for the study of federal administration. D. C. Culver. 26 numb l pa 25c California. Univ. Bur. of public administration, Berkeley '40

Population

See Population

Postal service

See Postal service—United States

Public health service

Address at dedication of U.S. marine hospital, Boston, June 6, 1940. P. V. McNutt. Pub Health Rep 55:1107-11 Je 21 '40
Functions brought to Federal security agency by Reorganization plan IV; Freedmen's and St Elizabeths hospitals under the public health service. Pub Health Rep 55:1278-82 Jl 12 '40
Mobile laboratories for land and water; U.S. Public health service studies Ohio River pollution. il plans Eng N 124:858-60 Je 20 '40
Some developments in the water pollution research program of the Public health service. J. K. Hoskins. Pub Health Rep 55:893-9 bibliog(p899) My 17 '40
Water and government. P. V. McNutt. Am Water Works Assn J 32:719-28 My '40

See also National institute of health

Bibliography

Public health service publications, 1939. Pub Health Rep 54:1489-95; 55:289-93 Ag 11 '39, F 16 '40
Public health service publications; a list of publications issued during the period January-June 1940. Pub Health Rep 55:1451-5 Ag 9 '40

Purchasing agencies

Directories

Uncle Sam goes to market; a summary of the organization of federal purchasing and procurement. E. B. George. il maps Dun's R 48:8-28 Ag '40

Reclamation, Bureau of

Reclamation and the engineer. J. C. Page. il Cornell Eng 5:12-13+ Ja '40
Reclamation bureau gains in fight over flood control-irrigation job; San Luis project. Eng N 124:553 Ap 18 '40
Seminoe's control typical of newer U.S. Bureau of reclamation plants. E. C. Schurch. il diag Elec West 84:40-4 Ja '40
Work of Bureau of reclamation; relationship between the Bureau and the contracting industry. J. C. Page. Comm & Fin Chr 150: 1365 Mr 2 '40

Library

Cooperation, a concrete example; Denver public library and Denver office library of Bureau of reclamation. D. L. Brechner. Mech Eng 62:800 N '40

Senate

See United States—Congress—Senate

Social conditions

America! wake up. A. Beneken, pseud. 131p $2 World study bur, New York '40
America's challenge to every man in business. P. Cabot. Ptr Ink 191:25-6, 30+ My 31 '40
Youth; 4,000,000 lack jobs, prospects, hopes. il Fortune 21:88-92+ My '40

Social life and customs

Culture of democracy. il Fortune 21:76-87 F '40
Good old days; a history of American morals and manners as seen through the Sears, Roebuck catalogs, 1905 to the present. D. L. Cohn. 597p $3.75 Simon & Schuster, New York '40
Home town. S. Anderson. 145p $2.50 Alliance bk. corp, 212 5th av, New York '40

Standards, National bureau of

New high-voltage laboratory of the Bureau of standards. F. B. Silsbee. diag plan Elec Eng 59:238-40 Je '40

State, Department of

Department of state. il Fortune 20:44-50+ D '39

Statistics

Financial, industrial, and commercial statistics, United States. Fed Res Bul 26:19-58 Ja '40 [cont monthly]
Informational hand book; prepared in response to numerous inquiries for statistical and other data relating directly or indirectly to the activities of federal agencies. 44p Office of government reports, 45 Broadway, New York '40
Summary table: selected business indicators for specified years and percentage changes, 1929, 1932-33, 1937-39. Survey of Cur Business 20:53-4 F '40
Survey of current business; 1940 supplement. Survey of Cur Business 1940 Sup p 1-249 (pa 40c)
Work of United States departments and bureaus. Am Statis Assn J 34:716-38; 35:116-35, 523-44 D '39, Mr, S '40

Supreme court

Chief Justice Hughes speaks at service marking 150th anniversary of first meeting. Comm & Fin Chr 150:782 F 3 '40
Labor decisions of the Supreme court, 1939-40. bibliog Monthly Labor R 51:356-65 Ag '40
Mr Justice Miller and the Supreme court, 1862-1890. C. Fairman. 456p $4.50 Harvard univ. press '39
Oil companies lose Madison case; with text of Supreme court decision. Nat Pet N 32:9-10, 14-24, 24A-24H My 8 '40
President Roosevelt signs bill granting Supreme court power to regulate criminal procedure in federal courts. Comm & Fin Chr 151:41 Jl 6 '40
Supreme court and disputes between states; an address. C. Warren. 32p College of William and Mary, Williamsburg '40
Supreme court and interstate barriers. R. H. Jackson. bibliog Ann Am Acad 207:70-8 Ja '40
Work for high court. Business Week p20 O 19 '40

Surgeon general's office

Library

Medicofilm service of the army medical library. Science 92:280 S 27 '40

Tariff commission

Bibliography

Publications of the Tariff commission, 1882p U.S. Tariff commission, Washington '39

Tennessee Valley authority

See Tennessee Valley authority

UNITED STATES—*Continued*

Territories

American empire; a study of the outlying territories of the United States. W. H. Haas, ed. 408p $4 Univ. of Chicago press '40

Treasury department

American standards association and the U.S. Treasury department. Science 91:470 My 17 '40; Same. Ind Stand 11:133 My '40

Annual report of the Secretary of the Treasury, fiscal year ended June 30, 1939. Comm & Fin Chr 150:176-8 Ja 13 '40

Control of federal expenditures; comparing the management of United States government with that of a large corporation. E. F. Bartelt. N A C A Bul 21:1087-1125 My 1 '40

Interdistrict settlement fund; what it is and how is it used by the United States Treasury. Fed Res Bul 26:776-7 Ag '40

U.S. bookkeeping hit; Morgenthau advises Congress to give Treasury control over government credit agencies. Business Week p17+ F 24 '40

War department

How U.S. army prepares industrially; educational orders program well under way. L. C. Duncan. Barron's 20:18 Ap 22 '40

More industries get war lessons; army's educational orders. Business Week p48-9 Mr 30 '40

War and navy departments; how gas supplies U.S. fuel requirements. G. W. Bean. Am Gas Assn Mo 22:298-9 S '40

War industries board, 1917-1918

War industries board, 1917-18. J. L. Tyson. Fortune 22:supp 1-16 S '40

Weather bureau

U.S. Weather unit at Harvard for observing sun's radiation. Science 92:422 N 8 '40

Weather; Norwegians found the third dimension, the airlines commercialized it, and the U.S. Weather bureau eventually caught on. il maps Fortune 21:58-63+ Ap '40

UNITED STATES guarantee company

50th anniversary. East Underw 41:37+ F 2 '40

UNITED STATES gypsum company

Brass tacks for the investor; brief analysis. Barron's 20:9 F 26 '40

UNITED STATES housing authority

Banks help USHA; make $50,000,000 available for low-rent housing at 0.6%. Business Week p42 N 25 '39

Defense housing called for permanent construction. Eng N 125:57 Jl 11 '40

Electric bill warning; new meter for USHA homes. Business Week p27-8 Ap 13 '40

Farm hut-clearance; USHA plans to extend program to rural areas. Business Week p16-17 D 23 '39

Federal housing; the gas industry's opportunity in the USHA program. G. W. Bean. il Am Gas Assn Mo 22:254-6 Jl-Ag '40

Fully guaranteed obligations by agencies, monthly, Feb.-Nov. 1939. Fed Res Bul 26: 41 Ja '40 [cont monthly]

Gets power to meet housing needs of defense program. Eng N 125:3 Jl 4 '40

It's heaven, it's paradise; Red Hook houses is also a $12,230,000 USHA project. il map plan Fortune 21:82-9+ Ap '40

Local housing units ask bids on note issues. Comm & Fin Chr 150:302 Ja 13 '40

Local units schedule note offerings. Comm & Fin Chr 150:2917 My 4 '40

Low-cost housing under the USHA experiment; cost data. N. Strunk. J Land & Pub Util Econ 16:96-9 F '40

Low-rental housing program and city rebuilding. J. Crane and E. Peets. il Civil Eng 10:227-9 Ap '40

New powers urged for USHA. Arch Rec 88: 106+ Ag '40

Public housing and the USHA. il Arch Forum 72:1-12 Ja '40; Replies. 72:sup28+ Mr '40

Public housing in United States. M. H. Schoenfeld. Monthly Labor R 51:273-6 Ag '40

Reports only $46,000,000 remains available for loans to public housing agencies, approved loans total $638,301,928. Comm & Fin Chr 150:2978 My 11 '40

Reports over 44,000 low-income families will occupy homes in public housing projects by Dec. 31. Comm & Fin Chr 151:2124 O 12 '40

Sale of bonds studied by USHA. Eng N 123: 860 D 28 '39

Treasury department offers $100,000,000 of USHA 1/4% one-year notes. Comm & Fin Chr 151:2420-1 O 26 '40

Uncle Sam, real estate operator. R. S. Lusk. Nation's Business 28:78 O '40

U.S. housing project bonds. H. N. Bulow. Barron's 20:8 N 4 '40

UNITED STATES life insurance company

Agency in Cuba first of chain. East Underw 41:10 F 23 '40; Ins Field (Life ed) 69:23 F 23 '40

90th anniversary. East Underw 41:15 Mr 8 '40; Ins Field (Life ed) 69:8-9 Mr 8 '40; Nat Underw (Life ed) 44:4 Mr 8 '40; Weekly Underw 142:626-7 Mr 9 '40

UNITED STATES marine corps. See United States—Marine corps

UNITED STATES maritime service

Training the merchant marine personnel. Monthly Labor R 49:1413-16 D '39

UNITED STATES naval academy, Annapolis

Advantages of Naval Academy instruction. E. W. Thomson. bibliog J Eng Educ 30:645-54 Ap '40

UNITED STATES of Europe (proposed)

United States of Europe. A. M. Bingham. 336p bibliog(p325-6) $2.50 Duell, Sloan & Pearce, 270 Madison av, New York '40

See also

International federation

UNITED STATES pharmacopeia

Chemical manufacturers ask part in U.S.P. revision. Oil Paint & Drug Rep 138:3+ Jl 29 '40

E. Fullerton Cook heads U.S.P. committee of revision. Oil Paint & Drug Rep 137:5+ My 20 '40

U.S.P. standards and tests. J. Rosin. Oil Paint & Drug Rep 137:3+ My 27 '40

UNITED STATES playing card company

Moderate-priced newcomer to the New York stock exchange; thumbnail appraisal. Mag of Wall St 65:754 Mr 23 '40

UNITED STATES plywood corporation

Stock offered. Comm & Fin Chr 151:1587 S 14 '40

To file common stock issue. Comm & Fin Chr 151:1158-9 Ag 24 '40

UNITED STATES realty and improvement company

Investor protection in reorganization J. A. Panuch. Harvard Business R 19 no 1:30-2 [S] '40

UNITED STATES rubber company

Acquisition of Fisk rubber corp. Comm & Fin Chr 150:704 Ja 27 '40

Annual report. Comm & Fin Chr 150:1008, 1148 F 10-17 '40

Another look. Mag of Wall St 66:680+ S 21 '40

Net rises to $10,218,849. Rubber Age 46:308 F '40

Sale of company to U.S. Rubber is approved by Fisk stockholders. Rubber Age 46:243 Ja '40

Semi-annual report. Comm & Fin Chr 151: 715-16 Ag 3 '40

Statistics of income, capital, stock earnings, etc. 1929-39. Annalist 55:365 Mr 7 '40

U.S. rubber company absorbs Fisk assets. Rubber Age 46:306 F '40

U.S. rubber company in 1940. Annalist 56: 469 O 10 '40

U.S. Rubber holds its gains. W. Beecher. il Mag of Wall St 66:38-40+ Ap 20 '40

UNITED STATES rubber company—*Continued*
U.S. Rubber negotiates purchase of Fisk. India Rubber W 101:54-5 Ja '40

Libraries
Digested information; library, Development department, United States rubber company. D. E. Cable. il Special Lib 31:53-5 F '40

UNITED STATES savings and loan league
Home savings clubs; thrift plan. Ptr Ink 191:99 My 31 '40

UNITED STATES smelting, refining and mining company
New deal beneficiary. J. J. Faggiano. Barron's 20:13 S 9 '40

UNITED STATES steel corporation
Annual report. Comm & Fin Chr 150:2119, 2120-3 Mr 30 '40
Big steel profits. Business Week p42 Ag 3 '40
Boys, you take it from here, said Myron Taylor to Stettinius, Fairless, and Voorhees. pors Fortune 21:64-7+ Mr '40
Brass tacks for the investor; brief analysis. Barron's 19:13 N 27 '39
How U.S. Steel adjusts pensions to federal security benefits. Steel 106:17+ Ja 22 '40
Meet Mr Olds. A. St John. Barron's 20:9 Jl 29 '40
Monthly shipments of steel products, tons, 1931-1939; tabulation. Iron Age 145:164 Ja 4 '40
Quarterly earnings report. Comm & Fin Chr 151:716 Ag 3 '40
Quarterly earnings report. Comm & Fin Chr 151:2666-7 N 2 '40
Registers with SEC. Comm & Fin Chr 150: 2750 Ap 27 '40
$75,000,000 debentures offered. Comm & Fin Chr 150:3221-2 My 18 '40
Statistics of income, capital, stock earnings, etc. 1929-39. Annalist 56:181 Ag 8 '40
U.S. Steel adopts pension plan for $3,000 plus group. Iron Age 145:70 My 23 '40
United States steel corporation T.N.E.C. papers 3v 411p; 191p; 101p U.S. steel corp, 71 Broadway, New York '40
United States Steel's return on investment inadequate; annual report to stockholders and employes. E. R. Stettinius, jr. Steel 106:15+ Ap 1 '40
Wages, taxes take increasing part of sales dollar; income and disbursement since 1902. Steel 106:21-2 Ap 8 '40

UNITED textile workers of America
Union signs up Field; merchandising firm and textile workers reach agreement on five southern mills. Business Week p16 N 25 '39

UNITED typothetae of America
Annual convention. 53d, New York. Inland Ptr 104:31-5 N '39

UNITS
Conversion of units and dimensions. C. J. Posey and J. W. Howe. Civil Eng 10:528-9 Ag '40
English engineering units and their dimensions. E. W. Comings. bibliog Ind & Eng Chem 32:984-7 Jl '40
System of units for nuclear and cosmic-ray phenomena. B. Rossi. Phys R 57.660 Ap 1 '40

See also
Electric units
Weights and measures

UNIVERSAL atlas cement company
Fifty years of progress by Universal Atlas. il Concrete (mill sec) 47:276 D '39

UNIVERSE

See also
Astronomy
Milky way

UNIVERSITIES. See Colleges and universities

UNJUST enrichment
Cases on restitution; selected from decisions of English and American courts. E. S. Thurston, ed. 964p $6 West '40
Doctrine of unjustified enrichment in the law of the province of Quebec. G. S. Challies. 139p bibliog(p119-22) $2.75 Carswell co. '40

UNSATURATED compounds
Peroxide effect in the addition of reagents to unsaturated compounds and in rearrangement reactions. F. R. Mayo and C. Walling. Chem R 27:351-412 bibliog(171 references, p408-12) O '40

See also
Double bonds
Hydrocarbons
Hydrogenation

UNSHRINKABLE wool. See Wool, Unshrinkable

UNTERMYER, Samuel, 1858-1940
Sketch. Comm & Fin Chr 150:1871 Mr 23 '40

UNWIN, Sir Raymond, 1863-1940
Sketch. Arch Rec 88:14 Ag '40

UPHOLSTERY
Cleaning formula for upholstery. Nat Pet N 32:52 Je 26 '40
Dyeing pile fabrics. J. C. Kopasz. il Textile World 90:68-9 Ja '40
Sandpaper to textiles; electrostatic process used in fabric manufacture. il diag Textile World 90:56 Ap '40
Seats of tomorrow, today! extruded vinylidene chloride plastic woven into seat covering material for subway cars. W. C. Goggin. il Mod Plastics 18:36-9 N '40

See also
Automobiles—Upholstery
Cushions, Rubber

UPHOLSTERY, Rubber
New subway seat developed by Firestone; combines Airtex (latex foam rubber) with plastic woven fabric, known as Saran. India Rubber W 102:47 S '40

URANIN
Fluorescence size test, an improved method and a new instrument for measuring the water resistance of paper. J. A. Van den Akker and others. il diags Paper Tr J 109: 35-42 N 23 '39

URANINITE
Extraction of radium from Canadian pitchblende. A. Kuebel. flow sheet il J Chem Educ 17:417-21 S '40

URANIUM
Another step toward atomic power. K. H. Kingdon. Gen Elec R 43:229 Je '40
Atomic energy; chain reaction in uranium fission; abstract. R. D. Potter. Science 91: sup5 F 9 '40
Atomic energy starts new radio station; WBZ. il diags Power Pl Eng 44:103 O '40
Atomic power. R. D. Potter. Science 91:sup 8+ My 17 '40
Bombardment of uranium with fast and slow neutrons. L. S. Foster. J Chem Educ 17: 448-9 S '40
Cloud-chamber studies of fission fragment tracks. K. J. Brostrøm, J. K. Bøggild and T. Lauritsen. il Phys R 58:651-3 O 1 '40
Concentration of uranium. Science 91:sup10 My 17 '40
Distribution in energy of the fragments from uranium fission. M. H. Kanner and H. H. Barschall. bibliog il diags Phys R 57:372-8 Mr 1 '40
Don't worry, it can't happen; no danger in uranium fission. J. Harrington. diag Sci Am 162:268 My '40
Energy from split uranium atom. Science 92: sup8 Ag 2 '40
Facts about atomic power; still a matter for the future. il Electronics 13:12-13+ Jl '40
Fission of uranium as a source of atomic power; abstract. E. Fermi. Science 91: sup12+ Mr 1 '40
Fission products of uranium by fast neutrons. Y. Nishina and others. Phys R 58: 660-1 O 1 '40
Further experiments on fission of separated uranium isotopes. A. O. Nier and others. Phys R 57:748 Ap 15 '40
Heat of fission of uranium. M. C. Henderson. bibliog diag Phys R 58:774-80 N 1 '40
Induced β-activity of uranium by fast neutrons. Y. Nishina and others. Phys R 57: 1182 Je 15 '40

URANIUM—*Continued*
Is atomic energy nearer? R. H. Copperud. Sci Am 163:16 Jl '40
Neutron capture by uranium (238). E. T. Booth and others. Phys R 58:475-6 S 1 '40
Nuclear disintegrations. E. Fermi. Mech Eng 62:101-2 F '40; Same. Elec Eng 59:57-8 F '40
Nuclear fission. K. K. Darrow. bibliog il Bell System Tech J 19:267-89 Ap '40
Nuclear fission. K. K. Darrow. Science 91: 514-16 My 31 '40
Nuclear fission of separated uranium isotopes. A. O. Nier and others. Phys R 57:546 Mr 15 '40
Oil industry not threatened by vast atomic energy. Nat Pet N 32:54 Ag 14 '40
Passage of uranium fission fragments through matter. W. E. Lamb, jr. bibliog Phys R 58:696-702 O 15 '40
Photo-fission of uranium and thorium. R. O. Haxby and others. Phys R 58:92 Jl 1 '40
Preparation of thin films of uranium and thorium by cathode sputtering. C. C. Van Voorhis. R Sci Instr 11:77 F '40
Products of the uranium fission; radioactive isotopes of iodine and xenon. R. W. Dodson and R. D. Fowler. bibliog Phys R 57: 966-71 Je 1 '40
Radioactive barium and strontium from photo-fission of uranium. A. Langer and W. E. Stephens. Phys R 58:759 O 15 '40
Radioactive products from gases produced in uranium fission. G. N. Glasoe and J. Steigman. bibliog il Phys R 58:1-6 Jl 1 '40
Radioactive zirconium and columbium from uranium fission. A. V. Grosse and E. T. Booth. Phys R 57:664-5 Ap 1 '40
Rare metals and minerals in 1939; splitting of uranium atom. Z. Jeffries. Min & Met 21:12 Ja '40
Secondary neutrons from uranium. L. A. Turner. Phys R 57:334 F 15 '40
Seven-day uranium activity. E. McMillan. Phys R 58:178 Jl 15 '40
U-235 in reviews and previews. Min & Met 21:298-9 Je '40
Uranium. L. Sanderson. Can Min J 60:816-18 D '39
Uranium and its isotope, U 235. W. M. Minto. Metals & Alloys 12:54 Jl '40
Uranium fission; abstract. L. Meitner. Science 91:sup8+ Ap 26 '40
Uranium; the fuel of Utopia. Pub Util 26: 690-1 N 7 '40
Uranium 235, power fuel of the future? P. W. Swain. diags Power 84:412-15 Jl '40
Utilization of uranium energy to turn on the new 50,000-watt transmitter of radio station WBZ. diags Mech Eng 62:741-2 O '40
Velocity-range relation for fission fragments. N. Bohr and others. Phys R 58:839-40 N 1 '40

See also
Protoactinium

Analysis

New applications of the silver reductor; determination of uranium and copper. N. Birnbaum and S. M. Edmonds. bibliog Ind & Eng Chem Anal ed 12:155-7 Mr 15 '40

URANYL acetate
Composition of lithium and potassium salts precipitated by uranyl acetate reagents for sodium. E. R. Caley and W. O. Baker. bibliog Ind & Eng Chem Anal ed 11:604-7 N 15 '39

URANYL nitrate hexahydrate
Entropies of large ions; the heat capacity, entropy and heat of solution of potassium chloroplatinate, tetramethylammonium iodide and uranyl nitrate hexahydrate. L. V. Coulter, K. S. Pitzer and W. M. Latimer. bibliog Am Chem Soc J 62:2845-51 O '40

URANYL zinc sodium acetate
Determination of sodium in biological fluids. M. C. Darnell, jr. and B. S. Walker. bibliog Ind & Eng Chem Anal ed 12:242-4 Ap 15 '40

URBAIN, Georges, 1872-1938
Georges Urbain. G. Champetier and C. H. Boatner. bibliog pors J Chem Educ 17:103-9 Mr '40
Georges Urbain. A. S. Russell. Chem & Ind 59:343-4 My 18 '40

URBAN land institute
To undertake study of factors affecting losses or growth of downtown areas in 12 or more cities. Comm & Fin Chr 151:1368 S 7 '40

URBANA, Illinois

Streets

Railroad right-of-way transformed into concrete street. M. H. Kinch. il Pub Works 71:38 Je '40

URBANISM. See Cities and towns

UREA
Chemical examination of urea coating resins. J. J. Levenson, jr. bibliog diags Ind & Eng Chem Anal ed 12:332-7 Je 15 '40
Critical increment of ionic reactions; the influence of dielectric constant and ionic strength. L. Rampino and W. J. Svirbely. Am Chem Soc J 61:3534-7 D '39
Critical increment of ionic reactions; the influence of dielectric constant and ionic strength. W. J. Svirbely and J. Lander. Am Chem Soc J 61:3538-42 D '39
Heats of dilution, heat capacities, and activities of urea in aqueous solutions from the freezing points to 40°. F. T. Gucker, jr. and H. B. Pickard. bibliog Am Chem Soc J 62:1464-72 Je '40
Heats of solution, heats of formation, specific heats and equilibrium diagrams of certain molecular compounds. A. N. Campbell and A. J. R. Campbell. Am Chem Soc J 62:291-7 F '40
Increasing use of urea in textile manufacturing. K. Wardle. Textile Col 62:629-30 S '40
Mechanism of the action of urea in the healing of chronic wounds. C. Gurchot and E. L. McCawley. Univ of Calif Pub in Pharmacology v 1, no 24:301-11 bibliog(p311) '40 (pa 25c)
Plastics progress during 1939; urea resins; with list of patents. M. H. Bigelow. bibliog Mod Plastics 17:56, 58 Ja '40
Renal mechanisms controlling composition of the body fluids. D. D. Van Slyke. diag Chem R 26:105-27 bibliog(p126-7) F '40
Thermal data; the heats of combustion of urea and guanidine carbonate and their standard free energies of formation. H. M. Huffman. Am Chem Soc J 62:1009-11 My '40
Urea-formaldehyde film-forming compositions; enamel formulation, properties, and durability. T. S. Hodgins, A. G. Hovey and P. J. Ryan. bibliog il Ind & Eng Chem 32:334-45 Mr '40
Urea resin finishes; their formation and characteristics. C. A. Knauss. Can Chem & Process Ind 24:9-10 Ja '40

Manufacture

La fabrication synthétique de l'urée en Italie. C. Berthelot. il diag Génie Civil 116:200-2 Mr 23 '40

UREASE
Quantum yield as a function of wave length for the inactivation of urease. E. W. Landen. Am Chem Soc J 62:2465-8 S '40
Renal mechanisms controlling composition of the body fluids. D. D. Van Slyke. diag Chem R 26:105-27 bibliog(p126-7) F '40

UREIDES
Ring closure of acylic ureides resulting from the elimination of alcohol; a study of the esters of beta-phenylalanine-N-acetic acid and related compounds. D. A. Hahn, M. J. McLean and M. M. Endicott. bibliog Am Chem Soc J 62:1087-91 My '40

URETHANS
Crystalline phenylurethans (carbanilates) of sugar glycosides. M. L. Wolfrom and D. E. Pletcher. Am Chem Soc J 62:1151-3 My '40
Identification of alcohols by means of the optical properties of the esters of carbanilic acid. B. T. Dewey and N. F. Witt. Ind & Eng Chem Anal ed 12:459-60 Ag 15 '40
Solid derivatives of monoalkyl ethers of ethylene glycol and diethylene glycol. J. F. Manning and J. P. Mason. Am Chem Soc J 62:3136-9 N '40

URIC acid
Synthesis of some new pyrimidines and uric acids from cystamine. E. J. Mills, jr. and M. T. Bogert. bibliog Am Chem Soc J 62: 1173-80 My '40

URIDINE
Constitution of yeast ribonucleic acid; syntheses of uridylic and guanylic acids, uridine-5-phosphate and guanosine-5-phosphate. J. M. Gulland and G. I. Hobday. Chem Soc J p746-52 Je '40

URIDYLIC acid
Constitution of yeast ribonucleic acid; guanine-uridylic acid. J. M. Gulland. bibliog Chem & Ind 59:321-4 My 11 '40
Constitution of yeast ribonucleic acid; syntheses of uridylic and guanylic acids, uridine-5-phosphate and guanosine-5-phosphate. J. M. Gulland and G. I. Hobday Chem Soc J p746-52 Je '40
Structure of yeast ribonucleic acid guanine-uridylic acid. R. S. Tipson and P. A. Levene. Chem & Ind 58:1010 N 18 '39

URINARY organs
Diseases
Modern urology for nurses. S. M. Dwyer and G. W. Fish. 290p $3.25 Lea & Febiger, Philadelphia '40

URINE
Control of experimental alcaptonuria by means of vitamin C. R. R. Sealock and H. E. Silberstein. Science 90:517 D 1 '39
Determination of V factor in the urine and tissues of normal dogs and of dogs with blacktongue by the use of hemophilus parainfluenzae. M. Pitman and H. F. Fraser. bibliog Pub Health Rep 55:915-25 My 24 '40
Fraction of human urine which causes fetus resorption in rats and mice. J. O. Ely. Franklin Inst J 230:519-20 O '40
Origin of urogastrone. C. U. Culmer and others. bibliog Science 91:147-8 F 9 '40
Sterols; sterols from sow pregnancy urine. R. E. Marker and E. Rohrmann. bibliog Am Chem Soc J 61:3476-7 D '39
Urinary excretion of free sulfapyridine. J. V. Scudi. Science 91:486 My 17 '40
Analysis
Bacterial assay of riboflavin in the urine and tissues of normal and depleted dogs and rats. H. F. Fraser, N. H. Topping and H. Isbell. bibliog Pub Health Rep 55:280-9 F 16 '40
Colorimetric determination of lead chromate by diphenylcarbazide; application of a new method to analysis of lead in blood, tissues, and excreta. T. V. Letonoff and J. G. Reinhold. bibliog Ind & Eng Chem Anal ed 12:280-4 My 15 '40
Correlation coefficient between basophilic aggregation test and lead in urine. S. F. Meek, G. R. Collins and G. C. Harrold. bibliog J Ind Hygiene 22:401-7 N '40
Determination of carbon disulfide in blood and urine. A. W. Hunter. bibliog J Ind Hygiene 22:231-4 Je '40
Determination of sodium in biological fluids. M. C. Darnell, jr. and B. S. Walker. bibliog Ind & Eng Chem Anal ed 12:242-4 Ap 15 '40
Microtitration of selenium as applied to abnormal amounts of selenium in urine. G. Wernimont and F. J. Hopkinson. bibliog il diag Ind & Eng Chem Anal ed 12:308-10 My 15 '40
Urine examination and clinical interpretation. C. E. Dukes. 403p $8 Oxford '39

UROGASTRONE
Origin of urogastrone. C. U. Culmer and others. bibliog Science 91:147-8 F 9 '40

URONIC acids
Determination of uronic acids in cellulosic materials; based on estimation of amount of carbon dioxide evolved. R. L. Whistler, A. R. Martin and M. Harris. bibliog diag J Research Nat Bur Stand 24:13-23 Ja '40; Same. Am Dyestuff Rep 29:1-6 Ja 8 '40
Pectic substance in cotton and its relation to the properties of the fiber. R. L. Whistler, A. R. Martin and M. Harris. bibliog Am Dyestuff Rep 29:244, 253-8 My 13 '40; Same. J Research Nat Bur Stand 24:555-65 My '40
Studies on the detoxication mechanism; the ability of the apple or its constituents to counteract the toxic effects of lead and arsenic. I. A. Manville and others. bibliog J Ind Hygiene 22:36-47 Ja '40

URUGUAY
See also
Taxation—Uruguay
Commerce
River Plate markets. Engineering 150:33-5 Jl 12 '40
Uruguayan foreign trade in 1939; comparisons with 1937 and 1938. Comm Rep p232-3 Mr 9 '40
Economic conditions
Economic conditions; exchange and finance; tariffs and trade controls. Published in Foreign commerce weekly

USE and occupancy insurance. See Insurance, Use and occupancy

USED cars. See Automobile industry and trade —Used cars

USED machinery. See Machinery, Used

USNIC acid
Usnic acid; analogues of usnolic acid. R. T. Foster, A. Robertson and T. V. Healy. Chem Soc J p1594-1601 O '39

USNOLIC acid
Usnic acid; analogues of usnolic acid. R. T. Foster, A. Robertson and T. V. Healy. Chem Soc J p1594-1601 O '39

USURY
Loan sharks and their victims. W. T. Foster. 31p bibliog(p30-1) pa 10c Public affairs committee, 30 Rockefeller plaza, New York '40

USURY laws
Loan sharks and their victims. W. T. Foster. 31p bibliog(p30-1) pa 10c Public affairs committee, New York '40
Money at 1,131 per cent; practices of illegal money lenders. W. T. Foster. Banking 32: 84 F '40
See also
Loans, Small—Laws and regulations

UTAH
Spirit leveling in Utah, 1897-1938. J. G. Staack. pl flow map U S Geol S Bul 912:1-222 '40
Triangulation in Utah, 1871-1934. J. G. Staack. maps U S Geol S Bul 913:1-170, pl 1 '40
See also
Geology—Utah
Mines and mineral resources—Utah
Paleontology—Utah
Wages—Utah

UTAH power and light company
Financial and depreciation history. L. W. Thatcher. J Land & Pub Util Econ 15:448-55; 16:89-95 N '39-F '40

UTAH university
Bibliography
Scientific or professional books, monographs, and articles in professional magazines by faculty members of the University of Utah (published from January 1, 1932 to June 30, 1939). Univ of Utah Bul v 30 no 10:1-34 '40

UTILITIES, Public. See Public utilities

V

VACANT lots
Diagnosis and suggested treatment of an urban community's land problem; Flint, Mich. and vacant lot problem. E. N. Bacon. maps J Land & Pub Util Econ 16:72-88 F '40

VACATIONS
Company vacation plans, 1940. 11p Nat. ind. conf. bd. '40

VACATIONS—*Continued*
Florida vacation for $4; Avondale mills offers its people eight-day trips to Camp Helen. J. C. Norman. il Textile World 90:123 S '40
Keeping fit for business. A. D. Tuttle. il Am Business 10:11-13+ Ag '40
Paid vacations for workmen and the Cuban wage-hour law. D. D. Homer. Min & Met 21:470-1 O '40
Paid vacations in Latin America. E. D. Owen. Monthly Labor R 50:1128-39 My '40
Trends in company vacation policy. Management R 29:173-4 My '40
Trends in company vacation policy. C. E. Payne. 19p Nat. ind. conf. bd. '40
Two days to two weeks; a vacation guide. F. E. Tyarks, ed. 95p pa 50c Harian publications, 270 Lafayette st, New York '40
Two weeks with pay. C. L. Bryant. il Safety Eng 79:15-16 Je '40
Vacation for rest and new ideas! R. McDaniel. Inland Ptr 105:62 Ag '40
Vacation guide. R. S. Benjamin. 329p $2.50 McGraw-Hill '40
Vacation policies for executives. Management R 29:71-2 F '40
Vacation policies in the textile industry. Management R 28:447-8 D '39
Vacations with pay do pay dividends; Upson company. C. A. Upson. il Paper Ind 22:465 Ag '40
Vacations with pay in Finland. Monthly Labor R 51:38 Jl '40
Vacations with pay in France in 1940. Monthly Labor R 51:38-40 Jl '40
Vacations with pay in Los Angeles county. V. V. Veysey. 27p bibliog(p27) Calif. inst. of technology, Industrial relations section, Pasadena '40; Summary. Monthly Labor R 51:647-52 S '40

VACCINATION
Vaccination and compulsory education: Pennsylvania superior court. Pub Health Rep 55:1505-6 Ag 16 '40

VACCINES
Complex vaccine effective against different strains of influenza virus. F. L. Horsfall, jr. and E. H. Lennette. Science 91:492-4 My 24 '40
Epidemic and endemic typhus: protective value for guinea pigs of vaccines prepared from infected tissues of the developing chick embryo. H. R. Cox and E. J. Bell. Pub Health Rep 55:110-15 Ja 19 '40
Factors influencing the efficacy of phenolized rabies vaccines. K. Habel. bibliog Pub Health Rep 55:1619-31 S 6 '40
Influenza vaccine. W. Davis. Science 92:sup6 Ag 16 '40
Mass production of vaccine against typhus fever of the European type. H. Zinsser, H. Plotz and J. F. Enders. bibliog Science 91:51-2 Ja 12 '40
New vaccine for measles. J. Stafford. Science 92:sup10 S 20 '40
Vaccine for protection against disease caused by ticks. Science 90:sup6-7 D 29 '39

Testing

Evaluation of a mouse test for the standardization of the immunizing power of antirabies vaccines. K. Habel. bibliog Pub Health Rep 55:1473-87 Ag 16 '40

VACUUM
Admission of pure gases to vacuum systems. E. L. Jossem. bibliog diag R Sci Instr 11: 164-6 My '40
American apparatus, instruments, and instrumentation; high vacuum and measurement and control of gases. R. H. Müller. il Ind & Eng Chem Anal ed 12:581-4 O 15 '40
Drying out flooded electrical machinery; vacuum tank method. il diag Engineer 169:79-80 Ja 26 '40
Electrodes in metal vacuum systems. A. Hemmendinger. diag R Sci Instr 10:389 D '39
Geared magnets solve a vacuum problem; device for use in coating aluminum disks, used in photoelectric cells, with vaporized selenium. il Gen Elec R 43:387 S '40; Steel 107:49 S 9 '40
Investigation into the gettering powers of various metals for the gases hydrogen, oxygen, nitrogen, carbon dioxide and air. L. F. Ehrke and C. M. Slack. diag J Ap Phys 11:129-37 F '40
Lubrication in vacuum by vaporized thin metallic films. Z. J. Atlee, J. T. Wilson and J. C. Filmer. il diag J Ap Phys 11:611-15 S '40
Method for opening a tube in a vacuum. J. J. Brady. diag R Sci Instr 11:181 My '40
More about vacuum leak testing. E. J. Lawton. R Sci Instr 11:134 Ap '40
Power transformers dried in field by vacuum. J. C. Gaylord. il diags Elec W 113:896-7+ Mr 23 '40
Some uses of vacuum in micrology. R. T. Hance and R. L. Chermock. diag Science 91:343-4 Ap 5 '40
Vacuum leak testing. J. H. Manley, E. J. Haworth and E. A. Luebke. R Sci Instr 10:389-90 D '39
Vacuum stirrer for the laboratory. J. H. Read. diag Soc Chem Ind J 59:218 S '40

See also
Electric discharges
Manometers

VACUUM cleaners
Air gets the dirt; discussion of vacuum cleaning applied to bus interiors. Bus Transportation 19:96-7, 139 F-Mr '40
Davidson portable industrial vacuum cleaner. il Engineer 169:542-3 Je 14 '40
Vacuum cleaner for septic tanks. A. J. Lazenby. il diag Eng N 124:801-2 Je 6 '40
Vacuum cleaning equipment for rubber factories. Rubber Age 46:363-4 Mr '40
Vacuum extractor for light machine swarf. il Engineering 148:511 N 3 '39
Why the heck blow that dust around; vacuum-cleaning for power plants. B. A. Briggs. il Power 83:767 D '39

Design

Reduced height, quieter operation through redesign; Hoover cleaner. il diag Product Eng 11:297-9 Jl '40

VACUUM containers
Development of the vacuum flask. W. Bragg. Engineering 149:42-3 Ja 12 '40

VACUUM crystallizers. See Crystallizers

VACUUM gages
Automatic Pirani vacuum gauge. E. J. Scott. diag R Sci Instr 10:349-50 N '39
Vacuum gage. W. A. Roberts. il diags Bus Transportation 19:20-3, 86-9 Ja-F '40

See also
Manometers

VACUUM presses
Vakuumpressen. G. Gerth and E. Schoedel. il diags V D I 83:1254-7 D 2 '39

VACUUM pumps
Baffles for oil diffusion pumps. R. S. Morse. bibliog diags R Sci Instr 11:277-81 S '40
Comparative study of water aspirators. E. P. Little and S. E. Pond. R Sci Instr 11: 285-6 S '40
Steam condensers. A. D. Karr. il diags Comp Air M 45:6149-54 My '40
Trends in design of fractionating pumps. K. C. D. Hickman. bibliog il diags J Ap Phys 11:302-13 My '40
Vacuum service in the chemical industry. A. E. Williams. il diags Engineering 148: 607-9, 612 D 1 '39

VACUUM tube amplifiers. See Amplifiers, Vacuum tube

VACUUM tube voltmeters. See Voltmeters, Vacuum tube

VACUUM tubes
Anode effect as a function of temperature. P. L. Copeland. diags Phys R 57:625-34 Ap 1 '40
Current division in plane-electrode triodes. K. Spangenberg. bibliog Inst Radio Eng Proc 28:226-36 My '40
D-157654, a megacycle repeater. il Electronics 13:30-1 Ap '40
Decade of Electronics. Electronics 13:18-24 Ap '40

VACUUM tubes—*Continued*
Demountable high-vacuum tubes. il Inst Radio Eng Proc 28:sup2+ Ap '40
Design and construction of experimental vacuum tubes in engineering school laboratories. T. S. Gray. bibliog J Eng Educ 30: 372-8; Discussion. 378-81 D '39
Determination of the average life of vacuum tubes. D. K. Gannett. Electronics 13:72-3 S '40
Dielectric losses in radio circuits. A. G. Bogle. Wireless Eng 17:198-202 My '40
Diode operating conditions. W. P. N. Court. diags Wireless Eng 16:548-55 N '39; Discussion. K. R. Sturley. 17:19-20 Ja '40
Distortion in valves with resistive loads; graphical methods for its determination. A. Bloch. Wireless Eng 16:592-6 D '39
Electron transit time; effect in cathode-ray tubes and diodes. W. E. Benham. Wireless Eng 16:598-602 D '39
Heater-cathode leakage as a source of hum. Electronics 13:48-50 F '40
Index of all the tubes listed, Nov. 1939-March 1940. Electronics 13:58+ Mr '40
Institute of radio engineers session on large vacuum tubes. Electronics 13:76 Jl '40
Neutralising screened grid valves. V. O. Stokes. diags Wireless Eng 17:354-5 Ag '40
New type of vacuum tube for amplifying and repeating weak long-distance telephone messages. Science 91:sup14 Ap 5 '40
New vacuum tube scaling circuits of arbitrary integral or fractional scaling ratio. H. Lifschutz. Phys R 57:243-4 F 1 '40
Obtaining long tube life. Electronics 13.63-5 Ag '40
Operation of electron tubes at high frequencies H. Rothe. bibliog diag Inst Radio Eng Proc 28:325-31 Jl '40
Parasitic electronic oscillations and coupling frequencies in a power tube. R. King. bibliog diag J Ap Phys 11:615-20 S '40
Progress in engineering knowledge during 1939; electron emission. P. L. Alger. bibliog Gen Elec R 43:63-4 F '40
Radio physics course. A. A. Ghirardi. Radio N 23:52 My; 60 Je; 24:56 Jl; 45 Ag; 48 S; 44 O; 46 N '40
Space potential plotting in thermionic vacuum tubes. D. E. Kenyon. R Sci Instr 11:308-10 O '40
Theory of the thermionic diode. E. L. E. Wheatcroft. Inst E E J 86:473-84 My '40
Transconductance; question as to the proper algebraic sign. H. A. Wheeler; B. J. Thompson. Inst Radio Eng Proc 28:385-6 Ag '40
Tube registry; tube types registered by R.M.A. data bureau during October 1939. diags Electronics 12:51-7 D '39 [cont monthly]
Tube situation and what it means to the serviceman. S. C. Milbourne. il diags Radio N 24:36-7+ Jl '40
20-kw tetrode for ultrahigh-frequency transmitters. A. V. Haeff and others. il diags Elec Eng 59:107 Mr '40
Volume expansion with a triode: 6K7 tube. C. G. McProud. diags Electronics 13:17-18 Ag '40

See also

Amplifiers, Vacuum tube
Cathode ray tubes
Electric rectifiers
Klystron
Photoelectric cells
Radio receiving apparatus
Thyratron
X ray tubes

Bibliography

Radio progress during 1939; electronics. Inst Radio Eng Proc 28:103-7 Mr '40

Cold cathode tubes

Starting characteristics of a trigger tube with a radioactive cathode; Westinghouse WL-759 designed to operate small relays. W. B. Nottingham. diags R Sci Instr 11:2-6 Ja '40

Control uses

Cathode-ray alphabet machine. A. W. Friend. il diag Electronics 13:40 Je '40
Electromagnetic feeler-gage control; how die-sinking operations may be controlled automatically. il diags Mach 47:116-17 S '40
Electronic control for resistance welding. E. H. Vedder. il Elec W 113:766 Mr 9 '40
Electronic relay for heat control. A. C. Hall and L. J. Heidt. plan Science 92:133-4, 612 Ag 9, D 27 '40
Electronic switch for fluorescent lamps. R. F. Hays. il diag Electronics 13:14-15 My '40
Electronic time control for color photography, enlarging, and other light exposures. E. A. Milligan. diag Electronics 13:50+ Ja '40
Feedback welding timer; for radio tube manufacture. J. Kurtz. il diag Electronics 13:47 Ap '40
Five-ampere electronic d-c regulator for Cinema integraph, developed at the Massachusetts institute of technology. J. N. Coombs and P. T. Nims. diag Electronics 13:40+ Ja '40
New development in thermionic relays. H. M. Waddle and W. Saeman. bibliog diag Ind & Eng Chem Anal ed 12:225 Ap 15 '40
Photo-electric and electronic controls in the machinery field. B. W. Steverman. il diags Mach 47:140-4 O '40
Relays for electronic circuits; electromechanical relays reviewed and classified. il Electronics 13:13-16+ Ag '40
Sensitive automatic pressure control device for high vacuum fractional distillation; Pirani tube and Wheatstone bridge. R. A. Smith. diags R Sci Instr 11:120-2 Ap '40
Synchronizing transients and synchronizers for large machines. R. D. Evans, F. H. Gulliksen and C. B. Myhre. diags Electronics 13:71-5 Mr '40
Tuning fork stabilization. E. Norrman. il diag Electronics 13:15-17 Ja '40

Cooling

Air cooling applied to external-anode tubes. E. M. Ostlund. il diags Electronics 13:36-9 Je '40

Generating action

Beam tubes as ultra-high frequency generators. R. King. diags Electronics 13:68-9 Ja '40
Experimental investigation of resonance and electronic oscillations in magnetrons. J. S. McPetrie and L. H. Ford. bibliog Inst E E J 86:283-92 Mr '40
Inexpensive vacuum tube oscillator for student use in measuring the conductance of electrolytes. D. E. Hull. diag J Chem Educ 17:329 Jl '40
Simple pulse generating circuits. S. P. Sashoff and W. K. Roberts. diags Electronics 13: 40-1+ S '40

History

History of the radio tube, 1900-1916. L. de Forest. il Radio N 24:8+ D '40

Industrial applications

American apparatus, instruments, and instrumentation; electrical and electronic instruments. R. H. Müller. il Ind & Eng Chem Anal ed 12:584-91 O 15 '40
British patents (cont). Electronics 13:84 Ja; 93-6 Mr '40
Decade of progress in the use of electron tubes. W. C. White. il Power Pl Eng 44:52-5 N '40
Electronic circuit spots stray impulses. diag Elec W 113:1918 Je 15 '40
Electronic method for determining distribution curves. L. A. Ware. diags Electronics 13:36-7 O '40
Electronic relay tester. S. Bagno. diag Electronics 13:44+ S '40
Indicating system for high voltage power packs; electrostatic precipitation systems. R. L. Hildebrand. il diag Electronics 13:38+ O '40
Locating buried cables and pipes. H. C. Marcroft. il diags Instruments 13:132-3 My '40
Merrill laboratories design electronic wheel balancer. il Automotive Ind 82:416 My 1 '40
Network coupling by means of static electronic frequency changers. O. K. Marti. bibliog diags Elec Eng 59:Trans 495-502 S '40

VACUUM tubes—Industrial applications—*Cont.*
New tubes simplify carrier power supply. R. M. Smith. diags Elec W 113:459 F 10 '40
Operation of a self-excited inverter. F. N. Tompkins. diags Electronics 13:36-9+ S '40
Patents. Electronics 13:92-3 Mr '40
Power oscillators; circuit for surface hardening of steel. G. Babat and M. Losinsky. il diags Wireless Eng 17:16-18 Ja '40
Radio tube solves oscillograph problem. diag Elec W 113:1552 My 18 '40
Tubes at work. Published in monthly numbers of Electronics

Manufacture

Ductile zirconium and titanium; corrosion resistance; removal of gases from vacuum tubes, other properties and uses. il Steel 107:54-6 S 16 '40
Feedback welding timer; for radio tube manufacture. J. Kurtz. il diag Electronics 13:47 Ap '40
Materials for vacuum tube manufacture. A. J. Monack. bibliog il diags Ind & Eng Chem 32:1028-33 Ag '40
Radio physics course; manufacture of vacuum tubes. A. A. Ghirardi. Radio N 24:44 O; 46 N '40

Measurement uses

Chronoscope; electronic interval timer originally developed to test the velocity of rifle bullets. C. I. Bradford. il diags Electronics 13:28-30+ N '40
Electrical micrometer; abstract. R. Gunn. diag Automotive Ind 82:16 Ja 1 '40
Electromagnetic feeler-gage control; new method used in inspection measurements of small parts and in automatic control of grinding machine. diags Mach 46:119-21 Ag '40
Electrometer tube for laboratory and industrial use. L. Sutherlin and R. H. Cherry. il diags Electrochem Soc Trans 78 (preprint 26):351-60 O '40
Electronic indicator for use in making accurate measurements. R. G. Minarik. diag Mach 46:133 Mr '40
Electronic micrometer and its use in mechanical measurements. diag Electronics 13: 72 S '40
Electronic typewriting speedometer. B. Ephraim. diags Electronics 12:32+ D '39
Electronic wattmeter examines power wave. diag Elec W 113:156 Ja 13 '40
Follow-up telemetering system. diags Electronics 13:47-8+ S '40
Instrumentation in arc welding; studies in operator behavior prove valuable. R. E. Kinkead. il Steel 107:60-1+ Jl 22 '40
Measurement of earth pressure. I. F. Morrison and W. E. Cornish. diags Engineer 169:504 My 31 '40
New electrical micrometer measures. R. Gunn. Science 90:sup10 D 8 '39
New time standard. H. E. Warren. il diag Elec Eng 59:Trans 137-41; Discussion. Trans 141-2 Mr '40
Radio-frequency power measurement; using a diode rectifier and a wattmeter. P. M. Honnell. il diags Electronics 13:21-4 Ja '40
Spindle vibrometer. W. W. Egee. il Textile World 90:67-8 Je '40
Stabilized bridge circuit. H. P. Kalmus. diag Electronics 12:30-1+ D '39
Vacuum tube circuit to measure the logarithm of a direct current. R. E. Meagher and E. P. Bentley. bibliog diags R Sci Instr 10: 336-9 N '39
Vector-response indicator. B. D. Loughlin. il diags Elec Eng 59:Trans 355-7 Je '40
Vector-type impedance analyzer. S. Godet and H. R. Meahl. il diags Gen Elec R 42:548-51 D '39
Water level indicator; bridge-controlled thyratron system. L. A. Ware. il diags Electronics 13:23-5 Mr '40

See also
Voltmeters, Vacuum tube

Miniature tubes

Hearing aid tubes. il Electronics 13:66 S '40

Noise

Fluctuations in space-charge-limited currents at moderately high frequencies. B. J. Thompson, D. O. North and W. A. Harris. diags RCA R 5:106-24, 244-60 Jl-O '40 (to be cont)

Patents

British patents (cont). Electronics 13:84 Ja; 93-6 Mr '40
Patents. Electronics 13:92-3 Mr '40

Rating

Change in maximum ratings of receiver tubes. Electronics 12:48+ D '39

Standards

Tube standardization; preferred tube list Electronics 13:56 Ja '40

Testing

Full floating 1940 tube tester. R. K. Wheeler. il diags Radio N 23:14-17+ Ap '40
Input conductance; measurement in high-slope high frequency amplifier valves. F. Preisach and I. Zakarias. diags Wireless Eng 17:147-57 Ap '40
Measuring tube capacities with a signal generator. diag Electronics 13:56 Ja '40
Oscillographic method of measuring positive-grid characteristics. O. W. Livingston. diag Inst Radio Eng Proc 28:267-8 Je '40
Simple methods for checking radio frequency distortion or cross-modulation of pentode amplifier tubes. E. W. Herold. Electronics 13:82+ Ap '40

Velocity modulated tubes

Electronic-wave theory of velocity-modulation tubes. S. Ramo. diags Inst Radio Eng Proc 27:757-63 D '39
Electro-physics; review of progress, 1936-1939. N. Campbell. diags Inst E E J 86:218-19 F '40
Velocity-modulated beams; the electron density distribution. D. M. Tombs. diags Wireless Eng 17:54-60 F '40; Discussion. 17:110-11, 202-5, 262-3 Mr. My-Je '40
Wave energy and transconductance of velocity-modulated electron beams. W. C. Hahn. diags Gen Elec R 42:497-502 N '39

VALENCE
Effect of valence electrons and electron cloud distortion upon intensities in electron and X-ray scattering, applied to zinc oxide. V. A. Johnson. bibliog Phys R 57:613-21 Ap 1 '40
Nature of the chemical bond and the structure of molecules and crystals; an introduction to modern structural chemistry. L. C. Pauling. 2d ed 450p $4.50 Cornell univ. press, Ithaca, N.Y. '40
Optical activity dependent on the planar arrangement of the valencies of the 4-coordinated palladous atom. A. G. Lidstone and W. H. Mills. Chem Soc J p1754-9 N '39
Present state of valency theory. L. E. Sutton. Chem Soc J p544-53 Ap '40; Abstract. Soc Dyers & Col J 56:356-7 Ag '40
Reducibility of quadrivalent zirconium. A. W. Laubengayer and R. B. Eaton. bibliog Am Chem Soc J 62:2704-6 O '40
Valence blocks for teaching inorganic chemistry fundamentals. A. H. Bryan. diags J Chem Educ 17:286-8 Je '40
Valence relations among the metal carbonyls. A. A. Blanchard. Chem R 26:409-22 bibliog(p421-2) Je '40

See also
Double bonds

VALEROIDINE
Minor alkaloids of duboisia myoporoides; valeroidine. W. F. Martin and W. Mitchell. Chem Soc J p1155-7 Ag '40

VALLESIA glabra
Studies on Argentine plants; aspidospermine from vallesia glabra and vallesia dichotoma. V. Deulofeu and others. Chem Soc J p1051-2 Ag '40

VALLEYS
See also
Rivers

VALLEYS, Submarine. See Canyons, Submarine

VALPARAISO, Chile
Port of Valparaiso. Comm Rep p145 F 10 '40

VALUATION
Accounting research bulletin no. 5; depreciation on appreciation. J Account 69:461-7 Je '40
Mechanical handling and de-rating relief; operation of war concessions under the rating of valuation (apportionment) act. F. E. Sugden. Mech Handling 27:63-5 Mr '40
Valuation or historical cost; some recent developments. G. O. May. J Account 69:14-21 Ja '40; Same abr. Dun's R 48:17-20+ My '40
See also
Assessment
Depreciation
Electric utilities—Valuation
Insurance, Fire—Valuation of property
Inventories
Land values
Public utilities—Valuation
Real property—Valuation
Waterworks—Valuation

VALUE
See also
Money
Prices

VALVES
Ball-and-socket mechanism for operating a sleeve valve. diags Mach 46:254 D '39
Considerations in valve lubrication. G. F. Scherer. diags Chem & Met Eng 47:164-5 Mr '40
Dependable valve for chlorine service. diag Water Works & Sewerage 87:69 F '40
Design of large high-pressure steel valves. F. D. Cotterman and R. E. Falls. il Engineer 170:229-30 O 11 '40
Exhaust valve materials for internal combustion engines. S. D. Heron, O. E. Harder and M. R. Nestor. Metal Prog 37:418+, 541 Ap-My '40
Gas for traction; filling connexion for fabric gas bags. il diag Gas J (Lond) 229:80 Ja 10 '40
Gas mixing valve designed in connection with the conversion of petrol driven vehicles to gas operation. diag Engineer 169:239-40 Mr 8 '40
Hunt four-way air valve. il diag Blast F & Steel Pl 28:1014 O '40
New coating widens usage of valves; Merchrome coating. Steel 107:73 Ag 12 '40
New system of hydraulic remote operation for control valves. E. B. Ball, jr. diags Inst Mech Eng J & Proc 142:37-41 F '40
Ostlind steam valve with a spinning disc. il Ry Mech Eng 114:165 Ap '40; Marine Eng 45:69 My '40
Out-smarting trouble on motor-diaphragm valves. E. H. Hammond. il Power 84: 20-1 Ja '40
Pointers on the choice of reducing valves for supplying process steam. J. O. G. Gibbons. Chem & Met Eng 47:431 Je '40
Relieving pressure in the foul main; readily adjustable and compact valve. diags Gas J (Lond) 229:640 Mr 20 '40
Sales presentation tells two stories; Hancock 500 Brinell valve. il Ptr Ink Mo 40: 22 My '40
Selection of the most economical pipe and valve size and rate of flow in piping systems; with cost data. S. P. Johnson and F. L. Maker. diags Am Pet Inst Proc 21M(3): 7-23 My '40
Simple valve for use in laboratory apparatus; all-glass steam-vacuum still, etc. G. P. Gibson. diags Soc Chem Ind J 58:317-19 O '39
Standard bypasses for main line control valves. J. J. Harman. diag Heating-Piping 12:23 Ja '40
Steam control; spinning disk prevents valve clogging. il Sci Am 163:64 Ag '40
Valve designs for small compressors. S. R. Hirsch. il Refrig Eng 39:227-8+ Ap '40
Valves and valve seat material; data sheet. S. D. Heron, O. E. Harder and M. R. Nestor. Metal Prog 38:470 O '40
Welded valve bodies. F. Giolitti. Metal Prog 37:439 Ap '40
Wescott high-pressure pipe-line valves. Oil & Gas J 39:66 O 17 '40
See also
Automobile engines—Valves
Gas and oil engines—Valves
Locomotives—Valves and valve gear

Advertising
Ticklish job of selling to industry; Cash company boosts sales of old valve through stress put on its more modern, more expensive competing line. il Ptr Ink Mo 40:46+ F '40

Control
Hydraulic circuits; pilot-valve and mechanical control. J. C. Cotner. diags Product Eng 11:412-13 S '40
Hydraulic circuits utilizing cam-operated valves. J. C. Cotner. diags Product Eng 11: 228-9, 274-5 My-Je '40

Electric control
Dean electric control system for valves. il diags Engineering 149:560, 564 Je 7 '40
Electric control improves mixer valve operation; variations in hot blast temperature are minimized by new device. il Steel 107: 64-5 S 2 '40
Instantaneous forging control. il diag Steel 106:73-4 Ap 8 '40
Self-energized controls. W. E. Stark. diags Am Gas Assn Proc 1939:343-5
Solenoid-operated oil dilution valve. il Automotive Ind 82:468 My 15 '40

Manufacture
Barrel-type valve lifters molded in green sand; Eaton-Erb foundry. E. C. Hoenicke. il diags Foundry 68:42-5+ O '40
Lathe attachment for machining spherical seats of special valves. S. Porritt. diags Mach 46:116-17 Ag '40
Modern aircraft valves; development of the sodium-cooled valve. A. T. Colwell. bibliog il diags S A E J 46:147-65 Ap '40; Abstract. Automobile Eng 30:221-2 Jl '40
Steel valve castings. J. J. Kanter. il Iron Age 146:29-33 Jl 11 '40
Valve production by the extrusion process; Daniel Doncaster and sons. il diags Engineer 169:494 My 31 '40; Engineering 149: 600 Je 21 '40; Automobile Eng 30:166 Je '40
Welding in the manufacture of valves for high pressures and temperatures; abstract. W. F. Crawford and L. H. Carr. Metals & Alloys 11:MA83 F '40

VALVES, Hydraulic
Building up valve seats by bronze welding. G. G. Routledge and W. A. Duncan. il Am Water Works Assn J 31:2157-65 D '39
Delaware aqueduct; access to the aqueduct. il diags Eng N 124:797-800 Je 6 '40
Improvements to Wichita water supply. R. E. Lawrence. diags Am Water Works Assn J 32:1331-3 Ag '40
New system of hydraulic remote operation for control valves. E. B. Ball, jr. diags Inst Mech Eng J & Proc 142:37-41 F '40
Valves and hydrants; abstract. J. E. Hornshaw. Water Works & Sewerage 86: 440 N '39
Water-hammer control by proper valve installation. E. C. Brisbane. diags Am Water Works Assn J 31:1904-8 N '39
Water hammer studies on long pipe lines. L. E. Goit. diags map Am Water Works Assn J 31:1893-1903 N '39
Westinghouse combined governor and reducing valve. diags Ry Age 108:1134 Je 22 '40
See also
Gates, Hydraulic

VALVES, Hydraulic—*Continued*

Electric control

Streamline diffusing discharge regulator in operation at the Burrinjuck dam in New South Wales. il diags **Engineer 169:97-8 Ja 26 '40**

VALVES, Radio. See Vacuum tubes

VANADIC acid

Physicochemical studies of complex acids; vanadic acid. H. T. S. Britton and G. Welford. Chem Soc J p764-9 Je '40

VANADIUM

Characteristics of 5.0 and 7.0 per cent chromium steels with varying molybdenum and vanadium content. W. G. Hildorf, C. L. Clark and A. E. White. il Am Soc for Metals Trans 27:1090-1114; Discussion. 1114-17 D '39

Description and analysis of the second spectrum of vanadium (VII). W. F. Meggers and C. E. Moore. bibliog J Research Nat Bur Stand 25:83-132 Jl '40

Light-sensitive glass and its application for ultra-violet measurements; cerium-vanadium glasses. L. O. Upton. Glass Ind 21:109-12 Mr '40

Thermal expansion of some chromium-vanadium steels. P. Hidnert. J Research Nat Bur Stand 24:25-30 Ja '40

Vanadium in iron and steel; composite of abstracts. Metals & Alloys 11:MA316+ Je '40

Wirkung von vanadin auf den kornzerfall austenitischer chrom-nickel-stähle. G. Riedrich and G. Hoch. Stahl & Eisen 60:30-1 Ja 11 '40

Isotopes

Radioactive isotopes of vanadium. L. A. Turner. Phys R 58:679-81 O 15 '40

VANADIUM alloys

Vicalloy, a new magnetic alloy. Iron Age 146: 51 Ag 1 '40

VANADIUM-alloys steel company

Earnings, 1937-40. Comm & Fin Chr 151:1739 S 21 '40

Pioneer maker of alloyed steels. C. Longenecker. il Blast F & Steel Pl 28:599-602 Je '40

VANADIUM chloride

Electrometric studies of the precipitation of hydroxides; vanadous hydroxide; the nature of vanadous chloride and sulphate solutions. H. T. S. Britton and G. Welford. Chem Soc J p761-4 Je '40

VANADIUM compounds

Quadrivalent vanadium lakes of azo-dyes. H. D. K. Drew and F. G. Dunton. Chem Soc J p1064-70 Ag '40

VANADIUM corporation of America

Consolidated income account for calendar years 1936-39. Comm & Fin Chr 150:2276 Ap 6 '40

Short-term convertible, Vanadium 5s, 1941; company earnings record, 1929-38. Barron's 20:19 F 12 '40

Stocks favored in new market phase: thumbnail appraisal. Mag of Wall St 66:110 My 4 '40

VANADIUM hydroxide

Electrometric studies of the precipitation of hydroxides; vanadous hydroxide; the nature of vanadous chloride and sulphate solutions. H. T. S. Britton and G. Welford. Chem Soc J p761-4 Je '40

VANADIUM oxides

Electrometric studies of the precipitation of hydroxides; the amphoteric nature of vanadium tetroxide. H. T. S. Britton and G. Welford. Chem Soc J p758-61 Je '40

Glass for ultra-violet estimation; limits for cerous and vanadous oxides. Chem Age (Lond) 42:257 My 4 '40

Heteropoly-acids as catalysts for the vapor phase partial oxidation of naphthalene. M. M. Marisic. bibliog Am Chem Soc J 62:2312-17 S '40

New mechanism for the action of the vanadium pentoxide-silica-alkali pyrosulfate catalyst for the oxidation of sulfur dioxide. J. H. Frazer and W. J. Kirkpatrick. bibliog Am Chem Soc J 62:1659-60 Jl '40

Physicochemical studies of complex acids; the basic nature of vanadium pentoxide. H. T. S. Britton and G. Welford. Chem Soc J p895-9 Jl '40

Physicochemical studies of complex acids; vanadic acid. H. T. S. Britton and G. Welford. Chem Soc J p764-9 Je '40

Study of heterogeneous equilibria in aqueous solutions of the sulfates of pentavalent vanadium at 30°. O. E. Lanford and S. J. Kiehl. Am Chem Soc J 62:1660-5 Jl '40

VANADIUM steel

Influence of rate of cooling on the transformations in vanadium steels. F. Wever and A. Rose. Engineer 168:sup[Metallurgist] 87-8 D 29 '39

Vanadium in steel. J. Strauss. Metal Prog 38:389+ O '40

VANADIUM sulfates

Electrometric studies of the precipitation of hydroxides; vanadous hydroxide; the nature of vanadous chloride and sulphate solutions. H. T. S. Britton and G. Welford. Chem Soc J p761-4 Je '40

Study of heterogeneous equilibria in aqueous solutions of the sulfates of pentavalent vanadium at 30°. O. E. Lanford and S. J. Kiehl. Am Chem Soc J 62:1660-5 Jl '40

VANCOUVER, British Columbia

Port of Vancouver. il (cover) Comm Rep p401 Ap 27 '40

Vancouver's Sea Island airport. W. Hill, jr. il plan Can Eng R & B 78:19-21+ Ap '40

Bridges

Lions Gate bridge; illustration. Can Eng R & B 78:55 Mr '40

Lions Gate bridge. W. W. Cushing. il Cornell Eng 5:11-12+ D '39

Lions Gate bridge at Vancouver. il diags Engineer 168:534-7, 544 D 1 '39

Hotels

Hotel serves urban terminal; Hotel Vancouver. il plans Arch Rec 88:92-4 Jl '40

Modern design embodied in new hotel built by C.N.R. il plan Ry Age 109:150-2+ Jl 27 '40

VANCOUVER, Washington

Streets

Vancouver provides improved streets; methods of calculating assessments. V. J. Brown. il diag Roads & Sts 83:62, 64-5 S '40

VAN DE GRAAFF generator

Report on Bartol research foundation; development of the Van de Graaff generator. W. F. G. Swann. il Franklin Inst J 230:349-50 S '40

VANDERCOOK, R. O.

Young inventor. por Inland Ptr 104:39-40 Mr '40

VAN DER WAALS equation

Theory of the van der Waals adsorption of gases. S. Brunauer and others. bibliog Am Chem Soc J 62:1723-32 Jl '40

See also

Equation of state

VAN DER WAALS forces

Image and Van der Waals forces at a metallic surface. J. Bardeen. bibliog Phys R 58:727-36 O 15 '40

Van der Waals potential in helium. H. Margenau. bibliog Phys R 56:1000-8 N 15 '39

VAN DEVENTER, John Herbert, 1881-

New Iron Age official. por Ptr Ink 190:21 Ja 5 '40

Portrait. Iron Age 145:179 Ja 4 '40

VAN DUZEE, Edward Payson, 1861-1940

Sketch. F. M. MacFarland. Science 92:99 Ag 2 '40

VAN ETTEN, Nathan Bristol, 1866-

Honorary degrees conferred by New York university. Science 91:566 Je 14 '40

VANILLA
Flavoring manufacturers discuss labels, laws and research. Oil Paint & Drug Rep 138: 45-6 Jl 1 '40

Analysis
Qualitative test for ethyl vanillin in vanilla extract. H. W. Chenoweth. Ind & Eng Chem Anal ed 12:98-9 F 15 '40

VANILLIN
Lignin and wood acquire new importance; vanillin by alkaline cleavage of waste sulphite liquor. J. L. McCarthy. Pulp & Pa of Can 41:603-4 Ag '40
Marathon Mills develops new by-products. Paper Tr J 110:14 Ja 25 '40
Recent advances in the utilization of lignin in waste sulphite liquor. A. C. Hill. Pulp & Pa of Can (Convention no) 41:148-9 [F] '40
Studies on lignin and related compounds; identification of vanillin and vanilloyl methyl ketone as ethanolysis products from spruce wood. L. Brickman, W. L. Hawkins and H. Hibbert. Am Chem Soc J 62:2149-54 Ag '40

VANILLOYL methyl ketone
Studies on lignin and related compounds; identification of vanillin and vanilloyl methyl ketone as ethanolysis products from spruce wood. L. Brickman, W. L. Hawkins and H. Hibbert. Am Chem Soc J 62:2149-54 Ag '40

VAN NORMAN machine tool company
Small companies with large earnings; thumbnail appraisal. Mag of Wall St 65:494 Ja 27 '40

VAN RYE, Orie
Etcher of the electric utility industry; with 6 etchings. Edison Elec Inst Bul 8:43, 56-60 F '40

VANS. See Moving vans

VAN SWERINGEN system
See also
Chesapeake and Ohio railway

VAPOR pressure
Activity coefficient of calcium nitrate in aqueous solution at 25° from isopiestic vapor pressure measurements. R. A. Robinson. bibliog Am Chem Soc J 62:3130-1 N '40
Activity coefficients of sodium and potassium thiocyanate in aqueous solution at 25° from isopiestic vapor pressure measurements. R. A. Robinson. Am Chem Soc J 62:3131-2 N '40
Activity of the constituents in mixtures of *n*-butyl alcohol and water at 30°C. M. Randall and H. P. Weber. diag J Phys Chem 44:917-20 O '40
Chlorides of gallium. A. W. Laubengayer and F. B. Schirmer. bibliog diag Am Chem Soc J 62:1578-83 Je '40
Composition of mixed vapors in the cloud chamber. T. N. Gautier and A. E. Ruark. Phys R 57:1040-1 Je 1 '40
Correlating vapor pressure and latent heat data; a new plot D. F. Othmer. bibliog Ind & Eng Chem 32:841-56 Je '40
Density, thermal expansion, vapor pressure, and refractive index of styrene, and the density and thermal expansion of polystyrene. W. Patnode and W. J. Scheiber. bibliog Am Chem Soc J 61:3449-51 D '39
p-Dichlorobenzene as a vapor fumigant; effect of crystal size on rate of evaporation, estimation of *p*-dichlorobenzene in atmosphere and determination of vapor pressure of crystalline solid. F. R. Darkis, H. E. Vermillion and P. M. Gross. bibliog il Ind & Eng Chem 32:946-9 Jl '40
Evaporative index. G. S. Gardner. bibliog il diag Ind & Eng Chem 32:226-31 F '40
Heat capacity and entropy, heats of fusion and vaporization and the vapor pressure of *n*-butane. J. G. Aston and G. H. Messerly. bibliog Am Chem Soc J 62:1917-23 Ag '40
Heat capacity and entropy, heats of fusion and vaporization and the vapor pressure of isobutane. J. G. Aston, R. M. Kennedy and S. C. Schumann. bibliog Am Chem Soc J 62:2059-63 Ag '40
Heat capacity and entropy, heats of fusion and vaporization and the vapor pressure of methyl chloride. G. H. Messerly and J. G. Aston. bibliog Am Chem Soc J 62: 886-90 Ap '40
Heat capacity and entropy, heats of fusion and vaporization and the vapor pressure of *n*-pentane. G. H. Messerly and R. M. Kennedy. bibliog Am Chem Soc J 62:2988-91 N '40
High-pressure vapor-liquid equilibrium for the systems propylene-isobutane and propane-hydrogen sulfide. E. R. Gilliland and H. W. Scheeline. bibliog Ind & Eng Chem 32:48-54 Ja '40
Nomograph for the Clausius-Clapeyron equation C. L. Crawford. Ind & Eng Chem 32: 1280 S '40
Nomographic plotting proves convenient for vapor pressure and composition data, ammonia. D. F. Othmer. Chem & Met Eng 47: 631-2 S '40
Partial pressure of hydrogen bromide from its solutions in some aprotic solvents at 25°; comparison with hydrogen chloride. S. J. O'Brien and E. G. Bobalek. bibliog Am Chem Soc J 62:3227-30 N '40
Partial pressure of hydrogen chloride from its solutions in *o*-nitrotoluene, *m*-nitrotoluene and *n*-hexane at 25°. S. J. O'Brien and C. L. Kenny. bibliog Am Chem Soc J 62:1189-92 My '40
Partial pressure of hydrogen chloride from its solutions in the mono-halobenzenes at 25°. S. J. O'Brien and J. B. Byrne. bibliog Am Chem Soc J 62:2063-5 Ag '40
Partial vapor pressures from nicotine solutions at 25°. L. B. Norton, C. R. Bigelow and W. B. Vincent. bibliog diag Am Chem Soc J 62:261-4 F '40
Partial vapor pressures of water and ammonia from the system water—phosphoric acid—ammonia. C. S. Hucy and H. V. Tartar. bibliog diag Am Chem Soc J 62:26-32 Ja '40
Pressure-volume-temperature relations for *n*-butane. W. B. Kay. Ind & Eng Chem 32: 358-60 Mr '40
P-V-T relations for propane. W. W. Deschner and G. G. Brown. bibliog Ind & Eng Chem 32:836-40 Je '40
Relative humidity and vapor pressure; chart. D. B. Brooks. Power Pl Eng 44:84 Ag '40
Sensitive static pressure apparatus. R. C. Chandler. bibliog diags J Phys Chem 44: 574-83 My '40
Simple plot for partial pressure and vapor composition data for aqueous ammonia. D. F. Othmer. Chem & Met Eng 47:551-2 Ag '40
Simple proof of the thermodynamic stability of materials taken up by solutions containing solubilizers such as soap. J. W. McBain and J. J. O'Connor. diags Am Chem Soc J 62:2855-9 O '40
Thermodynamic properties of fluorochloromethanes and -ethanes; vapor pressure of three fluorochloromethanes and trifluorotrichloroethane. A. F. Benning and R. C. McHarness. bibliog Ind & Eng Chem 32: 497-9 Ap '40
Thermodynamic properties of the hexyl alcohols; 3-methylpentanol-1 and 2-methylpentanol-5 F. Hovorka, H. P. Lankelma and I. Schneider. bibliog Am Chem Soc J 62:1096-8 My '40
Thermodynamic properties of the hexyl alcohols; 2-methylpentanol-3 and 3-methylpentanol-3. F. Hovorka, H. P. Lankelma and A. E. Axelrod. bibliog Am Chem Soc J 62:187-9 Ja '40
Vapor bomb connection saves pressure gages. D. Attaway. il diag Oil & Gas J 39:41 Ag 1 '40
Vapor-liquid equilibrium; carbon tetrachloride-benzene mixtures. G. Scatchard, S. E. Wood and J. M. Mochel. bibliog Am Chem Soc J 62:712-16 Ap '40
Vapour pressure of glycerin solutions at 20°. D. W. Grover and J. M. Nicol. diag Soc Chem Ind J 59:175-7 Ag '40
Vapor pressure of liquid bismuth between 603 and 638°C. A. H. Weber and S. C. Kirsch. diags Phys R 57:1042-4 Je 1 '40

VAPOR pressure—*Continued*
Vapor pressures for six aliphatic nitro compounds. E. B. Hodge. bibliog Ind & Eng Chem 32:748 My '40
Vapor pressures, heats of vaporization and melting points of N^{14} and N^{15} ammonias. H. G. Thode. diag Am Chem Soc J 62:581-3 Mr '40
Vapor pressures of certain unsaturated hydrocarbons. A. B. Lamb and E. E. Roper. bibliog diag Am Chem Soc J 62:806-14 Ap '40
Vapor pressures of nickel and of nickel oxide. H. L. Johnston and A. L. Marshall. bibliog Am Chem Soc J 62:1382-90 Je '40
Vapor pressures of salt solutions. M. F. Bechtold and R. F. Newton. diag Am Chem Soc J 62:1390-3 Je '40
Vapor pressures of some organic compounds. J. M. Stuckey and J. H. Saylor. bibliog diag Am Chem Soc J 62:2922-5 N '40
Vapor pressures of trimethylphosphine, trimethylarsine and trimethylstibine. E. J. Rosenbaum and C. R. Sandberg. Am Chem Soc J 62:1622-3 Je '40
Zur thermochemie der legierungen. F. Weibke. bibliog diags Angew Chemie 53:74-80 F 17 '40

VAPOR traps
Construction and cooling of large vapor traps. D. L. Northrup, C. M. Van Atta and L. C. Van Atta. il diags R Sci Instr 11:207-10 Jl '40

VAPORIZATION
Humidification processes. chart Chem & Met Eng 47:315-16 My '40
Vaporization equilibria; new charts which eliminate all but three of preliminary trial calculations. M. Gilbert. Chem & Met Eng 47:234-5+ Ap '40

See also
Evaporation

VAPORIZATION, Heat of
Correlating vapor pressure and latent heat data; a new plot. D. F. Othmer. bibliog Ind & Eng Chem 32:841-56 Je '40
Heat and free energy of formation of deuterium oxide. F. D. Rossini, J. W. Knowlton and H. L. Johnston. bibliog diags J Research Nat Bur Stand 24:369-88 Ap '40
Heat capacity and entropy, heats of fusion and vaporization and the vapor pressure of *n*-butane. J. G. Aston and G. H. Messerly. bibliog Am Chem Soc J 62:1917-23 Ag '40
Heat capacity and entropy, heats of fusion and vaporization and the vapor pressure of isobutane. J. G. Aston, R. M. Kennedy and S. C. Schumann. bibliog Am Chem Soc J 62:2059-63 Ag '40
Heat capacity and entropy, heats of fusion and vaporization and the vapor pressure of methyl chloride. G. H. Messerly and J. G. Aston. bibliog Am Chem Soc J 62:886-90 Ap '40
Thermodynamics of *n*-heptane and 2,2,4-trimethylpentane, including heat capacities, heats of fusion and vaporization and entropies. K. S. Pitzer. bibliog Am Chem Soc J 62:1224-7 My '40
Vapor pressures, heats of vaporization and melting points of N^{14} and N^{15} ammonias. H. G. Thode. diag Am Chem Soc J 62:581-3 Mr '40

VAPORS
Air dilution in industrial ventilation. W. C. L. Hemeon. il Heat & Ven 37:39-43 N '40 (to be cont)
Composition of mixed vapors in the cloud chamber. T. N. Gautier and A. E. Ruark. Phys R 57:1040-1 Je 1 '40
Condensation of vapors on a horizontal tube; heat transfer coefficient for condensation of vapors of water and nonmiscible organic liquids. E. M. Baker and U. Tsao. bibliog diags Ind & Eng Chem 32:1115-21 Ag '40; Same. Am Inst Chem Eng Trans 36:517-39 Ag '40
Detection of aromatics in air. G. R. Gilbert and R. E. Tannich. diag Ind & Eng Chem Anal ed 12:433-6 Jl 15 '40
Downdraft ventilation; for solvents producing heavier-than-air vapors. W. C. L. Hemeon. il diag Safety Eng 79:12, 14 Ap '40
Factor *C* in the performance of ejectors as a function of molecular weights of vapors. L. T. Work and A. Miller. diags Ind & Eng Chem 32:1241-3 S '40
Law of corresponding states as applied in refrigeration. J. S. Doolittle. bibliog Refrig Eng 40:165-7 S '40
Method of producing air-vapor mixtures in gas or fume chambers. L. Silverman. diag R Sci Instr 11:346 O '40
Report on conditioning of gases and air. il diags Chem & Met Eng 47:286-332 My '40
Thermodynamic properties of substances; vapor volumes as functions of reduced temperature alone. H. A. Fales and C. S. Shapiro. Am Chem Soc J 62:393-406 bibliog (p404) F '40
Vapor-liquid equilibrium; carbon tetrachloride-benzene mixtures. G. Scatchard, S. E. Wood and J. M. Mochel. bibliog Am Chem Soc J 62:712-16 Ap '40
Viscosity of gases and vapors at high pressures. E. W. Comings and R. S. Egly. bibliog Ind & Eng Chem 32:714-18 My '40

See also

Adsorption	Gases
Condensers	Solvents
Electric precipitation	Steam
Equation of state	Steam flow
Evaporation	Vapor pressure
Fumes	Water vapor
Fumigants	

VARIATION (statistics)
Application of the analysis of variance and covariance method to educational problems. R. W. B. Jackson. 103p bibliog(p96) pa $1 Dept. of educational research, Univ. of Toronto, 371 Bloor st, W, Toronto, 5 '40
Bartels technique for time-series analysis, and its relation to the analysis of variance. L. R. Hafstad. bibliog Am Statis Assn J 35:347-61 Je '40
Probable error for Poisson distributions. E. Rodgers. Phys R 57:735-7 Ap 15 '40

See also

Correlation (statistics)	Seasonal variation (statistics)

VARIETY stores. See Five- and ten-cent stores

VARIOLA. See Smallpox

VARNISH, Insulating
Prolonging insulation life; dipping and baking motor fields and armatures; infra-red lamps for heaters. G. L. Moses. il Transit J 84:280-1 Ag '40

VARNISH, Printers'
Five techniques of gloss finishing. C. R. Conquergood. Adv & Sell 33:36+ Jl '40

VARNISH and varnishing
Baking and drying; gas-fired baking and drying ovens. J. E. Dare. il diags Steel 105: 59, 62 D 18 '39
Behavior of certain oil-resin combinations. Oil Paint & Drug Rep 138:50-1 N 4 '40
Bodying dehydrated castor oil and others. Oil Paint & Drug Rep 138:49 N 4 '40
Exterior varnishes over pigmented coats. Oil Paint & Drug Rep 138:47 N 4 '40
Finishing filing cabinets and allied steel office units. F. V. Faulhaber. il Metal Finishing 38:622-4 N '40 (to be cont)
Flash baking oven; making electric motor laminations; synchronized sheet slitter, varnish applicator and conveyorized flash-baking oven at Reliance electric & engineering co. K. H. Meyer. il diag Steel 105: 54+ D 4 '39
Gas conditioning for paint and varnish plant. C. H. S. Tupholme. il Ind & Eng Chem News ed 18:621 Jl 25 '40
Influence of cooking procedure on the properties of a varnish; abstract. A. Stewart. Can Chem & Process Ind 24:94 F '40
Influence of resins on the heat bodying of oils. R. C. Shuey. bibliog Ind & Eng Chem 32:921-30 Jl '40
Newer uses for shellac. W. H. Gardner. bibliog il Chem Ind 45:685-8 D '39

VARNISH and varnishing—*Continued*
Phenolic varnishes on tinplate; abstract. J. E. Hanle and W. H. Gardner. Oil Paint & Drug Rep 138:52 S 9 '40
Preparation of drying oils; recent developments. D. V. Stingley. bibliog il Ind & Eng Chem 32:1217-20 S '40
Rubber accelerators in bodying oils. Oil Paint & Drug Rep 138:47-8 N 4 '40
Storing, mixing and reducing of organic finishing materials. il Metal Ind 38:121-3 F '40
Use of soybean oil in paints and varnishes. G. H. Hamilton. Oil Paint & Drug Rep 138:31 O 7 '40

See also
Drying oils
Films
Lacquer and lacquering
Rosin
Shellac
Tung oil

Patents

New use for an old substance; Weber varnish patent held infringed by Gilbert Spruance co. T. F. Healy. Ind & Eng Chem News ed 18:889 O 25 '40

Statistics

Paint, varnish census for 1939 released. Oil Paint & Drug Rep 138:52 N 4 '40

Testing

Spirit varnishes; incorporation of ethylcellulose. R. C. Ernst, J. B. Tepe and I. W. Hutchinson, jr. il Ind & Eng Chem 32:1539-40 N '40

VARVES
Forecasting by means of climatic cycles. H. P. Gillette. il Water Works & Sewerage 87:496-501 O '40
Length of a geological period. H. P. Gillette. Roads & Sts 83:74, 76+ Ap '40
System of harmonic weather and climatic cycles. H. P. Gillette. il Roads & Sts 82: 47-8 N '39

VASCULAR system
Manual of peripheral vascular disorders. D. W. Kramer. 448p $6 Blakiston '40

VASELINE. See Petrolatum

VAT dyes. See Dyes and dyeing—Vat dyes

VATICAN
Vatican; text and photographs by T. Bonney. 131p $3 Houghton '39

VAUCLAIN, Samuel Matthews, 1856-1940
Sketch. Comm & Fin Chr 150:930 F 10 '40; Engineer 169:234 Mr 8 '40; por Ry Age 108: 282-3 F 10 '40

VAULTS (electric installation)
Advantages and economies in installation of precast manholes by the caisson method. E. Williams. il plans Edison Elec Inst Bul 8:107-12 Mr '40
Basket safety guard for vault entrances. il Elec W 113:1907-8 Je 15 '40
Pre-cast manholes; shop construction method employed by Consolidated Edison company. il Am Gas J 153:34 Ag '40
Screen guard for vault entrances. W. B. Kenyon. il Elec W 114:273 Jl 27 '40
Shop construction of precast caisson manholes. E. Williams. il Elec W 113:2051 Je 29 '40
Vaults for a.c. secondary networks. J. S. Parsons. diags Elec W 113:886-8+, 1201-3+, 1512-13+ Mr 23, Ap 20, My 18 '40

VAULTS (sepulchral). See Tombs

VEAL
Veal production, revision; monthly, 1923-June, 1940. Fed Res Bul 26:855 Ag '40

VECTOGRAPHS
Vectographs; images in terms of vectorial inequality and their application in three-dimensional representation. E. H. Land. il diags Opt Soc Am J 30:230-8 Je '40

VECTOR analysis
Circle diagram for three-phase transmission lines. T. F. Wall. Electrician 124:119-21 F 16 '40; Discussion. H. Rissik. 124:379-80 My 24 '40
Dyadic circuit analysis. A. P. Sah. 415p $4.50 International textbook co, Scranton, Pa. '39
Elementary vectors for electrical engineers. G. W. Stubbings. 110p $2 Pitman '39
Fast method combines voltage vectors. L. Lyndon. Elec W 113:770+ Mr 9 '40
Symbolic representation of impedance and admittance. Wireless Eng 17:1-3 Ja '40
Three-phase vector matrix operators. S. A. Stigant. Electrician 125:75-6, 88-9 Ag 9-16 '40
Vector analysis and locomotive counterbalancing. L. H. Fry. diags Engineer 169: 518-19 Je 7 '40
Vector diagrams; sign and other conventions. D. Robertson. Elec R (Lond) 126:35-6 Ja 12 '40
Vector-response indicator. B. D. Loughlin. il diags Elec Eng 59:Trans 355-7 Je '40

VEGETABLES
Biochemical indexes of quality in vegetables; abstract. B. A. Rubin. Food Ind 12:96 S '40
Color changes in green vegetables; frozen-pack peas and string beans. G. Mackinney and C. A. Weast. Ind & Eng Chem 32:392-5 Mr '40
Erzeugung und erhaltung vitaminreicher lebensmittel. A. Scheunert. Angew Chemie 53:119-23 Mr 16 '40
Foreign import duties and regulations on fresh fruits and vegetables. R. P. Wakefield. U S Bur For & Dom Com Trade Promotion Ser 206:1-130 '40
Hard winter aids growers. Barron's 20:1 F 5 '40
Verhalten des vitamins B_1 beim kochen und konservieren von gemüsen. G. Lunde, H. Kringstad and A. Olsen. Angew Chemie 53:123-5 Mr 16 '40

See also
Canned food
Cooling of fruits and vegetables
also names of vegetables, e.g. Beets and beet sugar; Corn; Peas; Potatoes; Tomatoes

Advertising

Half page for broccoli; how two immigrants built big garden business; D'Arrigo brothers. J. Lewis. il Ptr Ink 190:11-14 Ja 5 '40

Analysis

Effect of certain carbohydrates on the determination of carotene. E. J. Lease and J. H. Mitchell. bibliog Ind & Eng Chem Anal ed 12:337-8 Je 15 '40
Vitamin C content of fruits and vegetables. R. C. Burrell and V. R. Ebright. bibliog J Chem Educ 17:180-2 Ap '40

Marketing

Half page for broccoli; how two immigrants built big garden business; D'Arrigo brothers. J. Lewis. il Ptr Ink 190:11-14 Ja 5 '40
Handling of produce loans; Salinas national bank, Salinas, Calif. L. E. Wyatt. il Burroughs Clearing House 25:22-4 N '40
Transportation and marketing facilities for fresh fruits and vegetables in Chicago; Location of the South Water wholesale fruit and vegetable market. E. A. Duddy and D. A. Revzan. maps plans J Business 12: 280-97, 386-412; 13:39-55 Jl '39-Ja '40
Use of transportation facilities in the Chicago fruit and vegetable market. E. A. Duddy and D. A. Revzan. J Business 13:1-86 pt 2 Jl '40

Preservation

Modified atmospheres for fruits and vegetables in storage and in transit. C. Brooks. Refrig Eng 40:233-7 bibliog(48 titles, p237) O '40

See also
Canning and preserving
Vegetables, Frozen

Statistics

Fruit and vegetables in 1939. Economist 138: sup32 F 17 '40

VEGETABLES—*Continued*

Storage

Progress made in gas storage of fruits, vegetables. H. H. Plagge. bibliog il Food Ind 12:46-8+ O '40

Refrigeration in retail stores. R. E. King. Refrig Eng 40:5-6 sec 2 Jl '40

Transportation

Motor terminals extends rail-highway service; ties in with Fruit growers express; demountable truck bodies transferred to cars. il Ry Age 108:375-7 F 24 '40

VEGETABLES, Frozen

Cell structure and freezing. V. R. Gardner. Refrig Eng 39:233 Ap '40

Cold storage and freezing research; researches with fruit and vegetables at the University of Maryland. A. L. Schrader. bibliog Refrig Eng 40:163 S '40

Enzyme activity in frozen vegetables; asparagus. M. A. Joslyn and C. L. Bedford. bibliog Ind & Eng Chem 32:702-6 My '40

Frozen foods affecting farmers; packers' contracts with farmers. S. M. Udden. Refrig Eng 39:99 F '40

Gefrierkonservierung von obst und gemüse in Deutschland. R. Heiss. bibliog il diags V D I 83:1229-35 N 25 '39

Preparation and freezing of certain vegetables in lockers. C. DuBois and D. K. Tressler. Refrig Eng 39:107-8 F '40

Storage of frozen vegetables; vitamin C experiments. R. R. Jenkins and others. bibliog Refrig Eng 39:381-2 Je '40

Why humidity is a problem in freezers. V. H. Greene. il Refrig Eng 39:300+ My '40

See also
Peas, Frozen

VEGETATION mapping

Vegetation type maps of California and western Nevada. H. A. Jensen. Science 92:333 O 11 '40

VEHICLES

See also

Automobiles	Motor trucks
Cars	Motor vehicles
Electric trucks	Street cars
Electric vehicles	Trailers
Motor buses	Trolley buses
Motor cycles	Trucks

VEHICULAR tunnels. See Tunnels and tunneling—Vehicular tunnels

VEINS (ore). See Ore deposits

VEITCH, Fletcher Pearre, 1868-

Veitches, senior and junior. por Ind & Eng Chem News ed 18:625 Jl 25 '40

VEITCH, Fletcher Pearre, jr.

Veitches, senior and junior. por Ind & Eng Chem News ed 18:625 Jl 25 '40

VELAN PF

Textile agents; recent progress on some of the main items of auxiliary textile plants for finishing. C. J. T. Cronshaw. Textile Col 62:197-200 Mr '40

Water resistant finishes. C. A. Norris. Textile Col 62:165-7+ Mr '40

VELOCITY

Chronoscope; electronic interval timer originally developed to test the velocity of rifle bullets. C. I. Bradford. il diags Electronics 13:28-30+ N '40

Measurement of velocity in pipe lines by saline injections; abstracts of papers by L. J. Hooper and O. H. Dodkin. diags Engineering 150:179-80 Ag 30 '40

Measurement of velocity with atomic clocks. H. E. Ives. Science 91:79-84 Ja 26 '40

Measuring velocities in dredge pipes; salt-velocity method applied to pipe lines transporting solids. G. W. Howard. diags Mech Eng 62:287-8 Ap '40

See also
Falling bodies

VELOX boiler. See Boilers—Velox boiler

VELVET

Manufacture of dress velvets; yesterday and today. W. J. McKinney. diags Rayon 20: 704-6; 21:36-7, 98-100, 234-5, 305-6, 421-2, 549-51, 625-6 D '39-F, Ap-My, Jl, S-O '40 (to be cont)

Printing by the burn-out process; abstract. P. Rouveyre. Am Dyestuff Rep 29:72 F 5 '40

Velvet from static; electrical process. Business Week p40 Mr 16 '40

VELVETEEN

Staple cotton fabrics. J. Hoye. il Textile World 90:114 O '40

VENDING machines

Chieftain units used in drink dispensers; growth of coin machines opens market for refrigeration. Refrig Eng 39:174 Mr '40

Nickel-in-the-slot sound movies; Phonovision corp. of America. Barron's 20:5 My 20 '40

Selling by robot; vending machine sales mushroom in past five years. H. S. Kahm. Barron's 20:8 Mr 11 '40

Slot machines boost demand for coins; pictograph. Sales Management 47:39 O 20 '40

Soundies. Ptr Ink 193:109 O 25 '40

Vending machine glamour. P. M. Munk. il Mod Plastics 17:26-7, 66, 68 F '40

You pay before you play; coin operated phonograph. T. Murray. il Nation's Business 28:28, 30+ Je '40

VENEERS and veneering

See also
Plywood

VENEREAL diseases

Cases of venereal diseases reported for January, 1940. Pub Health Rep 55:560-1 Mr 29 '40 [cont monthly]

See also
Gonorrhea
Syphilis

Law

Digest of laws and regulations; relating to the prevention and control of syphilis and gonorrhea in the forty-eight states and the District of Columbia. 438p $5 Am. social hygiene assn, 50 W. 50th st, New York '40

Examination for venereal disease before marriage. Pub Health Rep 55:374-5 Mr 1 '40

VENETIAN blinds. See Blinds

VENEZUELA

Venezuela, a democracy. H. J. Allen. 289p $3.50 Doubleday '40

See also
Insurance, Social—Venezuela
Petroleum industry and trade—Venezuela

Commercial policy

Exchange and finance. For Comm W 1:215 N 2 '40

Economic conditions

Tabular guide to economic conditions. Comm Rep p1162 D 9 '39

Venezuela's place in the sun; modernizing a pioneering country. N. Roosevelt. 88p $1 Round table press, New York '40

Industries and resources

Rockefellers look into Venezuela. Business Week p28 Ap 13 '40

VENTILATION

Agriculture has engineering problems in heating and ventilating. F. B. Lanham. bibliog diags plans Heating-Piping 11:769-74 D '39

Air dilution in industrial ventilation. W. C. L. Hemeon. il Heat & Ven 37:39-43 N '40 (to be cont)

Air hazards in industry, bacterial purification, new standards and codes, highlighted in 1939. Heat & Ven 37:89-93 Ja '40

Fresh air for the welder. A. G. Cranch. il Nat Safety N 42:20-1+ Ag '40; Same cond. Safety Eng 80:39-40+ Ag '40

VENTILATION—*Continued*
L'obturation des soupiraux des caves-abris de défense passive. Génie Civil 115:455-6 D 23 '39
Profit opportunities in large-volume air movers. il diags plan Sheet Metal Worker 31: 27-30 Mr '40
Study of the role of ventilating systems in the transmission of bacteria. J. M. Dalla-Valle and A. Hollaender. Pub Health Rep 55:1268-72, pl 1 Jl 12 '40
Vaults for a.c. secondary networks; heat conduction, dissipation and ventilation. J. S. Parsons. Elec W 113:1201-3+ Ap 20 '40
Ventilation of air raid shelters. T. C. Angus. il Heating-Piping 12:356+ Je '40
Ventilation of industrial plants; review of large scale air-conditioning systems. J. C. Trill. il Electrician 125:135-6 S 13 '40

See also
Air conditioning
Air filters
Air flow
Air pipes
Air pollution
Chimneys
Cooling
Dust removal
Electric fans, Ventilating
Exhaust systems
Fans, Mechanical
Heating
Humidity
Mechanical equipment of buildings
Mine ventilation
Ozone
Tunnel ventilation
Ventilators
also subdivision Heating and ventilation under various subjects, e.g.
Airplanes
Automobiles
Barns and stables
Factories
Foundries
Motor buses
Office buildings
Public buildings
also American society of heating and ventilating engineers

Bibliography

Abstracts of current papers, books and pamphlets. Published in monthly numbers of Heating and ventilating

Standards

Standards for heating and ventilating. il Arch Rec 87:100-1 Mr '40

Tables, calculations, etc.

See also
Air pipes—Tables, calculations, etc.

VENTILATION research
Air flow measurements at intake and discharge openings and grilles. G. L. Tuve and D. K. Wright, jr. il diags Heating-Piping 12:501-7 Ag '40
American society of heating and ventilating engineers committee on research, 21st annual report, 1939. il Heating-Piping 12:73-9 Ja '40
Analysis of the factors affecting duct friction. J. B. Schmieler, F. C. Houghten and H. T. Olson. il Heating-Piping 12:202-6 Mr '40
Development of instruments for the study of air distribution in rooms. A. P. Kratz, A. E. Hershey and R. B. Engdahl. diags plans Heating-Piping 12:559-66 S '40
Performance of stack heads. D. W. Nelson, D. H. Krans and A. F. Tuthill. il diags Heating-Piping 12:131-8 F '40

VENTILATORS
Features of ventilation in a new court house; Nassau County court house, Mineola, L.I. il diags Sheet Metal Worker 30:23-6+ N '39
Noise control in ventilating systems; Q-T ductliner, a sound absorbing material. diags Sheet Metal Worker 31:48, 50+ O '40
Ventilation and anti-gas filtration plants for use with A.R.P. shelters. il diag Engineer 169:120-1 F 2 '40
Ventilator light traps. E. W. Murray. Light & Lighting 33:39 Mr '40

See also
Electric fans, Ventilating

VENTURI meters
Large venturi meter for Pittsburgh, N.H. reservoirs. J. R. Hartley. Boston Soc C E J 27:139-40 Ap '40
Venturi meters for sewage and sludge. C. G. Richardson. il diags Water Works & Sewerage 86:502-5 D '39

VENTURI tubes
Flow measurements in the glass industry. A. J. Monack and E. E. Beeton. diags Glass Ind 21:392-4 S '40
Venturi ejector for handling air. F. F. Kravath. diags Heat & Ven 37:17-21 Je; 46-9 Ag '40

VENUS (planet)
Life on the planet Venus. Science 92:sup10 S 27 '40

VERDET constants
Magneto-optic rotation; carbon disulfide and benzene solutions. C. E. Waring, H. Hyman and S. Steingiser. diag Am Chem Soc J 62: 2028-31 Ag '40

VERITY, George M.
Receives Business humanizer award. Blast F & Steel Pl 28:803 Ag '40

VERMICIDES
Anthelmintic activity of crystalline papain. J. Berger and C. F. Asenjo. bibliog Science 91:387-8 Ap 19 '40
Anthelmintic inactivity of fresh pineapple juice in vivo. E. Kuitunen-Ekbaum. Science 91:240-1 Mr 8 '40

VERMICULITE
Fire wall made from vermiculite. il Sci Am 163:256 N '40
Sorption of water vapor by vermiculite and its silica. L. A. Hansen, W. S. Samuel, jr. and P. A. Forni. bibliog diag Ind & Eng Chem 32:116-18 Ja '40
Summary of occurrence, properties, and uses of vermiculite at Libby, Montana. W. W. Kriegel. il Am Cer Soc Bul 19:94-7 Mr '40
Vermiculite; uses. Can Min J 60:823-4 D '39

VERMILYE medal
Awarded to Lewis Herold Brown, president of Johns-Manville corporation, in recognition of outstanding contribution in the field of industrial management. il Franklin Inst J 228:771-9 D '39
Vermilye medal awarded to Lewis H. Brown. Heating-Piping 11:768 D '39; Ind & Eng Chem News ed 17:707 N 20 '39

VERMONT
Vermont compares railroads vs. trucks. Ry Age 108:857-8+ My 18 '40

VERMONT marble company
Four-station, interconnected hydro system. F. A. Westbrook. il map Power 84:730-1 N '40

VERMONT Valley railroad
Bonds placed privately. Comm & Fin Chr 151:2059-60 O 5 '40

VERNIERS
Constructing a laboratory vernier. E. Norwood. il Radio N 23:23+ Mr '40

VERSE. See Advertising copy—Rimes

VERTEBRATES, Fossil
Early man in America: index to localities, and selected bibliography. E. H. Sellards. diags Geol Soc Bul 51:373-431, pl 1 bibliog (p412-31) Mr '40
Relative growth and vertebrate phylogeny. F. B. Phleger, jr. bibliog Am J Sci 238:643-62 S '40

See also
Mastodon

VESUVIUS, Mount
Power from Vesuvius. Can Min J 60:823 D '39

VETERINARY hospitals. See Hospitals, Veterinary

VETERINARY medicine
Practice of veterinary medicine. D. H. Udall. 3d rev ed 672p $6 Denney Hammond Udall, Ithaca, N.Y. '39

Study and teaching

Curriculum in veterinary medicine. O. V. Brumley and W. W. Charters. Ohio State Univ Bur of Educational Research Monographs 23:1-78 '39 ($2; pa $1.75)

VETERINARY surgeons
Protection of professional titles. M. T. Nisot. Int Labour R 41:120-4 F '40

VIADUCTS. See Bridges

VIAL, Frederick Ketchum, 1864-
American foundrymen's association gold medallist. por Foundry 68:86-7 My '40

VIBRATION
Characteristics of silent propellers. A. W. Davis. diags Engineering 149:74-6 Ja 19 '40
Graphical treatment of vibration and aircraft engine dampers. C. H. Powell. 290p bibliog(p288) $7.50 Bookcraft, Brooklyn N.Y. '40
Mechanics applied to vibrations and balancing. D. L. Thornton. 529p $7.50 Wiley '40
No vibration from these hammers; mounted on heavy concrete blocks supported by springs. E. G. Grant. il Factory Management 98:78-9 Je '40
Problem in the philosophy of mathematics; pendulum; damping coefficient term of the vibrational equation. Engineer 169:329-30 Ap 5 '40; Discussion. 169:378-9 Ap 19 '40
Sliding of metals, frictional fluctuations, and vibration of moving parts. F. P. Bowden, L. Leben and D. Tabor. bibliog il Engineer 168:214-17 Ag 25 '39; Abstract. Metal Prog 37:435+ Ap '40
Stop vibration, add to lamp life. J. D. Hall. il diags Factory Management 98:75-7 O '40
Vibration; its effect on heat transfer. W. E. Mason and L. M. K. Boelter. bibliog Power Pl Eng 44:43-4+ Je '40
Vibration of circular plates. R. C. Colwell, J. K. Stewart and H. D. Arnett. il Science 92:408-9 N 1 '40
Vibration of rail and road vehicles. B. S. Cain. 258p bibliog(p255-6) $5 Pitman '40
Vibratory equipment; electromagnetic vibrators for feeders, bins, screens, conveyors, etc. F. J. Van Antwerpen. il diags Ind & Eng Chem 32:765-70 Je '40

See also
Airplane engines—Vibration
Balancing of machinery
Buildings—Vibration
Compressors—Vibration
Earthquakes
Light
Machinery—Vibration
Oscillations
Ships—Vibration
Sound waves

Measurement
ASA acoustical committee proposes study of vibration measurement standards. Ind Stand 11:179-80 Jl '40
Damping capacity of steel and its measurement. G. P. Contractor and F. C. Thompson. bibliog diags Iron & Steel Inst J 141: 157-201, pl 5-6; Discussion. 202-18 no 1 '40
Instrument for measuring low frequency accelerations in flight. C. S. Draper and W. Wrigley. bibliog il diags J Aeronautical Sci 7:388-401 Jl '40
Investigation into centrifugal governor vibration. G. R. Allan. diag Inst Mech Eng J & Proc 142:60-2 Mr '40
Measurement of motor vibration; cooperation of manufacturers through N.E.M.A. in standardizing method. W. R. Hough. il diag Elec W 112:1743+ D 16 '39
Natural period of vibration of building frames. J. E. Goldberg. diag Am Concrete Inst J 11:81-95 S '39; Discussion. 11:sup 96¹-96⁶ F '40
New method of determining damping coefficients. J. Geiger. diags Automotive Ind 82: 252-5+ Mr 1 '40
Present status of instruments for measuring riding comfort. R. W. Brown. bibliog il diag Instruments 13:103-9 Ap '40
Sonic method of determining the modulus of elasticity of building materials under pressure. L. Obert. diags Am Soc T M Proc 39: 987-95; Discussion. 996-8 '39
Spindle vibrometer. W. W. Egee. il Textile World 90:67-8 Je '40
Vibration of crankshaft-propeller systems; new method of calculation. M. A. Biot. diags J Aeronautical Sci 7:107-12 Ja '40

VIBRATION absorbers
Dampers and suppressors for controlling torsional vibrations in crankshafts. D. Gerdan. diags Product Eng 11:25-7, 57-9 Ja-F '40
Elements of pendulum dampers. R. W. Zdanowich and T. S. Wilson. bibliog diags Inst Mech Eng J & Proc 143:Proc 182-210, pl 1-2 Je '40
Geared engines for light airplanes; crankshaft torsional vibration dampers. C. H. Wiegman. diags S A E J 47:303-4 Jl '40
New dynamic vibration damper for crankshafts. H. Bosse. Automotive Ind 82:289 Mr 15 '40

VIBRATORS
Application of vibrators for measuring mortar consistency and fabricating mortar cubes. R. L. Blaine and J. Tucker, jr. pl diags J Research Nat Bur Stand 24:103-23 F '40
Vibrating apparatus; out-of-balance device; patent specifications. diag Mech Handling 27:74 Mr '40
Vibrator for mortar tests. diag Eng N 125:175 Ag 1 '40
Vibratory equipment; electromagnetic vibrators for feeders, bins, screens, conveyors, etc. F. J. Van Antwerpen. il diags Ind & Eng Chem 32:765-70 Je '40

VICALLOY. See Cobalt alloys

VICK chemical company
Safe stocks for income and protection. il Mag of Wall St 66:365 Je 29 '40

VICTOR chemical works
Another look. Mag of Wall St 65:626-7 F 24 '40
Earnings, 1939. Chem Ind 46:387 pt 2 Mr '40
Leaders in the chemical industry; thumbnail appraisal. Mag of Wall St 65:415 Ja 13 '40

VIETH, A. B.
First aid is his hobby; A. B. Vieth made his automobile a first aid station on wheels. por Nat Safety N 40:17+ D '39

VILLAGES
Youth in 45 agricultural villages. Monthly Labor R 50:1155-6 My '40

VILLIERS engine
Book of the Villiers engine. C. Grange. 6th ed 106p 80c Pitman '39

VILNA (Wilno), Poland
Vilna's currency crisis. Economist 138:59 Ja 13 '40

VINCI, Leonardo da. See Leonardo da Vinci

VINEGAR
Vinegar making under automatic control; U.S. patent. Food Ind 11:710 D '39

See also
Acetic acid

VINYL acetate
Copolymerization of maleic polyesters. J. B. Rust. il Ind & Eng Chem 32:64-7 Ja '40
Mechanism of the polymerization of vinyl acetate and methyl vinyl ketone. H. W. Melville, T. T. Jones and R. F. Tuckett. Chem & Ind 59:267-72; Discussion. 272 Ap 20 '40
Removal of substituents from vinyl polymers. F. T. Wall. Am Chem Soc J 62:803-6 Ap '40
Some relationships between polyvinyl acetates and polyvinyl alcohols. W. H. McDowell and W. O. Kenyon. Am Chem Soc J 62:415-17 F '40
Vinyl resins; influence of chemical composition upon properties and uses. S. D. Douglas. bibliog il Ind & Eng Chem 32:315-19 Mr '40
Walking on air; shoes of vinyl-derived flexible, elastic plastic. R. Howell. il Mod Plastics 17:34+ Ag '40

VINYL alcohol
New assistant for vat dyeing of rayon; polyvinyl alcohol. Textile Col 62:114 F '40
New series of resins for paper; polyvinyl alcohols. Paper Tr J 110:12 My 23 '40
Polyvinyl alcohols. il Ind & Eng Chem News ed 18:420 My 10 '40
Some relationships between polyvinyl acetates and polyvinyl alcohols. W. H. McDowell and W. O. Kenyon. Am Chem Soc 62:415-17 F '40

VINYL alcohol—*Continued.*
Stable vinyl alcohol, 1,2-dimesityl-1-propen-1-ol. R. C. Fuson, J. Corse and C. H. McKeever. bibliog Am Chem Soc J 62:3250-1 N '40

VINYL chloride
Addition of N-haloamides to olefins. M. S. Kharasch and H. M. Priestley. Am Chem Soc J 61:3425-32 D '39
Behavior of polyvinyl chloride plastics under stress. J. J. Russell. bibliog il Ind & Eng Chem 32:509-12 Ap '40
Removal of substituents from vinyl polymers. F. T. Wall. Am Chem Soc J 62:803-6 Ap '40
Structure of vinyl polymers; polyvinyl halides. C. S. Marvel, J. H. Sample and M. F. Roy. bibliog Am Chem Soc J 61:3241-4 D '39
Trying out mineral fiber as concrete reinforcement; developed from polyvinyl chloride with hydrochloric acid. S. B. Redecker. Concrete 48:43 My '40
Vinyl resins; influence of chemical composition upon properties and uses. S. D. Douglas. bibliog il Ind & Eng Chem 32:315-19 Mr '40; Excerpt. Rayon 21:348 Je '40
Walking on air; shoes of vinyl-derived flexible, elastic plastic. R. Howell. il Mod Plastics 17:34+ Ag '40

See also
Koroseal

VINYL compounds
Advances on many fronts; fabrics from vinyl polymers. Chem & Met Eng 46:682-3 N '39
Expansion in plastics; Vinylite. Business Week p50-1 S 7 '40
Introduction of substituted vinyl groups; a rearrangement involving the migration of an allyl group in a three-carbon system. A. C. Cope and E. M. Hardy. Am Chem Soc J 62:441-4 F '40
Introduction of substituted vinyl groups; (primary 1-alkenyl) alkyl malonic esters. A. C. Cope and others. bibliog Am Chem Soc J 62:314-16 F '40
New vinyl molding materials; copolymerization of vinyl acetate and vinyl chloride; vinylite; abstracts. L. K. Merrill. Modern Plastics 17:64-5+ Ap '40; Chem Ind 46:330-1 Mr '40; Ind & Eng Chem News ed 18:496-7 Je 10 '40
Observations on the reactivities of dienes, especially toward maleic anhydride. F. Bergmann and E. Bergmann. bibliog Am Chem Soc J 62:1699-1704 Jl '40
Removal of substituents from vinyl polymers. F. T. Wall. Am Chem Soc J 62:803-6 Ap '40
Structure of vinyl polymers; catalysts. C. S. Marvel and E. H. Riddle. Am Chem Soc J 62:2666-70 O '40
Structure of vinyl polymers; polyacrylyl chloride. C. S. Marvel and C. L. Levesque. bibliog Am Chem Soc J 61:3244-6 D '39
Structure of vinyl polymers polystyrene and some of its derivatives. C. S. Marvel and N. S. Moon. Am Chem Soc J 62:45-9 Ja '40
Structure of vinyl polymers; polyvinyl halides. C. S. Marvel, J. H. Sample and M. F. Roy. bibliog Am Chem Soc J 61:3241-4 D '39
Substituted vinyl barbituric acids; derivatives containing a primary 1-alkenyl group. A. C. Cope and others. bibliog Am Chem Soc J 62:1199-1201 My '40
Tension and birefringence in a vinylite plastic. H. W. Farwell. J Ap Phys 11:274-9 Ap '40
Vinylite resins for can and container coatings. A. K. Doolittle. il Ind & Eng Chem News ed 18:303-5 Ap 10 '40; Abstract. Food Ind 12:94-5 Jl '40
Vinylite series V resins; plasticized copolymers of vinyl chloride and acetate. J. R. Price. il India Rubber W 102:47-9+ Je '40

See also
Koroseal

VINYL mesityl ketone
Trimerization of vinyl mesityl ketone. R. C. Fuson and C. H. McKeever. Am Chem Soc J 62:2088-91 Ag '40

VINYL phenyl ketone
Addition reactions of vinyl phenyl ketone; the diene synthesis. C. F. H. Allen and others. Am Chem Soc J 62:656-64 Mr '40

VINYLIDENE chloride
Continuous length extrusion. J. E. Pierce. il Mod Plastics 18:49+ N '40
Saran; new vinylidene chloride resins. W. C. Goggin. il Ind & Eng Chem News ed 18: 923-4 N 10 '40
Seats of tomorrow, today! extruded vinylidene chloride plastic woven into seat covering material for subway cars. W. C. Goggin. il Mod Plastics 18:36-9 N '40

VINYON
Advances on many fronts; fabrics from vinyl polymers. Chem & Met Eng 46:682-3 N '39
Industrial felts from synthetic fibers. H. Boeddinghaus. Ind & Eng Chem News ed 18:248 Mr 25 '40; Same. Rayon 21:294 My '40
New synthetic textile fibers. H. R. Mauersberger. Rayon 21:678-9 N '40
New textile fiber. F. Bonnet. Am Dyestuff Rep 29:116-18; Discussion. 118-20 Mr 4 '40
Resin fiber vinyon. F. Bonnet. Am Dyestuff Rep 29:547-8 O 14 '40
Story of vinyon. W. G. Luttge. il Manuf Rec 109:29+ Ap '40
Vinyon a new textile fiber. F. Bonnet. Am Dyestuff Rep 29:116-18 Mr 4 '40; Excerpts. Mech Eng 62:406-7 My '40; Discussion. Am Dyestuff Rep 29:118-20 Mr 4 '40
Vinyon; its story to date. il Textile World 90:113 F '40
Vinyon plans completed; Carbide & Carbon to make the resin; American Viscose to spin the yarn. il Textile World 89:68 N '39
Vinyon production; photographs of various steps Textile World 90:100 S '40
Vinyon, the new textile fiber and yarn. il Rayon 21:74-5 F '40
Viscose to produce vinyon yarn fabrics. Ind & Eng Chem News ed 17:711 N 20 '39

VIOLINS
Neuere ergebnisse der geigenforschung. H. Backhaus. V D I 84:179-80 Mr 9 '40
Scientific search for the secret of Stradivarius. F. A. Saunders. il Franklin Inst J 229:1-20 Ja '40

VIRGINIA
Virginia; a guide to the Old Dominion. 699p bibliog(p647-67) $3 Oxford '40

See also
Gold mines and mining—Virginia
Population—Virginia

Industries and resources
Past and future of industry in Virginia. il map Manuf Rec Extra no 109:222-30 S '40
77 new industries located on Norfolk & western railway in 1939. il Manuf Rec 109:37+ My '40

Maps
Catalogue of topographic and geologic maps of Virginia. J. K. Roberts and R. O. Bloomer. 246p pa $3 Dietz press, Richmond, Va. '39

VIRGINIA academy of science
Annual meeting, 18th, Lexington, May 2-4. Science 91:549-50 Je 7 '40
Grants for research. E. C. L. Miller. Science 91:242 Mr 8 '40
Research grants. E. C. L. Miller. Science 90: 586 D 22 '39

VIRGINIA junior academy of science
Organization. Science 92:27-8 Jl 12 '40

VIRGINIA public service company
Improvement; bonds attain best levels since 1937. Barron's 20:19 Ag 5 '40

VIRGINIA public service generating company
Placing of $1,400,000 bonds privately approved by SEC. Comm & Fin Chr 150:705 Ja 27 '40

VIRGINIA railway
Earnings, 1937-40. Comm & Fin Chr 151:117 Jl 6 '40

VIRIAL coefficients
Gas imperfection; experimental determination of second virial coefficients for seven unsaturated aliphatic hydrocarbons. E. E. Roper. bibliog diag J Phys Chem 44:835-47 O '40

VIROLA nuts
Component fatty acids and glycerides of some myristica fats. D. Atherton and M. L. Meara. bibliog Soc Chem Ind J 58:353-7 D '39

VIRUSES
Bovine pseudorabies or mad itch virus. R. Graham, C. C. Morrill and L. E. Boley. bibliog Science 91:623-4 Je 28 '40
Constitutional barriers to involvement of the nervous system by certain viruses. A. B. Sabin. Science 91:84-7 Ja 26 '40
Encephalitogenic property of herpes virus. K. Anderson. bibliog Science 90:497 N 24 '39
Immunity to the Lansing strain of poliomyelitis as revealed by the protection test in white mice. V. H. Haas and C. Armstrong. Pub Health Rep 55:1061-8 Je 14 '40
Inactivation of epidemic influenza virus by nasal secretions of human individuals. T. Francis, jr. Science 91:198-9 F 23 '40
Lane medical lectures: viruses and virus diseases. T. M. Rivers. 133p $2.50; pa $1.75 Stanford univ. press '39
Lymphocytic choriomeningitis; gray mice, mus musculus, a reservoir for the infection. C. Armstrong, J. J. Wallace and L. Ross. bibliog Pub Health Rep 55:1222-9 Jl 5 '40
New type of virus from epidemic influenza. T. Francis, jr. bibliog Science 92:405-8 N 1 '40
Nutrition as a factor in the development of constitutional barriers to involvement of the nervous system by certain viruses. A. B. Sabin and C. E. Duffy. bibliog Science 91: 552-4 Je 7 '40
Pathologic histology of experimental virus influenza in ferrets. T. L. Perrin and J. W. Oliphant. bibliog Pub Health Rep 55: 1077-86, pl 1-2 Je 14 '40
Properties of the isolated equine encephalomyelitis virus (eastern strain). D. G. Sharp and others. bibliog Science 92:359-61 O 18 '40
Reaction of variola vaccine virus to Roentgen rays. J. W. Gowen and A. M. Lucas. bibliog Science 90:621-2 D 29 '39
Successful transfer of the Lansing strain of poliomyelitis virus from the cotton rat to the white mouse. C. Armstrong. Pub Health Rep 54:2302-5 D 29 '39
Technique for the intravenous inoculation of chick embryos. E. A. Eichhorn. diag Science 92:245-6 S 13 '40
Virus and rickettsial diseases. 907p $6.50 Harvard univ. press '40
Viruses and their part in disease. W. G. MacCallum. Science 91:608-10 Je 28 '40
Viruses thought to hold secret of life's origin but discovery of transition point between living and non-living will be difficult; abstract. T. M. Rivers. Science 91:sup10+ Ap 5 '40

See also
Vaccines

VIRUSES, Plant
Handbook of phytopathogenic viruses. F. O. Holmes. 221p pa $2 Burgess pub. co, 426 S. 6th st, Minneapolis '39

See also
Tobacco mosaic virus

VISCOSE
Chemistry of the viscose process. W. H. Hayford, jr. Rayon 21:685-7 N '40
Drying characteristics of regenerated cellulose cylinders. A. W. Hawkins and W. L. Beuschlein. bibliog Ind & Eng Chem 32: 944-6 Jl '40
Separation of viscose and cotton by solvent action. J. H. Levin and R. A. Martinell. Textile Col 62:462-3 Jl '40

See also
Rayon

VISCOSIMETERS
Determination of the kinematic viscosity of petroleum asphalts with a capillary tube viscosimeter. R. H. Lewis and W. J. Halstead. il Pub Roads 21:127-38 S '40
Kinematic viscometer for liquid asphaltic products. A. P. Anderson, K. A. Wright and R. L. Griffin. il diags Ind & Eng Chem Anal ed 12:466-8 Ag 15 '40
Measurements of the viscosities of oils under reservoir conditions; abstract. C. R. Hocott and S. E. Buckley. Oil & Gas J 38:78 F 22 '40
Reduction chart for the Stormer viscometer. H. T. Byck. Oil & Gas J 38:40 F 8 '40
Respective merits of the Saybolt and kinematic viscosimeters; abstract. J. C. Geniesse. Oil & Gas J 38:15 Ja 18 '40
Saybolt one fifteen viscometer. E. W. Dean, E. L. Ruh and R. W. Walker. Ind & Eng Chem Anal ed 12:540-2 S 15 '40
Steiner viscometers. Chem Age (Lond) 43: 142 S 28 '40
Viscosity of monolayers: a test of the canal viscosimeter. G. C. Nutting and W. D. Harkins. bibliog diags Am Chem Soc J 62:3155-61 N '40

See also
Mobilometer

VISCOSITY
Apparent molecular shape and molecular weight of proteins, from viscosity and diffusion measurements. H. Neurath and G. R. Cooper. Am Chem Soc J 62:2248-9 Ag '40
Bodying of dehydrated castor oil. J. D. von Mikusch. bibliog il Ind & Eng Chem 32:1061-9 Ag '40
Calculation of the thermal diffusion constant from viscosity data. R. C. Jones and W. H. Furry. bibliog Phys R 57:547 Mr 15 '40
Colloidal behavior of clays as related to their crystal structure. T. F. Ford, A. G. Loomis and J. F. Fidiam. bibliog J Phys Chem 44: 1-12 Ja '40
Combination of gelatin with acids and bases; viscosity and electrometric titration studies. L. Friedman, K. Klemm and F. K. Thompson. bibliog J Phys Chem 43:1133-7 D '39
Comparison of esterification and ester interchange kinetics. P. J. Flory. bibliog Am Chem Soc J 62:2261-4 S '40
Continuous laboratory method for bodying oiticica oil. V. Marchese, J. Mattiello and L. T. Work. bibliog diag Ind & Eng Chem Anal ed 12:77-80 F 15 '40
Density and viscosity of glycerol solutions at low temperatures. E. Green and J. P. Parke. Soc Chem Ind J 58:319-20 O '39
Dependence of viscosity of liquids on constitution. A. H. Nissan, L. V. W. Clark and A. W. Nash. Inst Pet J 26:155-211 bibliog(97 references, p209-11); Discussion. 212-22 Ap '40
Determination of the kinematic viscosity of petroleum asphalts with a capillary tube viscosimeter. R. H. Lewis and W. J. Halstead. il Pub Roads 21:127-38 S '40
Der einfluss von kieselsäure, titansäure, und tonerde auf die zähigkeit einer sauren synthetischen schlacke und berechnung der zähigkeit saurer und basischer hochofenschlacken aus der chemischen zusammensetzung. K. Endell and G. Brinkmann. Stahl & Eisen 59:1319-21 D 7 '39
Estimating oil viscosity at zero degrees. S A E J 47:sup17 S '40
Evaluation of nitrocellulose lacquer solvents; ester activation by alcohols and the use of alcohols as lacquer diluents. V. W. Ware and W. M. Bruner. bibliog Ind & Eng Chem 32:519-24 Ap '40
Experimental investigations upon the flow of liquids in tubes of very small diameter. J. L. M. Poiseuille. (Rheological memoirs v 1, no 1) 101p $2.50; pa $2 E. C. Bingham, Easton, Pa. '40
Figures in thin layers of grease and viscous liquids. W. D. Kumler. il J Phys Chem 44: 612-18 My '40
Flow properties of asphalts and their measurement by the penetrometer. C. Mack. bibliog il Soc Chem Ind J 58:306-10 O '39

VISCOSITY—*Continued*
Flow properties of bituminous materials. A. R. Lee, J. B. Warren and D. B. Waters. bibliog diags Inst Pet J 26:101-28 Mr '40
Freezing points and low temperature viscosities of diacetone alcohol-acetone mixtures. V. Lantz. Am Chem Soc J 62:3260 N '40
Hydraulic fluids; calculating viscosity index by Dean and Davis method. N. E. Miller. Product Eng 11:450-4 O '40
Influence of Brownian movement on the viscosity of solutions. R. Simha. bibliog J Phys Chem 44:25-34 Ja '40
Introduction to industrial rheology. G. W. Scott Blair. 143p $2.25 Blakiston '38
Kinetics of polyesterification; a study of the effects of molecular weight and viscosity on reaction rate. P. J. Flory. bibliog Am Chem Soc J 61:3334-40 D '39
Kinetics of the degradation of polyesters by alcohols. P. J. Flory. Am Chem Soc J 62: 2255-61 S '40
Modified starches; degradation of starches by acidic and alkaline oxidising agents, acids, etc. G. B. Jambuserwala and K. R. Kanitkar. Textile Inst J 31:T1-16 Ja '40
Physical chemical investigation of certain nucleoproteins; preparation and general properties; nucleohistone of calf thymus, and nucleoprotein of hog thyroid. R. O. Carter and J. L. Hall. bibliog Am Chem Soc J 62: 1194-6 My '40
Physical properties of the aliphatic acid anhydrides. D. T. Lewis. Chem Soc J p32-6 Ja '40
Polybutenes; properties and uses in petroleum products. R. M. Thomas and others. bibliog il Ind & Eng Chem 32:299-304 Mr '40
Pressure and temperature effects on the viscosity of liquids. D. Frisch, H. Eyring and J. F. Kincaid. bibliog J Ap Phys 11:75-80 Ja '40
Properties of soybean oil-solvent mixtures. H. F. Johnstone, I. H. Spoor and W. H. Goss. il Ind & Eng Chem 32:832-5 Je '40
Pseudo-plastic properties of molten chocolate. L. E. Campbell. diags Soc Chem Ind J 59:71-4 Ap '40
Quenching of fluorescence in solution; temperature and solvent effects. R. W. Stoughton and G. K. Rollefson. Am Chem Soc J 62:2264-8 S '40
Remarks on the study of structural viscosity in liquids, and the derivation of equations for the flux of such liquids through tubes. F. Breazeale. il diag J Ap Phys 11:187-92 Mr '40
Rheological properties of asphaltic bitumens. R. N. J. Saal and J. W. A. Labout. bibliog J Phys Chem 44:149-65 F '40
Rigidity of starch pastes used in sizing and printing. diag Textile Col 62:332-3 My '40
Significance of viscosity in the use of petroleum oils. W. L. Nelson. Oil & Gas J 38: 46 N 23 '39
Specific gravity and viscosity of Na_2CO_3 solutions. D. S. Davis. Chem & Met Eng 47:690-1 O '40
Studies in lubrication; the effect of the pressure variation of viscosity on the lubrication of plane sliders. M. Muskat and H. H. Evinger. bibliog diags J Ap Phys 11:739-48 N '40
Studies on reactions relating to carbohydrates and polysaccharides; the relation between concentration and viscosity of polyoxyethylene glycols. E. L. Lovell and H. Hibbert. bibliog Am Chem Soc J 62:2140-3 Ag '40
Study of the flow of air in tubes in the pressure range 1 to 300 atmospheres. R. W. Moulton and W. L. Beuschlein. bibliog diag plan Am Inst Chem Eng Trans 36: 113-33 F '40
Thermal separation ratios calculated from viscosity data. H. Brown. bibliog Phys R 57: 242-3 F 1 '40
Thermodynamic properties of the hexyl alcohols; 2-methylpentanol-3 and 3-methylpentanol-3. F. Hovorka, H. P. Lankelma and A. E. Axelrod. bibliog Am Chem Soc J 62:187-9 Ja '40
Viscosities of arabogalactan solutions. H. S. Owens. bibliog Am Chem Soc J 62:930-2 Ap '40
Viscosities of linear polyesters; an exact relationship between viscosity and chain length. P. J. Flory. bibliog Am Chem Soc J 62: 1057-70 My '40
Viscosities of polyester solutions and the Staudinger equation. P. J. Flory and P. B. Stickney. bibliog Am Chem Soc J 62:3032-8 N '40
Viscosity and molecular structure. H. Mark and R. Simha. Soc Dyers & Col J 56:357-8 Ag '40
Viscosity and the shape of protein molecules. J. W. Mehl, J. L. Oncley and R. Simha. Science 92:132-3 Ag 9 '40
Viscosity-fluidity relations of proteins. H. P. Treffers. bibliog Am Chem Soc J 62:1405-9 Je '40
Viscosity index chart for lubricating oils. E. M. Sims. Power Pl Eng 44:88 My '40
Viscosity index of lubricating oils. E. W. Dean, A. D. Bauer and J. H. Berglund. bibliog il Ind & Eng Chem 32:102-7 Ja '40
Viscosity index of the oily constituents of asphaltic road oils. E. G. Swanson. Roads & Sts 83:80 My '40
Viscosity of gases and vapors at high pressures. E. W. Comings and R. S. Egly. bibliog Ind & Eng Chem 32:714-18 My '40
Viscosity of hydrocarbon solutions; methane—ethane—crystal oil system. B. H. Sage and W. N. Lacey. bibliog Ind & Eng Chem 32: 587-9 Ap '40
Viscosity of liquid ammonia. C. J. Plank and H. Hunt. diag Am Chem Soc J 61:3590-1 D '39
Viscosity of monolayers: a test of the canal viscosimeter. G. C. Nutting and W. D. Harkins. bibliog diags Am Chem Soc J 62: 3155-61 N '40
Viscosity of solutions of electrolytes as a function of the concentration; potassium bromide and lanthanum chloride. G. Jones and R. E. Stauffer. bibliog Am Chem Soc J 62:335-7 F '40
Viscosity of solutions of electrolytes as a function of the concentration; silver nitrate, potassium sulfate and potassium chromate. G. Jones and J. H. Colvin. Am Chem Soc J 62:338-40 F '40
Viscosity of solutions of sulfur dioxide in organic liquids. S. B. Cupp and H. E. Rogers. Am Chem Soc J 61:3353-4 D '39
Viscosity of strong phosphoric acids; chart. D. S. Davis. Chem & Met Eng 47:155 Mr '40
Viscosity of synthetics in mixed hydrocarbons; abstract. R. H. Huff. Oil Paint & Drug Rep 138:51 N 4 '40
Viscosity variations in methacrylic ester polymer solutions. D. E. Strain. Ind & Eng Chem 32:540-1 Ap '40
Viscous flow of large molecules. W. Kauzmann and H. Eyring. bibliog diag Am Chem Soc J 62:3113-25 N '40
Viscous properties of soda-boric oxide-silica glasses at temperatures from 900° to 1500°F. B. W. King, jr. and A. I. Andrews. il Am Cer Soc J 23:232-5 Ag '40
Yield and viscosity of holocellulose and some of its cellulosic fractions. W. G. Van Beckum and G. J. Ritter. bibliog Paper Tr J 109:107-9 N 30 '39

See also
Fluidity
Friction, Internal
Plasticity
Surface tension

Measurement

Accurate timing equipment for viscosity determinations. E. M. Fry, jr. and E. L. Baldeschwieler. il diag Ind & Eng Chem Anal ed 12:472-3 Ag 15 '40
Coefficient of thixotropy of suspensions of carbon black in mineral oil. J. E. Arnold and C. F. Goodeve. bibliog diags J Phys Chem 44:652-70 My '40
Evaluation of nitrocellulose lacquer solvents; study of hydrocarbon diluents by the constant-viscosity procedure. V. W. Ware and W. M. Bruner. bibliog Ind & Eng Chem 32:78-82 Ja '40

VISCOSITY—Measurement—*Continued*
Flow characteristics of lime-base greases. J. F. T. Blott and D. L. Samuel. bibliog diag Ind & Eng Chem 32:68-72 Ja '40
Les Journées de viscosimétrie (Bruxelles, 26-27 janvier, 1939). G. Kimpflin. Génie Civil 115:452-3 D 23 '39
Measurement of flow properties of asphalts by the penetrometer. C. C. Mill and V. G. W. Harrison. Soc Chem Ind J 59:66-7 Ap '40
Neue untersuchungsmethode zur viscositätsmessung an zähen flüssigkeiten bei steigenden temperaturen. K. Göhde. diag Chemische Fabrik 13:9-11 Ja 13 '40
Precision determination of the viscosity of air; rotating cylinder method. J. A. Bearden. bibliog diags Phys R 56:1023-40 N 15 '39
Tentative procedures for testing the variability of normal and concentrated latex. bibliog diags Ind & Eng Chem Anal ed 11:596-7 N 15 '39; Same. India Rubber W 101:51-2 F '40
Titanium sulfate solutions; refractive index and viscosity measurements. A. W. Hixson and J. D. Stetkewicz. bibliog Ind & Eng Chem 32:1009-15 Jl '40
Viscous force between almost-coaxial cylinders. D. R. Inglis. bibliog Phys R 56:1041-4 N 15 '39

See also
Viscosimeters

VISES
Quick-acting locking device for hinged machine vise. R. L. Austin. diags Am Mach 84:509 Jl 10 '40
Soft auxiliary jaws for the bench vise. M. H. Ball. il Am Mach 83:1045-6 D 13 '39

VISIBILITY
Evaluation of street lighting. K. M. Reid and H. J. Chanon. fold chart il Illum Eng Soc Trans 34:1209-31 bibliog(p1230-1); Discussion. 1231-2 D '39
Greater safety through lighting. C. H. Rex. il Can Eng R & B 78:22-3, 82-7+ Ap '40
Reflecting curbs assist the motorist to read the road he travels. W. Van Breemen. il diags Roads & Sts 83:48-50, 52, 54 My '40
Ribbons of light; New Jersey curbs designed to reflect like a mirror, especially in the rain. il diags Eng N 124:712-15 My 23 '40
Silhouette seeing with motor car headlamps. V. Roper and K. D. Scott. il Illum Eng Soc Trans 34:1073-83; Discussion. 1083-4 N '39
Street lighting evaluator. K. M Reid and H. J. Chanon. bibliog il Illum Eng 35:72-81 Ja '40; Excerpts. Elec W 114:278+, 422 Jl 27-Ag 10 '40
Study of chalkboard visibility. W. G. Darley and L. S. Ickis. il diag Illum Eng 35:431-43 My '40
Supra-threshold visibility. M. Luckiesh and F. K. Moss. il diags Opt Soc Am J 30:62-9 F '40
Testing visibility of highway signs; optical meter permits quantitative measurements. M. S. Kersten. il Civil Eng 10:225-6 Ap '40
Visibility of a thin wire. H. M. Reese. Opt Soc Am J 29:519 D '39
Visibility through haze and smoke, and a visibility meter. G. D. Shallenberger and E. M. Little. bibliog il diags Opt Soc Am J 30:168-76 Ap '40

See also
Lighting
Luminosity
Sight

VISIBLE records. See Records, Visible

VISION. See Sight

VISITORS
Filtration plant visitors; Cambridge, Mass. F. E. Smith. il Pub Works 70:14-16 D '39
For better consumer understanding; a manufacturers'-consumers' week suggested by E. N. Hopkins. Ptr Ink Mo 40:32 Ap '40
Indiana foundry holds open house; Decatur casting co. il Foundry 68:58, 60, 62 Ja '40
National machinery co. holds open house to show what makes jobs. il Steel 107:41 N 11 '40
Open house made educational; Racine First national bank anniversary celebration. B. J. Bleakley. il Bankers Mo 57:264-6 My '40

VISKING corporation
Wage dividend plan builds loyal corps of workers for Visking. il Sales Management 46:32-3 My 1 '40

VISTANEX
Rubber from petroleum gases. D. North. il Chem & Met Eng 47:220-4 Ap '40

VISUAL instruction
Audio-visual aids to instruction. H. C. McKown and A. B. Roberts. 385p $3 McGraw-Hill '40
Photoelastic demonstration as teaching aids in strength of materials. M. M. Frocht. bibliog il diags J Eng Educ 30:567-82 Mr '40

VITAL statistics
Experiment in the registration of vital statistics in China. C. Ch'iao, W. S. Thompson and D. T. Chen. 115p bibliog(p114-15) pa $1 Scripps foundation for research in population problems, Miami univ, Oxford, Ohio '38
Introduction to medical biometry and statistics. R. Pearl. 3d ed rev & enl 537p $7 Saunders '40
Plans for vital statistics in 1940. H. L. Dunn. Am Statis Assn J 35:86-92 Mr '40
Vital statistics summary for the United States, 1938. maps Pub Health Rep 55:933-42 My 24 '40

See also
Birth rate
Birth registration
Mortality—Statistics
Population—Statistics

VITAMINS
Battle over vitamins; drug industry will fight food trade for exclusive right to sell concentrates. Business Week p42 My 11 '40
Chemical composition of the egg. E. M. Cruickshank. bibliog Chem & Ind 59:415-19 Je 15 '40
Deficiency of vitamins. Science 91:sup9-10 Je 21 '40
Erzeugung und erhaltung vitaminreicher lebensmittel. A. Scheunert. Angew Chemie 53:119-23 Mr 16 '40
Grass, but not hay; cereal dehydration process. il Business Week p26+ Je 8 '40
Man alive you're half dead! D. C. Munro. 209p $2 D. Courtenay, 225 5th av, New York '40
Nährstoffe und wuchsstoffe der milchsäurebakterien. E. F. Möller. bibliog Angew Chemie 53:204-9 My 11 '40
New B vitamin and pernicious anemia. J. Stafford. Science 91:sup12 Ap 12 '40
New meat vitamin M. Business Week p25 Jl 27 '40
New vitamin controls; copywriters must watch out for FDA. Business Week p48-9 O 26 '40
New vitamin of the large B family; abstract. A. G. Hogan, L. R. Richardson and H. Patrick. Science 91:sup9 Mr 22 '40
Putting vitamins in their place; riboflavin returns to food. D. H. Killeffer. Ind & Eng Chem News ed 18:758 S 10 '40
Synthesis of pantothenic acid. il Ind & Eng Chem News ed 18:245 Mr 25 '40
Vibic flour on sale. Business Week p43+ Je 15 '40
Vitamin content of distillers' by-products. C. S. Boruff, A. F. Langlykke and S. Black. bibliog il Ind & Eng Chem 32:1237-9 S '40
Vitamin content of grass. R. D. Potter. Science 91:sup12 Ap 12 '40
Vitamin food labeling explained. Oil Paint & Drug Rep 137:5 Mr 11 '40
Vitamin food labeling to get hearing Oct. 7; tentative regulations. Oil Paint & Drug Rep 138:3+ S 9 '40
Vitamin food labels; tentative regulations. Oil Paint & Drug Rep 137:5+ Ap 1 '40
Vitamin labeling views presented by U.S. experts and others. Oil Paint & Drug Rep 138:5+ O 14; 5+ O 21; 5+ N 4 '40
Vitamin status; formulas and chemical names. D. H. Killeffer. Ind & Eng Chem News ed 18:670-1 Ag 10 '40

VITAMINS—*Continued*
Vitamins are an industry. il Ptr Ink Mo 40: 5-8, 24, 28 My '40
Vitamins for defense? fortified flour. Business Week p26+ O 26 '40
Vitamins get a book of rules; FDA prepares to regulate them. il Business Week p40-3 Ap 6 '40
Vitamins in U.S.P. J. Stafford. Science 91: sup10 My 31 '40
Vitamins invade the butcher shop; hunt for sales-giving health tips continues, financed by farmers and packers. Business Week p27-8 Mr 16 '40
Vitamins; what they are and how they can benefit you. H. Borsook. 193p $2 Viking press '40
Whey as a source of vitamins and vitamin products. G. C. Supplee. Ind & Eng Chem 32:238-40 F '40
White bread with whole wheat value; Vibic flour has an added mineral and vitamin content. Barron's 20:5 Je 17 '40

Biological assays

Factorial design and covariance in the biological assay of vitamin D. C. I. Bliss. Am Statis Assn J 35:498-506 S '40

Vitamin A

Assay of vitamin A with the photoelectric colorimeter. R. B. French. bibliog Ind & Eng Chem Anal ed 12:351-2 Je 15 '40
Biological standardization of vitamin-*A*. P. Tainsh and H. Wilkinson. Chem & Ind 58: 1051-2 D 2 '39
Carotene (vitamin A) content of fresh and frosted peas; abstract. C. R. Stimson and D. K. Tressler. Food Ind 12:96 My '40
Constitution and physiological significance of carotene and allied pigments. R. A. Morton. Chem & Ind 59:301-7 My 4 '40
Content of Argentine fish liver oils; abstract. A. O. Castellanos. Food Ind 12:101-2 O '40
Crystalline vitamin A palmitate and vitamin A alcohol. J. G. Baxter and C. D. Robeson. Science 92:203-4 Ag 30 '40
Effect of the basal diet on the biological assay of vitamin-*A*. N. T. Gridgeman, H. Lees and H. Wilkinson. Soc Chem Ind J 59:120-5 Je '40
Insect life without vitamin A. R. E. Bowers and C. M. McCay. Science 92:291 S 27 '40
Isolation of carotene from green plant tissue; use of barium hydroxide octahydrate. H. G. Petering, P. W. Morgal and E. J. Miller. flow sheet bibliog Ind & Eng Chem 32:1407-12 O '40
Mobilization of vitamin A by alcohol. L. B. Pett. Science 92:63 Jl 19 '40
Mobilization of vitamin A from its stores in the tissues by ethyl alcohol. S. W. Clausen and others. Science 91:318 Mr 29 '40
Relative overgrowth of the central nervous system in vitamin A deficiency in young rats. S. B. Wolbach and O. A. Bessey. Science 91:599-600 Je 21 '40
Studies in the polyene series; oxidation of vitamin-A with aluminium *iso*propoxide. I. M. Heilbron, A. W. Johnson and W. E. Jones. Chem Soc J p1560-3 O '39
Studies on some possible causative factors of the spontaneous adenomatous lesion of the stomach in mice of strain I. H. B. Andervont. bibliog Pub Health Rep 54: 2085-93, pl 1-4 N 24 '39
Vitamin A destruction in fish liver oils; relation to peroxide formation. E. J. Simons, L. O. Buxton and H. B. Colman. bibliog Ind & Eng Chem 32:706-8 My '40
Vitamin A therapy relieves eye fatigue. Nat Safety N 41:136 Mr '40

Vitamin B complex

Dr W. H. Sebrell wins award for vitamin B studies. Pub Health Rep 55:699 Ap 19 '40
Hemorrhagic cortical necrosis of adrenals in rats on deficient diets. A. A. Nelson. bibliog Pub Health Rep 54:2250-6, pl 1-2 D 22 '39
New factor of the vitamin B complex required by the albino mouse. E. R. Norris and J. Hauschildt. bibliog Science 92:316-17 O 4 '40
Vitamin B; average American consumes too little; abstract. N. Jolliffe. Science 92:sup12 O 25 '40
Vitamins and nervous breakdown; abstract. J. P. Frostig and T. D. Spies. Science 91: sup8-9 F 16 '40

Vitamin B_1

Analysis of the vitamin-B_1 status of the population of Great Britain. T. Moran and R. G. Booth. bibliog Chem & Ind 59:533-7 Jl 27 '40
Biochemistry of brain tissue. R. A. Peters. bibliog Chem & Ind 59:373-8 Je 1 '40
Bisulfite binding substances (B.B.S.) and thiamin deficiency. M. Shils, H. G. Day and E. V. McCollum. Science 91:341 Ap 5 '40
Deficiency disease of foxes. R. G. Green and C. A. Evans. Science 92:154-5 Ag 16 '40
Diet experiments; abstract. R. D. Williams, H. L. Mason and R. M. Wilder. Science 91:sup9 Mr 22 '40
Distribution of vitamin-B_1 in foods as determined by chemical analysis. M. Pyke. Soc Chem Ind J 58:338-40 N '39
Enzymic phosphorylation of vitamin B_1; abstract. H. Weil-Malherbe. Chem & Ind 58: 1021 N 18 '39
Franklin institute, committee on science and the arts; abstract of report, Vitamin B_1. Franklin Inst J 229:783-5 bibliog(17 titles, p785) Je '40
Functions of diphosphothiamine (phosphorylated vitamin B_1). E. S. G. Barron and C. M. Lyman. bibliog Science 92:337-8 O 11 '40
Furor over wheat germ flour; vitamin B in white flour offered on licensing and royalty arrangement. F. C. Minaker. il Am Business 10:26-8 Ag '40
Leprosy; vitamin B_1 deficiency and rat leprosy. L. F. Badger, E. Masunaga and D. Wolf. bibliog Pub Health Rep 55:1027-41 Je 7 '40
Need for the addition of vitamin B_1 to staple American foods; abstract. G. R. Cowgill. Food Ind 12:100 Mr '40
Processing and thiamin; abstract. A. Arnold and C. A. Elvehjem. Food Ind 12:96-7 My '40
Relationship of inositol, thiamin, biotin, pantothenic acid and vitamin B_6 to the growth of yeasts. R. J. Williams, R. E. Eakin and E. E. Snell. bibliog Am Chem Soc J 62: 1204-7 My '40
Studies on pyrimidines related to vitamin B_1; a new synthesis of 2-methyl-6-aminopyrimidine-5-aldehyde. D. Price, E. L. May and F. D. Pickel. bibliog Am Chem Soc J 62: 2818-20 O '40
Synthesis of the pyridine analog of vitamin B_1. A. H. Tracy and R. C. Elderfield. bibliog Science 92:180-1 Ag 23 '40
Thiochrome method for the estimation of aneurin, with a survey of the aneurin content of wheats. R. G. Booth. bibliog Soc Chem Ind J 59:181-4 Ag '40
Verhalten des vitamins B_1 beim kochen und konservieren von gemüsen. G. Lunde, H. Kringstad and A. Olsen. Angew Chemie 53: 123-5 Mr 16 '40
Vitamin B_1 content of foods in terms of crystalline thiamin; abstract. L. E. Booher and E. R. Hartzler. Food Ind 12:97 Je '40
Vitamin B_1 in relation to the growth of green plants. D. I. Arnon. bibliog Science 92:264-6 S 20 '40

Bibliography

Vitamin B_1 (thiamin chloride) therapeutic uses; annotated bibliography. 50p Merck & co, Rahway, N.J. '39

Vitamin B_6

Chemistry of vitamin B_6; reactions and derivatives. S. A. Harris. bibliog Am Chem Soc J 62:3203-5 N '40
Chemistry of vitamin B_6; tautomerism. S. A. Harris, T. J. Webb and K. Folkers. bibliog Am Chem Soc J 62:3198-203 N '40

VITAMINS—Vitamin B_6—*Continued*

Fits developed in rats kept on diets deficient in vitamin-B_6; abstract. H. Chick, A. N. Worden and M. M. El-Sadr. Chem & Ind 58:1019-20 N 18 '39

Nährstoffe und wuchsstoffe der milchsäurebakterien; adermin. E. F. Möller. Angew Chemie 53:206-7 My 11 '40

Parkinson's disease. Science 91:sup10 My 31 '40

Quantitative test for biotin and observations regarding its occurrence and properties. E. E. Snell, R. E. Eakin and R. J. Williams. bibliog Am Chem Soc J 62:175-8 Ja '40

Relationship of inositol, thiamin, biotin, pantothenic acid and vitamin B_6 to the growth of yeasts. R. J. Williams, R. E. Eakin and E. E. Snell. bibliog Am Chem Soc J 62: 1204-7 My '40

Synthesis of vitamin B_6. S. A. Harris and K. Folkers. Am Chem Soc J 61:3307-10 D '39

Vitamin B_6 as an accessory growth factor for staphylococcus albus. S. P. Vilter and T. D. Spies. Science 91:200-1 F 23 '40

Bibliography

Vitamin B_6; annotated bibliography. 20p Merck & co, Rahway, N.J. '40

Vitamin C

Control of experimental alcaptonuria by means of vitamin C. R. R. Sealock and H. E. Silberstein. Science 90:517 D 1 '39

Defect in the metabolism of aromatic amino acids in premature infants; the role of vitamin C. S. Z. Levine, E. Marples and H. H. Gordon. bibliog Science 90:620-1 D 29 '39

Effect of vitamin C on lead poisoning; abstract. H. N. Holmes, K. Campbell and E. J. Amberg. J Ind Hygiene 22:sup78 Ap '40

Enriching food products with vitamins; abstract. B. Falke and G. Lemmel. Food Ind 12:100 Jl '40

Stable 2,6-dichlorobenzenoneindophenol solutions. I. Stone. bibliog Ind & Eng Chem Anal ed 12:415 Jl 15 '40

Storage of frozen vegetables; vitamin C experiments. R. R. Jenkins and others. bibliog Refrig Eng 39:381-2 Je '40

Vitamin C content of fruits and vegetables. R. C. Burrell and V. R. Ebright. bibliog J Chem Educ 17:180-2 Ap '40

See also
Ascorbic acid

Vitamin D

Factorial design and covariance in the biological assay of vitamin D. C. I. Bliss. Am Statis Assn J 35:498-506 S '40

Relative efficiency of active wave lengths of ultraviolet in activation of 7-dehydrocholesterol. J. W. M. Bunker, R. S. Harris and L. M. Mosher. Am Chem Soc J 62:508-11 Mr '40

Synthesis of compounds related to the antirachitic vitamins. J. B. Aldersley and others. Chem Soc J p10-16 Ja '40

Vitamin D; chemistry, physiology, pharmacology, pathology, experimental and clinical investigations. C. I. Reed, H. C. Struck and I. E. Steck. 389p bibliog(p323-71) $4.50 Univ. of Chicago press '39

Vitamin E

Chemistry of vitamin E. L. I. Smith. Chem R 27:287-329 bibliog(144 references, p325-9) O '40

Chemistry of vitamin E; a new synthesis of 2,4,6,7-tetramethyl-5-hydroxycoumaran and of 2-methyl-5-hydroxycoumaran; oxidation products of the tetramethylcoumaran. L. I. Smith, H. H. Hoehn and A. G. Whitney. bibliog Am Chem Soc J 62:1863-9 Jl '40

Chemistry of vitamin E; dealkylation of hydroquinone ethers related to the tocopherols. L. I. Smith, H. E. Ungnade and W. B. Irwin. bibliog Am Chem Soc J 62:142-4 Ja '40

Chemistry of vitamin E; the preparation of o-xylohydroquinone. O. H. Emerson and L. I. Smith. bibliog Am Chem Soc J 62:141-2 Ja '40

Chemistry of vitamin E; the reaction between Grignard reagents and coumarins and hydrocoumarins. L. I. Smith and P. M. Ruoff. bibliog Am Chem Soc J 62:145-8 Ja '40

Chemistry of vitamin E; the structure of γ-tocopherol. O. H. Emerson and L. I. Smith. bibliog Am Chem Soc J 62:1869-72 Jl '40

Studies on vitamin E; further investigations on homologues of α-tocopherol. A. Jacob, F. K. Sutcliffe and A. R. Todd. Chem Soc J p327-32 Mr '40

Vitamin E; a symposium held under the auspices of the Food group (Nutrition panel) of the Society of chemical industry. 88p bibliog(p85-8) $2 Chemical pub co. '40

Vitamin E sources; abstract. W. Halden. Food Ind 12:99 My '40

Vitamin E; treatment of diseases of muscle weakness and nerve degeneration; abstract. F. Bicknell. Science 91:sup6 F 9 '40

Bibliography

Alpha-tocopherol, vitamin E; annotated bibliography. 93p Merck & co, Rahway, N.J. '39

Vitamin F (B_1)

See Vitamins—Vitamin B_1

Vitamin H

Biotin (bios IIb, vitamin H), an essential growth factor for certain staphylococci. J. R. Porter and M. J. Pelczar, jr. Science 91:576-7 Je 14 '40

Egg-white injury in chicks and its relationship to a deficiency of vitamin H (biotin). R. E. Eakin, W. A. McKinley and R. J. Williams. Science 92:224-5 S 6 '40

Identity of vitamin H with biotin. V. du Vigneaud and others. bibliog Science 92: 62-3 Jl 19 '40

Possible identity of vitamin H with biotin and coenzyme R. P. György and others. bibliog Science 91:243-5 Mr 8 '40

Vitamin K and K_1

Additional observations on the vitamin K activity of quinones. E. Fernholz, H. B. MacPhillamy and S. Ansbacher. Am Chem Soc J 62:1619-20 Je '40

Anti-bleeding substances; abstract. H. P. Smith. Science 91:sup8-9 Mr 22 '40

Cancer prevention; vitamin K; abstract. L. F. Fieser. Science 92:sup11 S 20 '40

Chemistry of vitamin K. C. R. Addinall. Can Chem & Process Ind 24:142 Mr '40; Same. Chem & Ind 59:233 Ap 6 '40

Diene synthesis of 2,3-dialkyl-1,4-naphthoquinones related to vitamin K. L. F. Fieser and C. W. Wieghard. Am Chem Soc J 62: 153-5 Ja '40

Extensions of the vitamin K_1 synthesis. L. F. Fieser, M. Tishler and N. L. Wendler. bibliog Am Chem Soc J 62:2861-6 O '40

Further compounds having anti-hemorrhagic activity. L. F. Fieser, M. Tishler and W. L. Sampson. Am Chem Soc J 62:996 Ap '40

Hydro, oxido and other derivatives of vitamin K_1 and related compounds. M. Tishler, L. F. Fieser and N. L. Wendler. bibliog Am Chem Soc J 62:2866-71 O '40

Mechanism of action for vitamin K. E. L. McCawley and C. Gurchot. Univ of Calif Pub in Pharmacology v 1, no 27:325-38 bibliog(p335-8) '40 (pa 25c)

Nature of the by-product in the synthesis of vitamin K_1; 2-methyl-2-phytyl-2,3-dihydro-1,4-naphthoquinone. M. Tishler, L. F. Fieser and N. L. Wendler. bibliog Am Chem Soc J 62:1982-91 Ag '40

Oxidation-reduction potential of vitamin K_1. B. Riegel, P. G. Smith and C. E. Schweitzer. bibliog Am Chem Soc J 62:992 Ap '40

Sodium salt of 2-methyl-1,4-naphthohydroquinone diphosphoric acid ester. R. H. K. Foster, J. Lee and U. V. Solmssen. Am Chem Soc J 62:453-4 F '40

Synthesis of vitamin K_1. L. F. Fieser. Science 91:31-6 Ja 12 '40

Synthesis of vitamin K_1. L. F. Fieser. bibliog Am Chem Soc J 61:3467-75 D '39

VITAMINS—Vitamin K and K_1—*Continued*
Vitamin K. E. A. Doisy and others. bibliog Science 91:58-62 Ja 19 '40
Vitamin K-active derivatives of 2-methyl-1,4-naphthohydroquinone. S. Ansbacher, E. Fernholz and M. A. Dolliver. bibliog Am Chem Soc J 62:155-8 Ja '40
Vitamin K activity of certain naphthols and tetralones. M. Tishler, L. F. Fieser and W. L. Sampson. Am Chem Soc J 62:1881-2 Jl '40
Vitamin K activity of naphthoquinones. E. Fernholz, S. Ansbacher and H. B. MacPhillamy. bibliog Am Chem Soc J 62:430-2 F '40
Water-soluble antihemorrhagic esters. L. F. Fieser and E. M. Fry. Am Chem Soc J 62:228-9 Ja '40

Bibliography

Vitamin K; annotated bibliography. 57p Merck & co, Rahway, N.J. '40

Vitamin L

Vitamin L and filtrate factor. W. Nakahara, F. Inukai and S. Ugami. Science 91:431 My 3 '40

Vitamin P

See Citrin

VITEXIN
Experiments on vitexin. E. Péteri. Chem Soc J p1635-7 O '39

VITILIGO
Occupational leukoderma. L. Schwartz, E. A. Oliver and L. H. Warren. Pub Health Rep 55:1111-30, pl 1-8 Je 21 '40

VITREOSIL. See Silica, Fused

VOCABULARY
Building your vocabulary. J. G. Gilmartin. 281p $1.12 Prentice-Hall '40
Twelve ways to build a vocabulary. A. Hart. new rev ed 183p $1.50 Dutton '39

VOCAL cords. See Voice

VOCATIONAL education
Course-making in industrial education. J. F. Friese. rev ed 214p pa $1.50 John Frank Friese, State College, Pa. '39
Education and training for marketing. P. H. Nystrom. Ann Am Acad 209:158-64 My '40
Employment and unemployment of young workers. Int Labour R 41:445-78 My '40
Life planning and building. H. N. Clarke. 251p bibliog(p222-4) $1.60 International textbook co, Scranton, Pa. '40
Modern educational standards require new facilities for industrial arts training. A. B. Moehlman. il Arch Rec 87:88-90 Ap '40
Parker school district, of Greenville, S.C. expands facilities. il Textile World 90:56 My '40
Report of vocational-training classes, petroleum-industry series; tabulated data. Am Pet Inst Proc 21M(4):87-121 My '40
Salvaging the lost generation; Williamsport, Pa. plan. A. T. Winecoff. Nation's Business 28:108-9 Mr '40
Technical and vocational education and apprenticeship. 251p; Supplementary report. 26p $1.25 Int. labor office '39
Tool engineering education; symposium at annual meeting of American society of tool engineers. Iron Age 145:45-6 Mr 14 '40
Training for the job; vocational education for adults. F. E. Hill. 160p $1.25 Am. assn. for adult education, New York '40
Vocational education, 1938-39. Monthly Labor R 50:1411-14 Je '40
Vocational education in the insurance business. D. J. Bloxham. Trusts & Estates 70: 533 My '40

See also
Agricultural education
Apprentices
Chemical education
Employees, Training of
Engineering education
High schools—Shop courses
Industrial education
Library schools and training
Mining schools and education
National farm youth foundation
National youth administration
Technical education
Textile schools
Timken vocational high school
Trade schools

Directories

Directory of opportunities for vocational training in New York city. rev ed 98p Vocational service for juniors, 95 Madison av, New York '40

Federal aid

1,259,200 skilled workers by July 1, 1941, federal training plan. Steel 107:40-1 S 23 '40
Vocational training for pulp and paper workers. W. L. Cassiday. Paper Ind 22:457-8+ Ag '40
Youth goes to summer schools to learn mechanical skills; federal government's national labor-training program. Steel 107: 24-5 Jl 15 '40

Standards

Requirements for vocational training in air conditioning and refrigeration. R. D. Wood. Refrig Eng 40:226-8 O '40

VOCATIONAL guidance
Analytical devices in guidance and counseling. H. D. Richardson. 63p bibliog(p59-63) pa $1 Science research associates, 600 S. Michigan av, Chicago '40
Can a bank help place youth in business? R. W. Lane. Bankers Mo 57:332-3+ Je '40
Counseling young workers. J. F. Culbert and H. R. Smith. 212p $1.75 Vocational service for juniors, 95 Madison av, New York '39
Discovery of promising freshman engineers. J Eng Educ 31:133-7 O '40
Graduate looks to the future. C. E. Erickson and L. McColloch. 112p pa 48c McKnight & McKnight, Bloomington, Ill. '40
Introduction to high school counseling. E. G. Williamson and M. E. Hahn. 314p $3 McGraw-Hill '40
Life planning and building. H. N. Clarke. 251p bibliog(p222-4) $1.60 International textbook co, Scranton, Pa. '40
Matching youth and jobs. H. M. Bell. 277p $2 Am. youth commission, Am. council on education, 744 Jackson pl, NW, Washington, D.C. '40
Occupational counseling techniques; their development and application. W. H. Stead and others. 273p bibliog(p261-4) $2.50 Am. book co. '40
Primer of guidance through group work. R. E. G. Davis, ed. 48p bibliog(p48) pa 50c Assn. press, New York '40
Utilizing community resources for vocational guidance and training. M. P. Moe and L. O Brockmann. 56p pa 50c M. P. Moe, box 217, Helena, Mont. '37

See also
Occupations

VOCATIONAL rehabilitation. See Disabled—Rehabilitation

VOCATIONAL schools. See Trade schools

VOCODER
Vocoder, electrical re-creation of speech. H. Dudley. il plan W Soc E J 44:306-10 D '39

VODER
Carrier nature of speech. H. Dudley. il diags Bell System Tech J 19:505-9 O '40

VOGAD
Radio extension links to the telephone system. R. A. Heising. diags Bell System Tech J 19:618-24 O '40

VOICE
Mechanism of the human voice. R. Curry. 205p bibliog(p194-202) $3 Longmans '40
Photographing the vocal cords; abstract. J. C. Steinberg. Science 91:sup8 Je 28 '40
Voice and articulation drillbook. G. Fairbanks. 234p $1.25 Harper '40

See also
Speech

VOICE operated relays
Radio extension links to the telephone system. R. A. Heising. diags Bell System Tech J 19:619-24 O '40

VOLATILITY
Investigation of the volatility of glaze constituents by the use of the spectrograph. H. C. Harrison, W. G. Lawrence and D. J. Tucker. il Am Cer Soc J 23:111-16 Ap '40
Valence relations among the metal carbonyls. A. A. Blanchard. Chem R 26:409-22 bibliog(p421-2) Je '40

VOLCANIC ash, tuff, etc.
Volcanic ash as a source of silica for the silicification of wood. K. J. Murata. Am J Sci 238:586-96 bibliog(p594-5) Ag '40

VOLCANIC gases
Magmatic gases. T. A. Jaggar. bibliog Am J Sci 238:313-53, pl 1-5 My '40

VOLCANOES
Growth of Mount Mazama and the formation of Crater lake; abstract. H. Williams. Science 91:456 My 10 '40
Incidence of hydrogen sulfide at Kilauea solfatara preceding the 1940 Mauna Loa volcanic activity. J. H. Payne and S. S. Ballard. Science 92:218-19 S 6 '40
Structural and volcanic problems in the southern Absaroka mountains, Wyoming. J. T. Rouse. bibliog maps Geol Soc Bul 51: 1413-27, pl 1 S '40
Volcanic activity in the Cripple Creek gold mining field. Science 91:sup12 My 10 '40
Volcano-seismic crisis at Montserrat, 1933-1937. F. A. Perret. 76p $3; pa $2.50 Carnegie institution of Washington, Washington, D.C. '39

See also
Lava
Rocks, Igneous
Vesuvius, Mount
Volcanic gases

VOLGA river, Russia
Greater Volga scheme; immense navigation, irrigation and power project. Electrician 123:303 S 29 '39

VOLTAGE
Calculation and experiment on transformer reactance in relation to transients of restriking voltage. L. Gosland and W. F. M. Dunne. bibliog diags Inst E E J 87:163-77, pl 1-2 Ag '40
Converter for low frequency sinusoidal voltages and a source of sinusoidal radiation intensity. L. Harris and A. C. Scholp. diags R Sci Instr 11:23-5 Ja '40
Determination of ground-fault current and voltages on transmission systems. E. M. Hunter, E. Pragst and P. H. Light. Gen Elec R 42:353-6, 479-85 Ag, N '39
Effects of voltage variation on motor and control operation. C. B. House. Factory Management 98:92, 94 S '40
Fast method combines voltage vectors. L. Lyndon. Elec W 113:770+ Mr 9 '40
Motor operation on off-standard voltages. C. B. House, jr. Elec W 113:1088 Ap 6 '40
Restriking-voltage characteristics under various fault conditions at typical points on the network of a large city supply authority. L. Gosland. diags Inst E E J 86:248-74, pl 1-2 bibliog(p270) Mr '40
Restriking voltage in service and on test. H. Trencham. bibliog Engineering 148: 521-2 N 10 '39
Service voltage from watt-hour meter. S. Stokes. Elec W 113:1736+ Je 1 '40
Simultaneous loading of transformers. V. N. Friedman. diag Power Pl Eng 44:57-8 Jl '40
Some recent developments in impulse-voltage testing. C. M. Foust and N. Rohats. il diags Elec Eng 59:Trans 257-62; Discussion. Trans 262-5 My '40
Surge-voltage breakdown characteristics for electrical gaps in oil. R. W. Sorensen. il diag Elec Eng 59:Trans 78-81; Discussion. Trans 81-4 F '40
Utilization voltage terms and definitions. Edison Elec Inst Bul 8:462 O '40

See also
High voltages

VOLTAGE regulation
Arc-furnace loads on long transmission lines. T. G. LeClair. il diags Elec Eng 50:Trans 234-9; Discussion. Trans 239-42 Ap '40
Basis for a program of capacitor additions on a growing distribution system; with cost data. V. G. Rettig. Edison Elec Inst Bul 8:387-94 Ag '40; Same cond. Elec W 114: 78-80 Jl 13 '40
Capacitor program for distribution betterment. T. Seely and P. H. Jeynes. diags Elec W 114:380-2+, 531-3 Ag 10-24 '40
Capacitors; voltage correction obtained with static units at savings. H. E. Jung. Elec West 85:44-5 Jl '40
Continuity of service as related to its cost and value. H. R. Woodrow. Edison Elec Inst Bul 8:305-8 Je '40; Same cond. Power Pl Eng 44:60-2 Ag '40; Excerpts. Elec W 113:1892-3 Je 15 '40
Continuous face power assured by load distributors on motor generator sets at Union colliery co. operation. F. W. Richart. il plan Coal Age 45:47-8 Mr '40
Controlling power flow; how phase angle, other factors, affect load balance. J. F. Spease. Elec West 84:50-1 My '40
Correcting on the low side; applications in San Joaquin. H. H. Minor. Elec West 84: 46-7 My '40
Distribution outlays to limit lamp flicker. D. K. Blake. Elec W 114:854-6, 1004-5+ S 21-O 5 '40
Equivalent circuit of the auto-transformer; equations for prediction of regulation. G. H. Rawcliffe. diags Electrician 124:203-4 Mr 15 '40
Improve X-ray supply regulation. diag Elec W 114:1030 O 5 '40
Integrated supply improves service to welders; utility substation co-ordinated with plant interlaced bus scheme; Midland steel products company, Detroit. W. B. Hurley and W. Smith. il diags Elec W 113:1198-1200 Ap 20 '40
Keeping voltage within bounds; regulating practices of 13 systems. table Elec West 84:44-5 Mr '40
Miniature plant voltage regulation by means of Thyrite resistors. R. J. Mather. diag Elec W 113:2070 Je 29 '40
Power factor and voltage controlled automatically; American rolling mill company. E. G. Schlup. il diag Elec W 114:842-4 S 21 '40
Railway signal mains; counteracting voltage drop. H. C. Towers. il diags Elec R (Lond) 127:281 O 4 '40
Sectionalized buses; various arrangements with respect to short-circuit current, regulation, and stability. W. M. Hanna. diags Gen Elec R 43:399-402 O '40
Serving arc furnace loads in suburban areas; comparing synchronous condenser and motor-generator set for correcting voltage disturbance. L. W. Clark. diag Elec W 113: 578-9 F 24 '40
Seventeen systems report smooth capacitor performance. M. C. Miller. Elec W 113:288-9+ Ja 27 '40
Shunt capacitor application problems. J. W. Butler. bibliog il diags Gen Elec R 43: 206-12 My '40
Silver buttons control generator voltage. C. E. Valentine. il diag Elec W 113:1392+ My 4 '40
Step voltage down to work line hot. Elec W 113:1384 My 4 '40
Transient and steady-state performance of potential devices. E. L. Harder, P. O. Langguth and C. A. Woods, jr. il diags Elec Eng 59:Trans 91-9; Discussion. Trans 99-102 F '40
Use of a grid to reduce operating voltage in Geiger-Mueller counters. S. A. Korff and W. E. Ramsey. diag R Sci Instr 11:267-9 Ag '40
Use of multiwinding transformers with synchronous condensers for system voltage regulation. H. P. St Clair. bibliog il diags Elec Eng 59:Trans 212-17; Discussion. Trans 217 Ap '40

VOLTAGE regulation—*Continued*
Use tertiary bank to buck voltage. diags Elec W 113:1738 Je 1 '40
Variable-voltage equipment for rotary drilling rigs. E. H. Lamberger. il diag Elec Eng 59: Trans 248-55; Discussion. Trans 255-6 Ap '40
Voltage-regulated power supply for electron-coupled oscillator. F. J. Gaffney and G. Turney. il diag Radio N 23:21+ F '40
Voltage stabilisation; use of static apparatus to maintain constant values in transmission systems. T. F. Wall. diags Elec R (Lond) 126:367-9 Mr 29 '40

VOLTAGE regulators
Automatic and progressive voltage regulator for rural areas. L. P. Canaby and J. L. Hegly. Electrician 124:407-8, 420-1 Je 7-14 '40
Bimetal mount aids contact maintenance. C. C. Whitaker. il Elec W 113.1918 Je 15 '40
Cost of regulator installation. Elec W 113: 1084 Ap 6 '40
Direct-acting generator voltage regulator. W. K. Boice and others. il diags Elec Eng 59:Trans 149-56; Discussion. Trans 156-7 Mr '40
Distribution planning; fixing regulator settings. C. E. Arvidson. Elec W 112:1436-8+ N 18 '39
Five-ampere electronic d-c regulator for Cinema Integraph, developed at the Massachusetts institute of technology. J. N. Coombs and P. T. Nims. diag Electronics 13:40+ Ja '40
Fluorescent lamp voltage stabilizer. M. H. Sweet. il diags Electronics 13:60+ Ag '40
General Electric copper-oxide rectifier and voltage regulator for electroplating. il Metal Ind 37:586+ D '39
Improved reliability for city substation; step-type regulators on transformers. F. R. Ford. il Elec W 114:857 S 21 '40
Oerlikon ultra-rapid voltage regulator. il diag Engineering 149:232-3 Mr 1 '40
Primary limits; application of feeder voltage regulators. R. O. Loomis. Elec W 114:1300-2 N 2 '40
Servicing the Delco-Remy model 5620 five-unit regulator. W. H. Crouse. diags Bus Transportation 19:190-1 Ap '40
Step regulators for transmission control; Iowa-Nebraska light & power company. G. C. Moomaw. diags Elec W 114:387-9+ Ag 10 '40
Team capacitors and line regulators. diags Elec W 114:1338+ N 2 '40
Tie line regulator compensator setting. B. E. Ellsworth. Elec W 113:448 F 10 '40
Voltage control with a non-linear Wheatstone bridge; incandescent lamp forms basis of circuit. W. Richter. diags Electronics 13: 20-1+ Je '40
Voltage regulation on buses. W. A. Roberts. il diags Bus Transportation 19:296-9, 344-7, 392-5, 468-70 Je-S '40
Voltage regulation on low voltage electrical circuits. P. E. Benner. il diags Power Pl Eng 44:78-80 O '40

VOLTMETERS
Electrical troubles; using the voltmeter and ammeter. W. A. Roberts. diags Bus Transportation 19:237-40 My '40
Frequency compensation of moving-iron voltmeters. Wireless Eng 17:429-31 O '40
Generating voltmeter for pressure-insulated high voltage sources. J. G. Trump, F. J. Safford and R. J. Van de Graaff. bibliog diags R Sci Instr 11:54-6 F '40
Hochspannungsmesser für 600 000 V. W. Rogowski and H. Böcker. il diags V D I 84:119-20 F 17 '40
Radio-frequency spark-over in air. P. A. Ekstrand. diags Inst Radio Eng Proc 28:262-6 Je '40
Voltmeter records high-low points. il Elec W 114:1194 O 19 '40

VOLTMETERS, Vacuum tube
Build the test-all. M. Bly. il diag Radio N 24:39+ Jl '40
Duo-triode bridge voltmeter. R. E. Vollrath. diag R Sci Instr 10:361-2 D '39; Abstract. Electronics 13:62-3 F '40
Electron-ray titrimeter. E. J. Serfass. il diags Ind & Eng Chem Anal ed 12:536-9 S 15 '40
Insulation resistance tests; Megohm bridge developed by General radio co. il diags Power Pl Eng 44:59-60+ Je '40
Measurements of currents and voltages down to a wavelength of 20 centimeters. M. J. O. Strutt and K. S. Knol. bibliog il diags Inst Radio Eng Proc 27:783-9 D '39
Modified vacuum tube voltmeter. G. Province. il diag Radio N 23:25 My '40
New logarithmic electronic voltmeter. P. J. Selgin. il diag Electronics 13:40, 44+ N '40
Reversible vacuum tube voltmeter. D. H. Prewitt. il diags Radio N 24:38+ Ag '40
Simple vacuum tube voltmeter. S. Proctor. il diag Radio N 23:11+ Ja '40
Square-law vacuum-tube voltmeter. J. R. Ragazzini and B. R. Boymel. diag R Sci Instr 11:312-14 O '40; Abstract. Electronics 13:74-5 N '40
Vacuum tube voltmeter; application to potentiometric precipitation titrations. L. E. West and R. J. Robinson. bibliog diags Ind & Eng Chem Anal ed 12:476-9 Ag 15 '40
Vacuum tube voltmeter for coaxial line measurements. G. L. Usselman. diags Electronics 13:32+ Jl '40

VOLUME
Device for measuring volume of soil samples; cavolimeter. S. R. King. il Eng N 123:749 D 7 '39
Drum volume chart. Metal Finishing 38:564 O '40
Gallons in any standard pipe in the mine. Can Min J 61:508 Ag '40
Gallons in pipes. W. F. Schaphorst. chart Eng N 124:43 Ja 4 '40
Nomographs for correcting volumes of perfect gases. J. G. Roof. Ind & Eng Chem 32:998-1000 Jl '40
Volumbestimmung durch dielektrische messung. H. Ulich and H. van den Berge. diag Chemische Fabrik 12:512-13 D 27 '39

VOLUME indicators
New standard volume indicator and reference level. H. A. Chinn, D. K. Gannett and R. M. Morris. il diags Inst Radio Eng Proc 28:1-17 Ja '40; Same. Bell System Tech J 19:94-137 Ja '40

VOLUMETERS
Apparatus and method for the determination of porosity in refractory materials. G. E. Seil, B. S. Tucker and H. A. Heiligman. il diag Am Cer Soc J 23:330-3 N '40
Volumeter research of the fluid-meters committee of the A.S.M.E. E. E. Ambrosius and H. S. Bean. il diags Oil & Gas J 39:56, 59, 61+ Ag 8 '40; Same. Mech Eng 62:677-81 S '40

VOLUMETRIC analysis
Amperometric (polarometric) titrations; the amperometric titration of lead with dichromate or chromate. I. M. Kolthoff and Y. Pan. bibliog diag Am Chem Soc J 61: 3402-9 D '39
Amperometric titration of fluorine with thorium nitrate. A. Langer. bibliog Ind & Eng Chem Anal ed 12:511-14 S 15 '40
Amperometric titrations. I. M. Kolthoff. bibliog diags Electrochem Soc Trans 78 (preprint 22):311-26 O '40
Amperometric titrations; the titration of cobalt with α-nitroso-β-naphthol. I. M. Kolthoff and A. Langer. Am Chem Soc J 62:3172-5 N '40
Amperometric titrations; the titration of nickel with dimethylglyoxime using the dropping mercury electrode as indicator electrode. I. M. Kolthoff and A. Langer. diag Am Chem Soc J 62:211-18 Ja '40
Analysis of aniline-water solutions. J. Griswold. Ind & Eng Chem Anal ed 12:89-90 F 15 '40
Analysis of free sodium cyanide in brass plating solutions. W. M. McNabb and S. Heiman. bibliog Ind & Eng Chem Anal ed 12:161-3 Mr 15 '40; Same. Metal Ind 38:260-2 My '40

VOLUMETRIC analysis—*Continued*

Analysis of selenium in glass. A. E. Pavlish and R. W. Silverthorn. diag Am Cer Soc J 23:116-18 Ap '40

Analysis of sulfite solutions containing selenium; a volumetric method. R. C. Shaver and C. R. McCrosky. bibliog Ind & Eng Chem Anal ed 12:74-6 F 15 '40

Analytical procedures employing Karl Fischer reagent; the determination of alcoholic hydroxyl. W. M. D. Bryant, J. Mitchell, jr. and D. M. Smith. Am Chem Soc J 62:1-3 Ja '40

Analytical procedures employing Karl Fischer reagent; the determination of organic acids. J. Mitchell, jr, D. M. Smith and W. M. D. Bryant. Am Chem Soc J 62:4-6 Ja '40

Anwendung elektrometrischer methoden in der mikrochemie. U. Ehrhardt. diags Angew Chemie 53:125-8 Mr 16 '40

Cerate oxidimetry; electrolytic oxidation of cerium without use of a diaphragm cell. G. F. Smith, G. Frank and A. E. Kott. Ind & Eng Chem Anal ed 12:268-9 My 15 '40

Cerate oxidimetry; preparation and stability of solutions. G. F. Smith and C. A. Getz. Ind & Eng Chem Anal ed 12:339-40 Je 15 '40

Cerimetric determination of small amounts of arsenic after reduction with hypophosphite reagent. I. M. Kolthoff and E. Amdur. diags Ind & Eng Chem Anal ed 12: 177-9 Mr 15 '40

Conductometric analysis of bisulphite pulping liquors. E. R. Whittemore and S. I. Aronovsky. bibliog Paper Tr J 110:19-22 Je 20 '40

Determination of boron in plant material; an ignition-electrometric titration method. L. V. Wilcox. bibliog diag Ind & Eng Chem Anal ed 12:341-3 Je 15 '40

Determination of carbon dioxide in aqueous solution. J. R. I. Hepburn. diag Soc Chem Ind J 58:340-2 N '39

Determination of furfural in furfural-furfuryl alcohol solution; sodium bisulfite—iodine method. A. P. Dunlop and F. Trimble. bibliog Ind & Eng Chem Anal ed 11:602-3 N 15 '39

Determination of iodine in thyroid and its preparations by cerate oxidimetry. W. W. Hilty and D. T. Wilson. bibliog Ind & Eng Chem Anal ed 11:637-9 D 15 '39

Determination of moisture in native and processed cellulose; titrimetric determination using Karl Fischer reagent. J. Mitchell, jr. bibliog Ind & Chem Anal ed 12:390-1 Jl 15 '40

Determination of pyrethrin I; investigation of Seil color reaction in mercury reduction method. C. S. Sherman and R. Herzog. bibliog Ind & Eng Chem Anal ed 12:136-7 Mr 15 '40

Determination of pyrethrin I; linearity of results by mercury reduction method. D. A. Holaday and J. J. T. Graham. Ind & Eng Chem Anal ed 12:80-1 F 15 '40

Determination of silver in silver cyanide plating solutions. D. M. Gillies and W. M. McNabb. Metal Finishing 38:377-8 Jl '40

Determination of sludge in used or oxidized motor oils. C. G. Ludeman. bibliog Ind & Eng Chem Anal ed 12:520-5 S 15 '40

Determination of small amounts of copper and manganese in dyes and other organic materials. G. F. Palfrey and others. Ind & Eng Chem Anal ed 12:94-6 F 15 '40

Determination of sulfate by tetrahydroxyquinone method; effect of sodium sulfite and procedure for its elimination. H. L. Kahler. Ind & Eng Chem Anal ed 12:266-7 My 15 '40

Determination of tartrates in cyanide copper solutions. W. B. Stoddard, jr. Metal Ind 37:580-1 D '39

Determination of the carbon content of organic materials; a simple micromethod. B. E. Christensen, R. Wong and J. F. Facer. bibliog diag Ind & Eng Chem Anal ed 12:364-5 Je 15 '40

Determination of tungsten. M. L. Holt and A. G. Gray. bibliog il Ind & Eng Chem Anal ed 12:144-6 Mr 15 '40

Determination of unsaturation in aliphatic hydrocarbon mixtures by bromine absorption. J. B. Lewis and R. R. Bradstreet. Ind & Eng Chem Anal ed 12:387-90 Jl 15 '40

Empirical mercurimetric method for zinc. A. C. Titus and J. S. Olsen. bibliog Ind & Eng Chem Anal ed 12:133-5 Mr 15 '40

Fischer volumetric determination of water; application to technical substances. E. G. Almy, W. C. Griffin and C. S. Wilcox. diag Ind & Eng Chem Anal ed 12:392-6 Jl 15 '40

Gas-volumetric semimicrodetermination of carbon; a wet method for aliphatic and cyclic compounds. E. Berl and W. Koerber. diag Ind & Eng Chem Anal ed 12:245-6 Ap 15 '40

8-Hydroxyquinoline as a reagent for the determination of magnesium, especially in carbonate and silicate rocks. C. C. Miller and I. C. McLennan. Chem Soc J p656-9 My '40

Ideological uncertainties in titrimetry. M. G. Mellon. bibliog J Chem Educ 17:422-5 S '40

Iodofluoride method for the determination of copper; effects of antimony, aluminum, and calcium. W. R. Crowell and A. T. Spiher. Ind & Eng Chem Anal ed 12:147 Mr 15 '40

Manganese and chromium in steel; modified persulfate-arsenite method. R. P. Forsyth and W. F. Barfoot. Ind & Eng Chem Anal ed 11:625 N 15 '39

Manganese, chromium, and nickel in 18-8 alloy steels; a rapid sequence titration. L. Silverman and O. Gates. bibliog Ind & Eng Chem Anal ed 12:518-19 S 15 '40

Method of analysis of rosin wax sizes. R. B. Porter and W. M. Thomas. Paper Tr J 110: 27-30 Je 20 '40

Microdetermination of sulfate obtained from combustion of organic compounds; tetrahydroxyquinone as an indicator in a volumetric method. L. T. Hallett and J. W. Kuipers. bibliog Ind & Eng Chem Anal ed 12:360-3 Je 15 '40

Microdetermination of sulfur in organic compounds; an absorption apparatus for use with the combustion method. L. T. Hallett and J. W. Kuipers. diags Ind & Eng Chem Anal ed 12.357-9 Je 15 '40

Micro-diffusion analysis and volumetric error. E. J. Conway. 306p bibliog(p294-8) $6 Van Nostrand '40

Microtitration of selenium as applied to abnormal amounts of selenium in urine. G. Wernimont and F. J. Hopkinson. bibliog il diag Ind & Eng Chem Anal ed 12:308-10 My 15 '40

New applications of the silver reductor; determination of uranium and copper. N. Birnbaum and S. M. Edmonds. bibliog Ind & Eng Chem Anal ed 12:155-7 Mr 15 '40

New method for the volumetric determination of ferric iron. F. R. Bradbury and E. G. Edwards. Soc Chem Ind J 59:96-8 My '40

Nomographs for correcting volumes of perfect gases. J. G. Roof. Ind & Eng Chem 32: 998-1000 Jl '40

Oxidation-reduction potentials and their applications. S. Glasstone. Electrochem Soc Trans 77 (preprint 14):183-93; Discussion. 193-5 Ap '40

Potentiometric determination of exchangeable hydrogen in unsaturated soils. K. A. Maehl. diag Ind & Eng Chem Anal ed 12:24-7 Ja 15 '40

Potentiometric estimation of hydroxylamine and hydrazine in alkaline solution. H. T. S. Britton and M. Königstein. Chem Soc J p673-6 My '40

Potentiometric method for the accurate measurement of hydrogen-ion activity. W. J. Hamer and S. F. Acree. bibliog 2pls diags J Research Nat Bur Stand 23:647-62 D '39

Preparation of some alkylamino-acids and their electrometric titration. W. Cocker and J. O. Harris. Chem Soc J p1290-5 S '40

Routine determination of equivalent acidity or basicity of fertilizers. E. W. Constable. il Ind & Eng Chem Anal ed 12:214-15 Ap 15 '40

VOLUMETRIC analysis—*Continued*

Starch-iodide method of ozone analysis. C. E. Thorp. bibliog Ind & Eng Chem Anal ed 12:209 Ap 15 '40

Studies in the naphtol AS series; estimation of members of the naphtol AS series; titrations with diazo-salt solutions in presence of a mixture of alcohol and pyridine. T. N. Mehta and V. B. Thosar. Soc Dyers & Col J 56:160-5 Ap '40

Volumetric analysis, including the analysis of gases. A. J. Berry. 5th ed 196p bibliog(p97) $2.50 Macmillan '39

Volumetric determination of selenate. G. C. Soth and J. E. Ricci bibliog diag Ind & Eng Chem Anal ed 12:328-9 Je 15 '40

Volumetric determination of small quantities of barium and sulphate with barium rhodizonate as an indicator; the determination of sulphur in iron pyrites. C. C. Miller. Chem Soc J p401-6 Ap '40

Volumetric estimation of lac on glazed candies. N. M. Molnar and J. Grumer. bibliog Ind & Eng Chem Anal ed 11:673-4 D 15 '39

See also

Colorimetric analysis
Iodometry
Turbidimetric analysis

Apparatus

Electron-ray titrimeter. E. J. Serfass. il diags Ind & Eng Chem Anal ed 12:536-9 S 15 '40

Erratic potentials of electrodes sealed in glass tubing. A. B. Garrett, E. Hogge and R. Heiks. Science 92:18 Jl 5 '40; Discussion. W. C. Vosburgh. 92:198 Ag 30 '40

Friction as an indicator in titration. R. E. D. Clark. diag Soc Chem Ind J 59:216-17 S '40

Vacuum tube voltmeter; application to potentiometric precipitation titrations. L. E. West and R. J. Robinson. bibliog diags Ind & Eng Chem Anal ed 12:476-9 Ag 15 '40

Tables, calculations, etc.

Computing titration blanks; titration curves of zinc by potassium ferrocyanide and of boron trioxide by barium hydroxide. F. W. Glaze. Ind & Eng Chem Anal ed 12:14-15 Ja 15 '40

VOLUNTARY trusts. See Trusts and trustees—Living trusts

VOORHEES, Enders McClumpha, 1891-

Boys, you take it from here, said Myron Taylor to Stettinius, Fairless, and Voorhees. por Fortune 21:61-7+ Mr '40

VORTEX motion

Vortex pumps, or, slip in the centrifugal pump. O. A. Price. bibliog il diags Inst Mech Eng J & Proc 142:Proc 413-38; Discussion. Proc 438-58 Mr '40

VOSS, Otto C. 1861-

Receives Morehead medal for 1939. por Steel 106:82 Ap 1 '40

VOTING

Voting behavior; a case study. J. K. Pollock. 40p pa 25c Univ. of Michigan press, Ann Arbor '39

VOTING trusts

Voting trust; California law. Weekly Underw 143:615 S 21 '40

VOYSEY, Charles Francis Annesley, 1857-

C. F. A. Voysey. J. Betjeman. Arch Forum 72:348-9 My '40

VULCANIZATION

Colloidal structure of rubber in solution; colloidal aspects of vulcanization. S. D. Gehman and J. E. Field. bibliog Ind & Eng Chem 32:282-7 F '40

Diffusion of sulfur in rubber; relation to vulcanization. A. R. Kemp and others. bibliog il diags Ind & Eng Chem 32:1075-84 Ag '40

Effect of reclaimed rubber on temperature coefficient of vulcanization. W. S. Coe. bibliog Ind & Eng Chem 31:1481-5 D '39

Effect of rubber variability on vulcanization. J. D. Hastings and E. Rhodes. bibliog Ind & Eng Chem 31:1455-60 D '39

Effect of vulcanization on rubber structure; a problem in probabilities. W. F. Busse. bibliog Ind & Eng Chem 31:1391-7 N '39

Hysteresis in crystallization of stretched vulcanized rubber from X-ray data; correlation with stress-strain behavior and resilience. G. L. Clark and others. il Ind & Eng Chem 32:1474-7 N '40

Low-temperature set as a measure of state of vulcanization. J. H. Fielding. bibliog Ind & Eng Chem Anal ed 12:4-9 Ja 15 '40

New method for producing rubber-insulated conductors; patent method of applying coating material to rubber; continuous vulcanization. diags Rubber Age 46:297-8 F '40

Oxidation of vulcanized rubber; effect of temperature, state of cure, and thickness. A. R. Kemp, J. H. Ingmanson and G. S. Mueller. bibliog Ind & Eng Chem 31:1472-8 D '39

Physical changes induced by vulcanization. W. W. Vogt. Ind & Eng Chem 31:1389-90 N '39

Relations between vulcanization and reinforcement. C. R. Park. bibliog il Ind & Eng Chem 31:1402-6 N '39

Some causes of variation in the quality of raw rubber and latex; the sol : gel ratio in relation to the ultimate physical properties of rubber. D. Spence and J. D. Ferry. Soc Chem Ind J 58:345-51 D '39

Temperature coefficient of vulcanization. R. H. Gerke. bibliog Ind & Eng Chem 31:1478-81 D '39

Vulcanization from a thermodynamic viewpoint. I. Williams. bibliog Ind & Eng Chem 31:1464-8 D '39

Vulcanization of latex. C. E. Bradley. bibliog il Ind & Eng Chem 31:1485-8 D '39

Vulcanization of rubber. H. L. Fisher. il Ind & Eng Chem 31:1381-9 bibliog(59 references, p1388-9) N '39; Same abr. India Rubber W 101:38-41 Mr; 56-8 Ap '40

Vulcanization of rubber compounds; effect of hydrogen sulfide on the rate of vulcanization. E. W. Booth and D. J. Beaver. Ind & Eng Chem 32:1006-8 Jl '40

Vulcanization of rubber; review of American chemical society symposium. Can Chem & Process Ind 23:545-6 N '39

X-ray structure of vulcanized rubber. G. L. Clark. bibliog il Ind & Eng Chem 31:1397-1401 N '39

See also

Rubber—Manufacture

Accelerators

Aims of present day accelerator research. A. M. Neal. Rubber Age 46:289-94 F '40

Control by individual incorporation of vulcanizing agents. D. F. Twiss. bibliog Ind & Eng Chem 31:1461-4 D '39

Organic rubber accelerators. R. L. Sibley. Rubber Age 47:22-5 Ap '40

Rubber accelerators in bodying oils. Oil Paint & Drug Rep 138:47-8 N 4 '40

Theories of acceleration. L. B. Sebrell. bibliog Ind & Eng Chem 31:1468-71 D '39

VULCANIZED fiber

Vulcanized fibre. il diags Product Eng 11: 292-6 Jl '40

Vulcanized-fiber-phenolic tubes in high voltage engineering. G. A. Albert. il diags Mod Plastics 17:45-7+ D '39

VULCANIZERS

Vulcanizing press for 10-foot diameter tires. il Steel 106:49 Ja 15 '40

VULTEE aircraft, Inc.

Stock offered. Comm & Fin Chr 150:288-9 Ja 13 '40

W

WABASH railway

General statistics and income account, 1936-39. Comm & Fin Chr 150:3069 My 11 '40

Modified reorganization plan. Comm & Fin Chr 151:1159-60 Ag 24 '40

Receivers' reorganization plan. A. Jansen. Barron's 20:18 O 21 '40

WABASH railway—*Continued*
Reorganization plan filed with court. Comm & Fin Chr 151:117-18 Jl 6 '40
Wabash first 5s in improved position. A. Jansen. Barron's 20:19 F 5 '40

WADDELL, Montgomery
Testimonial presented by Samuel Ferguson, president of the Hartford electric light company. Edison Elec Inst Bul 8:176 Ap '40

WAGE differentials
Earnings and hours in the iron and steel industry, April 1938; occupational differences. V. S. Baril, H. O. Rogers and A. C. Lakenan. Monthly Labor R 51:709-26 S '40
Wage differentials; a study of wage rates in Philadelphia metal plants. C. C. Balderston. 39p pa $1 Wharton school of finance and commerce, Univ. of Pennsylvania, Philadelphia '39
Wage differentials; the case of the unskilled. C. Glasser. 169p bibliog(p165-9) $2 Columbia univ. press '40

WAGE fixing
Die aufgaben der lohnpolitik in der gesteuerten wirtschaft. W. Mansfeld. Stahl & Eisen 60:72-6 Ja 25 '40

WAGE fixing, Government
40 cent minimum wage for paper industry; majority report and recommendation of Industry committee no. 11. Paper Tr J 110:10-11+ Ap 18 '40
Solicitor General Jackson takes steel wage case to Supreme court. Iron Age 144:77-8 D 21 '39
Steel companies lose wage appeal in U.S. Supreme court. Comm & Fin Chr 150: 2810-11 My 4 '40
Steel wage determination held invalid by United States Court of appeals for the District of Columbia. Monthly Labor R 49: 1136-7 N '39
Steel wage determination sustained. Monthly Labor R 51:114-15 Jl '40
Wage determination for cement industry. Monthly Labor R 50:695-6 Mr '40
Wage determinations under Public contracts act. Monthly Labor R 49:1171-2 N '39
Wage determinations under Public contracts act, July 1939. Monthly Labor R 49:714 S '39

See also
Minimum wage

WAGE payment plans
Before you attempt to share the profits; questions and answers. E. Whitmore. il Am Business 10:11-13 F '40
Drivers paid on piece basis, helps safety and efficiency. Nat Pet N 32:34-6 S 18 '40
Firms pay guardsmen. Business Week p37 Ag 3 '40
Incentive plan for a trading business. H. J. Pratt. N A C A Bul 22:147-56 O 15 '40
Inspectors on piece rates up quality, output, and earnings; Hoover ball & bearing co, Ann Arbor, Mich. D. W. Saxton. il Factory Management 98:50-1 F '40
Job evaluation in a paper plant. E. J. Benge. Personnel J 19:42-8 Je '40
Legitimate constant wage plans; abstract. Management R 29:251-2 Jl '40
Management board planning. il Power Pl Eng 43:810-12 D '39
More profit-sharing. Business Week p53-5 D 9 '39
Problems in wage incentive administration; survey of 313 manufacturing companies; abstract. E. S. Horning. Management R 29: 96-7 Mr '40
Salary administration plan for your business. A. M. Hammond. il Am Business 9:11-13+ N; 24-5+ D '39; 10:30-2 Ja '40
Sears standardizing wage plans. Business Week p26-8 Ap 27 '40
Supplementing draftees' army pay; questionnaire survey of 29 representative companies. Management R 29:341-3 S '40
Wage setting based on job analysis and evaluation. C. C. Balderston. 67p bibliog(p67) pa $1 Industrial relations counselors, RKO building, Rockefeller center, New York '40
Who pays guardsmen? military training has been costly to many employers. Business Week p27 D 30 '39

See also
Bonus system
Overtime
Payrolls
Piece work
Profit sharing
Salesmen—Salaries and commissions
Vacations
Wages—Dismissal wage

Guaranty of earnings
Annual auto wage? recent U.A.W. contract with welding company may be straw in wind for G.M. negotiations. Business Week p30-1 Ap 27 '40
Annual wage and guaranteed-employment plans in union agreements. Monthly Labor R 51:283-9 Ag '40
Every week the same pay check; Tremco manufacturing company, Cleveland. W. C. Treuhaft. Factory Management 98:57+ N '40
GM extends employe layoff benefit plans. Automotive Ind 82:82 Ja 15 '40
Hormel boosts annual wage plan. Am Business 10:45 Ag '40
How one industrial plant is helping America; George A. Hormel and company. il Factory Management 98:G1-G8 Ag '40
Out of the red; industrial relations plan of Scott-McHale shoe co. of London, Can. H. F. Unger. Manuf Rec 109:52 F '40
Structure of annual wage plans; elements of success or failure. F. B. Brower. Advanced Management 5:110-15+ Jl-S '40

WAGES
Wage-adjustment provisions in union agreements. Monthly Labor R 50:6-15 Ja '40
Wages. M. H. Dobb. new ed 205p 5s Nisbet & co, London; Cambridge univ. press, Cambridge, Eng. '38
Wages and hours of labor. Published in Monthly labor review
Work, wages, and education. A. W. Williams. 57p $1 Harvard univ. press '40

See also
Bonus system
Cost of living
Engineers—Salaries
Executives—Salaries
Labor and laboring classes
Librarians—Salaries
Minimum wage
Overtime
Payrolls
Pensions, Industrial
Prices
Profit sharing
Railroads—Wages
Salaries
Salesmen—Salaries and commissions
Wage payment plans

Dismissal wage
Dismissal compensation; voluntary and compulsory plans used in the United States and abroad. E. D. Hawkins. 390p bibliog(p371-7) $4 Princeton univ. press '40
What Harrisburg railways co. is doing for those unable to qualify for employment under the new all-bus system. Bus Transportation 18:557 N '39

Economic aspects
Effects of the 25-cent minimum wage on employment in the seamless hosiery industry. A. F. Hinrichs. Am Statis Assn J 35:13-23 Mr '40
Extent and causes of differences in hourly earnings. J. Perlman. Am Statis Assn J 35:1-12 Mr '40
40 cent minimum wage for paper industry; majority report and recommendation of Industry committee no. 11. Paper Tr J 110: 10-11+ Ap 18 '40
Nonexpanding economy and profit sharing. K. Fick. J Account 70:33-42 Jl '40
Productivity, wages, and national income. S. Bell. 344p $3 Brookings institution, Washington, D.C. '40
Wage policies in war-time. J. H. Richardson. Personnel J 19:20-4 My '40

See also
Minimum wage

Law
Adjusting wages to cost of living in Australia. Monthly Labor R 50:1230 My '40

WAGES—Law—*Continued*
Court upholds wage rules on federal contracts. Mech Eng 62:509 Je '40
Decision on prevailing minimum wages in the cement industry. Concrete (mill sec) 48:140 Mr '40
Payment during traveling time on company business. Management R 29:95 Mr '40
Pulpwood association and others indicted under Fair labor standards act. Paper Tr J 111:7 Jl 11 '40
Recent legislation and mechanical handling; Trade boards and road haulage wages (emergency provisions) act, 1940. F. E. Sugden. Mech Handling 27:153-4 Jl '40
Steel wages ruling creates new problems in East, South. Steel 106:23-4 My 6 '40
Wage groups act; industry committee recommendations raise pay of 500,000. Business Week p38 Ag 3 '40
Wage rate laws on public works, August 1939. E. R. Perling and B. R. Coen, comps. 227p U.S. Public works administration, Washington; 25c Supt. of doc. '39
Wartime control of hours and wages in France. Monthly Labor R 49:1368-72 D '39
Workweek unit for wage calculation under wage and hour law. Monthly Labor R 50: 695 Mr '40

See also
Minimum wage
Vacations

Statistics

Average weekly hours per worker in factories and factory average hourly and weekly earnings, Bureau of labor statistics series, monthly, 1932-Oct. 1939; revision. Survey of Cur Business 20:17 Ja '40
Average weekly hours per worker in factories and factory average hourly and weekly earnings; National industrial conference board series, monthly, 1934-Nov. 1939; revision. Survey of Cur Business 20:18 Ja '40
Comparative earnings and hours of women and men, March 1940. Monthly Labor R 51: 640-2 S '40
Employment, wages, and labor relations in marketing. P. D. Converse. Ann Am Acad 209:149-57 My '40
Entrance rates of common laborers, July 1939. E. K. Frazier and J. Perlman. Monthly Labor R 49:1450-65 D '39
Factory average hourly and weekly earnings, 1936-1939. Survey of Cur Business 1940 Sup p44 [supplemented in monthly numbers]
Farm wage rates, without board, quarterly, 1923-38. Survey of Cur Business 19:18 N '39
Geographical differences in hours and wages, 1935 and 1937; indexes representing wage levels for same types of work. A. F. Hinrichs and A. F. Beal. Monthly Labor R 50:1204-23 My '40
Hourly earnings and unit labor cost in manufacturing. I. H. Siegel. Am Statis Assn J 35:455-60 S '40
Hours and earnings in manufacturing industries, 1932 to 1939. Monthly Labor R 49: 1466-9 D '39
How labor stands now; changes in average weekly earnings in 87 manufacturing and 15 non-manufacturing industries, 1932-36-39. S. B. Meredith. Barron's 20:8 Ap 1 '40
Miscellaneous wage data, construction, farm, railways, road-building wages, common labor, 1936-1939. Survey of Cur Business 1940 Sup p45 [supplemented in monthly numbers]
Statistics of the general level of wages in various countries; hourly, daily, weekly, or monthly rates; currency and index numbers, yearly, 1929-38; quarterly, March-Dec. 1939. Int Labour R 41:203-13, 530-40 F, My '40
Statistics show printing workers' high average wages are steady. M. M. Hamlin. Inland Ptr 104:22-4 D '39
Steel employment, average hours, wages, June 1933-Oct. 1939; tabulation. Steel 106: 330 Ja 1 '40
Wages; all public assistance and earnings of persons employed under Federal work programs, 1935-1939. Survey of Cur Business 1940 Sup p46 [supplemented in monthly numbers]
Wages and normal hours of work of adult males in certain occupations in various countries in October 1939. Int Labour R 41: 404-27 Ap '40
Wages, hours, and productivity of industrial labor, 1909 to 1939; manufactures, mining and railroads. W. Bowden. Monthly Labor R 51:517-44 S '40

Tables and ready-reckoners

Rate tables for use in checking pay-roll records, to determine compliance with the wage and hour provisions of the Fair labor standards act of 1938. 87p U.S. Dept. of labor, Wage and hour division, Washington; ‡1 Supt. of doc. '39

Argentina

Wages and hours of labor in Argentina. Monthly Labor R 50:456-70 F '40
Wages in meat industry in Province of Buenos Aires. Monthly Labor R 51:187-8 Jl '40

Bolivia

Increases in wages and salaries in Bolivia, 1939. L. W. Johnson. Monthly Labor R 51:188-9 Jl '40

Brazil

Minimum wage rates for Brazil, 1940. Monthly Labor R 51:158-60 Jl '40

British Columbia

Wages and hours in British Columbia, 1938. Monthly Labor R 49:1226-7 N '39

Canada

Annual salaries and wages in Canadian manufacturing, 1937. Monthly Labor R 51: 448-9 Ag '40
Salaries in Canadian fire departments, January 1940. Monthly Labor R 51:449-51 Ag '40
Wages in Canada, 1939. Monthly Labor R 51:189-93 Jl '40
Weekly earnings of male and female wage-earners employed in the manufacturing industries of Canada, 1934-36. 70p pa 25c Canada. Dominion bur. of statistics, Ottawa '40

Chile

Wages and employment in Chile, 1939. Monthly Labor R 51:193-4 Jl '40

Cuba

Wage scale for Cuban sugar industry, 1940. H. S. Tewell and C. R. Burrows. Monthly Labor R 50:974-5 Ap '40
Wages and working conditions in the Cuban candy industry, 1940. T. S. Campen. Monthly Labor R 51:729 S '40

Denmark

Trend of industrial wages in Denmark, 1937-39. Monthly Labor R 50:1231 My '40
Wages of industrial workers in Denmark, 1939. Monthly Labor R 51:452 Ag '40
Wages of industrial workers, 1939. Monthly Labor R 50:470-1 F '40

Estonia

Decrease of real wages in Estonia. M. H. Colladay. Monthly Labor R 51:729 S '40

France

Agricultural wages in France, 1938. Monthly Labor R 50:734-5 Mr '40
Overtime pay in France. Monthly Labor R 50:845-6 Ap '40

Germany

Wages in Germany in 1940. Monthly Labor R 50:976-83 Ap '40

Great Britain

Changes in wages; increase in first three months of war. Economist 137:526 D 30 '39
Rise in wages. Economist 137:163-4 N 4 '39
Wage increases in 1939; comparison with 1929 and 1933-1938. Economist 138:218 F 3 '40
Wage policy. Economist 138:87-8 Ja 20 '40

WAGES—Great Britain—*Continued*
Wages and the war effort. Economist 137: 405-6 D 16 '39
Wages and the workers. Economist 138:1034-5 Je 15 '40
Wages in agriculture. Economist 138:267-8 F 10 '40
Wartime wage increases in Great Britain. Monthly Labor R 49:1372-4 D '39

Haiti
Wages in Haiti, 1939. Monthly Labor R 51: 453 Ag '40

Hungary
Hourly wages in Hungary, 1938 and 1939. Monthly Labor R 49:1507 D '39

Japan
Earnings and hours in Yokohama, July 1939. Monthly Labor R 49:1508-9 D '39

Korea
Average wages and hours in Korea, 1938. Monthly Labor R 49:1509-11 D '39

Netherlands
Average hourly earnings of metal workers in the Netherlands, 1939 and 1940. Monthly Labor R 51:195 Jl '40
Wages in Netherlands leather and rubber industries. H. D. Clum. Monthly Labor R 50:471-5 F '40

New York (state)
Earnings of office workers in New York state factories, October 1939. Monthly Labor R 50:453-5 F '40

Norway
Wage increases in Norway in 1940, based on cost of living. F. Harriman. Monthly Labor R 50:983-4 Ap '40

Palestine
Wages and hours in Palestine, March 1939. Monthly Labor R 49:718-22 S '39

Pennsylvania
Wage rates on Pennsylvania Turnpike work. Roads & Sts 83:68 F '40

Philadelphia
Wage differentials; a study of wage rates in Philadelphia metal plants. C. C. Balderston. 39p pa $1 Wharton school of finance and commerce, Univ. of Pennsylvania, Philadelphia '39

Philippine Islands
Earnings in cigar and cigarette industry in Manila, 1939. Monthly Labor R 50:1229 My '40
Wages and working conditions in the Philippines, 1938 and 1939. Monthly Labor R 50: 727-32 Mr '40
Wages in Philippine provinces, April 1939. Monthly Labor R 49:716-17 S '39

Poland
Wages of Poles and Germans in Poland. Monthly Labor R 50:1486 Je '40

Puerto Rico
Earnings of wage earners in Puerto Rico, 1938-39. Monthly Labor R 50:732-4 Mr '40
Wages and hours in the Puerto Rican coffee industry. Monthly Labor R 51:446-7 Ag '40

Quebec
Sets wages of forestry workers; provincial government of Quebec. Paper Tr J 111:7+ Ag 22 '40

Salvador
Salaries of government employees in El Salvador, 1939. Monthly Labor R 51:452-3 Ag '40

Scandinavia
Wage adjustments based on cost of living, in Scandinavia. Monthly Labor R 50:475-7 F '40

Spain
Weekly rest and wages in Spain. Int Labour R 42:126-8 Ag-S '40

Sweden
New wage scale for Swedish seamen. Monthly Labor R 50:1487 Je '40
Sliding scale of wages in Sweden. Monthly Labor R 50:984-5 Ap '40
Wages of farm workers in Sweden, 1938 and 1939. Monthly Labor R 50:735 Mr '40

Switzerland
Wages in Switzerland, 1938. Monthly Labor R 49:722-3 S '39
Wages in Switzerland, 1939. Monthly Labor R 51:730-1 S '40

United States
Annual earnings in knit-goods industries (other than hosiery), 1937. H. E. Riley and others. Monthly Labor R 50:401-9 F '40
Annual earnings in meat packing, 1937. J. Perlman and E. B. Morris. Monthly Labor R 49:1470-82 D '39
Annual earnings in the hosiery industry. H. E. Riley and E. B. Morris. Monthly Labor R 50:172-82 Ja '40
Comparative earnings and hours of men and women, March 1939. Monthly Labor R 50: 76-8 Ja '40
Comparative earnings and hours of women and men, September 1939. Monthly Labor R 50:628-30 Mr '40
Construction wage rates and trends. Eng N 124:898-904 Je 20 '40
Credit for wage rates being 23% above 1929 should be given to manufacturers. C. Davidson, jr. Comm & Fin Chr 150:2193 Ap 6 '40
Earnings and hours in men's neckwear industry, 1939. F. M. Jones and G. E. Votava. Monthly Labor R 50:410-31 F '40
Earnings and hours in the carpet and rug industry. H. E. Riley and E. M. Bunn. Monthly Labor R 51:164-83 Jl '40
Earnings and hours in the hat industries, 1939. U S Bur Labor Statistics Bul 671:1-14 '39; Summary Monthly Labor R 49:932-5 O '39; Correction 50:210 Ja '40
Earnings and hours in the iron and steel industry, April 1938. V. S. Baril, H. O. Rogers and A. C. Lakenan. Monthly Labor R 51:421-42, 709-26 Ag-S '40
Earnings and hours in the men's robe industry, 1938. F. M. Jones and G. E. Votava. Monthly Labor R 50:697-708 Mr '40
Earnings in the women's and children's apparel industry in the spring of 1939. A. T. Sutherland. U S Women's Bur Bul 175: 1-91 '40; Abstract. Monthly Labor R 51: 901-7 O '40
Earnings of foundry employes. Foundry 68: 96-7 N '40
Entrance rates of common laborers, July 1939. E. K. Frazier and J. Perlman. Monthly Labor R 49:1450-65 D '39
Factory average hourly and weekly earnings, 1936-1939. Survey of Cur Business 1940 Sup p44 [supplemented in monthly numbers]
Farm wage rates and employment, July 1940; farm wage rates by geographic divisions, 1910-14 average, July 1939, April 1940, and July 1940. Monthly Labor R 51: 726-8 S '40
Forty cent minimum wage for paper industry; complete findings and opinion of the administrator. Paper Tr J 111:7+ Jl 25 '40
Geographical differences in hours and wages, 1935 and 1937; indexes representing wage levels for same types of work. A. F. Hinrichs and A. F. Beal. Monthly Labor R 50:1204-23 My '40
Hourly earnings in dyeing and finishing of cotton, rayon, and silk. Monthly Labor R 50:183-94 Ja '40
Hourly earnings in knit-goods industries (other than hosiery), September 1938. H. E. Riley and J. Perlman. Monthly Labor R 49:1173-1202 N '39

WAGES—United States—*Continued*
Hourly earnings in 105 selected industries, by states, 1937. A. F. Hinrichs and A. F. Beal. Monthly Labor R 50:1468-83 Je '40
Hourly earnings in the leather industry, September 1939. P. L. Jones and others. Monthly Labor R 50:950-73 Ap '40
Hourly earnings in the paperboard industry, November-December 1939. H. E. Riley. Monthly Labor R 50:1196-1203 My '40
Hours and earnings in certain men's-wear industries; caps and cloth hats, neckwear, work and knit gloves, handkerchiefs. U S Women's Bur Bul 163-6:1-22 '39
Hours and earnings in certain men's wear industries; raincoats, sport jackets. U S Women's Bur Bul 163-5:1-29 '40
Hours and earnings in manufacturing industries, 1932 to 1939. Monthly Labor R 49:1466-9 D '39
Hours and wages in American organized labor. J. M. Viau. 301p bibliog(p273-95) $2.50 Putnam '39
How well America lives today; comparison with other countries. il Factory Management 98:A6-A10 Ag '40
Miscellaneous wage data, construction, farm, railways, road-building wages, common labor, 1936-1939. Survey of Cur Business 1940 Sup p45 [supplemented in monthly numbers]
Productivity, wages and national income. S. Bell. Power Pl Eng 44:126+ O '40
Skilled and common wage rates, per hour. Published in Engineering news-record, first technical issue of each month
Steel wage history, 1915-1937; tabulation. Steel 106:331 Ja 1 '40
Textile wages rise. Business Week p40-1 N 18 '39
Union wages, hours, and working conditions in the building trades, June 1, 1939. F. S. McElroy. U S Bur Labor Statistics Bul 674:1-87 '40; Same abr. Monthly Labor R 49:1203-26 N '39
Union wages, hours, and working conditions in the printing trades, June 1, 1939. F. S. McElroy. U S Bur Labor Statistics Bul 675:1-69 '40; Excerpts. Monthly Labor R 49:1483-1507 D '39
Wage and hour structure of the furniture-manufacturing industry, Oct. 1937. U S Bur Labor Statistics Bul 669:1-121, pl 1-6 '40
Wage determinations under Public contracts act. Monthly Labor R 49:714, 1171-2 S, N '39
Wage-hour issues still smoulder. Business Week p40-3 F 10 '40
Wage rates and employment on farms, 1929 to April 1940. Monthly Labor R 51:183-7 Jl '40
Wage rates per hour for building trades in principal cities; tabulation. E. M. Craig. Sheet Metal Worker 31:61 Ja '40
Wages and hours in drugs and medicines and in certain toilet preparations. A. T. Sutherland. U S Women's Bur Bul 171:1-19 '39
Wages and hours of citrus fruit packers. Monthly Labor R 50:1483-6 Je '40
Wages for paper products. Paper Tr J 111:48 O 17 '40
Wages, hours, and productivity of industrial labor, 1909 to 1939; manufactures, mining and railroads. W. Bowden. Monthly Labor R 51:517-44 S '40
Wages, hours, and working conditions in union bakeries, June 1, 1939. F. S. McElroy. Monthly Labor R 50:195-209 Ja '40; Same, with analytical tables. U S Bur Labor Statistics Bul 673:1-39 '40
Wages, hours, and working conditions of union motortruck drivers, June 1, 1939. F. S. McElroy and H. Cannon. Monthly Labor R 50:709-26 Mr '40; Same, with tabulation of union scales of hours and wages, by cities. U S Bur Labor Statistics Bul 676:1-54 '40
Wages, hours, and working conditions of union street-railway employees, June 1, 1939. F. S. McElroy. Monthly Labor R 50: 432-52 F '40
Work and wages in 1939. Monthly Labor R 50:541-55 Mr '40
See also
Salaries
also United States—Labor, Department of—Wage and hour division

Utah
Earnings and hours of working women in Utah. Monthly Labor R 50:630-4 Mr '40

WAGGONER, A. B.
All the Waggoners are insurance-minded. por East Underw 41:10 O 18 '40

WAGNER, Richard, 1813-1883
Richard Wagner dictionary. E. M. Terry. 186p bibliog(p179-86) $2.25 Wilson, H.W. '39

WAGNER, Robert Ferdinand, 1877-
Fortune survey; helpful to labor or harmful? Fortune 21:163 Je '40

WAGNER labor act. See Labor laws and legislation—United States

WAHNAPITAE, Ontario

Bridges
Wahnapitae River bridge. il diag Can Eng 77:4-6 N 28 '39

WALCOTT, Charles Doolittle, medal
Presentation of the Charles Doolittle Walcott medal and honorarium to A. H. Westergaard. C. G. Abbot. Science 91:417-18 My 3 '40

WALCOTT, Mary Vaux (Mrs Charles D. Walcott) 1860-1940
Sketch. Science 92:372-3 O 25 '40

WALDEN inversion
Bicyclic structures prohibiting the Walden inversion; some bicyclo[2,2,2]octane derivatives with substituents at the bridge-head. P. D. Bartlett and S. G. Cohen. bibliog Am Chem Soc J 62:1183-9 My '40
Decomposition of chlorosulphinic esters. M. P. Balfe and J. Kenyon. Chem Soc J p463-4 Ap '40
Stereochemistry of complex inorganic compounds; the mechanism of the Walden inversion in some reactions leading to the formation of the carbonato-diethylenediamine cobaltic ion. J. C. Bailar, jr. and D. F. Peppard. bibliog Am Chem Soc J 62: 820-3 Ap '40
Walden inversion and the Hofmann rearrangement. S. Archer. bibliog Am Chem Soc J 62:1872 Jl '40
Walden inversion in the altrose series. G. J. Robertson and W. Whitehead. Chem Soc J p319-23 Mr '40

WALDO, Richard H., 1878-
Mr Waldo's baby; how Good housekeeping institute came to be, as brought out in F.T.C. hearing. G. A. Nichols. por Ptr Ink 190:15-18 F 16 '40

WALKER, Frank Comerford, 1886-
Named postmaster general. Comm & Fin Chr 151:1377-8 S 7 '40

WALKER, James J. 1881-
Jimmy Walker becomes a Solomon; umpire for New York's cloak-and-suit industry. por Business Week p54-6 S 14 '40

WALKWAYS. See Floors—Anti-slip surfaces

WALL board
Concrete surfaces improved by absorptive form lining for spillways of high dams. il Eng N 124:40-2 Ja 4 '40
Find way to eliminate voids under forms on concrete surface; form lining of absorptive insulating board. C. O. Crane. il Concrete 48:5-6+ Mr '40
Insulation board for home building. il diags plans Am Bld 61:43-71 D '39

Manufacture
Gypsum operations in Great Britain; British plaster board co. J. Watson. il Rock Prod 43:38-9 Je '40

WALL paper

Advertising

Eyeful for advertising critics who think consumers are being gypped; United Wallpaper campaign inspired company to build product to standard of excellence. A. J. Browning. il Sales Management 45:24-6 D 1 '39

This report to stockholders, reversing usual order, features advertising; United wall paper factories, inc., Chicago. H. M. Andrews. Ptr Ink 193:69-70 O 18 '40

WALL Street

Where are the customers' yachts? or, A good hard look at Wall Street. F. Schwed, jr. 215p $1.75 Simon and Schuster, 1230 6th av, Rockefeller center, New York '40

See also

New York stock exchange

WALLACE, Charles Frederick

Modern pioneers cited for achievements in advancing the art of water purification and sewage treatment. por Water Works & Sewerage 87:124 Mr '40

WALLACE, Henry Agard, 1888-

Address accepting Democratic vice-presidential nomination. Comm & Fin Chr 151: 1220 Ag 31 '40

Nomination of Henry A. Wallace for vice-president. Comm & Fin Chr 151:337 Jl 20 '40

President Roosevelt accepts resignation of Secretary of Agriculture Wallace. Comm & Fin Chr 151:1081 Ag 24 '40

WALLACE, J. Bruce

Star salesman gives ten tips on how to sell quality; B. Wallace, purveyor of de luxe food products. por Sales Management 47:52, 54-5 O 1 '40

WALLBOARD. See Wall board

WALLINGFORD, Connecticut

Family income and expenditure in five New England cities, 1935-36; v. 1, Family income. A. D. H. Kaplan, F. M. Williams and D. McCamman. U S Bur Labor Statistics Bul 645:1-351 '39

WALLPAPER. See Wall paper

WALLS

Clay tile solves wall cracking problem; adopted for buildings at U.S. army posts in Texas. il Brick & Clay Rec 95:23 N '39

Cracks in exterior masonry bearing walls occurring where concrete roof and floor slabs bear on the walls. A. M. Korsmo and B. M. Thorud. diags Am Concrete Inst J 12:49-54 S '40

Current problems in wall condensation. L. V. Teesdale. Heat & Ven 37:46-7 N '40

Earth pressure on wall of varying height. C. E. Sharp, jr. Eng N 125:165 Ag 1 '40

Estimating heat flow through sunlit walls. C. O. Mackey and L. T. Wright, jr. Heat & Ven 37:43-7 Mr; 29-32 Ap; 23-5 My '40

Heat flow through sunlit walls of one material; reference data. Heat & Ven 37:58a-58b Je '40

Heat flow through sunlit wood frame walls; reference data. C. O. Mackey and L. T. Wright, jr. Heat & Ven 37:58a-58b Jl '40

Inspecting and maintaining building walls and roofs; Yale university. W. W. Randolph. Eng N 124:336 F 29 '40

Insulation board sheathing. il diags Am Bld 61:55-7 D '39

Metal-tied cavity walls approved for USHA construction. diags Arch Rec 88:110+ Ag '40

New effects with wood siding. il diags Am Bld 62:64-70 Ja '40

Wall heat loss back of radiators. E. C. Willey. diag Heat & Ven 37:32-3 N '40

See also

Building
Dampness in buildings
Dams
Foundations
Masonry
Plaster and plastering
Retaining walls
Sea walls
Wharves

Testing

Structural properties of conventional wood-frame constructions for walls, partitions, floors, and roofs. G. E. Heck. biblog il U S Nat Bur Stand Rep BMS25:1-23 '39

Structural properties of two brick-concrete-block wall constructions and a concrete-block wall construction sponsored by the National concrete masonry association. H. L. Whittemore, A. H. Stang and D. E. Parsons. il diags U S Nat Bur Stand Rep BMS32:1-19 '39

WALLS, Brick

Cavity wall makes encouraging progress in New York market. diags Brick & Clay Rec 97:14 O '40

Full mortar joints most important to prevent leaky walls. L. A. Palmer. il Brick & Clay Rec 96:50, 52, 54, 56; Discussion. 56, 58 Ap '40

Introducing the cavity brick wall; Montclair, N.J. apartment house. il diags Eng N 125: 332-3 S 12 '40

Loose fill insulation proves practical in hollow brick wall; abstract. O. T. Bowles. diags Brick & Clay Rec 97:19-20 O '40

New York O. K. of cavity wall big chance for brick. il diags Brick & Clay Rec 97: 25-6 S '40

You sell more clay products when you sell Farren-wall. diags Brick & Clay Rec 96: 25-6+ Mr '40

Testing

Bureau of standards tests prove qualities of RBM and cavity walls. il Brick & Clay Rec 95:26-7 N '39

Tests of the resistance to rain penetration of walls built of masonry and concrete; tests of 101 wall specimens built of concrete masonry, cast-in-place concrete and solid brick faced masonry. R. E. Copeland and C. C. Carlson. il diags Am Concrete Inst J 11:169-92 N '39; Excerpts. Concrete 48:22, 24+ Ap '40; Summary. Eng N 124:386 Mr 14 '40; Discussion. Am Concrete Inst J 12: sup192[1]-192[12] S '40

WALLS, Concrete

Concrete lace curtains for walls to screen a multifloor parking structure in downtown Washington. il diags Eng N 124:803-4 Je 6 '40

Concrete walls eliminate condensation in dairy buildings. G. B. Hanson. diags Concrete 48:16+ Ag '40

Data on heating and sheet metal; typical base wall of hollow concrete blocks. A. M. Daniels. Sheet Metal Worker 31:63-4 Ag '40

Details of plywood form work for walls, columns, slabs and girders. il diags Concrete 48:13+ Je '40

In the name of the Great Jehovah and the Continental congress; concrete restores Fort Ticonderoga. il Concrete 48:14 Ag '40

Installing pipes, ducts and conduits in concrete walls and floors. il diags Concrete 48: 17-18 My; 12 Ag '40

Novel construction method for curtain wall; abutment of Kingsley dam. G. N. Carter. il Civil Eng 10:626-7 O '40

Pre-cast concrete piles for canal walls at Long Beach, Calif. J. W. B. Blackman. il diags Civil Eng 10:719-20 N '40

See also

Concrete piling
Dams, Concrete
Sea walls, Concrete

Testing

Masonry test data analyzed; University of Wisconsin masonry tests and others discussed before American concrete inst. Rock Prod 43:63+ Ap '40

Structural properties of Nelson pre-cast concrete foundation wall construction sponsored by the Nelson cement stone company, inc. H. L. Whittemore, A. H. Stang and C. C. Fishburn. il diags U S Nat Bur Stand Report BMS26:1-10 '39

WALLS, Concrete—Testing—*Continued*
Tests of the resistance to rain penetration of walls built of masonry and concrete; tests of 101 wall specimens built of concrete masonry, cast-in-place concrete and solid brick faced masonry. R. E. Copeland and C. C. Carlson. il diags Am Concrete Inst J 11:169-92 N '39; Excerpts. Concrete 48:22, 24+ Ap '40; Summary. Eng N 124:386 Mr 14 '40; Discussion. Am Concrete Inst J 12:sup192[1]-192[12] S '40

WALLS, Interior
Basement full of fun. il diags Brick & Clay Rec 96:34-6 Je '40
Beautiful interiors obtained with insulation board products. il Am Bld 61:46-50, 54-5 D '39
Dirt patterns on walls. R. A. Nielsen. bibliog il Heating-Piping 12:389-94 Je '40
Hardwoods for interior trim; standardized hardwood paneling. il Am Bld 62:88-9 Ja '40
Making walls sound-proof; radio and moving picture studios. M. Rettinger. diags Eng N 124:723-5 My 23 '40
Wall size interior finish panels speed building. il Am Bld 62:78 My '40
Wood for friendly, beautiful interiors. il diags Am Bld 62:70-1 Ja '40

See also
Panel work
Partitions
Plaster and plastering
Wall board

WALNUTS
Basic plant operations improved; handling, sorting, separating and inspection by new methods and equipment devised for walnut factory. R. G. Engel. flow diag il Food Ind 12:32-4 N '40
How that diamond is branded on walnuts—and Mrs America's mind. C. Thorpe. il Sales Management 46:18-20, 58 My 1 '40

WALPOLE, New Hampshire

Bridges
Reconstruction of the Walpole-Bellows Falls arch bridge. H. E. Langley and E. J. Ducey. il diags Am Soc C E Proc 65:643-68 Ap '39; Discussion. 65:1314, 1445-6; 66:125-30 S-O '39, Ja '40

WALSH, Thomas Joseph
President, Walsh construction company. por Explosives Eng 18:132-3 My '40

WALSH-HEALEY act. See Labor laws and legislation—United States

WALT DISNEY productions
Preferred stock offered. Comm & Fin Chr 150:2276-7 Ap 6 '40

WALWORTH company
Stocks in the low-price range; thumbnail appraisal. Mag of Wall St 65:359 D 30 '39

WANDERSEE, John Frederick
Appreciation. H. W. McQuaid. por Metal Prog 37:644-6 Je '40

WAR
Hostages to peace; parents and the children of democracy. W. E. Blatz. 208p $2 Morrow '40
Minimum standard of living; Britain should establish irreducible minimum as a war measure. Economist 139:4-5 Jl 6 '40
Modern war and basic ethics. J. K. Ryan. 142p bibliog(p134-40) $1.75 Bruce pub. '40
Personal aggressiveness and war. E. F. M. Durbin and J. Bowlby. 154p $1.50 Columbia univ. press '39
Primary reasons for war. C. Caldwell. il Aero Digest 37:36-9+ Ag '40
Science, war and reconstruction. J. S. Huxley. Science 91:151-8 F 16 '40
Scientific conscience; Benjamin Franklin on balloons and war. I. B. Cohen. Science 91: 383-4 Ap 19 '40
Strategy of terror; Europe's inner front. E. Taylor. 278p $2.50 Houghton '40
War and nutrition. B. M. Housman. Gas J (Lond) 228:243-4 N 1 '39
War and peace; failure of the church. Fortune 21:26-7 Ja '40
War, peace, and the balance of power. F. L. Schuman. Ann Am Acad 210:73-81 Jl '40
Warfare; the relation of war to society. A. F. Vieth von Golssenau. 278p $2.50 Oxford '39
Way out of war. C. Searchinger. 125p 60c; pa 25c Macmillan '40

See also
Aeronautics, Military
Air raids and building
Armaments
Chemical warfare
Chinese-Japanese war
Church and war
European war, 1914-1918
European war, 1939-
Industrial mobilization
Munitions
Neutrality
Peace
Railroads in war

Bibliography
Bibliography on war and wealth. Trusts & Estates 71:206-8 Ag '40
Conscription of men, material resources and wealth in time of war; with select references on war profiteering. M. A. Matthews, comp. rev ed 15p Carnegie endowment '40

Economic aspects
Adjusting your business to war. L. M. Cherne. 2d ed rev & enl 444p $5 Research inst. of America, 292 Madison av, New York '40
Capitalization of earnings in wartime; based on 1914-18 figures for 110 stocks. J. H. Lewis. Annalist 55:196-7+ F 1 '40
Caution in contracting is war's warning. R. F. Proctor. Eng N 124:808 Je 6 '40
Defense; an inflation threat? H. G. Moulton. Inv Banking 10:3-6 O '40
Economic causes of war. L. Robbins. 124p $1.65 Nelson (Toronto) '39
Economic warfare. P. Einzig. 151p $1.90 Macmillan '40
Economics of war. R. E. Freeman. Mech Eng 62:675-6 S '40
Economics of war. H. Mendershausen. 314p $2.75 Prentice-Hall '40
Financing the national defense program. W. R. Burgess. Annalist 56:397-8+ S 26 '40
Four lectures on the economics of war. H. Mendershausen. 47p bibliog(p46-7) Colorado college, Colorado Springs '40
Government financing of war; the demands on private income and consumption. J. N. Frank. Trusts & Estates 71:143-6 Ag '40
How wars affect long-term price trends; English experience in Napoleonic period very much like ours since 1914. G. M. Ule. Barron's 20:7 Jl 29 '40
Industrialists do not want war. R. E. Desvernine. Iron Age 144:72-4 D 7 '39
Investor's stake in peace. H. D. Steinmetz. Mag of Wall St 65:207-9+ D 2 '39
National income in wartime. Bankers M 141: 413-14 N '40
Peace time economy need not be ruined as nation prepares; experiences of past, including World war. S. W. Reyburn. Ptr Ink 192:11-14 S 20 '40
Price of wheat and the gold value of sterling, 1259-1939; chart showing effect of various wars. Annalist 56:71 Jl 18 '40
Stop, look and listen; dangers in abnormal business conditions caused by war. J. H. Van Deventer. Iron Age 145:49-51 Ja 4 '40
War and American jobs. C. E. Bowerman. 48p bibliog(cover) pa 50c Science research associates, 600 S. Michigan av, Chicago '39
War and commodity prices. H. Working. Am Statis Assn J 35:309-24 Je '40
War and prosperity. E. T. Weir. Trusts & Estates 70:305 Mr '40
War, wealth and inflation. M. Nadler. Trusts & Estates 71:245-9 S '40
Wartime economic trends. E. C. Harwood and D. G. Ferguson. 16p pa $1 Am. inst. for economic research, 54 Dunster st, Harvard sq, Cambridge, Mass. '39
What Germany forgot. J. T. Shotwell. 152p $1.50 Macmillan '40

WAR—Economic aspects—*Continued*
What war would do to textile men. P. Wooton. Textile World 89:40-1 D '39
See also
European war, 1939-
—Economic aspects
Bibliography
Administration and organization in wartime in the United States; a bibliography. D. C. Culver, comp. 17p Public administration service, 1313 E. 60th st, Chicago '40
Current reading on war economy. Trusts & Estates 71:202-5 Ag '40
Labor problems
Economic factors affecting industrial relations policy in the war period. S. H. Slichter. 32p pa $1 Industrial relations counselors, 1270 6th av, New York '39
Wage policies in war-time. J. H. Richardson. Personnel J 19:20-4 My '40
War-time labor productivity. E. C. Robbins. Harvard Business R 19 no 1:99-105 [S] '40
Relief of sick and wounded
Medical work of the Knights hospitallers of Saint John of Jerusalem. E. E. Hume. 371p bibliog(p348-50) $3 Johns Hopkins press, Baltimore '40

WAR, Cost of
Cost of the Spanish civil war. Economist 139: 184 Ag 10 '40
Cost of the World war to Germany and to Austria-Hungary. L. Grebler and W. Winkler. 192p bibliog(p108-10) $2.50 Yale univ. press '40
Financial cost of war. F. Roe. Special Lib 31:353-7 O '40

WAR, Declaration of
Fortune survey; war by referendum or Congress? Fortune 20:114+ D '39

WAR, Maritime (international law)
Belligerent recaptures in international practice. A. N. Sack. 40p pa $1 New York univ, Law quarterly review, 100 Washington sq, E., New York '40
See also
Maritime law

WAR, Outlawry of
Secretary of State Hull urges adequate preparation for self-defense; statement on 12th anniversary of signing of Kellogg-Briand pact outlawing war. Comm & Fin Chr 151:1214-15 Ag 31 '40

WAR and religion
Christians in a world at war. E. Bevan. 188p $2 Macmillan (Toronto) '40

WAR contracts
Breach of contract due to war. P. Blair. 106p pa $1.50 Baker, Voorhis & co, New York '40

WAR correspondents
News is my job; a correspondent in war-torn China. E. L. Booker. 375p $3 Macmillan '40

WAR documentation service, Philadelphia
Philadelphia's War documentation service. R. Hirsch. Special Lib 31:369-70 O '40
War, scholarship and documentation. R. H. Heindel. Special Lib 31:43-6 F '40

WAR finance
Canada's war budget; sentiment divides on whether to tax heavily now or take long-range basis. Business Week p55 My 25 '40
Deferred pay: the Keynes plan; review and comment on "How to pay for the war" by H. J. Keynes. E. J. Riches. Int Labour R 41:557-81 Je '40
Financing the national defense program. W. R. Burgess. Annalist 56:397-8+ S 26 '40
Forced saving; the financial problem of war; J. M. Keynes' suggestion. Economist 137: 245-6 N 18 '39
Foreign war expenditures and finance; with government expenditures, 1929 and 1936-41, by country. Nat City Bank p29-31 Mr '40
Government financing of war; the demands on private income and consumption. J. N. Frank. Trusts & Estates 71:143-6 Ag '40
Hong Kong war taxes. J. H. Barkmeier. Comm Rep p582 Jl 6 '40
How to pay for the war; a radical plan for the Chancellor of the Exchequer. J. M. Keynes. 88p $1 Harcourt '40
Keynes plan; financing the war by a system of compulsory savings. Economist 138:363-4 Mr 2 '40
Lessons of war financing; what we did last time. H. M. Groves. Trusts & Estates 71: 386 O '40
M-day and your bank. A. P. Woolfson. Bankers M 141:192-6 S '40
Paying the bills for war or peace; prerequisite is loosing restrictions on private capital. G. C. Cox. Barron's 20:3 S 16 '40
Proposed drafting of the use of money in time of war. L. Croslin. Trusts & Estates 70:433-5 Ap '40
War finance. J. N. Frank. Inv Banking 10: 13-15 O '40
War financing; the functions of taxation and borrowing. E. M. Patterson. Trusts & Estates 71:151-5 Ag '40
See also
European war, 1939
—Finance

WAR industries board, 1917-1918. See United States—War industries board, 1917-1918

WAR measures
Australian war measures. L. C. Zapf. Compar Law Ser 3:161-71 Mr '40
Blood, toil, tears, and sweat; last-ditch human resources when empires fail to mobilize manimate resources for war. maps Fortune 22:52-5+ Jl '40
British lesson; if U.S. armament requires cut in production of non-essentials. il Business Week p58-9 N 2 '40
British Parliament passes drastic bill giving government power to conscript persons and property. Comm & Fin Chr 150:3279 My 25 '40
Canada at war; its industry may soon need U.S. dollars; will compete with U.S. and England when peace comes. il map Fortune 22:50-7+ N '40
Communications if war comes; defense plans. H. Corey. Pub Util 26:323-30 S 12 '40
Debtor and creditor in war-time. Engineering 150:204 S 13 '40
Defence measures. Economist 137:203-4, 323-4, 500-1; 138:138 N 11, D 2, 30 '39, Ja 27; sup 12 F 17 '40
Economic front; constructive criticism of British war measures. Economist 137:362-6 D 9 '39
Emergency law. W. Summerfield. Engineering 148:520-1, 546-7, 602-3 N 10-17, D 1 '39
Emergency powers threaten industry. L. W. Moffett. Iron Age 145:77, 80-1+ Ja 4 '40
France; partial list of decrees since Aug. 26, 1939. Comm Rep p25-6+ Ja 13 '40
Hire purchase and mechanical handling; decisions under the Courts (emergency powers) act, 1939. F. E. Sugden. Mech Handling 27:130-1 Je '40
Industry heeds Canadian lessons. Business Week p61-2 O 19 '40
Iron and steel products control; Minister of supply order. Engineer 168:481-2 N 10 '39
La limitation des bénéfices des entreprises industrielles et commerciales. Génie Civil 116:166-70 Mr 9 '40
Mobilisation at last; Emergency powers (defense) act is complete conscription of persons, labour and capital. Economist 138: 924-5 My 25 '40
Property conscription; symposium. F. R. Coudert and others. Trusts & Estates 71: 257-9 S '40
War and foreign department operations. W. Ward. Bankers M 141:261-4 S '40
War and peace; suggestion that Congress set up an organization similar to a management engineering concern. Fortune 22:65 N '40
War emergency legislation as it concerns mechanical handling; war risk insurance; Courts (emergency powers) act. F. E. Sugden. Mech Handling 26:345-6 D '39
Wartime emergency controls. Monthly Labor R 49:1090-3, 1359-81; 50:43-58, 324-8, 601-12, 843-8, 1107-10, 1373-8; 51:27-32, 303-7, 572-84 N '39-S '40

WAR measures—*Continued*
Workers wanted; Canada appoints commission to meet problem. Business Week p34+ N 16 '40
See also
European war, 1939—Labor problems
Gas industry—War measures
Lighting—War measures

WAR news
Fortune survey; credibility of foreign news. Fortune 20:120 D '39

WAR orders. See Munitions

WAR pictures
War pictures in the Daily News library; abstract. M. Symonds. Special Lib 31:231-2 Jl-Ag '40

WAR profits
How to rate war earnings; with lessons from World war prices and earnings. W. Gates. il Mag of Wall St 66:86-7+ My 4 '40
Scottish view of war economy. J Account 70:261-2 S '40
War profits form unsound upturn basis. H. H. Heimann. Bankers M 141:80-1 Jl '40

WAR resources board
President Roosevelt receives report on industrial mobilization. Comm & Fin Chr 149: 3481 D 2 '39

WAR risk insurance. See Insurance—War risks; Insurance, Marine—War risks

WAR ships. See Warships

WARDLAW, Frank Andrew, jr. 1887-
Portrait. Min & Met 21:136 Mr '40

WARDROBES. See Closets

WARE, Massachusetts
Ware saves its business life. Nation's Business 28:95 My '40

Water supply
Lessons from floods and hurricane at Ware. G. F. Merrill. N E Water Works Assn J 54:186-90 Je '40

WAREHOUSE receipts
Field warehousing decision; extent of the legal protection afforded by field-warehouse receipts; Heffron v. Bank of America national trust and savings association and Lawrence warehouse company. Banking 33: 102 S '40
New borrowers made eligible for loans to finance operations; raw materials can serve as a basis if protected by field warehouse receipts. J. V. Tuttle. Bankers Mo 57:554+ O '40
Warehouse receipts collateralize safe loans. J. Y. Beaty. Bankers Mo 57:355+ Je '40

WAREHOUSES
New warehouse has unique sawtooth-window system; Pittsburgh plate glass co.'s warehouse and offices, Washington, D.C. il diag plan Arch Rec 88:46-7 Ag '40
Speeding shipments; unique conveyor layout is combined with dispatching system; Westinghouse electric & mfg. co. O. J. Greenway. il diag Steel 106:50, 52+ Ap 8; 50, 52+ Ap 15 '40
Steel warehousing facilities being expanded; warehouses of Bethlehem steel co. and Joseph T. Ryerson & son. il Iron Age 145: 71 F 22 '40
Stock buildings and their uses. il Factory Management 98:B62-B63 Ap '40
Storage provided by the acre; one-story structures for Sears, Roebuck and Sprague, Warner & co. in Chicago. Business Week p34 Mr 23 '40
Warehousing steel. M. E. Neeley. il Steel 107:56, 58+ N 4 '40
See also
Cold storage warehouses
Grain elevators

Employees
Bridges looks east; has eye on Atlantic warehouses. Business Week p37-8 Ap 13; 39-41 Ap 20 '40

Heating and ventilation
Case histories; gas summer air conditioning on the delta; unit heaters regulate relative humidity for sugar and steel storage. G. E. May, R. E. Judd and J. M. Guillory. il Am Gas Assn Mo 22:341-2 O '40
Meeting increased steam needs in distillery plant. H. G. Burrill. il diags Power Pl Eng 44:62-4 Ap '40

WAREHOUSING
Case histories of inventory loans; Bank of America experience. A. J. Gock. il Burroughs Clearing House 24:12-14+ Jl '40
Dangers lurking in spot stocks; conflict with state corporation laws. Credit & Fin Management 41:23-4 D '39
Extra loans on collateral protected by field warehousing; with summary of state laws. J. Y. Beaty. map Bankers Mo 57:202-3 Ap '40

WARING, Fred
Sales strategy that built a new business; improved electric mixer, the Waring blendor. H. McLellan. por Am Business 10:20-1+ Ap '40

WARM air heating. See Heating, Warm air

WARNER and Swasey company
Stock offered. Comm & Fin Chr 151:1294-5 Ag 31 '40

WARNER brothers pictures, inc.
Annual report. Comm & Fin Chr 149:3574 D 2 '39
Another look. Mag of Wall St 66:99 My 4 '40

WARNER sugar corporation
Reorganization plan. Comm & Fin Chr 150: 3377 My 25 '40

WARRANTY
Automobile manufacturer's and dealer's liability; digest of recent cases. J. L. Roesch. Spectator (Property ed) 5:22-3 N 30 '39

WARRENDER, Cecil
Cecil Warrender writes from England. Blast F & Steel Pl 28:687 Jl '40

WARSAW, Siege of, 1939
Einsatz der technischen kommandos in Warschau. P. Münch. il V D I 84:125-9 F 24 '40

WARSHIPS
Bombers plus battleships; both are needed for co-ordinated effort. A. B. Vosseller. il Sci Am 163:183-5 O '40
Build no freaks. B. Livingston. il Sci Am 163:130-2 S '40
Grundsätzliches über die hauptantriebsanlagen von kriegsschiffen. K. Thannemann. bibliog V D I 83:821-6 Jl 15 '39; Abstract. Génie Civil 116:65-7 Ja 27 '40
Naval construction in 1939. F. McMurtrie. il Engineer 169:2-3, supp 1, 35-7 Ja 5-12 '40
Les possibilités actuelles de la turbine à gaz à pression constante; la turbine à détente totale fractionnée sur un seul disque. M. Gautier. Génie Civil 116:117-20 F 17 '40
Structural design of warships. W. Hovgaard. 2d ed rev & enl 410p $6 U.S. naval inst, Annapolis, Md. '40
See also
Airplane carriers
Navies
Submarine boats
Torpedo boats

Great Britain
Naval construction in 1939. F. McMurtrie. il Engineer 169:2-3, supp 1 Ja 5 '40

United States
Aircraft carrier operations. A. E. Montgomery. il Aero Digest 36:52, 54, 57 F '40
Electricity in the United States navy. L. Dreller. Elec Eng 59:267-70 Jl '40
Launch of the U.S.S. North Carolina. L. Kaplan. il diags Marine Eng 45:59-64 S '40
Naval construction program. C. Edison. Marine Eng 45:46-8 Ja '40

WARSHIPS—United States—*Continued*
Naval engineering developments; brief extracts from annual report of Chief of Bureau of engineering, U.S.N. Marine Eng 45:84+ Mr '40
Navy orders mean more shipyards. Business Week p17-18 Jl 27 '40
Navy says destroyer defects can be corrected; Acting Secretary Edison replies to inquiry of Senator Vandenberg. Comm & Fin Chr 149:3203 N 18 '39
New engineering in the navy. C. Edison. il Sci Am 162:138-9 Mr '40
Shipboard catapults. C. A. Nicholson. il Aero Digest 36:58, 61-2 F '40
Some observations, from the accountant's viewpoint on various laws relating to government contracts; aircraft and naval vessels. E. O. Lothrop. N A C A Bul 21: 1371-82 Jl 1 '40

WASATCH mountains
Proterozoic (?) rocks in Utah. A. J. Eardley and R. A. Hatch. diags maps Geol Soc Bul 51:795-843 bibliog(p841-3) Je '40

WASATCH plateau, Utah
Glaciation in the Wasatch plateau. E. M. Spieker and M. P. Billings. bibliog il maps Geol Soc Bul 51:1173-97, pl 1-5 Ag '40

WASHBURN, Margaret Floy, 1871-1939
Sketch. K. M. Dallenbach. Science 90:555-7 D 15 '39

WASHERS (machinery)
Washer's two sides inspected at once. J. A. Honegger. diag Factory Management 98:70 O '40

Manufacture
Accurate washers from thin material. L. F. Southwick. diags Am Mach 84:924 N 13 '40
One way of stripping thin-walled work. L. Kasper. diags Am Mach 83:1004-5 N 29 '39
Simply constructed electric heating bath for leather washers; Cleveland tractor co. R. W. Wyman. Mach 46:157 Ap '40

WASHING
See also
Bottle washing
Coal washing
Laundry

WASHING apparatus
Dawson washing machines for engines and parts. il Engineering 150:98, 99-100 Ag 2 '40; Engineer 170:95 Ag 9 '40
Electric washer cleans meter parts. A. C. Morrison. il Elec W 113:596 F 24 '40
Locomotive and car cleaner; Vapor thermo-pressure cleaning machine. il Ry Mech Eng 114:331 Ag '40
Street car washer used to clean trolley buses il Mass Transportation 35:365 D '39

WASHING machines
Pneumatic rams empty clothes washer. il Comp Air M 45:6160 My '40

Advertising
1½-page color spreads; new model Maytag washing machine. Ptr Ink 190:16 Mr 29 '40

Manufacture
Travels of conveyor lines serve to keep products out of regular factory during most of finishing cycle at the Maytag plant; diagram. Iron Age 146:34 Jl 25 '40
Welding for enameling; tanks and tubs for household washing machines. J. C. Lewis. il Steel 106:68, 71+ Je 17 '40

WASHING machines, Electric
Electric washing machines and laundries. il Electrician 123:389 O 27 '39
Electrified laundry; system for controlling supply of solutions to washing machines. il Elec R (Lond) 126:419-20 Ap 12 '40

Manufacture
Metals and alloys in home washing machines. H. Chase. il diags Metals & Alloys 11:65-8 Mr '40
Organic finishing of home laundry equipment; Bridgeport works of the General electric co. W. G. Sheane. il plan Metal Ind 38:118-20 F '40

Merchandizing
Sales guide. il Elec West 85:53-6 S '40

Rating
Small-sized personal washing machines. il Consumers' Research Bul (Gen bul ser) 9: 15-17 Je '40

WASHING machines (for metal parts)
Dawson washing machines for engines and parts. il Engineering 150:98, 99-100 Ag 2 '40; Engineer 170:95 Ag 9 '40
How new Plymouth washers clean engine castings. il Mach 46:142-5 Ap '40

WASHINGTON, D.C.
Exhibit of the Washington chapter, AIA; with abstract of the paper which accompanied it. il Arch Rec 86:56-62 D '39
Has Washington a plan? G. G. Gross. Arch Forum 72:52-3 Ja '40
Washington becomes a metropolis. Business Week p19 D 30 '39

Biography
Who's who in the nation's capital, 1938-1939. 958p $10 Ransdell incorporated, Washington, D.C. '38

Capitol
They built the Capitol. I. T. Frary. 324p $4 Garrett and Massie, Richmond, Va. '40

Rapid transit
Down with accidents, up with safety; four years of intensive safety work by Capital transit company. il Transit J 84:272-3 Ag '40
How mass transportation is handled in Washington. il Mass Transportation 36:55-60 Mr '40

Senate subway
Senate subway quieted; cars equipped with rubber-insert wheels. il Transit J 84:46 F '40

Sewerage
Effect of the Washington treatment works on the Potomac river; abstract and discussion. P. D. McNamee. Water Works & Sewerage 87:278 Je '40

Water supply
Aqua ammonia for chloramination proves advantageous. C. J. Lauter. il diag Water Works & Sewerage 87:306-7 Jl '40

WASHINGTON (state)

Bibliography
Publications of the state of Washington. L. W. Schram, comp. 35 numb l Bur. of governmental research, Univ. of Washington, Seattle '40

Politics and government
Politics on the West coast; land where third term means less than power or pensions. il maps Fortune 21:40-53 Mr '40

WASHINGTON academy of sciences
Officers. Science 91:136 F 9 '40

WASHINGTON award
Washington award for 1940 presented to Daniel Cowan Jackling. il W Soc E J 45: 50-4 Ap '40

WASHINGTON gas light company
Preferred stock offered. Comm & Fin Chr 150:2598 Ap 20 '40
Will the Washington plan work with gas utilities, producing gas rate reductions as it has produced electric rate decreases. C. E. Troxel. Pub Util 25:660-8 My 23 '40

WASHINGTON (state) university

Library
W.P.A. and the special collection. R. Todd. Special Lib 31:332-3 S '40

WASHINGTON university, St Louis
Pocket hydraulics laboratory. W. L. Blankenburg. il diag Eng N 125:337-9 S 12 '40

WASHINGTON water power company
Washington water power company wins Coffin award. Edison Elec Inst Bul 8:271-2 Je '40
Wins Charles A. Coffin foundation award. Gen Elec R 43:302 Jl '40

WASHROOMS. See Lavatories

WASTE

Exposing waste to fight it; scrap display tables, review of rework orders, and employees' scrap records; Addressograph-multigraph corporation. J. E. Sturm. il Factory Management 98:58-9 Jl '40

Extent of waste from depression unemployment; summaries and excerpts from National resources committee report. Monthly Labor R 49:1075-9 N '39

How print shop slashed waste losses; Standard register company, of Dayton, Ohio. T. Mills. il Inland Ptr 105:27-30 My '40

Penny saved, penny earned, given new twist; pictograph. Sales Management 46:41 F 15 '40

Reduction of waste; practices of various transit companies. Transit J 84:57, 59 F '40

Rockefeller on waste, David's Ph.D. thesis. Business Week p17-18+ Ag 24 '40

See also

Conservation of resources
Cotton waste
Mine waste
Paper mills—Waste
Petroleum refineries—Waste
Rubber waste
Salvage (waste, etc.)
Scrap metal
Trade waste
Waste fuel
Waste heat
Waste paper
Waste products
Wood waste

WASTE, Utilization of

Blood substituted for flour in sausage manufacture. R. G. Walker. Food Ind 12:49 F '40

Drying method changes composition of grapefruit byproduct. G. N. Pulley and H. W. von Loesecke. bibliog il Food Ind 12:62-3+ Je '40

How Baie Comeau disposes of refuse wood and bark; burns it to generate steam. E. J. Calnan. il diag Paper Ind 22:47-8 Ap '40

Screwy game; Eagle lock co. uses waste screws to make new game. Ptr Ink Mo 39: 18 D '39

Utilization of industrial wastes. H. E. Howe and F. J. Van Antwerpen. bibliog il Ind & Eng Chem 31:1323-30 N '39

Waste problems in the pulp and paper industry. H. J. Skinner. il Ind & Eng Chem 31:1331-5 N '39

Waste reclamation. Economist 137:469-70 D 23 '39

Wet milling of corn; recovery and utilization of process losses; Corn products refining company, Argo, Ill. A. L. Pulfrey, R. W. Kerr and H. R. Reintjes. bibliog diag Ind & Eng Chem 32:1483-7 N '40

See also

Farm produce—By-products
Oil reclamation
Refuse, Utilization of
Salvage (waste, etc.)
Sewage, Utilization of
Solvents—Recovery
Waste fuel
Waste products

WASTE disposal. See Refuse disposal; Trade waste

WASTE fuel

Bark burning furnaces for the pulp and paper industries. C. A. Hulsart. diags Paper Tr J 111:65-71 Ag 29 '40

Economic disposal of waste sulphite liquor; chemical and waste heat recovery; use of magnesia. G. H. Tomlinson and L. S. Wilcoxson. flow diags plan Paper Tr J 110:31-8 Ap 11 '40; Same. Pulp & Pa of Can 41:391-8 My '40

Heat and power in the pulp industry. M. F. A. Wulfinghoff. diag Paper Ind 22:677-8 O '40

Sludge disposal and power generation; Southwest sewage treatment works, Chicago. W. A. Dundas. flow diag il W Soc E J 45: 19-30 F '40

Steam from special fuels; making use of waste materials. diags Elec R (Lond) 126: 564-6 My 24 '40

World's largest sewage plant steam-powered; Chicago's Southwest sewage treatment works; special boiler furnaces supply heat for sludge drying, destroy vapors, burn sludge, and generate steam for turbine-driven blowers and pumps, and for auxiliary-power turbine-generators. J. M. Mercer. il diags Power 84:68-71 F '40

See also

Blast furnace gas
Coke-oven gas
Sewage sludge—Gas production
Wood as fuel

WASTE heat

Add secondary advantages to fuel savings by recovering clinker heat. il diag Concrete (mill sec) 48:198-9+ Jl '40

Clinker heat recovery. il diag Rock Prod 43:38 Ja '40

Cold power plus; waste heat recovery in gas and Diesel engine plants. J. F. Hecking. il diags Power Pl Eng 44:60-2 F '40

Diesel costs; analysis of Diesel engine users assn. cost report. P. Beatty. Power Pl Eng 44:94-5 Ap '40

Dryer waste heat recovery; winter operation of paper machine improved by warm water spray. R. J. Chambers. diags Pulp & Pa of Can (Convention no) 41:104-6 [F] '40

Economic disposal of waste sulphite liquor; chemical and waste heat recovery; use of magnesia. G. H. Tomlinson and L. S. Wilcoxson. flow diags plan Paper Tr J 110:31-8 Ap 11 '40; Same. Pulp & Pa of Can 41:391-8 My '40

Fundamentals of Diesel heat recovery. G. C. Boyer. Power 84:640-1 O '40

Heating tower for paper mills. Pulp & Pa of Can 41:474 Je '40; Heat & Ven 37:53 Jl '40

Improved gas engine waste-heat utilization; report by A.G.A. committee. plan Gas Age 85:13-14+ F 15 '40; Same cond. Oil & Gas J 38:57+ F 29 '40; Same cond. Power Pl Eng 44:65-6 Mr '40; Excerpts. Refrig Eng 39:383 Je '40; Abstract. Power 84:159-60 Mr '40

No Btu's lost in Dieselized dairy; heat recovery from Diesel and steam engines working together supplies hot-water; Borden's Willow Brook plant. il diag Power 84:22-4 Ja '40

Recirculating radiated waste-heat drier operated under controlled humidity and temperature. H. R. Straight. diags Am Cer Soc Bul 18:427-9 N '39

Recovery in sulphate pulp mills; experience with the Tomlinson system in Sweden. G. Edling. diags Pulp & Pa of Can 40:681-5, 734-8 N-D '39

Recovery of heat in sulphite mill operation. H. Mason. Pulp & Pa of Can (Convention no) 41:127-31 [F] '40

Report of gas engine power committee. diag Am Gas Assn Proc 1939:401-7

Steam from special fuels; making use of waste materials. diags Elec R (Lond) 126: 564-6 My 24 '40

Sulphur as a fuel; producing sulphuric acid by the contact process. W. H. Harvey. diag Power Pl Eng 44:76-7 O '40

Units using Diesel cooling water heat plant; Rockford screw products co. F. A. Westbrook. Heating-Piping 12:664 N '40

Vapor-phase engine cooling introduced on pipe lines. T. P. Sanders. il Oil & Gas J 39: 125-6+ S 19 '40

See also

Blast furnace gas
Boilers, Waste heat
Coke-oven gas
Heat exchangers
Sewage sludge—Gas production
Steam plants—By-product power
Waste fuel

WASTE heat boilers. See Boilers, Waste heat

WASTE paper

De-inking waste paper; flotation methods. Chem Age (Lond) 42:111[127] Mr 2 '40

Dewaxing waste paper; emulsifying wax content after melting. Chem Age (Lond) 42: 212 Ap 13 '40

Waste paper and junk fires. Safety Eng 79: 30 Je '40

WASTE products
Distillation products from waste rubber; abstract. F. N. Pickett. India Rubber W 102: 63 Jl '40
Fertilizer practice at Curtis bay; Davison chemical corp.; pyrites and fluorine by-products. R. S. McBride. il diag Chem & Met Eng 47:7-9 Ja '40
Kotal, a product of industry's waste piles; treating stone aggregate for asphalt road mixes. il Ind & Eng Chem News ed 18: 276 Mr 25 '40
Lignin and wood acquire new importance. J. L. McCarthy. il Pulp & Pa of Can 41:601-5 bibliog(45 references, p605) Ag '40
Recent advances in the utilization of lignin in waste sulphite liquor. A. C. Hill. bibliog Pulp & Pa of Can (Convention no) 41:148-50, 196-7 [F] '40
Treatment of textile wastes. H. B. Gotaas. bibliog Mech Eng 62:807-8 N '40
Utilization of industrial waste products; abstract. V. A. Rozenovich. Chem Ind 47:411 O '40
Utilization of industrial wastes. H. E. Howe and F. J. Van Antwerpen. bibliog il Ind & Eng Chem 31:1323-30 N '39
Utilization of waste lignin; current chemical research. E. E. Harris. bibliog il Ind & Eng Chem 32:1049-52 Ag '40
Wastes problems of the iron and steel industries; slag, flue dust, spent pickle liquor. W. W. Hodge. flow sheet il Ind & Eng Chem 31:1364-80 bibliog(139 references, p1379-80) N '39

See also
Bagasse
Blast furnace gas
Coke manufacture—By-products
Coke-oven gas
Distilleries—Waste
Farm produce—Industrial uses
Flue dust
Flue gas
Gas manufacture—By-products
Lignin
Meadol
Metallurgical plants—By-products
Packing houses—By-products
Paper making—By-products
Salvage (waste, etc.)
Scrap metal
Sewage sludge—Gas production
Slag
Straw
Sulfite liquor
Tailings
Trade waste
Waste paper
Wood as fuel

WATCH factories
Job shop for miniature parts; Custom parts division, Waltham watch company. P. Dumaine. diags Am Mach 84:88-9 F 21 '40

WATCHES
Market for clocks and watches in Cuba. Comm Rep p608 Jl 13 '40
Rules and practice for adjusting watches. W. J. Kleinlein. 1940 ed 133p lea'tte $3.50 Walter J. Kleinlein, Auberndale, Mass. '40
Swiss exports of watches to the United States increased in 1939. Comm Rep p638 Jl 20 '40
Taschenuhren. A. Spetzler. il diags V D I 84: 355-8 My 25 '40
Timepiece simplifies sidereal readings. il Aero Digest 36:138 Je '40
Timepieces of the James Arthur collection at New York university. Science 91:284-5 Mr 22 '40
What Elgin is doing to level out a camel's back sales curve; giving dealers specific sales plans and backing them up with magazine advertising. H. D. Schaeffer. il Sales Management 47:36+ Jl 1 '40

Advertising
Bulova spends $2,000,000 in 1940 to build customers for dealers. il Sales Management 46:24-6 F 15 '40

WATCHMEN
Sand and gravel watchman collects; important U.S. court decision under wages and hours act. Rock Prod 43:40-1 Je '40
Watchmen go to school. L. F. Maar. Nat Safety N 42:51 Ag '40

WATER
Absorption of supersonic waves in water and in aqueous suspensions. G. K. Hartmann and A. B. Focke. Phys R 57:221-5 F 1 '40
Action of water on copper pipes. L. Tronstad and R. Veimo. Engineering 149:260-1 Mr 8 '40
Activity of the constituents in mixtures of *n*-butyl alcohol and water at 30°C. M. Randall and H. P. Weber. diag J Phys Chem 44:917-20 O '40
Calculation of equilibria in dilute water solutions. D. S. McKinney. bibliog Am Soc T M Proc 39:1191-1203; Discussion. 1218-20 '39
Computations of transmission factors of ultraviolet radiation through water. F. Benford. il diags Opt Soc Am J 30:133-5 Mr '40
Correlation between the carbon dioxide and mineral content of water and its corrosivity. W. Rudolfs and T. T. Wong. Am Water Works Assn J 31:1909-24; Discussion. S. Shenker. 1924-5 N '39
Demonstration of wetter water. C. R. Caryl. il J Chem Educ 17:468 O '40
Distribution of protons between water and other solvents. L. S. Guss and I. M. Kolthoff. bibliog Am Chem Soc J 62:1494-6 Je '40
Dynamic and thermal behavior of water drops in evaporative cooling processes. H. B. Nottage and L. M. K. Boelter. Heating-Piping 12:326-32 My '40
Effect of ions of the lyotropic series on the infrared absorption spectrum of water. A. M. Buswell, R. C. Gore and W. H. Rodebush. bibliog J Phys Chem 43.1181-4 D '39
Equilibrium between vapor and liquid phases in the system CO_2—H_2O—K_2O—SiO_2. G. W. Morey and M. Fleischer. bibliog diag Geol Soc Bul 51:1035-57 Jl '40
Evaporation of water from saturated surfaces. R. W. Powell. Engineering 150:238-9, 278-80 S 20, O 4 '40
Evaporation of water through unimolecular films. F. Sebba and H. V. A. Briscoe. diags Chem Soc J p106-14 F '40
Fischer volumetric determination of water; application to technical substances. E. G. Almy, W. C. Griffin and C. S. Wilcox diag Ind & Eng Chem Anal ed 12:392-6 Jl 15 '40
Das gewässerkundliche schrifttum der jahre 1930 bis 1937. V D I 84:299-300 My 4 '40
pH, dissolved iron concentration and solid product resulting from the reaction between iron and pure water at room temperature. R. C. Corey and T. J. Finnegan. il diags Am Soc T M Proc 39:1242-53 bibliog (p1252-3); Discussion. 1254-60 '39
Hydrology of the Great Lakes; a symposium. C. R. Pettis; H. C. Hickman. diags Am Soc C E Proc 65:584-606 Ap '39; Discussion. 65:1105-8, 1305-13, 1435-44; 66:131-42 Je, S-O '39, Ja '40
Miscibility of carbon dioxide and water under high pressure. D. L. Katz. Am Chem Soc J 62:1629-30 Je '40
New ageing phenomenon in unimolecular films on water. F. Sebba and H. V. A. Briscoe. Chem Soc J p128-31 F '40
Oxygen exchange between water and inorganic oxy-anions. G. A. Mills. bibliog diag Am Chem Soc J 62:2833-8 O '40
Properties of ordinary water-substance in all its phases: water-vapor, water, and all the ices. N. E. Dorsey, comp. 673p $15 Reinhold pub. corp. '40
Reaction between iron and water in the absence of oxygen. M. deK. Thompson. bibliog diag Electrochem Soc Trans 78 (preprint 24):337-41 O '40
Slide rule for water technology calculations. A. A. Hirsch. bibliog diag Ind & Eng Chem Anal ed 12:542-3 S 15 '40
Solubility of carbon dioxide in water at various temperatures from 12 to 40° and at pressures to 500 atmospheres; critical phenomena. R. Wiebe and V. L. Gaddy. Am Chem Soc J 62:815-17 Ap '40
Structure of water and the water molecule. F. J. Llewellyn. Chem & Ind 59:619-22 Ag 31 '40
TAPPI survey of progress in water technology for 1939. L. B. Miller. Paper Tr J 110: 38-41 My 16 '40
Vitrification of water. B. J. Luyet. Phys R 56:1244 D 15 '39

WATER—*Continued*

Water solution in high-voltage dielectric liquids. F. M. Clark. bibliog Elec Eng 59: Trans 433-41 Ag '40

See also

Air conditioning equipment—Water requirements
Cooling of water
Cooling water
Dehydration
Drinking water systems
Drying
Erosion
Feed water
Floods
Humidity
Hydration
Hydraulic engineering
Hydraulics
Hydrolysis
Ice
Irrigation
Mine water
Moisture
Ocean
Pumping
Rain and rainfall
Rivers
Sea water
Solution (chemistry)
Steam
Water supply and other headings beginning Water
Waterways
Wells
Wetting
Wetting agents

Analysis

Analysis of aniline-water solutions. J. Griswold. Ind & Eng Chem Anal ed 12:89-90 F 15 '40

Bestimmung des im wasser gelösten sauerstoffes nach Winkler, aber ohne verwendung von kaliumjodid. C. Siegert. Angew Chemie 53:235-6 My 25 '40

Calculation of the distribution of carbon dioxide between water and steam. A. M. Amorosi and J. R. McDermet. Am Soc T M Proc 39:1204-17; Discussion. 1218-20 '39

Composition of water and interpretation of analytical results; abstract. A. A. Bado. Am Water Works Assn J 31:1975-7 N '39

Determination by the evaporation method of small amounts of dissolved solids in water such as condensed steam from boilers. R. C. Ulmer. diags Am Soc T M Proc 39: 1221-7; Discussion. 1228-32 '39

Determination of hydrogen sulphide. G. Martin. diags Water Works & Sewerage 86:501 D '39

Determination of phenol when present in minute amounts in water containing sodium sulphides L. S. Renzoni. Can Eng W & S 78:36-8 Mr '40; Same. Am Water Works Assn J 32:1038-41; Discussion. D. Feben. 1042-3 Je '40

Determination of small amounts of cyanide in water. J. E. Fasken. bibliog Am Water Works Assn J 32:487-93 Mr '40

Determination of sulfate by tetrahydroxyquinone method; effect of sodium sulfite and procedure for its elimination. H. L. Kahler. Ind & Eng Chem Anal ed 12:266-7 My 15 '40

Effect of internal pipe lining on water quality. P. Weir. bibliog il diag tables Am Water Works Assn J 32:1547-76 S '40

Free ammonia in the presence of chloramine. E. E. Wolfe. bibliog Water Works & Sewerage 86:509-11 D '39

How to run a water analysis. C. A. Noll. il Power 84.119-20, 183-4, 253-4, 324, 393-4 F-Je '40

Hydrogen ion control in water treatment; tests in the Tugela river. G. W. Bond. Chem Age (Lond) 41:327-8 N 11 '39

Methods of removing free carbon dioxide from natural waters; from viewpoint of deterioration of synthetic base-exchange materials used for softening the water. E. L. Streatfield. bibliog diags Soc Chem Ind J 58:313-17 O '39

Motorized apparatus for the rapid determination of calcium and magnesium in water. W. F. Langelier. bibliog il diag Am Water Works Assn J 32:279-93 F '40

Photo-cell control of water chlorination. J. H. Harrington. il plans Can Eng W & S 78:13-17+ Mr '40; Same. bibliog Am Water Works Assn J 32:859-70 My '40

Power plant operation problems; boiler water testing. R. W. Crain. il Power Pl Eng 44:66 N '40

Safety stirring device proves effective and easy on glassware; for pH determination and titrations. W. Strockbine. il Water Works & Sewerage 86:511 D '39

Silicomolybdate method for silica. H. W. Knudson, C. Juday and V. W. Meloche. bibliog Ind & Eng Chem Anal ed 12:270-3 My 15 '40

Speeding up water analysis. S. H. Coleman. diags Power Pl Eng 44:73 Ag '40

Water plant control as affected by stream pollution. I. N. Carter. Am Water Works Assn J 32:576-82 Ap '40

See also

Water—Bacteriology
Water sampling

Bibliography

Silica in water. M. C. Schwartz. diags Louisiana State Univ and Agricultural and Mechanical College, Univ Bul v 30, new ser no 14:1-46 '39

Bacteriology

Bacterial depreciation of water quality in distribution systems. N. J. Howard. Am Water Works Assn J 32:1501-6 S '40; Abstracts. Water Works & Sewerage 87:273 Je '40; Eng N 125:299 Ag 29 '40

Bacterial pollution of the Niagara river; improvement in conditions after sewage treatment at Buffalo. G. E. Symons and R. W. Simpson. bibliog map Am Water Works Assn J 32:1529-46 S '40

Bacteriological survey of indoor swimming pools in the province of Quebec. R. Cyr. il Can Eng W & S 78:13+ S '40

Calculating most probable numbers in coli-aerogenes analyses. R. Pomeroy. bibliog Am Water Works Assn J 32:478-86 Mr '40

Comparative studies of lactose-broth and brilliant-green-bile, at Cambridge, Mass. F. E. Smith. N E Water Works Assn J 54: 16-24 Mr '40; Abstract. Water Works & Sewerage 87:25-6 Ja '40

Control of iron and sulfur organisms by super-chlorination and de-chlorination. L. J. Alexander. bibliog Am Water Works Assn J 32:1137-46 Jl '40

Induced slow lactose fermentation in escherichia coli. M. E. Caldwell. Am Water Works Assn J 32:659-60 Ap '40

Infantile paralysis; water supply and sewerage as factors in infection. Eng N 124:668 My 9 '40

Introduction to the microbiology of water and sewage for engineering students. P. L. Gainey. 283p spiral binding $3 Burgess pub. co, Minneapolis '39

Outbreaks of water-borne diseases in the New England states, 1920 to 1936. A. E. Gorman. N E Water Works Assn J 53:473-96; Discussion. 497-504 D '39

Presence of coliform bacteria in chlorinated water. G. W. Freiberg. bibliog Water Works & Sewerage 87:65-9 F '40

Study of procedures for detection of coliform organisms in Minnesota drinking water. D. M. Taylor. Am Water Works Assn J 32:98-104 Ja '40

Typhoid bacteria in surface waters. Eng N 124:186 F 1 '40

Water treatment and laboratory control; a committee report. Am Water Works Assn J 32:1507-11 S '40

Bibliography

Bibliography of hydrology, United States of America for the year 1939. 86p pa 50c J. A. Fleming, Am. geophysical union, 5241 Broad branch road, NW, Washington, D.C. '40

Bound water

Dielectric properties of the system gelatin—water; polarization process in range of high gelatin concentrations. H. Fricke and E. Parker. J Phys Chem 44:716-26 Je '40

Water bound to gelatin as shown by molecular structure studies. O. L. Sponsler, J. D. Bath and J. W. Ellis. il diags J Phys Chem 44:996-1006 bibliog(52 references, p1005-6) N '40

Deactivation and deaeration

Calculation of the distribution of carbon dioxide between water and steam. A. M. Amorosi and J. R. McDermet. Am Soc T M Proc 39:1204-17; Discussion. 1218-20 '39

WATER—Deactivation and deaeration—*Cont.*
Corrosion in steam heating systems; removal of gases from feedwater. L. F. Collins and E. L. Henderson. diags Heating-Piping 12: 159-62 Mr '40
Developments in the conditioning of boiler feed water. E. F. Walsh. Am Gas J 152:15 Mr '40

Hardness

Drying methods in electroplating; influences of hardness in water. P. J. LoPresti. il Metal Ind 38:87-90 F '40
Effect of water hardness on the formation of floc from sodium aluminate. L. B. Miller and R. L. Lanz. Paper Tr J 110:131-3 F 22 '40
How to test for hardness. C. A. Noll. il Power 84:183-4 Mr '40
Motorized apparatus for the rapid determination of calcium and magnesium in water. W. F. Langelier. bibliog il diag Am Water Works Assn J 32:279-93 F '40

See also
Water softening

Heavy oxygen water

Interchange of heavy oxygen between water and inorganic oxy-anions. E. R. S. Winter, M. Carlton and H. V. A. Briscoe. diag Chem Soc J p131-8 F '40

Heavy water

Dissociation of carbonic acid in ordinary and in heavy water. G. A. Mills. Am Chem Soc J 62:449 F '40
Elastic, dielectric and piezoelectric constants of heavy-water Rochelle salt. A. N. Holden and W. P. Mason. bibliog Phys R 57:54-6 Ja 1 '40
Energy and entropy of activation of the hydrolysis of ethyl orthoformate in deuterium oxide. F. Brescia and V. K. LaMer. bibliog Am Chem Soc J 62:612-14 Mr '40
Far infra-red absorption spectrum and the rotational structure of the heavy water vapor molecule. N. Fuson, H. M. Randall and D. M. Dennison. bibliog il Phys R 56: 982-1000 N 15 '39
Heat and free energy of formation of deuterium oxide. F. D. Rossini, J. W. Knowlton and H. L. Johnston. bibliog diags J Research Nat Bur Stand 24:369-88 Ap '40
Heavy water and longevity. H. G. Barbour and F. S. Hammett. Science 90:538-9 D 8 '39
Isotopic exchange reaction between deuterium oxide and *cis*- and *trans*-glutaconic acids. E. M. Evans, H. N. Rydon and H. V. A. Briscoe. diag Chem Soc J p1673-9 N '39
Solubilities of certain inorganic compounds in ordinary water and in deuterium water. R. D. Eddy and A. W. C. Menzies. bibliog J Phys Chem 44:207-35 F '40

Odor

Laboratory control and operating experiences at the Hammond, Indiana, filtration plant; threshold odor test. J. C. Vaughn. il Am Water Works Assn J 31:2137-42 D '39
Larvae and crustacea; problem in water purification and corrective measures. R. A. Thuma. Water Works & Sewerage 87:214-15 My '40
Water pollution by petroleum oils. M. M. Gibbons. bibliog Am Water Works Assn J 32:465-77 Mr '40

See also
Water purification—
Odor removal

Salinity

Permissible composition and concentration of irrigation water. W. P. Kelley. Am Soc C E Proc 66:607-13 Ap '40: Discussion. 66:1368-72, 1721-2 S, N '40

Synthesis

Photochemical oxidation of hydrogen. H. A. Smith and A. Napravnik. bibliog Am Chem Soc J 62:385-93 F '40

Testing

Enslow continuous stability indicator. R. J. Leveque. il Water Works & Sewerage 86: 450-1 N '39
Simple turbidimeter for fairly clear water. A. A. Hirsch. diag Water Works & Sewerage 87:76-7 F '40
Use and limitations of conductivity measurements of well water quality. K. W. Brown. il Am Water Works Assn J 32:675-87; Discussion. 687-91 Ap '40

Transportation

Saving dollars in portland cement concrete highway construction; water transported in tank trucks. W. C. Anderson. il Pub Works 71:9-10 O '40

See also
Water cars

WATER, Carbonated
Syphon water production; abstract. G. B. Beattie. Food Ind 11:711 D '39

WATER, Distilled
Constant-level still for redistillation of water. D. A. Wilson and H. S. Strickler. diags Ind & Eng Chem Anal ed 11:636 N 15 '39
Costly troubles due to impurities in distilled water ended by modern instrumentation; manufacture of electrolytic condensers. M. Kevelson. diag Instruments 13:14+ Ja '40
Design for distilled water; Eli Lilly & co. A. A. Ross. il Chem & Met Eng 47:100-1 F '40
Still for producing metal-free distilled water. J. S. McHargue and E. B. Offutt. il diag Ind & Eng Chem Anal ed 12:157-9 Mr 15 '40

WATER, Underground
Analysis of legal concepts of subflow and percolating waters. C. F. Tolman and A. C. Stipp. diags Am Soc C E Proc 65:1687-1706 D '39; Discussion. 66:378-80, 779-92, 1020-30, 1130-2 F, Ap-Je '40
Draining of the Isere valley at Grenoble; water table lowered to permit conduit construction. il diags plans Engineer 169:150-2, 160 F 16 '40
Formation of watergaps by solution and piracy; Smoke Hole in eastern West Virginia. K. Ver Steeg. map Am J Sci 238:32-41, pl 1 Ja '40
Foundation conditions and treatment at Guntersville dam; ground water behavior. V. Gongwer. diag Am Soc C E Proc 66: 449-52 Mr '40
Ground water presented problem at this street subway. il diags Ry Age 109:366-8+ S 14 '40
Source of water derived from wells; essential factors controlling response of an aquifer to development. C. V. Theis. il Civil Eng 10:277-80 My '40
Tracing underground water by means of dyes. F. R. Cozzens. Am Dyestuff Rep 29: 169-70 Ap 1 '40
Watergaps by solution and piracy; a reply to Ver Steeg. H. M. Fridley. Am J Sci 238: 226-33 Mr '40

See also
Divining rod
Geysers
Hot springs
Mine water
Wells

Cooling uses

57 F ground water for condensing; municipal court building in Philadelphia. Heating-Piping 12:173 Mr '40
Old cooling and ventilating system converted to up-to-date air conditioning; Busse & Borgmann funeral home. H. W. Moore. plan Heating-Piping 12:306-7 My '40
Well water for air cooling in 1939. H. C. Angster. Heat & Ven 37:77-8 Ja '40

China

Analysis and study of hot-spring water in Foochow. T. Wang and Y. Lin. bibliog diag map Am J Sci 238:799-804, pl 1 N '40

Kansas

Geology and ground-water resources of the Equus beds area in south central Kansas. S. W. Lohman and J. C. Frye. bibliog diags maps Econ Geol 35:839-66 N '40

WATER, Underground—*Continued*

Louisiana

Ground-water resources of Rapides parish. J. C. Maher. 96p bibliog(p85-7) Louisiana geological survey, Dept. of conservation. New Orleans '40

Nebraska

Deep wells at Lincoln, Neb. G. E. Condra and E. C. Reed. il Nebraska Geol S Pa 15: 1-25 bibliog(p25) '39

Local overdevelopment of ground-water supplies; with special reference to conditions at Grand Island. L. K. Wenzel. U S Geol S Water-supply Pa 836-E:233-81, pl 16-21 '40

Oklahoma

Geology and ground water resources of Texas county. S. L. Schoff. diags maps Oklahoma Geol S Bul 59:1-248, pl 1-5 '39

Ground water in the Oklahoma Panhandle. S. L. Schoff. maps Econ Geol 35:534-45 Je '40

Oregon

Geology and ground-water resources of the Harney basin. A. M. Piper, T. W. Robinson and C. F. Park, jr. fold maps U S Geol S Water-supply Pa 841:1-189, pl 1-20 '39

United States

Water levels and artesian pressure in observation wells in the United States in 1938. O. E. Meinzer and L. K. Wenzel. maps U S Geol S Water-supply Pa 845: 1-724 '39

Wyoming

Oil-field waters of Wyoming and their relation to geological formations. J. G. Crawford. map graphs Am Assn Pet Geologists Bul 24:1214-1329 Jl '40

WATER aeration. See Water purification—Aeration

WATER cars

Auxiliary water cars save operating costs on Missouri Pacific. il Ry Age 108:781+ My 4 '40

WATER companies

Water districts pro and con. A. Russell. Am Water Works Assn J 32:57-61 Ja '40

See also
Waterworks
also American water works and electric company

Employees

See Waterworks—Employees

Laboratories

Centralized laboratory control for a group of privately operated water supplies; Flatbush consolidated laboratory of the New York water service corporation. J. S. Kneale. Am Water Works Assn J 32:654-8 Ap '40

Rates

See Water rates

WATER conduits

Baltimore's new water tunnel. L. Small. il diags Eng N 125:346-50 S 12 '40

Building Baltimore's big tunnel. J. J. Hunt and B. L. Werner. il diags plan Eng N 125: 466-70 O 10 '40

Caron water-storage project; Moose Jaw to be supplied with water thru open ditch, 68 miles long. J. I. Strong. il Can Eng 77:2-6 N 14 '39

Making a water tunnel entrance 165 ft. below lake surface; new fish hatchery at Leavenworth, Wash. diags Eng N 124:371 Mr 14 '40

Putting a damper on surge; water conduits in Lake Erie supply system for Toledo, Ohio. P. Hansen and P. E. Langdon. diags Eng N 124:523-4 Ap 11 '40

Water supply of Rangoon, Burma. il diags Engineer 169:508-9 Je 7 '40

Water supply system of San Francisco. N. A. Eckart. il plan map Am Water Works Assn J 32:751-94 My '40

See also
Aqueducts
Channels
Irrigation canals
Penstocks
Siphons
Water pipes

WATER conduits, Concrete

Draining of the Isere valley at Grenoble; water table lowered to permit conduit construction. il diags plans Engineer 169:150-2, 160 F 16 '40

WATER conservation

Pittsburg conservation reservoir development of the New Hampshire water resources board. R. S. Holmgren. il diags plan maps Boston Soc C E J 27:110-35 Ap '40

Procedure clarified for water conservation projects; bill co-ordinating Bureau of reclamation and Department of agriculture programs. Eng N 125:577-8 O 31 '40

Some economic aspects of the upland watershed lands of the western United States. M. H. Saunderson. J Land & Pub Util Econ 15:480-2 N '39

When water shortage threatens; lessons learned by New York city. E. Nuebling. il map Sci Am 162:213-15 Ap '40

WATER consumption

Amount of domestic consumption of water. Pub Works 71:16 Je '40

Urban domestic water consumption. M. A. Pond. bibliog Am Water Works Assn J 31: 2003-14; Discussion. R. W. Esty. 2015-17 D '39

Water consumption in hotels. G. C. St Laurent. Heating-Piping 12:667 N '40

Water requirements; volume demand and rates of flow for various uses and fixtures. Water Works & Sewerage 87:sup88-9 Ap '40

See also Air conditioning equipment—Water requirements

WATER departments

Efficiency in managing water works properties. L. N. Thompson. Am Water Works Assn J 32:1677-88 O '40

Joint administration and collection of water and sewer accounts. Am Water Works Assn J 31:1957-63 N '39

Small water department. J. L. Galloway. Am Water Works Assn J 31:2114-17 D '39

Water department as an independent utility. D. C. Egbert. Am Water Works Assn J 31: 2109-13 D '39

Water supply at Akron. W. R. LaDue and others. maps Am Water Works Assn J 32:1775-99 O '40

See also
Fire service (water supply)
Waterworks—Management

Laboratories

London's water supply. il Engineer 169:344-6 Ap 12 '40

Real estate purchasing

Real estate acquisitions for metropolitan Boston's water supply in the Swift river and Ware river watersheds. J. A. Christenson. il maps N E Water Works Assn J 54:194-255 Je '40

Records

Digging in the file instead of in the street; how the Bradford, Pa. water department keeps its records and files. Pub Works 71: 20-1 F '40

WATER distribution

Bacterial depreciation of water quality in distribution systems. N. J. Howard. Am Water Works Assn J 32:1501-6 S '40

Cathodic protection on domestic distribution system at Treasure Island. C. H. Lee. il plans Am Water Works Assn J 32:305-38 F '40

Consideration of distribution system design for adequate fire protection. G. Tatnall. plans Am Water Works Assn J 31:2037-43; Discussion. 2043-6 D '39

WATER distribution—*Continued*
Department records for supply and distribution. H. A. Harris, jr. Am Water Works Assn J 32:255-8 F '40
How to discover leaks and locate water wastage. il diags Pub Works 71:28-32+ Ap '40
How's your C line? (coefficient of friction of pipe lines) D. R. Taylor. Water Works & Sewerage 87:169-71 Ap '40
Hydraulic investigation of a small water works system and effects of main cleaning. R. H. Ellis. diag map N E Water Works Assn J 54:155-63 Je '40
Hydraulics and water works engineering; distribution system planning. H. N. Lendall. Am Water Works Assn J 31:2079-84 D '39
Importance of sampling and studying the water in the distribution system. A. T. Lundberg. Am Water Works Assn J 32:649-53 Ap '40
Improvements to Wichita water supply. R. E. Lawrence. diags plan map Am Water Works Assn J 32:1321-38; Discussion. W. D. Moore. 1338-40 Ag '40
Improvements triple fire fighting flow and improve domestic supply service, Creston, Iowa. il Pub Works 71:11-12 O '40
Intercommunal organization for water distribution in Belgium (Belgian reports to the Congress of Liége): abstract. Am Water Works Assn J 32:522-6 Mr '40
Legal decisions relating to distribution of public water supplies. F. A. Marston. Am Water Works Assn J 32:1081-96 bibliog(p1095-6) Jl '40
Pumping plant at Spalding waterworks. diags Engineering 148:513, 514 N 8 '39
Putting a damper on surge; water conduits in Lake Erie supply system for Toledo, Ohio. P. Hansen and P. E. Langdon. diags Eng N 124:523-4 Ap 11 '40
Quality depreciation in distribution; abstract. W. J. Scott. Eng N 125:479 O 10 '40
Report of the French commission to the Congress of Liége, July 3-6, 1939, regional grouping for public supply of potable water. Am Water Works Assn J 32:173-4 Ja '40
Water supply at Akron. F. D. Paul. Am Water Works Assn J 32:1788-90 O '40
Water supply system of San Francisco. N. A. Eckart. il plan map Am Water Works Assn J 32:751-94 My '40

See also
Aqueducts
Drinking water systems
Hydrants
Hydraulics
Pumping stations
Water districts
Water flow
Water hammer
Water pipes
Waterworks

Cost

Contract unit bid prices; list of projects showing how contractors bid in 1939-1940. Eng N 124:sup190-5 Je 20 '40
Cost of mains (galvanized and cast iron) per foot; estimating guide. D. R. Taylor. Water Works & Sewerage 87:304-5 Jl '40
Digging in the file instead of in the street: how the Bradford, Pa. water department keeps its records and files; unit prices developed for pipe, etc. Pub Works 71:20-1 F '40
Economic evaluation of tuberculation in pipe lines. L. J. Alexander. Am Water Works Assn J 32:371-86 Mr '40
Regulations for water main installations. H. T. Green. Am Water Works Assn J 31:2047-52 D '39
Sewage plant, water lines, Monahans, Tex; unit prices. Eng N 124:623 My 2 '40
Water distribution system, Austin, Texas; unit prices. Eng N 124:470 Mr 28 '40
Water mains, Wichita, Kansas; unit prices. Eng N 124:50 Ja 4 '40
Water pipe lines, Los Angeles; unit prices. Eng N 125:362 S 12 '40
Water system, St Ignatius, Montana; unit prices. Eng N 124:128 Ja 18 '40

Cross connections

Combating backflow in water supply systems. R. H. Zinkil. diags N E Water Works Assn J 53:458-72 D '39
Cross-connections and the plumbing testing laboratory in the New Bedford vocational school. E. J. Sullivan. il N E Water Works Assn J 54:179-85 Je '40
Cross connections to steam boilers. R. F. Goudey. Water Works & Sewerage 87:365-7 Ag '40
Pollution hazards in your building's plumbing? J. Herzog. diags Power 84:740-1 N '40
Present status of cross-connection control. E. S. Chase. Am Water Works Assn J 32: 1737-52 O '40; Conclusions. Eng N 124:802 Je 6 '40

Maps

Recommended practice for distribution system records. il Am Water Works Assn J 32:181-220 F '40

WATER districts
Law on water and sewerage districts, Colorado. W. B. Cheek. Am Water Works Assn J 32:62-4 Ja '40
Water districts pro and con. A. Russell. Am Water Works Assn J 32:57-61 Ja '40

WATER flow
Aspects théoriques de l'écoulement de l'eau dans un canal comportant des obstacles. A. Broïkos. Génie Civil 116:356-9 Je 1 '40
Capillary flow in porous solids. N. H. Ceaglske and F. C. Kiesling. bibliog diag Am Inst Chem Eng Trans 36:211-25 Ap '40
Circulating water, heat transmission, and heat discharge in condensing plants. R. H. Parsons. Engineer 168:499-501 N 17 '39
Contribution to a study of the Allen salt-velocity method of water measurement. M. A. Mason. Boston Soc C E J 27:207-55; Discussion. 236-41 Jl '40
Delaware aqueduct; controlling the flow. il diags plans Eng N 125:109-13 Jl 18 '40
Design of an open-channel control section to measure the flow of water. K. R. Kennison. diags Am Soc C E Proc 65:763-70 My '39; Discussion. il 65:1283-8, 1447-8; 66: 113-9 S-O '39, Ja '40
Drainage resistance of papermaking pulps. W. O. Hisey and C. H. Heigl. il Paper Tr J 110:34-40 F 8 '40
Effect of enlarging a main at point of diversion of a branch line. S. A. Evans. diags Am Water Works Assn J 32:431-4 Mr '40
Fire hydrant flow tests. H. E. Nunn. Water Works & Sewerage 87:437-9 S '40
Flow in pipe grid systems. R. G. Tyler. Water Works & Sewerage 87:sup44-6 Ap '40
Flow of water in irrigation and similar canals. F. C. Scobey. il pls U S Agric Tech Bul 652:1-79 bibliog(p75-8) '39
Friction of fluids in solder-type fittings; comparison between copper and cast iron pipe and fittings. P. F. Bruins and others. flow sheet bibliog il Am Inst Chem Eng Trans 36:721-37; Discussion. 737-9 O '40
Hydraulics in connection with water and sewage works. M. L. Crist. Water Works & Sewerage 87:433-5; Discussion. E. R. Stapley. 435-6 S '40
Mathematical theory of irrotational translation waves. G. H. Keulegan and G. W. Patterson. bibliog J Research Nat Bur Stand 24:47-101 Ja '40
Measurement of velocity in pipe lines by saline injections; abstracts of papers by L. J. Hooper and O. H. Dodkin. diags Engineering 150:179-80 Ag 30 '40
Photographic study of fluid flow between banks of tubes. R. P. Wallis. bibliog diag Inst Mech Eng J & Proc 142:Proc 379-83, pl 1-6; Discussion. Proc 384-7 F '40
Pressure drop and liquid holdup in a packed tower. E. L. Piret, C. A. Mann and T. Wall, jr. bibliog il Ind & Eng Chem 32:861-3 Je '40
Recherches sur l'écoulement de l'eau à l'entrée d'un canal découvert. L. Escande. il Génie Civil 116:152-4, 164-6 Mr 2-9 '40
Strömungswiderstand von geraden rohren und formstücken. E. Zimmermann. il V D I 83:1288-9 D 16 '39
Unconfined distribution of liquid in tower packing. R. S. Tour and F. Lerman. bibliog diags Am Inst Chem Eng Trans 35:719-42 O '39; Discussion. 36:177-9 Ap '40

WATER flow—*Continued*

Wärmeübertragung im übergangsgebiet von laminarer zu turbulenter strömung. A. Watzinger and D. G. Johnson. diags V D I 83:1289-90 D 16 '39

See also

Hydraulics
Intakes
Seepage
Turbines
Water meters
Weirs (measuring)

WATER gages

Cleaning gage glass. diag Power 84:48 Ja '40

WATER gaps

Formation of watergaps by solution and piracy; Smoke Hole in eastern West Virginia. K. Ver Steeg. map Am J Sci 238:32-11, pl 1 Ja '40

Watergaps by solution and piracy; a reply to Ver Steeg. H. M. Fridley. Am J Sci 238:226-33 Mr '40

WATER hammer

Avoid water hammer by decelerating motors; sewage pumping station at East Saugus, Mass. H. Fox. il diag Elec W 113:766 Mr 9 '40

Flywheel on pump soft-pedals pipeline surges. il Power 84:11 Ja '40

Keeping the charge in pump air chamber. diags Power 84:115-17+ F '40

Methods of calculating water-hammer pressures. F. M. Dawson and A. A. Kalinske. bibliog diags Am Water Works Assn J 31:1835-64 N '39; Abstract. Water Works & Sewerage 86:258 Jl '39

Pressure air chambers in centrifugal pumping. W. L. Boerendans. diags Am Water Works Assn J 31:1865-92 N '39

Preventing water hammer in pipes; Wacor water hammer arrester. il Sci Am 162:294-5 My '40

Shock absorbers for cushioning water hammer. il diag Water Works & Sewerage 87: sup72 Ag '40

Water-hammer control by proper valve installation. E. C. Brisbane. diags Am Water Works Assn J 31:1904-8 N '39

Water hammer, its study and correction. H Ryon. il diag Water Works & Sewerage 87: sup62-5 Ap '40

Water hammer studies on long pipe lines. L. E. Goit. diags map Am Water Works Assn J 31:1893-1903 N '39; Abstract. Water Works & Sewerage 86:258 Jl '39

WATER heaters

Domestic water heaters. diags Consumers' Research Bul (Gen bul ser) 9:16-20 Ap '40; Correction. 9:21 Je '40

Water heater connections. diag Power Pl Eng 44:76 Mr '40; Discussion. diags 44:78-9 Ag '40

See also

Electric water heaters
Gas water heaters
Hot water supply

Advertising

Radio tells the story of the bath. il Dom Eng 155:36+ Je '40

Merchandizing

Cincinnati okays water heater plan. Dom Eng 155:37 Je '40

WATER heating

Dryer waste heat recovery; winter operation of paper machine improved by warm water spray. R. J. Chambers. diags Pulp & Pa of Can (Convention no) 41:104-6 [F] '40

Heating tower for paper mills. Pulp & Pa of Can 41:474 Je '40; Heat & Ven 37:53 Jl '40

No Btu's lost in Dieselized dairy; heat recovery from Diesel and steam engines working together supplies hot-water; Borden's Willow Brook plant. il diag Power 84:22-4 Ja '40

Oil fired boilers heat Florida aquarium. Heat & Ven 37:23 Je '40

See also

Hot water supply

WATER hyacinth

Water-hyacinth destructor, Kenny. il Engineering 149:520-1, 524, pl 27-28 My 24 '40

WATER in air conditioning. See Air conditioning equipment—Water requirements; Water, Underground—Cooling uses

WATER laws and legislation

Analysis of legal concepts of subflow and percolating waters. C. F. Tolman and A. C. Stipp. diags Am Soc C E Proc 65:1687-1706 D '39, Discussion. 66:378-80, 779-92, 1020-30, 1130-2 F, Ap-Je '40

Law on water and sewerage districts, Colorado. W. B. Cheek. Am Water Works Assn J 32:62-4 Ja '40

Pollution legislation; its present status. Eng N 123:775-6 D 7 '39

Voluntary regionalism in the control of water resources. D. W. Robinson. bibliog Ann Am Acad 207:116-23 Ja '40

See also

Water rights
Waterworks—Laws and regulations

WATER level indicators

Indicates water level in storage tanks. E. B. Ankenman. diag Elec W 113:1732+ Je 1 '40

Locating height of crown sheet and water-level indicating devices; Master boiler makers' association committee report. diags Ry Mech Eng 113:446-8 N '39

Ordinary 110-volt circuit shows when tank is full W. T. Ziegenhain. diag Oil & Gas J 39:48 S 12 '40

Radio improves aneroid efficiency; determining elevation of proposed pool levels along reservoir rims. E. A. Bailey. Eng N 124: 719 My 23 '40

Simple device warns of water-level difference. E. A. Crellin diag Elec W 113:144 Ja 13 '40

Tank level indicators and flow alarm; problem. Power Pl Eng 44:85 Mr '40; Solutions. diags 44:78-80 My '40

Transmit river stages with radio gages. A. S. Fry. il Elec W 114:1166-7+ O 19 '40

Warning; simple device watches water levels at hydro plant. diag Elec West 83:26 D '39

Water level indicator; bridge-controlled thyratron system. L. A. Ware. il diags Electronics 13:23-5 Mr '40

See also

Water gages

WATER lilies

Engineered lily pad; curious structure cause of strength and buoyancy. H. W. Rickett. il Sci Am 162:155 Mr '40

WATER loss. See Water pipes—Leakage

WATER measurement

Automatic liquid meter co. device for controlling water in concrete mixes. il Rock Prod 43:83 Mr '40

Contribution to a study of the Allen salt-velocity method of water measurement. M. A. Mason. Boston Soc C E J 27:207-35; Discussion. 236-41 Jl '40

Investigation of the discharge and co-efficients of small circular orifices. F. W. Medaugh and G. D. Johnson. diag Civil Eng 10:422-4 Jl '40

Measuring flows by the orifice method. diag Water Works & Sewerage 87:sup53 Ap '40

Safe Harbor hydro plant meters water flow. J. M. Mousson. il diags Power 84:650-2, 708-10 O-N '40

Water levels and artesian pressure in observation wells in the United States in 1938. O. E. Meinzer and L. K. Wenzel. maps U S Geol S Water-supply Pa 845:1-724 '39

See also

Flow meters
Stream measurement
Water flow
Water meters
Weirs (measuring)

WATER meters

Is it profitable and practical to have accurate meters, sensitive to low flows? L. Trentlage. Am Water Works Assn J 32:1107-17 Jl '40

Metering and meter shop practice. M. B. Cunningham. il Water Works & Sewerage 87:165-8 Ap '40

Meters and maintenance; featured at December meeting of New England water works association. R. W. Esty. Water Works & Sewerage 87:23-4 Ja '40

WATER meters—*Continued*
New rate of flow meter for variable discharges. Franklin Inst J 229:787-8 Je '40
Precast concrete units serve many uses; Dallas, Texas, makes meter boxes. Pub Works 70:26 D '39
Results of better maintenance and sizing of water meters. H. W. Griswold. N E Water Works Assn J 54:164-78 Je '40
Water leaks and water unaccounted for; abstract. A. P. Kuranz. Eng N 124:321 F 29 '40

Cleaning

Cleaning meter casings by sand blasting. W. R. La Due. diag Water Works & Sewerage 87:260 Je '40

Installation

Diagonal specials for meters. D. D. Gross. il Eng N 124:532 Ap 11 '40

Repair

Meter cradle; handy gadget in repair work. D. Calderwood. il diags Water Works & Sewerage 87:407 S '40

Testing

Flexibility; using Neptune recorder with any meter. D. R. Taylor. il Water Works & Sewerage 87:134 Mr '40

WATER pipes
Airbound water line. diags Power 84:675-7+ O '40
Assembly-line plumbing job; Wyvernwood housing project. il Dom Eng 156:46-7+ S '40
Committee on water works practice; report. Am Water Works Assn J 32:502-15 Mr '40
Depreciation of cast-iron water mains related to actual service lives. R. Newsom and E. H. Aldrich. Am Water Works Assn J 32: 795-818 My '40; Abstract. Eng N 124:804 Je 6 '40
Designing water, gas and sewerage facilities for low cost housing project in San Antonio. A. Sauer. il diags Pub Works 71:20-3 S '40
Difficult underwater pipelaying under the Kennebec river at Bath, Maine; with cost data. E. B. Myott. il diags map Eng N 123:746-9 D 7 '39
Experiences with the new rubber joint packing. W. R. La Due. Water Works & Sewerage 87:60-1 F '40
Fabricating specials for Grand Rapids water line. il Eng N 124:60-1 Ja 11 '40
Improvements to Wichita water supply. R. E. Lawrence. diags plan map Am Water Works Assn J 32:1321-38 Ag '40; Abstract. Eng N 124:665 My 9 '40; Discussion. W. D. Moore. Am Water Works Assn J 32:1338-40 Ag '40
It's there to stay; water on Treasure Island. il Dom Eng 156:54+ Jl '40
Jacking 72-inch culvert pipe under outfall sewer. R. Shepherd. il diag Am Water Works Assn J 32:414-22 Mr '40
Lake Michigan water for Grand Rapids, Mich.; with cost data. A. W. Consoer and J. A. Fulkman. il plan Civil Eng 10:3-6 Ja '40
Modern engineering practice and two-inch cast-iron pressure pipe; with cost data. C. D. Cox. il N E Water Works Assn J 54:294-8 S '40
Pipe laying record at Little Rock, Ark. il Eng N 123:771-2 D 7 '39
Pipe laying up to date. P. Burgess. bibliog Am Water Works Assn J 32:1696-1704 O '40
Pipes for water works use; panel discussion. Water Works & Sewerage 87:210-11 My '40
River crossings. C. T. Heeney. il N E Water Works Assn J 54:65-72 Mr '40
Supporting strengths of cast-iron pipe for water and gas service. W. J. Schlick. il diags Iowa Eng Exp Sta Bul 146:1-128 bibliog(p113-14) '40 (pa gratis)
Turn made in pipeline by increasing the joints il Eng N 124:180 F 1 '40
Wärmeübertragung im übergangsgebiet von laminarer zu turbulenter strömung. A. Watzinger and D. G. Johnson. diags V D I 83:1289-90 D 16 '39
Wichita makes cast-iron water line history. il map Eng N 125:214-18 Ag 15 '40

See also
Aqueducts
Culverts
Hot water heating
Hot water supply
Penstocks
Pipe fittings
Pipe joints
Pipe laying
Pipes
Plumbing
Siphons
Valves, Hydraulic
Water distribution
Water flow
Waterworks

Chlorination

See Water pipes—Sterilization

Cleaning

Hydraulic investigation of a small water works system and effects of main cleaning. R. H. Ellis. diag map N E Water Works Assn J 54:155-63 Je '40
Lining cast-iron mains in position with cement mortar. J. E. Gibson. il Am Water Works Assn J 32:821-4 My '40; Same. Water Works & Sewerage 87:224-5 My '40
Main cleaning; with cost data. W. S. Staub. il Am Water Works Assn J 32:77-84 Ja '40; Same. Water Works & Sewerage 87:12-15 Ja '40
Rehabilitation of force mains at Akron, Ohio. W. R. LaDue. il diags map Water Works & Sewerage 87:469-74 O '40

Corrosion

Conditions covering the installation of lead service pipe. R. L. Ziegfeld. N E Water Works Assn J 54:4-11 Mr '40
Corrosion and tuberculation. H. A. Knudsen. bibliog Am Water Works Assn J 32:387-93 Mr '40
Corrosion control at Lewiston, Idaho. W. P. Hughes. il Water Works & Sewerage 87:172-5 Ap '40
Corrosion control by sodium hexametaphosphate. H. T. Gidley and R. S. Weston. diags map Am Water Works Assn J 32:1484-94 S '40; Abstract. Eng N 124:666 My 9 '40
Corrosion of consumers' plumbing. R. R. Ashline. Am Water Works Assn J 32:408-13 Mr '40
Corrosion of lead and copper water pipes in the soil; abstract. C. A. H. Von Wolzogen Kuhr. Am Water Works Assn J 32:355-8 F '40
Corrosion of pipes. F. N. Speller. il Blast F & Steel Pl 28:885-8+ S '40
Effect of internal pipe lining on water quality. P. Weir. bibliog il diag tables Am Water Works Assn J 32:1547-76 S '40; Abstract. Water Works & Sewerage 87:330-1 Jl '40
Outline of the corrosion problem in water works. G. D. Norcom. Am Water Works Assn J 32:401-7 Mr '40
Progress report on the use of sodium hexametaphosphate at Garden City, N.Y. A. H. Rogers. Am Water Works Assn J 32:1498-1500 S '40
Sand helps lick water main electrolysis. F. M. Carver. Factory Management 97:77-8 D '39
Water plant control as affected by stream pollution. I. N. Carter. Am Water Works Assn J 32:580-1 Ap '40

Deposits

Corrosion and tuberculation. H. A. Knudsen. bibliog Am Water Works Assn J 32:387-93 Mr '40
Economic evaluation of tuberculation in pipe lines. L. J. Alexander. Am Water Works Assn J 32:371-86 Mr '40

Electric grounding

Electrical grounding subcommittee reports need for more research. C. F. Meyerham. Ind Stand 11:259-60 O '40
Grounding of electric circuits on water pipes. J. B. Downer. diags Am Water Works Assn J 32:115-20 Ja '40
No evidence of damage to water pipes by alternating current found by grounding committee. Edison Elec Inst Bul 8:451-2 S '40; Same. Power Pl Eng 44:62-4 N '40; Same. Am Water Works Assn J 32:1946-50 N '40

WATER pipes—*Continued*

Failures

Stray current corrodes underground mains. Nat Safety N 42:91 S '40

Freezing

Electrical pipe thawing. diag Dom Eng 155:58 Mr '40

Requirements for pipe-thawing by the electrical method. P. C. Ziemke. Coal Age 45: 72 S '40

Temperature deficiencies and frost penetration; abstract. H. U. Fuller. Water Works & Sewerage 87:122 Mr '40

Tomorrow it may freeze; welding generator for frozen pipe. il diags Dom Eng 154:38-9 D '39

Winter operating problems. A. K. Grimmer. diags Can Eng 77:2-3, 8 S 26 '39; Same. N E Water Works Assn J 54:60-4 Mr '40

Leakage

How to discover leaks and locate water wastage. il diags Pub Works 71:28-32+ Ap '40

Leak detection. H. W. Niemeyer. Am Water Works Assn J 32:1354-8 Ag '40

Water leaks and water unaccounted for; abstract. A. P. Kuranz. Eng N 124:321 F 29 '40

Lining

Effect of internal pipe lining on water quality. P. Weir. bibliog il diag tables Am Water Works Assn J 32:1547-76 S '40; Abstract. Water Works & Sewerage 87:330-1 Jl '40

Lining cast-iron mains in position with cement mortar. J. E. Gibson. il Am Water Works Assn J 32:819-37 My '40; Same. Water Works & Sewerage 87:223-30 My '40

Lining large steel water pipe with portland cement mortar. il Pub Works 71:22 O '40

Lining pipes in place; abstract. B. Harkness. Water Works & Sewerage 87:22 Ja '40

New pipe lining; carbon and mineral filler; abstract. H. J. Billings. Eng N 125:478 O 10 '40

Protective coating for steel water lines. D. Bronson. Am Water Works Assn J 32:1385-93 Ag '40

Rehabilitation of force mains at Akron, Ohio. W. R. LaDue. il diags map Water Works & Sewerage 87:469-74 O '40

Service life of coal-tar enamel protective coatings. H. Hayes. bibliog il Am Water Works Assn J 32:1705-22 O '40

Moving

Moving a water main under pressure. Pub Works 71:27 My '40

Protection

Cathodic protection for water works equipment. W. D. Loreaux. flow sheet il Water Works & Sewerage 87:sup81-2 Ap '40

Cathodic protection on domestic distribution system at Treasure Island, C. H. Lee. il plans Am Water Works Assn J 32:305-38 F '40

Concrete coating for underground piping. J. H. T. McGee. il Am Water Works Assn J 32:1723-31 O '40

Corrosion control. O. C. Blumberg. bibliog Am Water Works Assn J 32:394-400 Mr '40

Problems inside water pipes. H. Nix. il diag Textile World 90:80-1 S '40

Protective coating for steel water lines. D. Bronson. Am Water Works Assn J 32:1385-93 Ag '40; Abstract. Water Works & Sewerage 87:333 Jl '40

Service life of coal-tar enamel protective coatings. H. Hayes. bibliog il Am Water Works Assn J 32:1705-22 O '40; Abstract. Water Works & Sewerage 87:333-4 Jl '40

Steel pipe protection; abstract. D. Bronson. Eng N 124:664 My 9 '40

Tentative standard, American water works association; specification for cement-mortar protective coating for steel water pipe of sizes 30 inches and over. Am Water Works Assn J 32:sup7A.7 p 1-18 Ja '40

Tentative standard, American water works association; specification for coal-tar enamel protective coatings for steel water pipe of sizes of 4½ inches outside diameter up to but not including 30 inches. Am Water Works Assn J 32:sup7A.6 p 1-28 Ja '40

Tentative standard, American water works association, specification for coal-tar enamel protective coatings for steel water pipe of sizes 30 inches and over. Am Water Works Assn J 32:sup7A.5 p 1-34 Ja '40

Service pipes

Conditions covering the installation of lead service pipe. R. L. Ziegfeld. N E Water Works Assn J 54:1-15 Mr '40

Standards

American standard specifications for cast iron pit cast pipe for water or other liquids. Am Water Works Assn J 31:sup ASA A21.2 p 1-21 D '39

Tentative standard specifications for steel water pipe of sizes of 4 inches up to but not including 30 inches. Am Water Works Assn J 32:sup7A.4 p 1-24 Je '40

Tentative standards, American water works association, prepared by Water works practice subcommittee 7A. Published in Am Water Works Assn J (sup) Ja '40

Sterilization

Bacterial depreciation of water quality in distribution systems. N. J. Howard. Am Water Works Assn J 32:1501-6 S '40

Methods and practices in sterilizing newly laid mains; use of liquid chlorine, hypochlorates, and dry gas chlorinators. il Pub Works 70:24-6 N '39

Sterilization of new mains at Springfield, Ill. S. T. Anderson. Am Water Works Assn J 32:645-8 Ap '40

Tables, calculations, etc.

American recommended practice; manual for the computation of strength and thickness of cast iron pipe. diags Am Water Works Assn J 31:sup ASA A21.1 p 1-26, 1-43 D '39

Charts simplify pipe size selection for industrial water piping systems. E. A. Windham. Heating-Piping 11:747-8 D '39

Cost of mains (galvanized and cast iron) per foot; estimating guide. D. R. Taylor. Water Works & Sewerage 87:304-5 Jl '40

Effect of enlarging a main at point of diversion of a branch line. S. A. Evans. diags Am Water Works Assn J 32:431-4 Mr '40

Flow in pipe grid systems. R. G. Tyler. Water Works & Sewerage 87:sup44-6 Ap '40

How's your C line? (coefficient of friction of pipe lines) D. R. Taylor. Water Works & Sewerage 87:169-71 Ap '40

Hydraulics and water works engineering; friction losses in pipe lines. H. N. Lendall. flow diag Am Water Works Assn J 31:2073-9 D '39

Methods of calculating water-hammer pressures. F. M. Dawson and A. A. Kalinske. bibliog diags Am Water Works Assn J 31: 1835-64 N '39

Pipe line friction coefficients; a summary of the findings of the committee. E. T. Killam. Water Works & Sewerage 87:sup40-2 Ap '40

Testing

How's your C line? (coefficient of friction of pipe lines) D. R. Taylor. Water Works & Sewerage 87:169-71 Ap '40

Plugs for aqueduct testing formed from steel plates; new Boston pressure aqueduct. S. M. Dore. il Eng N 124:330-1 F 29 '40

Water hammer studies on long pipe lines. L. E. Goit. diags map Am Water Works Assn J 31:1893-1903 N '39

See also

Water pipes—Leakage

WATER pipes, Concrete

Boston's new conduit; steel-concrete pipe. il Water Works & Sewerage 87:78 F '40

WATER pipes, Concrete—*Continued*
Great Lakes water for Grand Rapids; 30-mile concrete pipeline. il Eng N 124:450 Mr 28 '40
Metropolitan Boston's new water-supply system; steel-concrete pipe line. W. R. Brend. il Can Eng 77:9 N 28 '39
21-mile concrete pressure pipe line and dam feature Bethlehem's new water supply. il diags map Pub Works 70:9-12 N '39

Manufacture

Concrete design for large precast concrete pipe. P. M. Putnam. Boston Soc C E J 27:28-35 Ja '40

WATER pipes, Copper
Action of water on copper pipes. L. Tronstad and R. Veimo. Engineering 149:260-1 Mr 8 '40
Cold-dip tin plating. B. J. Higgins. il Steel 107:50, 52 Jl 29 '40
Corrosion of lead and copper water pipes in the soil; abstract. C. A. H. Von Wolzogen Kuhr. Am Water Works Assn J 32:355-8 F '40
Friction of fluids in solder-type fittings; comparison between copper and cast iron pipe and fittings. P. F. Bruins and others. flow sheet bibliog il Am Inst Chem Eng Trans 36:721-37; Discussion. 737-9 O '40

WATER pipes, Lead
Conditions covering the installation of lead service pipe. R. L. Ziegfeld. N E Water Works Assn J 54:1-15 Mr '40
Corrosion of lead and copper water pipes in the soil; abstract. C. A. H. Von Wolzogen Kuhr. Am Water Works Assn J 32:355-8 F '40

WATER pipes, Steel
Automatic welding for water mains; additions to New York city distribution system. il Eng N 125:343-4 S 12 '40
Etzel welded high pressure pipeline, Switzerland. il Engineer 169:118 F 2 '40; Elec R (Lond) 126:128 F 2 '40
Fabrication of dam penstock and pump inlet linings for Grand Coulee. il Steel 106:44-6+ Je 17 '40
Flexible steel pipe; abstract. R. E. Barnard. Eng N 124:664-5 My 9 '40
Great Lakes water for Grand Rapids; steel pipe intake. il diags Eng N 124:448-9 Mr 28 '40
New high pressure steel water supply line for Colorado Springs. E. L. Mosley. il Am Water Works Assn J 32:1225-41 Ag '40
Penstocks for hydro-electric power plants. P. J. Bier. diags Engineering 149:349-52, pl 19-20 Ap 5 '40
Pinning a pipeline on Pikes peak. E. L. Mosley. il diags Eng N 124:518-20 Ap 11 '40
Protective coating for steel water lines. D. Bronson. Am Water Works Assn J 32:1385-93 Ag '40
Quarter century of aqueduct maintenance; Los Angeles aqueduct; interview with J. E. Phillips. il diag Eng N 124:784-7 Je 6 '40
Re-use of steel water mains of the Hetch Hetchy supply. C. W. Geiger. Pub Works 71:46 Mr '40
Steel pipe; A.W.W.A.'s symposium. Water Works & Sewerage 87:332-4 Jl '40
Steel pipe protection; abstract. D. Bronson. Eng N 124:664 My 9 '40
Steel, welding equipment from U.S. used in Brazil's new water line. il Iron Age 146: 82 S 19 '40
Tentative standard specifications for steel water pipe of sizes of 4 inches up to but not including 30 inches. Am Water Works Assn J 32:sup7A.4 p 1-24 Je '40
Tentative standards, American water works association, prepared by Water works practice subcommittee 7A. Published in Am Water Works Assn J (sup) Ja '40
Water works intakes. N. G. McDonald. diags Am Water Works Assn J 32:661-74 Ap '40

WATER pipes, Wood
Utah power & light co. builds a big wood pipe. il Elec W 112:1864-5 D 30 '39

WATER pollution
Accomplishments in the Illinois River valley; abstract. C. W. Klassen. Water Works & Sewerage 86:498 D '39
Bacterial pollution of the Niagara river; improvement in conditions after sewage treatment at Buffalo. G. E. Symons and R. W. Simpson. bibliog map Am Water Works Assn J 32:1529-46 S '40
Biochemical oxidation in acid water containing sewage. C. C. Ruchhoft, M. B. Ettinger and W. W. Walker. Ind & Eng Chem 32:1394-8 O '40
Biological processes for treating waste; bioprecipitation and anaerobic fermentation. A. M. Buswell. bibliog Ind & Eng Chem 31:1349-51 N '39
Chicago's South District water filtration project. A. E. Gorman. W Soc E J 44:276-80 D '39
Combating pollution in stream and ocean waters; abstract. P. R. Shaw. Water Works & Sewerage 87:323-4 Jl '40
Congress authorizes Ohio and Potomac River compacts; first intrastate anti-pollution covenants. J. G. Ellis. Water Works & Sewerage 87:320 Jl '40
Court decision on public health; Mississippi Supreme court. Pub Health Rep 55:849-50 My 10 '40
Determination of phenol when present in minute amounts in water containing sodium sulphides. L. S. Renzoni. Can Eng W & S 78:36-8 Mr '40; Same. Am Water Works Assn J 32:1038-41; Discussion. D. Feben. 1042-3 Je '40
Diagnosis for a sick river; Ohio River stream pollution abatement. E. J. Cleary. il map Eng N 124:716-19 My 23 '40
Disease outbreaks resulting from faulty environmental sanitation. L. C. Frank. bibliog Pub Health Rep 55:1373-83 Ag 2 '40
Effect of the Washington treatment works on the Potomac river; abstract and discussion. P. D. McNamee. Water Works & Sewerage 87:278 Je '40
First year's work of the Ohio River pollution survey. E. S. Tisdale. il Ind & Eng Chem News ed 18:619-21 Jl 25 '40
Flood control and its relation to problems of stream pollution. D. F. Horton. Boston Soc C E J 27:42-52 Ja '40
Industrial wastes; abstracts of papers published in Ind & Eng Chem, Nov. '39. Am Water Works Assn J 32:1201-9 Jl '40
Infantile paralysis; abstract. J. E. Kempf and M. H. Soule. Science 92:sup8 Jl 26 '40
Infantile paralysis; question whether it can be spread by bathing in sewage-polluted waters; abstract. Ellsworth. Eng N 125: 410 S 26 '40
Legal aspects of the industrial wastes problem. J. A. Tobey. Ind & Eng Chem 31:1320-2 N '39
Limitations of euglenidae as polluted water indicators. J. B. Lackey and R. S. Smith. bibliog diags Pub Health Rep 55:268-80 F 16 '40
Mobile laboratories for land and water; U.S. Public health service studies Ohio River pollution. il plans Eng N 124:858-60 Je 20 '40
National legislation affecting coal mining. J. D. Conover. Min Cong J 26:19-20 My '40
Nitrosolignin colorimetric test for sulphite waste liquor in sea water. I. A. Pearl and H. K Benson. bibliog Paper Tr J 111:35-6 O 31 '40
Ohio River pollution survey's relation to stream pollution problems in West Virginia. E. S. Tisdale. map Am Water Works Assn J 32:545-54 Ap '40
Pollution abatement in New York area; interstate problems. S. G. Hess. il map Civil Eng 10:270-2 My '40
Pollution abatement in New York area; progress west of the Hudson. C. J. Velz. il maps Civil Eng 10:349-52 Je '40
Pollution abatement in New York area; the city itself. R. H. Gould. Civil Eng 10:508-9 Ag '40
Pollution abatement in New York area; Westchester and Long Island. J. L. Barron. il maps Civil Eng 10:441-4 Jl '40

WATER pollution—*Continued*
Pollution by waste sulphite liquor in Green Bay, Wis. Pub Works 71:18 F '40
Pollution hazards in your building's plumbing? J. Herzog. diags Power 84:740-1 N '40
Pollution investigations of the Fisheries service. Science 92:279-80 S 27 '40
Pollution legislation; its present status. Eng N 123:775-6 D 7 '39
Pollution of Boston harbor. S. A. Greeley. maps Boston Soc C E J 27:102-9 Ap '40
Pollution of Boston harbor. A. D. Weston and G. P. Edwards. il maps Am Soc C E Proc 65:383-418 Mr '39; Discussion. 65:1103-4, 1797-9; 66:312-16, 648-50 Je, D '39, F, Ap '40
Pollution of harbors and streams from the viewpoint of the sportsman; abstract. H. Vernon. Water Works & Sewerage 86:467 N '39
Pollution of navigable waters or interstate streams from the standpoint of the federal government or army engineers; abstract. E. C. Kelton. Water Works & Sewerage 86:466-7 N '39
Pollution of San Francisco bay, the ocean shore and the effect of sewage treatment; abstract. A. B. Crowley. Water Works & Sewerage 86:467 N '39
Regulation of stream pollution in the Raritan River basin; abstract. L. Forman and R. P. Johns. Water Works & Sewerage 87:82 F '40
Research on the problems of water supply. Chem & Ind 59:216-17 Mr 30 '40; Same abr. Chem Age (Lond) 42:184 Mr 30 '40
Some developments in the water pollution research program of the Public health service. J. K. Hoskins. Pub Health Rep 55:893-9 bibliog(p899) My 17 '40
Stream pollution control in Texas; abstract. C. Cohen. Water Works & Sewerage 86:480 D '39
TAPPI survey of progress in water technology for 1939. L. B. Miller. Paper Tr J 110: 38-41 My 16 '40
Treatment of textile wastes. H. B. Gotaas. bibliog Mech Eng 62:805-8 N '40
Water plant control as affected by stream pollution. I. N. Carter. Am Water Works Assn J 32:576-82 Ap '40
Water pollution. R. S. Weston. bibliog il Ind & Eng Chem 31:1311-15 N '39
Water pollution by petroleum oils. M. M. Gibbons. bibliog Am Water Works Assn J 32:465-77 Mr '40
Waterworks operating experiences. Eng N 124:397 Mr 14 '40

See also
Algae
Filters and filtration
Refuse disposal
Sewage disposal
Trade waste
Water—Bacteriology
Water distribution—Cross connections
Water pipes—Sterilization
Water purification
Water supply

WATER power

See also
Dams
Hydraulic engineering
Hydraulic machinery
Hydroelectric plants
Hydroelectric power
Turbines

Statistics

Developed and potential water power of the world. Pub Works 71:39 O '40

British Columbia

British Columbia looks ahead; water power resources. H. G. Nichols. Can Min J 61: 587-9 S '40

Canada

Water power in Canada. Eng N 125:114 Jl 18 '40

New Hampshire

Pittsburg conservation reservoir development of the New Hampshire water resources board. R. S. Holmgren. il diags plan maps Boston Soc C E J 27:110-35 Ap '40

Norway

Will exploit hydro resources of Norway for German benefit. Elec W News ed 114:1397 N 9 '40

WATER purification

Active problems in water purification. P. Hansen. bibliog Am Water Works Assn J 32:1118-36 Jl '40; Abstract. Water Works & Sewerage 87:334 Jl '40
Algae control. J. B. Baty. il Can Eng W & S 78:20+ Je '40
Alkalies and chlorine in the treatment of municipal and industrial water. 84p Solvay sales corp, 40 Rector st, New York '40
Alumina floc; X-ray diffraction study. H. B. Weiser, W. O. Milligan and W. R. Purcell. il Ind & Eng Chem 32:1487-90 N '40
Base exchange resins; patent. il Ind & Eng Chem News ed 18:399-400 My 10 '40; Same. Paper Tr J 110:21 My 16 '40
Centralized laboratory control for a group of privately operated water supplies; Flatbush consolidated laboratory of the New York water service corporation. J. S. Kneale. Am Water Works Assn J 32:654-8 Ap '40
Cold lime-soda water softening; experiences with Spaulding precipitators. S. B. Applebaum. bibliog il diags Ind & Eng Chem 32: 678-84 My '40
Committee on water works practice; report. Am Water Works Assn J 32:502-15 Mr '40
Corrosion control and stabilization by threshold treatment. O. Rice. il Water Works & Sewerage 87:sup103-4 Ap '40
Corrosion control at Lewiston, Idaho. W. P. Hughes. il Water Works & Sewerage 87: 172-5 Ap '40
Corrosion prevention by sodium hexametaphosphate. E. C. Trax. Am Water Works Assn J 32:1495-7 S '40; Abstract and discussion. Water Works & Sewerage 87:272-3 Je '40
Discussion on water purification. N. J. Howard. Am Water Works Assn J 32:1198-1200 Jl '40
L'emploi des résines synthétiques comme adsorbants pour l'épuration des eaux. E. Lemaire. il diags Génie Civil 116:340-4 My 25 '40
L'emploi du silicate de soude pour accélérer la clarification des eaux traitées par les aluns. Génie Civil 115:391-2 N 25 '39
Experiences and observations. F. L. Coventry. il Water Works & Sewerage 86:484-5 D '39
Filtration and softening plant and swimming pool built for Opelousas, La. by WPA. il Pub Works 71:17-18 Mr '40
General discussion on water purification. J. R. Baylis. Am Water Works Assn J 32:1195-7 Jl '40
Keeping iron in or out of solution; abstract and discussion. L. R. Caplan. Water Works & Sewerage 87:279-80 Je '40
Laboratory control and operating experiences at the Hammond, Indiana, filtration plant. J. C. Vaughn. il Am Water Works Assn J 31:2137-48 D '39
Larvae and crustacea; problem in water purification and corrective measures. R. A. Thuma. Water Works & Sewerage 87:214-15 My '40
London's water supply. il Engineer 169:344-7 Ap 12 '40
Milwaukee's water purification plant. J. P. Schwada. il diags plan Water Works & Sewerage 87:137-45, 195-200 Ap-My '40
Nalco unit-type water-treating plant. il Ry Age 108:462 Mr 9 '40
Nineteenth annual report of Ohio conference on water purification held at Toledo, Ohio, Oct. 3-4, 1939. 114p T. R. Lathrop, sec. Depts. of state bldg, Columbus '40
Noteworthy advance in water conditioning practice. il Rayon 21:117-19 F '40
Novel design features of the Lansing water conditioning plant. C. R. Erickson. flow diag il plans Am Water Works Assn J 32: 1259-1309 Ag '40; Abstract. Eng N 124:665 My 9 '40
Physiology of sodium hexametaphosphate. K. K. Jones. bibliog il Am Water Works Assn J 32:1471-83 S '40

WATER purification—*Continued*
Problem in water treatment; round table. Water Works & Sewerage 87:21-2 Ja '40
Problem of clarifying gas holder waters. J. J. O'Loughlin. Gas Age 84:19-20 D 7 '39
Problems inside water pipes. H. Nix. il diag Textile World 90:80-1 S '40
Progress in water supply and purification during 1939. L. V. Carpenter. il diag map Water Works & Sewerage 87:1-11 Ja '40
Progress report on the use of sodium hexametaphosphate at Garden City, N.Y. A. H. Rogers. Am Water Works Assn J 32:1498-1500 S '40
Rayonier Fernandina water treatment plant; sea water regenerated zeolite units. E. Nordell and C. E. Richheimer. il Paper Tr J 110:47-9 Mr 21 '40
Recent developments in pulp and paper water purification. F. J. Lammers. Paper Ind 22: 498+ Ag '40
Removal of chlorides and sulfates by synthetic resins. M. C. Schwartz, W. R. Edwards, jr. and G. Boudreaux. bibliog(48 references) Ind & Eng Chem 32:1462-6 N '40
Removal of salts from water. R. F. Goudey. bibliog Am Water Works Assn J 32:435-49; Discussion. 450-5 Mr '40
Sanitary aspects of the San Francisco water system. G. E. Arnold. il Civil Eng 9:722-3 D '39
Selected papers from the fourteenth annual conference on water purification, Oct. 12-14, 1939, Morgantown, W.Va. J. B. Harrington and H. W. Speiden, eds. il West Virginia Univ Eng Exp Sta Tech Bul 17:1-64 '40
Significant experiences in the treatment of water in New York state. C. R. Cox. N E Water Works Assn J 53:444-57 D '39
Sodium hexametaphosphate as an aid in the control of corrosion. O. Rice. diag N E Water Works Assn J 54:25-33 Mr '40
Some highlights pertaining to water supply developments and trends; abstract. L. H. Enslow. Water Works & Sewerage 87:18-19 Ja '40
Sun ray counts save sulphate; effect of ultraviolet rays on algae growth. R. F. Goudey. il Eng N 124:525-7 Ap 11 '40
Treatment records and their value. C. M. Hoskinson. bibliog Am Water Works Assn J 32:259-64 F '40
Treatment with copper sulfate, chlorine and ammonia. C. K. Calvert. bibliog Am Water Works Assn J 32:1155-64 Jl '40
Use of copper sulphate in control of microscopic organisms. F. E. Hale. 1939 ed rev & enl 43p Phelps Dodge refining corp, 40 Wall st, New York '39
Water improvements at Ilion include softening. E. J. Trimble. il Pub Works 71:15-16 F '40
Water plant control as affected by stream pollution. I. N. Carter. Am Water Works Assn J 32:576-82 Ap '40
Water quality depreciation in distribution systems. N. J. Howard. Eng N 125:299 Ag 29 '40
Water storage at Ashland aids treatment of river supply. J. P. Brownstead. il Eng N 124:861 Je 20 '40
Water supply of Salisbury, S. Rhodesia. W. J. Jarvis. Engineering 150:226-7 O 4 '40
Water treatment and laboratory control; a committee report. Am Water Works Assn J 32:1507-11 S '40
Water treatment for the prevention of scale and corrosion in connection with water flooding; abstract. F. T. Redman and R. F. Mackie. Oil & Gas J 38:48 Ap 18 '40
Water-treatment problems. J. B. Baty. Can Eng W & S 78:12+ Ja '40

See also
Feed water purification
Filters and filtration
Filtration plants
Settling basins
Water softening
Water supply for factories
Water supply for textile mills

Aeration
Control of algae at Appleton, Wisconsin. W. U. Gallaher. map Am Water Works Assn J 32:1165-75 Jl '40
Methods of removing free carbon dioxide from natural waters; from viewpoint of deterioration of synthetic base-exchange materials used for softening the water. E. L. Streatfield. bibliog diags Soc Chem Ind J 58:313-17 O '39

Carbon dioxide removal
Calculation of the distribution of carbon dioxide between water and steam. A. M. Amorosi and J. R. McDermet. Am Soc T M Proc 39:1204-17; Discussion. 1218-20 '39
Corrosion in steam heating systems; feedwater treating system in central heating plant. L. F. Collins and E. L. Henderson. diags Heating-Piping 12:243-6, 299-301 Ap-My '40
Methods of removing free carbon dioxide from natural waters; from viewpoint of deterioration of synthetic base-exchange materials used for softening the water. E. L. Streatfield. bibliog diags Soc Chem Ind J 58:313-17 O '39

Chlorination
Aqua ammonia for chloramination proves advantageous at Washington, D.C. C. J. Lauter. il diag Water Works & Sewerage 87:306-7 Jl '40
Bacteriological survey of indoor swimming pools in the province of Quebec. R. Cyr. il Can Eng W & S 78:13+ S '40
Break-point chlorination. A. E. Griffin. Pub Works 71:9-10 S '40
Break-point chlorination; a new and better term. Can Eng W & S 78:55+ Je '40
Break-point chlorination at Anderson, P. C. Laux. diag Am Water Works Assn J 32: 1027-37 Je '40
Break-point chlorination for taste control. W. J. Orchard. flow diag il Eng N 124:521-2 Ap 11 '40
Calcium hypochlorite in water purification. J. O. Logan and W. L. Savell. Am Water Works Assn J 32:1517-27 S '40
Control of iron and sulfur organisms by super-chlorination and de-chlorination. L. J. Alexander. bibliog Am Water Works Assn J 32:1137-46 Jl '40
Definition of available chlorine. L. L. Hedgepeth and A. M. Buswell. Am Water Works Assn J 31:2135-6 D '39
Free ammonia in the presence of chloramine. E. E. Wolfe. bibliog Water Works & Sewerage 86:509-11 D '39
Handling of chlorine at water and sewage plants. J. B. Baty. il diags Can Eng W & S 78:24-5, 66-9 Ap '40
Microbiological control in pulp and paper manufacture; abstract. R. B. Martin and A. E. Griffin. Paper Ind 22:76 Ap '40
Observations on break-point chlorination. A. E. Griffin. Am Water Works Assn J 32: 1187-90 Jl '40
Operation details for a small water treatment plant. J. M. Lloyd. il Pub Works 71:20-2 Ap '40
Photo-cell control of water chlorination. J. H. Harrington. il plans Can Eng W & S 78: 13-17+ Mr '40; Same. bibliog Am Water Works Assn J 32:859-70 My '40
Presence of coliform bacteria in chlorinated water. G. W. Freiberg. bibliog Water Works & Sewerage 87:65-9 F '40
Public health aspects of bathing pool sanitation. H. B. Gotaas. il Pub Works 71:23-4 O '40
Quality depreciation in distribution; abstract. W. J. Scott. Eng N 125:479 O 10 '40
Reaction of heavy doses of chlorine in various waters. A. E. Griffin. Am Water Works Assn J 31:2121-9 D '39
Results from ammonia-chlorine treatment of the Portland supply; abstract. H. B. Scales. Water Works & Sewerage. 87:120 Mr '40
Simple chlorine deficiency alarm. H. O. Johnson and F. M. Jablon. diags Water Works & Sewerage 87:135 Mr '40
Some experiences in water treatment at Reading. W. Strockbine. il Water Works & Sewerage 87:378-9 Ag '40
Super chlorination and de-chlorination; abstract. M. C. Smith and H. E. Lordley. Water Works & Sewerage 87:411-12 S '40

WATER purification—Chlorination—*Continued*
Super-chlorination; break-point and effects of components of natural waters; also report on cupri-chloramination process. C. K. Calvert. bibliog Water Works & Sewerage 87:299-303 Jl '40
Super-chlorination for taste and odor control. J. M. Lloyd. plan Am Water Works Assn J 31:2130-4 D '39; Abstract. Water Works & Sewerage 86:475-6 D '39
Super-chlorination in taste and odor control; abstract. A. E. Griffin. Water Works & Sewerage 87:20 Ja '40
Super-chlorination with ferrous sulfate de-chlorination. W. Strockbine. Am Water Works Assn J 32:1176-82 Jl '40
Super-super chlorination at Ottumwa. H. A. Brown. flow sheet il plan Water Works & Sewerage 87:146-51 Ap '40; Same cond. Am Water Works Assn J 32:1147-54 Jl '40
Water-treatment problems; taste and odor elimination by superchlorination. J. B. Baty. il Can Eng W & S 78:19-20+ F '40

See also
Water pipes—
Sterilization

Coagulation

Colloidal chemistry in water treatment. E. S. Hopkins. bibliog il diags Ind & Eng Chem 32:263-7 F '40
Design of clarifiers for waterworks. R. Walton and T. D. Key. diags Engineering 150:157-60 Ag 23 '40
Effectiveness of sand filters in removing floc. G. B. McCall, S. E. Edwards and E. S. Hopkins. Am Water Works Assn J 32: 147-51 Ja '40
Flocculation as an aid in the clarification of coal washery water. H. F. Yancey and others. pls U S Bur Mines Rep of Invest 3494:1-13 bibliog(p12-13) '40
Floculation et filtration des eaux dans l'industrie. E. Desroches. Chimie & Ind 42: 954-6 D '39
Fractionated coagulation; a new procedure. R. A. Trelles, D. J. Bengolea and A. G. Poccard. Am Water Works Assn J 32:742-50 My '40
Hydrogen ion control in water treatment; tests in the Tugela river. G. W. Bond. Chem Age (Lond) 41:327-8 N 11 '39
Studies in the use of sodium silicates. H. E. Lordley and M. C. Smith. Am Water Works Assn J 31:2149-56 D '39
Water supply of Rangoon, Burma; coagulating basin. il diags Engineer 169:508-9 Je 7 '40
What is filter alum? Eng N 124:329 F 29 '40

Color removal

Experiences with corrosion control at Biddeford, Maine. E. T. McDowell. N E Water Works Assn J 54:288-93 S '40

Cost

Softening plant of the Metropolitan water district of southern California. C. P. Hoover, J. M. Montgomery and W. W. Aultman. il map Water Works & Sewerage 87:261-5 Je '40

Filtration

See Filters and filtration

Hydrogen sulfide removal

Hydrogen sulphide removal from water. Water Works & Sewerage 86:462 N '39

Iron removal

Iron removal plant treats 75 g.p.m. il Pub Works 71:16 Ag '40
Removal of iron and hardness. D. J. Saunders. diags Water Works & Sewerage 87:supl11-13 Ap '40

Lime treatment

Experiences with corrosion control at Biddeford, Maine. E. T. McDowell. N E Water Works Assn J 54:288-93 S '40

See also
Water softening

Odor removal

ABC of taste and odor control with activated carbon. E. A. Sigworth. il Pub Works 71: 33-4, 37-40 S '40
Activated carbon in taste and odor control. E. A. Sigworth. flow sheet Water Works & Sewerage 87:supl14 Ap '40
Algae black-out with activated carbon. W. T. Bailey. il Water Works & Sewerage 87:380-2 Ag '40
Break-point chlorination for taste control. W. J. Orchard. flow diag il Eng N 124:521-2 Ap 11 '40
Control of algae at Appleton, Wisconsin. W. U. Gallaher. map Am Water Works Assn J 32:1165-75 Jl '40
Control of iron and sulfur organisms by super-chlorination and de-chlorination. L. J. Alexander. bibliog Am Water Works Assn J 32:1137-46 Jl '40; Abstract. Eng N 124:666 My 9 '40
Developments in taste and odor control. H. F. Laughlin. Am Water Works Assn J 32:1191-4 Jl '40
Handling and feeding activated carbon at Detroit. N. Powers. Am Water Works Assn J 32:621-4 Ap '40
Iron and sulphur organisms; controlled by superchlorination and dechlorination; abstract. L. J. Alexander. Eng N 124:666 My 9 '40
Observations on break-point chlorination. A. E. Griffin. Am Water Works Assn J 32:1187-90 Jl '40
Operation details for a small water treatment plant. J. M. Lloyd. il Pub Works 71:20-2 Ap '40
Ozone goes to work; taste and odor control, Denver, Pa. F. H. Dechant. il Eng N 124: 516-17 Ap 11 '40
Reaction of heavy doses of chlorine in various waters. A. E. Griffin. Am Water Works Assn J 31:2121-9 D '39
Successful taste and odor control in El Dorado, Kan. A. E. French. il diag Pub Works 71:23-4 Ja '40
Super-chlorination for taste and odor control. J. M. Lloyd. plan Am Water Works Assn J 31:2130-4 D '39; Abstract. Water Works & Sewerage 86:475-6 D '39
Super-chlorination with ferrous sulfate de-chlorination. W. Strockbine. Am Water Works Assn J 32:1176-82 Jl '40
Taste and odor control; panel discussion. Water Works & Sewerage 87:268-72 Je '40
Taste and odor control at Dallas. L. C. Billings. Am Water Works Assn J 32:613-20 Ap '40
Taste and odor control on Lake Michigan. N. A. Thomas. Am Water Works Assn J 32: 1183-6 Jl '40
Tastes and odors in Lake Winnebago water. Pub Works 71:18 Jl '40
Uniform basis for activated carbon comparison. W. A. Helbig. Am Water Works Assn J 31:1931-44 N '39
Use of activated carbon in purification plants. O. J. Ripple. bibliog Am Water Works Assn J 32:609-12 Ap '40
Use of Benoclor-3 in potable water supplies; effects of weed killing chemical on tastes and odors. M. M. Gibbons. il map Water Works & Sewerage 87:231-6 My '40
Use of granular activated carbon at Bay City. L. B. Harrison. diags Am Water Works Assn J 32:593-608 Ap '40
Water pollution by petroleum oils. M. M. Gibbons. Am Water Works Assn J 32:474-6 Mr '40
Water-treatment problems; taste and odor elimination by superchlorination. J. B. Baty. il Can Eng W & S 78:19-20+ F '40

Ozone treatment

Commercial ozone. A. E. Williams. il diag Engineer 169:557-8 Je 21 '40
Ozone for water treatment; new equipment for generation of ozone. J. B. Klumpp. il diags Eng N 124:168-70 F 1 '40
Ozone goes to work; taste and odor control, Denver, Pa. F. H. Dechant. il Eng N 124: 516-17 Ap 11 '40

WATER purification—*Continued*

Silica removal

Removal of silica from water. A. S. Behrman and H. Gustafson. bibliog il diag Ind & Eng Chem 32:468-72 Ap '40

Sterilization

See Water purification—Chlorination

Swimming pool water

Bacteriological survey of indoor swimming pools in the province of Quebec. R. Cyr. il Can Eng W & S 78:13+ S '40

Derby baths of the Blackpool corporation. il Engineering 149:544, 553-4 My 31 '40

Public health aspects of bathing pool sanitation. H. B. Gotaas. il Pub Works 71:23-4 O '40

Swimming pool water treatment. H. L. White. il diags Am Water Works Assn J 32:105-14 Ja '40

Taste removal

ABC of taste and odor control with activated carbon. E. A. Sigworth. il Pub Works 71: 33-4, 37-40 S '40

Activated carbon in taste and odor control. E. A. Sigworth. flow sheet Water Works & Sewerage 87:supl14 Ap '40

Algae black-out with activated carbon. W. T. Bailey. il Water Works & Sewerage 87: 380-2 Ag '40

Break-point chlorination for taste control. W. J. Orchard. flow diag il Eng N 124:521-2 Ap 11 '40

Control of iron and sulfur organisms by superchlorination and de-chlorination. L. J. Alexander. bibliog Am Water Works Assn J 32: 1137-46 Jl '40; Abstract. Eng N 124:666 My 9 '40

Developments in taste and odor control. H. F. Laughlin. Am Water Works Assn J 32:1191-4 Jl '40

Handling and feeding activated carbon at Detroit. N. Powers. Am Water Works Assn J 32:621-4 Ap '40

Iron and sulphur organisms; controlled by superchlorination and dechlorination; abstract. L. J. Alexander. Eng N 124:666 My 9 '40

Operation details for a small water treatment plant. J. M. Lloyd. il Pub Works 71:20-2 Ap '40

Ozone goes to work; taste and odor control, Denver, Pa. F. H. Dechant. il Eng N 124: 516-17 Ap 11 '40

Reaction of heavy doses of chlorine in various waters. A. E. Griffin. Am Water Works Assn J 31:2121-9 D '39

Successful taste and odor control in El Dorado, Kan. A. E. French. il diag Pub Works 71:23-4 Ja '40

Super-chlorination for taste and odor control. J. M. Lloyd. plan Am Water Works Assn J 31:2130-4 D '39

Taste and odor control at Dallas. L. C. Billings. Am Water Works Assn J 32:613-20 Ap '40

Taste and odor control on Lake Michigan. N. A. Thomas. Am Water Works Assn J 32: 1183-6 Jl '40

Taste and odor control; panel discussion. Water Works & Sewerage 87:268-72 Je '40

Tastes and odors in Lake Winnebago water. Pub Works 71:18 Jl '40

Use of activated carbon in purification plants. O. J. Ripple. bibliog Am Water Works Assn J 32:609-12 Ap '40

Use of Benoclor-3 in potable water supplies; effects of weed killing chemical on tastes and odors. M. M. Gibbons. il map Water Works & Sewerage 87:231-6 My '40

Use of granular activated carbon at Bay City. L. B. Harrison. diags Am Water Works Assn J 32:593-608 Ap '40

Water-treatment problems; taste and odor elimination by superchlorination. J. B. Baty. il Can Eng W & S 78:19-20+ F '40

Terminology

Definition of available chlorine. L. L. Hedgepeth and A. M. Buswell. Am Water Works Assn J 31:2135-6 D '39

WATER rates

Maintaining proper charge for private fire protection. D. D. Gross. Am Water Works Assn J 31:2053-7; Discussion. 2057-60 D '39

Private fire protection charges. W. D. Masterson. Am Water Works Assn J 31:2061-8 D '39; Abstract. Water Works & Sewerage 86:477-8 D '39; Discussion. G. L. Fugate. Am Water Works Assn J 31:2068-72 D '39

Publicizing a good rate structure. W. A. Peters. Am Water Works Assn J 32:365-70 Mr '40

Round-table conference; charging for water for fire-protection use, and why? Can Eng W & S 78:25 Ja; 23+ F; 81-2, 85-7 Ap '40

Special rates and free water service. D. L. Maffitt. Am Water Works Assn J 32:1454-8 S '40

Water rate structures in American cities. E. W. Moke. Am Water Works Assn J 32:961-86 Je '40

WATER rights

Water department records and legal operation. W. G. Irving. Am Water Works Assn J 32:242-6 F '40

WATER sampling

Centralized laboratory control for a group of privately operated water supplies; Flatbush consolidated laboratory of the New York water service corporation. J. S. Kneale. Am Water Works Assn J 32:654-8 Ap '40

Concentrator for solids in filter effluent. H. Weigand. diags Am Water Works Assn J 32:1528 S '40

Importance of sampling and studying the water in the distribution system. A. T. Lundberg. Am Water Works Assn J 32:649-53 Ap '40

Let's take a water sample. F. C. Roberts, jr. diags Pub Works 71:17-18 Jl '40

Rubber rim whipple cell for plankton counts. A. A. Hirsch. diag Am Water Works Assn J 32:1470 S '40

WATER seal

Maintenance of water-sealed holders during severe winter conditions. S. M. Milbourne. diags Gas J (Lond) 229:454-5 F 28 '40; Discussion. 230:80-1, 187 Ap 10, 24 '40

Problem of clarifying gas holder waters. J. J. O'Loughlin. Gas Age 84:19-20 D 7 '39

WATER softening

Die anwendung von ionenaustauschern auf kunstharzbasis zur entsalzung von wässern. A. Richter. il diags Angew Chemie 52:679-81 N 25 '39

Brine-recovery system, Eavenson & Levering plant, lowers chemical cost for treating water. C. C. Harrington. il diag Textile World 90:65 Jl '40

Bring water to zero hardness. diag Power 84:180 Mr '40

Chilcote pumping station and softening plant of the South Staffordshire waterworks company. il diags Engineering 149:451-4, 462, 495-6, pl 24 My 3, 17 '40

Cold lime-soda water softening; experiences with Spaulding precipitators. S. B. Applebaum. bibliog il diags Ind & Eng Chem 32:678-84 My '40

Comparative value of water softeners; effects of sodium carbonate. Chem Age (Lond) 42: 22 Ja 13 '40

Development of submerged combustion for recarbonation. L. H. Scott. il Am Water Works Assn J 32:93-7 Ja '40; Abstract. Water Works & Sewerage 86:478-9 D '39

Developments in the conditioning of boiler feed water. E. F. Walsh. diags Am Gas J 152:11-14, 42 F '40

Effect of carbonate-ion concentration in water softening. T. E. Larson. bibliog Ind & Eng Chem 32:1240-1 S '40

Efficacité des produits employés pour adoucir l'eau destinée au blanchissage domestique et économiser le savon. Génie Civil 115: 368-70 N 18 '39

L'emploi des résines synthétiques comme adsorbants pour l'épuration des eaux. E. Lemaire. il diags Génie Civil 116:340-4 My 25 '40

WATER softening—*Continued*

Die entwicklung der austauscher-enthärtung an hand zehnjähriger betriebserfahrungen in Leuna. E. Seyb. diag Chemische Fabrik 13:30-4 Ja 27 '40

Methods of removing free carbon dioxide from natural waters; from viewpoint of deterioration of synthetic base-exchange materials used for softening the water. E. L. Streatfield. bibliog diags Soc Chem Ind J 58:313-17 O '39

New softening plant of Lansing; abstract. O. C. Eckert. Water Works & Sewerage 86: 441 N '39

New trends in boiler feedwater treatment. F. G. Straub. bibliog diags Chem & Met Eng 47:477-9 Jl '40; Same. Blast F & Steel Pl 28:1184-7 D '40

Observations on water softening. D. E. Davis. Am Water Works Assn J 32:85-90; Discussion. H. M. Olson. 90-2 Ja '40

Old softening plant goes modern; Owensboro, Ky. E. L. Filby. il diag plan Eng N 125: 170-2 Ag 1 '40

Operation of the Ann Arbor softening plant. H. E. McEntee. flow diag il Am Water Works Assn J 32:1600-18 S '40; Same. Water Works & Sewerage 87:391-400 S '40

Rayonier Fernandina water treatment plant; sea water regenerated zeolite units. E. Nordell and C. E. Richheimer. il Paper Tr J 110:47-9 Mr 21 '40

Rayonier's zeolite water softening plant at Fernandina, Florida. E. Nordell. il Rayon 21:641-2 O '40

Recent experiences with carbonaceous zeolites. S. B. Applebaum. bibliog diag Am Water Works Assn J 32:583-92 Ap '40

Removal of iron and hardness. D. J. Saunders. diags Water Works & Sewerage 87:supl11-13 Ap '40

Removal of salts from water. R. F. Goudey. bibliog Am Water Works Assn J 32:435-49; Discussion. 450-5 Mr '40

Removal of silica from water. A. S. Behrman and H. Gustafson. bibliog il diag Ind & Eng Chem 32:468-72 Ap '40

Removal of silica from water by cold process. L. D. Betz, C. A. Noll and J. J. Maguire. bibliog il Ind & Eng Chem 32:1320-3 O '40

Removal of silica from water by hot process. L. D. Betz, C. A. Noll and J. J. Maguire. il diag Ind & Eng Chem 32:1323-9 O '40

Softening plant of the metropolitan water district of southern California. C. P. Hoover, J. M. Montgomery and W. W. Aultman. bibliog flow sheets il map Water Works & Sewerage 87:261-5, 293-8, 347-50 Je-Ag '40

Southern California water district lets contract for 100 m.g.d. softening plant. il map Water Works & Sewerage 86:463 N '39

Stabilizers in water treatment. Eng N 124: 331 F 29 '40

Station K wins battle against condenser scale; uses sodium hexametaphosphate. J. O. Olson. il diags Power 84:164-5 Mr '40

Synthetic resins as water softeners. Mod Plastics 17:51+ D '39

Synthetic resins in water treatment. Chem Ind 46:361 Mr '40

Theoretical limits of the lime-soda method of water softening. T. E. Larson and A. M. Buswell. bibliog il Ind & Eng Chem 32: 130-2 Ja '40

Union Pacific builds large water softening plant. il Ry Age 109:331-2+ S 7 '40

Water improvements at Ilion include softening. E. J. Trimble. il Pub Works 71:15-16 F '40

Water-softening and filtration plant of the metropolitan water district of southern California. J. M. Montgomery and W. W. Aultman. flow diag diags plans Am Water Works Assn J 32:1-24 Ja '40

Water softening at Ann Arbor. H. H. Caswell il Water Works & Sewerage 87:383-6 S '40

Water softening at Ann Arbor. L. E. Ayres. il Am Water Works Assn J 32:1587-99 S '40; Same cond. diag plans Water Works & Sewerage 87:387-91 S '40

Water softening; sign of the charge on colloidal particles of hydrous alumina, hydrous magnesium, and calcium carbonate. T. E. Larson and A. M. Buswell. bibliog il Ind & Eng Chem 32:132-3 Ja '40

Water softening; with particular reference to its economic aspects. C. P. Hoover. il map Water Works & Sewerage 87:supl07-9 Ap '40

Water treatment for heating boilers. K. Steiner and R. A. Nelson. il Heating-Piping 12:428-30 Jl '40

What water treatment has done for the Illinois central. il Ry Age 107:1002-5 D 30 '39

See also
Feed water purification
Zeolites

WATER storage

Flood-control methods; their physical and economic limitations. Am Soc C E Proc 66: 269-73 F '40; Discussion. 66:990, 1194-8 My-Je '40

Water storage at Ashland aids treatment of river supply. J. P. Brownstead. il Eng N 124:861 Je 20 '40

Water supply for infiltration galleries. Eng N 124:670-1 My 9 '40

See also
Dams
Irrigation
Rain and rainfall
Reservoirs
Standpipes
Water tanks

WATER supply

Composition of water and interpretation of analytical results; abstract. A. A. Bado. Am Water Works Assn J 31:1975-7 N '39

Evaporation at Charleston, S.C. J. E. Gibson. Pub Works 71:14 Ja '40

Our readers want to know; 52 questions on water and sewerage. Pub Works 71:29-30 S '40

Rock-pile reservoirs; ancient people collected drinking water on rocks. Sci Am 163:90-1 Ag '40

See also
Aqueducts
Cooling of water
Dams
Droughts
Feed water
Filters and filtration
Filtration plants
Fire service (water supply)
Hot water supply
Hydrants
Hydraulic engineering
Irrigation
Plumbing
Pumping machinery
Pumping stations
Pumps
Railroads—Water supply
Rain and rainfall
Reservoirs
Rivers
Snow
Water, Underground and other headings beginning Water
Watersheds
Waterworks
Wells

also subdivision Water supply under names of cities, e.g. Chicago—Water supply; New York (city)—Water supply

Bibliography

Index to the Proceedings, Journal and other publications of the American water works association, 1881-1939 inclusive. 281p $2 Am. water works assn, New York '40

Boron content

Boron creates special problems in Los Angeles' water supply. Eng N 125:113-14 Jl 18 '40

Costs

See also
Water distribution—Cost
Waterworks—Costs

Fluorine content

Effect of fluorides on salivary amylase. F. J. McClure bibliog Pub Health Rep 54:2165-71 D 8 '39

New knowledge of fluorine in relation to dental caries. G. J. Cox. bibliog Am Water Works Assn J 31:1926-30 N '39

WATER supply—*Continued*

Iron content

Prevention of dull shades due to the presence of iron in the dyebath, when dyeing with chrome dyes; iron in the water supply; effect on eriochrome verdone S and solochrome dark blue. C. L. Bird and E. Molloy. bibliog Soc Dyers & Col J 55:560-4 N '39

Mineral content

Correlation between the carbon dioxide and mineral content of water and its corrosivity. W. Rudolfs and T. T. Wong. Am Water Works Assn J 31:1909-24; Discussion. S. Shenker. 1924-5 N '39

Standards

Water quality requirements of the soft drink industry. K. Mott. Am Water Works Assn J 32:1512-16 S '40

Water quality standards. J. R. Baylis. Am Water Works Assn J 32:1753-67; Discussion. H. E. Jordan. 1767-9 O '40

Arizona

Water supply on upper Salt river, Arizona. J. Girand. map Am Soc C E Proc 65:1675-86 D '39; Discussion. 66:553-6, 777-8, 1117-18, 1327-8 Mr-Ap, Je, S '40

Belgium

Intercommunal organization for water distribution in Belgium (Belgian reports to the Congress of Liége); abstract. Am Water Works Assn J 32:522-6 Mr '40

California

Control of iron and sulfur organisms by superchlorination and de-chlorination. L. J. Alexander. bibliog Am Water Works Assn J 32:1137-46 Jl '40

Economic studies for public works, with specific reference to the Central Valley project in California. E. Hyatt and R. Matthew. il Civil Eng 10:705-8 N '40

Silting of reservoirs. L. S. Hall. bibliog Am Water Works Assn J 32:25-42 Ja '40

Softening plant of the metropolitan water district of southern California. C. P. Hoover, J. M. Montgomery and W. W. Aultman. bibliog flow sheets il map Water Works & Sewerage 87:261-5, 293-8, 347-50 Je-Ag '40

Southern California water district lets contract for 100 m.g.d. softening plant. il diag Water Works & Sewerage 86:463 N '39

Water-softening and filtration plant of the metropolitan water district of southern California. J. M. Montgomery and W. W. Aultman. flow diag diags plans Am Water Works Assn J 32:1-24 Ja '40

See also Colorado River aqueduct; Hetch Hetchy water supply project

Canada

Water supplies of Canada. H. A. Leverin. Can Eng W & S 78:40, 42, 44+ Mr '40

Waterworks statistics; sources of supply, officials, population and other reference data. Can Eng W & S 78:26-103 Ag '40

Chile

Water and sewage works in Chile. L. Lira. Am Water Works Assn J 31:1949-53; Discussion. C. R. Cox. 1953-6 N '39

Colorado

Law on water and sewerage districts. W. B. Cheek. Am Water Works Assn J 32:62-4 Ja '40

Germany

Gegenwartsaufgaben der deutschen wasserwirtschaft. W. Klinge. V D I 83:1305-6 D 23 '39

Great Britain

British water works practice. J. Bowman. maps N E Water Works Assn J 53:385-95; Discussion. 396-411 D '39

War measures in protecting Britain's water and sewerage services. J. S. Trevor. il Water Works & Sewerage 87:256-9 Je '40

Kansas

See also
Water, Underground —Kansas

Long Island

Centralized laboratory control for a group of privately operated water supplies; Flatbush consolidated laboratory of the New York water service corporation. J. S. Kneale. Am Water Works Assn J 32:654-8 Ap '40

Massachusetts

See also Massachusetts—Metropolitan district water supply commission

Minnesota

Study of procedures for detection of coliform organisms in Minnesota drinking water. D. M. Taylor. Am Water Works Assn J 32:98-104 Ja '40

New England

Appraisal of P.W.A. and W.P.A. water supply work in New England. W. W. Brush. N E Water Works Assn J 54:34-43; Discussion. 44-8 Mr '40

Outbreaks of water-borne diseases in the New England states, 1920 to 1936. A. E. Gorman. N E Water Works Assn J 53:473-96; Discussion. 497-504 D '39

New Hampshire

Pittsburgh conservation reservoir development of the New Hampshire water resources board. R. S. Holmgren. il diags plan maps Boston Soc C E J 27:110-35 Ap '40

New Jersey

Recreational use of watersheds; regulation by the State water policy commission. H. T. Critchlow. Am Water Works Assn J 32:1018-22 Je '40

New Mexico

Pecos River joint investigation; comprehensive governmental survey and analysis. H. M. Stafford. il maps Civil Eng 10:516-19 Ag '40

New York (state)

Significant experiences in the treatment of water. C. R. Cox. N E Water Works Assn J 53:444-57 D '39

Ohio

Possible use of Ohio conservancy act for developing and operating water and sewerage facilities in metropolitan areas. F. H. Waring. Am Water Works Assn J 32:570-5 Ap '40

Ontario

Ontario's 1939 activities in waterworks and sewerage. A. E. Berry. Can Eng W & S 78:20+ My '40

Texas

Pecos River joint investigation; comprehensive governmental survey and analysis. H. M. Stafford. il maps Civil Eng 10:516-19 Ag '40

Transvaal

Water supply on the Rand. Engineering 150:239-40 S 20 '40

United States

Natural water loss in selected drainage basins. G. R. Williams and others. maps U S Geol S Water-supply Pa 846:1-62 '40

Portentous drought in the making; evidence of climatic cycles. H. P. Gillette. il Water Works & Sewerage 87:38-9 Ja '40

Procedure clarified for water conservation projects; bill co-ordinating Bureau of reclamation and Department of agriculture programs. Eng N 125:577-8 O 31 '40

Progress in water supply and purification during 1939. L. V. Carpenter. il diag map Water Works & Sewerage 87:1-11 Ja '40

Voluntary regionalism in the control of water resources. D. W. Robinson. bibliog Ann Am Acad 207:116-23 Ja '40

Water and government. P. V. McNutt. Am Water Works Assn J 32:719-28 My '40

WATER supply—United States—*Continued*
Water resources of the Mid-continent area. G. S. Knapp. il Civil Eng 10:653-5 O '40

Bibliography

Bibliography of hydrology, United States of America for the year 1939. 86p pa 50c J. A. Fleming, Am. geophysical union, 5241 Broad branch road, NW, Washington, D.C. '40

Virginia

Public water supplies in Virginia; descriptions and chemical analyses. 159p Virginia. Bur. of sanitary engineering, Richmond '39

West Virginia

Ohio River pollution survey's relation to stream pollution problems in West Virginia. E. S. Tisdale. map Am Water Works Assn J 32:545-54 Ap '40

WATER supply, Rural

See also
Water districts

WATER supply engineering

British water works practice. J. Bowman. maps N E Water Works Assn J 53:385-95; Discussion. 396-411 D '39

Caron water-storage project; Moose Jaw to be supplied with water thru open ditch, 68 miles long. J. I. Strong. il Can Eng 77: 2-6 N 14 '39

Development of Ann Arbor water supply. H. H. Caswell. map Am Water Works Assn J 32:1577-86 S '40

Engineering News-Record special waterworks section. il diags Eng N 124:511-32 Ap 11 '40

Great Lakes water for Grand Rapids. il diags Eng N 124:448-51 Mr 28 '40

History of sanitation in Chicago. R. I. Randolph. maps W Soc E J 44:227-40 O '39

Improvements to Wichita water supply. R. E. Lawrence. diags plan map Am Water Works Assn J 32:1321-38 Ag '40; Abstract. Water Works & Sewerage 87:212-13 My '40; Discussion. W. D. Moore. Am Water Works Assn J 32:1338-40 Ag '40

Lake Erie water for Toledo. P. Hansen. il diag map Eng N 124:35-6 Ja 4 '40

Lake Michigan water for Grand Rapids, Mich.; thirty-mile pipe line and two high-head pumping plants are major features; with cost data. A. W. Consoer and J. A. Fulkman. il plan Civil Eng 10:3-6 Ja '40

Major projects of 1939. il Eng N 124:260-1 F 15 '40

Modern engineering practice and two-inch cast-iron pressure pipe; with cost data. C. D. Cox. il N E Water Works Assn J 54:294-8 S '40

Mountain water for Bethlehem. il map Eng N 125:36-8 Jl 4 '40

New water supply for Wichita, Kan. R. E. Lawrence. il maps Civil Eng 10:555-8 S '40; Discussion. P. L. Brockway; S. W. Lohman. 10:725 N '40

Obtaining Lake Erie water for Toledo. il Eng N 125:124-5 Jl 25 '40

Public water supplies; requirements, resources, and the construction of works. F. E. Turneaure and H. L. Russell. 4th ed rev 701p $6 Wiley '40

River control and water storage in 1939. il diag plan Engineer 169:10-12, supp 5 Ja 5 '40

Sanitary engineering, 1939. E. J. Cleary. il Eng N 124:226-7 F 15 '40

Source of water derived from wells; essential factors controlling response of an aquifer to development. C. V. Theis. diag Civil Eng 10:277-80 My '40

Supply canal for lower Rio Grande. map Eng N 124:662-3 My 9 '40

21-mile concrete pressure pipe line and dam feature Bethlehem's new water supply. il diags map Pub Works 70:9-12 N '39

Urban domestic water consumption. M. A. Pond. bibliog Am Water Works Assn J 31: 2003-14; Discussion. R. W. Esty. 2015-17 D '39

Water softening at Ann Arbor. H. H. Caswell. il Water Works & Sewerage 87:383-6 S '40

Water supply and sanitary engineering in 1939. Engineer 169:91-2 Ja 26 '40

Water supply at Akron. W. R. LaDue and others. maps Am Water Works Assn J 32: 1775-99 O '40

Water supply is born; Harrisburg, Pa. F. Gannett. il map Eng N 124:577-9 Ap 25 '40

Water supply of Rangoon, Burma. il diags Engineer 169:488-9, 496, 508-9 My 31-Je 7 '40

Water supply of Salisbury, S. Rhodesia. W. J. Jarvis. Engineering 150:257-8, 266-7 S 27-O 4 '40

Water supply system of San Francisco. N. A. Eckart. il plan map Am Water Works Assn J 32:751-94 My '40

Wichita makes cast-iron water line history. il map Eng N 125:214-18 Ag 15 '40

See also

Aqueducts
Colorado River aqueduct
Dams
Filters and filtration
Filtration plants
Fire service (water supply)
Hot water supply
Hydraulic engineering
Intakes
Irrigation
Pipe laying
Plumbing
Pumping machinery
Pumping stations
Pumps
Railroads—Water supply
Reservoirs
Siphons
Water conduits
Water distribution
Water flow
Water meters
Water pipes
Water purification
Water storage
Waterworks

Bibliography

Index to the Transactions and Journal of the New England water works association, 1882 to 1939. N E Water Works Assn J 54:299-352 S '40

Tables, calculations, etc.

Hydraulics and water works engineering. H. N. Lendall. diags Am Water Works Assn J 31:2073-84 D '39

WATER supply for dyehouses. See Water supply for textile mills

WATER supply for factories

Airbound water line. diags Power 84:675-7+ O '40

Automatic supervisory control for a pumping scheme. il Engineer 169:385 Ap 19 '40

Charts simplify pipe size selection for industrial water piping systems. E. A. Windham. Heating-Piping 11:747-8 D '39

Drinking water. il Nat Safety N 41:145+ Mr '40

First aid for thirst. il Nat Safety N 41:2? Ap '40

How process industries are meeting their water supply problems. G. L. Montgomery. il maps Chem & Met Eng 47:622-5 S '40

Progress report of the Committee on quality tolerances of water for industrial uses. bibliog N E Water Works Assn J 54:261-72; Discussion. S. M. Ellsworth. 273-4 Je '40

Washrooms and locker rooms. il Nat Safety N 41:141-2 Mr '40

Water supplies of Canada. H. A. Leverin. Can Eng W & S 78:40, 42, 44+ Mr '40

Water supply equipment in the process industries; types of pumps. G. L. Montgomery. il diags Chem & Met Eng 47:680-4 O '40

See also

Cooling of water
Cooling water
Drinking water systems
Water supply for paper mills
Water supply for textile mills

WATER supply for mines

Flocculation as an aid in the clarification of coal washery water. H. F. Yancey and others. pls U S Bur Mines Rep of Invest 3494:1-13 bibliog(p12-13) '40

WATER supply for paper mills

Effect of water hardness on the formation of floc from sodium aluminate. L. B. Miller and R. L. Lanz. Paper Tr J 110:131-3 F 22 '40

Microbiological control in pulp and paper manufacture; abstract. R. B. Martin and A. E. Griffin. Paper Ind 22:76 Ap '40

WATER supply for paper mills—*Continued*
Power supply to pumping station; water supply for the newsprint mill at Lufkin, Tex. A. P. Schnyder. Elec W 114:876+ S 21 '40
Progress report of the Committee on quality tolerances of water for industrial uses. N E Water Works Assn J 54:264-6 Je '40
Promoting satisfactory bacteriological conditions in the paper mill. R. F. Huntley and R. H. Torrey. Paper Tr J 110:108-10 F 22 '40
Pump motor control at unattended station; newsprint mill at Lufkin, Tex. A. P. Schnyder. diag Elec W 114:1028 O 5 '40
Recent developments in pulp and paper water purification. F. J. Lammers. Paper Ind 22:498+ Ag '40
Slime control at the Ontario paper company limited. J. M. Forrester and E. G. Kirby. flow sheets il Pulp & Pa of Can (Convention no) 41:83-6 [F] '40
Some simple ideas on hydraulics for the paper mill operator. M. L. Edwards. diags Pulp & Pa of Can 40:688-90 N '39
TAPPI survey of paper mill water requirements. L. B. Miller. Paper Tr J 110:37-8 Je 6 '40
TAPPI survey of progress in water technology for 1939. L. B. Miller. Paper Tr J 110:38-41 My 16 '40

WATER supply for petroleum industry
Cathodic protection of condensers and coolers utilizing brackish bay water. W. A. S. Wright and J. H. Brooks. diags Am Pet Inst Proc 21M(3):83-5 My '40; Same. Oil & Gas J 39:60+ My 30 '40
Water treatment for the prevention of scale and corrosion in connection with water flooding; abstract. F. T. Redman and R. F. Mackie. Oil & Gas J 38:48 Ap 18 '40

WATER supply for power plants
Cathodic protection of condensers and coolers utilizing brackish bay water. W. A. S. Wright and J. H. Brooks. diags Am Pet Inst Proc 21M(3):83-5 My '40; Same. Oil & Gas J 39:60+ My 30 '40
Circulating water, heat transmission, and heat discharge in condensing plants. R. H. Parsons. Engineer 168:499-501 N 17 '39
Cooling water by cooling towers. C. H. Fielding. Engineering 149:598-9 Je 21 '40
Don't hurry water; pump size for plant supply. G. P. Pearse. Power Pl Eng 44:66-7 F '40; Discussion. 44:86+ Jl '40
How to run a water analysis. C. A. Noll. il Power 84:119-20, 183-4, 253-4, 324, 393-4 F-Je '40
How to use pH. G. A. Perley. il Power 83: 738-9 D '39
Mechanical factors affecting condenser tube life. A. J. German. diags Power Pl Eng 44:47-9 F '40
Small steam-pressure increase cuts coal cost $15,000 a year; University of Missouri. R. H. Sogard. il diag Power 84:138-9 Mr '40
Station K wins battle against condenser scale; uses sodium hexametaphosphate. J. O. Olson. il diags Power 84:164-5 Mr '40

See also
Feed water purification

WATER supply for textile mills
Brine-recovery system, Eavenson & Levering plant, lowers chemical cost for treating water. C. C. Harrington. il diag Textile World 90:65 Jl '40
Complete control of filter plant; Fairfax (Ala.) mills, West Point mfg. co. Textile World 89:110 N '39
Increasing filter efficiency. H. Nix. il Textile World 90:62-3 Ag '40
Noteworthy advance in water conditioning practice. il Rayon 21:117-19 F '40
Prevention of dull shades due to the presence of iron in the dyebath, when dyeing with chrome dyes; iron in the water supply; effect on eriochrome verdone S and solochrome dark blue. C. L. Bird and E. Molloy. bibliog Soc Dyers & Col J 55:560-4 N '39
Problems inside water pipes. H. Nix. il diag Textile World 90:80-1 S '40
Rayonier Fernandina water treatment plant; sea water regenerated zeolite units. E. Nordell and C. E. Richheimer. il Paper Tr J 110:47-9 Mr 21 '40
Rayonier's zeolite water softening plant at Fernandina, Florida. E. Nordell. il Rayon 21:641-2 O '40
Water supply in wool dyeing. Textile Col 62: 55-7 Ja '40

WATER tanks
Elevated storage; the value of elevated tanks on water supply systems. C. Brossman. il Water Works & Sewerage 87:sup74-5 Ap '40
Filling water tank three-quarters full without calculating depth. diag Dom Eng 155: 60 Mr '40
Indicates water level in storage tanks. E. B. Ankenman. diag Elec W 113:1732+ Je 1 '40
Investigation of a water pressure tank explosion; zinc lining and water generate hydrogen. R. J. Karpen. il Am Water Works Assn J 32:1770-4 O '40
Maintenance of tanks and standpipes. W. S. Staub. diags Water Works & Sewerage 87: sup78-9 Ap '40
Oasis in the Arizona desert. il Eng N 125:579 O 31 '40
Ordinary 110-volt circuit shows when tank is full. W. T. Ziegenhain. diag Oil & Gas J 39:48 S 12 '40
Pinhole corrosion in galvanized watering tanks; relation to tin content. W. M. Peirce and G. C. Bartells. il Metals & Alloys 11:42-4 F '40

See also
Hot water tanks

WATER tanks, Concrete
Metal lining a large concrete sunken tank. il diags Sheet Metal Worker 31:27-30 Jl '40
Prestressed concrete tank features special details; abstract. R. C. Kennedy. Am Concrete Inst J 11:701-2 Je '40

WATER tanks, Steel
Blue Ridge tank of Indianapolis. M. Hamilton. il Water Works & Sewerage 86:431-4 N '39
Brookline's spheroidal tank. W. B. Bushway. il N E Water Works Assn J 54:76-84 Mr '40
Durham's new tank largest in North Carolina. D. Becker. il Water Works & Sewerage 86:489 D '39
High distribution tank of large capacity; Batavia, N.Y. A. Potter and M. H. Klegerman. il diags Eng N 123:700-2 N 23 '39
Locomotive tender tank; interlocked baffle plates in water tank are arc welded. W. C. Rockenstire. il diag Steel 105:45-7 D 25 '39

Cathodic protection
Cathodic protection for water works equipment. W. D. Loreaux flow sheet il Water Works & Sewerage 87:sup81-2 Ap '40
Cathodic protection of new water tank at Perth, Ont. il Can Eng W & S 78:12+ S '40
Cathodic protection of steel water tanks. E. E. Norman. Am Water Works Assn J 32: 1069-74 Jl '40; Abstract. Water Works & Sewerage 87:330 Jl '40
Steel tank corrosion prevention. W. C. Mabee. Am Water Works Assn J 32:1075-7; Discussion. T. H. Wiggin. 1077-80 Jl '40

WATER towers
Dignified duty! artistic water tower at Newburyport, Mass. il Water Works & Sewerage 87:357 Ag '40

See also
Standpipes

WATER towers, Concrete
America's most unique city hall, Lake, Wisconsin; combined with water tower pumping and water softening equipment and the repair shop of the Water department. M. Call. il Water Works & Sewerage 87:62-4 F '40
Combined water tower and municipal building; project at Lake, Wis. W. D. Darby. il Civil Eng 10:329-32 Je '40

WATER tube boilers. See Boilers, Water tube

WATER vapor
Adsorption of water vapor on silica surfaces, by direct weighing. H. M. Barrett, A. W. Birnie and M. Cohen. diag Am Chem Soc J 62:2839-44 O '40
Condensation of vapors on a horizontal tube; heat transfer coefficient for condensation of vapors of water and nonmiscible organic liquids. E. M. Baker and U. Tsao. bibliog diags Ind & Eng Chem 32:1115-21 Ag '40; Same. Am Inst Chem Eng Trans 36:517-39 Ag '40
Dielectric constant of water vapor at a frequency of 42 megacycles. A. C. Tregidga. diags Phys R 57:294-7 F 15 '40
Infra-red spectra of polyatomic molecules. D. M. Dennison. Rs Mod Phys 12:175-214 bibliog(p213-14) Jl '40
Ionization and dissociation of water vapor and ammonia by electron impact. M. M. Mann, A. Hustrulid and J. T. Tate. bibliog diags Phys R 58:340-7 Ag 15 '40
Properties of mixtures of air and saturated water vapor for barometric pressures from 22 in. to 32 in. of mercury; tables. W. Goodman. Heating-Piping 11:445-6, 505-6, 567-8, 627-8, 689-90, 755-6; 12:185-6, 253-4, 311-12, 373-4, 435-6 Jl-D '39, Mr-Jl '40
Some observations of the water vapor permeability of concrete. H. J. Barre. bibliog il diags Am Soc T M Proc 39:860-5 '39
Sorption of water vapor by vermiculite and its silica. L. A. Hansen, W. S. Samuel, jr. and P. A. Forni. bibliog diag Ind & Eng Chem 32:116-18 Ja '40
Structure of gelatin sols and gels; the adsorption of water vapor and the electrical conductivity. S. E. Sheppard, R. C. Houck and C. Dittmar. bibliog il diag J Phys Chem 44:185-207 F '40
Study of changes in the temperature and water vapor content of respired air in the nasal cavity. L. E. Seeley. il diags Heating-Piping 12:377-88 Je '40
Testing shipping containers for resistance to transmission of water vapor. R. W Lahey. il Chem Ind 46:724 Je '40
Water vapor molecule. B. T. Darling and D M Dennison. bibliog Phys R 57:128-39 Ja 15 '40
Water vapor permeability of paper and paperboard; TAPPI tentative standard T 448 m-40 bibliog diags Paper Tr J 111:25-7 Ag 8 '40
Water vapor permeability; progress report of the TAPPI subcommittee. diag Paper Tr J 110:27-30 My 2 '40

See also
Steam

WATER waste
How to discover leaks and locate water wastage. il diags Pub Works 71:28-32+ Ap '40

See also
Water conservation
Water consumption
Water pipes—Leakage

WATER wheels

See also
Turbines

WATER works. See Waterworks

WATERGAPS. See Water gaps

WATERPROOF paper. See Paper, Waterproof

WATERPROOFING
Comparing the relative effectiveness of water-repelling and retarding solutions in wood; a laboratory method. E. E. Hubert. Ind & Eng Chem Anal ed 12:197 Ap 15 '40
Concrete for hydraulic structures. G. S. Latin. il diags Engineer 168:527-8 N 24 '39
Difficulties met in the application of impermeable membranes to structures subject to hydrostatic pressure; abstract. H. Klipple. Am Concrete Inst J 11:700-1 Je '40
Full mortar joints most important to prevent leaky walls. L. A. Palmer. il Brick & Clay Rec 96:50, 52, 54, 56; Discussion. 56, 58 Ap '40
Manufacture and testing of roofing-felts and damp-courses. D. M. Wilson. diags pls Inst Pet J 26:377-88; Discussion. 388-9 Ag '40
Porce-Tite, a new paint that is waterproof. Mach 46:138 Mr '40
Recommended practice and standard specifications for concrete and reinforced concrete; waterproofing and protective treatments. Am Soc C E Proc 66:29-34 pt 2 Je '40
Researches of Mellon institute 1939-40; better waterproof coatings for safety fuses. Ind & Eng Chem News ed 18:294 Ap 10 '40
Rigid waterproofing tests required on housing job; Middletown Gardens federal housing project at Muncie, Indiana. il Concrete 48: 27 S '40
Tests of the resistance to rain penetration of walls built of masonry and concrete; tests of 101 wall specimens built of concrete masonry, cast-in-place concrete and solid brick faced masonry. R. E. Copeland and C. C. Carlson. il diags Am Concrete Inst J 11:169-92 N '39; Excerpts. Concrete 48:22, 24+ Ap '40; Summary. Eng N 124:386 Mr 14 '40; Discussion. Am Concrete Inst J 12: sup192-192[2] S '40
Waterproofing a brick tunnel; Otisville tunnel of the Erie railroad. S. A. Potter, jr. diags Civil Eng 10:702-4 N '40
Watertight concrete pontoons for Lake Washington bridge at Seattle. il Eng N 124:162-3 F 1 '40

See also
Paper—Water resistance

WATERPROOFING of textiles
Hygienic and technical aspects of water repellent clothing. L. Stein. Am Dyestuff Rep 29:352-5 Jl 8 '40
Recent developments in waterproofing. C. E. Mullin. il Chem Ind 46:557-63 My '40
Water- and washing-resistant finishes on textiles. C. H. S. Tupholme. Am Dyestuff Rep 29:466+ S 16 '40
Water repellency of cotton hose. M. S. Furry and L. E. Weidenhammer. Rayon 21:370-1, 431-2 Je-Jl '40
Water-repellent finishing auxiliaries; mono- and di- substituted carbo-diimides. A. J. Hall. Textile Col 62:184-5 Mr '40
Water-repellent textiles through the new Zelan process. C. E. Mullin. il Chem Ind 47:404-9 O '40
Water resistant finishes. C. A. Norris. Textile Col 62:165-7+ Mr '40

See also
Rubberized fabrics

WATERS, Campbell Easter, 1872-
Fathers and sons in chemistry. por Ind & Eng Chem News ed 18:454 My 25 '40

WATERS, Charles Emory, 1908-
Fathers and sons in chemistry. por Ind & Eng Chem News ed 18:454 My 25 '40

WATERSHEDS
Probable maximum flood flow from a small watershed. J. K. Bartlett and T. G. Pfiffner. Civil Eng 10:233-5 Ap '40
Real estate acquisitions for metropolitan Boston's water supply in the Swift River and Ware River watersheds. J. A. Christenson. il maps N E Water Works Assn J 54:194-255 Je '40
Some economic aspects of the upland watershed lands of the western United States. M. H. Saunderson. J Land & Pub Util Econ 15:480-2 N '39
Time of concentration of small agricultural watersheds. Z. P. Kirpich. Civil Eng 10: 362 Je '40; Discussion. W. B. Langbein. 10: 533 Ag '40
Unit hydrograph principle applied to small water-sheds. E. F. Brater. map Am Soc C E Proc 65:1191-1215 S '39; Discussion. 66:150-2, 317-20, 690-4, 1070-4 Ja-F, Ap, Je '40

Protection
A.W.W.A. men study use of watersheds. Eng N 124:217+ F 15 '40
Protection of watershed for Syracuse supply. A. F. Gregory. il diags maps Am Water Works Assn J 32:555-69 Ap '40

WATERSHEDS—Protection—*Continued*
Recreational use of water supply areas; symposium by New Jersey section of A.W.W.A. Water Works & Sewerage 87:107-10 Mr '40; Correction. 87:215 My '40; Am Water Works Assn J 32:1009-26 Je '40
Sanitary aspects of the San Francisco water system. G. E. Arnold. il Civil Eng 9:722-3 D '39

WATERWAYS
Harbours and waterways in 1939. Engineer 169:31-3, 55-6, 80-2 Ja 12-26 '40

See also
Canals
Railroads—Waterways competition
River traffic
Rivers

Weed removal
Water-hyacinth destructor, Kenny. il Engineering 149:520-1, 524, pl 27-28 My 24 '40

Netherlands
See also
Canals—Netherlands

Port of New York
Operations and plans of the Port of New York authority. G. S. Reeves. il map Civil Eng 10:219-21 Ap '40
Port of New York; improvement by the city. J. A. Meehan. il map Civil Eng 10:281-4 My '40
Port of New York; organization and control; navigation projects. C. L. Hall. il maps Civil Eng 10:157-60 Mr '40

United States
Investment value of inland waterways; comparison with railways. F. M. Patterson. Pub Util 26:207-13 Ag 15 '40
Major projects of 1939. il Eng N 124:263 F 15 '40

See also
Columbia river
Great Lakes
Mississippi river
St Lawrence waterway and power project

WATERWORKS
American water works association annual meeting, Kansas City, April 21-25; abstracts of papers. Eng N 124:664-7 My 9 '40; Water Works & Sewerage 87:327-35 Jl '40
American water works association, Southwest section, annual meeting, Dallas, Oct. 16-19. Water Works & Sewerage 86:469-80 D '39
America's most unique city hall, Lake, Wisconsin; combined with water tower pumping and water softening equipment and the repair shop of the Water department. M. Call. il Water Works & Sewerage 87:62-4 F '40
Architectural concrete; its adaptation in water and sewage works construction. W. D. M. Allan. il Water Works & Sewerage 86:427-30 N '39
Arizona sewage and water works association 14th annual meeting, Tucson, April 19-21. Water Works & Sewerage 87:286-9 Je '40
Arkansas water and sewage conference, 10th, Fayetteville, April 15-17. Water Works & Sewerage 87:290-1 Je '40
Attractive building for a small water plant; illustration and plan. Pub Works 71:19 Ap '40
Attractive buildings for small water treatment plants; illustrations and plans. Pub Works 71:19 Ap; 15 My '40
British water works practice. J. Bowman. maps N E Water Works Assn J 53:385-95; Discussion. 396-411 D '39
Combined water tower and municipal building; project at Lake, Wis. W. D. Darby. il Civil Eng 10:329-32 Je '40
Committee on water works practice; report. Am Water Works Assn J 32:502-15 Mr '40
Drafting in the waterworks office. Eng N 124:451 Mr 28 '40
Engineering News-Record special waterworks section. il diags Eng N 124:511-32 Ap 11 '40
Filtration and softening plant and swimming pool built for Opelousas, La. by WPA. il Pub Works 71:17-18 Mr '40
Lake Erie water for Toledo. P. Hansen. il diag map Eng N 124:35-6 Ja 4 '40
Maryland-Delaware water and sewerage association meeting, Salisbury, Md. May 16-17. Water Works & Sewerage 87:276-81 Je '40
Michigan's A.W.W.A. section and operator's conference, Lansing, Sept. 20-22. Water Works & Sewerage 86:435-41 N '39
New England water works association meeting, Boston, Dec. 21. Water Works & Sewerage 87:23-6 Ja '40
Old Dominion section, A.W.W.A, 7th annual meeting, University of Virginia, Sept. 5-6. Water Works & Sewerage 87:410-16 S '40
Pennsylvania water works operators association annual conference, State College, Pa. June 24-26. Water Works & Sewerage 87:336-9 Jl '40
Practices from a city waterworks. L. A. Smith. Eng N 124:531-2 Ap 11 '40
Proceedings of the thirteenth annual conference. 114p Maryland-Delaware water and sewerage assn, 2411 N. Charles st, Baltimore '39
Progress in water supply and purification during 1939. L. V. Carpenter. il diag map Water Works & Sewerage 87:1-11 Ja '40
Six articles on waterworks improvements. il diags Eng N 125:337-50 S 12 '40
Some highlights pertaining to water supply developments and trends; abstract. L. H. Enslow. Water Works & Sewerage 87:18-19 Ja '40
Water-softening and filtration plant of the metropolitan water district of southern California. J. M. Montgomery and W. W. Aultman. flow diag diags plans Am Water Works Assn J 32:1-24 Ja '40
Water supply at Akron. W. R. LaDue and others. maps Am Water Works Assn J 32:1775-99 O '40
Water works and sewerage reference and data section. Water Works & Sewerage 87: supl-208 Ap '40
Waterworks convention at London, Ontario. Can Eng W & S 78:13-20, 47-8+ Ap '40
We built a modern water works plant in Keokuk. W. L. Garrison. il Pub Works 71:15 Ja '40

See also
Aqueducts
Dams
Filters and filtration
Filtration plants
Fire service (water supply)
Hydrants
Intakes
Pumping stations
Pumps
Reservoirs
Standpipes
Water companies
Water departments
Water distribution
Water pipes
Water purification
Water rates
Water supply
Water su:
gineerin
works equip
eet il We
Ap '4

Accidents
Hazards to employees in water works plants. A. A. Soldner. Am Water Works Assn J 32:294-304 F '40

Accounting
Coordinating operating system records with accounting records. N. B. Jacobs. il Am Water Works Assn J 32:225-41 F '40
Depreciation of cast-iron water mains related to actual service lives. R. Newsom and E. H. Aldrich. Am Water Works Assn J 32:795-818 My '40
Joint administration and collection of water and sewer accounts. Am Water Works Assn J 31:1957-63 N '39
Property records and valuation. R. Newsom. Am Water Works Assn J 32:1666-76 O '40; Abstract. Water Works & Sewerage 87:413-14 S '40
Use and abuse of depreciation. J. H. Murdoch, jr. Am Water Works Assn J 32:1647-65 O '40

Bibliography
Abstracts of water works literature. Published in monthly numbers of Journal of the American water works association

WATERWORKS—Bibliography—*Continued*

Index to the Proceedings, Journal and other publications of the American water works association, 1881-1939 inclusive. 281p $2 Am. water works assn, 22 E. 40th st, New York '40

Index to the Transactions and Journal of the New England water works association, 1882 to 1939. N E Water Works Assn J 54:299-352 S '40

Information on water and sewage works problems; where to find it (revised). L. H. Enslow. Water Works & Sewerage 87: sup13-15 Ap '40

Waterworks digest. Published in monthly numbers of Public works

Combination with electric plants

Management of combined municipal utilities; Lansing, Michigan, supplies water, electricity and steam. O. E. Eckert. Am Water Works Assn J 32:1435-41; Discussion. F. W. Martin. 1441-5 S '40

Complaints

Hardest nut can usually be cracked in public relations; play in one act. D. R. Taylor. Am Water Works Assn J 31:2018-26 D '39; Same. Water Works & Sewerage 86:486-9 D '39

Costs

Cost of reading water meters. Pub Works 71:41 Ja '40

Economic evaluation of tuberculation in pipe lines. L. J. Alexander. Am Water Works Assn J 32:371-86 Mr '40

Federal construction subsidies for small public water supplies. S. M. Ellsworth. N E Water Works Assn J 54:49-59 Mr '40

Filter plant, reservoir, Toledo, Ohio; unit prices. Eng N 124:211 F 8 '40

Story of P.W.A. in Maine water works. F. J. Reny. N E Water Works Assn J 54:282-7 S '40

Water system, Sunnyside, Washington; unit prices. Eng N 123:866 D 28 '39

Customer relations

Customer service bureau. H. F. Smith. il Am Water Works Assn J 32:1446-53 S '40

Design

Design features of the Toledo water supply project; abstract. P. Hansen. Am Water Works Assn J 32:1408-9 Ag '40

Novel design features of the Lansing water conditioning plant. C. R. Erickson. flow diag il plans Am Water Works Assn J 32:1259-1309 Ag '40

Directories

Membership list, committees, constitution and by-laws. map Am Water Works Assn J 32:sup 1-204, 1-17 Jl '40

Waterworks statistics, Canada; sources of supply, officials, population and other reference data. Can Eng W & S 78:26-103 Ag '40

Electric equipment

Maintenance of electrical equipment in water works. C. J. Schoeninger. Am Water Works Assn J 31:2085-97 D '39

Motorized apparatus for the rapid determination of calcium and magnesium in water. W. F. Langelier. bibliog il diag Am Water Works Assn J 32:279-93 F '40

Emergency problems

Organizing for community defense. H. E. Jordan. bibliog Am Water Works Assn J 32:1732-6 O '40

Employees

Are there any fifth columnists in your water plant? waterworks employment management problems. H. Nix. Water Works & Sewerage 87:503-4 O '40

Certification in Ontario being favorably considered. A. E. Berry. Can Eng W & S 78: 20+ S '40

Experiences with a department newspaper; Waterlite news, Springfield, Ill. G. S. Bonn. Am Water Works Assn J 32:1459-69 S '40

Licensing and certification of operators of water and sewage plants. J. B. Baty. il Can Eng W & S 78:18-19+ S '40

Licensing water works employees; status at end of 1939. bibliog table Am Water Works Assn J 31:1970-4 N '39

Operator certification proposed in North Carolina. Water Works & Sewerage 87:17 Ja '40

Public relations and department records. H. B. Fisher. Am Water Works Assn J 32: 265-70 F '40

School for operators of water and sewage plants. C. L. Walker. il Can Eng W & S 78: 16-17+ S '40

Short school instruction for superintendents and operators. W. A. Hardenbergh. il maps Pub Works 71:13-15+ Ap '40

Equipment

Cathodic protection for water works equipment. W. D. Loreaux. flow sheet il Water Works & Sewerage 87:sup81-2 Ap '40

Classified index of products used in the water works and sewerage fields. Water Works & Sewerage 87:sup4-12 Ap '40

Cleveland's Nottingham water works plant. Pub Works 71:40 O '40

Cold lime-soda water softening; experiences with Spaulding precipitators. S. B. Applebaum. bibliog il diags Ind & Eng Chem 32: 678-84 My '40

Design of clarifiers for waterworks. R. Walton and T. D. Key. diags Engineering 150:157-60 Ag 23 '40

Dry feeders; design, maintenance and operation. F. J. Lammers. diags Water Works & Sewerage 87:240-1 My '40

Enslow continuous stability indicator. R. J. Leveque. il Water Works & Sewerage 86: 450-1 N '39

Exhibits of equipment under the auspices of the Canadian water works equipment association. Can Eng W & S 78:52, 55-6+ Ap '40

Extensions and improvements to Scarboro Township waterworks. E. M. Proctor. diags plans Can Eng W & S 78:16-18+ Je '40

From field and office. il diag Eng N 124:531-2 Ap 11 '40

Manufacturers and distributors, Canada; equipment for waterworks and sewage plants; by companies, and by products. Can Eng W & S 78:14-16, 18-20 Ag '40

Milwaukee's water purification plant. J. P. Schwada. il diags plan Water Works & Sewerage 87:137-45, 195-200 Ap-My '40

Mixing chambers and flocculators; abstract. L. L. Hedgepeth. Water Works & Sewerage 87:20-1 Ja '40

New automatic duplex solution feeders. il Water Works & Sewerage 87:sup92 O '40

Old softening plant goes modern; Owensboro, Ky. E. L. Filby. il diag plan Eng N 125: 170-2 Ag 1 '40

Outline of the corrosion problem in water works. G. D. Norcom. Am Water Works Assn J 32:401-7 Mr '40

Program of equipment replacement. A. M. Brenneke. Am Water Works Assn J 32: 1689-93; Discussion. G. S. Rawlins. 1693-5 O '40

Specifications for chemical dry feeders; the need for improvement; abstract. L. E. Harper. Water Works & Sewerage 87:335 Jl '40

Water softening at Ann Arbor. L. E. Ayres. il Am Water Works Assn J 32:1587-99 S '40; Same cond. diag plans Water Works & Sewerage 87:387-91 S '40

Water works intakes. N. G. McDonald. diags Am Water Works Assn J 32:661-74 Ap '40

See also
Filtration plants
Pumping stations

Extension rules

Regulations for water main installations. H. T. Green. Am Water Works Assn J 31:2047-52 D '39

Filtration plants

See Filtration plants—Management

WATERWORKS—*Continued*

Finance

Annual report of a small water works. L. E. Jarvis. map Am Water Works Assn J 32: 1101-6 Jl '40

Appraisal of P.W.A. and W.P.A. water supply work in New England. W. W. Brush. N E Water Works Assn J 54:34-43; Discussion. 44-8 Mr '40

Federal construction subsidies for small public water supplies. S. M. Ellsworth. N E Water Works Assn J 54:49-59 Mr '40

Flood damage

Lessons from floods and hurricane at Ware, Mass. G. F. Merrill. N E Water Works Assn J 54:186-90 Je '40

Water supply is born; Harrisburg, Pa. F. Gannett. il map Eng N 124:577-9 Ap 25 '40

Heating and ventilation

Novel design features of the Lansing water conditioning plant; air-conditioning. C. R. Erickson. diag Am Water Works Assn J 32:1270-3 Ag '40

Insurance requirements

Self-insurance by a municipal water utility, Portland, Me. J. A. Jackson. Water Works & Sewerage 87:408-9 S '40

Laboratories

See also New York water service corporation—Laboratory

Laws and regulations

Legal decisions relating to distribution of public water supplies. F. A. Marston. Am Water Works Assn J 32:1081-96 bibliog(p1095-6) Jl '40

Modern trends in legal liability of water utilities, municipal and private. G. R. Redding. Am Water Works Assn J 32:1097-1100 Jl '40

Management

Efficiency in managing water works properties. L. N. Thompson. Am Water Works Assn J 32:1677-88 O '40

Engineer looks at management. R. E. McDonnell. Am Water Works Assn J 32:923-32 Je '40; Excerpts. Eng N 124:667 My 9 '40; Abstract. Water Works & Sewerage 87: 327-8 Jl '40

Improvement requirements and department records. C. P. Harnish and J. W. Ford. Am Water Works Assn J 32:247-54 F '40

Joint administration and collection of water and sewer accounts. Am Water Works Assn J 31:1957-63 N '39

Kind of boss I like. L. Semple, jr. Am Water Works Assn J 32:952-7 Je '40

Management of combined municipal utilities; Lansing, Michigan, supplies water, electricity and steam. O. E. Eckert. Am Water Works Assn J 32:1435-41; Discussion. F. W. Martin. 1441-5 S '40

Management of municipally owned water works on a business basis. R. F. MacDowell. Am Water Works Assn J 32:933-44 Je '40

Operation details for a small water treatment plant. J. M. Lloyd. il Pub Works 71:20-2 Ap '40

Program of equipment replacement. A. M. Brenneke. Am Water Works Assn J 32: 1689-93; Discussion. G. S. Rawlins. 1693-5 O '40

Public service commission and plant management. R. A. Nixon. Am Water Works Assn J 32:912-22 Je '40; Abstract. Water Works & Sewerage 87:327 Jl '40

Results of better maintenance and sizing of water meters. H. W. Griswold. N E Water Works Assn J 54:164-78 Je '40

Some problems of a small water works operator; abstract and discussion. E. R. Sharp. Water Works & Sewerage 87:411 S '40

Water board as a factor in good management. H. S. Nollen. Am Water Works Assn J 32:899-907; Discussion. 907-10 Je '40; Abstract. Water Works & Sewerage 87:329 Jl '40

See also

Filtration plants—Management	Water departments Water meters

Municipal ownership

Development of Ann Arbor water supply. H. H. Caswell. map Am Water Works Assn J 32:1577-86 S '40

Management of municipally owned water works on a business basis. R. F. MacDowell. Am Water Works Assn J 32:933-44 Je '40

Statement of municipal policy. F. Bowron. Am Water Works Assn J 32:911 Je '40

Water board as a factor in good management. H. S. Nollen. Am Water Works Assn J 32:899-907; Discussion. 907-10 Je '40; Abstract. Water Works & Sewerage 87:329 Jl '40

Water department as an independent utility. D. C. Egbert. Am Water Works Assn J 31: 2109-13 D '39

Protection

Sabotage and water service. il Eng N 125: 86-90 Jl 18 '40

Public relations

As you like it, in public relations. J. C. Mellett. Am Water Works Assn J 32:958-60 Je '40

Dealing with the public; abstract. J. J. Murray. Water Works & Sewerage 86:471 D '39

Good public relations, the no. 1 asset. P. Killian. Water Works & Sewerage 87:431-2 S '40

Pictures and public relations at Westfield, Mass. H. H. Angell. N E Water Works Assn J 54:256-7 Je '40

Promoting tax-payer interest in water supply; abstract. C. Schwarzler. Water Works & Sewerage 87:480 O '40

Public relations and department records. H. B. Fisher. Am Water Works Assn J 32: 265-78 F '40

Publicizing a good rate structure. W. A. Peters. Am Water Works Assn J 32:365-70 Mr '40

Six ways to improve water department public relations. F. E. Smith. il Pub Works 71:30-2, 34-5 Mr '40

Some phases of public relations. H. L. Brigham. N E Water Works Assn J 54:85-7; Discussion. 88 Mr '40

Records

Coordinating operating system records with accounting records. N. B. Jacobs. il Am Water Works Assn J 32:225-41 F '40

Economies in office forms. I. Rafkind. Am Water Works Assn J 32:221-4 F '40

Property records and valuation. R. Newsom. Am Water Works Assn J 32:1666-76 O '40

Recommended practice for distribution system records. il Am Water Works Assn J 32.181-220 F '40

Symposium on the value of water department records. Am Water Works Assn J 32:242-78 F '40

Reports

Annual report of a small water works. L. E. Jarvis. map Am Water Works Assn J 32: 1101-6 Jl '40

Safety devices and measures

Hazards to employees in water works plants. A. A. Soldner. Am Water Works Assn J 32:294-304 F '40

Water and sewerage system safety. C. A. Hechmer. il Water Works & Sewerage 86: 459-61 N '39

Valuation

Property records and valuation. R. Newsom. Am Water Works Assn J 32:1666-76 O '40; Abstract. Water Works & Sewerage 87:413-14 S '40

WATERWORKS—*Continued*

Winter operation

See also
Standpipes—
Freezing

WATSON, Thomas John, 1874-
International Business Machines is Mr Thomas J. Watson's temple of the company spirit. por Fortune 21:36-43+ Ja '40

WATT hour meters
Adapts meter tables for strobo testing. il diag Elec W 114:1192+ O 19 '40
Anomalous behavior of the moving systems of single-phase a-c watt-hour meters at no load. F. C. Holtz. il diags Elec Eng 59:Trans 116-21 F '40; Abstract. Power Pl Eng 44:67-70 Jl '40; Discussion. Elec Eng 59:Trans 121-3 F '40
High-voltage testing of meter protector. il diag Elec W 113:154 Ja 13 '40
Measurement of alternating-current energy. D. T. Canfield. 210p $2 McGraw-Hill '40
Motor testing simplified; use of watthour meters in conjunction with an electrically operated timer. C. O. von Dannenberg. diag Power Pl Eng 44:83-4 S '40
Remove magnets for meter adjustment. Elec W 113:1082+ Ap 6 '40
Service voltage from watt-hour meter. S. Stokes. Elec W 113:1736+ Je 1 '40
Standardized metering practices produce economy; dial constants: a cog in the general plan. Edison Elec Inst Bul 8:369-70 Jl '40
United States housing authority will install color dial meter. Elec W News ed 113:978 Mr 30 '40
Watthour meters. W. C. Wagner. 55p, 53p, 66p $1.70 International textbook co, Scranton, Pa. '39

Testing

Accuracy of watt-hour meters on intermittent loads. M. A. Faucett, C. A. Keener and M. S. Helm. Elec Eng 59:Trans460-4 Ag '40
Photo tester for watt-hour meters. diag Elec W 113:608 F 24 '40
Photo-electric meter testing. diag Engineer 170:190-1 S 20 '40
Photoelectric tester modernizes meter testing. T. A. Abbott. il diag Gen Elec R 43: 241-7 Je '40
Precision rotating standard for the measurement of kilowatt-hours. J. H. Goss and A. Hansen, jr. il diags Elec Eng 59:Trans 412-15; Discussion. Trans 415-16 Jl '40
Stroboscopic meter testing saves time and effort. Elec W 113:2039-40+ Je 29 '40
Watt-hour-meter performance with power rectifiers. C. T. Weller, H. E. Trekell and F. O. Stebbins. bibliog il diags Elec Eng 59.Trans449-57 Ag '40

WATTMETERS
Electronic wattmeter examines power wave. diag Elec W 113:156 Ja 13 '40
Nalder brothers and Thompson, watt-meters. diags Engineer 169:368-9 Ap 19 '40
New d.c. wattmeter for heavy capacities. P. MacGahan. Elec W 113:2072+ Je 29 '40
Radio-frequency power measurement; using a diode rectifier and a wattmeter. P. M. Honnell. il diags Electronics 13:21-4 Ja '40
Reactive measurements; modifications in wattmeter connections. G. W. Stubbings. diags Electrician 125:151 S 20 '40
Three-phase meter testing; method of checking with wattmeter at zero reading. G. W. Stubbings. diag Electrician 125:43 Jl 26 '40

WAUKESHA foundry company
Holds open house. J. E. Hubel. Foundry 68: 76 S '40

WAVE mechanics
Acceleration of electrons in a crystal lattice. W. V. Houston. Phys R 57:184-6 F 1 '40
Calculation of force fields from scattering. F. C. Hoyt and W. E. Frye. Phys R 58: 784-6 N 1 '40
Connection between spin and statistics. W. Pauli. Phys R 58:716-22 O 15 '40
Connection between the spin and statistics of elementary particles. J. S. de Wet. Phys R 57:646-52 Ap 1 '40
Deviations from Ohm's law at high current densities. E. Guth and J. Mayerhöfer. bibliog Phys R 57:908-15 My 15 '40
Existence and the magnitude of electronic charges. A. Landé. Franklin Inst J 229: 767-74 Je '40
Existence of stationary states of the mesotron field. L. I. Schiff, H. Snyder and J. Weinberg. Phys R 57:315-18 F 15 '40
Field theories for charged particles of arbitrary spin. L. I. Schiff. bibliog Phys R 57:903-5 My 15 '40
Fluctuations, thermodynamic equilibrium and entropy. E. C. Kemble. Phys R 56:1013-23 N 15 '39
Heavy electron pair theory of nuclear forces. R. E. Marshak. bibliog Phys R 57:1101-6 Je 15 '40
Hindered rotation in methyl alcohol. J. S. Koehler and D. M. Dennison. Phys R 57: 1006-21 Je 1 '40
Interpretation of resonances in nuclear reactions. G. Breit. bibliog diags Phys R 58: 506-37 S 15 '40
Matter and light; the new physics. L. de Broglie. 300p $3.50 Norton '39
New method for calculating wave functions in crystals. C. Herring. bibliog Phys R 57:1169-77 Je 15 '40
Oppenheimer-Phillips process. G. M. Volkoff. bibliog Phys R 57:866-76 My 15 '40
Phase shift calculations for proton-proton scattering at high energies. H. M. Thaxton and L. E. Hoisington. Phys R 56: 1194-8 D 15 '39
Problem of degeneracy in quantum mechanics. J. M. Jauch and E. L. Hill. Phys R 57:641-5 Ap 1 '40
Quantum-mechanical basis of statistical mechanics. E. C. Kemble. Phys R 56:1146-64 D 1 '39
Quantum physics of solids; the energies of electrons in crystals. W. Shockley. il diags Bell System Tech J 18:645-723 O '39
Rotation-vibration energies of tetrahedrally symmetric pentatomic molecules. W. H. Shaffer, H. H. Nielsen and L. H. Thomas. Phys R 56:895-907, 1051-9 N 1-15 '39
Scattering and polarization of electrons. M. E. Rose. bibliog Phys R 57:280-8 F 15 '40
Scattering of thermal neutrons by deuterons. L. Motz and J. Schwinger. Phys R 58:26-36 Jl 1 '40
Solutions of equations for particles of spin zero or one when no field is present. A. H. Taub. bibliog Phys R 57:807-14 My 1 '40
Spin angular momenta of elementary particles. E. L. Hill. bibliog Phys R 57:1184 Je 15 '40
Spinor equations for particles with arbitrary spin and rest mass zero. J. S. de Wet. Phys R 58:236-42 Ag 1 '40
Stationary states of scalar and vector fields. H. Snyder and J. Weinberg. Phys R 57: 307-14 F 15 '40
Transition probabilities in double beta-disintegration. W. H. Furry. bibliog Phys R 56:1184-93 D 15 '39

See also
Quantum theory

WAVES
Mathematical theory of irrotational translation waves. G. H. Keulegan and G. W. Patterson. bibliog J Research Nat Bur Stand 24:47-101 Ja '40

See also
Electric waves
Light
Radiation
Radio waves
Sound waves
Ultrasonic waves
Vibration

WAX crayons. See Crayons

WAXED paper. See Paper, Waxed

WAXES
Halowax-paraffine for infiltrating histologic tissues. E. D. Crabb. Science 91:174 F 16 '40
Opalwax, a new synthetic wax. Rubber Age 48:22 O '40

WAXES—*Continued*
Outlook in strategic chemicals. H. G. MacKelcan. Chem Ind 47:32 Jl '40
Protective coating sprayed on aluminum castings; evaporator unit in a domestic refrigerator. R. M. Major. Metal Prog 38: 295-6 S '40
Studies on the separation of paraffin waxes; phase relationships. M. F. Sawyer, T. G. Hunter and A. W. Nash. bibliog diags Inst Pet J 26:430-51, pl 1 S '40
Studies on the separation of paraffin waxes; principles involved in the fractional melting of wax. M. F. Sawyer, T. G. Hunter and A. W. Nash. bibliog Inst Pet J 26:390-400 Ag '40
Water-soluble waxes. Sci Am 163:213-14 O '40
Wax substitutes. Ind & Eng Chem News ed 17:776 D 20 '39

See also
Carnauba wax
Montan wax
Ozocerite
Paraffin
Petroleum refining—Wax removal

Analysis

Identification of commonly used waxes in admixture. S. Zweig and A. Taub. bibliog Ind & Eng Chem Anal ed 12:9-14 Ja 15 '40

Statistics

Oils, fats and waxes. Published in weekly numbers of Oil, paint and drug reporter
Wax shipments far ahead of same period last year. H. S. Norman. il Oil & Gas J 38:14-15 My 2 '40

WEALTH
Anatomy of American wealth. R. R. Doane. 345p bibliog(p317-25) $2.50 Harper '40
Distribution of wealth and income under the Nazis. M. Y. Sweezy. bibliog R Econ Statis 21:178-84 N '39
Marketing pictographs. Sales Management 45:33-4 D 15 '39
Studies in income and wealth, by the Conference on research in national income and wealth. v3 479p bibliog(p77-84) $3.50 Nat. bur. econ. research '39
Wealth, debt and taxes in the United States. Edison Elec Inst Bul 8:248 My '40
Wealth of nations; world income; review of "Conditions of economic progress," by Colin Clark. Economist 139:362-3 S 21 '40

See also
Capital
Cost of living
Economic conditions
Economics
Income
Income tax
Leisure
Money
Profit
Success

WEALTH, Ethics of
Taxes and philanthropy; government subsidy of charity thru gift exemptions and proportion contributed by class of wealth. C. L. Harriss. Trusts & Estates 70:117-19+ F '40

WEAPONS
Trend in weapon types and design. E. McFarland. il Franklin Inst J 230:413-32 O '40

See also
Firearms
Rifles

WEAR of metals. See Metals—Wear

WEASELS

See also
Ferrets

WEATHER
Solar radiation and the weather. Science 90: sup10 D 8 '39
Summer weather data; with design data, statistics, charts, maps and technical analysis. J. C. Albright, comp. 165p $3 Marley co, 3001 Fairfax road, Kansas City, Kan. '39

See also
Atmospheric temperature
Droughts
Hot weather
Humidity
Meteorology
Rain and rainfall
Winds
Winter

Business aspects

Business and changing climates; are slow climatic changes the basic, underlying cause of economic cycles? C. A. Mills. il map Sci Am 163:206-8 O '40
Four payment plan and weather chart aid New Orleans collection record. J. E. Hevron. il Am Gas Assn Mo 22:312+ S '40
How drought affects business. R. P. Stewart. map Barron's 19:13 D 11 '39

Physiological effect

Rheumatic heart disease in Philadelphia hospitals; influence of season and certain meteorological conditions. O. F. Hedley. Pub Health Rep 55:1809-31 bibliog(p1830-1) O 4 '40

WEATHER bureau. See United States—Weather bureau

WEATHER forecasting
Electron-dominance theory of cycles. H. P. Gillette. Roads & Sts 82:39-40 D '39
Fair and warmer; the problem of weather forecasting and the work of the United States Weather bureau. J. Gaer. 137p $1.25 Harcourt '40
Forecasting by means of climatic cycles. H. P. Gillette. il Water Works & Sewerage 87:496-501 O '40
Influence of topography on weather forecasting at Salt Lake City, Utah. G. F. Taylor. maps J Aeronautical Sci 7:18-21 N '39
Problems in weather map analysis and forecasting in connection with transatlantic flying. H. C. Willett. J Aeronautical Sci 7:248-51 Ap '40
6,000 years of raindrops; H. P. Gillette's system of weather forecasting; reprinted from the Feb. 25 Sunday magazine of the Los Angeles times. E. Ainsworth. Roads & Sts 83:72, 74+ Mr '40
System of harmonic weather and climatic cycles. H. P. Gillette. il Roads & Sts 82: 47-8 N '39
Water supply on upper Salt river, Arizona. J. Girand. Am Soc C E Proc 65:1681-4 D '39; Discussion. 66:553-6, 777-8, 1117-18, 1327-8 Mr-Ap, Je, S '40
Weather analysis and forecasting; a textbook on synoptic meteorology. S. Petterssen. 505p bibliog(p491-4) $5 McGraw-Hill '40
Weather; Norwegians found the third dimension, the airlines commercialized it, and the U.S. Weather bureau eventually caught on. il maps Fortune 21:58-63+ Ap '40
Weather patrol. Science 91:sup10 Mr 15 '40

WEATHER forecasts
Electric systems benefit from modern weather forecasting. I. P. Krick. diag maps Elec W 112:1852-4+ D 30 '39
Use of the millibar in Weather bureau reports. C. H. Sharp. Elec Eng 59:124 Mr '40
Weather and the power companies; forecasts in maintenance, service and load conditions. Edison Elec Inst Bul 8:18+ Ja '40; Pub Util 25:233-7 F 15 '40
Weather forecasts for safety, available to fleet owners. Safety Eng 80:35 O '40

Broadcasting

Trans-Atlantic weather station now in operation; radio station WSY. Civil Aero J 1:67 Mr 1 '40

WEATHER maps
Problems in weather map analysis and forecasting in connection with transatlantic flying. H. C. Willett. J Aeronautical Sci 7: 248-51 Ap '40

WEATHER stations. See Meteorological stations

WEATHER tunnel. See Automobile laboratories

WEATHERING
Effect of continuous weathering on light metal alloys used in aircraft. W. Mutchler. bibliog il diags U S Nat Advisory Com for Aeronautics 1939:395-421 '40

WEATHERING—*Continued*
Ep-Archean and Ep-Algonkian erosion surfaces, Grand canyon, Arizona. R. P. Sharp. map diags Geol Soc Bul 51:1235-69 bibliog(p1265-9) Ag '40
Weathering of the Jerseyan till. P. Mac Clintock. bibliog map Geol Soc Bul 51:103-15, pl 1-2 Ja '40

WEAVING
Buttonhole webbings. E. J. Gibbons. il diags Textile World 90:64-5 Ag '40
Center-stitched double cloths. R. A. C. Scott. diags Textile World 90:61 Ap; 95-6 Je '40
Drafts for double cloths. R. A. C. Scott. diags Textile World 90:87 Ag '40
Formation of good selvages. H. E. Wenrich. il diags Rayon 20:512-13, 586-7, 647-8, 706-7; 21:40-1, 166-7, 233-4 S '39-Ja, Mr-Ap '40
Knowledge of dobby designing will assist weavers and loomfixers; rayon-stripe shirting. M. P. Fox. il Textile World 90:64-5 Mr '40
Loom inspection system. E. B. Hofford. Textile World 90:103 My '40
Manufacture of dress velvets; yesterday and today. W. J. McKinney. diags Rayon 20: 704-6; 21:36-7, 98-100, 234-5, 305-6, 421-2, 549-51, 625-6 D '39-F, Ap-My, Jl, S-O '40 (to be cont)
Weaving and dyeing in North Africa. J. Gallotti. Textile Col 62:161-4, 237-9+ Mr-Ap '40
Weaving covered-rubber yarn; routine tests for maximum stretch. C. E. Bergamini. Textile World 90:58 Mr '40
Weaving seersucker; simple devices applicable to any loom. diags Textile World 90: 141-2 F '40

See also
Carpets
Carpets, Oriental
Cotton weaving
Looms
Rayon weaving
Rugs
Silk weaving
Textile fabrics
Textile fibers
Woolen and worsted weaving

WEAVING (handicraft)
Hand-weaving to-day; traditions and changes. E. M. Mairet. 144p bibliog(p138-40) $1.75 Ryerson press '39
Handicraft's anomaly; McCrossen hand-woven textiles. G. McCrossen. il Ptr Ink Mo 39:48 D '39

WEBB-POMERENE act
Webb law associations, 1938; and list of 44 export associations as of February 3, 1940. H. DeCourcy. Comm Rep p341 Ap 13 '40

WEEDS
Chemical treatment for the control of algae and weeds. Pub Works 71:41 S '40
Eradication of noxious weeds. J. D. McLeod. il Can Eng R & B 78:21, 92-6 Mr '40
Just weeds. E. R. Spencer. 317p bibliog(p306-7) $2.75 Scribner '40
Use of Benoclor-3 in potable water supplies; effects of weed killing chemical on tastes and odors. M. M. Gibbons. il map Water Works & Sewerage 87:231-6 My '40
Warring on weeds in Washington; electric hoe, or small garden cultivator developed by Puget Sound power & light co. J. C. Scott. il diags Elec West 83:47 D '39

See also
Roads—Weed removal
Water hyacinth

WEEK-end houses
Prefabricated vacation homes. il Barron's 20: 5 Ag 12 '40
Week-end houses, cottages and bungalows. A. Hastings, ed. 112p $3 Chemical pub. co. '39
Weekend retreat in California. il plans Arch Rec 87:64-5 Mr '40

WEEK idea in merchandizing. See Advertising campaigns—Special weeks

WEEKLY rest. See Rest days

WEIDLEIN, Edward Ray, 1887-
Director of Mellon institute, Pittsburgh. por(cover) Am Cer Soc Bul 19:344-5 S '40
Portrait. Chem Ind 47:35 Jl '40

WEIGEL, William Melvin, 1878-
Sketch. por Min & Met 21:376 Ag '40

WEIGHING
Adsorption of water vapor on silica surfaces, by direct weighing. H. M. Barrett, A. W. Birnie and M. Cohen. diag Am Chem Soc J 62:2839-44 O '40
Apparatus for rapid weighing in grains. A. W. Bayes. diags Textile Inst J 31:P84-5 Ag '40
Continual observation of changes in weight at oven temperatures; apparatus for use in study of drying rates and in oxidation of oils. A. C. Beckel and A. G. Sharp. diags Ind & Eng Chem Anal ed 12:45-7 Ja 15 '40
Continuous weighing permits accurate blending of ores to blast furnaces; vibratory feeder. J. A. Flint. il Steel 106:48, 51+ F 26 '40
Differential temperature error in weighing. E. Blade. il Ind & Eng Chem Anal ed 12: 330-1 Je 15 '40
Fast weighing solves scrap handling problem. il Factory Management 98:67 S '40
Foxboro improved verigraph recorder. il Rubber Age 46:172 D '39
Handling waste material effectively. il Steel 107:54 S 30 '40
Rebuilt batch plant at Thatcher manufacturing company incorporates automatic weighing; new mixer and mixed batch distribution. il diag Glass Ind 21:347-52 Ag '40

See also
Balances
Coal weighing
Scales

WEIGHING machines
Duros variable-capacity dial-indicating weighing machine. il diags Engineering 148:551-3 N 17 '39
Semi-self-indicating weighing machine. il Engineer 169:73 Ja 19 '40
Weighing stock automatically while in motion; can be done on floor tracks, overhead monorails or roller conveyors. B. T. Connolly. il Steel 107:118, 121, 141-2 O 14 '40

WEIGHT
War on weight; airplanes, railroad rolling stock, shipping containers, etc. J. L. Walsh. il Mech Eng 62:122-3 F '40

WEIGHT lifting
Weight lifting. B. Hoffman. 206p $2 Strength & health pub. co, 51 N. Broad st, York, Pa. '39

WEIGHTS, Equivalent. See Equivalent weights

WEIGHTS and measures
Dump-bottom cubic foot. H. D. Hurley. diags Eng N 124:742 My 23 '40
Legal weights per bushel for various commodities. R. W. Smith, comp. U S Nat Bur Stand Circ C425:1-12 '40
Sidelights on our weights and measures. P. Hoffman. il Comp Air M 45:6079-82 F '40
Weights of metric steel sizes in English units; conversion table for round, square, and hexagonal stock and for flat stock; reference book sheets. H. S. Cameron. Am Mach 84:545, 547 Jl 24 '40
Why a flask of mercury weighs 76 pounds. P. Hoffman. Comp Air M 45:6267 O '40

See also
Balances
Decimals
Electric measurements
Gages
Measuring instruments
Specific gravity
Standards of length
Temperature—Measurement
Water measurement

WEIL'S disease
Susceptibility and resistance of certain species of American deer mice, genus peromyscus, and other rodents to leptospira icterohaemorrhagiae. A. Packchanian. bibliog Pub Health Rep 55:1389-1402, pl 1-2 Ag 2 '40

WEIRICK, Elizabeth Sophia
Experiences in the field of merchandise control; Sears, Roebuck and company. J Chem Educ 16:585-7 D '39

WEIRS
See also
Dams

WEIRS (measuring)
Pressure-momentum theory applied to the broad-crested weir. H. A. Doeringsfeld and C. L. Barker. il Am Soc C E Proc 65:1719-31 D '39; Discussion. 66:563-70, 804-8, 1119-29 Mr-Ap, Je '40

WEIRTON steel company
Weirton steel company; history and plant. C. Longenecker. il diag plan Blast F & Steel Pl 28:773-90+ Ag '40

WEIZSÄCKER theory
Isomeric silver and the Weizsäcker theory. L. W. Alvarez, A. C. Helmholz and E. Nelson. bibliog Phys R 57:660-1 Ap 1 '40

WELDERS
Health hazards of electric and gas welding. J. A. Britton and E. L. Walsh. J Ind Hygiene 22:125-51 bibliog(122 titles, p147-51) Ap '40
Instrumentation in arc welding; studies in operator behavior prove valuable. R. E. Kinkead. il Steel 107:60-1+ Jl 22 '40
Measurement of arc welding technique; arcronograph. H. S. Card. il diag Power Pl Eng 44:66-8 Je '40
Proposed appendix C for A.P.I. std. no. 12-C: all-welded oil-storage tanks on qualification of welding procedure and testing of welding operators. diags Am Pet Inst Proc 21M(4):260-9 My '40

WELDING
Allowable eccentric loads on fillet welds; reference book sheet. E. H. Eberhardt. Product Eng 11:241-2 My '40
American welding society annual meeting, Cleveland. Iron Age 146:54, 84-5 O 31 '40
Atomic welding; high strength joints produced between aluminum and aluminum alloys or between ferrous metals; Colaweld process. J. Steel. Steel 106:66+ Ja 15 '40
Audels welders guide; questions and answers. F. D. Graham. 422p $1 Theodore Audel & co, 49 W. 23d st, New York '40
Cold welding of silver; pressure welding at temperatures from room temperature to red heat. G. R. Van Duzee and J. M. Thomas. Electrochem Soc Trans 77 (preprint 6):73-82 Ap '40
Cooperative welding research. C. A. Adams. Metal Prog 38:484-5 O '40
Cullen-Friestedt welding positioner. il Ry Mech Eng 114:237 Je '40
Design and welding of fabricated machinery. J. H. Cooper. il Iron Age 145:50-2 Je 6; 40-4 Je 13 '40
Faulty castings; application of welding. Automobile Eng 30:189-90 Je '40
First aid for busted cases; does it pay to send broken crankcases, cylinder blocks, heads, and the like to outside shops for repair? Bus Transportation 19:396-7 Ag '40
Flame machining; gouging, preparatory for welding and removing defective welds. J. G. Magrath. il diags Am Mach 84:503-6 Jl 10 '40
Fortschritte in der schweisstechnik im 1. halbjahr 1939. W. Lohmann. bibliog Stahl & Eisen 59:1291-4, 1324-6 N 30-D 7 '39
Hard facing, a process for the mechanical engineer. E. E. LeVan. il Mech Eng 62:459-64 Je '40
Hard-surfacing steel and cast iron; reference book sheet. Am Mach 83:1007-8 N 29 '39
Ingenuity plus welding saves money in railroad shop. A. Havens. Am Mach 84:666 S 4 '40
Joining and welding; developments in 1939. il Steel 106:210, 212+ Ja 1 '40
Joining practices for aluminum. diags Am Mach 84:629-30 Ag 21 '40
Magnesium-base alloys; welding operations. diags Am Mach 84:301-2 My 1 '40
Methods of welding locomotive frames. diags Ry Mech Eng 113:550-1 D '39
Minerals used in welding. O. C. Ralston and M. W. von Bernewitz. pls U S Bur Mines Information Circ 7121:1-56 '40
Perfect fits for perfect welding. H. S. Card. il diags Chem & Met Eng 47:400-2 Je '40
Pipe line welding practices advance. L. D. Sugg. il Oil & Gas J 39:136-7 S 19 '40
Pipe welding problems get attention at American welding society annual convention; abstracts of papers. il Heating-Piping 11:732-4 D '39
Principles of sheet metal jigging. il diags Sheet Metal Worker 31:27-9 F '40
Protect-O-Metal, a compound for use in welding and die-casting. Mach 46:274 D '39
Reclaiming nickel anodes by welding; current loss preferable to metal loss. C. C. Downie. Chem Age (Lond) 43:59+ Ag 3 '40
Reinforcing welded branch connections. F. C. Fantz and W. G. Hooper. diags Heating-Piping 12:247-8 Ap '40
Repair welding, brazing and soldering of light metal castings. E. R. Thews. diags Metal Ind 38:84-6, 149-53 F-Mr '40
Review of power and mechanical equipment; welding. il Power 83:828+ Mid-D '39
Review of wartime activities of British welding industry; abstract. J. S. Trevor. Metals & Alloys 12:86 Jl '40
Schweissen von korrosions- und hitzebeständigen stählen, nach einer schrifttumsübersicht von W. Spraragen u. G. E. Claussen; zusammengestellt von H. Cornelius. V D I 84:132-6, 173-7 bibliog(p176-7) F 24, Mr 9 '40
Shop equipment review; heat-treating and welding. il Am Mach 84:232-8 Ja 24 '40
Simple welding fixture for a complex fabrication. J. I. Karash. diags Mach 47:137 O '40
La soudabilité des métaux; abstract. A. Leroy. Génie Civil 115:456-7 D 23 '39
Symposium on weldability. Metals & Alloys 12:326+ S '40
Tips on sheet metal welding. il diags Bus Transportation 19:83-4 F '40
Versuche mit geschweissten eisenbahnschienen. O. Graf. il diags V D I 83:1250-3 D 2 '39
Weld-fabrication essentials. L. S. McPhee. il Iron Age 145:42-4 Mr 28 '40
Welded dies, their design and fabrication; with tool steel analyses and recommended heat treatment. A. R. Butler. il Steel 107: 106, 108+ O 14; 62-3, 66 O 21; 66, 68-9 O 28 '40
Welded piping got attention; American welding society; abstracts of papers. il diags Heating-Piping 12:650-2 N '40
Welding and cutting. diags Metal Prog 38: 483-96 O '40
Welding and pressure vessel codes. A. A. Fette. diags Power Pl Eng 44:67 N '40
Welding as a substitute for casting. S. F. Dorey. Engineering 149:237-9 Mr 1 '40
Welding for defense. il Am Mach 84:818-24 O 16 '40
Welding for the chemical industry. C. W. Brett. il Chem & Ind 59:695-6 O 12 '40
Welding galvanised iron; application of zinc. H. Seymour. Chem Age (Lond) 42:sup25 Je 1 '40
Welding in jig time. J. Haydock. il Am Mach 84:277-9 My 1 '40
Welding, its uses in track work; committee report, Roadmasters' and maintenance of way association. Ry Age 109:408-9 S 21 '40
Welding magnesium alloy sheets. diags Iron Age 145:48-9 Ja 18 '40
Welding of cast iron. L. Tibbenham. Iron Age 145:36-8 Je 27 '40; Discussion. 145:38 Je 27; 146:43 Jl 18 '40
Welding of copper; abstract. A. P. Young. Metals & Alloys 11:MA338+ Je '40
Welding serves industrial upswing. R. E. Miller. il Iron Age 145:114-16, 118+ Ja 4 '40
Welding service for the renewal of Banbury parts. il India Rubber W 102:59 Ap '40
What's new in welding apparatus. F. J. Oliver. il Iron Age 145:46-51 F 29; 45-50 Je 13 '40

WELDING—*Continued*
What's new in welding equipment. il Iron Age 146:52-6 S 12 '40

See also
Aluminum—Welding
Brazing
Bronze welding
Electric welding
Electric welding, Arc
Oxyacetylene welding
Shipbuilding—Welding operations
Steel—Welding
Steel, Structural—Welding
Steel construction—Welding

Cost
Forming cuts welding costs. E. W. P. Smith. diags Steel 107:62+ Ag 12 '40

Failures
Tendency of welds to crack; abstract. E. Helin and S. Svantesson. Iron Age 145:46 Je 27 '40

Safety devices and measures
Eye protection glass for welding. Elec W 114:106 Jl 13 '40
Health hazards of electric and gas welding. J. A. Britton and E. L. Walsh. J Ind Hygiene 22:125-51 bibliog(122 titles, p147-51) Ap '40
Protection marked personal; clothing and safety equipment. G. C. Harrold, J. C. Kerrigan and S. F. Meek. il Safety Eng 79:8+ Ja '40

Standards
Normung in der schweisstechnik; begriffsbestimmungen und schweisszeichen nach DIN entwurf 1910/12. diags V D I 84:325-9 My 11 '40
Proposed American standard for butt welding fittings submitted. S. Crocker. il diags Heating-Piping 12:11-15 Ja '40

Symbols
Welding symbols; data sheet. Metal Prog 38:486 O '40

Terminology
Definitions of welding terms. Heating-Piping 12:472 Ag '40

Testing
Bemessung von kehlnahtverbindungen bei wechselbiegebeanspruchung. A. Thum and A. Erker. il diags V D I 83:1293-7 D 23 '39
Examination and tests of welded parts for steam power plant. A. H. Goodger. bibliog diags Inst Mech Eng J & Proc 142:Proc 261-87, pl 1-12 Ja '40; Discussion. 143:Proc 73-80, pl 13-16 Ap '40
Festigkeitsversuche mit geschweissten drehgestellen. O. Taschinger. il diag V D I 83: 1297-8 D 23 '39
Second progress report of the joint investigation of continuous welded rail. H. F. Moore, H. R. Thomas and R. E. Cramer. il diags Ill U Eng Exp Sta Reprint Ser 17: 1-20 '40 (pa 15c)
Testing welds; magnetic dust reveals tiny cracks. H. Hirst. Sci Am 163:66 Ag '40
Titanium and some properties of Cr-Mo steel for airplane tubing. G. F. Comstock. il Metals & Alloys 12:21-6 Jl '40
Visual stress analysis; use of polarized light and celluloid models. E. W. P. Smith. diag Steel 106:60+ Je 24 '40
Welded joints analyzed by polarized light. E. W. P. Smith. il Iron Age 146:56-7 N 14 '40
Welded valve bodies. F. Giolitti. Metal Prog 37:439 Ap '40
Welds and the testing of their endurance. J. H. Hruska. il diags Iron Age 145:33-7 My 16 '40

Thermit process
Mill part fabricated by thermit and arc welding; housings of blooming mill pinions. il Iron Age 145:35 Ja 18 '40; Same. Blast F & Steel Pl 28:70 Ja '40; Same. Steel 106: 80 F 12 '40
Thermit weld saves press cylinder. il Iron Age 146:34 Ag 1 '40
Die thermitschweissung. W. Ahlert. il Stahl & Eisen 60:173-8 F 29 '40
2,300 cars in 7 hours delivered with speed and safety by the New Orient transportation system; thermit welding of rail joints. B. K. Wentworth and A. G. Shaffer. il Coal Age 45:35-6 Ja '40

WELDING, Electric. See Electric welding

WELDING, Oxyacetylene. See Oxyacetylene welding

WELDING departments
Organized for welding; Harnischfeger experience. W. V. Emery. il Factory Management 97:46-7+ D '39
Process control of spot welding. C. L. Hibert. il diags Iron Age 145:31-4 Mr 14 '40

WELDING rods
Aluminum-bronze welds. W. B. Scott. il Steel 107:56, 58, 60 N 11 '40
Drying of welding rods. il Engineer 168:528-9 N 24 '39
Lengthening the life of wearing parts with steel and cast iron welding rods. il Can Min J 61:590-3 S '40
Moslo hopper feeding machine for welding rod. il Mach 47:174 N '40
Recommended welding methods, flame adjustments, welding rods, and fluxes; data sheet. Mach 46:93 My '40

WELFARE work in industry
Supplementing the Social security act; National office management association survey. Management R 29:63-4 F '40
Survey shows high safety record; survey of sickness, medical care, welfare provisions, etc. in 77 oil companies. J. C. Watkins. Oil & Gas J 38:24+ Mr 7 '40
What Hotpoint is doing to make healthier and happier workers. A. D. Byler. il Sales Management 45:22-3+ D 15 '39
Why Endicott-Johnson workers said "no" to the unions. il Factory Management 98:53-60 F '40
Workers at play; part that industry can take. Personnel J 18:227-32 D '39

See also
Benefit societies
Employees' buildings
Employment management
Employment systems
Insurance, Group
Medical service, Industrial
Pensions, Industrial
Profit sharing
Recreation
Saving
Unemployment—Relief measures

WELL water. See Wells

WELLES, Sumner, 1892-
Department of state. Fortune 20:142-3 D '39

WELLINGTON, New Zealand
Port of Wellington. il (cover) Comm Rep p672 Ag 3 '40
Port of Wellington. Engineering 150:100 Ag 2 '40

WELLS
Chilcote pumping station and softening plant of the South Staffordshire waterworks company. il diags Engineering 149:451-4, 462, pl 24 My 3 '40
Cleveland's huge screen well completed by WPA workers. il Eng N 125:345 S 12 '40
Differential gas pressures in wells. T. E. Larson. Am Water Works Assn J 31:2118-20 D '39
Discussion regarding specifications for deep wells and deep well turbine pumps. J. C. Harding; J. A. Carr. Am Water Works Assn J 32:65-76 Ja '40
Dry ice used for developing well at Glendale, Arizona. C. W. Hircock. Pub Works 70:28 D '39
Methods of removing free carbon dioxide from natural waters; from viewpoint of deterioration of synthetic base-exchange materials used for softening the water. E. L. Streatfield. bibliog diags Soc Chem Ind J 58:313-17 O '39
New water supply for Wichita, Kans. R. E. Lawrence. il maps Civil Eng 10:555-8 S '40; Discussion. P. L. Brockway; S. W. Lohman. 10:725 N '40
Plastic state of stress around a deep well. H. M. Westergaard. Boston Soc C E J 27: 1-5 Ja '40

WELLS—*Continued*
Source of water derived from wells; essential factors controlling response of an aquifer to development. C. V. Theis. il Civil Eng 10:277-80 My '40
Sterilization of new deep wells. Pub Works 71:22 Mr '40
Treating incrusted wells. J. R. Goetz and F. L. Coventry. il Water Works & Sewerage 87:376-7 Ag '40
Use and limitations of conductivity measurements of well water quality. K. W. Brown. il Am Water Works Assn J 32:675-87; Discussion. 687-91 Ap '40
Well casing depth detector. H. Thayer. diag Eng N 124:531 Ap 11 '40

See also
Artesian wells
Drilling and boring (earth and rocks)
Gas, Natural
Petroleum—Well drilling
Water, Underground

WELLS, Artesian. See Artesian wells

WELTER, Wilfred August, 1906-1939
Sketch. Science 91:283 Mr 22 '40

WEST

See also
Pacific coast

WEST HAVEN, Connecticut

Sewerage

Selecting the sewage-treatment process. A. Potter and M. H. Klegerman. il Can Eng W & S 78:47-8 F '40

WEST INDIES
Pocket guide to the West Indies. A. Aspinall. 9th ed rev 525p bibliog(p11-15) $3.75 Chemical pub. co.

See also
Cuba
Haiti

WEST INDIES, British
Social programme for the British West Indies. Int Labour R 41:517-28 My '40

See also
Jamaica

WEST INDIES, Netherlands
Allied troops land in Dutch West Indies; assurances given to Japan that no change will be made in status of Dutch East Indies. Comm & Fin Chr 150:3129-30 My 18 '40

Economic conditions

Business situation. Comm Rep p1055 N 18 '39

WEST Penn electric company
Earnings, 1937-39. Comm & Fin Chr 150:2278 Ap 6 '40

WEST Penn power company
Bonds and common stock offered. Comm & Fin Chr 150:2444 Ap 13 '40
Earnings, 1937-39. Comm & Fin Chr 150:2278 Ap 6 '40

WEST POINT military academy
Where they have trod; the West Point tradition in American life. R. E. Dupuy. 424p bibliog(p409-12) $3 Stokes '40

WEST VIRGINIA

See also
Coal mines and mining—West Virginia
Geology—West Virginia

Economic conditions

Consumer incomes and family budgetary expenditures; Printers' Ink market explorations. Ptr Ink 192:sup3-55 S 27 '40

Industries and resources

West Virginia, its economic development. il map Manuf Rec Extra no 109:233-42 S '40

WEST VIRGINIA coal mining institute
Annual meeting, Morgantown. Min Cong J 25:48-9 D '39
Annual meeting, 32d, Morgantown, Nov. 10-11. Coal Age 44:138, 141-2+ D '39

WEST VIRGINIA pulp and paper company
Admitted to list; financial statistics, 1928-39. L. Applegate. Annalist 55:76-7 Ja 18 '40
Bonds offered. Comm & Fin Chr 149:3733 D 9 '39
Earnings, years ended Oct. 31, 1937-39. Comm & Fin Chr 150:138 Ja 6 '40

WESTERGARD, Anton Hilmer, 1880-
Presentation of the Charles Doolittle Walcott medal and honorarium to A. H. Westergaard. C. G. Abbot. Science 91:417-18 My 3 '40

WESTERN adjustment and inspection company
Annual meeting, 55th, Chicago. Nat Underw 44:5 Ja 25 '40

WESTERN air express corporation (now Western air lines)
Merger with United Air Lines denied; interchange of sleeper plane equipment approved; with text of opinions. Civil Aero J 1:300-25 Jl 15 '40

WESTERN air lines
Airline is sold; W. A. Coulter purchases Western Air Express control from Denver interests. Business Week p22 N 16 '40

WESTERN association of state highway officials
Annual meeting, 19th, Santa Fe, N.Mex. Roads & Sts 83:42-3 My '40

WESTERN auto supply company
Debentures offered. Comm & Fin Chr 151: 1588-9 S 14 '40
Glance at the week's reports. H. Lawrence. Barron's 20:13 F 19 '40

WESTERN dairies, inc.
To merge certain subsidiaries; to borrow $1,500,000 privately. Comm & Fin Chr 150: 3378 My 25 '40

WESTERN electric company
Consolidated earnings, 1938 and 1939. Comm & Fin Chr 150:1621-2 Mr 9 '40
Million dollar research; personnel counseling plan; digest and review by C. S. Slocombe of "Management and the worker" by F. J. Roethlisberger and W. J. Dickson. Personnel J 18:162-72 N '39

WESTERN hemisphere

See also
Pan Americanism

WESTERN insurance bureau
Annual meeting, Old Point Comfort, Va. Ins Field (Fire ed) 69:16+ My 16 '40; Nat Underw 44:1+ My 16 '40
Semi-annual meeting, Atlanta, Ga. Oct. 2-3. Ins Field (Fire ed) 69:8 O 3 '40; East Underw 41:28 O 4 '40

WESTERN Maryland railway
Good earnings record. A. Jansen. Barron's 20:19 Jl 15 '40
History of the Western Maryland railway company, including biographies of the presidents. E. M. Killough. rev ed 128p pa gratis Western Maryland railway co, Baltimore '40
Traffic statistics and income, 1936-39. Comm & Fin Chr 150:3223 My 18 '40

WESTERN Pacific railroad
General statistics and income account, 1936-39. Comm & Fin Chr 150:3378-9 My 25 '40
Rehabilitating a railroad to meet present-day conditions; Western Pacific has practically rebuilt its line from Oakland, Cal. to Salt Lake City. il map Ry Age 109:308-11 Ag 31 '40

WESTERN petroleum refiners association
Annual meeting, 28th, Wichita. Nat Pet N 32:17-18, 25 Ap 3 '40; Oil & Gas J 38:18+ Ap 4 '40

WESTERN reserve university

Department of chemistry

Centennial celebration of the founding of the Department of chemistry. O. F. Tower. Science 91:399-400 Ap 26 '40
Centennial of the founding of the Department of chemistry at Western reserve university. il Ind & Eng Chem News ed 18: 449-51 My 25 '40

WESTERN society of engineers
Annual dinner meeting, Chicago, Oct. 2, 1939. W Soc E J 45:3-7 F '40

WESTERN society of engineers—*Continued*
Year book recording the objects, activities, facilities, membership and the administrative and operating organization. W Soc E J 44:145-219 Ag '39

WESTERN society of naturalists
Annual winter meeting, 12th, Monterey, Calif. Dec. 20-23. Science 91:13 Ja 5 '40

WESTERN underwriters association
Annual meeting, White Sulphur Springs. Ins Field (Fire ed) 69:7-8+ Ap 18 '40; Nat Underw 44:1+ Ap 18; 5+ Ap 25 '40
Company affiliations in West. Nat Underw 44:6 Jl 25 '40
Semi-annual meeting, White Sulphur Springs, Sept. 17-18. Ins Field (Fire ed) 69:10-11+ S 19 '40; Nat Underw 44:5+ S 19 '40

WESTERN union telegraph company
Annual report for fiscal year 1939. Comm & Fin Chr 150:2124, 2131 Mr 30 '40
Changed appraisal of bonds. A. Jansen. Barron's 20:19 Ja 22 '40
Statistics of income, capital, stock earnings, etc. 1929-39. Annalist 55:799 Je 6 '40
Telegraph merger recommended by FCC. Comm & Fin Chr 150:138 Ja 6 '40
Western Union improves. S. Devlin. il Mag of Wall St 65:300-1+ D 16 '39

WESTINGHOUSE electric and manufacturing company
Annual report. Comm & Fin Chr 150:1791 Mr 16 '40
Financial report to employes. Mach 46:166 Je '40
Inter-plant handling; new 5-way bridge, Mansfield, Ohio. C. L. Van Derau. il Steel 107:48+ Jl 1 '40
Organizes for defense production. Elec W 114:94-5 Jl 13 '40
Westinghouse research fellowships. Science 91:351 Ap 12 '40
What war means to Westinghouse. J. C. Clifford. il Mag of Wall St 66:516-18+ Ag 10 '40

WESTINGHOUSE time capsule. See Civilization—Preservation of records

WESTMINSTER bank limited
Annual ordinary general meeting, London. Economist 138:226-8 F 3 '40

WESTON, Thomas Isaac, 1881-
Sketch. por Explosives Eng 17:352-3 D '39

WESTVACO chlorine products corporation
Caustic soda and chlorine enjoy broad and growing markets. G. L. Merton. Mag of Wall St 66:367+ Je 29 '40
Exchange offer. Comm & Fin Chr 151:2668 N 2 '40
Preferred stock offering. Comm & Fin Chr 151:2813 N 9 '40
Registers with SEC; new preferred offered in exchange for old preferred stock. Comm & Fin Chr 151:2517 O 26 '40

WETTING
Effects of the wettability of paper coating raw stock. G. Davidson. il Paper Tr J 110: 30-2 Je 13 '40
New method of determining the wettability of textile fibres. C. M. Blow and B. F. J. Moxon. diags Soc Chem Ind J 59:171-4 Ag '40; Abstract. Textile Col 63:42+ Ja '41
Wettability of highly polished metal surfaces by graphite hydrosols. R. Szymanowitz and B. H. Porter. R Sci Instr 11:230-1 Jl '40
Wetting characteristics of solid surfaces covered with adsorbed films. F. E. Bartell and K. E. Bristol. bibliog diags J Phys Chem 44:86-101 Ja '40

WETTING agents
Aerosol wetting agents, their properties and their uses. C. A. Sluhan. il Chem Ind 47: 284-6 S '40
Application of wetter water to dairy and milk plant use; abstract. F. M. Scales and M. Kemp. Food Ind 11:710 D '39
Demonstration of wetter water. C. R. Caryl. il J Chem Educ 17:468 O '40
Industrial uses of chemicals and related materials; dodecysulphonylglycin. Oil Paint & Drug Rep 136:33 D 4; 30D D 11 '39
Industrial uses of chemicals and related materials; dodecylsulphonyl-methyltaurin. Oil Paint & Drug Rep 138:42 Jl 15 '40
Industrial uses of chemicals and related materials; sodium beta-N-dodecylphenoxyethyl phosphate. Oil Paint & Drug Rep 137:33 F 5 '40
Industrial uses of chemicals and related materials; sodium betaparaphenylphenoxyethylphosphate. Oil Paint & Drug Rep 137:36 My 6 '40
Inhibition of bacterial metabolism by synthetic detergents. B. F. Miller and Z. Baker. bibliog Science 91:624-5 Je 28 '40
Performance of packed towers; experimental studies of absorption and desorption; effect of wetting agents and paraffin-coated packing. T. K. Sherwood and F. A. L. Holloway. Am Inst Chem Eng Trans 36:30-3 F '40
Sulfonated arylstearic acids; wetting properties of the sodium salts. A. J. Stirton, R. F. Peterson and P. H. Groggins. bibliog Ind & Eng Chem 32:1136-7 Ag '40
Surface tension of plating solutions. D. S. Hartshorn, jr. il Metal Finishing 38:476-8 S '40
Treatment of wood with aqueous solutions; effect of wetting agents. A. J. Stamm and W. H. Petering. bibliog Ind & Eng Chem 32:809-13 Je '40
Use of wetting agents for allaying coal dust in mines. I. Hartmann and H. P. Greenwald. bibliog U S Bur Mines Information Circ 7131:1-12 '40
Wetting agents, their structure, characteristics, and uses. C. A. Sluhan. bibliog Paper Tr J 111:26-31 Ag 22 '40

WHALE oil
Norway-Japan whale oil output up. Oil Paint & Drug Rep 137:3+ Ap 29 '40
Norway's whale oil production increases. Ind & Eng Chem News ed 18:407 My 10 '40
Whale oil; an economic analysis. K. Brandt. 264p bibliog(p241-51) $3 Stanford univ. press '40
Whale oil production. Economist 138:786 Ap 27 '40

WHALING
Lo, the poor whale! R. C. Murphy. Science 91:373-6 Ap 19 '40

WHARVES
Extensions to the port of Beira. il diags plan Engineer 169:411-13, 418 My 3 '40
Restoring historic wharf at Salem, Mass. O. S. Bray. il Civil Eng 10:105-7 F '40
Steel sheet pile wharf at Rimouski, Quebec. J. P. Carriere. il diags Civil Eng 9:707-10 D '39
Wharf, Providence, R.I.; unit prices. Eng N 124:672 My 9 '40

See also
Docks
Harbors
Loading and unloading—Ships
Piers

WHARVES, Concrete
Quelques innovations dans le domaine des travaux publics; murs de qual. R. Christiani. il diags Soc Ing Civils Mémoires 92: 421-39 Jl-D '39
Wharf gets 600 new piles through old deck at Long Beach, Calif.; drilling 18-in. holes through reinforced concrete; steel H-beams as replacement piles. il diag Eng N 123:750-2 D 7 '39

WHEAT
Cold and still dry; winter wheat gets scant benefit from snow. Business Week p20+ F 10 '40
Department of agriculture announces 1940 wheat loan program averaging 64 cents a bushel. Comm & Fin Chr 150:3286-7 My 25 '40
Étude de la synérèse du gluten de froment. E. Baron. Chimie & Ind 43:277-82 F 20 '40
Influence of relative air humidity and anaerobiosis on freshly harvested wheat grains; abstract. V. L. Kretovich, A. I. Sokolova and E. N. Ushakova. Food Ind 12:90 Ag '40
Moisture and temperature affect quality of milling products; abstract. G. Brückner. Food Ind 12:91 Ja '40

WHEAT—*Continued*
Polyploidy in soybean, pea, wheat and rice, induced by colchicine treatment. P. S. Tang and W. S. Loo. Science 91:222 Mr 1 '40
Pre-sprouted wheat. Business Week p40 Mr 30 '40
Soft winter wheat flours; their laboratory evaluation and commercial application. G. Garnatz. Can Chem & Process Ind 24:255-6 My '40
Tariff commission investigation respecting wheat and wheat products. Comm Rep p118 F 3 '40
Uncle Sam corners wheat; federal loan program holds grain off market and flour millers are paying premium prices in Kansas City in the midst of world oversupply. Business Week p59-60+ O 5 '40
Vacuum conditioner improves flour milling; abstract. K. Mohs. Food Ind 12:91-2 Ja '40
Varieties of triticum vulgare practically immune in all stages of growth to stem rust. R. F. Peterson, T. Johnson and M. Newton. Science 91:313 Mr 29 '40
What about wheat? Business Week p51-2 Jl 20 '40
Wheat's 1940 prospects. N. C. Murray. Barron's 20:20 Ja 15 '40
Winter wheat; drought creates serious situation. Science 91:sup6+ Ja 12 '40
Winter wheat outlook poor. Barron's 19:6 D 11 '39
World wheat planning and economic planning in general. P. de Hevesy. 912p bibliog(p871-83) $12 Oxford '40
World's wheat supply. E. C. Davis. Science 91:sup9 Je 14 '40

See also
Bran
Flour

Analysis

Analyses of western Canadian wheat. J. A. Anderson and T. R. Aitken. Can Chem & Process Ind 23:573-4, 576+ N '39
Quantitative analysis of plant tissues for lithium by the ramage flame spectrographic method; wheat seedlings. N. L. Kent. il diag Soc Chem Ind J 59:148-53 Jl '40
Thiochrome method for the estimation of aneurin, with a survey of the aneurin content of wheats. R. G. Booth. bibliog Soc Chem Ind J 59:181-4 Ag '40

Diseases and pests

Black stem rust of wheat. F. Thone. Science 91:sup10-11 Ap 26 '40

Prices

Chicago wheat futures, 1939. Annalist 55:148 Ja 25 '40
Price of wheat and the gold value of sterling, 1259-1939; chart showing effect of various wars. Annalist 56:71 Jl 18 '40

Statistics

Agricultural department's report on acreage of winter wheat and rye sown for 1940 crop. Comm & Fin Chr 149:4059-60 D 23 '39
Argentina and Canada are largest exporters of wheat in current marketing year. Comm & Fin Chr 150:4110 Je 29 '40
Domestic wheat supply in 1940-41. Comm & Fin Chr 150:3428 Je 1 '40
European wheat crop reported 20% below 1939. Comm & Fin Chr 151:2270 O 19 '40
Exports, wholesale prices, etc, 1936-1939. Survey of Cur Business 1940 Sup p107-8 [supplemented in monthly numbers]
Grain in 1939. Economist 138:sup28 F 17 '40
Secretary of agriculture Wallace reports wheat carryover held down to 254,000,000 bushels by exporting 118,000,000 bushels. Comm & Fin Chr 150:188 Ja 13 '40
U.S. wheat outlook. Barron's 20:6 Mr 11 '40
Wheat rises on war buying but corn lags; new wheat crop to be under domestic needs. Annalist 55:148-9 Ja 25 '40
Wheat situation affected by many uncertainties, says Bureau of agricultural economics. Comm & Fin Chr 150:755 F 3 '40
Wheat supply for 1940 sufficient to meet world demands. Comm & Fin Chr 149:3938 D 23 '39
World wheat trade above last season, but United States share less than a year ago. Comm & Fin Chr 150:3234 My 18 '40

Transportation

More for the transportation dollar; revolution in freight service. il Ry Age 108:892-4 My 25 '40
Railroads ready to move winter wheat crop. Ry Age 108:874 My 18 '40

Canada

Analyses of western Canadian wheat. J. A. Anderson and T. R. Aitken. Can Chem & Process Ind 23:573-4, 576+ N '39
Big wheat crop plagues Canada. Business Week p48 S 21 '40
Canada has large wheat surplus. Comm & Fin Chr 151:2270 O 19 '40
Canadian wheat carryover to top 550,000,000 bushels or one whole year's crop. S. L. Miller. Annalist 56:435-6 O 3 '40
Too much wheat. Business Week p45 Ag 3 '40

Saskatchewan

Wheat economy. G. E. Britnell. 259p $2.50 Univ. of Chicago press '39

WHEAT flour. See Flour

WHEAT germ oil
Attempts to produce tumors in rats by feeding crude wheat germ oil made by prolonged ether extraction. H. Blumberg. bibliog Pub Health Rep 55:531-7 Mr 29 '40

WHEATSTONE bridge
Balanced direct-current amplifier for alternating-current operation. R. Stair and I. F. Hand. diag R Sci Instr 11:257-9 Ag '40
Insulation resistance tests; Megohm bridge developed by General radio co. il diags Power Pl Eng 44:59-60+ Je '40
Precision conductivity bridge assembly. W. F. Luder. bibliog diags Am Chem Soc J 62:89-95 Ja '40
Voltage control with a non-linear Wheatstone bridge; incandescent lamp forms basis of circuit. W. Richter. diags Electronics 13: 20-1+ Je '40

WHEELBARROWS
Welded steel wheelbarrows. il Mass Transportation 36:14 Ja '40

WHEELER, Richard Vernon, 1883-1939
Sketch. Chem & Ind 58:1089-90 D 16 '39
Sketch. H. F. Coward. Chem Soc J p573-5 Ap '40

WHEELING & Lake Erie railway
Equipment trust certificates sold. Comm & Fin Chr 151:2813 N 9 '40
Traffic and transportation statistics and income account, 1936-39. Comm & Fin Chr 150:3224 My 18 '40

WHEELS

See also
Automobiles—Wheels
Car wheels
Flywheels
Gearing
Grinding wheels
Locomotives—Wheels
Motor trucks—Wheels
Pulleys
Turbines

WHEELS, Steel
How the snow cruiser wheels were made. Mach 46:132-3 F '40

Manufacture

Paints 400 wheel disks hourly; equipment degreases, dip paints, drains, dries and bakes; Geneva metal wheel co. il diag Steel 107: 48+ Ag 26 '40

WHEY
Proteins in whey; abstract. M. Sorenson and S. P. L. Sorenson. Food Ind 12:90 Ag '40
Whey as a source of vitamins and vitamin products. G. C. Supplee. Ind & Eng Chem 32:238-40 F '40

WHISKY
Battle over a bottle; feud between Schenley and National Distillers. Business Week p32 O 26 '40
Cost-minded distribution wins national market in twelve months; Merchants distilling corporation. M. B. Frank. il Ptr Ink 190:11-14, 75-8 Mr 15 '40

WHISKY—*Continued*
Liquor industry. P. Dobbs. il Mag of Wall St 66:36-7+ Ap 20 '40
New private whisky; package liquor stores of New York bring out own brand line. Business Week p27-8 Ag 17 '40
Scotch whisky. P. Valaer. bibliog il Ind & Eng Chem 32:935-43 Jl '40
War hits Scotch. Business Week p18+ Jl 6 '40
See also
Distilleries
Distilling industries

Advertising
Mail order saga of spiritus frumenti, R.F.D. M. Rollins. Adv & Sell 32:44, 46 D '39

Statistics
Whiskey production, revision; monthly, 1934-June, 1940. Fed Res Bul 26:857 Ag '40

WHISKY bottles. See Bottles

WHISTLES
Oscillating sound signal. Marine Eng 45:80 Ap '40
Warning sirens; prevention of trouble from snow and ice. P. d'E. Stowell. diag Elec R (Lond) 126:65 Ja 19 '40

WHITE, Ambrose H. 1868-
Testimonial luncheon. Paper Tr J 110:9 Je 20 '40

WHITE, Lazarus, 1874-
Sketch. por Civil Eng 9:750-1 D '39

WHITE
Effect of particle shape of white pigments on opacity; acicular zinc sulfide in the form of wurtzite. H. A. Depew and A. C. Eide. bibliog il diag Ind & Eng Chem 32:537-40 Ap '40
Paint color control; use of the spectrophotometer E. A. Zahn. Metal Ind 38:172-5 Mr '40
Use of color measuring instruments in the manufacture of uncoated paper. M. N. Davis. Paper Tr J 111:40-4 O 3 '40
See also
Lithopone

WHITE House conference on children in a democracy. See Child welfare

WHITE lead
Improved white lead. Sci Am 162:26 Ja '40

WHITE metals
Adhesion of white metal to bronze. K. Ray. il diags Engineer 170:sup[Metallurgist] 131-3 O 25 '40

WHITE motor company
Fast moving low price stocks; thumbnail appraisal. Mag of Wall St 65:234 D 2 '39
Stocks favored in new market phase; thumbnail appraisal. Mag of Wall St 66:111 My 4 '40

WHITE water. See Paper mills—Waste

WHITEFIELD, New Hampshire

Hotels
Mr Dodge's dilemma; Mountain View house. il Fortune 22:70-6, 78, 80 Jl '40

WHITEHORSE fauna. See Paleontology—Permian

WHITEWARE. See Porcelain; Pottery

WHITING, Justin R. 1886-
Commonwealth & Southern's new head. por Barron's 20:8 Jl 22 '40

WHITING
Refractometer studies on rubber-pigment mixtures. H. C. Jones. Ind & Eng Chem 32:331-4 Mr '40

WHITNEY POINT, New York
Whitney Point dam. S. E. Hunkin. il Cornell Eng 5:8-11 F '40

WHOLESALE trade
See also
Jobbers

Employees
Coverage of wholesale and retail trade under wage and hour law. Monthly Labor R 50:1457-8 Je '40

Statistics
Bad-debt loss survey, 1939, wholesalers and manufacturers; comparisons with 1938. A. L. Skinner, W. N. Lawrence and G. R. Smith. Survey of Cur Business 20:8-26 Jl '40; Same abr. Credit & Fin Management 42:22-5+ Ag; 12-15, 40-4 S '40
1939 was good wholesaling year; with table of estimated sales by kind of business, 1929 thru 1939. J. H. Stehman. Credit & Fin Management 42:14-15+ Ap '40
Survey of business trends, 1939; sales and inventories; final report. Dun's R 48:5-16 My '40
Survey of business trends, 1939; sales and inventories; preliminary report. il Dun's R 48:10-19 Mr '40
Volume of wholesale trade in first nine months, 1939. Comm & Fin Chr 149:3175 N 18 '39
Wholesalers' sales and inventories, by industry and geographic regions, January 1940. Credit & Fin Management 42:46-7 Mr '40 [cont monthly]
Wholesaling and the wholesaler. A. Haring. Ann Am Acad 209:39-45 My '40

WICHITA, Kansas

Water supply
Improvements to Wichita water supply. R. E. Lawrence. diags plan map Am Water Works Assn J 32:1321-38 Ag '40; Abstracts. Eng N 124:665 My 9 '40; Water Works & Sewerage 87:212-13 My '40; Discussion. W. D. Moore. Am Water Works Assn J 32:1338-40 Ag '40
New water supply for Wichita. R. E. Lawrence. il maps Civil Eng 10:555-8 S '40; Discussion. P. L. Brockway; S. W. Lohman. 10:725 N '40
Wichita makes cast-iron water line history. il map Eng N 125:214-18 Ag 15 '40

WICKARD, Claude R. 1893-
Nominated secretary of agriculture. Oil Paint & Drug Rep 138:3 Ag 26 '40

WICKHAM, Sir Henry
Sir Henry Wickham cleared as smuggler; did not smuggle Hevea rubber seeds out of Brazil. Rubber Age 46:382 Mr '40

WIEN effect
Dependence of conductance on field strength; tetrabutylammonium bromide in diphenyl ether at 50°. D. J. Mead and R. M. Fuoss. Am Chem Soc J 62:1720-3 Jl '40

WIJS reagent
Wijs iodine method. J. W. McCutcheon. Ind & Eng Chem Anal ed 12:465 Ag 15 '40
Wijs iodine numbers for conjugated double bonds; influence of sample-reagent ratio. W. C. Forbes and H. A. Neville. Ind & Eng Chem Anal ed 12:72-4 F 15 '40

WILD life
Cooperative investigations of the relation between mosquito control and wildlife conservation. Science 92:201-2 Ag 30 '40
Large mammals of the Great Plains; size of area necessary to prevent domestication. V. E. Shelford. Science 90:591-2 D 22 '39
See also United States—Fish and wildlife service

WILDERNESS areas
Landscape design in the primeval environment. G. Eckbo, D. U. Kiley and J. C. Rose. il Arch Rec 87:74-9 F '40

WILHELMSHAVEN, Germany

Harbor
Air force targets in Germany. il map Engineer 170:92 Ag 9 '40

WILKES-BARRE, Pennsylvania

Rapid transit
Wilkes-Barre turns to trolley buses. il map Transit J 84:89 Mr '40

WILKINSON, John
SAE presents life membership to founder. pors S A E J 45:sup23 Ja '40

WILLEMITE
Behavior of willemite under electron bombardment. E. R. Piore and G. A. Morton. il diag J Ap Phys 11:153-7 F '40
Observations on the dark current of a willemite crystal. R. C. Herman and R. Hofstadter. Phys R 57:936 My 15 '40

WILLIAMS, Albert Nathaniel, 1888-
Six managers. por Fortune 22:54-5 Ag '40

WILLIAMS, Edward R.
Continuous casting. T. W. Lippert. Iron Age 145:36-7 Ap 4 '40

WILLIAMS Deacon's bank, limited
Annual meeting of the shareholders, Manchester. Economist 138:177-8 Ja 27 '40

WILLIAMSON heater company
Democracy in management; how Williamson makes it work; all junior executives share in formulating general management policies and in administering them. W. L. McGrath and L. B. Murphy. il Sales Management 47: 18-20+ Ag 1 '40

WILLIAMSPORT, Pennsylvania
Salvaging the lost generation; Williamsport, Pa. plan. A. T. Winecoff. Nation's Business 28:108-9 Mr '40

WILLIMANTIC, Connecticut
Family income and expenditure in five New England cities, 1935-36; v. 1, Family income. A. D. H. Kaplan, F. M. Williams and D. McCamman. U S Bur Labor Statistics Bul 645:1-351 '39

WILLKIE, Wendell Lewis, 1892-
Addresses at Coffeyville, Kan., the Chicago stock yards, and at Los Angeles Memorial coliseum. Comm & Fin Chr 151:1663, 1664 S 21 '40
At last! a candidate who understands selling. Am Business 10:41 Jl '40
Candidate and the platform; important planks in the Republican platform with corresponding declarations by Mr. Willkie. Barron's 20:4 Jl 1 '40
Elwood, Ind. cashes in on Willkie. Business Week p20+ Ag 10 '40
Final pleas of Republican candidate. Comm & Fin Chr 151:2745 N 9 '40
Fortune forum of executive opinion; Roosevelt and Willkie. Fortune 22:72-3 S '40
Fortune survey. Fortune 22:65-7+ O; 71-8 N '40
Fortune survey; the presidency. Fortune 22: supp 1-2 Ag '40
How about Willkie? por Mag of Wall St 66: 138-9 My 18 '40
Man of the hour. por Power Pl Eng 44:64-5 Ag '40
Next president must be Willkie. R. W. Davenport. por Fortune 22:68-71+ O '40
Opens eastern campaign. Comm & Fin Chr 151:1983-4 O 5 '40
Pledges work for unemployed in Seattle address. Comm & Fin Chr 151:1828 S 28 '40
Presents recovery program. Comm & Fin Chr 150:2196 Ap 6 '40
Proposes six-point program for rebuilding American business; criticizes foreign policy; declares freedom and independence of labor are essential. Comm & Fin Chr 151:2129-31 O 12 '40
Public power policy. Elec W News ed 114: 923 S 28 '40
Republican presidential nominee, to make acceptance speech Aug. 17; several prominent democrats join his campaign. Comm & Fin Chr 151:492 Jl 27 '40
Resigns from Commonwealth and southern corp. in preparation for presidential campaign. Comm & Fin Chr 151:45 Jl 6 '40
Roosevelt on defense for first time as Willkie drive begins to click. E. Blair. Barron's 20:4 O 21 '40
Secretary Ickes replies to Wendell Willkie's acceptance speech. Comm & Fin Chr 151: 1080 Ag 24 '40
Speech accepting Republican presidential nomination; text. Comm & Fin Chr 151:1077-80 Ag 24 '40
This is Wendell Willkie; a collection of speeches and writings on present-day issues. W. Willkie. 280p $2.50 Dodd '40
20,000 Willkie fans go by rail to Elwood ceremonies. il map Ry Age 109:279-80 Ag 24 '40
United States should fill all of allies' needs; aside from troops. Comm & Fin Chr 150: 3448-9 Je 1 '40
Utility man selected as nominee for presidency. por(cover) Elec W News ed 114:3 Jl 6 '40
Wendell L. Willkie; his liberal youth, training, emergence, principles. Fortune 21:46-7 Ap '40
Wendell L. Willkie of New York nominated for president at Republican national convention. Comm & Fin Chr 150:4061-2 Je 29 '40
Wendell Lewis Willkie. Comm & Fin Chr 151:13-14 Jl 6 '40
What I would do as president; political and economic philosophy. A. R. Pinci. por Barron's 20:8+ Je 17 '40
What Wendell Willkie believes. Nation's Business 28:27-8, 30, 32 O '40
Why I can't vote for Wendell Willkie. C. Benedict. Mag of Wall St 67:74-5+ N 2 '40
Willkie addressing himself to middle-roaders, his Elwood speech shows. E. Blair. Barron's 20:4 Ag 26 '40
Willkie candidacy, boom or bouquet? H. Corey. Pub Util 25:771-8 Je 20 '40
Willkie shifts the issues. por Business Week p15-16 Jl 6 '40

WILLS
Avoiding problems of estate and trust administration; proper draftsmanship. R. A. Jones. Trusts & Estates 70:263-70 Mr '40
Construction of wills; powers of appointment, charging general legacies, rule against perpetuities. W. H. Gambrell. Trusts & Estates 70:275-9 Mr '40
Division of death taxes among beneficiaries; providing for payment in will. T. W. Chrystie. Trusts & Estates 69:537-8 N '39
Errors of draftsmanship; some common faults revealed by litigation. W. W. Gager. Trusts & Estates 70:641-3 Je '40
Estates practice guide. H. I. Harris. 1181p $12 Baker, Voorhis & co, New York '39
Everything to my wife is mistaken kindness; estates should be left in trust. R. J. Holden. Trusts & Estates 70:355-9 Ap '40; Excerpts. Bankers M 140:531 Je '40
Law of wills. W. D. Rollison. 827p $6 Callaghan '39
Practical guide for checking wills. W. Kennedy. Trusts & Estates 71:75-9 Jl '40
Practical problems in the preparation of wills. C. A. Harding. 2d ed rev, expanded and newly annot 40p pa $1 Prentice-Hall '40
Theobald on the law of wills. H. S. Theobald. 9th ed lxxxiip, 842p 42s Stevens and sons, London '39
To will or not to will [a short collection of unusual types of wills]. J. E. Bright. 72p $2 Dennis & co, 269 Main st, Buffalo, N.Y. '39
Trust officer's will. Trusts & Estates 70:404 Ap '40
What proof necessary to establish lost will. Trusts & Estates 70:227-8 F '40
White wife loses, Indians get fortune; will of Jackson Barnett, world's richest Indian. Trusts & Estates 70:229 F '40
Why should I make a will? W. H. Sinclair. 10p pa 30c William H. Sinclair, 1142 Glendon av, Los Angeles '40
Wills of the month. Published in monthly numbers of Trusts & estates

See also
Estates (law)
Executors and administrators
Inheritance and succession
Probate law
Probate records

WILLYS-OVERLAND motors, Inc.
Buying into Overland; Elisha Walker and associates acquire equity in holding company. Business Week p57 Ap 27 '40
Prospects for 1940. J. W. Frazer. Comm & Fin Chr 150:512 Ja 27 '40
Willys doubles sales volume by dramatizing dependability. il Sales Management 46:22-4 Je 1 '40

WILMINGTON, Delaware

Rapid transit

Riding gains, 21%, vehicle-mile cost down since street cars in Wilmington were replaced by trolley coaches. il Transit J 84: 221 Je '40

Through the storm in trolley coaches. Transit J 84:130 Ap '40

WILMINGTON, Illinois

Defense comes to Main Street; Wilmington, Ill. a case study of government-sponsored industry. il Business Week p20, 22-4+ N 2 '40

WILNO, Poland. See Vilna

WILSON, Arthur John, 1884-

Three Wilsons, two chemists and a prospect. Ind & Eng Chem News ed 18:537 Je 25 '40

WILSON, Charles Edward, 1886-

G.E.'s third generation; Wilson and Reed; replace Owen D. Young and Gerard Swope. por Fortune 21:68-9+ Ja '40

Reed and Wilson named to head General electric co. Elec W News ed 112:1513-14 N 25 '39; por Barron's 19:12 D 4 '39; Business Week p15 N 25 '39

WILSON, Charles Erwin, 1890-

General Motors' acting president. por Barron's 20:5 Je 17 '40

WILSON, Robert Erastus, 1893-

R. E. Wilson heads oil defense set-up. por Nat Pet N 32:8-10 Je 26 '40

Wilson receives chemical industry medal for 1939. por Ind & Eng Chem News ed 17:697 N 20 '39; Nat Pet N 31:R541 D 13 '39

WILSON and company, incorporated

Annual report. Comm & Fin Chr 150:449 Ja 20 '40

Thumbnail stock appraisal. Mag of Wall St 67:104 N 2 '40

WILT, Christian, 1790-1819

Pioneer merchant of St Louis, 1810-1820. Sister Marietta Jennings. 219p bibliog(p203-10) $2.50 Columbia univ. press '39

WINCHES, Electric

Handling cargo on the Exporter. A. O. Loomis. il Marine Eng 44:564-5 D '39

WINCHESTER, Massachusetts

Unified center succeeds in eastern town; the Locatelli building. il plan Arch Rec 87:111-13 Je '40

WIND. See Winds

WIND gaps

Geomorphology of the Catoctin belt. K. Ver Steeg. map Am J Sci 238:685-709, pl 1 O '40

WIND instruments

How to make double-reeds for oboe, English horn, and bassoon. J. Artley. 38p pa $1 H. & A. Selmer, Elkhart, Ind. '40

See also

Flute

Manufacture

C. G. Conn ltd.; band instrument manufacturer has unit heater and exhaust systems. F. A. Westbrook. il diags Heat & Ven 37:39-40 Je '40

Finishing band instruments. F. K. Savage. il Metal Ind 38:132-6 Mr '40

WIND insurance. See Insurance, Tornado

WIND pressure

How to anchor against storm damage. J. A. Newlin. il Am Bld 62:45+ S '40

Simplified wind-stress analysis of tall buildings. O. Gottschalk. diag Am Soc C E Proc 64:2023-32 D '38; Discussion. 65:729-30, 1081-6; 66:651-65 Ap, Je '39, Ap '40

Stability of a kiln stack. T. W. Garve. diags Am Cer Soc J 23:152-6 My '40

Superstructure of theme building of New York world's fair. S. Hardesty and A. Hedefine. il diags Am Soc C E Proc 66: 1277-1316 S '40

Wind design procedure; report of Am. Soc. C. E. committee on wind bracing in steel buildings. diags Eng N 124:175 F 1 '40

Wind pressure on structures. G. E. Howe. bibliog Civil Eng 10:149-52 Mr '40

WIND tunnels

Airfoil section data obtained in the N.A.C.A. variable-density tunnel as affected by support interference and other corrections. E. N. Jacobs and I. H. Abbott. bibliog U S Nat Advisory Com for Aeronautics 1939: 507-38 '40

Boundary layer and wake survey measurements in flight and in the wind tunnel. L. B. Rumph, jr. and R. Schairer. bibliog il diags J Aeronautical Sci 7:425-33 Ag '40

Le Centre d'études d'aéronautique de Guidonia (Italie). il diag Génie Civil 115:370-2 N 18 '39

Closed-return type 42-inch wind tunnel at the Polytechnic institute of Brooklyn. R. P. Harrington. il diags Aero Digest 35:46-8+ D '39

Development of instruments for the study of air distribution in rooms. A. P. Kratz, A. E. Hershey and R. B. Engdahl. diags plans Heating-Piping 12:559-66 S '40

Experimental aerodynamics. H. C. Pavian. 168p bibliog(p141) $2.50 Pitman '40

Free-spinning wind-tunnel tests of a low-wing monoplane with systematic changes in wings and tails; effect of center-of-gravity location. O. Seidman and A. I. Neihouse. bibliog il diags U S Nat Advisory Com for Aeronautics 1939:599-618 '40

Hamilton Standard's facilities for testing propellers. il Aero Digest 36:50+ Je '40

Interference of tail surfaces and wing and fuselage from tests of 17 combinations in the N.A.C.A. variable-density tunnel. A. Sherman. bibliog il diags U S Nat Advisory Com for Aeronautics 1939:689-98 '40

Les laboratoires d'aérodynamique de la Société Hispano-Suiza. J. Valensi. il diags Soc Ing Civils Mémoires 91:935-46 N '38

Northrop wind tunnel. E. Wilson. il Aviation 39:46-7 O '40

Snow drift control by highway design; result of wind tunnel investigations. E. A. Finney. il Roads & Sts 83:45-8 Mr '40

Tests in the variable-density wind tunnel of the N.A.C.A. 23012 airfoil with plain and split flaps. I. H. Abobtt and H. Greenberg. bibliog U S Nat Advisory Com for Aeronautics 1939:373-81 '40

Tests of a gust-alleviating flap in the gust tunnel. P. Donely and C. C. Shufflebarger. il diag Roy Aeronautical Soc J 44:283-94 Mr '40

Tests of N.A.C.A. 0009, 0012, and 0018 airfoils in the full-scale tunnel. H. J. Goett and W. K. Bullivant. bibliog il diags U S Nat Advisory Com for Aeronautics 1939: 97-106 '40

Wind-tunnel investigation of an N.A.C.A. 23012 airfoil with various arrangements of slotted flaps. C. J. Wenzinger and T. A. Harris. bibliog diags U S Nat Advisory Com for Aeronautics 1939:423-53 '40

Wind-tunnel investigation of N.A.C.A. 23012, 23021, and 23030 airfoils with various sizes of split flap. C. J. Wenzinger and T. A. Harris. bibliog diags U S Nat Advisory Com for Aeronautics 1939:493-505 '40

WINDAUS, Adolf, 1876-

Sketch. R. E. Oesper. por(front) J Chem Educ 17:499 O '40

WINDBREAKS

See also

Forest shelter belt project

WINDING

Hints on winding. A. King, jr. Textile World 90:86-7 Ag '40

See also

Reels

WINDING machines

Constant control rubber thread covering machine. H. B. Ahlberg and C. E. Buote. il diags Rubber Age 46:232-4 Ja '40

New reel for strip. W. W. McBane. il diag Steel 106:50+ Ja 15 '40

Winder output up, less fatigue; Cynthia mills. il Textile World 89:103-4 N '39

Winding-shop practice. il Elec R (Lond) 126:653-5 Je 21 '40

WINDINGS. See Electric generators, Alternating current—Windings; Electric generators, Direct current—Windings; Electric machinery—Windings

WINDOW blinds. See Blinds

WINDOW cleaning

Safety devices and measures

Danger on the window sill; risks of the window cleaner's job. E. R. Granniss. il Nat Safety N 41:18-19, 58+ Ap '40

Men who let in light; window cleaner, how efficient is his protective equipment? D. C. Robinson. il Nat Safety N 42:70-1+ O '40

WINDOW display. See Show windows

WINDOW sashes

Galvanizing steel sash. W. G. Imhoff. il Steel 106:47-8 Ja 8 '40

New life for old steel sash. S. B. Bingham. il diags Factory Management 98:75-7 Je '40

WINDOW shades

Control of natural light in schoolrooms; relative effectiveness of Venetian blinds, cloth shades, and Aeroshades for daylight control. L. H. Brown. il plan Illum Eng Soc Trans 34:606-20 Je '39; Discussion. Illum Eng 35:249-57 Mr '40

Joanna grows up; Joanna textile mills co., Goldville, S.C.; makers of shade cloth. il Textile World 90:52-3 Ap '40

Shades and awnings cut cooling costs. il Sheet Metal Worker 31:94+ Ja '40

WINDOW sills, Concrete

Why reinforce sills? il Rock Prod 43:92 Ag '40

WINDOWLESS construction

Allison division; air conditioned windowless factory. il diag plan Heat & Ven 37:44-8 S '40

Allison division, General motors corporation, Speedway, Ind.; plant manufacturing airplane engines. il plans Arch Rec 87:91-5 F '40

Controlled comfort for workers; Simonds saw and steel company. il Sci Am 162:19 Ja '40

Daylight impractical for store lighting; Sears, Roebuck & company retail store in Los Angeles. il Elec W 114:270 Jl 27 '40

Dual system solves operating room problems; windowless design permits basement location, Jewish hospital, Cincinnati. H. N. Hermann. il diags Refrig Eng 39:224-6 Ap '40

Fluorescent lamps illuminate windowless factory; Simonds saw & steel co. G. K. Simonds. il Elec W 112:1744-5+ D 16 '39

How air conditioning serves industry; general offices of All-steel-equip co. il Heating-Piping 12:647-9 N '40

Industrial plant air conditioning and the national defense program. W. L. Fleisher. Heating-Piping 12:646 N '40

Low-cost single-unit plant for Kansas utility. G. A. Mills. il diags plans Elec W 113:274-7 Ja 27 '40

Sears, Roebuck light a store; retail store in Los Angeles a windowless structure. il Elec West 83:43 D '39

Store building for Sears, Roebuck and co. Los Angeles; with construction outline. il diags plans Arch Forum 72:70-6 F '40

Windowless buildings for moderate-sized companies; All-steel equip co., Aurora, Ill. il Business Week p22 O 5 '40

Windowless plant for Diesel engines; Buda company. il plans Eng N 125:602-4 N 7 '40

WINDOWS

Aluminum and steel members in new window system, South vocational high school, Pittsburgh. il diags Arch Rec 87:46 Ja '40

Dental office has unique fenestration. il diag plan Arch Rec 88:38-9 Jl '40

Design for daylight. il diags Arch Forum 73: 43-8 Jl '40

Glass for A.R.P. purposes. Engineering 148: 618 D 1 '39

How to reduce sun heat through windows. C. Strock. map tables Heat & Ven 36:35-40 D '39

New house units; view windows. il diags plans Arch Rec 87:67-72 F '40

New warehouse has unique sawtooth-window system; Pittsburgh plate glass co.'s warehouse and offices, Washington, D.C. il diag plan Arch Rec 88:46-7 Ag '40

Protection of windows against air-raid damage. Engineering 150:275-7 O 4 '40

Stepped window ledge and terrace in brick. H. Sibley. il diags Am Bld 62:64 N '40

Sun heat transmission of single windows; reference data. Heat & Ven 37:54a-54b My '40

Sunshine is wonderful, outdoors; reducing solar heat through windows; sun screen made of fine mesh bronze. L. Avery. plan Heating-Piping 12:477-9 Ag '40

War decoration of window fronts; with adhesive paper. il Glass Ind 21:67 F '40

Windows in this enginehouse are of glass blocks. il diags Ry Age 109:512-15 O 12 '40

See also
Glass
Ships—Windows
Show windows
Windowless construction

Size

Standard windows; sizes sponsored by USHA. Business Week p36 Ja 20 '40

WINDS

Control of gases in the wake of smokestacks. R. H. Sherlock and E. A. Stalker. il diag Mech Eng 62:455-8 Je '40

Currents of the Pacific ocean and their bearing on the climates of the coasts. H. U Sverdrup. maps Science 91:273-82 Mr 22 '40

Outwitting the wind; use of wind simulator in pilot training. J. D. Mountain. il diags Aviation 39:34-5+ Mr '40

See also
Hurricanes
Insurance, Tornado
Tornadoes
Wind pressure

WINDSHIELD wipers

See also
Motor buses—Windshield wipers

WINDSHIELDS

Super P.C.C. cars for St Louis; windshield glare eliminated. il Mass Transportation 36: 151 Jl '40

WINDSOR, Ontario

See also
Motor bus lines—Windsor, Ontario

WINE

Control of the so-called biological decomposition of acids in wine; abstract. H. Schanderl. Food Ind 12:96-7 Mr '40

Grapes, raisins & wines; a survey of world production, consumption, and trade. 408p U.S. Tariff commission, Washington; 60c Supt. of doc. '39

Grossman's Guide to wines, spirits & beers. H. J. Grossman. 404p bibliog(p388-9) $5 Sherman & Spoerer, 130 W. 46th st, New York '40

Martinis menaced. Business Week p48 Jl 27 '40

Sherry-flavored wine made from foxy grapes. Food Ind 12:92+ Je '40

Whisky has new foe. Business Week p26-7 Je 1 '40

Advertising

Wine men glow; national advertising drive is followed by 20% jump in sales of California product. Business Week p44-5 D 16 '39

WINERIES

Abandoned winery transformed to a house. il plans Arch Rec 87:106-8 My '40

WINGS, Airplane. See Airplane wings

WINKING

Summary of researches involving blink-rate as a criterion of ease of seeing. M. Luckiesh and F. K. Moss. bibliog Illum Eng 35:19-32 Ja '40

WINNEBAGO, Lake, Wisconsin

Tastes and odors in Lake Winnebago water. Pub Works 71:18 Jl '40

WINNETKA, Illinois
City manager government in Winnetka. D. G. Monroe and H. O. Wilson. 61p pa 50c Public administration service, 1313 E. 60th st, Chicago '40

WINSOR, Frank Edward, 1870-1939
Sketch. K. R. Kennison and C. G. Richardson. N E Water Works Assn J 53:532-6 D '39
Two memorials. Civil Eng 10:323 My '40

WINTER
Seasonal variation in reactions to hot atmospheres. F. C. Houghten, A. A. Rosenberg and M. B. Ferderber. il Heating-Piping 12:139-42 F '40

WINTER business
Check on winter. Sales Management 47:68 Ag 1 '40
20-point checklist that will help in preparing winter advertising. G. Bijur. Ptr Ink 192: 21-3 Ag 23 '40

WINTER construction
Das bauen im winter, ein mittel zur leistungssteigerung. H. Kruschwitz. V D I 83:1204-5 N 11 '39
Gas provides heat for new building construction. W. F. Powers. il Am Gas Assn Mo 22:344 O '40
New York builds temporary heating load for buildings under construction. W. F. Powers. il Gas Age 85:29-30 Mr 28 '40
Panhandle Eastern enlarges system; pipe laying in winter. J. S. Stevenson. il Gas Age 85:27+ Mr 14; 44-5+ My 9 '40
Shop built panels to outwit winter; Whyte construction co., Fair Lawn, N.J.; with TruCost figures. J. B. Mason. il diags plans Am Bld 62:42-6+, 89-90 N '40

See also
Concrete construction in winter

WINTER sports

See also
Skis and skiing

WIRE
Mechanism of magnetisation; the effect of surface treatment on the magnetic quality of Armco iron wire. T. F. Wall. diags Engineer 169:342-3 Ap 12 '40
Plain wire, Pittsburgh, prices, 1929-1939; tabulation. Steel 106:290 Ja 1 '40
Visibility of a thin wire. H. M. Reese. Opt Soc Am J 29:519 D '39

See also
Electric wire
Trolley wire
Wire rope

Manufacture

Electric enameling cuts wire costs. Elec W 113:322 Ja 27 '40
Metallurgical control in the Fourdrinier wire industry. D. C. Dilley. bibliog il Metals & Alloys 11:50-5, 77-81 F-Mr '40
Platinum-clad metals for sheet, screen, tubing and wire. F. E. Carter. il Steel 106: 54-5+ Mr 18 '40
Radically new method of annealing wire reduces costs and increases output; Syncro machine co, cooperates with Surface combustion corporation. il Mach 46:272-3 D '39
Roll planishing mill cuts wire coating loss. il Iron Age 144:50 N 23 '39

See also
Wire drawing machines
Wire forming machines

Testing

Micrographs and characteristics of specimens of unfabricated wire, farm field fence, and barbed wire. il Am Soc T M Proc 39:103-55 '39

WIRE, Aluminum
Law of magnus in single-crystal aluminum wires. W. Y. Ma and W. Band. Phys R 58: 479-80 S 1 '40
Rolling and drawing of wire from alloys of the 24S type; abstract. A. T. Bundin. Metals & Alloys 12:536 O '40

WIRE, Copper
Causes of corrosion of fine copper wires carrying a potential. H. N. Stephens and G. B. Gehrenbeck. Elec Eng 59:Trans 357-60; Discussion. Trans 360 Je '40
Dustless and sliverless wire. W. H. Bassett, jr. il diags Iron Age 146:36-9 S 5 '40

Manufacture

Conductor properties tested in production line; copper thickness, ductility, strength of copper-to-steel weld, electrical conductivity and elongation tested in every coil of Copperweld wire. il diag Elec W 112:1604-5 D 2 '39
Copper conductor defects; origin in various process stages. J. E. Deering. il diags Elec R (Lond) 125:576 N 3 '39
Modern wire drawing; Spencer wire co. il Elec R (Lond) 126:389-91 Ap 5 '40

WIRE, Steel
Endurance of valve springs. A. Oreffice. Metal Prog 36:759 D '39
Steel stitching; a new high-speed assembly process. il diags Product Eng 11:148-51 Ap '40
Substitute for Swedish rods and wire is perfected here. J. K. Beeson. Steel 107:176 O 14 '40

See also
Wire rope

Manufacture

Brief resumé of special cold heading wire requirements; abstract. A. M. Reeder. Metals & Alloys 11:MA197 Ap '40
Continental steel corporation's Kokomo plant. C. Longenecker. il layouts Blast F & Steel Pl 28:58-68 Ja '40
Correlation of the factors and effects of cold drawing of wire rods; abstract. S. A. Braley. Metals & Alloys 11:MA131 Mr '40
Electrogalvanizing of wire. E. H. Lyons, jr. il Electrochem Soc Trans 78 (preprint 2): 25-36 O '40
Fine wire from Buffalo; mill of Wickwire Spencer steel co. W. A. Phair. il Iron Age 144:36-9 N 30 '39
Jones & Laughlin produces spring wire by an electric direct resistance method. il Automotive Ind 83:264 S 15 '40; Iron Age 146: 84+ S 19 '40; Steel 107:56 S 2 '40; Am Mach 84:789-90 O 2 '40; Blast F & Steel Pl 28:1006 O '40
New records for Copperweld Steel. E. H. Barnes. il Mag of Wall St 66:626-7+ S 7 '40
New wire mill; Wickwire Spencer steel co. il Steel 105:44-5+ D 11 '39
Producing steel to meet physical test requirements. C. H. Herty, jr. Iron Age 145:53-4 My 23 '40; Same. Blast F & Steel Pl 28: 667-8 Jl '40

Testing

Beeinflussung der lebensdauer wechselbeanspruchter teile durch ruhepausen. K. Daeves, E. Gerold and E. H. Schulz. Stahl & Eisen 60:100-3 F 1 '40

WIRE, Tungsten
Thermionic constants of tungsten as a function of crystallographic direction. M. H. Nichols. bibliog il diags Phys R 57:297-306 F 15 '40

WIRE association
Annual meeting, Cleveland, Oct. 21-25. Steel 107:27+ O 28 '40

WIRE cloth
Metallurgical control in the Fourdrinier wire industry. D. C. Dilley. bibliog il Metals & Alloys 11:50-5, 77-81 F-Mr '40
New method developed for tinning brass gauze. Steel 107:130 S 16 '40

Statistics

Wire cloth (brass, bronze, and alloy), 1936-1939. Survey of Cur Business 1940 Sup p138 [supplemented in monthly numbers]

WIRE drawing
As it was in 1915 and as it is in 1940. K. B. Lewis. Metal Prog 37:317 Mr '40
Self-lubricating wire. Iron Age 145:45 Ap 25 '40; Same. Mach 46:129 Ag '40

WIRE drawing machines
Modern wire drawing; Spencer wire co. il Elec R (Lond) 126:389-91 Ap 5 '40

WIRE fences
Continental steel corporation's Kokomo plant. C. Longenecker. il layouts Blast F & Steel Pl 28:58-68 Ja '40

WIRE forming machines
Federal machine unit straightens wire then forms and welds hoops automatically. il Am Mach 84:437-8 Je 12 '40
Intermittent gear mechanism; wire fabricating machine. L. Kasper. diags Mach 46: 195-6 Jl '40
Pivoted holder for cam follower rolls provides unusual reciprocating motion. L. Kasper. diag Mach 46:152 Ja '40
Polymatic high-speed wire-forming and cutting-off machine. il Mach 46:142 Ag '40
Reversing mechanism for chain-driven table; wire fabricating machine. L. Kasper. diags Mach 46:121-2 Je '40
Reversing transfer mechanism; wire fabricating machine. L. Kasper. diags Mach 47:121-2 S '40
Spring tension varied automatically on a wire-forming machine. L. Kasper. diags Am Mach 84:509-10 Jl 10 '40

WIRE rope
Copper mine's wire rope practice. Eng & Min J 141:57 Jl '40
Drum and sheave design; effect of diameter ratio factors on life of wire ropes. F. L. Spangler. Product Eng 11:13-15 Ja '40
If your wire rope gives short service, know why. F. L. Spangler. Steel 107:48-9+ Jl 22 '40
Improving service from hoist ropes. F. L. Spangler. Min Cong J 26:19-20 Jl '40
Increasing rope life by salvage on draglines and shovels. F. L. Spangler. Coal Age 45: 62+ Ag '40
Inspection and maintenance of mine hoisting ropes. L. C. Ilsley and M. Mosier. il diags U S Bur Mines Tech Pa 602:1-27 bibliog (p26-7) '39; Abstract. Safety Eng 79:27 Mr '40
Lowdown on 6 x 19 wire rope; types of lays and applications. A. S. Rairden. il diags Power 84:284-5+ My '40
Maintenance of wire ropes on lifts and hoists. J. B. Booth. Mech Handling 26:326-7 N '39
Mechanical equipment; handling material. il Nat Safety N 41:57-8 Mr '40
More detailed data needed on hoist rope service. F. L. Spangler. il Min Cong J 26:42 Ap '40
Quieting the nerves in the sinews of industry; preformed wire rope. F. L. Spangler. il Manuf Rec 109:52+ Mr '40
Safer service from wire rope. R. B. Williams. il Paper Ind 22:360-1 Jl '40
Sheave design and wire rope economy. F. L. Spangler. il Eng N 124:15-18 Ja 4 '40
Slusher ropes. J. J. Fitzgerald. il Min Cong J 26:45-6 F '40
Steel wire hoist ropes; results of investigations. Mech Handling 27:61-2 Mr '40
Survey of wire-rope practice yields interesting facts. F. S. McNicholas. Eng & Min J 141:44-5 My '40
What is this preformed wire rope? F. L. Spangler. Roads & Sts 83:64-5 O '40
Wire rope for construction. il Eng N 124: 734-40 My 23 '40
Wire rope for slusher operation. F. L. Spangler. il Nat Safety N 41:65 Ap '40
Wire rope inspection. W. E. Rossnagel. il Power Pl Eng 44:72 Mr; 72-3 My '40
Wire rope tackle blocks; ratio of lead pull to load when lifting and ratio of lead retarding force to load when lowering; reference book sheet. A. V. Rasmussen. Product Eng 11:145-6 Mr '40

Failure
Cable break drops bridge into Rio Grande; suspension bridge between Hidalgo, Texas and Reynosa, Mexico. il Eng N 123:672 N 23 '39
Dangers from secondhand wire rope. Safety Eng 78:36 D '39

Lubrication
Electrically heated strand-dipping tank for manufacturing wire rope; tar lubricant. F. J. Mahr. il Gen Elec R 43:320-1 Ag '40
Lift maintenance. D. T. Anderton. diags Mech Handling 27:13-14 Ja '40
Separate wires in a rope need lubrication as much as the bearings in a machine. F. L. Spangler. il Brick & Clay Rec 97:34 S '40
Wire ropes; chief cause of deterioration. Mech Handling 26:322 N '39

Protection
Holds crane ropes from bridge conductors. F. L. Spangler. Foundry 68:59 S '40

Specifications
Recommended wire rope lines for road construction and maintenance equipment. il Roads & Sts 83:54-5 Mr '40

Standards
Saves by standardizing wire rope. W. W Rusch. Factory Management 98:94 My '40

Testing
800-ton hydraulic testing machine. il diags Engineering 150:201-3, 210 pl 14 S 13 '40
Investigation into the permissible load-carrying capacity of steel wire ropes for hoisting with special reference to deep-level winding on the Witwatersrand goldfields. J. J. P. Dolan and W. G. Jackson. bibliog diag Inst Mech Eng J & Proc 142:Proc 225-60 Ja '40

WIRE rope fastenings
Electroline-Fiege improved wire rope connector. il Marine Eng 45:84 O '40

WIRE stitching machinery
Steel stitching; a new high-speed assembly process. il diags Product Eng 11:148-51 Ap '40

WIRE tapping
Department of justice prohibits use of wire tapping in obtaining evidence. Comm & Fin Chr 150:2018 Mr 30 '40
U.S. Supreme court extends prohibition of use of wire-tapping evidence in federal criminal trials. Comm & Fin Chr 149:3799-800 D 16 '39

WIRELESS. See Radio communication and other headings beginning Radio

WISCONSIN
Wisconsin; a story of progress. W. F. Raney. 554p $5.35; school ed $4 Prentice-Hall '40

See also
Electric utilities—Wisconsin
Insurance, Unemployment—Wisconsin
Labor laws and legislation—Wisconsin
Population—Wisconsin

Politics and government
People's lobby; 1939 Wisconsin legislature felt force of drive. W. A. Freehoff. Nation's Business 28:70+ O '40

Public service commission
Wisconsin telephone case; Wisconsin Supreme court finds Commission's orders unlawful. M. G. Glaeser. J Land & Pub Util Econ 16:37-46 F '40

WISCONSIN central railway
Earnings, 1936-39. Comm & Fin Chr 150:3224 My 18 '40
Wisconsin Central in comeback. A. Jansen. Barron's 20:19 O 7 '40

WISCONSIN committee on statistics
Wisconsin committee on statistics. E. W. Morehouse. Am Statis Assn J 35:483-8 S '40

WISCONSIN electric power company
SEC limits state jurisdiction over security issues of local utilities. A. R. Colbert. Pub Util 26:149-58 Ag 1 '40; Reply. J. N. Frank. 26:259-71 Ag 29 '40

WISCONSIN-Michigan power company
Preferred stock offered. Comm & Fin Chr 149:3885-6 D 16 '39

WISCONSIN telephone company
Wisconsin telephone case; Wisconsin Supreme court finds Commission's orders unlawful. M. G. Glaeser. J Land & Pub Util Econ 16:37-46 F '40

WISCONSIN university

Memorial union
Theater and art center; views, plans, construction outline. Arch Forum 73:49-54 Jl '40

WISE, Edmund Merriman
Sketch. por Min & Met 21:456 O '40

WITCH of Agnesi. See Curves, Plane

WITHERITE
Barium has many uses in industry. L. Sanderson. Can Min J 61:658-9 O '40
Properties and applications of witherite. Engineering 150:208 S 13 '40
Witherite in case hardening; abstract. J. M. Noy and L. G. Bliss. Metals & Alloys 11:MA197 Ap '40

WITNESSES
See also
Evidence (law)
Expert evidence

WITTMAN, Andrew
Andrew Wittman, discoverer of zinc. E. W. Blank. J Chem Educ 17:92-3 F '40

WITWATERSRAND. See Gold mines and mining—Transvaal

WOAD
Last of the woad mills. il Engineering 148: 689-90 D 22 '39

WOLF awards. See Package goods

WOLFF, John Eliot, 1857-1940
Sketch. C. Palache. Science 92:189-90 Ag 30 '40

WOMAN
Creative personalities; v. 2, Women leaders. P. H. Lotz, ed. 149p $1.25 Assn. press, New York '40
See also
Advertising—Women, Appeal to
Insurance, Life—Women as prospects

Biography
Bibliography
Women: fifteenth century to date; a chronological list of selected biographies with annotations and a vocational summary. M. E. Covington. 12 numb l pa 25c Am. assn. of univ. women, Washington, D.C. '39

Employment
Comparative earnings and hours of men and women, March 1939. Monthly Labor R 50: 76-8 Ja '40
Comparative earnings and hours of women and men, September 1939. Monthly Labor R 50:628-30 Mr '40
Comparative earnings and hours of women and men, March 1940. Monthly Labor R 51:640-2 S '40
Comparison of the gainfully occupied population by sex and age in the various countries of the world. Int Labour R 41:541-50 My '40
Earnings and hours of working women in Utah. Monthly Labor R 50:630-4 Mr '40
Earnings in the women's and children's apparel industry in the spring of 1939. A. T. Sutherland. U S Women's Bur Bul 175:1-91 '40; Abstract. Monthly Labor R 51:901-7 O '40
Economic status of university women in the U.S.A. S. M. Kingsbury. map U S Women's Bur Bul 170:1-70 '39; Abstract. Monthly Labor R 50:345-9 F '40
Effective industrial use of women in the defense program. U S Women's Bur Special Bul 1:1-22 '40; Abstract. Monthly Labor R 51:564-7 S '40
Employed women and family support. M. E. Pidgeon and M. T. Mettert. U S Women's Bur Bul 168:1-57 '39; Review. Monthly Labor R 50:1-5 Ja '40
Employment of women after marriage. Monthly Labor R 50:78-82 Ja '40
Employment of women workers during the war; various countries. bibliog Int Labour R 40:795-807 D '39
Hiring and retention of married women. Management R 29:227-8 Je '40
Hours and earnings in certain men's wear industries; raincoats, sport jackets. U S Women's Bur Bul 163-5:1-29 '40
Hours of employment of women and young persons in factories in Great Britain. Int Labour R 41:608-13 Je '40
Job histories of women workers at the summer schools 1931-34 and 1938. E. M. Snyder. U S Women's Bur Bul 174:1-25 '39
Wartime requisitioning of woman workers in France. R. D. Murphy. Monthly Labor R 50:1373-4 Je '40
Woman wage earner; her situation today. E. D. Benham. U S Women's Bur Bul 172: 1-56 '39
Women and munition work. V. Holmes. Engineering 149:407-9 Ap 19 '40
Women at work; a century of industrial change. U S Women's Bur Bul 161:1-80 '39
Women in wartime in Germany. E. A. Dow. Monthly Labor R 50:1147-50 My '40
Worktime of women and young persons in British factories. Monthly Labor R 50: 1150-2 My '40
See also
European war, 1939—Women's work
Home labor
Married women
Millinery workers
Servants
Stenographers
Women as chemists
Working women

Occupations
After hours; a woman in advertising. P. M. Lowe. Ptr Ink 192:6 Ag 23 '40
Little woman in business; how wife helps husband. E. B. Wheat. Elec West 84:36 Ap '40
Messenger girls trained for bank careers. S. Ware. il Nation's Business 28:88-90 Ap '40
New Mexico's woman marketer digs sales from desert; Mrs Blanche Nowlin, oil marketer. il Nat Pet N 32:41-2 Jl 31 '40
She loves her job; agency secretary. Ptr Ink 189:13-14 D 8 '39
Woman terminal manager also finds time to sell; I. Bragg, manager of Terminal oil company. Nat Pet N 32:31-3 Ja 3 '40
See also
Business women
Insurance, Life—Agents—Women agents
Insurance agents—Women agents
Office workers
Servants
Women as chemists

Germany
Women in wartime in Germany. E. A. Dow. Monthly Labor R 50:1147-50 My '40

WOMAN suffrage
Victory; how women won it; a centennial symposium, 1840-1940. 174p bibliog(p155-6) $1.25 Wilson, H.W. '40

WOMEN as chemists
Mary Engle Pennington, an appreciation. A. Pierce. Ind & Eng Chem News ed 18:941-2 N 10 '40
Symposium on training and opportunities for women in chemistry. E. L. French and others. J Chem Educ 16:574-94 D '39
Women chemists in industry. W. S. Landis. J Chem Educ 16:577-9 D '39

WOMEN as executives
Job security in the retail field; executives in department stores. Management R 29:18-19 Ja '40

WOMEN as lawyers
Women as patent attorneys. E. Hunter. J Chem Educ 16:589-90 D '39

WOMEN as physicians
Women physicians and surgeons; national and international organizations. E. P. Lovejoy. 246p $2 Am. women's hospitals, 50 W. 50th st, New York '39

WOMEN as purchasers
American women are sincere friends of American business. A. S. Richardson. Ptr Ink 191:11-14+ My 31 '40
Womanpower in St Paul; what a city did to rebuild and revitalize itself and its business life. il Sales Management 46:69-70 My 15 '40

WOMEN'S apparel
Statistical study of the drawing power of cities for retail trade. J. A. Pfanner, jr. J Business 13:1-79 pt 2 Ap '40

See also
Brassieres

WOMEN'S apparel shops
Florida store has 4 shops in 1; Miami Beach branch, Saks. il diags plan Arch Rec 88:37-41 Ag '40
Le Bas-Lillian, New York; view, plans, finishes and equipment. Arch Forum 71:434 D '39
Ninth I.E.S. prize competition; women's wear shop. il plans Illum Eng 35:311-20 Ap '40

See also
Dress shops

WOMEN'S gas council
Annual meeting, London, April 23. Gas J (Lond) 230:248+ My 1 '40

WOMEN'S magazines. See Advertising mediums—Women's magazines

WOMEN'S shops. See Women's apparel shops

WOOD
Advances in the chemistry of wood, 1938-1939. F. H. Yorston. Pulp & Pa of Can (Convention no) 41:144-8 bibliog(54 references, p147-8) [F] '40
Chemistry of wood; the esters and ethers of the water soluble polysaccharides of larch wood. F. C. Peterson and others. Am Chem Soc J 62:2361-5 S '40
Contributions to chemistry of plant cell wall; behavior of very thin wood sections treated with 72 per cent sulphuric acid and Schweitzer's reagent. W. M. Harlow. il Paper Ind 22:150 My '40
Grossdeutschlands holzversorgung. W. Storck. V D I 84:190-3 Mr 16 '40
Holzverbundbauweisen im luftschraubenbau. K. Riechers. il diag V D I 84:339-42 My 18 '40
Hydrogenation of wood. H. P. Godard, J. L. McCarthy and H. Hibbert. Am Chem Soc J 62:988 Ap '40
Inspection of wood. W. E. Rossnagel. il Power Pl Eng 44:73-5 O '40
Purified wood cellulose. G. A. Richter. il Ind & Eng Chem 32:324-8 Mr '40
Revised data on wood properties; woods grown in United States and Canada. Pulp & Pa of Can 41:341-2 Ap '40
Revival of wood as a building material. bibliog il diags Arch Rec 86:63-72 D '39
Size of a knot. J. A. Newlin. il Am Soc T M Proc 39:444-6 '39
Studies on lignin and related compounds; fractionation of acetylated cell wall constituents of red oak wood. Q. P. Peniston, J. L. McCarthy and H. Hibbert. bibliog Am Chem Soc J 62:2284-8 S '40
Study of the chemical composition of wood smoke. A. E. J. Pettet and F. G. Lane. bibliog diag Soc Chem Ind J 59:114-19 Je '40; Abstract. Chem & Ind 59:258 Ap 13 '40
Transverse heat conductivity of wood. F. F. Wangaard. il diag Heating-Piping 12: 459-64 Jl '40
What wood may add to primary insulation for withstanding lightning. J. T. Lusignan, jr. and C. J. Miller, jr. diags Elec Eng 59:Trans 534-40 S '40
Wirtschaftliche holzbauten in der kali-industrie; abstract. Trysna. Chemische Fabrik 13:174-5 My 18 '40
Wood and rayon. Rayon 21:492 Ag '40
Wood as a chemical raw product; latest developments in sugar and alcohol production. D. Brownlie. Chem & Ind 59: 671-5 S 28 '40
Wood for chemical equipment; physical properties, makers of equipment. Chem & Met Eng 47:612 S '40
Wood hazards; abstract. W. E. Rossnagel. Safety Eng 79:33 My '40
Wood in the chemical industry; its use for storage purposes; methods of impregnation; abstract. R. Quarendon. il Chem Age (Lond) 42:327 Je 15 '40

See also

Bridges, Wooden	Pavements, Wood
Cellulose	Pine
Cypress	Plywood
Douglas fir	Redwood
Forestry research	Spruce
Forests and forestry	Trees
Gumwood	Water pipes, Wood
Hard woods	Wood construction
Lignin	Wood preservation
Lumbering	Wood pulp

Analysis
Chemical nature of Douglas fir lignin. E. B. Brookbank and F. E. Brauns. bibliog Paper Tr J 110:33-5 F 1 '40
Composition of hemicellulose isolated from maple wood. R. L. Mitchell and G. J. Ritter. bibliog Am Chem Soc J 62:1958-9 Ag '40
Determination of moisture in native and processed cellulose; titrimetric determination using Karl Fischer reagent. J. Mitchell, jr. bibliog Ind & Eng Chem Anal ed 12:390-1 Jl 15 '40
Determination of water in wood. R. D. Gibbs. bibliog diags Pulp & Pa of Can 41:31-4 Ja '40
Holocellulose in wood; TAPPI tentative standard T 9 m-40. Paper Tr J 110:27 My 30 '40
Structure of the ethanolysis products from spruce and maple wood. L. Brickman and others. Am Chem Soc J 62:986 Ap '40
Studies on lignin and related compounds; identification of vanillin and vanilloyl methyl ketone as ethanolysis products from spruce wood. L. Brickman, W. L. Hawkins and H. Hibbert. Am Chem Soc J 62:2149-54 Ag '40
Studies on lignin and related compounds; occurrence of the guaiacyl and syringyl groupings in the ethanolysis products from various plants. A. S. MacInnes and others. bibliog Am Chem Soc J 62:2803-6 O '40
Yield and viscosity of holocellulose and some of its cellulosic fractions. W. G. Van Beckum and G. J. Ritter. bibliog Paper Tr J 109:107-9 N 30 '39

See also
Cellulose—Analysis

Bibliography
Literature of wood and wood technology. A. J. Bailey. Paper Tr J 109:97-104 N 30 '39

Decay
Balsam fir butt rot in relation to some site factors. C. Heimburger and A. W. McCallum. Pulp & Pa of Can 41:301-3 Mr '40
Decay in insect-killed spruce in Gaspé. C. G. Riley. Pulp & Pa of Can 41:611-12 Ag '40
Deckenschüttung und schwammbefall in gebäuden. H. Zycha. V D I 84:86-7 F 3 '40
Deterioration in piled pulpwood. C. G. Riley. Pulp & Pa of Can 41:450 Je '40
Investigations of the wood-rotting fungi; biological methods; abstract. W. P. K. Findlay. Chem & Ind 59:95 F 10 '40
Investigations of wood destroying fungi; chemical methods; abstract. J. H. Birkinshaw and R. A. Webb. Chem & Ind 59: 95-6 F 10 '40
Nachweis des holzabbaus durch holzzerstörende pilze. B. Schulze. il V D I 83: 1306-7 D 23 '39
Railroad tie decay; comprising The decay of ties in storage, by C. J. Humphrey; Defects in cross ties, caused by fungi, by C. A. Richards. 55p bibliog(p37) $2 American wood-preservers' assn, 1427 Eye st, N.W., Washington, D.C. '39
X-ray pole inspection a new engineering tool. M. Zucker. il Elec W 113:882-5+ Mr 23 '40

See also
Wood preservation

WOOD—*Continued*

Fireproofing

See Fireproofing

Moisture content

Determination of water in wood. R. D. Gibbs. bibliog diags Pulp & Pa of Can 41:31-4 Ja '40

Shrinking and swelling

Treatment of wood with aqueous solutions; effect of wetting agents. A. J. Stamm and W. H. Petering. bibliog Ind & Eng Chem 32:809-13 Je '40

Testing

Comparing the relative effectiveness of water-repelling and retarding solutions in wood; a laboratory method. E. E. Hubert. Ind & Eng Chem Anal ed 12:197 Ap 15 '40

Controlled-stress test of plank. W. E. Rossnagel. diags Eng N 124:647 My 9 '40

Tests on wood poles; determining shock and fire risks. G. T. Garwood. il Elec R (Lond) 126:423-5 Ap 12 '40

Water absorption

Treatment of wood with aqueous solutions; effect of wetting agents. A. J. Stamm and W. H. Petering. bibliog Ind & Eng Chem 32:809-13 Je '40

WOOD, Fossil. See Petrified wood; Trees, Fossil

WOOD alcohol. See Methanol

WOOD as fuel

Efficient burning of wood. diags Mech Eng 62:322-3 Ap '40

Fuel logs from lumber waste; Presto-log. J. Van Jon. Barron's 20:5 Jl 22 '40

How Rae Comeau disposes of refuse wood and bark, burns it to generate steam. E. J. Calnan. il diag Paper Ind 22:47-8 Ap '40

Pouvoir calorifique des bois et de leurs principaux constituants. G. Bertrand and G. Brooks. Génie Civil 115:423-4 D 9 '39

Wood fuel may have a comeback. Business Week p36-8 Ja 6 '40

See also

Boilers—Wood firing

Prices

Retail prices in certain countries in October 1939 in 35 countries (food and heating). Int Labour R 41:428-33 Ap '40

WOOD carving

Design and figure carving. E. J. Tangerman. 289p bibliog(p282-3) $4 McGraw-Hill '40

Practical wood-carving projects. E. Bell. 111p $2 Harper '40

WOOD construction

Building a hangar with limited funds. G. H. Hansen. il diag Aero Digest 37:83-4 O '40

Certigrade Californian; a 1940 headliner in home design; with construction outline and TruCost figures. il plans Am Bld 62:62-3 Mr '40

Erect company barracks building in three hours; reprinted from ENR Sept. 20, 1917. Eng N 125:434 O 3 '40

Experience in maintenance of large timber structures; temporary buildings of the Golden Gate international exposition. J. J. Gould. diags Eng N 125:240-2 Ag 15 '40

Heat flow through sunlit wood frame walls; reference data. C. O. Mackey and L. T. Wright, jr. Heat & Ven 37:58a-58b Jl '40

House, modernly styled in wood for the Puget Sound demonstration; view, plans, TruCost figures. Am Bld 62:58-9, 126 Mr '40

Housing the new army. il diags plans Eng N 125:537-41 O 24 '40

Interesting use of pine in small chapel. il Am Bld 62:82 O '40

Low-cost plank wall and roof system developed by California builders; cottage sold for $2,650. il plan Am Bld 62:56 S '40

Modern timber construction. C. Pantke. bibliog il diags Mech Eng 61:791-8 N '39; Discussion. 62:160-1 F '40

New panel-size plywood siding demonstrated on Oregon home. il diags plan Am Bld 62: 60-1 O '40

Plywood and laminated timber construction. I. D. S. Kelly. il diags Civil Eng 10:25-8 Ja '40

Revival of wood as a building material. bibliog il diags Arch Rec 86:63-72 D '39

Small commercial structure in Seattle is designed for all-wood construction; modern treatment of sales and warehouse building. il diags plan Am Bld 62:74-5 Je '40

Speed and economy with plywood. C. R. Simmons. il Mod Plastics 17:23-5+ F '40

Structural properties of conventional wood-frame constructions for walls, partitions, floors, and roofs. G. E. Heck. bibliog il U S Nat Bur Stand Rep BMS25:1-23 '39

Timber arches for buildings; five highway equipment buildings; reinforced concrete buttresses support glued laminated timber arches. A. S. Friedman. il Eng N 124:847 Je 20 '40

Timber research and timber structures. I. D. S. Kelly. bibliog il Civil Eng 9:727-30 D '39

Timber trusses support roofs over 2½ acres of shops; Seattle-Tacoma shipbuilding corp. il diags Eng N 125:85 Jl 18 '40

Unique library for American Samoa; modern engineering principles effectively grafted onto an ancient architectural form. P. J. Halloran. il diags plan Civil Eng 9:734-7 D '39

Wood; new ideas and methods in wood construction and recent improvements in lumber. il diags plans map Am Bld 62:43-90 Ja '40

W.P.A. job-fabricates laminated wood arches; glued-up units span 48 foot University of Washington theater at low cost. il diag Arch Forum 73:197-8 S '40

See also

Arches, Wood
Bridges, Wooden
Floors, Wood
Plywood

Tables, calculations, etc.

Wood joist and rafter sizes; maximum spans; tabulations. Am Bld 62:62-3 Ja '40

WOOD cutting. See Lumbering

WOOD distillation

Acetic acid from wood distillation; Othmer process; pictured flow sheet. Chem & Met Eng 47:349-52 My '40

Domestic charcoal production; a new wood distillation retort. il Chem Age (Lond) 43: 67-8 Ag 10 '40

Exothermic decomposition temperature of sawdust; effect of mineral salts. J. L. McCarthy and E. C. Jahn. bibliog Ind & Eng Chem 32:1257-8 S '40

See also

Charcoal

WOOD dust

Dust explosion prevention in woodworking. D. J. Price. Weekly Underw 142:304-5 F 3 '40

Explosion hazards of wood dust; abstract. D. J. Price. Safety Eng 79:38 Mr '40

WOOD engraving

Graven image; an autobiographical textbook. J. Farleigh. 388p $3.75 Macmillan '40

Woodcuts & wood engravings: how I make them. H. A. Müller. 187p $9 Pynson ptrs, New York '39

WOOD finishing

Coloring, finishing and painting wood. A. C. Newell. 480p $4.50 Manual arts press '40

Wood finishing and painting made easy. R. G. Waring. 220p $2.75 Bruce pub. '40

See also

Lacquer and lacquering
Varnish and varnishing

WOOD floors. See Floors, Wood

WOOD grinders

Advances in grinding wood. G. Shipman and J. N. Stephenson. Pulp & Pa of Can 41:568-9 Ag '40

Effect of grinding consistency and temperature using a miniature grinder. H. Andrews. Pulp & Pa of Can (Convention no) 41:87-90 [F] '40

WOOD grinders—*Continued*
Effect of the wood-stone contact area in the groundwood process. E. R. Schafer and J. C. Pew. diags Paper Tr J 109:39-42 N 16 '39
New disintegrator of pulp wood chips. Paper Tr J 109:47 N 30 '39
Practical hints on mechanical pulping for newsprint. J. D. Brown. diags Pulp & Pa of Can (Convention no) 41:91-7+ [F] '40

WOOD handling
Better wood handling and preparation. A. N. Ball and G. J. Lane. il Pulp & Pa of Can 41:553-6 Ag '40
Sectional steel chutes for pulpwood. J. L. Kelly. il diags Pulp & Pa of Can 41:294-6 Mr '40

WOOD oil
See also
Palm oil
Tall oil
Tung oil

WOOD pavements. See Pavements, Wood

WOOD preservation
Arsenic salts for preserving wood. Chem Age (Lond) 42:347 Je 29 '40; Sci Am 163: 210-11 O '40
Can one preframe treated timber for bridges? G. H. Trout. Ry Age 108:242-3 F 3 '40
Detection and elimination of termites in railway structures; American railway bridge and building association committee report. Ry Age 109:640 N 2 '40
Fluorine compounds as wood preservatives. D. Steinherz. bibliog Can Chem & Process Ind 23:601 D '39
Handling gum lumber. G. R. Smiley. Ry Age 108:243-4 F 3 '40
Lumber company adds complete creosoting unit. il Manuf Rec 109:43 O '40
New industrial applications for metallic naphthenates. J. S. Trevor. Chem Ind 45: 661 D '39
New wood-preservative mixture is recommended. G. Abrahamson. Ind & Eng Chem News ed 18:197 Mr 10 '40
Pentachlorophenol for wood preservation. T. S. Carswell and I. Hatfield. bibliog il Ind & Eng Chem 31:1431-5 N '39
Protective treatment for green poles; copper sulphate and sodium arsenate. Comp Air M 45:6291 N '40
Redecking an old bridge with treated timber, paved with asphalt; Morrison Street bridge in Portland, Ore. il diags Eng N 124:20-2 Ja 4 '40
La réimprégnation sur place des poteaux de bois, au moyen de produits antiseptiques injectés par piqûres. Génie Civil 116:348 My 25 '40
Santa Fe secures large return from treated crossties. G. W. Harris. il Ry Age 108:320-4 F 17 '40
Still more diversified uses of treated timber. E. T. Howson. Ry Age 108:244+ F 3 '40
Untersuchungen über die aufnahmefähigkeit von holzschutzmitteln bei feuchtem holz; abstract. Ramstetter. Chemische Fabrik 13:175-6 My 18 '40
Volume of wood treated gains slightly in 1939. R. K. Helphenstine, jr. Ry Age 108: 1051-2+ Je 15 '40
What about producers' tie stocks? il Ry Age 107:955-61+ D 23 '39
Wood in the chemical industry; its use for storage purposes; methods of impregnation; abstract. R. Quarendon. il Chem Age (Lond) 42:327 Je 15 '40
See also
Creosote
Fireproofing
Paint, Protective
Varnish and varnishing

WOOD preservatives
Dermatitis venenata resulting from contact with an aqueous solution of ethyl mercury phosphate. F. J. Vintinner. il J Ind Hygiene 22:297-300 S '40

Testing
Canadian group tests pole preservatives. Elec W News ed 114:605 Ag 31 '40
Comparing the relative effectiveness of water-repelling and retarding solutions in wood; a laboratory method. E. E. Hubert. Ind & Eng Chem Anal ed 12:197 Ap 15 '40
Method of substituting pine sapwood for malt agar in culturing test fungi; testing the toxicity of preservatives in wood. E. E. Hubert. diag Science 91:247-8 Mr 8 '40
Toximetric method for oil-soluble wood preservatives. E. E. Hubert. bibliog Ind & Eng Chem Anal ed 12:139-41 Mr 15 '40
Treatment of wood with aqueous solutions; effect of wetting agents. A. J. Stamm and W. H. Petering. bibliog Ind & Eng Chem 32:809-13 Je '40

WOOD preservers' association, American. See American wood preservers' association

WOOD products
Cellulose and its by-products. W. B. Campbell. Pulp & Pa of Can 40:741-4 D '39
Fibre product of many uses, Masonite. J. N. Stephenson. il Pulp & Pa of Can 41:485-90+ Jl '40
Lignin and wood acquire new importance. J. L. McCarthy. il Pulp & Pa of Can 41: 601-5 bibliog(45 references, p605) Ag '40
New products from wood; Masonite products. J. A. Lee. il Chem & Met Eng 47:95-8 F '40
Plastics and chemicals from wood; Masonite products. R. M. Boehm. il Paper Tr J 110:35-8 My 2 '40
Wood as a chemical raw product; latest developments in sugar and alcohol production. D. Brownlie. Chem & Ind 59: 671-5 S 28 '40
See also
Alcohol
Cellulose

Bibliography
Literature of wood and wood technology. A. J. Bailey. Paper Tr J 109:97-104 N 30 '39

WOOD pulp
Advances in the chemistry of wood, 1938-1939. F. H. Yorston. Pulp & Pa of Can (Convention no) 41:144-8 bibliog(54 references, p147-8) [F] '40
Better bleach making and bleaching processes; paper and rayon pulp. S. Wang. Pulp & Pa of Can 41:565-8 Ag '40
Better wood handling and preparation. A. N. Ball and G. J. Lane. il Pulp & Pa of Can 41:553-6 Ag '40
Brown mechanical pulp from yellow birch. M. Kin and C. E. Libby. bibliog Paper Ind 22:675-6 O '40 (to be cont)
Canadian pulp and paper association, Woodlands section, 22d annual meeting, Montreal, Jan. 24-26. Pulp & Pa of Can (Convention no) 41:151-3, 155-6 [F] '40
Cellulose from the Australian tree casuarina; abstract. D. D. Bodé. Science 90:sup6 D 29 '39
Cellulose sheet swelling; effect of temperature and concentration of sodium hydroxide solutions. G. A. Richter and K. E. Glidden. bibliog il Ind & Eng Chem 32:480-6 Ap '40
Cellulose sheet swelling; effect of temperature, secondary reagents, and sheet physical properties on swelling in sodium hydroxide solutions. G. A. Richter and K. E. Glidden. il Ind & Eng Chem 32:1122-8 Ag '40
Chipper knives. C. P. Robinson. Paper Tr J 110:86-8 Je 27 '40
Color atlas for fiber identification. J. H. Graff. 27p col pl bds $12.50 Institute of paper chemistry, Appleton, Wis. '40
Cross sections of pulp fibers. J. H. Graff, M. A. Schlosser and E. K. Nihlen. il Paper Tr J 111:75-80 Ag 29 '40
Diameter variation in cellulose fibrils. A. J. Bailey and R. M. Brown. bibliog il Ind & Eng Chem 32:57-63 Ja '40
Douglas fir as a pulpwood; a modified sodium sulphite process. L. C. Haffner and K. A. Kobe. bibliog il Paper Tr J 111:93-8 Ag 29 '40
Drying rates for pulp. L. G. Green. bibliog Paper Tr J 110:37-9 My 23 '40
Economic possibilities of using high density wood. C. McMichael and R. J. McInnis. Pulp & Pa of Can (Convention no) 41:194-5 [F] '40

WOOD pulp—*Continued*
Effect of acid concentration and temperature schedule in pulping resinous woods. G. H. Chidester and J. N. McGovern. Paper Tr J 110:39-42 Mr 7 '40
Effect of the wood-stone contact area in the groundwood process. E. R. Schafer and J. C. Pew. diags Paper Tr J 109:39-42 N 16 '39
Hardwoods and the semichemical pulping process. C. E. Curran. Pulp & Pa of Can 41:665-8 S '40
Hydraulic problems of the pulp and paper industry. M. L. Edwards. il plan Mech Eng 62:665-9 S '40
Loblolly pine pulping qualities. J. S. Bethel. bibliog Paper Ind 22:358-9 Jl '40
Microdissection of paper pulp fibers. C. W. Hock and W. Seifriz. il diag Paper Tr J 110:31-2 F 1 '40
New setup in pulp; abstract. A. E. McMaster. Paper Tr J 110:17 Je 6 '40
Permanence of southern pulp mills. A. E. Wackerman. il Manuf Rec 109:32-3+ Mr '40
Pine pulpwood from logging tops; new use for a waste product. il Paper Tr J 109:28-9 D 28 '39
Plan to expedite wood pulp shipments; joint efforts of State department, German government and American importers of Scandinavian wood pulp. Paper Tr J 109:13 D 14 '39
Portable pulpwood slashers. E. E. Grainger. il diag Pulp & Pa of Can 41:297-300 Mr '40
La production et la consommation mondiales de la pâte de bois. P. Razous. Génie Civil 115:417-21 D 9 '39
Pulp and paper mill utilization of hardwoods and other little used species. K. D. Running. Pulp & Pa of Can (Convention no) 41:181-4+ [F] '40
Pulp and paper situation. Manuf Rec 109: 41+ My '40
Pulp from redwood mill waste. O. Wilson. Paper Tr J 111:20 Jl 4 '40
Pulp man's paradise; research on the Australian pine (casuarina) at University of Tampa. D. D. Bodé. il Manuf Rec 109:38+ Ja '40
Pulp, paper, and war. il Fortune 21:58+ Je '40
Pulping of Douglas fir with nitric acid. H. K. Benson and A. T. Walton. bibliog diags Paper Tr J 111:27-30 S 5 '40
Pulpwood cutting; technique and equipment. A. Koroleff. il Pulp & Pa of Can 41:406-10, 453-6, 458+, 503-7 My-Jl '40
Purified wood cellulose. G. A. Richter. il Ind & Eng Chem 32:324-8 Mr '40
Rayonier Fernandina water treatment plant; sea water regenerated zeolite units. E. Nordell and C. E. Richheimer. il Paper Tr J 110:47-9 Mr 21 '40
Rayonier, incorporated, Fernandina, Fla.; for manufacture of bleached sulphite pulp for paper and rayon purposes. il Paper Tr J 110:27-32 Mr 21 '40
Rayonier makes eastern debut; modern sulfite pulp mill at Fernandina, Florida. il Manuf Rec 109:25+ F '40; Rayon 21:73 F '40
Recent advances in the chemistry of lignin. F. E. Brauns. il Paper Tr J 111:33-9 O 3 '40
Recently developed sources of cellulose. L. G. S. Hebbs. bibliog Soc Dyers & Col J 55: 550-9 N '39
Relation of lignin content to the strength of paper and boards; preparation of pulps of different lignin content by chlorine dioxide. C. V. Holmberg and E. C. Jahn. bibliog Paper Tr J 111:33-6 Jl 4 '40
Some economic aspects of the use of sawmill waste for chemical pulp in Quebec and the maritime provinces. J. B. Prince and E. S. Fellows. Pulp & Pa of Can (Convention no) 41:185-90 [F] '40
Suitability of red pine for the manufacture of sulphite pulp. J. Studeny and C. E. Libby. il diag Paper Tr J 109:29-35 N 16 '39
Sulphate pulp production; Kraft corporation of America. flow sheet il Chem & Met Eng 46:727-30 N '39
Use of swamp black gum sulphate pulps for high grade papers. C. Carpenter and G. A. Ritter. Paper Tr J 110:29-31 Ja 18 '40
Wisconsin mills benefit by pulp scarcity. Paper Tr J 110:9+ Ja 11 '40
Wood pulp in Japan. Pulp & Pa of Can 41:751-2 O '40
Wood pulp situation becomes acute. Paper Tr J 110:7+ My 9 '40
Wood pulp supplies considered adequate. E. R. Stettinius, jr. Paper Tr J 111:9 S 5 '40
World dependent upon Scandinavia for pulp. J. Stadler. Paper Tr J 110:12 Ap 25 '40
See also
Paper
Paper making
Wood grinders
also Southern pulpwood conservation association

Analysis
Chemical and physico-chemical relationships of pulps. S. I. Aronovsky and E. C. Dryden. bibliog Paper Ind 22:253-6 Je '40
Effect of mechanical gelatinization on the solubility of wood in cuprammonium solution. J. Levy and E. C. Jahn. bibliog Paper Tr J 109:45-9 D 7 '39
Existence and nature of fiber membranes. H. F. Lewis, F. E. Brauns and M. A. Buchanan. Paper Tr J 110:36-8 F 1 '40
Hemi-cellulose extract of various rayon wood pulps. G. A. Richter, C. H. Goldsmith and K. E. Glidden. Rayon 21:26-7 Ja '40

Moisture content
Water retention of beaten and gelatinized pulp. A. Sedoff, C. V. Holmberg and E. C. Jahn. bibliog Paper Tr J 109:42-9 D 28 '39

Statistics
Active demand creates strong pulp market with 19 per cent rise in 1939. O. F. Swanson. Paper Tr J 110:42-6 F 22 '40
Exports and imports of wood pulp; new series; annually 1913-1927, and monthly Jan. 1934-Aug. 1940. Survey of Cur Business 20:13-14 O '40
Spread of war threatens pulp supply; with chart of domestic wood pulp production and imports, 1918-39. Barron's 20:1 Ap 15 '40
Wood pulp, 1936-1939. Survey of Cur Business 1940 Sup p142-3 [supplemented in monthly numbers]

Testing
Application of a quantitative technique to the evaluation of color stability of bleached pulps; influence of machine drying and natural aging upon this evaluation. J. W. McIntyre. Paper Tr J 109:29-37 D 14 '39
Coloring matter of kraft and its influence in bleaching. H. Schwartz, J. L. McCarthy and H. Hibbert. bibliog Paper Tr J 111:30-4 O 31 '40
Comparison of the cooking stain method and chemical methods for determining the bleachability of pulps. J. F. Hechtman and J. H. Graff. bibliog Paper Tr J 111:30-4 Ag 1 '40
Determination of the bleach requirement of wood pulp. C. M. Koon. bibliog Paper Tr J 111:34-6 Ag 8 '40
Drainage resistance of papermaking pulps. W. O. Hisey and C. H. Heigl. il Paper Tr J 110:34-40 F 8 '40
Effect of chipping on the suitability of wood for sulphite pulping. H. Green and F. H. Yorston. diags Pulp & Pa of Can (Convention no) 41:123-6 [F] '40
Effect of grinding consistency and temperature using a miniature grinder. H. Andrews. Pulp & Pa of Can (Convention no) 41:87-90 [F] '40
Effect of mechanical gelatinization on the solubility of wood in cuprammonium solution. J. Levy and E. C. Jahn. bibliog Paper Tr J 109:45-9 D 7 '39
Effect of white-water loss in the testing of mechanical pulp. W. S. Morris and R. de Montigny. Pulp & Pa of Can (Convention no) 41:107-12 [F] '40

WOOD pulp—Testing—*Continued*
Practical application of the classification of groundwood pulp. B. A. Koskinen. il Pulp & Pa of Can (Convention no) 41:132-8 [F] '40
Pulping of Douglas fir with ammonium bisulphite. H. K. Benson and J. E. Lucas. Paper Tr J 111:32-4 Ag 15 '40
Quality of groundwood. J. d'A. Clark. bibliog Paper Tr J 110:29-32 F 29 '40; Same. Pulp & Pa of Can 41:333-6+ Ap '40
Water retention of beaten and gelatinized pulp. A. Sedoff, C. V. Holmberg and E. C. Jahn. bibliog Paper Tr J 109:42-9 D 28 '39
Weight factors of beaten pulps. J. H. Graff. il Paper Tr J 110:37-40 Ja 11 '40

WOOD research
Advances in the chemistry of wood, 1938-1939. F. H. Yorston. Pulp & Pa of Can (Convention no) 41:144-8 bibliog(54 references, p147-8) [F] '40
Chemistry of lignin; the existence of a chemical bond between lignin and cellulose. A. J. Bailey. bibliog il Paper Tr J 110:29-34 Ja 4 '40
Report of the Division of industrial and cellulose chemistry, McGill university, to the Pulp and paper research institute. Pulp & Pa of Can (Convention no) 41:204+ [F] '40
Timber research; Forest products research laboratory. Engineering 149:92-3 Ja 26 '40

WOOD saccharification
Wood as a chemical raw product; latest developments in sugar and alcohol production. D. Brownlie. Chem & Ind 59:671-5 S 28 '40

WOOD siding. See Walls

WOOD using industries
See also
Furniture

WOOD waste
Cold storage insulating material from forest waste; redwood bark wool. N. C. Jones. Chem & Ind 59:69-70 F 3 '40
Lignin and wood acquire new importance. J. L. McCarthy. Pulp & Pa of Can 41:601-2 Ag '40
New plastic made from sawdust; lignin plastic. Business Week p29-30 D 23 '39
Pine pulpwood from logging tops; new use for a waste product. il Paper Tr J 109:28-9 D 28 '39
Plastic from sawdust. Mech Eng 62:235 Mr '40
Sawmill waste covers refuse fills. Eng N 123: 705 N 23 '39
Some economic aspects of the use of sawmill waste for chemical pulp in Quebec and the maritime provinces. J. B. Prince and E. S. Fellows. Pulp & Pa of Can (Convention no) 41:185-90 [F] '40
Utilization of industrial wastes. H. E. Howe and F. J. Van Antwerpen. il Ind & Eng Chem 31:1325 N '39
Utilization of waste lignin; current chemical research. E. E. Harris. bibliog il Ind & Eng Chem 32:1049-52 Ag '40
Waste wood destructor. il diags Engineer 170:220 O 4 '40
Wood coke for western steel. Chem Ind 46: 211 F '40
Wood waste disposal; Deane wood refuse destructor. il Electrician 125:64 Ag 2 '40; Elec R (Lond) 127:95 Ag 2 '40
See also
Sawdust
Wood as fuel

WOODARD, William E. 1873-
Honored as a modern pioneer. por Ry Age 108:419-20 Mr 2 '40

WOODHOUSE, William Bradley, 1873-1940
Sketch. por Engineer 169:337 Ap 5 '40

WOODRING, Harry Hines, 1890-
Portrait. Aviation 38:29 D '39

WOODS, Frederick Adams, 1873-1939
Sketch. C. B. Davenport. Science 90:607-8 D 29 '39

WOODS Hole oceanographic institution
Annual meeting of the Board of trustees. Science 92:233-4 S 13 '40

WOODWORK
Craftsmanship in wood. G. Blachford and R. H. Grant. 317p $3 Frederick Warne & co, New York '39
General shop woodworking. V. C. Fryklund and A. J. LaBerge. 2d ed rev 150p bibliog(p150) pa 80c McKnight & McKnight, Bloomington, Ill. '40
Modern projects in woodwork. J. H. Douglass and R. H. Roberts. new ed 128p $3 McCormick-Mathers pub. co, Wichita, Kan.; Atlanta '39
Woodworking as a hobby. E. Stieri. 268p $3 Harper '39
See also
Furniture
Plywood
Woodworking machinery

WOODWORKING machinery
DeWalt versatile woodworking machine. il Ry Mech Eng 114:420-1 O '40
Robinson two-operator dovetailing machine. il Engineering 148:621-2 D 1 '39; Engineer 168:552-3 D 1 '39
Rubber in woodworking machine design. India Rubber W 101:53 F '40
Woodworking developments; abstract. J. E. Hyler. Mech Eng 62:25 Ja '40
Woodworking machinery. il Automobile Eng 30:23-6 Ja '40

Safety devices and measures
Set for safety; fitting circular saws. A. L. Uhl. diags Nat Safety N 40:26-7+ D '39

Statistics
Woodworking machinery, 1936-1939. Survey of Cur Business 1940 Sup p140

WOODWORKING shops

Equipment
Lessons taught by mistakes in blow pipe work; operation of separators and some common errors in their design. E. W. Favalora. diags Sheet Metal Worker 31:62-4 Ja '40
Woodworking plants use exhaust ventilation. T. Hatch and R. B. Northrup. diags plans Heat & Ven 37:33-8 F '40

Power
Power change-over saves $2,500; Illinois moulding company, Chicago, changes to purchased power. H. Molner. il Factory Management 98:82-3 Ja '40

Safety devices and measures
Dust explosion prevention in woodworking. D. J. Price. Weekly Underw 142:304-5 F 3 '40
Specific accident hazards. Safety Eng 79:22 Ap '40

WOOL
Carpet trade needs rayon; is rayon ready? J. A. Truitt. Rayon 21:33-4+, 101-3 Ja-F '40
Differentiation between lanital, wool and casein; abstract. Justin-Mueller. Am Dyestuff Rep 29:501 S 30 '40
Improvement of Chinese and other carpet wools. R. H. Burns, A. Johnston and W. C. Chen. bibliog Textile Inst J 31:T37-48 Ap '40
Porosity of textile fibers. Textile Col 62: 261-2 Ap '40
Raw wool and its manufacture. D. Wilson. Textile Inst J 31:P23-35 Mr '40
Soap in the wool industries. Textile Col 62: 478-9+ Jl '40
Some factors which affect the dyeing properties of wool. J. Warwicke. Textile Col 62:528-30+ Ag '40
Some relationships between the constitution, properties, and uses of animal fibres; abstract. J. B. Speakman. Chem & Ind 59: 215-16 Mr 30 '40; Same cond. Chem Age (Lond) 42:184 Mr 30 '40
Study by federal government into economic effects of use of substitute fibres for wool urged. F. E. Ackerman. Comm & Fin Chr 151:931 Ag 17 '40

WOOL—*Continued*
Swelling of wool fibers; abstract. Ohara. Textile Col 62:619 S '40
Textile fiber atlas. W. von Bergen and W. Krauss. il Rayon 21:17-20, 85-8, 149-53 Ja-Mr '40

See also
Dyes and dyeing—Wool
Felt
Mothproofing preparations
Wool trade
Woolen and worsted manufacture
Yarn

Analysis
Electrodialytic estimation of ash and of acidic and basic groups in textile fibers. A. M. Sookne, C. H. Fugitt and J. Steinhardt. bibliog diag Am Dyestuff Rep 29: 333-6, 355-6 Jl 8 '40; Same. J Research Nat Bur Stand 25:61-9 Jl '40

Ash content
Electrodialytic estimation of ash and of acidic and basic groups in textile fibers. A. M. Sookne, C. H. Fugitt and J. Steinhardt. bibliog diag Am Dyestuff Rep 29: 333-6, 355-6 Jl 8 '40; Same. J Research Nat Bur Stand 25:61-9 Jl '40

Blending
Mixing and blending wools. W. Norris. il Textile World 90:86-7 Mr '40

Bromination
Recent developments in methods for shrinkproofing wool. B. A. Harold. bibliog Am Dyestuff Rep 28:683-5+ N 27 '39

Chemistry
Combination of wool protein with acid and base; hydrochloric acid and potassium hydroxide. J. Steinhardt and M. Harris. Am Dyestuff Rep 29:103-7, 121-7, 131-4, 147-9 bibliog (p149) Mr 4-18 '40; Same. J Research Nat Bur Stand 24:335-67 Mr '40
Dissociation of ammonium salts in contact with wool. H. Briggs, F. L. Goodall and others. Soc Dyers & Col J 55:351-60; 56, 218-21, 384-97 Jl '39, My, S '40; Abstract (pt.1). Textile Col 61:689 O '39
Photochemical decomposition of the cystine in wool. H. A. Rutherford and M. Harris. bibliog J Research Nat Bur Stand 23:597-601 N '39; Same. Am Dyestuff Rep 28:655-6+ N 13 '39
Wool, acids and alkalies; new facts concerning the behavior of wool. Textile Col 62:741-2 N '40

Chlorination
Recent developments in methods for shrinkproofing wool. B. A. Harold. bibliog Am Dyestuff Rep 28:683-5+ N 27 '39

Felting
Factors influencing wool felting. J. W. Creely and G. Le Compte. Am Dyestuff Rep 29:292-4, 306 Je 10 '40

Moisture content
Regain of textiles and humid atmosphere changes. A. B. D. Cassie. Textile Inst J 31:T17-30 F '40; Abstract. Textile Col 62: 547-8 Ag '40

Permeability
New method of determining the wettability of textile fibres. C. M. Blow and B. F. J. Moxon. diags Soc Chem Ind J 59:171-4 Ag '40; Abstract. Textile Col 63:42+ Ja '41

Prices
New York wool tops futures, 1939. Annalist 55:150 Ja 25 '40
Rise in wool prices in Britain. Economist 138:165-6 Ja 27 '40

Sulfur content
Photochemical decomposition of the cystine in wool. H. A. Rutherford and M. Harris. bibliog J Research Nat Bur Stand 23:597-601 N '39; Same. Am Dyestuff Rep 28:655-6+ N 13 '39

WOOL, Artificial
Bacteria destroys new wool cloths. Textile Col 62:18 Ja '40
Differentiation between lanital, wool and casein; abstract. Justin-Mueller. Am Dyestuff Rep 29:501 S 30 '40
La fabrication, au Japon, d'une laine artificielle tirée du soja ou de certains animaux marins. Génie Civil 115:357-9 N 11 '39
La fabrication et les propriétés du lanital, laine artificielle, tirée de la caséine du lait. Lo Duca. il diag Génie Civil 115:317-20 O 28 '39
Newer textile fibers. F. G. Brown. Textile Col 62:155-8 Mr '40
Nylon wool next; mechanical methods of crimping yarn from basic chemical. Business Week p54 Ap 27 '40
Probleme der acetatseide und acetatzellwolle. K. W. Zachrich. bibliog Angew Chemie 53:144-8 Mr 30 '40
Zellstoff und zellwolle, ein cellulose-problem. R. E. Dörr. Angew Chemie 53:13-17 Ja 6 '40

See also
Dyes and dyeing—Wool, Artificial

WOOL, Effect of acids on
Significance of temperature in wool dyeing; a study of the acid combining capacity of wool. F. L. Goodall and C. Hobday. Soc Dyers & Col J 55:529-49 N '39; Abstract. Am Dyestuff Rep 29:158, 168-9 Ap 1 '40

WOOL, Effect of alkalies on
Damage done by alkalies. T. F. Heyes. Textile Col 62:174-5 Mr '40
Protection of wool in mercerizing for dyeing. Textile Col 62.387-8 Je '40

WOOL, Effect of light on
Photochemical decomposition of the cystine in wool. H. A. Rutherford and M. Harris. bibliog J Research Nat Bur Stand 23:597-601 N '39; Same. Am Dyestuff Rep 28:655-6+ N 13 '39

WOOL, Mineral. See Mineral wool

WOOL, Unshrinkable
Australian unshrinkable wool process. Am Dyestuff Rep 29:574 O 14 '40
Dri-sol unshrinkable wool process. Textile Col 62:329 My '40
New non-chlorine treatment for making wool unshrinkable (non-felting); comparison of sulfuryl chloride and active chlorine methods. A. J. Hall. bibliog il Soc Dyers & Col J 55:389-401 Ag '39; Abstract. Am Dyestuff Rep 29:157 Ap 1 '40
Processes for making wool unshrinkable (non-felting). Textile Col 62:257 Ap '40
Reaction between dibenzyl disulphide and sulphuryl chloride. G. H. Elliott and J. B. Speakman. Chem Soc J p641-9 My '40
Recent developments in methods for shrinkproofing wool. B. A. Harold. bibliog Am Dyestuff Rep 28:683-5+ N 27 '39

WOOL carbonizing
Dry carbonization. Textile World 90:70 Mr '40
Sodium sulfate error in measuring acid content of carbonizing baths. H. C. Olsen, W. B. Prescott and H. C. Chapin. Am Dyestuff Rep 28:669-71 N 13 '39

WOOL carding
Carding low-grade woolen stocks calls for readjusted settings and speeds. J. R. Dunn. il Textile World 90:50 Jl '40
Cavedon woolen card feed equalizer. il Textile World 90:77 Ja '40
Making good woolen yarn. G. Marshall. Textile World 90:142 F '40
Managing woolen cards. P. P. Townend. il Textile World 90:60 Ag '40
Preventing neps in woolen yarns. G. Marshall. il Textile World 89:72 N '39
Stoppages of woolen cards; suggestions for decreasing their frequency and duration. R. M. Dorian. il Textile World 90:80-1 O '40

WOOL combing
Pin setting in Noble combing. S. Kershaw. Textile Inst J 31:P59-66 My '40

WOOL combing—*Continued*
Specification for a textile oil. W. Garner. bibliog diag Soc Dyers & Col J 56:333-43 Ag '40
Wool combing costs. Textile World 90:94 Jl '40

WOOL drying
Wool drying; abstract. B. R. Andrews. Textile Col 61:813 D '39

WOOL finishing. See Woolen and worsted finishing

WOOL oiling
Emulsion oiling of merino wool. P. P. Townend. Textile Inst J 31:T31-6 Mr '40
Evaluating wool oils. G. A. Thomas. diags Textile World 90:70-1 Je '40
Mineral oil as a wool lubricant; method for promoting the removal of mineral oil from wool by emulsification. J. B. Speakman and T. S. Wang. Soc Dyers & Col J 56:259-61 Je '40; Abstract. Textile Col 62: 689-90 O '40
Oxidation of oil on dyed and undyed tops. J. B. Speakman and C. N. K. Murthy. bibliog Soc Dyers & Col J 56:252-8 Je '40
Specification for a textile oil. W. Garner. bibliog diag Soc Dyers & Col J 56:333-43 Ag '40

WOOL research
New method of determining the wettability of textile fibres. C. M. Blow and B. F. J. Moxon. diags Soc Chem Ind J 59:171-4 Ag '40
Simple laboratory method of studying fulling phenomena. G. C. Le Compte and J. W. Creely. Am Dyestuff Rep 29:387-90, 408-9 Ag 5 '40

WOOL scouring
Better scouring with instruments; Weymouth wool scouring co. Textile World 89:86-7 N '39
Brine-recovery system, Eavenson & Levering plant, lowers chemical cost for treating water. C. C. Harrington. il diag Textile World 90:65 Jl '40
Controlled scouring of wool. H. P. Galloway. il Textile World 90:73-4 Ja '40
Improved action scouring machine. G. L. Atkinson. diags Textile Col 62:601-3 S '40
Mineral oil as a wool lubricant; method for promoting the removal of mineral oil from wool by emulsification. J. B. Speakman and T. S. Wang. Soc Dyers & Col J 56:259-61 Je '40; Abstract. Textile Col 62: 689-90 O '40
Recovering soaps and greases from wool-scouring liquors. C. H. S. Tupholme. Ind & Eng Chem News ed 17:789 D 20 '39
Scouring, bleaching and pre-shrinking suitings having colored yarn effects. C. M. Rabold. Textile Col 62:410-11 Je '40
Small-plant coal-handling equipment pays; Eavenson & Levering co. wool-scouring plant. W. A. Lofft. il Power 94:26-7 Ja '40
Soap in the wool industries. Textile Col 62:478-9+ Jl '40
Wool scouring starts in Texas. W. R. Hunt. il Textile World 90:67 Jl '40

WOOL trade
Cooperative marketing of fleece wool. J. M. Coon. il diags maps U S Farm Credit Administration Bul 33:1-84 '39
Wool season in Australia, New Zealand, and South Africa briefly reviewed. E. A. Mann. Comm Rep p803 S 21 '40

Laws and regulations
House passes bill for labeling woolen products. Comm & Fin Chr 151:1371 S 7 '40
President Roosevelt signs bill requiring labeling of woolen products. Comm & Fin Chr 151:2283 O 19 '40
Require wool labels; House passes measure, okayed by Senate. Business Week p17 S 7 '40
Wool act protested. Business Week p46 O 12 '40
Wool labeling bill passed. Textile World 90:66 O '40

Statistics
Carpet wool and apparel wool consumption, revision; monthly, 1923-June, 1940. Fed Res Bul 26:844 Ag '40
U.S. imports of wool and hair yarns and woven fabrics, 1939. E. A. Mann. Comm Rep p693 Ag 10 '40
United States wool imports 1939. Textile Col 62:260 Ap '40
Wool consumption highest since 1922. Annalist 55:150 Ja 25 '40
Wool in 1939. Economist 138:sup39 F 17 '40
Wool, 1936-1939. Survey of Cur Business 1940 Sup p156-7 [supplemented in monthly numbers]
Wool textile production, revision; monthly, 1923-June, 1940. Fed Res Bul 26:843 Ag '40
Wool textiles in 1939. Economist 138:sup46 F 17 '40
Woolen and worsted yarn and cloth production; revision, 1923-June, 1940. Fed Res Bul 26:845-6 Ag '40

Australia
Australian wool made available to American market. Comm & Fin Chr 149:3953 D 23 '39
British wool release; Australian trade commissioner gives prices and details on 75,000-bale lot. Textile World 90:56 Ja '40

Canada
Report on the woollen textile industries in Canada 1938. 49p pa 35c Canada. Dominion bur. of statistics, Ottawa '40

Great Britain
Government's scheme of control for the wool textile industry. Economist 138:393 Mr 2 '40
Woollen exports to Scandinavia in 1938. Economist 138:786 Ap 27 '40

South Africa
South African wool sales, July to April, 1938-9, 1939-40. Economist 138:1052 Je 15 '40

South America
South American wool exports from Argentina and Uruguay, in the season 1938-39 and in the six months to March, 1938-39, 1939-40. Economist 138:1020 Je 8 '40

Texas
Wool scouring starts in Texas. W. R. Hunt. il Textile World 90:67 Jl '40

United States
Building wool reserves, at no cost. Business Week p30 O 19 '40
Review of wool trade, 1939. R. J. Murray. Comm & Fin Chr 150:141 Ja 6 '40
U.S. caught in economic war. il Business Week p62+ D 9 '39
U.S. imports of wool and hair yarns and woven fabrics, 1939. E. A. Mann. Textile Col 62:702+ O '40
Wool textile industry in 1940. M. Pendleton. Comm & Fin Chr 150:525-6 Ja 27 '40
Woolen manufacturers in sound position regardless of duration of the war. P. M. Carlisle. Annalist 54:692 N 30 '39

WOOL violet
Studies on aging and formation of precipitates; the aging of silver bromide. I. M. Kolthoff and A. S. O'Brien. Am Chem Soc J 61:3414-19 D '39
Studies on aging and formation of precipitates; the determination of the specific surface of silver bromide by the radioactive and dye methods. I. M. Kolthoff and A. S. O'Brien. bibliog Am Chem Soc J 61:3409-14 D '39

WOOL washing
Soap in the wool industries. Textile Col 61: 842-3+ D '39

WOOL waste
Waste made good as new; Chicago surface lines reclaims wool waste and oil for packing motor and journal bearings. il Transit J 84:169 My '40

WOOLEN and worsted fabrics
Cracks in crammed-stripe cloths; weaving precautions. Textile World 90:87-8 Jl '40

WOOLEN and worsted fabrics—*Continued*
Fabrics for national defense; woolen blankets and lining cloth. il Textile World 90:64 O '40
New Wool products labeling act; text. Rayon 21:668-70 N '40
Scouring, bleaching and pre-shrinking suitings having colored yarn effects. C. M. Rabold. Textile Col 62:410-11 Je '40
Textiles used in the fabrication of naval uniforms. L. Smith. Am Dyestuff Rep 29:567-9 O 14 '40; Same. Textile Col 62: 750-1 N '40; Abstract. Textile World 90:63+ O '40
Woolen and worsted cloth production, revision; monthly, 1923-June, 1940. Fed Res Bul 26: 846 Ag '40

See also
Astrachan fabric
Carpets
Dyes and dyeing—Wool
Felt
Jersey cloth
Woolen and worsted manufacture

Rayon mixtures

See Rayon fabrics—Wool mixtures

Shrinkage

Recent developments in methods for shrinkproofing wool. B. A. Harold. bibliog Am Dyestuff Rep 28:683-5+ N 27 '39
Tentative textile standard no. 1, 1939; standard method for measurement of resistance to shrinkage of wool fabrics. il diags Textile Inst J 30:S22-8 O '39; Same. Soc Dyers & Col J 56:225-7 My '40
Testing of wool fabrics for shrinkage; standard method for determination of shrinkage produced by milling processes on wool fabrics. diag Textile Inst J 30:S29-40 O '39

See also
Wool, Unshrinkable

Testing

Tentative textile standard no. 1, 1939; standard method for measurement of resistance to shrinkage of wool fabrics. il diags Textile Inst J 30:S22-8 O '39; Same. Soc Dyers & Col J 56:225-7 My '40
Testing of wool fabrics for shrinkage; standard method for determination of shrinkage produced by milling processes on wool fabrics. diag Textile Inst J 30:S29-40 O '39

WOOLEN and worsted finishing
Fulling-mill temperatures; proper control prevents unevenness, excessive flocking, and other defects. H. M. Rhodes. Textile World 90:70 My '40
Practical finishing of dress and coating fabrics (cont). G. L. Atkinson. Textile Col 60:821-3; 61:47-50, 244-7, 410-11, 478-81+, 820-3; 62:385-6+ D '38-Ja, Ap, Je-Jl, D '39, Je '40
Processing of shingle fabric. S. Wouble. Textile Col 62:371-2 Je '40
Reaction between dibenzyl disulphide and sulphuryl chloride G. H. Elliott and J. B. Speakman. Chem Soc J p641-9 My '40
Scouring, bleaching and pre-shrinking suitings having colored yarn effects. C. M. Rabold. Textile Col 62:410-11 Je '40
Some new trends in the dyeing and finishing of wool. J. Wakelin. Textile Col 62:227-9 Ap '40
Some recent fiber-latex developments. M. C. Teague. Am Dyestuff Rep 29:422-5 Ag 19 '40; Same cond. Rubber Age 48:23-5 O '40; Discussion. Am Dyestuff Rep 29:425-6 Ag 19 '40
Sulfated ester of fatty acid; Onyx oil & chemical co. presents Phi-Φ-Sol. Textile Col 62:458-60 Jl '40
Wool, acids and alkalies; new facts concerning the behavior of wool. Textile Col 62:741-2 N '40

See also
Fulling
Mothproofing preparations

WOOLEN and worsted machinery
Soaping machine aids uniform preparation of woolens and worsteds for fulling or washing. D. Welsh. diags Textile World 90: 88 Mr '40
Stoppages of woolen cards; suggestions for decreasing their frequency and duration. R. M. Dorian. il Textile World 90:80-1 O '40
Textile mill conversion from steam to electric drive; Morley cloth mills of Humphrey Bradley. il Elec R (Lond) 125:753-6 D 15 '39
Wool; developments in 1939. J. C. Lowe. Textile World 90:84-6 F '40
Yarns from staple fiber; worsted system. J. H. Fisher. diag Rayon 21:538-9+ S '40

See also
Looms

WOOLEN and worsted manufacture
Air-conditioning advantageous in woolen and worsted mills. A. C. McKittrick. il Textile World 89:46-8 D '39
Mixing and blending wools. W. Norris. il Textile World 90:86-7 Mr '40
Quality control in a woolen mill. W. von Bergen. il Am Dyestuff Rep 29:84-91; Discussion. 91-2 F 19 '40
Raw wool and its manufacture. D. Wilson. Textile Inst J 31:P23-35 Mr '40
Some duties of the technical management in woollen manufacture. L. Bellwood. Textile Inst J 31:P71-4 Je '40
Wool; developments in 1939. J. C. Lowe. Textile World 90:84-6 F '40

See also
Dyes and dyeing—Wool
Fulling
Weaving
Woolen and worsted finishing
Woolen and worsted machinery
Woolen and worsted mills
Woolen and worsted spinning
Woolen and worsted weaving

WOOLEN and worsted mills
Arlington's diamond jubilee. il Textile World 90:55 Ap '40
50 years for Sweetwater, Tennessee mill; American textile woolen co. Textile World 90:136 S '40
Twenty-year modernization habit pays dividends at Maryland woolen mill. il Textile World 90:78-9 S '40

Electric equipment

Inefficient open wiring eliminated; bus-bar feeders provide flexible system; Kezar Falls (Me.) woolen co. F. A. Westbrook. il diag Textile World 90:61 Ag '40

Employees

At work for 72 years! G. M. Heiwig, Seymour woolen mills. Textile World 90:104-5 O '40
Wool-industry wage under wage and hour law. Monthly Labor R 50:1461 Je '40

Equipment

Textile mill conversion from steam to electric drive; Morley cloth mills of Humphrey Bradley. il Elec R (Lond) 125:753-6 D 15 '39

See also
Woolen and worsted machinery

Management

Managing woolen cards. P. P. Townend. il Textile World 90:60 Ag '40
Some duties of the technical management in woollen manufacture. L. Bellwood. Textile Inst J 31:P71-4 Je '40

WOOLEN and worsted printing
Printing of wool. G. Furlonger. Textile Col 61:807-10+; 62:14-19 D '39-Ja '40
Printing of wool. E. W. Pierce. Am Dyestuff Rep 29:153-6 Ap 1 '40

WOOLEN and worsted spinning
Making good woolen yarn. G. Marshall. Textile World 90:142 F '40
Uneven tape-condenser roving. J. R. Dunn. Textile World 90:101-2 My '40

WOOLEN and worsted weaving
Center-stitched double cloths. R. A. C. Scott. diags Textile World 90:61 Ap; 95-6 Je '40
Cracks in crammed-stripe cloths; weaving precautions. Textile World 90:87-8 Jl '40

WOOLEN and worsted weaving—*Continued*
Drafts for double cloths. R. A. C. Scott. diags Textile World 90:87 Ag '40
Loomfixers' manual; wool section; filling stop-motions. B. F. Hayes. diags Textile World 90:100 Ja; 93 Mr; 108 My '40
Weave imperfection; uneven-twill appearance due to improper warp dressing. il Textile World 89:64 D '39
Weave imperfections; systematic check of causes assures against recurrence. il Textile World 90:70 S '40

WOOLEN and worsted yarn
Making good woolen yarn. G. Marshall. Textile World 90:142 F '40
Preventing neps in woolen yarns. G. Marshall. il Textile World 89:72 N '39
Simple laboratory method of studying fulling phenomena. G. C. Le Compte and J. W. Creely. Am Dyestuff Rep 29:387-90, 408-9 Ag 5 '40
Woolen and worsted yarn production, revision; monthly, 1923-June, 1940. Fed Res Bul 26: 845 Ag '40

Cotton mixtures
Analyzing novelty yarn; test of a ratine burette cotton-woolen yarn. Textile World 90:56 Ag '40

Testing
New method of determining the wettability of textile fibres. C. M. Blow and B. F. J. Moxon. diags Soc Chem Ind J 59:171-4 Ag '40; Abstract. Textile Col 63:42+ Ja '41

WOOLWORTH, Frank Winfield, 1852-1919
Five and ten; the fabulous life of F. W. Woolworth. J. K. Winkler. 256p $3 Robert M. McBride & co, New York '40

WOOLWORTH, F. W., and company, London
Chain store shares; Woolworth and Marks and Spencer; some comparisons. Economist 138:860-1 My 11 '40
Profits, 1937-39, and annual general meeting. Economist 138:70, 229 Ja 13, F 3 '40
War threatens Woolworth. R. Carleson. il Mag of Wall St 66:414-15+ Jl 13 '40

WOOLWORTH, F. W., company
Brass tacks for the investor; brief analysis. Barron's 20:20 Ja 22 '40
Income account for calendar years 1936-39. Comm & Fin Chr 150:1010 F 10 '40
War threatens Woolworth. R. Carleson. il Mag of Wall St 66:414-15+ Jl 13 '40
Woolworth is international; points of weakness and strength. W. E. Kraemer. il Mag of Wall St 65:678-80+ Mr 9 '40
Woolworth's ten-year book. Ptr Ink Mo 40: 44 Ja '40

WORCESTER, Massachusetts

Churches
New church provides multi-use facilities; First Baptist church. il plans Arch Rec 88:33-7 Jl '40

WORCESTER pressed steel company
This museum sells industry. il Am Business 10:19 Mr '40

WORD division
Twenty thousand words divided. E. N. Teall. Inland Ptr 104:38-9 Mr '40

WORDS
Growing vocabulary; fun and adventure with words. A. Hart and F. A. Lejeune. 156p $1.50 Dutton '40
Putting words to work. E. N. Teall. 344p $2.50 Appleton-Century '40

See also
Homophones

WORK
Work, wages, and education. A. W. Williams. 57p $1 Harvard univ. press '40

See also
Employees
Employment
Fatigue
Labor and laboring classes
Occupations

WORK clothes
Lee urges dealers to canvass, and tells them how to do it; work clothing. C. A. Reynolds. Sales Management 47:44-5 S 15 '40
Thumbs down on overalls: now the boys sport work uniforms. J. W. Champion. il Sales Management 46:24-6 Je 15 '40

Advertising
Overalls, shirts, pants; H. D. Lee mercantile co., Kansas City. Sales Management 46:17 Ap 20 '40

WORK projects administration
Accomplishments in New York city in five fiscal years. B. Somervell. Comm & Fin Chr 151:2588-9 N 2 '40
Appraisal of P.W.A. and W.P.A. water supply work in New England. W. W. Brush. N E Water Works Assn J 54:34-43; Discussion. 44-8 Mr '40
Corrington Gill of Government. Fortune 22: 55+ Ag '40
Economic status of WPA workers dismissed under 1939 Relief act. Monthly Labor R 50: 622-4 Mr '40
Employment under the WPA, 1939. Monthly Labor R 51:586-8 S '40
Getting efficiency from WPA labor; job report giving unit cost and other data. Eng N 123:756 D 7 '39
How WPA wages are spent. Monthly Labor R 50:929-30 Ap '40
Negroes under WPA, 1939. Monthly Labor R 50:636-8 Mr '40
President Roosevelt says unemployed and WPA workers have right to organize. Comm & Fin Chr 151:1071-2 Ag 24 '40
Private contractors may assist WPA. Eng N 125:409 S 26 '40
Questions and answers on the WPA. 26p Work projects administration, Washington, D.C. '39
Readers vote "no" on WPA in construction. map Eng N 123:699 N 23 '39
Work of Professional and service division in ceramics. W. Atchley. Am Cer Soc Bul 18: 460-2 D '39
W.P.A. and the special collection. R. Todd. Special Lib 31:332-3 S '40
WPA bridge and culvert construction projects in a Nebraska county. R. S. Clark il diags plans Pub Works 71:10-13 Ag '40

WORKERS' dwellings. See Housing

WORKERS' education. See Education of workers

WORKING women
Employed women and family support. M. E. Pidgeon and M. T. Mettert. U S Women's Bur Bul 168:1-57 '39; Review. Monthly Labor R 50:1-5 Ja '40

WORKMEN'S compensation
Critical review of occupational disease legislation. T. C. Waters. Min Cong J 25:32-6 D '39
Exploratory memorandum on partial unemployment benefits in the state unemployment compensation systems. J. J. Joseph. 105p pa 60c Social science research council, 726 Jackson place, N.W, Washington, D.C. '40
Occupational disease coverage; a summary of current trends in legislation. R. C. Starr. map Nat Safety N 41:17, 58 Ja '40
Principal features of workmen's compensation laws, as of January 1, 1940. C. F. Sharkey. Monthly Labor R 50:574-600 Mr '40; Summary. Pub Health Rep 55:1532-7 Ag 23 '40
When should hernia be compensable? L. Vaccaro. Nat Safety N 41:34, 36+ Je '40

See also
Accidents, Industrial
Employers' liability
Insurance, Workmen's compensation

also International association of industrial accident boards and commissions

Medical care
Industrial report shows disability is very costly since $100 limit was dropped in Minnesota. Weekly Underw 141:1128 N 25 '39
Total compensation held not to include medical aid; Supreme court of North Carolina ruling. Monthly Labor R 51:117-18 Jl '40

WORKMEN'S compensation—*Continued*

California

Compensation awarded for injury to a state senator. Monthly Labor R 50:889-90 Ap '40

Canada

Problems of workmen's compensation administration in the United States and Canada. M. Dawson and others. U S Bur Labor Statistics Bul 672:1-229 bibliog(p221-5) '40

Great Britain

Extra aid for injured workmen. Economist 138:514 Mr 23 '40

Industrial casualties. Economist 139:453-4 O 12 '40

Recent court cases. W. Summerfield. Engineering 150:76 Jl 26 '40

Massachusetts

Appointment of impartial physicians in workmen's compensation cases. Monthly Labor R 50:889 Ap '40

Injury caused by hurricane held compensable by Supreme judicial court of Massachusetts. Monthly Labor R 50:1439 Je '40

Michigan

Unemployment benefits no bar to workmen's compensation. Monthly Labor R 50:670-1 Mr '40

Netherlands Indies

Industrial-accident compensation in Netherland India. E. R. Dickover. Monthly Labor R 51: 112-13 Jl '40

New Jersey

Employee engaged in cleaning lamps and switches in railroad yards held not engaged in interstate transportation. Weekly Underw 143:1069 N 2 '40

New Jersey workmen's compensation law; revised statutes, title 34, chapter 15 annotated, with amendments to date, and forms. L. Yanoff, ed. 584p $10 Gann pub. co, 790 Broad st, Newark, N. J. '39

New Mexico

Inclusion of agents subject of ruling in New Mexico. Weekly Underw 143:375 Ag 24 '40

New York (state)

Guide to workmen's compensation; the law and its practice in New York state. H. D. Margulies and M. Bloom. 96p pa 50c Progress books, 133 W. 44th st, New York '39

Ohio

Attendance at a teachers' institute held to be within the course of employment by Ohio Court of appeals. Monthly Labor R 49:1425 D '39

Ontario

Ontario paper makers profit by safety work; compensation costs reduced; abstract. J. Harold. Pulp & Pa of Can 41:359-60 Ap '40

Workmen's compensation in Ontario; mining industry's experience from January 1, 1920 to January 1, 1938. T. N. Dean. Can Min J 61:30-4 Ja '40

Pennsylvania

Pneumonia held not to result from accident within meaning of workmen's compensation act. Pub Health Rep 55:700 Ap 19 '40

United States

Manual on industrial-injury statistics. M. D. Kossoris. U S Bur Labor Statistics Bul 667:1-201 '40

Principal features of workmen's compensation laws, as of January 1, 1940. C. F. Sharkey. Monthly Labor R 50:574-600 Mr '40; Summary. Pub Health Rep 55:1532-7 Ag 23 '40

Problems of workmen's compensation administration in the United States and Canada. M. Dawson and others. U S Bur Labor Statistics Bul 672:1-229 bibliog(p221-5) '40

Washington (state)

Workmen's compensation act not applicable to pilots or other employees of air-transport company engaged in actual flying. Monthly Labor R 49:1140 N '39

WORKMEN'S compensation insurance. See Insurance, Workmen's compensation

WORKPLACE layout

Motion study research; study of simultaneous, symmetrical hand motions. R. M. Barnes and M. E. Mundel. il diags Factory Management 97:47-50 Ag; 56-8 D '39

WORKS progress administration. See Work projects administration

WORKSHOPS, Farm

Farmer's shop book. L. M. Roehl. 6th ed enl & rev 422p $2.48 Bruce pub. '39

Fitting farm tools. L. M. Roehl. 3d ed rev 120p $1 Bruce pub. '40

Manual of farm shop practice. M. M. Jones. 92p pa 75c McGraw-Hill '40

WORLD politics

Contemporary international politics. W. R. Sharp and G. Kirk. 840p bibliog(p818-22) $4 Farrar '40

Far East in world politics; a study in recent history. G. F. Hudson. 2d ed 276p $3 Oxford '39

Inside story, by members of the Overseas press club of America. R. S. Benjamin, ed. 263p $2.75 Prentice-Hall '40

New world challenge to imperialism. M. E. Tracy. 395p bibliog(p375-9) $3.50 Coward-McCann, New York '40

New world order. H. G. Wells. 145p $1.50 Knopf '40

World as Hitler wants it. Business Week p64 O 5 '40

WORM gearing. See Gearing, Worm

WORMS

See also
Planarians

WORMS, Intestinal and parasitic

Human helminthology; a manual for physicians, sanitarians and medical zoölogists. E. C. Faust. 2d ed rev 780p bibliog(p677-723) $8.50 Lea & Febiger, Philadelphia '39

Silent enemies. B. Adelman. il Sci Am 162:133-5 Mr '40

See also
Trichina and trichinosis
Vermicides

WORMSER, Felix Edgar, 1894-

Newly elected director, A.I.M.E. por Min & Met 21:288 Je '40

WORRY

I worried my way to the top. J. Chamberlin. Nation's Business 28:30+ S '40

Worry and disease. E. Podolsky. 132p $1 Rodale press, Emmaus, Pa. '40

WORSTED

See also
Woolen and worsted finishing
Woolen and worsted manufacture
Woolen and worsted mills
Woolen and worsted spinning
Yarn

WORTHINGTON pump and machinery corporation

First 100 years were the hardest. R. Colston. il Mag of Wall St 66:537+ Ag 10 '40

Stocks favored in new market phase; thumbnail appraisal. Mag of Wall St 66:111 My 4 '40

Worthington centennial. il diags Power Pl Eng 44:62-5 My '40

WOUNDS

Mechanism of the action of urea in the healing of chronic wounds. C. Gurchot and E. L. McCawley. Univ. of Calif Pub in Pharmacology v 1, no 24:301-11 bibliog(p311) '40 (pa 25c)

WRAPPING

Changed layout saves $2,500; motion study on a hand-wrapping operation; Kraft Walker cheese co, Melbourne, Australia. E. O. Pelling. il diags Factory Management 98: 64-5+ F '40

WRAPPING machines
Package machinery co. pliofilm wrapping machine. il Food Ind 12:88 O '40
Photoelectric control of paper registration. E. W. Forster. diag Electronics 13:77 S '40
Pliofilm wrapping machine. il Food Ind 12: 88-9 Jl '40

WRAPPING materials
Latex-wrapped apples. Rubber Age 46:167 D '39
Sodium benzoate-sodium chloride coated wrappers; a progress report on application of method to fish fillets. E. H. Crowther. Can Chem & Process Ind 24:505+ O '40

See also
Cellophane
Pliofilm
Wrapping paper

Testing
Moisture vapor proofness of wrapping materials used on frozen foods. C. W. DuBois and D. K. Tressler. Paper Tr J 109:15-16+ N 16 '39

WRAPPING paper
Investigation of antitarnish paper. H. W. Rowe and O. Kress. bibliog Paper Tr J 110:33-6 Ja 11 '40
Kraft paper tonnage establishes new high record in last quarter of year. S. M. Hudson. Paper Tr J 110:67+ F 22 '40
Moisture vapor proofness of wrapping materials used on frozen foods. C. W. DuBois and D. K. Tressler. Paper Tr J 109:15-16+ N 16 '39; Abstract. Food Ind 12:96 Mr '40
Oil-soaked brown wrapping paper kept sheet steel from breaking; making oil pans for motor truck. Sheet Metal Worker 31:31+ S '40
Prevention of oxidation and rancidity in paper with oat flour. S. Musher. bibliog Paper Tr J 110:117-20 F 22 '40
Promoting satisfactory bacteriological conditions in the paper mill. R. F. Huntley and R. H. Torrey. Paper Tr J 110:108-10 F 22 '40
Some observations on the materials used in packaging frozen foods. W. Rabak. Paper Tr J 111:80-2 Ag 29 '40

Statistics
Wrapping paper production, revision; monthly, 1923-June, 1940. Fed Res Bul 26:867 Ag '40

WRECKING
Dynamite makes way for new Washington, D.C. building. il Eng N 124:426 Mr 28 '40
Wrecking a Chicago landmark; Great northern hotel. il Eng N 124:648-51 My 9 '40

See also
Bridges—Wrecking
Bridges, Iron and steel—Wrecking
Concrete—Wrecking
Ships—Wrecking

WRENCHES
End of the monkey wrench controversy; item concerning the screw wrench invented by S. Merrick, and patented August 17th, 1835. W. F. Schaphorst. il Am Gas J 152:32 Je '40
Good wrenches deserve a good turn; how to use them properly. il Dom Eng 156:42-3, 66+ N '40
Power-operated magazine socket wrench for rapid assembling. M. Haas. diags Mach 46: 116 My '40
Use of wrenches. Safety Eng 80:38 O '40
Wrench clearances; reference book sheet. T. B. Jefferson. diags Product Eng 11:463-4 O '40

WRIGHT, Harry
Mexican steel; as demonstrated by Harry Wright's La Consolidada of Mexico City, now planning to expand into Texas. por Fortune 22:81-7+ O '40

WRIGHT, Johnstone, 1883-
Portrait. Inst E E J 86:front Je '40

WRIGHT, Orville, 1871-
Portrait. Iron Age 145:80 F 29 '40; Steel 106: 21 Mr 4 '40

WROUGHT iron
Decorative wrought iron work; working drawings and working notes on the making of simple, useful articles from wrought iron, brass and copper. T. F. Googerty. 79p pa $1 Manual arts press '40
Untersuchung einer mittelalterlichen steinbüchse aus schmiedeeisen. A. Pomp and F. Spies. il diag Stahl & Eisen 60:207-9 Mr 7 '40
Wrought iron, its manufacture, characteristics and applications. J. Aston and E. B. Story. 2d ed 97p $1 A. M. Byers co, Pittsburgh '39

Failure
Gland irons of derrick cranes; example of failure. E. Ingham. diags Mech Handling 26:343-4 D '39

WURTZ reaction
Condensations by sodium; the formation of decane in the Wurtz reaction. A. A. Morton and G. M. Richardson. Am Chem Soc J 62:123-6 Ja '40

WURTZITE
See also
Zinc sulfide

WYOMING
See also
Geology—Wyoming
Water, Underground —Wyoming

Antiquities
Archaeological survey of the high western plains. E. B. Renaud. 93p bibliog(p92-3) pl 1-3 pa 75c Univ. of Denver, Dept. of anthropology, Colorado '40

Boundaries
In search of the north boundary of Wyoming; field notes of original survey and account of recent retracements. W. R. Bandy. il Civil Eng 10:215-18 Ap '40

X

X RAY apparatus
Apparatus for determining the orientation of crystals by X-rays. F. E. Haworth. il diags R Sci Instr 11:88-91 Mr '40
Concave spherical crystals of barium-copper-stearate for use in long wave-length X-ray spectrometers. C. L. Andrews. il diag R Sci Instr 11:111-14 Ap '40
Electrical developments of 1939. G. Bartlett. il Gen Elec R 43:38, 49-51 Ja '40
High-voltage, d.c. X-ray outfit. H. S. Hubbard. il diag Elec W 114:562+ Ag 24 '40
Improve X-ray supply regulation. diag Elec W 114:1030 O 5 '40
Industrial radiography. R. G. Tobey. il diag Iron Age 145:27-30 F 29; 64-7 Mr 7 '40
Measurement, in roentgens, of the gamma radiation from radium by the free-air ionization chamber. L. S. Taylor and G. Singer. bibliog diags J Research Nat Bur Stand 24: 247-68 Mr '40
Modern X-ray practice; installations at the new Westminster hospital. il Elec R (Lond) 125:605-8 N 10 '39
New high-voltage laboratory of the Bureau of standards. F. B. Silsbee. diag plan Elec Eng 59:238-40 Je '40
New X-ray machine installed in Triplett & Barton laboratories. il Aero Digest 37:163-4 S '40
1,400,000-volt constant-potential X-ray equipment. E. E. Charlton and H. S. Hubbard. il diags Gen Elec R 43:272-9 Jl '40
Radiological equipment, 1939. L. G. H. Sarsfield. Electrician 124:61 Ja 26 '40
Rotary shutter for X-rays. H. E. Seemann and W. C. Vaeth. diags R Sci Instr 11:86-7 Mr '40

X RAY apparatus—*Continued*
World's most powerful X-ray apparatus, National bureau of standards. il Sci Am 163: 4 Jl '40

See also
Metals—X ray inspection
X ray tubes

X RAY inspection. See Food—X ray inspection; Metals—X ray inspection

X RAY spectrum. See Spectrum, X ray

X RAY tubes
Barium, a new lubricant for use in X-ray tubes. il Gen Elec R 43:471 N '40
Cold emission used in microsecond radiography. il diag Electronics 13:56+ S '40
Design and application of X-ray tubes. Z. J. Atlee. bibliog il diag Electronics 13: 26-30+ O '40
Lubrication in vacuum by vaporized thin metallic films. Z. J. Atlee, J. T. Wilson and J. C. Filmer. il diag J Ap Phys 11: 611-15 S '40; Abstract. Sci Am 163:264 N '40
Metallic lubricant for X-ray tubes. Comp Air M 45:6269 O '40
Millionth-of-second radiographs. il Iron Age 146:31 Jl 25 '40; Steel 107:77 Jl 15 '40
New X-ray tube makes microsecond radiographs. il diag Instruments 13:196 Jl '40; Product Eng 11:423 S '40; Sci Am 163:143 S '40
Nouveaux tubes à rayons X, à cathode incandescente. diags Génie Civil 116:90-1 F 3 '40
Röntgenröhren für 1 million V. diags V D I 84:177-8 Mr 9 '40
St Bartholomew's hospital X-ray tube for one million volts. T. E. Allibone, F. E. Bancroft and G. S. Innes. diags Inst E E J 85:657-73 bibliog(p673) pl 1-4 D '39; Abstracts. Engineering 148:622-3, 649-51 D 1-8 '39; Discussion. Inst E E J 85:674-80 D '39
X-ray inspection; recent developments in industrial radiographic equipment and procedure. H. R. Isenburger. il diags Steel 106:64 Ap 1 '40

See also
Cathode ray tubes

X RAYS
Applied X-rays. G. L. Clark. 3d ed 674p $6 McGraw-Hill '40
Direct comparison on a crystal of calcite of the X-ray and optical interferometer methods of determining linear thermal expansion; evidence of differences among calcite crystals. J. B. Austin and others. bibliog Phys R 57:931-3 My 15 '40
Introduction to radiology. F. J. Hodges and W. S. Peck. 262p bibliog(p203-12) $4 Edwards bros, Ann Arbor, Mich. '39
Nuclear excitation of lead by X-rays. B. Waldman and G. B. Collins. Phys R 57:338-9 F 15 '40
Photographic reversal with X-rays. O. J. Baltzer and J. E. Nafe. il Phys R 57:1048 Je 1 '40
Reaction of variola vaccine virus to Roentgen rays. J. W. Gowen and A. M. Lucas. bibliog Science 90:621-2 D 29 '39
X-ray and optical properties of built-up films. S. Bernstein. bibliog il Am Chem Soc J 62: 374-8 F '40
X-ray examination of polyisobutylene. C. S. Fuller, C. J. Frosch and N. R. Pape. bibliog 2pls diags Am Chem Soc J 62:1905-13 Ag '40

See also
Crystallography—X ray studies
Metals—X ray inspection
Radiography
Spectrum, X ray

Absorption
Fine structure of the X-ray absorption limits of bromine and chlorine. T. M. Snyder and C. H. Shaw. bibliog Phys R 57:881-6 My 15 '40
K-absorption edges of Br (35) and Kr (36). C. H. Shaw. Phys R 57:877-81 My 15 '40
Principal *M*-series emission lines of tungsten and the *K* absorption of magnesium and aluminum. J. H. Munier, J. A. Bearden and C. H. Shaw. bibliog diag Phys R 58:537-43 S 15 '40

See also
Spectrum, X ray

Diffraction
Alumina floc; X-ray diffraction study. H. B. Weiser, W. O. Milligan and W. R. Purcell. il Ind & Eng Chem 32:1487-90 N '40
Analyzing chromium plate by X-ray diffraction. J. T. Wilson. il diag Steel 107:38-42, 66+ Ag 26 '40
Comparison of the use of crystal-reflected and filtered X-rays in liquid diffraction patterns. R. Q. Gregg and N. S. Gingrich. R Sci Instr 11:305-7 O '40
Diffraction of X-rays by liquid argon. A. Eisenstein and N. S. Gingrich. bibliog diag Phys R 58:307-9 Ag 15 '40
Diffraction of X-rays by small crystalline particles. A. L. Patterson. bibliog Phys R 56:972-7 N 15 '39
Effect of service stresses on impact resistance, X-ray diffraction patterns, and microstructure of 25S aluminum alloy. J. A. Kies and G. W. Quick. il diag U S Nat Advisory Com for Aeronautics 1939:348-53 '40
Effect of valence electrons and electron cloud distortion upon intensities in electron and X-ray scattering, applied to zinc oxide. V. A. Johnson. bibliog Phys R 57:613-21 Ap 1 '40
Hysteresis in crystallization of stretched vulcanized rubber from X-ray data; correlation with stress-strain behavior and resilience. G. L. Clark and others. il Ind & Eng Chem 32:1474-7 N '40
Improved technique for mounting powdered samples for X-ray diffraction. J. S. Lukesh. diags R Sci Instr 11:200-1 Je '40
Intensity distribution in X-ray and electron diffraction patterns; X-ray atom factors of zinc in zinc oxide and chemical binding. C. H. Ehrhardt and K. Lark-Horovitz. bibliog Phys R 57:603-13 Ap 1 '40
Practical evaluation of commercial rubber carbon blacks by X-ray diffraction. G. L. Clark and H. D. Rhodes. bibliog il Ind & Eng Chem Anal ed 12:66-71 F 15 '40
Problems in lime burning; new X-ray approach. G. L. Clark, W. F. Bradley and V. J. Azbe. il Ind & Eng Chem 32:972-6 Jl '40
Quantitative analysis by X-ray diffraction; the determination of quartz. J. W. Ballard, H. I. Oshry and H. H. Schrenk. pls U S Bur Mines Rep of Invest 3520:1-10 '40
Reaction of formaldehyde with amino acids: X-ray diffraction patterns. A. K. Smith, P. Handler and J. N. Mrgudich. bibliog il J Phys Chem 44:874-80 O '40
Scale removal by chemical means; analysis by X-ray powder diffraction method. M. E. Brines. il diag Power Pl Eng 44:47-8 My '40
Scherrer formula for X-ray particle size determination. A. L. Patterson. bibliog Phys R 56:978-82 N 15 '39
Symposium on optical methods for study of molecular structure; the X-ray diffraction method. B. E. Warren. il Opt Soc Am J 30:369-73 S '40
Symposium on X-ray studies of substances of high molecular weight. M. L. Huggins, C. S. Fuller and others. bibliog il Chem R 26:141-255 Ap '40
X-ray analysis of corrosion products from galvanized sheets. F. R. Morral. bibliog Electrochem Soc Trans 77 (preprint 12):147-54 Ap '40
X-ray diffraction study of grain boundary inclusions in steel. R. Morgan, M. Steckler and E. B. Schwartz. bibliog Franklin Inst J 229:191-9 F '40
X-ray method of determining rates of diffusion in the solid state. J. DuMond and J. P. Youtz. diags J Ap Phys 11:357-65 My '40

X RAYS—Diffraction—*Continued*
X-ray structure of rubber-carbon black mixtures. S. D. Gehman and J. E. Field. bibliog il Ind & Eng Chem 32:1401-7 O '40
X-ray structure of vulcanized rubber. G. L. Clark. bibliog il Ind & Eng Chem 31:1397-1401 N '39
X-ray study of aragonite in natural and cultured pearls. A. E. Alexander. bibliog Am J Sci 238:366-71, pl 1-3 My '40

Industrial applications

Application of X-ray technique to industrial problems; abstracts. H. P. Rooksby. Electrician 124:42 Ja 19 '40; Elec R (Lond) 126:69-70 Ja 19 '40; Am Cer Soc J 23 (Cer A 19):200 Ag '40
Foods X-rayed. il Sci Am 162:341 Je '40
General Electric's Tire-o-scope; permits station attendants to X-ray tires from wheel. il Rubber Age 46:373 Mr '40; Electronics 13:60 Ap '40; Mass Transportation 36:124 Je '40
X-ray pole inspection a new engineering tool. M. Zucker. il Elec W 113:882-5+ Mr 23 '40
X-ray solves mystery? discoveries concerning plasticity of hydrated limes. N. C. Rockwood. il diag Rock Prod 43:31-2 Ja '40
X-rays put clincher on quality control. il Food Ind 12:43-5 O '40

See also
Metals—X ray inspection
Radiography

Physiological effect

Effect of Roentgen irradiation upon erythrocytes. D. H. Drummond, J. P. Tollman and F. L. Richards. bibliog J Phys Chem 44: 172-80 F '40

Scattering

Preliminary experimental study of new diffraction maxima in X-ray photographs. S. Siegel and W. H. Zachariasen. Phys R 57:795-7 My 1 '40
Theoretical study of the diffuse scattering of X-rays by crystals. W. H. Zachariasen. bibliog Phys R 57:597-602 Ap 1 '40
Theory of the diffuse scattering of X-rays from crystals. G. E. M. Jauncey and G. G. Harvey. bibliog Phys R 58:179 Jl 15 '40
Variable structures and continuous scattering of X-rays from layer silicate lattices. S. B. Hendricks. bibliog il Phys R 57:448-54 Mr 1 '40
What we have learned from scattered X-rays. A. H. Compton. Franklin Inst J 230:149-57 Ag '40
X-ray dispersion in copper crystals. E. M. McNatt. bibliog Phys R 57:621-4 Ap 1 '40

Therapeutic use

Excitation and detection of ultraviolet fluorescence. R. G. Franklin and A. J. Allen. diags Franklin Inst J 230:263-8 Ag '40
L'Institut du cancer, à Amsterdam; installation pour le traitement du cancer au moyen d'un tube à rayons X à 1 million de volts. il diags Génie Civil 116:305-7 My 11 '40
Million volt X-ray goes into medical service. il Electronics 13:52 My '40
Roto; new cancer treatment method by X-rays. Sci Am 163:192 O '40
St Bartholomew's hospital X-ray tube for one million volts. T. E. Allibone, F. E. Bancroft and G. S. Innes. diags Inst E E J 85:657-73 bibliog(p673) pl 1-4 D '39; Abstracts. il Engineering 148:622-3, 649-51 D 1-8 '39; Discussion. Inst E E J 85:674-80 D '39
Treatment of leukemia by X rays; abstract. W. P. Murphy. Science 91:sup9 Je 21 '40

X RAYS in dentistry
Clinical dental roentgenology. J. O. McCall and S. S. Wald. 319p $5.50 Saunders '40
Dental roentgenology. L. M. Ennis. 3d ed rev 398p $6.50 Lea & Febiger, Philadelphia '39

XANTHALIN
Preparation and properties of alkali chitin. C. J. B. Thor and W. F. Henderson. bibliog Am Dyestuff Rep 29:461-4 S 16 '40

XANTHATES
Xanthates in froth-flotation concentration. D. D. Howat. flow sheet bibliog Chem Age (Lond) 43:89-90 Ag 24 '40

XANTHATION
Chitin xanthate and regenerated chitin. C. J. B. Thor and W. F. Henderson. Am Dyestuff Rep 29:461-4, 489-91 S 16-30 '40
Rate of xanthation of soda cellulose; effect of bulk number. P. C. Scherer and L. C. Ikenberry. bibliog Rayon 21:529-30, 611-12 S-O '40

XENON
Products of the uranium fission; radioactive isotopes of iodine and xenon. R. W. Dodson and R. D. Fowler. bibliog Phys R 57: 966-71 Je 1 '40
Radioactivity produced by proton bombardment of bromine and iodine. E. C. Creutz and others. il diag Phys R 58:481-6 S 15 '40
Zeeman effect in krypton and xenon. J. B. Green, D. W. Bowman and E. H. Hurlburt. Phys R 58:381 Ag 15 '40
Zeeman effect in the second and third spectra of xenon. C. J. Humphreys, W. F. Meggers and T. L. deBruin. bibliog J Research Nat Bur Stand 23:683-99 D '39

XENYLSTEARIC acid
Sulfonated arylstearic acids; wetting properties of the sodium salts. A. J. Stirton, R. F. Peterson and P. H. Groggins. bibliog Ind & Eng Chem 32:1136-7 Ag '40

XONOTLITE
Scaling of boilers; identification of phases in calcium silicate scales. L. M. Clark and C. W. Bunn. Soc Chem Ind J 59:155-8 Ag '40

XYLENE
By-products of coal carbonization. J. M. Weiss. Ind & Eng Chem 32:1161-2 S '40
Effect of glycerol on distillation method for water. R. B. Trusler. Ind & Eng Chem Anal ed 12:509-10 S 15 '40
Mechanism of aromatization and xylene thermal isomerization. A. F. Dobryanskii and F. Y. Saprykin. il Oil & Gas J 39:48 Ag 8 '40
Quantitative determination of pentoses. R. E. Reeves and J. Munro. bibliog Ind & Eng Chem Anal ed 12:551-3 S 15 '40
Toluene and xylene; hazards and precautions. Nat Safety N 42:36+ Ag '40
Vapor pressures of some organic compounds. J. M. Stuckey and J. H. Saylor. bibliog diag Am Chem Soc J 62:2922-5 N '40

Analysis

Eine neue physikalisch-chemische methode zur bestimmung von einzelbestandteilen in gemischen; unter besonderer berücksichtigung ihrer anwendung auf die untersuchung von mineralölen, synthetischen ölen und teerfraktionen. G. Ibing. diag Angew Chemie 53:60-5 F 3 '40

XYLENOL
Phenolic compounds from petroleum sources; comparison with coal tar sources. E. Field, F. H. Dempster and G. E. Tilson. bibliog il Ind & Eng Chem 32:489-96 Ap '40

XYLIDINE

Analysis

Determination of *m*-xylidines and total *o*- and *p*-xylidines. W. Seaman, A. R. Norton and R. W. Mason. bibliog Ind & Eng Chem Anal ed 12:345-8 Je 15 '40
Reduction of 2-naphthol-azoxylene. W. Seaman, A. R. Norton and J. Hugonet. Ind & Eng Chem Anal ed 12:464-5 Ag 15 '40

XYLOHYDROQUINONE
Chemistry of vitamin E; the preparation of *o*-xylohydroquinone. O. H. Emerson and L. I. Smith. bibliog Am Chem Soc J 62:141-2 Ja '40

XYLOSE
Analysis of the fibrous and carbohydrate constituents of feeding stuffs; the furfuraldehyde-yielding constituents. E. G. Hallsworth. Soc Chem Ind J 58:357-63 D '39

XYLOSE—*Continued*
Isolation of keturonic acids; isolation of crystalline brucine salts of keturonic acids prepared by oxidation of *l*-xylose, *l*-arabinose and *d*-glucosamine. L. T. Crews, J. P. Hart and M. R. Everett. Am Chem Soc J 62:491-3 Mr '40

XYLOSIDES
Studies on lignin and related compounds; the synthesis of xylosides related to lignin plant constituents. J. H. Fisher, W. L. Hawkins and H. Hibbert. bibliog Am Chem Soc J 62:1412-15 Je '40

XYNOMINES
Use of xynomines in rayon processing. Rayon 21:192-3 Mr '40

Y

YACHT racing
Racing small boats; an analytical and critical review of an entire racing season. W. F. Crosby. 116p $1.50 Macmillan '40
Speed boat kings; 25 years of international speedboating. J. L. Barrett. 143p $2 Arnold-Powers, 550 W. Lafayette blvd, Detroit '39

YACHTS and yachting
American yachts sold or transferred to foreign registry since the European war started. Marine Eng 45:96 My '40
Conversion of yacht Sea Fox into an auxiliary schooner. il Marine Eng 45:67-8 O '40
Hints, tips and gadgets. F. B. Cooke. 240p $4.50 Longmans '39
See also
Marinas
Motor boats

YALE and Towne manufacturing company
Annual report, 1939. Comm & Fin Chr 150: viii, 1955 Mr 23 '40
Dividend paying stock selling near quick asset value. Mag of Wall St 66:536 Ag 10 '40
Statistics of income, capital, stock earnings, etc. 1929-38. Annalist 55:77 Ja 18 '40

YALE laboratories of primate biology, Orange Park, Florida
Laboratory chimpanzees. R. M. Yerkes. Science 91:336-7 Ap 5 '40

YALE university
Inspecting and maintaining building walls and roofs. W. W. Randolph. Eng N 124:336 F 29 '40
See also Yale laboratories of primate biology, Orange Park, Florida

YARN
Methods used in skein printing. diags Rayon 21:171-2 Mr '40
Winder output up, less fatigue; Cynthia mills. il Textile World 89:103-4 N '39
See also
Cotton yarn
Rayon yarn
Silk yarn
Woolen and worsted yarn

Standards
Designation of twist in single yarns, folded yarns and cables. diags Textile Inst J 31:S15 Je '40

Tables, calculations, etc.
Analyzing novelty yarn; test of a ratine burette cotton-woolen yarn. Textile World 90:56 Ag '40
Existing yarn count systems and conversion of counts. Textile Inst J 31:S16-18 Je '40
Influence of twist on shortening, diameter, dullness and torsion of silk hosiery yarns. W. P. Seem, T. Andrew and E. Simmat. il Rayon 21:104-6, 168-70, 223-5, 303-5, 365-7, 423-4, 467-8 F-Ag '40

Testing
Analyzing novelty yarn; test of a ratine burette cotton-woolen yarn. Textile World 90:56 Ag '40
Moisture relations of textile fibers at elevated temperatures. J. G. Wiegerink. J Research Nat Bur Stand 24:645-64 Je '40
Surface friction of yarns; instrument for determination of coefficient of kinetic friction. L. W. Davis. diags Rayon 21:93-4, 155-8, 229-30 F-Ap '40
Testing the stiffness of yarns and twines. D. C. Scott. diag Am Dyestuff Rep 29:77-80 F 19 '40
Yarn-levelness test; Silho-graph. H. A. Reehling. il Textile World 90:69 Je '40
See also
Cotton yarn—Testing
Rayon yarn—Testing

YEARBOOKS (statistical, historical, etc.)
Richards year book; a history of the year 1939. J. A. Richards, ed. 822p $3.65 J. A. Richards, Kingsport, Tenn. '40
World over in 1939. L. B. Bloch and C. Angoff, eds. 918p $4 Harrison-Hilton books, 420 Madison av, New York '40

YEASTS
Constitution of yeast ribonucleic acid; guanine-uridylic acid. J. M. Gulland. bibliog Chem & Ind 59:321-4 My 11 '40
Constitution of yeast ribonucleic acid; the nature of the phosphatase-resistant group. J. M. Gulland and E. M. Jackson. Chem Soc J p1842-4 D '39
Effect of aeration on fermentations; acetic acid bacteria and yeasts. K. R. Butlin and W. H. D. Wince. Chem & Ind 59:41-2 Ja 20 '40
Relationship of inositol, thiamin, biotin, pantothenic acid and vitamin B_6 to the growth of yeasts. R. J. Williams, R. E. Eakin and E. E. Snell. bibliog Am Chem Soc J 62:1204-7 My '40
Simplified isolation of glutathione from yeast; abstract. E. F. Schroeder, V. Collier, jr. and G. E. Woodward. Franklin Inst J 228: 663-4 N '39
Über die verhefung der pentosen. R. Lechner. bibliog Angew Chemie 53:163-7 Ap 13 '40

Analysis
Riboflavin content of yeasts determined photometrically and biologically. A. E. Schumacher and G. F. Heuser. Ind & Eng Chem Anal ed 12:203-4 Ap 15 '40

Manufacture
Erzeugung von bäckerei-presshefe. W. Vogelbusch. il diags V D I 83:1267-70 D 9 '39

YELLOW
Absorption spectra of *N*-substituted auramine dyes. G. Breuer and J. Schnitzer. Chem Soc J p461-3 Ap '40
Chrome fast yellow GD and chrome fast yellow 5GD for printing. Textile Col 62:125-7 F '40
Green and yellow dyes from echium vulgare. C. D. Mell Textile Col 62:412 Je '40
Oak colors. A. E. Karr. Textile Col 61:591-4, 667-70, 736-8, 838-41; 62:115-19, 132 bibliog (p 118-19, 132) S-D '39, F '40
Yellow and black dyes from cliftonia monophylla. C. D. Mell. Textile Col 62:414+ Je '40
Yellow and red zinc silicate phosphors. G. R. Fonda. bibliog il J Phys Chem 44:851-61 O '40
Yellow pigments; abstract. A. Gowen and J. Lang. Can Chem & Process Ind 24:94 F '40

YELLOW burweed
Experimental production of hepatic cirrhosis by the seed of amsinckia intermedia. E. C. McCulloch. Science 91:95 Ja 26 '40

YELLOW fever
Yellow fever. J. H. Bauer. Pub Health Rep 55:362-71 Mr 1 '40

YELLOW river, China
Les méfaits du fleuve Jaune (Chine du Nord) et les moyens d'y remédier. map Génie Civil 116:34-6 Ja 13 '40
Yellow River problem. O. J. Todd and S. Eliassen. il diags maps Am Soc C E Proc 64:1921-91 D '38; Discussion. 65:550-8, 707-15, 1069-77, 1255-7, 1777-87 Mr-Ap, Je, S, D '39

YELLOWING
Coal by-products; the yellowing of indene-coumarone resins. W. H. Carmody. il Ind & Eng Chem 32:525-7 Ap '40

YELLOWSTONE national park
Petrographic province of central Montana. E. S. Larsen. diags map Geol Soc Bul 51: 887-948 bibliog(p946-8) Je '40

Yellowstone national park; historical & descriptive. H. M. Chittenden. 1933 ed with corrections and additions to 1940 286p $3 Stanford univ. press '40

YONKERS, New York
One hundred men and a city; plan to establish a better government. M. Beuick. il Nation's Business 28:66, 68-9 N '40

YORK, Pennsylvania

Industries

York rates a star on defense map. Business Week p16+ S 28 '40

YORKSHIRE indemnity company
Analysis. Spectator (Property ed) 5:30-1 Mr 21 '40

YOSEMITE national park
Safety factors in construction and ventilation, Wawona vehicular tunnel, Yosemite national park, Calif. S. H. Ash. pls diags plans U S Bur Mines Tech Pa 608:1-34 '40

YOUNG, James, 1811-1883
Paraffin and petroleum industries; pioneer work of Mr James Young. T. B. Fowler. Chem & Ind 59:70-1 F 3 '40

YOUNG, Owen D., 1874-
G.E.'s third generation; Wilson and Reed; replaced Owen D. Young and Gerard Swope. Fortune 21:68-9+ Ja '40

YOUNG, Robert Ralph, 1897-
Fracas over C. & O. Business Week p54 Ja 27 '40

YOUNG, Walker Rollo, 1885-
Sketch. por Eng N 125:520 O 24 '40

YOUNG men's Christian associations
Builders of men; a history of the Minneapolis Young men's Christian association, 1866-1936. S. W. Wiley and F. Lehmann. 339p $1.50 Frank O. Koehler, 30 S. 9th st, Minneapolis '38

Employees

Salaries of Y.M.C.A. secretaries. Monthly Labor R 50:212-13 Ja '40

Secretaries

Work begun; the experiences of college graduates entering the secretaryship of the Young men's Christian association. L. K. Hall. 160p bibliog(p155-6) $2 Assn. press, 347 Madison av, New York '40

YOUNG people. See Youth

YOUNG'S modulus. See Elasticity

YOUNGSTOWN, Ohio

Water supply

Remote control of Youngstown's pumping plants; use of piezoelectric crystal. R. I. Williams. il Pub Works 71:21 Ag '40

YOUNGSTOWN sheet and tube company
Earnings, 1936-39. Comm & Fin Chr 150:2445 Ap 13 '40

$10,500,000 serial debentures placed privately; registers $45,000,000 1st mtge. 3 1/4% bonds. Comm & Fin Chr 151:2517-18, 2669-70 O 26-N 2 '40

YOUTH
American youth today. L. A. Gould. 307p bibliog(p287-8) $2 Random house, New York '40

Employment and unemployment of young workers. Int Labour R 41:445-78 My '40

Employment experience of eighth-grade graduates. Monthly Labor R 49:1098-1102 N '39

Federal programmes to assist unemployed youth in the United States. Int Labour R 40:836-48 D '39

Forum of youth and industry; theme of meeting held by General motors corporation; questions and answers. Elec Eng 59:242-3 Je '40

Handbook for youth. M. Colby. 316p bibliog (p229-37) $2.50 Duell, Sloan & Pearce, 270 Madison av, New York '40

Junior placement; a survey of junior-placement offices in public employment centers and in public-school systems of the United States. J. H. Palmer. bibliog U S Children's Bur Pub 256:1-134 '40

Matching youth and jobs; a study of occupational adjustment. H. M. Bell. 277p $2 Am. youth commission, Am. council on education, 744 Jackson pl, NW, Washington, D.C. '40

Needs of youth; a report made to King George's jubilee trust fund. A. E. Morgan. 434p bibliog(p419-24) $3.50 Oxford '39

Negro youth in depression years. I. De A. Reid. Monthly Labor R 51:352-5 Ag '40

New frontiers for American youth are pictured by industrial leaders; college presidents and officials of General motors corp. talk to students. Comm & Fin Chr 150:2981-2 My 11 '40

Tomorrow's farmers; Bank of America loans to rural youth. Banking 32:61-2 F '40

Young workers and their jobs in 1936; a survey in six states. H. Wood. U S Children's Bur Pub 249:1-95 '40

Youth attitudes on economic problems. Monthly Labor R 50:1418-19 Je '40

Youth commission's work program. Monthly Labor R 50:71-5 Ja '40

Youth; 4,000,000 lack jobs, prospects, hopes. il Fortune 21:88-92+ My '40

Youth in 45 agricultural villages. Monthly Labor R 50:1155-6 My '40

Youth itself is the problem; experiences of recent college graduate show that jobs are available. O. Stephens. Nation's Business 28:25-6+ S '40

Youth—millions too many? a search for youth's place in America. B. L. Melvin. 220p $2 Association press, 347 Madison av, New York '40

Youth of New York city. N. P. McGill and E. N. Matthews. 420p $3.50 Macmillan '40

Youth's opportunity in the foundry industry. N. K. B. Patch. Foundry 68:29, 90+ Jl '40

See also
National youth administration

Bibliography

Youth movement. M. A. Matthews, comp. (Reading list, no. 19) rev ed 13p Carnegie endowment '40

YTTRIUM
Spectra of Y V and Zr VI. F. W. Paul and W. A. Rense. bibliog Phys R 56:1110-13 D 1 '39

Yttrium-aluminum alloys. W. Kroll. bibliog il Metals & Alloys 10:332-3 N '39

Isotopes

Long-lived isotope of yttrium. C. Pecher. il Phys R 58:843 N 1 '40

Radioactive isotopes of Sr, Y and Zr. L. A. DuBridge and J. Marshall. bibliog il Phys R 58:7-11 Jl 1 '40

YUGOSLAVIA
See also
Transportation—Yugoslavia

Commerce

Jugoslavia's export prospects. Economist 138: 12 Ja 6 '40

Economic conditions

Business situation. Comm Rep p180 F 24 '40 [cont monthly thru S]

Business situation in 1939. Comm Rep p241-3 Mr 16 '40

Jugoslavia in 1939. Economist 138:sup 18 F 17 '40

YUKAWA particles. See Mesotrons

Z

ZANZIBAR
In the wake of a traveling engineer. J. C. Cosgrove. il map Explosives Eng 17:337-9 N '39

Economic conditions
Economic conditions. Comm Rep p447 My 18 '40

ZEEMAN effect
Normal electron configuration of singly ionized gadolinium. W. E. Albertson, H. Bruynes and R. Hanau. bibliog Phys R 57:292-3 F 15 '40
Radiofrequency spectra of atoms; hyperfine structure and Zeeman effect in the ground state of Li^6, Li^7, K^{39} and K^{41}. P. Kusch, S. Millman and I. I. Rabi. bibliog Phys R 57:765-80 My 1 '40
Zeeman effect in krypton and xenon. J. B. Green, D. W. Bowman and E. H. Hurlburt. Phys R 58:381 Ag 15 '40
Zeeman effect in the second and third spectra of xenon. C. J. Humphreys, W. F. Meggers and T. L. deBruin. bibliog J Research Nat Bur Stand 23:683-99 D '39
Zeeman effects and preliminary analysis of singly-ionized praseodymium; abstract. G. R. Harrison and N. Rosen. Science 91:419 My 3 '40
Zeeman effects in complex spectra at fields up to 100,000 gauss. G. R. Harrison and F. Bitter. il Phys R 57:15-20 Ja 1 '40
Zeeman effects in the arc spectrum of ruthenium. G. R. Harrison and J. R. McNally, jr. il Phys R 58:703-8 O 15 '40

ZEIN
Corn into industry. Sci Am 163:257 N '40

ZELAN
Water-repellent textiles through the new Zelan process. C. E. Mullin. il Chem Ind 47:404-9 O '40

ZELENY, Charles, 1878-1939
Sketch. F. Payne. Science 91:160 F 16 '40

ZEOLITES
Boiler feedwater treatment, 1930-1940. F. G. Straub. diags Power Pl Eng 44:66-7 Ja '40
Developments in the conditioning of boiler feed water. E. F. Walsh. diags Am Gas J 152:13-14 F '40
Function of pH in water treatment. C. E. Imhoff. diags Paper Tr J 110:41-2 Ap 4 '40
Observations on water softening. D. E. Davis. Am Water Works Assn J 32:85-90; Discussion. H. M. Olson. 90-2 Ja '40
Rayonier's zeolite water softening plant at Fernandina, Florida. E. Nordell. il Rayon 21:641-2 O '40
Recent experiences with carbonaceous zeolites. S. B. Applebaum. bibliog diag Am Water Works Assn J 32:583-92 Ap '40
Removal of salts from water. R. F. Goudey. bibliog Am Water Works Assn J 32:435-49; Discussion. 450-5 Mr '40

See also
Chabazite

ZINC
Andrew Wittman, discoverer of zinc. E. W. Blank. J Chem Educ 17:92-3 F '40
Application of electromotive force measurements to binary metal systems; zinc-antimony system. H. Seltz. diags Electrochem Soc Trans 77 (preprint 17):235-40 Ap '40
As it was in 1915 and as it is in 1940. E. H. Bunce. Metal Prog 37:296 Mr '40
Better adherence; laboratory tests on improved adherence of finishes on zinc or zinc-alloys and on zinc-coated metals. H. E. Van Siclen. Steel 105:66, 68-9 N 20 '39
Chemical removal of corrosion products in the determination of the corrosion rate of zinc. E. A. Anderson and C. E. Reinhard. il Am Soc T M Proc 39:691-6; Discussion. 697 '39
Contact difference of potential between barium and zinc; the external work function of zinc. P. A. Anderson. diags Phys R 57: 122-7 Ja 15 '40
Double boiler for melting zinc. il diag Iron Age 145:23 My 30 '40
Growth conditions for single and optically mosaic crystals of zinc. C. A. Cinnamon and A. B. Martin. bibliog J Ap Phys 11: 487-90 Jl '40
Intensity distribution in X-ray and electron diffraction patterns; X-ray atom factors of zinc in zinc oxide and chemical binding. C. H. Ehrhardt and K. Lark-Horovitz. bibliog Phys R 57:603-13 Ap 1 '40
Internal friction at high temperatures. A. H. Barnes and C. Zener. bibliog Phys R 58:87 Jl 1 '40
Internal friction of single metal crystals. T. A. Read. bibliog diags Phys R 58:371-80 Ag 15 '40
K-absorption edges and $K\beta_{2,5}$-emission lines of two Zn-Ni alloys. J. A. Bearden and W. W. Beeman. Phys R 58:396-9 S 1 '40
Nuclear isomerism in zinc. J. W. Kennedy, G. T. Seaborg and E. Segrè. bibliog Phys R 56:1095-7 D 1 '39
Outdoor exposure tests of electroplated nickel and chromium coatings on steel and nonferrous metals. W. Blum and P. W. C. Strausser. J Research Nat Bur Stand 24: 443-74 Ap '40
Reaction of zinc and iron in hot-dip galvanizing. H. Bablik. il Metal Finishing 38:486-8, 530-1, 585-6, 632 S-D '40
Removal of substituents from vinyl polymers. F. T. Wall. Am Chem Soc J 62:803-6 Ap '40
Simple determination of the equivalent weights of mercury, copper, and zinc. W. Seeger. J Chem Educ 16:595 D '39
Study of the kinetics of the reactions in the zinc-hydrogen irreversible cell. J. I. Jolley and H. V. Tartar. diag Electrochem Soc Trans 78 (preprint 10):139-59 O '40
Welding galvanised iron; application of zinc. H. Seymour. Chem Age (Lond) 42:sup25 Je 1 '40
X-ray analysis of corrosion products from galvanized sheets. F. R. Morral. bibliog Electrochem Soc Trans 77 (preprint 12):147-54 Ap '40
X-ray $K\beta_{2,5}$-emission lines and *K*-absorption limits of Cu-Zn alloys. J. A. Bearden and H. Friedman. bibliog Phys R 58:387-95 S 1 '40
Zinc and its relation to hygiene; brief summary of report. C. K. Drinker and L. T. Fairhall. Safety Eng 80:40 Jl '40
Zinc and its salts; outline of important uses. Can Chem & Process Ind 24:521 O '40
Zinc sheet, its manufacture and properties. F. Neurath. Chem Age (Lond) 43:113-14 S 7 '40
Zinc-vapor glazing of clays. C. M. Lampman and H. G. Schurecht. Am Cer Soc J 22:91-5; 23:167-70 Mr '39, Je '40

See also
Galvanizing

Analysis
Determination of zinc in plant materials using the dropping mercury electrode. J. F. Reed and R. W. Cummings. bibliog Ind & Eng Chem Anal ed 12:489-92 Ag 15 '40
Empirical mercurimetric method for zinc. A. C. Titus and J. S. Olsen. bibliog Ind & Eng Chem Anal ed 12:133-5 Mr 15 '40
Separation of cadmium from zinc by the use of granular aluminum. F. E. Townsend and G. N. Cade, jr. Ind & Eng Chem Anal ed 12:163-4 Mr 15 '40

Prices
Zinc at New York, cents a pound, monthly, 1919-1939; tabulation. Iron Age 145:175 Ja 4 '40

ZINC acetate
Acetometallates; acetozincate. A. Lehrman and P. Skell. Am Chem Soc J 61:3340-2 D '39

ZINC alloys
Better adherence; laboratory tests on improved adherence of finishes on zinc or zinc-alloys and on zinc-coated metals. H. E. Van Siclen. Steel 105:66, 68-9 N 20 '39

ZINC alloys—*Continued*
Developments in drop hammer dies; use of Kirksite A. W. W. Broughton. il Aero Digest 37:56, 59-60+ Jl '40
Electrolytic stripping of copper from zinc base die castings. W. B. Stoddard, jr. Electrochem Soc Trans 77 (preprint 22):271-3 Ap '40
Improved alloy developed for metal stamping dies; Kirksite A. Aero Digest 36:100 My '40
Metals and alloys in home washing machines. H. Chase. il diags Metals & Alloys 11:65-8 Mr '40
Modern die castings for modern cars. R. L. Wilcox. il Metal Prog 37:150-5 F '40
New die alloy aids drop-hammer work; contains zinc, aluminum, copper and magnesium; Kirksite A. W. W. Broughton. il Steel 107:52-3 Ag 26 '40
Paramagnetic susceptibility of copper-nickel and zinc-nickel alloys. M. A. Wheeler. Phys R 56:1137-45 D 1 '39
Plating and heating of zinc base die castings; abstract. F. F. Oplinger. Iron Age 146:41-2 Jl 4 '40
Producing aircraft stampings in the Douglas plant; dies of a zinc alloy. H. Chase. il Metals & Alloys 12:437-9 O '40
Progress in zinc alloys since 1900; abstract. A. Burkhardt. Metals & Alloys 11:MA40 Ja '40
Reduction by amalgamated zinc; significant factors in efficiency. H. W. Stone and D. N. Hume. bibliog diag Ind & Eng Chem Anal ed 11:598-602 N 15 '39
Sources of failure in hot-pressing of zinc alloys. W. Wolf. il Engineer 168:sup [Metallurgist] 82-4 D 29 '39
Special tooling for machining die castings; Alemite die castings & mfg. division of the Electric auto-lite co. H. Chase. il Iron Age 145:46-9 Je 6 '40
Zinc-alloy dies for drop hammer work. W. W. Broughton. il Iron Age 145:29-32 F 8 '40
Zinc alloys for hot working. J. Raber and E. Schmid. Metal Prog 36:748+ D '39
See also
Brass

ZINC chloride
Decreasing the combustibility of sawdust; relative effectiveness of certain chemicals. J. L. McCarthy. bibliog Ind & Eng Chem 32:1494-6 N '40
Hydroxy- and methoxyphenylanthrones. F. F. Blicke and R. J. Warzynski. bibliog Am Chem Soc J 62:3191-4 N '40
Stiffened wash-resistant fabrics; cellulose parchmentizing processes. Textile Col 62: 258-9 Ap '40
Studies in the diphenyl series; the preparation of asymmetrical diaryl derivatives; diazonium salts, stabilised by naphthalene-1-sulphonic acid, naphthalene-1:5-disulphonic acid, or zinc chloride, decomposed in hydrocarbon and nitrobenzene suspensions. H. H. Hodgson and E. Marsden. Chem Soc J p208-11 F '40

ZINC chromite
Hydrogenation of ethylene at surfaces of certain oxides; zinc oxide and zinc chromite. J. F. Woodman and H. S. Taylor. bibliog Am Chem Soc J 62:1393-6 Je '40

ZINC coating
Better adherence; laboratory tests on improved adherence of finishes on zinc or zinc-alloys and on zinc coated metals. H. E. Van Siclen. Steel 105:66, 68-9 N 20 '39
Micrographs and characteristics of specimens of unfabricated wire, farm field fence, and barbed wire. il Am Soc T M Proc 39:103-55 '39
Protecting steel against corrosion. J. C. Hudson. Iron Age 145:31 F 15 '40
Sprayed zinc protects hydro spillway gates. Elec W 113:760+ Mr 9 '40
Zinc annealed iron. Gas J (Lond) 230:203+ Ap 24 '40
See also
Galvanizing
Zinc plating

ZINC compounds
Redistribution reaction; alkyl compounds of mercury, tin, silicon and zinc. G. Calingaert, H. Soroos and H. Hnizda. bibliog Am Chem Soc J 62:1107-10 My '40
Soaps in the rubber industry; evaluation of lubricants; zinc salts in compounding. T. L. Garner. Chem Age (Lond) 42:111 F 24 '40
Zinc and its salts; outline of important uses. Can Chem & Process Ind 24:521 O '40

Analysis
X-ray analysis of corrosion products from galvanized sheets. F. R. Morral. bibliog Electrochem Soc Trans 77 (preprint 12): 147-54 Ap '40

ZINC corporation
Ordinary general meeting, 29th, London. Economist 138:1127-8 Je 29 '40

ZINC hydride
Nuclear isotope shift in the spectrum of ZnH. S. Mrozowski. bibliog Phys R 58:597-9 O 1 '40

ZINC hydroxide
Adsorption of nitrous oxide on certain pseudomorphs. A. B. Lamb and C. D. West. bibliog Am Chem Soc J 62:3176-80 N '40

ZINC industry and trade
Future of the lead-zinc industry. C. H. Crane. Oil Paint & Drug Rep 138:5+ S 16 '40; Same cond. Min & Met 21:466-7 O '40
What has happened to zinc and tin; effect of war. A. W. G. Wilson. Can Min J 61:516-17 Ag '40
What next in the zinc industry? E. H. Snyder. il Min Cong J 26:32-4 F '40
See also
American zinc institute
Tariff—United States—Zinc

Finance
Lead, zinc producers financially analyzed; Federal trade commission report on six companies. Oil Paint & Drug Rep 138:3+ O 28 '40

Statistics
December production and shipments of slab zinc; American zinc institute figures. Comm & Fin Chr 150:195 Ja 13 '40 [cont monthly]
Metals in demand. Barron's 20:6 Je 10 '40
Spelter in 1939. Economist 138:sup37 F 17 '40
War boomlet turned depression into prosperity for the nonferrous metals. P. E. Barbour. Annalist 55:124-5+ Ja 25 '40
Zinc, 1936-1939. Survey of Cur Business 1940 Sup p137 [supplemented in monthly numbers]
Zinc, 1939. M. L. Havey. Eng & Min J 141: 47+ F '40
Zinc ore reserves of the world; compilation showing tonnages and grades in United States and in other countries. W. P. Shea. Eng & Min J 141:42-3 S '40
Zinc output gained 13 percent in 1939. Oil Paint & Drug Rep 137:30C Ja 22 '40
Zinc production, revision; monthly, 1923-June, 1940. Fed Res Bul 26:881 Ag '40
Zinc shipments, revision; monthly, 1923-June, 1940. Fed Res Bul 26:834 Ag '40

Germany
Scarcity of copper and zinc in Germany; an analysis of the zinc situation. D. D. Howat. Chem Age (Lond) 42:sup13-14 Ap 6 '40

United States
Zinc position tighter; September 30 stocks equaled only about two weeks' supply. Barron's 20:6 O 14 '40

ZINC lining
Investigation of a water pressure tank explosion; zinc lining and water generate hydrogen. R. J. Karpen. il Am Water Works Assn J 32:1770-4 O '40

ZINC metallurgy
As it was in 1915 and as it is in 1940. E. H. Bunce. Metal Prog 37:296 Mr '40

ZINC metallurgy—*Continued*
Concentrating Tri-state ores by differential density cone; Eagle-Picher's central mill. E. Isern. il Min Cong J 26:16-19 F '40
De-leading zinc concentrates at the Pend Oreille mill. C. A. R. Lambly and F. R. Milliken. flow sheets il Eng & Min J 141: 29-32 Mr '40
Development in base metal smelting and refining in Canada in the last sixty years. Can Min J 60:722-3 N '39
Differential density separation at Mascot, Tennessee; American Zinc's sink-and-float process. flow sheets il Eng & Min J 141: 35-9 Jl '40; Same. Min Cong J 26:21-6 Jl '40
Metallurgy of zinc in 1939. H. R. Hanley. Min & Met 21:15-16 Ja '40
Modernization marks operations at the Denn mine; 8 per cent copper direct-smelting ore and lead-zinc concentrates. J. B. Huttl. flow sheet il Eng & Min J 141:39-40 Je '40
Refinery slags; zinc-gold precipitate. M. B. Scott. Can Min J 61:292-6 My '40
Zinc metallurgy, 1939. S. M. Shelton and H. R. Hanley. Eng & Min J 141:90-1 F '40
Zinc sheet, its manufacture and properties. F. Neurath. Chem Age (Lond) 43:113-14 S 7 '40

ZINC mines and mining

Canada

Brief history of Canadian mining. W. H. Losee. Can Min J 60:661-3 N '39

Kansas-Oklahoma-Missouri district

Dust count technique in Tri-state mines. H. C. Chellson. il Eng & Min J 140:29-33 D '39

New Mexico

Geology and ore deposits of northeastern New Mexico (exclusive of Colfax county). G. T. Harley. diags maps New Mexico School of Mines, State Bur of Mines and Mineral Resources Bul 15:1-102 bibliog(p17-18) '40 (pa 60c)

New York (state)

Zinc and lead deposits of Shawangunk mountain. A. L. Ingham. il map Econ Geol 35: 751-60 S '40

ZINC naphthenate
New industrial applications for metallic naphthenates. J. S. Trevor. Chem Ind 45: 661 D '39

ZINC ores
Contributions to a knowledge of the lead and zinc deposits of the Mississippi Valley region. E. S. Bastin, ed. diags maps 4 pls Geol Soc Special Pa no 24:1-156 bibliog(p145-52) '39
Zinc ore reserves of the world; compilation showing tonnages and grades in United States and in other countries. W. P. Shea. Eng & Min J 141:42-3 S '40

See also
Sphalerite

ZINC oxalate
Solubility of cadmium and zinc oxalates in salt solutions. W. C. Vosburgh and J. F. Beckman. Am Chem Soc J 62:1028-31 My '40

ZINC oxides
Dilatometer studies of pigment-rubber systems. H. C. Jones and H. A. Ylengst. bibliog il diag Ind & Eng Chem 32:1354-9 O '40
Dissociation catalytique et synthèse du méthanol. O. Kostelitz and G. Hensinger. Chimie & Ind 42:757-73 N '39
Effect of particle shape of white pigments on opacity; acicular zinc sulfide in the form of wurtzite. H. A. Depew and A. C. Eide. bibliog il diag Ind & Eng Chem 32:537-40 Ap '40
Effect of valence electrons and electron cloud distortion upon intensities in electron and X-ray scattering, applied to zinc oxide. V. A. Johnson. bibliog Phys R 57:613-21 Ap 1 '40
Hydrogenation of ethylene at surfaces of certain oxides; zinc oxide and zinc chromite. J. F. Woodman and H. S. Taylor. bibliog Am Chem Soc J 62:1393-6 Je '40
Intensity distribution in X-ray and electron diffraction patterns; X-ray atom factors of zinc in zinc oxide and chemical binding. C. H. Ehrhardt and K. Lark-Horovitz. bibliog Phys R 57:603-13 Ap 1 '40
Recovery of sulfur dioxide from waste gases; regeneration of the absorbent by treatment with zinc oxide. H. F. Johnstone and A. D. Singh. bibliog flow sheet il Ind & Eng Chem 32:1037-49 Ag '40
Refractometer studies on rubber-pigment mixtures. H. C. Jones. Ind & Eng Chem 32: 331-4 Mr '40
Versatile paint-making properties of zinc oxide. H. A. Nelson. 34p bibliog(p33-4) gratis New Jersey zinc co, 160 Front st, New York '40
Zinc peroxide treatment for cancer; abstract. B. S. Freeman. Science 92:sup10 Ag 2 '40

ZINC peroxide. See Zinc oxides

ZINC plating
Addition agents in the electrodeposition of zinc. J. L. Bray and F. R. Morral. bibliog Electrochem Soc Trans 78 (preprint 15): 203-10 O '40
Bright zinc plating; a composite of abstracts. Metals & Alloys 12:339-40 S '40
Dropping tests for measuring the thickness of zinc and cadmium coatings on steel. A. Brenner. diag Metal Ind 38:91-5; Discussion. 95 F '40
Effect of glycerine on the throwing power of plating baths. F. C. Mathers and W. J. Guest. Electrochem Soc Trans 78 (preprint 6):67-71 O '40
High-production cleaning, pickling and plating line; Chrysler-Plymouth plant. il Steel 107:50, 52+ S 23 '40
High speed zinc plating; Chrysler-Plymouth plant. il Iron Age 146:44 Ag 8 '40
Magnesium as a control agent for zinc anodes; abstract. R. O. Hull. Iron Age 145: 43-4 Je 27 '40

See also
Galvanizing

ZINC potassium sulfate
Ternary systems; solid solutions of some picromerites at 25°. A. E. Hill, G. S. Durham and J. E. Ricci. bibliog Am Chem Soc J 62:1031-6 My '40

ZINC silicate
Yellow and red zinc silicate phosphors. G. R. Fonda. bibliog il J Phys Chem 44:851-61 O '40

ZINC sulfate
Effect of glycerine on the throwing power of plating baths. F. C. Mathers and W. J. Guest. Electrochem Soc Trans 78 (preprint 6):67-71 O '40

ZINC sulfide
Absorption spectrum of single-crystal ZnS phosphors. C. J. Brasefield. Phys R 57:162 Ja 15 '40
Effect of an activator on the absorption spectrum of zinc sulphide powders. C. J. Brasefield. Phys R 58:436-8 S 1 '40
Effect of particle shape of white pigments on opacity; acicular zinc sulfide in the form of wurtzite. H. A. Depew and A. C. Eide. bibliog il diag Ind & Eng Chem 32:537-40 Ap '40
Flash-roasting of sulphides; progress in Canada. D. D. Howat. il diags Chem Age (Lond) 43:155-7 O 5 '40
New zinc sulphide developed. India Rubber W 102:45 Je '40
Optimum efficiency conditions for white luminescent screens in kinescopes; zinc-cadmium sulphide phosphor systems. H. W. Leverenz. bibliog diag Opt Soc Am J 30:309-15 Jl '40
Self-luminous materials and their utilisation; zinc sulphide and alkaline earth phosphors. L. Levy and D. W. West. Chem Age (Lond) 42:169-72 Mr 23 '40

ZINC sulfide—*Continued*
Solution and precipitation of lead and zinc sulphides in sodium sulphide solutions. F. G. Smith. bibliog il Econ Geol 35:646-58 Ag '40
X-ray emission spectra and electronic energy bands of compounds. J. Valasek. bibliog Phys R 58:213-18 Ag 1 '40
See also
Lithopone
Sphalerite

ZINC sulfite
Recovery of sulfur dioxide from waste gases; regeneration of the absorbent by treatment with zinc oxide. H. F. Johnstone and A. D. Singh. bibliog flow sheet il Ind & Eng Chem 32:1037-49 Ag '40

ZINCATES
Acetometallates; acetozincate. A. Lehrman and P. Skell. Am Chem Soc J 61:3340-2 D '39

ZININ, Nikolai Nikolaevich, 1812-1880
Early Russian chemist. H. M. Leicester. por J Chem Educ 17:303-6 Jl '40

ZINSSER, Hans, 1878-1940
Sketch. R. P. Strong. Science 92:276-9 S 27 '40

ZIPPERS. See Fastenings

ZIRCON
Lining a small induction furnace. G. F. Comstock. Metal Prog 36:759-60 D '39
River-borne sands of India; ilmenite, monazite and zircon. Chem Age (Lond) 42:101 F 17 '40
Zircon. J. W. Howard. bibliog il J Chem Educ 17:265-7 Je '40
Zircon studies in the New Jersey Highlands. S. A. Tyler. map Am J Sci 238:260-71 Ap '40

ZIRCONIA. See Zirconium oxide

ZIRCONIUM
Artificial radioactivity induced in Zr and Mo. R. Sagane and others. Phys R 57: 1179-80 Je 15 '40
Ductile zirconium and titanium; corrosion resistance; removal of gases from vacuum tubes, other properties and uses. il Steel 107:54-6, 58+ S 16 '40
Radioactive zirconium and columbium from uranium fission. A. V. Grosse and E. T. Booth. Phys R 57:664-5 Ap 1 '40
Reducibility of quadrivalent zirconium. A. W. Laubengayer and R. B. Eaton. bibliog Am Chem Soc J 62:2704-6 O '40
Spectra of Y V and Zr VI. F. W. Paul and W. A. Rense. bibliog Phys R 56:1110-13 D 1 '39
Zirconium and titanium; a composite of abstracts. Metals & Alloys 12:348+ S '40

ZIRCONIUM alloys
Copper-zirconium-cadmium bronze. F. R. Hensel, E. I. Larsen, and A. S. Doty. Metals & Alloys 10:372-80 D '39

ZIRCONIUM oxide
Glass melts in the systems zirconia-alumina-silica and titania-alumina-silica. A. E. Badger and L. M. Doney. bibliog diag Glass Ind 21:309-11+ Jl '40
History of mill-addition opacifiers in vitreous enameling. H. D. Prior. bibliog Am Cer Soc Bul 19:379-83 O '40
Solubility of a zirconium oxide opacifier in enamel glasses. A. I. Andrews and R. W. Gates. bibliog Am Cer Soc J 23:288-90 O '40

ZIRCONIUM silicate. See Zircon

ZIRCONYL chloride
Detection and elimination of phosphate in qualitative analysis; by means of zirconium salts. F. K. Pittman. bibliog Ind & Eng Chem Anal ed 12:514-15 S 15 '40

ZODIACAL light
Brown University eclipse expedition. Science 92:28-9 Jl 12 '40
Marvels of the night. W. Crowder. il Sci Am 162:338-40 Je '40

ZONE system. See City planning—Zone system; Regional planning—Zone system

ZONING
State regulation of flood-plain use. G. F. White. bibliog J Land & Pub Util Econ 16: 352-7 Ag '40

ZONING laws
Colorado planning and zoning enabling act. G. S. Wehrwein. J Land & Pub Util Econ 15:483-5 N '39
County zoning by indirection. H. K. Menhinick. J Land & Pub Util Econ 15:482-3 N '39
Regulation or development for the Missouri Ozarks. C. H. Hammar. J Land & Pub Util Econ 16:159-67 My '40
Roadside control through zoning. L. D. Tilton. il Civil Eng 10:11-14 Ja '40
Rural zoning for Missouri? V. Hurlburt. J Land & Pub Util Econ 16:151-8 My '40
Rural zoning in Minnesota. W. F. Musbach and M. C. Williams. bibliog J Land & Pub Util Econ 16:105-9 F '40
See also
City planning—
Zone system

ZOOLOGICAL gardens
Design for recreation in one of England's blighted areas; Dudley zoo. il diags plan Arch Rec 86:30-3 D '39
Detroit zoological park; improvements and additions. Science 92:233 S 13 '40

ZOOLOGICAL research laboratory, San Diego
Fellowships of the Zoological society of San Diego. Science 92:55 Jl 19 '40

ZOOLOGICAL societies
See also
New York zoological society

ZOOLOGICAL society, London
Zoological society of London. J. S. Huxley. Science 92:60 Jl 19 '40

ZOOLOGY
Advances in zoology during 1939. D. P. Costello. bibliog il Ind & Eng Chem News ed 18:25-9 Ja 10 '40
Zoological expedition of the Field museum. Science 90:610-11 D 29 '39

Classification
Types in modern taxonomy. G. G. Simpson. Am J Sci 238:413-31 Je '40

ZURICH, Switzerland
Exhibition, 1939
Le téléférique de l'Exposition nationale suisse à Zurich. il diags Génie Civil 115:202-4, 343-4 S 2, N 4 '39

ZWORYKIN, Vladimir Kosma, 1890-
Portrait. Iron Age 145:80 F 29 '40; Steel 106: 22 Mr 4 '40

ZYGOPHYLLUM coccineum, L.
Quinovic acid from zygophyllum coccineum, L. G. Soliman. Chem Soc J p1760-1 N '39

UNIVERSAL LIBRARY
123 500
UNIVERSAL LIBRARY